PLANNING COMMISSION AGENDA

Thursday, January 17, 2019

NOTICE IS HEREBY GIVEN that the Herriman Planning Commission shall assemble for a meeting in the City Council Chambers, located at
5355 W HERRIMAN MAIN STREET, HERRIMAN, UTAH

6:00 PM - Work Meeting (Fort Herriman Conference Room)

1. Discussion Items

1.1. Training

1.2. Election of Chair and Vice-Chair

2. Review of City Council Decisions

3. Review of Agenda Items

7:00 PM - Regular Planning Commission Meeting

4. Call to Order

4.1 Invocation/Thought/Reading and Pledge ~ Flag Ceremony and Prayer Offered by Troop 1357 (Special Needs)
4.2 Roll Call
4.3 Conflicts of Interest

5. Administrative Items

Administrative items are reviewed based on standards outlined in the ordinance. Public comment may be taken on relevant and credible evidence regarding the applications compliance with the ordinance.

5.1. Request: Proposed Preliminary Plat for a 4 Lot Subdivision (Public Hearing)
Applicant: Jeremy Hanson
Address: 7107 W 11800 S
Zone: T-M (Technology Manufacturing)
Acres: 34.2
File Number: S2019-002
S2019-002 PLANNING PACKET.pdf

5.2. Request: Proposed Preliminary Plat for an 11 Lot Subdivision (Public Hearing)
Applicant: Marco Diaz
Address: 7336 W. Rose Canyon Road
Zone: A-.25 (Agricultural)
Acres: 5.42
File Number: S2018-17
17S18 PLANNING PACKET.pdf

5.3. Request: Proposed Subdivision Amendment to Subdivide 1 Building into 4 Individual Units
Applicant: Charles R. Frost
Address: 14429 S Abbey Bend Lane
Zone: MU-2 (Mixed Use)
Acres: .07
File Number: S2018-21
21S18 PLANNING PACKET.pdf

5.4. Request: Proposed Preliminary Plat for a 2 Lot Subdivision for Advantage Arts Academy Charter School (Public Hearing)
Applicant: Pace CM
Address: 6200 W 11800 South
Zone: C-2 (Commercial)
Acres: 6.8
File Number: S2018-23
S2018-23 Staff Report Redacted.pdf

5.5. Request: Final Site Plan Review for Advantage Arts Academy Charter School
Applicant: Pace CM
Address: 6200 W 11800 South
Zone: C-2 (Commercial)
Acres: 6.8
File Number: P2018-05
P2018-05 Staff Report Redacted.pdf

6. Chair and Commission Comments

7. Future Meetings
7.1 City Council – Wednesday, January 23, 2019 @ 7:00 PM
7.2 Joint City Council/Planning Commission Meeting – January 30, 2019 @ 7:00 PM
7.3 Planning Commission Meeting - February 7, 2019 @ 7:00 PM

8. Adjournment
The Planning Commission Rules of Procedure and Ethical Conduct may be found on the City website at www.herriman.org.

In accordance with the Americans with Disabilities Act, Herriman City will make reasonable accommodation for participation in the meeting. Request assistance by contacting Herriman City at (801) 446-5323 and provide at least 48 hours advance notice of the meeting.

ELECTRONIC PARTICIPATION: Members of the Planning Commission may participate electronically via telephone, Skype, or other electronic means during this meeting.

PUBLIC COMMENT POLICY AND PROCEDURE: The purpose of public comment is to allow citizens to address items on the agenda. Citizens requesting to address the Commission will be asked to complete a written comment form and present it to Wendy Thorpe, Deputy Recorder. In general, the chair will allow an individual three minutes to address the commission. A spokesperson, recognized as representing a group in attendance, may be allowed up to five minutes. This policy also applies to all public hearings.

I, Wendy Thorpe, certify the foregoing agenda was emailed to at least one newspaper of general circulation within the geographic jurisdiction of the public body. The agenda was also posted at the principal office of the public body, on the Utah State Website www.utah.gov/pmn/index.html and on Herriman City's website www.herriman.org.

Posted and Dated this 11th day of January, 2019 Wendy Thorpe

Deputy Recorder

Date of Meeting: 01/17/2019	
File #	S2019-002
Applicant	Jeremy Hanson
Address	7107 W 11800 South
Request	Proposed Preliminary Plat for a 4 Lot Subdivison

Staff Report

DATE: January 9, 2019

TO: Planning Commission

FROM: Bryn McCarty, AICP, Assistant City Planner

MEETING: Planning Commission January 17, 2019

REQUEST: Proposed Preliminary Plat for a 4 Lot Subdivision

Applicant:	Jeremy Hanson/ Dominion Engineering
Address:	7107 W 11800 South
Zone:	T-M (Technology Manufacturing)
Acres:	34.2
File Number:	S2019-002

Request

The applicant is requesting a 4 lot subdivision for the first part of the Herriman Innovation District. This is part of the Kennecott annexation area that was recently approved by the Herriman City Council and the Lieutenant Governor of Utah.

Process

A subdivision is an administrative decision. The Planning Commission will hold a public hearing and make a decision based on compliance with approval standards listed in City Code 10-5-15.E

Notices

Staff mailed notices to all property owners within 3,000 feet of the subject property. Notices were mailed to 4 property owners on January 7, 2019. At this time, staff has received no comments on the request.

Discussion

This property was approved by the City Council for annexation on October 24, 2018. The annexation was made effective on January 1, 2019. The applicant is now asking for a 4 lot subdivision for the first lots in the Herriman Innovation District industrial center. Lot 1 for the manufacturing facility that was approved by the PC on January 3, 2019. Lot 4 will be used for the future expansion of this use.

Recommendation

Staff recommends approval of the preliminary plat for a 4 lot subdivision subject to the following requirements:

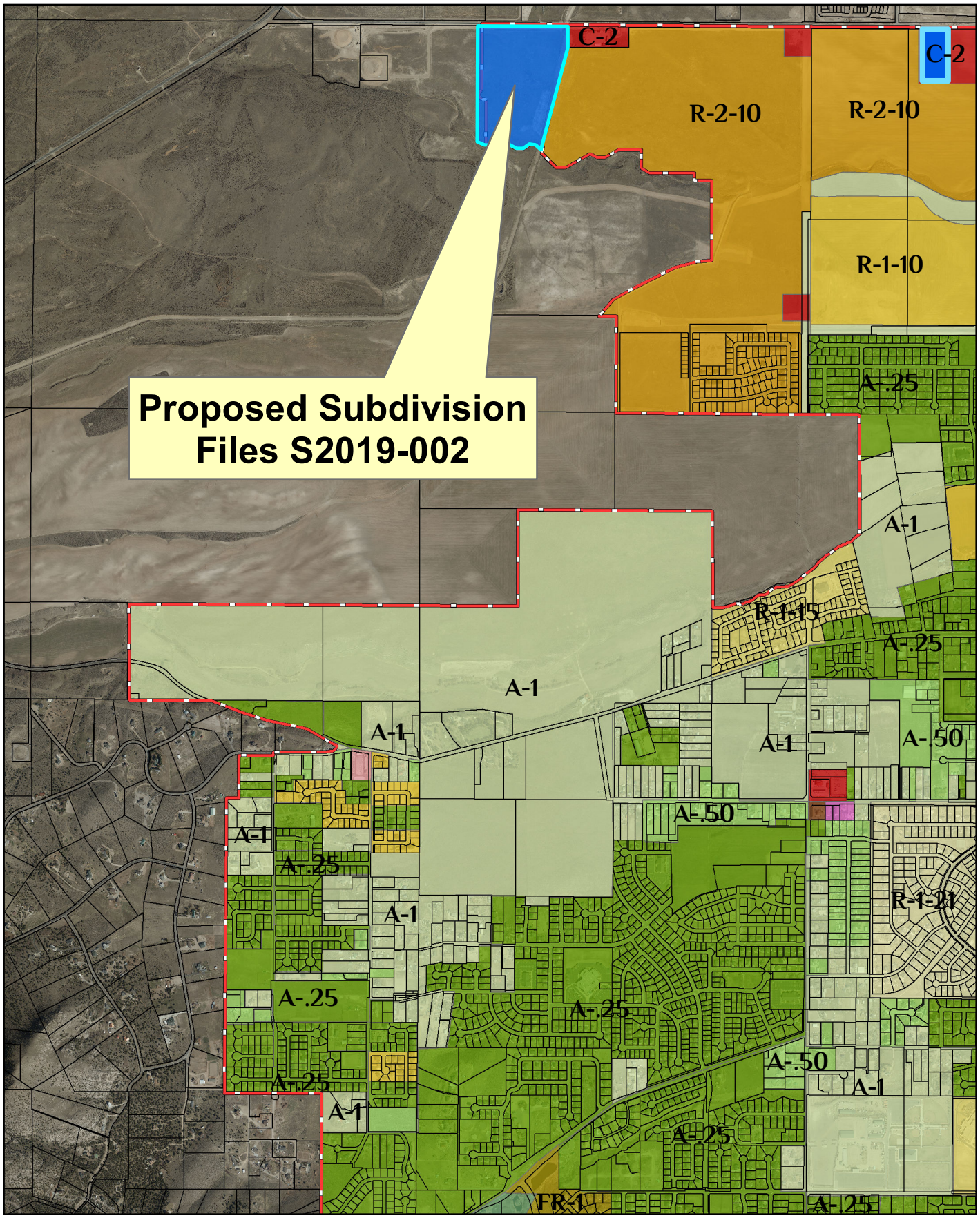
1. Install curb, gutter, sidewalk, street lights, and park strip on all public streets. This may

include a fee-in-lieu for the sidewalk on 118th South.

2. Park Strip landscaping along 118th South to be installed by the applicant as per City standards.
3. All detention will require a long-term maintenance agreement, form to be provided by engineering department.
4. All detention is required to be landscaped, including sod, sprinklers, and trees.
5. Any underground detention will require an injection well permit.
6. Provide Public Utility Easements on the plat as required by Engineering.

Attachments

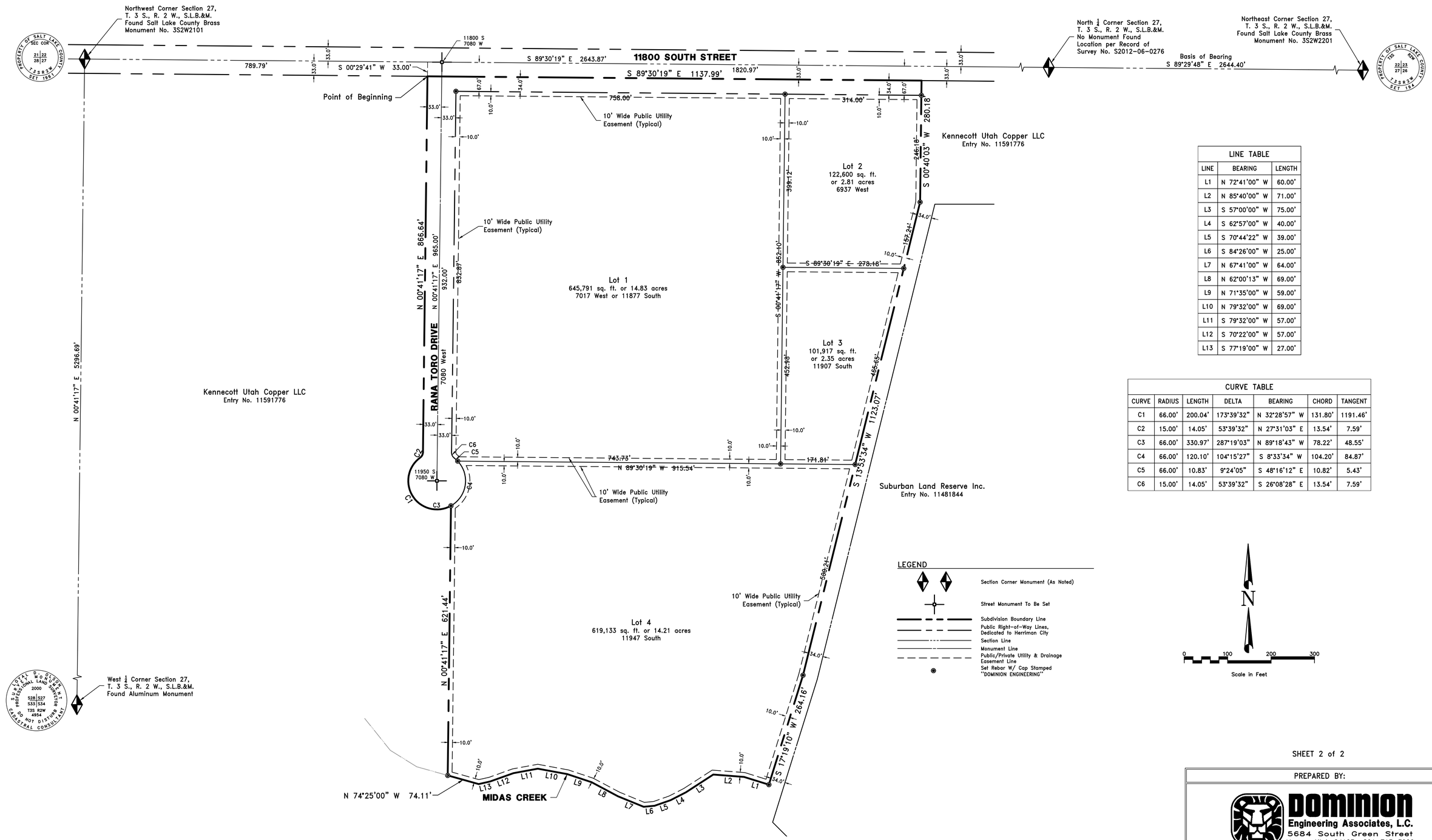
1. Vicinity Map
2. Preliminary Plat



Proposed Subdivision
Files S2019-002

HERRIMAN INNOVATION DISTRICT PHASE 1

Located in Northwest Quarter of Section 27, Township 3 South, Range 2 West,
Salt Lake Base and Meridian, Herriman City, Salt Lake County Utah



LINE TABLE		
LINE	BEARING	LENGTH
L1	N 72°41'00" W	60.00'
L2	N 85°40'00" W	71.00'
L3	S 57°00'00" W	75.00'
L4	S 62°57'00" W	40.00'
L5	S 70°44'22" W	39.00'
L6	S 84°26'00" W	25.00'
L7	N 67°41'00" W	64.00'
L8	N 62°00'13" W	69.00'
L9	N 71°35'00" W	59.00'
L10	N 79°32'00" W	69.00'
L11	S 79°32'00" W	57.00'
L12	S 70°22'00" W	57.00'
L13	S 77°19'00" W	27.00'

CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA	BEARING	CHORD	TANGENT
C1	66.00'	200.04'	173°39'32"	N 32°28'57" W	131.80'	1191.46'
C2	15.00'	14.05'	53°39'32"	N 27°31'03" E	13.54'	7.59'
C3	66.00'	330.97'	287°19'03"	N 89°18'43" W	78.22'	48.55'
C4	66.00'	120.10'	104°15'27"	S 8°33'34" W	104.20'	84.87'
C5	66.00'	10.83'	9°24'05"	S 48°16'12" E	10.82'	5.43'
C6	15.00'	14.05'	53°39'32"	S 26°08'28" E	13.54'	7.59'

SHEET 2 of 2

PREPARED BY:

DOMINION Engineering Associates, L.C.
5684 South Green Street
Murray, Utah 84123 801-713-3000

SALT LAKE COUNTY RECORDER #_____

State of Utah, County of Salt Lake, recorded and filed at the request of _____

Date _____ Time _____ Book _____ Page _____

$ _____ Fees

_____ Salt Lake County Recorder

Date of Meeting: 01/17/2019	
File #	S2018-17
Applicant	Marco Diaz
Address	7336 W. Rose Canyon Road
Request	Preliminary Plat Approval for a Subdivision of 11 Single Family Lots

Staff Report

DATE: January 10, 2019

TO: Planning Commission

FROM: Bryn McCarty, AICP, Assistant City Planner

MEETING: Planning Commission January 17, 2019

REQUEST: Preliminary plat approval for a subdivision of 11 single family lots.

Applicant:	Marco Diaz
Address:	7336 W Rose Canyon Road
Zone:	A-.25 (Agricultural - 10,000 square foot lot minimum)
Acres:	5.42
File Number:	S2018-17

Summary

The applicant is requesting preliminary plat approval for a subdivision of 11 single family lots.

Process

A subdivision is an administrative decision. The Planning Commission will hold a public hearing and make a decision based on compliance with the applicable ordinances and standards.

Notices

Staff mailed notices to all property owners within 300 feet of the subject property. Notices were mailed to 13 property owners on January 7, 2019. At this time, staff has received no comments on the request.

Neighborhood Meeting

A neighborhood meeting was held on January 3, 2018. Notices were mailed to 13 residents. Two residents attended the meeting. There were no concerns raised by the residents. Minutes from the meeting are included in the packet.

Ordinance

The A-.25 Zone has a "baseline density" of 1.8 lots per acre. Chapter 9 (Agricultural Zones) of Title 10 (Herriman Land Development Code) contains the following City Code:

> **10-9-6.C.2** "A density bonus may be allowed for projects which comply with the bonus density requirements of this subsection. The amount of bonus density shall be determined by the type of bonus density requirements and improvements incorporated in the development proposal as set forth in the following chart."

Staff Report

	Bonus Density Requirements (EXCERPT)	Density Bonus Points
1	**Dedicating and installing at least a 10' park strip behind the sidewalk adjacent to a collector or arterial road**	**0.1 unit per acre**
2	**Dedicating and installing a trail connection to an existing trail that provides an amenity for the residents of the proposed project.**	**0.1 units per acre**
3	Dedicating and installing a trail that provides an amenity for the larger community and is designated in the parks master plan.	0.2 units per acre
4	Dedicating and installing infrastructure that is identified as a "system improvement" by the city.	0.2 units per acre
5	Combining 2 or more properties to create 1 larger project of at least 10 acres. The properties must be contiguous to each other and must be consolidated from different property owners.	0.05 units per acre for each 10 acres combined; maximum of 0.2 units per acre for this category
6	**Providing $^1/_2$ acre lots that buffer lots adjacent to existing larger lots or agricultural uses or zones.**	**0.1 units per acre**
7	In addition to providing $^1/_2$ acre lots adjacent to existing larger lots, developing at least 10 percent of the lots throughout the project as half-acre lots.	0.1 units per acre
8	In a subdivision providing a local park at least $^1/_2$ acre in size or upon approval of the city paying to the city a fee in lieu. For purposes of this provision a park must include a playground or other amenities consistent with the size of the park and not just be a detention pond.	0.1 units per acre
9	In a subdivision providing a neighborhood park at least 1 acre in size or upon approval of the city paying to the city a fee in lieu. For purposes of this provision a park must include a playground or other amenities consistent with the size of the park and not just be a detention pond.	0.2 units per acre

Issue 1 – Density

The proposal is for 11 single-family lots on 5.42 acres. The proposed subdivision must meet the bonus density requirements of the A-.25 Zone shown in the chart above. The applicant claims the proposal meets several of the bonus requirements. Specifically, the development will provide an additional 10 feet behind the sidewalk on Rose Canyon Road (number 1), a connection to an existing trail located east of the proposed subdivision (number 2), and half acre buffer lots (number 5).

Using the baseline density of 1.8 lots per acre, the maximum number of lots allowed within the proposed subdivision would be 9.75 lots. Based on applicable bonus density criteria, the development qualifies for 2.1 lots per acre, which would permit 11 lots. The proposed plan shows 11 lots for single-family homes.

Issue 2 – Storm Water

The Engineering department is comfortable with allowing Beiruti to use offsite detention downstream near the intersection of 7300 West and Rose Canyon Rd (see attached concept of the regional pond).

The exhibit also includes volume requirement calculations showing that the 7300 West regional detention pond has more than adequate detention volume for the Beiruti subdivision. The developer has an agreement with an adjacent developer to assist in the construction of the pond (see attached agreement).

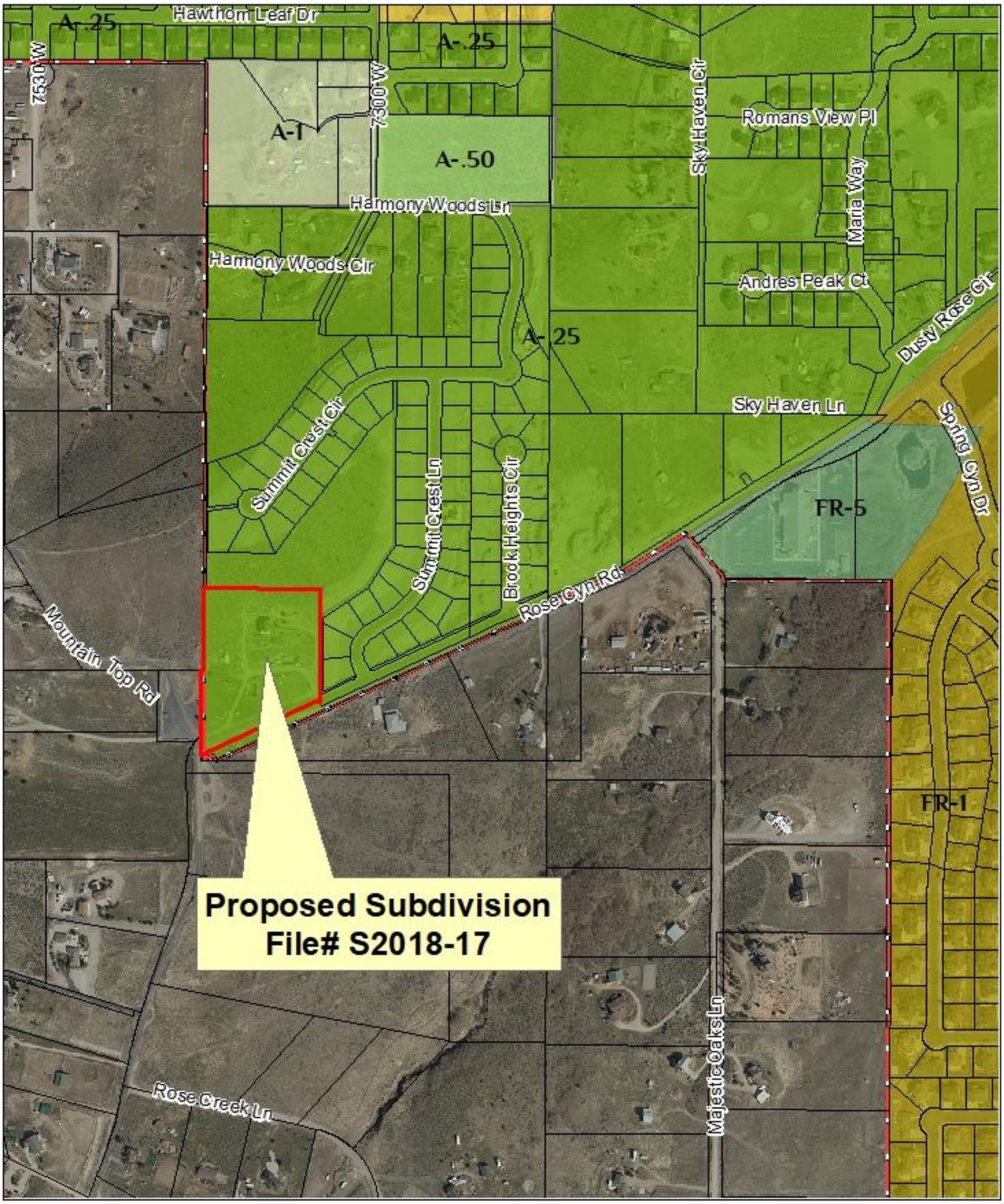
Issue 3 – Fencing
The ordinance requires fencing between incompatible uses. The property to the west is large lots located in Salt Lake County. A fence will be required on the west side of the subdivision, adjacent to the existing large lots. There will also be a fence required along Rose Canyon Road.

Recommendation
Staff recommends approval of the 11 lot residential subdivision, with the following requirements:

1. Meet with staff for review and final approval of the site plan.
2. Meet all requirements as outlined in the Development Review Committee Comments dated August 31, 2018.
3. Each of the lots shall be a minimum of 85 feet wide and 10,000 square feet.
4. Install curb, gutter, street lights, park strip, and sidewalk on all public streets. This should include arterial lights along Rose Canyon Road.
5. Dedicate property needed to accommodate a 66 foot right of way for Rose Canyon Road.
6. Install a 6 foot vinyl fence along the entire west property line of the subdivision, and on the south side along Rose Canyon Road. The fence shall meet all clear view requirements at the intersection.
7. All homes shall meet the Single-family design criteria.
8. Density is approved at 2.1 units per acre, which is 11 lots.
9. No lots shall be accessible from or onto Rose Canyon Road.
10. Developer is responsible for the installation of sidewalk, curb, gutter, and lighting along Rose Canyon Road. Work with the Park Department on the proper improvements on behind the sidewalk.
11. Install a trail connection to the existing trail system. The trail should be concrete 16 feet wide, with landscaping along each side. The trail shall be dedicated to the City.
12. Applicant needs to provide storm water detention or retention to meet Herriman City Engineering Standards. This can be met in an approved off-site detention facility.
13. Work with engineering to ensure that the entrance into High Country is adequately maintained.

Attachments

1. Vicinity Map
2. Preliminary Plat
3. Density Bonus Request
4. Off-site detention pond
5. Storm Water Agreement
6. Community Meeting Minutes



Proposed Subdivision
File# S2018-17

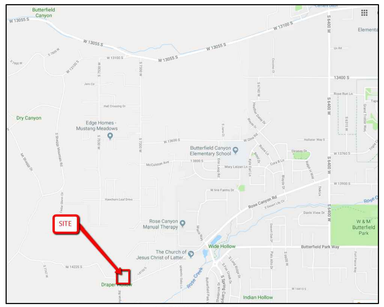
Beiruti Subdivision of Herriman

LOCATED IN NORTHEAST CORNER SECTION 9 SOUTH, RANGE 2 WEST, SLB&M HERRIMAN CITY, SALT LAKE COUNTY, UTAH

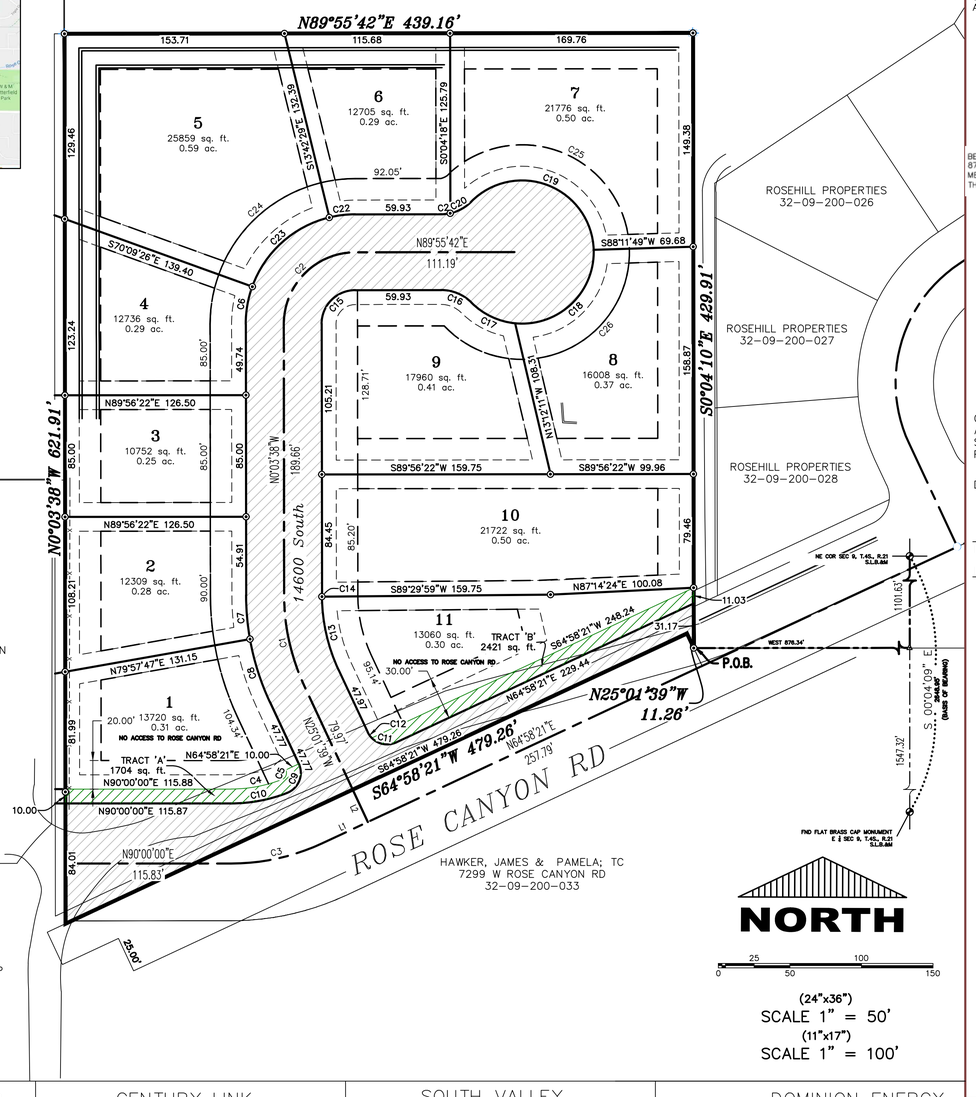
PROJECT DEVELOPER	PROJECT ENGINEER & SURVEYOR
Marco Diaz **Avant Homes** 324 S. 400 W. Suite 175 Salt Lake City, UT 84101 **Cell: (801) 641-8956**	REGION ENGINEERING & SURVEYING 1776 NORTH STATE STREET #110 OREM, UTAH 84057 PH - 801.376.2245

PROJECT STATISTICS

LOTS	11 LOTS
TOTAL ACREAGE	5.24 ACRES
TOTAL ACREAGE IN LOTS	4.21 ACRES
TOTAL ACREAGE IN STREETS	0.94 ACRES
TOTAL ACREAGE IN OPEN AREA	0.09 ACRES
DENSITY	2.10 UNITS PER ACRE



VICINITY MAP
–NTS–



(24"x36")
SCALE 1" = 50'
(11"x17")
SCALE 1" = 100'

LINE TABLE

LINE	LENGTH	DIRECTION
L1	35.33'	N64°58'21"E
L2	25.00'	N25°01'39"W

CURVE TABLE

CURVE	LENGTH	RADIUS	CHORD DIST.	CHORD BRG.	DELTA
C1	65.36'	150.00'	64.85'	N12°32'39"W	24°58'01"
C2	78.53'	50.00'	70.70'	N44°56'02"E	89°59'20"
C3	65.52'	150.00'	65.00'	N77°29'10"E	25°01'39"
C4	36.30'	97.64'	36.09'	N79°23'19"E	21°18'10"
C5	8.18'	5.00'	7.30'	N21°52'30"E	93°43'29"
C6	26.57'	76.50'	26.44'	N9°53'28"E	19°54'12"
C7	30.73'	176.50'	30.69'	N5°02'56"W	9°58'35"
C8	46.18'	176.50'	46.05'	N17°31'56"W	14°59'26"
C9	24.55'	15.01'	21.91'	N21°52'30"E	93°43'29"
C10	40.01'	107.60'	39.78'	N79°23'19"E	21°18'10"
C11	18.46'	15.00'	17.32'	S79°45'47"E	70°31'44"
C12	5.10'	15.00'	5.07'	S34°45'47"E	19°28'16"
C13	52.87'	123.50'	52.47'	S12°45'50"E	24°31'38"
C14	0.95'	123.50'	0.95'	S0°16'50"E	0°26'23"
C15	36.91'	23.50'	33.23'	S44°56'02"W	89°59'20"
C16	23.60'	30.00'	22.99'	N67°32'13"W	45°04'10"
C17	34.38'	50.00'	33.71'	N64°42'04"W	39°23'53"
C18	85.00'	50.00'	75.13'	S46°53'54"W	97°24'10"
C19	116.36'	50.00'	91.82'	S68°28'19"E	133°20'17"
C20	17.04'	30.00'	16.81'	N61°07'50"E	32°32'36"
C21	6.56'	30.00'	6.55'	N83°39'55"E	12°31'33"
C22	18.21'	76.50'	18.16'	N83°06'36"E	13°38'11"
C23	75.37'	76.50'	72.36'	N48°04'03"E	56°26'57"
C24	100.00'	101.50'	96.00'	N48°04'03"E	56°26'57"
C25	170.45'	75.00'	136.06'	S66°54'34"E	130°12'46"
C26	119.13'	75.00'	107.00'	S43°42'04"W	91°00'29"

LEGEND

- FOUND SECTION COR. AS NOTED
- SET 5/8" IRON PIN TO BE SET AT ALL LOT CORNERS
- FOUND CLASS I STREET MONUMENT
- SET STREET MONUMENT
- PROPERTY BOUNDARY
- CENTERLINE
- RIGHT–OF–WAY LINE
- LOT LINE
- SECTION LINE
- PUBLIC UTILITY EASEMENT
- CALCULATED POINT (NOT SET)

SURVEYOR'S CERTIFICATE

I, ROBBIN J. MULLEN, DO HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR, AND THAT I HOLD A LICENSE IN ACCORDANCE WITH TITLE 58, CHAPTER 22, PROFESSIONAL ENGINEERS AND LAND SURVEYORS LICENSING ACT, UTAH CODE ANNOTATED, 1953 AS AMENDED, CERTIFICATE NO. 368356. I FURTHER CERTIFY THAT BY AUTHORITY OF THE OWNERS, I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED BELOW, HAVE SUBDIVIDED SAID TRACT OF LAND INTO LOTS, STREETS, AND EASEMENTS, HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRIBED ON THIS PLAT IN ACCORDANCE WITH SECTION 17–23–17, UTAH CODE ANNOTATED, 1953 AS AMENDED, HAVE VERIFIED ALL MEASUREMENTS, AND HAVE PLACED MONUMENTS AS REPRESENTED ON THE PLAT. I FURTHER CERTIFY THAT EVERY EXISTING RIGHT–OF–WAY AND EASEMENT GRANT OF RECORD FOR UNDERGROUND FACILITIES, AS DEFINED IN SECTION 54–8a–2, UTAH CODE ANNOTATED,1953 AS AMENDED, AND FOR OTHER UTILITY FACILITIES, IS ACCURATELY DESCRIBED ON THIS PLAT, AND THAT THIS PLAT IS TRUE AND CORRECT.

DATE _____ ROBBIN J. MULLEN, P.L.S.

BOUNDARY DESCRIPTION

BEGINNING AT A POINT ON THE NORTH LINE OF A COUNTY ROAD; SAID POINT BEING SOUTH 1069.93 FEET AND WEST 876.34 FEET FROM THE NORTHEAST CORNER OF SECTION 9, TOWNSHIP 4 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN; RUNNING THENCE SOUTH 65°16'27" WEST, 493.31 FEET; THENCE NORTH 00°28'51" EAST, 616.68 FEET; THENCE SOUTH 89°31'09" EAST, 446.34 FEET; THENCE SOUTH 0°28'51" WEST, 406.58 FEET TO THE POINT OF BEGINNING.

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT WE, ALL OF THE UNDERSIGNED OWNERS OF ALL THE PROPERTY DESCRIBED IN THE SURVEYOR'S CERTIFICATE HEREON AND SHOWN ON THIS MAP, HAVE CAUSED THE SAME TO BE SUBDIVIDED INTO LOTS, STREETS, AND EASEMENTS AND DO HEREBY DEDICATE THE STREETS AND OTHER PUBLIC AREAS AS INDICATED HEREON FOR PERPETUAL USE OF THE PUBLIC.

IN WITNESS HEREOF WE HAVE HEREUNTO SET OUR HANDS THIS DAY OF _____. A.D. 20____.

_____ L.C.

MANAGING MEMBER

BY: _____ BY: _____

ACKNOWLEDGEMENT

STATE OF UTAH
COUNTY OF _____ } S.S.

ON THIS _____ DAY OF _____, A.D. 20____, PERSONALLY APPEARED BEFORE ME _____, WHOSE IDENTITY IS PERSONALLY KNOWN TO ME OR PROVED TO ME THE BASIS OF SATISFACTORY EVIDENCE, AND WHO AFFIRMED THAT HE/SHE IS THE _____ OF _____, LIMITED LIABILITY COMPANY, BY AUTHORITY OF IT'S MEMBERS OR IT'S ARTICLES OF ORGANIZATION, AND HE/SHE ACKNOWLEDGED TO ME THAT SAID LIMITED LIABILITY COMPANY EXECUTED THE SAME.

MY COMMISSION EXPIRES _____ _____
NOTARY PUBLIC (SEE SEAL)

ACKNOWLEDGEMENT

STATE OF UTAH
COUNTY OF _____ } S.S.

ON THIS _____ DAY OF _____, A.D. 20____, PERSONALLY APPEARED BEFORE ME _____, WHOSE IDENTITY IS PERSONALLY KNOWN TO ME OR PROVED TO ME THE BASIS OF SATISFACTORY EVIDENCE, AND WHO AFFIRMED THAT HE/SHE IS THE _____ OF _____, LIMITED LIABILITY COMPANY, BY AUTHORITY OF IT'S MEMBERS OR IT'S ARTICLES OF ORGANIZATION, AND HE/SHE ACKNOWLEDGED TO ME THAT SAID LIMITED LIABILITY COMPANY EXECUTED THE SAME.

MY COMMISSION EXPIRES _____ _____
NOTARY PUBLIC (SEE SEAL)

IN WITNESS HEREOF WE HAVE HEREUNTO SET OUR HANDS THIS DAY OF _____. A.D. 20____.

_____ L.C.

MANAGING MEMBER

BY: _____ BY: _____

Beiruti Subdivision of Herriman

LOCATED IN NORTHEAST CORNER SECTION 9 SOUTH, RANGE 2 WEST, SLB&M HERRIMAN CITY, SALT LAKE COUNTY, UTAH

HERRIMAN _____ SALT LAKE COUNTY, UTAH
SCALE: 1" = 50 FEET

HEALTH DEPARTMENT

APPROVED THIS _____ DAY OF _____

A.D., 20___ BY HEALTH DEPARTMENT

DIRECTOR: SALT LAKE CO. HEALTH DEPARTMENT

COMCAST

APPROVED THIS _____ DAY OF _____

A.D., 20___ BY COMCAST

COMCAST

ROCKY MOUNTAIN POWER

APPROVED THIS _____ DAY OF _____

A.D., 20___ BY ROCKY MOUNTAIN POWER

ROCKY MOUNTAIN POWER

CENTURY LINK

APPROVED THIS _____ DAY OF _____

A.D., 20___ BY CENTURY LINK

CENTURY LINK

SOUTH VALLEY SEWER DISTRICT

APPROVED THIS _____ DAY OF _____ A.D., 20___ BY S.V.S.D.

S.V.S.D.

DOMINION ENERGY

APPROVED THIS _____ DAY OF _____

A.D., 20___ BY DOMINION ENERGY

DOMINION ENERGY

CHECKED FOR ZONING

ZONING: _____ DATE: _____

AREA: _____ WIDTH: _____

NAME: _____

PLANNING COMMISSION

APPROVED THIS _____ DAY OF _____

A.D., 20___ BY HERRIMAN PLANNING COMMISSION

CHAIRMAN: HERRIMAN PLANNING COMMISSION

HERRIMAN CITY MUNICIPAL WATER

APPROVED THIS _____ DAY OF _____

A.D., 20___ BY HERRIMAN MUNICIPAL WATER

HERRIMAN CITY

HERRIMAN CITY ENGINEER

I HEREBY CERTIFY THAT THIS OFFICE HAS EXAMINED THIS PLAT AND IT IS CORRECT IN ACCORDANCE WITH INFORMATION ON FILE IN THIS OFFICE.

HERRIMAN CITY ENGINEER DATE

APPROVAL AS TO FORM

APPROVED AS TO FORM THIS _____

DAY OF _____ A.D., 20_____

HERRIMAN CITY ATTORNEY

HERRIMAN CITY

APPROVED THIS _____ DAY OF _____

A.D., 20___ BY HERRIMAN CITY..

ATTEST: RECORDER MAYOR

RECORDED

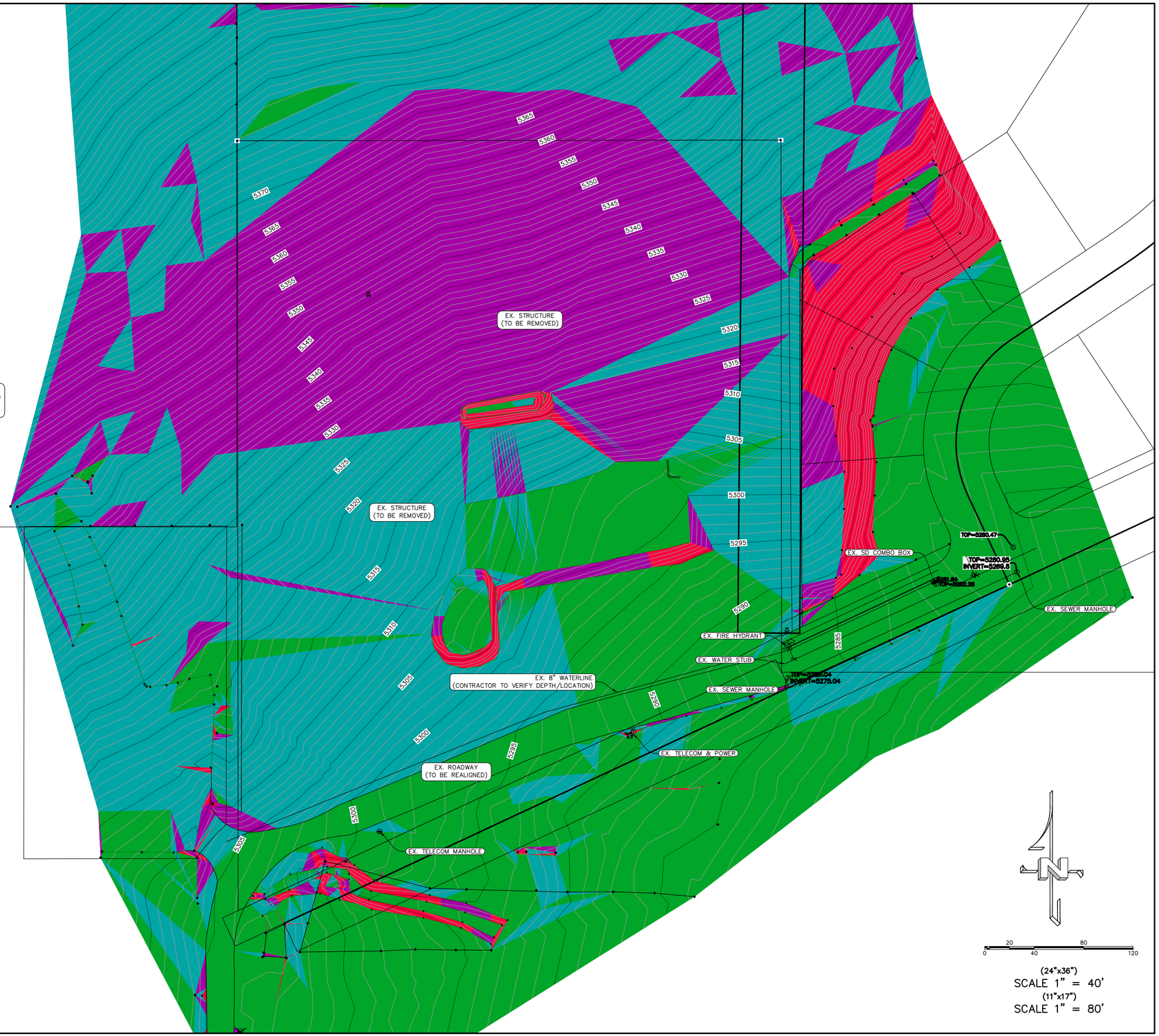
STATE OF UTAH, COUNTY OF SALT LAKE, RECORDED AND FILED AT THE REQUEST OF _____

DATE _____ TIME _____ BOOK _____ PAGE _____

FEE $ CLERK SALT LAKE COUNTY RECORDER

SURFACE SLOPE DATA			
NUMBER	MINIMUM SLOPE	MAXIMUM SLOPE	COLOR
1	0%	10.000%	
2	10.000%	20.000%	
3	20.000%	30.000%	
4	30.000%	1190.456%	

1. No floodplains/streams located within the site boundaries
2. See geotech report for areas of bedrock and/or sensitive soils
3. No dams or canals located w/in the site.
4. No cultural or historical items located w/in the site.



NOTES TO CONTRACTOR:

CONTRACTOR TO FIELD VERIFY ALL EXISTING CURB & GUTTER, STORM DRAIN, CHANNEL CROSSINGS, & SEWER ELEVATIONS OR INVERTS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER WHEN ELEVATIONS OR INVERTS DO NOT MATCH PLANS.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

0 20 40 80 120

(24"x36")
SCALE 1" = 40'
(11"x17")
SCALE 1" = 80'

region Engineering & Surveying
1776 N. State St. #110
Orem, UT 84057
P: 801.376.2245
regiondesignllc.com

Beiruti Subdivision of Herriman

LOCATED IN NORTHEAST CORNER SECTION 9,
T-4-SOUTH, RANGE 2 WEST, SLB&M HERRIMAN
CITY, SALT LAKE COUNTY, UTAH

DATE:12.13.2018
PROJECT 2017_022

REVISIONS:
1
2
3

SHEET NAME:
SLOPE ANALYSIS

SHEET:
SL-01

C:\USERS\SHERRING\DROPBOX\2_REGION PROJECTS\1_REGION ENGINEERING PROJECTS\0_PROJECTS\2018\02_BUSH AND GUDGELL\HERRIMAN\2_SHEET FILES\SL-01

The property located at 7336 W. Rose Canyon Road is a 5.42 acre lot. Based on the current zoning of 1.8 lots per acre it would only allow us 9.76 lots.

In order to qualify for the 11 lots we are proposing we need .3 unit per acre of bonus density and therefore it would give us 11.382 lots. The way we get the .3 units of bonus density is as follows:

0.1 unit per acre: Dedicate and install a 10ft park strip behind the sidewalk

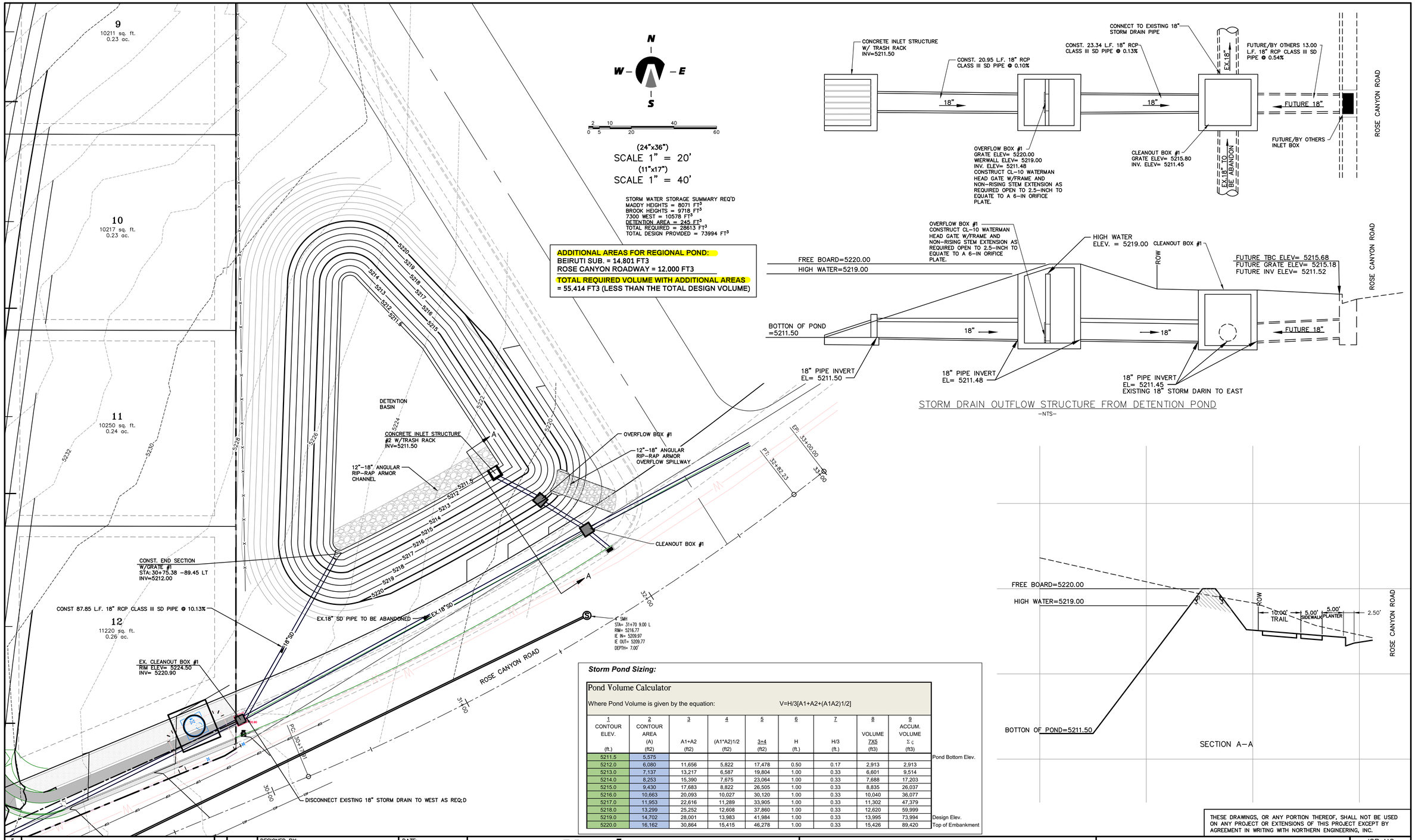
0.1 unit per acre: Provide 2 half acre lots

0.1 unit per acre: Dedicate and install a trail connection to an existing trail

Sincerest Regards,

Marco Diaz
Representative of the Owner (Jose Beiruti)

324 S. 400 W. Suite 175, Salt Lake City, UT 84101



STORM WATER STORAGE SUMMARY REQ'D
MADDY HEIGHTS = 8071 FT^3
BROOK HEIGHTS = 9718 FT^3
7300 WEST = 10578 FT^3
DETENTION AREA = 245 FT^3
TOTAL REQUIRED = 28613 FT^3
TOTAL DESIGN PROVIDED = 73994 FT^3

ADDITIONAL AREAS FOR REGIONAL POND:
BEIRUTI SUB. = 14,801 FT3
ROSE CANYON ROADWAY = 12,000 FT3
TOTAL REQUIRED VOLUME WITH ADDITIONAL AREAS = 55,414 FT3 (LESS THAN THE TOTAL DESIGN VOLUME)

Storm Pond Sizing:

Pond Volume Calculator

Where Pond Volume is given by the equation: V=H/3[A1+A2+(A1A2)1/2]

1 CONTOUR ELEV. (ft.)	2 CONTOUR AREA (A) (ft2)	3 A1+A2 (ft2)	4 (A1*A2)1/2 (ft2)	5 3+4 (ft2)	6 H (ft.)	7 H/3 (ft.)	8 VOLUME 7X6 (ft3)	9 ACCUM. VOLUME Σ ς (ft3)	
5211.5	5,575								Pond Bottom Elev.
5212.0	6,080	11,656	5,822	17,478	0.50	0.17	2,913	2,913	
5213.0	7,137	13,217	6,587	19,804	1.00	0.33	6,601	9,514	
5214.0	8,253	15,390	7,675	23,064	1.00	0.33	7,688	17,203	
5215.0	9,430	17,683	8,822	26,505	1.00	0.33	8,835	26,037	
5216.0	10,663	20,093	10,027	30,120	1.00	0.33	10,040	36,077	
5217.0	11,953	22,616	11,289	33,905	1.00	0.33	11,302	47,379	
5218.0	13,299	25,252	12,608	37,860	1.00	0.33	12,620	59,999	
5219.0	14,702	28,001	13,983	41,984	1.00	0.33	13,995	73,994	Design Elev.
5220.0	16,162	30,864	15,415	46,278	1.00	0.33	15,426	89,420	Top of Embankment

THESE DRAWINGS, OR ANY PORTION THEREOF, SHALL NOT BE USED ON ANY PROJECT OR EXTENSIONS OF THIS PROJECT EXCEPT BY AGREEMENT IN WRITING WITH NORTHERN ENGINEERING, INC.

NO.	REVISIONS	BY	DATE
5			
4			
3			
2			
1			

DESIGNED BY: DATE:
DRAWN BY: DATE:
CHECKED BY: DATE:
APPROVED: DATE:
COGO FILE: DATE:
REV. COGO FILE: DATE:

K:\3-17-025-00 Peterson\CAD\Design\MADDY BASE NEW POND.dwg 11/9/2018 3:19 PM

Northern ENGINEERING INC
ENGINEERING-LAND PLANNING
CONSTRUCTION MANAGEMENT
1040 E. 800 N.
OREM, UTAH 84097
(801) 802-8992

MADDY HEIGHTS

POND

HERRIMAN, UTAH

JOB NO. 3-17-025

SHEET NO. PND-1

dotloop signature verification: dtlp.us/MCkq-Fvws-B28w

Storm Drain Capacity and Improvement Agreement

WHEREAS, T Squared Development, LLC ("T2") owns property located at 7200 West Rose Canyon Road in Herriman City, Utah and is currently developing the property into 12 lots (hereinafter referred to as "Maddy Heights"), and identified as tax parcels #3210101001 and 3203353002;

WHEREAS, Your Exquisite Home ("YEH") owns property located at 7336 West Rose Canyon Road in Herriman City, Utah and is currently developing the property into 11 lots (hereinafter referred to as the "Beruiti Subdivision") and identified as tax parcel #3209200026;

WHEREAS, T2 has an obligation from Herriman City to detain the Maddy Heights storm water before the water enters Herriman City's storm drain system and T2 has constructed the Maddy Heights storm water system improvements including the storm water detention basin;

WHEREAS, YEH has an obligation from Herriman City to detain the Beruiti Subdivision storm water before the water enters Herriman City's storm drain system and YEW has not constructed the Beruiti Subdivision storm water system improvements;

WHEREAS, T2 can construct additional capacity in the Maddy Heights storm water detention basin to accommodate the detention requirements of YEH;

WHEREAS, YEH could eliminate the detention basin in the Beruiti Subdivision, expand the size of one or more of their lots due to the elimination of the detention basin and save the expense of constructing and landscaping their own detention basin if T2 would construct additional capacity in the Maddy Heights detention basin;

NOW, THEREFORE, the Parties do hereby agree and covenant as follows:

1. T2 shall construct additional capacity in the Maddy Heights storm water detention basin to accommodate all of the storm water detention requirements of the Beruiti Subdivision.

2. YEH shall pay T2 Forty-Thousand Dollars ($40,000,00) for the right to detain the Beruiti Subdivision storm water in the Maddy Heights storm water detention basin and for the costs associated with constructing the additional capacity in the Maddy Heights storm drain detention basin.

3. YEH shall be responsible for all other storm water improvements and development improvements in relation to the Beruiti Subdivision.

4. YEH shall make the payment outlined in Item 2 when Herriman City's Engineering Department verify that the necessary storm water detention capacity has been constructed in the Maddy Heights storm drain detention basin. Such verification can be made via letter or email by the Herriman City Engineering Department. Payment shall be made within 5 days of verification.

5. Once T2 constructs the additional capacity and the capacity has been verified by Herriman City's Engineering Department, T2 may record a lien or Notice of Interest against the YEH property to secure payment.

dotloop signature verification: dtlp.us/MCkq-Fvws-B28w

6. If construction of the additional storm drain capacity and the capacity verification have not been completed by March 30, 2018, this Agreement shall expire and the Parties shall be relieved of any and all obligations under this Agreement whatsoever.

7. This Agreement shall contain the entire understanding among the Parties with respect to the storm water system and shall supersede all other agreements and understandings among the parties.

8. This Agreement may be executed simultaneously in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same Agreement.

9. The Parties acknowledge that each party has reviewed and had an opportunity to revise this Agreement and that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not apply in the interpretation of this Agreement or any amendments thereto, and that the Agreement shall be given a reasonable interpretation in accordance with the plain meaning of its terms and the intent of the Parties.

T Squared Development, LLC:

Trevor Hull
Its: Managing Member

Dated: 12/20/2018

Your Exquisite Home:

Jose Beriti

dotloop verified
01/09/19 5:39 PM MST
FVGO-UDTF-2WE1-B1MY

By: Jose Beiruti

Its: _____

Dated: _____

Community Outreach
Neighborhood Meeting

Date: 01/03/19
Developer/Applicant: Marco Diaz
Community #: Zone 3
Community Facilitator: David Hale
# of Mailed Notices: 14
 # Attendees: 2

Notes:

1. Presentation
    a. 11 lots, three 0.5 acres or more
    b. Adjusting Rose Canyon Road to be straight, adding a stop sign to northbound traffic at corner
    c. As builders are building foundations for upper three lots, it is likely that they will be adding a rock retaining wall

Attendees:
Kami Robertson - robertsonkami@gmail.com
Trevor Hull - trevor@tsquared.info

Date of Meeting: 01/17/2019	
File #	S2018-21
Applicant	Charles R. Frost
Address	14429 S Abbey Bend Ln
Request	Subdivision Amendment to Subdivide 1 Parcel into 4 Individual Units

Staff Report

DATE: January 10, 2018

TO: Planning Commission

FROM: Craig Evans, Planner I

MEETING: Planning Commission January 17, 2019

REQUEST: Proposed Subdivision Amendment to Subdivide 1 Parcel into 4 Separate Units

Applicant:	Charles R. Frost
Address:	14429 S. Abbey Bend Lane
Zone:	MU-2 (Mixed Use)
Acres:	.07
File Number:	S2018-21

Request

Charles R. Frost is requesting an amendment to the Payton's Quarry plat to subdivide ½ of a townhome building into 4 separate parcels.

Site

The proposed subdivision amendment is located at 14429 S Abbey Bend Lane and is part of Payton's Quarry.

Zoning

The site is zoned MU-2

Notices

All changes proposed to the plat are modifying only the applicant's property, so by ordinance a public hearing is not required and notices are not needed.

Discussion

The building is comprised of 2 parcels, each containing 4 townhomes. The applicant owns ½ of the building (4 townhomes) and wishes to amend the plat so that his half of the building is split into 4 separate parcels, each assigned its own address.

Each unit is currently serviced by its own individual power and gas meter. However, there is only one master water meter that serves all 4 units concerned. Because of this the master HOA is billed for the water and sewer for all 4 units and then divides the cost to each residence through their monthly HOA fees.

This item was originally continued over concerns regarding the different ownership of the 4 units on the other side of the building and also potential liability to the City. City staff has consulted with the City Attorney and after further investigation he has no concerns regarding how the utilities are separated, how maintenance and repairs will be handled, or regarding the preliminary plat that has been submitted for this subdivision. Because the proposed amendment is only concerning boundaries within the current owner's own parcel the plat requires no signature from the adjacent property owner.

Recommendation

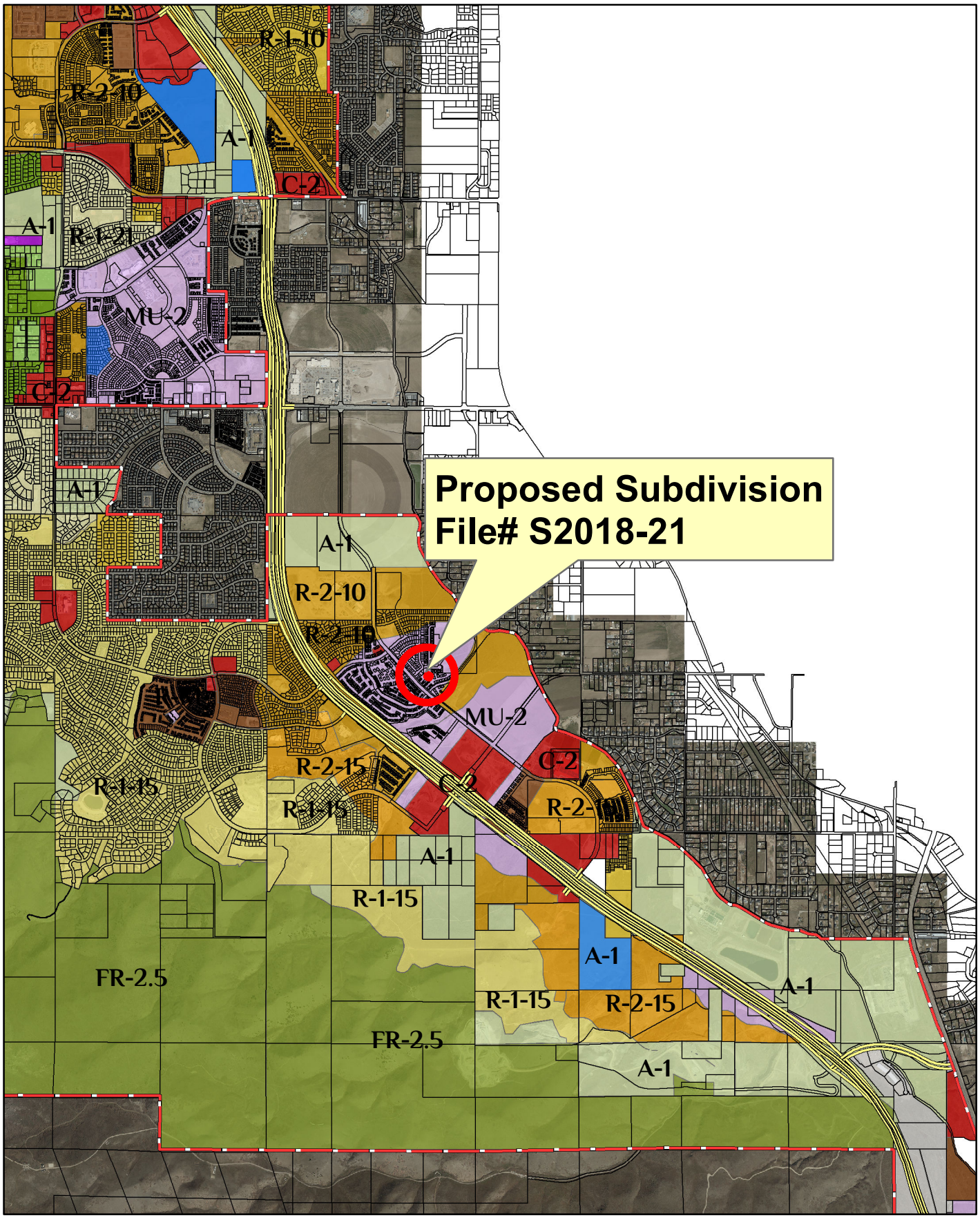
Staff recommends approval of the plat amendment with the following requirements:

Requirements

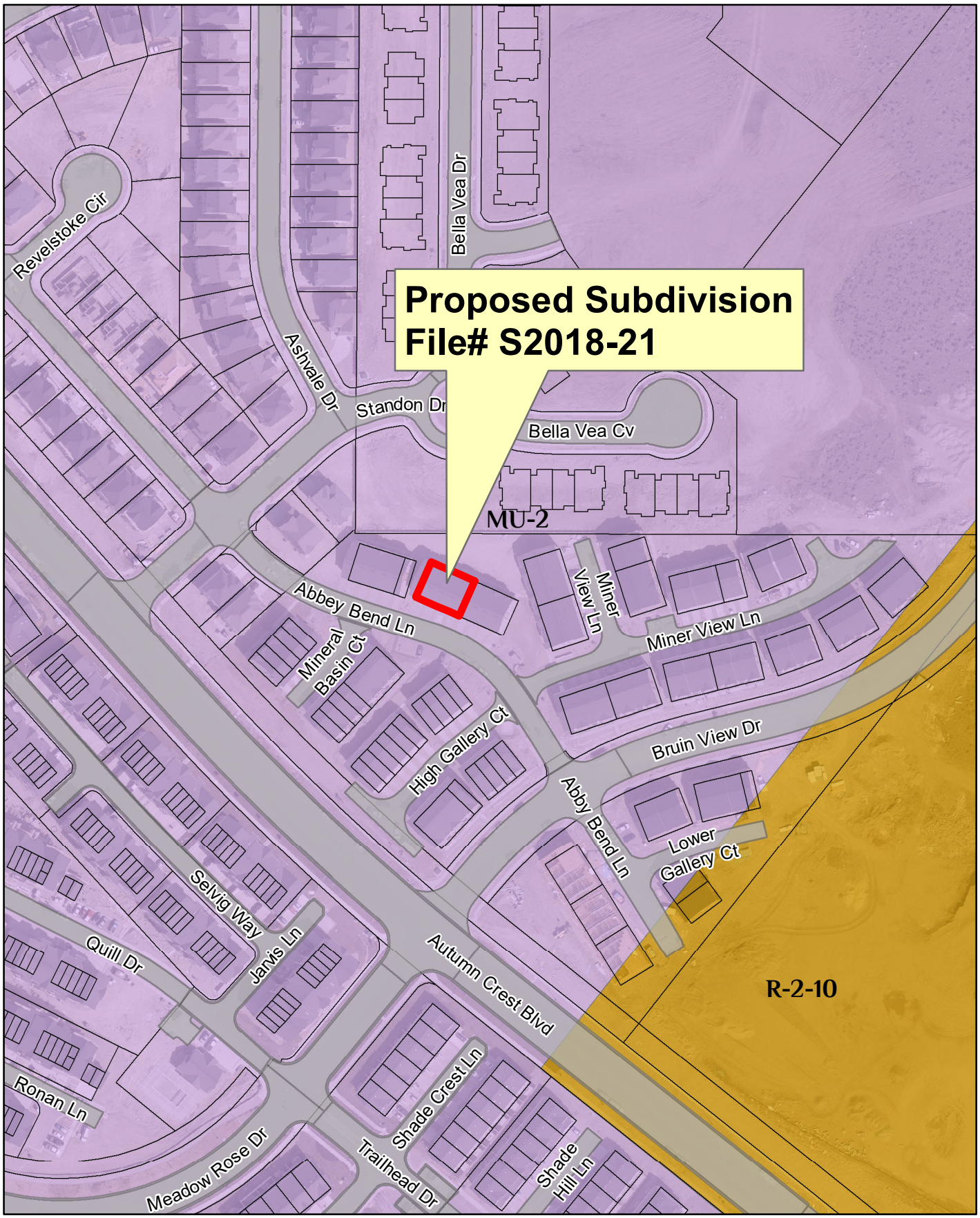
l. Meet with the Staff for review and final approval of the site plan.
2. Receive and agree to the recommendations from other agencies.
3. Work with engineering on providing separate utilities to each unit.
4. Prepare a plat to be reviewed and approved by the engineering department.

Attachments

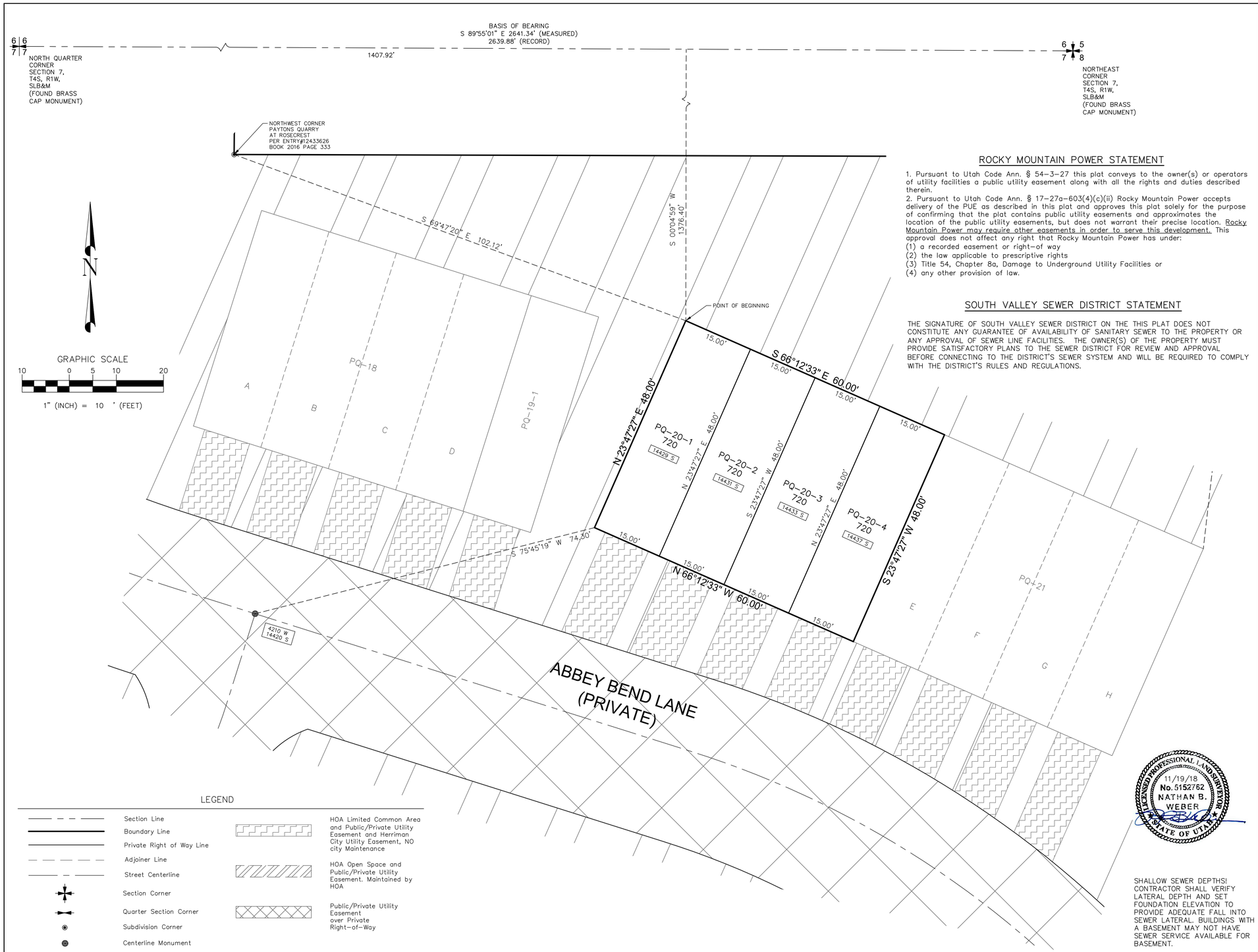
A. Vicinity Map
B. Preliminary Plat



Proposed Subdivision
File# S2018-21



Proposed Subdivision
File# S2018-21



ROCKY MOUNTAIN POWER STATEMENT

1. Pursuant to Utah Code Ann. § 54-3-27 this plat conveys to the owner(s) or operators of utility facilities a public utility easement along with all the rights and duties described therein.
2. Pursuant to Utah Code Ann. § 17-27a-603(4)(c)(ii) Rocky Mountain Power accepts delivery of the PUE as described in this plat and approves this plat solely for the purpose of confirming that the plat contains public utility easements and approximates the location of the public utility easements, but does not warrant their precise location. Rocky Mountain Power may require other easements in order to serve this development. This approval does not affect any right that Rocky Mountain Power has under:
(1) a recorded easement or right-of way
(2) the law applicable to prescriptive rights
(3) Title 54, Chapter 8a, Damage to Underground Utility Facilities or
(4) any other provision of law.

SOUTH VALLEY SEWER DISTRICT STATEMENT

THE SIGNATURE OF SOUTH VALLEY SEWER DISTRICT ON THE THIS PLAT DOES NOT CONSTITUTE ANY GUARANTEE OF AVAILABILITY OF SANITARY SEWER TO THE PROPERTY OR ANY APPROVAL OF SEWER LINE FACILITIES. THE OWNER(S) OF THE PROPERTY MUST PROVIDE SATISFACTORY PLANS TO THE SEWER DISTRICT FOR REVIEW AND APPROVAL BEFORE CONNECTING TO THE DISTRICT'S SEWER SYSTEM AND WILL BE REQUIRED TO COMPLY WITH THE DISTRICT'S RULES AND REGULATIONS.

LEGEND

- Section Line
- Boundary Line
- Private Right of Way Line
- Adjoiner Line
- Street Centerline
- Section Corner
- Quarter Section Corner
- Subdivision Corner
- Centerline Monument
- HOA Limited Common Area and Public/Private Utility Easement and Herriman City Utility Easement, NO city Maintenance
- HOA Open Space and Public/Private Utility Easement. Maintained by HOA
- Public/Private Utility Easement over Private Right-of-Way

LICENSED PROFESSIONAL LAND SURVEYOR
11/19/18
No. 5152762
NATHAN B. WEBER
STATE OF UTAH

SHALLOW SEWER DEPTHS! CONTRACTOR SHALL VERIFY LATERAL DEPTH AND SET FOUNDATION ELEVATION TO PROVIDE ADEQUATE FALL INTO SEWER LATERAL. BUILDINGS WITH A BASEMENT MAY NOT HAVE SEWER SERVICE AVAILABLE FOR BASEMENT.

SURVEYOR'S CERTIFICATE

In accordance with Section 10-9A-603 of the Utah Code, I, Nathan B. Weber, do hereby certify that I am a Professional Land Surveyor holding license number 5152762 in accordance with Title 58, Chapter 22 of the Professional Engineers and Professional Land Surveyors Licensing Act.

I further certify that on behalf of Diamond Land Surveying, LLC, I have completed a survey of the property described on the plat in accordance with Section 17-23-17 of Utah Code, and have verify all measurements, shown and have subdivided said property into lots and streets hereafter to be known as AMENDING BUILDING PQ-20, PAYTON'S QUARRY AT ROSECREST SUBDIVISION, AMENDING LOT B-2 OF THE SOUTH HERRIMAN AMENDING LOT B, and have placed monuments as represented on the plat.

BOUNDARY DESCRIPTION

BUILDING 20 PAYTON'S QUARRY AT ROSECREST SUBDIVISION, AMENDING LOT B-2 OF SOUTH HERRIMAN AMENDING LOT B AMENDED MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT SOUTH 89°55'01" EAST 1407.92 FEET AND SOUTH 0°04'59" WEST 1376.40 FEET FROM THE NORTH QUARTER CORNER OF SECTION 7, TOWNSHIP 4 SOUTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN AND RUNNING:

THENCE SOUTH 66°12'33" EAST 60.00 FEET;

THENCE SOUTH 23°47'27" WEST 48.00 FEET;

THENCE NORTH 66°12'33" WEST 60.00 FEET;

THECNE 23°47'27" EAST 48.00 FEET TO THE POINT OF BEGINNING.

OWNER'S DEDICATION

Know all men by these presents that_____, the _____ undersigned owners of the above described tract of land, having caused same to be subdivided into lots and streets to be hereafter known as the

AMENDING BUILDING PQ-20, PAYTON'S QUARRY
AT ROSECREST SUBDIVISION,
AMENDING LOT B-2 OF
THE SOUTH HERRIMAN AMENDING LOT B

and do hereby dedicate for perpetual use of the public all parcels of land shown on this plat as intended for Public use. Owners hereby agree to warrant and defend and save the City harmless against any easements or other encumbrance on a dedicated street which will interfere with the City's use, maintenance and operation of the street. IN witness whereof _____have hereunto set_____ this_____ day of _____ A.D., 20_____

ACKNOWLEDGMENT

STATE OF UTAH)
:SS
COUNTY OF SALT LAKE)

On the _____ day of _____, 20__, personally appeared before me _____, the signer of the foregoing instrument, who duly acknowledged to me that (s)he is a _____ of _____, a Utah limited liability company, and is authorized to execute the foregoing Agreement in its behalf and that he or she executed it in such capacity.

NOTARY PUBLIC
Residing at:

AMENDING BUILDING PQ-20, PAYTON'S QUARRY AT ROSECREST SUBDIVISION, AMENDING LOT B-2 OF THE SOUTH HERRIMAN AMENDING LOT B

LOCATED IN THE NORTHEAST QUARTER OF SECTION 7, TOWNSHIP 4 SOUTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN

SALT LAKE VALLEY HEALTH DEPARTMENT

APPROVED THIS _____ DAY OF _____, 20__, BY HEALTH DEPARTMENT.

DIRECTOR, SALT LAKE VALLEY HEALTH DEPARTMENT

COMCAST

APPROVED THIS _____ DAY OF _____, 20__, BY COMCAST.

COMCAST

CENTURYLINK

APPROVED THIS _____ DAY OF _____, 20__, BY CENTURYLINK.

CENTURYLINK

ROCKY MOUNTAIN POWER

APPROVED THIS _____ DAY OF _____, 20__, BY ROCKY MOUNTAIN POWER.

ROCKY MOUNTAIN POWER

SOUTH VALLEY SEWER DISTRICT

APPROVED THIS _____ DAY OF _____, 20__, BY SOUTH VALLEY SEWER DISTRICT.

GENERAL MANAGER

QUESTAR

APPROVED THIS _____ DAY OF _____, 20__, BY QUESTAR GAS.

QUESTAR

TABULATIONS

1. TOTAL PLAT ACREAGE	0.06 ACRES
2. TOTAL LOT ACREAGE	0.06 ACRES
3. TOTAL RIGHT-OF-WAY	0.00 ACRES
4. TOTAL OPEN SPACE	0.00 ACRES
5. AVERAGE LOT SIZE	720 SQ. FT.
6. NUMBER OF LOTS	4

DIAMOND LAND SURVEYING, LLC
5243 South Green Pine Drive
Murray, Utah 84123
office@diamondlandsurveying.com
Phone (801) 266-5099

CHECKED FOR ZONING

ZONE _____

AREA _____ WIDTH_____

NAME _____

DATE _____

PLANNING COMMISSION

APPROVED THIS _____ DAY OF _____, 20___, BY THE HERRIMAN PLANNING COMMISSION.

CHAIRMAN, HERRIMAN PLANNING COMMISSION

HERRIMAN CITY MUNICIPAL WATER

APPROVED THIS _____ DAY OF _____, 20___, BY HERRIMAN CITY MUNICIPAL WATER.

HERRIMAN CITY

HERRIMAN CITY ENGINEER

I HEREBY CERTIFY THAT THIS OFFICE HAS EXAMINED THIS PLAT AND IT IS CORRECT IN ACCORDANCE WITH INFORMATION ON FILE IN THIS OFFICE.

DATE HERRIMAN CITY ENGINEER

APPROVAL AS TO FORM

APPROVED AS TO FORM THIS _____ DAY OF _____, 20___.

HERRIMAN CITY ATTORNEY

HERRIMAN CITY

APPROVED THIS _____ DAY OF _____, 20__, BY HERRIMAN CITY.

ATTEST: CITY RECORDER: MAYOR:

SALT LAKE COUNTY RECORDER #_____

STATE OF UTAH, COUNTY OF SALT LAKE RECORDED RECORDED AND FILED AT THE REQUEST OF: _____

DATE: _____ TIME: _____ BOOK: _____ PAGE: _____

FEE $ SALT LAKE COUNTY RECORDER

Staff Memo

DATE: January 11, 2019

TO: Planning Commission

FROM: Michael Maloy, AICP, Planning Director

MEETING: Planning Commission January 17, 2019

REQUEST: Preliminary Subdivision for Two Lots

Applicant:	Tyler Bodrero, Pace Construction Management
Address:	Approximately 6200 W 11800 South
Zone:	C-2 Commercial
Acres:	6.8±
File Number:	S2018-23

Summary

The applicant is requesting preliminary approval of a two-lot subdivision located approximately at 6200 W 11800 South. The approximately 6.8-acre property is zoned C-2 Commercial. The purpose of the subdivision is to facilitate construction of a new charter school known as Advantage Arts Academy with an initial enrollment of 525 students and 700 students at capacity.

Process

The City previously scheduled the application for a public hearing on January 3, 2019. However, on January 3rd, the applicant requested the hearing be rescheduled for January 17, 2019, to allow additional time for the applicant to meet with City staff and discuss concerns identified in the Planning Commission Staff Report published on December 28, 2018 (see Attachment D – Planning Commission Staff Report).

City staff met with the applicant and his team of consultants on January 8th, at which time the applicant agreed to obtain a third vehicular and pedestrian point of access from an abutting 315 lot single-family residential subdivision—known as Jackson Village—that is currently being planned, engineered, and developed. The applicant also agreed to provide all necessary right-of-way improvements and dedications of frontage along 11800 South, and enter into a "memorandum of understanding" regarding future phases of development that are intended to facilitate eight additional classrooms (as shown within attached plans).

Following this meeting, the applicant submitted a revised site plan—with the additional point of access—and an updated traffic impact study on January 9th. Then, in response to the City Engineer, the applicant submitted a subsequent revision on January 10th. (see Attachment A – Revised Site Plan, and Attachment B – Amended Traffic Impact Study).

Staff Memo

Discussion

When the applicant requested a continuance on January 3, Gordon Haight, Assistant City Manager, and John Brems, City Attorney, agreed to reschedule the application for a hearing on January 17, 2019—irrespective of subsequent decisions or completeness of the application. While the City appreciates the applicant's willingness to meet, discuss, and submit revisions, the staff has not had sufficient time to review the amendments and make recommendations to the Planning Commission before publication of this report.

The staff has also attached additional public comments received following publication of the Planning Commission Staff Report for the January 3, 2019, meeting (see Attachment C – Additional Public Comment).

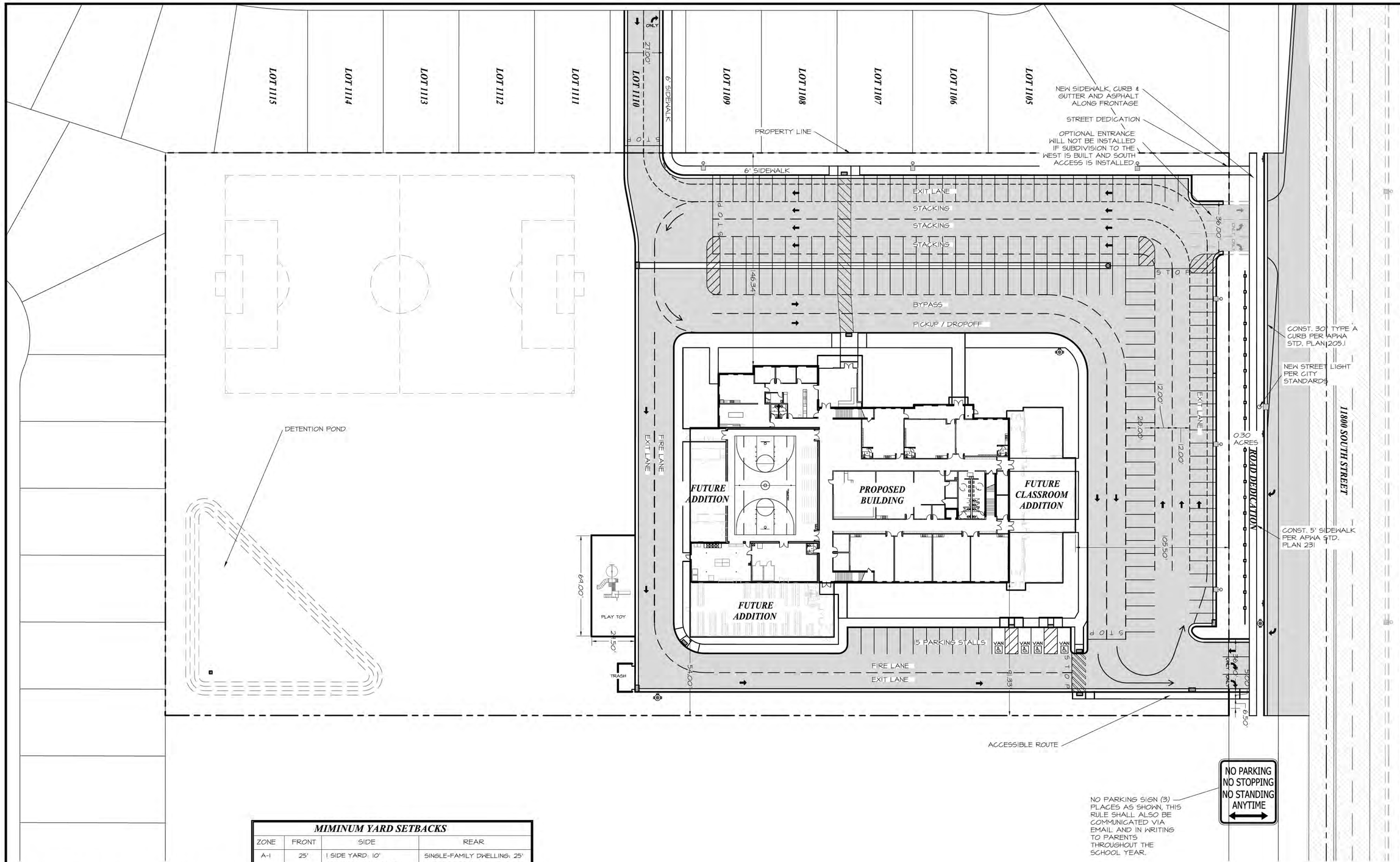
Recommendation

Whereas the Engineering Department has *not* been able to review the proposed amendments sufficiently, staff recommends the Planning Commission conduct the public hearing and "table" or continue the agenda item for a future public meeting.

Attachments

A. Revised Site Plan
B. Updated Traffic Impact Study
C. Additional Public Comment
D. Planning Commission Staff Report (January 3, 2019)

Attachment A
Revised Site Plan



SITE PLAN

SITE AREA TABULATION			
HARDSCAPE	92,888 SQ.FT.	2.133 AC.	32.8%
LANDSCAPE	163,323 SQ.FT.	3.749 AC.	57.7%
BUILDING	26,798 SQ.FT.	0.615 AC.	9.5%
TOTAL SITE	283,009 SQ.FT.	6.497 AC.	100.0%
DAYTIME PARKING		74 STALLS	
EVENING EVENT PARKING		96 STALLS	
TOTAL PARKING		170 STALLS	
70 FACULTY AND 700 STUDENTS ANTICIPATED.			

MIMINUM YARD SETBACKS			
ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS. 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

CURRENT PROPERTY ZONE IS A-1

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS
PRIOR TO COMMENCING
ANY CONSTRUCTION

SEAL:

01-10-2019

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 01/04/2019
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:
11/27/2018 1

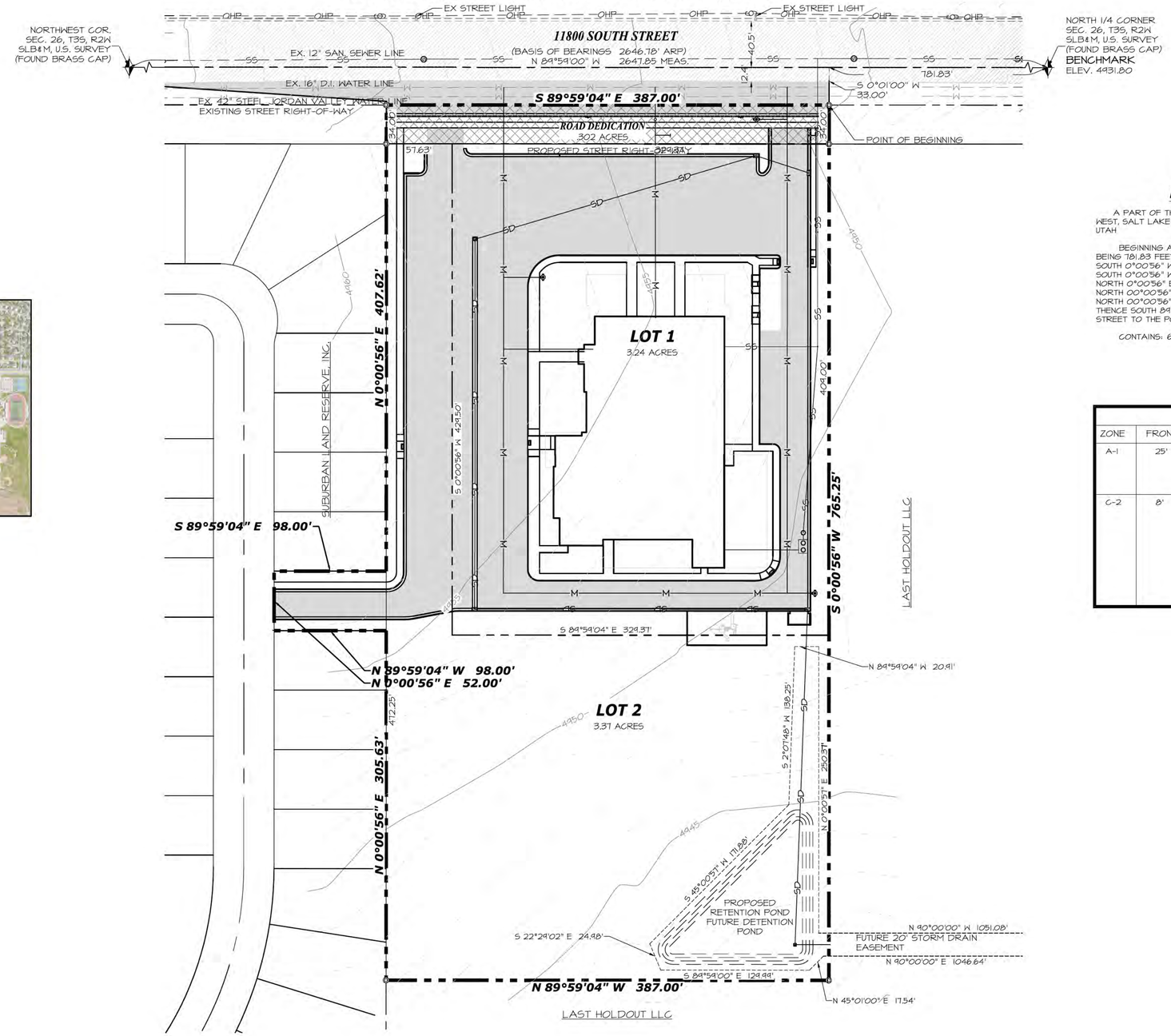
SITE PLAN

SHEET NUMBER:
C200

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

ADVANTAGE ARTS SUBDIVISION

A SUBDIVISION LOCATED IN THE NORTHWEST CORNER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, HERRIMAN CITY, SALT LAKE COUNTY, UTAH



VICINITY MAP

SCALE: NO SCALE

BOUNDARY DESCRIPTION

A PART OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY, HERRIMAN CITY, SALT LAKE COUNTY, UTAH

BEGINNING AT A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF 11800 SOUTH STREET, BEING 181.83 FEET NORTH 84°54'04" WEST ALONG THE SECTION LINE, AND 33.00 FEET SOUTH 0°00'56" WEST FROM THE NORTH QUARTER CORNER OF SAID SECTION 26; THENCE SOUTH 0°00'56" WEST 765.25 FEET; THENCE NORTH 84°54'04" WEST 387.00 FEET; THENCE NORTH 0°00'56" EAST 305.63 FEET; THENCE NORTH 84°54'04" WEST 98.00 FEET; THENCE NORTH 00°00'56" EAST 52.00 FEET; THENCE SOUTH 84°54'04" EAST 98.00'; THENCE NORTH 00°00'56" EAST 407.62 FEET TO SAID SOUTH LINE OF 11800 SOUTH STREET; THENCE SOUTH 84°54'04" EAST 387.00 FEET ALONG SAID SOUTH LINE OF 11800 SOUTH STREET TO THE POINT OF BEGINNING.

CONTAINS: 6.915 ACRES

MIMINUM YARD SETBACKS

ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

LEGEND

NOT ALL ITEMS IN THE LEGEND MAY BE APPLICABLE

- BOUNDARY LINE
- CENTERLINE
- EASEMENT LINE
- SETBACK LINE
- IRR — NEW IRRIGATION LINE
- SD — NEW STORM DRAIN
- SS — NEW SANITARY SEWER
- SW — NEW SECONDARY WATERLINE
- W — NEW CULINARY WATERLINE
- IRR — EX. IRRIGATION LINE
- OHP — EX. OVERHEAD POWER LINE
- SD — EX. STORM DRAIN
- SS — EX. SANITARY SEWER
- SW — EX. SECONDARY WATERLINE
- T — EX. TELEPHONE LINE
- G — EX. GAS LINE
- W — EX. CULINARY WATERLINE
- SECTION CORNER
- MONUMENT
- CONTROL POINT
- 4250 — EG CONTOUR MINOR
- 4250 — EG CONTOUR MAJOR
- 4250 — FG CONTOUR MINOR
- 4250 — FG CONTOUR MAJOR
- NEW ASPHALT PER DETAIL 1/C3.1
- EXISTING ASPHALT
- EXISTING CURB & GUTTER
- 30" HIGH BACK CURB PER DETAIL 2/C3.1
- 30" RELEASE GUTTER PER DETAIL 3/C3.1

0 50 100 200
SCALE 1"=50'

PRELIMINARY PLAT

ONE WEST CONSTRUCTION
ATTN: TED LEWIS
240 N. FLINT STREET
KAYSVILLE, UTAH
PHONE: 801-444-9878

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL: 01-10-2019

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 12/07/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

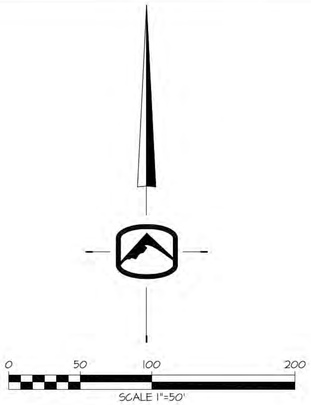
PLAT PRELIMINARY

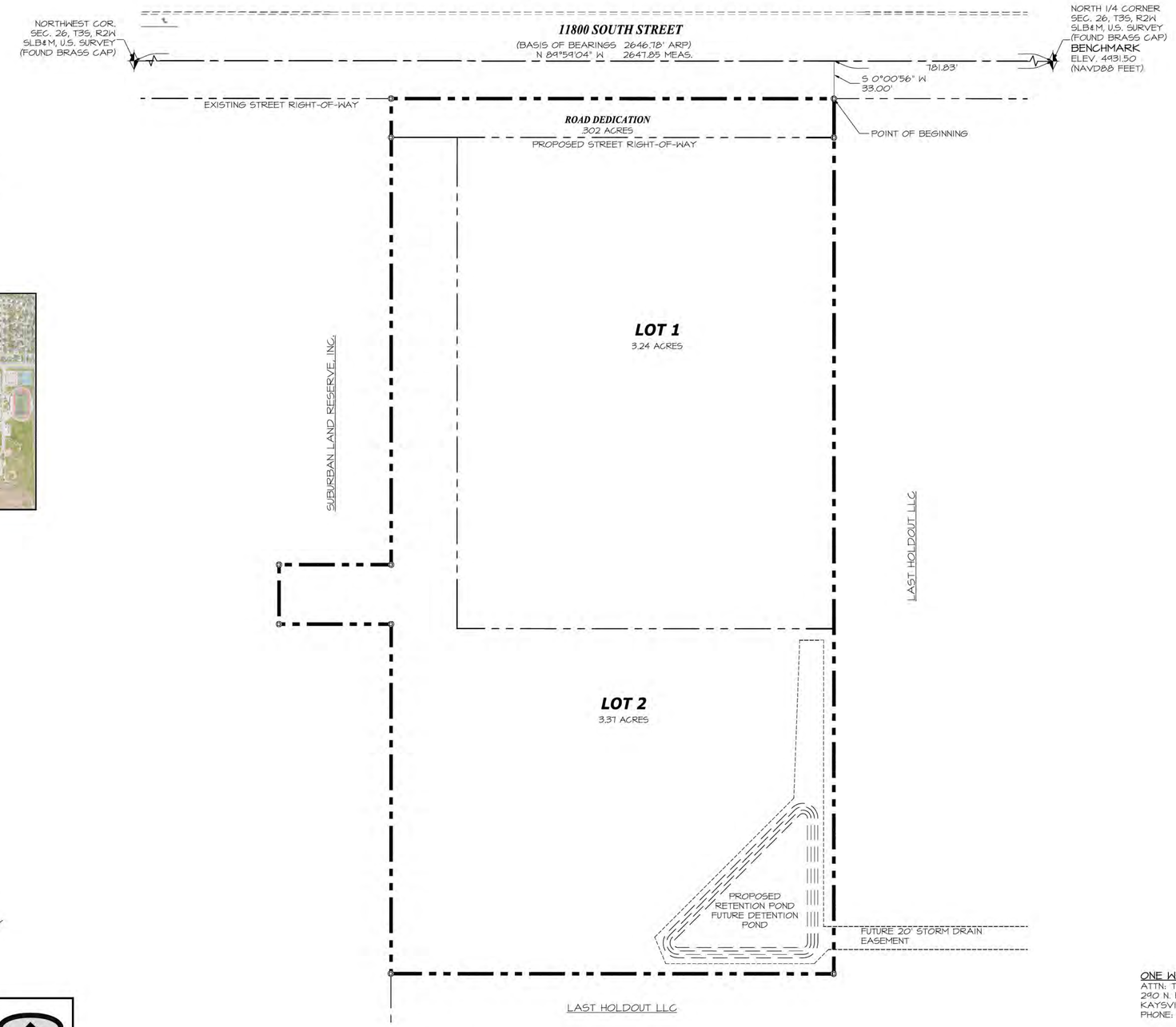
SHEET NUMBER: 1

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

ADVANTAGE ARTS SUBDIVISION

A SUBDIVISION LOCATED IN THE NORTHWEST CORNER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, HERRIMAN CITY, SALT LAKE COUNTY, UTAH





VICINITY MAP

SCALE: NO SCALE

LEGEND

- BOUNDARY LINE
- LOT LINE
- SECTION LINE
- PUBLIC UTILITY EASEMENT (PUE) LINE
- ADJACENT PROPERTY
- CENTERLINE
- SECTION CORNER
- STREET MONUMENT TO BE SET PER SALT LAKE COUNTY SURVEYOR'S STANDARDS. PERMIT REQUIRED.
- PROPERTY / LOT CORNER FOUND OR TO BE SET WITH 5/8"x24" REBAR & CAP STAMPED SILVERPEAK ENG
- DEDICATED FOR PUBLIC RIGHT-OF-WAY

NOTE:

ALL STREET MONUMENTS TO BE SET PER SALT LAKE COUNTY SURVEYOR STANDARDS.

SURVEYOR'S CERTIFICATE

I, **Jason T. Felt** do hereby certify that I am a Licensed Professional Land Surveyor, and that I hold certificate No. **4234283** as prescribed under laws of the State of Utah. I further certify that by authority of the Owners, I have made a survey of the tract of land shown on this plat and described below, and have subdivided said tract of land into lots, parcels, streets, together with easements, hereafter to be known as ADVANTAGE ARTS SUBDIVISION and that the same has been correctly surveyed and monumented on the ground as shown on this plat. I further certify that all lots meet frontage width and area requirements of the applicable zoning ordinances.

JASON T. FELT, P.L.S.
LICENSE NO. 4234283

DATE: JANUARY 10, 2019

BOUNDARY DESCRIPTION

A PART OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY, HERRIMAN CITY, SALT LAKE COUNTY, UTAH

BEGINNING AT A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF 11800 SOUTH STREET, BEING 781.83 FEET NORTH 89°59'04" WEST ALONG THE SECTION LINE, AND 33.00 FEET SOUTH 0°00'56" WEST FROM THE NORTH QUARTER CORNER OF SAID SECTION 26; THENCE SOUTH 0°00'56" WEST 765.25 FEET; THENCE NORTH 89°59'04" WEST 387.00 FEET; THENCE NORTH 0°00'56" EAST 305.63 FEET; THENCE NORTH 89°59'04" WEST 98.00 FEET; THENCE NORTH 00°00'56" EAST 52.00 FEET; THENCE SOUTH 89°59'04" EAST 98.00'; THENCE NORTH 00°00'56" EAST 407.62 FEET TO SAID SOUTH LINE OF 11800 SOUTH STREET; THENCE SOUTH 89°59'04" EAST 387.00 FEET ALONG SAID SOUTH LINE OF 11800 SOUTH STREET TO THE POINT OF BEGINNING.

CONTAINS: 6.915 ACRES

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED ARE THE OWNERS OF THE ABOVE DESCRIBED TRACT OF LAND, AND HEREBY CAUSE THE SAME TO BE DIVIDED INTO LOTS, PARCELS AND STREETS, TOGETHER WITH EASEMENTS AS SET FORTH TO BE HEREAFTER KNOWN AS ASCENT SUBDIVISION AND DO HEREBY DEDICATE FOR THE PERPETUAL USE OF THE PUBLIC ALL ROADS AND OTHER AREAS SHOWN ON THIS PLAT AS INTENDED FOR PUBLIC USE. THE UNDERSIGNED OWNERS ALSO HEREBY CONVEY TO ANY AND ALL PUBLIC UTILITY COMPANIES A PERPETUAL, NON-EXCLUSIVE EASEMENT OVER THE PUBLIC UTILITY EASEMENTS SHOWN ON THIS PLAT, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF UTILITY LINES AND FACILITIES. THE UNDERSIGNED OWNERS ALSO HEREBY CONVEY ANY OTHER EASEMENTS AS SHOWN ON THIS PLAT TO THE PARTIES INDICATED AND FOR THE PURPOSES SHOWN HEREON.

SIGNED THIS ____ DAY OF _____ 2018.

_____

ACKNOWLEDGMENT

STATE OF UTAH }ss
COUNTY OF

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY

OF _____, 2018 BY _____ WITH _____

RESIDING AT: _____ _____
NOTARY PUBLIC (PRINT NAME)

COMMISSION NUMBER: _____

MY COMMISSION EXPIRES: _____ _____
NOTARY PUBLIC SIGNATURE

MIMINUM YARD SETBACKS

ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHIGH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

SILVERPEAK
ENGINEERING

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
FAX: (801) 499-5065

ONE WEST CONSTRUCTION
ATTN: TED LEWIS
290 N. FLINT STREET
KAYSVILLE, UTAH
PHONE: 801-444-9878

PLANNING COMMISSION

APPROVED THIS _____ DAY OF _____, 2018 BY THE HERRIMAN CITY PLANNING COMMISSION.

_____
CHAIR, PLANNING COMMISSION

CITY ENGINEER'S APPROVAL

I HEREBY CERTIFY THAT THIS OFFICE HAS EXAMINED THIS PLAT AND IT IS CORRECT IN ACCORDANCE WITH INFORMATION ON FILE IN THIS OFFICE.

_____ _____
HERRIMAN CITY ENGINEER DATE

CITY ATTORNEY'S APPROVAL

APPROVED BY THE HERRIMAN CITY ATTORNEY'S OFFICE THIS ___ DAY OF _____ 2018.

_____
CITY ATTORNEY

HERRIMAN CITY APPROVAL

THIS PLAT AND ANY DEDICATIONS HEREIN APPROVED AND ACCEPTED BY THE MAYOR OF HERRIMAN CITY THIS ___ DAY OF _____ 2018.

_____
CITY MANAGER

ATTEST: _____
CITY RECORDER

SALT LAKE COUNTY RECORDER

ENTRY NO._____FEE PAID_____FILED FOR

RECORD AND RECORDED THIS _____ DAY OF

_____, 2018 AT _____ IN BOOK _____ OF

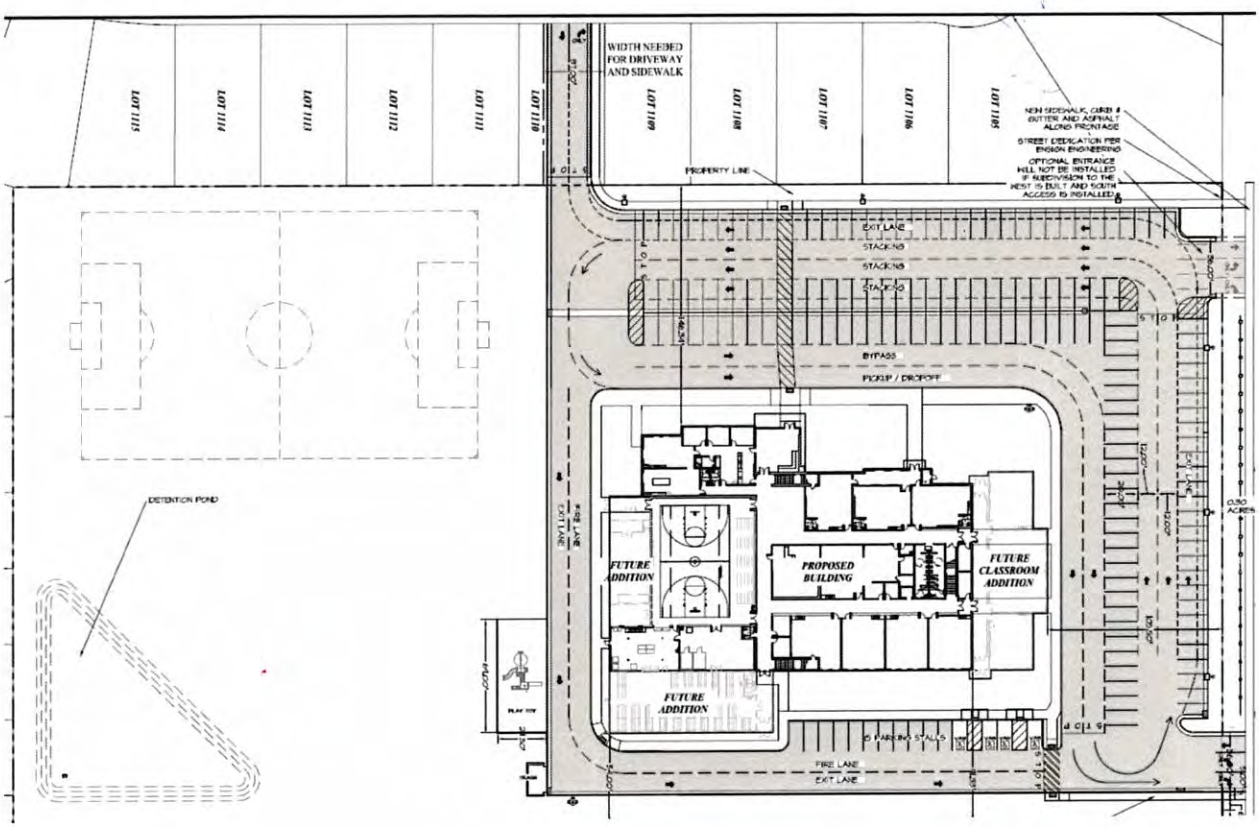
OFFICIAL RECORDS PAGE _____

Attachment B
Amended Traffic Impact Study

HALES ENGINEERING
innovative transportation solutions

Advantage Arts Academy

Traffic Impact Study



Herriman, Utah

January 9, 2018

UT18-1343

LICENSED PROFESSIONAL ENGINEER
10957702
DAVID CHANG
1/9/18
STATE OF UTAH

1220 North 500 West, Ste. 202 Lehi, UT 84043 p 801.766.4343
www.halesengineering.com

EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and east of the Teton Ranch development.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways near the site. Future 2024 conditions were also analyzed.

The morning peak hour level of service (LOS) was computed for each study intersection. The results of this analysis are shown in Table ES-1. Recommended storage lengths are shown in Table ES-2.

TABLE ES-1
LOS Analysis - Morning Peak Hour
Herriman - Advantage Arts Academy TIS

Intersection	Level of Service (Sec/Veh)[1]						
	Existing (2018) Background	Existing (2018) Plus Project	Future (2024) Background	Future (2024) Plus Project	Future (2024) Plus Project - Mitigated	Future (2024) Plus Project - AA	Future (2024) Plus Project - AA - Mitigated
Mustang Trail Way / 11800 South	A (8.5)	A (9.5)	C (27.8)	E (73.4)	C (23.7)	D (48.2)	C (22.4)
Willow Walk Drive / 11800 South	A (4.4) / SB	A (4.9) / SB	B (13.1)	C (18.0) / SB	B (14.3) / SB	E (45.6)	D (34.3) / SB
East Access / 11800 South	-	A (5.0) / NB	-	F (>50) / NB	B (10.8) / NB	F (>50) / NB	A (7.1) / NB

1. Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for roundabout, signalized, all-way stop controlled intersections and the worst approach for all other unsignalized intersections.
2. This intersection is a project access and was only analyzed in "plus project" scenarios.

Source: Hales Engineering, January 2019

TABLE ES-2
Recommended Storage Lengths
Herriman - Advantage Arts Academy TIS

Intersection	Storage Length (feet)							
	Northbound		Southbound		Eastbound		Westbound	
	LT	RT	LT	RT	LT	RT	LT	RT
Mustang Trail Way / 11800 South	**225**	**225**	**200**	**50**	**150**	**150**	**350**	**100**
Willow Walk Drive / 11800 South	-	-	-	-	-	**100**	**275**	-
East Access / 11800 South	-	-	-	-	-	-	**150**	-

Source: Hales Engineering, January 2019

SUMMARY OF KEY FINDINGS/RECOMMENDATIONS

The following is a summary of key findings and recommendations:

- All study intersections are currently operating at an acceptable LOS during the morning peak hour in existing (2018) background conditions.
    - A new high school is planned to open next Fall (2019) in the Rosecrest Area. Some students from Herriman High School will be moved to the new high school. It was assumed that only ¼ of the current enrollment will be moved to the new high school. Traffic volumes were also reduced by ¼ in only the northbound right-turn and westbound left-turn movements.
- The development will consist of a charter school with an enrollment of 525 with the first phase of building. The maximum number of students the Advantage Arts Academy can have is 700.
    - The existing conditions were completed with 525 students, the anticipated enrollment.
    - The future 2024 conditions were completed with the anticipated maximum, 700 students.
    - It is recommended that the East Access have a westbound left-turn deceleration lane.
    - A westbound left-turn deceleration lane will also be necessary at Willow Walk Drive.
- An additional access from/to Willow Walk Drive is currently being planned for the AAA school development. When this access opens, the West Access along 11800 South will be eliminated.
- All study intersections are anticipated to operate at an acceptable LOS during the morning peak hour with project traffic added.
    - Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the Advantage Arts Academy school have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that AAA have at least a 20 minute off-set start and end times from the high school.
- For the future (2024) background conditions, all intersections are anticipated to perform at acceptable LOS during the morning peak hour.
    - 11800 South is over a 2-lane capacity west of Mustang Trail Way.
        - It is recommended that 11800 South be widened to 5-lanes
        - The westbound to southbound left-turn lane at Mustang Trail Way / 11800 South is shorter than the anticipated 95th percentile queue lengths. In the 2024 background analysis and a previously completed study (Teton Ranch), this same issue surfaced before any additional project traffic was added to the roadway network for either project.

Since this has been identified as a background issue, it is recommended that the City review options to solve this future problem.

- It is recommended that left-turn phasing be added to the signal when warrants are met.
- It is also recommended that a northbound right-turn overlapping phase be added to the Mustang Trail Way / 11800 South intersection.

- For the future (2024) plus project conditions, all intersections are anticipated to perform at acceptable LOS during the morning peak hour except Mustang Trail Way / 11800 South and East Access / 11800 South.
  - It is recommended that 11800 South be widened to a 5-lane cross section west of Mustang Trail Way.
    - The westbound to southbound left-turn lane at Mustang Trail Way / 11800 South is shorter than the anticipated 95th percentile queue lengths. In the 2024 background analysis and a previously completed study (Teton Ranch), this same issue surfaced before any additional project traffic was added to the roadway network for either project. Since this has been identified as a background problem, it is recommended that the City look into this issue further to identify an appropriate solution.
  - It is recommended that the Advantage Arts Academy school have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.
- An additional analysis was completed with the proposed widening of 11800 South to 5-lanes west of Mustang Trail Way.
  - All intersections are anticipated to perform at acceptable LOS.
- An alternative access is being considered for the ingress vehicles. The vehicles entering the site will be required to enter along Willow Walk Drive within Teton Ranch to the west.
- For the future (2024) plus project – alternative access conditions, all intersections are anticipated to perform at acceptable LOS during the morning peak hour except Willow Walk Drive / 11800 South and East Access / 11800 South.
  - It is recommended that 11800 South be widened to a 5-lane cross section west of Mustang Trail Way.
    - The westbound to southbound left-turn lane at Mustang Trail Way / 11800 South is shorter than the anticipated 95th percentile queue lengths. In the 2024 background analysis and a previously completed study (Teton Ranch), this same issue surfaced before any additional project traffic was added to the roadway network for either project. Since this has been identified as a background problem, it is

recommended that the City look into this problem further to identify an appropriate solution.

- It is recommended that the Advantage Arts Academy school have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

- An internal site circulation analysis was completed to determine if the planned queue storage will be adequate to handle demand during the pick-up times.
  - It was assumed that the school enrollment would be 700 students to ensure that the full-build of the school would still fit in the storage area.
  - The 95th percentile maximum queue length was calculated to be approximately 2,000 feet.
    - The on-site storage is anticipated to be sufficient for the full-build-out of the Advantage Arts Academy.
- An air quality report has been prepared and can be found in Table 9 in Chapter VI.
  - As with all developments, air pollutants will increase with more vehicles on the road.

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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and just to the east of the Teton Ranch development. Figure 1 shows a vicinity map of the proposed development.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways near the site. Future 2024 conditions were also analyzed.

Figure 1: Vicinity map showing the project location in Herriman, Utah

B. Scope

The study area was defined based on conversations with the development team. This study was scoped to evaluate the traffic operational performance impacts of the project on the following intersections:

- Mustang Trail Way / 11800 South
- Willow Walk Drive / 11800 South

C. Analysis Methodology

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections. Figure 2 provides a visual representation of each LOS letter designation.

The *Highway Capacity Manual* (HCM), 6th Edition, 2016 methodology was used in this study to remain consistent with "state-of-the-practice" professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized and all-way stop intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For all other unsignalized intersections, LOS is reported based on the worst approach.

Using Synchro/SimTraffic software, which follow the HCM methodology, the peak hour LOS was computed for each study intersection. Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. The detailed LOS reports are provided in Appendix B. Hales Engineering also calculated the 95th percentile queue lengths for each of the study intersections using SimTraffic. The detailed queue length reports are provided in Appendix D.

D. Level of Service Standards

For the purposes of this study, a minimum acceptable intersection performance for each of the study intersections was set at LOS D. If levels of service E or F conditions exist, an explanation and/or mitigation measures will be presented. An LOS D threshold is consistent with "state-of-the-practice" traffic engineering principles for urbanized areas.

Table 1: Level of Service Description

Level of Service	Description of Traffic Conditions	Average Delay (seconds/vehicle)
	Signalized Intersections	**Overall Intersection**
A	Extremely favorable progression and a very low level of control delay. Individual users are virtually unaffected by others in the traffic stream.	0 ≤ 10.0
B	Good progression and a low level of control delay. The presence of other users in the traffic stream becomes noticeable.	> 10.0 and ≤ 20.0
C	Fair progression and a moderate level of control delay. The operation of individual users becomes somewhat affected by interactions with others in the traffic stream.	>20.0 and ≤ 35.0
D	Marginal progression with relatively elevated levels of control delay. Operating conditions are noticeably more constrained.	> 35.0 and ≤ 55.0
E	Poor progression with unacceptably elevated levels of control delay. Operating conditions are at or near capacity.	> 55.0 and ≤ 80.0
F	Unacceptable progression with forced or breakdown operating conditions.	> 80.0
	Unsignalized Intersections	**Worst Approach**
A	Free Flow / Insignificant Delay	0 ≤ 10.0
B	Stable Operations / Minimum Delays	>10.0 and ≤ 15.0
C	Stable Operations / Acceptable Delays	>15.0 and ≤ 25.0
D	Approaching Unstable Flows / Tolerable Delays	>25.0 and ≤ 35.0
E	Unstable Operations / Significant Delays Can Occur	>35.0 and ≤ 50.0
F	Forced Flows / Unpredictable Flows / Excessive Delays Occur	> 50.0

Source: Hales Engineering Descriptions, based on the *Highway Capacity Manual* (HCM), 6th Edition, 2016 Methodology (Transportation Research Board)

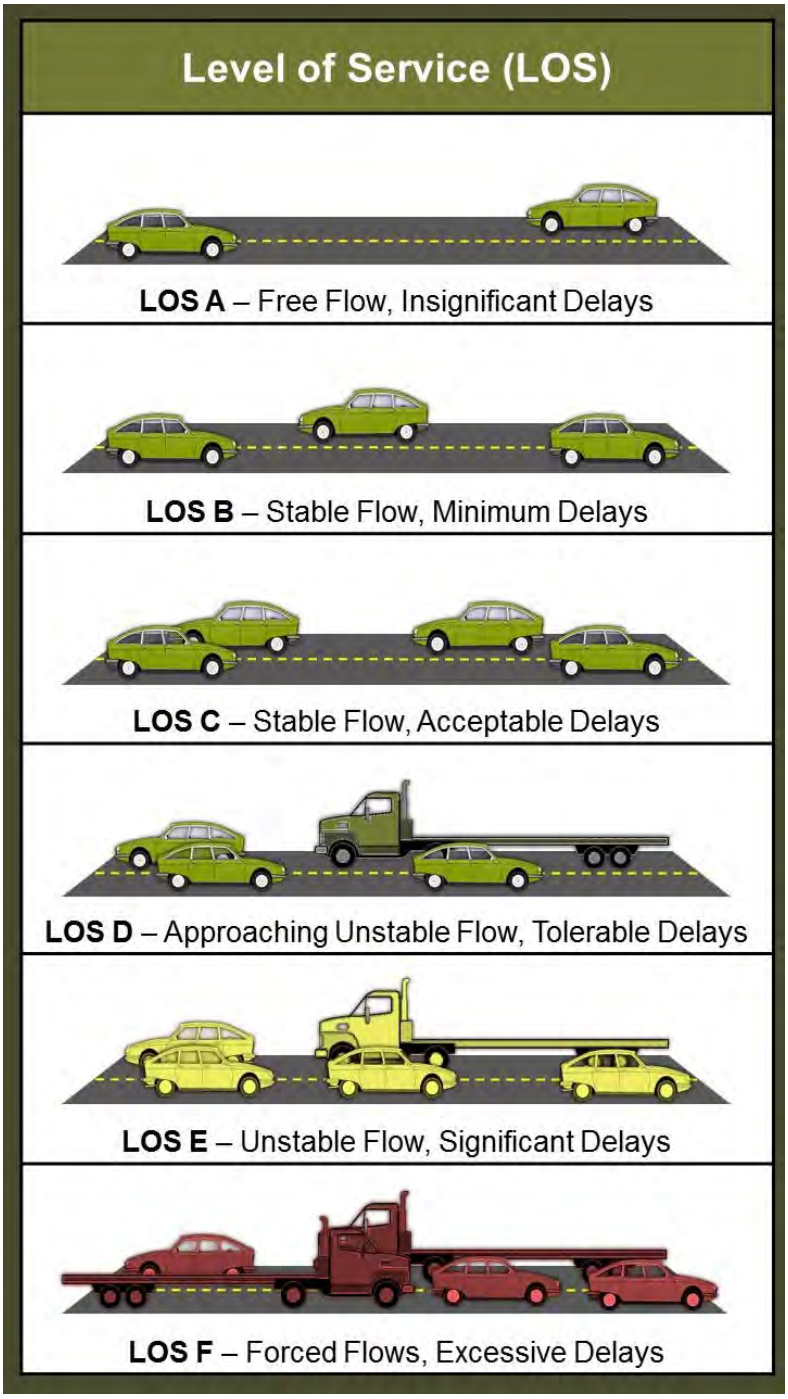

Figure 2: Visual representation of the LOS letter designations

II. EXISTING (2018) BACKGROUND CONDITIONS

A. Purpose

The purpose of the background analysis is to study the intersections and roadways during the peak travel periods of the day with background traffic and geometric conditions. Through this analysis, background traffic operational deficiencies can be identified, and potential mitigation measures recommended. This analysis provides a baseline condition that may be compared to the build conditions to identify the impacts of the development.

B. Roadway System

The primary roadways that will provide access to the project site are described below:

11800 South – is classified by the Herriman City Transportation Master Plan (2009) as a "minor arterial." This roadway currently consists of one travel lane in each direction adjacent to the project site and expands to two travel lanes in each direction with a center two-way left-turn lane (TWLTL) east of Mustang Trail Way. The posted speed limit is 35 mph.

There are currently no bicycle or pedestrian facilities adjacent to the proposed development. According the Cities Bicycle Master Plan, 11800 South west of 6000 West is planned to be a signed bike route (Type III). These bike routes will have to share the road with vehicles and or use future shoulders.

The nearest existing sidewalks are located at the Mustang Trail Way / 11800 South intersection. There are currently no existing sidewalks to tie into. The AAA school is planning on building sidewalks on the southside of 11800 South. The Teton Ranch development west of the AAA school will build a sidewalk on the frontage of their property that the school can then tie into. As further development occurs in the area, the sidewalks will be extended east and west and tie into existing paths.

Mustang Trail Way – is a city-maintained roadway. The Herriman City Transportation Master Plan (2009) classifies Herriman Parkway as a "minor collector." This road has one travel lane in each direction with a center two-way left-turn lane (TWLTL). The posted speed limit is 35 mph.

C. Traffic Volumes

Weekday morning (7:00 to 9:00 a.m.) and afternoon (2:00 to 4:00 p.m.) peak period traffic counts were performed at the following intersections:

- Mustang Trail Way / 11800 South

- Willow Walk Drive / 11800 South

The counts were performed on Tuesday, November 6, 2018. The morning peak hour was determined to be between 7:00 and 8:00 a.m., and the afternoon peak hour was determined to be between 2:30 and 3:30 p.m. The morning peak hour volumes were approximately 33% higher than the afternoon peak hour volumes. Therefore, the morning peak hour volumes were used in the analysis to represent the worst-case conditions. Detailed count data are included in morning Appendix A.

Starting in the Fall of 2019, a new high school is planned to be opened in the Rosecrest area in Herriman. Some of the students from the existing Herriman High School are expected to be moved to the new school, this is also the same year the Advantage Arts Academy is expected to open. It was assumed that only a quarter of the existing students would be moved to the new school to be conservative. The northbound right-turns and westbound left-turns were reduced by one quarter to mimic the reduction in student population.

Hales Engineering made seasonal adjustments to the observed traffic volumes. Monthly traffic volume data were obtained from a nearby UDOT automatic traffic recorder (ATR) on Redwood Road (ATR #407). In recent years, traffic volumes in November have been equal to approximately 96.2% of average traffic volumes. The observed traffic volumes were adjusted accordingly to determine average turning movement counts at the study intersections.

Figure 3 shows the existing morning peak hour volumes (with the reduction mentioned above) as well as intersection geometry at the study intersections.

Herriman - Advantage Arts Academy TIS
Existing (2018) Background

Morning Peak Hour
Figure 3

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11/14/2018

D. Level of Service Analysis

Hales Engineering determined that all study intersections are currently operating at acceptable levels of service during the morning peak hour, as shown in Table 2. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2018) conditions.

Table 2: Existing (2018) Background Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	8.5	A
Willow Walk Drive / 11800 South	SB Stop	SB	4.4	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. No significant queueing was observed during the morning peak hour.

F. Mitigation Measures

No mitigation measures are recommended.

III. PROJECT CONDITIONS

A. Purpose

The project conditions discussion explains the type and intensity of development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in Chapter I.

B. Project Description

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and just to the east of the Teton Ranch development. The Advantage Arts Academy is planned to have a phase 1 build-out of approximately 525 students. The school has a maximum charter of 700 students. For this study, it was assumed that full-build-out would occur by 2024 to analyze the worst-case conditions. A concept plan for the proposed developments is provided in Appendix C.

The proposed land use for the development has been identified as follows for 2018:

- Charter School 525 Units

The proposed land use for the development has been identified as follows for 2024:

- Charter School 700 Units

C. Trip Generation

The most recent edition of the ITE Trip Generation Manual (10th Edition, 2017) includes the Charter Elementary School land use. Previous editions did not include data for charter schools. The ITE data has a very small sample size (two data points) and is therefore highly variable and likely unreliable.

Over the last several years, Hales Engineering has used local data collected at several different charter schools around Salt Lake, Weber, and Utah Counties to estimate trip generation characteristics of charter schools. This data collected along the Wasatch Front shows that charter elementary schools typically generate approximately 0.65 trips per enrolled student during the afternoon peak hour. This previously collected data was compared to newer data collected at the Excelsior Academy in Erda, Utah. Data collected at the Erda school showed an afternoon peak hour trip generation rate of 0.65. Trip Generation for the proposed project is included in Table 3.

When the school opens, there will likely not be many students walking to school. There are no plans to have sidewalks that will connect to residential areas. Since no one will be walking to the school, 15 percent more vehicles were added to the existing conditions to be conservative. By the year 2024, it is likely that more connections to residential area will be established and no additional trips were added.

The trip generation for the 2018 phase of the development is as follows:

- Morning Peak Hour Trips: 393

The trip generation for the 2024 phase of the development is as follows:

- Morning Peak Hour Trips: 455

Table 3
Herriman - Advantage Arts Academy TIS
Trip Generation

Morning Peak Hour Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total a.m. Trips
K-8 Charter School	700	Students	455	56%	44%	255	200	**455**
Project Total a.m. Peak Hour Trips						**255**	**200**	**455**

1. Land Use Code from the Institute of Transportation Engineers Trip Generation Manual (9th Edition - 2012)

SOURCE: Hales Engineering, November 2018

D. Trip Distribution and Assignment

Project traffic is assigned to the roadway network based on the type of trip and the proximity of project access points to major streets, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provide helpful guidance to establishing these distribution percentages, especially near the site. The resulting distribution of project generated trips during the morning peak hour is as follows:

<u>To/From Project:</u>

- 15% North
- 35% South
- 10% West
- 40% East

These trip distribution assumptions were used to assign the morning peak hour generated traffic at the study intersections to create trip assignment for the proposed development. Trip assignment for the development is shown in Figure 4, Figure 5, and Figure 6.

Herriman - Advantage Arts Academy TIS
Trip Assignment (2018)

Morning Peak Hour
Figure 4

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Herriman - Advantage Arts Academy TIS
Trip Assignment (2024)

Morning Peak Hour
Figure 5

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11/14/2018

Herriman - Advantage Arts Academy TIS
Trip Assignment (2024) - Alternative Access

Morning Peak Hour
Figure 6

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01/09/2019

E. Access

The proposed access for the site will be gained at the following locations (see also concept plan in Appendix C):

11800 South:

- The East Access will be located approximately 1,000 feet west of the Mustang Trail Way / 11800 South intersection. This access is anticipated to be a ¾ access meaning that right- and left-turns into the site and only right-turns out of the site will be allowed. Left-turns onto 11800 South will not be allowed. This access onto 11800 South is planned to be stop controlled.
    - It is recommended that a left-turn lane be provided in the westbound direction into the school
    - It is also recommended that a right-turn pocket be provided for the eastbound right-turn vehicles.
    - Based on the site plan, there does not appear to be any sight distance obstructions in either the east- or westbound directions, we recommend field verification. 11800 South is a straight roadway with no curves with-in the study area.
- The West Access will be located approximately 265 feet from the East Access. This access is planned to be a full-movement, stop controlled access. This access is planned to be closed during the morning and afternoon drop off and pick up times.
    - It is recommended that a left-turn lane be provided in the westbound direction into the school.
    - Based on the site plan, there does not appear to be any sight distance obstructions in either the east- or westbound directions, we recommend field verification. 11800 South is a straight roadway with no curves with-in the study area.
    - As the Teton Ranch builds, care should be taken to insure no obstructions are placed with-in the sight triangles.

Willow Walk Drive (Teton Ranch):

- An access to the site off of Willow Walk Drive will provide access to the southwest corner of the school. This access will connect to the proposed fire lane where vehicles dropping off will be able to go around the school to wait in line. When this access opens, the West Access along 11800 South will be closed.

F. On-street Drop-offs

Parents dropping off or picking up students may find it difficult or time consuming to drop off their students in the designated drop off zone. When there are long lines for parents to have to wait in, dropping off students along the main road (11800 South) becomes enticing and dangerous. To discourage on street drop offs, the school and city should consider the following:

- Paint curbs red and mark for no parking/pick-up
- Place signs that read no parking/pick-up
- Paint excess shoulders for bike lanes
- Enforcement

G. On-site Pedestrian & Bike Facilities

The school has designated a sidewalk location at only the East Access on the east side. The planned side walk parallels the East Access for approximately 100 feet. At this point, the sidewalk ends, and a school cross walk has been designated to cross the service road to the drop off zone. An additional pedestrian access will be built when the access to Willow Walk Drive is constructed and opened.

As mentioned previously, there are no sidewalks around the proposed school. There will be an approximate 1,000-foot gap between the nearest sidewalk and the proposed school. It is recommended that the City and school collaborate to find a potential solution to the issue for existing and future connectivity.

IV. EXISTING (2018) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the existing (2018) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for existing background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the existing (2018) background traffic volumes to predict turning movement volumes for existing (2018) plus project conditions. Existing (2018) plus project morning peak hour turning movement volumes are shown in Figure 7.

C. Level of Service Analysis

Hales Engineering determined that all intersections are anticipated to operate at acceptable levels of service during the morning peak hour with project traffic added, as shown in Table 4.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. No significant queuing is anticipated during the morning peak hour.

E. Mitigation Measures

Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the AAA School have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

Willow Walk Drive
5
27
28
162
190
0
190
180
94
34
20
53
205
190
3
176
203
0
0
0
166
37
176
11800 South
18
28
194
102
127
22
305
West Access
East Access

Table 4: Existing (2018) Plus Project Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	9.5	A
Willow Walk Drive / 11800 South	SB Stop	SB	4.9	A	-	-
East School Access / 11800 South	NB Stop	NB	5.0	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, January 2019

V. FUTURE (2024) BACKGROUND CONDITIONS

A. Purpose

The purpose of the future (2024) background analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions. Through this analysis, future background traffic operational deficiencies can be identified, and potential mitigation measures recommended.

B. Roadway Network

According to the Wasatch Front Regional Council (WFRC) Regional Transportation Plan, there are no projects planned before 2024 in the study area. Therefore, no changes were made to the roadway network for the future (2024) analysis. With the high volumes of southbound left-turns at the Mustang Trail Way / 11800 South and opposing northbound right-turns, it was previously recommended that southbound left-turn phasing be added to the signal. This recommendation was included from the Teton Ranch Traffic Impact Study. It was also assumed that a northbound right-turn overlapping phase be included at this same signal.

C. Traffic Volumes

Hales Engineering obtained future (2024) forecasted volumes from the Wasatch Front Regional Council (WFRC) / Mountainland Association of Governments (MAG) travel demand model. Peak period turning movement counts were estimated using National Cooperative Highway Research Program (NCHRP) 255 methodologies which utilize existing peak period turn volumes and future average weekday daily traffic (AWDT) volumes to project the future turn volumes at the major intersections. An adjacent development to the west, east, and south was also included in the background of the conditions. Future (2024) morning peak hour turning movement volumes are shown in Figure 8.

D. Level of Service Analysis

Hales Engineering determined that all study intersections are anticipated to operate at acceptable levels of service during the morning peak hour in future (2024) background conditions, as shown in Table 5. These results serve as a baseline condition for the impact analysis of the proposed development for future (2024) conditions.

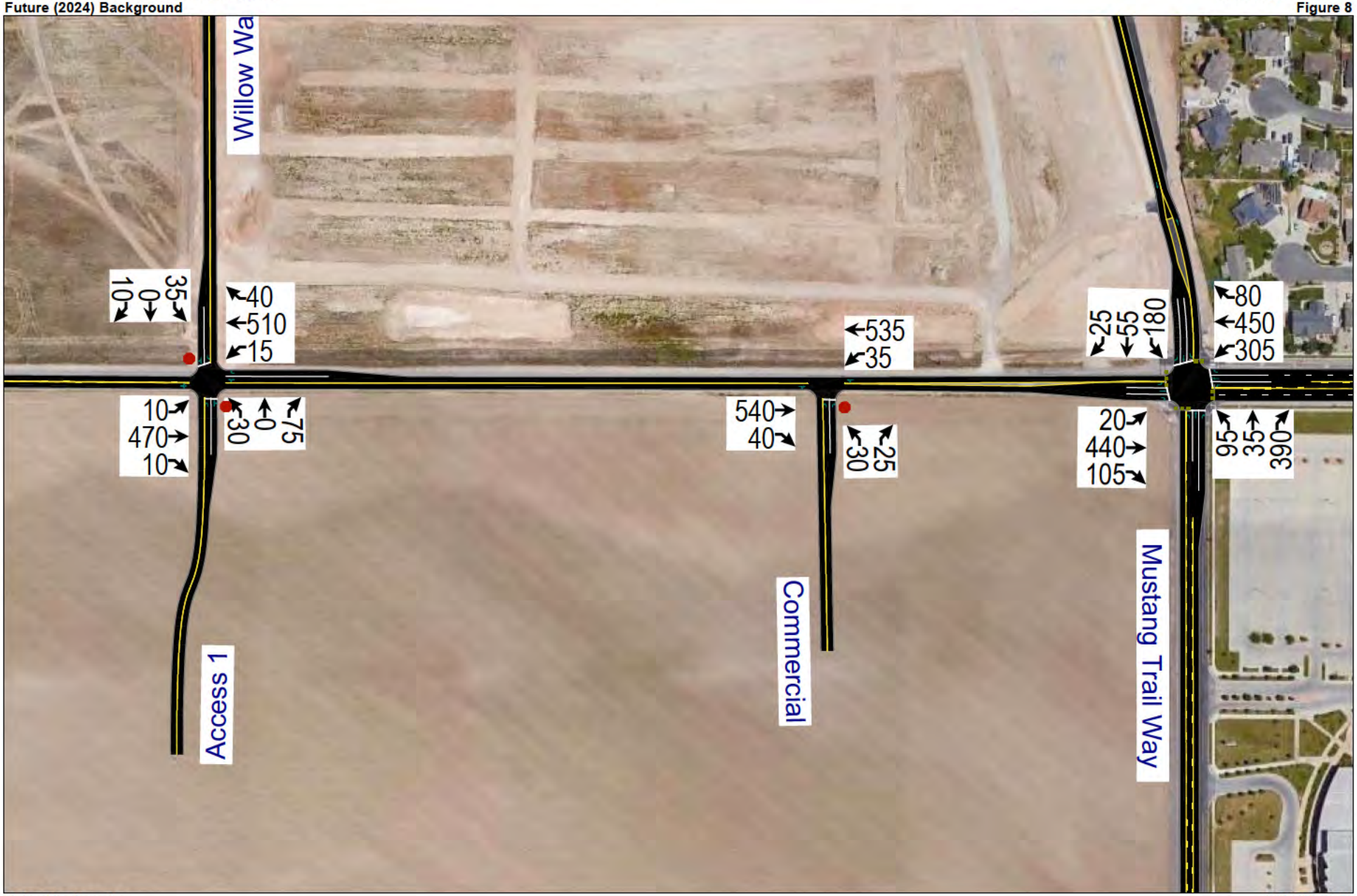
Mustang Trail Way
80
450
305
95
35
390
25
55
180
20
440
105
Commercial
535
35
25
30
540
40
Willow Wa
40
510
15
75
0
30
10
470
10
35
0
10
Access 1

Table 5: Future (2024) Background Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	27.8	C
Willow Walk Drive / 11800 South	SB Stop	SB	13.1	B	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Some queueing is anticipated at the Mustang Trail Way / 11800 South intersection in the East- and westbound directions of approximately 450 and 680 feet respectively. No other significant queuing is anticipated during the morning peak hour.

F. Mitigation Measures

At the Mustang Trail Way / 11800 South intersection, the westbound to southbound left-turn pocket is limited by a raised median. The raised median currently delineates a left-turn pocket for an adjacent street. Since the westbound left-turn lane at Mustang Trail Way is approximately 200 feet in length, the left-turn vehicles occasionally back out onto the main line of traffic and block it causing long queues. In the 2024 Background analysis and a previously completed study (Teton Ranch), identified this same issue. This was found to be a background problem and is anticipated to exist before any project traffic is added to the roadway network. It is recommended that the City look into this issue further to define an appropriate fix. Currently, through vehicles can simply go around stopped vehicles wanting to make a left-turn in the right-turn lane. In the future, when 11800 South is expanded into a 5-lane cross section on the westside of Mustang Trail Way, going around stopped left-turn vehicles will become more dangerous.

The capacity of a two-lane roadway is anticipated to be exceeded by the year 2024 with-out the project traffic. 11800 South east of Mustang Trail Way is planned to be widened as a phase 2 project (between 2025 and 2034). It is recommended that 11800 South be widened to a 5-lane cross section by the year 2024. This measure will also help to alleviate the Mustang Trail Way / 11800 South intersection.

VI. FUTURE (2024) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the future (2024) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on future background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the future (2024) background traffic volumes to predict turning movement volumes for future (2024) plus project conditions. Future (2024) plus project morning peak hour turning movement volumes are shown in Figure 9.

C. Level of Service Analysis

Hales Engineering determined that all intersections are anticipated to operate at acceptable levels of service during the morning peak hour in future (2024) plus project conditions, as shown in Table 6 except Mustang Trail Way / 11800 South and East Access / 11800 South.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Queueing is anticipated at the Mustang Trail Way / 11800 South and East Access / 11800 South intersections as follows:

<u>Mustang Trail Way / 11800 South</u>
Northbound (880 feet)
Southbound (370 feet)
Eastbound (620 feet)
Westbound (2,120 feet)

<u>East Access / 11800 South</u>
Northbound (480 feet)

No other significant queuing is anticipated during the morning peak hour.

Willow Walk Drive
10
0
53
40
530
15
10
496
10
30
0
75
624
0
0
0
585
0
585
211
580
44
200
11800 South
740
40
30
25
766
35
Commercial
11800 South
180
55
45
20
50
520
175
80
552
305
184
35
390
West Access
East Access
rail Way

Table 6: Future (2024) Plus Project Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	73.4	E
Willow Walk Drive / 11800 South	SB Stop	SB	18.0	C	-	-
East Access / 11800 South	NB Stop	NB	> 50	F	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Mitigation Measures

The intersection of Mustang Trail Way / 11800 South is anticipated to perform at a poor LOS in the future year 2024. There is also anticipated to be queueing in all directions. As previously mentioned, 11800 South, west of Mustang Trail Way, is anticipated to be over capacity by the year 2024 and will need widening. It is recommended that 11800 South be widened to 5-lanes east of Mustang Trail Way and northbound left-turn phasing be added to the signal

An additional analysis was completed with the recommended mitigation measures. The results from this analysis can be seen in Table 7. As shown in Table 7, all study intersections are anticipated to perform at acceptable LOS. Some queueing is anticipated at the Mustang Trail Way / 11800 South intersection in the westbound left-turn movement of approximately 400 feet.

As previously mentioned, the westbound to southbound left-turn queue at Mustang Trail Way / 11800 South is longer than the existing storage length and blocking a through lane. There is a raised median that limits the length of the storage. This study and previously completed study for Teton Ranch identified this same issue. This was identified to be a background problem and is anticipated to exist before any project traffic is added to the roadway network. It is recommended that the City look into this issue further.

Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the AAA School have a starting and ending time that does not coincide with

the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

Table 7: Future (2024) Plus Project Morning Peak Hour Level of Service - Mitigated

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	23.7	C
Willow Walk Drive / 11800 South	SB Stop	SB	14.3	B	-	-
East Access / 11800 South	NB Stop	NB	10.8	B	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

VII. FUTURE (2024) PLUS PROJECT CONDITIONS – ALTERNATE ACCESS

A. Purpose

The purpose of the future (2024) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on future background traffic conditions with the alternative access.

B. Roadway Network

The school is planning to close the West Access onto 11800 South when the access through the adjacent Teton Ranch becomes available. All ingress vehicles will be required to enter the school by turning left at Willow Walk Drive from 11800 South and entering through an access into the school. Egress vehicles will have two options to exit the school. Vehicles heading east out of the school can use the East Access onto 11800 South and vehicles heading west out of the school will be able to route back through Teton Ranch and make a left-turn at the Willow Walk Drive / 11800 South intersection.

C. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the future (2024) background traffic volumes to predict turning movement volumes for future (2024) plus project – alternative access conditions. Future (2024) plus project morning peak hour turning movement volumes are shown in Figure 9.

D. Level of Service Analysis

Hales Engineering determined that all intersections are anticipated to operate at acceptable levels of service during the morning peak hour in future (2024) plus project conditions, as shown in Table 6 except Willow Walk Drive / 11800 South and East Access / 11800 South.

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Queueing is anticipated at the Mustang Trail Way / 11800 South and East Access / 11800 South intersections as follows:

Mustang Trail Way / 11800 South
Northbound (300 feet)
Southbound (190 feet)
Eastbound (610 feet)
Westbound (1,750 feet)

East Access / 11800 South
Northbound (380 feet)

No other significant queuing is anticipated during the morning peak hour.

Table 8: Future (2024) Plus Project Morning Peak Hour Level of Service – Alternative Access

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	48.2	D
Willow Walk Drive / 11800 South	SB Stop	SB	45.6	E	-	-
East Access / 11800 South	NB Stop	NB	> 50	F	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, January 2019

Herriman - Advantage Arts Academy TIS
Future (2024) Plus Project - Alternative Access

Morning Peak Hour
Figure 10

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01/09/2019

F. Mitigation Measures

The intersection of Mustang Trail Way / 11800 South is anticipated to perform at a poor LOS in the future year 2024. There is also anticipated to be queueing in all directions. As previously mentioned, 11800 South, west of Mustang Trail Way, is anticipated to be over capacity by the year 2024 and will need widening. It is recommended that 11800 South be widened to 5-lanes east of Mustang Trail Way and northbound left-turn phasing be added to the signal

An additional analysis was completed with the recommended mitigation measures. The results from this analysis can be seen in Table 7. As shown in Table 7, all study intersections are anticipated to perform at acceptable LOS. Some queueing is anticipated at the Mustang Trail Way / 11800 South intersection in the westbound left-turn movement of approximately 350 feet.

As previously mentioned, the westbound to southbound left-turn queue at Mustang Trail Way / 11800 South is longer than the existing storage length and blocking a through lane. There is a raised median that limits the length of the storage. This study and previously completed study for Teton Ranch identified this same issue. This was identified to be a background problem and is anticipated to exist before any project traffic is added to the roadway network. It is recommended that the City look into this issue further.

Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the AAA School have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

Table 9: Future (2024) Plus Project Morning Peak Hour Level of Service – Alternative Access - Mitigated

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	22.4	C
Willow Walk Drive / 11800 South	NB/SB Stop	SB	34.3	D	-	-
East Access / 11800 South	NB Stop	NB	7.1	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, January 2019

G. Recommended Storage Lengths

Hales Engineering determined recommended storage lengths based on the 95th percentile queue lengths given in the future (2024) plus project scenario. These storage lengths do not include the taper length. Recommended storage lengths for the study intersections are shown in Table 10. Intersections shown in Table 10 include new intersections and existing intersections that have recommended storage length changes. Any changes to storage lengths on 11800 South and the north leg or Mustang Trail Way must be coordinated with South Jordan.

Table 10: Recommended Storage Lengths

Recommended Storage Lengths Herriman - Advantage Arts Academy TIS								
Intersection	Storage Length (feet)							
	Northbound		Southbound		Eastbound		Westbound	
	LT	RT	LT	RT	LT	RT	LT	RT
Mustang Trail Way / 11800 South	225	225	200	50	150	150	350	100
East Access / 11800 South	-	-	-	-	-	-	150	-
Source: Hales Engineering, January 2019								

H. Air Quality Report

Hales Engineering found the air quality pollutants for Hydro Carbons, Carbon Monoxide, and Nitrogen Oxide emissions. With the addition of any project, residential, commercial, office, school, or recreational, an increase in these pollutants will occur. Table 11 shows the average pollutants for each of the analysis periods. Additional details can be found in Appendix E.

Table 11: Air Pollutants

Air Quality Comparison Herriman - Advantage Arts Academy TIS					
Intersection	Storage Length (feet)				
	Existing (2018) Background (g)	Existing (2018) Plus Project (g)	Future (2024) Background (g)	Future (2024) Plus Project - Mitigated (g)	Future (2024) Plus Project - AA - Mitigated (g)
Hydro Carbons	332	487	793	1,082	841
Carbon Monoxide	9,327	13,841	21,671	28,195	25,584
Nitrogen Oxide	1,111	1,593	2,538	3,299	2,878
Source: Hales Engineering, January 2019					

VIII. ON-SITE CIRCULATION

A. Purpose

This section of the report examines the on-site out-load queueing that is anticipated to occur within the proposed development. This scenario provides insight into the efficiency and viability of the proposed on-site circulation plan.

B. Traffic Volumes

Project trips generated by the development were used in this analysis to determine the necessary on-site storage lengths. Based on observations at other charter schools around the state, many vehicles arrive before school lets out and start queueing up. The number of vehicles that arrive before school lets out was estimated to be between 20 and 25 percent of all vehicles.

C. On-Site Circulation and Queuing Analysis Results

The on-site circulation and queuing analysis was completed in VISSIM to closely represent the on-site out-loading conditions. Multiple runs were used to provide a statistical evaluation of the site circulation operations. The 95th percentile maximum queue length was found to be approximately 2,000 linear feet during the afternoon peak hour for the plus project conditions. The on-site storage is anticipated to be adequate based on the existing site plan.

HALES ENGINEERING
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APPENDIX A

Turning Movement Counts

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

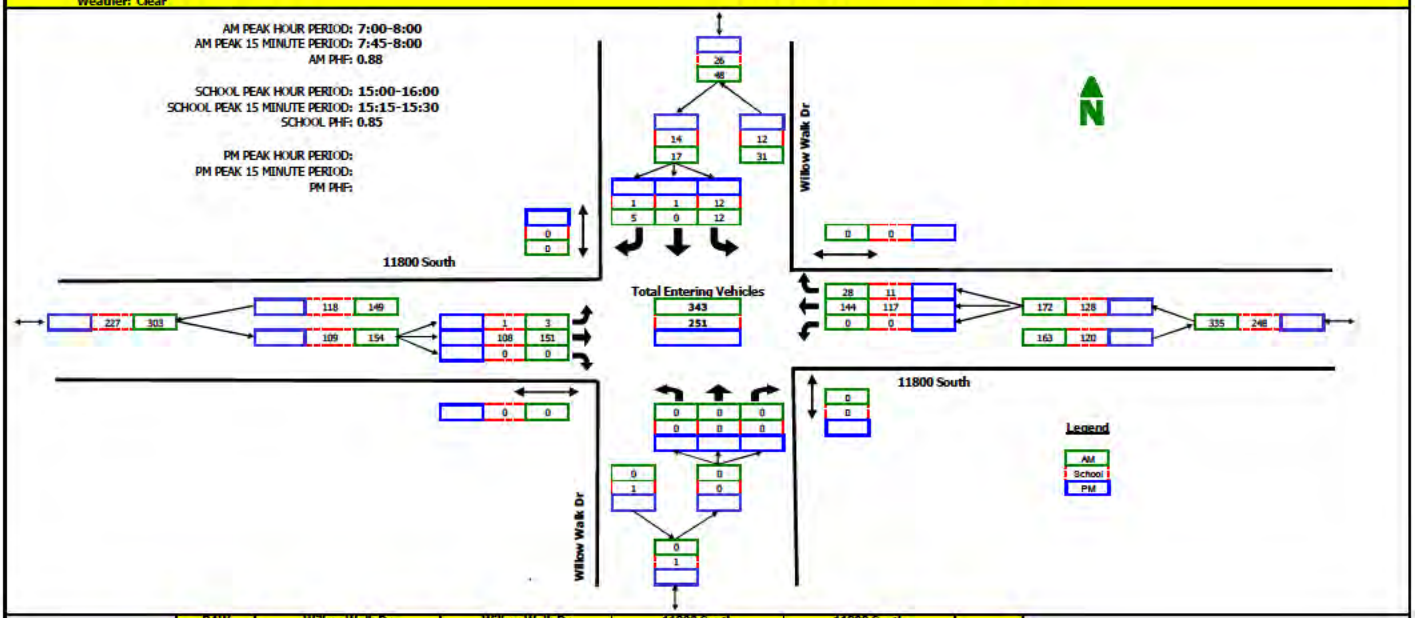
Intersection: Willow Walk Dr / 11800 South
North/South: Willow Walk Dr
East/West: 11800 South
Jurisdiction: Herriman
Project Title: Advantage Arts Academy TIS
Project No: UT18-1343
Weather: Clear

Date: 11-6-18, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 96.2%
Adjustment Station #: 407
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: 7:00-8:00
AM PEAK 15 MINUTE PERIOD: 7:45-8:00
AM PHF: 0.88

SCHOOL PEAK HOUR PERIOD: 15:00-16:00
SCHOOL PEAK 15 MINUTE PERIOD: 15:15-15:30
SCHOOL PHF: 0.85

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF:



RAW COUNT SUMMARIES	Willow Walk Dr Northbound				Willow Walk Dr Southbound				11800 South Eastbound				11800 South Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00-7:15	0	0	0	0	2	0	3	0	0	31	0	0	0	27	4	0	67
7:15-7:30	0	0	0	0	2	0	2	0	2	42	0	0	0	42	5	0	95
7:30-7:45	0	0	0	0	3	0	0	0	1	37	0	0	0	38	5	0	84
7:45-8:00	0	0	0	0	5	0	0	0	0	41	0	0	0	37	14	0	97
8:00-8:15	0	0	0	0	7	0	1	0	1	24	0	0	0	30	11	0	74
8:15-8:30	0	0	0	0	5	0	1	0	5	20	0	0	0	27	5	0	63
8:30-8:45	0	0	0	0	5	0	2	0	1	16	0	0	0	23	11	0	58
8:45-9:00	0	0	0	0	8	0	2	0	0	28	0	0	0	28	14	0	80
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	0	0	0	0	5	0	3	0	1	10	0	0	0	22	8	0	49
14:15-14:30	0	0	0	0	1	0	5	0	2	12	0	0	0	18	1	0	39
14:30-14:45	0	0	0	0	4	0	1	0	2	18	0	0	0	18	2	0	45
14:45-15:00	0	0	0	0	2	0	1	0	4	20	0	0	0	19	1	0	47
15:00-15:15	0	0	0	0	2	1	0	0	1	21	0	0	0	11	0	0	36
15:15-15:30	0	0	0	0	4	0	0	0	0	33	0	0	0	34	3	0	74
15:30-15:45	0	0	0	0	3	0	0	0	0	20	0	0	0	42	6	0	71
15:45-16:00	0	0	0	0	3	0	1	0	0	34	0	0	0	30	2	0	70
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

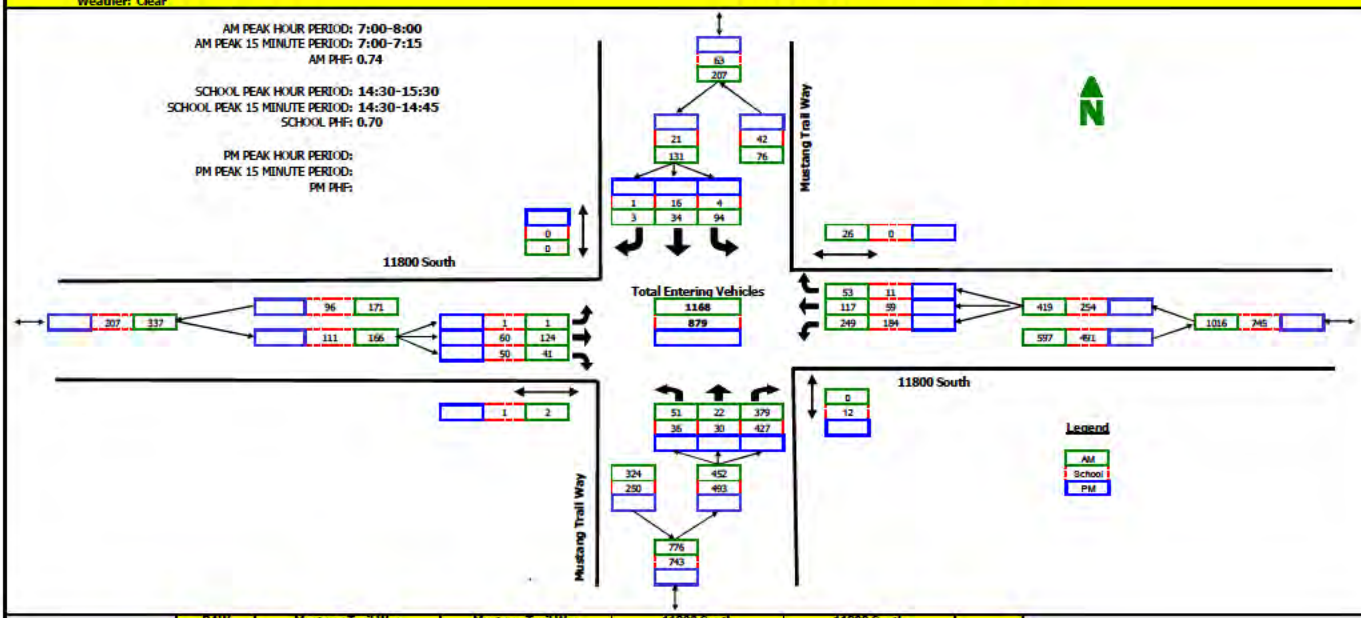
Intersection: Mustang Trail Way / 11800 South
North/South: Mustang Trail Way
East/West: 11800 South
Jurisdiction: Herriman
Project Title: Advantage Arts Academy TIS
Project No: UT18-1343
Weather: Clear

Date: 11-6-18, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 96.2%
Adjustment Station #: 407
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: 7:00-8:00
AM PEAK 15 MINUTE PERIOD: 7:00-7:15
AM PHF: 0.74

SCHOOL PEAK HOUR PERIOD: 14:30-15:30
SCHOOL PEAK 15 MINUTE PERIOD: 14:30-14:45
SCHOOL PHF: 0.70

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF:



RAW COUNT SUMMARIES	Mustang Trail Way Northbound				Mustang Trail Way Southbound				11800 South Eastbound				11800 South Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00-7:15	7	1	99	0	51	9	0	0	0	50	6	0	87	55	31	15	396
7:15-7:30	14	10	142	0	40	16	3	0	0	38	10	2	72	27	10	7	382
7:30-7:45	14	7	80	0	1	6	0	0	0	14	9	0	47	18	7	4	203
7:45-8:00	16	4	58	0	2	3	0	0	1	22	16	0	43	17	5	0	187
8:00-8:15	12	8	115	1	3	4	0	0	0	22	7	0	30	20	1	0	222
8:15-8:30	6	3	36	0	1	1	0	0	1	17	3	0	18	19	2	0	107
8:30-8:45	8	1	36	0	0	3	0	1	0	15	5	0	30	16	2	0	116
8:45-9:00	7	3	59	0	1	4	0	0	0	26	14	0	25	15	2	0	156
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	7	2	27	2	2	2	1	0	0	15	2	0	36	17	3	2	114
14:15-14:30	8	9	68	0	2	3	0	0	1	7	4	0	44	12	5	0	163
14:30-14:45	12	12	199	8	1	6	0	0	0	9	14	1	43	12	4	0	312
14:45-15:00	11	10	104	2	1	5	1	0	0	17	7	0	36	9	2	0	203
15:00-15:15	3	4	72	2	2	5	0	0	0	16	10	0	52	10	3	0	177
15:15-15:30	10	4	52	0	0	0	0	0	1	18	19	0	53	28	2	0	187
15:30-15:45	20	5	120	0	5	2	2	0	0	16	6	0	44	23	2	0	245
15:45-16:00	17	5	87	4	1	2	1	0	0	24	10	0	53	11	5	2	216
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HALES ENGINEERING
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APPENDIX B

LOS Results

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Existing (2018) Background*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	51	50	99	8.7	*A*
	T	22	24	108	7.8	*A*
	R	305	300	98	4.9	*A*
	Subtotal	378	374	99	5.6	*A*
SB	L	94	94	100	13.8	*B*
	T	34	32	95	6.7	*A*
	R	3	4	123	1.3	*A*
	Subtotal	131	130	99	11.7	*B*
EB	L	1	1	100	7.4	*A*
	T	126	125	99	9.1	*A*
	R	41	42	103	3.0	*A*
	Subtotal	168	168	100	7.6	*A*
WB	L	190	188	99	14.8	*B*
	T	118	120	102	8.2	*A*
	R	53	57	108	2.1	*A*
	Subtotal	361	365	101	10.6	*B*
Total		1,038	1,037	100	8.5	*A*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	12	13	106	5.0	*A*
	R	5	6	126	3.0	*A*
	Subtotal	***17***	***19***	***112***	***4.4***	***A***
EB	L	3	2	62	3.8	*A*
	T	154	152	99	0.5	*A*
	Subtotal	157	154	98	0.5	*A*
WB	T	148	150	102	2.3	*A*
	R	28	28	100	1.8	*A*
	Subtotal	176	178	101	2.2	*A*
Total		350	351	100	1.6	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.4	2.5	4.0	0.2	3.8	1.4
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.9	12.6	6.9	2.0	8.1	6.5	4.0	10.7	6.3	0.7	7.2
Vehicles Entered	28	9	43	26	14	12	6	66	19	8	1	232
Vehicles Exited	29	8	43	26	13	12	6	65	19	7	1	229
Hourly Exit Rate	116	32	172	104	52	48	24	260	76	28	4	916
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	104	89	102	99	111	107	120	96	90	93	133	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	1.2	0.2	0.1	2.1	0.5	2.2	3.9	0.4	2.8
Total Delay (hr)	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Total Del/Veh (s)		8.2	2.4	11.2	7.6	1.7	7.2	6.5	4.1	10.6	6.7	1.4
Vehicles Entered	0	25	9	39	27	11	11	5	66	22	6	1
Vehicles Exited	0	24	9	38	26	11	11	5	66	22	6	1
Hourly Exit Rate	0	96	36	152	104	44	44	20	264	88	24	4
Input Volume	1	112	36	169	105	47	45	20	271	84	30	3
% of Volume	0	86	100	90	99	94	98	100	97	105	80	133

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	0.5
Total Del/Veh (s)	6.9
Vehicles Entered	222
Vehicles Exited	219
Hourly Exit Rate	876
Input Volume	923
% of Volume	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.1	1.1	0.2	0.2	2.1	0.8	2.4	4.0	0.4	5.6
Total Delay (hr)	0.0	0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.0
Total Del/Veh (s)		10.8	3.6	17.3	9.1	2.3	10.8	9.6	6.3	18.7	7.5	2.3
Vehicles Entered	0	41	15	62	41	21	15	7	100	31	12	1
Vehicles Exited	0	40	15	61	40	20	15	7	100	31	12	1
Hourly Exit Rate	0	160	60	244	160	80	60	28	400	124	48	4
Input Volume	1	170	55	253	157	71	68	29	407	125	45	4
% of Volume	0	94	109	96	102	113	88	97	98	99	107	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	1.0
Total Del/Veh (s)	10.2
Vehicles Entered	346
Vehicles Exited	342
Hourly Exit Rate	1368
Input Volume	1385
% of Volume	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.5	2.4	3.9	0.2	4.0	1.5
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.4	13.2	7.2	1.9	7.0	8.1	3.9	11.1	4.8	0.7	7.3
Vehicles Entered	31	10	44	26	12	12	6	68	22	7	1	239
Vehicles Exited	31	10	45	28	13	12	6	68	22	7	1	243
Hourly Exit Rate	124	40	180	112	52	48	24	272	88	28	4	972
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	111	111	107	107	111	107	120	100	105	93	133	105

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.2	0.2	0.1	2.2	0.6	2.4	3.9	0.3	4.1
Total Delay (hr)	0.0	0.3	0.0	0.8	0.3	0.0	0.1	0.1	0.4	0.4	0.1	0.0
Total Del/Veh (s)	7.4	9.1	3.0	14.8	8.2	2.1	8.7	7.8	4.9	13.8	6.7	1.3
Vehicles Entered	1	125	42	189	120	57	50	24	300	94	32	4
Vehicles Exited	1	125	42	188	120	57	50	24	300	94	32	4
Hourly Exit Rate	1	125	42	188	120	57	50	24	300	94	32	4
Input Volume	1	126	41	190	118	53	51	22	305	94	34	3
% of Volume	100	99	103	99	102	108	99	108	98	100	95	123

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.4
Total Delay (hr)	2.5
Total Del/Veh (s)	8.5
Vehicles Entered	1038
Vehicles Exited	1037
Hourly Exit Rate	1037
Input Volume	1038
% of Volume	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.9	0.4	2.1	2.2	4.2	3.0	1.4
Vehicles Entered	1	33	34	6	3	1	78
Vehicles Exited	1	33	34	6	3	1	78
Hourly Exit Rate	4	132	136	24	12	4	312
Input Volume	3	137	131	25	11	4	311
% of Volume	133	96	104	96	109	100	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.6	2.1	1.7	4.4	4.9	1.5
Vehicles Entered	0	32	33	6	3	1	75
Vehicles Exited	0	31	33	6	3	1	74
Hourly Exit Rate	0	124	132	24	12	4	296
Input Volume	3	137	131	25	11	4	311
% of Volume	0	91	101	96	109	100	95

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.1	0.6	2.5	1.8	5.1	2.8	1.7
Vehicles Entered	1	51	48	10	4	2	116
Vehicles Exited	1	51	47	10	4	2	115
Hourly Exit Rate	4	204	188	40	16	8	460
Input Volume	4	205	197	37	16	7	466
% of Volume	100	100	95	108	100	114	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.4	1.9	1.5	4.6	4.3	1.4
Vehicles Entered	0	36	35	6	4	1	82
Vehicles Exited	0	37	36	6	4	1	84
Hourly Exit Rate	0	148	144	24	16	4	336
Input Volume	3	137	131	25	11	4	311
% of Volume	0	108	110	96	145	100	108

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.8	0.5	2.3	1.8	5.0	3.0	1.6
Vehicles Entered	2	152	150	28	13	6	351
Vehicles Exited	2	152	150	28	13	6	351
Hourly Exit Rate	2	152	150	28	13	6	351
Input Volume	3	154	148	28	12	5	350
% of Volume	62	99	102	100	106	126	100

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.1	0.1	0.1	0.1	0.4
Denied Del/Veh (s)	1.5	1.5	1.4	1.5	1.5
Total Delay (hr)	0.6	0.6	1.3	0.7	3.3
Total Del/Veh (s)	8.9	8.6	12.4	9.1	11.0
Vehicles Entered	233	225	350	240	1049
Vehicles Exited	230	224	342	247	1044
Hourly Exit Rate	920	896	1368	988	1044
Input Volume	2162	2162	3242	2162	2432
% of Volume	43	41	42	46	43

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	52	24	94	47	23	51	21	72	54	30	4
Average Queue (ft)	27	8	54	24	11	22	8	43	31	9	1
95th Queue (ft)	56	26	102	54	27	53	26	77	56	33	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)			0								
Queuing Penalty (veh)			0								

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	3	63	26	88	68	27	38	23	70	67	25	8
Average Queue (ft)	0	26	10	49	29	10	17	7	40	35	9	1
95th Queue (ft)	5	67	30	87	69	30	43	25	75	69	30	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	2	92	32	128	102	33	42	30	115	94	41	13
Average Queue (ft)	0	43	17	83	44	17	22	10	63	55	16	2
95th Queue (ft)	5	87	37	139	102	36	49	32	118	92	45	11
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				1	0				0			
Queuing Penalty (veh)				1	0				0			

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	55	32	98	49	24	37	23	66	71	22	5
Average Queue (ft)	29	11	60	23	11	17	8	37	36	9	0
95th Queue (ft)	62	34	100	53	27	41	25	68	69	28	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	5	102	40	140	104	44	56	32	119	98	50	18
Average Queue (ft)	0	31	12	62	30	12	20	8	46	39	11	1
95th Queue (ft)	4	70	32	112	73	31	47	27	89	76	35	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0		0	0				0			
Queuing Penalty (veh)		0		0	0				0			

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	3	30
Average Queue (ft)	0	11
95th Queue (ft)	6	35
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	12
95th Queue (ft)	37
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	9	33
Average Queue (ft)	1	17
95th Queue (ft)	11	42
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	8	30
Average Queue (ft)	1	17
95th Queue (ft)	13	41
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	20	35
Average Queue (ft)	1	14
95th Queue (ft)	9	39
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 2
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 0

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.4	2.5	4.0	0.2	3.8	1.4
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.9	12.6	6.9	2.0	8.1	6.5	4.0	10.7	6.3	0.7	7.2
Vehicles Entered	28	9	43	26	14	12	6	66	19	8	1	232
Vehicles Exited	29	8	43	26	13	12	6	65	19	7	1	229
Hourly Exit Rate	116	32	172	104	52	48	24	260	76	28	4	916
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	104	89	102	99	111	107	120	96	90	93	133	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	1.2	0.2	0.1	2.1	0.5	2.2	3.9	0.4	2.8
Total Delay (hr)	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Total Del/Veh (s)		8.2	2.4	11.2	7.6	1.7	7.2	6.5	4.1	10.6	6.7	1.4
Vehicles Entered	0	25	9	39	27	11	11	5	66	22	6	1
Vehicles Exited	0	24	9	38	26	11	11	5	66	22	6	1
Hourly Exit Rate	0	96	36	152	104	44	44	20	264	88	24	4
Input Volume	1	112	36	169	105	47	45	20	271	84	30	3
% of Volume	0	86	100	90	99	94	98	100	97	105	80	133

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	0.5
Total Del/Veh (s)	6.9
Vehicles Entered	222
Vehicles Exited	219
Hourly Exit Rate	876
Input Volume	923
% of Volume	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.1	1.1	0.2	0.2	2.1	0.8	2.4	4.0	0.4	5.6
Total Delay (hr)	0.0	0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.0
Total Del/Veh (s)		10.8	3.6	17.3	9.1	2.3	10.8	9.6	6.3	18.7	7.5	2.3
Vehicles Entered	0	41	15	62	41	21	15	7	100	31	12	1
Vehicles Exited	0	40	15	61	40	20	15	7	100	31	12	1
Hourly Exit Rate	0	160	60	244	160	80	60	28	400	124	48	4
Input Volume	1	170	55	253	157	71	68	29	407	125	45	4
% of Volume	0	94	109	96	102	113	88	97	98	99	107	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	1.0
Total Del/Veh (s)	10.2
Vehicles Entered	346
Vehicles Exited	342
Hourly Exit Rate	1368
Input Volume	1385
% of Volume	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.5	2.4	3.9	0.2	4.0	1.5
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.4	13.2	7.2	1.9	7.0	8.1	3.9	11.1	4.8	0.7	7.3
Vehicles Entered	31	10	44	26	12	12	6	68	22	7	1	239
Vehicles Exited	31	10	45	28	13	12	6	68	22	7	1	243
Hourly Exit Rate	124	40	180	112	52	48	24	272	88	28	4	972
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	111	111	107	107	111	107	120	100	105	93	133	105

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.2	0.2	0.1	2.2	0.6	2.4	3.9	0.3	4.1
Total Delay (hr)	0.0	0.3	0.0	0.8	0.3	0.0	0.1	0.1	0.4	0.4	0.1	0.0
Total Del/Veh (s)	7.4	9.1	3.0	14.8	8.2	2.1	8.7	7.8	4.9	13.8	6.7	1.3
Vehicles Entered	1	125	42	189	120	57	50	24	300	94	32	4
Vehicles Exited	1	125	42	188	120	57	50	24	300	94	32	4
Hourly Exit Rate	1	125	42	188	120	57	50	24	300	94	32	4
Input Volume	1	126	41	190	118	53	51	22	305	94	34	3
% of Volume	100	99	103	99	102	108	99	108	98	100	95	123

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.4
Total Delay (hr)	2.5
Total Del/Veh (s)	8.5
Vehicles Entered	1038
Vehicles Exited	1037
Hourly Exit Rate	1037
Input Volume	1038
% of Volume	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.9	0.4	2.1	2.2	4.2	3.0	1.4
Vehicles Entered	1	33	34	6	3	1	78
Vehicles Exited	1	33	34	6	3	1	78
Hourly Exit Rate	4	132	136	24	12	4	312
Input Volume	3	137	131	25	11	4	311
% of Volume	133	96	104	96	109	100	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.6	2.1	1.7	4.4	4.9	1.5
Vehicles Entered	0	32	33	6	3	1	75
Vehicles Exited	0	31	33	6	3	1	74
Hourly Exit Rate	0	124	132	24	12	4	296
Input Volume	3	137	131	25	11	4	311
% of Volume	0	91	101	96	109	100	95

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.1	0.6	2.5	1.8	5.1	2.8	1.7
Vehicles Entered	1	51	48	10	4	2	116
Vehicles Exited	1	51	47	10	4	2	115
Hourly Exit Rate	4	204	188	40	16	8	460
Input Volume	4	205	197	37	16	7	466
% of Volume	100	100	95	108	100	114	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.4	1.9	1.5	4.6	4.3	1.4
Vehicles Entered	0	36	35	6	4	1	82
Vehicles Exited	0	37	36	6	4	1	84
Hourly Exit Rate	0	148	144	24	16	4	336
Input Volume	3	137	131	25	11	4	311
% of Volume	0	108	110	96	145	100	108

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.8	0.5	2.3	1.8	5.0	3.0	1.6
Vehicles Entered	2	152	150	28	13	6	351
Vehicles Exited	2	152	150	28	13	6	351
Hourly Exit Rate	2	152	150	28	13	6	351
Input Volume	3	154	148	28	12	5	350
% of Volume	62	99	102	100	106	126	100

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.1	0.1	0.1	0.1	0.4
Denied Del/Veh (s)	1.5	1.5	1.4	1.5	1.5
Total Delay (hr)	0.6	0.6	1.3	0.7	3.3
Total Del/Veh (s)	8.9	8.6	12.4	9.1	11.0
Vehicles Entered	233	225	350	240	1049
Vehicles Exited	230	224	342	247	1044
Hourly Exit Rate	920	896	1368	988	1044
Input Volume	2162	2162	3242	2162	2432
% of Volume	43	41	42	46	43

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	52	24	94	47	23	51	21	72	54	30	4
Average Queue (ft)	27	8	54	24	11	22	8	43	31	9	1
95th Queue (ft)	56	26	102	54	27	53	26	77	56	33	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)			0								
Queuing Penalty (veh)			0								

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	3	63	26	88	68	27	38	23	70	67	25	8
Average Queue (ft)	0	26	10	49	29	10	17	7	40	35	9	1
95th Queue (ft)	5	67	30	87	69	30	43	25	75	69	30	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	2	92	32	128	102	33	42	30	115	94	41	13
Average Queue (ft)	0	43	17	83	44	17	22	10	63	55	16	2
95th Queue (ft)	5	87	37	139	102	36	49	32	118	92	45	11
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				1	0				0			
Queuing Penalty (veh)				1	0				0			

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	55	32	98	49	24	37	23	66	71	22	5
Average Queue (ft)	29	11	60	23	11	17	8	37	36	9	0
95th Queue (ft)	62	34	100	53	27	41	25	68	69	28	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	5	102	40	140	104	44	56	32	119	98	50	18
Average Queue (ft)	0	31	12	62	30	12	20	8	46	39	11	1
95th Queue (ft)	4	70	32	112	73	31	47	27	89	76	35	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0		0	0				0			
Queuing Penalty (veh)		0		0	0				0			

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	3	30
Average Queue (ft)	0	11
95th Queue (ft)	6	35
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	12
95th Queue (ft)	37
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	9	33
Average Queue (ft)	1	17
95th Queue (ft)	11	42
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	8	30
Average Queue (ft)	1	17
95th Queue (ft)	13	41
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	20	35
Average Queue (ft)	1	14
95th Queue (ft)	9	39
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 2
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 0

HALES ENGINEERING
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SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Existing (2018) Plus Project*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	127	122	96	13.5	*B*
	T	22	24	108	9.6	*A*
	R	305	297	97	5.3	*A*
	Subtotal	454	443	98	7.8	*A*
SB	L	94	92	98	11.0	*B*
	T	34	36	107	8.6	*A*
	R	20	20	99	3.4	*A*
	Subtotal	148	148	100	9.4	*A*
EB	L	28	27	97	18.9	*B*
	T	210	210	100	8.5	*A*
	R	102	101	99	3.0	*A*
	Subtotal	340	338	99	7.7	*A*
WB	L	190	188	99	18.4	*B*
	T	205	201	98	9.4	*A*
	R	53	53	100	2.3	*A*
	Subtotal	448	442	99	12.4	*B*
Total		1,408	1,388	99	9.5	*A*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	27	23	85	5.4	*A*
	R	5	6	126	3.1	*A*
	Subtotal	***32***	***29***	***91***	***4.9***	***A***
EB	L	3	4	123	2.6	*A*
	T	176	178	101	0.6	*A*
	Subtotal	179	182	102	0.6	*A*
WB	T	162	158	98	0.5	*A*
	R	28	29	104	0.2	*A*
	Subtotal	190	187	98	0.5	*A*
Total		401	398	99	0.9	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Existing (2018) Plus Project***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	176	176	100	5.0	*A*
	Subtotal	***176***	***176***	***100***	***5.0***	***A***
EB	T	167	161	96	0.7	*A*
	R	37	41	110	0.2	*A*
	Subtotal	204	202	99	0.6	*A*
WB	L	180	175	97	5.2	*A*
	T	203	199	98	1.6	*A*
	Subtotal	383	374	98	3.3	*A*
Total		763	752	99	3.0	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.2	0.2	0.2	2.4	0.8	2.4	3.9	0.3	4.4	1.3
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.6
Total Del/Veh (s)	7.6	2.9	13.6	8.7	2.1	9.7	8.2	4.0	9.0	7.1	2.1	7.4
Vehicles Entered	43	24	41	43	11	27	5	68	21	8	4	295
Vehicles Exited	43	23	41	44	12	27	5	68	20	8	4	295
Hourly Exit Rate	172	92	164	176	48	108	20	272	80	32	16	1180
Input Volume	177	87	169	168	47	113	20	271	84	30	18	1185
% of Volume	97	106	97	105	102	96	100	100	95	107	89	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	1.3	0.2	0.1	2.2	0.6	2.4	3.9	0.4	3.7
Total Delay (hr)	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0
Total Del/Veh (s)		7.9	2.4	14.0	8.1	2.0	10.4	7.0	4.5	8.7	6.3	2.2
Vehicles Entered	0	44	20	43	41	11	28	5	66	21	8	5
Vehicles Exited	0	44	21	42	40	11	28	5	66	21	9	5
Hourly Exit Rate	0	176	84	168	160	44	112	20	264	84	36	20
Input Volume	1	177	87	169	168	47	113	20	271	84	30	18
% of Volume	0	99	97	99	95	94	99	100	97	100	120	111

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.3
Total Delay (hr)	0.7
Total Del/Veh (s)	7.6
Vehicles Entered	292
Vehicles Exited	292
Hourly Exit Rate	1168
Input Volume	1185
% of Volume	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.5	0.6	0.1	0.5	1.2	0.3	0.2	2.3	0.9	2.4	3.8	0.5
Total Delay (hr)	0.1	0.1	0.2	0.0	0.4	0.2	0.0	0.2	0.0	0.2	0.1	0.0
Total Del/Veh (s)	18.9	18.3	8.9	3.3	23.8	10.2	2.3	18.4	14.2	6.9	13.8	11.6
Vehicles Entered	16	26	79	35	63	78	19	39	8	98	31	11
Vehicles Exited	15	25	77	35	62	77	18	38	8	96	30	11
Hourly Exit Rate	60	100	308	140	248	308	72	152	32	384	120	44
Input Volume	72	108	309	146	253	315	71	169	29	407	125	45
% of Volume	83	93	100	96	98	98	101	90	110	94	96	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	4.1	1.2
Total Delay (hr)	0.0	1.7
Total Del/Veh (s)	5.6	11.9
Vehicles Entered	7	510
Vehicles Exited	7	499
Hourly Exit Rate	28	1996
Input Volume	27	2076
% of Volume	104	96

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.2	0.2	0.2	2.5	0.7	2.3	4.1	0.3
Total Delay (hr)	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0
Total Del/Veh (s)	14.7	16.3	7.9	2.8	14.8	8.0	2.4	10.4	7.3	4.3	9.5	7.4
Vehicles Entered	1	1	43	21	41	39	12	27	6	66	20	8
Vehicles Exited	2	2	45	22	43	41	13	28	7	67	21	9
Hourly Exit Rate	8	8	180	88	172	164	52	112	28	268	84	36
Input Volume	0	1	177	87	169	168	47	113	20	271	84	30
% of Volume		800	102	101	102	98	111	99	140	99	100	120

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.1
Denied Del/Veh (s)	3.7	1.3
Total Delay (hr)	0.0	0.7
Total Del/Veh (s)	2.0	7.8
Vehicles Entered	4	289
Vehicles Exited	4	304
Hourly Exit Rate	16	1216
Input Volume	18	1185
% of Volume	89	103

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.2	0.1	0.0
Denied Del/Veh (s)	0.5	0.6	0.0	0.2	1.2	0.2	0.2	2.3	0.8	2.4	3.9	0.4
Total Delay (hr)	0.1	0.1	0.5	0.1	1.0	0.5	0.0	0.5	0.1	0.4	0.3	0.1
Total Del/Veh (s)	19.5	18.9	8.5	3.0	18.4	9.4	2.3	13.5	9.6	5.3	11.0	8.6
Vehicles Entered	17	27	209	101	188	201	53	122	24	298	92	36
Vehicles Exited	17	27	210	101	188	201	53	122	24	297	92	36
Hourly Exit Rate	17	27	210	101	188	201	53	122	24	297	92	36
Input Volume	18	28	210	102	190	205	53	127	22	305	94	34
% of Volume	94	97	100	99	99	98	100	96	108	97	98	107

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	0.5
Denied Del/Veh (s)	4.0	1.3
Total Delay (hr)	0.0	3.7
Total Del/Veh (s)	3.4	9.5
Vehicles Entered	20	1388
Vehicles Exited	20	1388
Hourly Exit Rate	20	1388
Input Volume	20	1408
% of Volume	99	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.4	0.4	0.1	5.4	2.2	0.6
Vehicles Entered	0	40	37	6	3	1	87
Vehicles Exited	0	40	37	6	3	1	87
Hourly Exit Rate	0	160	148	24	12	4	348
Input Volume	3	151	144	25	22	4	349
% of Volume	0	106	103	96	55	100	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.7	0.5	0.5	0.2	5.3	3.1	0.8
Vehicles Entered	1	38	36	7	5	2	89
Vehicles Exited	1	38	36	7	5	2	89
Hourly Exit Rate	4	152	144	28	20	8	356
Input Volume	3	151	144	25	22	4	349
% of Volume	133	101	100	112	91	200	102

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.2	0.0	0.0	0.1	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.5	0.9	0.5	0.2	6.1	3.3	1.1
Vehicles Entered	1	64	54	9	8	2	138
Vehicles Exited	2	63	54	9	9	2	139
Hourly Exit Rate	8	252	216	36	36	8	556
Input Volume	4	251	216	37	42	7	557
% of Volume	200	100	100	97	86	114	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.0	0.4	0.6	0.1	4.3	3.7	0.8
Vehicles Entered	1	35	31	8	6	1	82
Vehicles Exited	1	36	31	8	6	1	83
Hourly Exit Rate	4	144	124	32	24	4	332
Input Volume	3	151	144	25	22	4	349
% of Volume	133	95	86	128	109	100	95

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.6	0.6	0.5	0.2	5.4	3.1	0.9
Vehicles Entered	4	178	157	29	23	6	397
Vehicles Exited	4	178	158	29	23	6	398
Hourly Exit Rate	4	178	158	29	23	6	398
Input Volume	3	176	162	28	27	5	401
% of Volume	123	101	98	104	85	126	99

8: West Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.1
Vehicles Entered	44	42	86
Vehicles Exited	44	42	86
Hourly Exit Rate	176	168	344
Input Volume	174	169	343
% of Volume	101	99	100

8: West Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.2
Vehicles Entered	44	43	87
Vehicles Exited	44	43	87
Hourly Exit Rate	176	172	348
Input Volume	174	169	343
% of Volume	101	102	101

8: West Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.3
Vehicles Entered	72	63	135
Vehicles Exited	71	63	134
Hourly Exit Rate	284	252	536
Input Volume	293	253	546
% of Volume	97	100	98

8: West Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.2
Vehicles Entered	42	38	80
Vehicles Exited	43	38	81
Hourly Exit Rate	172	152	324
Input Volume	174	169	343
% of Volume	99	90	94

8: West Access & 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.2
Vehicles Entered	201	186	387
Vehicles Exited	201	186	387
Hourly Exit Rate	201	186	387
Input Volume	204	190	394
% of Volume	99	98	98

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	0.1	4.0	1.6	3.5	2.1
Vehicles Entered	38	7	30	47	30	152
Vehicles Exited	38	6	31	47	30	152
Hourly Exit Rate	152	24	124	188	120	608
Input Volume	149	25	120	186	117	597
% of Volume	102	96	103	101	103	102

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.1	3.8	1.5	3.3	2.0
Vehicles Entered	36	8	27	47	29	147
Vehicles Exited	36	8	27	47	29	147
Hourly Exit Rate	144	32	108	188	116	588
Input Volume	149	25	120	186	117	597
% of Volume	97	128	90	101	99	98

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.3	0.1	0.4	0.2
Total Delay (hr)	0.0	0.0	0.1	0.0	0.2	0.4
Total Del/Veh (s)	1.2	0.4	6.3	1.9	6.6	4.2
Vehicles Entered	53	18	83	64	87	305
Vehicles Exited	53	18	80	63	86	300
Hourly Exit Rate	212	72	320	252	344	1200
Input Volume	221	74	360	253	352	1260
% of Volume	96	97	89	100	98	95

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.6	0.2	4.1	1.4	3.4	2.2
Vehicles Entered	34	8	34	41	30	147
Vehicles Exited	35	9	37	41	31	153
Hourly Exit Rate	140	36	148	164	124	612
Input Volume	149	25	120	186	117	597
% of Volume	94	144	123	88	106	103

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.3	0.1
Total Delay (hr)	0.0	0.0	0.3	0.1	0.2	0.6
Total Del/Veh (s)	0.7	0.2	5.2	1.6	5.0	3.0
Vehicles Entered	161	41	175	199	176	752
Vehicles Exited	161	41	175	199	176	752
Hourly Exit Rate	161	41	175	199	176	752
Input Volume	167	37	180	203	176	763
% of Volume	96	110	97	98	100	99

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.1	0.1	0.2	0.1	0.5
Denied Del/Veh (s)	1.3	1.3	1.3	1.3	1.3
Total Delay (hr)	0.9	0.9	2.4	0.9	5.1
Total Del/Veh (s)	9.2	9.5	14.9	9.4	12.3
Vehicles Entered	304	304	544	296	1454
Vehicles Exited	308	302	518	329	1460
Hourly Exit Rate	1232	1208	2072	1316	1460
Input Volume	3663	3663	6619	3663	4402
% of Volume	34	33	31	36	33

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	67	42	85	79	30	70	30	77	56	25	17
Average Queue (ft)	37	20	54	40	12	38	8	48	30	11	5
95th Queue (ft)	70	46	95	81	31	75	31	79	60	29	19
Link Distance (ft)	1101			2469	2469		1752			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)				0							
Queuing Penalty (veh)				0							

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	2	84	35	96	73	22	70	27	84	55	33	20
Average Queue (ft)	0	36	15	57	36	8	41	8	53	28	12	6
95th Queue (ft)	5	79	35	95	77	24	74	30	87	59	36	22
Link Distance (ft)		1101			2469	2469		1752			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0							0			
Queuing Penalty (veh)		0							0			

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	105	102	41	162	131	32	112	54	100	81	44	32
Average Queue (ft)	61	64	21	96	74	15	64	18	68	46	18	12
95th Queue (ft)	108	110	44	165	136	36	113	59	106	85	48	33
Link Distance (ft)		1101			2469	2469		1752			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	0	0		3	0		0	0		0		
Queuing Penalty (veh)	0	1		9	1		1	0		0		

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	46	76	40	106	75	28	78	33	92	52	28	20
Average Queue (ft)	7	40	18	60	36	13	41	14	52	29	11	5
95th Queue (ft)	41	74	44	107	80	33	78	39	88	60	32	19
Link Distance (ft)		1101			2469	2469		1752			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				0								
Queuing Penalty (veh)				0								

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	105	112	57	162	138	42	115	56	113	83	48	34
Average Queue (ft)	17	44	19	67	46	12	46	12	55	33	13	7
95th Queue (ft)	68	88	43	124	101	32	89	42	93	68	37	24
Link Distance (ft)		1101			2469	2469		1752			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	0	0		1	0		0	0	0	0		
Queuing Penalty (veh)	0	0		2	0		0	0	0	0		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	SB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	14
95th Queue (ft)	40
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	11	39
Average Queue (ft)	1	19
95th Queue (ft)	11	45
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	9	2	46
Average Queue (ft)	1	0	24
95th Queue (ft)	11	4	53
Link Distance (ft)	1902	272	1194
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	3	41
Average Queue (ft)	0	22
95th Queue (ft)	6	51
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	19	2	53
Average Queue (ft)	1	0	20
95th Queue (ft)	8	2	48
Link Distance (ft)	1902	272	1194
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: West Access & 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #3

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #4

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: East Access & 11800 South, Interval #1

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	39	52
Average Queue (ft)	19	33
95th Queue (ft)	46	55
Link Distance (ft)		400
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, Interval #2

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	2	40	49
Average Queue (ft)	0	16	30
95th Queue (ft)	4	44	49
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	9	100	103
Average Queue (ft)	2	51	68
95th Queue (ft)	11	101	112
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		1	
Queuing Penalty (veh)		1	

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	2	59	56
Average Queue (ft)	0	22	34
95th Queue (ft)	5	59	58
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	9	105	104
Average Queue (ft)	1	27	41
95th Queue (ft)	6	70	80
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 13
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 3

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Background*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	95	90	95	51.6	*D*
	T	35	36	103	46.1	*D*
	R	390	395	101	10.8	*B*
	Subtotal	520	521	100	20.3	*C*
SB	L	180	186	103	43.0	*D*
	T	55	58	105	34.3	*C*
	R	25	28	112	6.6	*A*
	Subtotal	260	272	105	37.4	*D*
EB	L	20	20	101	32.7	*C*
	T	443	447	101	34.0	*C*
	R	105	102	97	11.6	*B*
	Subtotal	568	569	100	29.9	*C*
WB	L	305	300	98	41.1	*D*
	T	450	446	99	23.7	*C*
	R	80	83	104	2.5	*A*
	Subtotal	835	829	99	27.9	*C*
Total		2,182	2,191	100	27.8	*C*

Intersection: Access 1/Willow Walk Dr & 11800 South
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	26	85	15.4	*C*
	R	75	76	101	6.4	*A*
	Subtotal	105	102	97	8.7	*A*
SB	L	35	33	94	15.8	*C*
	R	10	10	100	4.2	*A*
	Subtotal	***45***	***43***	***96***	***13.1***	***B***
EB	L	10	10	100	5.2	*A*
	T	470	475	101	1.4	*A*
	R	10	11	110	0.5	*A*
	Subtotal	490	496	101	1.5	*A*
WB	L	15	15	98	5.4	*A*
	T	512	502	98	2.3	*A*
	R	40	42	104	1.6	*A*
	Subtotal	567	559	99	2.3	*A*
Total		1,208	1,200	99	2.9	*A*

1: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.4	0.3	0.2	1.0	0.6	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.7	0.0	0.4	0.4	0.0	0.3	0.1	0.2	0.6	0.1	0.0
Total Del/Veh (s)	23.2	25.1	6.9	21.0	12.0	2.1	49.2	44.7	8.2	41.2	34.2	5.4
Vehicles Entered	5	101	20	68	103	20	20	7	90	46	12	7
Vehicles Exited	5	101	20	67	102	20	20	7	89	47	12	7
Hourly Exit Rate	20	404	80	268	408	80	80	28	356	188	48	28
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	99	86	99	99	110	95	90	103	114	98	122

1: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	2.9
Total Del/Veh (s)	19.9
Vehicles Entered	499
Vehicles Exited	497
Hourly Exit Rate	1988
Input Volume	1973
% of Volume	101

1: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.3	0.3	0.2	0.9	0.5	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.9	0.0	0.4	0.4	0.0	0.3	0.1	0.2	0.4	0.1	0.0
Total Del/Veh (s)	29.9	28.3	7.1	22.7	13.2	2.1	44.7	42.4	8.3	36.3	32.0	5.2
Vehicles Entered	5	107	23	65	103	21	20	9	88	40	14	8
Vehicles Exited	5	105	23	66	103	21	21	9	88	40	13	8
Hourly Exit Rate	20	420	92	264	412	84	84	36	352	160	52	32
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	103	99	97	100	115	100	116	101	97	106	139

1: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:45

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	3.0
Total Del/Veh (s)	20.2
Vehicles Entered	503
Vehicles Exited	502
Hourly Exit Rate	2008
Input Volume	1973
% of Volume	102

1: Mustang Trail Way & 11800 South Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.2	0.0	1.3	0.4	0.3	1.2	0.9	1.2	0.0	0.0	0.0
Total Delay (hr)	0.1	1.6	0.2	1.8	1.5	0.0	0.4	0.2	0.6	0.7	0.2	0.0
Total Del/Veh (s)	37.4	40.8	17.5	62.2	37.6	3.2	51.7	42.1	15.0	45.0	34.0	8.1
Vehicles Entered	5	137	35	102	140	25	27	13	129	55	19	7
Vehicles Exited	5	135	34	90	129	24	25	12	127	53	19	7
Hourly Exit Rate	20	540	136	360	516	96	100	48	508	212	76	28
Input Volume	25	550	140	407	563	100	127	47	520	225	73	31
% of Volume	80	98	97	88	92	96	79	102	98	94	104	90

1: Mustang Trail Way & 11800 South Performance by movement Interval #3 8:00

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.6
Total Delay (hr)	7.3
Total Del/Veh (s)	36.4
Vehicles Entered	694
Vehicles Exited	660
Hourly Exit Rate	2640
Input Volume	2808
% of Volume	94

1: Mustang Trail Way & 11800 South Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.2	0.0	1.4	0.3	0.2	1.2	0.5	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	1.0	0.1	0.8	0.7	0.0	0.3	0.1	0.2	0.5	0.1	0.0
Total Del/Veh (s)	32.8	33.4	10.2	34.5	20.6	2.0	43.3	36.8	8.4	41.2	34.6	7.0
Vehicles Entered	4	105	23	66	99	16	22	7	89	44	13	7
Vehicles Exited	5	106	24	77	112	18	25	8	91	46	13	7
Hourly Exit Rate	20	424	96	308	448	72	100	32	364	184	52	28
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	104	103	114	109	99	119	103	105	112	106	122

1: Mustang Trail Way & 11800 South Performance by movement Interval #4 8:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.6
Total Delay (hr)	4.0
Total Del/Veh (s)	25.4
Vehicles Entered	495
Vehicles Exited	532
Hourly Exit Rate	2128
Input Volume	1973
% of Volume	108

1: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	1.3	0.4	0.2	1.1	0.7	1.1	0.0	0.0	0.0
Total Delay (hr)	0.2	4.3	0.3	3.5	3.0	0.1	1.3	0.5	1.2	2.2	0.6	0.1
Total Del/Veh (s)	32.7	34.0	11.6	41.1	23.7	2.5	51.6	46.1	10.8	43.0	34.3	6.6
Vehicles Entered	20	449	102	301	446	83	89	36	395	185	58	28
Vehicles Exited	20	447	102	300	446	83	90	36	395	186	58	28
Hourly Exit Rate	20	447	102	300	446	83	90	36	395	186	58	28
Input Volume	20	443	105	305	450	80	95	35	390	180	55	25
% of Volume	101	101	97	98	99	104	95	103	101	103	105	112

1: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.6
Total Delay (hr)	17.1
Total Del/Veh (s)	27.8
Vehicles Entered	2192
Vehicles Exited	2191
Hourly Exit Rate	2191
Input Volume	2182
% of Volume	100

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.4	0.0	0.0	0.0	0.2	4.1	0.2	3.6	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	5.8	0.9	0.3	4.4	1.7	1.2	13.1	5.0	11.0	4.1	2.2
Vehicles Entered	2	102	3	3	119	9	7	18	7	2	272
Vehicles Exited	2	102	3	3	122	9	7	18	7	2	275
Hourly Exit Rate	8	408	12	12	488	36	28	72	28	8	1100
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	89	95	133	86	104	97	100	104	88	89	99

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.2	0.0	0.0	0.0	0.3	4.0	0.2	3.9	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.6	0.9	0.3	5.0	1.8	1.2	12.5	6.0	13.1	4.2	2.3
Vehicles Entered	2	113	2	4	115	10	5	17	8	3	279
Vehicles Exited	2	114	2	4	112	10	5	17	8	3	277
Hourly Exit Rate	8	456	8	16	448	40	20	68	32	12	1108
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	89	106	89	114	96	108	71	99	100	133	100

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	0.5	0.5	0.0	0.0	0.0	0.4	4.0	0.1	3.7	0.5
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.4
Total Del/Veh (s)	6.7	2.3	0.9	8.6	2.9	2.4	19.3	8.4	24.0	4.2	4.1
Vehicles Entered	3	150	3	4	141	12	9	24	10	3	359
Vehicles Exited	2	149	3	4	143	12	8	24	9	3	357
Hourly Exit Rate	8	596	12	16	572	48	32	96	36	12	1428
Input Volume	13	588	13	19	639	50	38	94	44	13	1511
% of Volume	62	101	92	84	90	96	84	102	82	92	95

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.3	4.0	0.1	3.1	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.6	0.9	0.2	4.9	2.3	1.4	12.3	5.0	12.6	4.4	2.5
Vehicles Entered	3	110	2	4	126	11	5	16	9	2	288
Vehicles Exited	3	110	3	4	125	11	6	16	9	2	289
Hourly Exit Rate	12	440	12	16	500	44	24	64	36	8	1156
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	133	102	133	114	107	119	86	93	112	89	104

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	0.3	0.4	0.3	0.0	0.0	0.0	0.3	4.0	0.2	3.6	0.4
Total Delay (hr)	0.0	0.2	0.0	0.0	0.3	0.0	0.1	0.1	0.1	0.0	1.0
Total Del/Veh (s)	5.2	1.4	0.5	5.4	2.3	1.6	15.4	6.4	15.8	4.2	2.9
Vehicles Entered	10	475	11	15	502	42	26	76	34	10	1201
Vehicles Exited	10	475	11	15	502	42	26	76	33	10	1200
Hourly Exit Rate	10	475	11	15	502	42	26	76	33	10	1200
Input Volume	10	470	10	15	512	40	30	75	35	10	1208
% of Volume	100	101	110	98	98	104	85	101	94	100	99

13: Commercial & 11800 South Performance by movement Interval #1 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.2	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.5	1.1	5.8	2.3	12.1	5.3	2.3
Vehicles Entered	119	8	7	122	6	7	269
Vehicles Exited	119	8	7	124	6	7	271
Hourly Exit Rate	476	32	28	496	24	28	1084
Input Volume	495	37	32	490	28	23	1105
% of Volume	96	86	88	101	86	122	98

13: Commercial & 11800 South Performance by movement Interval #2 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	4.2	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.5	0.9	6.8	2.9	14.4	5.6	2.6
Vehicles Entered	130	10	7	125	7	6	285
Vehicles Exited	128	10	7	122	6	6	279
Hourly Exit Rate	512	40	28	488	24	24	1116
Input Volume	495	37	32	490	28	23	1105
% of Volume	103	108	88	100	86	104	101

13: Commercial & 11800 South Performance by movement Interval #3 8:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	3.9	0.1
Total Delay (hr)	0.3	0.0	0.0	0.3	0.1	0.0	0.7
Total Del/Veh (s)	5.4	2.2	13.6	6.2	34.8	8.6	6.7
Vehicles Entered	170	13	11	150	10	8	362
Vehicles Exited	169	12	11	151	9	7	359
Hourly Exit Rate	676	48	44	604	36	28	1436
Input Volume	676	50	44	677	38	31	1516
% of Volume	100	96	100	89	95	90	95

13: Commercial & 11800 South Performance by movement Interval #4 8:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	4.0	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.3
Total Del/Veh (s)	2.1	2.0	6.4	3.5	17.5	7.7	3.4
Vehicles Entered	124	11	7	137	6	7	292
Vehicles Exited	125	11	7	135	7	7	292
Hourly Exit Rate	500	44	28	540	28	28	1168
Input Volume	495	37	32	490	28	23	1105
% of Volume	101	119	88	110	100	122	106

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.1	0.1
Total Delay (hr)	0.4	0.0	0.1	0.6	0.2	0.1	1.4
Total Del/Veh (s)	2.9	1.7	9.1	3.9	22.6	6.9	4.0
Vehicles Entered	543	41	32	533	29	28	1206
Vehicles Exited	542	41	32	532	29	27	1203
Hourly Exit Rate	542	41	32	532	29	27	1203
Input Volume	540	40	35	537	30	25	1208
% of Volume	100	102	91	99	95	108	100

Total Network Performance By Interval

Interval Start	7:30	7:45	8:00	8:15	All
Denied Delay (hr)	0.1	0.1	0.2	0.1	0.5
Denied Del/Veh (s)	0.8	0.8	0.9	0.8	0.8
Total Delay (hr)	3.5	3.7	8.9	4.8	20.9
Total Del/Veh (s)	21.9	22.4	39.9	26.9	31.6
Vehicles Entered	527	531	739	522	2324
Vehicles Exited	525	529	683	579	2317
Hourly Exit Rate	2100	2116	2732	2316	2317
Input Volume	6996	6996	9802	6996	7698
% of Volume	30	30	28	33	30

Intersection: 1: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	29	320	126	170	220	29	106	66	128	158	165	29
Average Queue (ft)	11	207	41	104	113	12	61	28	81	101	47	11
95th Queue (ft)	33	349	148	178	226	33	106	71	129	167	159	32
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)											0	
Queuing Penalty (veh)											0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)		33	0	8	6		8	1	0	14	1	
Queuing Penalty (veh)		37	1	33	16		29	2	0	10	1	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	37	302	169	158	246	32	94	68	128	143	93	25
Average Queue (ft)	14	194	51	101	126	13	64	37	81	86	36	10
95th Queue (ft)	41	313	172	179	261	35	110	85	125	147	101	28
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	0	40	0	8	8		4	1	0	8	0	
Queuing Penalty (veh)	1	45	2	31	21		17	2	1	6	0	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	150	497	250	180	791	178	141	141	217	166	209	28
Average Queue (ft)	32	356	136	158	486	47	77	53	135	119	76	10
95th Queue (ft)	135	556	312	222	1061	279	136	149	226	182	203	28
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		2									2	
Queuing Penalty (veh)		15									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	1	47	1	42	11		13	1	8	20	1	
Queuing Penalty (veh)	5	77	5	236	45		73	7	15	21	2	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #3

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	0
95th Queue (ft)	0
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	79	379	211	178	669	30	128	67	144	160	198	30
Average Queue (ft)	19	219	70	131	248	11	76	33	89	106	58	10
95th Queue (ft)	88	416	224	207	634	32	139	78	144	177	195	30
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		1									0	
Queuing Penalty (veh)		4									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)		42	0	19	9		8	1	1	15	1	
Queuing Penalty (veh)		47	1	80	25		30	2	1	11	2	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #4

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	2
95th Queue (ft)	22
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 1: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	157	503	250	180	869	186	148	148	222	176	257	40
Average Queue (ft)	19	244	74	124	243	21	70	38	96	103	54	10
95th Queue (ft)	85	444	229	206	678	141	124	102	169	171	170	30
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		1									1	
Queuing Penalty (veh)		5									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	0	41	0	19	9		8	1	2	14	1	
Queuing Penalty (veh)	2	51	2	95	27		37	3	4	12	1	

Intersection: 1: Mustang Trail Way & 11800 South, All Intervals

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	1
95th Queue (ft)	10
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	L	TR	L	TR
Maximum Queue (ft)	24	19	41	60	34	18
Average Queue (ft)	6	3	23	34	17	5
95th Queue (ft)	34	19	52	58	39	19
Link Distance (ft)	593	1078	676		1000	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #2

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	40	43	2	37	57	43	21
Average Queue (ft)	7	8	0	15	33	20	7
95th Queue (ft)	36	39	4	43	59	46	22
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	105	90	2	48	80	56	19
Average Queue (ft)	22	19	0	25	41	24	6
95th Queue (ft)	145	96	4	52	77	58	22
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)		0			0	0	
Queuing Penalty (veh)		0			0	0	

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	L	TR	L	TR
Maximum Queue (ft)	38	41	39	50	44	20
Average Queue (ft)	7	7	20	31	22	5
95th Queue (ft)	39	40	48	55	47	19
Link Distance (ft)	593	1078	676		1000	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	137	106	4	60	86	65	21
Average Queue (ft)	10	9	0	21	35	21	6
95th Queue (ft)	78	55	3	49	64	48	21
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)		0			0	0	
Queuing Penalty (veh)		0			0	0	

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	2	68	37	43
Average Queue (ft)	0	19	20	20
95th Queue (ft)	5	67	47	51
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	LT	L	R
Maximum Queue (ft)	90	39	49
Average Queue (ft)	23	20	20
95th Queue (ft)	92	47	52
Link Distance (ft)	593	467	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	80	191	56	49
Average Queue (ft)	24	66	31	23
95th Queue (ft)	185	221	62	54
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	25	102	46	45
Average Queue (ft)	5	34	18	20
95th Queue (ft)	56	114	51	49
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	80	209	63	65
Average Queue (ft)	7	35	22	21
95th Queue (ft)	93	137	53	52
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Network Summary

Network wide Queuing Penalty, Interval #1: 130
Network wide Queuing Penalty, Interval #2: 125
Network wide Queuing Penalty, Interval #3: 500
Network wide Queuing Penalty, Interval #4: 202
Network wide Queuing Penalty, All Intervals: 239

HALES ENGINEERING
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SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	182	99	115.6	*F*
	T	35	35	100	60.7	*E*
	R	390	389	100	64.1	*E*
	Subtotal	609	606	100	79.4	*E*
SB	L	180	179	99	87.5	*F*
	T	55	55	100	39.9	*D*
	R	45	50	111	22.0	*C*
	Subtotal	280	284	101	66.8	*E*
EB	L	50	48	96	61.0	*E*
	T	536	523	98	45.4	*D*
	R	175	166	95	21.5	*C*
	Subtotal	761	737	97	41.0	*D*
WB	L	305	289	95	141.6	*F*
	T	552	530	96	85.7	*F*
	R	80	84	105	10.7	*B*
	Subtotal	937	903	96	96.6	*F*
Total		2,608	2,549	98	73.4	*E*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	30	99	14.4	*B*
	R	75	76	101	7.9	*A*
	Subtotal	105	106	101	9.7	*A*
SB	L	53	52	98	20.4	*C*
	R	10	11	110	6.8	*A*
	Subtotal	***63***	***63***	***100***	***18.0***	***C***
EB	L	10	10	98	6.0	*A*
	T	496	501	101	2.3	*A*
	R	10	10	100	1.5	*A*
	Subtotal	516	521	101	2.4	*A*
WB	L	15	13	88	4.8	*A*
	T	530	513	97	1.4	*A*
	R	40	42	104	0.5	*A*
	Subtotal	585	568	97	1.4	*A*
Total		1,270	1,258	99	3.3	*A*

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SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	200	194	97	109.2	*F*
	Subtotal	***200***	***194***	***97***	***109.2***	***F***
EB	T	582	584	100	4.5	*A*
	R	44	46	105	1.4	*A*
	Subtotal	626	630	101	4.3	*A*
WB	L	211	209	99	26.6	*D*
	T	589	572	97	0.9	*A*
	Subtotal	800	781	98	7.8	*A*
Total		1,626	1,605	99	18.9	*C*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.3	0.0	0.0	0.1	1.2	0.3	0.2	2.5	0.9	2.6	3.8	0.6
Total Delay (hr)	0.0	0.1	0.6	0.1	0.4	0.4	0.0	0.6	0.1	0.5	0.5	0.1
Total Del/Veh (s)	17.2	21.2	18.0	5.7	23.3	11.4	2.2	53.2	41.4	19.1	46.9	32.8
Vehicles Entered	3	10	113	38	61	123	20	38	8	86	39	13
Vehicles Exited	4	10	119	38	63	129	20	36	7	84	34	12
Hourly Exit Rate	16	40	476	152	252	516	80	144	28	336	136	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	104	106	101	105	113	91	90	97	85	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.5
Total Del/Veh (s)	7.2	20.8
Vehicles Entered	11	563
Vehicles Exited	11	567
Hourly Exit Rate	44	2268
Input Volume	37	2252
% of Volume	119	101

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.4	0.3	0.2	2.6	1.0	2.6	3.7	0.4
Total Delay (hr)	0.0	0.1	0.6	0.0	0.4	0.5	0.0	0.6	0.1	0.5	0.6	0.1
Total Del/Veh (s)	24.2	24.1	18.0	4.8	24.0	13.4	2.6	50.8	39.8	19.2	48.1	32.9
Vehicles Entered	5	9	111	30	61	123	19	37	8	91	40	13
Vehicles Exited	5	9	107	30	60	116	19	40	8	92	44	13
Hourly Exit Rate	20	36	428	120	240	464	76	160	32	368	176	52
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	92	93	83	96	95	107	101	103	106	110	106

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.6
Total Del/Veh (s)	9.9	22.0
Vehicles Entered	10	557
Vehicles Exited	10	553
Hourly Exit Rate	40	2212
Input Volume	37	2252
% of Volume	108	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	3.6	2.6	1.0	3.1	1.9	1.0	0.8	3.1	2.2	3.5	3.6	0.9
Total Delay (hr)	0.1	0.3	2.6	0.4	4.6	4.4	0.1	2.6	0.2	2.8	1.7	0.2
Total Del/Veh (s)	81.0	77.4	59.2	30.3	136.3	82.4	10.8	130.7	56.5	75.7	96.3	43.1
Vehicles Entered	6	15	154	49	116	179	26	69	11	129	60	18
Vehicles Exited	6	14	151	46	81	144	25	52	10	105	49	17
Hourly Exit Rate	24	56	604	184	324	576	100	208	40	420	196	68
Input Volume	33	83	765	269	469	736	107	263	47	520	240	73
% of Volume	73	67	79	68	69	78	93	79	85	81	82	93

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.5
Denied Del/Veh (s)	3.5	2.1
Total Delay (hr)	0.1	20.2
Total Del/Veh (s)	23.3	81.8
Vehicles Entered	19	851
Vehicles Exited	17	717
Hourly Exit Rate	68	2868
Input Volume	69	3674
% of Volume	99	78

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.8	0.8	2.3	1.1	1.3	3.0	1.5	2.8	3.8	0.6
Total Delay (hr)	0.1	0.4	3.0	0.5	6.8	8.0	0.1	2.2	0.2	3.3	1.6	0.1
Total Del/Veh (s)	100.5	86.4	66.4	33.1	225.7	170.3	24.5	137.7	81.9	101.0	106.8	38.1
Vehicles Entered	5	15	156	49	66	121	20	38	9	86	42	11
Vehicles Exited	5	15	147	51	86	141	21	54	10	107	52	12
Hourly Exit Rate	20	60	588	204	344	564	84	216	40	428	208	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	154	128	142	138	115	118	137	129	123	130	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.3
Denied Del/Veh (s)	3.7	1.7
Total Delay (hr)	0.1	26.5
Total Del/Veh (s)	39.8	119.0
Vehicles Entered	10	628
Vehicles Exited	12	713
Hourly Exit Rate	48	2852
Input Volume	37	2252
% of Volume	130	127

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	1.2	0.8	0.5	1.2	1.7	0.7	0.7	2.8	1.5	3.0	3.7	0.6
Total Delay (hr)	0.3	0.8	6.8	1.0	12.3	13.3	0.3	5.9	0.6	7.1	4.4	0.6
Total Del/Veh (s)	58.9	61.0	45.4	21.5	141.6	85.7	10.7	115.6	60.7	64.1	87.5	39.9
Vehicles Entered	19	49	534	166	305	546	85	182	35	393	181	55
Vehicles Exited	19	48	523	166	289	530	84	182	35	389	179	55
Hourly Exit Rate	19	48	523	166	289	530	84	182	35	389	179	55
Input Volume	20	50	536	175	305	552	80	184	35	390	180	55
% of Volume	94	96	98	95	95	96	105	99	100	100	99	100

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.1	1.2
Denied Del/Veh (s)	3.6	1.6
Total Delay (hr)	0.3	53.8
Total Del/Veh (s)	22.0	73.4
Vehicles Entered	50	2600
Vehicles Exited	50	2549
Hourly Exit Rate	50	2549
Input Volume	45	2608
% of Volume	111	98

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.2	4.0	0.1	2.4	0.4
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	4.4	1.9	2.2	4.7	1.4	0.4	10.7	5.7	16.5	4.5	2.7
Vehicles Entered	2	116	2	3	122	11	5	18	12	3	294
Vehicles Exited	3	116	2	3	122	11	5	17	12	3	294
Hourly Exit Rate	12	464	8	12	488	44	20	68	48	12	1176
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	133	105	89	92	104	122	74	101	104	133	104

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.2	4.1	0.1	3.0	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	5.1	1.6	1.3	4.1	1.1	0.3	9.6	4.6	11.2	5.2	2.2
Vehicles Entered	2	104	2	2	114	10	8	16	11	2	271
Vehicles Exited	2	103	2	2	115	10	8	16	11	3	272
Hourly Exit Rate	8	412	8	8	460	40	32	64	44	12	1088
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	93	89	62	98	111	119	96	96	133	96

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.6	0.6	0.6	0.0	0.0	0.0	0.4	3.9	0.2	1.6	0.6
Total Delay (hr)	0.0	0.2	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.0	0.5
Total Del/Veh (s)	7.0	3.1	2.5	7.0	1.7	0.7	18.4	11.7	29.3	6.2	4.9
Vehicles Entered	3	169	3	4	137	12	10	25	18	4	385
Vehicles Exited	3	168	3	4	135	12	10	25	17	3	380
Hourly Exit Rate	12	672	12	16	540	48	40	100	68	12	1520
Input Volume	14	661	13	20	707	53	40	100	74	13	1695
% of Volume	86	102	92	80	76	91	100	100	92	92	90

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.4	0.2	0.0	0.0	0.0	0.3	3.9	0.1	2.4	0.4
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	5.4	1.9	0.5	4.0	1.2	0.6	14.7	6.6	14.3	10.5	2.7
Vehicles Entered	2	112	2	3	140	10	7	17	11	2	306
Vehicles Exited	3	115	2	3	142	10	7	17	12	2	313
Hourly Exit Rate	12	460	8	12	568	40	28	68	48	8	1252
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	133	104	89	92	121	111	104	101	104	89	111

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Denied Del/Veh (s)	0.3	0.4	0.3	0.0	0.0	0.0	0.3	4.0	0.1	2.2	0.4
Total Delay (hr)	0.0	0.3	0.0	0.0	0.2	0.0	0.1	0.2	0.3	0.0	1.2
Total Del/Veh (s)	6.0	2.3	1.5	4.8	1.4	0.5	14.4	7.9	20.4	6.8	3.3
Vehicles Entered	10	501	10	13	513	42	30	75	52	11	1257
Vehicles Exited	10	501	10	13	513	42	30	76	52	11	1258
Hourly Exit Rate	10	501	10	13	513	42	30	76	52	11	1258
Input Volume	10	496	10	15	530	40	30	75	53	10	1270
% of Volume	98	101	100	88	97	104	99	101	98	110	99

8: 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.6	0.4	0.5
Vehicles Entered	145	136	281
Vehicles Exited	145	136	281
Hourly Exit Rate	580	544	1124
Input Volume	554	520	1074
% of Volume	105	105	105

8: 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.5	0.4	0.5
Vehicles Entered	130	126	256
Vehicles Exited	130	127	257
Hourly Exit Rate	520	508	1028
Input Volume	554	520	1074
% of Volume	94	98	96

8: 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	1.6	0.4	1.1
Vehicles Entered	215	154	369
Vehicles Exited	214	153	367
Hourly Exit Rate	856	612	1468
Input Volume	855	780	1635
% of Volume	100	78	90

8: 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	1.4	0.4	0.9
Vehicles Entered	143	151	294
Vehicles Exited	146	152	298
Hourly Exit Rate	584	608	1192
Input Volume	554	520	1074
% of Volume	105	117	111

8: 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.2	0.1	0.3
Total Del/Veh (s)	1.1	0.4	0.8
Vehicles Entered	633	568	1201
Vehicles Exited	634	568	1202
Hourly Exit Rate	634	568	1202
Input Volume	629	585	1214
% of Volume	101	97	99

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	0.8	0.2	5.2	0.6	5.4	1.6
Vehicles Entered	136	7	35	135	28	341
Vehicles Exited	136	7	36	136	29	344
Hourly Exit Rate	544	28	144	544	116	1376
Input Volume	518	29	141	520	133	1341
% of Volume	105	97	102	105	87	103

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.2
Total Del/Veh (s)	0.9	0.3	5.1	0.6	5.5	1.7
Vehicles Entered	119	9	35	128	35	326
Vehicles Exited	120	9	34	126	35	324
Hourly Exit Rate	480	36	136	504	140	1296
Input Volume	518	29	141	520	133	1341
% of Volume	93	124	96	97	105	97

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	1.5	1.5
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	53.9	9.7
Total Delay (hr)	0.4	0.0	1.1	0.1	2.7	4.3
Total Del/Veh (s)	6.9	2.1	47.6	1.6	125.5	28.7
Vehicles Entered	192	23	86	158	78	537
Vehicles Exited	185	23	82	158	60	508
Hourly Exit Rate	740	92	328	632	240	2032
Input Volume	773	88	422	796	400	2479
% of Volume	96	105	78	79	60	82

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	3.1	3.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	194.9	27.8
Total Delay (hr)	0.3	0.0	0.3	0.0	3.2	3.9
Total Del/Veh (s)	7.7	1.7	19.6	0.8	154.7	31.8
Vehicles Entered	137	7	54	151	57	406
Vehicles Exited	143	7	57	152	70	429
Hourly Exit Rate	572	28	228	608	280	1716
Input Volume	518	29	141	520	133	1341
% of Volume	110	97	162	117	211	128

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	4.7	4.7
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	84.2	10.4
Total Delay (hr)	0.7	0.0	1.6	0.1	6.0	8.5
Total Del/Veh (s)	4.5	1.4	26.6	0.9	109.2	18.9
Vehicles Entered	584	46	209	572	198	1609
Vehicles Exited	584	46	209	572	194	1605
Hourly Exit Rate	584	46	209	572	194	1605
Input Volume	582	44	211	589	200	1626
% of Volume	100	105	99	97	97	99

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.3	4.3	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.1	0.0	0.2
Total Del/Veh (s)	1.4	0.7	6.8	1.8	29.4	4.9	2.3
Vehicles Entered	156	9	7	175	6	5	358
Vehicles Exited	156	9	7	175	6	6	359
Hourly Exit Rate	624	36	28	700	24	24	1436
Input Volume	624	36	31	683	27	22	1423
% of Volume	100	100	90	102	89	109	101

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	4.1	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.4	0.6	6.0	1.7	20.5	6.1	2.1
Vehicles Entered	146	10	8	166	7	6	343
Vehicles Exited	146	10	8	166	7	6	343
Hourly Exit Rate	584	40	32	664	28	24	1372
Input Volume	624	36	31	683	27	22	1423
% of Volume	94	111	103	97	104	109	96

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.6	0.2	0.3	4.2	0.2
Total Delay (hr)	2.0	0.1	0.0	0.2	0.6	0.4	3.3
Total Del/Veh (s)	30.8	25.5	14.9	2.5	212.4	141.2	23.0
Vehicles Entered	235	11	9	236	10	9	510
Vehicles Exited	220	10	8	236	9	5	488
Hourly Exit Rate	880	40	32	944	36	20	1952
Input Volume	1120	53	47	1178	40	33	2471
% of Volume	79	75	68	80	90	61	79

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	1.4	0.0	0.0	0.1	0.2	3.8	0.7
Total Delay (hr)	2.8	0.1	0.0	0.1	0.3	0.9	4.3
Total Del/Veh (s)	45.6	39.1	19.9	2.0	141.1	295.8	32.8
Vehicles Entered	204	11	9	206	6	7	443
Vehicles Exited	215	12	9	207	6	8	457
Hourly Exit Rate	860	48	36	828	24	32	1828
Input Volume	624	36	31	683	27	22	1423
% of Volume	138	133	116	121	89	145	128

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.0	0.2	0.1	0.3	4.1	0.3
Total Delay (hr)	4.9	0.2	0.1	0.4	1.0	1.3	8.0
Total Del/Veh (s)	23.9	18.6	12.7	2.0	119.4	175.3	17.4
Vehicles Entered	741	41	32	784	29	27	1654
Vehicles Exited	738	40	32	785	28	24	1647
Hourly Exit Rate	738	40	32	785	28	24	1647
Input Volume	748	40	35	807	30	25	1685
% of Volume	99	99	91	97	93	97	98

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	2.1	3.6	6.1
Denied Del/Veh (s)	1.3	1.4	7.4	20.1	7.7
Total Delay (hr)	4.6	4.7	29.2	35.8	74.3
Total Del/Veh (s)	24.4	24.7	97.8	140.2	91.5
Vehicles Entered	605	604	994	637	2842
Vehicles Exited	604	602	793	768	2771
Hourly Exit Rate	2416	2408	3172	3072	2771
Input Volume	9566	9566	15975	9566	11168
% of Volume	25	25	20	32	25

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	94	305	148	170	228	33	186	63	222	158	100	41
Average Queue (ft)	37	168	42	104	141	14	103	20	99	92	35	18
95th Queue (ft)	104	289	139	179	249	35	188	61	211	157	93	44
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		10		1	4		5		6	3	0	
Queuing Penalty (veh)		20		7	10		20		12	3	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	94	262	210	186	255	37	171	55	201	182	122	35
Average Queue (ft)	35	142	49	105	118	14	115	26	125	119	53	15
95th Queue (ft)	103	266	178	193	259	41	187	61	220	212	188	37
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		8		2	5		6		6	10	0	
Queuing Penalty (veh)		17		10	14		23		12	9	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	234	521	250	250	2066	1650	398	831	425	238	376	133
Average Queue (ft)	110	445	170	235	958	369	280	360	297	175	169	38
95th Queue (ft)	254	646	336	295	2063	1494	492	1142	506	280	471	139
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		23			3	1		2				
Queuing Penalty (veh)		257			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	50		62	14		56		51	41	0	
Queuing Penalty (veh)	14	194		453	63		317		158	58	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	249	521	250	250	2207	1949	399	895	411	228	307	57
Average Queue (ft)	133	511	176	247	1756	963	249	477	314	186	168	21
95th Queue (ft)	298	550	340	267	2915	2644	479	1306	554	282	510	76
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		29			9	2		0				
Queuing Penalty (veh)		186			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	56		73	14		39		51	41	0	
Queuing Penalty (veh)	5	111		361	36		149		96	35	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	250	523	250	250	2212	2082	408	942	426	239	401	133
Average Queue (ft)	79	317	109	173	743	340	187	221	209	143	106	23
95th Queue (ft)	218	618	286	303	2119	1537	397	881	446	254	367	85
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		13			3	1		1				
Queuing Penalty (veh)		111			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	31		35	9		27		29	24	0	
Queuing Penalty (veh)	5	86		208	31		127		69	26	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	26	60	35	49	59	27
Average Queue (ft)	6	12	17	32	30	9
95th Queue (ft)	33	65	43	55	64	32
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)					1	
Queuing Penalty (veh)					0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	31	38	43	53	44	29
Average Queue (ft)	5	7	22	31	29	9
95th Queue (ft)	32	38	50	55	55	31
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	64	88	51	80	84	38
Average Queue (ft)	11	18	26	45	47	12
95th Queue (ft)	60	72	58	81	93	41
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)			0	0	2	
Queuing Penalty (veh)			0	0	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	54	60	45	62	51	32
Average Queue (ft)	11	11	21	34	29	8
95th Queue (ft)	51	58	50	64	59	30
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	78	104	62	90	90	42
Average Queue (ft)	8	12	22	36	34	10
95th Queue (ft)	45	60	51	66	70	34
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)			0	0	1	
Queuing Penalty (veh)			0	0	0	

Intersection: 8: 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #3

Movement	EB
Directions Served	TR
Maximum Queue (ft)	63
Average Queue (ft)	8
95th Queue (ft)	60
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: 11800 South, Interval #4

Movement	EB
Directions Served	TR
Maximum Queue (ft)	46
Average Queue (ft)	9
95th Queue (ft)	71
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: 11800 South, All Intervals

Movement	EB
Directions Served	TR
Maximum Queue (ft)	78
Average Queue (ft)	4
95th Queue (ft)	45
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #1

Movement	EB	WB	NB
Directions Served	T	L	R
Maximum Queue (ft)	2	76	56
Average Queue (ft)	0	38	32
95th Queue (ft)	5	77	59
Link Distance (ft)	277		400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	9	64	59
Average Queue (ft)	1	37	37
95th Queue (ft)	12	69	61
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	232	113	301	242	426
Average Queue (ft)	70	26	181	63	312
95th Queue (ft)	231	123	363	295	519
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	1			0	39
Queuing Penalty (veh)	8			3	0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	9		46	0	
Queuing Penalty (veh)	8		357	0	

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	248	82	176	45	435
Average Queue (ft)	107	12	82	6	360
95th Queue (ft)	248	89	192	95	567
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	1				68
Queuing Penalty (veh)	4				0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	8		10		
Queuing Penalty (veh)	2		54		

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	268	149	312	261	440
Average Queue (ft)	44	10	84	17	186
95th Queue (ft)	175	74	231	149	476
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	0			0	27
Queuing Penalty (veh)	3			1	0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	4		14	0	
Queuing Penalty (veh)	3		103	0	

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	30	50	39
Average Queue (ft)	11	22	18
95th Queue (ft)	36	56	47
Link Distance (ft)		484	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)		1	
Queuing Penalty (veh)		0	

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	49	44
Average Queue (ft)	15	22	21
95th Queue (ft)	42	53	54
Link Distance (ft)		484	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	537	41	26	160	93
Average Queue (ft)	306	19	5	87	49
95th Queue (ft)	690	49	42	161	105
Link Distance (ft)	528		505	484	
Upstream Blk Time (%)	6				
Queuing Penalty (veh)	74				
Storage Bay Dist (ft)		100			100
Storage Blk Time (%)			0	31	6
Queuing Penalty (veh)			0	10	3

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	538	38	170	130
Average Queue (ft)	506	16	99	80
95th Queue (ft)	651	45	236	149
Link Distance (ft)	528		484	
Upstream Blk Time (%)	8			
Queuing Penalty (veh)	53			
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			21	33
Queuing Penalty (veh)			5	9

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	541	52	26	193	134
Average Queue (ft)	203	15	1	58	42
95th Queue (ft)	612	44	20	158	107
Link Distance (ft)	528		505	484	
Upstream Blk Time (%)	4				
Queuing Penalty (veh)	32				
Storage Bay Dist (ft)		100			100
Storage Blk Time (%)			0	13	10
Queuing Penalty (veh)			0	4	3

Network Summary

Network wide Queuing Penalty, Interval #1: 73
Network wide Queuing Penalty, Interval #2: 85
Network wide Queuing Penalty, Interval #3: 1979
Network wide Queuing Penalty, Interval #4: 1106
Network wide Queuing Penalty, All Intervals: 811

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project - Mitigated*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	181	98	48.5	*D*
	T	35	37	106	49.2	*D*
	R	390	390	100	16.0	*B*
	Subtotal	609	608	100	27.7	*C*
SB	L	180	184	102	49.2	*D*
	T	55	54	98	49.2	*D*
	R	45	46	102	8.7	*A*
	Subtotal	280	284	101	42.6	*D*
EB	L	50	49	98	36.1	*D*
	T	536	537	100	20.2	*C*
	R	175	168	96	7.3	*A*
	Subtotal	761	754	99	18.4	*B*
WB	L	305	312	102	36.2	*D*
	T	552	539	98	12.0	*B*
	R	80	86	108	3.6	*A*
	Subtotal	937	937	100	19.3	*B*
Total		2,608	2,603	100	23.7	*C*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	29	96	11.4	*B*
	R	75	75	100	4.6	*A*
	Subtotal	105	104	99	6.5	*A*
SB	L	53	50	94	16.3	*C*
	R	10	10	100	4.2	*A*
	Subtotal	***63***	***60***	***95***	***14.3***	***B***
EB	L	10	10	98	4.8	*A*
	T	496	495	100	0.8	*A*
	R	10	10	100	1.1	*A*
	Subtotal	516	515	100	0.9	*A*
WB	L	15	13	88	4.5	*A*
	T	530	514	97	0.3	*A*
	R	40	41	102	0.2	*A*
	Subtotal	585	568	97	0.4	*A*
Total		1,270	1,247	98	1.8	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project - Mitigated***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	200	200	100	10.8	*B*
	Subtotal	***200***	***200***	***100***	***10.8***	***B***
EB	T	582	575	99	0.6	*A*
	R	44	44	101	0.4	*A*
	Subtotal	626	619	99	0.6	*A*
WB	L	211	217	103	13.3	*B*
	T	589	571	97	0.4	*A*
	Subtotal	800	788	99	4.0	*A*
Total		1,626	1,607	99	3.5	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.3	0.2	1.3	2.6	0.9	2.5	3.8	0.4
Total Delay (hr)	0.0	0.0	0.4	0.0	0.3	0.3	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	17.3	15.6	11.2	3.2	16.9	7.4	3.0	41.6	53.6	10.2	42.5	45.2
Vehicles Entered	4	10	115	35	61	120	18	39	7	88	39	13
Vehicles Exited	4	10	112	34	60	117	18	43	8	89	40	14
Hourly Exit Rate	16	40	448	136	240	468	72	172	32	356	160	56
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	98	94	96	95	101	109	103	103	100	114

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.9	1.2
Total Delay (hr)	0.0	2.6
Total Del/Veh (s)	4.9	16.0
Vehicles Entered	9	558
Vehicles Exited	9	558
Hourly Exit Rate	36	2232
Input Volume	37	2252
% of Volume	97	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.4	0.3	1.2	2.6	1.0	2.7	3.7	0.7
Total Delay (hr)	0.0	0.0	0.4	0.0	0.3	0.3	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	14.4	17.9	11.6	3.4	16.3	7.9	2.2	41.5	43.5	10.0	43.2	48.1
Vehicles Entered	4	10	114	34	63	120	18	39	8	87	40	12
Vehicles Exited	4	10	116	34	64	121	17	36	8	86	37	12
Hourly Exit Rate	16	40	464	136	256	484	68	144	32	344	148	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	101	94	102	99	96	91	103	99	92	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.9	1.2
Total Delay (hr)	0.0	2.6
Total Del/Veh (s)	5.3	15.9
Vehicles Entered	9	558
Vehicles Exited	9	554
Hourly Exit Rate	36	2216
Input Volume	37	2252
% of Volume	97	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.2	1.3	0.4	1.1	2.5	1.7	2.6	3.6	0.8
Total Delay (hr)	0.1	0.3	1.6	0.2	1.9	0.9	0.0	1.1	0.2	0.9	0.9	0.3
Total Del/Veh (s)	49.5	51.0	30.9	12.2	54.1	16.9	5.1	55.2	45.6	24.6	49.9	50.7
Vehicles Entered	7	20	188	61	122	180	30	68	15	125	62	18
Vehicles Exited	7	17	182	60	107	173	28	67	14	121	61	17
Hourly Exit Rate	28	68	728	240	428	692	112	268	56	484	244	68
Input Volume	33	83	765	269	469	736	107	263	47	520	240	73
% of Volume	85	82	95	89	91	94	105	102	119	93	102	93

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.3
Denied Del/Veh (s)	3.6	1.2
Total Delay (hr)	0.1	8.5
Total Del/Veh (s)	12.2	32.3
Vehicles Entered	18	914
Vehicles Exited	17	871
Hourly Exit Rate	68	3484
Input Volume	69	3674
% of Volume	99	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	1.3	0.2	1.2	2.8	1.0	2.7	3.8	0.7
Total Delay (hr)	0.0	0.1	0.7	0.1	0.7	0.4	0.0	0.4	0.1	0.3	0.6	0.1
Total Del/Veh (s)	30.1	34.6	18.4	6.2	28.4	10.5	2.9	37.7	51.0	12.6	46.2	41.3
Vehicles Entered	5	9	120	39	68	120	20	34	7	90	44	11
Vehicles Exited	5	12	126	39	81	128	22	35	8	94	46	12
Hourly Exit Rate	20	48	504	156	324	512	88	140	32	376	184	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	123	110	108	130	104	124	89	103	108	115	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.7
Total Del/Veh (s)	7.7	20.2
Vehicles Entered	10	577
Vehicles Exited	11	619
Hourly Exit Rate	44	2476
Input Volume	37	2252
% of Volume	119	110

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.1	1.3	0.3	1.2	2.6	1.2	2.6	3.7	0.7
Total Delay (hr)	0.2	0.5	3.0	0.3	3.2	1.8	0.1	2.5	0.5	1.8	2.6	0.8
Total Del/Veh (s)	31.2	36.1	20.2	7.3	36.2	12.0	3.6	48.5	49.2	16.0	49.2	49.2
Vehicles Entered	20	48	537	169	313	539	86	180	37	390	185	54
Vehicles Exited	20	49	537	168	312	539	86	181	37	390	184	54
Hourly Exit Rate	20	49	537	168	312	539	86	181	37	390	184	54
Input Volume	20	50	536	175	305	552	80	184	35	390	180	55
% of Volume	99	98	100	96	102	98	108	98	106	100	102	98

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	0.9
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.1	17.3
Total Del/Veh (s)	8.7	23.7
Vehicles Entered	46	2604
Vehicles Exited	46	2603
Hourly Exit Rate	46	2603
Input Volume	45	2608
% of Volume	102	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.2	0.1	0.8	0.0	0.0	0.0	0.3	4.0	0.1	2.8	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	6.8	0.7	0.4	7.0	0.3	0.2	8.9	3.8	13.0	3.7	1.5
Vehicles Entered	2	114	2	2	114	10	6	17	11	2	280
Vehicles Exited	2	113	2	2	115	10	6	17	11	2	280
Hourly Exit Rate	8	452	8	8	460	40	24	68	44	8	1120
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	102	89	62	98	111	89	101	96	89	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.0	0.1	1.7	0.0	0.0	0.0	0.2	4.0	0.1	2.4	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.4	0.7	1.1	3.5	0.3	0.1	9.8	3.4	8.5	4.3	1.3
Vehicles Entered	2	111	3	3	114	9	6	16	11	2	277
Vehicles Exited	2	110	3	3	113	9	6	16	11	2	275
Hourly Exit Rate	8	440	12	12	452	36	24	64	44	8	1100
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	100	133	92	96	100	89	96	96	89	98

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.6	0.2	1.0	0.0	0.0	0.0	0.5	3.9	0.1	1.8	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3
Total Del/Veh (s)	5.4	1.0	1.0	5.0	0.4	0.2	14.3	5.6	22.2	5.0	2.3
Vehicles Entered	3	163	4	5	164	12	9	24	16	4	404
Vehicles Exited	3	161	4	5	165	12	9	24	16	3	402
Hourly Exit Rate	12	644	16	20	660	48	36	96	64	12	1608
Input Volume	14	661	13	20	707	53	40	100	74	13	1695
% of Volume	86	97	123	100	93	91	90	96	86	92	95

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.4	0.1	1.7	0.0	0.0	0.0	0.4	3.9	0.1	2.1	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.0	0.7	1.2	3.0	0.3	0.1	9.4	4.3	13.7	3.6	1.6
Vehicles Entered	2	108	2	3	121	10	7	17	11	3	284
Vehicles Exited	2	111	2	3	121	10	7	18	12	3	289
Hourly Exit Rate	8	444	8	12	484	40	28	72	48	12	1156
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	101	89	92	103	111	104	107	104	133	102

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	1.6	0.1	1.4	0.0	0.0	0.0	0.4	3.9	0.1	2.2	0.3
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.6
Total Del/Veh (s)	4.8	0.8	1.1	4.5	0.3	0.2	11.4	4.6	16.3	4.2	1.8
Vehicles Entered	9	496	10	13	514	40	29	75	50	11	1247
Vehicles Exited	10	495	10	13	514	41	29	75	50	10	1247
Hourly Exit Rate	10	495	10	13	514	41	29	75	50	10	1247
Input Volume	10	496	10	15	530	40	30	75	53	10	1270
% of Volume	98	100	100	88	97	102	96	100	94	100	98

8: 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.2
Vehicles Entered	141	127	268
Vehicles Exited	141	127	268
Hourly Exit Rate	564	508	1072
Input Volume	554	520	1074
% of Volume	102	98	100

8: 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.2
Vehicles Entered	138	127	265
Vehicles Exited	137	126	263
Hourly Exit Rate	548	504	1052
Input Volume	554	520	1074
% of Volume	99	97	98

8: 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.4	0.3	0.3
Vehicles Entered	205	181	386
Vehicles Exited	205	181	386
Hourly Exit Rate	820	724	1544
Input Volume	855	780	1635
% of Volume	96	93	94

8: 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.3
Vehicles Entered	141	133	274
Vehicles Exited	142	133	275
Hourly Exit Rate	568	532	1100
Input Volume	554	520	1074
% of Volume	103	102	102

8: 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	0.3	0.2	0.3
Vehicles Entered	625	568	1193
Vehicles Exited	624	567	1191
Hourly Exit Rate	624	567	1191
Input Volume	629	585	1214
% of Volume	99	97	98

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.3	0.1	4.9	0.3	4.3	1.2
Vehicles Entered	132	7	36	127	31	333
Vehicles Exited	132	7	37	127	31	334
Hourly Exit Rate	528	28	148	508	124	1336
Input Volume	518	29	141	520	133	1341
% of Volume	102	97	105	98	93	100

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.2	5.1	0.4	4.4	1.3
Vehicles Entered	127	8	36	128	33	332
Vehicles Exited	127	8	36	127	33	331
Hourly Exit Rate	508	32	144	508	132	1324
Input Volume	518	29	141	520	133	1341
% of Volume	98	110	102	98	99	99

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.5	0.1
Total Delay (hr)	0.1	0.0	0.6	0.0	0.5	1.1
Total Del/Veh (s)	1.1	0.7	20.3	0.5	15.7	6.7
Vehicles Entered	184	22	102	184	103	595
Vehicles Exited	183	22	98	184	100	587
Hourly Exit Rate	732	88	392	736	400	2348
Input Volume	773	88	422	796	400	2479
% of Volume	95	100	93	92	100	95

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.2
Total Del/Veh (s)	0.5	0.3	9.0	0.4	6.5	2.2
Vehicles Entered	133	7	42	133	32	347
Vehicles Exited	133	8	47	133	36	357
Hourly Exit Rate	532	32	188	532	144	1428
Input Volume	518	29	141	520	133	1341
% of Volume	103	110	133	102	108	106

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay (hr)	0.1	0.0	0.8	0.1	0.6	1.6
Total Del/Veh (s)	0.6	0.4	13.3	0.4	10.8	3.5
Vehicles Entered	575	44	217	571	200	1607
Vehicles Exited	575	44	217	571	200	1607
Hourly Exit Rate	575	44	217	571	200	1607
Input Volume	582	44	211	589	200	1626
% of Volume	99	101	103	97	100	99

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.2	0.0	0.2	4.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.4	5.6	1.1	19.5	3.7	1.3
Vehicles Entered	156	9	6	170	8	5	354
Vehicles Exited	156	9	6	168	8	5	352
Hourly Exit Rate	624	36	24	672	32	20	1408
Input Volume	624	36	31	683	27	22	1423
% of Volume	100	100	77	98	119	91	99

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	4.4	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.4	6.8	1.1	12.6	3.6	1.2
Vehicles Entered	153	10	6	166	7	6	348
Vehicles Exited	152	10	7	169	7	6	351
Hourly Exit Rate	608	40	28	676	28	24	1404
Input Volume	624	36	31	683	27	22	1423
% of Volume	97	111	90	99	104	109	99

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.4	0.1	0.3	4.4	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.6	0.0	0.8
Total Del/Veh (s)	0.9	0.9	16.1	1.4	166.6	20.4	5.0
Vehicles Entered	270	13	11	282	12	7	595
Vehicles Exited	269	13	11	278	9	7	587
Hourly Exit Rate	1076	52	44	1112	36	28	2348
Input Volume	1120	53	47	1178	40	33	2471
% of Volume	96	98	94	94	90	85	95

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	3.8	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.2	0.0	0.3
Total Del/Veh (s)	0.5	0.5	6.9	1.2	66.7	15.1	3.0
Vehicles Entered	162	9	8	174	7	7	367
Vehicles Exited	164	9	8	178	10	7	376
Hourly Exit Rate	656	36	32	712	40	28	1504
Input Volume	624	36	31	683	27	22	1423
% of Volume	105	100	103	104	148	127	106

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.2	4.1	0.1
Total Delay (hr)	0.1	0.0	0.1	0.3	0.8	0.1	1.4
Total Del/Veh (s)	0.6	0.6	10.0	1.3	88.2	12.5	3.0
Vehicles Entered	741	40	32	793	33	25	1664
Vehicles Exited	741	40	32	794	33	25	1665
Hourly Exit Rate	741	40	32	794	33	25	1665
Input Volume	748	40	35	807	30	25	1685
% of Volume	99	99	91	98	109	101	99

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	0.4	0.2	1.0
Denied Del/Veh (s)	1.3	1.4	1.3	1.4	1.3
Total Delay (hr)	3.3	3.3	11.5	4.8	22.9
Total Del/Veh (s)	17.9	17.5	37.4	22.4	28.3
Vehicles Entered	601	602	1028	609	2840
Vehicles Exited	601	594	944	692	2835
Hourly Exit Rate	2404	2376	3776	2768	2835
Input Volume	9566	9566	15975	9566	11168
% of Volume	25	25	24	29	25

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	62	102	110	40	125	95	91	26	178	73	120	164
Average Queue (ft)	25	59	63	21	79	50	47	10	109	26	77	95
95th Queue (ft)	63	116	126	46	140	105	100	28	176	72	128	161
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)			0		0	0	1		3	0	0	3
Queuing Penalty (veh)			0		1	0	1		13	0	0	3

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	109	26
Average Queue (ft)	45	13
95th Queue (ft)	104	31
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	51	114	119	56	151	100	98	28	162	53	132	160
Average Queue (ft)	26	61	68	23	86	54	52	10	94	21	67	94
95th Queue (ft)	58	112	121	59	150	104	101	32	172	55	127	166
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)		0	0	0	1	0	1	0	3		1	3
Queuing Penalty (veh)		0	0	0	3	0	1	0	13		2	3

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	98	26
Average Queue (ft)	44	15
95th Queue (ft)	105	32
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	171	259	263	204	250	522	425	32	277	127	269	232
Average Queue (ft)	84	190	196	105	206	292	194	14	181	46	159	152
95th Queue (ft)	177	289	302	233	300	705	580	34	309	125	296	245
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	4	16	19	1	36	1	4		25	0	17	20
Queuing Penalty (veh)	14	18	50	3	133	6	4		144	0	54	28

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	254	69
Average Queue (ft)	87	28
95th Queue (ft)	246	79
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	118	182	204	108	221	390	289	39	161	56	183	194
Average Queue (ft)	40	80	94	37	121	124	99	14	84	22	95	118
95th Queue (ft)	116	171	192	110	237	441	358	38	164	57	182	198
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	2	3	4	0	9	0	2		2		2	5
Queuing Penalty (veh)	5	1	5	0	21	1	1		9		4	4

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	137	37
Average Queue (ft)	48	16
95th Queue (ft)	146	42
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	181	259	273	214	250	556	447	46	287	129	282	241
Average Queue (ft)	44	97	105	47	123	130	98	12	117	29	100	115
95th Queue (ft)	120	215	226	142	243	439	353	33	228	83	207	202
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	2	5	6	0	12	0	2	0	9	0	5	8
Queuing Penalty (veh)	5	5	14	1	40	2	2	0	45	0	15	10

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	264	74
Average Queue (ft)	56	18
95th Queue (ft)	163	51
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	T	L	L	TR	L	TR
Maximum Queue (ft)	23	2	25	27	44	51	18
Average Queue (ft)	5	0	8	15	22	25	6
95th Queue (ft)	22	4	31	36	44	54	20
Link Distance (ft)		1888		676		1163	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100		100		100		100
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	11	15	34	37	43	22
Average Queue (ft)	2	4	16	22	23	5
95th Queue (ft)	12	20	39	40	47	21
Link Distance (ft)			676		1163	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	100		100		100
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	L	T	L	TR	L	TR
Maximum Queue (ft)	35	2	4	30	2	46	61	66	27
Average Queue (ft)	8	0	1	10	0	23	29	34	9
95th Queue (ft)	32	4	6	34	4	49	57	64	27
Link Distance (ft)		1888	1888		271	676		1163	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100			100			100		100
Storage Blk Time (%)								0	
Queuing Penalty (veh)								0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	R	L	TR	L	TR
Maximum Queue (ft)	22	20	4	35	47	50	20
Average Queue (ft)	4	4	1	17	25	26	7
95th Queue (ft)	19	20	6	40	51	59	22
Link Distance (ft)				676		1163	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100	100	100		100		100
Storage Blk Time (%)					0	0	
Queuing Penalty (veh)					0	0	

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	L	T	R	L	TR	L	TR
Maximum Queue (ft)	36	2	4	36	2	4	52	69	76	29
Average Queue (ft)	4	0	0	6	0	0	18	24	27	7
95th Queue (ft)	22	2	4	27	2	3	42	49	57	23
Link Distance (ft)		1888	1888		271		676		1163	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100			100		100		100		100
Storage Blk Time (%)								0	0	
Queuing Penalty (veh)								0	0	

Intersection: 8: 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #3

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #4

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: East Access & 11800 South, Interval #1

Movement	EB	EB	WB	NB
Directions Served	T	R	L	R
Maximum Queue (ft)	2	4	76	65
Average Queue (ft)	0	1	38	34
95th Queue (ft)	5	6	77	65
Link Distance (ft)	278			388
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100	100	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	2	65	64
Average Queue (ft)	0	36	35
95th Queue (ft)	5	71	62
Link Distance (ft)			388
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	NB
Directions Served	T	T	R	L	T	R
Maximum Queue (ft)	2	4	27	231	24	198
Average Queue (ft)	0	1	8	125	4	117
95th Queue (ft)	5	6	28	240	52	215
Link Distance (ft)	278	278			528	388
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100	100		
Storage Blk Time (%)				23		
Queuing Penalty (veh)				89		

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	EB	EB	WB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	2	2	10	138	101
Average Queue (ft)	0	0	2	56	42
95th Queue (ft)	5	5	10	137	97
Link Distance (ft)	278	278			388
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100	100	
Storage Blk Time (%)				3	
Queuing Penalty (veh)				8	

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	NB
Directions Served	T	T	R	L	T	R
Maximum Queue (ft)	6	6	27	235	24	200
Average Queue (ft)	0	0	3	64	1	57
95th Queue (ft)	4	4	15	160	25	140
Link Distance (ft)	278	278			528	388
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100	100		
Storage Blk Time (%)				7		
Queuing Penalty (veh)				24		

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	48	25
Average Queue (ft)	15	23	11
95th Queue (ft)	43	53	32
Link Distance (ft)		460	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	35	34	30
Average Queue (ft)	14	16	13
95th Queue (ft)	41	40	33
Link Distance (ft)		460	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB
Directions Served	R	L	T	L	R
Maximum Queue (ft)	10	66	9	131	52
Average Queue (ft)	1	27	1	71	22
95th Queue (ft)	13	66	19	197	77
Link Distance (ft)			505	460	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	100			100
Storage Blk Time (%)		0		18	
Queuing Penalty (veh)		3		6	

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	103	48
Average Queue (ft)	14	38	21
95th Queue (ft)	42	162	87
Link Distance (ft)		460	
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)		5	
Queuing Penalty (veh)		1	

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB
Directions Served	R	L	T	L	R
Maximum Queue (ft)	10	66	9	143	58
Average Queue (ft)	0	18	0	37	17
95th Queue (ft)	6	49	9	134	63
Link Distance (ft)			505	460	
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)	100	100			100
Storage Blk Time (%)		0		6	
Queuing Penalty (veh)		1		2	

Network Summary

Network wide Queuing Penalty, Interval #1: 19
Network wide Queuing Penalty, Interval #2: 22
Network wide Queuing Penalty, Interval #3: 554
Network wide Queuing Penalty, Interval #4: 62
Network wide Queuing Penalty, All Intervals: 164

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SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project - Alternate Access*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	181	98	71.1	*E*
	T	35	33	94	44.6	*D*
	R	390	389	100	13.0	*B*
	Subtotal	609	603	99	32.2	*C*
SB	L	180	182	101	40.5	*D*
	T	55	53	96	34.0	*C*
	R	45	42	93	7.3	*A*
	Subtotal	280	277	99	34.2	*C*
EB	L	45	43	96	56.8	*E*
	T	534	533	100	40.3	*D*
	R	175	181	103	20.1	*C*
	Subtotal	754	757	100	36.4	*D*
WB	L	305	303	99	101.0	*F*
	T	552	550	100	65.0	*E*
	R	80	83	104	7.9	*A*
	Subtotal	937	936	100	71.6	*E*
Total		2,586	2,578	100	48.2	*D*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	45	43	96	66.7	*F*
	T	5	5	105	49.6	*E*
	R	75	78	104	13.5	*B*
	Subtotal	125	126	101	33.1	*D*
SB	L	35	35	101	55.4	*F*
	T	18	18	100	39.1	*E*
	R	10	10	100	23.3	*C*
	Subtotal	***63***	***63***	***100***	***45.6***	***E***
EB	L	10	10	98	7.2	*A*
	T	470	478	102	2.9	*A*
	R	36	36	100	1.6	*A*
	Subtotal	516	524	102	2.9	*A*
WB	L	226	218	96	8.3	*A*
	T	522	516	99	1.5	*A*
	R	40	40	99	0.9	*A*
	Subtotal	788	774	98	3.4	*A*
Total		1,493	1,487	100	7.6	*A*

HALES ENGINEERING
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SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project - Alternate Access***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	180	176	98	75.7	*F*
	Subtotal	***180***	***176***	***98***	***75.7***	***F***
EB	T	584	595	102	5.0	*A*
	Subtotal	584	595	102	5.0	*A*
WB	T	783	770	98	0.8	*A*
	Subtotal	783	770	98	0.8	*A*
Total		1,546	1,541	100	11.0	*B*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.1	1.4	0.3	0.2	2.7	0.8	2.6	3.7	0.5
Total Delay (hr)	0.0	0.1	0.6	0.1	0.4	0.5	0.0	0.6	0.1	0.2	0.4	0.1
Total Del/Veh (s)	22.7	22.7	17.0	5.7	22.2	13.5	2.4	54.3	45.1	8.6	38.1	34.6
Vehicles Entered	2	9	117	37	63	121	19	38	9	84	40	12
Vehicles Exited	2	10	121	38	66	126	19	38	8	86	36	12
Hourly Exit Rate	8	40	484	152	264	504	76	152	32	344	144	48
Input Volume	4	35	457	144	250	491	71	158	31	347	160	49
% of Volume	200	114	106	106	106	103	107	96	103	99	90	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.6	1.2
Total Delay (hr)	0.0	3.2
Total Del/Veh (s)	6.5	19.1
Vehicles Entered	10	561
Vehicles Exited	10	572
Hourly Exit Rate	40	2288
Input Volume	37	2234
% of Volume	108	102

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.1	1.3	0.3	0.2	2.7	0.9	2.5	3.8	0.7
Total Delay (hr)	0.0	0.1	0.5	0.0	0.4	0.4	0.0	0.6	0.1	0.2	0.5	0.1
Total Del/Veh (s)	24.3	26.2	15.2	4.3	21.9	11.8	1.9	53.9	46.0	9.0	39.9	33.9
Vehicles Entered	1	7	110	39	62	126	20	37	7	90	42	12
Vehicles Exited	1	6	104	38	60	120	20	39	8	89	46	13
Hourly Exit Rate	4	24	416	152	240	480	80	156	32	356	184	52
Input Volume	4	35	457	144	250	491	71	158	31	347	160	49
% of Volume	100	69	91	106	96	98	113	99	103	103	115	106

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.8	1.2
Total Delay (hr)	0.0	3.0
Total Del/Veh (s)	5.2	18.4
Vehicles Entered	9	562
Vehicles Exited	9	553
Hourly Exit Rate	36	2212
Input Volume	37	2234
% of Volume	97	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.0	1.5	1.2	1.7	1.4	0.5	0.4	2.7	1.5	2.7	3.6	0.7
Total Delay (hr)	0.0	0.4	2.6	0.5	4.2	4.6	0.1	1.5	0.1	0.6	0.6	0.1
Total Del/Veh (s)	104.5	85.0	56.6	29.9	122.6	85.7	11.0	82.2	38.2	17.6	36.0	29.4
Vehicles Entered	1	16	157	57	117	180	27	65	10	126	58	17
Vehicles Exited	1	16	154	56	88	149	26	56	10	119	53	16
Hourly Exit Rate	4	64	616	224	352	596	104	224	40	476	212	64
Input Volume	8	75	764	269	469	736	107	263	47	520	240	73
% of Volume	50	85	81	83	75	81	97	85	85	92	88	88

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.4
Denied Del/Veh (s)	3.7	1.6
Total Delay (hr)	0.0	15.4
Total Del/Veh (s)	10.1	62.4
Vehicles Entered	14	845
Vehicles Exited	14	758
Hourly Exit Rate	56	3032
Input Volume	69	3640
% of Volume	81	83

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	1.1	0.3	0.6	1.4	0.4	0.2	2.6	1.0	2.7	3.7	0.5
Total Delay (hr)	0.0	0.2	2.5	0.4	3.7	4.6	0.1	0.8	0.1	0.3	0.5	0.1
Total Del/Veh (s)	51.9	60.6	54.5	30.3	137.5	100.0	13.3	61.5	39.6	12.1	38.7	34.5
Vehicles Entered	2	12	153	48	61	122	16	38	7	87	42	12
Vehicles Exited	1	11	153	50	89	156	18	47	8	95	47	13
Hourly Exit Rate	4	44	612	200	356	624	72	188	32	380	188	52
Input Volume	4	35	457	144	250	491	71	158	31	347	160	49
% of Volume	100	126	134	139	142	127	101	119	103	110	118	106

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.8	1.3
Total Delay (hr)	0.0	13.4
Total Del/Veh (s)	6.2	65.8
Vehicles Entered	8	608
Vehicles Exited	8	696
Hourly Exit Rate	32	2784
Input Volume	37	2234
% of Volume	86	125

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	0.0	0.9	0.4	0.7	1.4	0.4	0.3	2.6	1.1	2.6	3.7	0.6
Total Delay (hr)	0.1	0.7	6.1	1.0	8.7	10.1	0.2	3.6	0.4	1.4	2.1	0.5
Total Del/Veh (s)	55.6	56.8	40.3	20.1	101.0	65.0	7.9	71.1	44.6	13.0	40.5	34.0
Vehicles Entered	5	44	537	182	302	550	83	179	33	388	182	53
Vehicles Exited	5	43	533	181	303	550	83	181	33	389	182	53
Hourly Exit Rate	5	43	533	181	303	550	83	181	33	389	182	53
Input Volume	5	45	534	175	305	552	80	184	35	390	180	55
% of Volume	100	96	100	103	99	100	104	98	94	100	101	96

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	1.0
Denied Del/Veh (s)	3.6	1.3
Total Delay (hr)	0.1	35.0
Total Del/Veh (s)	7.3	48.2
Vehicles Entered	42	2580
Vehicles Exited	42	2578
Hourly Exit Rate	42	2578
Input Volume	45	2586
% of Volume	93	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2	2.9	1.9
Total Delay (hr)	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	7.7	2.3	0.8	5.2	1.4	0.8	15.8	17.9	6.8	15.2	17.4	6.4
Vehicles Entered	2	108	9	40	117	8	9	1	18	6	5	2
Vehicles Exited	2	108	9	40	117	8	9	1	18	6	4	2
Hourly Exit Rate	8	432	36	160	468	32	36	4	72	24	16	8
Input Volume	9	418	32	151	463	36	40	4	67	30	16	9
% of Volume	89	103	112	106	101	89	90	100	107	80	100	89

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.3
Total Del/Veh (s)	3.5
Vehicles Entered	325
Vehicles Exited	324
Hourly Exit Rate	1296
Input Volume	1275
% of Volume	102

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.5	2.7
Total Delay (hr)	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.5	2.2	1.5	5.1	1.1	0.7	15.6	8.9	5.9	16.9	13.8	6.3
Vehicles Entered	2	107	7	36	111	7	10	1	16	8	3	2
Vehicles Exited	2	106	7	37	112	7	10	1	16	8	3	2
Hourly Exit Rate	8	424	28	148	448	28	40	4	64	32	12	8
Input Volume	9	418	32	151	463	36	40	4	67	30	16	9
% of Volume	89	101	88	98	97	78	100	100	96	107	75	89

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.3
Total Del/Veh (s)	3.3
Vehicles Entered	310
Vehicles Exited	311
Hourly Exit Rate	1244
Input Volume	1275
% of Volume	98

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.5	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.6	2.5
Total Delay (hr)	0.0	0.2	0.0	0.3	0.1	0.0	0.5	0.0	0.2	0.4	0.1	0.0
Total Del/Veh (s)	8.2	3.7	2.2	11.7	1.6	0.8	130.5	82.9	23.7	98.2	71.8	41.9
Vehicles Entered	3	160	12	87	152	10	14	2	26	12	6	4
Vehicles Exited	3	158	12	84	149	10	11	2	25	10	5	4
Hourly Exit Rate	12	632	48	336	596	40	44	8	100	40	20	16
Input Volume	14	627	48	452	701	53	60	7	100	49	24	13
% of Volume	86	101	100	74	85	75	73	114	100	82	83	123

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.8
Total Del/Veh (s)	13.0
Vehicles Entered	488
Vehicles Exited	473
Hourly Exit Rate	1892
Input Volume	2148
% of Volume	88

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.2	1.7
Total Delay (hr)	0.0	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.1	0.1	0.1	0.0
Total Del/Veh (s)	7.5	2.7	1.8	6.8	1.8	1.1	52.9	55.6	10.2	43.4	30.6	19.8
Vehicles Entered	2	103	9	55	136	14	11	1	18	9	5	2
Vehicles Exited	3	106	9	58	139	15	14	1	20	11	5	2
Hourly Exit Rate	12	424	36	232	556	60	56	4	80	44	20	8
Input Volume	9	418	32	151	463	36	40	4	67	30	16	9
% of Volume	133	101	112	154	120	167	140	100	119	147	125	89

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.7
Total Del/Veh (s)	6.9
Vehicles Entered	365
Vehicles Exited	383
Hourly Exit Rate	1532
Input Volume	1275
% of Volume	120

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.5	2.3
Total Delay (hr)	0.0	0.4	0.0	0.5	0.2	0.0	0.8	0.1	0.3	0.6	0.2	0.1
Total Del/Veh (s)	7.2	2.9	1.6	8.3	1.5	0.9	66.7	49.6	13.5	55.4	39.1	23.3
Vehicles Entered	10	478	37	218	516	40	43	5	78	35	19	10
Vehicles Exited	10	478	36	218	516	40	43	5	78	35	18	10
Hourly Exit Rate	10	478	36	218	516	40	43	5	78	35	18	10
Input Volume	10	470	36	226	522	40	45	5	75	35	18	10
% of Volume	98	102	100	96	99	99	96	105	104	101	100	100

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	3.1
Total Del/Veh (s)	7.6
Vehicles Entered	1489
Vehicles Exited	1487
Hourly Exit Rate	1487
Input Volume	1493
% of Volume	100

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.1	0.0	0.1	0.1
Total Del/Veh (s)	1.4	0.7	5.7	1.5
Vehicles Entered	134	163	33	330
Vehicles Exited	134	165	32	331
Hourly Exit Rate	536	660	128	1324
Input Volume	518	643	120	1281
% of Volume	103	103	107	103

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1
Total Del/Veh (s)	1.3	0.6	5.6	1.4
Vehicles Entered	130	154	28	312
Vehicles Exited	130	153	28	311
Hourly Exit Rate	520	612	112	1244
Input Volume	518	643	120	1281
% of Volume	100	95	93	97

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.4	0.4
Denied Del/Veh (s)	0.0	0.0	15.9	2.6
Total Delay (hr)	0.4	0.1	1.9	2.4
Total Del/Veh (s)	8.0	1.0	88.5	16.6
Vehicles Entered	194	250	77	521
Vehicles Exited	187	248	62	497
Hourly Exit Rate	748	992	248	1988
Input Volume	781	1202	360	2343
% of Volume	96	83	69	85

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.8	0.8
Denied Del/Veh (s)	0.0	0.0	68.6	7.2
Total Delay (hr)	0.3	0.0	1.7	2.0
Total Del/Veh (s)	7.1	0.8	111.9	18.0
Vehicles Entered	137	202	40	379
Vehicles Exited	144	204	53	401
Hourly Exit Rate	576	816	212	1604
Input Volume	518	643	120	1281
% of Volume	111	127	177	125

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	1.1	1.2
Denied Del/Veh (s)	0.0	0.0	23.4	2.7
Total Delay (hr)	0.8	0.2	3.7	4.7
Total Del/Veh (s)	5.0	0.8	75.7	11.0
Vehicles Entered	595	770	177	1542
Vehicles Exited	595	770	176	1541
Hourly Exit Rate	595	770	176	1541
Input Volume	584	783	180	1546
% of Volume	102	98	98	100

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.3	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.5	1.0	7.0	1.8	24.2	6.4	2.2
Vehicles Entered	156	11	8	171	7	6	359
Vehicles Exited	156	11	8	173	7	6	361
Hourly Exit Rate	624	44	32	692	28	24	1444
Input Volume	607	36	31	670	27	22	1393
% of Volume	103	122	103	103	104	109	104

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	3.7	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.2	0.6	6.4	1.6	22.8	4.3	1.9
Vehicles Entered	149	11	8	164	6	6	344
Vehicles Exited	149	11	8	161	6	5	340
Hourly Exit Rate	596	44	32	644	24	20	1360
Input Volume	607	36	31	670	27	22	1393
% of Volume	98	122	103	96	89	91	98

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.0	0.3	0.2	0.4	3.8	0.4
Total Delay (hr)	1.9	0.1	0.1	0.2	0.5	0.5	3.1
Total Del/Veh (s)	27.6	23.6	20.1	2.2	169.0	169.2	21.0
Vehicles Entered	240	10	11	241	9	10	521
Vehicles Exited	225	9	11	241	8	5	499
Hourly Exit Rate	900	36	44	964	32	20	1996
Input Volume	1089	53	47	1155	40	33	2417
% of Volume	83	68	94	83	80	61	83

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	2.2	0.9	0.0	0.0	0.2	3.6	1.0
Total Delay (hr)	1.8	0.1	0.1	0.1	0.4	0.8	3.3
Total Del/Veh (s)	32.2	30.2	20.8	1.8	162.3	377.1	26.5
Vehicles Entered	189	10	9	206	7	4	425
Vehicles Exited	205	10	9	207	8	8	447
Hourly Exit Rate	820	40	36	828	32	32	1788
Input Volume	607	36	31	670	27	22	1393
% of Volume	135	111	116	124	119	145	128

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Denied Del/Veh (s)	0.7	0.2	0.1	0.1	0.3	4.0	0.4
Total Delay (hr)	3.8	0.2	0.1	0.4	1.0	1.3	6.8
Total Del/Veh (s)	18.7	13.5	13.9	1.9	115.2	190.9	14.9
Vehicles Entered	735	41	36	782	30	25	1649
Vehicles Exited	735	41	36	782	29	25	1648
Hourly Exit Rate	735	41	36	782	29	25	1648
Input Volume	728	40	35	791	30	25	1649
% of Volume	101	102	103	99	96	101	100

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	0.9	1.1	2.4
Denied Del/Veh (s)	1.3	1.2	3.1	6.5	3.0
Total Delay (hr)	4.3	4.0	23.3	20.1	51.7
Total Del/Veh (s)	22.2	21.0	77.6	84.3	63.9
Vehicles Entered	612	613	992	615	2837
Vehicles Exited	614	603	831	775	2826
Hourly Exit Rate	2456	2412	3324	3100	2826
Input Volume	8848	8848	15240	8848	10446
% of Volume	28	27	22	35	27

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	92	294	149	184	309	28	184	62	113	165	80	32
Average Queue (ft)	33	168	40	113	170	14	115	27	75	93	29	16
95th Queue (ft)	102	307	127	195	340	33	191	65	117	161	82	37
Link Distance (ft)		505			2469	2469		1752			1010	
Upstream Blk Time (%)		0										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)	150		150	100			150		150	150		150
Storage Blk Time (%)		10		7	10		8		0	3	0	
Queuing Penalty (veh)		18		32	24		29		0	2	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	92	233	94	139	200	31	176	68	128	176	114	30
Average Queue (ft)	26	127	35	92	101	12	122	31	80	116	44	14
95th Queue (ft)	97	254	115	154	181	33	183	74	131	179	114	35
Link Distance (ft)		505			2469	2469		1752			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	100			150		150	150		150
Storage Blk Time (%)		6		6	8		5	0	0	5	0	
Queuing Penalty (veh)		11		31	20		19	0	1	4	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	235	520	250	200	1872	1564	332	210	276	198	105	42
Average Queue (ft)	120	447	189	194	1009	416	222	77	143	122	40	19
95th Queue (ft)	283	647	346	218	2003	1510	391	367	278	202	98	44
Link Distance (ft)		505			2469	2469		1752			1010	
Upstream Blk Time (%)		21			1	0						
Queuing Penalty (veh)		227			0	0						
Storage Bay Dist (ft)	150		150	100			150		150	150		150
Storage Blk Time (%)	4	49		63	15		37	0	9	6	0	
Queuing Penalty (veh)	43	173		460	72		212	0	27	9	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	190	519	250	200	1944	1576	272	97	209	184	169	26
Average Queue (ft)	61	447	171	182	1157	419	157	43	108	118	52	11
95th Queue (ft)	192	680	345	244	2456	1708	308	178	213	202	165	29
Link Distance (ft)		505			2469	2469		1752			1010	
Upstream Blk Time (%)		20			2	0						
Queuing Penalty (veh)		125			0	0						
Storage Bay Dist (ft)	150		150	100			150		150	150		150
Storage Blk Time (%)		45	0	52	16		13		3	5	0	
Queuing Penalty (veh)		82	0	258	40		49		5	4	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	250	522	250	200	1972	1734	335	226	284	216	202	45
Average Queue (ft)	60	297	109	145	609	215	154	44	101	112	41	15
95th Queue (ft)	191	604	285	240	1749	1124	296	210	203	189	120	37
Link Distance (ft)		505			2469	2469		1752			1010	
Upstream Blk Time (%)		10			1	0						
Queuing Penalty (veh)		88			0	0						
Storage Bay Dist (ft)	150		150	100			150		150	150		150
Storage Blk Time (%)	1	27	0	32	12		16	0	3	5	0	
Queuing Penalty (veh)	11	71	0	195	39		77	0	8	5	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	L	L	TR	L	TR
Maximum Queue (ft)	34	74	42	56	42	39
Average Queue (ft)	7	38	24	35	18	15
95th Queue (ft)	33	78	51	63	47	41
Link Distance (ft)	1889		518		1188	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200		100		100
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	L	L	TR	L	TR
Maximum Queue (ft)	33	59	44	52	40	32
Average Queue (ft)	7	35	24	29	23	14
95th Queue (ft)	34	64	48	56	47	39
Link Distance (ft)	1889		518		1188	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200		100		100
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	L	L	TR	L	TR
Maximum Queue (ft)	68	154	146	93	94	77
Average Queue (ft)	15	86	76	54	52	35
95th Queue (ft)	62	157	170	109	128	84
Link Distance (ft)	1889		518		1188	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200		100		100
Storage Blk Time (%)		0	17	6	7	0
Queuing Penalty (veh)		1	18	3	2	0

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	L	L	TR	L	TR
Maximum Queue (ft)	67	97	118	88	84	51
Average Queue (ft)	15	51	47	41	33	20
95th Queue (ft)	73	97	128	89	87	58
Link Distance (ft)	1889		518		1188	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200		100		100
Storage Blk Time (%)			9	0	2	1
Queuing Penalty (veh)			6	0	0	0

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	L	L	TR	L	TR
Maximum Queue (ft)	93	159	163	114	112	84
Average Queue (ft)	11	52	43	40	31	21
95th Queue (ft)	53	112	116	84	86	60
Link Distance (ft)	1889		518		1188	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200		100		100
Storage Blk Time (%)		0	6	1	2	0
Queuing Penalty (veh)		0	6	1	1	0

Intersection: 10: East Access & 11800 South, Interval #1

Movement	NB
Directions Served	R
Maximum Queue (ft)	64
Average Queue (ft)	43
95th Queue (ft)	67
Link Distance (ft)	414
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	NB
Directions Served	R
Maximum Queue (ft)	63
Average Queue (ft)	41
95th Queue (ft)	66
Link Distance (ft)	414
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	NB
Directions Served	T	R
Maximum Queue (ft)	240	380
Average Queue (ft)	57	233
95th Queue (ft)	238	451
Link Distance (ft)	629	414
Upstream Blk Time (%)		20
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	NB
Directions Served	T	R
Maximum Queue (ft)	218	369
Average Queue (ft)	69	226
95th Queue (ft)	261	525
Link Distance (ft)	629	414
Upstream Blk Time (%)		29
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	NB
Directions Served	T	R
Maximum Queue (ft)	280	391
Average Queue (ft)	32	135
95th Queue (ft)	173	378
Link Distance (ft)	629	414
Upstream Blk Time (%)		12
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	2	35	53	31
Average Queue (ft)	1	14	24	16
95th Queue (ft)	7	40	57	41
Link Distance (ft)	528		484	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	2	30	40	31
Average Queue (ft)	0	14	20	17
95th Queue (ft)	5	40	49	41
Link Distance (ft)	528		484	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	528	48	156	113
Average Queue (ft)	285	25	78	56
95th Queue (ft)	663	57	179	131
Link Distance (ft)	528		484	
Upstream Blk Time (%)	6			
Queuing Penalty (veh)	66			
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			20	19
Queuing Penalty (veh)			6	7

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	525	43	199	138
Average Queue (ft)	358	18	119	73
95th Queue (ft)	721	49	303	165
Link Distance (ft)	528		484	
Upstream Blk Time (%)	5			
Queuing Penalty (veh)	32			
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			24	29
Queuing Penalty (veh)			5	8

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	534	54	209	147
Average Queue (ft)	161	18	60	40
95th Queue (ft)	536	48	187	115
Link Distance (ft)	528		484	
Upstream Blk Time (%)	3			
Queuing Penalty (veh)	25			
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			11	12
Queuing Penalty (veh)			3	4

Network Summary

Network wide Queuing Penalty, Interval #1: 106
Network wide Queuing Penalty, Interval #2: 86
Network wide Queuing Penalty, Interval #3: 1328
Network wide Queuing Penalty, Interval #4: 616
Network wide Queuing Penalty, All Intervals: 534

HALES ENGINEERING
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SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project - Alternate Access - Mitigated*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	181	98	47.9	*D*
	T	35	35	100	45.5	*D*
	R	390	394	101	17.3	*B*
	Subtotal	609	610	100	28.0	*C*
SB	L	180	172	96	45.9	*D*
	T	55	56	102	46.7	*D*
	R	45	48	107	6.9	*A*
	Subtotal	280	276	99	39.3	*D*
EB	L	45	40	89	27.1	*C*
	T	521	524	101	19.7	*B*
	R	175	170	97	6.5	*A*
	Subtotal	741	734	99	17.0	*B*
WB	L	305	311	102	33.4	*C*
	T	552	575	104	11.9	*B*
	R	80	84	105	3.3	*A*
	Subtotal	937	970	104	18.0	*B*
Total		2,573	2,594	101	22.4	*C*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	45	40	89	56.1	*F*
	T	5	5	100	65.4	*F*
	R	75	74	98	5.0	*A*
	Subtotal	125	119	95	24.7	*C*
SB	L	35	33	94	39.1	*E*
	T	18	18	101	44.7	*E*
	R	10	12	117	5.3	*A*
	Subtotal	***63***	***63***	***100***	***34.3***	***D***
EB	L	10	10	100	4.8	*A*
	T	470	468	100	1.0	*A*
	R	36	41	114	1.2	*A*
	Subtotal	516	519	101	1.1	*A*
WB	L	226	234	103	7.2	*A*
	T	537	548	102	0.6	*A*
	R	40	42	104	0.4	*A*
	Subtotal	803	824	103	2.5	*A*
Total		1,508	1,525	101	5.0	*A*

HALES ENGINEERING
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SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project - Alternate Access - Mitigated***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	180	176	98	7.1	*A*
	Subtotal	***180***	***176***	***98***	***7.1***	***A***
EB	T	613	605	99	0.7	*A*
	Subtotal	613	605	99	0.7	*A*
WB	T	783	804	103	0.5	*A*
	Subtotal	783	804	103	0.5	*A*
Total		1,576	1,585	101	1.3	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.4	0.3	1.3	2.7	1.0	2.6	3.8	0.6
Total Delay (hr)	0.0	0.0	0.3	0.0	0.3	0.3	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	8.2	14.8	10.5	2.7	16.8	7.1	2.8	45.3	47.1	10.6	44.8	50.1
Vehicles Entered	1	8	116	37	64	124	21	38	8	83	41	11
Vehicles Exited	1	8	111	36	63	121	21	39	8	83	42	12
Hourly Exit Rate	4	32	444	144	252	484	84	156	32	332	168	48
Input Volume	4	35	447	144	250	491	71	158	31	347	160	49
% of Volume	100	91	99	100	101	99	118	99	103	96	105	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.8	1.2
Total Delay (hr)	0.0	2.6
Total Del/Veh (s)	5.7	16.0
Vehicles Entered	9	561
Vehicles Exited	9	554
Hourly Exit Rate	36	2216
Input Volume	37	2224
% of Volume	97	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.2	0.2	1.1	2.6	1.1	2.6	3.7	0.6
Total Delay (hr)	0.0	0.0	0.4	0.0	0.3	0.3	0.0	0.5	0.1	0.2	0.5	0.2
Total Del/Veh (s)	14.5	17.5	12.0	2.6	15.3	8.2	2.5	45.5	45.8	9.8	44.6	44.7
Vehicles Entered	1	9	112	33	64	132	18	41	8	85	38	15
Vehicles Exited	1	9	117	33	65	134	18	40	8	85	36	14
Hourly Exit Rate	4	36	468	132	260	536	72	160	32	340	144	56
Input Volume	4	35	447	144	250	491	71	158	31	347	160	49
% of Volume	100	103	105	92	104	109	101	101	103	98	90	114

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.9	1.2
Total Delay (hr)	0.0	2.7
Total Del/Veh (s)	5.5	16.0
Vehicles Entered	12	568
Vehicles Exited	12	572
Hourly Exit Rate	48	2288
Input Volume	37	2224
% of Volume	130	103

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.3	0.4	1.1	2.7	1.4	2.7	3.6	0.8
Total Delay (hr)	0.0	0.2	1.6	0.2	1.7	0.9	0.0	0.9	0.1	1.1	0.7	0.2
Total Del/Veh (s)	33.1	35.2	30.8	11.0	50.0	16.9	4.0	48.5	41.7	26.9	43.8	43.0
Vehicles Entered	2	17	180	62	118	190	27	63	12	137	56	17
Vehicles Exited	2	16	175	61	106	180	25	62	11	130	56	18
Hourly Exit Rate	8	64	700	244	424	720	100	248	44	520	224	72
Input Volume	8	75	743	269	469	736	107	263	47	520	240	73
% of Volume	100	85	94	91	90	98	93	94	94	100	93	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.3
Denied Del/Veh (s)	3.5	1.2
Total Delay (hr)	0.0	7.7
Total Del/Veh (s)	8.7	29.8
Vehicles Entered	19	900
Vehicles Exited	19	861
Hourly Exit Rate	76	3444
Input Volume	69	3619
% of Volume	110	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.5	0.3	1.3	2.7	0.7	2.6	3.8	0.7
Total Delay (hr)	0.0	0.1	0.6	0.1	0.6	0.4	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	7.3	29.8	17.1	5.7	26.9	10.2	2.8	40.1	38.5	12.6	42.5	40.9
Vehicles Entered	1	6	116	39	64	130	19	41	8	87	38	12
Vehicles Exited	1	7	121	40	77	139	20	40	8	96	39	12
Hourly Exit Rate	4	28	484	160	308	556	80	160	32	384	156	48
Input Volume	4	35	447	144	250	491	71	158	31	347	160	49
% of Volume	100	80	108	111	123	113	113	101	103	111	98	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.8	1.2
Total Delay (hr)	0.0	3.4
Total Del/Veh (s)	5.8	19.0
Vehicles Entered	8	569
Vehicles Exited	8	608
Hourly Exit Rate	32	2432
Input Volume	37	2224
% of Volume	86	109

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.3	0.3	1.2	2.7	1.1	2.6	3.7	0.7
Total Delay (hr)	0.0	0.3	2.9	0.3	2.9	1.9	0.1	2.5	0.5	1.9	2.2	0.7
Total Del/Veh (s)	24.0	27.1	19.7	6.5	33.4	11.9	3.3	47.9	45.5	17.3	45.9	46.7
Vehicles Entered	4	40	525	170	310	575	84	183	35	393	174	55
Vehicles Exited	4	40	524	170	311	575	84	181	35	394	172	56
Hourly Exit Rate	4	40	524	170	311	575	84	181	35	394	172	56
Input Volume	5	45	521	175	305	552	80	184	35	390	180	55
% of Volume	80	89	101	97	102	104	105	98	100	101	96	102

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	0.9
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.1	16.4
Total Del/Veh (s)	6.9	22.4
Vehicles Entered	48	2596
Vehicles Exited	48	2594
Hourly Exit Rate	48	2594
Input Volume	45	2573
% of Volume	107	101

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.4	0.1	1.5	0.1	0.0	0.2	0.4	0.4	4.0	0.2	0.1	2.6
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	4.1	0.9	0.7	5.8	0.5	0.4	26.1	53.3	4.3	30.1	26.4	4.8
Vehicles Entered	2	114	7	44	112	8	10	1	18	8	4	3
Vehicles Exited	2	114	6	44	114	8	10	1	18	8	4	3
Hourly Exit Rate	8	456	24	176	456	32	40	4	72	32	16	12
Input Volume	9	453	24	176	459	36	41	5	73	34	17	10
% of Volume	89	101	100	100	99	89	98	80	99	94	94	120

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.4
Total Delay (hr)	0.3
Total Del/Veh (s)	3.6
Vehicles Entered	331
Vehicles Exited	332
Hourly Exit Rate	1328
Input Volume	1337
% of Volume	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.3	0.1	1.7	0.3	0.0	0.2	0.4	0.5	3.9	0.1	0.2	2.3
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.1	0.9	0.9	5.3	0.5	0.4	20.8	32.8	3.9	18.5	19.3	5.3
Vehicles Entered	3	112	6	47	125	10	10	1	17	8	4	3
Vehicles Exited	3	113	6	47	123	10	11	1	17	8	4	3
Hourly Exit Rate	12	452	24	188	492	40	44	4	68	32	16	12
Input Volume	9	453	24	176	459	36	41	5	73	34	17	10
% of Volume	133	100	100	107	107	111	107	80	93	94	94	120

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.4
Total Delay (hr)	0.3
Total Del/Veh (s)	2.9
Vehicles Entered	346
Vehicles Exited	346
Hourly Exit Rate	1384
Input Volume	1337
% of Volume	104

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.8	0.2	1.5	0.0	0.0	0.0	0.4	0.4	3.9	0.1	0.2	2.7
Total Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	4.0	1.3	1.3	9.3	0.7	0.5	104.5	71.8	5.3	68.1	73.6	6.7
Vehicles Entered	3	128	20	89	187	14	12	2	22	8	5	3
Vehicles Exited	3	127	19	89	187	14	10	1	21	8	5	3
Hourly Exit Rate	12	508	76	356	748	56	40	4	84	32	20	12
Input Volume	13	522	72	377	772	53	56	5	82	38	20	11
% of Volume	92	97	106	94	97	106	71	80	102	84	100	109

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	1.1
Total Del/Veh (s)	7.5
Vehicles Entered	493
Vehicles Exited	487
Hourly Exit Rate	1948
Input Volume	2021
% of Volume	96

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.9	0.1	1.6	0.2	0.0	0.1	0.3	0.1	3.9	0.2	0.2	2.2
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	5.7	0.9	1.2	6.0	0.5	0.5	50.0	97.5	6.1	29.6	32.1	4.4
Vehicles Entered	2	113	8	54	124	10	8	1	17	9	4	3
Vehicles Exited	2	114	9	54	123	10	10	1	17	9	5	3
Hourly Exit Rate	8	456	36	216	492	40	40	4	68	36	20	12
Input Volume	9	453	24	176	459	36	41	5	73	34	17	10
% of Volume	89	101	150	123	107	111	98	80	93	106	118	120

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	0.5
Total Del/Veh (s)	4.6
Vehicles Entered	353
Vehicles Exited	357
Hourly Exit Rate	1428
Input Volume	1337
% of Volume	107

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)	1.6	0.1	1.5	0.1	0.0	0.1	0.4	0.4	3.9	0.2	0.2	2.4
Total Delay (hr)	0.0	0.1	0.0	0.5	0.1	0.0	0.6	0.1	0.1	0.4	0.2	0.0
Total Del/Veh (s)	4.8	1.0	1.2	7.2	0.6	0.4	56.1	65.4	5.0	39.1	44.7	5.3
Vehicles Entered	10	467	41	235	548	42	40	5	74	33	18	12
Vehicles Exited	10	468	41	234	548	42	40	5	74	33	18	12
Hourly Exit Rate	10	468	41	234	548	42	40	5	74	33	18	12
Input Volume	10	470	36	226	537	40	45	5	75	35	18	10
% of Volume	100	100	114	103	102	104	89	100	98	94	101	117

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.3
Total Delay (hr)	2.2
Total Del/Veh (s)	5.0
Vehicles Entered	1525
Vehicles Exited	1525
Hourly Exit Rate	1525
Input Volume	1508
% of Volume	101

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	0.4	4.4	0.8
Vehicles Entered	140	157	31	328
Vehicles Exited	140	157	31	328
Hourly Exit Rate	560	628	124	1312
Input Volume	560	643	120	1323
% of Volume	100	98	103	99

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	0.4	4.2	0.8
Vehicles Entered	137	175	30	342
Vehicles Exited	137	174	30	341
Hourly Exit Rate	548	696	120	1364
Input Volume	560	643	120	1323
% of Volume	98	108	100	103

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.3	0.1
Total Delay (hr)	0.1	0.0	0.2	0.3
Total Del/Veh (s)	1.0	0.6	9.7	2.1
Vehicles Entered	186	291	87	564
Vehicles Exited	186	291	85	562
Hourly Exit Rate	744	1164	340	2248
Input Volume	773	1202	360	2335
% of Volume	96	97	94	96

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	0.5	4.6	0.8
Vehicles Entered	141	181	29	351
Vehicles Exited	142	182	30	354
Hourly Exit Rate	568	728	120	1416
Input Volume	560	643	120	1323
% of Volume	101	113	100	107

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.1	0.1	0.4	0.6
Total Del/Veh (s)	0.7	0.5	7.1	1.3
Vehicles Entered	605	804	176	1585
Vehicles Exited	605	804	176	1585
Hourly Exit Rate	605	804	176	1585
Input Volume	613	783	180	1576
% of Volume	99	103	98	101

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	4.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.5	5.9	1.1	13.5	4.1	1.1
Vehicles Entered	156	8	8	163	6	6	347
Vehicles Exited	155	8	8	162	5	6	344
Hourly Exit Rate	620	32	32	648	20	24	1376
Input Volume	607	36	31	659	27	22	1382
% of Volume	102	89	103	98	74	109	100

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	4.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.3	5.9	1.2	20.7	4.4	1.4
Vehicles Entered	148	8	9	178	6	6	355
Vehicles Exited	148	9	9	178	6	6	356
Hourly Exit Rate	592	36	36	712	24	24	1424
Input Volume	607	36	31	659	27	22	1382
% of Volume	98	100	116	108	89	109	103

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.5	0.0	0.3	3.8	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.3	0.0	0.5
Total Del/Veh (s)	0.7	0.8	11.2	1.5	94.0	6.3	3.1
Vehicles Entered	258	14	11	282	11	10	586
Vehicles Exited	257	14	12	280	10	9	582
Hourly Exit Rate	1028	56	48	1120	40	36	2328
Input Volume	1083	53	47	1155	40	33	2411
% of Volume	95	106	102	97	100	109	97

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.3	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1	0.0	0.2
Total Del/Veh (s)	0.4	0.3	7.3	1.3	26.4	5.7	1.7
Vehicles Entered	154	10	8	180	7	6	365
Vehicles Exited	156	10	8	182	9	7	372
Hourly Exit Rate	624	40	32	728	36	28	1488
Input Volume	607	36	31	659	27	22	1382
% of Volume	103	111	103	110	133	127	108

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	4.0	0.1
Total Delay (hr)	0.1	0.0	0.1	0.3	0.4	0.0	0.9
Total Del/Veh (s)	0.5	0.5	8.1	1.3	49.2	5.5	2.0
Vehicles Entered	715	41	36	803	30	28	1653
Vehicles Exited	716	41	36	804	30	28	1655
Hourly Exit Rate	716	41	36	804	30	28	1655
Input Volume	726	40	35	783	30	25	1639
% of Volume	99	102	103	103	99	113	101

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	0.4	0.2	1.1
Denied Del/Veh (s)	1.3	1.3	1.3	1.3	1.3
Total Delay (hr)	3.5	3.5	10.4	4.5	21.9
Total Del/Veh (s)	18.0	17.8	34.2	21.0	26.6
Vehicles Entered	618	629	1014	623	2885
Vehicles Exited	617	629	941	698	2887
Hourly Exit Rate	2468	2516	3764	2792	2887
Input Volume	8642	8642	14323	8642	10062
% of Volume	29	29	26	32	29

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	40	115	106	47	152	129	113	33	167	64	130	164
Average Queue (ft)	15	60	64	19	80	54	48	12	104	25	78	103
95th Queue (ft)	46	119	120	48	149	127	116	37	179	65	142	175
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	100			100	150		150	150
Storage Blk Time (%)		0			4	1	1		4		1	4
Queuing Penalty (veh)		0			10	1	0		15		2	4

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	98	36
Average Queue (ft)	42	18
95th Queue (ft)	107	38
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	44	122	131	39	128	120	103	21	158	71	123	161
Average Queue (ft)	18	63	69	20	77	64	56	10	106	24	71	96
95th Queue (ft)	47	125	135	44	132	120	105	26	175	74	128	175
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	100			100	150		150	150
Storage Blk Time (%)		1	1		2	1	1		5	0	0	4
Queuing Penalty (veh)		0	1		5	1	1		18	0	0	3

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	110	39
Average Queue (ft)	49	18
95th Queue (ft)	117	39
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	139	244	254	208	200	500	402	33	245	86	311	204
Average Queue (ft)	56	183	195	86	179	291	165	12	158	33	184	131
95th Queue (ft)	136	278	291	199	238	593	436	34	265	93	320	222
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	100			100	150		150	150
Storage Blk Time (%)		14	19	0	48	5	6		18	0	25	13
Queuing Penalty (veh)		11	50	2	177	26	7		104	0	78	18

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	180	49
Average Queue (ft)	68	26
95th Queue (ft)	182	53
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	66	186	191	89	186	378	340	28	167	54	205	167
Average Queue (ft)	23	86	88	32	104	122	104	10	101	20	95	97
95th Queue (ft)	73	174	182	90	192	385	348	31	175	59	200	177
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	100			100	150		150	150
Storage Blk Time (%)	0	2	3		11	2	3		3		2	4
Queuing Penalty (veh)	0	1	4		26	4	2		13		4	4

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	115	32
Average Queue (ft)	46	14
95th Queue (ft)	119	37
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	140	251	270	211	200	508	434	46	249	114	315	219
Average Queue (ft)	28	98	104	39	110	133	93	11	117	25	107	107
95th Queue (ft)	86	211	223	119	206	391	296	32	208	74	229	191
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	100			100	150		150	150
Storage Blk Time (%)	0	4	6	0	16	2	3		8	0	7	6
Queuing Penalty (veh)	0	3	14	0	55	8	2		38	0	21	7

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	199	54
Average Queue (ft)	51	19
95th Queue (ft)	135	43
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	LT	R	LT	R
Maximum Queue (ft)	16	59	48	38	70	22
Average Queue (ft)	3	34	25	21	32	7
95th Queue (ft)	17	63	57	38	81	22
Link Distance (ft)			519		1163	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	200		100		100
Storage Blk Time (%)			0		2	
Queuing Penalty (veh)			0		0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	R	L	R	LT	R	LT	R
Maximum Queue (ft)	21	1	54	1	57	32	52	22
Average Queue (ft)	5	0	30	0	28	21	27	7
95th Queue (ft)	21	3	58	3	58	37	53	23
Link Distance (ft)					519		1163	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100	100	200	100		100		100
Storage Blk Time (%)					0			
Queuing Penalty (veh)					0			

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	R	LT	R	LT	R
Maximum Queue (ft)	24	4	17	128	1	118	57	82	20
Average Queue (ft)	5	1	4	68	0	54	25	45	7
95th Queue (ft)	22	9	17	128	0	127	64	95	22
Link Distance (ft)		1885				519		1163	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		100	200	100		100		100
Storage Blk Time (%)						12		2	
Queuing Penalty (veh)						10		0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	R	L	R	LT	R	LT	R
Maximum Queue (ft)	18	9	79	1	81	58	77	16
Average Queue (ft)	4	2	40	0	36	24	35	6
95th Queue (ft)	18	9	77	3	117	65	79	22
Link Distance (ft)					519		1163	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100	100	200	100		100		100
Storage Blk Time (%)					5		1	
Queuing Penalty (veh)					4		0	

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	R	LT	R	LT	R
Maximum Queue (ft)	27	4	18	132	4	125	65	111	26
Average Queue (ft)	4	0	2	43	0	36	23	35	7
95th Queue (ft)	20	5	9	90	2	98	53	80	23
Link Distance (ft)		1885				519		1163	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		100	200	100		100		100
Storage Blk Time (%)						4		1	
Queuing Penalty (veh)						3		0	

Intersection: 10: East Access & 11800 South, Interval #1

Movement	NB
Directions Served	R
Maximum Queue (ft)	61
Average Queue (ft)	39
95th Queue (ft)	59
Link Distance (ft)	402
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	NB
Directions Served	R
Maximum Queue (ft)	52
Average Queue (ft)	37
95th Queue (ft)	53
Link Distance (ft)	402
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	NB
Directions Served	T	R
Maximum Queue (ft)	3	130
Average Queue (ft)	0	86
95th Queue (ft)	6	135
Link Distance (ft)	625	402
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, Interval #4

Movement	NB
Directions Served	R
Maximum Queue (ft)	67
Average Queue (ft)	42
95th Queue (ft)	68
Link Distance (ft)	402
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	NB
Directions Served	T	R
Maximum Queue (ft)	3	130
Average Queue (ft)	0	51
95th Queue (ft)	3	96
Link Distance (ft)	625	402
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	32	24
Average Queue (ft)	12	16	13
95th Queue (ft)	37	42	31
Link Distance (ft)		460	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	2	32	31	23
Average Queue (ft)	0	13	16	11
95th Queue (ft)	5	38	41	29
Link Distance (ft)			460	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	57	4	45	9	87	39
Average Queue (ft)	8	1	23	1	47	18
95th Queue (ft)	120	7	51	19	111	41
Link Distance (ft)	528			505	460	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	100			100
Storage Blk Time (%)				0	7	
Queuing Penalty (veh)				0	2	

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	2	35	54	28
Average Queue (ft)	0	16	23	14
95th Queue (ft)	5	43	59	36
Link Distance (ft)			460	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		100
Storage Blk Time (%)			1	
Queuing Penalty (veh)			0	

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	57	9	47	9	94	43
Average Queue (ft)	2	0	16	0	26	14
95th Queue (ft)	58	5	43	9	71	35
Link Distance (ft)	528			505	460	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	100			100
Storage Blk Time (%)				0	2	
Queuing Penalty (veh)				0	1	

Network Summary

Network wide Queuing Penalty, Interval #1: 34
Network wide Queuing Penalty, Interval #2: 30
Network wide Queuing Penalty, Interval #3: 487
Network wide Queuing Penalty, Interval #4: 62
Network wide Queuing Penalty, All Intervals: 153

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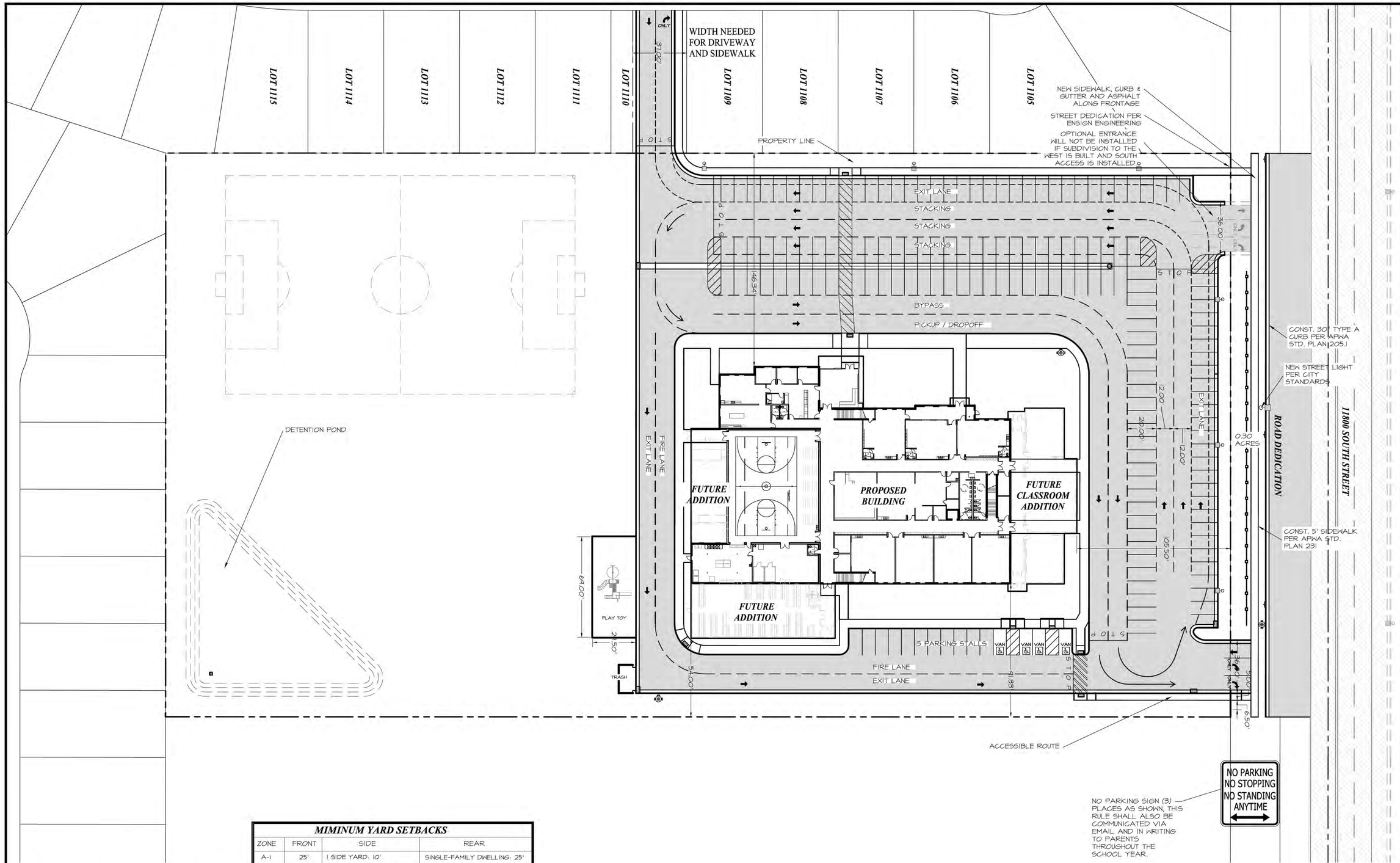
APPENDIX C

Site Plan



SITE PLAN

SITE AREA TABULATION			
HARDSCAPE	92,888 SQ.FT.	2.133 AC.	32.8%
LANDSCAPE	163,323 SQ.FT.	3.749 AC.	57.7%
BUILDING	26,798 SQ.FT.	0.615 AC.	9.5%
TOTAL SITE	283,009 SQ.FT.	6.497 AC.	100.0%
DAYTIME PARKING		74 STALLS	
EVENING EVENT PARKING		96 STALLS	
TOTAL PARKING		170 STALLS	
70 FACULTY AND 700 STUDENTS ANTICIPATED.			

MIMINUM YARD SETBACKS			
ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

CURRENT PROPERTY ZONE IS A-1

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS
PRIOR TO COMMENCING
ANY CONSTRUCTION

SEAL:

01-08-2019

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 01/04/2019
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:
11/27/2018 1

SITE PLAN

SHEET NUMBER:
C200

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

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APPENDIX D

95th Percentile Queue Length Reports

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Existing (2018) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

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Project #: UT18-1343

Intersection	EB				NB			SB				WB		
	L	LT	R	T	L	R	T	L	LR	R	T	L	R	T
11800 South & Willow Walk Drive	--	9	--	--	--	--	--	--	39	--	--	--	--	--
Mustang Trail Way & 11800 South	4	--	32	70	47	89	27	76	--	7	35	112	31	73

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Existing (2018) Plus Project

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
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Project #: UT18-1343

Intersection	EB				NB			SB				WB			
	LT	R	T	UL	L	R	T	L	LR	R	T	L	R	T	TR
11800 South & Willow Walk Drive	8	--	--	--	--	--	--	--	48	--	--	--	--	--	2
East Access & 11800 South	--	6	--	--	--	80	--	--	--	--	--	70	--	--	--
Mustang Trail Way & 11800 South	--	43	88	68	89	93	42	68	--	24	37	124	32	101	--

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
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Project #: UT18-1343

Intersection	EB				NB				SB				WB			
	L	LTR	R	T	L	R	T	TR	L	R	T	TR	L	LT	R	T
Access 1/Willow Walk Dr & 11800 South	--	78	--	--	49	--	--	64	48	--	--	21	--	55	3	--
Mustang Trail Way & 11800 South	85	--	229	444	124	169	102	--	171	30	170	--	206	--	141	678

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

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Project #: UT18-1343

Intersection	EB				NB				SB				WB			
	LTR	R	T	UL	L	R	T	TR	L	R	T	TR	L	LTR	R	T
11800 South & Willow Walk Drive	45	--	--	--	51	--	--	66	70	--	--	34	--	60	--	--
East Access & 11800 South	--	74	175	--	--	476	--	--	--	--	--	--	231	--	--	149
Mustang Trail Way & 11800 South	--	286	618	218	397	446	881	--	254	85	367	--	303	--	1,537	2,119

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project - Mitigated

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
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Project #: UT18-1343

Intersection	EB				NB				SB				WB		
	L	R	T	UL	L	R	T	TR	L	R	T	TR	L	R	T
11800 South & Willow Walk Drive	22	--	3	--	42	--	--	49	57	--	--	23	27	3	2
East Access & 11800 South	--	15	4	--	--	140	--	--	--	--	--	--	160	--	25
Mustang Trail Way & 11800 South	--	142	221	120	228	207	83	--	202	51	163	--	243	33	396

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project - Alternate Access

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

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Project #: UT18-1343

Intersection	EB				NB				SB				WB		
	LTR	R	T	UL	L	R	T	TR	L	R	T	TR	L	R	T
11800 South & Willow Walk Drive	53	--	--	--	116	--	--	84	86	--	--	60	112	--	--
East Access & 11800 South	--	--	173	--	--	378	--	--	--	--	--	--	--	--	--
Mustang Trail Way & 11800 South	--	285	604	191	296	203	210	--	189	37	120	--	240	1,124	1,749

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project - Alternate Access - Mitigated

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
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Project #: UT18-1343

Intersection	EB				NB				SB				WB		
	L	R	T	UL	L	LT	R	T	L	LT	R	T	L	R	T
11800 South & Willow Walk Drive	20	9	5	--	--	98	53	--	--	80	23	--	90	2	--
East Access & 11800 South	--	--	3	--	--	--	96	--	--	--	--	--	--	--	--
Mustang Trail Way & 11800 South	--	119	217	86	208	--	229	74	191	--	43	135	206	32	344

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APPENDIX E

Air Quality Report

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	81	111	61	69	120	70	65
CO Emissions (g)	2296	2667	1758	1923	2892	2040	1893
NOx Emissions (g)	274	352	209	233	374	240	224

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	90	93	65	82
CO Emissions (g)	2216	2409	1845	2194
NOx Emissions (g)	288	298	216	271

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	82	56	64	45	90	55	75
CO Emissions (g)	2209	1719	1956	1503	2288	1622	2067
NOx Emissions (g)	262	198	214	166	288	189	247

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	97	72	111	75
CO Emissions (g)	2495	1986	2716	2056
NOx Emissions (g)	309	240	349	246

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	90	130	100	129	129	106	93
CO Emissions (g)	2729	3310	3074	3406	3364	3109	2753
NOx Emissions (g)	318	415	345	417	416	357	318

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	119	91	89	108
CO Emissions (g)	3446	2822	2724	3074
NOx Emissions (g)	401	320	308	361

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	80	102	76	41	61	45	80
CO Emissions (g)	2201	2680	2109	1584	1820	1540	2221
NOx Emissions (g)	271	336	258	162	211	164	265

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	50	58	77	67
CO Emissions (g)	1723	1924	2237	2004
NOx Emissions (g)	188	209	265	233

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	333	399	301	283	401	277	313
CO Emissions (g)	9435	10375	8897	8415	10364	8310	8934
NOx Emissions (g)	1125	1300	1026	978	1289	950	1054

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	357	314	342	332
CO Emissions (g)	9880	9140	9523	9327
NOx Emissions (g)	1185	1067	1138	1111

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	113	160	66	81	143	110	98
CO Emissions (g)	3086	3772	2267	2476	3561	2978	2836
NOx Emissions (g)	373	481	238	274	451	358	333

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	101	127	83	108
CO Emissions (g)	2652	3358	2550	2954
NOx Emissions (g)	326	398	284	352

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	112	91	78	111	80	99	73
CO Emissions (g)	3061	2646	2380	2940	2474	2705	2317
NOx Emissions (g)	369	306	268	357	275	319	248

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	99	100	152	99
CO Emissions (g)	2834	2950	3784	2809
NOx Emissions (g)	327	343	477	329

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	164	215	156	181	205	179	170
CO Emissions (g)	5106	5701	4888	5155	5508	5141	4831
NOx Emissions (g)	558	672	534	591	655	582	554

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	198	155	166	179
CO Emissions (g)	5728	4868	4895	5182
NOx Emissions (g)	626	512	547	583

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	108	88	120	79	97	126	96
CO Emissions (g)	3144	2810	3228	2443	2821	3319	2888
NOx Emissions (g)	361	307	381	264	322	403	318

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	115	76	91	100
CO Emissions (g)	3102	2413	2792	2896
NOx Emissions (g)	367	262	307	329

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	497	555	419	451	526	514	438
CO Emissions (g)	14397	14929	12763	13014	14364	14143	12872
NOx Emissions (g)	1661	1766	1421	1486	1703	1662	1453

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	514	458	493	487
CO Emissions (g)	14315	13590	14021	13841
NOx Emissions (g)	1646	1516	1615	1593

Total Network Performance Interval #1 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	190	230	167	202	267	203	161
CO Emissions (g)	5033	5800	4530	5037	6393	5287	4599
NOx Emissions (g)	597	699	541	623	801	638	520

Total Network Performance Interval #1 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	185	233	176	201
CO Emissions (g)	4779	5750	4863	5207
NOx Emissions (g)	580	715	572	629

Total Network Performance Interval #2 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	190	172	141	208	153	202	160
CO Emissions (g)	5177	4844	4219	5396	4434	5122	4531
NOx Emissions (g)	612	571	470	655	501	630	519

Total Network Performance Interval #2 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	154	164	208	175
CO Emissions (g)	4446	4650	5362	4818
NOx Emissions (g)	501	542	645	565

Total Network Performance Interval #3 8:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	211	257	208	213	275	195	259
CO Emissions (g)	6307	6900	6164	6330	7207	5787	7062
NOx Emissions (g)	710	814	690	715	861	643	816

Total Network Performance Interval #3 8:00

Run Number	28	29	30	Avg
HC Emissions (g)	322	211	249	240
CO Emissions (g)	7988	6096	6742	6658
NOx Emissions (g)	960	695	795	770

Total Network Performance Interval #4 8:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	265	199	165	152	129	198	189
CO Emissions (g)	6611	5265	4734	4748	3995	5474	5245
NOx Emissions (g)	807	632	539	518	439	632	608

Total Network Performance Interval #4 8:15

Run Number	28	29	30	Avg
HC Emissions (g)	123	160	184	176
CO Emissions (g)	4074	4621	5105	4987
NOx Emissions (g)	438	540	594	575

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	855	859	681	774	824	798	769
CO Emissions (g)	23128	22809	19647	21511	22029	21670	21436
NOx Emissions (g)	2727	2716	2240	2511	2603	2543	2462

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	785	767	817	793
CO Emissions (g)	21287	21117	22072	21671
NOx Emissions (g)	2479	2492	2606	2538

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	286	218	124	165	288	147	190
CO Emissions (g)	7288	5982	4436	4977	7435	5153	5558
NOx Emissions (g)	913	711	459	570	919	541	653

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	147	249	196	201
CO Emissions (g)	4510	6493	5664	5750
NOx Emissions (g)	518	786	671	674

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	200	231	198	165	172	186	175
CO Emissions (g)	5739	6256	5565	4955	5279	5286	4955
NOx Emissions (g)	669	750	658	569	590	628	579

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	188	282	256	205
CO Emissions (g)	5513	7161	6703	5741
NOx Emissions (g)	636	896	806	678

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	303	296	301	429	327	332	399
CO Emissions (g)	8803	8629	8697	10697	9133	9267	10317
NOx Emissions (g)	1004	953	971	1311	1052	1060	1201

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	363	380	365	349
CO Emissions (g)	9593	9896	9671	9470
NOx Emissions (g)	1126	1165	1157	1100

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	316	369	218	240	231	240	328
CO Emissions (g)	8431	9573	6675	7172	6962	7667	8740
NOx Emissions (g)	1002	1107	742	798	790	805	1003

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	205	293	228	267
CO Emissions (g)	6495	8055	6604	7638
NOx Emissions (g)	718	926	752	864

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	1105	1114	841	1000	1018	905	1092
CO Emissions (g)	30261	30440	25372	27801	28809	27373	29569
NOx Emissions (g)	3588	3520	2829	3248	3351	3034	3437

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	902	1203	1044	1022
CO Emissions (g)	26111	31606	28642	28599
NOx Emissions (g)	2998	3774	3386	3316

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	201	266	152	182	318	189	202
CO Emissions (g)	5705	6760	4648	5225	7591	5566	5765
NOx Emissions (g)	670	835	525	607	981	634	674

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	170	273	157	211
CO Emissions (g)	5084	7085	4901	5833
NOx Emissions (g)	569	861	551	691

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	235	225	199	181	229	168	148
CO Emissions (g)	6253	6053	5737	5219	6082	4912	4630
NOx Emissions (g)	759	730	659	608	735	566	512

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	201	200	267	205
CO Emissions (g)	5688	5743	6824	5714
NOx Emissions (g)	668	670	842	675

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	337	388	333	400	388	426	339
CO Emissions (g)	9869	10678	9753	10567	10771	11632	9855
NOx Emissions (g)	1131	1252	1110	1266	1243	1338	1123

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	381	391	401	378
CO Emissions (g)	10596	10561	10601	10488
NOx Emissions (g)	1219	1240	1274	1220

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	259	230	206	188	191	226	251
CO Emissions (g)	7143	6373	5949	5565	5910	6761	6902
NOx Emissions (g)	843	759	675	645	658	771	813

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	156	227	205	214
CO Emissions (g)	4975	5982	6029	6159
NOx Emissions (g)	544	736	692	714

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	1032	1109	890	951	1126	1008	940
CO Emissions (g)	28971	29864	26088	26577	30354	28871	27152
NOx Emissions (g)	3402	3576	2969	3125	3618	3309	3121

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	908	1091	1030	1008
CO Emissions (g)	26343	29371	28355	28195
NOx Emissions (g)	3000	3507	3359	3299

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	243	230	179	200	216	127	189
CO Emissions (g)	6243	6174	5249	5583	6431	4219	5647
NOx Emissions (g)	773	739	605	662	730	463	640

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	212	164	165	192
CO Emissions (g)	5917	5012	4962	5544
NOx Emissions (g)	694	566	566	644

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	202	168	188	142	165	186	153
CO Emissions (g)	5729	5400	5637	4778	5054	5388	5084
NOx Emissions (g)	667	595	645	518	561	638	544

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	224	182	223	183
CO Emissions (g)	6358	5522	6302	5525
NOx Emissions (g)	737	621	734	626

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	246	300	312	238	297	348	248
CO Emissions (g)	8347	9107	9536	8047	9064	9927	8402
NOx Emissions (g)	896	1026	1060	853	1007	1146	901

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	273	292	240	279
CO Emissions (g)	8568	8987	7832	8782
NOx Emissions (g)	940	993	851	967

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	218	166	222	162	175	138	192
CO Emissions (g)	6258	5672	6499	5252	5443	4959	5781
NOx Emissions (g)	726	600	749	572	601	520	657

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	175	198	207	185
CO Emissions (g)	5677	5856	5931	5733
NOx Emissions (g)	619	670	693	641

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	909	863	902	743	853	799	782
CO Emissions (g)	26578	26353	26920	23661	25992	24492	24915
NOx Emissions (g)	3063	2960	3059	2604	2899	2768	2742

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	884	836	835	841
CO Emissions (g)	26521	25377	25027	25584
NOx Emissions (g)	2990	2850	2845	2878

Attachment C
Additional Public Comment

Michael Maloy

From: Lisa Brown [redacted]
Sent: Thursday, January 3, 2019 2:34 PM
To: Plan; Jared Henderson
Subject: Questions re: Academy of Arts

I have questions regarding the legal sale of this property to the charter school. There are elements of this situation that don't add up in my mind so I'm forwarding my questions to be considered part of the public record for the public hearing on this issue. I am opposed to the placement of a school on this property.

-Does the city have - as part of the public record - the development agreement contract between the Bastians and Doug Young?
-Don't the details of that contract need to be disclosed - as a protection to the city so it understands the terms of it before it grants approvals, in case they could be changed by the landowner later on?
-Is it part of city ordinances to require a contract disclosure in this type of situation where a developer doesn't own a property outright?
-If not, is that something the city should consider putting in place for the future?

-How can the sisters legally sell property they have already sold development rights to without the knowledge of that person (Doug Young)? Wouldn't that need to be legally disclosed or risk a contractual conflict? And wouldn't the contract with Doug supercede the sister's rights to sell the land to the school? Would this conflict possibly void the sale?

-I understand a school has the ability to go anywhere it chooses under most circumstances, but does the MDA itself give her any sole powers to make changes to it ... i.e. sell off property?

Maybe none of these questions are relevant, but I hope they will bring a few answers. And I'm still wondering how the school people were able to meet up with the Bastian sisters, when it seems no one from the city can get in touch with them?

Thanks,
Lisa Brown

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Michael Maloy

From: Emily Berbert [redacted]
Sent: Thursday, January 3, 2019 3:05 PM
To: Sandra Llewellyn; Jared Henderson; sherrieorhn@herriman.org; Nicole Martin; Clint H. Smith
Cc: Brett Wood; Bryn McCarty; Plan
Subject: Public comment

Hello! Hope everyone had a wonderful Holiday Season. I just wanted to send in my public comments on a few things so it was on record since I know these issues will be coming up soon on agendas and I may or may not be able to attend. Sorry I'm always long winded but I just care so much for this community and want to try and make things better. Thanks for all you guys do.

To Whom it May Concern,

Advantage Arts Academy: I have a few concerns with the proposed charter school off 118 S.
My first comment is on location and safety. I live next to Athlos and know the traffic that goes with charter schools, especially elementary school ones. My neighborhood becomes a parking lot when there is any function there and often times parents park on our streets to pick up and drop off their kids. I fear for the safety of those young kids over off 118 S. No matter how good your pick up and drop off is, it will always be a maze and crazy part of the day and a busy road should not be the primary entrance and exit. We know that road is already busy with the high school and with it being zoned commercial it will be even more of a concern as shoppers will not be looking out for the safety of kids or courtesy of parents dropping off and picking up kids. Seems like disaster waiting to happen.

Process- I was able to attend their community meeting and although I love the idea of the school, I am very against the location and the process they are allowed to use to put that school in wherever they deemed necessary. Just like other processes, I feel like charter schools should work with the city and the public school districts to help map out potential school areas before land is purchased. Everyone is affected by where schools are placed and it should be a joint effort to look at concerns of both the schools, community, and city. I understand from the meeting there were challenges with finding locations and they are about to loose their charter because they haven't found a location. According to them the city kept bouncing them to and from and time was of the essence. I feel like the city would only have done that if there was good reason and I mentioned that to AAA that maybe they need to look at the other geographical area they are able to go for their charter that might be better fit. I also mentioned that we as a city and neighboring communities shouldn't be penalized for their time frame restraints. I wish everything(developers, schools, residents) could have a better process to help make a community great. I feel the laws to let people know a few days before a meeting or just 'checking the boxes' isn't what makes a community viable in the long run and where businesses can grow and thrive. We want businesses to be successful here. I told AAA they would have a scarlet letter on them from me for taking away my zoned commercial area and congesting an area I don't think needs any more schools(this will make 5 in one area) Although I love the arts I can't support a program that disregards public desire.

Information and cost- I was a little surprised at the AAA meeting that it wasn't until after lots of questioning and prodding that they mentioned their expansion plan. They could go up to 700 kids, but would build out more buildings. This means they knew what they wanted to do but wasn't letting the public know their intentions and that there would be more than previously presented. Also, they need to get the building done so they don't loose their charter but there is no water etc. out there yet. This concerns me as to the cost that the city will accrue for those amenities. That area isn't ready for building yet and until other developments around them are built up, I

fear the cost will be much greater to the city because of their hasty time frame. It is just not smart planning. I was also surprised that AAA had purchased the land already and especially since it is zoned for commercial that is part of an MDA. I don't know what good an MDA does for our city if it can't be enforced with the intent of the agreed upon land use. There has got to be a better way to handle development or an ordinance that protects the city from unnecessary costs accrued by developments coming in.

I do feel for this charter school and the run around it supposedly received but feel the greater good of the community and city is better served with finding other solutions for this school.

Teton Ranch-
Oh Doug...what can I say more. Supposedly he knew nothing about the selling of the commercial land. I'm not sure I buy that but needless to say this area was supposed to be a great area in Herriman. So many people are looking for larger areas, backyards, commercial for our city and yet he brings the highest density parts first. I hope the council can come up with a better plan for Develop agreements so that when a developer comes with their proposals it includes the full development. Teton Ranch should come through the PC process and to the council and one development so that the integrity of the vision stays there. The great thing about Teton Ranch was the 1 acre,1/2 acre , 1/3 acre lots that our city has none of- not the senior living or small cottages to the north. We are made up of small, attached housing and there is no viability for the longevity of a city in this type of building. We know he will figure out some way to get around building those beautiful sized lots. Maybe he will put in number 6 school over there(sorry for the sarcasm).

I encourage the council to please protect our city, place ordinances that will protect the city and the small part of development we have left.

Thanks for all you do and I appreciate your willingness to serve in our community.
--
Emily Berbert

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Michael Maloy

From: Robin Glassey [redacted]
Sent: Thursday, January 10, 2019 6:14 PM
To: Plan
Subject: Advantage Arts Academy File Number S2018-23 & P2018-05

Re: Notice of Public Hearing for Advantage Academy Arts 2 Lot subdivision

Dear Planning Commission,

I have emailed Advantage Arts Academy regarding my thoughts and feeling about the proposed application for Advantage Arts Academy Charter School and felt it necessary to contact you as well. I attended a public hearing for the Herriman City Planning Commission last week with the intent of sharing my thoughts regarding the application for a 2 lot subdivision for Advantage Arts Academy Charter School on property located at approximately 6200 West 11800 South. The matter was continued to Thursday January 17, 2019 and unfortunately, I will be unable to attend the meeting that night as I have other obligations. I still feel that it's important to express my concerns about this proposal and why I don't believe this is a good location for the school.

Herriman City already has several schools crammed within a one block radius: a high school, a middle school, and two elementary schools. Building so many schools in close proximity to one another has created not only a mass exodus of cars in the morning and afternoon of parents and teenagers trying to make their way to and from school, but a dangerous situation for children trying to cross busy streets jam-packed with commuters trying to get to work.

In the neighbor I live in (Heritage Place Estates) it isn't just a matter of these four schools families are trying to get to, there is a fifth elementary school in the mix that is a few blocks away children also attend called Silvercrest Elementary. Adding a sixth school full of elementary age children that is across the road from a high school with teenagers just getting their permits and barely knowing how to drive is a recipe for disaster. Am I exagerating this? Absolutely not. Why just yesterday one of my sons handed his car keys to his friend, thinking she was just going to get money from his car and she took the car for a drive, getting into an accident in the parking lot with another student who had also borrowed a car from another friend. Neither of these students who had taken the car keys had licenses. It is fortunate that the accident happened on the school grounds in the parking lot, but it just as easily could have been on the road with a teenager hitting an elementary student walking home.

As a concerned Herriman resident, not only do I worry about student safety, I'm also concerned about the ongoing health and well-being of our city. Can we maintain it? We have struggled to find areas that we can use for commercial development so we will be able to have an ongoing tax base to maintain needed city services. We finally have a spot that is zoned for commercial development. I urge you not to allow Advantage Arts Academy to take this spot and use it for the school. We need this for commercial development and it's an unsafe place for children that would only add to the traffic and accidents that are already occuring along Pioneer Road.

Sincerely,

Robin Glassey

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Attachment D

Planning Commission Staff Report (January 3, 2019)

Staff Report

DATE: December 28, 2018

TO: Planning Commission

FROM: Michael Maloy, AICP, Planning Director

MEETING: Planning Commission January 3, 2019

REQUEST: Preliminary Subdivision for Two Lots

Applicant:	Tyler Bodrero, Pace Construction Management
Address:	Approximately 6200 W 11800 South
Zone:	C-2 Commercial
Acres:	6.8±
File Number:	S2018-23

Summary

The applicant is requesting preliminary approval of a two-lot subdivision located approximately at 6200 W 11800 South. The approximately 6.8-acre property is zoned C-2 Commercial. The purpose of the subdivision is to facilitate the construction of a new charter school known as Advantage Arts Academy with an initial enrollment of 525 students and 700 students at capacity (see Attachment B – Preliminary Subdivision Plat, and Attachment C – Preliminary Development Plan).

Process

A subdivision is subject to an administrative process that is decided by the Planning Commission. Herriman City requires all applications for preliminary subdivision to:

1. First, be presented by the applicant to members of the community in a neighborhood meeting, and
2. Then be heard by the Planning Commission at a public meeting.

Following a public hearing, the Planning Commission shall make a decision based on the applicable ordinances and standards.

Options

In making a motion, a member of the Commission may consider the following options:

- Approve the application as proposed,
- Approve the application with conditions,
- Table or continue the application for further research and consideration, or
- Deny the application based on failure to comply with applicable ordinances and standards.

Neighborhood Meeting

A neighborhood meeting was held on December 17, 2018. Notices were mailed by the applicant to 136 residents. Nine (9) residents attended the meeting. In general, attendees opposed the proposal and cited concerns with increased traffic, decreased public safety, reduced commercial services, and negative impacts on city revenues. Minutes from the meeting are included in the packet (see Attachment H – Neighborhood Meeting Minutes & Comment).

Public Hearing Notice

Staff mailed notices to all property owners within 300 feet of the subject property, as well as nearby affected subdivisions. Notices were mailed to 136 property owners on December 21, 2018 (see Attachment A – Vicinity Maps).

Development Review Committee

Planning Division staff forwarded the proposal to the Development Review Committee (DRC) on November 27, 2018, for review. On December 4, 2018, staff compiled all DRC review comments, and on December 5, 2018, forwarded all comments to the applicant. Key issues identified by the City Engineer involve public safety concerns (see Attachment E – Development Review Committee Comments).

In response to the DRC, the applicant submitted a revised traffic impact study on November 30, 2018 (see Attachment E – Traffic Impact Study). However, Blake Thomas, Herriman City Engineer, maintains several concerns regarding the suitability of the site for the proposed use on a street that is planned to be a major arterial road for residential, commercial, and industrial traffic (see Attachment F – City Engineer Email).

Discussion

A request for approval of a preliminary subdivision plat is subject to compliance with Chapter 28, Subdivision and Site Development Standards, of City Code. The proposal is also subject to the requirements of City Code 10-5-15 Preliminary Plats. Within these sections, the staff has identified the following issues:

Issue 1. Lot Frontage

The following City Code requires all lots to have street frontage:

City Code 10-28-8. C. Streets: *Each lot shall abut on a street shown on the subdivision plat* or

> on an existing publicly dedicated street which has become public by right of use and which is more than twenty-six feet (26') wide. Double frontage lots shall be prohibited, except where unusual conditions make other designs undesirable (italics added).

In response to this concern, the applicant submitted a revised preliminary subdivision plat for a single lot—labeled "Lot 1" and a "Remainder Parcel." However, the term "remainder parcel" is not a recognized term within City Code. Furthermore, City Code defines a lot as follows:

> **10-3-5: Definitions, Generally**
> **Lot:** A contiguous and separately delineated piece of real property which is shown on a recorded final subdivision plat or record of survey. A lot also includes a parcel as defined in this section.

Therefore, the "Remainder Parcel"—which is a lot as defined by Herriman City Code—must abut a street shown on the subdivision plat.

Issue 2. Incomplete Information

In reviewing City Code 10-5-15, which is entitled Preliminary Plats, the staff has identified several technical requirements that have not been submitted by the applicant, such as:

- Easements proposed for water, sewer, drainage, utility lines, and other purposes;
- Proposed off-site and on-site culinary and secondary water facilities, sanitary sewers, storm drainage facilities, and fire hydrants;
- A plan for providing street lighting in the subdivision;
- Copies of any agreements with adjacent property owners relevant to the proposed subdivision;
- Evidence that all utilities and services will be available for the subdivision;
- Evidence of compliance with other applicable Federal, State and local laws and regulations, if requested by the Community Development Director;

Regarding easements, and storm drainage, the City Engineer stated in Attachment G:

> The site does not have an outfall so the stormwater will need to be maintained in a temporary retention pond sized to the 100-year, 24-hour event with 1 foot of freeboard. If this facility is placed on an off-site location, an easement will be required to be recorded prior to the commencement of construction of the facility. A long-term stormwater maintenance agreement will be required for any private and temporary storm drain improvements.

Regarding compliance with the State, the applicant has not yet obtained clearance from the Utah Department of Environmental Quality—which is required—due to the presence of contaminated soils within the area.

Issue 3. Compliance with Regulations

Within Utah Code, a private non-profit "charter school" is recognized as a "specified public agency." Furthermore, Utah Code prescribes the following regulations for municipalities and charter schools:

10-9a-3.5
(1)(a) Each county, municipality, school district, charter school, local district, special service district, and political subdivision of the *state shall conform to any applicable land use ordinance of any municipality when installing, constructing, operating, or otherwise using any area, land, or building situated within that municipality* (italics added).

(2)(a) Except as provided in Subsection (3), *a school district or charter school is subject to a municipality's land use ordinances* (italics added).
(b) (i) Notwithstanding Subsection (3), *a municipality may* (italics added):
(A) subject a charter school to standards within each zone pertaining to setback, height, bulk and massing regulations, off-site parking, curb cut, traffic circulation, and construction staging; and
(B) impose regulations upon the location of a project that are necessary to avoid unreasonable risks to health or safety, as provided in Subsection (3)(f).
(ii) The standards to which a municipality may subject a charter school under Subsection (2)(b)(i) shall be objective standards only and may not be subjective.
(iii) Except as provided in Subsection (7)(d), the only basis upon which a municipality may deny or withhold approval of a charter school's land use application is the charter school's failure to comply with a standard imposed under Subsection (2)(b)(i).
(iv) Nothing in Subsection (2)(b)(iii) may be construed to relieve a charter school of an obligation to comply with a requirement of an applicable building or safety code to which it is otherwise obligated to comply.

(3) *A municipality may not* (italics added):
(a) impose requirements for landscaping, fencing, aesthetic considerations, construction methods or materials, additional building inspections, municipal building codes, building use for educational purposes, or the placement or use of temporary classroom facilities on school property;
(b) except as otherwise provided in this section, require a school district or charter school to participate in the cost of any roadway or sidewalk, or a study on the impact of a school on a roadway or sidewalk, *that is not reasonably necessary for the safety of school children and not located on or contiguous to school property, unless the roadway or sidewalk is required to connect an otherwise isolated school site to an existing roadway*; (italics added)
(c) require a district or charter school to pay fees not authorized by this section;
(d) provide for inspection of school construction or assess a fee or other charges for inspection, unless the school district or charter school is unable to provide for inspection by an inspector, other than the project architect or contractor, who is qualified under criteria established by the state superintendent;

(e) require a school district or charter school to pay any impact fee for an improvement project unless the impact fee is imposed as provided in Title 11, Chapter 36a, Impact Fees Act;
(f) impose regulations upon the location of an educational facility *except as necessary to avoid unreasonable risks to health or safety*; or (italics added)
(g) for a land use or a structure owned or operated by a school district or charter school that is not an educational facility but is used in support of providing instruction to pupils, impose a regulation that:
(i) is not imposed on a similar land use or structure in the zone in which the land use or structure is approved; or
(ii) uses the tax-exempt status of the school district or charter school as criteria for prohibiting or regulating the land use or location of the structure.

(4) Subject to Section 53E-3-710, a school district or *charter school shall coordinate the siting of a new school with the municipality* in which the school is to be located, to:
(a) *avoid or mitigate existing and potential traffic hazards*, including consideration of the impacts between the new school and future highways; and
(b) maximize school, student, and site safety.

(7)(a) A charter school shall be considered a permitted use in all zoning districts within a municipality.
(b) Each land use application for any approval required for a charter school, including an application for a building permit, shall be processed on a first priority basis.
(c) Parking requirements for a charter school may not exceed the minimum parking requirements for schools or other institutional public uses throughout the municipality.
(d) If a municipality has designated zones for a sexually oriented business, or a business which sells alcohol, a charter school may be prohibited from a location which would otherwise defeat the purpose for the zone unless the charter school provides a waiver.

While the above section of Utah Code limits municipal regulations, it does not exempt the applicant from compliance with Herriman Land Development Regulations for subdivisions. Furthermore, it provides municipalities the ability to "impose regulations on the location of a project that are necessary to avoid unreasonable risks to health or safety," which is discussed in the following issue.

Issue 4. Safety

City staff has repeatedly—and directly—informed the applicant that based on objective experience, existing transportation plans, recommended pedestrian safety measures, and civil engineering standards that the proposed site is unsuitable for the proposed use due to the following conditions:

- **Isolated Development.** The proposed site is currently isolated from existing development. As such, there is no pedestrian network to connect with. In response to this concern, the applicant has stated that the "safe route to school" plan is for all students to be driven to school. Whereas

the charter school will not provide bus service and is not serviced by public transit, the proposal will generate between 341 and 455 "peak hour trips" each school day (see Attachment F – Traffic Impact Study). To address this would require—at a minimum—the applicant to construct approximlatey 1,000 feet of sidewalk along 11800 South to Mustang Trail Way (6000 West). Should the site be approved, and development patterns continue as expected, it is reasonble to assume that a pedestrian bridge may also be warranted in the future.

- **Fails AASHTO.** As identified by the City Engineer, the proposal fails to follow the American Association of State Highway and Transportation Official's (AASHTO) *Guide for the Planning, Design, and Operation of Pedestrian Facilities*, which includes schools. AASHTO recommends schools be located on collector streets within neighborhoods—not a major arterial without any pedestrian or secondary vehicular access. At a minimum, the development should have vehicular and pedestrian access from the adjacent residential subdivision, which is currently being designed and engineered for construction.

- **Major Arterial.** The current *Herriman City Transportation Master Plan*—which traffic projections are being exceeded due to rapid residential growth within the City—describes 11800 South as follows:

  > **11800 South.** Recommended roadway improvements would include a slight realignment to accommodate the Mountain View Corridor (MVC) alignment. It is also recommended that the roadway be classified as a *major arterial, accommodating a seven-lane roadway cross-section between the MVC and 6000 West.* Because this location will be the only crossing of MVC between 11400 South and 12600 South Interchanges, *it is projected to carry a great deal of east-west traffic* that will be distributed onto north-south roads providing access to the adjacent MVC interchanges. It is suggested that a 120-foot ROW section be acquired to accommodate this demand. Traffic signals are recommended when they become warranted, to be installed at the major intersection crossings of 5600, 6000, and 6400 West as shown in Table 5-2 (italics added).

  Furthermore, the *Transportation Master Plan*, which was published in 2009 and is demonstrably outdated, estimates that the 2020 average daily trips on 11800 South will range from 20,500 to 40,000, which will be a significant—and costly—barrier for the planning and development of future "safe routes to school."

  It should also be noted that the mitigation measures recommended by the Traffic Impact Study include construction of a lengthy island and widening of 11800 South, west of 6000 West, to five lanes. However, these needed improvements—for the safety of the school—are currently unfunded, and will not be paid for by the charter school.

- **Offsite Improvements.** The preceding issues identify significant offsite improvements that will be required to facilitate traffic and avoid unreasonable risks to health or safety, and according to

the applicant, Utah Code does not obligate the charter school to construct any of these improvements. However, staff questions whether the following Utah Code *does* allow municipalities this power when a proposed development poses "unreasonable risks to health or safety" or located on "an otherwise isolated school site:"

> (A municipality may not) except as otherwise provided in this section, require a school district or charter school to participate in the cost of any roadway or sidewalk, or a study on the impact of a school on a roadway or sidewalk, *that is not reasonably necessary for the safety of school children and not located on or contiguous to school property, unless the roadway or sidewalk is required to connect an otherwise isolated school site to an existing roadway*; (italics added)

If the applicant is not obligated to contribute financially to the construction of the offsite mitigation measures and safe routes to school, the cost to the City will be significant.

Issue 5. Waiver

Whereas the proposal is located within a commercial zone on an arterial street, the City reasonably anticipates the development of businesses that may wish to sell or serve alcohol, such as a full-service restaurant. As per Utah Code, the City may deny the charter school unless a proximity waiver is provided by the school. To resolve this issue, the City requests the applicant to sign a proximity waiver to allow alcohol licenses within adjacent commercial zones as a condition of approval.

Recommendation

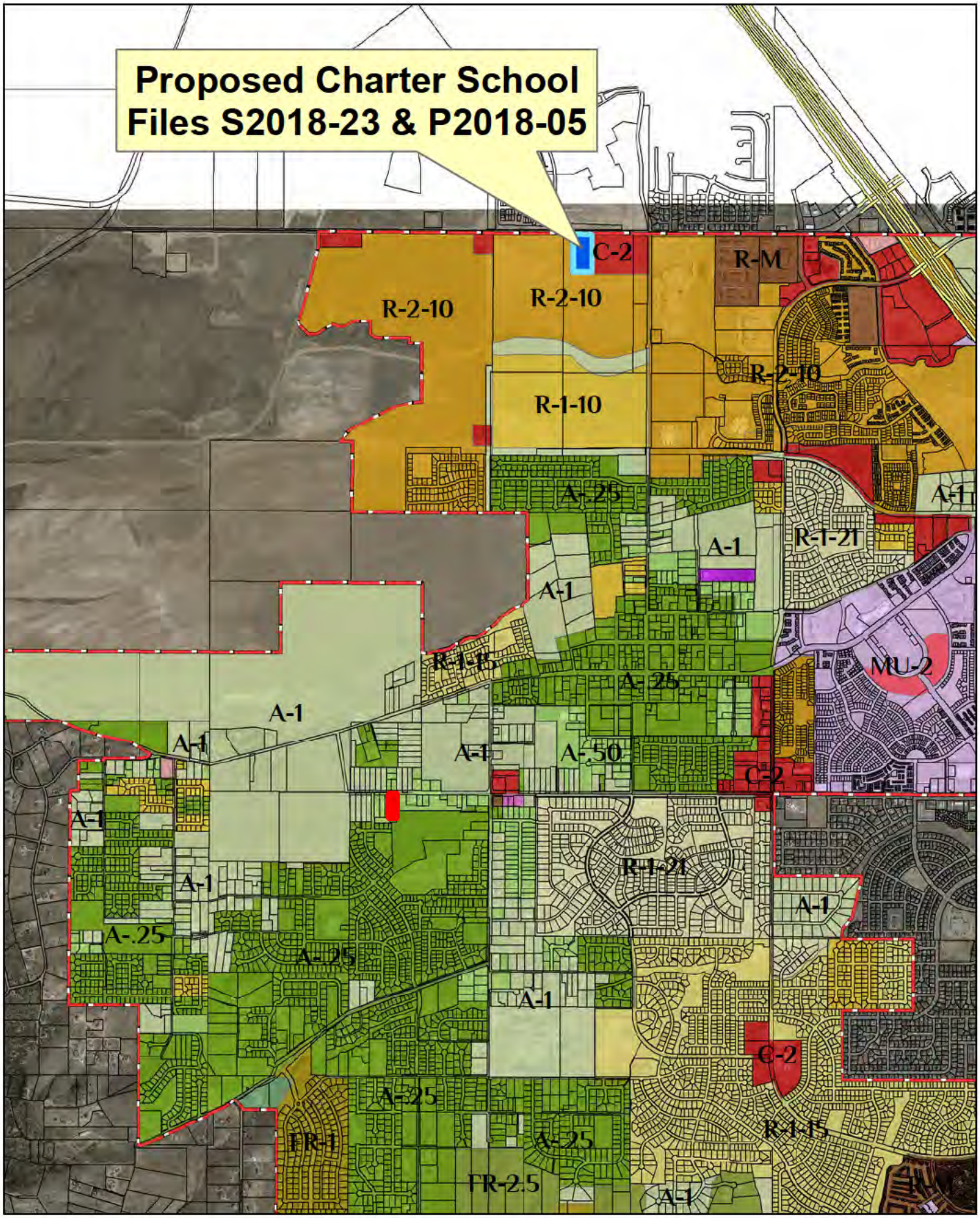
Whereas the "Remainder Parcel"—or Lot 2—of the proposed subdivision does not have frontage on a public right of way, and the proposed civil engineering plans do not include necessary mitigation measures to ensure public safety, staff recommends the request be tabled to allow:

- the applicant additional time to resolve the identified deficiencies, and
- additional staff time to study plan revisions (pending submittal).

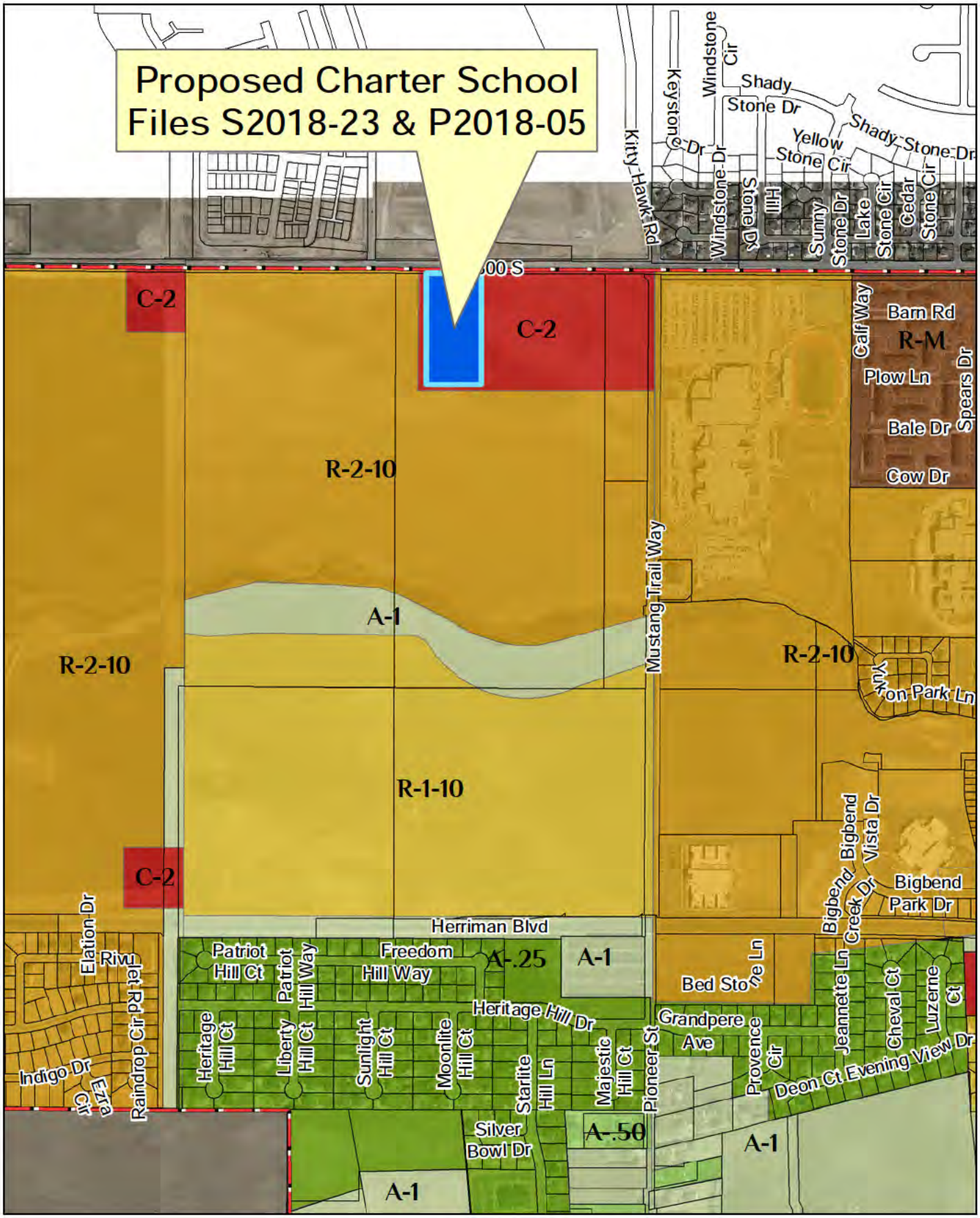
Attachments

A. Vicinity Maps
B. Preliminary Subdivision Plat
C. Preliminary Development Plan
D. Advantage Arts Academy Schedule
E. Development Review Committee Comments
F. Traffic Impact Study
G. City Engineer Comments
H. Neighborhood Meeting Minutes & Comment

Attachment A
Vicinity Maps



Proposed Charter School
Files S2018-23 & P2018-05

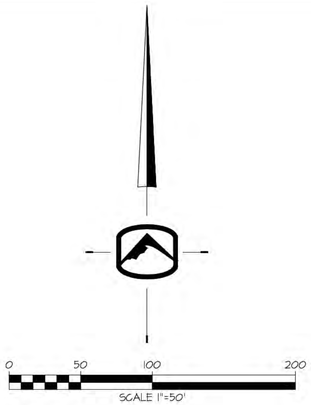


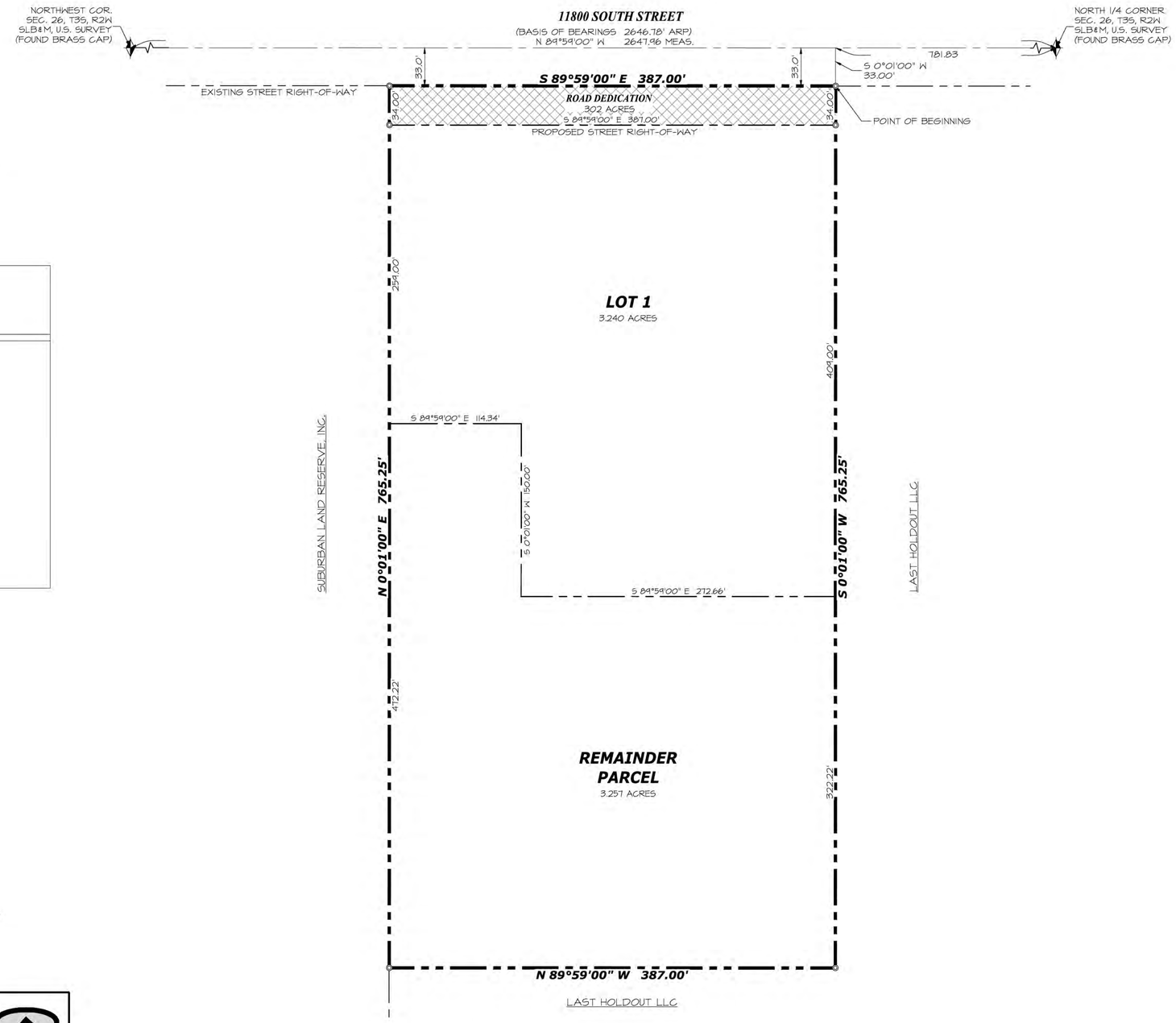
Proposed Charter School
Files S2018-23 & P2018-05

Attachment B
Preliminary Subdivision Plat

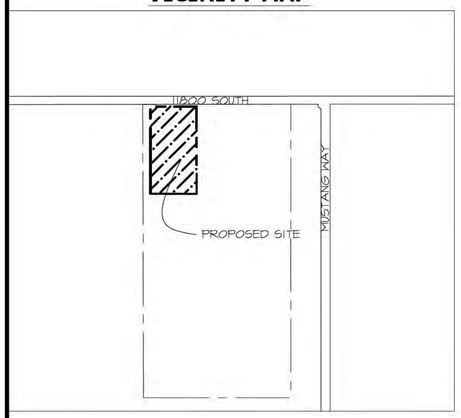
ADVANTAGE ARTS SUBDIVISION

A SUBDIVISION LOCATED IN THE NORTHWEST CORNER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, HERRIMAN CITY, SALT LAKE COUNTY, UTAH





VICINITY MAP



LEGEND

- BOUNDARY LINE
- LOT LINE
- SECTION LINE
- PUBLIC UTILITY EASEMENT (PUE) LINE
- ADJACENT PROPERTY
- CENTERLINE
- SECTION CORNER
- STREET MONUMENT TO BE SET PER SALT LAKE COUNTY SURVEYOR'S STANDARDS. PERMIT REQUIRED.
- PROPERTY / LOT CORNER FOUND OR TO BE SET WITH 5/8"x24" REBAR & CAP STAMPED SILVERPEAK ENG.
- DEDICATED FOR PUBLIC RIGHT-OF-WAY

NOTE:

ALL STREET MONUMENTS TO BE SET PER SALT LAKE COUNTY SURVEYOR STANDARDS.

SURVEYOR'S CERTIFICATE

I, **Jason T. Felt** do hereby certify that I am a Licensed Professional Land Surveyor, and that I hold certificate No. **9234283** as prescribed under laws of the State of Utah. I further certify that by authority of the Owners, I have made a survey of the tract of land shown on this plat and described below, and have subdivided said tract of land into lots, parcels, streets, together with easements, hereafter to be known as **ADVANTAGE ARTS SUBDIVISION** and that the same has been correctly surveyed and monumented on the ground as shown on this plat. I further certify that all lots meet frontage width and area requirements of the applicable zoning ordinances.

JASON T. FELT, P.L.S.
LICENSE NO. 9234283

DATE: November 5, 2018

BOUNDARY DESCRIPTION

A PART OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY, HERRIMAN CITY, SALT LAKE COUNTY, UTAH

BEGINNING AT A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF 11800 SOUTH STREET, BEING 781.83 FEET NORTH 89°59'00" WEST ALONG THE SECTION LINE, AND 33.00 FEET SOUTH 0°01'00" WEST FROM THE NORTH QUARTER CORNER OF SAID SECTION 26; THENCE SOUTH 0°01'00" WEST 765.25 FEET; THENCE NORTH 89°59'00" WEST 387.00 FEET; THENCE NORTH 0°01'00" EAST 765.25 FEET TO SAID SOUTH LINE OF 11800 SOUTH STREET; THENCE SOUTH 89°59'00" EAST 387.00 FEET ALONG SAID SOUTH LINE OF 11800 SOUTH STREET TO THE POINT OF BEGINNING.

CONTAINS: 6.799 ACRES

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED ARE THE OWNERS OF THE ABOVE DESCRIBED TRACT OF LAND, AND HEREBY CAUSE THE SAME TO BE DIVIDED INTO LOTS, PARCELS AND STREETS, TOGETHER WITH EASEMENTS AS SET FORTH TO BE HEREAFTER KNOWN AS ASCENT SUBDIVISION AND DO HEREBY DEDICATE FOR THE PERPETUAL USE OF THE PUBLIC ALL ROADS AND OTHER AREAS SHOWN ON THIS PLAT AS INTENDED FOR PUBLIC USE. THE UNDERSIGNED OWNERS ALSO HEREBY CONVEY TO ANY AND ALL PUBLIC UTILITY COMPANIES A PERPETUAL, NON-EXCLUSIVE EASEMENT OVER THE PUBLIC UTILITY EASEMENTS SHOWN ON THIS PLAT, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF UTILITY LINES AND FACILITIES. THE UNDERSIGNED OWNERS ALSO HEREBY CONVEY ANY OTHER EASEMENTS AS SHOWN ON THIS PLAT TO THE PARTIES INDICATED AND FOR THE PURPOSES SHOWN HEREON.

SIGNED THIS ____ DAY OF _____ 2018.

_____ HERRIMAN School Development, LLC

_____ Giovengo Properties, LLC

ACKNOWLEDGMENT

STATE OF UTAH
COUNTY OF } ss

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 2018 BY _____ WITH HERRIMAN SCHOOL DEVELOPMENT LLC.

RESIDING AT: _____

COMMISSION NUMBER: _____

MY COMMISSION EXPIRES: _____

_____ NOTARY PUBLIC (PRINT NAME)

_____ NOTARY PUBLIC SIGNATURE

SILVERPEAK ENGINEERING

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
FAX: (801) 499-5065

PLANNING COMMISSION

APPROVED THIS _____ DAY OF _____, 2018 BY THE HERRIMAN CITY PLANNING COMMISSION.

_____ CHAIR, PLANNING COMMISSION

CITY ENGINEER'S APPROVAL

I HEREBY CERTIFY THAT THIS OFFICE HAS EXAMINED THIS PLAT AND IT IS CORRECT IN ACCORDANCE WITH INFORMATION ON FILE IN THIS OFFICE.

_____ HERRIMAN CITY ENGINEER _____ DATE

CITY ATTORNEY'S APPROVAL

APPROVED BY THE HERRIMAN CITY ATTORNEY'S OFFICE THIS ___ DAY OF _____ 2018.

_____ CITY ATTORNEY

HERRIMAN CITY APPROVAL

THIS PLAT AND ANY DEDICATIONS HEREIN APPROVED AND ACCEPTED BY THE MAYOR OF HERRIMAN CITY THIS ___ DAY OF _____ 2018.

_____ CITY MANAGER

ATTEST: _____ CITY RECORDER

SALT LAKE COUNTY RECORDER

ENTRY NO._____FEE PAID_____FILED FOR

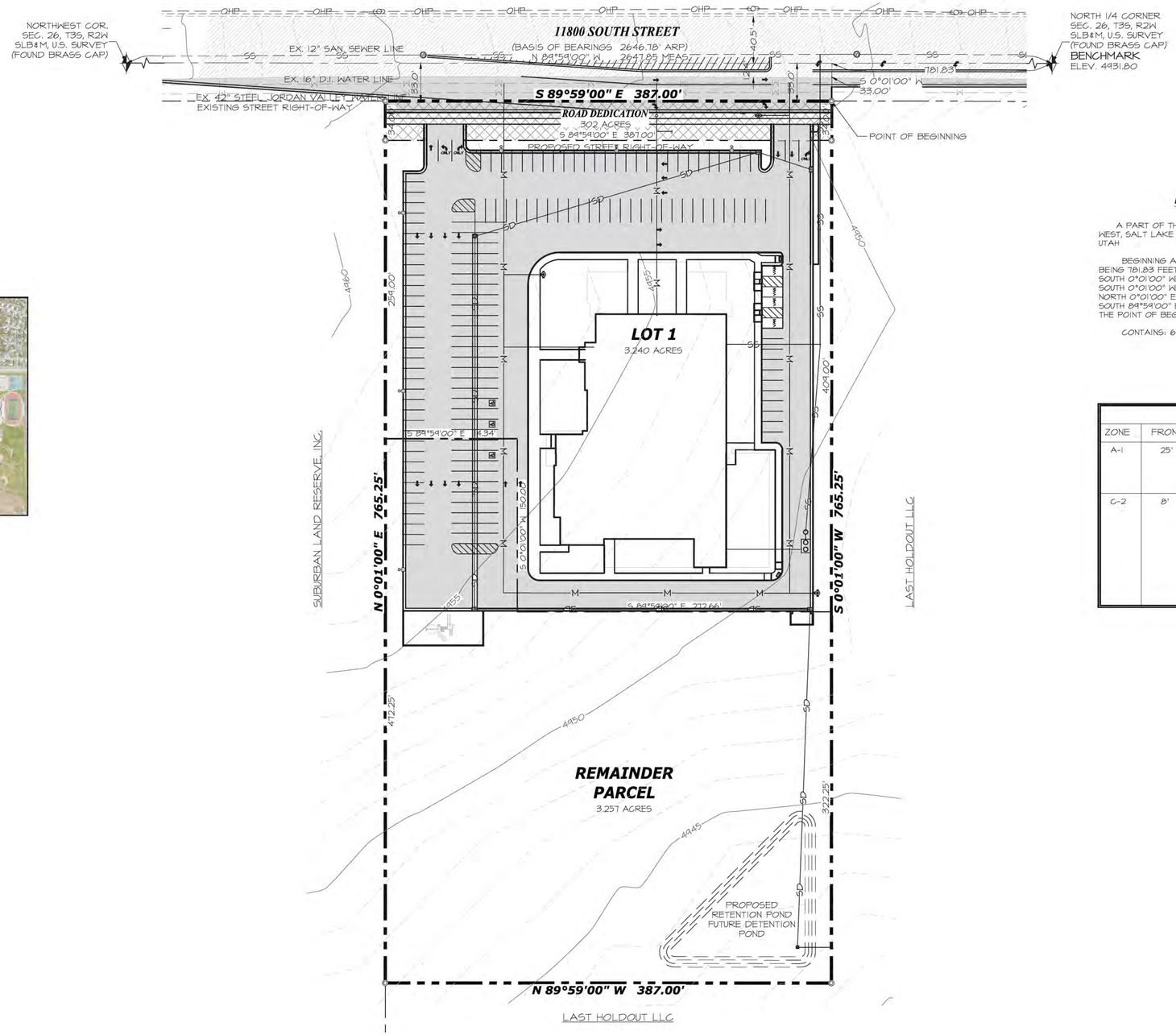
RECORD AND RECORDED THIS _____ DAY OF

_____, 2018 AT _____ IN BOOK _____ OF

OFFICIAL RECORDS PAGE _____

ADVANTAGE ARTS SUBDIVISION

A SUBDIVISION LOCATED IN THE NORTHWEST CORNER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, HERRIMAN CITY, SALT LAKE COUNTY, UTAH



VICINITY MAP

SCALE: NO SCALE

BOUNDARY DESCRIPTION

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CONTAINS: 6.799 ACRES

MIMINUM YARD SETBACKS

ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

LEGEND

NOT ALL ITEMS IN THE LEGEND MAY BE APPLICABLE

- BOUNDARY LINE
- CENTERLINE
- EASEMENT LINE
- SETBACK LINE
- IRR — NEW IRRIGATION LINE
- SD — NEW STORM DRAIN
- SS — NEW SANITARY SEWER
- SW — NEW SECONDARY WATERLINE
- W — NEW CULINARY WATERLINE
- IRR — EX. IRRIGATION LINE
- OHP — EX. OVERHEAD POWER LINE
- SD — EX. STORM DRAIN
- SS — EX. SANITARY SEWER
- SW — EX. SECONDARY WATERLINE
- T — EX. TELEPHONE LINE
- G — EX. GAS LINE
- W — EX. CULINARY WATERLINE
- SECTION CORNER
- MONUMENT
- CONTROL POINT
- 4250 — EG CONTOUR MINOR
- 4250 — EG CONTOUR MAJOR
- 4250 — FG CONTOUR MINOR
- 4250 — FG CONTOUR MAJOR
- NEW ASPHALT PER DETAIL 1/C3.1
- EXISTING ASPHALT
- EXISTING CURB & GUTTER
- 30" HIGH BACK CURB PER DETAIL 2/C3.1
- 30" RELEASE GUTTER PER DETAIL 3/C3.1

0 50 100 200
SCALE 1"=50'

PRELIMINARY PLAT

ONE WEST CONSTRUCTION
ATTN: TED LEWIS
240 N. FLINT STREET
KAYSVILLE, UTAH
PHONE: 801-444-9878

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL: PROFESSIONAL LAND SURVEYOR 12/12/18 No. 9295283 JASON T. BELL STATE OF UTAH

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY
WWW.SILVERPEAKENG.COM

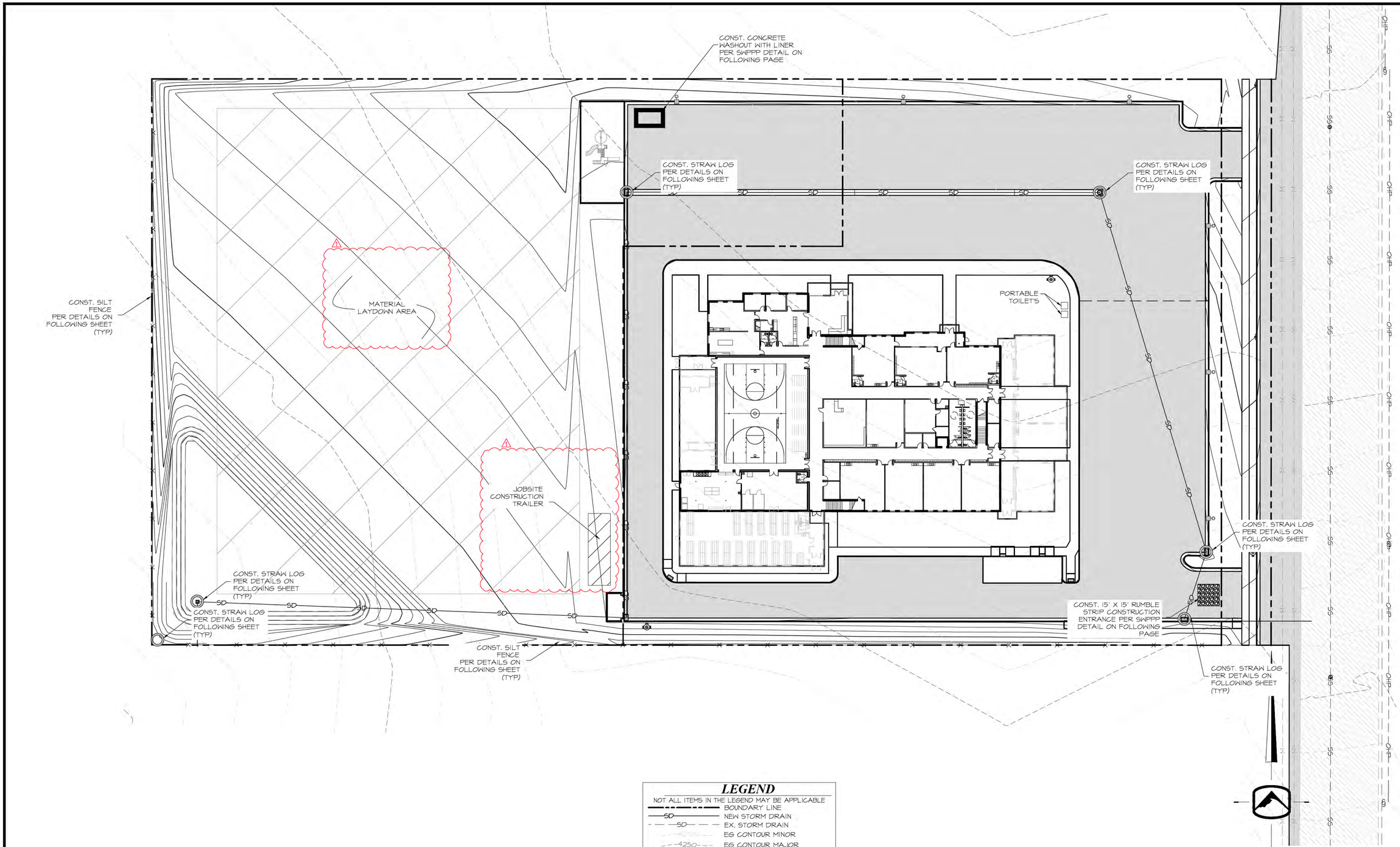
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 12/07/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

PLAT PRELIMINARY

SHEET NUMBER: 1

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



SWPPP

LEGEND

NOT ALL ITEMS IN THE LEGEND MAY BE APPLICABLE

- BOUNDARY LINE
- SD — NEW STORM DRAIN
- SD — EX. STORM DRAIN
- EG CONTOUR MINOR
- 4250 — EG CONTOUR MAJOR
- 4250 — FG CONTOUR MINOR
- 4250 — FG CONTOUR MAJOR
- NEW ASPHALT PER X-SECTION
- EXISTING ASPHALT
- EXISTING CURB & GUTTER
- CONST. CURB & GUTTER PER X-SECTION
- X — CONST. SILT FENCE
- SD INLET PROTECTION

NOTE:

DURING CONSTRUCTION OF THE BUILDING THE PLAYFIELD AND PARKING AREAS WILL BE USED FOR CONSTRUCTION STAGING. DURING CONSTRUCTION OF THE PARKING AREA THE PLAYFIELD AREA WILL BE USED FOR CONSTRUCTION STAGING

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL:

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 12/07/2018
PROJECT: AW-051
DRAWN BY: JRJ

REVISIONS:
11-27-2018 1

SWPPP

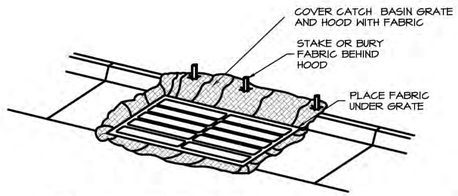
SHEET NUMBER:
C500

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

S:\Silverpeak Projects\Academica\West Utah\AW-051 Advantage Arts Herriman\Civil\AW-051 CIVIL (5).dwg 12/12/2018 2:08:19 PM

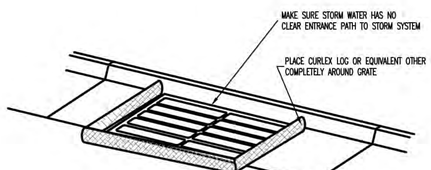
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

ADVANTAGE ARTS ACADEMY SCHOOL



FABRIC UNDER GRATE

MAINTENANCE: LIFT GRATE & CLEAN SEDIMENT OFF OF FABRIC WEEKLY & AFTER A STORM. TAKE CARE WHILE LIFTING GRATE TO PREVENT SEDIMENT FROM FALLING INTO THE CATCH BASIN. DISPOSE OF SEDIMENT AWAY FROM THE STORM DRAIN.



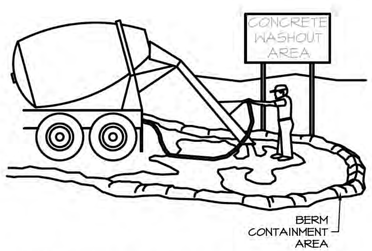
CURLEX LOG (STRAW/CLOTH SACK)

MAINTENANCE: REMOVE & CLEAN CULEX LOGS THOROUGHLY EACH WEEK OR AFTER A STORM. TAKE CARE WHILE MOVING ROCK SACKS TO PREVENT SEDIMENT FROM FALLING INTO THE CATCH BASIN. DISPOSE OF SEDIMENT AWAY FROM THE STORM DRAIN.

INLET PROTECTION

NOTES:

1. USE FABRIC UNDER GRATE TO PROTECT THE CATCH BASIN FROM SEDIMENTATION.



CONCRETE WASTE MANAGEMENT

NOTES:

1. EXCESS AND WASTE CONCRETE SHALL NOT BE WASHED INTO THE STREET OR INTO A DRAINAGE SYSTEM.

2. FOR WASHOUT OF CONCRETE AND MORTAR PRODUCTS, A DESIGNATED CONTAINMENT FACILITY OF SUFFICIENT CAPACITY TO RETAIN LIQUID AND SOLID WASTE SHALL BE PROVIDED ON SITE. THIS DISCHARGE AREA MUST BE LINED WITH AN IMPERMEABLE BARRIER.

3. SLURRY FROM CONCRETE AND ASPHALT SAW CUTTING SHALL BE VACUUMED OR CONTAINED, DRIED, PICKED UP, AND DISPOSED OF PROPERLY.

CONSTRUCTION & BMP SEQUENCING

BMP INSPECTION AND MAINTENANCE SHALL BEGIN WITH THE INSTALLATION OF THE FIRST BMP AND CONTINUE UNTIL THE LAST BMP (REVEGETATION) HAS BEEN COMPLETED.

CATCH BASIN PROTECTION

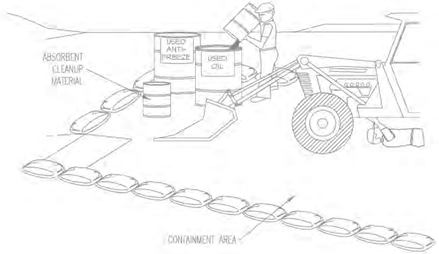
1 CATCH BASIN PROTECTION PER DETAIL LABELED "CURLEX LOG" AND/OR "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF STORM DRAIN CONSTRUCTION.
2 FOR CATCH BASINS LOCATED IN CURB AND GUTTER:
 A "CURLEX LOG" SHALL REMAIN IN PLACE UNTIL CURB AND GUTTER IS CONSTRUCTED.
 B CATCH BASIN PROTECTION PER DETAIL LABELED "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF CURB AND GUTTER CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL FINISH GRADING IS COMPLETED.
3 FOR CATCH BASINS LOCATED IN LANDSCAPE AREAS:
 A "CURLEX LOG" SHALL REMAIN IN PLACE UNTIL SITE GRADING OCCURS.
 B CATCH BASIN PROTECTION PER DETAIL LABELED "CURLEX LOG" AND/OR "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF SITE GRADING, AND SHALL REMAIN IN PLACE UNTIL ALL GRADING & LANDSCAPING IS COMPLETED.

CONCRETE WASTE MANAGEMENT

1 A CONCRETE WASTE MANAGEMENT FACILITY SHALL BE CONSTRUCTED PRIOR TO POURING ANY CONCRETE ON THE SITE, AND SHALL REMAIN IN PLACE UNTIL THE LAST CONCRETE POUR HAS BEEN COMPLETED.
2 CONTRACTOR IS TO REMOVE THE CONCRETE WASTE MANAGEMENT FACILITY BY LEGALLY REMOVING AND DISPOSING OF WASTE CONCRETE AND, IF NECESSARY, ANY NON-SOIL BERM MATERIALS.

REGEVETATION

1 SEEDING AND PLANTING OF THE SITE PER THE LANDSCAPE PLAN SHALL OCCUR WITHIN 14 DAYS OF COMPLETION OF THE FINISH GRADING, IF SAID 14 DAYS OCCUR BETWEEN APRIL 15 AND SEPTEMBER 15. OTHERWISE, SEEDING AND PLANTING SHALL BEGIN APRIL 15.
2 PLANTING EFFORTS SHALL BE COMPLETED WITHIN 15 DAYS.
3 SEEDING AND PLANTING SHALL BE CONSIDERED COMPLETE WHEN 70% OF PLANTINGS ARE ESTABLISHED.



EQUIPMENT MAINTENANCE/REPAIR

NOTES:

1. LEAKING VEHICLES AND EQUIPMENT SHALL NOT BE ALLOWED ON-SITE. EQUIPMENT AND VEHICLES SHALL BE INSPECTED FREQUENTLY FOR LEAKS AND SHALL BE REPAIRED IMMEDIATELY. CLEAN UP SPILLS AND LEAKS PROMPTLY WITH ABSORBENT MATERIALS; DO NOT FLUSH WITH WATER.

2. VEHICLES AND EQUIPMENT SHALL BE MAINTAINED, AND REPAIRED ON-SITE ONLY IN DESIGNATED AREAS. PREVENT RUN-ON AND RUN-OFF FROM DESIGNATED AREAS.

3. CONTAINMENT DEVICES SHALL BE PROVIDED AND AREAS SHALL BE COVERED IF NECESSARY.

4. DESIGNATE ON-SITE VEHICLE AND EQUIPMENT MAINTENANCE AREAS, AWAY FROM STORM DRAIN INLETS AND WATERCOURSES.

5. ALWAYS USE SECONDARY CONTAINMENT, SUCH AS A DRAIN PAN OR DROP CLOTH TO CATCH SPILLS AND LEAKS WHEN REMOVING OR CHANGING FLUIDS. LEGALLY DISPOSE OF USED OILS, FLUIDS AND LUBRICANTS.

6. PROVIDE SPILL CONTAINMENT DIKES OR SECONDARY CONTAINMENT AROUND STORED OIL, FUEL, AND CHEMICAL DRUMS.

7. MAINTAIN AN ADEQUATE SUPPLY OF ABSORBENT SPILL CLEANUP MATERIALS IN DESIGNATED AREAS.

STORM WATER POLLUTION PREVENTION PLAN SPECIFIC NOTES

1. THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WAS DEVELOPED AT THE REQUEST OF THE OWNER FOR THE CONSTRUCTION OF COMMERCIAL CONSTRUCTION IN HERRIMAN CITY, HERRIMAN COUNTY, STATE OF UTAH. THIS PLAN IDENTIFIES POTENTIAL SOURCES OF POLLUTANTS OF STORM WATER, PRESENTS POLLUTION CONTROL MEASURES, AND ASSISTS IN INSURING IMPLEMENTATION AND MAINTENANCE OF THE BEST MANAGEMENT PRACTICES (BMP'S) INDICATED HEREIN.

2. A NOTICE OF INTENT SHALL BE FILED WITH THE STATE OF UTAH DIVISION OF WATER QUALITY BY THE OWNER SO THAT THIS CONSTRUCTION PROJECT MAY BE COVERED UNDER THE STATE GENERAL PERMIT. THE PERMIT IS UTAH POLLUTION DISCHARGE ELIMINATION SYSTEM (UPDES) GENERAL PERMIT (NO. UTR 300000) FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY. PERMIT FORMS ARE AVAILABLE FOR DOWNLOAD FROM THE DEPARTMENT OF ENVIRONMENTAL QUALITY AT WWW.WATERQUALITY.UTAH.GOV/UPDES/SWCON02.PDF

3. IN THE EVENT OF A CHANGE IN OWNERSHIP, A NEW NOTICE OF INTENT SHALL BE FILED WITH THE DIVISION OF WATER QUALITY.

4. IN THE EVENT OF A RELEASE OF A REPORTABLE QUANTITY OF A POLLUTANT, THE CONTRACTOR SHALL ADVISE THE OWNER TO NOTIFY THE UTAH RESPONSE CENTER, HERRIMAN CITY, AND SILVERPEAK ENGINEERING IF NECESSARY, THIS SWPPP SHOULD BE REVISED TO REFLECT THE CHANGE IN CONDITIONS OF THE CONSTRUCTION ACTIVITY. A REPORTABLE QUANTITY IS ESTABLISHED BY 40 CODE OF FEDERAL REGULATIONS (CFR) 117.3 OR 40 CFR 302.4.

5. ALL CONTRACTORS AND THEIR PERSONNEL WHOSE WORK CAN CONTRIBUTE TO OR CAUSE POLLUTION OF STORM WATER SHALL BE MADE FAMILIAR WITH THIS SWPPP PLAN. ADEQUATE TRAINING FOR IMPLEMENTATION OF THE MEASURES PRESENTED HEREIN SHALL BE PROVIDED TO THE CONTRACTORS AND THEIR PERSONNEL. ALL CONTRACTORS AND SUBCONTRACTORS, EVEN ON RESIDENTIAL CONSTRUCTION WITH DISTURBANCE AREAS LESS THAN ONE ACRE, SHALL ABIDE BY THIS SWPPP.

6. CHANGES IN CONSTRUCTION OR IN CONDITIONS WHICH ARE NOT COVERED BY THIS SWPPP SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER, SKYLAND INVESTMENTS AND DEVELOPMENT AND SILVERPEAK ENGINEERING IF NECESSARY, THIS SWPPP WILL BE REVISED TO REFLECT THE CHANGE IN CONSTRUCTION OR IN CONDITIONS.

7. ALL PREVENTION AND CLEAN UP MEASURES SHALL BE CONDUCTED IN ACCORDANCE WITH HERRIMAN CITY ORDINANCES, AS WELL AS STATE AND FEDERAL REGULATIONS. WASTE MATERIALS SHOULD BE DISPOSED OF IN A LEGAL MANNER. ALL DISCHARGERS OF STORM WATER MUST COMPLY WITH THE LAWFUL REQUIREMENTS OF HERRIMAN CITY REGARDING THE DISCHARGES OF STORM WATER TO STORM DRAINS.

8. THIS SWPPP DOES NOT COVER THE REMOVAL OF HAZARDOUS OR TOXIC WASTE. IN THE EVENT OF A DISCHARGE OR RELEASE OF A REPORTABLE QUANTITY OF TOXIC WASTE, WORK SHALL BE STOPPED UNTIL THE SPILL CAN BE ASSESSED AND A MITIGATION REPORT PREPARED BY A QUALIFIED ENVIRONMENTAL CONSULTANT, AND IF NECESSARY, REVIEWED BY HERRIMAN CITY AND ANY OTHER AGENCY HAVING JURISDICTION.

9. THIS SWPPP SHALL BE MADE AVAILABLE TO THE PUBLIC UNDER SECTION 308(B) OF THE CLEAN WATER ACT. UPON REQUEST BY MEMBERS OF THE PUBLIC, THE DISCHARGER SHALL MAKE AVAILABLE FOR REVIEW A COPY OF THIS SWPPP EITHER TO THE DIVISION OF WATER QUALITY OR DIRECTLY TO THE REQUESTER. THIS SWPPP MUST BE KEPT ON SITE DURING CONSTRUCTION ACTIVITY AND MADE AVAILABLE UPON REQUEST OF A REPRESENTATIVE OF THE DIVISION OF WATER QUALITY AND/OR THE LOCAL AGENCY.

10. CONTACTS

DEVELOPER	[NAME]
ADDRESS	[ADDRESS]
CITY, STATE	[CITY]
TELEPHONE	HERRIMAN
CONTRACTOR/DISCHARGER	ONEWEST CONSTRUCTION
ADDRESS	290 N. FLINT STREET
CITY, STATE	KAYSVILLE, UTAH
TELEPHONE	801-444-9878
CIVIL ENGINEER	SILVERPEAK ENGINEERING
PROJECT MANAGER	JOSHUA R. JENSEN, P.E., S.E.
ADDRESS	177 E ANTELOPE DR, SUITE B
CITY, STATE	LAYTON, UT 84041
TELEPHONE	801-499-5054
HERRIMAN CITY	
ADDRESS	5355 W. HERRIMAN MAIN ST.
CITY, STATE	HERRIMAN, UTAH
TELEPHONE	801-446-5323
STATE OF UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY	288 NORTH 1460 WEST P.O. BOX 144870 SALT LAKE CITY, UTAH 84114-4870
U.S. EPA ENVIRONMENTAL PROTECTION AGENCY DENVER, COLORADO	REGION VIII 800-759-4372
ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460	202-475-9518

11. REFERENCES
 A. PLAN PER SILVERPEAK ENGINEERING,
 B. STORMWATER POLLUTION PREVENTION PLAN PREPARED BY SILVERPEAK ENGINEERING

12. THE PROPOSED CONSTRUCTION ACTIVITY IS THE CONSTRUCTION OF ONE BUILDING PLUS THE CONSTRUCTION OF ALL IMPROVEMENTS, UTILITIES, AND DRAINAGE AND GRADING FEATURES AS SHOWN ON THE PLANS.

13. THE ESTIMATED RUN-OFF COEFFICIENT AFTER COMPLETION IS 0.49
14. A NEGLIGIBLE AMOUNT OF WATER FLOWS ONTO THE SITE.

A. PROHIBITION ON MOST NON-STORM WATER DISCHARGES

ONLY STORM WATER FROM THE PROJECT SITE SHALL BE ALLOWED TO FLOW INTO THE ON-SITE STORM DRAIN SYSTEM. CLEAN WATER FROM THE FLUSHING OF FIRE HYDRANTS, WATER MAINS, AND STORM DRAINS MAY BE DISCHARGED TO THE STORM DRAIN IF IT IS NOT ALLOWED TO COLLECT DIRT, DEBRIS, AND TRASH WHILE FLOWING TO A STORM DRAIN INLET.

B. POTENTIAL SOURCES OF STORM WATER POLLUTANTS

POTENTIAL STORM WATER POLLUTANTS INCLUDE SOIL SEDIMENT AND NUTRIENTS, OIL, GREASE, TOXIC POLLUTANTS, AND HEAVY METALS. SOURCES OF STORM WATER POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO SOIL EROSION BY WATER AND/OR WIND; CLEARING OF VEGETATION; GRADING; VEHICLE AND EQUIPMENT REFUELING AND MAINTENANCE; WASHING OF CONCRETE TRUCKS, MIXERS AND HANDLING EQUIPMENT; PAINTS, SOLVENTS AND ADHESIVES; AND LANDSCAPING WORK.

C. EROSION AND SEDIMENT CONTROLS

1. COVER EXPOSED STOCKPILES OF SOILS, CONSTRUCTION AND LANDSCAPING MATERIALS WITH HEAVY PLASTIC SHEETING.
2. IN LANDSCAPING AREAS WHERE THE VEGETATION HAS NOT ESTABLISHED GROWTH AND TAKEN HOLD, CONSTRUCT SANDBAG OR DIRT BERMS AROUND THEIR PERIMETER TO INSURE THAT WATER WILL BE CONTAINED INSIDE THE LANDSCAPING AREA AND THAT IT WILL NOT BE CONVEYED TO A STORM DRAIN INLET.
3. DISTURBED AREAS SHALL BE SEEDED BY THE THE DEVELOPER. SILT BARRIERS SHALL BE MAINTAINED BY THE DEVELOPER IN THE MEAN TIME. OR, THE DEVELOPER SHALL RE-SEED DISTURBED AREAS AS THEY SEE FIT AND REMOVE THE SEDIMENT CONTROLS.
4. THROUGHOUT CONSTRUCTION, CONTRACTOR SHALL DIVERT STORM WATER RUNOFF AROUND DISTURBED SOILS WITH BERMS OR DIRT SWALES.

D. OTHER CONTROLS

1. WASTE DISPOSAL

 A. KEEP WASTE DISPOSAL CONTAINERS COVERED.
 B. PROVIDE FOR THE WEEKLY (OR MORE FREQUENT, IF NECESSARY) DISPOSAL OF WASTE CONTAINERS.
 C. PROVIDE CONTAINERS AT CONVENIENT LOCATIONS AROUND THE SITE.

2. SWEEPING OF SITE

 A. PROVIDE DAILY, IF NECESSARY, SWEEPING BY HAND OR MECHANICAL MEANS TO KEEP THE PAVED AREAS OF THE SITE FREE OF DUST, DIRT, AND DEBRIS IF NECESSARY DURING PERIODS OF CONSTRUCTION.
 B. DISPOSE OF ACCUMULATED DIRT IN WASTE CONTAINERS, OR HAUL IT OFF THE SITE TO A LANDFILL.

3. SANITARY/SEPTIC DISPOSAL

PORTABLE TOILETS AND OTHER SANITARY FACILITIES SHALL BE SERVICED WEEKLY AND PUMPED CLEAN BY A WASTE DISPOSAL COMPANY. NO TOXIC OR HAZARDOUS WASTE SHALL BE DISPOSED OF IN A PORTABLE TOILET OR IN THE ON-SITE SANITARY SEWER. TOILETS SHALL BE ANCHORED AGAINST OVERTURNING.

4. SPILLS

 A. STORE ADEQUATE ABSORBENT MATERIALS, RAGS, BROOMS, SHOVELS, AND WASTE CONTAINERS ON THE SITE TO CLEAN-UP SPILLS OF MATERIALS SUCH AS FUEL, PAINT, SOLVENTS, OR CLEANERS. CLEAN UP MINOR SPILLS IMMEDIATELY.
 B. FOR REPORTABLE QUANTITY OF HAZARDOUS OR TOXIC SUBSTANCE, SECURE THE SERVICES OF QUALIFIED PERSONNEL FOR CLEAN-UP AND DISPOSAL.

5. CONTROL OF ALLOWABLE NON-STORM WATER DISCHARGES LANDSCAPING IRRIGATION, EROSION CONTROL MEASURES, PIPE FLUSHING AND TESTING, AND PAVEMENT WASHING ARE ALLOWED IF THEY CANNOT FEASIBLY BE ELIMINATED, COMPLY WITH THIS PLAN, DO NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS, AND ARE NOT REQUIRED TO BE PERMITTED BY THE LOCAL REGIONAL WATER QUALITY CONTROL BOARD.

6. VEHICLES AND EQUIPMENT

 A. FIX LEAKS OF FUEL, OIL AND OTHER SUBSTANCES IMMEDIATELY.
 B. PERFORM REFUELING AND SERVICE OF VEHICLES OR EQUIPMENT OFF-SITE WHEN POSSIBLE. IF REFUELING OR SERVICE OF EQUIPMENT IS PERFORMED ON-SITE, THEN PROVIDE AN IMPERVIOUS, CONTAINED AREA WHERE ANY SPILLS CAN BE CONTAINED WITHOUT FLOWING TO A STORM WATER INLET OR INTO THE GROUND.
 C. USE DRIP PANS TO CATCH LEAKS AND SMALL SPILLS.

7. CONCRETE TRUCKS, MIXERS AND HANDLING EQUIPMENT

 A. DO NOT DISPOSE OF WASHOUT FROM THE WASHING OF CONCRETE TRUCKS,MIXERS, AND HANDLING EQUIPMENT WHERE IT WILL FLOW INTO A STORM WATER INLET OR INTO A PUBLIC STREET.
 B. PROVIDE A HOLDING TANK TO RECEIVE ANY WASHOUT FROM CONCRETE EQUIPMENT. DISPOSAL OF TANK CONTENTS SHALL BE CONDUCTED BY CONTRACTOR.
 C. PROVIDE, DESIGNATE AND POST A SIGN MARKING A DESIGNATED AREA FOR WASHING ANY VEHICLES OR EQUIPMENT. DRAINAGE FROM THIS AREA SHOULD BE CONTAINED OR FLOW TO A HOLDING TANK.

8. LANDSCAPING OPERATIONS

 A. USE ONLY THE MINIMUM AMOUNT OF LANDSCAPING FERTILIZES, NUTRIENTS, AND OTHER CHEMICALS THAT ARE NEEDED.
 B. DO NOT OVER WATER FERTILIZED OR TREATED LANDSCAPE AREAS. MINIMIZE RUNOFF OF IRRIGATION WATER FROM LANDSCAPING.
 C. DO NOT PLACE LANDSCAPING MATERIAL IN THE STREET ONCE PAVING IS COMPLETE.

9. STORM WATER INLETS

CONTRACTOR SHALL PROVIDE STRAW FILLED BAGS OR SOCKS AROUND INLETS WITHIN 1000 FEET OF CONSTRUCTION AS BARRIERS TO PREVENT SEDIMENT ENTERING THE INLETS. TRAPPED SEDIMENT SHALL BE REMOVED FOLLOWING STORM EVENTS. BARRIERS SHALL BE REMOVED FOLLOWING COMPLETION OF CONSTRUCTION.

E. INSPECTION

1. REGULAR INTERVAL INSPECTION AND INSPECTION BEFORE AND AFTER STORMS

 A. VISUALLY INSPECT THE SITE WEEKLY TO INSURE THAT STORM WATER INLETS ARE FREE OF DIRT AND DEBRIS.
 B. BEFORE A STORM, INSPECT THE SITE TO INSURE THAT STORM WATER POLLUTION CONTROL MEASURES ARE IN PLACE.
 C. AFTER A STORM, INSPECT ALL STORM WATER INLETS TO INSURE THAT THEY ARE CLEAR OF DIRT AND DEBRIS. CLEAN THOSE STORM WATER INLETS THAT ARE NOT CLEAR AND FREE OF DEBRIS.
 D. THE DIVISION OF WATER QUALITY MAY REQUIRE THE DISCHARGER TO CONDUCT ADDITIONAL SITE INSPECTIONS, SUBMIT REPORTS AND CERTIFICATIONS, OR TO PERFORM SAMPLING AND ANALYSIS.

2. CONDUCT INSPECTIONS OF THE CONSTRUCTION SITE PRIOR TO ANTICIPATED STORM EVENTS AND AFTER ACTUAL STORM EVENTS, TO IDENTIFY AREAS CONTRIBUTING TO A STORM WATER DISCHARGE, TO EVALUATE WHETHER MEASURES TO REDUCE POLLUTANT LOADINGS IDENTIFIED IN THIS SWPPP ARE ADEQUATE, TO PROPERLY IMPLEMENT IN ACCORDANCE WITH THE TERMS OF THE GENERAL PERMIT, AND TO DETERMINE WHETHER ADDITIONAL CONTROL PRACTICES ARE NEEDED.

3. PREPARATION OF REPORTS AND RETENTION OF RECORDS

 A. EACH DISCHARGER MUST CERTIFY ANNUALLY THAT ITS CONSTRUCTION ACTIVITY IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE GENERAL PERMIT AND THIS SWPPP. THIS CERTIFICATION MUST BE BASED ON THE SITE INSPECTIONS. THE FIRST CERTIFICATION MUST BE COMPLETED BY JULY 1, 2009, AND EACH JULY 1 THEREAFTER.
 B. THE DISCHARGER IS REQUIRED TO RETAIN RECORDS OF ALL MONITORING INFORMATION, COPIES OF ALL REPORTS REQUIRED BY THIS GENERAL PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT FOR CONSTRUCTION ACTIVITY FOR A PERIOD OF AT LEAST THREE YEARS. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE STATE. WITH THE EXCEPTION OF NONCOMPLIANCE REPORTING, DISCHARGERS ARE NOT REQUIRED TO SUBMIT THE RECORDS EXCEPT UPON SPECIFIC REQUEST BY THE STATE DEQ DIVISION OF WATER QUALITY.
 C. DISCHARGERS WHO CANNOT CERTIFY COMPLIANCE MUST NOTIFY THE STATE DEQ DIVISION OF WATER QUALITY. THIS NOTIFICATION SHALL IDENTIFY THE TYPE OR TYPES OF NONCOMPLIANCE, DESCRIBE THE ACTIONS NECESSARY TO ACHIEVE COMPLIANCE, AND INCLUDE A TIME SCHEDULE, SUBJECT TO THE MODIFICATIONS BY THE STATE DEQ DIVISION OF WATER QUALITY, INDICATING WHEN COMPLIANCE WILL BE ACHIEVED. NONCOMPLIANCE REPORTS MUST BE SUBMITTED WITHIN 30 DAYS OF THE IDENTIFICATION OF THE NONCOMPLIANCE.

F. MAINTENANCE OF CONTROLS

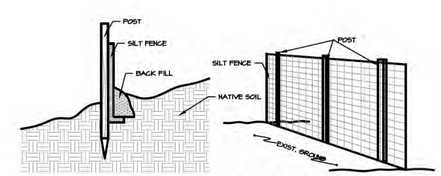
1. MAINTENANCE AND REPAIR ALL CONTROLS AND MEASURES INDICATED ON THIS PLAN SHALL BE MAINTAINED IN GOOD AND EFFECTIVE CONDITION. IF ANY CONTROLS OR MEASURES ARE DAMAGED OR REMOVED, THEY SHALL BE PROMPTLY REPAIRED OR RESTORED.
2. PLAN REVISIONS IF CONSTRUCTION ACTIVITY OR CONDITIONS CHANGE FROM THOSE SHOWN IN THIS PLAN, THEN THIS PLAN SHALL BE REVISED TO REFLECT THE CURRENT CONDITIONS.

G. FINAL STABILIZATION AND POST-CONSTRUCTION CONTROLS

1. AFTER CONSTRUCTION HAS BEEN COMPLETED, THE SITE SHALL BE SWEPT CLEAN. STORM WATER INLETS (GRATES AND BASINS) SHALL BE CLEANED, AND ALL WASTE AND LEFTOVER MATERIALS SHALL BE REMOVED FROM THE SITE.
2. ALL LANDSCAPING AND PLANTING AREAS SHALL BE WELL MAINTAINED TO PREVENT EROSION. AVOID OVER WATERING OF LANDSCAPING.
3. ALL PAVED AREAS SHALL BE SWEPT WEEKLY EITHER BY HAND OR BY MECHANICAL MEANS TO KEEP THE SITE CLEAR OF DIRT, DUST, AND DEBRIS.
4. WASTE MATERIALS ON-SITE SHALL BE STORED IN COVERED CONTAINERS WHICH ARE CLEANED OUT REGULARLY.
5. TESTING OF FIRE HYDRANTS ON-SITE SHALL NOT BE CONDUCTED UNTIL THE AREA WHERE THE WATER DISCHARGES HAS BEEN SWEPT CLEAN OF DIRT AND DEBRIS.
6. STORM DRAIN LINES SHALL BE CHECKED AND CLEANED ANNUALLY TO KEEP THEM CLEAN AND CLEAR OF DEBRIS.
7. ALL ON-SITE STORM WATER INLETS SHOULD BE CLEARLY MARKED "STORM WATER ONLY".

H. COMPLETION OF CONSTRUCTION ACTIVITIES AND NOTICE OF TERMINATION

WHEN CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED ON THIS SITE, THE OWNER SHALL FILE A LETTER WITH THE STATE DEQ DIVISION OF WATER QUALITY. THIS LETTER SHALL CERTIFY THAT THE CONSTRUCTION ACTIVITY HAS BEEN COMPLETED, THAT ALL ELEMENTS OF THE SWPPP HAVE BEEN IMPLEMENTED, THAT CONSTRUCTION AND EQUIPMENT MAINTENANCE WASTES HAVE BEEN DISPOSED OF PROPERLY, THAT THE SITE IS IN COMPLIANCE WITH ALL LOCAL STORM WATER REQUIREMENTS INCLUDING EROSION/SEDIMENT CONTROL REQUIREMENTS, POLICIES, AND GUIDELINES.



SILT FENCE DETAIL

DEFINITIONS

1. "BEST MANAGEMENT PRACTICES" ("BMP'S") MEANS SCHEDULES OF ACTIVITIES, PROHIBITIONS OF PRACTICES, MAINTENANCE PROCEDURES, AND OTHER MANAGEMENT PRACTICES TO PREVENT OR REDUCE THE POLLUTION OF WATERS OF THE UNITED STATES. BMP'S ALSO INCLUDE TREATMENT REQUIREMENTS, OPERATING PROCEDURES, AND PRACTICES TO CONTROL SITE RUNOFF, SPILLAGE OR LEAKS, WASTE DISPOSAL, OR DRAINAGE FROM RAW MATERIAL STORAGE.

2. "CLEAN WATER ACT" ("CWA") MEANS THE FEDERAL WATER POLLUTION CONTROL ACT ENACTED BY PUBLIC LAW 92-500 AS AMENDED BY PUBLIC LAWS 95-217, 95-576, 96-483, AND 97-111; 33 USC 1251 ET SEQ.

3. "CONSTRUCTION SITE" IS THE LOCATION OF THE CONSTRUCTION ACTIVITY.

4. "NON-STORM WATER DISCHARGE" MEANS ANY DISCHARGE TO STORM DRAIN SYSTEMS THAT IS NOT COMPOSED ENTIRELY OF STORM WATER EXCEPT DISCHARGE PURSUANT TO AN NPDES PERMIT AND DISCHARGES RESULTING FROM FIRE FIGHTING ACTIVITIES.

5. "SIGNIFICANT MATERIALS" INCLUDES, BUT IS NOT LIMITED TO RAW MATERIALS; FUELS; MATERIALS SUCH AS SOLVENTS, DETERGENTS, AND PLASTIC PELLETS; FINISHED MATERIALS SUCH AS METALLIC PRODUCTS; RAW MATERIALS USED IN FOOD PROCESSING OR PRODUCTION HAZARDOUS SUBSTANCES DESIGNATED UNDER SECTION 101(14) OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERLCA); ANY CHEMICAL THE FACILITY IS REQUIRED TO REPORT PURSUANT TO SECTION 313 OF TITLE III OF SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA); FERTILIZERS; PESTICIDES; AND WASTE PRODUCTS SUCH AS ASHES, SLAG, AND SLUDGE THAT HAVE THE POTENTIAL TO BE RELEASED WITH STORM WATER DISCHARGES.

6. "SIGNIFICANT QUANTITIES" IS THE VOLUME, CONCENTRATIONS, OR MASS OF A POLLUTANT IN STORM WATER DISCHARGE THAT CAN CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; ADVERSELY IMPACT HUMAN HEALTH OR THE ENVIRONMENT; AND CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY APPLICABLE WATER QUALITY STANDARDS FOR THE RECEIVING WATER.

7. "STORM WATER" MEANS STORM WATER RUNOFF, SNOW MELT RUNOFF, SURFACE RUNOFF AND DRAINAGE. IT EXCLUDES INFILTRATION AND RUNOFF FROM AGRICULTURAL LAND.

8. "POLLUTION" MEANS THE "MAN-MADE OR MAN-INDUCED ALTERATION OF THE CHEMICAL, PHYSICAL, BIOLOGICAL, AND RADIOLOGICAL INTEGRITY OF WATER" [CLEAN WATER ACT SECTION 502(19)]. POLLUTION ALSO MEANS "AN ALTERATION OF THE QUALITY OF THE WATERS OF THE STATE BY WASTE TO A DEGREE WHICH UNREASONABLY AFFECTS EITHER... THE WATERS FOR BENEFICIAL USES... OR FACILITIES WHICH SERVE THESE BENEFICIAL USES." [CALIFORNIA WATER CODE SECTION 13050(l)].

9. "CONTAMINATION" MEANS "AN IMPAIRMENT OF THE QUALITY OF THE WATERS OF THE STATE BY WASTE TO A DEGREE WHICH CREATES A HAZARD TO THE PUBLIC HEALTH THROUGH POISONING OR THROUGH THE SPREAD OF DISEASE...INCLUDING ANY EQUIVALENT EFFECT RESULTING FROM THE DISPOSAL OF WASTE, WHETHER OR NOT WATERS OF THE STATE ARE AFFECTED."

10. "NUISANCE" MEANS "ANYTHING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS: (1) IS INJURIOUS TO HEALTH , OR IS INDECENT OR OFFENSIVE TO THE SENSES, OR AN OBSTRUCTION TO THE FREE USE OF PROPERTY, SO AS TO INTERFERE WITH THE COMFORTABLE ENJOYMENT OF LIFE AND PROPERTY; (2) AFFECTS AT THE SAME TIME AN ENTIRE COMMUNITY OR NEIGHBORHOOD, OR ANY CONSIDERABLE NUMBER OF PERSONS, ALTHOUGH THE EXTENT OF THE ANNOYANCE OR DAMAGE INFLICTED UPON INDIVIDUALS MAY BE UNEQUAL; (3) OCCURS DURING OR AS A RESULT OF THE TREATMENT OR DISPOSAL OF WASTES."

11. "LOCAL AGENCY" MEANS ANY AGENCY THAT IS INVOLVED WITH REVIEW, APPROVAL, OR OVERSIGHT OF THE CONSTRUCTION SITES' (a) CONSTRUCTION ACTIVITY, (b) EROSION AND SEDIMENT CONTROLS, (c) STORM WATER DISCHARGE.

SEAL:

177 E. ANTELOPE DR. STE. B
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PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 12/07/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

SWPPP NOTES

SHEET NUMBER:
C501

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

Attachment C
Preliminary Development Plans

ADVANTAGE ARTS ACADEMY

LOCATION:

APPROX 11800 SOUTH 6200 WEST
HERRIMAN, UTAH

CONTRACTOR

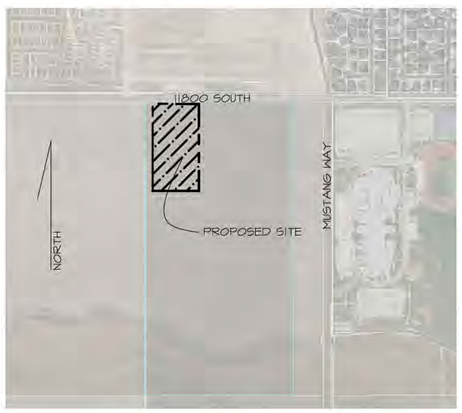
ONE WEST CONSTRUCTION

ATTN: TED LEWIS
290 N. FLINT STREET
KAYSVILLE, UTAH
PHONE: 801-444-9878

SILVERPEAK ENGINEERING

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM

VICINITY MAP



UTILITY DISCLAIMER

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND / OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

NOTICE TO CONTRACTOR

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS: OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF UTAH DEPARTMENT OF INDUSTRIAL RELATIONS CONSTRUCTION SAFETY ORDERS." THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

CONTRACTOR FURTHER AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE CIVIL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

TRAFFIC CONTROL & SAFETY NOTES

1. BARRICADING AND DETOURING SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE CURRENT STATE OF UTAH DEPARTMENT OF TRANSPORTATION MANUAL OF TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE WORK ZONES, THE CURRENT HERRIMAN CITY STANDARD DRAWING, AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY WORK.

2. NO STREET SHALL BE CLOSED TO TRAFFIC WITHOUT WRITTEN PERMISSION FROM THE CITY TRAFFIC ENGINEER, EXCEPT WHEN DIRECTED BY LAW ENFORCEMENT OR FIRE OFFICIALS.

3. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROVIDE FOR SMOOTH TRAFFIC FLOW AND SAFETY. ACCESS SHALL BE MAINTAINED FOR ALL PROPERTIES ADJACENT TO THE WORK.

4. ALL SIGNAGE AND TRAFFIC DEVICES TO BE USED DURING AND AFTER THE CONSTRUCTION PERIOD SHALL BE IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

5. DETOURING OPERATIONS FOR A PERIOD OF SIX CONSECUTIVE CALENDAR DAYS, OR MORE, REQUIRE THE INSTALLATION OF TEMPORARY STREET STRIPING AND REMOVAL OF INTERFERING STRIPING BY SANDBLASTING. THE DETOURING STRIPING PLAN OR CONSTRUCTION TRAFFIC CONTROL PLAN MUST BE SUBMITTED TO THE CITY TRAFFIC ENGINEER FOR REVIEW AND APPROVAL.

6. ALL TRAFFIC CONTROL DEVICES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE END OF THE WORK TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.

7. TRAFFIC CONTROL DEVICES (TCDs) SHALL REMAIN VISIBLE AND OPERATIONAL AT ALL TIMES.

DEFERRED SUBMITTAL

1. FIRE SPRINKLER DRAWINGS & FIRE ALARM DRAWINGS WILL BE PROVIDED PRIOR TO INSTALLATION.

GENERAL NOTES

1) ALL WORK WITHIN THE RIGHT OF WAY OWNER'S RIGHT OF WAY SHALL CONFORM TO THE RIGHT OF WAY OWNER'S STANDARDS & SPECIFICATIONS.

2) ALL WORK PERFORMED ON HERRIMAN CITY OWNED UTILITIES & CONNECTIONS THERETO SHALL CONFORM TO THE PROVO STANDARDS & SPECIFICATIONS. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY HERRIMAN CITY STANDARDS AND DETAILS.

3) THESE PLANS CALL FOR BUT ARE NOT DESIGN DRAWINGS FOR THE RELOCATION, AND/OR REMOVAL OF EXISTING DRY UTILITIES INFRASTRUCTURE. DESIGN DRAWINGS FOR SAID RELOCATIONS AND REMOVALS SHALL BE BY OTHERS.

4) CALL BLUESTAKES 48 HOURS PRIOR TO DIGGING.

5) CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL EXISTING MANHOLES AND OTHER UTILITIES BEFORE BUILDING OR STAKING ANY UTILITY LINES.

PERMISSION TO USE PLANS

ALL DESIGN INFORMATION DEPICTED IN THESE, THE "C" OR CIVIL DRAWINGS IS PROPRIETARY AND THE SOLE PROPERTY OF SILVERPEAK ENGINEERING, INC. THESE DRAWINGS MAY BE USED ONLY BY AUTHORIZATION BY SILVERPEAK ENGINEERING INC. THIS DESIGN IN PART OR IN TOTAL BY NOT BE USED OR DUPLICATED FOR ANY OTHER PROJECT OR PURPOSE. NON PAYMENT OR PARTIAL PAYMENT FOR THIS DESIGN AUTOMATICALLY REVOKES THE AUTHORIZATION OF USE.

INDEX TO DRAWINGS

C001	CIVIL COVER SHEET
--	BUILDING ELEVATIONS
--	COLORED ELEVATIONS
C100	GENERAL NOTES
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C201	SITE DETAILS
C300	GRADING / DRAINAGE PLAN
C301	GRADING / DRAINAGE DETAILS
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C401	UTILITY DETAILS
C402	PLAN & PROFILE
C500	STORM WATER POLLUTION PREVENTION PLAN
C501	STORM WATER POLLUTION PREVENTION NOTES
PLAT	SUBDIVISION PLAT

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

REVISED:

DATE: 11-05-2018
PROJECT: AW-051
DRAWN BY: JRJ
CHECKED BY: JF

ADVANTAGE ARTS ACADEMY SCHOOL

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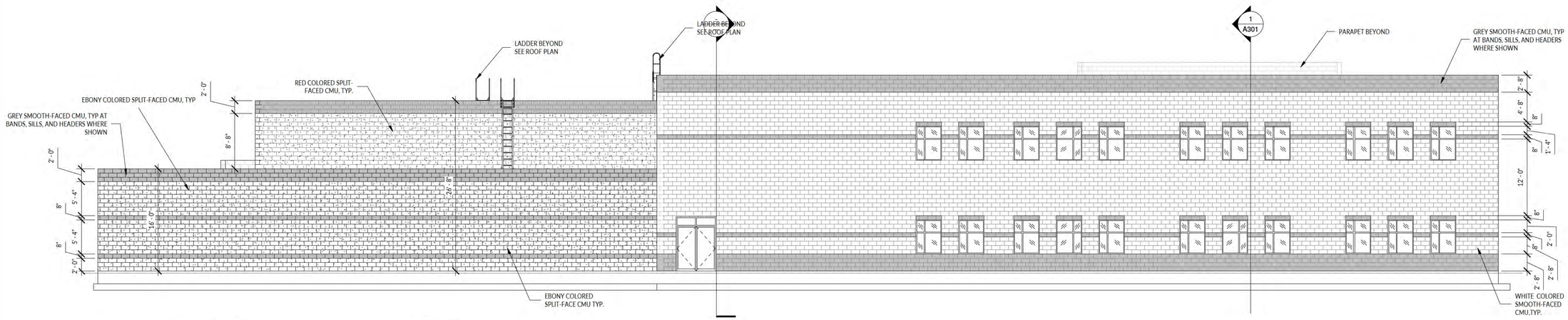
SHEET NUMBER:
C001
COVER

ALL INFORMATION SHOWN HEREON IS NOT FINAL OR APPROVED WITHOUT THE GOVERNING AGENCY'S STAMP AND SIGNATURE. ANY USE OF THIS DRAWING AND ITS CONTENT WITHOUT SAID APPROVAL IS DONE AT THE INDIVIDUAL'S OWN RISK. SILVER PEAK ENGINEERING DOES NOT ASSUME LIABILITY FOR ANY SUCH USE.

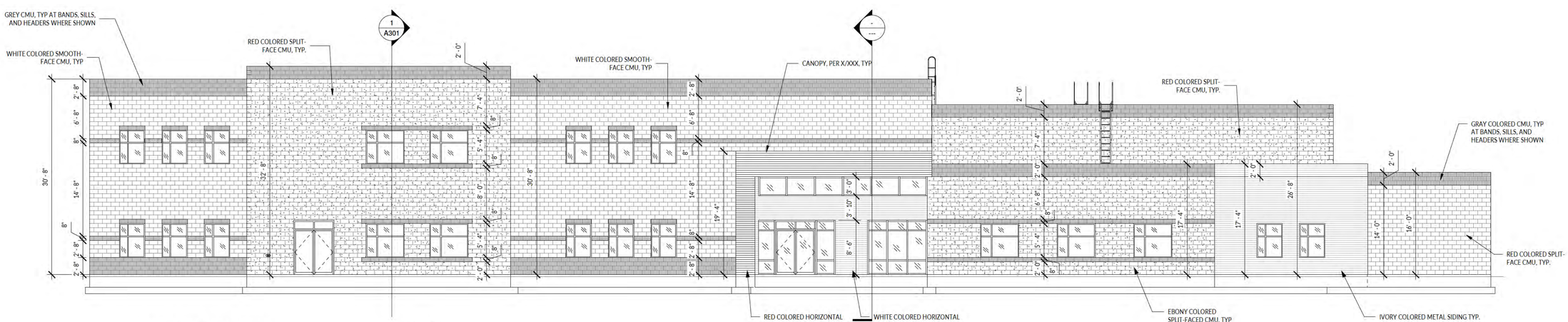
CMU COLOR SELECTIONS

SYMBOL	COLOR	TEXTURE	MANUFACTURER	NOTES
	WHITE	SMOOTH- FACE	TBD	PER OWNER
	GRAY	SMOOTH- FACE	TBD	PER OWNER
	RED	SPLIT- FACE	TBD	PER OWNER
	EBONY	SPLIT- FACE	TBD	PER OWNER

MASONRY NOTES:
1. MASON TO PLACE CONTROL JOINTS IN CMU WALLS NOT MORE THAN 40'-0" APART



SOUTH ELEVATION
SCALE: 1/8" = 1'-0"
1 A201



NORTH ELEVATION
SCALE: 1/8" = 1'-0"
2 A201

SEAL:

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054

STRUCTURAL CIVIL SURVEY WWW.SILVERPEAKENG.COM

ADVANTAGE ARTS ACADEMY
APPROX. 13574 SOUTH 6400 WEST
HERRIMAN, UT 84096

DATE: 9/24/2018
PROJECT: AW-051
DRAWN BY: JTR

REVISIONS:

EXTERIOR ELEVATIONS

SHEET NUMBER:
A201

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

CMU COLOR SELECTIONS

SYMBOL	COLOR	TEXTURE	MANUFACTURER	NOTES
	WHITE	SMOOTH- FACE	TBD	PER OWNER
	GRAY	SMOOTH- FACE	TBD	PER OWNER
	RED	SPLIT- FACE	TBD	PER OWNER
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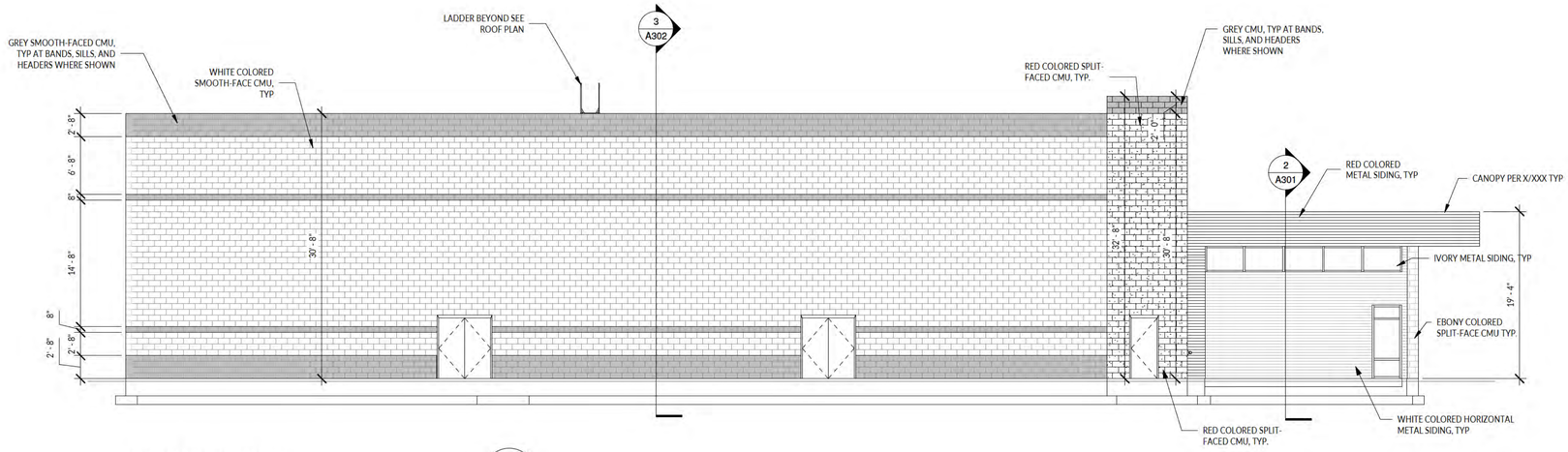
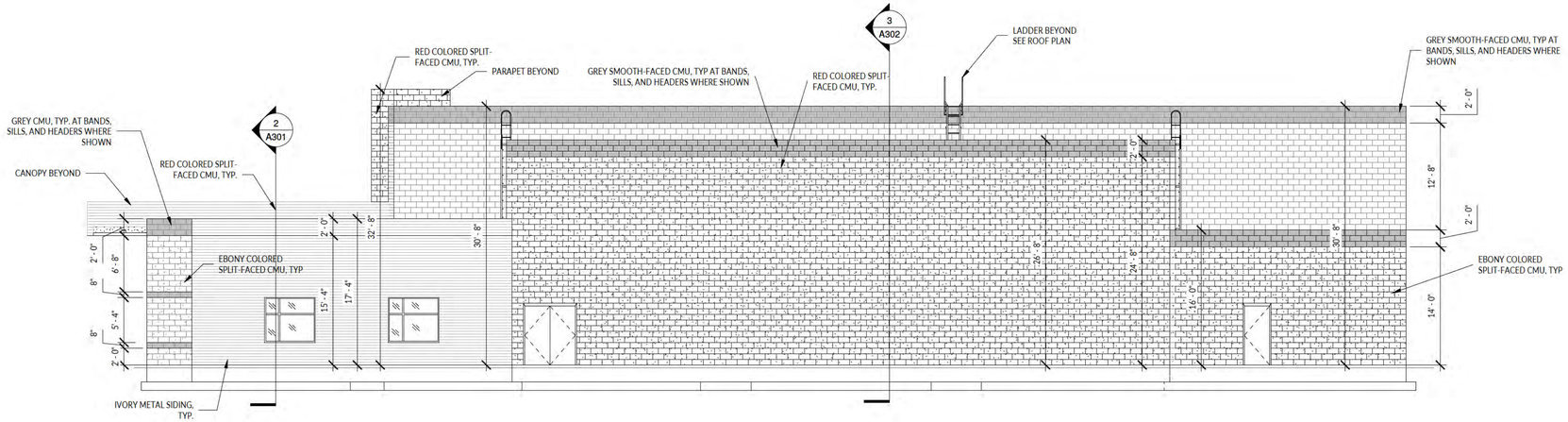
MASONRY NOTES:
1. MASON TO PLACE CONTROL JOINTS IN CMU WALLS NOT MORE THAN 40'-0" APART



EAST ELEVATION
SCALE: 1/8" = 1'-0"
1
A202



WEST ELEVATION
SCALE: 1/8" = 1'-0"
2
A202

SEAL:

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PHONE: (801) 499-5054

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HERRIMAN, UT 84096

DATE: 9/24/2018
PROJECT: AW-051
DRAWN BY: Author

REVISIONS:

EXTERIOR ELEVATIONS

SHEET NUMBER:
A202

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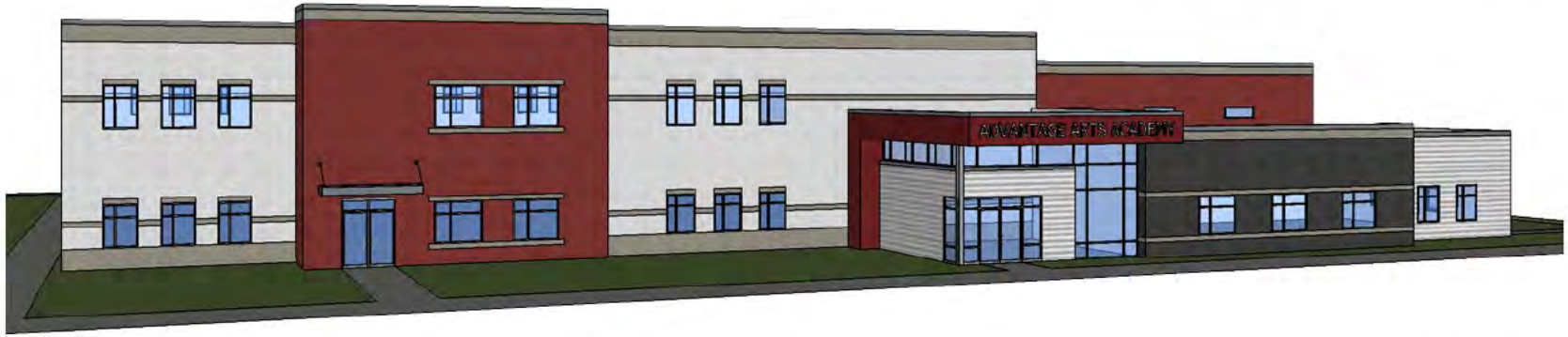
FRONT ENTRANCE: PHASE 1

NOT TO SCALE



FRONT ELEVATION: PHASE 1

NOT TO SCALE

DATE 11-05-2018
PROJECT AW-051
DRAWN BY C.D.

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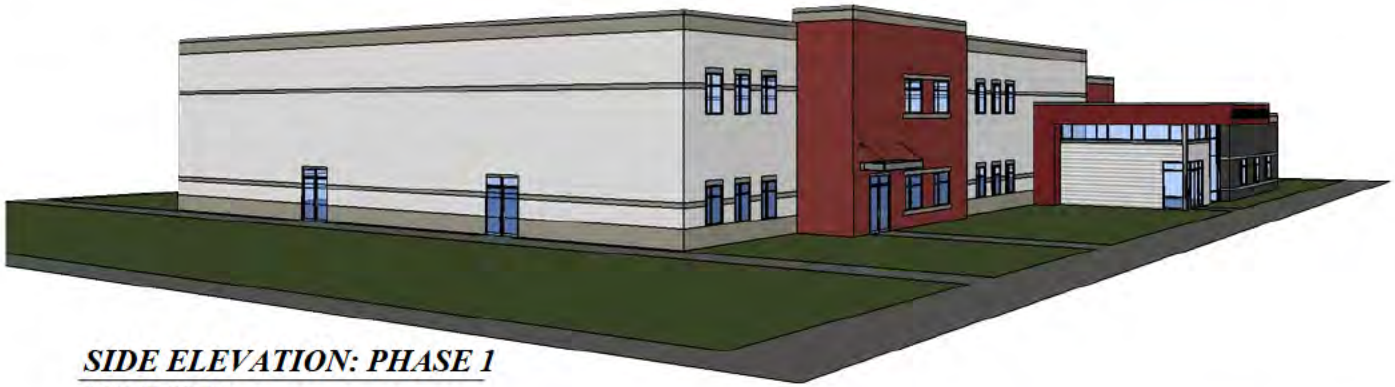
SILVERPEAK ENGINEERING

ADVANTAGE ARTS ACADEMY
HERRIMAN, UTAH

SHEET NUMBER

A1



SIDE ELEVATION: PHASE 1

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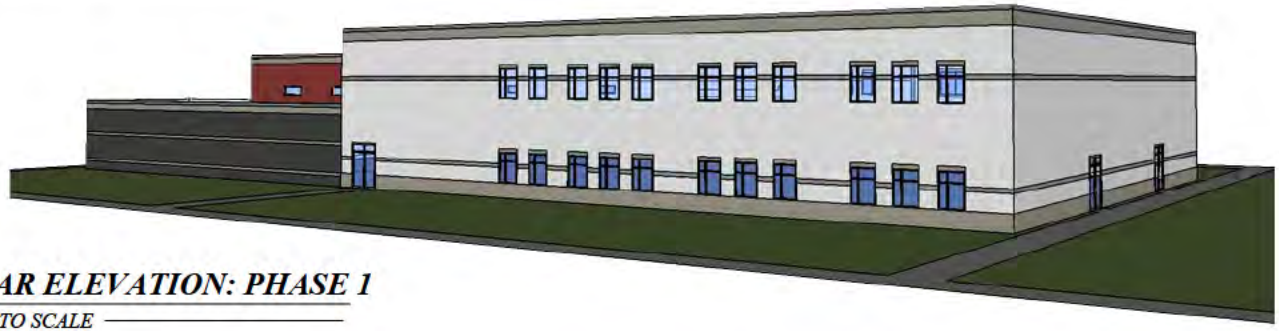
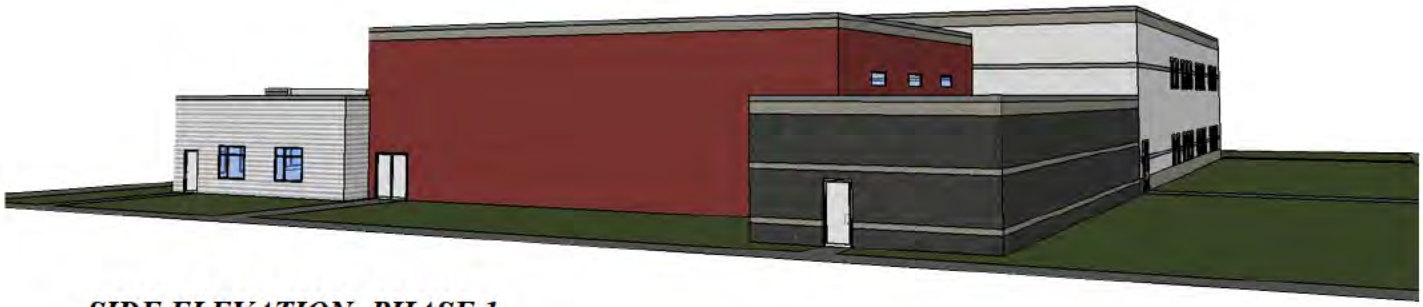


REAR ELEVATION: PHASE 1

NOT TO SCALE



SIDE ELEVATION: PHASE 1

NOT TO SCALE

SIDE ELEVATION: PHASE 1

NOT TO SCALE

DATE 11-05-2018
PROJECT AW-051
DRAWN BY C.D.

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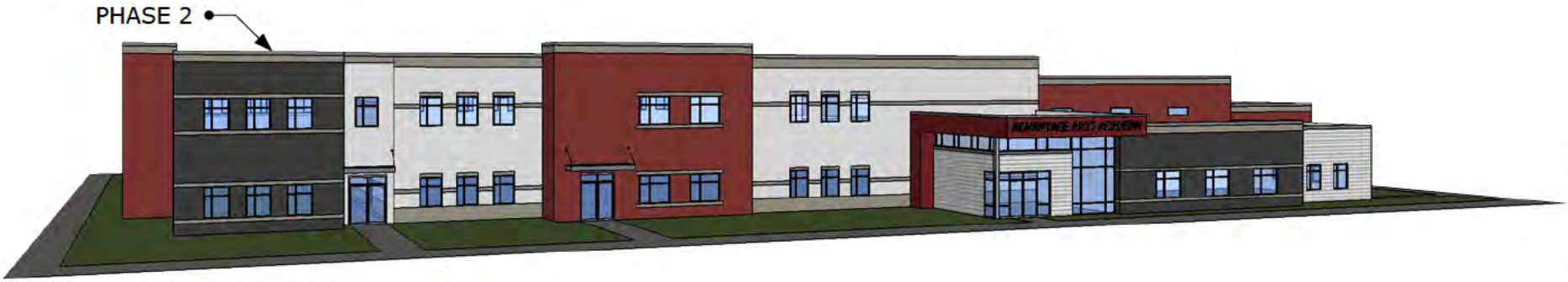
SILVERPEAK ENGINEERING

ADVANTAGE ARTS ACADEMY
HERRIMAN, UTAH

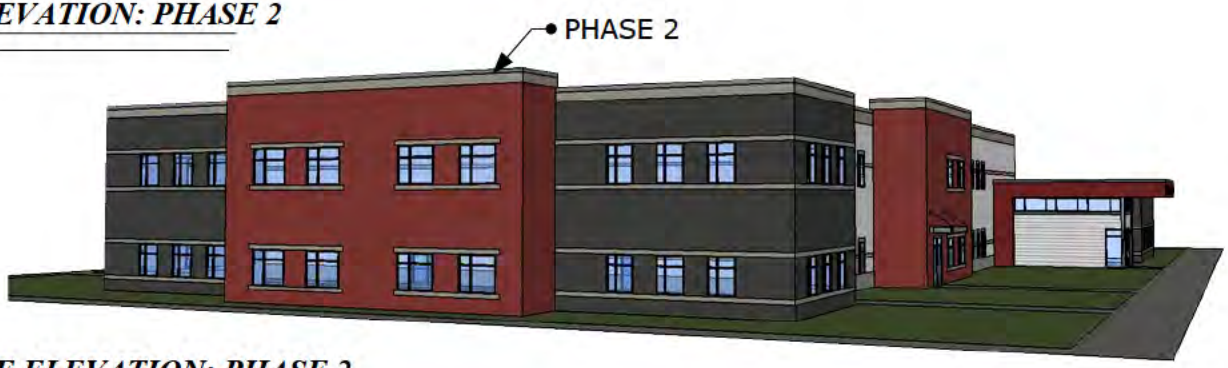
SHEET NUMBER

A2



FRONT ELEVATION: PHASE 2

NOT TO SCALE



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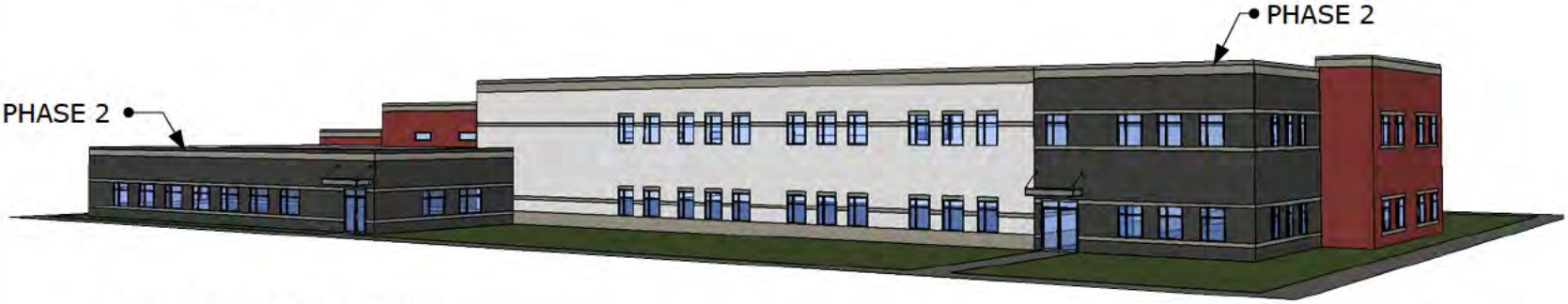
NOT TO SCALE



REAR ELEVATION: PHASE 2

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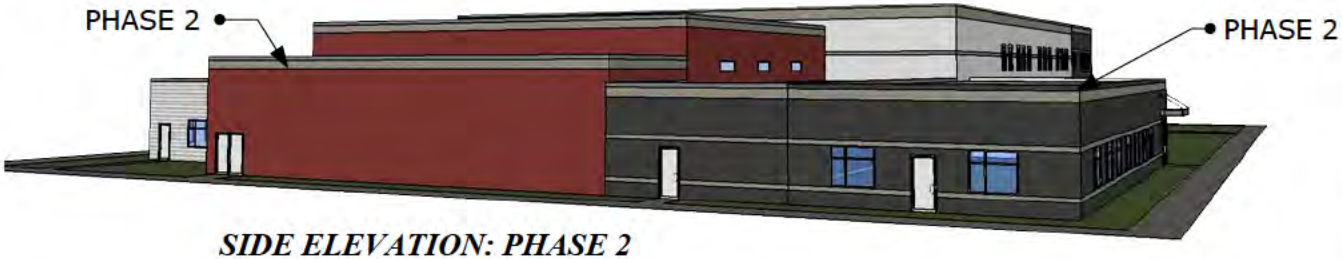

SIDE ELEVATION: PHASE 2

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SILVERPEAK ENGINEERING

ADVANTAGE ARTS ACADEMY
HERRIMAN, UTAH

SHEET NUMBER

A2

GENERAL NOTES

CONTRACTOR SHALL OBTAIN A COPY OF, AND STRICTLY ADHERE TO THE CURRENT STANDARDS AND SPECIFICATIONS OF ALL APPLICABLE AGENCIES.

ALL WORK TO CONFORM TO HERRIMAN CITY'S STANDARDS, DRAWINGS,AND SPECIFICATIONS. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY HERRIMAN CITY STANDARDS AND DETAILS.

CONTRACTOR TO NOTIFY HERRIMAN CITY'S AND SILVERPEAK ENGINEERING 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION REQUIRED FOR THIS PROJECT.

NO ALLOWANCE WILL BE MADE FOR DISCREPANCIES OR OMISSIONS THAT CAN BE EASILY OBSERVED. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING, AND BRING UP ANY QUESTIONS BEFOREHAND.

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, MAINTAINING, OR RESTORING ALL MONUMENTS AND MONUMENT REFERENCE MARKS WITHIN THE PROJECT SITE. CONTACT THE CITY OR COUNTY SURVEYOR FOR MONUMENT LOCATIONS AND CONSTRUCTION DETAILS.

CONTRACTOR SHALL PROVIDE A CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE CITY OR COUNTY REGULATIONS FOR WORKING IN THE PUBLIC WAY.

CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ACCORDING TO GOVERNING AGENTS STANDARDS. WET DOWN DRY MATERIALS AND RUBBISH TO PREVENT BLOWING.

THE CONTRACTOR IS RESPONSIBLE TO FURNISH ALL MATERIALS TO COMPLETE THE PROJECT.

TRAFFIC CONTROL TO CONFORM TO THE CURRENT MUTCD AND UDOT STANDARDS.

THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THESE PLANS ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTORS FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE.

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

ALL DIMENSIONS, GRADES, AND UTILITY DESIGN SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST, PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

CONTRACTORS MUST START AT THE LOW END OF ALL GRAVITY FED LINES AND WORK UP HILL. FAILURE TO COMPLY WITH THIS NOTE SHALL RELEASE THE CIVIL ENGINEER OF ALL LIABILITY.

CONTRACTOR SHALL LAYOUT AND POTHOLE FOR ALL POTENTIAL CONFLICTS WITH UTILITY LINES ON OR OFF SITE AS REQUIRED PRIOR TO ANY CONSTRUCTION.

NO ALLOWANCE SHALL BE MADE FOR DISCREPANCIES OR OMISSIONS THAT CAN BE EASILY OBSERVED. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING, AND BRING UP ANY QUESTIONS BEFOREHAND.

GEOTECHNICAL NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 96% STANDARD PROCTOR DENSITY PER ASTM TEST D-1557. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED REGISTERED SOILS ENGINEER, VERIFYING THAT ALL FILLED AREAS AND SUB GRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED, HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
2. THE SOILS REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND IN CASE OF CONFLICT, SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY BETWEEN SOILS REPORT AND PLANS, ETC.

UNDERGROUND INFORMATION

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS IS BASED ON INFORMATION GATHERED FROM UTILITIES AND/OR FROM ABOVE-GROUND STRUCTURES OR EVIDENCE FOUND AT THE TIME OF SURVEY. AS SUCH, THE UNDERGROUND INFORMATION IS A BEST ESTIMATE. SILVER PEAK DOES NOT REPRESENT OR GUARANTEE THAT THE UNDERGROUND INFORMATION PROVIDED IS CORRECT OR UP TO DATE.

IT SHALL BE THE CONTRACTORS FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. CALL BLUESTAKES A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY DIGGING OR UTILITY WORK.

NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE.

UTILITY NOTES

CONTRACTOR SHALL OBTAIN A COPY OF, AND STRICTLY ADHERE TO THE CURRENT STANDARDS AND SPECIFICATIONS OF HERRIMAN CITY. CONTRACTOR IS TO OBTAIN ANY REQUIRED PERMITS AND NOTIFY THE UTILITY OWNER AND SILVER PEAK ENGINEERING PRIOR TO BEGINNING ANY WORK ON WET UTILITIES. CONTRACTOR IS TO COORDINATE DRY UTILITY WORK WITH THE UTILITY OWNERS.

STORM DRAIN
SEE HERRIMAN CITY STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE STORM DRAIN & APPURTENANCES WITHIN THE PUBLIC RIGHT-OF-WAY SHOWN ON THIS PLAN. SEE THE DETAILS PROVIDED ON THIS SET OF DRAWINGS FOR ALL OTHER STORM DRAIN CONSTRUCTION. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY HERRIMAN CITY STANDARDS AND DETAILS.

LAND DRAIN: NOT USED

SANITARY SEWER
SEE SOUTH VALLEY SEWER DISTRICTS STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE SANITARY SEWER & APPURTENANCES SHOWN ON THIS PLAN.

CULINARY WATER
SEE HERRIMAN CITY STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE CULINARY WATER & APPURTENANCES SHOWN ON THIS PLAN.

SECONDARY WATER
SEE [SECONDARY WATER COMPANY NAME] STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE SECONDARY WATER & APPURTENANCES SHOWN ON THIS PLAN.

DRY UTILITIES
THESE PLANS SHOW THE LOCATION OF POWER, NATURAL GAS, AND COMMUNICATIONS UTILITIES, BUT ARE NOT DESIGN DRAWINGS FOR THE RELOCATION OR REMOVAL OF EXISTING DRY UTILITIES, NOR FOR ANY NEW DRY UTILITY STUBS. CONTRACTOR IS TO SUBMIT SITE PLAN TO DRY UTILITIES FOR DESIGN OF SERVICE CONNECTIONS TO BUILDING. ACTUAL CONSTRUCTION OF SAID SERVICES TO BE DONE BY RESPECTIVE UTILITY PROVIDERS.

CONTRACTOR MUST START AT THE LOW END OF ALL GRAVITY FED LINES AND WORK UP HILL. FAILURE TO COMPLY WITH THIS NOTE WILL RELEASE THE CIVIL ENGINEER OF ALL LIABILITY.

THE CONTRACTOR IS TO VERIFY DEPTHS OF UTILITIES IN THE FIELD BY POT HOLING A MINIMUM OF 300 FEET AHEAD OF PIPELINE CONSTRUCTION TO AVOID CONFLICTS WITH DESIGNED PIPELINE GRADE AND ALIGNMENT. IF A CONFLICT ARISES RESULTING FROM THE CONTRACTOR'S NEGLIGENCE TO POTHOLE UTILITIES THE CONTRACTOR WILL BE REQUIRED TO RESOLVE THE CONFLICT WITHOUT ADDITIONAL COST OR CLAIM TO THE OWNER OR ENGINEER.

ALL DIMENSIONS, GRADES, AND UTILITY DESIGN SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST, PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

CONTRACTOR SHALL NOT ALLOW ANY GROUNDWATER OR DEBRIS TO ENTER THE NEW PIPE DURING CONSTRUCTION.

ALL THRUST BLOCKS SHALL BE POURED IN PLACE AGAINST UNDISTURBED SOIL AS PER SPECIFICATIONS, ALL VALVES, FITTINGS, AND APPURTENANCES TO BE BLOCKED.

CONTRACTOR TO LOOP NEW WATERLINE AROUND GRAVITY UTILITIES IF CONFLICT DOES OCCUR. (NOTIFY ENGINEER OF THE PROBLEM).

CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH MECHANICAL DRAWINGS.

NO CHANGE IN DESIGN LOCATION OR GRADE WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF THE PROJECT ENGINEER.

APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY HERRIMAN CITY STANDARDS AND DEVICES.

DEMOLITION NOTES

1. CONTRACTOR TO LEGALLY REMOVE & DISPOSE OF ALL EXTRANEOUS UTILITIES , STRUCTURES, IMPROVEMENTS & DEBRIS ON THE SITE PRIOR TO CONSTRUCTING THE IMPROVEMENTS SHOWN ON THIS PLAN.
2. SAID DEMOLITION MAY INCLUDE, BUT IS NOT LIMITED TO UTILITY SERVICES AS WELL AS ASPHALT, CONCRETE, FENCES, TREES, SHRUBS & OTHER DELETERIOUS MATERIALS ON THE SITE.
3. SAID DEMOLITION EXCLUDES UTILITY MAINS UNLESS SPECIFICALLY SHOWN ON THIS PLAN.
4. SAID DEMOLITION EXCLUDES PUBLICLY OWNED STREET IMPROVEMENTS UNLESS SPECIFICALLY SHOWN ON THIS PLAN.
5. SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL UNDERGROUND TANKS, PIPES, VALVES, ETC.
6. CONTRACTOR IS TO COORDINATE ALL PERMITS, FEES & INSPECTIONS AS REQUIRED BY ANY AGENCY HAVING JURISDICTION.
7. NATURAL VEGETATION AND SOIL COVER SHALL NOT BE DISTURBED PRIOR TO ACTUAL CONSTRUCTION OF A REQUIRED FACILITY OR IMPROVEMENT. MASS CLEARING OF THE SITE IN ANTICIPATION OF CONSTRUCTION SHALL BE AVOIDED. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO ONE APPROACH TO SITE. THE APPROACH SHALL BE DESIGNATED BY THE GENERAL MANAGER.

ABOVE-GROUND IMPROVEMENTS

CONTRACTOR SHALL OBTAIN A COPY OF, AND STRICTLY ADHERE TO THE CURRENT HERRIMAN CITY STANDARDS AND SPECIFICATIONS. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY HERRIMAN CITY STANDARDS AND DETAILS.
CONTRACTOR IS TO OBTAIN ANY REQUIRED PERMITS AND NOTIFY THE STREET OWNER AND SILVER PEAK ENGINEERING PRIOR TO BEGINNING ANY WORK WITHIN SAID STREET.

SITE WORK OUTSIDE OF THE PUBLICLY OWNED RIGHT OF WAY SHALL CONFORM WITH THE NOTES AND DETAILS SHOWN ON THIS SET OF PLANS. CONTRACTOR IS TO NOTIFY THE OWNER AND SILVERPEAK ENGINEERING PRIOR TO BEGINNING SAID WORK.

ALL DIMENSIONS, AND GRADES SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST, PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

ALL EXISTING MANHOLES, WATER VALVES, CLEAN OUTS, ETC., ARE TO BE RAISED OR LOWERED TO GRADE.

ALL NEW VALVES, MANHOLES, ETC. SHALL BE INSTALLED A MINIMUM OF 6" BELOW FINISH GRADE & RAISED TO GRADE AS REQUIRED WITH A MINIMUM 6" CONCRETE RING.

FULL DEPTH EXPANSION JOINTS WILL BE PLACED AGAINST ANY OBJECT DEEMED TO BE FIXED, CHANGES IN DIRECTION, AND AT EQUAL INTERVALS NOT TO EXCEED 50 FEET. SLABS-ON-GRADE WILL BE TYPICALLY SCORED (1/2 THE DEPTH) AT INTERVALS NOT TO EXCEED THEIR WIDTH OR 12 TIMES THEIR DEPTH, WHICHEVER IS LESS. SCORING WILL BE PLACED TO PREVENT RANDOM CRACKING.

CONCRETE WATERWAYS, CURB WALLS, MOW STRIPS, CURB AND GUTTER, ETC., WILL TYPICALLY BE SCORED (1/2 THE DEPTH) AT INTERVALS NOT TO EXCEED 10 FEET, AND HAVE FULL DEPTH EXPANSION JOINTS THAT EQUAL SPACING NOT TO EXCEED 40 FEET.

UNLESS OTHERWISE NOTED, ALL SLABS-ON-GRADE WILL HAVE A MINIMUM 8" TURNED-DOWN EDGE TO HELP CONTROL FROST HEAVE.

UNLESS OTHERWISE NOTED, ALL ON-GRADE CONCRETE WILL BE PLACED ON A MINIMUM 4" GRAVEL BASE OVER A WELL COMPACTED (96% STANDARD PROCTOR DENSITY) SUB GRADE.

ALL EXPOSED SURFACES WILL HAVE A TEXTURED FINISH, RUBBED, OR BROOMED, ANY "PLASTERING" OF NEW CONCRETE WILL BE DONE WHILE IT IS STILL "GREEN".

ALL JOINTS (CONTROL JOINTS, CONSTRUCTION JOINTS, EXPANSION JOINTS, ETC.), WILL BE SEALED WITH A ONE PART POLYURETHANE SEALANT (SEE SPECIFICATION).

CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ADJACENT SURFACE IMPROVEMENTS.

ALL EXISTING ASPHALT WILL BE SAW CUT IN NEAT STRAIGHT LINES BY THE CONTRACTOR PRIOR TO EXCAVATION.

HANDICAP ACCESSIBILITY: ALL CONSTRUCTION SHALL MEET THE ADA HANDICAP ACCESSIBILITY REQUIREMENTS. FOR ANY DISCREPANCIES BETWEEN THE PLANS AND ADA REQUIREMENTS, ADA REQUIREMENTS WILL GOVERN.

STRIPING WILL BE PER THE PLANS AND/OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. STRIPING TO INCLUDE HANDICAP INSIGNIAS, SIGNS, CROSS-HATCHING, DIRECTION ARROWS, ETC. AS SHOWN OR AS DIRECTED.

NO CHANGE IN DESIGN LOCATION OR GRADE WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF THE PROJECT ENGINEER.

ABBREVIATIONS

NOT ALL ITEMS MAY BE APPLICABLE

Φ	DIAMETER
Δ	DELTA
°	DEGREES
'	MINUTES, FEET
"	SECONDS, INCHES
ADA	AMERICAN DISABILITIES ACT
ARCH	ARCHITECTURAL
B&C	BAR & CAP
BL	BOUNDARY LINE
BM	BENCHMARK
BND	BOUNDARY
BOW	BACK OF WALK
BRG	BEARING
BVC	BEGIN VERTICAL CURVE
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
C&G	CURB AND GUTTER
CB	CATCH BASIN
CH	CHORD
CHB	CHORD BEARING
CI	CAST IRON
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COMBO	COMBINATION
CONC	CONCRETE
CONST	CONSTRUCTION
CUL	CULINARY
CW	CULINARY WATER
CWL	CULINARY WATERLINE
DEMO	DEMOLITION
DI	DUCTILE IRON
DIAM	DIAMETER
DIST	DISTANCE
E	EAST
EG	EXISTING GRADE
EOA	EDGE OF ASPHALT
ELEC	ELECTRICAL
EVC	END VERTICAL CURVE
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EXIST	EXISTING
EX	EXISTING
FDC	FIRE DEPARTMENT CONNECTION
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FND	FOUND
FND	FOUNDATION
FTG	FOOTING
GB	GRADE BREAK
GR	GRATE
GV	GATE VALVE
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HPE	HIGH POINT ELEVATION
HPS	HIGH POINT STATION
HWM	HIGH WATER MARK
INV	INVERT
IRR	IRRIGATION
IRRMH	IRRIGATION MANHOLE
K	RADIUS OF CURVATURE
L	LENGTH
LAT	LATERAL SERVICE
LD	LAND DRAIN
LDMH	LAND DRAIN MANHOLE
LG	LIP OF GUTTER
LP	LIGHT POLE
LPE	LOW POINT ELEVATION
LPS	LOW POINT STATION
MECH	MECHANICAL
MH	MANHOLE
MON	MONUMENT
N	NORTH
NE	NORTHEAST
NR	NON-RADIAL
NW	NORTHWEST
OC	ON CENTER
PL	PROPERTY LINE
PROP	PROPERTY
PUE	PUBLIC UTILTIY EASEMENT
PU&DE	PUBLIC UTILITY & DRAINAGE EASEMENT
PUE&DE	PUBLIC UTILITY EASEMENT & DRAINAGE EASEMENT
PVC	POLYVINYLCHLORIDE
R	RADIUS
RCL	ROADWAY CENTERLINE
RCP	REINFORCED CONCRETE PIPE
S	SOUTH
SD	STORM DRAIN
SDCB	STORM DRAIN CATCH BASIN
SDCO	STORM DRAIN CLEANOUT
SDMH	STORM DRAIN MANHOLE
SE	SOUTHEAST
SEC	SECONDARY
SEC	SECTION
SLB&M	SALT LAKE BASE & MERIDIAN
SPEC	SPECIFICATION
SPECS	SPECIFICATIONS
SPP	STEEL PIPE
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
STD	STANDARD
STDS	STANDARDS
SW	SECONDARY WATER
SW	SOUTHWEST
SWL	SECONDARY WATERLINE
TAN	TANGENT
TB	THRUST BLOCK
TBC	TOP BACK OF CURB
TBW	TOP BACK OF WALK
TEL	TELEPHONE
TGW	TOP OF CURBWALL
TOA	TOP OF ASPHALT
TOC	TOP OF CONCRETE
TOG	TOP OF GRATE
TOW	TOP OF WALL
TYP	TYPICAL
UDOT	UTAH DEPARTMENT OF TRANSPORTATION
U.N.O.	UNLESS NOTED OTHERWISE
UP	UTILITY POLE
UTIL	UTILITY
V	VALVE
VC	VERTICAL CURVE
W	WATER
W	WEST
WL	WATERLINE
WM	WATER METER
WV	WATER VALVE
X	CROSS
X-SECT	CROSS-SECTION

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS
PRIOR TO COMMENCING
ANY CONSTRUCTION

SEAL:

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

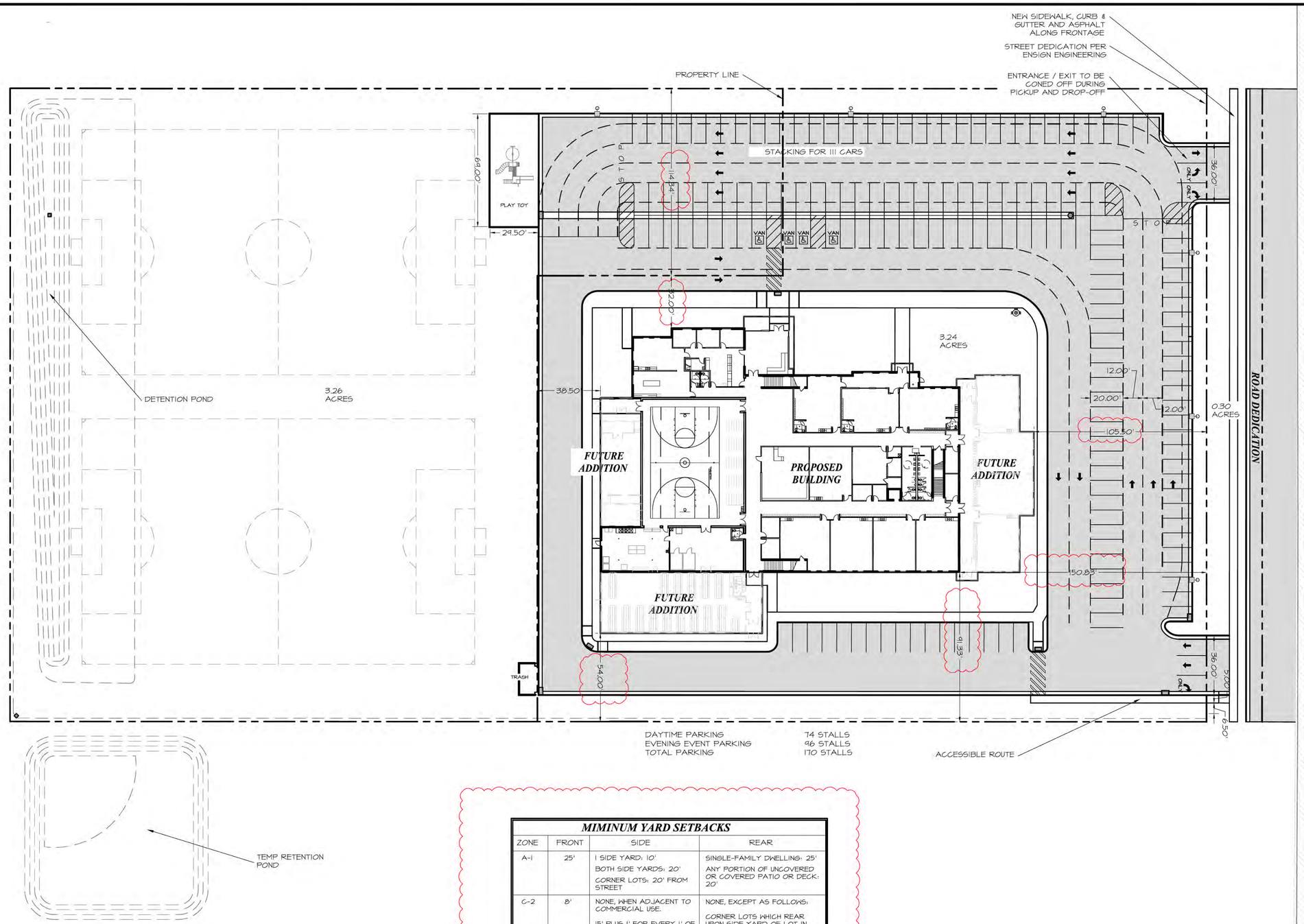
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

GENERAL NOTES

SHEET NUMBER:
C100

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



MIMINUM YARD SETBACKS			
ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

CURRENT PROPERTY ZONE IS A-1

0 30 60 120

HORIZONTAL SCALE: 1"=30'

SITE PLAN

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

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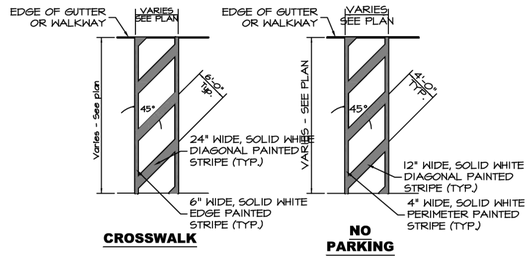
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:
11/27/2018 1

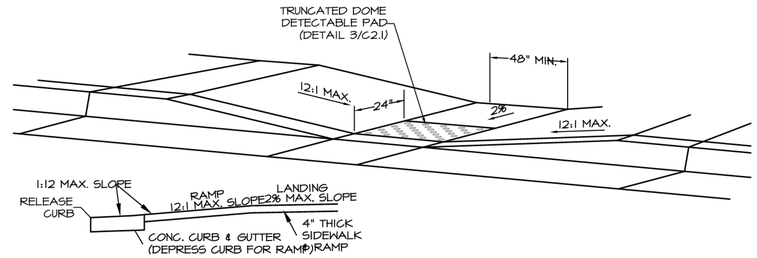
SITE PLAN

SHEET NUMBER:
C200

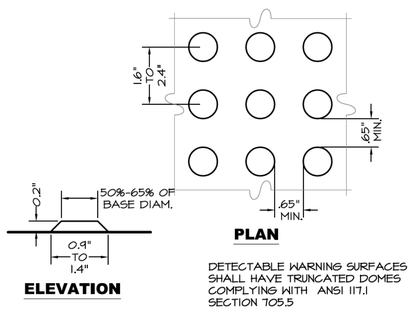
PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



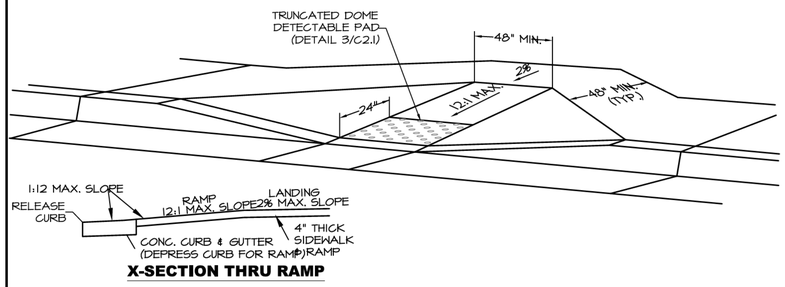
STRIPING DETAILS — 1 / C2.1
NOT TO SCALE



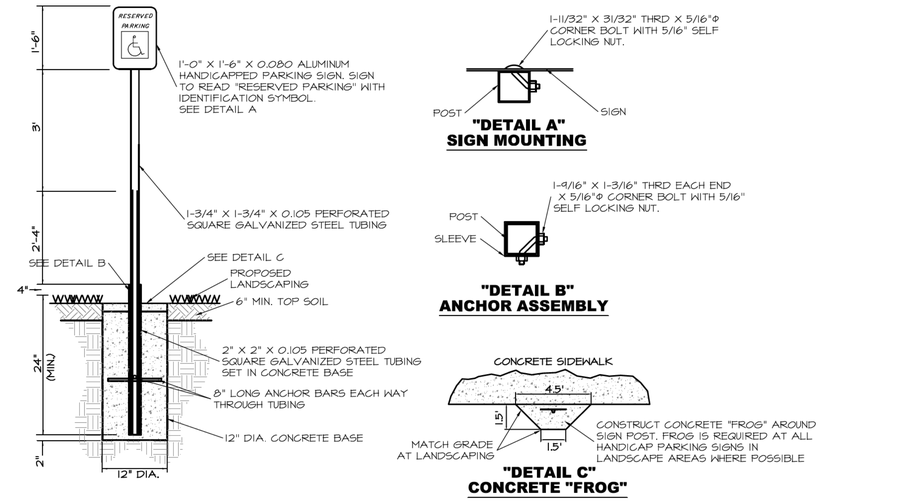
ADA RAMP — 2 / C2.1
NOT TO SCALE



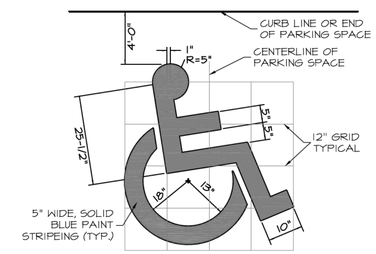
TRUNCATED DOME DETECTABLE PAD — 3 / C2.1
NOT TO SCALE



ADA RAMP — 4 / C2.1
NOT TO SCALE



HANDICAP PARKING SIGN DETAILS — 5 / C2.1
NOT TO SCALE

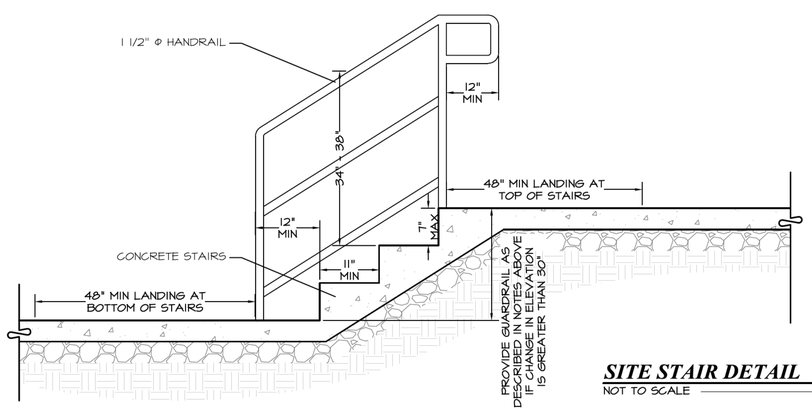


SITE RAMP AND HANDRAIL NOTES:

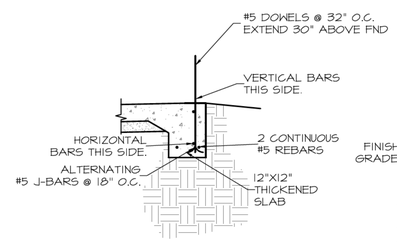
1. ALL RAMPS SHALL HAVE A MAXIMUM SLOPE OF 1:12. RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL HAVE HANDRAILS ON BOTH SIDES. LANDINGS SHALL HAVE A SLOPE NOT STEEPER THAN 1:48 IN ANY DIRECTION PER IBC.
2. RAMPS SHALL HAVE LANDINGS AT THE BOTTOM AND TOP OF EACH RAMP. RAMP LANDINGS SHALL BE A MINIMUM OF 60" IN LENGTH, AND AT LEAST AS WIDE AS THE RAMP RUN PER IBC.
3. THE TOPS OF HANDRAIL SHALL BE PLACED NO LESS THAN 34" AND NO MORE THAN 38" ABOVE THE RAMP. THEY SHALL BE CONTINUOUS THE FULL LENGTH OF THE RAMP AND SHALL BE PROVIDED ON BOTH SIDES OF RAMP, PLUS 12" PAST THE RAMP AT THE TOP & BOTTOM OF THE RAMP. ENDS SHOULD RETURN TO WALL, GUARD, OR WALKING SURFACE. THE HAND GRIP PORTION OF HANDRAILS SHALL BE NOT LESS THAN 1 1/4" AND NO MORE THAN 2" IN CROSS-SECTIONAL DIMENSION OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE. THE HAND GRIP PORTION OF HANDRAILS SHALL HAVE A SMOOTH SURFACE WITH NO SHARP CORNERS. HANDRAIL PROJECTING FROM A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1 1/2" BETWEEN THE WALL AND THE HANDRAIL PER IBC.

SITE STAIR AND RAILING NOTES:

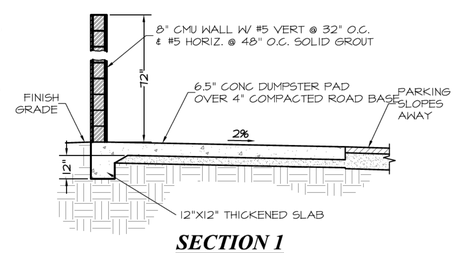
1. STAIR TREADS TO BE 11" MINIMUM AND RISERS TO BE 7" MAXIMUM.
2. THE TOPS OF HANDRAIL SHALL BE PLACED NO LESS THAN 34" AND NO MORE THAN 38" ABOVE THE NOSING OF TREADS. THEY SHALL BE CONTINUOUS THE FULL LENGTH OF THE STAIRS AND SHALL BE PROVIDED ON BOTH SIDES OF STAIRWAY, PLUS 12" PAST THE STAIRS AT THE TOP OF THE STAIR WAY AND 1 RISER LEGTH PAST THE STAIRS AT THE BOTTOM OF THE STAIRWAY. ENDS SHOULD RETURN TO WALL, GUARD, OR WALKING SURFACE OR BE CONT. TO NEXT STAIR. THE HAND GRIP PORTION OF HANDRAILS SHALL BE NOT LESS THAN 1 1/4" AND NO MORE THAN 2" IN CROSS-SECTIONAL DIMENSION OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE. THE HAND GRIP PORTION OF HANDRAILS SHALL HAVE A SMOOTH SURFACE WITH NO SHARP CORNERS. HANDRAIL PROJECTING FROM A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1 1/2" BETWEEN THE WALL AND THE HANDRAIL PER IBC.
3. ALL OPEN SIDES OF LANDINGS AND STAIRS, BALCONIES, PORCHES, DECKS, AND UN-ENCLOSED FLOOR AND ROOF OPENINGS USED FOR OTHER THAN SERVICE WHICH ARE MORE THAN 30" ABOVE GRADE SHALL BE PROTECTED BY A GUARDRAIL. GUARDRAILS SHALL NOT BE LESS THAN 42" IN HEIGHT.
4. GUARDRAILS SHALL HAVE INTERMEDIATE RAILS OR AN ORNAMENTAL PATTERN SUCH THAT NO OBJECT 4" IN DIAMETER CAN-NOT PASS THROUGH THE GUARDRAIL PER IBC.
5. HANDRAILS NOT REQUIRED PER 2012 IBC 1009.15 EXCEPTION #3 FOR WALKWAYS HAVING A SINGLE CHANGE IN ELEVATIONS WHERE THE LANDING DEPTH ON EACH SIDE OF THE CHANGE OF ELEVATIONS IS GREATER THAN WHAT IS REQUIRED FOR A LANDING.



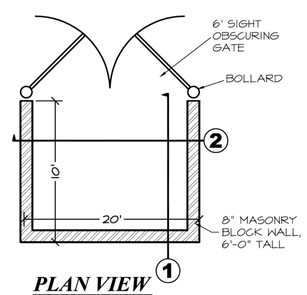
SITE STAIR DETAIL — 7 / C2.1
NOT TO SCALE



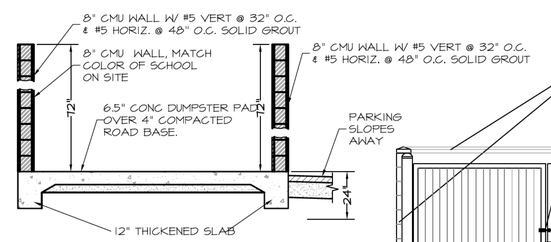
STEM WALL & FOUNDATION SECTION



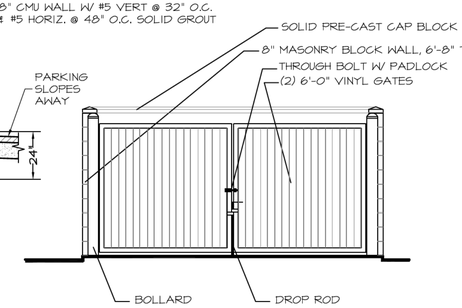
SECTION 1



PLAN VIEW



SECTION 2



DUMPSTER ENCLOSURE — 8 / C2.1
NOT TO SCALE

TYPICAL NO PARKING SIGN — 6 / C2.1
NOT TO SCALE

SEAL:

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STRUCTURAL CIVIL SURVEY

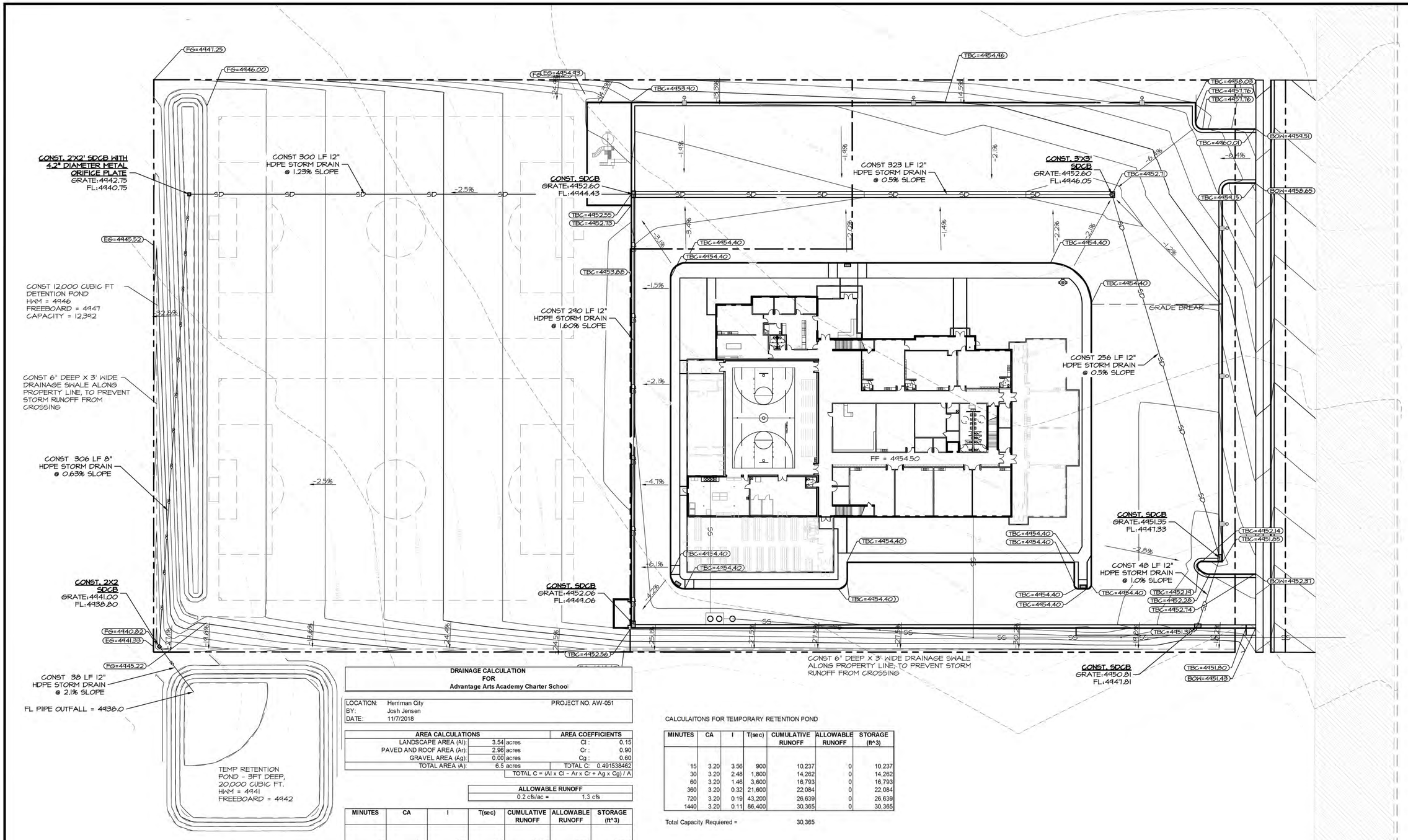
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

SITE DETAILS

SHEET NUMBER:
C201

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



DRAINAGE CALCULATION
FOR
Advantage Arts Academy Charter School

LOCATION:	Herriman City	PROJECT NO. AW-051
BY:	Josh Jensen	
DATE:	11/7/2018	

AREA CALCULATIONS			AREA COEFFICIENTS	
LANDSCAPE AREA (Al):	3.54	acres	Cl :	0.15
PAVED AND ROOF AREA (Ar):	2.96	acres	Cr :	0.90
GRAVEL AREA (Ag):	0.00	acres	Cg :	0.60
TOTAL AREA (A):	6.5	acres	TOTAL C:	0.491538462
			TOTAL C = (Al x Cl - Ar x Cr + Ag x Cg) / A	

ALLOWABLE RUNOFF	
0.2 cfs/ac =	1.3 cfs

MINUTES	CA	I	T(sec)	CUMULATIVE RUNOFF	ALLOWABLE RUNOFF	STORAGE (ft^3)
15	3.20	3.56	900	10,237	1,170	9,067
30	3.20	2.48	1,800	14,262	2,340	11,922
60	3.20	1.46	3,600	16,793	4,680	12,113
360	3.20	0.32	21,600	22,084	28,080	-5,996
720	3.20	0.19	43,200	26,639	56,160	-29,521
1440	3.20	0.11	86,400	30,365	112,320	-81,955

NOTE: 100 Year 24 Hour Storm

STORAGE REQUIRED : 12,113 ft^3
STORAGE PROVIDED : ft^3

OUTLET CONTROL					
Q (cfs)=	1.3	HWM	47.0	TYPE OF PIPE:	HDPE
C=	0.6	FL @ GATE	39.0	ROUGHNESS (n) =	0.012
g (ft/s^2)=	32.2	h (ft)=	8.0	PIPE DIA. (d) =	12
				%SLOPE (s) =	0.005
AREA (in^2) =	13.75	= Q / (C x (2 x g x h)^0.5)		Q allow =	2.74
WIDTH (in) =	3.72	HEIGHT (in)	3.70	Check Q (cfs)	OK

PROVIDE 12" DIA. HDPE PIPE
WITH: 3.72" x 3.7" HOLE IN METAL HEADGATE
or 4.2" diameter hole in metal headgate

CALCULAITONS FOR TEMPORARY RETENTION POND

MINUTES	CA	I	T(sec)	CUMULATIVE RUNOFF	ALLOWABLE RUNOFF	STORAGE (ft^3)
15	3.20	3.56	900	10,237	0	10,237
30	3.20	2.48	1,800	14,262	0	14,262
60	3.20	1.46	3,600	16,793	0	16,793
360	3.20	0.32	21,600	22,084	0	22,084
720	3.20	0.19	43,200	26,639	0	26,639
1440	3.20	0.11	86,400	30,365	0	30,365

Total Capacity Requiered = 30,365

0 30 60 120
HORIZONTAL SCALE: 1"=30'

GRADING / DRAINAGE PLAN

CALL BLUESTAKES
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SEAL:

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PHONE: (801) 499-5054
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STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

GRADING / DRAINAGE PLAN

SHEET NUMBER:
C300

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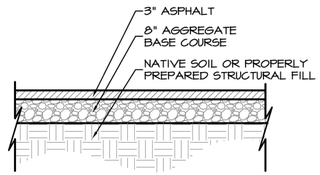
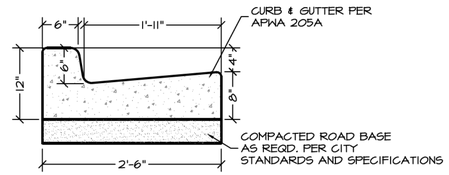
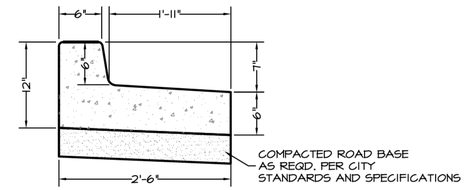


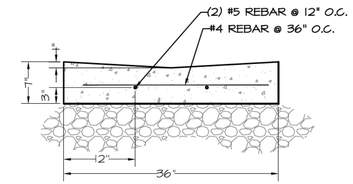
TYPICAL PARKING X-SECTION 1 / C3.1
NOT TO SCALE



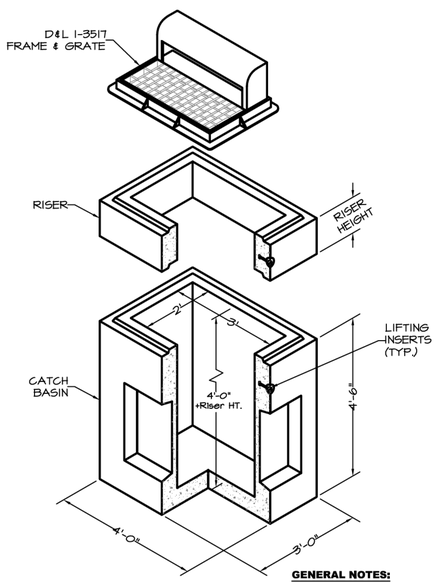
30" HIGH BACK CURB DETAIL 2 / C3.1
NOT TO SCALE



30" RELEASE GUTTER DETAIL 3 / C3.1
NOT TO SCALE

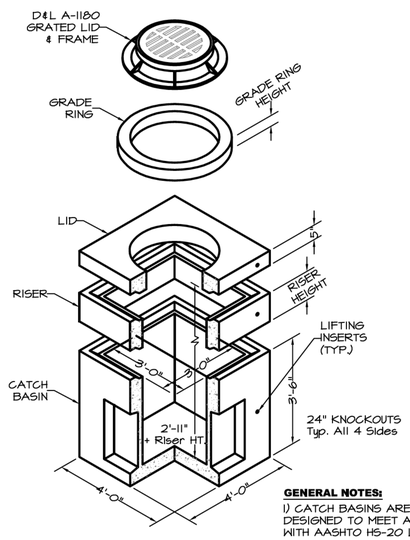


3' WATER WAY 4 / C3.1
NOT TO SCALE



GENERAL NOTES:
1) CATCH BASINS ARE TO BE DESIGNED TO MEET ASTM C858 WITH AASHTO H5-20 LOADING

STORM DRAIN CATCH BASIN (SDCB) 5 / C3.1
NOT TO SCALE



GENERAL NOTES:
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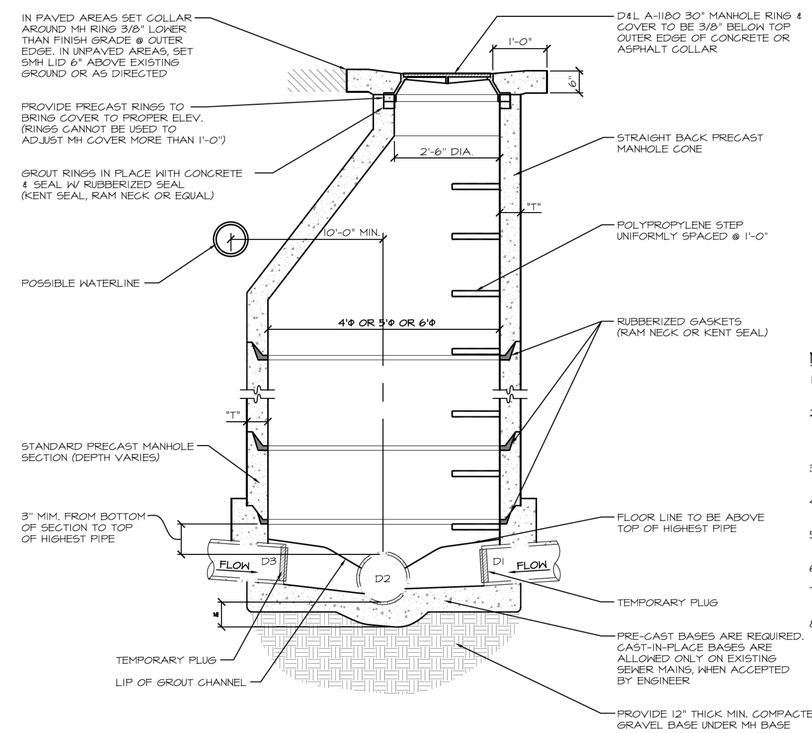
STORM DRAIN CLEAN OUT (SDCO) 6 / C3.1
NOT TO SCALE



WALL THICKNESS (T)	
SMH DIA.	T (INCHES)
4'-0"	5"
5'-0"	6"
6'-0"	7"

NOTES:

1. IF GRADE ALLOWS, INVERTS OF D1 & D3 SHALL MATCH TOP OF D2 OTHERWISE AS APPROVED BY DISTRICT.
2. AFTER ALL GRADING AROUND MANHOLE HAS BEEN COMPLETED & FINAL SURFACING IS IN PLACE, REMOVE DEBRIS & TEMPORARY PLUGS OR PLYWOOD FROM INSIDE OF MANHOLE.
3. IF MANHOLE BASE IS TO BE POURED IN PLACE, FOLLOW SAME PATTERN AS SHOWN EXCEPT USE 10" MIN. WALL THICKNESS.
4. MANHOLES DEEPER THAN 20'-0" SHALL HAVE AN 18" THICK CONCRETE BASE.
5. SET MANHOLE FRAME & COVER TO 3/8" BELOW FINISH GRADE AFTER FINAL STREET GRADING IS COMPLETE.
6. CONE & WALL SECTIONS TO CONFORM TO ASTM C-478.
7. JUNCTIONS OF (3) OR MORE PIPES REQUIRE 5[OR LARGER MANHOLE.
8. DEFLECTION ANGLE OF 75° OR HIGHER REQUIRE 5[OR LARGER MANHOLE.

TYPICAL MANHOLE DETAIL 7 / C3.1
NOT TO SCALE

SEAL:

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ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

GRADING / DRAINAGE DETAILS

SHEET NUMBER:
C301

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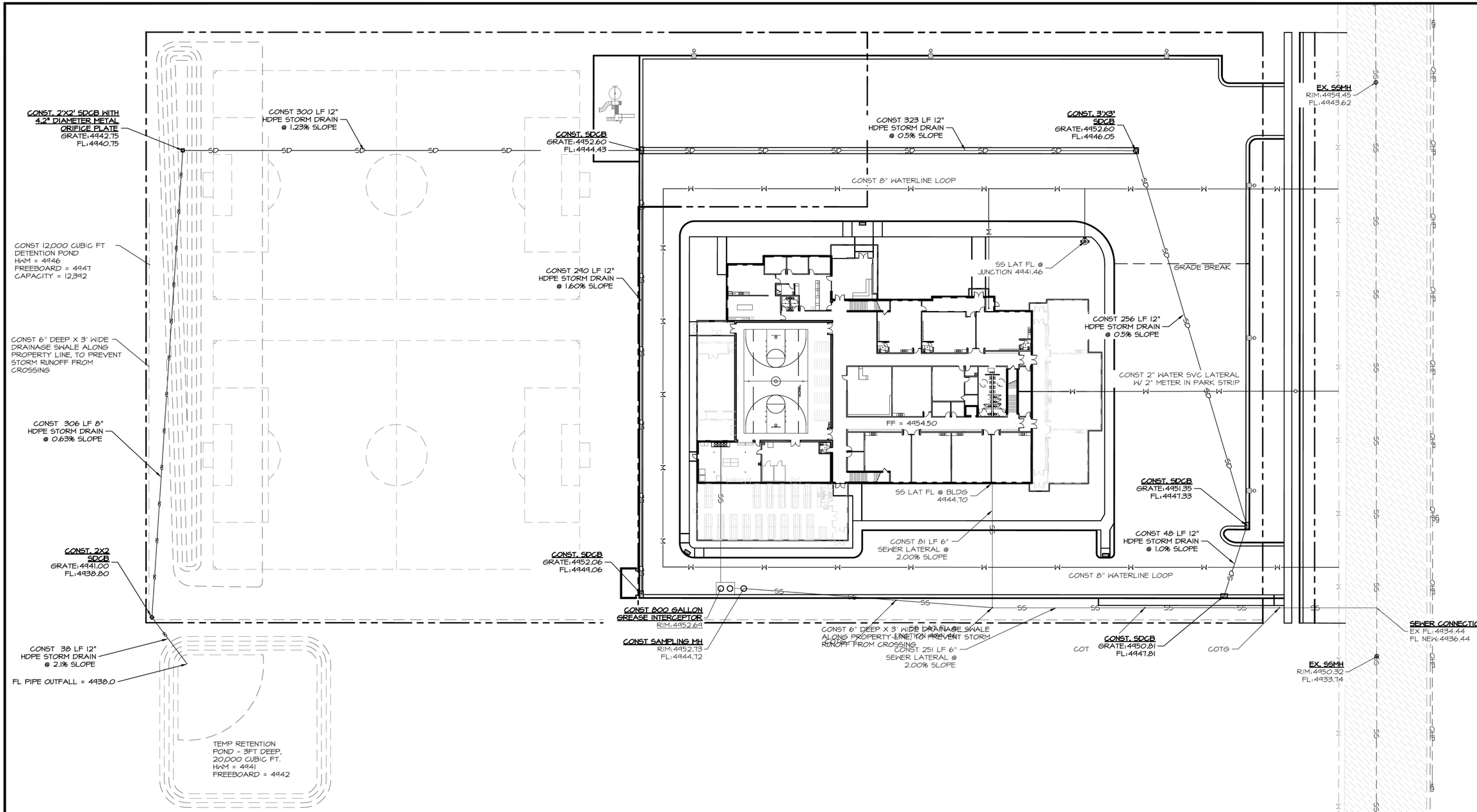

0 30 60 120

HORIZONTAL SCALE: 1"=30'

UTILITY PLAN

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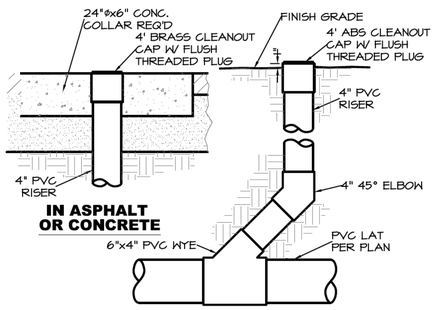
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

UTILITY PLAN

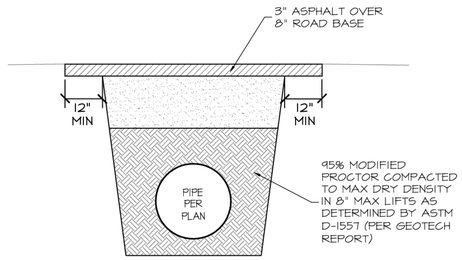
SHEET NUMBER:
C400

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



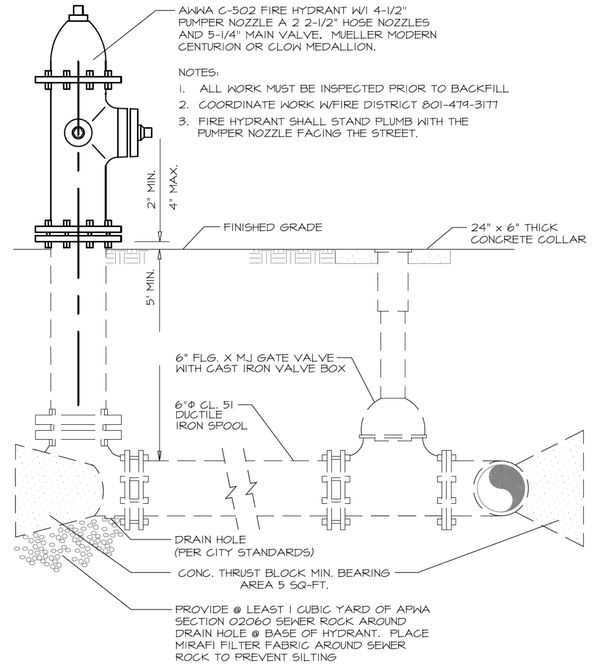
SANITARY SEWER CLEANOUT

NOT TO SCALE — 1 / C4.1



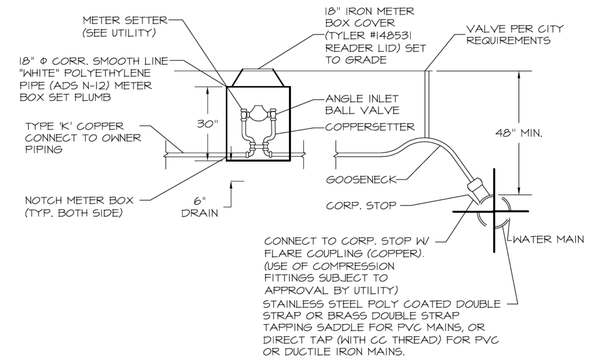
TYPICAL UTILITY TRENCH CROSS SECTION

NOT TO SCALE — 2 / C4.1



FIRE HYDRANT ASSEMBLY

NOT TO SCALE — 3 / C4.1

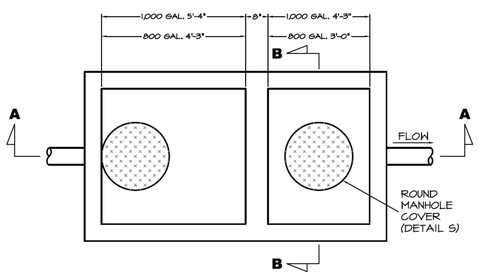


NOTE:

NEW METERS SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLANS. THE LID, BOX, METER, AND SETTER WILL BE PROVIDED BY THE CONTRACTOR. CONNECTION TO THE SUPPLY MAIN, CORP. STOP, AND SERVICE PIPING FROM THE MAIN TO THE METER AND FROM THE METER TO 10'-0" ONTO THE OWNERS PROPERTY SHALL BE PROVIDED BY THE CONTRACTOR.

WATER METER DETAIL

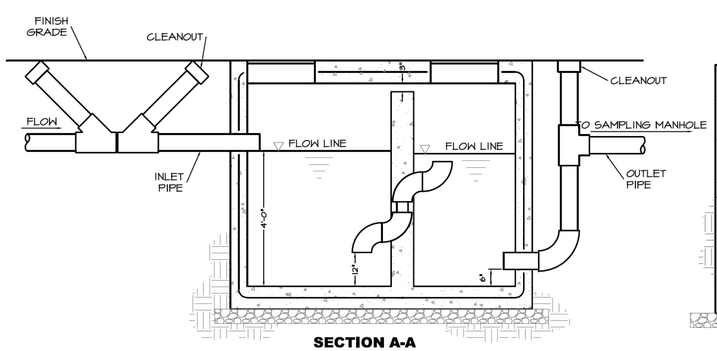
NOT TO SCALE — 4 / C4.1



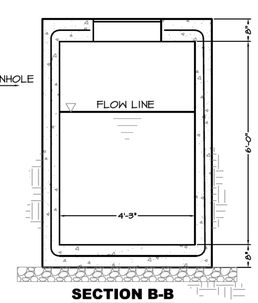
PLAN VIEW

NOTES

1. PIPING CLEANOUT CONFIGURATION, SIZE AND TYPE OF PIPING MATERIAL AS PER CITY OR SANITARY DISTRICT. INSPECTION BY SVWRF PRIOR TO BACKFILLING IS REQUIRED.
2. INTERCEPTOR PIPING AND OTHER ASSOCIATED PIPING CHANGES THAT ARE NECESSARY TO INSTALL INTERCEPTOR MUST BE IN ACCORDANCE WITH LOCAL REGULATIONS.
3. INTERCEPTOR MUST BE PROPERLY VENTED IN ACCORDANCE WITH UNIFORM PLUMBING CODE STANDARDS.
4. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
5. REINFORCEMENT STEEL SHALL BE ASTM A615 GRADE 60.
6. THE CONCRETE COVER OVER REINFORCEMENT STEEL SHALL BE A MINIMUM OF 1-1/2" INCHES.
7. THE STRUCTURE SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF UTAH.
8. THE STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING CONFIGURATION:
   A) WALLS DESIGNED FOR A SATURATED EQUIVALENT FLUID AT-REST SOIL PRESSURE OF 90 PCF PLUS TRUCK SURCHARGES.
   B) TRUCK LOADING USING AN AASHTO H-20 TRUCK LOAD.
9. MANWAY FRAME AND COVER SHALL BE A TRAFFIC TYPE CASTING FOR H-20 TRUCK LOAD.
10. THE INLET PIPE SHALL BE AT AN ELEVATION 1 INCH HIGHER THAN THE OUTLET PIPE.
11. WHERE THE SEWER LINE ALREADY EXISTS, THE SEWER INVERT INTO AND OUT OF THE INTERCEPTOR SHALL BE 4'-0" ABOVE THE INTERCEPTOR FLOOR.
12. THE BAFFLE IN THE INTERCEPTOR SHALL BE WITHIN 3 INCHES OF THE CEILING.
13. COVERS SHALL BE CIRCULAR AND SOLID.
14. SANITARY WASTE FROM TOILETS MUST NOT BE PLUMBED THROUGH THE INTERCEPTOR.
15. INTERCEPTOR MUST BE LOCATED IN SUCH A MANNER THAT IT IS READILY ACCESSIBLE FOR CLEANING.



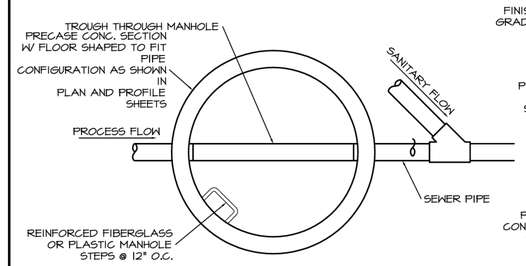
SECTION A-A



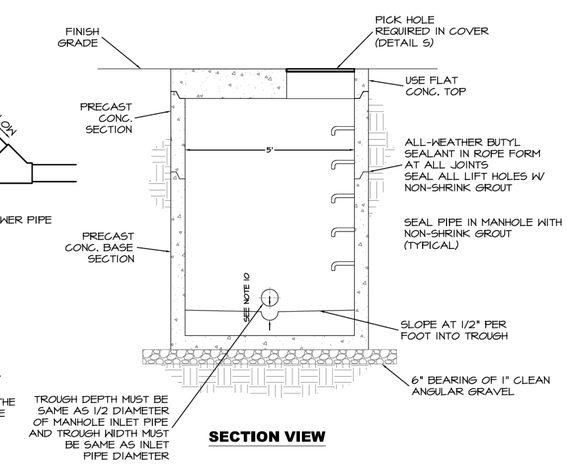
SECTION B-B

GREASE INTERCEPTOR

NOT TO SCALE — 5 / C4.1



PLAN VIEW



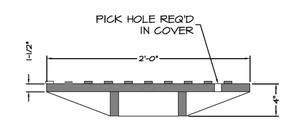
SECTION VIEW

NOTES

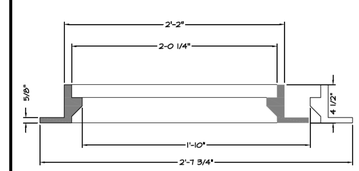
1. PIPING, CLEANOUT CONFIGURATION, SIZE AND TYPE OF PIPING MATERIAL AS PER CITY OR SANITARY DISTRICT. INSPECTION BY SVWRF PRIOR TO BACKFILLING IS REQUIRED.
2. WIDTH OF TROUGH IN THE MANHOLE MUST BE THE SAME SIZE AS THE INLET PIPE INTO MANHOLE. DEPTH OF TROUGH MUST BE THE SAME AS 1/2 OF INLET PIPE DIAMETER.
3. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
4. REINFORCEMENT STEEL SHALL BE ASTM A615 GRADE 60.
5. THE CONCRETE COVER OVER REINFORCEMENT STEEL SHALL BE A MINIMUM OF 1-1/2" INCHES.
6. THE STRUCTURE SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF UTAH.
7. THE STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING CONFIGURATION:
   A) WALLS DESIGNED FOR A SATURATED EQUIVALENT FLUID AT-REST SOIL PRESSURE OF 90 PCF PLUS TRUCK SURCHARGES.
   B) TRUCK LOADING USING AN AASHTO H-20 TRUCK LOAD.
8. MANHOLES OVER 4 FEET IN DEPTH WILL HAVE STAINLESS OR PLASTIC STEPS.
9. ALL MANHOLES MUST HAVE ROUND NOTCHED COVERS WITH PICK HOLE FOR REMOVAL.
10. FOR NEW CONSTRUCTION, BOTTOM OF INLET PIPE INTO MANHOLE MUST BE AT LEAST 3 INCHES ABOVE THE BOTTOM OF THE TROUGH THROUGH THE MANHOLE.

SAMPLING MANHOLE

NOT TO SCALE — 6 / C4.1



MANHOLE COVER



MANHOLE RING

NOTE:
IF CONCRETE GRADE RINGS ARE USED ON A SAMPLING MANHOLE INSTALLATION, THE TOTAL HEIGHT OF THE STACKED RINGS MUST NOT EXCEED 12".

MANHOLE COVER & RING

NOT TO SCALE — 7 / C4.1

SEAL:

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY
WWW.SILVERPEAKENG.COM

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ADDRESS
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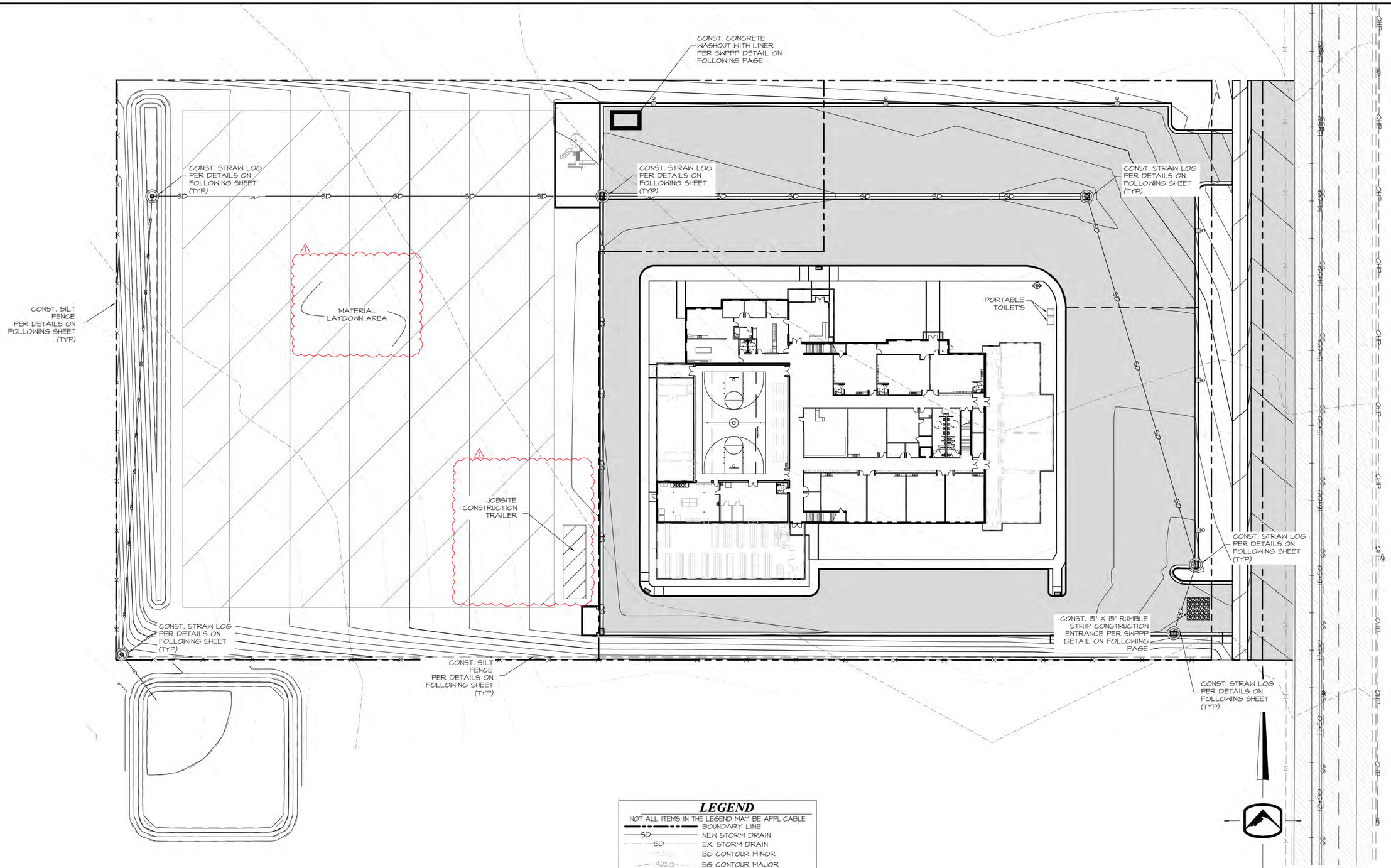


LEGEND

NOT ALL ITEMS IN THE LEGEND MAY BE APPLICABLE

- BOUNDARY LINE
- SD — NEW STORM DRAIN
- SD — EX. STORM DRAIN
- EG CONTOUR MINOR
- 4250 — EG CONTOUR MAJOR
- 4250 — FG CONTOUR MINOR
- 4250 — FG CONTOUR MAJOR
- NEW ASPHALT PER X-SECTION
- EXISTING ASPHALT
- EXISTING CURB & GUTTER
- CONST. CURB & GUTTER PER X-SECTION
- X — CONST. SILT FENCE
- SD INLET PROTECTION

NOTE:

DURING CONSTRUCTION OF THE BUILDING THE PLAYFIELD AND PARKING AREAS WILL BE USED FOR CONSTRUCTION STAGING. DURING CONSTRUCTION OF THE PARKING AREA THE PLAYFIELD AREA WILL BE USED FOR CONSTRUCTION STAGING

SWPPP

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL:

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ

REVISIONS:
11-27-2018 1

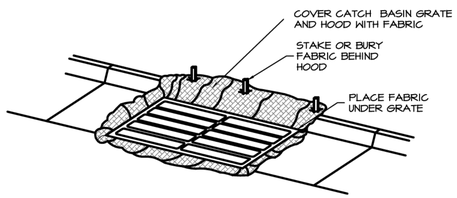
SWPPP

SHEET NUMBER:
C500

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

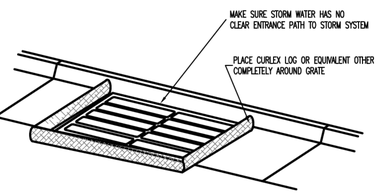
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

ADVANTAGE ARTS ACADEMY SCHOOL



FABRIC UNDER GRATE

MAINTENANCE: LIFT GRATE & CLEAN SEDIMENT OFF OF FABRIC WEEKLY & AFTER A STORM. TAKE CARE WHILE LIFTING GRATE TO PREVENT SEDIMENT FROM FALLING INTO THE CATCH BASIN. DISPOSE OF SEDIMENT AWAY FROM THE STORM DRAIN.



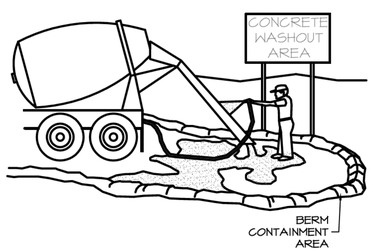
CURLEX LOG (STRAW/CLOTH SACK)

MAINTENANCE: REMOVE & CLEAN CULEX LOGS THOROUGHLY EACH WEEK OR AFTER A STORM. TAKE CARE WHILE MOVING ROCK SACKS TO PREVENT SEDIMENT FROM FALLING INTO THE CATCH BASIN. DISPOSE OF SEDIMENT AWAY FROM THE STORM DRAIN.

INLET PROTECTION

NOTES:

1. USE FABRIC UNDER GRATE TO PROTECT THE CATCH BASIN FROM SEDIMENTATION.



CONCRETE WASTE MANAGEMENT

NOTES:

1. EXCESS AND WASTE CONCRETE SHALL NOT BE WASHED INTO THE STREET OR INTO A DRAINAGE SYSTEM.

2. FOR WASHOUT OF CONCRETE AND MORTAR PRODUCTS, A DESIGNATED CONTAINMENT FACILITY OF SUFFICIENT CAPACITY TO RETAIN LIQUID AND SOLID WASTE SHALL BE PROVIDED ON SITE. THIS DISCHARGE AREA MUST BE LINED WITH AN IMPERMEABLE BARRIER.

3. SLURRY FROM CONCRETE AND ASPHALT SAW CUTTING SHALL BE VACUUMED OR CONTAINED, DRIED, PICKED UP, AND DISPOSED OF PROPERLY.

CONSTRUCTION & BMP SEQUENCING

BMP INSPECTION AND MAINTENANCE SHALL BEGIN WITH THE INSTALLATION OF THE FIRST BMP AND CONTINUE UNTIL THE LAST BMP (REVEGETATION) HAS BEEN COMPLETED.

CATCH BASIN PROTECTION

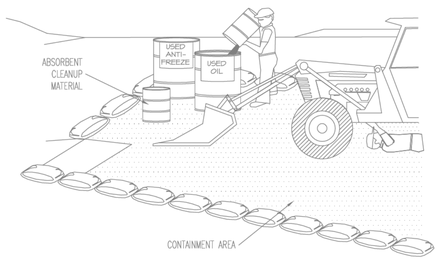
1 CATCH BASIN PROTECTION PER DETAIL LABELED "CURLEX LOG" AND/OR "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF STORM DRAIN CONSTRUCTION.
2 FOR CATCH BASINS LOCATED IN CURB AND GUTTER:
  A "CURLEX LOG" SHALL REMAIN IN PLACE UNTIL CURB AND GUTTER IS CONSTRUCTED.
  B CATCH BASIN PROTECTION PER DETAIL LABELED "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF CURB AND GUTTER CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL FINISH GRADING IS COMPLETED.
3 FOR CATCH BASINS LOCATED IN LANDSCAPE AREAS:
  A "CURLEX LOG" SHALL REMAIN IN PLACE UNTIL SITE GRADING OCCURS.
  B CATCH BASIN PROTECTION PER DETAIL LABELED "CURLEX LOG" AND/OR "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF SITE GRADING, AND SHALL REMAIN IN PLACE UNTIL ALL GRADING & LANDSCAPING IS COMPLETED.

CONCRETE WASTE MANAGEMENT

1 A CONCRETE WASTE MANAGEMENT FACILITY SHALL BE CONSTRUCTED PRIOR TO POURING ANY CONCRETE ON THE SITE, AND SHALL REMAIN IN PLACE UNTIL THE LAST CONCRETE POUR HAS BEEN COMPLETED.
2 CONTRACTOR IS TO REMOVE THE CONCRETE WASTE MANAGEMENT FACILITY BY LEGALLY REMOVING AND DISPOSING OF WASTE CONCRETE AND, IF NECESSARY, ANY NON-SOIL BERM MATERIALS.

REGEVETATION

1 SEEDING AND PLANTING OF THE SITE PER THE LANDSCAPE PLAN SHALL OCCUR WITHIN 14 DAYS OF COMPLETION OF THE FINISH GRADING, IF SAID 14 DAYS OCCUR BETWEEN APRIL 15 AND SEPTEMBER 15. OTHERWISE, SEEDING AND PLANTING SHALL BEGIN APRIL 15.
2 PLANTING EFFORTS SHALL BE COMPLETED WITHIN 15 DAYS.
3 SEEDING AND PLANTING SHALL BE CONSIDERED COMPLETE WHEN 70% OF PLANTINGS ARE ESTABLISHED).



EQUIPMENT MAINTENANCE/REPAIR

NOTES:

1. LEAKING VEHICLES AND EQUIPMENT SHALL NOT BE ALLOWED ON-SITE. EQUIPMENT AND VEHICLES SHALL BE INSPECTED FREQUENTLY FOR LEAKS AND SHALL BE REPAIRED IMMEDIATELY. CLEAN UP SPILLS AND LEAKS PROMPTLY WITH ABSORBENT MATERIALS; DO NOT FLUSH WITH WATER.

2. VEHICLES AND EQUIPMENT SHALL BE MAINTAINED, AND REPAIRED ON-SITE ONLY IN DESIGNATED AREAS. PREVENT RUN-ON AND RUN-OFF FROM DESIGNATED AREAS.

3. CONTAINMENT DEVICES SHALL BE PROVIDED AND AREAS SHALL BE COVERED IF NECESSARY.

4. DESIGNATE ON-SITE VEHICLE AND EQUIPMENT MAINTENANCE AREAS, AWAY FROM STORM DRAIN INLETS AND WATERCOURSES.

5. ALWAYS USE SECONDARY CONTAINMENT, SUCH AS A DRAIN PAN OR DROP CLOTH TO CATCH SPILLS AND LEAKS WHEN REMOVING OR CHANGING FLUIDS. LEGALLY DISPOSE OF USED OILS, FLUIDS AND LUBRICANTS.

6. PROVIDE SPILL CONTAINMENT DIKES OR SECONDARY CONTAINMENT AROUND STORED OIL, FUEL, AND CHEMICAL DRUMS.

7. MAINTAIN AN ADEQUATE SUPPLY OF ABSORBENT SPILL CLEANUP MATERIALS IN DESIGNATED AREAS.

STORM WATER POLLUTION PREVENTION PLAN SPECIFIC NOTES

1. THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WAS DEVELOPED AT THE REQUEST OF THE OWNER FOR THE CONSTRUCTION OF COMMERCIAL CONSTRUCTION IN HERRIMAN CITY, HERRIMAN COUNTY, STATE OF UTAH. THIS PLAN IDENTIFIES POTENTIAL SOURCES OF POLLUTANTS OF STORM WATER, PRESENTS POLLUTION CONTROL MEASURES, AND ASSISTS IN INSURING IMPLEMENTATION AND MAINTENANCE OF THE BEST MANAGEMENT PRACTICES (BMP'S) INDICATED HEREIN.

2. A NOTICE OF INTENT SHALL BE FILED WITH THE STATE OF UTAH DIVISION OF WATER QUALITY BY THE OWNER SO THAT THIS CONSTRUCTION PROJECT MAY BE COVERED UNDER THE STATE GENERAL PERMIT. THE PERMIT IS UTAH POLLUTION DISCHARGE ELIMINATION SYSTEM (UPDES) GENERAL PERMIT (NO. UTR 300000) FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY. PERMIT FORMS ARE AVAILABLE FOR DOWNLOAD FROM THE DEPARTMENT OF ENVIRONMENTAL QUALITY AT WWW.WATERQUALITY.UTAH.GOV/UPDES/SWCON02.PDF

3. IN THE EVENT OF A CHANGE IN OWNERSHIP, A NEW NOTICE OF INTENT SHALL BE FILED WITH THE DIVISION OF WATER QUALITY.

4. IN THE EVENT OF A RELEASE OF A REPORTABLE QUANTITY OF A POLLUTANT, THE CONTRACTOR SHALL ADVISE THE OWNER TO NOTIFY THE UTAH RESPONSE CENTER, HERRIMAN CITY, AND SILVERPEAK ENGINEERING IF NECESSARY, THIS SWPPP SHOULD BE REVISED TO REFLECT THE CHANGE IN CONDITIONS OF THE CONSTRUCTION ACTIVITY. A REPORTABLE QUANTITY IS ESTABLISHED BY 40 CODE OF FEDERAL REGULATIONS (CFR) 117.3 OR 40 CFR 302.4.

5. ALL CONTRACTORS AND THEIR PERSONNEL WHOSE WORK CAN CONTRIBUTE TO OR CAUSE POLLUTION OF STORM WATER SHALL BE MADE FAMILIAR WITH THIS SWPPP PLAN. ADEQUATE TRAINING FOR IMPLEMENTATION OF THE MEASURES PRESENTED HEREIN SHALL BE PROVIDED TO THE CONTRACTORS AND THEIR PERSONNEL. ALL CONTRACTORS AND SUBCONTRACTORS, EVEN ON RESIDENTIAL CONSTRUCTION WITH DISTURBANCE AREAS LESS THAN ONE ACRE, SHALL ABIDE BY THIS SWPPP.

6. CHANGES IN CONSTRUCTION OR IN CONDITIONS WHICH ARE NOT COVERED BY THIS SWPPP SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER, SKYLAND INVESTMENTS AND DEVELOPMENT AND SILVERPEAK ENGINEERING IF NECESSARY, THIS SWPPP WILL BE REVISED TO REFLECT THE CHANGE IN CONSTRUCTION OR IN CONDITIONS.

7. ALL PREVENTION AND CLEAN UP MEASURES SHALL BE CONDUCTED IN ACCORDANCE WITH HERRIMAN CITY ORDINANCES, AS WELL AS STATE AND FEDERAL REGULATIONS. WASTE MATERIALS SHOULD BE DISPOSED OF IN A LEGAL MANNER. ALL DISCHARGERS OF STORM WATER MUST COMPLY WITH THE LAWFUL REQUIREMENTS OF HERRIMAN CITY REGARDING THE DISCHARGES OF STORM WATER TO STORM DRAINS.

8. THIS SWPPP DOES NOT COVER THE REMOVAL OF HAZARDOUS OR TOXIC WASTE. IN THE EVENT OF A DISCHARGE OR RELEASE OF A REPORTABLE QUANTITY OF TOXIC WASTE, WORK SHALL BE STOPPED UNTIL THE SPILL CAN BE ASSESSED AND A MITIGATION REPORT PREPARED BY A QUALIFIED ENVIRONMENTAL CONSULTANT, AND IF NECESSARY, REVIEWED BY HERRIMAN CITY AND ANY OTHER AGENCY HAVING JURISDICTION.

9. THIS SWPPP SHALL BE MADE AVAILABLE TO THE PUBLIC UNDER SECTION 308(B) OF THE CLEAN WATER ACT. UPON REQUEST BY MEMBERS OF THE PUBLIC, THE DISCHARGER SHALL MAKE AVAILABLE FOR REVIEW A COPY OF THIS SWPPP EITHER TO THE DIVISION OF WATER QUALITY OR DIRECTLY TO THE REQUESTER. THIS SWPPP MUST BE KEPT ON SITE DURING CONSTRUCTION ACTIVITY AND MADE AVAILABLE UPON REQUEST OF A REPRESENTATIVE OF THE DIVISION OF WATER QUALITY AND/OR THE LOCAL AGENCY.

10. CONTACTS

DEVELOPER	[NAME]
ADDRESS	[ADDRESS]
CITY, STATE	[CITY]
TELEPHONE	HERRIMAN
CONTRACTOR/DISCHARGER	ONEWEST CONSTRUCTION
ADDRESS	290 N. FLINT STREET
CITY, STATE	KAYSVILLE, UTAH
TELEPHONE	801-444-9878
CIVIL ENGINEER	SILVERPEAK ENGINEERING
PROJECT MANAGER	JOSHUA R. JENSEN, P.E., S.E.
ADDRESS	177 E ANTELOPE DR, SUITE B
CITY, STATE	LAYTON, UT 84041
TELEPHONE	801-499-5054
HERRIMAN CITY	
ADDRESS	5355 W. HERRIMAN MAIN ST.
CITY, STATE	HERRIMAN, UTAH
TELEPHONE	801-446-5323
STATE OF UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY	288 NORTH 1460 WEST P.O. BOX 144870 SALT LAKE CITY, UTAH 84114-4870
U.S. EPA ENVIRONMENTAL PROTECTION AGENCY DENVER, COLORADO	REGION VIII 800-759-4372
ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460	202-475-9518

11. REFERENCES
A. PLAN PER SILVERPEAK ENGINEERING,
B. STORMWATER POLLUTION PREVENTION PLAN PREPARED BY SILVERPEAK ENGINEERING

12. THE PROPOSED CONSTRUCTION ACTIVITY IS THE CONSTRUCTION OF ONE BUILDING PLUS THE CONSTRUCTION OF ALL IMPROVEMENTS, UTILITIES, AND DRAINAGE AND GRADING FEATURES AS SHOWN ON THE PLANS.

13. THE ESTIMATED RUN-OFF COEFFICIENT AFTER COMPLETION IS 0.49
14. A NEGLIGIBLE AMOUNT OF WATER FLOWS ONTO THE SITE.

A. PROHIBITION ON MOST NON-STORM WATER DISCHARGES

ONLY STORM WATER FROM THE PROJECT SITE SHALL BE ALLOWED TO FLOW INTO THE ON-SITE STORM DRAIN SYSTEM. CLEAN WATER FROM THE FLUSHING OF FIRE HYDRANTS, WATER MAINS, AND STORM DRAINS MAY BE DISCHARGED TO THE STORM DRAIN IF IT IS NOT ALLOWED TO COLLECT DIRT, DEBRIS, AND TRASH WHILE FLOWING TO A STORM DRAIN INLET.

B. POTENTIAL SOURCES OF STORM WATER POLLUTANTS

POTENTIAL STORM WATER POLLUTANTS INCLUDE SOIL SEDIMENT AND NUTRIENTS, OIL, GREASE, TOXIC POLLUTANTS, AND HEAVY METALS. SOURCES OF STORM WATER POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO SOIL EROSION BY WATER AND/OR WIND; CLEARING OF VEGETATION; GRADING; VEHICLE AND EQUIPMENT REFUELING AND MAINTENANCE; WASHING OF CONCRETE TRUCKS, MIXERS AND HANDLING EQUIPMENT; PAINTS, SOLVENTS AND ADHESIVES; AND LANDSCAPING WORK.

C. EROSION AND SEDIMENT CONTROLS

1. COVER EXPOSED STOCKPILES OF SOILS, CONSTRUCTION AND LANDSCAPING MATERIALS WITH HEAVY PLASTIC SHEETING.
2. IN LANDSCAPING AREAS WHERE THE VEGETATION HAS NOT ESTABLISHED GROWTH AND TAKEN HOLD, CONSTRUCT SANDBAG OR DIRT BERMS AROUND THEIR PERIMETER TO INSURE THAT WATER WILL BE CONTAINED INSIDE THE LANDSCAPING AREA AND THAT IT WILL NOT BE CONVEYED TO A STORM DRAIN INLET.
3. DISTURBED AREAS SHALL BE SEEDED BY THE THE DEVELOPER. SILT BARRIERS SHALL BE MAINTAINED BY THE DEVELOPER IN THE MEAN TIME. OR, THE DEVELOPER SHALL RE-SEED DISTURBED AREAS AS THEY SEE FIT AND REMOVE THE SEDIMENT CONTROLS.
4. THROUGHOUT CONSTRUCTION, CONTRACTOR SHALL DIVERT STORM WATER RUNOFF AROUND DISTURBED SOILS WITH BERMS OR DIRT SWALES.

D. OTHER CONTROLS

1. WASTE DISPOSAL

A. KEEP WASTE DISPOSAL CONTAINERS COVERED.
B. PROVIDE FOR THE WEEKLY (OR MORE FREQUENT, IF NECESSARY) DISPOSAL OF WASTE CONTAINERS.
C. PROVIDE CONTAINERS AT CONVENIENT LOCATIONS AROUND THE SITE.

2. SWEEPING OF SITE

A. PROVIDE DAILY, IF NECESSARY, SWEEPING BY HAND OR MECHANICAL MEANS TO KEEP THE PAVED AREAS OF THE SITE FREE OF DUST, DIRT, AND DEBRIS IF NECESSARY DURING PERIODS OF CONSTRUCTION.
B. DISPOSE OF ACCUMULATED DIRT IN WASTE CONTAINERS, OR HAUL IT OFF THE SITE TO A LANDFILL.

3. SANITARY/SEPTIC DISPOSAL

PORTABLE TOILETS AND OTHER SANITARY FACILITIES SHALL BE SERVICED WEEKLY AND PUMPED CLEAN BY A WASTE DISPOSAL COMPANY. NO TOXIC OR HAZARDOUS WASTE SHALL BE DISPOSED OF IN A PORTABLE TOILET OR IN THE ON-SITE SANITARY SEWER. TOILETS SHALL BE ANCHORED AGAINST OVERTURNING.

4. SPILLS

A. STORE ADEQUATE ABSORBENT MATERIALS, RAGS, BROOMS, SHOVELS, AND WASTE CONTAINERS ON THE SITE TO CLEAN-UP SPILLS OF MATERIALS SUCH AS FUEL, PAINT, SOLVENTS, OR CLEANERS. CLEAN UP MINOR SPILLS IMMEDIATELY.
B. FOR REPORTABLE QUANTITY OF HAZARDOUS OR TOXIC SUBSTANCE, SECURE THE SERVICES OF QUALIFIED PERSONNEL FOR CLEAN-UP AND DISPOSAL

5. CONTROL OF ALLOWABLE NON-STORM WATER DISCHARGES LANDSCAPING IRRIGATION, EROSION CONTROL MEASURES, PIPE FLUSHING AND TESTING, AND PAVEMENT WASHING ARE ALLOWED IF THEY CANNOT FEASIBLY BE ELIMINATED, COMPLY WITH THIS PLAN, DO NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS, AND ARE NOT REQUIRED TO BE PERMITTED BY THE LOCAL REGIONAL WATER QUALITY CONTROL BOARD.

6. VEHICLES AND EQUIPMENT

A. FIX LEAKS OF FUEL, OIL AND OTHER SUBSTANCES IMMEDIATELY.
B. PERFORM REFUELING AND SERVICE OF VEHICLES OR EQUIPMENT OFF-SITE WHEN POSSIBLE. IF REFUELING OR SERVICE OF EQUIPMENT IS PERFORMED ON-SITE, THEN PROVIDE AN IMPERVIOUS, CONTAINED AREA WHERE ANY SPILLS CAN BE CONTAINED WITHOUT FLOWING TO A STORM WATER INLET OR INTO THE GROUND.
C. USE DRIP PANS TO CATCH LEAKS AND SMALL SPILLS.

7. CONCRETE TRUCKS, MIXERS AND HANDLING EQUIPMENT

A. DO NOT DISPOSE OF WASHOUT FROM THE WASHING OF CONCRETE TRUCKS,MIXERS, AND HANDLING EQUIPMENT WHERE IT WILL FLOW INTO A STORM WATER INLET OR INTO A PUBLIC STREET.
B. PROVIDE A HOLDING TANK TO RECEIVE ANY WASHOUT FROM CONCRETE EQUIPMENT. DISPOSAL OF TANK CONTENTS SHALL BE CONDUCTED BY CONTRACTOR.
C. PROVIDE, DESIGNATE AND POST A SIGN MARKING A DESIGNATED AREA FOR WASHING ANY VEHICLES OR EQUIPMENT. DRAINAGE FROM THIS AREA SHOULD BE CONTAINED OR FLOW TO A HOLDING TANK.

8. LANDSCAPING OPERATIONS

A. USE ONLY THE MINIMUM AMOUNT OF LANDSCAPING FERTILIZES, NUTRIENTS, AND OTHER CHEMICALS THAT ARE NEEDED.
B. DO NOT OVER WATER FERTILIZED OR TREATED LANDSCAPE AREAS. MINIMIZE RUNOFF OF IRRIGATION WATER FROM LANDSCAPING.
C. DO NOT PLACE LANDSCAPING MATERIAL IN THE STREET ONCE PAVING IS COMPLETE.

9. STORM WATER INLETS

CONTRACTOR SHALL PROVIDE STRAW FILLED BAGS OR SOCKS AROUND INLETS WITHIN 1000 FEET OF CONSTRUCTION AS BARRIERS TO PREVENT SEDIMENT ENTERING THE INLETS. TRAPPED SEDIMENT SHALL BE REMOVED FOLLOWING STORM EVENTS. BARRIERS SHALL BE REMOVED FOLLOWING COMPLETION OF CONSTRUCTION.

E. INSPECTION

1. REGULAR INTERVAL INSPECTION AND INSPECTION BEFORE AND AFTER STORMS

A. VISUALLY INSPECT THE SITE WEEKLY TO INSURE THAT STORM WATER INLETS ARE FREE OF DIRT AND DEBRIS.
B. BEFORE A STORM, INSPECT THE SITE TO INSURE THAT STORM WATER POLLUTION CONTROL MEASURES ARE IN PLACE.
C. AFTER A STORM, INSPECT ALL STORM WATER INLETS TO INSURE THAT THEY ARE CLEAR OF DIRT AND DEBRIS. CLEAN THOSE STORM WATER INLETS THAT ARE NOT CLEAR AND FREE OF DEBRIS.
D. THE DIVISION OF WATER QUALITY MAY REQUIRE THE DISCHARGER TO CONDUCT ADDITIONAL SITE INSPECTIONS, SUBMIT REPORTS AND CERTIFICATIONS, OR TO PERFORM SAMPLING AND ANALYSIS.

2. CONDUCT INSPECTIONS OF THE CONSTRUCTION SITE PRIOR TO ANTICIPATED STORM EVENTS AND AFTER ACTUAL STORM EVENTS, TO IDENTIFY AREAS CONTRIBUTING TO A STORM WATER DISCHARGE, TO EVALUATE WHETHER MEASURES TO REDUCE POLLUTANT LOADINGS IDENTIFIED IN THIS SWPPP ARE ADEQUATE, TO PROPERLY IMPLEMENT IN ACCORDANCE WITH THE TERMS OF THE GENERAL PERMIT, AND TO DETERMINE WHETHER ADDITIONAL CONTROL PRACTICES ARE NEEDED.

3. PREPARATION OF REPORTS AND RETENTION OF RECORDS

A. EACH DISCHARGER MUST CERTIFY ANNUALLY THAT ITS CONSTRUCTION ACTIVITY IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE GENERAL PERMIT AND THIS SWPPP. THIS CERTIFICATION MUST BE BASED ON THE SITE INSPECTIONS. THE FIRST CERTIFICATION MUST BE COMPLETED BY JULY 1, 2009, AND EACH JULY 1 THEREAFTER.
B. THE DISCHARGER IS REQUIRED TO RETAIN RECORDS OF ALL MONITORING INFORMATION, COPIES OF ALL REPORTS REQUIRED BY THIS GENERAL PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT FOR CONSTRUCTION ACTIVITY FOR A PERIOD OF AT LEAST THREE YEARS. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE STATE. WITH THE EXCEPTION OF NONCOMPLIANCE REPORTING, DISCHARGERS ARE NOT REQUIRED TO SUBMIT THE RECORDS EXCEPT UPON SPECIFIC REQUEST BY THE STATE DEQ DIVISION OF WATER QUALITY.

C. DISCHARGERS WHO CANNOT CERTIFY COMPLIANCE MUST NOTIFY THE STATE DEQ DIVISION OF WATER QUALITY. THIS NOTIFICATION SHALL IDENTIFY THE TYPE OR TYPES OF NONCOMPLIANCE, DESCRIBE THE ACTIONS NECESSARY TO ACHIEVE COMPLIANCE, AND INCLUDE A TIME SCHEDULE, SUBJECT TO THE MODIFICATIONS BY THE STATE DEQ DIVISION OF WATER QUALITY, INDICATING WHEN COMPLIANCE WILL BE ACHIEVED. NONCOMPLIANCE REPORTS MUST BE SUBMITTED WITHIN 30 DAYS OF THE IDENTIFICATION OF THE NONCOMPLIANCE.

F. MAINTENANCE OF CONTROLS

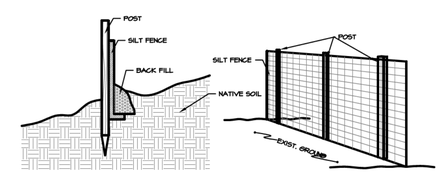
1. MAINTENANCE AND REPAIR ALL CONTROLS AND MEASURES INDICATED ON THIS PLAN SHALL BE MAINTAINED IN GOOD AND EFFECTIVE CONDITION. IF ANY CONTROLS OR MEASURES ARE DAMAGED OR REMOVED, THEY SHALL BE PROMPTLY REPAIRED OR RESTORED.
2. PLAN REVISIONS IF CONSTRUCTION ACTIVITY OR CONDITIONS CHANGE FROM THOSE SHOWN IN THIS PLAN, THEN THIS PLAN SHALL BE REVISED TO REFLECT THE CURRENT CONDITIONS.

G. FINAL STABILIZATION AND POST-CONSTRUCTION CONTROLS

1. AFTER CONSTRUCTION HAS BEEN COMPLETED, THE SITE SHALL BE SWEPT CLEAN, STORM WATER INLETS (GRATES AND BASINS) SHALL BE CLEANED, AND ALL WASTE AND LEFTOVER MATERIALS SHALL BE REMOVED FROM THE SITE.
2. ALL LANDSCAPING AND PLANTING AREAS SHALL BE WELL MAINTAINED TO PREVENT EROSION. AVOID OVER WATERING OF LANDSCAPING.
3. ALL PAVED AREAS SHALL BE SWEPT WEEKLY EITHER BY HAND OR BY MECHANICAL MEANS TO KEEP THE SITE CLEAR OF DIRT, DUST, AND DEBRIS.
4. WASTE MATERIALS ON-SITE SHALL BE STORED IN COVERED CONTAINERS WHICH ARE CLEANED OUT REGULARLY.
5. TESTING OF FIRE HYDRANTS ON-SITE SHALL NOT BE CONDUCTED UNTIL THE AREA WHERE THE WATER DISCHARGES HAS BEEN SWEPT CLEAN OF DIRT AND DEBRIS.
6. STORM DRAIN LINES SHALL BE CHECKED AND CLEANED ANNUALLY TO KEEP THEM CLEAN AND CLEAR OF DEBRIS.
7. ALL ON-SITE STORM WATER INLETS SHOULD BE CLEARLY MARKED "STORM WATER ONLY".

H. COMPLETION OF CONSTRUCTION ACTIVITIES AND NOTICE OF TERMINATION

WHEN CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED ON THIS SITE, THE OWNER SHALL FILE A LETTER WITH THE STATE DEQ DIVISION OF WATER QUALITY. THIS LETTER SHALL CERTIFY THAT THE CONSTRUCTION ACTIVITY HAS BEEN COMPLETED, THAT ALL ELEMENTS OF THE SWPPP HAVE BEEN IMPLEMENTED, THAT CONSTRUCTION AND EQUIPMENT MAINTENANCE WASTES HAVE BEEN DISPOSED OF PROPERLY, THAT THE SITE IS IN COMPLIANCE WITH ALL LOCAL STORM WATER REQUIREMENTS INCLUDING EROSION/SEDIMENT CONTROL REQUIREMENTS, POLICIES, AND GUIDELINES.



SILT FENCE DETAIL

DEFINITIONS

1. "BEST MANAGEMENT PRACTICES" ("BMP'S") MEANS SCHEDULES OF ACTIVITIES, PROHIBITIONS OF PRACTICES, MAINTENANCE PROCEDURES, AND OTHER MANAGEMENT PRACTICES TO PREVENT OR REDUCE THE POLLUTION OF WATERS OF THE UNITED STATES. BMP'S ALSO INCLUDE TREATMENT REQUIREMENTS, OPERATING PROCEDURES, AND PRACTICES TO CONTROL SITE RUNOFF, SPILLAGE OR LEAKS, WASTE DISPOSAL, OR DRAINAGE FROM RAW MATERIAL STORAGE.

2. "CLEAN WATER ACT" ("CWA") MEANS THE FEDERAL WATER POLLUTION CONTROL ACT ENACTED BY PUBLIC LAW 92-500 AS AMENDED BY PUBLIC LAWS 95-217, 95-576, 96-483, AND 97-111; 33 USC 1251 ET SEQ.

3. "CONSTRUCTION SITE" IS THE LOCATION OF THE CONSTRUCTION ACTIVITY.

4. "NON-STORM WATER DISCHARGE" MEANS ANY DISCHARGE TO STORM DRAIN SYSTEMS THAT IS NOT COMPOSED ENTIRELY OF STORM WATER EXCEPT DISCHARGE PURSUANT TO AN NPDES PERMIT AND DISCHARGES RESULTING FROM FIRE FIGHTING ACTIVITIES.

5. "SIGNIFICANT MATERIALS" INCLUDES, BUT IS NOT LIMITED TO RAW MATERIALS; FUELS; MATERIALS SUCH AS SOLVENTS, DETERGENTS, AND PLASTIC PELLETS; FINISHED MATERIALS SUCH AS METALLIC PRODUCTS; RAW MATERIALS USED IN FOOD PROCESSING OR PRODUCTION HAZARDOUS SUBSTANCES DESIGNATED UNDER SECTION 101(14) OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERLCA); ANY CHEMICAL THE FACILITY IS REQUIRED TO REPORT PURSUANT TO SECTION 313 OF TITLE III OF SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA); FERTILIZERS; PESTICIDES; AND WASTE PRODUCTS SUCH AS ASHES, SLAG, AND SLUDGE THAT HAVE THE POTENTIAL TO BE RELEASED WITH STORM WATER DISCHARGES.

6. "SIGNIFICANT QUANTITIES" IS THE VOLUME, CONCENTRATIONS, OR MASS OF A POLLUTANT IN STORM WATER DISCHARGE THAT CAN CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; ADVERSELY IMPACT HUMAN HEALTH OR THE ENVIRONMENT; AND CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY APPLICABLE WATER QUALITY STANDARDS FOR THE RECEIVING WATER.

7. "STORM WATER" MEANS STORM WATER RUNOFF, SNOW MELT RUNOFF, SURFACE RUNOFF AND DRAINAGE. IT EXCLUDES INFILTRATION AND RUNOFF FROM AGRICULTURAL LAND.

8. "POLLUTION" MEANS THE "MAN-MADE OR MAN-INDUCED ALTERATION OF THE CHEMICAL, PHYSICAL, BIOLOGICAL, AND RADIOLOGICAL INTEGRITY OF WATER" [CLEAN WATER ACT SECTION 502(19)]. POLLUTION ALSO MEANS "AN ALTERATION OF THE QUALITY OF THE WATERS OF THE STATE BY WASTE TO A DEGREE WHICH UNREASONABLY AFFECTS EITHER... THE WATERS FOR BENEFICIAL USES... OR FACILITIES WHICH SERVE THESE BENEFICIAL USES." [CALIFORNIA WATER CODE SECTION 13050(l)].

9. "CONTAMINATION" MEANS "AN IMPAIRMENT OF THE QUALITY OF THE WATERS OF THE STATE BY WASTE TO A DEGREE WHICH CREATES A HAZARD TO THE PUBLIC HEALTH THROUGH POISONING OR THROUGH THE SPREAD OF DISEASE...INCLUDING ANY EQUIVALENT EFFECT RESULTING FROM THE DISPOSAL OF WASTE, WHETHER OR NOT WATERS OF THE STATE ARE AFFECTED."

10. "NUISANCE" MEANS "ANYTHING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS: (1) IS INJURIOUS TO HEALTH , OR IS INDECENT OR OFFENSIVE TO THE SENSES, OR AN OBSTRUCTION TO THE FREE USE OF PROPERTY, SO AS TO INTERFERE WITH THE COMFORTABLE ENJOYMENT OF LIFE AND PROPERTY; (2) AFFECTS AT THE SAME TIME AN ENTIRE COMMUNITY OR NEIGHBORHOOD, OR ANY CONSIDERABLE NUMBER OF PERSONS, ALTHOUGH THE EXTENT OF THE ANNOYANCE OR DAMAGE INFLICTED UPON INDIVIDUALS MAY BE UNEQUAL; (3) OCCURS DURING OR AS A RESULT OF THE TREATMENT OR DISPOSAL OF WASTES."

11. "LOCAL AGENCY" MEANS ANY AGENCY THAT IS INVOLVED WITH REVIEW, APPROVAL, OR OVERSIGHT OF THE CONSTRUCTION SITES' (a) CONSTRUCTION ACTIVITY, (b) EROSION AND SEDIMENT CONTROLS, (c) STORM WATER DISCHARGE.

SEAL:

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

SWPPP NOTES

SHEET NUMBER:
C501

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

Attachment D

Advantage Arts Academy Schedule

Advantage Arts Academy

School Year 2019-2020

www.AdvantageArts.org

AUGUST 2019

S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

SEPTEMBER 2019

S	M	T	W	Th	F	S
1	2	3	4	5	6	7
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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

OCTOBER 2019

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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER 2019

S	M	T	W	Th	F	S
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17	18	19	20	21	22	23
24	25	26	27	28	29	30

DECEMBER 2019

S	M	T	W	Th	F	S
1	2	3	4	5	6	7
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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JANUARY 2020

S	M	T	W	Th	F	S
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY 2020

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16	17	18	19	20	21	22
23	24	25	26	27	28	29

MARCH 2020

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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL 2020

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19	20	21	22	23	24	25
26	27	28	29	30		

MAY 2020

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17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE 2020

S	M	T	W	Th	F	S
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

JULY 2020

S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

YEAR AT A GLANCE

FRIDAYS	Early Out	Early Release Days
August 7-13	No School	Professional Development
August 14	Early Out	First Day of School Grades 1-6
August 15	Early Out	Grades 1-6
August 14-20	Testing	Kindergarten Assessments
August 21	School Starts	First Day of Kindergarten
September 2	No School	Labor Day
October 16	End of Quarter	End of First Quarter (45 Days)
October 17-18	No School	Fall Break
November 1	No School	Legislative PD Day
November 6-7	Early Out	Parent Teacher Conferences
November 8	No School	Teacher Compensation Day
November 27-29	No School	Thanksgiving Recess
Dec 23 - Jan 3	No School	Winter Recess
January 10	End of Quarter	End of Second Quarter (47 Days)
January 20	No School	Martin Luther King Jr. Day
Janary 21	No School	Legislative PD Day
February 17	No School	Washington and Lincoln Day
March 6	No School	Legislative PD Day
March 11-12	Early Out	Parent Teacher Conferences
March 13	No School	Teacher Comp Day / End of Third Quarter (43 Days)
April 6-10	No School	Spring Break
May 22	Early Out	Last Day of School / End of Fourth Quarter (45 Days)
May 25	Summer Break Begins	Memorial Day

DAILY SCHOOL SCHEDULE

AM KINDERGARTEN	PM KINDERGARTEN	GRADES 1-6
Monday - Thursday: 9:00 AM - 12:00 PM	Monday - Thursday: 12:30 - 3:30 PM	Monday - Thursday: 9:00 AM - 3:30 PM
Friday / Early Out: 9:00 - 11:00 AM	Friday / Early Out: 11:45 AM - 1:45 PM	Friday / Early Out: 9:00 AM - 1:45 PM

SUBJECT TO CHANGE UPON REVIEW AND APPROVAL OF GOVERNING BOARD

Attachment E

Development Review Committee Comments

Development Review Committee

December 4, 2018

Advantage Arts Academy
11800 South 6200 West

DATE	DEPARTMENT	ACTION BY	COMMENTS
11/30/2018	Zoning Review	McCarty, Bryn	1. Charter school is a permitted use in the C-2 zone. 2. The preliminary subdivision plat fee needs to be paid. The fee is $1,000 plus $30 per lot. 3. The Planning Department is concerned that the site may be unsuitable due to unresolved and unmitigated public safety concerns identified within the traffic impact study and City Engineer. The State Statute provides the following in 10-9a-305: *(2)(a)Except as provided in Subsection (3), a school district or charter school is subject to a municipality's land use ordinances.* *(b)(i)Notwithstanding Subsection (3), a municipality may:* *(A)subject a charter school to standards within each zone pertaining to setback, height, bulk and massing regulations, off-site parking, curb cut, traffic circulation, and construction staging; and* *(B) **impose regulations upon the location of a project that are necessary to avoid unreasonable risks to health or safety, as provided in Subsection (3)(f).*** *(ii)The standards to which a municipality may subject a charter school under Subsection (2)(b)(i) shall be objective standards only and may not be subjective.* ***(iii)Except as provided in Subsection (7)(d), the only basis upon which a municipality may deny or withhold approval of a charter school's land use application is the charter school's failure to comply with a standard imposed under Subsection (2)(b)(i).*** 4. Setback for the front yard shall be 8 feet 5. Setbacks for the side yard shall be 15 feet plus 1 foot for every 1 foot of building height about 15 feet. 6. Rear yard shall be 20 feet. 7. Maximum building height is 45 feet. 8. Maximum lot coverage for all buildings should be 60% of the lot. 9. At least 15% of the site shall be landscaped. This should include trees in the parking lot. 10. Parking should be provided at 1 space for each 3.5 seats in an auditorium, plus 1 space for each administrator and faculty member 11. *53E-3-710(5)Prior to beginning construction on a school site, a school district or charter school shall submit to the Department of Transportation a child access routing plan as described in Section 53G-4-402.* A copy of this plan should be provided. 12. For all buildings, at least two (2) of the following elements should repeat horizontally. Buildings with facades greater than one hundred feet (100') in length should include several of such elements, repeated at appropriate intervals, either horizontally or vertically: a. Color change. Minimum of three (3) colors per elevation shall be required. b. Texture change. c. Material change. d. Architectural variety and interest through a change in plane, such as offsets. e. Reveals, archways or projecting ribs. f. Wall plan projections of recesses.

11/30/2018	Building Review	Hunting, Boyd	There needs to be a clarification at the Accessible parking the accessible route should carry through the space in front of those parking spaces you shouldn't access those spaces from behind the spaces in the travel lanes of the parking lot the entrance to the van accessible space must be accessed from the Accessible route plans don't show this. 2009 ANSI 117.1 502.4.1 location, if there is a curb at the front of the spaces they will need an approach that's sloped to accommodate accessibility.
12/3/2018	Engineering Review	Thomas, Blake	• This project may be subject to review and approval of a soils remediation plan by Salt Lake County Health Department and/or the State of Utah Department of Environmental Remediation and Response for lead and arsenic contamination since it is located within an operable unit of the Kennecott South Zone. • The location of K-6 schools is recommended by AASHTO in the *Guide for the Planning, Design, and Operation of Pedestrian Facilities* to be located on collector streets in the middle of a neighborhood. The proposed location only has access along an arterial roadway and is not in compliance with AASHTO recommended standards. • The proposed location of the school is isolated from existing residential development and currently does not have an option for a safe walking route, thus increasing the vehicular traffic anticipated at the school. • The traffic impact study raises several concerns: o 2024 (Plus Project) Queuing: ▪ Northbound traffic on 6000 West at 11800 South extends beyond the entrance to Herriman High School. No mitigation to this unsafe queuing which blocks a main access to the school's main parking lot is provided, widening the roadway is not an effective solution to this problem. ▪ Westbound queuing extends over 2,000 feet. No mitigation to this problem of unsafe queuing across critical intersections is provided. Although this is noted as an existing problem the queue length is extended in such a manner that it will create unsafe conditions at downstream intersections.
11/27/2018	Water Review	Edwards, Justun	1. Verify connection to appropriate waterline (work with engineering to determine correct waterline) 2. Show existing 42" Jordan Valley Water Conservancy District Waterline on plans 3. Provide Fire Flow Analysis 4. Provide peak day flows, along with average monthly and annual water demands 5. Provide and reference appropriate City Standards or APWA details 6. Show water service to supply athletic fields and landscape.
11/27/2018	Unified Fire Authority	DeVoogd, Dan	1. Provide the total sq ft, construction type and occupant load for the building. 2. Provide the required fire flow based on the construction type – IFC B105.1 3. Provide additional hydrants as required by IFC C105.1 based on the fire flow requirement (3-4 new hydrants). 4. Fire suppression and fire alarm systems are required and need to be noted on the plan. 5. Provide the location of the fire line coming into the building, FDC and PIV. 6. (1) fire hydrant to be located with 100' of the FDC. 7. Add a new fire hydrant along the 11800 South frontage as part of the roadway improvements?

November 28, 2018

David Chang
Hales Engineering
1220 North 500 West, Suite 202
Lehi, UT 84043

Re: Advantage Arts Academy-Traffic Impact Study 1st Review

Dear Mr. Chang:

This purpose of this letter is to summarize comments from Herriman City Staff review of the draft Traffic Impact Study for the proposed Advantage Arts Academy at the site located on the south side of 11800 South and east of the proposed Teton Ranch Development.

- The study should follow the report format as outlined in Section 4.02 of the Herriman City Development Standards and be consistent with the following requirements:
    - Address pedestrian and bicycle impacts.
    - Discuss impacts to air quality.
- Recommended storage lengths on Table 8 should include recommendations for Mustang Trail Way/11800 South for the Northbound LT and RT, and Southbound LT and RT that impact the existing center median.
    - Modifications to the median require coordination with South Jordan City.
- There are no trips shown from the proposed commercial development east of the proposed school site. Update the study to show the trips from this future development.
    - The trips shown are not consistent with the Teton Ranch TIS.
- The recommended deceleration lane for right turn movements into the project appears to require additional ROW off site (affecting Teton Ranch Development).
    - Provide updated site plan showing how this affects the overall site plan.
- The City of Herriman has no control over school starting times, there will need to be an agreement in place between the school and Herriman City that provides a mechanism for the City to dictate school start and stop times to ensure safety on the roadway.

5355 W. Herriman Main St. • Herriman, Utah 84096
(801) 446-5323 office • (801) 446-5324 fax • herriman.org
Herriman City

- Provide a threshold or time when left-turn phasing is needed for the left turn movement from 11800 South to Mustang Trail Way.
- Provide a threshold or time when it will be required to widen 11800 South west of Mustang Trail Way to a 5-lane cross section.
- Discuss options to deter drop-off along 11800 South.
    - Fencing, setbacks, etc.
- There is no discussion regarding the safe neighborhood access program (SNAP) and the circulation of pedestrian traffic to and through the school site.
    - There are no existing offsite walking paths to the proposed school site.
    - 11800 South does not have any street crossings west of 6000 West, address this issue and provide a mitigation.

If you have any questions, please feel free to email or call at bthomas@herriman.org or (801) 446-5323.

Sincerely,

Blake Thomas

Blake J. Thomas, P.E.
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Attachment F
Traffic Impact Study

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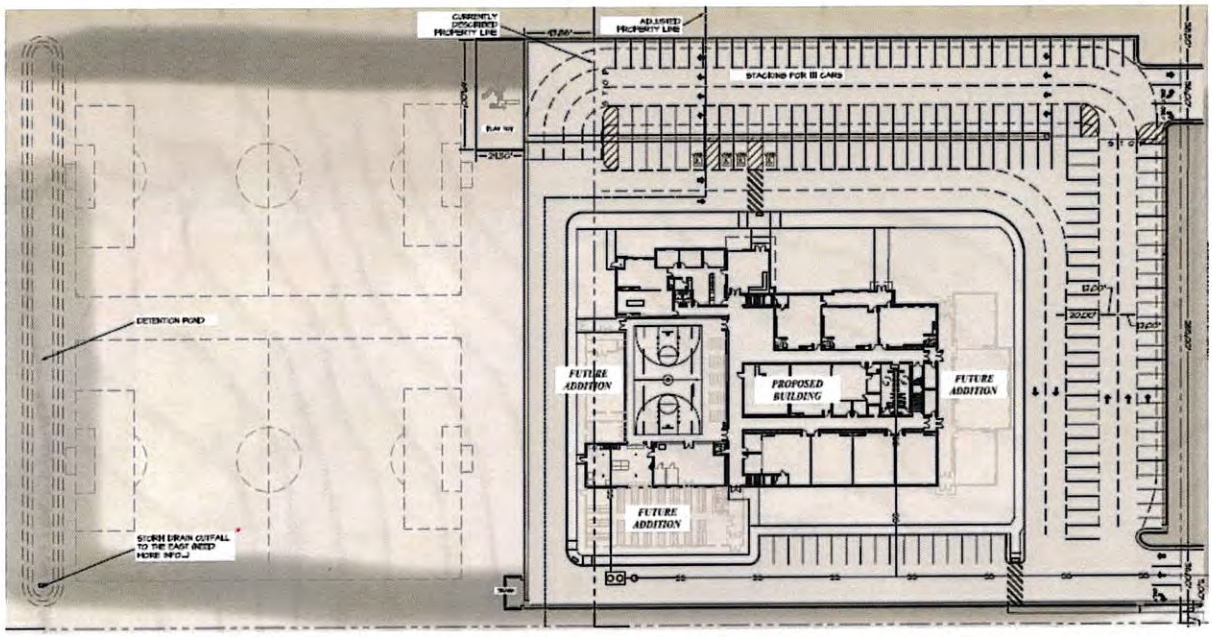
Advantage Arts Academy

Traffic Impact Study



Herriman, Utah

November 30, 2018

UT18-1343

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EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and east of the Teton Ranch development.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways near the site. Future 2024 conditions were also analyzed.

The morning peak hour level of service (LOS) was computed for each study intersection. The results of this analysis are shown in Table ES-1. Recommended storage lengths are shown in Table ES-2.

TABLE ES-1
LOS Analysis - Morning Peak Hour
Herriman - Advantage Arts Academy TIS

Intersection	Level of Service (Sec/Veh)[1]				
	Existing (2018) Background	Existing (2018) Plus Project	Future (2024) Background	Future (2024) Plus Project	Future (2024) Plus Project - Mitigated
Mustang Trail Way / 11800 South	**A (8.5)**	**B (10.3)**	**C (27.8)**	**E (73.4)**	**C (23.7)**
Willow Walk Drive / 11800 South	**A (4.4) / SB**	**A (5.2) / SB**	**B (13.1)**	**C (18.0) / SB**	**B (14.3) / SB**
East Access / 11800 South	**-**	**A (4.7) / NB**	**-**	**F (>50) / NB**	**B (10.8) / NB**

1. Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for roundabout, signalized, all-way stop controlled intersections and the worst approach for all other unsignalized intersections.
2. This intersection is a project access and was only analyzed in "plus project" scenarios.

Source: Hales Engineering, November 2018

TABLE ES-2
Recommended Storage Lengths
Herriman - Advantage Arts Academy TIS

Intersection	Storage Length (feet)							
	Northbound		Southbound		Eastbound		Westbound	
	LT	RT	LT	RT	LT	RT	LT	RT
Mustang Trail Way / 11800 South	225	225	200	50	150	150	350	100
East Access / 11800 South	-	-	-	-	-	-	275	100

Source: Hales Engineering, November 2018

SUMMARY OF KEY FINDINGS/RECOMMENDATIONS

The following is a summary of key findings and recommendations:

- All study intersections are currently operating at an acceptable LOS during the morning peak hour in existing (2018) background conditions.
    - A new high school is planned to open next Fall (2019) in the Rosecrest Area. Some students from Herriman High School will be moved to the new high school. It was assumed that only ¼ of the current enrollment will be moved to the new high school. Traffic volumes were also reduced by ¼ in only the northbound right-turn and westbound left-turn movements.
- The development will consist of a charter school with an enrollment of 525 with the first phase of building. The maximum number of students the Advantage Arts Academy can have is 700.
    - The existing conditions were completed with 525 students, the anticipated enrollment.
    - The future 2024 conditions were completed with the anticipated maximum, 700 students.
    - It is recommended that the East Access have both westbound left-turn and an eastbound right-turn deceleration lane.
    - It is recommended that the West Access have a westbound left-turn deceleration lane.
- All study intersections are anticipated to operate at an acceptable LOS during the morning peak hour with project traffic added.
    - Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the Advantage Arts Academy school have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.
- For the future (2024) background conditions, all intersections are anticipated to perform at acceptable LOS during the morning peak hour.
    - 11800 South is over a 2-lane capacity west of Mustang Trail Way.
        - It is recommended that 11800 South be widened to 5-lanes
        - The westbound to southbound left-turn lane at Mustang Trail Way / 11800 South is shorter than the anticipated 95th percentile queue lengths. In the 2024 background analysis and a previously completed study (Teton Ranch), this same issue surfaced before any additional project traffic was added to the roadway network for either project. Since this has been identified as a background problem, it is recommended that the City look into this problem further to identify an appropriate solution.

  - It is recommended that left-turn phasing be added to the signal when warrants are met.
  - It is also recommended that a northbound right-turn overlapping phase be added to the Mustang Trail Way / 11800 South intersection.
- For the future (2024) plus project conditions, all intersections are anticipated to perform at acceptable LOS during the morning peak hour except Mustang Trail Way / 11800 South and East Access / 11800 South.
  - It is recommended that 11800 South be widened to a 5-lane cross section west of Mustang Trail Way.
    - The westbound to southbound left-turn lane at Mustang Trail Way / 11800 South is shorter than the anticipated 95th percentile queue lengths. In the 2024 background analysis and a previously completed study (Teton Ranch), this same issue surfaced before any additional project traffic was added to the roadway network for either project. Since this has been identified as a background problem, it is recommended that the City look into this problem further to identify an appropriate solution.
  - It is recommended that the Advantage Arts Academy school have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.
- An additional analysis was completed with the proposed widening of 11800 South to 5-lanes west of Mustang Trail Way.
  - All intersections are anticipated to perform at acceptable LOS.
- An internal site circulation analysis was completed to determine if the planned queue storage will be adequate to handle demand during the pick-up times.
  - It was assumed that the school enrollment would be 700 students to ensure that the full-build of the school would still fit in the storage area.
  - The currently site plan has approximately 2,200 feet of on-site queue storage. This is approximately equal to 111 vehicles.
  - The 95th percentile maximum queue length was calculated to be approximately 2,000 feet.
    - The 95th percentile, maximum queue demand is anticipated to be approximately 200 feet shorter than the supplied on-site storage.
    - The on-site storage is anticipated to be sufficient for the full-build-out of the Advantage Arts Academy.
- An air quality report has been prepared and can be found in Table 9 in Chapter VI.
  - As with all developments, air pollutants will increase with more vehicles on the road.

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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and just to the east of the Teton Ranch development. Figure 1 shows a vicinity map of the proposed development.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways near the site. Future 2024 conditions were also analyzed.

Figure 1: Vicinity map showing the project location in Herriman, Utah

B. Scope

The study area was defined based on conversations with the development team. This study was scoped to evaluate the traffic operational performance impacts of the project on the following intersections:

- Mustang Trail Way / 11800 South
- Willow Walk Drive / 11800 South

C. Analysis Methodology

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections. Figure 2 provides a visual representation of each LOS letter designation.

The *Highway Capacity Manual* (HCM), 6th Edition, 2016 methodology was used in this study to remain consistent with "state-of-the-practice" professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized and all-way stop intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For all other unsignalized intersections, LOS is reported based on the worst approach.

Using Synchro/SimTraffic software, which follow the HCM methodology, the peak hour LOS was computed for each study intersection. Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. The detailed LOS reports are provided in Appendix B. Hales Engineering also calculated the 95th percentile queue lengths for each of the study intersections using SimTraffic. The detailed queue length reports are provided in Appendix D.

D. Level of Service Standards

For the purposes of this study, a minimum acceptable intersection performance for each of the study intersections was set at LOS D. If levels of service E or F conditions exist, an explanation and/or mitigation measures will be presented. An LOS D threshold is consistent with "state-of-the-practice" traffic engineering principles for urbanized areas.

Table 1: Level of Service Description

Level of Service	Description of Traffic Conditions	Average Delay (seconds/vehicle)
	Signalized Intersections	**Overall Intersection**
A	Extremely favorable progression and a very low level of control delay. Individual users are virtually unaffected by others in the traffic stream.	0 ≤ 10.0
B	Good progression and a low level of control delay. The presence of other users in the traffic stream becomes noticeable.	> 10.0 and ≤ 20.0
C	Fair progression and a moderate level of control delay. The operation of individual users becomes somewhat affected by interactions with others in the traffic stream.	>20.0 and ≤ 35.0
D	Marginal progression with relatively elevated levels of control delay. Operating conditions are noticeably more constrained.	> 35.0 and ≤ 55.0
E	Poor progression with unacceptably elevated levels of control delay. Operating conditions are at or near capacity.	> 55.0 and ≤ 80.0
F	Unacceptable progression with forced or breakdown operating conditions.	> 80.0
	Unsignalized Intersections	**Worst Approach**
A	Free Flow / Insignificant Delay	0 ≤ 10.0
B	Stable Operations / Minimum Delays	>10.0 and ≤ 15.0
C	Stable Operations / Acceptable Delays	>15.0 and ≤ 25.0
D	Approaching Unstable Flows / Tolerable Delays	>25.0 and ≤ 35.0
E	Unstable Operations / Significant Delays Can Occur	>35.0 and ≤ 50.0
F	Forced Flows / Unpredictable Flows / Excessive Delays Occur	> 50.0

Source: Hales Engineering Descriptions, based on the *Highway Capacity Manual* (HCM), 6th Edition, 2016 Methodology (Transportation Research Board)

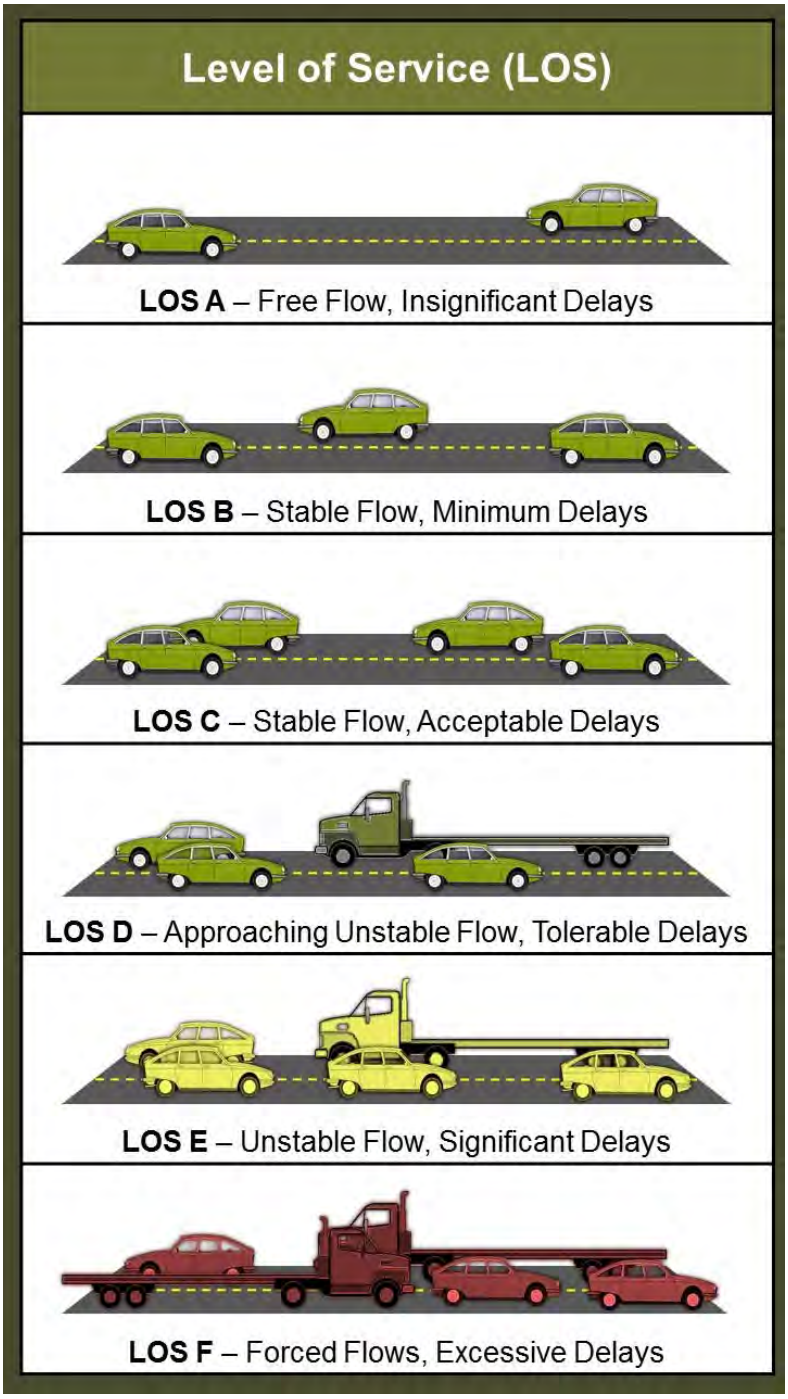

Figure 2: Visual representation of the LOS letter designations

II. EXISTING (2018) BACKGROUND CONDITIONS

A. Purpose

The purpose of the background analysis is to study the intersections and roadways during the peak travel periods of the day with background traffic and geometric conditions. Through this analysis, background traffic operational deficiencies can be identified, and potential mitigation measures recommended. This analysis provides a baseline condition that may be compared to the build conditions to identify the impacts of the development.

B. Roadway System

The primary roadways that will provide access to the project site are described below:

11800 South – is classified by the Herriman City Transportation Master Plan (2009) as a "minor arterial." This roadway currently consists of one travel lane in each direction adjacent to the project site and expands to two travel lanes in each direction with a center two-way left-turn lane (TWLTL) east of Mustang Trail Way. The posted speed limit is 35 mph.

There are currently no bicycle or pedestrian facilities adjacent to the proposed development. According the Cities Bicycle Master Plan, 11800 South west of 6000 West is planned to be a signed bike route (Type III). These bike routes will have to share the road with vehicles and or use future shoulders.

The nearest existing sidewalks are located at the Mustang Trail Way / 11800 South intersection. There are currently no existing sidewalks to tie into. The AAA school is planning on building sidewalks on the southside of 11800 South. The Teton Ranch development west of the AAA school will build a sidewalk on the frontage of their property that the school can then tie into. As further development occurs in the area, the sidewalks will be extended east and west and tie into existing paths.

Mustang Trail Way – is a city-maintained roadway. The Herriman City Transportation Master Plan (2009) classifies Herriman Parkway as a "minor collector." This road has one travel lane in each direction with a center two-way left-turn lane (TWLTL). The posted speed limit is 35 mph.

C. Traffic Volumes

Weekday morning (7:00 to 9:00 a.m.) and afternoon (2:00 to 4:00 p.m.) peak period traffic counts were performed at the following intersections:

- Mustang Trail Way / 11800 South

- Willow Walk Drive / 11800 South

The counts were performed on Tuesday, November 6, 2018. The morning peak hour was determined to be between 7:00 and 8:00 a.m., and the afternoon peak hour was determined to be between 2:30 and 3:30 p.m. The morning peak hour volumes were approximately 33% higher than the afternoon peak hour volumes. Therefore, the morning peak hour volumes were used in the analysis to represent the worst-case conditions. Detailed count data are included in morning Appendix A.

Starting in the Fall of 2019, a new high school is planned to be opened in the Rosecrest area in Herriman. Some of the students from the existing Herriman High School are expected to be moved to the new school, this is also the same year the Advantage Arts Academy is expected to open. It was assumed that only a quarter of the existing students would be moved to the new school to be conservative. The northbound right-turns and westbound left-turns were reduced by one quarter to mimic the reduction in student population.

Hales Engineering made seasonal adjustments to the observed traffic volumes. Monthly traffic volume data were obtained from a nearby UDOT automatic traffic recorder (ATR) on Redwood Road (ATR #407). In recent years, traffic volumes in November have been equal to approximately 96.2% of average traffic volumes. The observed traffic volumes were adjusted accordingly to determine average turning movement counts at the study intersections.

Figure 3 shows the existing morning peak hour volumes (with the reduction mentioned above) as well as intersection geometry at the study intersections.

Herriman - Advantage Arts Academy TIS
Existing (2018) Background

Morning Peak Hour
Figure 3

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D. Level of Service Analysis

Hales Engineering determined that all study intersections are currently operating at acceptable levels of service during the morning peak hour, as shown in Table 2. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2018) conditions.

Table 2: Existing (2018) Background Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	8.5	A
Willow Walk Drive / 11800 South	SB Stop	SB	4.4	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. No significant queueing was observed during the morning peak hour.

F. Mitigation Measures

No mitigation measures are recommended.

III. PROJECT CONDITIONS

A. Purpose

The project conditions discussion explains the type and intensity of development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in Chapter I.

B. Project Description

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and just to the east of the Teton Ranch development. The Advantage Arts Academy is planned to have a phase 1 build-out of approximately 525 students. The school has a maximum charter of 700 students. For this study, it was assumed that full-build-out would occur by 2024 to analyze the worst-case conditions. A concept plan for the proposed developments is provided in Appendix C.

The proposed land use for the development has been identified as follows for 2018:

- Charter School 525 Units

The proposed land use for the development has been identified as follows for 2024:

- Charter School 700 Units

C. Trip Generation

The most recent edition of the ITE Trip Generation Manual (10th Edition, 2017) includes the Charter Elementary School land use. Previous editions did not include data for charter schools. The ITE data has a very small sample size (two data points) and is therefore highly variable and likely unreliable.

Over the last several years, Hales Engineering has used local data collected at several different charter schools around Salt Lake, Weber, and Utah Counties to estimate trip generation characteristics of charter schools. This data collected along the Wasatch Front shows that charter elementary schools typically generate approximately 0.65 trips per enrolled student during the afternoon peak hour. This previously collected data was compared to newer data collected at the Excelsior Academy in Erda, Utah. Data collected at the Erda school showed an afternoon peak hour trip generation rate of 0.65. Trip Generation for the proposed project is included in Table 3.

The trip generation for the 2018 phase of the development is as follows:

- Morning Peak Hour Trips: 341

The trip generation for the 2024 phase of the development is as follows:

- Morning Peak Hour Trips: 455

Table 3
Herriman - Advantage Arts Academy TIS
Trip Generation

Morning Peak Hour Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total a.m. Trips
K-8 Charter School	525	Students	341	56%	44%	191	150	**341**
Project Total a.m. Peak Hour Trips						**191**	**150**	**341**

1. Land Use Code from the Institute of Transportation Engineers Trip Generation Manual (9th Edition - 2012)

SOURCE: Hales Engineering, November 2018

D. Trip Distribution and Assignment

Project traffic is assigned to the roadway network based on the type of trip and the proximity of project access points to major streets, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provide helpful guidance to establishing these distribution percentages, especially near the site. The resulting distribution of project generated trips during the morning peak hour is as follows:

<u>To/From Project:</u>

- 15% North
- 35% South
- 10% West
- 40% East

These trip distribution assumptions were used to assign the morning peak hour generated traffic at the study intersections to create trip assignment for the proposed development. Trip assignment for the development is shown in Figure 4 and Figure 5.

Herriman - Advantage Arts Academy TIS
Trip Assignment (2018)

Morning Peak Hour
Figure 4

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Herriman - Advantage Arts Academy TIS
Trip Assignment (2024)

Morning Peak Hour
Figure 5

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11/14/2018

E. Access

The proposed access for the site will be gained at the following locations (see also concept plan in Appendix C):

11800 South:

- The East Access will be located approximately 1,000 feet west of the Mustang Trail Way / 11800 South intersection. This access is anticipated to be a ¾ access meaning that right- and left-turns into the site and only right-turns out of the site will be allowed. Left-turns onto 11800 South will not be allowed. This access onto 11800 South is planned to be stop controlled.
    - It is recommended that a left-turn lane be provided in the westbound direction into the school
    - It is also recommended that a right-turn pocket be provided for the eastbound right-turn vehicles.
    - Based on the site plan, there does not appear to be any sight distance obstructions in either the east- or westbound directions, we recommend field verification. 11800 South is a straight roadway with no curves with-in the study area.
- The West Access will be located approximately 265 feet from the East Access. This access is planned to be a full-movement, stop controlled access. This access is planned to be closed during the morning and afternoon drop off and pick up times.
    - It is recommended that a left-turn lane be provided in the westbound direction into the school.
    - Based on the site plan, there does not appear to be any sight distance obstructions in either the east- or westbound directions, we recommend field verification. 11800 South is a straight roadway with no curves with-in the study area.
    - As the Teton Ranch builds, care should be taken to insure no obstructions are placed with-in the sight triangles.

F. On-street Drop-offs

Parents dropping off or picking up students may find it difficult or time consuming to drop off their students in the designated drop off zone. When there are long lines for parents to have to wait in, dropping off students along the main road (11800 South) becomes enticing and dangerous. To discourage on street drop offs, the school and city should consider the following:

- Paint curbs red and mark for no parking/pick-up
- Place signs that read no parking/pick-up
- Paint excess shoulders for bike lanes

- Enforcement

G. On-site Pedestrian & Bike Facilities

The school has designated a sidewalk location at only the East Access on the east side. The planned side walk parallels the East Access for approximately 100 feet. At this point, the sidewalk ends, and a school cross walk has been designated to cross the service road to the drop off zone. This prevents the students and the pick-up and dropping-off vehicles from interacting with each other and creating a safer environment.

As mentioned previously, there are no sidewalks around the proposed school. There will be an approximate 1,000-foot gap between the nearest sidewalk and the proposed school. It is recommended that the City and school collaborate to find a potential solution to the issue for existing and future connectivity.

IV. EXISTING (2018) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the existing (2018) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for existing background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the existing (2018) background traffic volumes to predict turning movement volumes for existing (2018) plus project conditions. Existing (2018) plus project morning peak hour turning movement volumes are shown in Figure 6.

C. Level of Service Analysis

Hales Engineering determined that all intersections are anticipated to operate at acceptable levels of service during the morning peak hour with project traffic added, as shown in Table 4.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. No significant queuing is anticipated during the morning peak hour.

E. Mitigation Measures

Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the AAA School have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

Willow Walk Drive
5
25
28
159
3
173
187
0
198
0
0
0
West Access
187
159
166
32
150
East Access
11800 South
94
34
18
15
24
184
93
53
195
190
118
22
305
stang Trail Way

Table 4: Existing (2018) Plus Project Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	10.3	B
Willow Walk Drive / 11800 South	SB Stop	SB	5.2	A	-	-
East School Access / 11800 South	NB Stop	NB	4.7	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

V. FUTURE (2024) BACKGROUND CONDITIONS

A. Purpose

The purpose of the future (2024) background analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions. Through this analysis, future background traffic operational deficiencies can be identified, and potential mitigation measures recommended.

B. Roadway Network

According to the Wasatch Front Regional Council (WFRC) Regional Transportation Plan, there are no projects planned before 2024 in the study area. Therefore, no changes were made to the roadway network for the future (2024) analysis. With the high volumes of southbound left-turns at the Mustang Trail Way / 11800 South and opposing northbound right-turns, it was previously recommended that southbound left-turn phasing be added to the signal. This recommendation was included from the Teton Ranch Traffic Impact Study. It was also assumed that a northbound right-turn overlapping phase be included at this same signal.

C. Traffic Volumes

Hales Engineering obtained future (2024) forecasted volumes from the Wasatch Front Regional Council (WFRC) / Mountainland Association of Governments (MAG) travel demand model. Peak period turning movement counts were estimated using National Cooperative Highway Research Program (NCHRP) 255 methodologies which utilize existing peak period turn volumes and future average weekday daily traffic (AWDT) volumes to project the future turn volumes at the major intersections. An adjacent development to the west, east, and south was also included in the background of the conditions. Future (2024) morning peak hour turning movement volumes are shown in Figure 7.

D. Level of Service Analysis

Hales Engineering determined that all study intersections are anticipated to operate at acceptable levels of service during the morning peak hour in future (2024) background conditions, as shown in Table 5. These results serve as a baseline condition for the impact analysis of the proposed development for future (2024) conditions.

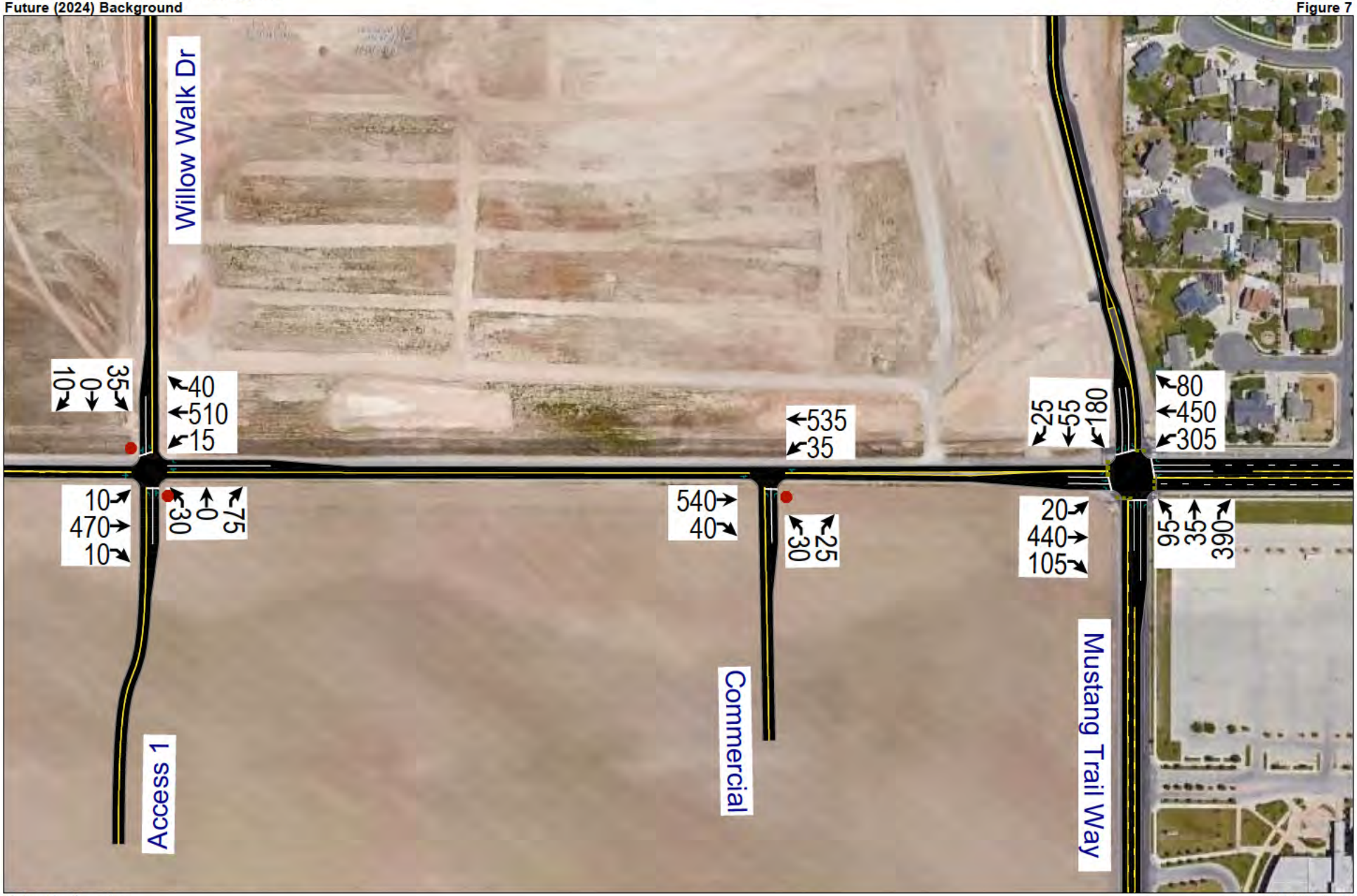
Willow Walk Dr
Mustang Trail Way
Commercial
Access 1
35
0
10
40
510
15
10
470
10
30
0
75
540
40
535
35
25
30
25
55
180
20
440
105
80
450
305
95
35
390

Table 5: Future (2024) Background Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	27.8	C
Willow Walk Drive / 11800 South	SB Stop	SB	13.1	B	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Some queueing is anticipated at the Mustang Trail Way / 11800 South intersection in the East- and westbound directions of approximately 450 and 680 feet respectively. No other significant queuing is anticipated during the morning peak hour.

F. Mitigation Measures

At the Mustang Trail Way / 11800 South intersection, the westbound to southbound left-turn pocket is limited by a raised median. The raised median currently delineates a left-turn pocket for an adjacent street. Since the westbound left-turn lane at Mustang Trail Way is approximately 200 feet in length, the left-turn vehicles occasionally back out onto the main line of traffic and block it causing long queues. In the 2024 Background analysis and a previously completed study (Teton Ranch), identified this same issue. This was found to be a background problem and is anticipated to exist before any project traffic is added to the roadway network. It is recommended that the City look into this issue further to define an appropriate fix. Currently, through vehicles can simply go around stopped vehicles wanting to make a left-turn in the right-turn lane. In the future, when 11800 South is expanded into a 5-lane cross section on the westside of Mustang Trail Way, going around stopped left-turn vehicles will become more dangerous.

The capacity of a two-lane roadway is anticipated to be exceeded by the year 2024 with-out the project traffic. 11800 South east of Mustang Trail Way is planned to be widened as a phase 2 project (between 2025 and 2034). It is recommended that 11800 South be widened to a 5-lane cross section by the year 2024. This measure will also help to alleviate the Mustang Trail Way / 11800 South intersection.

VI. FUTURE (2024) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the future (2024) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on future background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the future (2024) background traffic volumes to predict turning movement volumes for future (2024) plus project conditions. Future (2024) plus project morning peak hour turning movement volumes are shown in Figure 8.

C. Level of Service Analysis

Hales Engineering determined that all intersections are anticipated to operate at acceptable levels of service during the morning peak hour in future (2024) plus project conditions, as shown in Table 6 except Mustang Trail Way / 11800 South and East Access / 11800 South.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Queueing is anticipated at the Mustang Trail Way / 11800 South and East Access / 11800 South intersections as follows:

<u>Mustang Trail Way / 11800 South</u>
Northbound (880 feet)
Southbound (370 feet)
Eastbound (620 feet)
Westbound (2,120 feet)

<u>East Access / 11800 South</u>
Northbound (480 feet)

No other significant queuing is anticipated during the morning peak hour.

Willow Walk Drive
10
0
53
40
530
15
10
496
10
30
0
75
624
0
0
0
585
0
580
44
200
585
211
11800 South
740
40
30
25
766
35
11800 South
45
55
180
20
50
520
175
80
552
305
184
35
390
West Access
East Access
Commercial
tang Trail Way

Table 6: Future (2024) Plus Project Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	73.4	E
Willow Walk Drive / 11800 South	SB Stop	SB	18.0	C	-	-
East Access / 11800 South	NB Stop	NB	> 50	F	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Mitigation Measures

The intersection of Mustang Trail Way / 11800 South is anticipated to perform at a poor LOS in the future year 2024. There is also anticipated to be queueing in all directions. As previously mentioned, 11800 South, west of Mustang Trail Way, is anticipated to be over capacity by the year 2024 and will need widening. It is recommended that 11800 South be widened to 5-lanes east of Mustang Trail Way and northbound left-turn phasing be added to the signal

An additional analysis was completed with the recommended mitigation measures. The results from this analysis can be seen in Table 7. As shown in Table 7, all study intersections are anticipated to perform at acceptable LOS. Some queueing is anticipated at the Mustang Trail Way / 11800 South intersection in the westbound left-turn movement of approximately 400 feet.

As previously mentioned, the westbound to southbound left-turn queue at Mustang Trail Way / 11800 South is longer than the existing storage length and blocking a through lane. There is a raised median that limits the length of the storage. This study and previously completed study for Teton Ranch identified this same issue. This was identified to be a background problem and is anticipated to exist before any project traffic is added to the roadway network. It is recommended that the City look into this issue further.

Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the AAA School have a starting and ending time that does not coincide with

the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

Table 7: Future (2024) Plus Project Morning Peak Hour Level of Service - Mitigated

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	23.7	C
Willow Walk Drive / 11800 South	SB Stop	SB	14.3	B	-	-
East Access / 11800 South	NB Stop	NB	10.8	B	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

F. Recommended Storage Lengths

Hales Engineering determined recommended storage lengths based on the 95th percentile queue lengths given in the future (2024) plus project scenario. These storage lengths do not include the taper length. Recommended storage lengths for the study intersections are shown in Table 8. Intersections shown in Table 8 include new intersections and existing intersections that have recommended storage length changes. Any changes to storage lengths on 11800 South and the north leg or Mustang Trail Way must be coordinated with South Jordan.

Table 8: Recommended Storage Lengths

Recommended Storage Lengths Herriman - Advantage Arts Academy TIS								
Intersection	Storage Length (feet)							
	Northbound		Southbound		Eastbound		Westbound	
	LT	RT	LT	RT	LT	RT	LT	RT
Mustang Trail Way / 11800 South	**225**	**225**	**200**	**50**	**150**	**150**	**350**	**100**
East Access / 11800 South	**-**	**-**	**-**	**-**	**-**	**-**	**275**	**100**
Source: Hales Engineering, November 2018								

G. Air Quality Report

Hales Engineering found the air quality pollutants for Hydro Carbons, Carbon Monoxide, and Nitrogen Oxide emissions. With the addition of any project, residential, commercial, office, school, or recreational, an increase in these pollutants will occur. Table 9 shows the average pollutants for each of the analysis periods. Additional details can be found in Appendix E.

Table 9: Air Pollutants

Air Quality Comparison Herriman - Advantage Arts Academy TIS				
Intersection	Storage Length (feet)			
	Existing (2018) Background (g)	Existing (2018) Plus Project (g)	Future (2024) Background (g)	Future (2024) Plus Project - Mitigated (g)
Hydro Carbons	**332**	**487**	**793**	**1,008**
Carbon Monoxide	**9,327**	**13,841**	**21,671**	**28,195**
Nitrogen Oxide	**1,111**	**1,593**	**2,538**	**3,299**
Source: Hales Engineering, November 2018				

VII. ON-SITE CIRCULATION

A. Purpose

This section of the report examines the on-site out-load queueing that is anticipated to occur within the proposed development. This scenario provides insight into the efficiency and viability of the proposed on-site circulation plan.

B. Traffic Volumes

Project trips generated by the development were used in this analysis to determine the necessary on-site storage lengths. Based on observations at other charter schools around the state, many vehicles arrive before school lets out and start queueing up. The number of vehicles that arrive before school lets out was estimated to be between 20 and 25 percent of all vehicles.

C. On-Site Circulation and Queuing Analysis Results

The on-site circulation and queuing analysis was completed in VISSIM to closely represent the on-site out-loading conditions. Multiple runs were used to provide a statistical evaluation of the site circulation operations. The 95th percentile maximum queue length was found to be approximately 2,000 linear feet during the afternoon peak hour for the plus project conditions. Currently, the site plan has approximately 2,200 feet of queueing space through the parking lot. The on-site storage is anticipated to be adequate based on the existing site plan.

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APPENDIX A

Turning Movement Counts

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

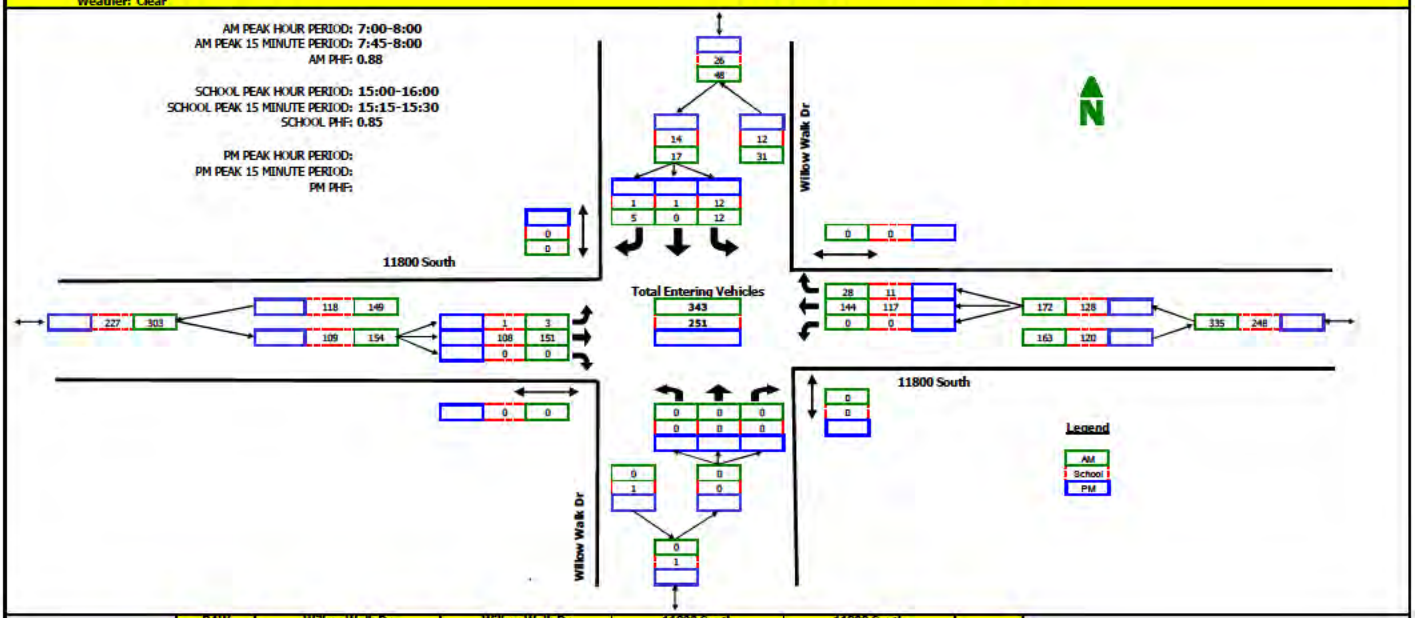
Intersection: Willow Walk Dr / 11800 South
North/South: Willow Walk Dr
East/West: 11800 South
Jurisdiction: Herriman
Project Title: Advantage Arts Academy TIS
Project No: UT18-1343
Weather: Clear

Date: 11-6-18, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 96.2%
Adjustment Station #: 407
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: 7:00-8:00
AM PEAK 15 MINUTE PERIOD: 7:45-8:00
AM PHF: 0.88

SCHOOL PEAK HOUR PERIOD: 15:00-16:00
SCHOOL PEAK 15 MINUTE PERIOD: 15:15-15:30
SCHOOL PHF: 0.85

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF:



RAW COUNT SUMMARIES	Willow Walk Dr Northbound				Willow Walk Dr Southbound				11800 South Eastbound				11800 South Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00-7:15	0	0	0	0	2	0	3	0	0	31	0	0	0	27	4	0	67
7:15-7:30	0	0	0	0	2	0	2	0	2	42	0	0	0	42	5	0	95
7:30-7:45	0	0	0	0	3	0	0	0	1	37	0	0	0	38	5	0	84
7:45-8:00	0	0	0	0	5	0	0	0	0	41	0	0	0	37	14	0	97
8:00-8:15	0	0	0	0	7	0	1	0	1	24	0	0	0	30	11	0	74
8:15-8:30	0	0	0	0	5	0	1	0	5	20	0	0	0	27	5	0	63
8:30-8:45	0	0	0	0	5	0	2	0	1	16	0	0	0	23	11	0	58
8:45-9:00	0	0	0	0	8	0	2	0	0	28	0	0	0	28	14	0	80
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	0	0	0	0	5	0	3	0	1	10	0	0	0	22	8	0	49
14:15-14:30	0	0	0	0	1	0	5	0	2	12	0	0	0	18	1	0	39
14:30-14:45	0	0	0	0	4	0	1	0	2	18	0	0	0	18	2	0	45
14:45-15:00	0	0	0	0	2	0	1	0	4	20	0	0	0	19	1	0	47
15:00-15:15	0	0	0	0	2	1	0	0	1	21	0	0	0	11	0	0	36
15:15-15:30	0	0	0	0	4	0	0	0	0	33	0	0	0	34	3	0	74
15:30-15:45	0	0	0	0	3	0	0	0	0	20	0	0	0	42	6	0	71
15:45-16:00	0	0	0	0	3	0	1	0	0	34	0	0	0	30	2	0	70
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

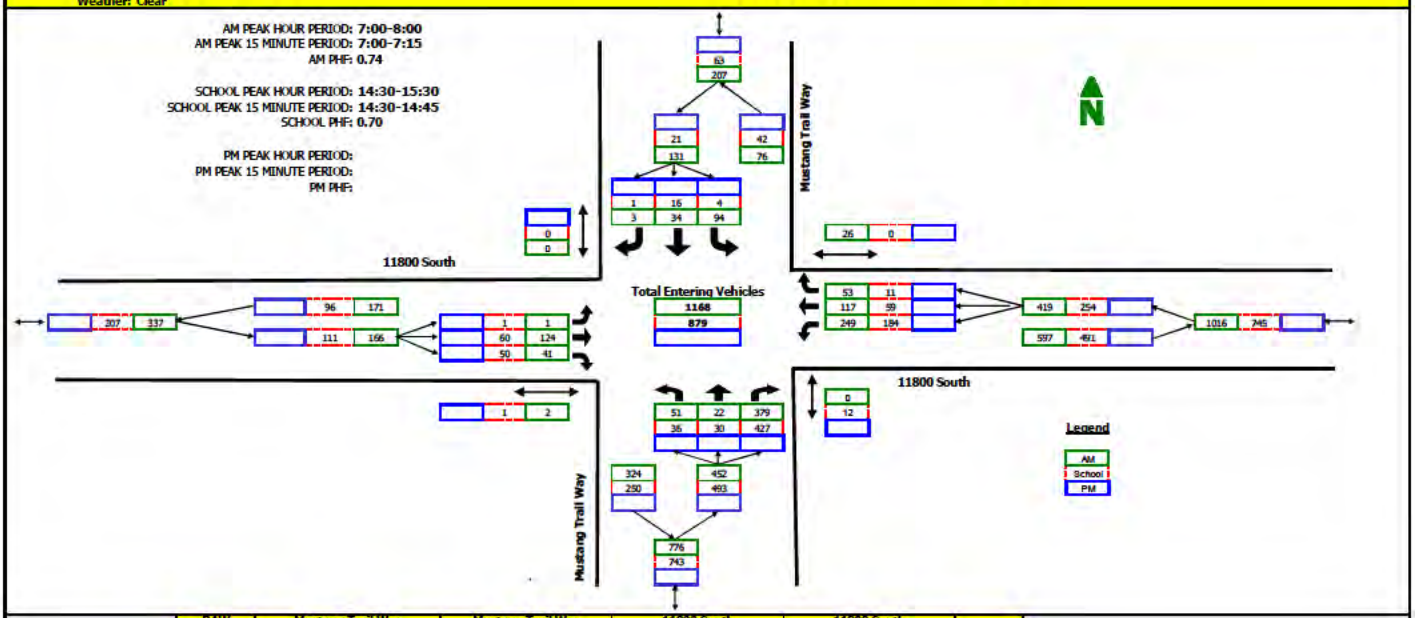
Intersection: Mustang Trail Way / 11800 South
North/South: Mustang Trail Way
East/West: 11800 South
Jurisdiction: Herriman
Project Title: Advantage Arts Academy TIS
Project No: UT18-1343
Weather: Clear

Date: 11-6-18, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 96.2%
Adjustment Station #: 407
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: 7:00-8:00
AM PEAK 15 MINUTE PERIOD: 7:00-7:15
AM PHF: 0.74

SCHOOL PEAK HOUR PERIOD: 14:30-15:30
SCHOOL PEAK 15 MINUTE PERIOD: 14:30-14:45
SCHOOL PHF: 0.70

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF:



RAW COUNT SUMMARIES	Mustang Trail Way Northbound				Mustang Trail Way Southbound				11800 South Eastbound				11800 South Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00-7:15	7	1	99	0	51	9	0	0	0	50	6	0	87	55	31	15	396
7:15-7:30	14	10	142	0	40	16	3	0	0	38	10	2	72	27	10	7	382
7:30-7:45	14	7	80	0	1	6	0	0	0	14	9	0	47	18	7	4	203
7:45-8:00	16	4	58	0	2	3	0	0	1	22	16	0	43	17	5	0	187
8:00-8:15	12	8	115	1	3	4	0	0	0	22	7	0	30	20	1	0	222
8:15-8:30	6	3	36	0	1	1	0	0	1	17	3	0	18	19	2	0	107
8:30-8:45	8	1	36	0	0	3	0	1	0	15	5	0	30	16	2	0	116
8:45-9:00	7	3	59	0	1	4	0	0	0	26	14	0	25	15	2	0	156
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	7	2	27	2	2	2	1	0	0	15	2	0	36	17	3	2	114
14:15-14:30	8	9	68	0	2	3	0	0	1	7	4	0	44	12	5	0	163
14:30-14:45	12	12	199	8	1	6	0	0	0	9	14	1	43	12	4	0	312
14:45-15:00	11	10	104	2	1	5	1	0	0	17	7	0	36	9	2	0	203
15:00-15:15	3	4	72	2	2	5	0	0	0	16	10	0	52	10	3	0	177
15:15-15:30	10	4	52	0	0	0	0	0	1	18	19	0	53	28	2	0	187
15:30-15:45	20	5	120	0	5	2	2	0	0	16	6	0	44	23	2	0	245
15:45-16:00	17	5	87	4	1	2	1	0	0	24	10	0	53	11	5	2	216
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HALES ENGINEERING
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APPENDIX B

LOS Results

HALES ENGINEERING
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SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Existing (2018) Background*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	51	50	99	8.7	*A*
	T	22	24	108	7.8	*A*
	R	305	300	98	4.9	*A*
	Subtotal	378	374	99	5.6	*A*
SB	L	94	94	100	13.8	*B*
	T	34	32	95	6.7	*A*
	R	3	4	123	1.3	*A*
	Subtotal	131	130	99	11.7	*B*
EB	L	1	1	100	7.4	*A*
	T	126	125	99	9.1	*A*
	R	41	42	103	3.0	*A*
	Subtotal	168	168	100	7.6	*A*
WB	L	190	188	99	14.8	*B*
	T	118	120	102	8.2	*A*
	R	53	57	108	2.1	*A*
	Subtotal	361	365	101	10.6	*B*
Total		1,038	1,037	100	8.5	*A*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	12	13	106	5.0	*A*
	R	5	6	126	3.0	*A*
	Subtotal	***17***	***19***	***112***	***4.4***	***A***
EB	L	3	2	62	3.8	*A*
	T	154	152	99	0.5	*A*
	Subtotal	157	154	98	0.5	*A*
WB	T	148	150	102	2.3	*A*
	R	28	28	100	1.8	*A*
	Subtotal	176	178	101	2.2	*A*
Total		350	351	100	1.6	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.4	2.5	4.0	0.2	3.8	1.4
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.9	12.6	6.9	2.0	8.1	6.5	4.0	10.7	6.3	0.7	7.2
Vehicles Entered	28	9	43	26	14	12	6	66	19	8	1	232
Vehicles Exited	29	8	43	26	13	12	6	65	19	7	1	229
Hourly Exit Rate	116	32	172	104	52	48	24	260	76	28	4	916
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	104	89	102	99	111	107	120	96	90	93	133	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	1.2	0.2	0.1	2.1	0.5	2.2	3.9	0.4	2.8
Total Delay (hr)	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Total Del/Veh (s)		8.2	2.4	11.2	7.6	1.7	7.2	6.5	4.1	10.6	6.7	1.4
Vehicles Entered	0	25	9	39	27	11	11	5	66	22	6	1
Vehicles Exited	0	24	9	38	26	11	11	5	66	22	6	1
Hourly Exit Rate	0	96	36	152	104	44	44	20	264	88	24	4
Input Volume	1	112	36	169	105	47	45	20	271	84	30	3
% of Volume	0	86	100	90	99	94	98	100	97	105	80	133

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	0.5
Total Del/Veh (s)	6.9
Vehicles Entered	222
Vehicles Exited	219
Hourly Exit Rate	876
Input Volume	923
% of Volume	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.1	1.1	0.2	0.2	2.1	0.8	2.4	4.0	0.4	5.6
Total Delay (hr)	0.0	0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.0
Total Del/Veh (s)		10.8	3.6	17.3	9.1	2.3	10.8	9.6	6.3	18.7	7.5	2.3
Vehicles Entered	0	41	15	62	41	21	15	7	100	31	12	1
Vehicles Exited	0	40	15	61	40	20	15	7	100	31	12	1
Hourly Exit Rate	0	160	60	244	160	80	60	28	400	124	48	4
Input Volume	1	170	55	253	157	71	68	29	407	125	45	4
% of Volume	0	94	109	96	102	113	88	97	98	99	107	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	1.0
Total Del/Veh (s)	10.2
Vehicles Entered	346
Vehicles Exited	342
Hourly Exit Rate	1368
Input Volume	1385
% of Volume	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.5	2.4	3.9	0.2	4.0	1.5
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.4	13.2	7.2	1.9	7.0	8.1	3.9	11.1	4.8	0.7	7.3
Vehicles Entered	31	10	44	26	12	12	6	68	22	7	1	239
Vehicles Exited	31	10	45	28	13	12	6	68	22	7	1	243
Hourly Exit Rate	124	40	180	112	52	48	24	272	88	28	4	972
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	111	111	107	107	111	107	120	100	105	93	133	105

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.2	0.2	0.1	2.2	0.6	2.4	3.9	0.3	4.1
Total Delay (hr)	0.0	0.3	0.0	0.8	0.3	0.0	0.1	0.1	0.4	0.4	0.1	0.0
Total Del/Veh (s)	7.4	9.1	3.0	14.8	8.2	2.1	8.7	7.8	4.9	13.8	6.7	1.3
Vehicles Entered	1	125	42	189	120	57	50	24	300	94	32	4
Vehicles Exited	1	125	42	188	120	57	50	24	300	94	32	4
Hourly Exit Rate	1	125	42	188	120	57	50	24	300	94	32	4
Input Volume	1	126	41	190	118	53	51	22	305	94	34	3
% of Volume	100	99	103	99	102	108	99	108	98	100	95	123

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.4
Total Delay (hr)	2.5
Total Del/Veh (s)	8.5
Vehicles Entered	1038
Vehicles Exited	1037
Hourly Exit Rate	1037
Input Volume	1038
% of Volume	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.9	0.4	2.1	2.2	4.2	3.0	1.4
Vehicles Entered	1	33	34	6	3	1	78
Vehicles Exited	1	33	34	6	3	1	78
Hourly Exit Rate	4	132	136	24	12	4	312
Input Volume	3	137	131	25	11	4	311
% of Volume	133	96	104	96	109	100	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.6	2.1	1.7	4.4	4.9	1.5
Vehicles Entered	0	32	33	6	3	1	75
Vehicles Exited	0	31	33	6	3	1	74
Hourly Exit Rate	0	124	132	24	12	4	296
Input Volume	3	137	131	25	11	4	311
% of Volume	0	91	101	96	109	100	95

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.1	0.6	2.5	1.8	5.1	2.8	1.7
Vehicles Entered	1	51	48	10	4	2	116
Vehicles Exited	1	51	47	10	4	2	115
Hourly Exit Rate	4	204	188	40	16	8	460
Input Volume	4	205	197	37	16	7	466
% of Volume	100	100	95	108	100	114	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.4	1.9	1.5	4.6	4.3	1.4
Vehicles Entered	0	36	35	6	4	1	82
Vehicles Exited	0	37	36	6	4	1	84
Hourly Exit Rate	0	148	144	24	16	4	336
Input Volume	3	137	131	25	11	4	311
% of Volume	0	108	110	96	145	100	108

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.8	0.5	2.3	1.8	5.0	3.0	1.6
Vehicles Entered	2	152	150	28	13	6	351
Vehicles Exited	2	152	150	28	13	6	351
Hourly Exit Rate	2	152	150	28	13	6	351
Input Volume	3	154	148	28	12	5	350
% of Volume	62	99	102	100	106	126	100

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.1	0.1	0.1	0.1	0.4
Denied Del/Veh (s)	1.5	1.5	1.4	1.5	1.5
Total Delay (hr)	0.6	0.6	1.3	0.7	3.3
Total Del/Veh (s)	8.9	8.6	12.4	9.1	11.0
Vehicles Entered	233	225	350	240	1049
Vehicles Exited	230	224	342	247	1044
Hourly Exit Rate	920	896	1368	988	1044
Input Volume	2162	2162	3242	2162	2432
% of Volume	43	41	42	46	43

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	52	24	94	47	23	51	21	72	54	30	4
Average Queue (ft)	27	8	54	24	11	22	8	43	31	9	1
95th Queue (ft)	56	26	102	54	27	53	26	77	56	33	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)			0								
Queuing Penalty (veh)			0								

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	3	63	26	88	68	27	38	23	70	67	25	8
Average Queue (ft)	0	26	10	49	29	10	17	7	40	35	9	1
95th Queue (ft)	5	67	30	87	69	30	43	25	75	69	30	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	2	92	32	128	102	33	42	30	115	94	41	13
Average Queue (ft)	0	43	17	83	44	17	22	10	63	55	16	2
95th Queue (ft)	5	87	37	139	102	36	49	32	118	92	45	11
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				1	0				0			
Queuing Penalty (veh)				1	0				0			

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	55	32	98	49	24	37	23	66	71	22	5
Average Queue (ft)	29	11	60	23	11	17	8	37	36	9	0
95th Queue (ft)	62	34	100	53	27	41	25	68	69	28	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	5	102	40	140	104	44	56	32	119	98	50	18
Average Queue (ft)	0	31	12	62	30	12	20	8	46	39	11	1
95th Queue (ft)	4	70	32	112	73	31	47	27	89	76	35	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0		0	0				0			
Queuing Penalty (veh)		0		0	0				0			

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	3	30
Average Queue (ft)	0	11
95th Queue (ft)	6	35
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	12
95th Queue (ft)	37
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	9	33
Average Queue (ft)	1	17
95th Queue (ft)	11	42
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	8	30
Average Queue (ft)	1	17
95th Queue (ft)	13	41
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	20	35
Average Queue (ft)	1	14
95th Queue (ft)	9	39
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 2
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 0

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Existing (2018) Plus Project*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	118	119	101	13.0	*B*
	T	22	25	112	8.8	*A*
	R	305	296	97	5.9	*A*
	Subtotal	445	440	99	8.0	*A*
SB	L	94	91	97	17.1	*B*
	T	34	34	101	8.3	*A*
	R	18	18	100	3.2	*A*
	Subtotal	146	143	98	13.3	*B*
EB	L	24	26	109	19.9	*B*
	T	198	202	102	9.4	*A*
	R	93	94	101	3.1	*A*
	Subtotal	315	322	102	8.4	*A*
WB	L	190	190	100	18.9	*B*
	T	195	196	101	9.8	*A*
	R	53	55	104	2.4	*A*
	Subtotal	438	441	101	12.8	*B*
Total		1,360	1,359	100	10.3	*B*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	25	24	95	5.6	*A*
	R	5	5	105	3.2	*A*
	Subtotal	***30***	***29***	***97***	***5.2***	***A***
EB	L	3	2	62	2.0	*A*
	T	173	175	101	0.6	*A*
	Subtotal	176	177	101	0.6	*A*
WB	T	159	157	99	0.5	*A*
	R	28	30	107	0.1	*A*
	Subtotal	187	187	100	0.4	*A*
Total		393	393	100	0.9	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Existing (2018) Plus Project***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	150	155	103	4.7	*A*
	Subtotal	***150***	***155***	***103***	***4.7***	***A***
EB	T	167	164	98	0.6	*A*
	R	32	35	110	0.2	*A*
	Subtotal	199	199	100	0.5	*A*
WB	L	159	158	99	5.3	*A*
	T	198	198	100	1.6	*A*
	Subtotal	357	356	100	3.2	*A*
Total		706	710	101	2.8	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.3	0.5	2.3	4.0	0.3	3.5	1.3
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.6
Total Del/Veh (s)	7.6	2.7	13.7	7.7	2.1	10.4	7.0	4.1	11.2	6.9	2.3	7.6
Vehicles Entered	41	21	43	42	11	26	5	65	21	8	5	288
Vehicles Exited	41	21	43	42	12	26	5	65	21	8	5	289
Hourly Exit Rate	164	84	172	168	48	104	20	260	84	32	20	1156
Input Volume	167	80	169	160	47	105	20	271	84	30	16	1150
% of Volume	98	105	102	105	102	99	100	96	100	107	125	101

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	1.2	0.2	0.1	2.4	0.4	2.4	3.9	0.4	3.9
Total Delay (hr)	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0
Total Del/Veh (s)		7.7	2.4	13.5	8.2	1.9	9.2	6.4	4.5	11.8	7.1	2.6
Vehicles Entered	0	43	19	43	40	11	26	6	64	21	8	4
Vehicles Exited	0	43	18	42	39	11	26	6	63	21	9	4
Hourly Exit Rate	0	172	72	168	156	44	104	24	252	84	36	16
Input Volume	1	167	80	169	160	47	105	20	271	84	30	16
% of Volume	0	103	90	99	98	94	99	120	93	100	120	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.3
Total Delay (hr)	0.6
Total Del/Veh (s)	7.8
Vehicles Entered	285
Vehicles Exited	282
Hourly Exit Rate	1128
Input Volume	1150
% of Volume	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.4	0.5	0.1	0.4	1.1	0.2	0.2	2.2	1.0	2.4	3.9	0.5
Total Delay (hr)	0.1	0.1	0.2	0.0	0.5	0.3	0.0	0.2	0.0	0.2	0.2	0.0
Total Del/Veh (s)	17.6	19.4	11.1	3.7	24.6	11.8	2.9	17.1	12.1	8.3	26.5	12.2
Vehicles Entered	12	24	77	34	63	75	21	41	8	102	30	10
Vehicles Exited	11	23	76	34	61	72	20	40	8	100	28	10
Hourly Exit Rate	44	92	304	136	244	288	80	160	32	400	112	40
Input Volume	60	92	292	133	253	300	71	157	29	407	125	45
% of Volume	73	100	104	102	96	96	113	102	110	98	90	89

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.8	1.2
Total Delay (hr)	0.0	1.9
Total Del/Veh (s)	4.7	13.4
Vehicles Entered	6	503
Vehicles Exited	6	489
Hourly Exit Rate	24	1956
Input Volume	24	1988
% of Volume	100	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.2	0.2	0.2	2.5	0.8	2.3	4.0	0.3
Total Delay (hr)	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0
Total Del/Veh (s)	21.0	16.9	8.3	2.7	15.4	7.8	2.2	10.5	7.2	4.2	12.3	5.5
Vehicles Entered	1	1	40	20	41	39	11	26	6	65	19	8
Vehicles Exited	2	3	42	20	44	42	11	27	6	68	20	7
Hourly Exit Rate	8	12	168	80	176	168	44	108	24	272	80	28
Input Volume	0	1	167	80	169	160	47	105	20	271	84	30
% of Volume		1200	101	100	104	105	94	103	120	100	95	93

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.1
Denied Del/Veh (s)	4.3	1.3
Total Delay (hr)	0.0	0.7
Total Del/Veh (s)	2.4	8.3
Vehicles Entered	3	280
Vehicles Exited	3	295
Hourly Exit Rate	12	1180
Input Volume	16	1150
% of Volume	75	103

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.2	0.1	0.0
Denied Del/Veh (s)	0.3	0.4	0.0	0.1	1.2	0.2	0.1	2.4	0.7	2.3	3.9	0.4
Total Delay (hr)	0.1	0.1	0.5	0.1	1.0	0.5	0.0	0.4	0.1	0.5	0.4	0.1
Total Del/Veh (s)	19.4	19.9	9.4	3.1	18.9	9.8	2.4	13.0	8.8	5.9	17.1	8.3
Vehicles Entered	13	26	201	93	190	196	54	119	25	296	91	34
Vehicles Exited	13	26	202	94	190	196	55	119	25	296	91	34
Hourly Exit Rate	13	26	202	94	190	196	55	119	25	296	91	34
Input Volume	15	24	198	93	190	195	53	118	22	305	94	34
% of Volume	87	109	102	101	100	101	104	101	112	97	97	101

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	0.5
Denied Del/Veh (s)	3.8	1.3
Total Delay (hr)	0.0	3.9
Total Del/Veh (s)	3.2	10.3
Vehicles Entered	18	1356
Vehicles Exited	18	1359
Hourly Exit Rate	18	1359
Input Volume	18	1360
% of Volume	100	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1		0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.5	0.4	0.1	5.4		0.7
Vehicles Entered	0	39	37	6	4	0	86
Vehicles Exited	0	39	37	6	4	0	86
Hourly Exit Rate	0	156	148	24	16	0	344
Input Volume	3	148	141	25	21	4	342
% of Volume	0	105	105	96	76	0	101

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.1	0.5	0.5	0.0	4.9	4.0	0.8
Vehicles Entered	1	35	34	6	5	1	82
Vehicles Exited	0	35	35	6	5	1	82
Hourly Exit Rate	0	140	140	24	20	4	328
Input Volume	3	148	141	25	21	4	342
% of Volume	0	95	99	96	95	100	96

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.9	0.5	0.1	5.8	2.8	1.0
Vehicles Entered	0	68	52	9	9	2	140
Vehicles Exited	0	66	52	9	9	2	138
Hourly Exit Rate	0	264	208	36	36	8	552
Input Volume	4	247	213	37	38	7	546
% of Volume	0	107	98	97	95	114	101

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.8	0.4	0.7	0.1	4.9	2.6	0.9
Vehicles Entered	1	34	34	9	6	2	86
Vehicles Exited	1	36	33	9	6	2	87
Hourly Exit Rate	4	144	132	36	24	8	348
Input Volume	3	148	141	25	21	4	342
% of Volume	133	97	94	144	114	200	102

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.0	0.6	0.5	0.1	5.6	3.2	0.9
Vehicles Entered	3	175	157	30	24	5	394
Vehicles Exited	2	175	157	30	24	5	393
Hourly Exit Rate	2	175	157	30	24	5	393
Input Volume	3	173	159	28	25	5	393
% of Volume	62	101	99	107	95	105	100

8: West Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.2	0.2
Vehicles Entered	43	43	86
Vehicles Exited	43	43	86
Hourly Exit Rate	172	172	344
Input Volume	170	166	336
% of Volume	101	104	102

8: West Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.2
Vehicles Entered	40	41	81
Vehicles Exited	40	41	81
Hourly Exit Rate	160	164	324
Input Volume	170	166	336
% of Volume	94	99	96

8: West Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.1	0.2
Vehicles Entered	74	60	134
Vehicles Exited	74	60	134
Hourly Exit Rate	296	240	536
Input Volume	285	249	534
% of Volume	104	96	100

8: West Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.2
Vehicles Entered	41	43	84
Vehicles Exited	42	43	85
Hourly Exit Rate	168	172	340
Input Volume	170	166	336
% of Volume	99	104	101

8: West Access & 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.1	0.2
Vehicles Entered	199	187	386
Vehicles Exited	199	186	385
Hourly Exit Rate	199	186	385
Input Volume	199	187	386
% of Volume	100	100	100

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.3	0.1	3.9	1.5	3.3	1.9
Vehicles Entered	37	6	27	47	25	142
Vehicles Exited	37	6	28	47	25	143
Hourly Exit Rate	148	24	112	188	100	572
Input Volume	149	21	106	181	100	557
% of Volume	99	114	106	104	100	103

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.1	3.8	1.5	3.1	2.0
Vehicles Entered	34	7	25	45	28	139
Vehicles Exited	34	7	25	45	28	139
Hourly Exit Rate	136	28	100	180	112	556
Input Volume	149	21	106	181	100	557
% of Volume	91	133	94	99	112	100

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.3	0.0	0.4	0.2
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.3
Total Del/Veh (s)	1.1	0.3	6.5	1.8	6.0	3.9
Vehicles Entered	58	16	76	61	77	288
Vehicles Exited	58	16	72	61	76	283
Hourly Exit Rate	232	64	288	244	304	1132
Input Volume	221	64	318	249	300	1152
% of Volume	105	100	91	98	101	98

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.1	4.2	1.5	3.5	2.1
Vehicles Entered	36	6	30	45	25	142
Vehicles Exited	36	6	33	46	27	148
Hourly Exit Rate	144	24	132	184	108	592
Input Volume	149	21	106	181	100	557
% of Volume	97	114	125	102	108	106

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.3	0.1
Total Delay (hr)	0.0	0.0	0.2	0.1	0.2	0.6
Total Del/Veh (s)	0.6	0.2	5.3	1.6	4.7	2.8
Vehicles Entered	164	35	158	199	155	711
Vehicles Exited	164	35	158	198	155	710
Hourly Exit Rate	164	35	158	198	155	710
Input Volume	167	32	159	198	150	706
% of Volume	98	110	99	100	103	101

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.1	0.1	0.2	0.1	0.5
Denied Del/Veh (s)	1.3	1.3	1.3	1.3	1.3
Total Delay (hr)	0.9	0.9	2.6	1.0	5.4
Total Del/Veh (s)	9.6	10.0	16.8	10.2	13.5
Vehicles Entered	295	294	533	287	1411
Vehicles Exited	299	292	504	319	1417
Hourly Exit Rate	1196	1168	2016	1276	1417
Input Volume	3538	3538	6300	3538	4228
% of Volume	34	33	32	36	34

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	65	30	99	77	23	63	23	63	62	31	20
Average Queue (ft)	34	16	61	38	10	34	7	38	34	9	6
95th Queue (ft)	71	32	103	81	26	67	24	67	67	31	22
Link Distance (ft)	1101			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)				0							
Queuing Penalty (veh)				0							

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	2	68	29	100	83	25	56	21	80	67	31	18
Average Queue (ft)	0	35	15	57	41	9	33	6	42	35	12	5
95th Queue (ft)	5	68	32	99	83	28	62	23	79	67	36	20
Link Distance (ft)		1101			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				0								
Queuing Penalty (veh)				0								

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	103	125	43	161	150	33	100	31	120	104	38	23
Average Queue (ft)	55	73	23	100	76	17	59	11	72	59	17	8
95th Queue (ft)	109	127	44	165	149	37	100	33	127	110	45	25
Link Distance (ft)		1101			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	0	0		2	0				0	0		
Queuing Penalty (veh)	0	1		7	1				1	0		

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	72	76	31	104	73	30	73	27	82	72	28	17
Average Queue (ft)	10	38	17	62	40	13	35	9	42	36	9	4
95th Queue (ft)	57	76	36	105	76	34	72	28	83	71	30	17
Link Distance (ft)		1101			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				0					0			
Queuing Penalty (veh)				0					0			

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	108	130	46	163	150	44	103	36	124	109	47	26
Average Queue (ft)	16	45	18	70	49	12	40	8	49	41	12	6
95th Queue (ft)	68	94	37	127	106	32	80	28	96	83	36	21
Link Distance (ft)		1101			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	0	0		1	0				0	0		
Queuing Penalty (veh)	0	0		2	0				0	0		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	SB
Directions Served	LR
Maximum Queue (ft)	39
Average Queue (ft)	17
95th Queue (ft)	45
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	5	37
Average Queue (ft)	0	19
95th Queue (ft)	0	45
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	SB
Directions Served	LR
Maximum Queue (ft)	44
Average Queue (ft)	26
95th Queue (ft)	50
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	3	36
Average Queue (ft)	0	25
95th Queue (ft)	6	48
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	8	51
Average Queue (ft)	0	22
95th Queue (ft)	3	48
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: West Access & 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #3

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #4

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: East Access & 11800 South, Interval #1

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	51	44
Average Queue (ft)	18	28
95th Queue (ft)	52	45
Link Distance (ft)		400
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, Interval #2

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	35	51
Average Queue (ft)	14	29
95th Queue (ft)	41	50
Link Distance (ft)		400
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	EB	WB	NB
Directions Served	T	R	L	R
Maximum Queue (ft)	2	13	112	104
Average Queue (ft)	0	2	52	61
95th Queue (ft)	5	13	112	110
Link Distance (ft)	277			400
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100	100	
Storage Blk Time (%)			1	
Queuing Penalty (veh)			2	

Intersection: 10: East Access & 11800 South, Interval #4

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	47	49
Average Queue (ft)	18	30
95th Queue (ft)	52	50
Link Distance (ft)		400
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	EB	WB	NB
Directions Served	T	R	L	R
Maximum Queue (ft)	2	13	112	104
Average Queue (ft)	0	1	25	37
95th Queue (ft)	2	6	73	75
Link Distance (ft)	277			400
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100	100	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			1	

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 12
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 3

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Background*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	95	90	95	51.6	*D*
	T	35	36	103	46.1	*D*
	R	390	395	101	10.8	*B*
	Subtotal	520	521	100	20.3	*C*
SB	L	180	186	103	43.0	*D*
	T	55	58	105	34.3	*C*
	R	25	28	112	6.6	*A*
	Subtotal	260	272	105	37.4	*D*
EB	L	20	20	101	32.7	*C*
	T	443	447	101	34.0	*C*
	R	105	102	97	11.6	*B*
	Subtotal	568	569	100	29.9	*C*
WB	L	305	300	98	41.1	*D*
	T	450	446	99	23.7	*C*
	R	80	83	104	2.5	*A*
	Subtotal	835	829	99	27.9	*C*
Total		2,182	2,191	100	27.8	*C*

Intersection: Access 1/Willow Walk Dr & 11800 South
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	26	85	15.4	*C*
	R	75	76	101	6.4	*A*
	Subtotal	105	102	97	8.7	*A*
SB	L	35	33	94	15.8	*C*
	R	10	10	100	4.2	*A*
	Subtotal	***45***	***43***	***96***	***13.1***	***B***
EB	L	10	10	100	5.2	*A*
	T	470	475	101	1.4	*A*
	R	10	11	110	0.5	*A*
	Subtotal	490	496	101	1.5	*A*
WB	L	15	15	98	5.4	*A*
	T	512	502	98	2.3	*A*
	R	40	42	104	1.6	*A*
	Subtotal	567	559	99	2.3	*A*
Total		1,208	1,200	99	2.9	*A*

1: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.4	0.3	0.2	1.0	0.6	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.7	0.0	0.4	0.4	0.0	0.3	0.1	0.2	0.6	0.1	0.0
Total Del/Veh (s)	23.2	25.1	6.9	21.0	12.0	2.1	49.2	44.7	8.2	41.2	34.2	5.4
Vehicles Entered	5	101	20	68	103	20	20	7	90	46	12	7
Vehicles Exited	5	101	20	67	102	20	20	7	89	47	12	7
Hourly Exit Rate	20	404	80	268	408	80	80	28	356	188	48	28
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	99	86	99	99	110	95	90	103	114	98	122

1: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	2.9
Total Del/Veh (s)	19.9
Vehicles Entered	499
Vehicles Exited	497
Hourly Exit Rate	1988
Input Volume	1973
% of Volume	101

1: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.3	0.3	0.2	0.9	0.5	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.9	0.0	0.4	0.4	0.0	0.3	0.1	0.2	0.4	0.1	0.0
Total Del/Veh (s)	29.9	28.3	7.1	22.7	13.2	2.1	44.7	42.4	8.3	36.3	32.0	5.2
Vehicles Entered	5	107	23	65	103	21	20	9	88	40	14	8
Vehicles Exited	5	105	23	66	103	21	21	9	88	40	13	8
Hourly Exit Rate	20	420	92	264	412	84	84	36	352	160	52	32
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	103	99	97	100	115	100	116	101	97	106	139

1: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:45

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	3.0
Total Del/Veh (s)	20.2
Vehicles Entered	503
Vehicles Exited	502
Hourly Exit Rate	2008
Input Volume	1973
% of Volume	102

1: Mustang Trail Way & 11800 South Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.2	0.0	1.3	0.4	0.3	1.2	0.9	1.2	0.0	0.0	0.0
Total Delay (hr)	0.1	1.6	0.2	1.8	1.5	0.0	0.4	0.2	0.6	0.7	0.2	0.0
Total Del/Veh (s)	37.4	40.8	17.5	62.2	37.6	3.2	51.7	42.1	15.0	45.0	34.0	8.1
Vehicles Entered	5	137	35	102	140	25	27	13	129	55	19	7
Vehicles Exited	5	135	34	90	129	24	25	12	127	53	19	7
Hourly Exit Rate	20	540	136	360	516	96	100	48	508	212	76	28
Input Volume	25	550	140	407	563	100	127	47	520	225	73	31
% of Volume	80	98	97	88	92	96	79	102	98	94	104	90

1: Mustang Trail Way & 11800 South Performance by movement Interval #3 8:00

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.6
Total Delay (hr)	7.3
Total Del/Veh (s)	36.4
Vehicles Entered	694
Vehicles Exited	660
Hourly Exit Rate	2640
Input Volume	2808
% of Volume	94

1: Mustang Trail Way & 11800 South Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.2	0.0	1.4	0.3	0.2	1.2	0.5	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	1.0	0.1	0.8	0.7	0.0	0.3	0.1	0.2	0.5	0.1	0.0
Total Del/Veh (s)	32.8	33.4	10.2	34.5	20.6	2.0	43.3	36.8	8.4	41.2	34.6	7.0
Vehicles Entered	4	105	23	66	99	16	22	7	89	44	13	7
Vehicles Exited	5	106	24	77	112	18	25	8	91	46	13	7
Hourly Exit Rate	20	424	96	308	448	72	100	32	364	184	52	28
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	104	103	114	109	99	119	103	105	112	106	122

1: Mustang Trail Way & 11800 South Performance by movement Interval #4 8:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.6
Total Delay (hr)	4.0
Total Del/Veh (s)	25.4
Vehicles Entered	495
Vehicles Exited	532
Hourly Exit Rate	2128
Input Volume	1973
% of Volume	108

1: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	1.3	0.4	0.2	1.1	0.7	1.1	0.0	0.0	0.0
Total Delay (hr)	0.2	4.3	0.3	3.5	3.0	0.1	1.3	0.5	1.2	2.2	0.6	0.1
Total Del/Veh (s)	32.7	34.0	11.6	41.1	23.7	2.5	51.6	46.1	10.8	43.0	34.3	6.6
Vehicles Entered	20	449	102	301	446	83	89	36	395	185	58	28
Vehicles Exited	20	447	102	300	446	83	90	36	395	186	58	28
Hourly Exit Rate	20	447	102	300	446	83	90	36	395	186	58	28
Input Volume	20	443	105	305	450	80	95	35	390	180	55	25
% of Volume	101	101	97	98	99	104	95	103	101	103	105	112

1: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.6
Total Delay (hr)	17.1
Total Del/Veh (s)	27.8
Vehicles Entered	2192
Vehicles Exited	2191
Hourly Exit Rate	2191
Input Volume	2182
% of Volume	100

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.4	0.0	0.0	0.0	0.2	4.1	0.2	3.6	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	5.8	0.9	0.3	4.4	1.7	1.2	13.1	5.0	11.0	4.1	2.2
Vehicles Entered	2	102	3	3	119	9	7	18	7	2	272
Vehicles Exited	2	102	3	3	122	9	7	18	7	2	275
Hourly Exit Rate	8	408	12	12	488	36	28	72	28	8	1100
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	89	95	133	86	104	97	100	104	88	89	99

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.2	0.0	0.0	0.0	0.3	4.0	0.2	3.9	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.6	0.9	0.3	5.0	1.8	1.2	12.5	6.0	13.1	4.2	2.3
Vehicles Entered	2	113	2	4	115	10	5	17	8	3	279
Vehicles Exited	2	114	2	4	112	10	5	17	8	3	277
Hourly Exit Rate	8	456	8	16	448	40	20	68	32	12	1108
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	89	106	89	114	96	108	71	99	100	133	100

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	0.5	0.5	0.0	0.0	0.0	0.4	4.0	0.1	3.7	0.5
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.4
Total Del/Veh (s)	6.7	2.3	0.9	8.6	2.9	2.4	19.3	8.4	24.0	4.2	4.1
Vehicles Entered	3	150	3	4	141	12	9	24	10	3	359
Vehicles Exited	2	149	3	4	143	12	8	24	9	3	357
Hourly Exit Rate	8	596	12	16	572	48	32	96	36	12	1428
Input Volume	13	588	13	19	639	50	38	94	44	13	1511
% of Volume	62	101	92	84	90	96	84	102	82	92	95

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.3	4.0	0.1	3.1	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.6	0.9	0.2	4.9	2.3	1.4	12.3	5.0	12.6	4.4	2.5
Vehicles Entered	3	110	2	4	126	11	5	16	9	2	288
Vehicles Exited	3	110	3	4	125	11	6	16	9	2	289
Hourly Exit Rate	12	440	12	16	500	44	24	64	36	8	1156
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	133	102	133	114	107	119	86	93	112	89	104

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	0.3	0.4	0.3	0.0	0.0	0.0	0.3	4.0	0.2	3.6	0.4
Total Delay (hr)	0.0	0.2	0.0	0.0	0.3	0.0	0.1	0.1	0.1	0.0	1.0
Total Del/Veh (s)	5.2	1.4	0.5	5.4	2.3	1.6	15.4	6.4	15.8	4.2	2.9
Vehicles Entered	10	475	11	15	502	42	26	76	34	10	1201
Vehicles Exited	10	475	11	15	502	42	26	76	33	10	1200
Hourly Exit Rate	10	475	11	15	502	42	26	76	33	10	1200
Input Volume	10	470	10	15	512	40	30	75	35	10	1208
% of Volume	100	101	110	98	98	104	85	101	94	100	99

13: Commercial & 11800 South Performance by movement Interval #1 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.2	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.5	1.1	5.8	2.3	12.1	5.3	2.3
Vehicles Entered	119	8	7	122	6	7	269
Vehicles Exited	119	8	7	124	6	7	271
Hourly Exit Rate	476	32	28	496	24	28	1084
Input Volume	495	37	32	490	28	23	1105
% of Volume	96	86	88	101	86	122	98

13: Commercial & 11800 South Performance by movement Interval #2 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	4.2	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.5	0.9	6.8	2.9	14.4	5.6	2.6
Vehicles Entered	130	10	7	125	7	6	285
Vehicles Exited	128	10	7	122	6	6	279
Hourly Exit Rate	512	40	28	488	24	24	1116
Input Volume	495	37	32	490	28	23	1105
% of Volume	103	108	88	100	86	104	101

13: Commercial & 11800 South Performance by movement Interval #3 8:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	3.9	0.1
Total Delay (hr)	0.3	0.0	0.0	0.3	0.1	0.0	0.7
Total Del/Veh (s)	5.4	2.2	13.6	6.2	34.8	8.6	6.7
Vehicles Entered	170	13	11	150	10	8	362
Vehicles Exited	169	12	11	151	9	7	359
Hourly Exit Rate	676	48	44	604	36	28	1436
Input Volume	676	50	44	677	38	31	1516
% of Volume	100	96	100	89	95	90	95

13: Commercial & 11800 South Performance by movement Interval #4 8:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	4.0	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.3
Total Del/Veh (s)	2.1	2.0	6.4	3.5	17.5	7.7	3.4
Vehicles Entered	124	11	7	137	6	7	292
Vehicles Exited	125	11	7	135	7	7	292
Hourly Exit Rate	500	44	28	540	28	28	1168
Input Volume	495	37	32	490	28	23	1105
% of Volume	101	119	88	110	100	122	106

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.1	0.1
Total Delay (hr)	0.4	0.0	0.1	0.6	0.2	0.1	1.4
Total Del/Veh (s)	2.9	1.7	9.1	3.9	22.6	6.9	4.0
Vehicles Entered	543	41	32	533	29	28	1206
Vehicles Exited	542	41	32	532	29	27	1203
Hourly Exit Rate	542	41	32	532	29	27	1203
Input Volume	540	40	35	537	30	25	1208
% of Volume	100	102	91	99	95	108	100

Total Network Performance By Interval

Interval Start	7:30	7:45	8:00	8:15	All
Denied Delay (hr)	0.1	0.1	0.2	0.1	0.5
Denied Del/Veh (s)	0.8	0.8	0.9	0.8	0.8
Total Delay (hr)	3.5	3.7	8.9	4.8	20.9
Total Del/Veh (s)	21.9	22.4	39.9	26.9	31.6
Vehicles Entered	527	531	739	522	2324
Vehicles Exited	525	529	683	579	2317
Hourly Exit Rate	2100	2116	2732	2316	2317
Input Volume	6996	6996	9802	6996	7698
% of Volume	30	30	28	33	30

Intersection: 1: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	29	320	126	170	220	29	106	66	128	158	165	29
Average Queue (ft)	11	207	41	104	113	12	61	28	81	101	47	11
95th Queue (ft)	33	349	148	178	226	33	106	71	129	167	159	32
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)											0	
Queuing Penalty (veh)											0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)		33	0	8	6		8	1	0	14	1	
Queuing Penalty (veh)		37	1	33	16		29	2	0	10	1	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	37	302	169	158	246	32	94	68	128	143	93	25
Average Queue (ft)	14	194	51	101	126	13	64	37	81	86	36	10
95th Queue (ft)	41	313	172	179	261	35	110	85	125	147	101	28
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	0	40	0	8	8		4	1	0	8	0	
Queuing Penalty (veh)	1	45	2	31	21		17	2	1	6	0	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	150	497	250	180	791	178	141	141	217	166	209	28
Average Queue (ft)	32	356	136	158	486	47	77	53	135	119	76	10
95th Queue (ft)	135	556	312	222	1061	279	136	149	226	182	203	28
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		2									2	
Queuing Penalty (veh)		15									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	1	47	1	42	11		13	1	8	20	1	
Queuing Penalty (veh)	5	77	5	236	45		73	7	15	21	2	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #3

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	0
95th Queue (ft)	0
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	79	379	211	178	669	30	128	67	144	160	198	30
Average Queue (ft)	19	219	70	131	248	11	76	33	89	106	58	10
95th Queue (ft)	88	416	224	207	634	32	139	78	144	177	195	30
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		1									0	
Queuing Penalty (veh)		4									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)		42	0	19	9		8	1	1	15	1	
Queuing Penalty (veh)		47	1	80	25		30	2	1	11	2	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #4

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	2
95th Queue (ft)	22
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 1: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	157	503	250	180	869	186	148	148	222	176	257	40
Average Queue (ft)	19	244	74	124	243	21	70	38	96	103	54	10
95th Queue (ft)	85	444	229	206	678	141	124	102	169	171	170	30
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		1									1	
Queuing Penalty (veh)		5									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	0	41	0	19	9		8	1	2	14	1	
Queuing Penalty (veh)	2	51	2	95	27		37	3	4	12	1	

Intersection: 1: Mustang Trail Way & 11800 South, All Intervals

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	1
95th Queue (ft)	10
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	L	TR	L	TR
Maximum Queue (ft)	24	19	41	60	34	18
Average Queue (ft)	6	3	23	34	17	5
95th Queue (ft)	34	19	52	58	39	19
Link Distance (ft)	593	1078	676		1000	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #2

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	40	43	2	37	57	43	21
Average Queue (ft)	7	8	0	15	33	20	7
95th Queue (ft)	36	39	4	43	59	46	22
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	105	90	2	48	80	56	19
Average Queue (ft)	22	19	0	25	41	24	6
95th Queue (ft)	145	96	4	52	77	58	22
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)		0			0	0	
Queuing Penalty (veh)		0			0	0	

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	L	TR	L	TR
Maximum Queue (ft)	38	41	39	50	44	20
Average Queue (ft)	7	7	20	31	22	5
95th Queue (ft)	39	40	48	55	47	19
Link Distance (ft)	593	1078	676		1000	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	137	106	4	60	86	65	21
Average Queue (ft)	10	9	0	21	35	21	6
95th Queue (ft)	78	55	3	49	64	48	21
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)		0			0	0	
Queuing Penalty (veh)		0			0	0	

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	2	68	37	43
Average Queue (ft)	0	19	20	20
95th Queue (ft)	5	67	47	51
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	LT	L	R
Maximum Queue (ft)	90	39	49
Average Queue (ft)	23	20	20
95th Queue (ft)	92	47	52
Link Distance (ft)	593	467	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	80	191	56	49
Average Queue (ft)	24	66	31	23
95th Queue (ft)	185	221	62	54
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	25	102	46	45
Average Queue (ft)	5	34	18	20
95th Queue (ft)	56	114	51	49
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	80	209	63	65
Average Queue (ft)	7	35	22	21
95th Queue (ft)	93	137	53	52
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Network Summary

Network wide Queuing Penalty, Interval #1: 130
Network wide Queuing Penalty, Interval #2: 125
Network wide Queuing Penalty, Interval #3: 500
Network wide Queuing Penalty, Interval #4: 202
Network wide Queuing Penalty, All Intervals: 239

HALES ENGINEERING
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SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	182	99	115.6	*F*
	T	35	35	100	60.7	*E*
	R	390	389	100	64.1	*E*
	Subtotal	609	606	100	79.4	*E*
SB	L	180	179	99	87.5	*F*
	T	55	55	100	39.9	*D*
	R	45	50	111	22.0	*C*
	Subtotal	280	284	101	66.8	*E*
EB	L	50	48	96	61.0	*E*
	T	536	523	98	45.4	*D*
	R	175	166	95	21.5	*C*
	Subtotal	761	737	97	41.0	*D*
WB	L	305	289	95	141.6	*F*
	T	552	530	96	85.7	*F*
	R	80	84	105	10.7	*B*
	Subtotal	937	903	96	96.6	*F*
Total		2,608	2,549	98	73.4	*E*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	30	99	14.4	*B*
	R	75	76	101	7.9	*A*
	Subtotal	105	106	101	9.7	*A*
SB	L	53	52	98	20.4	*C*
	R	10	11	110	6.8	*A*
	Subtotal	***63***	***63***	***100***	***18.0***	***C***
EB	L	10	10	98	6.0	*A*
	T	496	501	101	2.3	*A*
	R	10	10	100	1.5	*A*
	Subtotal	516	521	101	2.4	*A*
WB	L	15	13	88	4.8	*A*
	T	530	513	97	1.4	*A*
	R	40	42	104	0.5	*A*
	Subtotal	585	568	97	1.4	*A*
Total		1,270	1,258	99	3.3	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	200	194	97	109.2	*F*
	Subtotal	***200***	***194***	***97***	***109.2***	***F***
EB	T	582	584	100	4.5	*A*
	R	44	46	105	1.4	*A*
	Subtotal	626	630	101	4.3	*A*
WB	L	211	209	99	26.6	*D*
	T	589	572	97	0.9	*A*
	Subtotal	800	781	98	7.8	*A*
Total		1,626	1,605	99	18.9	*C*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.3	0.0	0.0	0.1	1.2	0.3	0.2	2.5	0.9	2.6	3.8	0.6
Total Delay (hr)	0.0	0.1	0.6	0.1	0.4	0.4	0.0	0.6	0.1	0.5	0.5	0.1
Total Del/Veh (s)	17.2	21.2	18.0	5.7	23.3	11.4	2.2	53.2	41.4	19.1	46.9	32.8
Vehicles Entered	3	10	113	38	61	123	20	38	8	86	39	13
Vehicles Exited	4	10	119	38	63	129	20	36	7	84	34	12
Hourly Exit Rate	16	40	476	152	252	516	80	144	28	336	136	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	104	106	101	105	113	91	90	97	85	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.5
Total Del/Veh (s)	7.2	20.8
Vehicles Entered	11	563
Vehicles Exited	11	567
Hourly Exit Rate	44	2268
Input Volume	37	2252
% of Volume	119	101

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.4	0.3	0.2	2.6	1.0	2.6	3.7	0.4
Total Delay (hr)	0.0	0.1	0.6	0.0	0.4	0.5	0.0	0.6	0.1	0.5	0.6	0.1
Total Del/Veh (s)	24.2	24.1	18.0	4.8	24.0	13.4	2.6	50.8	39.8	19.2	48.1	32.9
Vehicles Entered	5	9	111	30	61	123	19	37	8	91	40	13
Vehicles Exited	5	9	107	30	60	116	19	40	8	92	44	13
Hourly Exit Rate	20	36	428	120	240	464	76	160	32	368	176	52
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	92	93	83	96	95	107	101	103	106	110	106

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.6
Total Del/Veh (s)	9.9	22.0
Vehicles Entered	10	557
Vehicles Exited	10	553
Hourly Exit Rate	40	2212
Input Volume	37	2252
% of Volume	108	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	3.6	2.6	1.0	3.1	1.9	1.0	0.8	3.1	2.2	3.5	3.6	0.9
Total Delay (hr)	0.1	0.3	2.6	0.4	4.6	4.4	0.1	2.6	0.2	2.8	1.7	0.2
Total Del/Veh (s)	81.0	77.4	59.2	30.3	136.3	82.4	10.8	130.7	56.5	75.7	96.3	43.1
Vehicles Entered	6	15	154	49	116	179	26	69	11	129	60	18
Vehicles Exited	6	14	151	46	81	144	25	52	10	105	49	17
Hourly Exit Rate	24	56	604	184	324	576	100	208	40	420	196	68
Input Volume	33	83	765	269	469	736	107	263	47	520	240	73
% of Volume	73	67	79	68	69	78	93	79	85	81	82	93

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.5
Denied Del/Veh (s)	3.5	2.1
Total Delay (hr)	0.1	20.2
Total Del/Veh (s)	23.3	81.8
Vehicles Entered	19	851
Vehicles Exited	17	717
Hourly Exit Rate	68	2868
Input Volume	69	3674
% of Volume	99	78

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.8	0.8	2.3	1.1	1.3	3.0	1.5	2.8	3.8	0.6
Total Delay (hr)	0.1	0.4	3.0	0.5	6.8	8.0	0.1	2.2	0.2	3.3	1.6	0.1
Total Del/Veh (s)	100.5	86.4	66.4	33.1	225.7	170.3	24.5	137.7	81.9	101.0	106.8	38.1
Vehicles Entered	5	15	156	49	66	121	20	38	9	86	42	11
Vehicles Exited	5	15	147	51	86	141	21	54	10	107	52	12
Hourly Exit Rate	20	60	588	204	344	564	84	216	40	428	208	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	154	128	142	138	115	118	137	129	123	130	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.3
Denied Del/Veh (s)	3.7	1.7
Total Delay (hr)	0.1	26.5
Total Del/Veh (s)	39.8	119.0
Vehicles Entered	10	628
Vehicles Exited	12	713
Hourly Exit Rate	48	2852
Input Volume	37	2252
% of Volume	130	127

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	1.2	0.8	0.5	1.2	1.7	0.7	0.7	2.8	1.5	3.0	3.7	0.6
Total Delay (hr)	0.3	0.8	6.8	1.0	12.3	13.3	0.3	5.9	0.6	7.1	4.4	0.6
Total Del/Veh (s)	58.9	61.0	45.4	21.5	141.6	85.7	10.7	115.6	60.7	64.1	87.5	39.9
Vehicles Entered	19	49	534	166	305	546	85	182	35	393	181	55
Vehicles Exited	19	48	523	166	289	530	84	182	35	389	179	55
Hourly Exit Rate	19	48	523	166	289	530	84	182	35	389	179	55
Input Volume	20	50	536	175	305	552	80	184	35	390	180	55
% of Volume	94	96	98	95	95	96	105	99	100	100	99	100

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.1	1.2
Denied Del/Veh (s)	3.6	1.6
Total Delay (hr)	0.3	53.8
Total Del/Veh (s)	22.0	73.4
Vehicles Entered	50	2600
Vehicles Exited	50	2549
Hourly Exit Rate	50	2549
Input Volume	45	2608
% of Volume	111	98

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.2	4.0	0.1	2.4	0.4
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	4.4	1.9	2.2	4.7	1.4	0.4	10.7	5.7	16.5	4.5	2.7
Vehicles Entered	2	116	2	3	122	11	5	18	12	3	294
Vehicles Exited	3	116	2	3	122	11	5	17	12	3	294
Hourly Exit Rate	12	464	8	12	488	44	20	68	48	12	1176
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	133	105	89	92	104	122	74	101	104	133	104

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.2	4.1	0.1	3.0	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	5.1	1.6	1.3	4.1	1.1	0.3	9.6	4.6	11.2	5.2	2.2
Vehicles Entered	2	104	2	2	114	10	8	16	11	2	271
Vehicles Exited	2	103	2	2	115	10	8	16	11	3	272
Hourly Exit Rate	8	412	8	8	460	40	32	64	44	12	1088
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	93	89	62	98	111	119	96	96	133	96

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.6	0.6	0.6	0.0	0.0	0.0	0.4	3.9	0.2	1.6	0.6
Total Delay (hr)	0.0	0.2	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.0	0.5
Total Del/Veh (s)	7.0	3.1	2.5	7.0	1.7	0.7	18.4	11.7	29.3	6.2	4.9
Vehicles Entered	3	169	3	4	137	12	10	25	18	4	385
Vehicles Exited	3	168	3	4	135	12	10	25	17	3	380
Hourly Exit Rate	12	672	12	16	540	48	40	100	68	12	1520
Input Volume	14	661	13	20	707	53	40	100	74	13	1695
% of Volume	86	102	92	80	76	91	100	100	92	92	90

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.4	0.2	0.0	0.0	0.0	0.3	3.9	0.1	2.4	0.4
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	5.4	1.9	0.5	4.0	1.2	0.6	14.7	6.6	14.3	10.5	2.7
Vehicles Entered	2	112	2	3	140	10	7	17	11	2	306
Vehicles Exited	3	115	2	3	142	10	7	17	12	2	313
Hourly Exit Rate	12	460	8	12	568	40	28	68	48	8	1252
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	133	104	89	92	121	111	104	101	104	89	111

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Denied Del/Veh (s)	0.3	0.4	0.3	0.0	0.0	0.0	0.3	4.0	0.1	2.2	0.4
Total Delay (hr)	0.0	0.3	0.0	0.0	0.2	0.0	0.1	0.2	0.3	0.0	1.2
Total Del/Veh (s)	6.0	2.3	1.5	4.8	1.4	0.5	14.4	7.9	20.4	6.8	3.3
Vehicles Entered	10	501	10	13	513	42	30	75	52	11	1257
Vehicles Exited	10	501	10	13	513	42	30	76	52	11	1258
Hourly Exit Rate	10	501	10	13	513	42	30	76	52	11	1258
Input Volume	10	496	10	15	530	40	30	75	53	10	1270
% of Volume	98	101	100	88	97	104	99	101	98	110	99

8: 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.6	0.4	0.5
Vehicles Entered	145	136	281
Vehicles Exited	145	136	281
Hourly Exit Rate	580	544	1124
Input Volume	554	520	1074
% of Volume	105	105	105

8: 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.5	0.4	0.5
Vehicles Entered	130	126	256
Vehicles Exited	130	127	257
Hourly Exit Rate	520	508	1028
Input Volume	554	520	1074
% of Volume	94	98	96

8: 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	1.6	0.4	1.1
Vehicles Entered	215	154	369
Vehicles Exited	214	153	367
Hourly Exit Rate	856	612	1468
Input Volume	855	780	1635
% of Volume	100	78	90

8: 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	1.4	0.4	0.9
Vehicles Entered	143	151	294
Vehicles Exited	146	152	298
Hourly Exit Rate	584	608	1192
Input Volume	554	520	1074
% of Volume	105	117	111

8: 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.2	0.1	0.3
Total Del/Veh (s)	1.1	0.4	0.8
Vehicles Entered	633	568	1201
Vehicles Exited	634	568	1202
Hourly Exit Rate	634	568	1202
Input Volume	629	585	1214
% of Volume	101	97	99

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	0.8	0.2	5.2	0.6	5.4	1.6
Vehicles Entered	136	7	35	135	28	341
Vehicles Exited	136	7	36	136	29	344
Hourly Exit Rate	544	28	144	544	116	1376
Input Volume	518	29	141	520	133	1341
% of Volume	105	97	102	105	87	103

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.2
Total Del/Veh (s)	0.9	0.3	5.1	0.6	5.5	1.7
Vehicles Entered	119	9	35	128	35	326
Vehicles Exited	120	9	34	126	35	324
Hourly Exit Rate	480	36	136	504	140	1296
Input Volume	518	29	141	520	133	1341
% of Volume	93	124	96	97	105	97

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	1.5	1.5
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	53.9	9.7
Total Delay (hr)	0.4	0.0	1.1	0.1	2.7	4.3
Total Del/Veh (s)	6.9	2.1	47.6	1.6	125.5	28.7
Vehicles Entered	192	23	86	158	78	537
Vehicles Exited	185	23	82	158	60	508
Hourly Exit Rate	740	92	328	632	240	2032
Input Volume	773	88	422	796	400	2479
% of Volume	96	105	78	79	60	82

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	3.1	3.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	194.9	27.8
Total Delay (hr)	0.3	0.0	0.3	0.0	3.2	3.9
Total Del/Veh (s)	7.7	1.7	19.6	0.8	154.7	31.8
Vehicles Entered	137	7	54	151	57	406
Vehicles Exited	143	7	57	152	70	429
Hourly Exit Rate	572	28	228	608	280	1716
Input Volume	518	29	141	520	133	1341
% of Volume	110	97	162	117	211	128

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	4.7	4.7
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	84.2	10.4
Total Delay (hr)	0.7	0.0	1.6	0.1	6.0	8.5
Total Del/Veh (s)	4.5	1.4	26.6	0.9	109.2	18.9
Vehicles Entered	584	46	209	572	198	1609
Vehicles Exited	584	46	209	572	194	1605
Hourly Exit Rate	584	46	209	572	194	1605
Input Volume	582	44	211	589	200	1626
% of Volume	100	105	99	97	97	99

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.3	4.3	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.1	0.0	0.2
Total Del/Veh (s)	1.4	0.7	6.8	1.8	29.4	4.9	2.3
Vehicles Entered	156	9	7	175	6	5	358
Vehicles Exited	156	9	7	175	6	6	359
Hourly Exit Rate	624	36	28	700	24	24	1436
Input Volume	624	36	31	683	27	22	1423
% of Volume	100	100	90	102	89	109	101

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	4.1	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.4	0.6	6.0	1.7	20.5	6.1	2.1
Vehicles Entered	146	10	8	166	7	6	343
Vehicles Exited	146	10	8	166	7	6	343
Hourly Exit Rate	584	40	32	664	28	24	1372
Input Volume	624	36	31	683	27	22	1423
% of Volume	94	111	103	97	104	109	96

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.6	0.2	0.3	4.2	0.2
Total Delay (hr)	2.0	0.1	0.0	0.2	0.6	0.4	3.3
Total Del/Veh (s)	30.8	25.5	14.9	2.5	212.4	141.2	23.0
Vehicles Entered	235	11	9	236	10	9	510
Vehicles Exited	220	10	8	236	9	5	488
Hourly Exit Rate	880	40	32	944	36	20	1952
Input Volume	1120	53	47	1178	40	33	2471
% of Volume	79	75	68	80	90	61	79

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	1.4	0.0	0.0	0.1	0.2	3.8	0.7
Total Delay (hr)	2.8	0.1	0.0	0.1	0.3	0.9	4.3
Total Del/Veh (s)	45.6	39.1	19.9	2.0	141.1	295.8	32.8
Vehicles Entered	204	11	9	206	6	7	443
Vehicles Exited	215	12	9	207	6	8	457
Hourly Exit Rate	860	48	36	828	24	32	1828
Input Volume	624	36	31	683	27	22	1423
% of Volume	138	133	116	121	89	145	128

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.0	0.2	0.1	0.3	4.1	0.3
Total Delay (hr)	4.9	0.2	0.1	0.4	1.0	1.3	8.0
Total Del/Veh (s)	23.9	18.6	12.7	2.0	119.4	175.3	17.4
Vehicles Entered	741	41	32	784	29	27	1654
Vehicles Exited	738	40	32	785	28	24	1647
Hourly Exit Rate	738	40	32	785	28	24	1647
Input Volume	748	40	35	807	30	25	1685
% of Volume	99	99	91	97	93	97	98

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	2.1	3.6	6.1
Denied Del/Veh (s)	1.3	1.4	7.4	20.1	7.7
Total Delay (hr)	4.6	4.7	29.2	35.8	74.3
Total Del/Veh (s)	24.4	24.7	97.8	140.2	91.5
Vehicles Entered	605	604	994	637	2842
Vehicles Exited	604	602	793	768	2771
Hourly Exit Rate	2416	2408	3172	3072	2771
Input Volume	9566	9566	15975	9566	11168
% of Volume	25	25	20	32	25

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	94	305	148	170	228	33	186	63	222	158	100	41
Average Queue (ft)	37	168	42	104	141	14	103	20	99	92	35	18
95th Queue (ft)	104	289	139	179	249	35	188	61	211	157	93	44
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		10		1	4		5		6	3	0	
Queuing Penalty (veh)		20		7	10		20		12	3	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	94	262	210	186	255	37	171	55	201	182	122	35
Average Queue (ft)	35	142	49	105	118	14	115	26	125	119	53	15
95th Queue (ft)	103	266	178	193	259	41	187	61	220	212	188	37
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		8		2	5		6		6	10	0	
Queuing Penalty (veh)		17		10	14		23		12	9	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	234	521	250	250	2066	1650	398	831	425	238	376	133
Average Queue (ft)	110	445	170	235	958	369	280	360	297	175	169	38
95th Queue (ft)	254	646	336	295	2063	1494	492	1142	506	280	471	139
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		23			3	1		2				
Queuing Penalty (veh)		257			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	50		62	14		56		51	41	0	
Queuing Penalty (veh)	14	194		453	63		317		158	58	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	249	521	250	250	2207	1949	399	895	411	228	307	57
Average Queue (ft)	133	511	176	247	1756	963	249	477	314	186	168	21
95th Queue (ft)	298	550	340	267	2915	2644	479	1306	554	282	510	76
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		29			9	2		0				
Queuing Penalty (veh)		186			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	56		73	14		39		51	41	0	
Queuing Penalty (veh)	5	111		361	36		149		96	35	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	250	523	250	250	2212	2082	408	942	426	239	401	133
Average Queue (ft)	79	317	109	173	743	340	187	221	209	143	106	23
95th Queue (ft)	218	618	286	303	2119	1537	397	881	446	254	367	85
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		13			3	1		1				
Queuing Penalty (veh)		111			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	31		35	9		27		29	24	0	
Queuing Penalty (veh)	5	86		208	31		127		69	26	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	26	60	35	49	59	27
Average Queue (ft)	6	12	17	32	30	9
95th Queue (ft)	33	65	43	55	64	32
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)					1	
Queuing Penalty (veh)					0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	31	38	43	53	44	29
Average Queue (ft)	5	7	22	31	29	9
95th Queue (ft)	32	38	50	55	55	31
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	64	88	51	80	84	38
Average Queue (ft)	11	18	26	45	47	12
95th Queue (ft)	60	72	58	81	93	41
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)			0	0	2	
Queuing Penalty (veh)			0	0	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	54	60	45	62	51	32
Average Queue (ft)	11	11	21	34	29	8
95th Queue (ft)	51	58	50	64	59	30
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	78	104	62	90	90	42
Average Queue (ft)	8	12	22	36	34	10
95th Queue (ft)	45	60	51	66	70	34
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)			0	0	1	
Queuing Penalty (veh)			0	0	0	

Intersection: 8: 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #3

Movement	EB
Directions Served	TR
Maximum Queue (ft)	63
Average Queue (ft)	8
95th Queue (ft)	60
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: 11800 South, Interval #4

Movement	EB
Directions Served	TR
Maximum Queue (ft)	46
Average Queue (ft)	9
95th Queue (ft)	71
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: 11800 South, All Intervals

Movement	EB
Directions Served	TR
Maximum Queue (ft)	78
Average Queue (ft)	4
95th Queue (ft)	45
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #1

Movement	EB	WB	NB
Directions Served	T	L	R
Maximum Queue (ft)	2	76	56
Average Queue (ft)	0	38	32
95th Queue (ft)	5	77	59
Link Distance (ft)	277		400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	9	64	59
Average Queue (ft)	1	37	37
95th Queue (ft)	12	69	61
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	232	113	301	242	426
Average Queue (ft)	70	26	181	63	312
95th Queue (ft)	231	123	363	295	519
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	1			0	39
Queuing Penalty (veh)	8			3	0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	9		46	0	
Queuing Penalty (veh)	8		357	0	

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	248	82	176	45	435
Average Queue (ft)	107	12	82	6	360
95th Queue (ft)	248	89	192	95	567
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	1				68
Queuing Penalty (veh)	4				0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	8		10		
Queuing Penalty (veh)	2		54		

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	268	149	312	261	440
Average Queue (ft)	44	10	84	17	186
95th Queue (ft)	175	74	231	149	476
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	0			0	27
Queuing Penalty (veh)	3			1	0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	4		14	0	
Queuing Penalty (veh)	3		103	0	

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	30	50	39
Average Queue (ft)	11	22	18
95th Queue (ft)	36	56	47
Link Distance (ft)		484	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)		1	
Queuing Penalty (veh)		0	

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	49	44
Average Queue (ft)	15	22	21
95th Queue (ft)	42	53	54
Link Distance (ft)		484	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	537	41	26	160	93
Average Queue (ft)	306	19	5	87	49
95th Queue (ft)	690	49	42	161	105
Link Distance (ft)	528		505	484	
Upstream Blk Time (%)	6				
Queuing Penalty (veh)	74				
Storage Bay Dist (ft)		100			100
Storage Blk Time (%)			0	31	6
Queuing Penalty (veh)			0	10	3

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	538	38	170	130
Average Queue (ft)	506	16	99	80
95th Queue (ft)	651	45	236	149
Link Distance (ft)	528		484	
Upstream Blk Time (%)	8			
Queuing Penalty (veh)	53			
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			21	33
Queuing Penalty (veh)			5	9

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	541	52	26	193	134
Average Queue (ft)	203	15	1	58	42
95th Queue (ft)	612	44	20	158	107
Link Distance (ft)	528		505	484	
Upstream Blk Time (%)	4				
Queuing Penalty (veh)	32				
Storage Bay Dist (ft)		100			100
Storage Blk Time (%)			0	13	10
Queuing Penalty (veh)			0	4	3

Network Summary

Network wide Queuing Penalty, Interval #1: 73
Network wide Queuing Penalty, Interval #2: 85
Network wide Queuing Penalty, Interval #3: 1979
Network wide Queuing Penalty, Interval #4: 1106
Network wide Queuing Penalty, All Intervals: 811

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project - Mitigated*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	181	98	48.5	*D*
	T	35	37	106	49.2	*D*
	R	390	390	100	16.0	*B*
	Subtotal	609	608	100	27.7	*C*
SB	L	180	184	102	49.2	*D*
	T	55	54	98	49.2	*D*
	R	45	46	102	8.7	*A*
	Subtotal	280	284	101	42.6	*D*
EB	L	50	49	98	36.1	*D*
	T	536	537	100	20.2	*C*
	R	175	168	96	7.3	*A*
	Subtotal	761	754	99	18.4	*B*
WB	L	305	312	102	36.2	*D*
	T	552	539	98	12.0	*B*
	R	80	86	108	3.6	*A*
	Subtotal	937	937	100	19.3	*B*
Total		2,608	2,603	100	23.7	*C*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	29	96	11.4	*B*
	R	75	75	100	4.6	*A*
	Subtotal	105	104	99	6.5	*A*
SB	L	53	50	94	16.3	*C*
	R	10	10	100	4.2	*A*
	Subtotal	***63***	***60***	***95***	***14.3***	***B***
EB	L	10	10	98	4.8	*A*
	T	496	495	100	0.8	*A*
	R	10	10	100	1.1	*A*
	Subtotal	516	515	100	0.9	*A*
WB	L	15	13	88	4.5	*A*
	T	530	514	97	0.3	*A*
	R	40	41	102	0.2	*A*
	Subtotal	585	568	97	0.4	*A*
Total		1,270	1,247	98	1.8	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project - Mitigated***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	200	200	100	10.8	*B*
	Subtotal	***200***	***200***	***100***	***10.8***	***B***
EB	T	582	575	99	0.6	*A*
	R	44	44	101	0.4	*A*
	Subtotal	626	619	99	0.6	*A*
WB	L	211	217	103	13.3	*B*
	T	589	571	97	0.4	*A*
	Subtotal	800	788	99	4.0	*A*
Total		1,626	1,607	99	3.5	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.3	0.2	1.3	2.6	0.9	2.5	3.8	0.4
Total Delay (hr)	0.0	0.0	0.4	0.0	0.3	0.3	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	17.3	15.6	11.2	3.2	16.9	7.4	3.0	41.6	53.6	10.2	42.5	45.2
Vehicles Entered	4	10	115	35	61	120	18	39	7	88	39	13
Vehicles Exited	4	10	112	34	60	117	18	43	8	89	40	14
Hourly Exit Rate	16	40	448	136	240	468	72	172	32	356	160	56
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	98	94	96	95	101	109	103	103	100	114

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.9	1.2
Total Delay (hr)	0.0	2.6
Total Del/Veh (s)	4.9	16.0
Vehicles Entered	9	558
Vehicles Exited	9	558
Hourly Exit Rate	36	2232
Input Volume	37	2252
% of Volume	97	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.4	0.3	1.2	2.6	1.0	2.7	3.7	0.7
Total Delay (hr)	0.0	0.0	0.4	0.0	0.3	0.3	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	14.4	17.9	11.6	3.4	16.3	7.9	2.2	41.5	43.5	10.0	43.2	48.1
Vehicles Entered	4	10	114	34	63	120	18	39	8	87	40	12
Vehicles Exited	4	10	116	34	64	121	17	36	8	86	37	12
Hourly Exit Rate	16	40	464	136	256	484	68	144	32	344	148	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	101	94	102	99	96	91	103	99	92	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.9	1.2
Total Delay (hr)	0.0	2.6
Total Del/Veh (s)	5.3	15.9
Vehicles Entered	9	558
Vehicles Exited	9	554
Hourly Exit Rate	36	2216
Input Volume	37	2252
% of Volume	97	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.2	1.3	0.4	1.1	2.5	1.7	2.6	3.6	0.8
Total Delay (hr)	0.1	0.3	1.6	0.2	1.9	0.9	0.0	1.1	0.2	0.9	0.9	0.3
Total Del/Veh (s)	49.5	51.0	30.9	12.2	54.1	16.9	5.1	55.2	45.6	24.6	49.9	50.7
Vehicles Entered	7	20	188	61	122	180	30	68	15	125	62	18
Vehicles Exited	7	17	182	60	107	173	28	67	14	121	61	17
Hourly Exit Rate	28	68	728	240	428	692	112	268	56	484	244	68
Input Volume	33	83	765	269	469	736	107	263	47	520	240	73
% of Volume	85	82	95	89	91	94	105	102	119	93	102	93

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.3
Denied Del/Veh (s)	3.6	1.2
Total Delay (hr)	0.1	8.5
Total Del/Veh (s)	12.2	32.3
Vehicles Entered	18	914
Vehicles Exited	17	871
Hourly Exit Rate	68	3484
Input Volume	69	3674
% of Volume	99	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	1.3	0.2	1.2	2.8	1.0	2.7	3.8	0.7
Total Delay (hr)	0.0	0.1	0.7	0.1	0.7	0.4	0.0	0.4	0.1	0.3	0.6	0.1
Total Del/Veh (s)	30.1	34.6	18.4	6.2	28.4	10.5	2.9	37.7	51.0	12.6	46.2	41.3
Vehicles Entered	5	9	120	39	68	120	20	34	7	90	44	11
Vehicles Exited	5	12	126	39	81	128	22	35	8	94	46	12
Hourly Exit Rate	20	48	504	156	324	512	88	140	32	376	184	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	123	110	108	130	104	124	89	103	108	115	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.7
Total Del/Veh (s)	7.7	20.2
Vehicles Entered	10	577
Vehicles Exited	11	619
Hourly Exit Rate	44	2476
Input Volume	37	2252
% of Volume	119	110

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.1	1.3	0.3	1.2	2.6	1.2	2.6	3.7	0.7
Total Delay (hr)	0.2	0.5	3.0	0.3	3.2	1.8	0.1	2.5	0.5	1.8	2.6	0.8
Total Del/Veh (s)	31.2	36.1	20.2	7.3	36.2	12.0	3.6	48.5	49.2	16.0	49.2	49.2
Vehicles Entered	20	48	537	169	313	539	86	180	37	390	185	54
Vehicles Exited	20	49	537	168	312	539	86	181	37	390	184	54
Hourly Exit Rate	20	49	537	168	312	539	86	181	37	390	184	54
Input Volume	20	50	536	175	305	552	80	184	35	390	180	55
% of Volume	99	98	100	96	102	98	108	98	106	100	102	98

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	0.9
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.1	17.3
Total Del/Veh (s)	8.7	23.7
Vehicles Entered	46	2604
Vehicles Exited	46	2603
Hourly Exit Rate	46	2603
Input Volume	45	2608
% of Volume	102	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.2	0.1	0.8	0.0	0.0	0.0	0.3	4.0	0.1	2.8	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	6.8	0.7	0.4	7.0	0.3	0.2	8.9	3.8	13.0	3.7	1.5
Vehicles Entered	2	114	2	2	114	10	6	17	11	2	280
Vehicles Exited	2	113	2	2	115	10	6	17	11	2	280
Hourly Exit Rate	8	452	8	8	460	40	24	68	44	8	1120
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	102	89	62	98	111	89	101	96	89	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.0	0.1	1.7	0.0	0.0	0.0	0.2	4.0	0.1	2.4	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.4	0.7	1.1	3.5	0.3	0.1	9.8	3.4	8.5	4.3	1.3
Vehicles Entered	2	111	3	3	114	9	6	16	11	2	277
Vehicles Exited	2	110	3	3	113	9	6	16	11	2	275
Hourly Exit Rate	8	440	12	12	452	36	24	64	44	8	1100
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	100	133	92	96	100	89	96	96	89	98

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.6	0.2	1.0	0.0	0.0	0.0	0.5	3.9	0.1	1.8	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3
Total Del/Veh (s)	5.4	1.0	1.0	5.0	0.4	0.2	14.3	5.6	22.2	5.0	2.3
Vehicles Entered	3	163	4	5	164	12	9	24	16	4	404
Vehicles Exited	3	161	4	5	165	12	9	24	16	3	402
Hourly Exit Rate	12	644	16	20	660	48	36	96	64	12	1608
Input Volume	14	661	13	20	707	53	40	100	74	13	1695
% of Volume	86	97	123	100	93	91	90	96	86	92	95

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.4	0.1	1.7	0.0	0.0	0.0	0.4	3.9	0.1	2.1	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.0	0.7	1.2	3.0	0.3	0.1	9.4	4.3	13.7	3.6	1.6
Vehicles Entered	2	108	2	3	121	10	7	17	11	3	284
Vehicles Exited	2	111	2	3	121	10	7	18	12	3	289
Hourly Exit Rate	8	444	8	12	484	40	28	72	48	12	1156
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	101	89	92	103	111	104	107	104	133	102

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	1.6	0.1	1.4	0.0	0.0	0.0	0.4	3.9	0.1	2.2	0.3
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.6
Total Del/Veh (s)	4.8	0.8	1.1	4.5	0.3	0.2	11.4	4.6	16.3	4.2	1.8
Vehicles Entered	9	496	10	13	514	40	29	75	50	11	1247
Vehicles Exited	10	495	10	13	514	41	29	75	50	10	1247
Hourly Exit Rate	10	495	10	13	514	41	29	75	50	10	1247
Input Volume	10	496	10	15	530	40	30	75	53	10	1270
% of Volume	98	100	100	88	97	102	96	100	94	100	98

8: 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.2
Vehicles Entered	141	127	268
Vehicles Exited	141	127	268
Hourly Exit Rate	564	508	1072
Input Volume	554	520	1074
% of Volume	102	98	100

8: 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.2
Vehicles Entered	138	127	265
Vehicles Exited	137	126	263
Hourly Exit Rate	548	504	1052
Input Volume	554	520	1074
% of Volume	99	97	98

8: 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.4	0.3	0.3
Vehicles Entered	205	181	386
Vehicles Exited	205	181	386
Hourly Exit Rate	820	724	1544
Input Volume	855	780	1635
% of Volume	96	93	94

8: 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.3
Vehicles Entered	141	133	274
Vehicles Exited	142	133	275
Hourly Exit Rate	568	532	1100
Input Volume	554	520	1074
% of Volume	103	102	102

8: 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	0.3	0.2	0.3
Vehicles Entered	625	568	1193
Vehicles Exited	624	567	1191
Hourly Exit Rate	624	567	1191
Input Volume	629	585	1214
% of Volume	99	97	98

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.3	0.1	4.9	0.3	4.3	1.2
Vehicles Entered	132	7	36	127	31	333
Vehicles Exited	132	7	37	127	31	334
Hourly Exit Rate	528	28	148	508	124	1336
Input Volume	518	29	141	520	133	1341
% of Volume	102	97	105	98	93	100

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.2	5.1	0.4	4.4	1.3
Vehicles Entered	127	8	36	128	33	332
Vehicles Exited	127	8	36	127	33	331
Hourly Exit Rate	508	32	144	508	132	1324
Input Volume	518	29	141	520	133	1341
% of Volume	98	110	102	98	99	99

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.5	0.1
Total Delay (hr)	0.1	0.0	0.6	0.0	0.5	1.1
Total Del/Veh (s)	1.1	0.7	20.3	0.5	15.7	6.7
Vehicles Entered	184	22	102	184	103	595
Vehicles Exited	183	22	98	184	100	587
Hourly Exit Rate	732	88	392	736	400	2348
Input Volume	773	88	422	796	400	2479
% of Volume	95	100	93	92	100	95

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.2
Total Del/Veh (s)	0.5	0.3	9.0	0.4	6.5	2.2
Vehicles Entered	133	7	42	133	32	347
Vehicles Exited	133	8	47	133	36	357
Hourly Exit Rate	532	32	188	532	144	1428
Input Volume	518	29	141	520	133	1341
% of Volume	103	110	133	102	108	106

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay (hr)	0.1	0.0	0.8	0.1	0.6	1.6
Total Del/Veh (s)	0.6	0.4	13.3	0.4	10.8	3.5
Vehicles Entered	575	44	217	571	200	1607
Vehicles Exited	575	44	217	571	200	1607
Hourly Exit Rate	575	44	217	571	200	1607
Input Volume	582	44	211	589	200	1626
% of Volume	99	101	103	97	100	99

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.2	0.0	0.2	4.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.4	5.6	1.1	19.5	3.7	1.3
Vehicles Entered	156	9	6	170	8	5	354
Vehicles Exited	156	9	6	168	8	5	352
Hourly Exit Rate	624	36	24	672	32	20	1408
Input Volume	624	36	31	683	27	22	1423
% of Volume	100	100	77	98	119	91	99

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	4.4	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.4	6.8	1.1	12.6	3.6	1.2
Vehicles Entered	153	10	6	166	7	6	348
Vehicles Exited	152	10	7	169	7	6	351
Hourly Exit Rate	608	40	28	676	28	24	1404
Input Volume	624	36	31	683	27	22	1423
% of Volume	97	111	90	99	104	109	99

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.4	0.1	0.3	4.4	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.6	0.0	0.8
Total Del/Veh (s)	0.9	0.9	16.1	1.4	166.6	20.4	5.0
Vehicles Entered	270	13	11	282	12	7	595
Vehicles Exited	269	13	11	278	9	7	587
Hourly Exit Rate	1076	52	44	1112	36	28	2348
Input Volume	1120	53	47	1178	40	33	2471
% of Volume	96	98	94	94	90	85	95

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	3.8	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.2	0.0	0.3
Total Del/Veh (s)	0.5	0.5	6.9	1.2	66.7	15.1	3.0
Vehicles Entered	162	9	8	174	7	7	367
Vehicles Exited	164	9	8	178	10	7	376
Hourly Exit Rate	656	36	32	712	40	28	1504
Input Volume	624	36	31	683	27	22	1423
% of Volume	105	100	103	104	148	127	106

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.2	4.1	0.1
Total Delay (hr)	0.1	0.0	0.1	0.3	0.8	0.1	1.4
Total Del/Veh (s)	0.6	0.6	10.0	1.3	88.2	12.5	3.0
Vehicles Entered	741	40	32	793	33	25	1664
Vehicles Exited	741	40	32	794	33	25	1665
Hourly Exit Rate	741	40	32	794	33	25	1665
Input Volume	748	40	35	807	30	25	1685
% of Volume	99	99	91	98	109	101	99

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	0.4	0.2	1.0
Denied Del/Veh (s)	1.3	1.4	1.3	1.4	1.3
Total Delay (hr)	3.3	3.3	11.5	4.8	22.9
Total Del/Veh (s)	17.9	17.5	37.4	22.4	28.3
Vehicles Entered	601	602	1028	609	2840
Vehicles Exited	601	594	944	692	2835
Hourly Exit Rate	2404	2376	3776	2768	2835
Input Volume	9566	9566	15975	9566	11168
% of Volume	25	25	24	29	25

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	62	102	110	40	125	95	91	26	178	73	120	164
Average Queue (ft)	25	59	63	21	79	50	47	10	109	26	77	95
95th Queue (ft)	63	116	126	46	140	105	100	28	176	72	128	161
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)			0		0	0	1		3	0	0	3
Queuing Penalty (veh)			0		1	0	1		13	0	0	3

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	109	26
Average Queue (ft)	45	13
95th Queue (ft)	104	31
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	51	114	119	56	151	100	98	28	162	53	132	160
Average Queue (ft)	26	61	68	23	86	54	52	10	94	21	67	94
95th Queue (ft)	58	112	121	59	150	104	101	32	172	55	127	166
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)		0	0	0	1	0	1	0	3		1	3
Queuing Penalty (veh)		0	0	0	3	0	1	0	13		2	3

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	98	26
Average Queue (ft)	44	15
95th Queue (ft)	105	32
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	171	259	263	204	250	522	425	32	277	127	269	232
Average Queue (ft)	84	190	196	105	206	292	194	14	181	46	159	152
95th Queue (ft)	177	289	302	233	300	705	580	34	309	125	296	245
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	4	16	19	1	36	1	4		25	0	17	20
Queuing Penalty (veh)	14	18	50	3	133	6	4		144	0	54	28

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	254	69
Average Queue (ft)	87	28
95th Queue (ft)	246	79
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	118	182	204	108	221	390	289	39	161	56	183	194
Average Queue (ft)	40	80	94	37	121	124	99	14	84	22	95	118
95th Queue (ft)	116	171	192	110	237	441	358	38	164	57	182	198
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	2	3	4	0	9	0	2		2		2	5
Queuing Penalty (veh)	5	1	5	0	21	1	1		9		4	4

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	137	37
Average Queue (ft)	48	16
95th Queue (ft)	146	42
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	181	259	273	214	250	556	447	46	287	129	282	241
Average Queue (ft)	44	97	105	47	123	130	98	12	117	29	100	115
95th Queue (ft)	120	215	226	142	243	439	353	33	228	83	207	202
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	2	5	6	0	12	0	2	0	9	0	5	8
Queuing Penalty (veh)	5	5	14	1	40	2	2	0	45	0	15	10

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	264	74
Average Queue (ft)	56	18
95th Queue (ft)	163	51
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	T	L	L	TR	L	TR
Maximum Queue (ft)	23	2	25	27	44	51	18
Average Queue (ft)	5	0	8	15	22	25	6
95th Queue (ft)	22	4	31	36	44	54	20
Link Distance (ft)		1888		676		1163	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100		100		100		100
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	11	15	34	37	43	22
Average Queue (ft)	2	4	16	22	23	5
95th Queue (ft)	12	20	39	40	47	21
Link Distance (ft)			676		1163	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	100		100		100
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	L	T	L	TR	L	TR
Maximum Queue (ft)	35	2	4	30	2	46	61	66	27
Average Queue (ft)	8	0	1	10	0	23	29	34	9
95th Queue (ft)	32	4	6	34	4	49	57	64	27
Link Distance (ft)		1888	1888		271	676		1163	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100			100			100		100
Storage Blk Time (%)								0	
Queuing Penalty (veh)								0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	R	L	TR	L	TR
Maximum Queue (ft)	22	20	4	35	47	50	20
Average Queue (ft)	4	4	1	17	25	26	7
95th Queue (ft)	19	20	6	40	51	59	22
Link Distance (ft)				676		1163	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100	100	100		100		100
Storage Blk Time (%)					0	0	
Queuing Penalty (veh)					0	0	

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	L	T	R	L	TR	L	TR
Maximum Queue (ft)	36	2	4	36	2	4	52	69	76	29
Average Queue (ft)	4	0	0	6	0	0	18	24	27	7
95th Queue (ft)	22	2	4	27	2	3	42	49	57	23
Link Distance (ft)		1888	1888		271		676		1163	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100			100		100		100		100
Storage Blk Time (%)								0	0	
Queuing Penalty (veh)								0	0	

Intersection: 8: 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #3

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #4

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: East Access & 11800 South, Interval #1

Movement	EB	EB	WB	NB
Directions Served	T	R	L	R
Maximum Queue (ft)	2	4	76	65
Average Queue (ft)	0	1	38	34
95th Queue (ft)	5	6	77	65
Link Distance (ft)	278			388
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100	100	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	2	65	64
Average Queue (ft)	0	36	35
95th Queue (ft)	5	71	62
Link Distance (ft)			388
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	NB
Directions Served	T	T	R	L	T	R
Maximum Queue (ft)	2	4	27	231	24	198
Average Queue (ft)	0	1	8	125	4	117
95th Queue (ft)	5	6	28	240	52	215
Link Distance (ft)	278	278			528	388
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100	100		
Storage Blk Time (%)				23		
Queuing Penalty (veh)				89		

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	EB	EB	WB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	2	2	10	138	101
Average Queue (ft)	0	0	2	56	42
95th Queue (ft)	5	5	10	137	97
Link Distance (ft)	278	278			388
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100	100	
Storage Blk Time (%)				3	
Queuing Penalty (veh)				8	

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	NB
Directions Served	T	T	R	L	T	R
Maximum Queue (ft)	6	6	27	235	24	200
Average Queue (ft)	0	0	3	64	1	57
95th Queue (ft)	4	4	15	160	25	140
Link Distance (ft)	278	278			528	388
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100	100		
Storage Blk Time (%)				7		
Queuing Penalty (veh)				24		

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	48	25
Average Queue (ft)	15	23	11
95th Queue (ft)	43	53	32
Link Distance (ft)		460	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	35	34	30
Average Queue (ft)	14	16	13
95th Queue (ft)	41	40	33
Link Distance (ft)		460	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB
Directions Served	R	L	T	L	R
Maximum Queue (ft)	10	66	9	131	52
Average Queue (ft)	1	27	1	71	22
95th Queue (ft)	13	66	19	197	77
Link Distance (ft)			505	460	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	100			100
Storage Blk Time (%)		0		18	
Queuing Penalty (veh)		3		6	

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	103	48
Average Queue (ft)	14	38	21
95th Queue (ft)	42	162	87
Link Distance (ft)		460	
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)		5	
Queuing Penalty (veh)		1	

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB
Directions Served	R	L	T	L	R
Maximum Queue (ft)	10	66	9	143	58
Average Queue (ft)	0	18	0	37	17
95th Queue (ft)	6	49	9	134	63
Link Distance (ft)			505	460	
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)	100	100			100
Storage Blk Time (%)		0		6	
Queuing Penalty (veh)		1		2	

Network Summary

Network wide Queuing Penalty, Interval #1: 19
Network wide Queuing Penalty, Interval #2: 22
Network wide Queuing Penalty, Interval #3: 554
Network wide Queuing Penalty, Interval #4: 62
Network wide Queuing Penalty, All Intervals: 164

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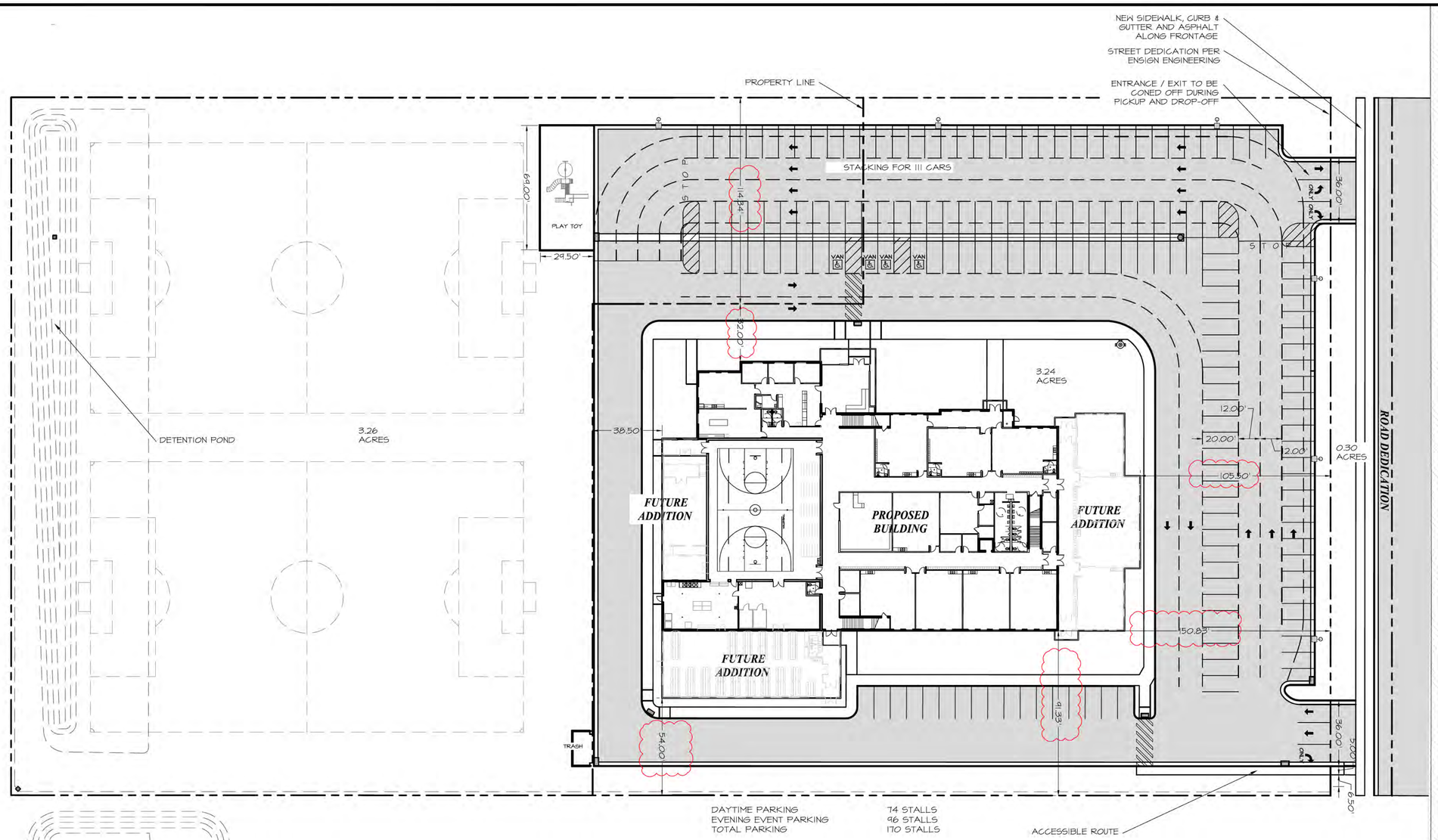
APPENDIX C

Site Plan



MIMINUM YARD SETBACKS			
ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

CURRENT PROPERTY ZONE IS A-1

0 30 60 120

HORIZONTAL SCALE: 1"=30'

SITE PLAN

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL:

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
SILVERPEAK ENGINEERING
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:
11/27/2018 1

SITE PLAN

SHEET NUMBER:
C200

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

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APPENDIX D

95th Percentile Queue Length Reports

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Existing (2018) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

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Project #: UT18-1343

Intersection	EB				NB			SB				WB		
	L	LT	R	T	L	R	T	L	LR	R	T	L	R	T
11800 South & Willow Walk Drive	--	9	--	--	--	--	--	--	39	--	--	--	--	--
Mustang Trail Way & 11800 South	4	--	32	70	47	89	27	76	--	7	35	112	31	73

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Existing (2018) Plus Project

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

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Project #: UT18-1343

Intersection	EB				NB			SB				WB		
	LT	R	T	UL	L	R	T	L	LR	R	T	L	R	T
11800 South & Willow Walk Drive	3	--	--	--	--	--	--	--	48	--	--	--	--	--
East Access & 11800 South	--	6	2	--	--	75	--	--	--	--	--	73	--	--
Mustang Trail Way & 11800 South	--	37	94	68	80	96	28	83	--	21	36	127	32	106

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

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Project #: UT18-1343

Intersection	EB				NB				SB				WB			
	L	LTR	R	T	L	R	T	TR	L	R	T	TR	L	LT	R	T
Access 1/Willow Walk Dr & 11800 South	--	78	--	--	49	--	--	64	48	--	--	21	--	55	3	--
Mustang Trail Way & 11800 South	85	--	229	444	124	169	102	--	171	30	170	--	206	--	141	678

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

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Project #: UT18-1343

Intersection	EB				NB				SB				WB			
	LTR	R	T	UL	L	R	T	TR	L	R	T	TR	L	LTR	R	T
11800 South & Willow Walk Drive	45	--	--	--	51	--	--	66	70	--	--	34	--	60	--	--
East Access & 11800 South	--	74	175	--	--	476	--	--	--	--	--	--	231	--	--	149
Mustang Trail Way & 11800 South	--	286	618	218	397	446	881	--	254	85	367	--	303	--	1,537	2,119

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project - Mitigated

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

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Project #: UT18-1343

Intersection	EB				NB				SB				WB		
	L	R	T	UL	L	R	T	TR	L	R	T	TR	L	R	T
11800 South & Willow Walk Drive	22	--	3	--	42	--	--	49	57	--	--	23	27	3	2
East Access & 11800 South	--	15	4	--	--	140	--	--	--	--	--	--	160	--	25
Mustang Trail Way & 11800 South	--	142	221	120	228	207	83	--	202	51	163	--	243	33	396

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APPENDIX E

Air Quality Report

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	81	111	61	69	120	70	65
CO Emissions (g)	2296	2667	1758	1923	2892	2040	1893
NOx Emissions (g)	274	352	209	233	374	240	224

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	90	93	65	82
CO Emissions (g)	2216	2409	1845	2194
NOx Emissions (g)	288	298	216	271

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	82	56	64	45	90	55	75
CO Emissions (g)	2209	1719	1956	1503	2288	1622	2067
NOx Emissions (g)	262	198	214	166	288	189	247

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	97	72	111	75
CO Emissions (g)	2495	1986	2716	2056
NOx Emissions (g)	309	240	349	246

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	90	130	100	129	129	106	93
CO Emissions (g)	2729	3310	3074	3406	3364	3109	2753
NOx Emissions (g)	318	415	345	417	416	357	318

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	119	91	89	108
CO Emissions (g)	3446	2822	2724	3074
NOx Emissions (g)	401	320	308	361

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	80	102	76	41	61	45	80
CO Emissions (g)	2201	2680	2109	1584	1820	1540	2221
NOx Emissions (g)	271	336	258	162	211	164	265

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	50	58	77	67
CO Emissions (g)	1723	1924	2237	2004
NOx Emissions (g)	188	209	265	233

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	333	399	301	283	401	277	313
CO Emissions (g)	9435	10375	8897	8415	10364	8310	8934
NOx Emissions (g)	1125	1300	1026	978	1289	950	1054

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	357	314	342	332
CO Emissions (g)	9880	9140	9523	9327
NOx Emissions (g)	1185	1067	1138	1111

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	113	160	66	81	143	110	98
CO Emissions (g)	3086	3772	2267	2476	3561	2978	2836
NOx Emissions (g)	373	481	238	274	451	358	333

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	101	127	83	108
CO Emissions (g)	2652	3358	2550	2954
NOx Emissions (g)	326	398	284	352

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	112	91	78	111	80	99	73
CO Emissions (g)	3061	2646	2380	2940	2474	2705	2317
NOx Emissions (g)	369	306	268	357	275	319	248

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	99	100	152	99
CO Emissions (g)	2834	2950	3784	2809
NOx Emissions (g)	327	343	477	329

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	164	215	156	181	205	179	170
CO Emissions (g)	5106	5701	4888	5155	5508	5141	4831
NOx Emissions (g)	558	672	534	591	655	582	554

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	198	155	166	179
CO Emissions (g)	5728	4868	4895	5182
NOx Emissions (g)	626	512	547	583

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	108	88	120	79	97	126	96
CO Emissions (g)	3144	2810	3228	2443	2821	3319	2888
NOx Emissions (g)	361	307	381	264	322	403	318

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	115	76	91	100
CO Emissions (g)	3102	2413	2792	2896
NOx Emissions (g)	367	262	307	329

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	497	555	419	451	526	514	438
CO Emissions (g)	14397	14929	12763	13014	14364	14143	12872
NOx Emissions (g)	1661	1766	1421	1486	1703	1662	1453

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	514	458	493	487
CO Emissions (g)	14315	13590	14021	13841
NOx Emissions (g)	1646	1516	1615	1593

Total Network Performance Interval #1 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	190	230	167	202	267	203	161
CO Emissions (g)	5033	5800	4530	5037	6393	5287	4599
NOx Emissions (g)	597	699	541	623	801	638	520

Total Network Performance Interval #1 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	185	233	176	201
CO Emissions (g)	4779	5750	4863	5207
NOx Emissions (g)	580	715	572	629

Total Network Performance Interval #2 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	190	172	141	208	153	202	160
CO Emissions (g)	5177	4844	4219	5396	4434	5122	4531
NOx Emissions (g)	612	571	470	655	501	630	519

Total Network Performance Interval #2 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	154	164	208	175
CO Emissions (g)	4446	4650	5362	4818
NOx Emissions (g)	501	542	645	565

Total Network Performance Interval #3 8:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	211	257	208	213	275	195	259
CO Emissions (g)	6307	6900	6164	6330	7207	5787	7062
NOx Emissions (g)	710	814	690	715	861	643	816

Total Network Performance Interval #3 8:00

Run Number	28	29	30	Avg
HC Emissions (g)	322	211	249	240
CO Emissions (g)	7988	6096	6742	6658
NOx Emissions (g)	960	695	795	770

Total Network Performance Interval #4 8:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	265	199	165	152	129	198	189
CO Emissions (g)	6611	5265	4734	4748	3995	5474	5245
NOx Emissions (g)	807	632	539	518	439	632	608

Total Network Performance Interval #4 8:15

Run Number	28	29	30	Avg
HC Emissions (g)	123	160	184	176
CO Emissions (g)	4074	4621	5105	4987
NOx Emissions (g)	438	540	594	575

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	855	859	681	774	824	798	769
CO Emissions (g)	23128	22809	19647	21511	22029	21670	21436
NOx Emissions (g)	2727	2716	2240	2511	2603	2543	2462

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	785	767	817	793
CO Emissions (g)	21287	21117	22072	21671
NOx Emissions (g)	2479	2492	2606	2538

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	201	266	152	182	318	189	202
CO Emissions (g)	5705	6760	4648	5225	7591	5566	5765
NOx Emissions (g)	670	835	525	607	981	634	674

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	170	273	157	211
CO Emissions (g)	5084	7085	4901	5833
NOx Emissions (g)	569	861	551	691

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	235	225	199	181	229	168	148
CO Emissions (g)	6253	6053	5737	5219	6082	4912	4630
NOx Emissions (g)	759	730	659	608	735	566	512

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	201	200	267	205
CO Emissions (g)	5688	5743	6824	5714
NOx Emissions (g)	668	670	842	675

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	337	388	333	400	388	426	339
CO Emissions (g)	9869	10678	9753	10567	10771	11632	9855
NOx Emissions (g)	1131	1252	1110	1266	1243	1338	1123

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	381	391	401	378
CO Emissions (g)	10596	10561	10601	10488
NOx Emissions (g)	1219	1240	1274	1220

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	259	230	206	188	191	226	251
CO Emissions (g)	7143	6373	5949	5565	5910	6761	6902
NOx Emissions (g)	843	759	675	645	658	771	813

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	156	227	205	214
CO Emissions (g)	4975	5982	6029	6159
NOx Emissions (g)	544	736	692	714

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	1032	1109	890	951	1126	1008	940
CO Emissions (g)	28971	29864	26088	26577	30354	28871	27152
NOx Emissions (g)	3402	3576	2969	3125	3618	3309	3121

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	908	1091	1030	1008
CO Emissions (g)	26343	29371	28355	28195
NOx Emissions (g)	3000	3507	3359	3299

Attachment G
City Engineer Email

Michael Maloy

From: Blake Thomas
Sent: Thursday, December 27, 2018 10:54 PM
To: Michael Maloy
Cc: Gordon Haight
Subject: AAA Charter School PC Recommendations from Engineering

Mike,

Here are my comments for the AAA Charter School:

- Traffic & Transportation
  - Isolated location of school does not allow for a safe walking route. Offsite improvements will be required to provide a route to this project.
  - Single point access of traffic into the school site has not worked for previous charter schools. In previous cases the school administration and city staff have had to coordinate and open a second access to mitigate dangerous situations created by having a single point access.
  - Minimal access to school sites in prior cases has led to dangerous driving behavior being exhibited by parents driving their children to school. Dangerous maneuvers include u-turns to avoid long queues and drop off/pick up occurring on the street rather than at the designated location within the school property.
    - The school administrators need to provide a solution to these problems which may include raised medians, strict pick up/drop off regulations, and other solutions as needed.
  - The site plan needs to be updated to show how the decel lane will be integrated into the site design as required in the traffic impact study.
  - Full roadway improvements along the project frontage are required including asphalt, curb, gutter, park strip landscaping, street lighting, and sidewalk as shown on the standard 106 ft. cross section
    - Right-of-way width of 120 ft. (60 ft. from road centerline) shall be dedicated to Herriman City for future road widening.
- Storm Water
  - The site does not have an outfall so the storm water will need to be maintained in a temporary retention pond sized to the 100-year, 24-hour event with 1 ft of freeboard.
    - If this facility is placed on an off-site location an easement will be required to be recorded prior to commencement of construction of the facility.
    - A long-term storm water maintenance agreement will be required for any private and temporary storm drain improvements.
- Other Items
  - Contaminated soil
    - Site must adhere to the requirements of the State of Utah DEQ and Salt Lake County Health Department whereas it is within the designated operable unit 6 of the Kennecott South Zone contamination area.

Thank you,

Blake J. Thomas, P.E.
City Engineer
(801) 446-5323 Office
(801) 727-0910 Direct
bthomas@herriman.org

Attachment H

Neighborhood Meeting Minutes & Comment

Community Outreach
Neighborhood Meeting

Date:	12/17/2018
Developer/Applicant:	Tyler Bodrero with Pace CM Public Charter School at 6301 W 11800 South
Community:	Zone 2
Community Facilitator:	Robert Bradfield
Number of Mailed Notices:	136
Number of Attendees:	9

Minutes of comments by Herriman Citizens:

Presenter Tyler went into his message and info about this location and address of the exact location and details of the proposed plan, and as he got into his presentation many citizens wanted to stop and ask questions right away about the location and why there mostly? Tyler continued and again stopped and took questions after showing the traffic route proposed for use, but again that stirred up more questions and problems with citizens asking about the traffic and do they realize this is on 11800 South, a soon to be a major road with semi traffic use and in a business area? Tyler from this point on really just answered questions and had to add bits of presentation as t went according to questions.

*** Citizen Questions ***

Dave Hadley – Has this already been approved to do there in this location? And why would a school be put on a pre-zoned Commercial lot? Who sold it to you to do with this what you are now talking about to do here in the location, after this particular commercial lot has already been discussed for prior needs planned for the city and with the citizens that was approved, and we were promised and told it would be commercial use only in this 30 acre plot? Dave also asked about how dumb it would be to place this here in a location where perhaps a Smoke shop could be placed right next to it in the other commercial use spaces. It invites perhaps bad character people and perhaps predators in a commercial use area like this, no sense at all!

He further commented on why is it fair that if this charter school was supposed to be in 2-3 other locations, that it now gets dumped here and sold so place right away for the best needs to fit a time frame in a spot that makes no sense, and affect us in this area, when it was supposed to be approved already to the citizens as commercial a year ago. A city referendum was approved and done, over this land and space and you are not going to be welcomed here!!! Very frustrated and angry at them for trying to sneak this in. Perhaps the buys of this land may have done a little homework to know this was already taken!

Emily Berbert – Ridiculous site to place in a commercial area, next to 11800 South, and also near High School, and 4 other elementary schools already in this very congested

area, including a Charter school (Athlos). And why does the timing of your school needs supersede the needs of the citizens in this area, so as to disregard their concerns and the existing already approved and designed plans for the needs of the city for income. The city made deals already with this particular land with the sellers (Bastian Sisters) rep Doug Young through a City Referendum that passed, to provide this for the needs of Business here in the North end of Herriman. This is the only Commercial area in all of North Herriman and this is taking from it and placing another school in the spot. We need to help you find another location. One that has not been already promised to the citizens and agreed upon with the so-called developer with the city already voted upon for commercial use. This looks bad, is not safe for the children, and is in a very bad spot for your school. We won't support it, and will do all we can to discourage it. We feel you are stealing our land for use that the city and the citizens already agreed upon and needs here.

Justin Swain – Charter schools are great, but with no busses, the traffic is intense and way too much. All these mothers driving kids to school is way too much and on this busy major thru way of 11800 south is a major mistake and unsafe completely unsafe. We have kids that attend charter schools and we love them, but not here in this location! This area seems like a dumping area out here, and this is just another example of this to the neighborhood. Someone sees a space and thinks, oh well we can meet the minimum requirements, so let’s just go there. And no traffic study or safety eval will work here and you just don’t get it because you don’t live here, and you have not taken the time to see already what we are dealing with her on this end of Herriman. Wait till all the empty land is filled, then worse then and because of poor thought and planning we suffer here.

The attendance is low here for a meeting, but there is a history of late notice given, and done really quick meetings to show apparently not much concern. However, many are very interested and involved and disagree with this here. When you show up on Jan 3rd to propose, you just wait and see after we have some real info and notice! The process is wrong, the location is wrong and the timing is wrong telling us in this area to take it since it was moved already 2 times before. Why is that fair to us and our children and neighborhood to drop that on us and this location and part of the city???

Lorin Palmer – A background given of a referendum in this location and a plan was made and agreed upon by both city and citizens for 30 acres of commercial. Traffic is a major problem. We need to figure out why the City is bouncing them from other sites and allowing them to do this to us to begin with. The fault also needs to be on the city here. And who is to blame for this happening to the charter as well?

Becky Slagowsi – This process has not been done properly, and with not enough notice, it always feels the process is not in line with citizens desires or just plain fair. Just look at the problems we deal with it always when it comes to some development. It seems like the city runs this halfway serious and hectic manner as they deal for one location and to the next with developers and schools, and the citizens are told to take it and hope for the best. Only it does not seem like the best as we are approving some many high-density locations and units all over the place, the city is running out of money, placing schools

like Athlos charter schools on corners of busy roads 12600 South and 6000 West, and causing traffic nightmares, kids have been hit by cars, and it is just a cluster mess. Then you want to add this to a commercially zoned area next to a major thru-way of 11800 south, you are crazy to even want to go there! And you will not have the community's support to be profitable and make it work, promised!

Robert Bradfield – This location does not make sense at all, and was already planned through referendum to be the important use for commercial needs of the city. It is a poor choice to have on the very busy road of 11800 South and is unsafe most likely for kids to be on that road, and really a bad environment next to a commercial use area that could bring in unwanted crime and other problems. I always think of a school in a neighborhood, people support that here. This land is really just been purchased very recently through the Bastian sisters. And I see no real reason why it can't be just moved a little to the West, also on land owned and available to the residents on 11800 South in the Jackson community. Yes it has been purchased, and closed, but homework should have been done beforehand by the charter of this situation on this here with regards to the city and the citizens and how this would affect them. And no less about the representative that has been with the Bastian sisters for many years that made these deals prior with us and the city, (Doug Young). So this land should have never been sold by the sisters to you! They likely were without further understanding, likely the Bastian sisters are just trying to help and put in good things and are wonderful people, but they did not I am guessing know about what their rep had already planned for this area for the use of Commercial.

So as Tyler asks for suggestions to help this issues and traffic problems etc., that the charter can help to provide, it is the problem, that can't be fixed and unrecognized that you are just not wanted to be in the space that we as citizens feel like you are stealing from us and the city here. That can't be fixed with a re-route of kids pick up time and drop off times winding around the parking lot. You just are not wanted to be dumped on us and in this location period! This neighborhood will fight you, and fight to make it hard on you every step possible, and it needs to be creatively thought of how to make things be good for the city, the citizens, and your business needs totally agreed. But coming here in this location is a bad choice!

Again, knowing the Bastian sisters would like to just help, perhaps you go back to them and ask per trying to keep the peace, why don't you just take the same space needed just West on their land still, in Jackson, and carve out 7 acres there, in a residential plot? It makes more sense for everyone! I know they are not greedy. They just want to make it work and moving over a little I would bet, they would not fight over that land, compared to this land as you are seeing now. I live in Heritage Place Estates, and this affects me, and what we have already fought for in the North end of Herriman, for my family.

From: Lisa Brown [redacted]
Sent: Monday, December 17, 2018 2:32 PM
To: Community Outreach <communityoutreach@herriman.org>
Cc: Brett Wood <bwood@herriman.org>; Jared Henderson <jhenderson@herriman.org>
Subject: community meeting concerns

Dear Sandra and staff,

I will not be able to attend Doug Young's community meeting this evening. But I wanted to express a couple of thoughts on it anyway. First and foremost is the simple fact that it's Doug we're dealing with here, and once again he's trying to weasel his way out of prior agreements. I absolutely oppose the idea of charter school being put in Teton along 118th south - cutting into part of the commercial center property. We have too many schools is too small an area as is, and I know the city has told the school this as well. Doug needs to be held to his original agreements. End of story.

But my other concerns are regarding the way these meetings play out in general. (And this is not a criticism of you at all in any way as a facilitator - but rather a failing in terms of perception from a citizen point of view). I have attended two community meetings so far. I understand the intent of community meetings is to help put the developer and the community be on the same page prior to anything being officially submitted to the city. And in theory this is nice. But in reality I feel like these meetings end up coming across the wrong way. Both times I have felt like I am a resident being "told" what is going to happen, and consequently that there is nothing I can do about it. For example, in the most recent community meeting I went to, Doug's lawyer was there representing him and he was not receptive at all to citizen input. He was frankly quite condescending and as a result the atmosphere became more hostile, instead of being one of mutual respect and compromise.

I don't how this perception problem can be solved because my guess is most developers - and Doug in particular - do these meetings in order to check the box that they've done due diligence and "involved" the community, when in reality they have no intention of pleasing residents at all. They really don't care. They want to get approvals, make money, and move on. What do you hope they will gain from these meetings that can't happen otherwise? Even after a meeting like this things can change drastically before a plan is presented to the city - as we've seen happening with Teton in particular.

I will be interested to hear from my friends and neighbors how this goes tonight with Doug's proposal. I'm hoping there will be enough community backlash that Doug decides to scrap it. (But knowing him, I'm sure he's already got some backdoor deal going that will keep him feeling like he has the upper hand).

Thanks,
Lisa Brown

Staff Memo

DATE: January 11, 2019

TO: Planning Commission

FROM: Michael Maloy, AICP, Planning Director

MEETING: Planning Commission January 17, 2019

REQUEST: Site Plan Approval

Applicant:	Tyler Bodrero, Pace Construction Management
Address:	Approximately 6200 W 11800 South
Zone:	C-2 Commercial
Acres:	6.8±
File Number:	P2018-05

Summary

The applicant is requesting site plan approval for a charter school located approximately at 6200 W 11800 South. The approximately 6.8-acre property is zoned C-2 Commercial. The new charter school, known as Advantage Arts Academy, will have an initial enrollment of 525 students and 700 students at capacity.

Process

The City previously scheduled the application for a public hearing on January 3, 2019. However, on January 3rd, the applicant requested the hearing be rescheduled for January 17, 2019, to allow additional time for the applicant to meet with City staff and discuss concerns identified in the Planning Commission Staff Report published on December 28, 2018 (see Attachment D – Planning Commission Staff Report).

City staff met with the applicant and his team of consultants on January 8th, at which time the applicant agreed to obtain a third vehicular and pedestrian point of access from an abutting 315 lot single-family residential subdivision—known as Jackson Village—that is currently being planned, engineered, and developed. The applicant also agreed to provide all necessary right-of-way improvements and dedications of frontage along 11800 South, and enter into a "memorandum of understanding" regarding future phases of development that are intended to facilitate eight additional classrooms (as shown within attached plans).

Following this meeting, the applicant submitted a revised site plan—with the additional point of access—and an updated traffic impact study on January 9th. Then, in response to the City Engineer, the

applicant submitted a subsequent revision on January 10th. (see Attachment A – Revised Site Plan, and Attachment B – Amended Traffic Impact Study).

Discussion

When the applicant requested a continuance on January 3, Gordon Haight, Assistant City Manager, and John Brems, City Attorney, agreed to reschedule the application for a hearing on January 17, 2019—irrespective of subsequent decisions or completeness of the application. While the City appreciates the applicant's willingness to meet, discuss, and submit revisions, the staff has not had sufficient time to review the amendments and make recommendations to the Planning Commission before publication of this report.

The staff has also attached additional public comments received following publication of the Planning Commission Staff Report for the January 3, 2019, meeting (see Attachment C – Additional Public Comment).

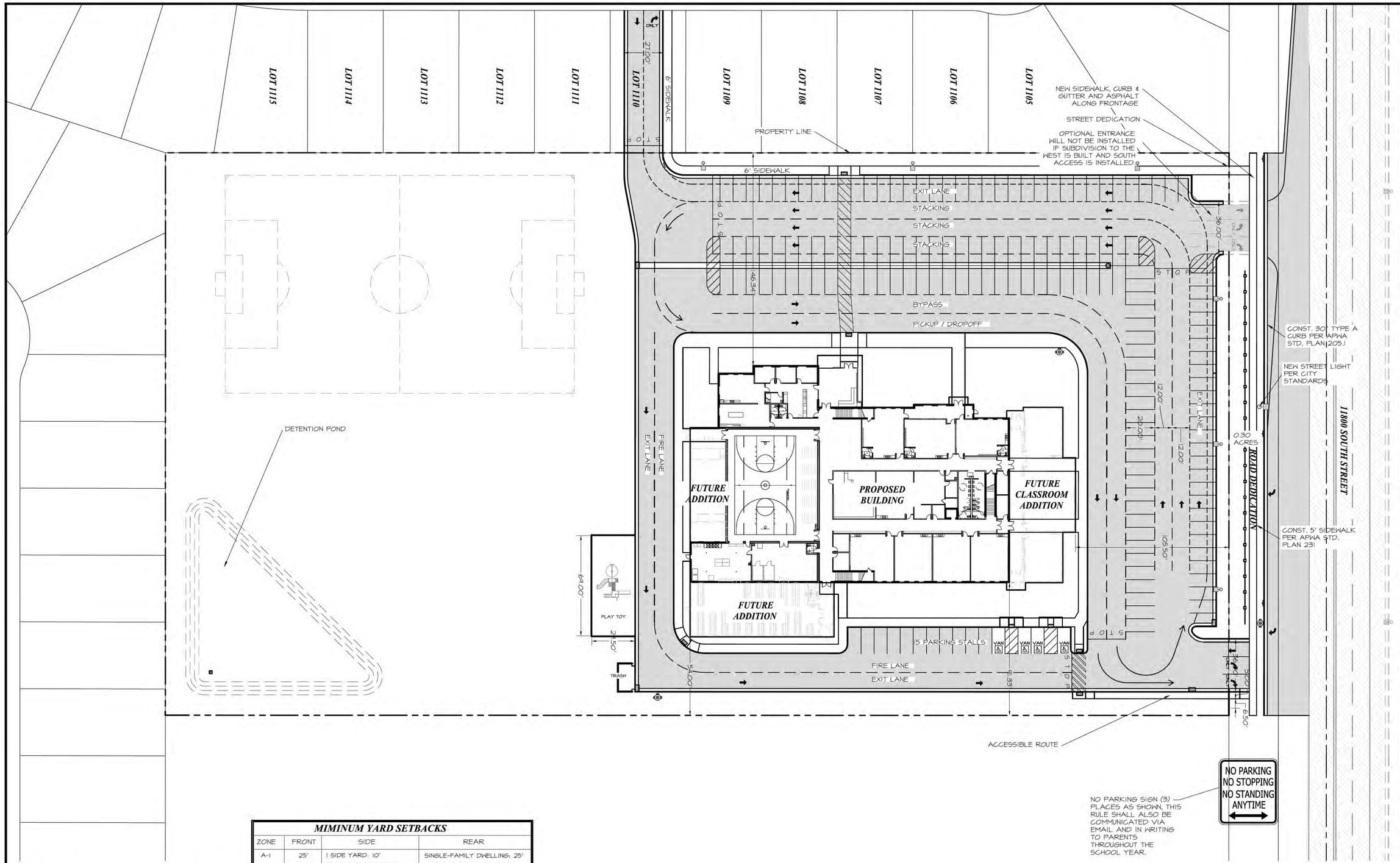
Recommendation

Whereas the Engineering Department has *not* been able to review the proposed amendments sufficiently, staff recommends the Planning Commission conduct the public hearing and "table" or continue the agenda item for a future public meeting.

Attachments

A. Revised Site Plan
B. Updated Traffic Impact Study
C. Additional Public Comment
D. Planning Commission Staff Report (January 3, 2019)

Attachment A
Revised Site Plan



SITE PLAN

SITE AREA TABULATION			
HARDSCAPE	92,888 SQ.FT.	2.133 AC.	32.8%
LANDSCAPE	163,323 SQ.FT.	3.749 AC.	57.7%
BUILDING	26,798 SQ.FT.	0.615 AC.	9.5%
TOTAL SITE	283,009 SQ.FT.	6.497 AC.	100.0%
DAYTIME PARKING		74 STALLS	
EVENING EVENT PARKING		96 STALLS	
TOTAL PARKING		170 STALLS	
70 FACULTY AND 700 STUDENTS ANTICIPATED.			

MIMINUM YARD SETBACKS			
ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS. 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

CURRENT PROPERTY ZONE IS A-1

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS
PRIOR TO COMMENCING
ANY CONSTRUCTION

SEAL:

01-10-2019

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 01/04/2019
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:
11/27/2018 1

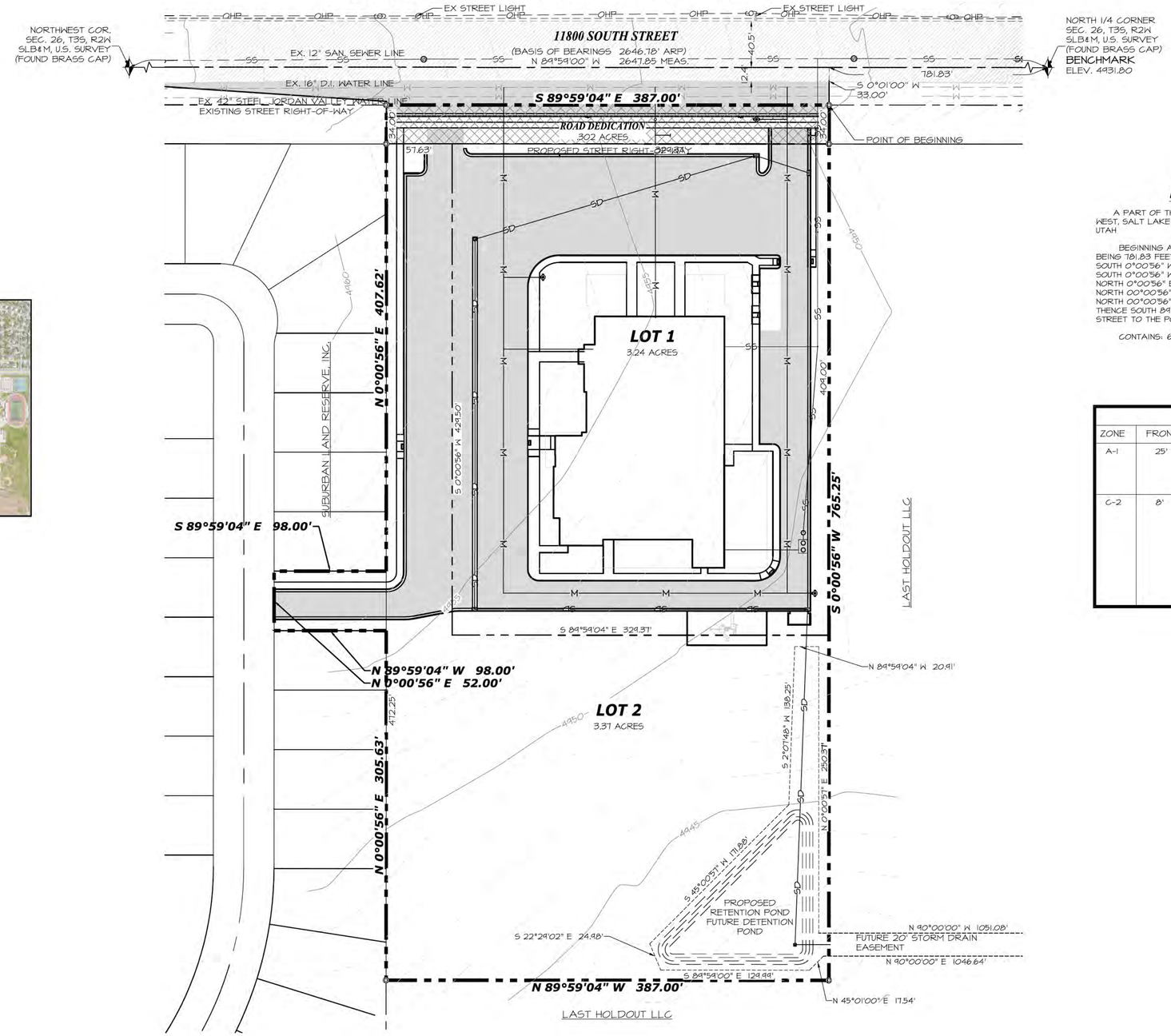
SITE PLAN

SHEET NUMBER:
C200

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

ADVANTAGE ARTS SUBDIVISION

A SUBDIVISION LOCATED IN THE NORTHWEST CORNER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, HERRIMAN CITY, SALT LAKE COUNTY, UTAH



VICINITY MAP

SCALE: NO SCALE

BOUNDARY DESCRIPTION

A PART OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY, HERRIMAN CITY, SALT LAKE COUNTY, UTAH

BEGINNING AT A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF 11800 SOUTH STREET, BEING 181.83 FEET NORTH 84°54'04" WEST ALONG THE SECTION LINE, AND 33.00 FEET SOUTH 0°00'56" WEST FROM THE NORTH QUARTER CORNER OF SAID SECTION 26; THENCE SOUTH 0°00'56" WEST 765.25 FEET; THENCE NORTH 84°54'04" WEST 387.00 FEET; THENCE NORTH 0°00'56" EAST 305.63 FEET; THENCE NORTH 84°54'04" WEST 98.00 FEET; THENCE NORTH 00°00'56" EAST 52.00 FEET; THENCE SOUTH 84°54'04" EAST 98.00'; THENCE NORTH 00°00'56" EAST 407.62 FEET TO SAID SOUTH LINE OF 11800 SOUTH STREET; THENCE SOUTH 84°54'04" EAST 387.00 FEET ALONG SAID SOUTH LINE OF 11800 SOUTH STREET TO THE POINT OF BEGINNING.

CONTAINS: 6.915 ACRES

MIMINUM YARD SETBACKS

ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

LEGEND

NOT ALL ITEMS IN THE LEGEND MAY BE APPLICABLE

- BOUNDARY LINE
- CENTERLINE
- EASEMENT LINE
- SETBACK LINE
- IRR — NEW IRRIGATION LINE
- SD — NEW STORM DRAIN
- SS — NEW SANITARY SEWER
- SW — NEW SECONDARY WATERLINE
- W — NEW CULINARY WATERLINE
- IRR — EX. IRRIGATION LINE
- OHP — EX. OVERHEAD POWER LINE
- SD — EX. STORM DRAIN
- SS — EX. SANITARY SEWER
- SW — EX. SECONDARY WATERLINE
- T — EX. TELEPHONE LINE
- G — EX. GAS LINE
- W — EX. CULINARY WATERLINE
- SECTION CORNER
- MONUMENT
- CONTROL POINT
- 4250 — EG CONTOUR MINOR
- 4250 — EG CONTOUR MAJOR
- 4250 — FG CONTOUR MINOR
- 4250 — FG CONTOUR MAJOR
- NEW ASPHALT PER DETAIL 1/C3.1
- EXISTING ASPHALT
- EXISTING CURB & GUTTER
- 30" HIGH BACK CURB PER DETAIL 2/C3.1
- 30" RELEASE GUTTER PER DETAIL 3/C3.1

0 50 100 200

SCALE 1"=50'

PRELIMINARY PLAT

ONE WEST CONSTRUCTION
ATTN: TED LEWIS
240 N. FLINT STREET
KAYSVILLE, UTAH
PHONE: 801-444-9878

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL: 01-10-2019

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 12/07/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

PLAT PRELIMINARY

SHEET NUMBER: 1

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

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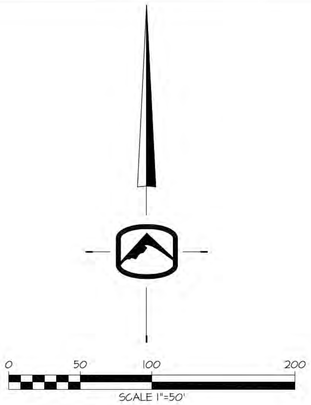
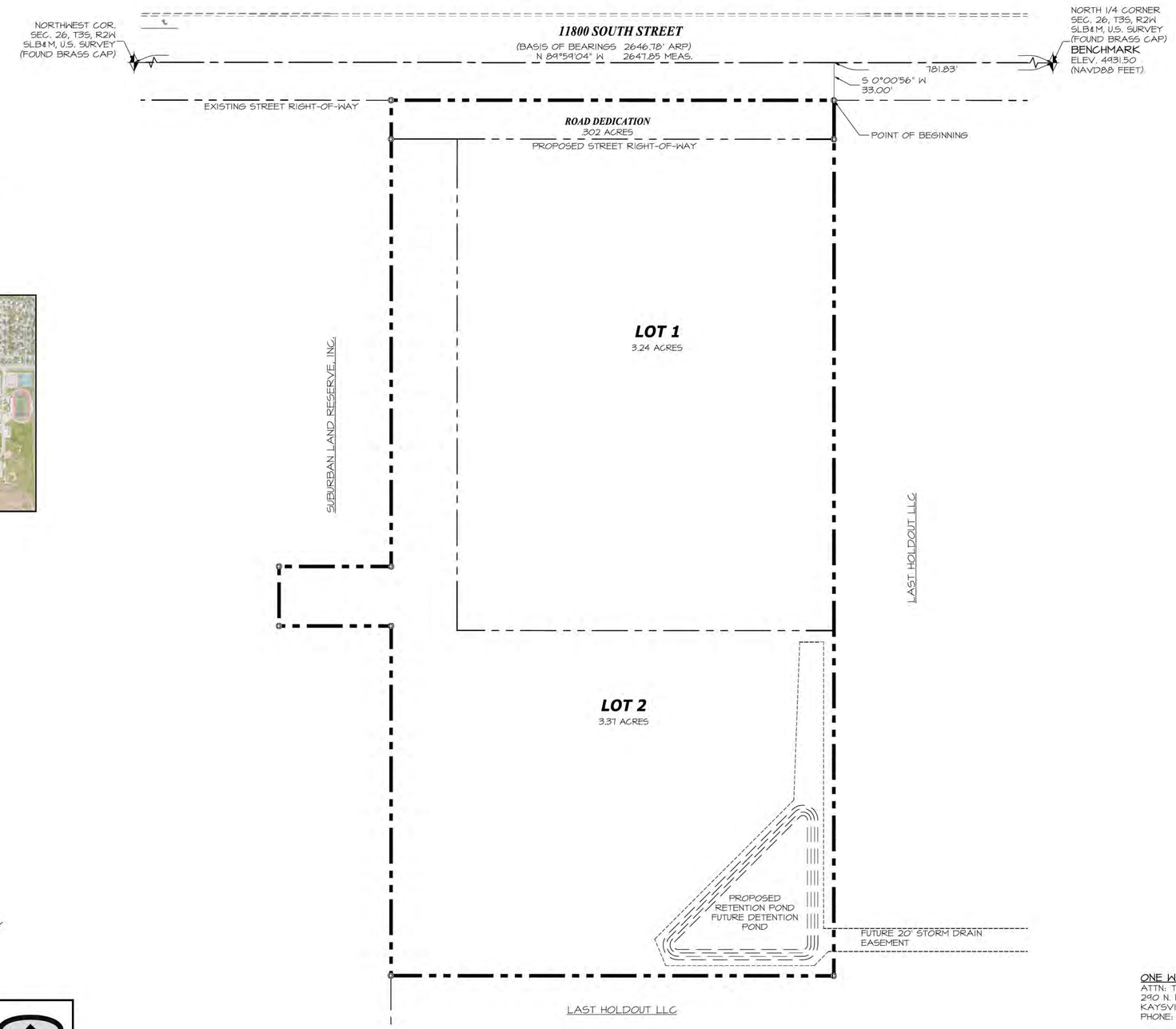
A SUBDIVISION LOCATED IN THE NORTHWEST CORNER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, HERRIMAN CITY, SALT LAKE COUNTY, UTAH





VICINITY MAP

SCALE: NO SCALE

LEGEND

- BOUNDARY LINE
- LOT LINE
- SECTION LINE
- PUBLIC UTILITY EASEMENT (PUE) LINE
- ADJACENT PROPERTY
- CENTERLINE
- SECTION CORNER
- STREET MONUMENT TO BE SET PER SALT LAKE COUNTY SURVEYOR'S STANDARDS. PERMIT REQUIRED.
- PROPERTY / LOT CORNER FOUND OR TO BE SET WITH 5/8"x24" REBAR & CAP STAMPED SILVERPEAK ENG
- DEDICATED FOR PUBLIC RIGHT-OF-WAY

NOTE:

ALL STREET MONUMENTS TO BE SET PER SALT LAKE COUNTY SURVEYOR STANDARDS.

SURVEYOR'S CERTIFICATE

I, **Jason T. Felt** do hereby certify that I am a Licensed Professional Land Surveyor, and that I hold certificate No. **4239283** as prescribed under laws of the State of Utah. I further certify that by authority of the Owners, I have made a survey of the tract of land shown on this plat and described below, and have subdivided said tract of land into lots, parcels, streets, together with easements, hereafter to be known as ADVANTAGE ARTS SUBDIVISION and that the same has been correctly surveyed and monumented on the ground as shown on this plat. I further certify that all lots meet frontage width and area requirements of the applicable zoning ordinances.

JASON T. FELT, P.L.S.
LICENSE NO. 4239283

DATE: JANUARY 10, 2019

BOUNDARY DESCRIPTION

A PART OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY, HERRIMAN CITY, SALT LAKE COUNTY, UTAH

BEGINNING AT A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF 11800 SOUTH STREET, BEING 781.83 FEET NORTH 89°59'04" WEST ALONG THE SECTION LINE, AND 33.00 FEET SOUTH 0°00'56" WEST FROM THE NORTH QUARTER CORNER OF SAID SECTION 26; THENCE SOUTH 0°00'56" WEST 765.25 FEET; THENCE NORTH 89°59'04" WEST 387.00 FEET; THENCE NORTH 0°00'56" EAST 305.63 FEET; THENCE NORTH 89°59'04" WEST 98.00 FEET; THENCE NORTH 00°00'56" EAST 52.00 FEET; THENCE SOUTH 89°59'04" EAST 98.00'; THENCE NORTH 00°00'56" EAST 407.62 FEET TO SAID SOUTH LINE OF 11800 SOUTH STREET; THENCE SOUTH 89°59'04" EAST 387.00 FEET ALONG SAID SOUTH LINE OF 11800 SOUTH STREET TO THE POINT OF BEGINNING.

CONTAINS: 6.915 ACRES

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED ARE THE OWNERS OF THE ABOVE DESCRIBED TRACT OF LAND, AND HEREBY CAUSE THE SAME TO BE DIVIDED INTO LOTS, PARCELS AND STREETS, TOGETHER WITH EASEMENTS AS SET FORTH TO BE HEREAFTER KNOWN AS ASCENT SUBDIVISION AND DO HEREBY DEDICATE FOR THE PERPETUAL USE OF THE PUBLIC ALL ROADS AND OTHER AREAS SHOWN ON THIS PLAT AS INTENDED FOR PUBLIC USE. THE UNDERSIGNED OWNERS ALSO HEREBY CONVEY TO ANY AND ALL PUBLIC UTILITY COMPANIES A PERPETUAL, NON-EXCLUSIVE EASEMENT OVER THE PUBLIC UTILITY EASEMENTS SHOWN ON THIS PLAT, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF UTILITY LINES AND FACILITIES. THE UNDERSIGNED OWNERS ALSO HEREBY CONVEY ANY OTHER EASEMENTS AS SHOWN ON THIS PLAT TO THE PARTIES INDICATED AND FOR THE PURPOSES SHOWN HEREON.

SIGNED THIS ____ DAY OF _____ 2018.

_____

ACKNOWLEDGMENT

STATE OF UTAH }ss
COUNTY OF

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY

OF _____, 2018 BY _____ WITH _____

RESIDING AT: _____ _____
NOTARY PUBLIC (PRINT NAME)

COMMISSION NUMBER: _____

MY COMMISSION EXPIRES: _____ _____
NOTARY PUBLIC SIGNATURE

MIMINUM YARD SETBACKS

ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHIGH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

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PLANNING COMMISSION

APPROVED THIS _____ DAY OF _____, 2018 BY THE HERRIMAN CITY PLANNING COMMISSION.

_____
CHAIR, PLANNING COMMISSION

CITY ENGINEER'S APPROVAL

I HEREBY CERTIFY THAT THIS OFFICE HAS EXAMINED THIS PLAT AND IT IS CORRECT IN ACCORDANCE WITH INFORMATION ON FILE IN THIS OFFICE.

_____ _____
HERRIMAN CITY ENGINEER DATE

CITY ATTORNEY'S APPROVAL

APPROVED BY THE HERRIMAN CITY ATTORNEY'S OFFICE THIS ___ DAY OF _____ 2018.

_____
CITY ATTORNEY

HERRIMAN CITY APPROVAL

THIS PLAT AND ANY DEDICATIONS HEREIN APPROVED AND ACCEPTED BY THE MAYOR OF HERRIMAN CITY THIS ___ DAY OF _____ 2018.

_____
CITY MANAGER

ATTEST: _____
CITY RECORDER

SALT LAKE COUNTY RECORDER

ENTRY NO._____FEE PAID_____FILED FOR

RECORD AND RECORDED THIS _____ DAY OF

_____, 2018 AT _____ IN BOOK _____ OF

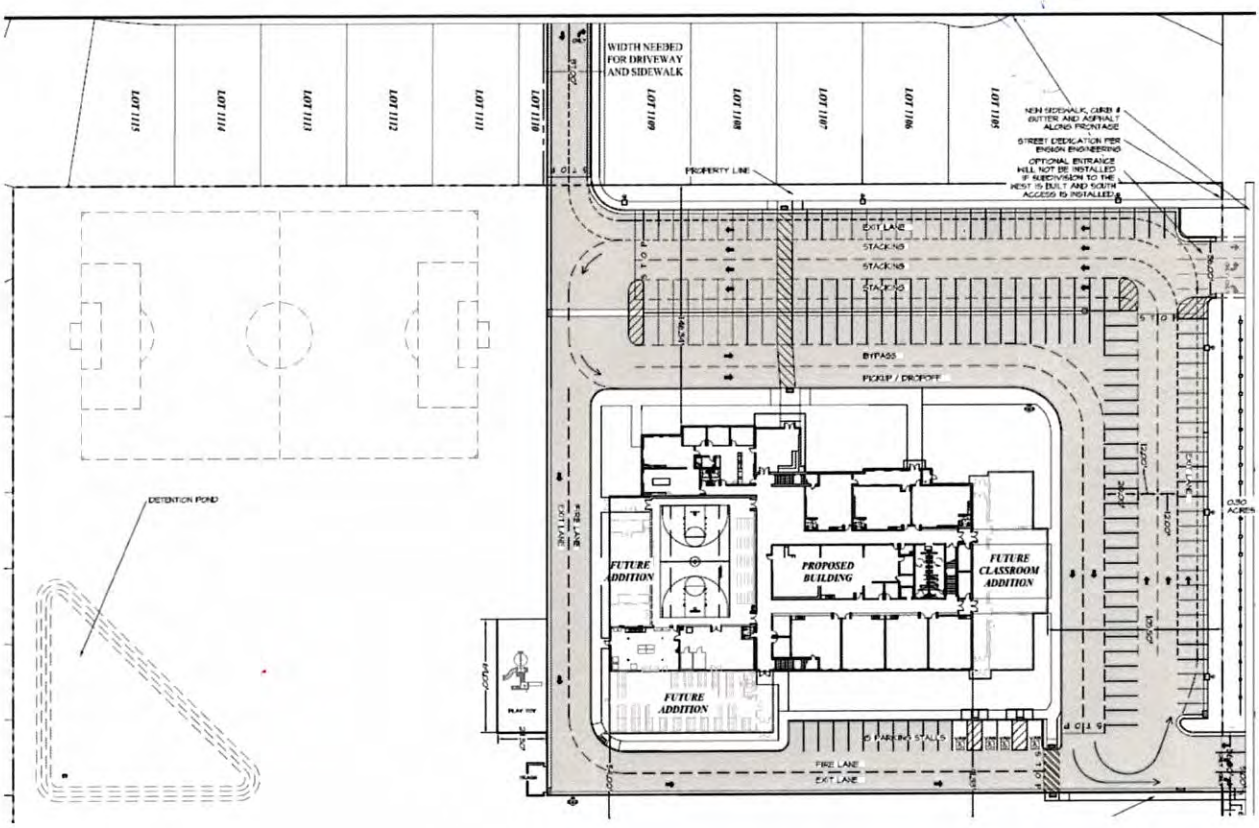
OFFICIAL RECORDS PAGE _____

Attachment B
Amended Traffic Impact Study

HALES ENGINEERING
innovative transportation solutions

Advantage Arts Academy

Traffic Impact Study



Herriman, Utah

January 9, 2018

UT18-1343

LICENSED PROFESSIONAL ENGINEER
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1/9/18
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EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and east of the Teton Ranch development.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways near the site. Future 2024 conditions were also analyzed.

The morning peak hour level of service (LOS) was computed for each study intersection. The results of this analysis are shown in Table ES-1. Recommended storage lengths are shown in Table ES-2.

TABLE ES-1
LOS Analysis - Morning Peak Hour
Herriman - Advantage Arts Academy TIS

Intersection	Level of Service (Sec/Veh)[1]						
	Existing (2018) Background	Existing (2018) Plus Project	Future (2024) Background	Future (2024) Plus Project	Future (2024) Plus Project - Mitigated	Future (2024) Plus Project - AA	Future (2024) Plus Project - AA - Mitigated
Mustang Trail Way / 11800 South	A (8.5)	A (9.5)	C (27.8)	E (73.4)	C (23.7)	D (48.2)	C (22.4)
Willow Walk Drive / 11800 South	A (4.4) / SB	A (4.9) / SB	B (13.1)	C (18.0) / SB	B (14.3) / SB	E (45.6)	D (34.3) / SB
East Access / 11800 South	-	A (5.0) / NB	-	F (>50) / NB	B (10.8) / NB	F (>50) / NB	A (7.1) / NB

1. Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for roundabout, signalized, all-way stop controlled intersections and the worst approach for all other unsignalized intersections.
2. This intersection is a project access and was only analyzed in "plus project" scenarios.

Source: Hales Engineering, January 2019

TABLE ES-2
Recommended Storage Lengths
Herriman - Advantage Arts Academy TIS

Intersection	Storage Length (feet)							
	Northbound		Southbound		Eastbound		Westbound	
	LT	RT	LT	RT	LT	RT	LT	RT
Mustang Trail Way / 11800 South	225	225	200	50	150	150	350	100
Willow Walk Drive / 11800 South	-	-	-	-	-	100	275	-
East Access / 11800 South	-	-	-	-	-	-	150	-

Source: Hales Engineering, January 2019

SUMMARY OF KEY FINDINGS/RECOMMENDATIONS

The following is a summary of key findings and recommendations:

- All study intersections are currently operating at an acceptable LOS during the morning peak hour in existing (2018) background conditions.
    - A new high school is planned to open next Fall (2019) in the Rosecrest Area. Some students from Herriman High School will be moved to the new high school. It was assumed that only ¼ of the current enrollment will be moved to the new high school. Traffic volumes were also reduced by ¼ in only the northbound right-turn and westbound left-turn movements.
- The development will consist of a charter school with an enrollment of 525 with the first phase of building. The maximum number of students the Advantage Arts Academy can have is 700.
    - The existing conditions were completed with 525 students, the anticipated enrollment.
    - The future 2024 conditions were completed with the anticipated maximum, 700 students.
    - It is recommended that the East Access have a westbound left-turn deceleration lane.
    - A westbound left-turn deceleration lane will also be necessary at Willow Walk Drive.
- An additional access from/to Willow Walk Drive is currently being planned for the AAA school development. When this access opens, the West Access along 11800 South will be eliminated.
- All study intersections are anticipated to operate at an acceptable LOS during the morning peak hour with project traffic added.
    - Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the Advantage Arts Academy school have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that AAA have at least a 20 minute off-set start and end times from the high school.
- For the future (2024) background conditions, all intersections are anticipated to perform at acceptable LOS during the morning peak hour.
    - 11800 South is over a 2-lane capacity west of Mustang Trail Way.
        - It is recommended that 11800 South be widened to 5-lanes
        - The westbound to southbound left-turn lane at Mustang Trail Way / 11800 South is shorter than the anticipated 95th percentile queue lengths. In the 2024 background analysis and a previously completed study (Teton Ranch), this same issue surfaced before any additional project traffic was added to the roadway network for either project.

Since this has been identified as a background issue, it is recommended that the City review options to solve this future problem.
    - It is recommended that left-turn phasing be added to the signal when warrants are met.
    - It is also recommended that a northbound right-turn overlapping phase be added to the Mustang Trail Way / 11800 South intersection.
- For the future (2024) plus project conditions, all intersections are anticipated to perform at acceptable LOS during the morning peak hour except Mustang Trail Way / 11800 South and East Access / 11800 South.
    - It is recommended that 11800 South be widened to a 5-lane cross section west of Mustang Trail Way.
        - The westbound to southbound left-turn lane at Mustang Trail Way / 11800 South is shorter than the anticipated 95th percentile queue lengths. In the 2024 background analysis and a previously completed study (Teton Ranch), this same issue surfaced before any additional project traffic was added to the roadway network for either project. Since this has been identified as a background problem, it is recommended that the City look into this issue further to identify an appropriate solution.
    - It is recommended that the Advantage Arts Academy school have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.
- An additional analysis was completed with the proposed widening of 11800 South to 5-lanes west of Mustang Trail Way.
    - All intersections are anticipated to perform at acceptable LOS.
- An alternative access is being considered for the ingress vehicles. The vehicles entering the site will be required to enter along Willow Walk Drive within Teton Ranch to the west.
- For the future (2024) plus project – alternative access conditions, all intersections are anticipated to perform at acceptable LOS during the morning peak hour except Willow Walk Drive / 11800 South and East Access / 11800 South.
    - It is recommended that 11800 South be widened to a 5-lane cross section west of Mustang Trail Way.
        - The westbound to southbound left-turn lane at Mustang Trail Way / 11800 South is shorter than the anticipated 95th percentile queue lengths. In the 2024 background analysis and a previously completed study (Teton Ranch), this same issue surfaced before any additional project traffic was added to the roadway network for either project. Since this has been identified as a background problem, it is

recommended that the City look into this problem further to identify an appropriate solution.

- It is recommended that the Advantage Arts Academy school have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

- An internal site circulation analysis was completed to determine if the planned queue storage will be adequate to handle demand during the pick-up times.
  - It was assumed that the school enrollment would be 700 students to ensure that the full-build of the school would still fit in the storage area.
  - The 95th percentile maximum queue length was calculated to be approximately 2,000 feet.
    - The on-site storage is anticipated to be sufficient for the full-build-out of the Advantage Arts Academy.
- An air quality report has been prepared and can be found in Table 9 in Chapter VI.
  - As with all developments, air pollutants will increase with more vehicles on the road.

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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and just to the east of the Teton Ranch development. Figure 1 shows a vicinity map of the proposed development.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways near the site. Future 2024 conditions were also analyzed.

Figure 1: Vicinity map showing the project location in Herriman, Utah

B. Scope

The study area was defined based on conversations with the development team. This study was scoped to evaluate the traffic operational performance impacts of the project on the following intersections:

- Mustang Trail Way / 11800 South
- Willow Walk Drive / 11800 South

C. Analysis Methodology

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections. Figure 2 provides a visual representation of each LOS letter designation.

The *Highway Capacity Manual* (HCM), 6th Edition, 2016 methodology was used in this study to remain consistent with "state-of-the-practice" professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized and all-way stop intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For all other unsignalized intersections, LOS is reported based on the worst approach.

Using Synchro/SimTraffic software, which follow the HCM methodology, the peak hour LOS was computed for each study intersection. Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. The detailed LOS reports are provided in Appendix B. Hales Engineering also calculated the 95th percentile queue lengths for each of the study intersections using SimTraffic. The detailed queue length reports are provided in Appendix D.

D. Level of Service Standards

For the purposes of this study, a minimum acceptable intersection performance for each of the study intersections was set at LOS D. If levels of service E or F conditions exist, an explanation and/or mitigation measures will be presented. An LOS D threshold is consistent with "state-of-the-practice" traffic engineering principles for urbanized areas.

Table 1: Level of Service Description

Level of Service	Description of Traffic Conditions	Average Delay (seconds/vehicle)
	Signalized Intersections	**Overall Intersection**
A	Extremely favorable progression and a very low level of control delay. Individual users are virtually unaffected by others in the traffic stream.	0 ≤ 10.0
B	Good progression and a low level of control delay. The presence of other users in the traffic stream becomes noticeable.	> 10.0 and ≤ 20.0
C	Fair progression and a moderate level of control delay. The operation of individual users becomes somewhat affected by interactions with others in the traffic stream.	>20.0 and ≤ 35.0
D	Marginal progression with relatively elevated levels of control delay. Operating conditions are noticeably more constrained.	> 35.0 and ≤ 55.0
E	Poor progression with unacceptably elevated levels of control delay. Operating conditions are at or near capacity.	> 55.0 and ≤ 80.0
F	Unacceptable progression with forced or breakdown operating conditions.	> 80.0
	Unsignalized Intersections	**Worst Approach**
A	Free Flow / Insignificant Delay	0 ≤ 10.0
B	Stable Operations / Minimum Delays	>10.0 and ≤ 15.0
C	Stable Operations / Acceptable Delays	>15.0 and ≤ 25.0
D	Approaching Unstable Flows / Tolerable Delays	>25.0 and ≤ 35.0
E	Unstable Operations / Significant Delays Can Occur	>35.0 and ≤ 50.0
F	Forced Flows / Unpredictable Flows / Excessive Delays Occur	> 50.0

Source: Hales Engineering Descriptions, based on the *Highway Capacity Manual* (HCM), 6th Edition, 2016 Methodology (Transportation Research Board)

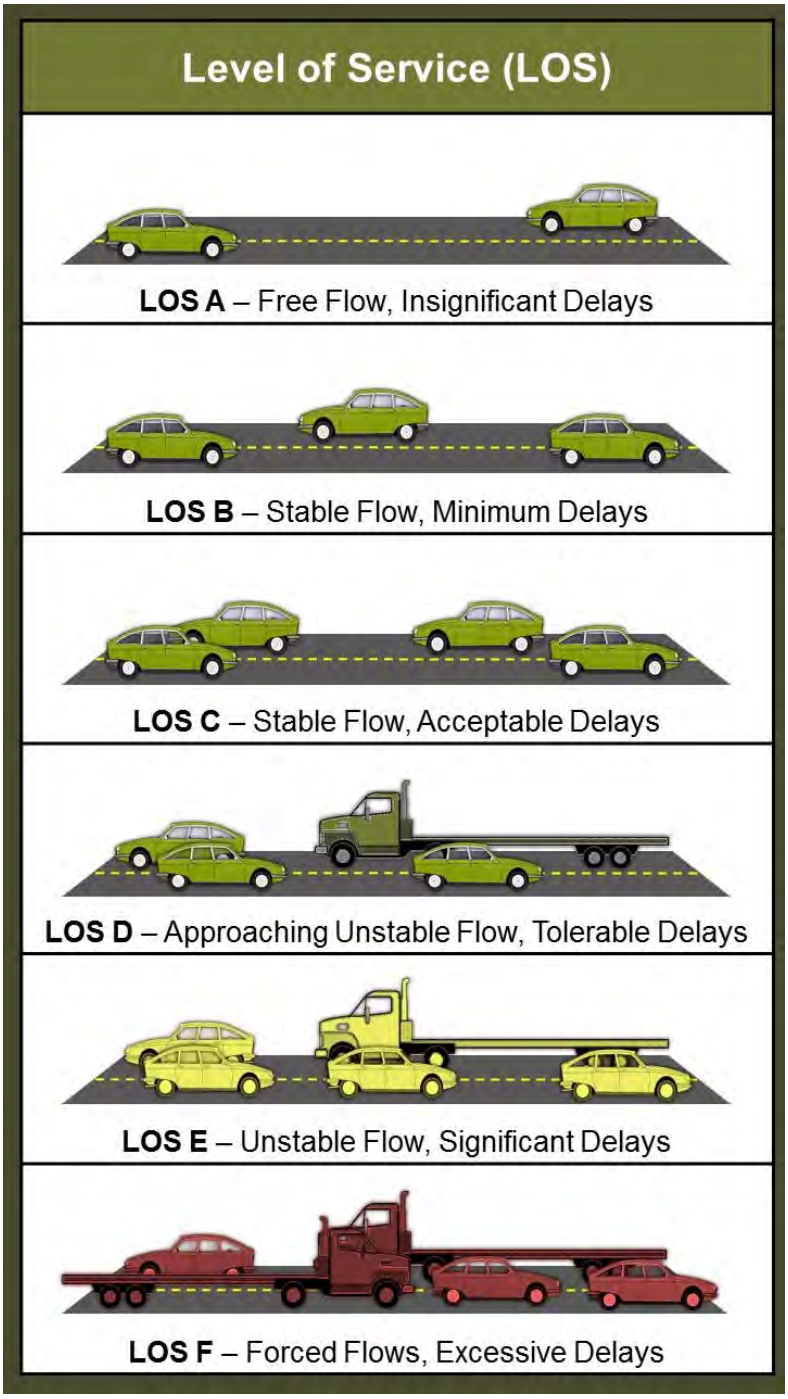


Figure 2: Visual representation of the LOS letter designations

II. EXISTING (2018) BACKGROUND CONDITIONS

A. Purpose

The purpose of the background analysis is to study the intersections and roadways during the peak travel periods of the day with background traffic and geometric conditions. Through this analysis, background traffic operational deficiencies can be identified, and potential mitigation measures recommended. This analysis provides a baseline condition that may be compared to the build conditions to identify the impacts of the development.

B. Roadway System

The primary roadways that will provide access to the project site are described below:

11800 South – is classified by the Herriman City Transportation Master Plan (2009) as a "minor arterial." This roadway currently consists of one travel lane in each direction adjacent to the project site and expands to two travel lanes in each direction with a center two-way left-turn lane (TWLTL) east of Mustang Trail Way. The posted speed limit is 35 mph.

There are currently no bicycle or pedestrian facilities adjacent to the proposed development. According the Cities Bicycle Master Plan, 11800 South west of 6000 West is planned to be a signed bike route (Type III). These bike routes will have to share the road with vehicles and or use future shoulders.

The nearest existing sidewalks are located at the Mustang Trail Way / 11800 South intersection. There are currently no existing sidewalks to tie into. The AAA school is planning on building sidewalks on the southside of 11800 South. The Teton Ranch development west of the AAA school will build a sidewalk on the frontage of their property that the school can then tie into. As further development occurs in the area, the sidewalks will be extended east and west and tie into existing paths.

Mustang Trail Way – is a city-maintained roadway. The Herriman City Transportation Master Plan (2009) classifies Herriman Parkway as a "minor collector." This road has one travel lane in each direction with a center two-way left-turn lane (TWLTL). The posted speed limit is 35 mph.

C. Traffic Volumes

Weekday morning (7:00 to 9:00 a.m.) and afternoon (2:00 to 4:00 p.m.) peak period traffic counts were performed at the following intersections:

- Mustang Trail Way / 11800 South

- Willow Walk Drive / 11800 South

The counts were performed on Tuesday, November 6, 2018. The morning peak hour was determined to be between 7:00 and 8:00 a.m., and the afternoon peak hour was determined to be between 2:30 and 3:30 p.m. The morning peak hour volumes were approximately 33% higher than the afternoon peak hour volumes. Therefore, the morning peak hour volumes were used in the analysis to represent the worst-case conditions. Detailed count data are included in morning Appendix A.

Starting in the Fall of 2019, a new high school is planned to be opened in the Rosecrest area in Herriman. Some of the students from the existing Herriman High School are expected to be moved to the new school, this is also the same year the Advantage Arts Academy is expected to open. It was assumed that only a quarter of the existing students would be moved to the new school to be conservative. The northbound right-turns and westbound left-turns were reduced by one quarter to mimic the reduction in student population.

Hales Engineering made seasonal adjustments to the observed traffic volumes. Monthly traffic volume data were obtained from a nearby UDOT automatic traffic recorder (ATR) on Redwood Road (ATR #407). In recent years, traffic volumes in November have been equal to approximately 96.2% of average traffic volumes. The observed traffic volumes were adjusted accordingly to determine average turning movement counts at the study intersections.

Figure 3 shows the existing morning peak hour volumes (with the reduction mentioned above) as well as intersection geometry at the study intersections.

Willow Walk Drive
5
12
28
144
3
154
11800 South
3
34
94
1
124
41
53
118
190
51
22
305
ang Trail Way

D. Level of Service Analysis

Hales Engineering determined that all study intersections are currently operating at acceptable levels of service during the morning peak hour, as shown in Table 2. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2018) conditions.

Table 2: Existing (2018) Background Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	8.5	A
Willow Walk Drive / 11800 South	SB Stop	SB	4.4	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. No significant queueing was observed during the morning peak hour.

F. Mitigation Measures

No mitigation measures are recommended.

III. PROJECT CONDITIONS

A. Purpose

The project conditions discussion explains the type and intensity of development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in Chapter I.

B. Project Description

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and just to the east of the Teton Ranch development. The Advantage Arts Academy is planned to have a phase 1 build-out of approximately 525 students. The school has a maximum charter of 700 students. For this study, it was assumed that full-build-out would occur by 2024 to analyze the worst-case conditions. A concept plan for the proposed developments is provided in Appendix C.

The proposed land use for the development has been identified as follows for 2018:

- Charter School 525 Units

The proposed land use for the development has been identified as follows for 2024:

- Charter School 700 Units

C. Trip Generation

The most recent edition of the ITE Trip Generation Manual (10th Edition, 2017) includes the Charter Elementary School land use. Previous editions did not include data for charter schools. The ITE data has a very small sample size (two data points) and is therefore highly variable and likely unreliable.

Over the last several years, Hales Engineering has used local data collected at several different charter schools around Salt Lake, Weber, and Utah Counties to estimate trip generation characteristics of charter schools. This data collected along the Wasatch Front shows that charter elementary schools typically generate approximately 0.65 trips per enrolled student during the afternoon peak hour. This previously collected data was compared to newer data collected at the Excelsior Academy in Erda, Utah. Data collected at the Erda school showed an afternoon peak hour trip generation rate of 0.65. Trip Generation for the proposed project is included in Table 3.

When the school opens, there will likely not be many students walking to school. There are no plans to have sidewalks that will connect to residential areas. Since no one will be walking to the school, 15 percent more vehicles were added to the existing conditions to be conservative. By the year 2024, it is likely that more connections to residential area will be established and no additional trips were added.

The trip generation for the 2018 phase of the development is as follows:

- Morning Peak Hour Trips: 393

The trip generation for the 2024 phase of the development is as follows:

- Morning Peak Hour Trips: 455

Table 3
Herriman - Advantage Arts Academy TIS
Trip Generation

Morning Peak Hour Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total a.m. Trips
K-8 Charter School	700	Students	455	56%	44%	255	200	**455**
Project Total a.m. Peak Hour Trips						**255**	**200**	**455**

1. Land Use Code from the Institute of Transportation Engineers Trip Generation Manual (9th Edition - 2012)

SOURCE: Hales Engineering, November 2018

D. Trip Distribution and Assignment

Project traffic is assigned to the roadway network based on the type of trip and the proximity of project access points to major streets, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provide helpful guidance to establishing these distribution percentages, especially near the site. The resulting distribution of project generated trips during the morning peak hour is as follows:

<u>To/From Project:</u>

- 15% North
- 35% South
- 10% West
- 40% East

These trip distribution assumptions were used to assign the morning peak hour generated traffic at the study intersections to create trip assignment for the proposed development. Trip assignment for the development is shown in Figure 4, Figure 5, and Figure 6.

Herriman - Advantage Arts Academy TIS
Trip Assignment (2018)

Morning Peak Hour
Figure 4

Hales Engineering
120 North 500 West Ste 202, Lehi, UT, 84043

801.766.4343
11/14/2018

Herriman - Advantage Arts Academy TIS
Trip Assignment (2024)

Morning Peak Hour
Figure 5

Hales Engineering
120 North 500 West Ste 202, Lehi, UT, 84043

801.766.4343
11/14/2018

Herriman - Advantage Arts Academy TIS
Trip Assignment (2024) - Alternative Access

Morning Peak Hour
Figure 6

Hales Engineering
120 North 500 West Ste 202, Lehi, UT, 84043

801.766.4343
01/09/2019

E. Access

The proposed access for the site will be gained at the following locations (see also concept plan in Appendix C):

11800 South:

- The East Access will be located approximately 1,000 feet west of the Mustang Trail Way / 11800 South intersection. This access is anticipated to be a ¾ access meaning that right- and left-turns into the site and only right-turns out of the site will be allowed. Left-turns onto 11800 South will not be allowed. This access onto 11800 South is planned to be stop controlled.
    - It is recommended that a left-turn lane be provided in the westbound direction into the school
    - It is also recommended that a right-turn pocket be provided for the eastbound right-turn vehicles.
    - Based on the site plan, there does not appear to be any sight distance obstructions in either the east- or westbound directions, we recommend field verification. 11800 South is a straight roadway with no curves with-in the study area.
- The West Access will be located approximately 265 feet from the East Access. This access is planned to be a full-movement, stop controlled access. This access is planned to be closed during the morning and afternoon drop off and pick up times.
    - It is recommended that a left-turn lane be provided in the westbound direction into the school.
    - Based on the site plan, there does not appear to be any sight distance obstructions in either the east- or westbound directions, we recommend field verification. 11800 South is a straight roadway with no curves with-in the study area.
    - As the Teton Ranch builds, care should be taken to insure no obstructions are placed with-in the sight triangles.

Willow Walk Drive (Teton Ranch):

- An access to the site off of Willow Walk Drive will provide access to the southwest corner of the school. This access will connect to the proposed fire lane where vehicles dropping off will be able to go around the school to wait in line. When this access opens, the West Access along 11800 South will be closed.

F. On-street Drop-offs

Parents dropping off or picking up students may find it difficult or time consuming to drop off their students in the designated drop off zone. When there are long lines for parents to have to wait in, dropping off students along the main road (11800 South) becomes enticing and dangerous. To discourage on street drop offs, the school and city should consider the following:

- Paint curbs red and mark for no parking/pick-up
- Place signs that read no parking/pick-up
- Paint excess shoulders for bike lanes
- Enforcement

G. On-site Pedestrian & Bike Facilities

The school has designated a sidewalk location at only the East Access on the east side. The planned side walk parallels the East Access for approximately 100 feet. At this point, the sidewalk ends, and a school cross walk has been designated to cross the service road to the drop off zone. An additional pedestrian access will be built when the access to Willow Walk Drive is constructed and opened.

As mentioned previously, there are no sidewalks around the proposed school. There will be an approximate 1,000-foot gap between the nearest sidewalk and the proposed school. It is recommended that the City and school collaborate to find a potential solution to the issue for existing and future connectivity.

IV. EXISTING (2018) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the existing (2018) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for existing background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the existing (2018) background traffic volumes to predict turning movement volumes for existing (2018) plus project conditions. Existing (2018) plus project morning peak hour turning movement volumes are shown in Figure 7.

C. Level of Service Analysis

Hales Engineering determined that all intersections are anticipated to operate at acceptable levels of service during the morning peak hour with project traffic added, as shown in Table 4.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. No significant queuing is anticipated during the morning peak hour.

E. Mitigation Measures

Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the AAA School have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

Willow Walk Drive
5
27
28
162
190
0
190
180
94
34
20
53
205
190
3
176
203
0
0
0
166
37
176
11800 South
18
28
194
102
127
22
305
West Access
East Access

Table 4: Existing (2018) Plus Project Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	9.5	A
Willow Walk Drive / 11800 South	SB Stop	SB	4.9	A	-	-
East School Access / 11800 South	NB Stop	NB	5.0	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, January 2019

V. FUTURE (2024) BACKGROUND CONDITIONS

A. Purpose

The purpose of the future (2024) background analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions. Through this analysis, future background traffic operational deficiencies can be identified, and potential mitigation measures recommended.

B. Roadway Network

According to the Wasatch Front Regional Council (WFRC) Regional Transportation Plan, there are no projects planned before 2024 in the study area. Therefore, no changes were made to the roadway network for the future (2024) analysis. With the high volumes of southbound left-turns at the Mustang Trail Way / 11800 South and opposing northbound right-turns, it was previously recommended that southbound left-turn phasing be added to the signal. This recommendation was included from the Teton Ranch Traffic Impact Study. It was also assumed that a northbound right-turn overlapping phase be included at this same signal.

C. Traffic Volumes

Hales Engineering obtained future (2024) forecasted volumes from the Wasatch Front Regional Council (WFRC) / Mountainland Association of Governments (MAG) travel demand model. Peak period turning movement counts were estimated using National Cooperative Highway Research Program (NCHRP) 255 methodologies which utilize existing peak period turn volumes and future average weekday daily traffic (AWDT) volumes to project the future turn volumes at the major intersections. An adjacent development to the west, east, and south was also included in the background of the conditions. Future (2024) morning peak hour turning movement volumes are shown in Figure 8.

D. Level of Service Analysis

Hales Engineering determined that all study intersections are anticipated to operate at acceptable levels of service during the morning peak hour in future (2024) background conditions, as shown in Table 5. These results serve as a baseline condition for the impact analysis of the proposed development for future (2024) conditions.

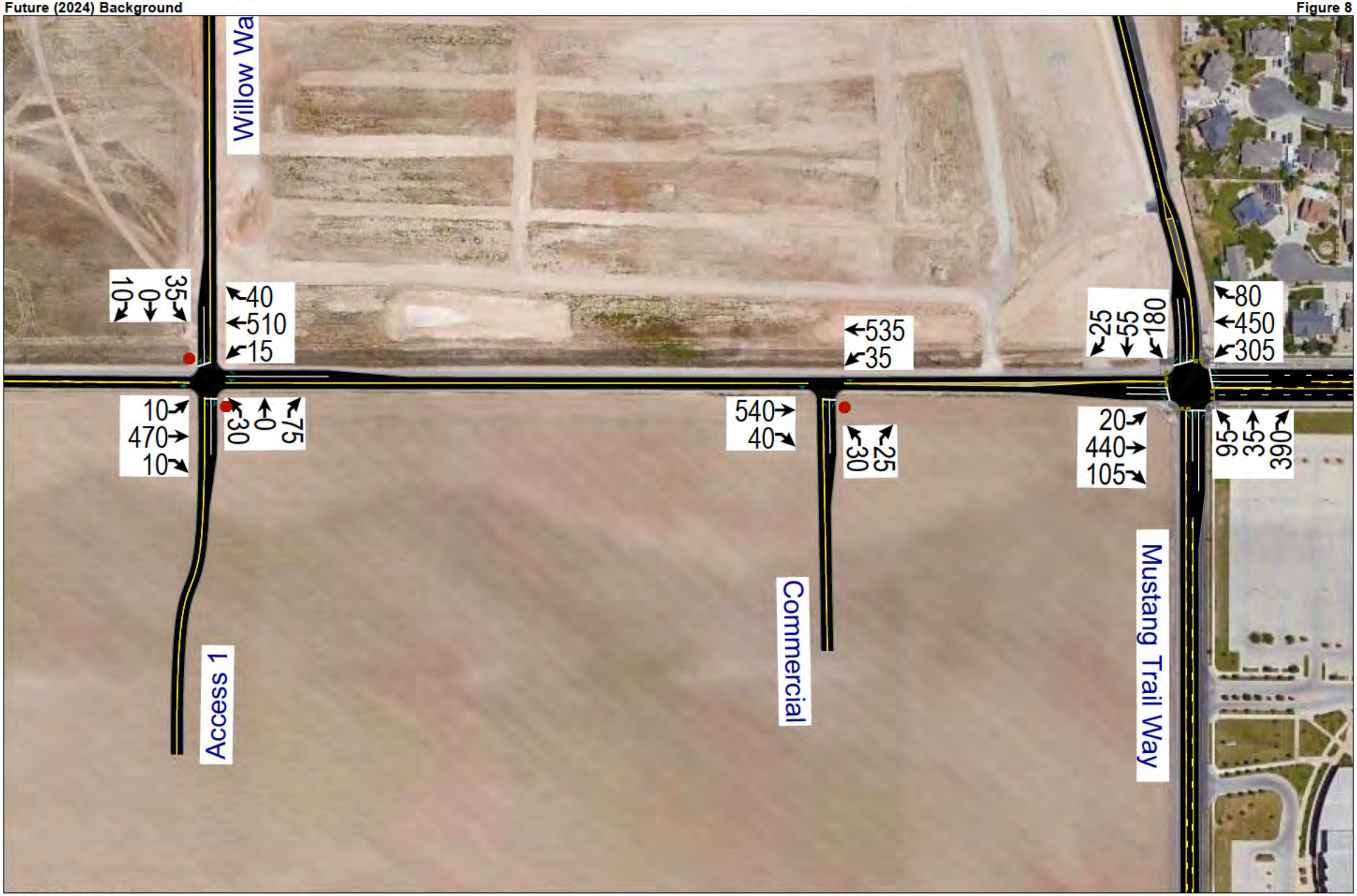

Mustang Trail Way
80
450
305
95
35
390
25
55
180
20
440
105
535
35
Commercial
540
40
25
30
Willow Wa
40
510
15
75
0
30
35
0
10
10
470
10
Access 1

Table 5: Future (2024) Background Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	27.8	C
Willow Walk Drive / 11800 South	SB Stop	SB	13.1	B	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Some queueing is anticipated at the Mustang Trail Way / 11800 South intersection in the East- and westbound directions of approximately 450 and 680 feet respectively. No other significant queuing is anticipated during the morning peak hour.

F. Mitigation Measures

At the Mustang Trail Way / 11800 South intersection, the westbound to southbound left-turn pocket is limited by a raised median. The raised median currently delineates a left-turn pocket for an adjacent street. Since the westbound left-turn lane at Mustang Trail Way is approximately 200 feet in length, the left-turn vehicles occasionally back out onto the main line of traffic and block it causing long queues. In the 2024 Background analysis and a previously completed study (Teton Ranch), identified this same issue. This was found to be a background problem and is anticipated to exist before any project traffic is added to the roadway network. It is recommended that the City look into this issue further to define an appropriate fix. Currently, through vehicles can simply go around stopped vehicles wanting to make a left-turn in the right-turn lane. In the future, when 11800 South is expanded into a 5-lane cross section on the westside of Mustang Trail Way, going around stopped left-turn vehicles will become more dangerous.

The capacity of a two-lane roadway is anticipated to be exceeded by the year 2024 with-out the project traffic. 11800 South east of Mustang Trail Way is planned to be widened as a phase 2 project (between 2025 and 2034). It is recommended that 11800 South be widened to a 5-lane cross section by the year 2024. This measure will also help to alleviate the Mustang Trail Way / 11800 South intersection.

VI. FUTURE (2024) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the future (2024) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on future background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the future (2024) background traffic volumes to predict turning movement volumes for future (2024) plus project conditions. Future (2024) plus project morning peak hour turning movement volumes are shown in Figure 9.

C. Level of Service Analysis

Hales Engineering determined that all intersections are anticipated to operate at acceptable levels of service during the morning peak hour in future (2024) plus project conditions, as shown in Table 6 except Mustang Trail Way / 11800 South and East Access / 11800 South.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Queueing is anticipated at the Mustang Trail Way / 11800 South and East Access / 11800 South intersections as follows:

<u>Mustang Trail Way / 11800 South</u>
Northbound (880 feet)
Southbound (370 feet)
Eastbound (620 feet)
Westbound (2,120 feet)

<u>East Access / 11800 South</u>
Northbound (480 feet)

No other significant queuing is anticipated during the morning peak hour.

Herriman - Advantage Arts Academy TIS
Future (2024) Plus Project

Morning Peak Hour
Figure 9

Hales Engineering
120 North 500 West Ste 202, Lehi, UT, 84043

801.766.4343
01/09/2019

Table 6: Future (2024) Plus Project Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	73.4	E
Willow Walk Drive / 11800 South	SB Stop	SB	18.0	C	-	-
East Access / 11800 South	NB Stop	NB	> 50	F	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Mitigation Measures

The intersection of Mustang Trail Way / 11800 South is anticipated to perform at a poor LOS in the future year 2024. There is also anticipated to be queueing in all directions. As previously mentioned, 11800 South, west of Mustang Trail Way, is anticipated to be over capacity by the year 2024 and will need widening. It is recommended that 11800 South be widened to 5-lanes east of Mustang Trail Way and northbound left-turn phasing be added to the signal

An additional analysis was completed with the recommended mitigation measures. The results from this analysis can be seen in Table 7. As shown in Table 7, all study intersections are anticipated to perform at acceptable LOS. Some queueing is anticipated at the Mustang Trail Way / 11800 South intersection in the westbound left-turn movement of approximately 400 feet.

As previously mentioned, the westbound to southbound left-turn queue at Mustang Trail Way / 11800 South is longer than the existing storage length and blocking a through lane. There is a raised median that limits the length of the storage. This study and previously completed study for Teton Ranch identified this same issue. This was identified to be a background problem and is anticipated to exist before any project traffic is added to the roadway network. It is recommended that the City look into this issue further.

Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the AAA School have a starting and ending time that does not coincide with

the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

Table 7: Future (2024) Plus Project Morning Peak Hour Level of Service - Mitigated

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	23.7	C
Willow Walk Drive / 11800 South	SB Stop	SB	14.3	B	-	-
East Access / 11800 South	NB Stop	NB	10.8	B	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

VII. FUTURE (2024) PLUS PROJECT CONDITIONS – ALTERNATE ACCESS

A. Purpose

The purpose of the future (2024) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on future background traffic conditions with the alternative access.

B. Roadway Network

The school is planning to close the West Access onto 11800 South when the access through the adjacent Teton Ranch becomes available. All ingress vehicles will be required to enter the school by turning left at Willow Walk Drive from 11800 South and entering through an access into the school. Egress vehicles will have two options to exit the school. Vehicles heading east out of the school can use the East Access onto 11800 South and vehicles heading west out of the school will be able to route back through Teton Ranch and make a left-turn at the Willow Walk Drive / 11800 South intersection.

C. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the future (2024) background traffic volumes to predict turning movement volumes for future (2024) plus project – alternative access conditions. Future (2024) plus project morning peak hour turning movement volumes are shown in Figure 9.

D. Level of Service Analysis

Hales Engineering determined that all intersections are anticipated to operate at acceptable levels of service during the morning peak hour in future (2024) plus project conditions, as shown in Table 6 except Willow Walk Drive / 11800 South and East Access / 11800 South.

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Queueing is anticipated at the Mustang Trail Way / 11800 South and East Access / 11800 South intersections as follows:

Mustang Trail Way / 11800 South
Northbound (300 feet)
Southbound (190 feet)
Eastbound (610 feet)
Westbound (1,750 feet)

East Access / 11800 South
Northbound (380 feet)

No other significant queuing is anticipated during the morning peak hour.

Table 8: Future (2024) Plus Project Morning Peak Hour Level of Service – Alternative Access

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	48.2	D
Willow Walk Drive / 11800 South	SB Stop	SB	45.6	E	-	-
East Access / 11800 South	NB Stop	NB	> 50	F	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, January 2019

Willow Walk Drive
10
18
35
40
515
226
10
470
36
45
5
75
781
580
180
East Access
11800 South
720
40
30
25
Commercial
751
35
11800 South
45
55
180
5
45
520
175
80
552
305
184
35
390
Trail Way

F. Mitigation Measures

The intersection of Mustang Trail Way / 11800 South is anticipated to perform at a poor LOS in the future year 2024. There is also anticipated to be queueing in all directions. As previously mentioned, 11800 South, west of Mustang Trail Way, is anticipated to be over capacity by the year 2024 and will need widening. It is recommended that 11800 South be widened to 5-lanes east of Mustang Trail Way and northbound left-turn phasing be added to the signal

An additional analysis was completed with the recommended mitigation measures. The results from this analysis can be seen in Table 7. As shown in Table 7, all study intersections are anticipated to perform at acceptable LOS. Some queueing is anticipated at the Mustang Trail Way / 11800 South intersection in the westbound left-turn movement of approximately 350 feet.

As previously mentioned, the westbound to southbound left-turn queue at Mustang Trail Way / 11800 South is longer than the existing storage length and blocking a through lane. There is a raised median that limits the length of the storage. This study and previously completed study for Teton Ranch identified this same issue. This was identified to be a background problem and is anticipated to exist before any project traffic is added to the roadway network. It is recommended that the City look into this issue further.

Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the AAA School have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

Table 9: Future (2024) Plus Project Morning Peak Hour Level of Service – Alternative Access - Mitigated

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	22.4	C
Willow Walk Drive / 11800 South	NB/SB Stop	SB	34.3	D	-	-
East Access / 11800 South	NB Stop	NB	7.1	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, January 2019

G. Recommended Storage Lengths

Hales Engineering determined recommended storage lengths based on the 95th percentile queue lengths given in the future (2024) plus project scenario. These storage lengths do not include the taper length. Recommended storage lengths for the study intersections are shown in Table 10. Intersections shown in Table 10 include new intersections and existing intersections that have recommended storage length changes. Any changes to storage lengths on 11800 South and the north leg or Mustang Trail Way must be coordinated with South Jordan.

Table 10: Recommended Storage Lengths

Recommended Storage Lengths Herriman - Advantage Arts Academy TIS								
Intersection	Storage Length (feet)							
	Northbound		Southbound		Eastbound		Westbound	
	LT	RT	LT	RT	LT	RT	LT	RT
Mustang Trail Way / 11800 South	225	225	200	50	150	150	350	100
East Access / 11800 South	-	-	-	-	-	-	150	-
Source: Hales Engineering, January 2019								

H. Air Quality Report

Hales Engineering found the air quality pollutants for Hydro Carbons, Carbon Monoxide, and Nitrogen Oxide emissions. With the addition of any project, residential, commercial, office, school, or recreational, an increase in these pollutants will occur. Table 11 shows the average pollutants for each of the analysis periods. Additional details can be found in Appendix E.

Table 11: Air Pollutants

Air Quality Comparison Herriman - Advantage Arts Academy TIS					
Intersection	Storage Length (feet)				
	Existing (2018) Background (g)	Existing (2018) Plus Project (g)	Future (2024) Background (g)	Future (2024) Plus Project - Mitigated (g)	Future (2024) Plus Project - AA - Mitigated (g)
Hydro Carbons	332	487	793	1,082	841
Carbon Monoxide	9,327	13,841	21,671	28,195	25,584
Nitrogen Oxide	1,111	1,593	2,538	3,299	2,878
Source: Hales Engineering, January 2019					

VIII. ON-SITE CIRCULATION

A. Purpose

This section of the report examines the on-site out-load queueing that is anticipated to occur within the proposed development. This scenario provides insight into the efficiency and viability of the proposed on-site circulation plan.

B. Traffic Volumes

Project trips generated by the development were used in this analysis to determine the necessary on-site storage lengths. Based on observations at other charter schools around the state, many vehicles arrive before school lets out and start queueing up. The number of vehicles that arrive before school lets out was estimated to be between 20 and 25 percent of all vehicles.

C. On-Site Circulation and Queuing Analysis Results

The on-site circulation and queuing analysis was completed in VISSIM to closely represent the on-site out-loading conditions. Multiple runs were used to provide a statistical evaluation of the site circulation operations. The 95th percentile maximum queue length was found to be approximately 2,000 linear feet during the afternoon peak hour for the plus project conditions. The on-site storage is anticipated to be adequate based on the existing site plan.

HALES ENGINEERING
innovative transportation solutions

APPENDIX A

Turning Movement Counts

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

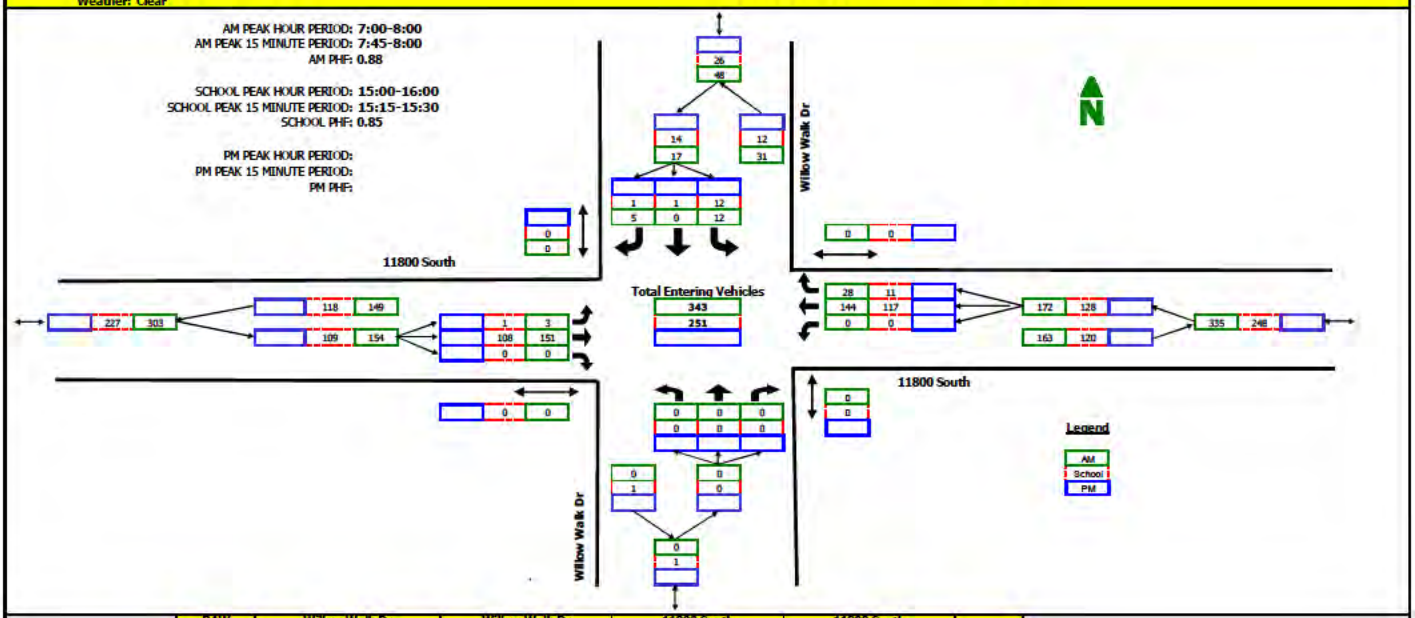
Intersection: Willow Walk Dr / 11800 South
North/South: Willow Walk Dr
East/West: 11800 South
Jurisdiction: Herriman
Project Title: Advantage Arts Academy TIS
Project No: UT18-1343
Weather: Clear

Date: 11-6-18, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 96.2%
Adjustment Station #: 407
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: 7:00-8:00
AM PEAK 15 MINUTE PERIOD: 7:45-8:00
AM PHF: 0.88

SCHOOL PEAK HOUR PERIOD: 15:00-16:00
SCHOOL PEAK 15 MINUTE PERIOD: 15:15-15:30
SCHOOL PHF: 0.85

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF:



RAW COUNT SUMMARIES	Willow Walk Dr Northbound				Willow Walk Dr Southbound				11800 South Eastbound				11800 South Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00-7:15	0	0	0	0	2	0	3	0	0	31	0	0	0	27	4	0	67
7:15-7:30	0	0	0	0	2	0	2	0	2	42	0	0	0	42	5	0	95
7:30-7:45	0	0	0	0	3	0	0	0	1	37	0	0	0	38	5	0	84
7:45-8:00	0	0	0	0	5	0	0	0	0	41	0	0	0	37	14	0	97
8:00-8:15	0	0	0	0	7	0	1	0	1	24	0	0	0	30	11	0	74
8:15-8:30	0	0	0	0	5	0	1	0	5	20	0	0	0	27	5	0	63
8:30-8:45	0	0	0	0	5	0	2	0	1	16	0	0	0	23	11	0	58
8:45-9:00	0	0	0	0	8	0	2	0	0	28	0	0	0	28	14	0	80
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	0	0	0	0	5	0	3	0	1	10	0	0	0	22	8	0	49
14:15-14:30	0	0	0	0	1	0	5	0	2	12	0	0	0	18	1	0	39
14:30-14:45	0	0	0	0	4	0	1	0	2	18	0	0	0	18	2	0	45
14:45-15:00	0	0	0	0	2	0	1	0	4	20	0	0	0	19	1	0	47
15:00-15:15	0	0	0	0	2	1	0	0	1	21	0	0	0	11	0	0	36
15:15-15:30	0	0	0	0	4	0	0	0	0	33	0	0	0	34	3	0	74
15:30-15:45	0	0	0	0	3	0	0	0	0	20	0	0	0	42	6	0	71
15:45-16:00	0	0	0	0	3	0	1	0	0	34	0	0	0	30	2	0	70
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

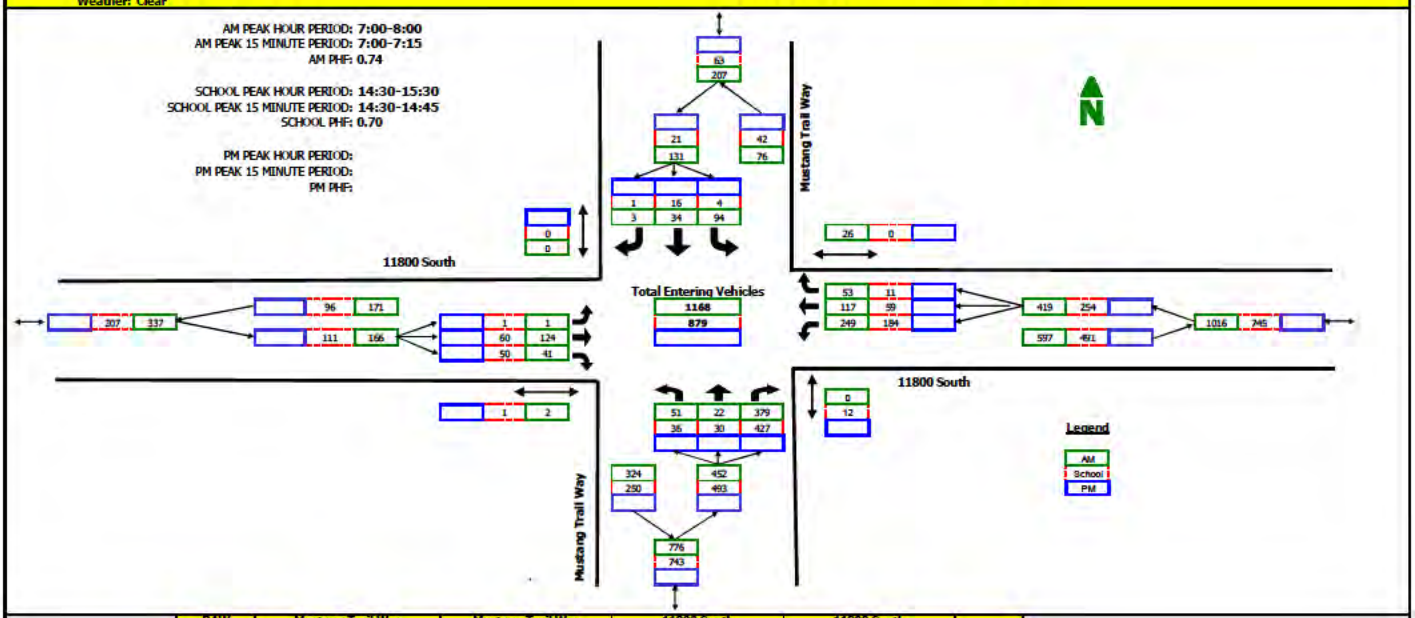
Intersection: Mustang Trail Way / 11800 South
North/South: Mustang Trail Way
East/West: 11800 South
Jurisdiction: Herriman
Project Title: Advantage Arts Academy TIS
Project No: UT18-1343
Weather: Clear

Date: 11-6-18, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 96.2%
Adjustment Station #: 407
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: 7:00-8:00
AM PEAK 15 MINUTE PERIOD: 7:00-7:15
AM PHF: 0.74

SCHOOL PEAK HOUR PERIOD: 14:30-15:30
SCHOOL PEAK 15 MINUTE PERIOD: 14:30-14:45
SCHOOL PHF: 0.70

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF:



RAW COUNT SUMMARIES	Mustang Trail Way Northbound				Mustang Trail Way Southbound				11800 South Eastbound				11800 South Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00-7:15	7	1	99	0	51	9	0	0	0	50	6	0	87	55	31	15	396
7:15-7:30	14	10	142	0	40	16	3	0	0	38	10	2	72	27	10	7	382
7:30-7:45	14	7	80	0	1	6	0	0	0	14	9	0	47	18	7	4	203
7:45-8:00	16	4	58	0	2	3	0	0	1	22	16	0	43	17	5	0	187
8:00-8:15	12	8	115	1	3	4	0	0	0	22	7	0	30	20	1	0	222
8:15-8:30	6	3	36	0	1	1	0	0	1	17	3	0	18	19	2	0	107
8:30-8:45	8	1	36	0	0	3	0	1	0	15	5	0	30	16	2	0	116
8:45-9:00	7	3	59	0	1	4	0	0	0	26	14	0	25	15	2	0	156
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	7	2	27	2	2	2	1	0	0	15	2	0	36	17	3	2	114
14:15-14:30	8	9	68	0	2	3	0	0	1	7	4	0	44	12	5	0	163
14:30-14:45	12	12	199	8	1	6	0	0	0	9	14	1	43	12	4	0	312
14:45-15:00	11	10	104	2	1	5	1	0	0	17	7	0	36	9	2	0	203
15:00-15:15	3	4	72	2	2	5	0	0	0	16	10	0	52	10	3	0	177
15:15-15:30	10	4	52	0	0	0	0	0	1	18	19	0	53	28	2	0	187
15:30-15:45	20	5	120	0	5	2	2	0	0	16	6	0	44	23	2	0	245
15:45-16:00	17	5	87	4	1	2	1	0	0	24	10	0	53	11	5	2	216
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HALES ENGINEERING
innovative transportation solutions

APPENDIX B

LOS Results

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Existing (2018) Background*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	51	50	99	8.7	*A*
	T	22	24	108	7.8	*A*
	R	305	300	98	4.9	*A*
	Subtotal	378	374	99	5.6	*A*
SB	L	94	94	100	13.8	*B*
	T	34	32	95	6.7	*A*
	R	3	4	123	1.3	*A*
	Subtotal	131	130	99	11.7	*B*
EB	L	1	1	100	7.4	*A*
	T	126	125	99	9.1	*A*
	R	41	42	103	3.0	*A*
	Subtotal	168	168	100	7.6	*A*
WB	L	190	188	99	14.8	*B*
	T	118	120	102	8.2	*A*
	R	53	57	108	2.1	*A*
	Subtotal	361	365	101	10.6	*B*
Total		1,038	1,037	100	8.5	*A*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	12	13	106	5.0	*A*
	R	5	6	126	3.0	*A*
	Subtotal	***17***	***19***	***112***	***4.4***	***A***
EB	L	3	2	62	3.8	*A*
	T	154	152	99	0.5	*A*
	Subtotal	157	154	98	0.5	*A*
WB	T	148	150	102	2.3	*A*
	R	28	28	100	1.8	*A*
	Subtotal	176	178	101	2.2	*A*
Total		350	351	100	1.6	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.4	2.5	4.0	0.2	3.8	1.4
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.9	12.6	6.9	2.0	8.1	6.5	4.0	10.7	6.3	0.7	7.2
Vehicles Entered	28	9	43	26	14	12	6	66	19	8	1	232
Vehicles Exited	29	8	43	26	13	12	6	65	19	7	1	229
Hourly Exit Rate	116	32	172	104	52	48	24	260	76	28	4	916
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	104	89	102	99	111	107	120	96	90	93	133	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	1.2	0.2	0.1	2.1	0.5	2.2	3.9	0.4	2.8
Total Delay (hr)	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Total Del/Veh (s)		8.2	2.4	11.2	7.6	1.7	7.2	6.5	4.1	10.6	6.7	1.4
Vehicles Entered	0	25	9	39	27	11	11	5	66	22	6	1
Vehicles Exited	0	24	9	38	26	11	11	5	66	22	6	1
Hourly Exit Rate	0	96	36	152	104	44	44	20	264	88	24	4
Input Volume	1	112	36	169	105	47	45	20	271	84	30	3
% of Volume	0	86	100	90	99	94	98	100	97	105	80	133

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	0.5
Total Del/Veh (s)	6.9
Vehicles Entered	222
Vehicles Exited	219
Hourly Exit Rate	876
Input Volume	923
% of Volume	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.1	1.1	0.2	0.2	2.1	0.8	2.4	4.0	0.4	5.6
Total Delay (hr)	0.0	0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.0
Total Del/Veh (s)		10.8	3.6	17.3	9.1	2.3	10.8	9.6	6.3	18.7	7.5	2.3
Vehicles Entered	0	41	15	62	41	21	15	7	100	31	12	1
Vehicles Exited	0	40	15	61	40	20	15	7	100	31	12	1
Hourly Exit Rate	0	160	60	244	160	80	60	28	400	124	48	4
Input Volume	1	170	55	253	157	71	68	29	407	125	45	4
% of Volume	0	94	109	96	102	113	88	97	98	99	107	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	1.0
Total Del/Veh (s)	10.2
Vehicles Entered	346
Vehicles Exited	342
Hourly Exit Rate	1368
Input Volume	1385
% of Volume	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.5	2.4	3.9	0.2	4.0	1.5
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.4	13.2	7.2	1.9	7.0	8.1	3.9	11.1	4.8	0.7	7.3
Vehicles Entered	31	10	44	26	12	12	6	68	22	7	1	239
Vehicles Exited	31	10	45	28	13	12	6	68	22	7	1	243
Hourly Exit Rate	124	40	180	112	52	48	24	272	88	28	4	972
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	111	111	107	107	111	107	120	100	105	93	133	105

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.2	0.2	0.1	2.2	0.6	2.4	3.9	0.3	4.1
Total Delay (hr)	0.0	0.3	0.0	0.8	0.3	0.0	0.1	0.1	0.4	0.4	0.1	0.0
Total Del/Veh (s)	7.4	9.1	3.0	14.8	8.2	2.1	8.7	7.8	4.9	13.8	6.7	1.3
Vehicles Entered	1	125	42	189	120	57	50	24	300	94	32	4
Vehicles Exited	1	125	42	188	120	57	50	24	300	94	32	4
Hourly Exit Rate	1	125	42	188	120	57	50	24	300	94	32	4
Input Volume	1	126	41	190	118	53	51	22	305	94	34	3
% of Volume	100	99	103	99	102	108	99	108	98	100	95	123

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.4
Total Delay (hr)	2.5
Total Del/Veh (s)	8.5
Vehicles Entered	1038
Vehicles Exited	1037
Hourly Exit Rate	1037
Input Volume	1038
% of Volume	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.9	0.4	2.1	2.2	4.2	3.0	1.4
Vehicles Entered	1	33	34	6	3	1	78
Vehicles Exited	1	33	34	6	3	1	78
Hourly Exit Rate	4	132	136	24	12	4	312
Input Volume	3	137	131	25	11	4	311
% of Volume	133	96	104	96	109	100	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.6	2.1	1.7	4.4	4.9	1.5
Vehicles Entered	0	32	33	6	3	1	75
Vehicles Exited	0	31	33	6	3	1	74
Hourly Exit Rate	0	124	132	24	12	4	296
Input Volume	3	137	131	25	11	4	311
% of Volume	0	91	101	96	109	100	95

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.1	0.6	2.5	1.8	5.1	2.8	1.7
Vehicles Entered	1	51	48	10	4	2	116
Vehicles Exited	1	51	47	10	4	2	115
Hourly Exit Rate	4	204	188	40	16	8	460
Input Volume	4	205	197	37	16	7	466
% of Volume	100	100	95	108	100	114	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.4	1.9	1.5	4.6	4.3	1.4
Vehicles Entered	0	36	35	6	4	1	82
Vehicles Exited	0	37	36	6	4	1	84
Hourly Exit Rate	0	148	144	24	16	4	336
Input Volume	3	137	131	25	11	4	311
% of Volume	0	108	110	96	145	100	108

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.8	0.5	2.3	1.8	5.0	3.0	1.6
Vehicles Entered	2	152	150	28	13	6	351
Vehicles Exited	2	152	150	28	13	6	351
Hourly Exit Rate	2	152	150	28	13	6	351
Input Volume	3	154	148	28	12	5	350
% of Volume	62	99	102	100	106	126	100

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.1	0.1	0.1	0.1	0.4
Denied Del/Veh (s)	1.5	1.5	1.4	1.5	1.5
Total Delay (hr)	0.6	0.6	1.3	0.7	3.3
Total Del/Veh (s)	8.9	8.6	12.4	9.1	11.0
Vehicles Entered	233	225	350	240	1049
Vehicles Exited	230	224	342	247	1044
Hourly Exit Rate	920	896	1368	988	1044
Input Volume	2162	2162	3242	2162	2432
% of Volume	43	41	42	46	43

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	52	24	94	47	23	51	21	72	54	30	4
Average Queue (ft)	27	8	54	24	11	22	8	43	31	9	1
95th Queue (ft)	56	26	102	54	27	53	26	77	56	33	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)			0								
Queuing Penalty (veh)			0								

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	3	63	26	88	68	27	38	23	70	67	25	8
Average Queue (ft)	0	26	10	49	29	10	17	7	40	35	9	1
95th Queue (ft)	5	67	30	87	69	30	43	25	75	69	30	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	2	92	32	128	102	33	42	30	115	94	41	13
Average Queue (ft)	0	43	17	83	44	17	22	10	63	55	16	2
95th Queue (ft)	5	87	37	139	102	36	49	32	118	92	45	11
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				1	0				0			
Queuing Penalty (veh)				1	0				0			

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	55	32	98	49	24	37	23	66	71	22	5
Average Queue (ft)	29	11	60	23	11	17	8	37	36	9	0
95th Queue (ft)	62	34	100	53	27	41	25	68	69	28	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	5	102	40	140	104	44	56	32	119	98	50	18
Average Queue (ft)	0	31	12	62	30	12	20	8	46	39	11	1
95th Queue (ft)	4	70	32	112	73	31	47	27	89	76	35	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0		0	0				0			
Queuing Penalty (veh)		0		0	0				0			

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	3	30
Average Queue (ft)	0	11
95th Queue (ft)	6	35
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	12
95th Queue (ft)	37
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	9	33
Average Queue (ft)	1	17
95th Queue (ft)	11	42
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	8	30
Average Queue (ft)	1	17
95th Queue (ft)	13	41
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	20	35
Average Queue (ft)	1	14
95th Queue (ft)	9	39
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 2
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 0

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.4	2.5	4.0	0.2	3.8	1.4
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.9	12.6	6.9	2.0	8.1	6.5	4.0	10.7	6.3	0.7	7.2
Vehicles Entered	28	9	43	26	14	12	6	66	19	8	1	232
Vehicles Exited	29	8	43	26	13	12	6	65	19	7	1	229
Hourly Exit Rate	116	32	172	104	52	48	24	260	76	28	4	916
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	104	89	102	99	111	107	120	96	90	93	133	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	1.2	0.2	0.1	2.1	0.5	2.2	3.9	0.4	2.8
Total Delay (hr)	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Total Del/Veh (s)		8.2	2.4	11.2	7.6	1.7	7.2	6.5	4.1	10.6	6.7	1.4
Vehicles Entered	0	25	9	39	27	11	11	5	66	22	6	1
Vehicles Exited	0	24	9	38	26	11	11	5	66	22	6	1
Hourly Exit Rate	0	96	36	152	104	44	44	20	264	88	24	4
Input Volume	1	112	36	169	105	47	45	20	271	84	30	3
% of Volume	0	86	100	90	99	94	98	100	97	105	80	133

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	0.5
Total Del/Veh (s)	6.9
Vehicles Entered	222
Vehicles Exited	219
Hourly Exit Rate	876
Input Volume	923
% of Volume	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.1	1.1	0.2	0.2	2.1	0.8	2.4	4.0	0.4	5.6
Total Delay (hr)	0.0	0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.0
Total Del/Veh (s)		10.8	3.6	17.3	9.1	2.3	10.8	9.6	6.3	18.7	7.5	2.3
Vehicles Entered	0	41	15	62	41	21	15	7	100	31	12	1
Vehicles Exited	0	40	15	61	40	20	15	7	100	31	12	1
Hourly Exit Rate	0	160	60	244	160	80	60	28	400	124	48	4
Input Volume	1	170	55	253	157	71	68	29	407	125	45	4
% of Volume	0	94	109	96	102	113	88	97	98	99	107	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	1.0
Total Del/Veh (s)	10.2
Vehicles Entered	346
Vehicles Exited	342
Hourly Exit Rate	1368
Input Volume	1385
% of Volume	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.5	2.4	3.9	0.2	4.0	1.5
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.4	13.2	7.2	1.9	7.0	8.1	3.9	11.1	4.8	0.7	7.3
Vehicles Entered	31	10	44	26	12	12	6	68	22	7	1	239
Vehicles Exited	31	10	45	28	13	12	6	68	22	7	1	243
Hourly Exit Rate	124	40	180	112	52	48	24	272	88	28	4	972
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	111	111	107	107	111	107	120	100	105	93	133	105

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.2	0.2	0.1	2.2	0.6	2.4	3.9	0.3	4.1
Total Delay (hr)	0.0	0.3	0.0	0.8	0.3	0.0	0.1	0.1	0.4	0.4	0.1	0.0
Total Del/Veh (s)	7.4	9.1	3.0	14.8	8.2	2.1	8.7	7.8	4.9	13.8	6.7	1.3
Vehicles Entered	1	125	42	189	120	57	50	24	300	94	32	4
Vehicles Exited	1	125	42	188	120	57	50	24	300	94	32	4
Hourly Exit Rate	1	125	42	188	120	57	50	24	300	94	32	4
Input Volume	1	126	41	190	118	53	51	22	305	94	34	3
% of Volume	100	99	103	99	102	108	99	108	98	100	95	123

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.4
Total Delay (hr)	2.5
Total Del/Veh (s)	8.5
Vehicles Entered	1038
Vehicles Exited	1037
Hourly Exit Rate	1037
Input Volume	1038
% of Volume	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.9	0.4	2.1	2.2	4.2	3.0	1.4
Vehicles Entered	1	33	34	6	3	1	78
Vehicles Exited	1	33	34	6	3	1	78
Hourly Exit Rate	4	132	136	24	12	4	312
Input Volume	3	137	131	25	11	4	311
% of Volume	133	96	104	96	109	100	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.6	2.1	1.7	4.4	4.9	1.5
Vehicles Entered	0	32	33	6	3	1	75
Vehicles Exited	0	31	33	6	3	1	74
Hourly Exit Rate	0	124	132	24	12	4	296
Input Volume	3	137	131	25	11	4	311
% of Volume	0	91	101	96	109	100	95

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.1	0.6	2.5	1.8	5.1	2.8	1.7
Vehicles Entered	1	51	48	10	4	2	116
Vehicles Exited	1	51	47	10	4	2	115
Hourly Exit Rate	4	204	188	40	16	8	460
Input Volume	4	205	197	37	16	7	466
% of Volume	100	100	95	108	100	114	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.4	1.9	1.5	4.6	4.3	1.4
Vehicles Entered	0	36	35	6	4	1	82
Vehicles Exited	0	37	36	6	4	1	84
Hourly Exit Rate	0	148	144	24	16	4	336
Input Volume	3	137	131	25	11	4	311
% of Volume	0	108	110	96	145	100	108

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.8	0.5	2.3	1.8	5.0	3.0	1.6
Vehicles Entered	2	152	150	28	13	6	351
Vehicles Exited	2	152	150	28	13	6	351
Hourly Exit Rate	2	152	150	28	13	6	351
Input Volume	3	154	148	28	12	5	350
% of Volume	62	99	102	100	106	126	100

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.1	0.1	0.1	0.1	0.4
Denied Del/Veh (s)	1.5	1.5	1.4	1.5	1.5
Total Delay (hr)	0.6	0.6	1.3	0.7	3.3
Total Del/Veh (s)	8.9	8.6	12.4	9.1	11.0
Vehicles Entered	233	225	350	240	1049
Vehicles Exited	230	224	342	247	1044
Hourly Exit Rate	920	896	1368	988	1044
Input Volume	2162	2162	3242	2162	2432
% of Volume	43	41	42	46	43

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	52	24	94	47	23	51	21	72	54	30	4
Average Queue (ft)	27	8	54	24	11	22	8	43	31	9	1
95th Queue (ft)	56	26	102	54	27	53	26	77	56	33	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)			0								
Queuing Penalty (veh)			0								

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	3	63	26	88	68	27	38	23	70	67	25	8
Average Queue (ft)	0	26	10	49	29	10	17	7	40	35	9	1
95th Queue (ft)	5	67	30	87	69	30	43	25	75	69	30	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	2	92	32	128	102	33	42	30	115	94	41	13
Average Queue (ft)	0	43	17	83	44	17	22	10	63	55	16	2
95th Queue (ft)	5	87	37	139	102	36	49	32	118	92	45	11
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				1	0				0			
Queuing Penalty (veh)				1	0				0			

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	55	32	98	49	24	37	23	66	71	22	5
Average Queue (ft)	29	11	60	23	11	17	8	37	36	9	0
95th Queue (ft)	62	34	100	53	27	41	25	68	69	28	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	5	102	40	140	104	44	56	32	119	98	50	18
Average Queue (ft)	0	31	12	62	30	12	20	8	46	39	11	1
95th Queue (ft)	4	70	32	112	73	31	47	27	89	76	35	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0		0	0				0			
Queuing Penalty (veh)		0		0	0				0			

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	3	30
Average Queue (ft)	0	11
95th Queue (ft)	6	35
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	12
95th Queue (ft)	37
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	9	33
Average Queue (ft)	1	17
95th Queue (ft)	11	42
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	8	30
Average Queue (ft)	1	17
95th Queue (ft)	13	41
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	20	35
Average Queue (ft)	1	14
95th Queue (ft)	9	39
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 2
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 0

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Existing (2018) Plus Project*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	127	122	96	13.5	*B*
	T	22	24	108	9.6	*A*
	R	305	297	97	5.3	*A*
	Subtotal	454	443	98	7.8	*A*
SB	L	94	92	98	11.0	*B*
	T	34	36	107	8.6	*A*
	R	20	20	99	3.4	*A*
	Subtotal	148	148	100	9.4	*A*
EB	L	28	27	97	18.9	*B*
	T	210	210	100	8.5	*A*
	R	102	101	99	3.0	*A*
	Subtotal	340	338	99	7.7	*A*
WB	L	190	188	99	18.4	*B*
	T	205	201	98	9.4	*A*
	R	53	53	100	2.3	*A*
	Subtotal	448	442	99	12.4	*B*
Total		1,408	1,388	99	9.5	*A*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	27	23	85	5.4	*A*
	R	5	6	126	3.1	*A*
	Subtotal	***32***	***29***	***91***	***4.9***	***A***
EB	L	3	4	123	2.6	*A*
	T	176	178	101	0.6	*A*
	Subtotal	179	182	102	0.6	*A*
WB	T	162	158	98	0.5	*A*
	R	28	29	104	0.2	*A*
	Subtotal	190	187	98	0.5	*A*
Total		401	398	99	0.9	*A*

HALES ENGINEERING
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SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Existing (2018) Plus Project***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	176	176	100	5.0	*A*
	Subtotal	***176***	***176***	***100***	***5.0***	***A***
EB	T	167	161	96	0.7	*A*
	R	37	41	110	0.2	*A*
	Subtotal	204	202	99	0.6	*A*
WB	L	180	175	97	5.2	*A*
	T	203	199	98	1.6	*A*
	Subtotal	383	374	98	3.3	*A*
Total		763	752	99	3.0	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.2	0.2	0.2	2.4	0.8	2.4	3.9	0.3	4.4	1.3
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.6
Total Del/Veh (s)	7.6	2.9	13.6	8.7	2.1	9.7	8.2	4.0	9.0	7.1	2.1	7.4
Vehicles Entered	43	24	41	43	11	27	5	68	21	8	4	295
Vehicles Exited	43	23	41	44	12	27	5	68	20	8	4	295
Hourly Exit Rate	172	92	164	176	48	108	20	272	80	32	16	1180
Input Volume	177	87	169	168	47	113	20	271	84	30	18	1185
% of Volume	97	106	97	105	102	96	100	100	95	107	89	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	1.3	0.2	0.1	2.2	0.6	2.4	3.9	0.4	3.7
Total Delay (hr)	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0
Total Del/Veh (s)		7.9	2.4	14.0	8.1	2.0	10.4	7.0	4.5	8.7	6.3	2.2
Vehicles Entered	0	44	20	43	41	11	28	5	66	21	8	5
Vehicles Exited	0	44	21	42	40	11	28	5	66	21	9	5
Hourly Exit Rate	0	176	84	168	160	44	112	20	264	84	36	20
Input Volume	1	177	87	169	168	47	113	20	271	84	30	18
% of Volume	0	99	97	99	95	94	99	100	97	100	120	111

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.3
Total Delay (hr)	0.7
Total Del/Veh (s)	7.6
Vehicles Entered	292
Vehicles Exited	292
Hourly Exit Rate	1168
Input Volume	1185
% of Volume	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.5	0.6	0.1	0.5	1.2	0.3	0.2	2.3	0.9	2.4	3.8	0.5
Total Delay (hr)	0.1	0.1	0.2	0.0	0.4	0.2	0.0	0.2	0.0	0.2	0.1	0.0
Total Del/Veh (s)	18.9	18.3	8.9	3.3	23.8	10.2	2.3	18.4	14.2	6.9	13.8	11.6
Vehicles Entered	16	26	79	35	63	78	19	39	8	98	31	11
Vehicles Exited	15	25	77	35	62	77	18	38	8	96	30	11
Hourly Exit Rate	60	100	308	140	248	308	72	152	32	384	120	44
Input Volume	72	108	309	146	253	315	71	169	29	407	125	45
% of Volume	83	93	100	96	98	98	101	90	110	94	96	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	4.1	1.2
Total Delay (hr)	0.0	1.7
Total Del/Veh (s)	5.6	11.9
Vehicles Entered	7	510
Vehicles Exited	7	499
Hourly Exit Rate	28	1996
Input Volume	27	2076
% of Volume	104	96

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.2	0.2	0.2	2.5	0.7	2.3	4.1	0.3
Total Delay (hr)	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0
Total Del/Veh (s)	14.7	16.3	7.9	2.8	14.8	8.0	2.4	10.4	7.3	4.3	9.5	7.4
Vehicles Entered	1	1	43	21	41	39	12	27	6	66	20	8
Vehicles Exited	2	2	45	22	43	41	13	28	7	67	21	9
Hourly Exit Rate	8	8	180	88	172	164	52	112	28	268	84	36
Input Volume	0	1	177	87	169	168	47	113	20	271	84	30
% of Volume		800	102	101	102	98	111	99	140	99	100	120

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.1
Denied Del/Veh (s)	3.7	1.3
Total Delay (hr)	0.0	0.7
Total Del/Veh (s)	2.0	7.8
Vehicles Entered	4	289
Vehicles Exited	4	304
Hourly Exit Rate	16	1216
Input Volume	18	1185
% of Volume	89	103

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.2	0.1	0.0
Denied Del/Veh (s)	0.5	0.6	0.0	0.2	1.2	0.2	0.2	2.3	0.8	2.4	3.9	0.4
Total Delay (hr)	0.1	0.1	0.5	0.1	1.0	0.5	0.0	0.5	0.1	0.4	0.3	0.1
Total Del/Veh (s)	19.5	18.9	8.5	3.0	18.4	9.4	2.3	13.5	9.6	5.3	11.0	8.6
Vehicles Entered	17	27	209	101	188	201	53	122	24	298	92	36
Vehicles Exited	17	27	210	101	188	201	53	122	24	297	92	36
Hourly Exit Rate	17	27	210	101	188	201	53	122	24	297	92	36
Input Volume	18	28	210	102	190	205	53	127	22	305	94	34
% of Volume	94	97	100	99	99	98	100	96	108	97	98	107

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	0.5
Denied Del/Veh (s)	4.0	1.3
Total Delay (hr)	0.0	3.7
Total Del/Veh (s)	3.4	9.5
Vehicles Entered	20	1388
Vehicles Exited	20	1388
Hourly Exit Rate	20	1388
Input Volume	20	1408
% of Volume	99	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.4	0.4	0.1	5.4	2.2	0.6
Vehicles Entered	0	40	37	6	3	1	87
Vehicles Exited	0	40	37	6	3	1	87
Hourly Exit Rate	0	160	148	24	12	4	348
Input Volume	3	151	144	25	22	4	349
% of Volume	0	106	103	96	55	100	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.7	0.5	0.5	0.2	5.3	3.1	0.8
Vehicles Entered	1	38	36	7	5	2	89
Vehicles Exited	1	38	36	7	5	2	89
Hourly Exit Rate	4	152	144	28	20	8	356
Input Volume	3	151	144	25	22	4	349
% of Volume	133	101	100	112	91	200	102

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.2	0.0	0.0	0.1	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	2.5	0.9	0.5	0.2	6.1	3.3	1.1
Vehicles Entered	1	64	54	9	8	2	138
Vehicles Exited	2	63	54	9	9	2	139
Hourly Exit Rate	8	252	216	36	36	8	556
Input Volume	4	251	216	37	42	7	557
% of Volume	200	100	100	97	86	114	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.0	0.4	0.6	0.1	4.3	3.7	0.8
Vehicles Entered	1	35	31	8	6	1	82
Vehicles Exited	1	36	31	8	6	1	83
Hourly Exit Rate	4	144	124	32	24	4	332
Input Volume	3	151	144	25	22	4	349
% of Volume	133	95	86	128	109	100	95

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.6	0.6	0.5	0.2	5.4	3.1	0.9
Vehicles Entered	4	178	157	29	23	6	397
Vehicles Exited	4	178	158	29	23	6	398
Hourly Exit Rate	4	178	158	29	23	6	398
Input Volume	3	176	162	28	27	5	401
% of Volume	123	101	98	104	85	126	99

8: West Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.1
Vehicles Entered	44	42	86
Vehicles Exited	44	42	86
Hourly Exit Rate	176	168	344
Input Volume	174	169	343
% of Volume	101	99	100

8: West Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.2
Vehicles Entered	44	43	87
Vehicles Exited	44	43	87
Hourly Exit Rate	176	172	348
Input Volume	174	169	343
% of Volume	101	102	101

8: West Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.3
Vehicles Entered	72	63	135
Vehicles Exited	71	63	134
Hourly Exit Rate	284	252	536
Input Volume	293	253	546
% of Volume	97	100	98

8: West Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.2
Vehicles Entered	42	38	80
Vehicles Exited	43	38	81
Hourly Exit Rate	172	152	324
Input Volume	174	169	343
% of Volume	99	90	94

8: West Access & 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.2
Vehicles Entered	201	186	387
Vehicles Exited	201	186	387
Hourly Exit Rate	201	186	387
Input Volume	204	190	394
% of Volume	99	98	98

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	0.1	4.0	1.6	3.5	2.1
Vehicles Entered	38	7	30	47	30	152
Vehicles Exited	38	6	31	47	30	152
Hourly Exit Rate	152	24	124	188	120	608
Input Volume	149	25	120	186	117	597
% of Volume	102	96	103	101	103	102

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.1	3.8	1.5	3.3	2.0
Vehicles Entered	36	8	27	47	29	147
Vehicles Exited	36	8	27	47	29	147
Hourly Exit Rate	144	32	108	188	116	588
Input Volume	149	25	120	186	117	597
% of Volume	97	128	90	101	99	98

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.3	0.1	0.4	0.2
Total Delay (hr)	0.0	0.0	0.1	0.0	0.2	0.4
Total Del/Veh (s)	1.2	0.4	6.3	1.9	6.6	4.2
Vehicles Entered	53	18	83	64	87	305
Vehicles Exited	53	18	80	63	86	300
Hourly Exit Rate	212	72	320	252	344	1200
Input Volume	221	74	360	253	352	1260
% of Volume	96	97	89	100	98	95

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.6	0.2	4.1	1.4	3.4	2.2
Vehicles Entered	34	8	34	41	30	147
Vehicles Exited	35	9	37	41	31	153
Hourly Exit Rate	140	36	148	164	124	612
Input Volume	149	25	120	186	117	597
% of Volume	94	144	123	88	106	103

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.3	0.1
Total Delay (hr)	0.0	0.0	0.3	0.1	0.2	0.6
Total Del/Veh (s)	0.7	0.2	5.2	1.6	5.0	3.0
Vehicles Entered	161	41	175	199	176	752
Vehicles Exited	161	41	175	199	176	752
Hourly Exit Rate	161	41	175	199	176	752
Input Volume	167	37	180	203	176	763
% of Volume	96	110	97	98	100	99

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.1	0.1	0.2	0.1	0.5
Denied Del/Veh (s)	1.3	1.3	1.3	1.3	1.3
Total Delay (hr)	0.9	0.9	2.4	0.9	5.1
Total Del/Veh (s)	9.2	9.5	14.9	9.4	12.3
Vehicles Entered	304	304	544	296	1454
Vehicles Exited	308	302	518	329	1460
Hourly Exit Rate	1232	1208	2072	1316	1460
Input Volume	3663	3663	6619	3663	4402
% of Volume	34	33	31	36	33

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	67	42	85	79	30	70	30	77	56	25	17
Average Queue (ft)	37	20	54	40	12	38	8	48	30	11	5
95th Queue (ft)	70	46	95	81	31	75	31	79	60	29	19
Link Distance (ft)	1101			2469	2469		1752			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)				0							
Queuing Penalty (veh)				0							

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	2	84	35	96	73	22	70	27	84	55	33	20
Average Queue (ft)	0	36	15	57	36	8	41	8	53	28	12	6
95th Queue (ft)	5	79	35	95	77	24	74	30	87	59	36	22
Link Distance (ft)		1101			2469	2469		1752			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0							0			
Queuing Penalty (veh)		0							0			

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	105	102	41	162	131	32	112	54	100	81	44	32
Average Queue (ft)	61	64	21	96	74	15	64	18	68	46	18	12
95th Queue (ft)	108	110	44	165	136	36	113	59	106	85	48	33
Link Distance (ft)		1101			2469	2469		1752			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	0	0		3	0		0	0		0		
Queuing Penalty (veh)	0	1		9	1		1	0		0		

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	46	76	40	106	75	28	78	33	92	52	28	20
Average Queue (ft)	7	40	18	60	36	13	41	14	52	29	11	5
95th Queue (ft)	41	74	44	107	80	33	78	39	88	60	32	19
Link Distance (ft)		1101			2469	2469		1752			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				0								
Queuing Penalty (veh)				0								

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	105	112	57	162	138	42	115	56	113	83	48	34
Average Queue (ft)	17	44	19	67	46	12	46	12	55	33	13	7
95th Queue (ft)	68	88	43	124	101	32	89	42	93	68	37	24
Link Distance (ft)		1101			2469	2469		1752			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	0	0		1	0		0	0	0	0		
Queuing Penalty (veh)	0	0		2	0		0	0	0	0		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	SB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	14
95th Queue (ft)	40
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	11	39
Average Queue (ft)	1	19
95th Queue (ft)	11	45
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	9	2	46
Average Queue (ft)	1	0	24
95th Queue (ft)	11	4	53
Link Distance (ft)	1902	272	1194
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	3	41
Average Queue (ft)	0	22
95th Queue (ft)	6	51
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	19	2	53
Average Queue (ft)	1	0	20
95th Queue (ft)	8	2	48
Link Distance (ft)	1902	272	1194
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: West Access & 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #3

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #4

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: East Access & 11800 South, Interval #1

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	39	52
Average Queue (ft)	19	33
95th Queue (ft)	46	55
Link Distance (ft)		400
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, Interval #2

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	2	40	49
Average Queue (ft)	0	16	30
95th Queue (ft)	4	44	49
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	9	100	103
Average Queue (ft)	2	51	68
95th Queue (ft)	11	101	112
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		1	
Queuing Penalty (veh)		1	

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	2	59	56
Average Queue (ft)	0	22	34
95th Queue (ft)	5	59	58
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	9	105	104
Average Queue (ft)	1	27	41
95th Queue (ft)	6	70	80
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 13
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 3

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Background*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	95	90	95	51.6	*D*
	T	35	36	103	46.1	*D*
	R	390	395	101	10.8	*B*
	Subtotal	520	521	100	20.3	*C*
SB	L	180	186	103	43.0	*D*
	T	55	58	105	34.3	*C*
	R	25	28	112	6.6	*A*
	Subtotal	260	272	105	37.4	*D*
EB	L	20	20	101	32.7	*C*
	T	443	447	101	34.0	*C*
	R	105	102	97	11.6	*B*
	Subtotal	568	569	100	29.9	*C*
WB	L	305	300	98	41.1	*D*
	T	450	446	99	23.7	*C*
	R	80	83	104	2.5	*A*
	Subtotal	835	829	99	27.9	*C*
Total		2,182	2,191	100	27.8	*C*

Intersection: Access 1/Willow Walk Dr & 11800 South
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	26	85	15.4	*C*
	R	75	76	101	6.4	*A*
	Subtotal	105	102	97	8.7	*A*
SB	L	35	33	94	15.8	*C*
	R	10	10	100	4.2	*A*
	Subtotal	***45***	***43***	***96***	***13.1***	***B***
EB	L	10	10	100	5.2	*A*
	T	470	475	101	1.4	*A*
	R	10	11	110	0.5	*A*
	Subtotal	490	496	101	1.5	*A*
WB	L	15	15	98	5.4	*A*
	T	512	502	98	2.3	*A*
	R	40	42	104	1.6	*A*
	Subtotal	567	559	99	2.3	*A*
Total		1,208	1,200	99	2.9	*A*

1: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.4	0.3	0.2	1.0	0.6	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.7	0.0	0.4	0.4	0.0	0.3	0.1	0.2	0.6	0.1	0.0
Total Del/Veh (s)	23.2	25.1	6.9	21.0	12.0	2.1	49.2	44.7	8.2	41.2	34.2	5.4
Vehicles Entered	5	101	20	68	103	20	20	7	90	46	12	7
Vehicles Exited	5	101	20	67	102	20	20	7	89	47	12	7
Hourly Exit Rate	20	404	80	268	408	80	80	28	356	188	48	28
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	99	86	99	99	110	95	90	103	114	98	122

1: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	2.9
Total Del/Veh (s)	19.9
Vehicles Entered	499
Vehicles Exited	497
Hourly Exit Rate	1988
Input Volume	1973
% of Volume	101

1: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.3	0.3	0.2	0.9	0.5	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.9	0.0	0.4	0.4	0.0	0.3	0.1	0.2	0.4	0.1	0.0
Total Del/Veh (s)	29.9	28.3	7.1	22.7	13.2	2.1	44.7	42.4	8.3	36.3	32.0	5.2
Vehicles Entered	5	107	23	65	103	21	20	9	88	40	14	8
Vehicles Exited	5	105	23	66	103	21	21	9	88	40	13	8
Hourly Exit Rate	20	420	92	264	412	84	84	36	352	160	52	32
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	103	99	97	100	115	100	116	101	97	106	139

1: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:45

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	3.0
Total Del/Veh (s)	20.2
Vehicles Entered	503
Vehicles Exited	502
Hourly Exit Rate	2008
Input Volume	1973
% of Volume	102

1: Mustang Trail Way & 11800 South Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.2	0.0	1.3	0.4	0.3	1.2	0.9	1.2	0.0	0.0	0.0
Total Delay (hr)	0.1	1.6	0.2	1.8	1.5	0.0	0.4	0.2	0.6	0.7	0.2	0.0
Total Del/Veh (s)	37.4	40.8	17.5	62.2	37.6	3.2	51.7	42.1	15.0	45.0	34.0	8.1
Vehicles Entered	5	137	35	102	140	25	27	13	129	55	19	7
Vehicles Exited	5	135	34	90	129	24	25	12	127	53	19	7
Hourly Exit Rate	20	540	136	360	516	96	100	48	508	212	76	28
Input Volume	25	550	140	407	563	100	127	47	520	225	73	31
% of Volume	80	98	97	88	92	96	79	102	98	94	104	90

1: Mustang Trail Way & 11800 South Performance by movement Interval #3 8:00

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.6
Total Delay (hr)	7.3
Total Del/Veh (s)	36.4
Vehicles Entered	694
Vehicles Exited	660
Hourly Exit Rate	2640
Input Volume	2808
% of Volume	94

1: Mustang Trail Way & 11800 South Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.2	0.0	1.4	0.3	0.2	1.2	0.5	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	1.0	0.1	0.8	0.7	0.0	0.3	0.1	0.2	0.5	0.1	0.0
Total Del/Veh (s)	32.8	33.4	10.2	34.5	20.6	2.0	43.3	36.8	8.4	41.2	34.6	7.0
Vehicles Entered	4	105	23	66	99	16	22	7	89	44	13	7
Vehicles Exited	5	106	24	77	112	18	25	8	91	46	13	7
Hourly Exit Rate	20	424	96	308	448	72	100	32	364	184	52	28
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	104	103	114	109	99	119	103	105	112	106	122

1: Mustang Trail Way & 11800 South Performance by movement Interval #4 8:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.6
Total Delay (hr)	4.0
Total Del/Veh (s)	25.4
Vehicles Entered	495
Vehicles Exited	532
Hourly Exit Rate	2128
Input Volume	1973
% of Volume	108

1: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	1.3	0.4	0.2	1.1	0.7	1.1	0.0	0.0	0.0
Total Delay (hr)	0.2	4.3	0.3	3.5	3.0	0.1	1.3	0.5	1.2	2.2	0.6	0.1
Total Del/Veh (s)	32.7	34.0	11.6	41.1	23.7	2.5	51.6	46.1	10.8	43.0	34.3	6.6
Vehicles Entered	20	449	102	301	446	83	89	36	395	185	58	28
Vehicles Exited	20	447	102	300	446	83	90	36	395	186	58	28
Hourly Exit Rate	20	447	102	300	446	83	90	36	395	186	58	28
Input Volume	20	443	105	305	450	80	95	35	390	180	55	25
% of Volume	101	101	97	98	99	104	95	103	101	103	105	112

1: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.6
Total Delay (hr)	17.1
Total Del/Veh (s)	27.8
Vehicles Entered	2192
Vehicles Exited	2191
Hourly Exit Rate	2191
Input Volume	2182
% of Volume	100

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.4	0.0	0.0	0.0	0.2	4.1	0.2	3.6	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	5.8	0.9	0.3	4.4	1.7	1.2	13.1	5.0	11.0	4.1	2.2
Vehicles Entered	2	102	3	3	119	9	7	18	7	2	272
Vehicles Exited	2	102	3	3	122	9	7	18	7	2	275
Hourly Exit Rate	8	408	12	12	488	36	28	72	28	8	1100
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	89	95	133	86	104	97	100	104	88	89	99

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.2	0.0	0.0	0.0	0.3	4.0	0.2	3.9	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.6	0.9	0.3	5.0	1.8	1.2	12.5	6.0	13.1	4.2	2.3
Vehicles Entered	2	113	2	4	115	10	5	17	8	3	279
Vehicles Exited	2	114	2	4	112	10	5	17	8	3	277
Hourly Exit Rate	8	456	8	16	448	40	20	68	32	12	1108
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	89	106	89	114	96	108	71	99	100	133	100

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	0.5	0.5	0.0	0.0	0.0	0.4	4.0	0.1	3.7	0.5
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.4
Total Del/Veh (s)	6.7	2.3	0.9	8.6	2.9	2.4	19.3	8.4	24.0	4.2	4.1
Vehicles Entered	3	150	3	4	141	12	9	24	10	3	359
Vehicles Exited	2	149	3	4	143	12	8	24	9	3	357
Hourly Exit Rate	8	596	12	16	572	48	32	96	36	12	1428
Input Volume	13	588	13	19	639	50	38	94	44	13	1511
% of Volume	62	101	92	84	90	96	84	102	82	92	95

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.3	4.0	0.1	3.1	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.6	0.9	0.2	4.9	2.3	1.4	12.3	5.0	12.6	4.4	2.5
Vehicles Entered	3	110	2	4	126	11	5	16	9	2	288
Vehicles Exited	3	110	3	4	125	11	6	16	9	2	289
Hourly Exit Rate	12	440	12	16	500	44	24	64	36	8	1156
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	133	102	133	114	107	119	86	93	112	89	104

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	0.3	0.4	0.3	0.0	0.0	0.0	0.3	4.0	0.2	3.6	0.4
Total Delay (hr)	0.0	0.2	0.0	0.0	0.3	0.0	0.1	0.1	0.1	0.0	1.0
Total Del/Veh (s)	5.2	1.4	0.5	5.4	2.3	1.6	15.4	6.4	15.8	4.2	2.9
Vehicles Entered	10	475	11	15	502	42	26	76	34	10	1201
Vehicles Exited	10	475	11	15	502	42	26	76	33	10	1200
Hourly Exit Rate	10	475	11	15	502	42	26	76	33	10	1200
Input Volume	10	470	10	15	512	40	30	75	35	10	1208
% of Volume	100	101	110	98	98	104	85	101	94	100	99

13: Commercial & 11800 South Performance by movement Interval #1 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.2	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.5	1.1	5.8	2.3	12.1	5.3	2.3
Vehicles Entered	119	8	7	122	6	7	269
Vehicles Exited	119	8	7	124	6	7	271
Hourly Exit Rate	476	32	28	496	24	28	1084
Input Volume	495	37	32	490	28	23	1105
% of Volume	96	86	88	101	86	122	98

13: Commercial & 11800 South Performance by movement Interval #2 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	4.2	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.5	0.9	6.8	2.9	14.4	5.6	2.6
Vehicles Entered	130	10	7	125	7	6	285
Vehicles Exited	128	10	7	122	6	6	279
Hourly Exit Rate	512	40	28	488	24	24	1116
Input Volume	495	37	32	490	28	23	1105
% of Volume	103	108	88	100	86	104	101

13: Commercial & 11800 South Performance by movement Interval #3 8:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	3.9	0.1
Total Delay (hr)	0.3	0.0	0.0	0.3	0.1	0.0	0.7
Total Del/Veh (s)	5.4	2.2	13.6	6.2	34.8	8.6	6.7
Vehicles Entered	170	13	11	150	10	8	362
Vehicles Exited	169	12	11	151	9	7	359
Hourly Exit Rate	676	48	44	604	36	28	1436
Input Volume	676	50	44	677	38	31	1516
% of Volume	100	96	100	89	95	90	95

13: Commercial & 11800 South Performance by movement Interval #4 8:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	4.0	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.3
Total Del/Veh (s)	2.1	2.0	6.4	3.5	17.5	7.7	3.4
Vehicles Entered	124	11	7	137	6	7	292
Vehicles Exited	125	11	7	135	7	7	292
Hourly Exit Rate	500	44	28	540	28	28	1168
Input Volume	495	37	32	490	28	23	1105
% of Volume	101	119	88	110	100	122	106

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.1	0.1
Total Delay (hr)	0.4	0.0	0.1	0.6	0.2	0.1	1.4
Total Del/Veh (s)	2.9	1.7	9.1	3.9	22.6	6.9	4.0
Vehicles Entered	543	41	32	533	29	28	1206
Vehicles Exited	542	41	32	532	29	27	1203
Hourly Exit Rate	542	41	32	532	29	27	1203
Input Volume	540	40	35	537	30	25	1208
% of Volume	100	102	91	99	95	108	100

Total Network Performance By Interval

Interval Start	7:30	7:45	8:00	8:15	All
Denied Delay (hr)	0.1	0.1	0.2	0.1	0.5
Denied Del/Veh (s)	0.8	0.8	0.9	0.8	0.8
Total Delay (hr)	3.5	3.7	8.9	4.8	20.9
Total Del/Veh (s)	21.9	22.4	39.9	26.9	31.6
Vehicles Entered	527	531	739	522	2324
Vehicles Exited	525	529	683	579	2317
Hourly Exit Rate	2100	2116	2732	2316	2317
Input Volume	6996	6996	9802	6996	7698
% of Volume	30	30	28	33	30

Intersection: 1: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	29	320	126	170	220	29	106	66	128	158	165	29
Average Queue (ft)	11	207	41	104	113	12	61	28	81	101	47	11
95th Queue (ft)	33	349	148	178	226	33	106	71	129	167	159	32
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)											0	
Queuing Penalty (veh)											0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)		33	0	8	6		8	1	0	14	1	
Queuing Penalty (veh)		37	1	33	16		29	2	0	10	1	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	37	302	169	158	246	32	94	68	128	143	93	25
Average Queue (ft)	14	194	51	101	126	13	64	37	81	86	36	10
95th Queue (ft)	41	313	172	179	261	35	110	85	125	147	101	28
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	0	40	0	8	8		4	1	0	8	0	
Queuing Penalty (veh)	1	45	2	31	21		17	2	1	6	0	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	150	497	250	180	791	178	141	141	217	166	209	28
Average Queue (ft)	32	356	136	158	486	47	77	53	135	119	76	10
95th Queue (ft)	135	556	312	222	1061	279	136	149	226	182	203	28
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		2									2	
Queuing Penalty (veh)		15									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	1	47	1	42	11		13	1	8	20	1	
Queuing Penalty (veh)	5	77	5	236	45		73	7	15	21	2	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #3

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	0
95th Queue (ft)	0
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	79	379	211	178	669	30	128	67	144	160	198	30
Average Queue (ft)	19	219	70	131	248	11	76	33	89	106	58	10
95th Queue (ft)	88	416	224	207	634	32	139	78	144	177	195	30
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		1									0	
Queuing Penalty (veh)		4									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)		42	0	19	9		8	1	1	15	1	
Queuing Penalty (veh)		47	1	80	25		30	2	1	11	2	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #4

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	2
95th Queue (ft)	22
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 1: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	157	503	250	180	869	186	148	148	222	176	257	40
Average Queue (ft)	19	244	74	124	243	21	70	38	96	103	54	10
95th Queue (ft)	85	444	229	206	678	141	124	102	169	171	170	30
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		1									1	
Queuing Penalty (veh)		5									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	0	41	0	19	9		8	1	2	14	1	
Queuing Penalty (veh)	2	51	2	95	27		37	3	4	12	1	

Intersection: 1: Mustang Trail Way & 11800 South, All Intervals

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	1
95th Queue (ft)	10
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	L	TR	L	TR
Maximum Queue (ft)	24	19	41	60	34	18
Average Queue (ft)	6	3	23	34	17	5
95th Queue (ft)	34	19	52	58	39	19
Link Distance (ft)	593	1078	676		1000	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #2

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	40	43	2	37	57	43	21
Average Queue (ft)	7	8	0	15	33	20	7
95th Queue (ft)	36	39	4	43	59	46	22
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	105	90	2	48	80	56	19
Average Queue (ft)	22	19	0	25	41	24	6
95th Queue (ft)	145	96	4	52	77	58	22
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)		0			0	0	
Queuing Penalty (veh)		0			0	0	

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	L	TR	L	TR
Maximum Queue (ft)	38	41	39	50	44	20
Average Queue (ft)	7	7	20	31	22	5
95th Queue (ft)	39	40	48	55	47	19
Link Distance (ft)	593	1078	676		1000	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	137	106	4	60	86	65	21
Average Queue (ft)	10	9	0	21	35	21	6
95th Queue (ft)	78	55	3	49	64	48	21
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)		0			0	0	
Queuing Penalty (veh)		0			0	0	

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	2	68	37	43
Average Queue (ft)	0	19	20	20
95th Queue (ft)	5	67	47	51
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	LT	L	R
Maximum Queue (ft)	90	39	49
Average Queue (ft)	23	20	20
95th Queue (ft)	92	47	52
Link Distance (ft)	593	467	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	80	191	56	49
Average Queue (ft)	24	66	31	23
95th Queue (ft)	185	221	62	54
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	25	102	46	45
Average Queue (ft)	5	34	18	20
95th Queue (ft)	56	114	51	49
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	80	209	63	65
Average Queue (ft)	7	35	22	21
95th Queue (ft)	93	137	53	52
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Network Summary

Network wide Queuing Penalty, Interval #1: 130
Network wide Queuing Penalty, Interval #2: 125
Network wide Queuing Penalty, Interval #3: 500
Network wide Queuing Penalty, Interval #4: 202
Network wide Queuing Penalty, All Intervals: 239

HALES ENGINEERING
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SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	182	99	115.6	*F*
	T	35	35	100	60.7	*E*
	R	390	389	100	64.1	*E*
	Subtotal	609	606	100	79.4	*E*
SB	L	180	179	99	87.5	*F*
	T	55	55	100	39.9	*D*
	R	45	50	111	22.0	*C*
	Subtotal	280	284	101	66.8	*E*
EB	L	50	48	96	61.0	*E*
	T	536	523	98	45.4	*D*
	R	175	166	95	21.5	*C*
	Subtotal	761	737	97	41.0	*D*
WB	L	305	289	95	141.6	*F*
	T	552	530	96	85.7	*F*
	R	80	84	105	10.7	*B*
	Subtotal	937	903	96	96.6	*F*
Total		2,608	2,549	98	73.4	*E*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	30	99	14.4	*B*
	R	75	76	101	7.9	*A*
	Subtotal	105	106	101	9.7	*A*
SB	L	53	52	98	20.4	*C*
	R	10	11	110	6.8	*A*
	Subtotal	***63***	***63***	***100***	***18.0***	***C***
EB	L	10	10	98	6.0	*A*
	T	496	501	101	2.3	*A*
	R	10	10	100	1.5	*A*
	Subtotal	516	521	101	2.4	*A*
WB	L	15	13	88	4.8	*A*
	T	530	513	97	1.4	*A*
	R	40	42	104	0.5	*A*
	Subtotal	585	568	97	1.4	*A*
Total		1,270	1,258	99	3.3	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	200	194	97	109.2	*F*
	Subtotal	***200***	***194***	***97***	***109.2***	***F***
EB	T	582	584	100	4.5	*A*
	R	44	46	105	1.4	*A*
	Subtotal	626	630	101	4.3	*A*
WB	L	211	209	99	26.6	*D*
	T	589	572	97	0.9	*A*
	Subtotal	800	781	98	7.8	*A*
Total		1,626	1,605	99	18.9	*C*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.3	0.0	0.0	0.1	1.2	0.3	0.2	2.5	0.9	2.6	3.8	0.6
Total Delay (hr)	0.0	0.1	0.6	0.1	0.4	0.4	0.0	0.6	0.1	0.5	0.5	0.1
Total Del/Veh (s)	17.2	21.2	18.0	5.7	23.3	11.4	2.2	53.2	41.4	19.1	46.9	32.8
Vehicles Entered	3	10	113	38	61	123	20	38	8	86	39	13
Vehicles Exited	4	10	119	38	63	129	20	36	7	84	34	12
Hourly Exit Rate	16	40	476	152	252	516	80	144	28	336	136	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	104	106	101	105	113	91	90	97	85	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.5
Total Del/Veh (s)	7.2	20.8
Vehicles Entered	11	563
Vehicles Exited	11	567
Hourly Exit Rate	44	2268
Input Volume	37	2252
% of Volume	119	101

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.4	0.3	0.2	2.6	1.0	2.6	3.7	0.4
Total Delay (hr)	0.0	0.1	0.6	0.0	0.4	0.5	0.0	0.6	0.1	0.5	0.6	0.1
Total Del/Veh (s)	24.2	24.1	18.0	4.8	24.0	13.4	2.6	50.8	39.8	19.2	48.1	32.9
Vehicles Entered	5	9	111	30	61	123	19	37	8	91	40	13
Vehicles Exited	5	9	107	30	60	116	19	40	8	92	44	13
Hourly Exit Rate	20	36	428	120	240	464	76	160	32	368	176	52
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	92	93	83	96	95	107	101	103	106	110	106

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.6
Total Del/Veh (s)	9.9	22.0
Vehicles Entered	10	557
Vehicles Exited	10	553
Hourly Exit Rate	40	2212
Input Volume	37	2252
% of Volume	108	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	3.6	2.6	1.0	3.1	1.9	1.0	0.8	3.1	2.2	3.5	3.6	0.9
Total Delay (hr)	0.1	0.3	2.6	0.4	4.6	4.4	0.1	2.6	0.2	2.8	1.7	0.2
Total Del/Veh (s)	81.0	77.4	59.2	30.3	136.3	82.4	10.8	130.7	56.5	75.7	96.3	43.1
Vehicles Entered	6	15	154	49	116	179	26	69	11	129	60	18
Vehicles Exited	6	14	151	46	81	144	25	52	10	105	49	17
Hourly Exit Rate	24	56	604	184	324	576	100	208	40	420	196	68
Input Volume	33	83	765	269	469	736	107	263	47	520	240	73
% of Volume	73	67	79	68	69	78	93	79	85	81	82	93

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.5
Denied Del/Veh (s)	3.5	2.1
Total Delay (hr)	0.1	20.2
Total Del/Veh (s)	23.3	81.8
Vehicles Entered	19	851
Vehicles Exited	17	717
Hourly Exit Rate	68	2868
Input Volume	69	3674
% of Volume	99	78

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.8	0.8	2.3	1.1	1.3	3.0	1.5	2.8	3.8	0.6
Total Delay (hr)	0.1	0.4	3.0	0.5	6.8	8.0	0.1	2.2	0.2	3.3	1.6	0.1
Total Del/Veh (s)	100.5	86.4	66.4	33.1	225.7	170.3	24.5	137.7	81.9	101.0	106.8	38.1
Vehicles Entered	5	15	156	49	66	121	20	38	9	86	42	11
Vehicles Exited	5	15	147	51	86	141	21	54	10	107	52	12
Hourly Exit Rate	20	60	588	204	344	564	84	216	40	428	208	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	154	128	142	138	115	118	137	129	123	130	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.3
Denied Del/Veh (s)	3.7	1.7
Total Delay (hr)	0.1	26.5
Total Del/Veh (s)	39.8	119.0
Vehicles Entered	10	628
Vehicles Exited	12	713
Hourly Exit Rate	48	2852
Input Volume	37	2252
% of Volume	130	127

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	1.2	0.8	0.5	1.2	1.7	0.7	0.7	2.8	1.5	3.0	3.7	0.6
Total Delay (hr)	0.3	0.8	6.8	1.0	12.3	13.3	0.3	5.9	0.6	7.1	4.4	0.6
Total Del/Veh (s)	58.9	61.0	45.4	21.5	141.6	85.7	10.7	115.6	60.7	64.1	87.5	39.9
Vehicles Entered	19	49	534	166	305	546	85	182	35	393	181	55
Vehicles Exited	19	48	523	166	289	530	84	182	35	389	179	55
Hourly Exit Rate	19	48	523	166	289	530	84	182	35	389	179	55
Input Volume	20	50	536	175	305	552	80	184	35	390	180	55
% of Volume	94	96	98	95	95	96	105	99	100	100	99	100

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.1	1.2
Denied Del/Veh (s)	3.6	1.6
Total Delay (hr)	0.3	53.8
Total Del/Veh (s)	22.0	73.4
Vehicles Entered	50	2600
Vehicles Exited	50	2549
Hourly Exit Rate	50	2549
Input Volume	45	2608
% of Volume	111	98

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.2	4.0	0.1	2.4	0.4
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	4.4	1.9	2.2	4.7	1.4	0.4	10.7	5.7	16.5	4.5	2.7
Vehicles Entered	2	116	2	3	122	11	5	18	12	3	294
Vehicles Exited	3	116	2	3	122	11	5	17	12	3	294
Hourly Exit Rate	12	464	8	12	488	44	20	68	48	12	1176
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	133	105	89	92	104	122	74	101	104	133	104

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.2	4.1	0.1	3.0	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	5.1	1.6	1.3	4.1	1.1	0.3	9.6	4.6	11.2	5.2	2.2
Vehicles Entered	2	104	2	2	114	10	8	16	11	2	271
Vehicles Exited	2	103	2	2	115	10	8	16	11	3	272
Hourly Exit Rate	8	412	8	8	460	40	32	64	44	12	1088
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	93	89	62	98	111	119	96	96	133	96

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.6	0.6	0.6	0.0	0.0	0.0	0.4	3.9	0.2	1.6	0.6
Total Delay (hr)	0.0	0.2	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.0	0.5
Total Del/Veh (s)	7.0	3.1	2.5	7.0	1.7	0.7	18.4	11.7	29.3	6.2	4.9
Vehicles Entered	3	169	3	4	137	12	10	25	18	4	385
Vehicles Exited	3	168	3	4	135	12	10	25	17	3	380
Hourly Exit Rate	12	672	12	16	540	48	40	100	68	12	1520
Input Volume	14	661	13	20	707	53	40	100	74	13	1695
% of Volume	86	102	92	80	76	91	100	100	92	92	90

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.4	0.2	0.0	0.0	0.0	0.3	3.9	0.1	2.4	0.4
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	5.4	1.9	0.5	4.0	1.2	0.6	14.7	6.6	14.3	10.5	2.7
Vehicles Entered	2	112	2	3	140	10	7	17	11	2	306
Vehicles Exited	3	115	2	3	142	10	7	17	12	2	313
Hourly Exit Rate	12	460	8	12	568	40	28	68	48	8	1252
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	133	104	89	92	121	111	104	101	104	89	111

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Denied Del/Veh (s)	0.3	0.4	0.3	0.0	0.0	0.0	0.3	4.0	0.1	2.2	0.4
Total Delay (hr)	0.0	0.3	0.0	0.0	0.2	0.0	0.1	0.2	0.3	0.0	1.2
Total Del/Veh (s)	6.0	2.3	1.5	4.8	1.4	0.5	14.4	7.9	20.4	6.8	3.3
Vehicles Entered	10	501	10	13	513	42	30	75	52	11	1257
Vehicles Exited	10	501	10	13	513	42	30	76	52	11	1258
Hourly Exit Rate	10	501	10	13	513	42	30	76	52	11	1258
Input Volume	10	496	10	15	530	40	30	75	53	10	1270
% of Volume	98	101	100	88	97	104	99	101	98	110	99

8: 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.6	0.4	0.5
Vehicles Entered	145	136	281
Vehicles Exited	145	136	281
Hourly Exit Rate	580	544	1124
Input Volume	554	520	1074
% of Volume	105	105	105

8: 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.5	0.4	0.5
Vehicles Entered	130	126	256
Vehicles Exited	130	127	257
Hourly Exit Rate	520	508	1028
Input Volume	554	520	1074
% of Volume	94	98	96

8: 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	1.6	0.4	1.1
Vehicles Entered	215	154	369
Vehicles Exited	214	153	367
Hourly Exit Rate	856	612	1468
Input Volume	855	780	1635
% of Volume	100	78	90

8: 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	1.4	0.4	0.9
Vehicles Entered	143	151	294
Vehicles Exited	146	152	298
Hourly Exit Rate	584	608	1192
Input Volume	554	520	1074
% of Volume	105	117	111

8: 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.2	0.1	0.3
Total Del/Veh (s)	1.1	0.4	0.8
Vehicles Entered	633	568	1201
Vehicles Exited	634	568	1202
Hourly Exit Rate	634	568	1202
Input Volume	629	585	1214
% of Volume	101	97	99

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	0.8	0.2	5.2	0.6	5.4	1.6
Vehicles Entered	136	7	35	135	28	341
Vehicles Exited	136	7	36	136	29	344
Hourly Exit Rate	544	28	144	544	116	1376
Input Volume	518	29	141	520	133	1341
% of Volume	105	97	102	105	87	103

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.2
Total Del/Veh (s)	0.9	0.3	5.1	0.6	5.5	1.7
Vehicles Entered	119	9	35	128	35	326
Vehicles Exited	120	9	34	126	35	324
Hourly Exit Rate	480	36	136	504	140	1296
Input Volume	518	29	141	520	133	1341
% of Volume	93	124	96	97	105	97

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	1.5	1.5
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	53.9	9.7
Total Delay (hr)	0.4	0.0	1.1	0.1	2.7	4.3
Total Del/Veh (s)	6.9	2.1	47.6	1.6	125.5	28.7
Vehicles Entered	192	23	86	158	78	537
Vehicles Exited	185	23	82	158	60	508
Hourly Exit Rate	740	92	328	632	240	2032
Input Volume	773	88	422	796	400	2479
% of Volume	96	105	78	79	60	82

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	3.1	3.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	194.9	27.8
Total Delay (hr)	0.3	0.0	0.3	0.0	3.2	3.9
Total Del/Veh (s)	7.7	1.7	19.6	0.8	154.7	31.8
Vehicles Entered	137	7	54	151	57	406
Vehicles Exited	143	7	57	152	70	429
Hourly Exit Rate	572	28	228	608	280	1716
Input Volume	518	29	141	520	133	1341
% of Volume	110	97	162	117	211	128

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	4.7	4.7
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	84.2	10.4
Total Delay (hr)	0.7	0.0	1.6	0.1	6.0	8.5
Total Del/Veh (s)	4.5	1.4	26.6	0.9	109.2	18.9
Vehicles Entered	584	46	209	572	198	1609
Vehicles Exited	584	46	209	572	194	1605
Hourly Exit Rate	584	46	209	572	194	1605
Input Volume	582	44	211	589	200	1626
% of Volume	100	105	99	97	97	99

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.3	4.3	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.1	0.0	0.2
Total Del/Veh (s)	1.4	0.7	6.8	1.8	29.4	4.9	2.3
Vehicles Entered	156	9	7	175	6	5	358
Vehicles Exited	156	9	7	175	6	6	359
Hourly Exit Rate	624	36	28	700	24	24	1436
Input Volume	624	36	31	683	27	22	1423
% of Volume	100	100	90	102	89	109	101

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	4.1	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.4	0.6	6.0	1.7	20.5	6.1	2.1
Vehicles Entered	146	10	8	166	7	6	343
Vehicles Exited	146	10	8	166	7	6	343
Hourly Exit Rate	584	40	32	664	28	24	1372
Input Volume	624	36	31	683	27	22	1423
% of Volume	94	111	103	97	104	109	96

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.6	0.2	0.3	4.2	0.2
Total Delay (hr)	2.0	0.1	0.0	0.2	0.6	0.4	3.3
Total Del/Veh (s)	30.8	25.5	14.9	2.5	212.4	141.2	23.0
Vehicles Entered	235	11	9	236	10	9	510
Vehicles Exited	220	10	8	236	9	5	488
Hourly Exit Rate	880	40	32	944	36	20	1952
Input Volume	1120	53	47	1178	40	33	2471
% of Volume	79	75	68	80	90	61	79

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	1.4	0.0	0.0	0.1	0.2	3.8	0.7
Total Delay (hr)	2.8	0.1	0.0	0.1	0.3	0.9	4.3
Total Del/Veh (s)	45.6	39.1	19.9	2.0	141.1	295.8	32.8
Vehicles Entered	204	11	9	206	6	7	443
Vehicles Exited	215	12	9	207	6	8	457
Hourly Exit Rate	860	48	36	828	24	32	1828
Input Volume	624	36	31	683	27	22	1423
% of Volume	138	133	116	121	89	145	128

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.0	0.2	0.1	0.3	4.1	0.3
Total Delay (hr)	4.9	0.2	0.1	0.4	1.0	1.3	8.0
Total Del/Veh (s)	23.9	18.6	12.7	2.0	119.4	175.3	17.4
Vehicles Entered	741	41	32	784	29	27	1654
Vehicles Exited	738	40	32	785	28	24	1647
Hourly Exit Rate	738	40	32	785	28	24	1647
Input Volume	748	40	35	807	30	25	1685
% of Volume	99	99	91	97	93	97	98

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	2.1	3.6	6.1
Denied Del/Veh (s)	1.3	1.4	7.4	20.1	7.7
Total Delay (hr)	4.6	4.7	29.2	35.8	74.3
Total Del/Veh (s)	24.4	24.7	97.8	140.2	91.5
Vehicles Entered	605	604	994	637	2842
Vehicles Exited	604	602	793	768	2771
Hourly Exit Rate	2416	2408	3172	3072	2771
Input Volume	9566	9566	15975	9566	11168
% of Volume	25	25	20	32	25

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	94	305	148	170	228	33	186	63	222	158	100	41
Average Queue (ft)	37	168	42	104	141	14	103	20	99	92	35	18
95th Queue (ft)	104	289	139	179	249	35	188	61	211	157	93	44
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		10		1	4		5		6	3	0	
Queuing Penalty (veh)		20		7	10		20		12	3	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	94	262	210	186	255	37	171	55	201	182	122	35
Average Queue (ft)	35	142	49	105	118	14	115	26	125	119	53	15
95th Queue (ft)	103	266	178	193	259	41	187	61	220	212	188	37
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		8		2	5		6		6	10	0	
Queuing Penalty (veh)		17		10	14		23		12	9	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	234	521	250	250	2066	1650	398	831	425	238	376	133
Average Queue (ft)	110	445	170	235	958	369	280	360	297	175	169	38
95th Queue (ft)	254	646	336	295	2063	1494	492	1142	506	280	471	139
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		23			3	1		2				
Queuing Penalty (veh)		257			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	50		62	14		56		51	41	0	
Queuing Penalty (veh)	14	194		453	63		317		158	58	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	249	521	250	250	2207	1949	399	895	411	228	307	57
Average Queue (ft)	133	511	176	247	1756	963	249	477	314	186	168	21
95th Queue (ft)	298	550	340	267	2915	2644	479	1306	554	282	510	76
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		29			9	2		0				
Queuing Penalty (veh)		186			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	56		73	14		39		51	41	0	
Queuing Penalty (veh)	5	111		361	36		149		96	35	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	250	523	250	250	2212	2082	408	942	426	239	401	133
Average Queue (ft)	79	317	109	173	743	340	187	221	209	143	106	23
95th Queue (ft)	218	618	286	303	2119	1537	397	881	446	254	367	85
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		13			3	1		1				
Queuing Penalty (veh)		111			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	31		35	9		27		29	24	0	
Queuing Penalty (veh)	5	86		208	31		127		69	26	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	26	60	35	49	59	27
Average Queue (ft)	6	12	17	32	30	9
95th Queue (ft)	33	65	43	55	64	32
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)					1	
Queuing Penalty (veh)					0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	31	38	43	53	44	29
Average Queue (ft)	5	7	22	31	29	9
95th Queue (ft)	32	38	50	55	55	31
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	64	88	51	80	84	38
Average Queue (ft)	11	18	26	45	47	12
95th Queue (ft)	60	72	58	81	93	41
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)			0	0	2	
Queuing Penalty (veh)			0	0	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	54	60	45	62	51	32
Average Queue (ft)	11	11	21	34	29	8
95th Queue (ft)	51	58	50	64	59	30
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	78	104	62	90	90	42
Average Queue (ft)	8	12	22	36	34	10
95th Queue (ft)	45	60	51	66	70	34
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)			0	0	1	
Queuing Penalty (veh)			0	0	0	

Intersection: 8: 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #3

Movement	EB
Directions Served	TR
Maximum Queue (ft)	63
Average Queue (ft)	8
95th Queue (ft)	60
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: 11800 South, Interval #4

Movement	EB
Directions Served	TR
Maximum Queue (ft)	46
Average Queue (ft)	9
95th Queue (ft)	71
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: 11800 South, All Intervals

Movement	EB
Directions Served	TR
Maximum Queue (ft)	78
Average Queue (ft)	4
95th Queue (ft)	45
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #1

Movement	EB	WB	NB
Directions Served	T	L	R
Maximum Queue (ft)	2	76	56
Average Queue (ft)	0	38	32
95th Queue (ft)	5	77	59
Link Distance (ft)	277		400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	9	64	59
Average Queue (ft)	1	37	37
95th Queue (ft)	12	69	61
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	232	113	301	242	426
Average Queue (ft)	70	26	181	63	312
95th Queue (ft)	231	123	363	295	519
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	1			0	39
Queuing Penalty (veh)	8			3	0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	9		46	0	
Queuing Penalty (veh)	8		357	0	

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	248	82	176	45	435
Average Queue (ft)	107	12	82	6	360
95th Queue (ft)	248	89	192	95	567
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	1				68
Queuing Penalty (veh)	4				0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	8		10		
Queuing Penalty (veh)	2		54		

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	268	149	312	261	440
Average Queue (ft)	44	10	84	17	186
95th Queue (ft)	175	74	231	149	476
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	0			0	27
Queuing Penalty (veh)	3			1	0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	4		14	0	
Queuing Penalty (veh)	3		103	0	

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	30	50	39
Average Queue (ft)	11	22	18
95th Queue (ft)	36	56	47
Link Distance (ft)		484	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)		1	
Queuing Penalty (veh)		0	

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	49	44
Average Queue (ft)	15	22	21
95th Queue (ft)	42	53	54
Link Distance (ft)		484	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	537	41	26	160	93
Average Queue (ft)	306	19	5	87	49
95th Queue (ft)	690	49	42	161	105
Link Distance (ft)	528		505	484	
Upstream Blk Time (%)	6				
Queuing Penalty (veh)	74				
Storage Bay Dist (ft)		100			100
Storage Blk Time (%)			0	31	6
Queuing Penalty (veh)			0	10	3

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	538	38	170	130
Average Queue (ft)	506	16	99	80
95th Queue (ft)	651	45	236	149
Link Distance (ft)	528		484	
Upstream Blk Time (%)	8			
Queuing Penalty (veh)	53			
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			21	33
Queuing Penalty (veh)			5	9

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	541	52	26	193	134
Average Queue (ft)	203	15	1	58	42
95th Queue (ft)	612	44	20	158	107
Link Distance (ft)	528		505	484	
Upstream Blk Time (%)	4				
Queuing Penalty (veh)	32				
Storage Bay Dist (ft)		100			100
Storage Blk Time (%)			0	13	10
Queuing Penalty (veh)			0	4	3

Network Summary

Network wide Queuing Penalty, Interval #1: 73
Network wide Queuing Penalty, Interval #2: 85
Network wide Queuing Penalty, Interval #3: 1979
Network wide Queuing Penalty, Interval #4: 1106
Network wide Queuing Penalty, All Intervals: 811

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project - Mitigated*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	181	98	48.5	*D*
	T	35	37	106	49.2	*D*
	R	390	390	100	16.0	*B*
	Subtotal	609	608	100	27.7	*C*
SB	L	180	184	102	49.2	*D*
	T	55	54	98	49.2	*D*
	R	45	46	102	8.7	*A*
	Subtotal	280	284	101	42.6	*D*
EB	L	50	49	98	36.1	*D*
	T	536	537	100	20.2	*C*
	R	175	168	96	7.3	*A*
	Subtotal	761	754	99	18.4	*B*
WB	L	305	312	102	36.2	*D*
	T	552	539	98	12.0	*B*
	R	80	86	108	3.6	*A*
	Subtotal	937	937	100	19.3	*B*
Total		2,608	2,603	100	23.7	*C*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	29	96	11.4	*B*
	R	75	75	100	4.6	*A*
	Subtotal	105	104	99	6.5	*A*
SB	L	53	50	94	16.3	*C*
	R	10	10	100	4.2	*A*
	Subtotal	***63***	***60***	***95***	***14.3***	***B***
EB	L	10	10	98	4.8	*A*
	T	496	495	100	0.8	*A*
	R	10	10	100	1.1	*A*
	Subtotal	516	515	100	0.9	*A*
WB	L	15	13	88	4.5	*A*
	T	530	514	97	0.3	*A*
	R	40	41	102	0.2	*A*
	Subtotal	585	568	97	0.4	*A*
Total		1,270	1,247	98	1.8	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project - Mitigated***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	200	200	100	10.8	*B*
	Subtotal	***200***	***200***	***100***	***10.8***	***B***
EB	T	582	575	99	0.6	*A*
	R	44	44	101	0.4	*A*
	Subtotal	626	619	99	0.6	*A*
WB	L	211	217	103	13.3	*B*
	T	589	571	97	0.4	*A*
	Subtotal	800	788	99	4.0	*A*
Total		1,626	1,607	99	3.5	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.3	0.2	1.3	2.6	0.9	2.5	3.8	0.4
Total Delay (hr)	0.0	0.0	0.4	0.0	0.3	0.3	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	17.3	15.6	11.2	3.2	16.9	7.4	3.0	41.6	53.6	10.2	42.5	45.2
Vehicles Entered	4	10	115	35	61	120	18	39	7	88	39	13
Vehicles Exited	4	10	112	34	60	117	18	43	8	89	40	14
Hourly Exit Rate	16	40	448	136	240	468	72	172	32	356	160	56
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	98	94	96	95	101	109	103	103	100	114

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.9	1.2
Total Delay (hr)	0.0	2.6
Total Del/Veh (s)	4.9	16.0
Vehicles Entered	9	558
Vehicles Exited	9	558
Hourly Exit Rate	36	2232
Input Volume	37	2252
% of Volume	97	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.4	0.3	1.2	2.6	1.0	2.7	3.7	0.7
Total Delay (hr)	0.0	0.0	0.4	0.0	0.3	0.3	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	14.4	17.9	11.6	3.4	16.3	7.9	2.2	41.5	43.5	10.0	43.2	48.1
Vehicles Entered	4	10	114	34	63	120	18	39	8	87	40	12
Vehicles Exited	4	10	116	34	64	121	17	36	8	86	37	12
Hourly Exit Rate	16	40	464	136	256	484	68	144	32	344	148	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	101	94	102	99	96	91	103	99	92	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.9	1.2
Total Delay (hr)	0.0	2.6
Total Del/Veh (s)	5.3	15.9
Vehicles Entered	9	558
Vehicles Exited	9	554
Hourly Exit Rate	36	2216
Input Volume	37	2252
% of Volume	97	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.2	1.3	0.4	1.1	2.5	1.7	2.6	3.6	0.8
Total Delay (hr)	0.1	0.3	1.6	0.2	1.9	0.9	0.0	1.1	0.2	0.9	0.9	0.3
Total Del/Veh (s)	49.5	51.0	30.9	12.2	54.1	16.9	5.1	55.2	45.6	24.6	49.9	50.7
Vehicles Entered	7	20	188	61	122	180	30	68	15	125	62	18
Vehicles Exited	7	17	182	60	107	173	28	67	14	121	61	17
Hourly Exit Rate	28	68	728	240	428	692	112	268	56	484	244	68
Input Volume	33	83	765	269	469	736	107	263	47	520	240	73
% of Volume	85	82	95	89	91	94	105	102	119	93	102	93

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.3
Denied Del/Veh (s)	3.6	1.2
Total Delay (hr)	0.1	8.5
Total Del/Veh (s)	12.2	32.3
Vehicles Entered	18	914
Vehicles Exited	17	871
Hourly Exit Rate	68	3484
Input Volume	69	3674
% of Volume	99	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	1.3	0.2	1.2	2.8	1.0	2.7	3.8	0.7
Total Delay (hr)	0.0	0.1	0.7	0.1	0.7	0.4	0.0	0.4	0.1	0.3	0.6	0.1
Total Del/Veh (s)	30.1	34.6	18.4	6.2	28.4	10.5	2.9	37.7	51.0	12.6	46.2	41.3
Vehicles Entered	5	9	120	39	68	120	20	34	7	90	44	11
Vehicles Exited	5	12	126	39	81	128	22	35	8	94	46	12
Hourly Exit Rate	20	48	504	156	324	512	88	140	32	376	184	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	123	110	108	130	104	124	89	103	108	115	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.7
Total Del/Veh (s)	7.7	20.2
Vehicles Entered	10	577
Vehicles Exited	11	619
Hourly Exit Rate	44	2476
Input Volume	37	2252
% of Volume	119	110

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.1	1.3	0.3	1.2	2.6	1.2	2.6	3.7	0.7
Total Delay (hr)	0.2	0.5	3.0	0.3	3.2	1.8	0.1	2.5	0.5	1.8	2.6	0.8
Total Del/Veh (s)	31.2	36.1	20.2	7.3	36.2	12.0	3.6	48.5	49.2	16.0	49.2	49.2
Vehicles Entered	20	48	537	169	313	539	86	180	37	390	185	54
Vehicles Exited	20	49	537	168	312	539	86	181	37	390	184	54
Hourly Exit Rate	20	49	537	168	312	539	86	181	37	390	184	54
Input Volume	20	50	536	175	305	552	80	184	35	390	180	55
% of Volume	99	98	100	96	102	98	108	98	106	100	102	98

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	0.9
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.1	17.3
Total Del/Veh (s)	8.7	23.7
Vehicles Entered	46	2604
Vehicles Exited	46	2603
Hourly Exit Rate	46	2603
Input Volume	45	2608
% of Volume	102	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.2	0.1	0.8	0.0	0.0	0.0	0.3	4.0	0.1	2.8	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	6.8	0.7	0.4	7.0	0.3	0.2	8.9	3.8	13.0	3.7	1.5
Vehicles Entered	2	114	2	2	114	10	6	17	11	2	280
Vehicles Exited	2	113	2	2	115	10	6	17	11	2	280
Hourly Exit Rate	8	452	8	8	460	40	24	68	44	8	1120
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	102	89	62	98	111	89	101	96	89	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.0	0.1	1.7	0.0	0.0	0.0	0.2	4.0	0.1	2.4	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.4	0.7	1.1	3.5	0.3	0.1	9.8	3.4	8.5	4.3	1.3
Vehicles Entered	2	111	3	3	114	9	6	16	11	2	277
Vehicles Exited	2	110	3	3	113	9	6	16	11	2	275
Hourly Exit Rate	8	440	12	12	452	36	24	64	44	8	1100
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	100	133	92	96	100	89	96	96	89	98

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.6	0.2	1.0	0.0	0.0	0.0	0.5	3.9	0.1	1.8	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3
Total Del/Veh (s)	5.4	1.0	1.0	5.0	0.4	0.2	14.3	5.6	22.2	5.0	2.3
Vehicles Entered	3	163	4	5	164	12	9	24	16	4	404
Vehicles Exited	3	161	4	5	165	12	9	24	16	3	402
Hourly Exit Rate	12	644	16	20	660	48	36	96	64	12	1608
Input Volume	14	661	13	20	707	53	40	100	74	13	1695
% of Volume	86	97	123	100	93	91	90	96	86	92	95

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.4	0.1	1.7	0.0	0.0	0.0	0.4	3.9	0.1	2.1	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.0	0.7	1.2	3.0	0.3	0.1	9.4	4.3	13.7	3.6	1.6
Vehicles Entered	2	108	2	3	121	10	7	17	11	3	284
Vehicles Exited	2	111	2	3	121	10	7	18	12	3	289
Hourly Exit Rate	8	444	8	12	484	40	28	72	48	12	1156
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	101	89	92	103	111	104	107	104	133	102

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	1.6	0.1	1.4	0.0	0.0	0.0	0.4	3.9	0.1	2.2	0.3
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.6
Total Del/Veh (s)	4.8	0.8	1.1	4.5	0.3	0.2	11.4	4.6	16.3	4.2	1.8
Vehicles Entered	9	496	10	13	514	40	29	75	50	11	1247
Vehicles Exited	10	495	10	13	514	41	29	75	50	10	1247
Hourly Exit Rate	10	495	10	13	514	41	29	75	50	10	1247
Input Volume	10	496	10	15	530	40	30	75	53	10	1270
% of Volume	98	100	100	88	97	102	96	100	94	100	98

8: 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.2
Vehicles Entered	141	127	268
Vehicles Exited	141	127	268
Hourly Exit Rate	564	508	1072
Input Volume	554	520	1074
% of Volume	102	98	100

8: 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.2
Vehicles Entered	138	127	265
Vehicles Exited	137	126	263
Hourly Exit Rate	548	504	1052
Input Volume	554	520	1074
% of Volume	99	97	98

8: 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.4	0.3	0.3
Vehicles Entered	205	181	386
Vehicles Exited	205	181	386
Hourly Exit Rate	820	724	1544
Input Volume	855	780	1635
% of Volume	96	93	94

8: 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.3
Vehicles Entered	141	133	274
Vehicles Exited	142	133	275
Hourly Exit Rate	568	532	1100
Input Volume	554	520	1074
% of Volume	103	102	102

8: 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	0.3	0.2	0.3
Vehicles Entered	625	568	1193
Vehicles Exited	624	567	1191
Hourly Exit Rate	624	567	1191
Input Volume	629	585	1214
% of Volume	99	97	98

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.3	0.1	4.9	0.3	4.3	1.2
Vehicles Entered	132	7	36	127	31	333
Vehicles Exited	132	7	37	127	31	334
Hourly Exit Rate	528	28	148	508	124	1336
Input Volume	518	29	141	520	133	1341
% of Volume	102	97	105	98	93	100

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.2	5.1	0.4	4.4	1.3
Vehicles Entered	127	8	36	128	33	332
Vehicles Exited	127	8	36	127	33	331
Hourly Exit Rate	508	32	144	508	132	1324
Input Volume	518	29	141	520	133	1341
% of Volume	98	110	102	98	99	99

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.5	0.1
Total Delay (hr)	0.1	0.0	0.6	0.0	0.5	1.1
Total Del/Veh (s)	1.1	0.7	20.3	0.5	15.7	6.7
Vehicles Entered	184	22	102	184	103	595
Vehicles Exited	183	22	98	184	100	587
Hourly Exit Rate	732	88	392	736	400	2348
Input Volume	773	88	422	796	400	2479
% of Volume	95	100	93	92	100	95

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.2
Total Del/Veh (s)	0.5	0.3	9.0	0.4	6.5	2.2
Vehicles Entered	133	7	42	133	32	347
Vehicles Exited	133	8	47	133	36	357
Hourly Exit Rate	532	32	188	532	144	1428
Input Volume	518	29	141	520	133	1341
% of Volume	103	110	133	102	108	106

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay (hr)	0.1	0.0	0.8	0.1	0.6	1.6
Total Del/Veh (s)	0.6	0.4	13.3	0.4	10.8	3.5
Vehicles Entered	575	44	217	571	200	1607
Vehicles Exited	575	44	217	571	200	1607
Hourly Exit Rate	575	44	217	571	200	1607
Input Volume	582	44	211	589	200	1626
% of Volume	99	101	103	97	100	99

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.2	0.0	0.2	4.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.4	5.6	1.1	19.5	3.7	1.3
Vehicles Entered	156	9	6	170	8	5	354
Vehicles Exited	156	9	6	168	8	5	352
Hourly Exit Rate	624	36	24	672	32	20	1408
Input Volume	624	36	31	683	27	22	1423
% of Volume	100	100	77	98	119	91	99

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	4.4	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.4	6.8	1.1	12.6	3.6	1.2
Vehicles Entered	153	10	6	166	7	6	348
Vehicles Exited	152	10	7	169	7	6	351
Hourly Exit Rate	608	40	28	676	28	24	1404
Input Volume	624	36	31	683	27	22	1423
% of Volume	97	111	90	99	104	109	99

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.4	0.1	0.3	4.4	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.6	0.0	0.8
Total Del/Veh (s)	0.9	0.9	16.1	1.4	166.6	20.4	5.0
Vehicles Entered	270	13	11	282	12	7	595
Vehicles Exited	269	13	11	278	9	7	587
Hourly Exit Rate	1076	52	44	1112	36	28	2348
Input Volume	1120	53	47	1178	40	33	2471
% of Volume	96	98	94	94	90	85	95

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	3.8	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.2	0.0	0.3
Total Del/Veh (s)	0.5	0.5	6.9	1.2	66.7	15.1	3.0
Vehicles Entered	162	9	8	174	7	7	367
Vehicles Exited	164	9	8	178	10	7	376
Hourly Exit Rate	656	36	32	712	40	28	1504
Input Volume	624	36	31	683	27	22	1423
% of Volume	105	100	103	104	148	127	106

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.2	4.1	0.1
Total Delay (hr)	0.1	0.0	0.1	0.3	0.8	0.1	1.4
Total Del/Veh (s)	0.6	0.6	10.0	1.3	88.2	12.5	3.0
Vehicles Entered	741	40	32	793	33	25	1664
Vehicles Exited	741	40	32	794	33	25	1665
Hourly Exit Rate	741	40	32	794	33	25	1665
Input Volume	748	40	35	807	30	25	1685
% of Volume	99	99	91	98	109	101	99

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	0.4	0.2	1.0
Denied Del/Veh (s)	1.3	1.4	1.3	1.4	1.3
Total Delay (hr)	3.3	3.3	11.5	4.8	22.9
Total Del/Veh (s)	17.9	17.5	37.4	22.4	28.3
Vehicles Entered	601	602	1028	609	2840
Vehicles Exited	601	594	944	692	2835
Hourly Exit Rate	2404	2376	3776	2768	2835
Input Volume	9566	9566	15975	9566	11168
% of Volume	25	25	24	29	25

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	62	102	110	40	125	95	91	26	178	73	120	164
Average Queue (ft)	25	59	63	21	79	50	47	10	109	26	77	95
95th Queue (ft)	63	116	126	46	140	105	100	28	176	72	128	161
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)			0		0	0	1		3	0	0	3
Queuing Penalty (veh)			0		1	0	1		13	0	0	3

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	109	26
Average Queue (ft)	45	13
95th Queue (ft)	104	31
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	51	114	119	56	151	100	98	28	162	53	132	160
Average Queue (ft)	26	61	68	23	86	54	52	10	94	21	67	94
95th Queue (ft)	58	112	121	59	150	104	101	32	172	55	127	166
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)		0	0	0	1	0	1	0	3		1	3
Queuing Penalty (veh)		0	0	0	3	0	1	0	13		2	3

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	98	26
Average Queue (ft)	44	15
95th Queue (ft)	105	32
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	171	259	263	204	250	522	425	32	277	127	269	232
Average Queue (ft)	84	190	196	105	206	292	194	14	181	46	159	152
95th Queue (ft)	177	289	302	233	300	705	580	34	309	125	296	245
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	4	16	19	1	36	1	4		25	0	17	20
Queuing Penalty (veh)	14	18	50	3	133	6	4		144	0	54	28

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	254	69
Average Queue (ft)	87	28
95th Queue (ft)	246	79
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	118	182	204	108	221	390	289	39	161	56	183	194
Average Queue (ft)	40	80	94	37	121	124	99	14	84	22	95	118
95th Queue (ft)	116	171	192	110	237	441	358	38	164	57	182	198
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	2	3	4	0	9	0	2		2		2	5
Queuing Penalty (veh)	5	1	5	0	21	1	1		9		4	4

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	137	37
Average Queue (ft)	48	16
95th Queue (ft)	146	42
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	181	259	273	214	250	556	447	46	287	129	282	241
Average Queue (ft)	44	97	105	47	123	130	98	12	117	29	100	115
95th Queue (ft)	120	215	226	142	243	439	353	33	228	83	207	202
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	2	5	6	0	12	0	2	0	9	0	5	8
Queuing Penalty (veh)	5	5	14	1	40	2	2	0	45	0	15	10

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	264	74
Average Queue (ft)	56	18
95th Queue (ft)	163	51
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	T	L	L	TR	L	TR
Maximum Queue (ft)	23	2	25	27	44	51	18
Average Queue (ft)	5	0	8	15	22	25	6
95th Queue (ft)	22	4	31	36	44	54	20
Link Distance (ft)		1888		676		1163	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100		100		100		100
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	11	15	34	37	43	22
Average Queue (ft)	2	4	16	22	23	5
95th Queue (ft)	12	20	39	40	47	21
Link Distance (ft)			676		1163	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	100		100		100
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	L	T	L	TR	L	TR
Maximum Queue (ft)	35	2	4	30	2	46	61	66	27
Average Queue (ft)	8	0	1	10	0	23	29	34	9
95th Queue (ft)	32	4	6	34	4	49	57	64	27
Link Distance (ft)		1888	1888		271	676		1163	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100			100			100		100
Storage Blk Time (%)								0	
Queuing Penalty (veh)								0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	R	L	TR	L	TR
Maximum Queue (ft)	22	20	4	35	47	50	20
Average Queue (ft)	4	4	1	17	25	26	7
95th Queue (ft)	19	20	6	40	51	59	22
Link Distance (ft)				676		1163	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100	100	100		100		100
Storage Blk Time (%)					0	0	
Queuing Penalty (veh)					0	0	

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	L	T	R	L	TR	L	TR
Maximum Queue (ft)	36	2	4	36	2	4	52	69	76	29
Average Queue (ft)	4	0	0	6	0	0	18	24	27	7
95th Queue (ft)	22	2	4	27	2	3	42	49	57	23
Link Distance (ft)		1888	1888		271		676		1163	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100			100		100		100		100
Storage Blk Time (%)								0	0	
Queuing Penalty (veh)								0	0	

Intersection: 8: 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #3

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #4

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: East Access & 11800 South, Interval #1

Movement	EB	EB	WB	NB
Directions Served	T	R	L	R
Maximum Queue (ft)	2	4	76	65
Average Queue (ft)	0	1	38	34
95th Queue (ft)	5	6	77	65
Link Distance (ft)	278			388
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100	100	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	2	65	64
Average Queue (ft)	0	36	35
95th Queue (ft)	5	71	62
Link Distance (ft)			388
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	NB
Directions Served	T	T	R	L	T	R
Maximum Queue (ft)	2	4	27	231	24	198
Average Queue (ft)	0	1	8	125	4	117
95th Queue (ft)	5	6	28	240	52	215
Link Distance (ft)	278	278			528	388
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100	100		
Storage Blk Time (%)				23		
Queuing Penalty (veh)				89		

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	EB	EB	WB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	2	2	10	138	101
Average Queue (ft)	0	0	2	56	42
95th Queue (ft)	5	5	10	137	97
Link Distance (ft)	278	278			388
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100	100	
Storage Blk Time (%)				3	
Queuing Penalty (veh)				8	

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	NB
Directions Served	T	T	R	L	T	R
Maximum Queue (ft)	6	6	27	235	24	200
Average Queue (ft)	0	0	3	64	1	57
95th Queue (ft)	4	4	15	160	25	140
Link Distance (ft)	278	278			528	388
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100	100		
Storage Blk Time (%)				7		
Queuing Penalty (veh)				24		

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	48	25
Average Queue (ft)	15	23	11
95th Queue (ft)	43	53	32
Link Distance (ft)		460	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	35	34	30
Average Queue (ft)	14	16	13
95th Queue (ft)	41	40	33
Link Distance (ft)		460	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB
Directions Served	R	L	T	L	R
Maximum Queue (ft)	10	66	9	131	52
Average Queue (ft)	1	27	1	71	22
95th Queue (ft)	13	66	19	197	77
Link Distance (ft)			505	460	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	100			100
Storage Blk Time (%)		0		18	
Queuing Penalty (veh)		3		6	

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	103	48
Average Queue (ft)	14	38	21
95th Queue (ft)	42	162	87
Link Distance (ft)		460	
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)		5	
Queuing Penalty (veh)		1	

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB
Directions Served	R	L	T	L	R
Maximum Queue (ft)	10	66	9	143	58
Average Queue (ft)	0	18	0	37	17
95th Queue (ft)	6	49	9	134	63
Link Distance (ft)			505	460	
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)	100	100			100
Storage Blk Time (%)		0		6	
Queuing Penalty (veh)		1		2	

Network Summary

Network wide Queuing Penalty, Interval #1: 19
Network wide Queuing Penalty, Interval #2: 22
Network wide Queuing Penalty, Interval #3: 554
Network wide Queuing Penalty, Interval #4: 62
Network wide Queuing Penalty, All Intervals: 164

HALES ENGINEERING
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SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project - Alternate Access*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	181	98	71.1	*E*
	T	35	33	94	44.6	*D*
	R	390	389	100	13.0	*B*
	Subtotal	609	603	99	32.2	*C*
SB	L	180	182	101	40.5	*D*
	T	55	53	96	34.0	*C*
	R	45	42	93	7.3	*A*
	Subtotal	280	277	99	34.2	*C*
EB	L	45	43	96	56.8	*E*
	T	534	533	100	40.3	*D*
	R	175	181	103	20.1	*C*
	Subtotal	754	757	100	36.4	*D*
WB	L	305	303	99	101.0	*F*
	T	552	550	100	65.0	*E*
	R	80	83	104	7.9	*A*
	Subtotal	937	936	100	71.6	*E*
Total		2,586	2,578	100	48.2	*D*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	45	43	96	66.7	*F*
	T	5	5	105	49.6	*E*
	R	75	78	104	13.5	*B*
	Subtotal	125	126	101	33.1	*D*
SB	L	35	35	101	55.4	*F*
	T	18	18	100	39.1	*E*
	R	10	10	100	23.3	*C*
	Subtotal	***63***	***63***	***100***	***45.6***	***E***
EB	L	10	10	98	7.2	*A*
	T	470	478	102	2.9	*A*
	R	36	36	100	1.6	*A*
	Subtotal	516	524	102	2.9	*A*
WB	L	226	218	96	8.3	*A*
	T	522	516	99	1.5	*A*
	R	40	40	99	0.9	*A*
	Subtotal	788	774	98	3.4	*A*
Total		1,493	1,487	100	7.6	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project - Alternate Access***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	180	176	98	75.7	*F*
	Subtotal	***180***	***176***	***98***	***75.7***	***F***
EB	T	584	595	102	5.0	*A*
	Subtotal	584	595	102	5.0	*A*
WB	T	783	770	98	0.8	*A*
	Subtotal	783	770	98	0.8	*A*
Total		1,546	1,541	100	11.0	*B*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.1	1.4	0.3	0.2	2.7	0.8	2.6	3.7	0.5
Total Delay (hr)	0.0	0.1	0.6	0.1	0.4	0.5	0.0	0.6	0.1	0.2	0.4	0.1
Total Del/Veh (s)	22.7	22.7	17.0	5.7	22.2	13.5	2.4	54.3	45.1	8.6	38.1	34.6
Vehicles Entered	2	9	117	37	63	121	19	38	9	84	40	12
Vehicles Exited	2	10	121	38	66	126	19	38	8	86	36	12
Hourly Exit Rate	8	40	484	152	264	504	76	152	32	344	144	48
Input Volume	4	35	457	144	250	491	71	158	31	347	160	49
% of Volume	200	114	106	106	106	103	107	96	103	99	90	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.6	1.2
Total Delay (hr)	0.0	3.2
Total Del/Veh (s)	6.5	19.1
Vehicles Entered	10	561
Vehicles Exited	10	572
Hourly Exit Rate	40	2288
Input Volume	37	2234
% of Volume	108	102

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.1	1.3	0.3	0.2	2.7	0.9	2.5	3.8	0.7
Total Delay (hr)	0.0	0.1	0.5	0.0	0.4	0.4	0.0	0.6	0.1	0.2	0.5	0.1
Total Del/Veh (s)	24.3	26.2	15.2	4.3	21.9	11.8	1.9	53.9	46.0	9.0	39.9	33.9
Vehicles Entered	1	7	110	39	62	126	20	37	7	90	42	12
Vehicles Exited	1	6	104	38	60	120	20	39	8	89	46	13
Hourly Exit Rate	4	24	416	152	240	480	80	156	32	356	184	52
Input Volume	4	35	457	144	250	491	71	158	31	347	160	49
% of Volume	100	69	91	106	96	98	113	99	103	103	115	106

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.8	1.2
Total Delay (hr)	0.0	3.0
Total Del/Veh (s)	5.2	18.4
Vehicles Entered	9	562
Vehicles Exited	9	553
Hourly Exit Rate	36	2212
Input Volume	37	2234
% of Volume	97	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.0	1.5	1.2	1.7	1.4	0.5	0.4	2.7	1.5	2.7	3.6	0.7
Total Delay (hr)	0.0	0.4	2.6	0.5	4.2	4.6	0.1	1.5	0.1	0.6	0.6	0.1
Total Del/Veh (s)	104.5	85.0	56.6	29.9	122.6	85.7	11.0	82.2	38.2	17.6	36.0	29.4
Vehicles Entered	1	16	157	57	117	180	27	65	10	126	58	17
Vehicles Exited	1	16	154	56	88	149	26	56	10	119	53	16
Hourly Exit Rate	4	64	616	224	352	596	104	224	40	476	212	64
Input Volume	8	75	764	269	469	736	107	263	47	520	240	73
% of Volume	50	85	81	83	75	81	97	85	85	92	88	88

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.4
Denied Del/Veh (s)	3.7	1.6
Total Delay (hr)	0.0	15.4
Total Del/Veh (s)	10.1	62.4
Vehicles Entered	14	845
Vehicles Exited	14	758
Hourly Exit Rate	56	3032
Input Volume	69	3640
% of Volume	81	83

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	1.1	0.3	0.6	1.4	0.4	0.2	2.6	1.0	2.7	3.7	0.5
Total Delay (hr)	0.0	0.2	2.5	0.4	3.7	4.6	0.1	0.8	0.1	0.3	0.5	0.1
Total Del/Veh (s)	51.9	60.6	54.5	30.3	137.5	100.0	13.3	61.5	39.6	12.1	38.7	34.5
Vehicles Entered	2	12	153	48	61	122	16	38	7	87	42	12
Vehicles Exited	1	11	153	50	89	156	18	47	8	95	47	13
Hourly Exit Rate	4	44	612	200	356	624	72	188	32	380	188	52
Input Volume	4	35	457	144	250	491	71	158	31	347	160	49
% of Volume	100	126	134	139	142	127	101	119	103	110	118	106

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.8	1.3
Total Delay (hr)	0.0	13.4
Total Del/Veh (s)	6.2	65.8
Vehicles Entered	8	608
Vehicles Exited	8	696
Hourly Exit Rate	32	2784
Input Volume	37	2234
% of Volume	86	125

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	0.0	0.9	0.4	0.7	1.4	0.4	0.3	2.6	1.1	2.6	3.7	0.6
Total Delay (hr)	0.1	0.7	6.1	1.0	8.7	10.1	0.2	3.6	0.4	1.4	2.1	0.5
Total Del/Veh (s)	55.6	56.8	40.3	20.1	101.0	65.0	7.9	71.1	44.6	13.0	40.5	34.0
Vehicles Entered	5	44	537	182	302	550	83	179	33	388	182	53
Vehicles Exited	5	43	533	181	303	550	83	181	33	389	182	53
Hourly Exit Rate	5	43	533	181	303	550	83	181	33	389	182	53
Input Volume	5	45	534	175	305	552	80	184	35	390	180	55
% of Volume	100	96	100	103	99	100	104	98	94	100	101	96

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	1.0
Denied Del/Veh (s)	3.6	1.3
Total Delay (hr)	0.1	35.0
Total Del/Veh (s)	7.3	48.2
Vehicles Entered	42	2580
Vehicles Exited	42	2578
Hourly Exit Rate	42	2578
Input Volume	45	2586
% of Volume	93	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2	2.9	1.9
Total Delay (hr)	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	7.7	2.3	0.8	5.2	1.4	0.8	15.8	17.9	6.8	15.2	17.4	6.4
Vehicles Entered	2	108	9	40	117	8	9	1	18	6	5	2
Vehicles Exited	2	108	9	40	117	8	9	1	18	6	4	2
Hourly Exit Rate	8	432	36	160	468	32	36	4	72	24	16	8
Input Volume	9	418	32	151	463	36	40	4	67	30	16	9
% of Volume	89	103	112	106	101	89	90	100	107	80	100	89

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.3
Total Del/Veh (s)	3.5
Vehicles Entered	325
Vehicles Exited	324
Hourly Exit Rate	1296
Input Volume	1275
% of Volume	102

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.5	2.7
Total Delay (hr)	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.5	2.2	1.5	5.1	1.1	0.7	15.6	8.9	5.9	16.9	13.8	6.3
Vehicles Entered	2	107	7	36	111	7	10	1	16	8	3	2
Vehicles Exited	2	106	7	37	112	7	10	1	16	8	3	2
Hourly Exit Rate	8	424	28	148	448	28	40	4	64	32	12	8
Input Volume	9	418	32	151	463	36	40	4	67	30	16	9
% of Volume	89	101	88	98	97	78	100	100	96	107	75	89

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.3
Total Del/Veh (s)	3.3
Vehicles Entered	310
Vehicles Exited	311
Hourly Exit Rate	1244
Input Volume	1275
% of Volume	98

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.5	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.6	2.5
Total Delay (hr)	0.0	0.2	0.0	0.3	0.1	0.0	0.5	0.0	0.2	0.4	0.1	0.0
Total Del/Veh (s)	8.2	3.7	2.2	11.7	1.6	0.8	130.5	82.9	23.7	98.2	71.8	41.9
Vehicles Entered	3	160	12	87	152	10	14	2	26	12	6	4
Vehicles Exited	3	158	12	84	149	10	11	2	25	10	5	4
Hourly Exit Rate	12	632	48	336	596	40	44	8	100	40	20	16
Input Volume	14	627	48	452	701	53	60	7	100	49	24	13
% of Volume	86	101	100	74	85	75	73	114	100	82	83	123

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	1.8
Total Del/Veh (s)	13.0
Vehicles Entered	488
Vehicles Exited	473
Hourly Exit Rate	1892
Input Volume	2148
% of Volume	88

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.2	1.7
Total Delay (hr)	0.0	0.1	0.0	0.1	0.1	0.0	0.2	0.0	0.1	0.1	0.1	0.0
Total Del/Veh (s)	7.5	2.7	1.8	6.8	1.8	1.1	52.9	55.6	10.2	43.4	30.6	19.8
Vehicles Entered	2	103	9	55	136	14	11	1	18	9	5	2
Vehicles Exited	3	106	9	58	139	15	14	1	20	11	5	2
Hourly Exit Rate	12	424	36	232	556	60	56	4	80	44	20	8
Input Volume	9	418	32	151	463	36	40	4	67	30	16	9
% of Volume	133	101	112	154	120	167	140	100	119	147	125	89

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.7
Total Del/Veh (s)	6.9
Vehicles Entered	365
Vehicles Exited	383
Hourly Exit Rate	1532
Input Volume	1275
% of Volume	120

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.5	2.3
Total Delay (hr)	0.0	0.4	0.0	0.5	0.2	0.0	0.8	0.1	0.3	0.6	0.2	0.1
Total Del/Veh (s)	7.2	2.9	1.6	8.3	1.5	0.9	66.7	49.6	13.5	55.4	39.1	23.3
Vehicles Entered	10	478	37	218	516	40	43	5	78	35	19	10
Vehicles Exited	10	478	36	218	516	40	43	5	78	35	18	10
Hourly Exit Rate	10	478	36	218	516	40	43	5	78	35	18	10
Input Volume	10	470	36	226	522	40	45	5	75	35	18	10
% of Volume	98	102	100	96	99	99	96	105	104	101	100	100

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	3.1
Total Del/Veh (s)	7.6
Vehicles Entered	1489
Vehicles Exited	1487
Hourly Exit Rate	1487
Input Volume	1493
% of Volume	100

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.1	0.0	0.1	0.1
Total Del/Veh (s)	1.4	0.7	5.7	1.5
Vehicles Entered	134	163	33	330
Vehicles Exited	134	165	32	331
Hourly Exit Rate	536	660	128	1324
Input Volume	518	643	120	1281
% of Volume	103	103	107	103

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1
Total Del/Veh (s)	1.3	0.6	5.6	1.4
Vehicles Entered	130	154	28	312
Vehicles Exited	130	153	28	311
Hourly Exit Rate	520	612	112	1244
Input Volume	518	643	120	1281
% of Volume	100	95	93	97

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.4	0.4
Denied Del/Veh (s)	0.0	0.0	15.9	2.6
Total Delay (hr)	0.4	0.1	1.9	2.4
Total Del/Veh (s)	8.0	1.0	88.5	16.6
Vehicles Entered	194	250	77	521
Vehicles Exited	187	248	62	497
Hourly Exit Rate	748	992	248	1988
Input Volume	781	1202	360	2343
% of Volume	96	83	69	85

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.8	0.8
Denied Del/Veh (s)	0.0	0.0	68.6	7.2
Total Delay (hr)	0.3	0.0	1.7	2.0
Total Del/Veh (s)	7.1	0.8	111.9	18.0
Vehicles Entered	137	202	40	379
Vehicles Exited	144	204	53	401
Hourly Exit Rate	576	816	212	1604
Input Volume	518	643	120	1281
% of Volume	111	127	177	125

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	1.1	1.2
Denied Del/Veh (s)	0.0	0.0	23.4	2.7
Total Delay (hr)	0.8	0.2	3.7	4.7
Total Del/Veh (s)	5.0	0.8	75.7	11.0
Vehicles Entered	595	770	177	1542
Vehicles Exited	595	770	176	1541
Hourly Exit Rate	595	770	176	1541
Input Volume	584	783	180	1546
% of Volume	102	98	98	100

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.3	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.5	1.0	7.0	1.8	24.2	6.4	2.2
Vehicles Entered	156	11	8	171	7	6	359
Vehicles Exited	156	11	8	173	7	6	361
Hourly Exit Rate	624	44	32	692	28	24	1444
Input Volume	607	36	31	670	27	22	1393
% of Volume	103	122	103	103	104	109	104

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	3.7	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.2	0.6	6.4	1.6	22.8	4.3	1.9
Vehicles Entered	149	11	8	164	6	6	344
Vehicles Exited	149	11	8	161	6	5	340
Hourly Exit Rate	596	44	32	644	24	20	1360
Input Volume	607	36	31	670	27	22	1393
% of Volume	98	122	103	96	89	91	98

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.0	0.3	0.2	0.4	3.8	0.4
Total Delay (hr)	1.9	0.1	0.1	0.2	0.5	0.5	3.1
Total Del/Veh (s)	27.6	23.6	20.1	2.2	169.0	169.2	21.0
Vehicles Entered	240	10	11	241	9	10	521
Vehicles Exited	225	9	11	241	8	5	499
Hourly Exit Rate	900	36	44	964	32	20	1996
Input Volume	1089	53	47	1155	40	33	2417
% of Volume	83	68	94	83	80	61	83

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	2.2	0.9	0.0	0.0	0.2	3.6	1.0
Total Delay (hr)	1.8	0.1	0.1	0.1	0.4	0.8	3.3
Total Del/Veh (s)	32.2	30.2	20.8	1.8	162.3	377.1	26.5
Vehicles Entered	189	10	9	206	7	4	425
Vehicles Exited	205	10	9	207	8	8	447
Hourly Exit Rate	820	40	36	828	32	32	1788
Input Volume	607	36	31	670	27	22	1393
% of Volume	135	111	116	124	119	145	128

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Denied Del/Veh (s)	0.7	0.2	0.1	0.1	0.3	4.0	0.4
Total Delay (hr)	3.8	0.2	0.1	0.4	1.0	1.3	6.8
Total Del/Veh (s)	18.7	13.5	13.9	1.9	115.2	190.9	14.9
Vehicles Entered	735	41	36	782	30	25	1649
Vehicles Exited	735	41	36	782	29	25	1648
Hourly Exit Rate	735	41	36	782	29	25	1648
Input Volume	728	40	35	791	30	25	1649
% of Volume	101	102	103	99	96	101	100

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	0.9	1.1	2.4
Denied Del/Veh (s)	1.3	1.2	3.1	6.5	3.0
Total Delay (hr)	4.3	4.0	23.3	20.1	51.7
Total Del/Veh (s)	22.2	21.0	77.6	84.3	63.9
Vehicles Entered	612	613	992	615	2837
Vehicles Exited	614	603	831	775	2826
Hourly Exit Rate	2456	2412	3324	3100	2826
Input Volume	8848	8848	15240	8848	10446
% of Volume	28	27	22	35	27

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	92	294	149	184	309	28	184	62	113	165	80	32
Average Queue (ft)	33	168	40	113	170	14	115	27	75	93	29	16
95th Queue (ft)	102	307	127	195	340	33	191	65	117	161	82	37
Link Distance (ft)		505			2469	2469		1752			1010	
Upstream Blk Time (%)		0										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)	150		150	100			150		150	150		150
Storage Blk Time (%)		10		7	10		8		0	3	0	
Queuing Penalty (veh)		18		32	24		29		0	2	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	92	233	94	139	200	31	176	68	128	176	114	30
Average Queue (ft)	26	127	35	92	101	12	122	31	80	116	44	14
95th Queue (ft)	97	254	115	154	181	33	183	74	131	179	114	35
Link Distance (ft)		505			2469	2469		1752			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	100			150		150	150		150
Storage Blk Time (%)		6		6	8		5	0	0	5	0	
Queuing Penalty (veh)		11		31	20		19	0	1	4	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	235	520	250	200	1872	1564	332	210	276	198	105	42
Average Queue (ft)	120	447	189	194	1009	416	222	77	143	122	40	19
95th Queue (ft)	283	647	346	218	2003	1510	391	367	278	202	98	44
Link Distance (ft)		505			2469	2469		1752			1010	
Upstream Blk Time (%)		21			1	0						
Queuing Penalty (veh)		227			0	0						
Storage Bay Dist (ft)	150		150	100			150		150	150		150
Storage Blk Time (%)	4	49		63	15		37	0	9	6	0	
Queuing Penalty (veh)	43	173		460	72		212	0	27	9	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	190	519	250	200	1944	1576	272	97	209	184	169	26
Average Queue (ft)	61	447	171	182	1157	419	157	43	108	118	52	11
95th Queue (ft)	192	680	345	244	2456	1708	308	178	213	202	165	29
Link Distance (ft)		505			2469	2469		1752			1010	
Upstream Blk Time (%)		20			2	0						
Queuing Penalty (veh)		125			0	0						
Storage Bay Dist (ft)	150		150	100			150		150	150		150
Storage Blk Time (%)		45	0	52	16		13		3	5	0	
Queuing Penalty (veh)		82	0	258	40		49		5	4	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	250	522	250	200	1972	1734	335	226	284	216	202	45
Average Queue (ft)	60	297	109	145	609	215	154	44	101	112	41	15
95th Queue (ft)	191	604	285	240	1749	1124	296	210	203	189	120	37
Link Distance (ft)		505			2469	2469		1752			1010	
Upstream Blk Time (%)		10			1	0						
Queuing Penalty (veh)		88			0	0						
Storage Bay Dist (ft)	150		150	100			150		150	150		150
Storage Blk Time (%)	1	27	0	32	12		16	0	3	5	0	
Queuing Penalty (veh)	11	71	0	195	39		77	0	8	5	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	L	L	TR	L	TR
Maximum Queue (ft)	34	74	42	56	42	39
Average Queue (ft)	7	38	24	35	18	15
95th Queue (ft)	33	78	51	63	47	41
Link Distance (ft)	1889		518		1188	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200		100		100
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	L	L	TR	L	TR
Maximum Queue (ft)	33	59	44	52	40	32
Average Queue (ft)	7	35	24	29	23	14
95th Queue (ft)	34	64	48	56	47	39
Link Distance (ft)	1889		518		1188	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200		100		100
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	L	L	TR	L	TR
Maximum Queue (ft)	68	154	146	93	94	77
Average Queue (ft)	15	86	76	54	52	35
95th Queue (ft)	62	157	170	109	128	84
Link Distance (ft)	1889		518		1188	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200		100		100
Storage Blk Time (%)		0	17	6	7	0
Queuing Penalty (veh)		1	18	3	2	0

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	L	L	TR	L	TR
Maximum Queue (ft)	67	97	118	88	84	51
Average Queue (ft)	15	51	47	41	33	20
95th Queue (ft)	73	97	128	89	87	58
Link Distance (ft)	1889		518		1188	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200		100		100
Storage Blk Time (%)			9	0	2	1
Queuing Penalty (veh)			6	0	0	0

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	L	L	TR	L	TR
Maximum Queue (ft)	93	159	163	114	112	84
Average Queue (ft)	11	52	43	40	31	21
95th Queue (ft)	53	112	116	84	86	60
Link Distance (ft)	1889		518		1188	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200		100		100
Storage Blk Time (%)		0	6	1	2	0
Queuing Penalty (veh)		0	6	1	1	0

Intersection: 10: East Access & 11800 South, Interval #1

Movement	NB
Directions Served	R
Maximum Queue (ft)	64
Average Queue (ft)	43
95th Queue (ft)	67
Link Distance (ft)	414
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	NB
Directions Served	R
Maximum Queue (ft)	63
Average Queue (ft)	41
95th Queue (ft)	66
Link Distance (ft)	414
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	NB
Directions Served	T	R
Maximum Queue (ft)	240	380
Average Queue (ft)	57	233
95th Queue (ft)	238	451
Link Distance (ft)	629	414
Upstream Blk Time (%)		20
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	NB
Directions Served	T	R
Maximum Queue (ft)	218	369
Average Queue (ft)	69	226
95th Queue (ft)	261	525
Link Distance (ft)	629	414
Upstream Blk Time (%)		29
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	NB
Directions Served	T	R
Maximum Queue (ft)	280	391
Average Queue (ft)	32	135
95th Queue (ft)	173	378
Link Distance (ft)	629	414
Upstream Blk Time (%)		12
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	2	35	53	31
Average Queue (ft)	1	14	24	16
95th Queue (ft)	7	40	57	41
Link Distance (ft)	528		484	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	2	30	40	31
Average Queue (ft)	0	14	20	17
95th Queue (ft)	5	40	49	41
Link Distance (ft)	528		484	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	528	48	156	113
Average Queue (ft)	285	25	78	56
95th Queue (ft)	663	57	179	131
Link Distance (ft)	528		484	
Upstream Blk Time (%)	6			
Queuing Penalty (veh)	66			
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			20	19
Queuing Penalty (veh)			6	7

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	525	43	199	138
Average Queue (ft)	358	18	119	73
95th Queue (ft)	721	49	303	165
Link Distance (ft)	528		484	
Upstream Blk Time (%)	5			
Queuing Penalty (veh)	32			
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			24	29
Queuing Penalty (veh)			5	8

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	534	54	209	147
Average Queue (ft)	161	18	60	40
95th Queue (ft)	536	48	187	115
Link Distance (ft)	528		484	
Upstream Blk Time (%)	3			
Queuing Penalty (veh)	25			
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			11	12
Queuing Penalty (veh)			3	4

Network Summary

Network wide Queuing Penalty, Interval #1: 106
Network wide Queuing Penalty, Interval #2: 86
Network wide Queuing Penalty, Interval #3: 1328
Network wide Queuing Penalty, Interval #4: 616
Network wide Queuing Penalty, All Intervals: 534

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project - Alternate Access - Mitigated*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	181	98	47.9	*D*
	T	35	35	100	45.5	*D*
	R	390	394	101	17.3	*B*
	Subtotal	609	610	100	28.0	*C*
SB	L	180	172	96	45.9	*D*
	T	55	56	102	46.7	*D*
	R	45	48	107	6.9	*A*
	Subtotal	280	276	99	39.3	*D*
EB	L	45	40	89	27.1	*C*
	T	521	524	101	19.7	*B*
	R	175	170	97	6.5	*A*
	Subtotal	741	734	99	17.0	*B*
WB	L	305	311	102	33.4	*C*
	T	552	575	104	11.9	*B*
	R	80	84	105	3.3	*A*
	Subtotal	937	970	104	18.0	*B*
Total		2,573	2,594	101	22.4	*C*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	45	40	89	56.1	*F*
	T	5	5	100	65.4	*F*
	R	75	74	98	5.0	*A*
	Subtotal	125	119	95	24.7	*C*
SB	L	35	33	94	39.1	*E*
	T	18	18	101	44.7	*E*
	R	10	12	117	5.3	*A*
	Subtotal	***63***	***63***	***100***	***34.3***	***D***
EB	L	10	10	100	4.8	*A*
	T	470	468	100	1.0	*A*
	R	36	41	114	1.2	*A*
	Subtotal	516	519	101	1.1	*A*
WB	L	226	234	103	7.2	*A*
	T	537	548	102	0.6	*A*
	R	40	42	104	0.4	*A*
	Subtotal	803	824	103	2.5	*A*
Total		1,508	1,525	101	5.0	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project - Alternate Access - Mitigated***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	180	176	98	7.1	*A*
	Subtotal	***180***	***176***	***98***	***7.1***	***A***
EB	T	613	605	99	0.7	*A*
	Subtotal	613	605	99	0.7	*A*
WB	T	783	804	103	0.5	*A*
	Subtotal	783	804	103	0.5	*A*
Total		1,576	1,585	101	1.3	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.4	0.3	1.3	2.7	1.0	2.6	3.8	0.6
Total Delay (hr)	0.0	0.0	0.3	0.0	0.3	0.3	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	8.2	14.8	10.5	2.7	16.8	7.1	2.8	45.3	47.1	10.6	44.8	50.1
Vehicles Entered	1	8	116	37	64	124	21	38	8	83	41	11
Vehicles Exited	1	8	111	36	63	121	21	39	8	83	42	12
Hourly Exit Rate	4	32	444	144	252	484	84	156	32	332	168	48
Input Volume	4	35	447	144	250	491	71	158	31	347	160	49
% of Volume	100	91	99	100	101	99	118	99	103	96	105	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.8	1.2
Total Delay (hr)	0.0	2.6
Total Del/Veh (s)	5.7	16.0
Vehicles Entered	9	561
Vehicles Exited	9	554
Hourly Exit Rate	36	2216
Input Volume	37	2224
% of Volume	97	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.2	0.2	1.1	2.6	1.1	2.6	3.7	0.6
Total Delay (hr)	0.0	0.0	0.4	0.0	0.3	0.3	0.0	0.5	0.1	0.2	0.5	0.2
Total Del/Veh (s)	14.5	17.5	12.0	2.6	15.3	8.2	2.5	45.5	45.8	9.8	44.6	44.7
Vehicles Entered	1	9	112	33	64	132	18	41	8	85	38	15
Vehicles Exited	1	9	117	33	65	134	18	40	8	85	36	14
Hourly Exit Rate	4	36	468	132	260	536	72	160	32	340	144	56
Input Volume	4	35	447	144	250	491	71	158	31	347	160	49
% of Volume	100	103	105	92	104	109	101	101	103	98	90	114

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.9	1.2
Total Delay (hr)	0.0	2.7
Total Del/Veh (s)	5.5	16.0
Vehicles Entered	12	568
Vehicles Exited	12	572
Hourly Exit Rate	48	2288
Input Volume	37	2224
% of Volume	130	103

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.3	0.4	1.1	2.7	1.4	2.7	3.6	0.8
Total Delay (hr)	0.0	0.2	1.6	0.2	1.7	0.9	0.0	0.9	0.1	1.1	0.7	0.2
Total Del/Veh (s)	33.1	35.2	30.8	11.0	50.0	16.9	4.0	48.5	41.7	26.9	43.8	43.0
Vehicles Entered	2	17	180	62	118	190	27	63	12	137	56	17
Vehicles Exited	2	16	175	61	106	180	25	62	11	130	56	18
Hourly Exit Rate	8	64	700	244	424	720	100	248	44	520	224	72
Input Volume	8	75	743	269	469	736	107	263	47	520	240	73
% of Volume	100	85	94	91	90	98	93	94	94	100	93	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.3
Denied Del/Veh (s)	3.5	1.2
Total Delay (hr)	0.0	7.7
Total Del/Veh (s)	8.7	29.8
Vehicles Entered	19	900
Vehicles Exited	19	861
Hourly Exit Rate	76	3444
Input Volume	69	3619
% of Volume	110	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.5	0.3	1.3	2.7	0.7	2.6	3.8	0.7
Total Delay (hr)	0.0	0.1	0.6	0.1	0.6	0.4	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	7.3	29.8	17.1	5.7	26.9	10.2	2.8	40.1	38.5	12.6	42.5	40.9
Vehicles Entered	1	6	116	39	64	130	19	41	8	87	38	12
Vehicles Exited	1	7	121	40	77	139	20	40	8	96	39	12
Hourly Exit Rate	4	28	484	160	308	556	80	160	32	384	156	48
Input Volume	4	35	447	144	250	491	71	158	31	347	160	49
% of Volume	100	80	108	111	123	113	113	101	103	111	98	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.8	1.2
Total Delay (hr)	0.0	3.4
Total Del/Veh (s)	5.8	19.0
Vehicles Entered	8	569
Vehicles Exited	8	608
Hourly Exit Rate	32	2432
Input Volume	37	2224
% of Volume	86	109

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.3	0.3	1.2	2.7	1.1	2.6	3.7	0.7
Total Delay (hr)	0.0	0.3	2.9	0.3	2.9	1.9	0.1	2.5	0.5	1.9	2.2	0.7
Total Del/Veh (s)	24.0	27.1	19.7	6.5	33.4	11.9	3.3	47.9	45.5	17.3	45.9	46.7
Vehicles Entered	4	40	525	170	310	575	84	183	35	393	174	55
Vehicles Exited	4	40	524	170	311	575	84	181	35	394	172	56
Hourly Exit Rate	4	40	524	170	311	575	84	181	35	394	172	56
Input Volume	5	45	521	175	305	552	80	184	35	390	180	55
% of Volume	80	89	101	97	102	104	105	98	100	101	96	102

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	0.9
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.1	16.4
Total Del/Veh (s)	6.9	22.4
Vehicles Entered	48	2596
Vehicles Exited	48	2594
Hourly Exit Rate	48	2594
Input Volume	45	2573
% of Volume	107	101

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.4	0.1	1.5	0.1	0.0	0.2	0.4	0.4	4.0	0.2	0.1	2.6
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	4.1	0.9	0.7	5.8	0.5	0.4	26.1	53.3	4.3	30.1	26.4	4.8
Vehicles Entered	2	114	7	44	112	8	10	1	18	8	4	3
Vehicles Exited	2	114	6	44	114	8	10	1	18	8	4	3
Hourly Exit Rate	8	456	24	176	456	32	40	4	72	32	16	12
Input Volume	9	453	24	176	459	36	41	5	73	34	17	10
% of Volume	89	101	100	100	99	89	98	80	99	94	94	120

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.4
Total Delay (hr)	0.3
Total Del/Veh (s)	3.6
Vehicles Entered	331
Vehicles Exited	332
Hourly Exit Rate	1328
Input Volume	1337
% of Volume	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.3	0.1	1.7	0.3	0.0	0.2	0.4	0.5	3.9	0.1	0.2	2.3
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.1	0.9	0.9	5.3	0.5	0.4	20.8	32.8	3.9	18.5	19.3	5.3
Vehicles Entered	3	112	6	47	125	10	10	1	17	8	4	3
Vehicles Exited	3	113	6	47	123	10	11	1	17	8	4	3
Hourly Exit Rate	12	452	24	188	492	40	44	4	68	32	16	12
Input Volume	9	453	24	176	459	36	41	5	73	34	17	10
% of Volume	133	100	100	107	107	111	107	80	93	94	94	120

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.4
Total Delay (hr)	0.3
Total Del/Veh (s)	2.9
Vehicles Entered	346
Vehicles Exited	346
Hourly Exit Rate	1384
Input Volume	1337
% of Volume	104

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.8	0.2	1.5	0.0	0.0	0.0	0.4	0.4	3.9	0.1	0.2	2.7
Total Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	4.0	1.3	1.3	9.3	0.7	0.5	104.5	71.8	5.3	68.1	73.6	6.7
Vehicles Entered	3	128	20	89	187	14	12	2	22	8	5	3
Vehicles Exited	3	127	19	89	187	14	10	1	21	8	5	3
Hourly Exit Rate	12	508	76	356	748	56	40	4	84	32	20	12
Input Volume	13	522	72	377	772	53	56	5	82	38	20	11
% of Volume	92	97	106	94	97	106	71	80	102	84	100	109

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	1.1
Total Del/Veh (s)	7.5
Vehicles Entered	493
Vehicles Exited	487
Hourly Exit Rate	1948
Input Volume	2021
% of Volume	96

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.9	0.1	1.6	0.2	0.0	0.1	0.3	0.1	3.9	0.2	0.2	2.2
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	5.7	0.9	1.2	6.0	0.5	0.5	50.0	97.5	6.1	29.6	32.1	4.4
Vehicles Entered	2	113	8	54	124	10	8	1	17	9	4	3
Vehicles Exited	2	114	9	54	123	10	10	1	17	9	5	3
Hourly Exit Rate	8	456	36	216	492	40	40	4	68	36	20	12
Input Volume	9	453	24	176	459	36	41	5	73	34	17	10
% of Volume	89	101	150	123	107	111	98	80	93	106	118	120

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	0.5
Total Del/Veh (s)	4.6
Vehicles Entered	353
Vehicles Exited	357
Hourly Exit Rate	1428
Input Volume	1337
% of Volume	107

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)	1.6	0.1	1.5	0.1	0.0	0.1	0.4	0.4	3.9	0.2	0.2	2.4
Total Delay (hr)	0.0	0.1	0.0	0.5	0.1	0.0	0.6	0.1	0.1	0.4	0.2	0.0
Total Del/Veh (s)	4.8	1.0	1.2	7.2	0.6	0.4	56.1	65.4	5.0	39.1	44.7	5.3
Vehicles Entered	10	467	41	235	548	42	40	5	74	33	18	12
Vehicles Exited	10	468	41	234	548	42	40	5	74	33	18	12
Hourly Exit Rate	10	468	41	234	548	42	40	5	74	33	18	12
Input Volume	10	470	36	226	537	40	45	5	75	35	18	10
% of Volume	100	100	114	103	102	104	89	100	98	94	101	117

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.3
Total Delay (hr)	2.2
Total Del/Veh (s)	5.0
Vehicles Entered	1525
Vehicles Exited	1525
Hourly Exit Rate	1525
Input Volume	1508
% of Volume	101

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	0.4	4.4	0.8
Vehicles Entered	140	157	31	328
Vehicles Exited	140	157	31	328
Hourly Exit Rate	560	628	124	1312
Input Volume	560	643	120	1323
% of Volume	100	98	103	99

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	0.4	4.2	0.8
Vehicles Entered	137	175	30	342
Vehicles Exited	137	174	30	341
Hourly Exit Rate	548	696	120	1364
Input Volume	560	643	120	1323
% of Volume	98	108	100	103

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.3	0.1
Total Delay (hr)	0.1	0.0	0.2	0.3
Total Del/Veh (s)	1.0	0.6	9.7	2.1
Vehicles Entered	186	291	87	564
Vehicles Exited	186	291	85	562
Hourly Exit Rate	744	1164	340	2248
Input Volume	773	1202	360	2335
% of Volume	96	97	94	96

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	0.5	4.6	0.8
Vehicles Entered	141	181	29	351
Vehicles Exited	142	182	30	354
Hourly Exit Rate	568	728	120	1416
Input Volume	560	643	120	1323
% of Volume	101	113	100	107

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Delay (hr)	0.1	0.1	0.4	0.6
Total Del/Veh (s)	0.7	0.5	7.1	1.3
Vehicles Entered	605	804	176	1585
Vehicles Exited	605	804	176	1585
Hourly Exit Rate	605	804	176	1585
Input Volume	613	783	180	1576
% of Volume	99	103	98	101

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	4.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.5	5.9	1.1	13.5	4.1	1.1
Vehicles Entered	156	8	8	163	6	6	347
Vehicles Exited	155	8	8	162	5	6	344
Hourly Exit Rate	620	32	32	648	20	24	1376
Input Volume	607	36	31	659	27	22	1382
% of Volume	102	89	103	98	74	109	100

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	4.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.3	5.9	1.2	20.7	4.4	1.4
Vehicles Entered	148	8	9	178	6	6	355
Vehicles Exited	148	9	9	178	6	6	356
Hourly Exit Rate	592	36	36	712	24	24	1424
Input Volume	607	36	31	659	27	22	1382
% of Volume	98	100	116	108	89	109	103

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.5	0.0	0.3	3.8	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.3	0.0	0.5
Total Del/Veh (s)	0.7	0.8	11.2	1.5	94.0	6.3	3.1
Vehicles Entered	258	14	11	282	11	10	586
Vehicles Exited	257	14	12	280	10	9	582
Hourly Exit Rate	1028	56	48	1120	40	36	2328
Input Volume	1083	53	47	1155	40	33	2411
% of Volume	95	106	102	97	100	109	97

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.3	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1	0.0	0.2
Total Del/Veh (s)	0.4	0.3	7.3	1.3	26.4	5.7	1.7
Vehicles Entered	154	10	8	180	7	6	365
Vehicles Exited	156	10	8	182	9	7	372
Hourly Exit Rate	624	40	32	728	36	28	1488
Input Volume	607	36	31	659	27	22	1382
% of Volume	103	111	103	110	133	127	108

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	4.0	0.1
Total Delay (hr)	0.1	0.0	0.1	0.3	0.4	0.0	0.9
Total Del/Veh (s)	0.5	0.5	8.1	1.3	49.2	5.5	2.0
Vehicles Entered	715	41	36	803	30	28	1653
Vehicles Exited	716	41	36	804	30	28	1655
Hourly Exit Rate	716	41	36	804	30	28	1655
Input Volume	726	40	35	783	30	25	1639
% of Volume	99	102	103	103	99	113	101

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	0.4	0.2	1.1
Denied Del/Veh (s)	1.3	1.3	1.3	1.3	1.3
Total Delay (hr)	3.5	3.5	10.4	4.5	21.9
Total Del/Veh (s)	18.0	17.8	34.2	21.0	26.6
Vehicles Entered	618	629	1014	623	2885
Vehicles Exited	617	629	941	698	2887
Hourly Exit Rate	2468	2516	3764	2792	2887
Input Volume	8642	8642	14323	8642	10062
% of Volume	29	29	26	32	29

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	40	115	106	47	152	129	113	33	167	64	130	164
Average Queue (ft)	15	60	64	19	80	54	48	12	104	25	78	103
95th Queue (ft)	46	119	120	48	149	127	116	37	179	65	142	175
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	100			100	150		150	150
Storage Blk Time (%)		0			4	1	1		4		1	4
Queuing Penalty (veh)		0			10	1	0		15		2	4

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	98	36
Average Queue (ft)	42	18
95th Queue (ft)	107	38
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	44	122	131	39	128	120	103	21	158	71	123	161
Average Queue (ft)	18	63	69	20	77	64	56	10	106	24	71	96
95th Queue (ft)	47	125	135	44	132	120	105	26	175	74	128	175
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	100			100	150		150	150
Storage Blk Time (%)		1	1		2	1	1		5	0	0	4
Queuing Penalty (veh)		0	1		5	1	1		18	0	0	3

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	110	39
Average Queue (ft)	49	18
95th Queue (ft)	117	39
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	139	244	254	208	200	500	402	33	245	86	311	204
Average Queue (ft)	56	183	195	86	179	291	165	12	158	33	184	131
95th Queue (ft)	136	278	291	199	238	593	436	34	265	93	320	222
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	100			100	150		150	150
Storage Blk Time (%)		14	19	0	48	5	6		18	0	25	13
Queuing Penalty (veh)		11	50	2	177	26	7		104	0	78	18

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	180	49
Average Queue (ft)	68	26
95th Queue (ft)	182	53
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	66	186	191	89	186	378	340	28	167	54	205	167
Average Queue (ft)	23	86	88	32	104	122	104	10	101	20	95	97
95th Queue (ft)	73	174	182	90	192	385	348	31	175	59	200	177
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	100			100	150		150	150
Storage Blk Time (%)	0	2	3		11	2	3		3		2	4
Queuing Penalty (veh)	0	1	4		26	4	2		13		4	4

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	115	32
Average Queue (ft)	46	14
95th Queue (ft)	119	37
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	140	251	270	211	200	508	434	46	249	114	315	219
Average Queue (ft)	28	98	104	39	110	133	93	11	117	25	107	107
95th Queue (ft)	86	211	223	119	206	391	296	32	208	74	229	191
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	100			100	150		150	150
Storage Blk Time (%)	0	4	6	0	16	2	3		8	0	7	6
Queuing Penalty (veh)	0	3	14	0	55	8	2		38	0	21	7

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	199	54
Average Queue (ft)	51	19
95th Queue (ft)	135	43
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	LT	R	LT	R
Maximum Queue (ft)	16	59	48	38	70	22
Average Queue (ft)	3	34	25	21	32	7
95th Queue (ft)	17	63	57	38	81	22
Link Distance (ft)			519		1163	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	200		100		100
Storage Blk Time (%)			0		2	
Queuing Penalty (veh)			0		0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	R	L	R	LT	R	LT	R
Maximum Queue (ft)	21	1	54	1	57	32	52	22
Average Queue (ft)	5	0	30	0	28	21	27	7
95th Queue (ft)	21	3	58	3	58	37	53	23
Link Distance (ft)					519		1163	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100	100	200	100		100		100
Storage Blk Time (%)					0			
Queuing Penalty (veh)					0			

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	R	LT	R	LT	R
Maximum Queue (ft)	24	4	17	128	1	118	57	82	20
Average Queue (ft)	5	1	4	68	0	54	25	45	7
95th Queue (ft)	22	9	17	128	0	127	64	95	22
Link Distance (ft)		1885				519		1163	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		100	200	100		100		100
Storage Blk Time (%)						12		2	
Queuing Penalty (veh)						10		0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	R	L	R	LT	R	LT	R
Maximum Queue (ft)	18	9	79	1	81	58	77	16
Average Queue (ft)	4	2	40	0	36	24	35	6
95th Queue (ft)	18	9	77	3	117	65	79	22
Link Distance (ft)					519		1163	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	100	100	200	100		100		100
Storage Blk Time (%)					5		1	
Queuing Penalty (veh)					4		0	

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	R	LT	R	LT	R
Maximum Queue (ft)	27	4	18	132	4	125	65	111	26
Average Queue (ft)	4	0	2	43	0	36	23	35	7
95th Queue (ft)	20	5	9	90	2	98	53	80	23
Link Distance (ft)		1885				519		1163	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100		100	200	100		100		100
Storage Blk Time (%)						4		1	
Queuing Penalty (veh)						3		0	

Intersection: 10: East Access & 11800 South, Interval #1

Movement	NB
Directions Served	R
Maximum Queue (ft)	61
Average Queue (ft)	39
95th Queue (ft)	59
Link Distance (ft)	402
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	NB
Directions Served	R
Maximum Queue (ft)	52
Average Queue (ft)	37
95th Queue (ft)	53
Link Distance (ft)	402
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	NB
Directions Served	T	R
Maximum Queue (ft)	3	130
Average Queue (ft)	0	86
95th Queue (ft)	6	135
Link Distance (ft)	625	402
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, Interval #4

Movement	NB
Directions Served	R
Maximum Queue (ft)	67
Average Queue (ft)	42
95th Queue (ft)	68
Link Distance (ft)	402
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	NB
Directions Served	T	R
Maximum Queue (ft)	3	130
Average Queue (ft)	0	51
95th Queue (ft)	3	96
Link Distance (ft)	625	402
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	32	24
Average Queue (ft)	12	16	13
95th Queue (ft)	37	42	31
Link Distance (ft)		460	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	2	32	31	23
Average Queue (ft)	0	13	16	11
95th Queue (ft)	5	38	41	29
Link Distance (ft)			460	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	57	4	45	9	87	39
Average Queue (ft)	8	1	23	1	47	18
95th Queue (ft)	120	7	51	19	111	41
Link Distance (ft)	528			505	460	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	100			100
Storage Blk Time (%)				0	7	
Queuing Penalty (veh)				0	2	

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	2	35	54	28
Average Queue (ft)	0	16	23	14
95th Queue (ft)	5	43	59	36
Link Distance (ft)			460	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	100		100
Storage Blk Time (%)			1	
Queuing Penalty (veh)			0	

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	57	9	47	9	94	43
Average Queue (ft)	2	0	16	0	26	14
95th Queue (ft)	58	5	43	9	71	35
Link Distance (ft)	528			505	460	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	100			100
Storage Blk Time (%)				0	2	
Queuing Penalty (veh)				0	1	

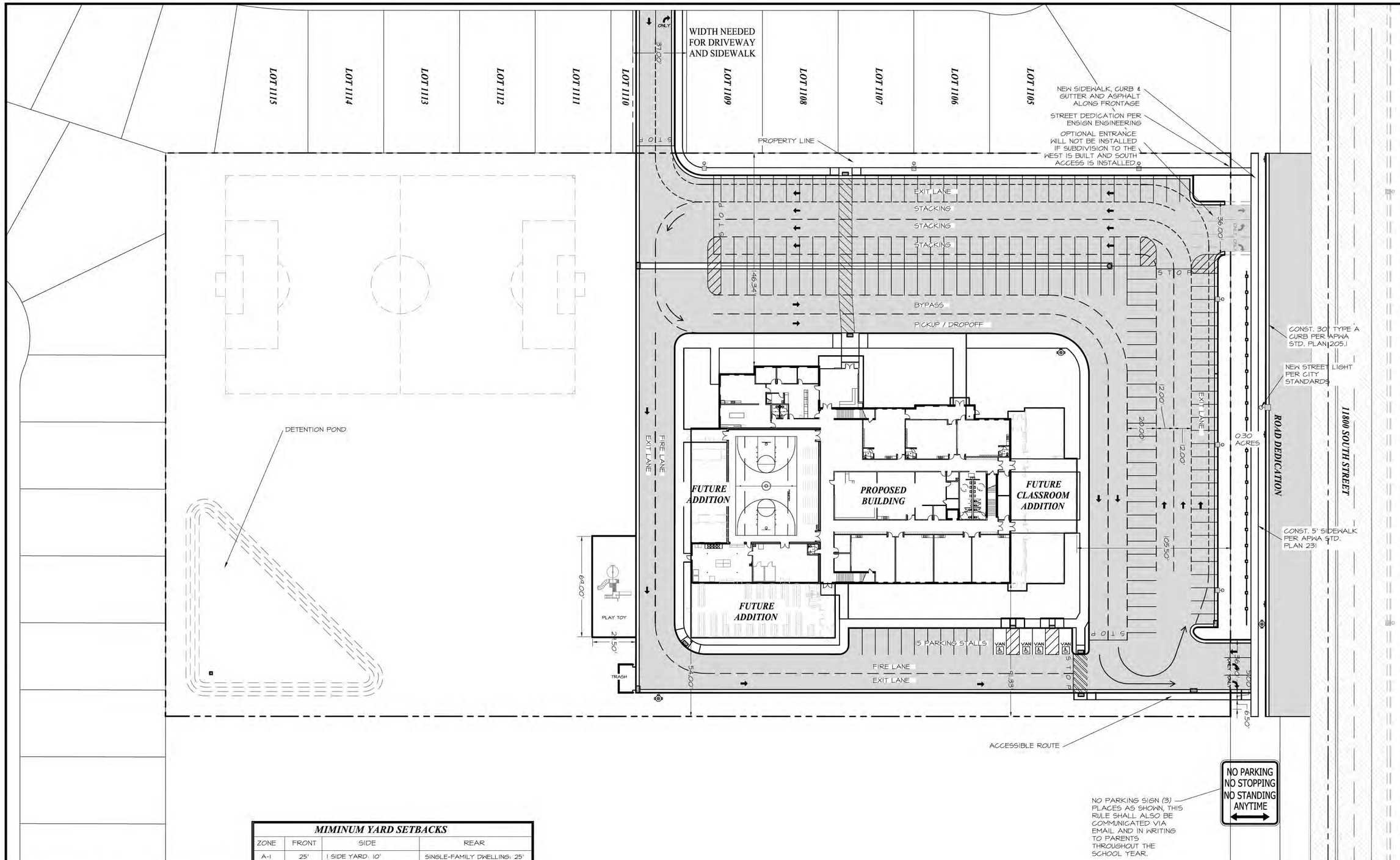
Network Summary

Network wide Queuing Penalty, Interval #1: 34
Network wide Queuing Penalty, Interval #2: 30
Network wide Queuing Penalty, Interval #3: 487
Network wide Queuing Penalty, Interval #4: 62
Network wide Queuing Penalty, All Intervals: 153

HALES ENGINEERING
innovative transportation solutions

APPENDIX C

Site Plan



SITE PLAN

SITE AREA TABULATION			
HARDSCAPE	92,888 SQ.FT.	2.133 AC.	32.8%
LANDSCAPE	163,323 SQ.FT.	3.749 AC.	57.7%
BUILDING	26,798 SQ.FT.	0.615 AC.	9.5%
TOTAL SITE	283,009 SQ.FT.	6.497 AC.	100.0%
DAYTIME PARKING		74 STALLS	
EVENING EVENT PARKING		96 STALLS	
TOTAL PARKING		170 STALLS	
70 FACULTY AND 700 STUDENTS ANTICIPATED.			

MIMINUM YARD SETBACKS			
ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

CURRENT PROPERTY ZONE IS A-1

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS
PRIOR TO COMMENCING
ANY CONSTRUCTION

SEAL:

01-08-2019
CORBIN R. PEARSON
STATE OF UTAH

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 01/04/2019
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:
11/27/2018 1

SITE PLAN

SHEET NUMBER:
C200

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

HALES ENGINEERING
innovative transportation solutions

APPENDIX D

95th Percentile Queue Length Reports

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Existing (2018) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT18-1343

Intersection	EB				NB			SB				WB		
	L	LT	R	T	L	R	T	L	LR	R	T	L	R	T
11800 South & Willow Walk Drive	--	9	--	--	--	--	--	--	39	--	--	--	--	--
Mustang Trail Way & 11800 South	4	--	32	70	47	89	27	76	--	7	35	112	31	73

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Existing (2018) Plus Project

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT18-1343

Intersection	EB				NB			SB				WB			
	LT	R	T	UL	L	R	T	L	LR	R	T	L	R	T	TR
11800 South & Willow Walk Drive	8	--	--	--	--	--	--	--	48	--	--	--	--	--	2
East Access & 11800 South	--	6	--	--	--	80	--	--	--	--	--	70	--	--	--
Mustang Trail Way & 11800 South	--	43	88	68	89	93	42	68	--	24	37	124	32	101	--

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT18-1343

Intersection	EB				NB				SB				WB			
	L	LTR	R	T	L	R	T	TR	L	R	T	TR	L	LT	R	T
Access 1/Willow Walk Dr & 11800 South	--	78	--	--	49	--	--	64	48	--	--	21	--	55	3	--
Mustang Trail Way & 11800 South	85	--	229	444	124	169	102	--	171	30	170	--	206	--	141	678

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
innovative transportation solutions

Project #: UT18-1343

Intersection	EB				NB				SB				WB			
	LTR	R	T	UL	L	R	T	TR	L	R	T	TR	L	LTR	R	T
11800 South & Willow Walk Drive	45	--	--	--	51	--	--	66	70	--	--	34	--	60	--	--
East Access & 11800 South	--	74	175	--	--	476	--	--	--	--	--	--	231	--	--	149
Mustang Trail Way & 11800 South	--	286	618	218	397	446	881	--	254	85	367	--	303	--	1,537	2,119

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project - Mitigated

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT18-1343

Intersection	EB				NB				SB				WB		
	L	R	T	UL	L	R	T	TR	L	R	T	TR	L	R	T
11800 South & Willow Walk Drive	22	--	3	--	42	--	--	49	57	--	--	23	27	3	2
East Access & 11800 South	--	15	4	--	--	140	--	--	--	--	--	--	160	--	25
Mustang Trail Way & 11800 South	--	142	221	120	228	207	83	--	202	51	163	--	243	33	396

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project - Alternate Access

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT18-1343

Intersection	EB				NB				SB				WB		
	LTR	R	T	UL	L	R	T	TR	L	R	T	TR	L	R	T
11800 South & Willow Walk Drive	53	--	--	--	116	--	--	84	86	--	--	60	112	--	--
East Access & 11800 South	--	--	173	--	--	378	--	--	--	--	--	--	--	--	--
Mustang Trail Way & 11800 South	--	285	604	191	296	203	210	--	189	37	120	--	240	1,124	1,749

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project - Alternate Access - Mitigated

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT18-1343

Intersection	EB				NB				SB				WB		
	L	R	T	UL	L	LT	R	T	L	LT	R	T	L	R	T
11800 South & Willow Walk Drive	20	9	5	--	--	98	53	--	--	80	23	--	90	2	--
East Access & 11800 South	--	--	3	--	--	--	96	--	--	--	--	--	--	--	--
Mustang Trail Way & 11800 South	--	119	217	86	208	--	229	74	191	--	43	135	206	32	344

HALES ENGINEERING
innovative transportation solutions

APPENDIX E

Air Quality Report

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	81	111	61	69	120	70	65
CO Emissions (g)	2296	2667	1758	1923	2892	2040	1893
NOx Emissions (g)	274	352	209	233	374	240	224

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	90	93	65	82
CO Emissions (g)	2216	2409	1845	2194
NOx Emissions (g)	288	298	216	271

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	82	56	64	45	90	55	75
CO Emissions (g)	2209	1719	1956	1503	2288	1622	2067
NOx Emissions (g)	262	198	214	166	288	189	247

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	97	72	111	75
CO Emissions (g)	2495	1986	2716	2056
NOx Emissions (g)	309	240	349	246

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	90	130	100	129	129	106	93
CO Emissions (g)	2729	3310	3074	3406	3364	3109	2753
NOx Emissions (g)	318	415	345	417	416	357	318

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	119	91	89	108
CO Emissions (g)	3446	2822	2724	3074
NOx Emissions (g)	401	320	308	361

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	80	102	76	41	61	45	80
CO Emissions (g)	2201	2680	2109	1584	1820	1540	2221
NOx Emissions (g)	271	336	258	162	211	164	265

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	50	58	77	67
CO Emissions (g)	1723	1924	2237	2004
NOx Emissions (g)	188	209	265	233

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	333	399	301	283	401	277	313
CO Emissions (g)	9435	10375	8897	8415	10364	8310	8934
NOx Emissions (g)	1125	1300	1026	978	1289	950	1054

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	357	314	342	332
CO Emissions (g)	9880	9140	9523	9327
NOx Emissions (g)	1185	1067	1138	1111

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	113	160	66	81	143	110	98
CO Emissions (g)	3086	3772	2267	2476	3561	2978	2836
NOx Emissions (g)	373	481	238	274	451	358	333

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	101	127	83	108
CO Emissions (g)	2652	3358	2550	2954
NOx Emissions (g)	326	398	284	352

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	112	91	78	111	80	99	73
CO Emissions (g)	3061	2646	2380	2940	2474	2705	2317
NOx Emissions (g)	369	306	268	357	275	319	248

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	99	100	152	99
CO Emissions (g)	2834	2950	3784	2809
NOx Emissions (g)	327	343	477	329

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	164	215	156	181	205	179	170
CO Emissions (g)	5106	5701	4888	5155	5508	5141	4831
NOx Emissions (g)	558	672	534	591	655	582	554

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	198	155	166	179
CO Emissions (g)	5728	4868	4895	5182
NOx Emissions (g)	626	512	547	583

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	108	88	120	79	97	126	96
CO Emissions (g)	3144	2810	3228	2443	2821	3319	2888
NOx Emissions (g)	361	307	381	264	322	403	318

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	115	76	91	100
CO Emissions (g)	3102	2413	2792	2896
NOx Emissions (g)	367	262	307	329

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	497	555	419	451	526	514	438
CO Emissions (g)	14397	14929	12763	13014	14364	14143	12872
NOx Emissions (g)	1661	1766	1421	1486	1703	1662	1453

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	514	458	493	487
CO Emissions (g)	14315	13590	14021	13841
NOx Emissions (g)	1646	1516	1615	1593

Total Network Performance Interval #1 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	190	230	167	202	267	203	161
CO Emissions (g)	5033	5800	4530	5037	6393	5287	4599
NOx Emissions (g)	597	699	541	623	801	638	520

Total Network Performance Interval #1 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	185	233	176	201
CO Emissions (g)	4779	5750	4863	5207
NOx Emissions (g)	580	715	572	629

Total Network Performance Interval #2 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	190	172	141	208	153	202	160
CO Emissions (g)	5177	4844	4219	5396	4434	5122	4531
NOx Emissions (g)	612	571	470	655	501	630	519

Total Network Performance Interval #2 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	154	164	208	175
CO Emissions (g)	4446	4650	5362	4818
NOx Emissions (g)	501	542	645	565

Total Network Performance Interval #3 8:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	211	257	208	213	275	195	259
CO Emissions (g)	6307	6900	6164	6330	7207	5787	7062
NOx Emissions (g)	710	814	690	715	861	643	816

Total Network Performance Interval #3 8:00

Run Number	28	29	30	Avg
HC Emissions (g)	322	211	249	240
CO Emissions (g)	7988	6096	6742	6658
NOx Emissions (g)	960	695	795	770

Total Network Performance Interval #4 8:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	265	199	165	152	129	198	189
CO Emissions (g)	6611	5265	4734	4748	3995	5474	5245
NOx Emissions (g)	807	632	539	518	439	632	608

Total Network Performance Interval #4 8:15

Run Number	28	29	30	Avg
HC Emissions (g)	123	160	184	176
CO Emissions (g)	4074	4621	5105	4987
NOx Emissions (g)	438	540	594	575

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	855	859	681	774	824	798	769
CO Emissions (g)	23128	22809	19647	21511	22029	21670	21436
NOx Emissions (g)	2727	2716	2240	2511	2603	2543	2462

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	785	767	817	793
CO Emissions (g)	21287	21117	22072	21671
NOx Emissions (g)	2479	2492	2606	2538

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	286	218	124	165	288	147	190
CO Emissions (g)	7288	5982	4436	4977	7435	5153	5558
NOx Emissions (g)	913	711	459	570	919	541	653

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	147	249	196	201
CO Emissions (g)	4510	6493	5664	5750
NOx Emissions (g)	518	786	671	674

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	200	231	198	165	172	186	175
CO Emissions (g)	5739	6256	5565	4955	5279	5286	4955
NOx Emissions (g)	669	750	658	569	590	628	579

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	188	282	256	205
CO Emissions (g)	5513	7161	6703	5741
NOx Emissions (g)	636	896	806	678

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	303	296	301	429	327	332	399
CO Emissions (g)	8803	8629	8697	10697	9133	9267	10317
NOx Emissions (g)	1004	953	971	1311	1052	1060	1201

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	363	380	365	349
CO Emissions (g)	9593	9896	9671	9470
NOx Emissions (g)	1126	1165	1157	1100

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	316	369	218	240	231	240	328
CO Emissions (g)	8431	9573	6675	7172	6962	7667	8740
NOx Emissions (g)	1002	1107	742	798	790	805	1003

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	205	293	228	267
CO Emissions (g)	6495	8055	6604	7638
NOx Emissions (g)	718	926	752	864

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	1105	1114	841	1000	1018	905	1092
CO Emissions (g)	30261	30440	25372	27801	28809	27373	29569
NOx Emissions (g)	3588	3520	2829	3248	3351	3034	3437

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	902	1203	1044	1022
CO Emissions (g)	26111	31606	28642	28599
NOx Emissions (g)	2998	3774	3386	3316

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	201	266	152	182	318	189	202
CO Emissions (g)	5705	6760	4648	5225	7591	5566	5765
NOx Emissions (g)	670	835	525	607	981	634	674

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	170	273	157	211
CO Emissions (g)	5084	7085	4901	5833
NOx Emissions (g)	569	861	551	691

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	235	225	199	181	229	168	148
CO Emissions (g)	6253	6053	5737	5219	6082	4912	4630
NOx Emissions (g)	759	730	659	608	735	566	512

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	201	200	267	205
CO Emissions (g)	5688	5743	6824	5714
NOx Emissions (g)	668	670	842	675

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	337	388	333	400	388	426	339
CO Emissions (g)	9869	10678	9753	10567	10771	11632	9855
NOx Emissions (g)	1131	1252	1110	1266	1243	1338	1123

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	381	391	401	378
CO Emissions (g)	10596	10561	10601	10488
NOx Emissions (g)	1219	1240	1274	1220

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	259	230	206	188	191	226	251
CO Emissions (g)	7143	6373	5949	5565	5910	6761	6902
NOx Emissions (g)	843	759	675	645	658	771	813

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	156	227	205	214
CO Emissions (g)	4975	5982	6029	6159
NOx Emissions (g)	544	736	692	714

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	1032	1109	890	951	1126	1008	940
CO Emissions (g)	28971	29864	26088	26577	30354	28871	27152
NOx Emissions (g)	3402	3576	2969	3125	3618	3309	3121

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	908	1091	1030	1008
CO Emissions (g)	26343	29371	28355	28195
NOx Emissions (g)	3000	3507	3359	3299

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	243	230	179	200	216	127	189
CO Emissions (g)	6243	6174	5249	5583	6431	4219	5647
NOx Emissions (g)	773	739	605	662	730	463	640

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	212	164	165	192
CO Emissions (g)	5917	5012	4962	5544
NOx Emissions (g)	694	566	566	644

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	202	168	188	142	165	186	153
CO Emissions (g)	5729	5400	5637	4778	5054	5388	5084
NOx Emissions (g)	667	595	645	518	561	638	544

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	224	182	223	183
CO Emissions (g)	6358	5522	6302	5525
NOx Emissions (g)	737	621	734	626

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	246	300	312	238	297	348	248
CO Emissions (g)	8347	9107	9536	8047	9064	9927	8402
NOx Emissions (g)	896	1026	1060	853	1007	1146	901

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	273	292	240	279
CO Emissions (g)	8568	8987	7832	8782
NOx Emissions (g)	940	993	851	967

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	218	166	222	162	175	138	192
CO Emissions (g)	6258	5672	6499	5252	5443	4959	5781
NOx Emissions (g)	726	600	749	572	601	520	657

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	175	198	207	185
CO Emissions (g)	5677	5856	5931	5733
NOx Emissions (g)	619	670	693	641

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	909	863	902	743	853	799	782
CO Emissions (g)	26578	26353	26920	23661	25992	24492	24915
NOx Emissions (g)	3063	2960	3059	2604	2899	2768	2742

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	884	836	835	841
CO Emissions (g)	26521	25377	25027	25584
NOx Emissions (g)	2990	2850	2845	2878

Attachment C
Additional Public Comment

Michael Maloy

From: Lisa Brown [redacted]
Sent: Thursday, January 3, 2019 2:34 PM
To: Plan; Jared Henderson
Subject: Questions re: Academy of Arts

I have questions regarding the legal sale of this property to the charter school. There are elements of this situation that don't add up in my mind so I'm forwarding my questions to be considered part of the public record for the public hearing on this issue. I am opposed to the placement of a school on this property.

-Does the city have - as part of the public record - the development agreement contract between the Bastians and Doug Young?
-Don't the details of that contract need to be disclosed - as a protection to the city so it understands the terms of it before it grants approvals, in case they could be changed by the landowner later on?
-Is it part of city ordinances to require a contract disclosure in this type of situation where a developer doesn't own a property outright?
-If not, is that something the city should consider putting in place for the future?

-How can the sisters legally sell property they have already sold development rights to without the knowledge of that person (Doug Young)? Wouldn't that need to be legally disclosed or risk a contractual conflict? And wouldn't the contract with Doug supercede the sister's rights to sell the land to the school? Would this conflict possibly void the sale?

-I understand a school has the ability to go anywhere it chooses under most circumstances, but does the MDA itself give her any sole powers to make changes to it ... i.e. sell off property?

Maybe none of these questions are relevant, but I hope they will bring a few answers. And I'm still wondering how the school people were able to meet up with the Bastian sisters, when it seems no one from the city can get in touch with them?

Thanks,
Lisa Brown

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Michael Maloy

From: Emily Berbert [redacted]
Sent: Thursday, January 3, 2019 3:05 PM
To: Sandra Llewellyn; Jared Henderson; sherrieorhn@herriman.org; Nicole Martin; Clint H. Smith
Cc: Brett Wood; Bryn McCarty; Plan
Subject: Public comment

Hello! Hope everyone had a wonderful Holiday Season. I just wanted to send in my public comments on a few things so it was on record since I know these issues will be coming up soon on agendas and I may or may not be able to attend. Sorry I'm always long winded but I just care so much for this community and want to try and make things better. Thanks for all you guys do.

To Whom it May Concern,

Advantage Arts Academy: I have a few concerns with the proposed charter school off 118 S.
My first comment is on location and safety. I live next to Athlos and know the traffic that goes with charter schools, especially elementary school ones. My neighborhood becomes a parking lot when there is any function there and often times parents park on our streets to pick up and drop off their kids. I fear for the safety of those young kids over off 118 S. No matter how good your pick up and drop off is, it will always be a maze and crazy part of the day and a busy road should not be the primary entrance and exit. We know that road is already busy with the high school and with it being zoned commercial it will be even more of a concern as shoppers will not be looking out for the safety of kids or courtesy of parents dropping off and picking up kids. Seems like disaster waiting to happen.

Process- I was able to attend their community meeting and although I love the idea of the school, I am very against the location and the process they are allowed to use to put that school in wherever they deemed necessary. Just like other processes, I feel like charter schools should work with the city and the public school districts to help map out potential school areas before land is purchased. Everyone is affected by where schools are placed and it should be a joint effort to look at concerns of both the schools, community, and city. I understand from the meeting there were challenges with finding locations and they are about to loose their charter because they haven't found a location. According to them the city kept bouncing them to and from and time was of the essence. I feel like the city would only have done that if there was good reason and I mentioned that to AAA that maybe they need to look at the other geographical area they are able to go for their charter that might be better fit. I also mentioned that we as a city and neighboring communities shouldn't be penalized for their time frame restraints. I wish everything(developers, schools, residents) could have a better process to help make a community great. I feel the laws to let people know a few days before a meeting or just 'checking the boxes' isn't what makes a community viable in the long run and where businesses can grow and thrive. We want businesses to be successful here. I told AAA they would have a scarlet letter on them from me for taking away my zoned commercial area and congesting an area I don't think needs any more schools(this will make 5 in one area) Although I love the arts I can't support a program that disregards public desire.

Information and cost- I was a little surprised at the AAA meeting that it wasn't until after lots of questioning and prodding that they mentioned their expansion plan. They could go up to 700 kids, but would build out more buildings. This means they knew what they wanted to do but wasn't letting the public know their intentions and that there would be more than previously presented. Also, they need to get the building done so they don't loose their charter but there is no water etc. out there yet. This concerns me as to the cost that the city will accrue for those amenities. That area isn't ready for building yet and until other developments around them are built up, I

fear the cost will be much greater to the city because of their hasty time frame. It is just not smart planning. I was also surprised that AAA had purchased the land already and especially since it is zoned for commercial that is part of an MDA. I don't know what good an MDA does for our city if it can't be enforced with the intent of the agreed upon land use. There has got to be a better way to handle development or an ordinance that protects the city from unnecessary costs accrued by developments coming in.

I do feel for this charter school and the run around it supposedly received but feel the greater good of the community and city is better served with finding other solutions for this school.

Teton Ranch-
Oh Doug...what can I say more. Supposedly he knew nothing about the selling of the commercial land. I'm not sure I buy that but needless to say this area was supposed to be a great area in Herriman. So many people are looking for larger areas, backyards, commercial for our city and yet he brings the highest density parts first. I hope the council can come up with a better plan for Develop agreements so that when a developer comes with their proposals it includes the full development. Teton Ranch should come through the PC process and to the council and one development so that the integrity of the vision stays there. The great thing about Teton Ranch was the 1 acre,1/2 acre , 1/3 acre lots that our city has none of- not the senior living or small cottages to the north. We are made up of small, attached housing and there is no viability for the longevity of a city in this type of building. We know he will figure out some way to get around building those beautiful sized lots. Maybe he will put in number 6 school over there(sorry for the sarcasm).

I encourage the council to please protect our city, place ordinances that will protect the city and the small part of development we have left.

Thanks for all you do and I appreciate your willingness to serve in our community.
--
Emily Berbert

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Michael Maloy

From: Robin Glassey [redacted]
Sent: Thursday, January 10, 2019 6:14 PM
To: Plan
Subject: Advantage Arts Academy File Number S2018-23 & P2018-05

Re: Notice of Public Hearing for Advantage Academy Arts 2 Lot subdivision

Dear Planning Commission,

I have emailed Advantage Arts Academy regarding my thoughts and feeling about the proposed application for Advantage Arts Academy Charter School and felt it necessary to contact you as well. I attended a public hearing for the Herriman City Planning Commission last week with the intent of sharing my thoughts regarding the application for a 2 lot subdivision for Advantage Arts Academy Charter School on property located at approximately 6200 West 11800 South. The matter was continued to Thursday January 17, 2019 and unfortunately, I will be unable to attend the meeting that night as I have other obligations. I still feel that it's important to express my concerns about this proposal and why I don't believe this is a good location for the school.

Herriman City already has several schools crammed within a one block radius: a high school, a middle school, and two elementary schools. Building so many schools in close proximity to one another has created not only a mass exodus of cars in the morning and afternoon of parents and teenagers trying to make their way to and from school, but a dangerous situation for children trying to cross busy streets jam-packed with commuters trying to get to work.

In the neighbor I live in (Heritage Place Estates) it isn't just a matter of these four schools families are trying to get to, there is a fifth elementary school in the mix that is a few blocks away children also attend called Silvercrest Elementary. Adding a sixth school full of elementary age children that is across the road from a high school with teenagers just getting their permits and barely knowing how to drive is a recipe for disaster. Am I exagerating this? Absolutely not. Why just yesterday one of my sons handed his car keys to his friend, thinking she was just going to get money from his car and she took the car for a drive, getting into an accident in the parking lot with another student who had also borrowed a car from another friend. Neither of these students who had taken the car keys had licenses. It is fortunate that the accident happened on the school grounds in the parking lot, but it just as easily could have been on the road with a teenager hitting an elementary student walking home.

As a concerned Herriman resident, not only do I worry about student safety, I'm also concerned about the ongoing health and well-being of our city. Can we maintain it? We have struggled to find areas that we can use for commercial development so we will be able to have an ongoing tax base to maintain needed city services. We finally have a spot that is zoned for commercial development. I urge you not to allow Advantage Arts Academy to take this spot and use it for the school. We need this for commercial development and it's an unsafe place for children that would only add to the traffic and accidents that are already occuring along Pioneer Road.

Sincerely,

Robin Glassey

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For more information please visit http://www.symanteccloud.com

Attachment D

Planning Commission Staff Report (January 3, 2019)

Staff Report

DATE: December 28, 2018

TO: Planning Commission

FROM: Michael Maloy, AICP, Planning Director

MEETING: Planning Commission January 3, 2019

REQUEST: Site Plan Approval

Applicant:	Tyler Bodrero, Pace Construction Management
Address:	Approximately 6200 W 11800 South
Zone:	C-2 Commercial
Acres:	6.8±
File Number:	P2018-05

Summary

The applicant is requesting site plan approval for a charter school located approximately at 6200 W 11800 South. The approximately 6.8-acre property is zoned C-2 Commercial. The new charter school, known as Advantage Arts Academy, will have an initial enrollment of 525 students and 700 students at capacity (see Attachment B – Preliminary Subdivision Plat, and Attachment C – Preliminary Development Plan).

Process

While the proposed school is a permitted use in the C-2 Commercial zone, a site plan is subject to an administrative review process that is decided by the Planning Commission. The Planning Commission shall make a decision based on the applicable ordinances and standards of the Herriman City Code.

Options

In making a motion, a member of the Commission may consider the following options:

- Approve the application as proposed,
- Approve the application with conditions,
- Table or continue the application for further research and consideration, or
- Deny the application based on failure to comply with applicable ordinances and standards.

Neighborhood Meeting

A neighborhood meeting is not required for site plan approval. However, a neighforhood meeting was held on on December 17, 2018, for a preliminary subdivision plat that is requried for this project.

Public Hearing Notice

No public hearing notices are required for site plan approval. However, notice of a public meeting on this items was published by the City on December 28, 2018.

Development Review Committee

Planning Division staff forwarded the proposal to the Development Review Committee (DRC) on November 27, 2018, for review. On December 4, 2018, staff compiled all DRC review comments, and on December 5, 2018, forwarded all comments to the applicant. Key issues identified by the City Engineer involve public safety concerns (see Attachment E – Development Review Committee Comments).

In response to the DRC, the applicant submitted a revised traffic impact study on November 30, 2018 (see Attachment E – Traffic Impact Study). However, Blake Thomas, Herriman City Engineer, maintains several concerns regarding the suitability of the site for the proposed use on a street that is planned to be a major arterial road for residential, commercial, and industrial traffic (see Attachment F – City Engineer Email).

Discussion

Request for approval of a site plan is subject to compliance with section 10-5-12 of City Code, which is entitled Site Plans. As mentioned previously, the proposal also requires subdivision approval, which the City regulates in sections 10-5-15 (Preliminary Plats) and 10-5-16 (Final Plats) of City Code. City staff identified the following issues based on applicable sections of Utah Code and the Herriman City Code.

Issue 1. Lot Frontage

The following City Code requires all lots to have street frontage:

> **City Code 10-28-8. C. Streets:** *Each lot shall abut on a street shown on the subdivision plat* or on an existing publicly dedicated street which has become public by right of use and which is more than twenty-six feet (26') wide. Double frontage lots shall be prohibited, except where unusual conditions make other designs undesirable (italics added).

In response to this concern, the applicant submitted a revised preliminary subdivision plat for a single lot—labeled "Lot 1" and a "Remainder Parcel." However, the term "remainder parcel" is not a recognized term within City Code. Furthermore, City Code defines a lot as follows:

> **10-3-5: Definitions, Generally**
> **Lot:** A contiguous and separately delineated piece of real property which is shown on a recorded final subdivision plat or record of survey. A lot also includes a parcel as defined in this section.

Therefore, the "Remainder Parcel"—which is a lot as defined by Herriman City Code—must abut a street shown on the subdivision plat.

Issue 2. Incomplete Information

In reviewing City Code 10-5-15, which is entitled Preliminary Plats, the staff has identified several technical requirements that have not been submitted by the applicant, such as:

- Easements proposed for water, sewer, drainage, utility lines, and other purposes;
- Proposed off-site and on-site culinary and secondary water facilities, sanitary sewers, storm drainage facilities, and fire hydrants;
- A plan for providing street lighting in the subdivision;
- Copies of any agreements with adjacent property owners relevant to the proposed subdivision;
- Evidence that all utilities and services will be available for the subdivision;
- Evidence of compliance with other applicable Federal, State and local laws and regulations, if requested by the Community Development Director;

Regarding easements, and storm drainage, the City Engineer stated in Attachment G:

> The site does not have an outfall so the stormwater will need to be maintained in a temporary retention pond sized to the 100-year, 24-hour event with 1 foot of freeboard. If this facility is placed on an off-site location, an easement will be required to be recorded prior to the commencement of construction of the facility. A long-term stormwater maintenance agreement will be required for any private and temporary storm drain improvements.

Regarding compliance with the State, the applicant has not yet obtained clearance from the Utah Department of Environmental Quality—which is required—due to the presence of contaminated soils within the area.

Issue 3. Compliance with Regulations

Within Utah Code, a private non-profit "charter school" is recognized as a "specified public agency." Furthermore, Utah Code prescribes the following regulations for municipalities and charter schools:

Staff Report

10-9a-3.5
(1)(a) Each county, municipality, school district, charter school, local district, special service district, and political subdivision of the *state shall conform to any applicable land use ordinance of any municipality when installing, constructing, operating, or otherwise using any area, land, or building situated within that municipality* (italics added).

(2)(a) Except as provided in Subsection (3), *a school district or charter school is subject to a municipality's land use ordinances* (italics added).
(b) (i) Notwithstanding Subsection (3), *a municipality may* (italics added):
(A) subject a charter school to standards within each zone pertaining to setback, height, bulk and massing regulations, off-site parking, curb cut, traffic circulation, and construction staging; and
(B) impose regulations upon the location of a project that are necessary to avoid unreasonable risks to health or safety, as provided in Subsection (3)(f).
(ii) The standards to which a municipality may subject a charter school under Subsection (2)(b)(i) shall be objective standards only and may not be subjective.
(iii) Except as provided in Subsection (7)(d), the only basis upon which a municipality may deny or withhold approval of a charter school's land use application is the charter school's failure to comply with a standard imposed under Subsection (2)(b)(i).
(iv) Nothing in Subsection (2)(b)(iii) may be construed to relieve a charter school of an obligation to comply with a requirement of an applicable building or safety code to which it is otherwise obligated to comply.

(3) *A municipality may not* (italics added):
(a) impose requirements for landscaping, fencing, aesthetic considerations, construction methods or materials, additional building inspections, municipal building codes, building use for educational purposes, or the placement or use of temporary classroom facilities on school property;
(b) except as otherwise provided in this section, require a school district or charter school to participate in the cost of any roadway or sidewalk, or a study on the impact of a school on a roadway or sidewalk, *that is not reasonably necessary for the safety of school children and not located on or contiguous to school property, unless the roadway or sidewalk is required to connect an otherwise isolated school site to an existing roadway*; (italics added)
(c) require a district or charter school to pay fees not authorized by this section;
(d) provide for inspection of school construction or assess a fee or other charges for inspection, unless the school district or charter school is unable to provide for inspection by an inspector, other than the project architect or contractor, who is qualified under criteria established by the state superintendent;
(e) require a school district or charter school to pay any impact fee for an improvement project unless the impact fee is imposed as provided in Title 11, Chapter 36a, Impact Fees Act;
(f) impose regulations upon the location of an educational facility *except as necessary to avoid unreasonable risks to health or safety*; or (italics added)
(g) for a land use or a structure owned or operated by a school district or charter school that is

not an educational facility but is used in support of providing instruction to pupils, impose a regulation that:
(i) is not imposed on a similar land use or structure in the zone in which the land use or structure is approved; or
(ii) uses the tax-exempt status of the school district or charter school as criteria for prohibiting or regulating the land use or location of the structure.

(4) Subject to Section 53E-3-710, a school district or *charter school shall coordinate the siting of a new school with the municipality* in which the school is to be located, to:
(a) *avoid or mitigate existing and potential traffic hazards*, including consideration of the impacts between the new school and future highways; and
(b) maximize school, student, and site safety.

(7)(a) A charter school shall be considered a permitted use in all zoning districts within a municipality.
(b) Each land use application for any approval required for a charter school, including an application for a building permit, shall be processed on a first priority basis.
(c) Parking requirements for a charter school may not exceed the minimum parking requirements for schools or other institutional public uses throughout the municipality.
(d) If a municipality has designated zones for a sexually oriented business, or a business which sells alcohol, a charter school may be prohibited from a location which would otherwise defeat the purpose for the zone unless the charter school provides a waiver.

While the above section of Utah Code limits municipal regulations, it does not exempt the applicant from compliance with Herriman Land Development Regulations for subdivisions. Furthermore, it provides municipalities the ability to "impose regulations on the location of a project that are necessary to avoid unreasonable risks to health or safety," which is discussed in the following issue.

Issue 4. Safety

City staff has repeatedly—and directly—informed the applicant that based on objective experience, existing transportation plans, recommended pedestrian safety measures, and civil engineering standards that the proposed site is unsuitable for the proposed use due to the following conditions:

- **Isolated Development.** The proposed site is currently isolated from existing development. As such, there is no pedestrian network to connect with. In response to this concern, the applicant has stated that the "safe route to school" plan is for all students to be driven to school. Whereas the charter school will not provide bus service and is not serviced by public transit, the proposal will generate between 341 and 455 "peak hour trips" each school day (see Attachment F – Traffic Impact Study). To address this would require—at a minimum—the applicant to construct approximlatey 1,000 feet of sidewalk along 11800 South to Mustang Trail Way (6000 West). Should the site be approved, and development patterns continue as expected, it is

reasonble to assume that a pedestrian bridge may also be warranted in the future.

- **Fails AASHTO.** As identified by the City Engineer, the proposal fails to follow the American Association of State Highway and Transportation Official's (AASHTO) *Guide for the Planning, Design, and Operation of Pedestrian Facilities*, which includes schools. AASHTO recommends schools be located on collector streets within neighborhoods—not a major arterial without any pedestrian or secondary vehicular access. At a minimum, the development should have vehicular and pedestrian access from the adjacent residential subdivision, which is currently being designed and engineered for construction.

- **Major Arterial.** The current *Herriman City Transportation Master Plan*—which traffic projections are being exceeded due to rapid residential growth within the City—describes 11800 South as follows:

  > **11800 South.** Recommended roadway improvements would include a slight realignment to accommodate the Mountain View Corridor (MVC) alignment. It is also recommended that the roadway be classified as a *major arterial, accommodating a seven-lane roadway cross-section between the MVC and 6000 West.* Because this location will be the only crossing of MVC between 11400 South and 12600 South Interchanges, *it is projected to carry a great deal of east-west traffic* that will be distributed onto north-south roads providing access to the adjacent MVC interchanges. It is suggested that a 120-foot ROW section be acquired to accommodate this demand. Traffic signals are recommended when they become warranted, to be installed at the major intersection crossings of 5600, 6000, and 6400 West as shown in Table 5-2 (italics added).

  Furthermore, the *Transportation Master Plan*, which was published in 2009 and is demonstrably outdated, estimates that the 2020 average daily trips on 11800 South will range from 20,500 to 40,000, which will be a significant—and costly—barrier for the planning and development of future "safe routes to school."

  It should also be noted that the mitigation measures recommended by the Traffic Impact Study include construction of a lengthy island and widening of 11800 South, west of 6000 West, to five lanes. However, these needed improvements—for the safety of the school—are currently unfunded, and will not be paid for by the charter school.

- **Offsite Improvements.** The preceding issues identify significant offsite improvements that will be required to facilitate traffic and avoid unreasonable risks to health or safety, and according to the applicant, Utah Code does not obligate the charter school to construct any of these improvements. However, staff questions whether the following Utah Code *does* allow municipalities this power when a proposed development poses "unreasonable risks to health or safety" or located on "an otherwise isolated school site:"

  > (A municipality may not) except as otherwise provided in this section, require a school

district or charter school to participate in the cost of any roadway or sidewalk, or a study on the impact of a school on a roadway or sidewalk, *that is not reasonably necessary for the safety of school children and not located on or contiguous to school property, unless the roadway or sidewalk is required to connect an otherwise isolated school site to an existing roadway*; (italics added)

If the applicant is not obligated to contribute financially to the construction of offsite mitigation measures and safe routes to school, the cost to the City will be significant.

Issue 5. Waiver

Whereas the proposal is located within a commercial zone on an arterial street, the City reasonably anticipates the development of businesses that may wish to sell or serve alcohol, such as a full-service restaurant. As per Utah Code, the City may deny the charter school unless a proximity waiver is provided by the school. To resolve this issue, the City requests the applicant to sign a proximity waiver to allow alcohol licenses within adjacent commercial zones as a condition of approval.

Standards & Findings

According to City Code 10-5-12.E the following standards shall apply to the approval of a site plan:

1. **The entire site shall be developed at one time unless a phased development plan is approved. A phased development plan shall show:**
   a. **The planned development of the entire site; and**
   b. **The timing and sequencing of improvements to be completed with each phase, particularly amenities, open space, and public improvements.**

Finding. The applicant intends to develop the entire site at once, however the preliminary development plan does indicate future building additions when school capacity warrants additional classrooms. No further information regarding the timing or sequencing of each phase of building construction has been submitted to the City.

2. **A site plan shall conform to applicable standards set forth in this title and other applicable provisions of City standards and specifications. Conditions may be imposed as necessary to achieve compliance with applicable requirements.**

Finding. As described previously within this report, staff has identified several issues that warrant a response from the applicant—or correction—prior to recommending approval or denial of the site plan application.

3. **In order to assure development shown on an approved site plan will be constructed to completion in an acceptable manner, the applicant shall enter into an improvement**

completion assurance and warranty agreement and shall conform to the requirements set forth in chapter 20 of this title.

Finding. The applicant has not "entered into an improvement completion assurance and warranty agreement" with the City. Whereas a charter school is a "specified public agengcy" of the State, it is unclear to staff whether Utah Code prohibits compliance with this standard. John Brems, Herriman City Attorney, will address this item during the January 3, 2018, public meeting.

Recommendation

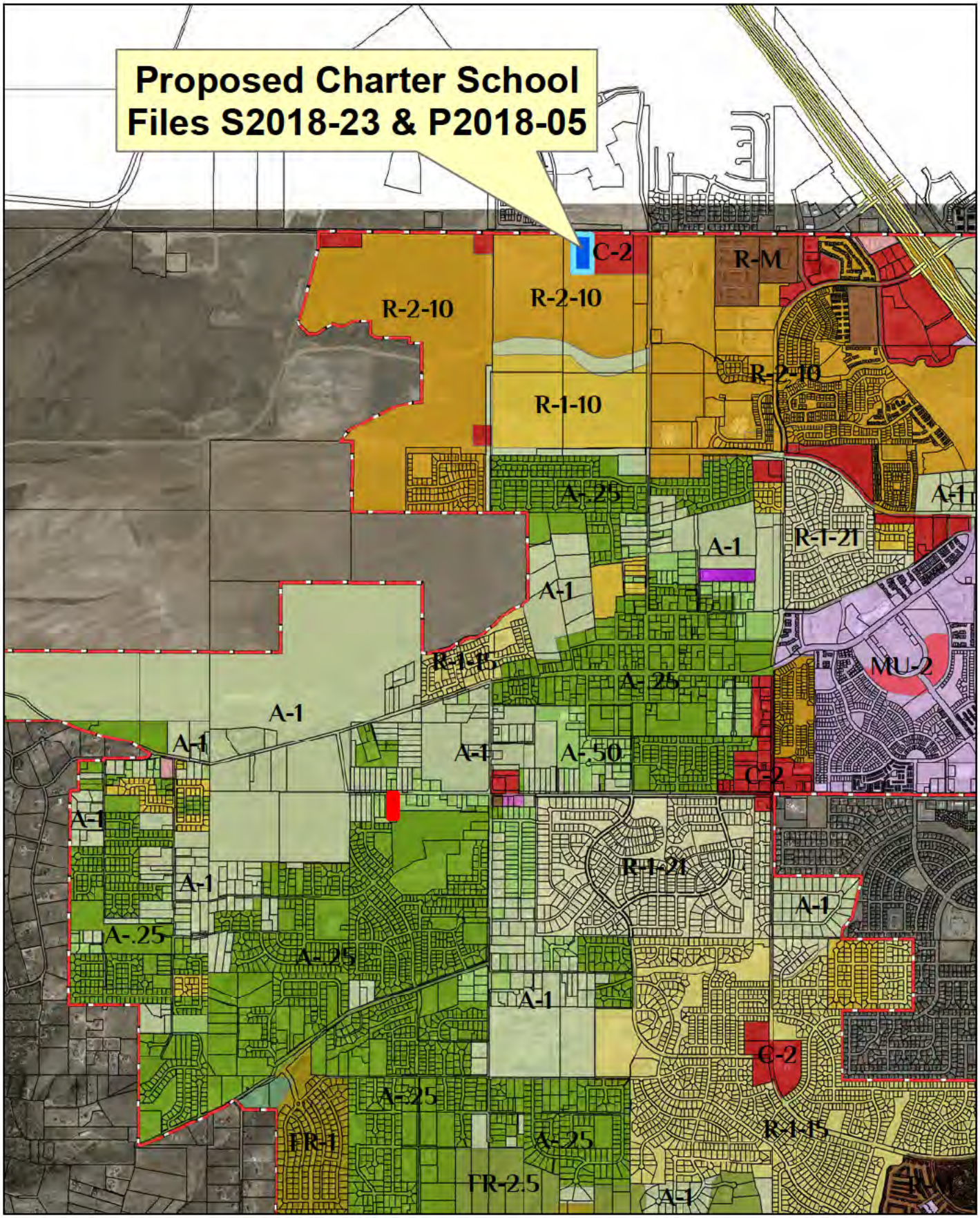
Whereas the findings recommended by staff do not satisfy the standards for site plan approval, staff recommends the request be tabled to allow:

- the applicant additional time to resolve the identified deficiencies, and
- additional staff time to study needed plan revisions (pending submittal).

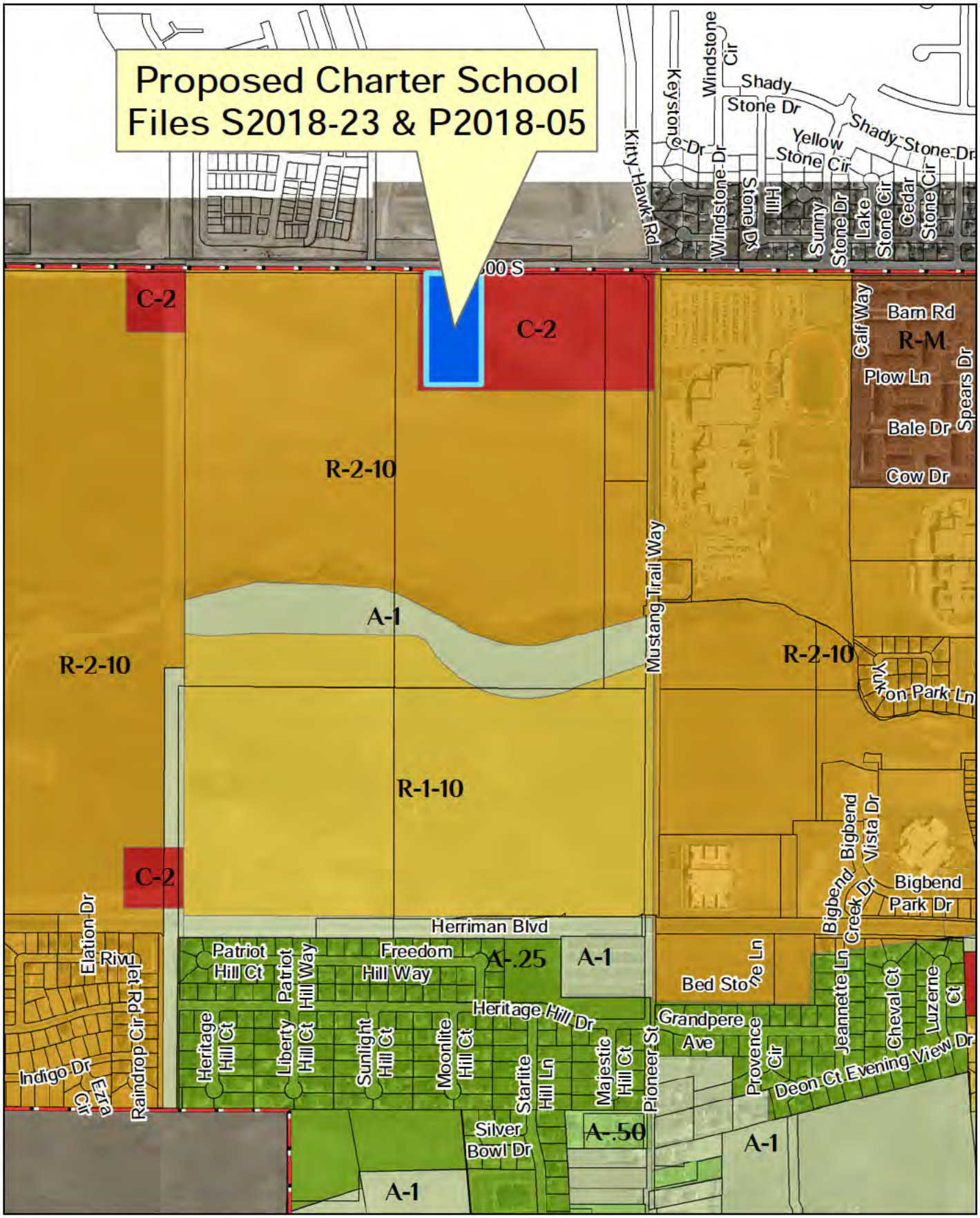
Attachments

A. Vicinity Maps
B. Preliminary Subdivision Plat
C. Preliminary Development Plan
D. Advantage Arts Academy Schedule
E. Development Review Committee Comments
F. Traffic Impact Study
G. City Engineer Comments
H. Neighborhood Meeting Minutes & Comment

Attachment A
Vicinity Maps



Proposed Charter School
Files S2018-23 & P2018-05

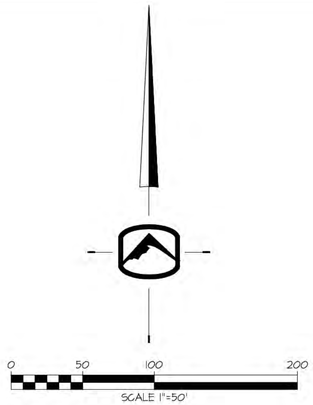


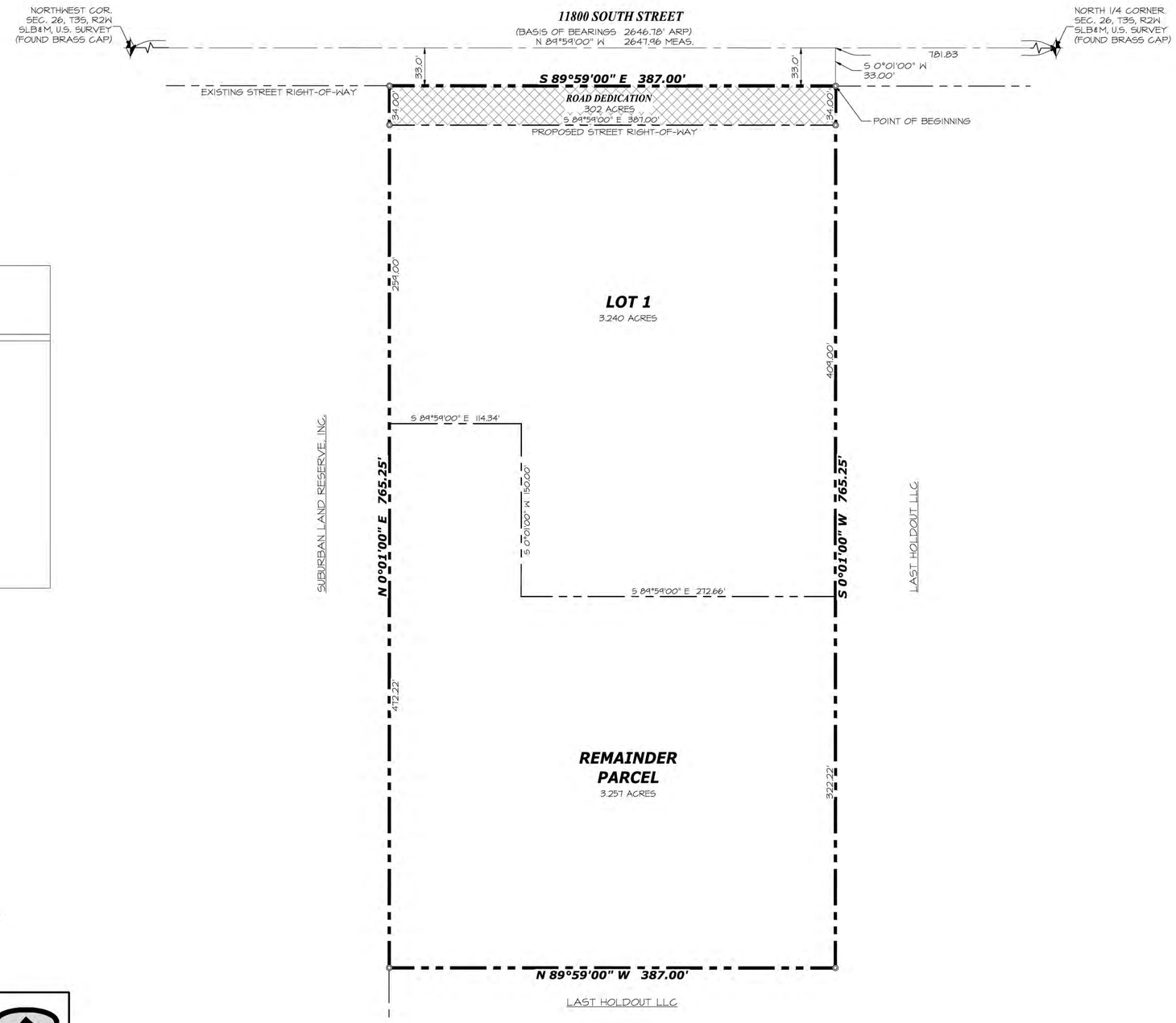
Proposed Charter School
Files S2018-23 & P2018-05

Attachment B
Preliminary Subdivision Plat

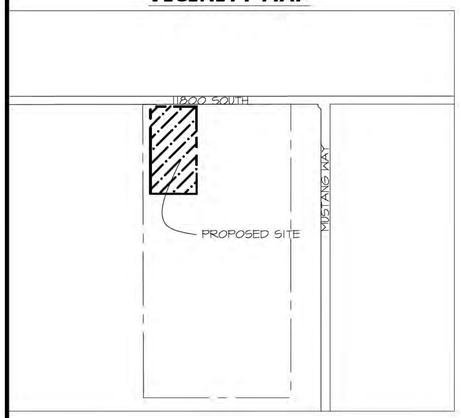
ADVANTAGE ARTS SUBDIVISION

A SUBDIVISION LOCATED IN THE NORTHWEST CORNER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, HERRIMAN CITY, SALT LAKE COUNTY, UTAH





VICINITY MAP



LEGEND

- BOUNDARY LINE
- LOT LINE
- SECTION LINE
- PUBLIC UTILITY EASEMENT (PUE) LINE
- ADJACENT PROPERTY
- CENTERLINE
- SECTION CORNER
- STREET MONUMENT TO BE SET PER SALT LAKE COUNTY SURVEYOR'S STANDARDS. PERMIT REQUIRED.
- PROPERTY / LOT CORNER FOUND OR TO BE SET WITH 5/8"x24" REBAR & CAP STAMPED SILVERPEAK ENG.
- DEDICATED FOR PUBLIC RIGHT-OF-WAY

NOTE:

ALL STREET MONUMENTS TO BE SET PER SALT LAKE COUNTY SURVEYOR STANDARDS.

SURVEYOR'S CERTIFICATE

I, **Jason T. Felt** do hereby certify that I am a Licensed Professional Land Surveyor, and that I hold certificate No. **9239283** as prescribed under laws of the State of Utah. I further certify that by authority of the Owners, I have made a survey of the tract of land shown on this plat and described below, and have subdivided said tract of land into lots, parcels, streets, together with easements, hereafter to be known as **ADVANTAGE ARTS SUBDIVISION** and that the same has been correctly surveyed and monumented on the ground as shown on this plat. I further certify that all lots meet frontage width and area requirements of the applicable zoning ordinances.

JASON T. FELT, P.L.S.
LICENSE NO. 9239283

DATE: November 5, 2018

BOUNDARY DESCRIPTION

A PART OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY, HERRIMAN CITY, SALT LAKE COUNTY, UTAH

BEGINNING AT A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF 11800 SOUTH STREET, BEING 781.83 FEET NORTH 89°59'00" WEST ALONG THE SECTION LINE, AND 33.00 FEET SOUTH 0°01'00" WEST FROM THE NORTH QUARTER CORNER OF SAID SECTION 26; THENCE SOUTH 0°01'00" WEST 765.25 FEET; THENCE NORTH 89°59'00" WEST 387.00 FEET; THENCE NORTH 0°01'00" EAST 765.25 FEET TO SAID SOUTH LINE OF 11800 SOUTH STREET; THENCE SOUTH 89°59'00" EAST 387.00 FEET ALONG SAID SOUTH LINE OF 11800 SOUTH STREET TO THE POINT OF BEGINNING.

CONTAINS: 6.799 ACRES

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED ARE THE OWNERS OF THE ABOVE DESCRIBED TRACT OF LAND, AND HEREBY CAUSE THE SAME TO BE DIVIDED INTO LOTS, PARCELS AND STREETS, TOGETHER WITH EASEMENTS AS SET FORTH TO BE HEREAFTER KNOWN AS ASCENT SUBDIVISION AND DO HEREBY DEDICATE FOR THE PERPETUAL USE OF THE PUBLIC ALL ROADS AND OTHER AREAS SHOWN ON THIS PLAT AS INTENDED FOR PUBLIC USE. THE UNDERSIGNED OWNERS ALSO HEREBY CONVEY TO ANY AND ALL PUBLIC UTILITY COMPANIES A PERPETUAL, NON-EXCLUSIVE EASEMENT OVER THE PUBLIC UTILITY EASEMENTS SHOWN ON THIS PLAT, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF UTILITY LINES AND FACILITIES. THE UNDERSIGNED OWNERS ALSO HEREBY CONVEY ANY OTHER EASEMENTS AS SHOWN ON THIS PLAT TO THE PARTIES INDICATED AND FOR THE PURPOSES SHOWN HEREON.

SIGNED THIS ____ DAY OF _____ 2018.

_____ HERRIMAN School Development, LLC

_____ Giovengo Properties, LLC

ACKNOWLEDGMENT

STATE OF UTAH
COUNTY OF } ss

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 2018 BY _____ WITH HERRIMAN SCHOOL DEVELOPMENT LLC.

RESIDING AT: _____

COMMISSION NUMBER: _____

MY COMMISSION EXPIRES: _____

_____ NOTARY PUBLIC (PRINT NAME)

_____ NOTARY PUBLIC SIGNATURE

SILVERPEAK ENGINEERING

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
FAX: (801) 499-5065

PLANNING COMMISSION

APPROVED THIS _____ DAY OF _____, 2018 BY THE HERRIMAN CITY PLANNING COMMISSION.

_____ CHAIR, PLANNING COMMISSION

CITY ENGINEER'S APPROVAL

I HEREBY CERTIFY THAT THIS OFFICE HAS EXAMINED THIS PLAT AND IT IS CORRECT IN ACCORDANCE WITH INFORMATION ON FILE IN THIS OFFICE.

_____ HERRIMAN CITY ENGINEER _____ DATE

CITY ATTORNEY'S APPROVAL

APPROVED BY THE HERRIMAN CITY ATTORNEY'S OFFICE THIS ___ DAY OF _____ 2018.

_____ CITY ATTORNEY

HERRIMAN CITY APPROVAL

THIS PLAT AND ANY DEDICATIONS HEREIN APPROVED AND ACCEPTED BY THE MAYOR OF HERRIMAN CITY THIS ___ DAY OF _____ 2018.

_____ CITY MANAGER

ATTEST: _____ CITY RECORDER

SALT LAKE COUNTY RECORDER

ENTRY NO._____FEE PAID_____FILED FOR

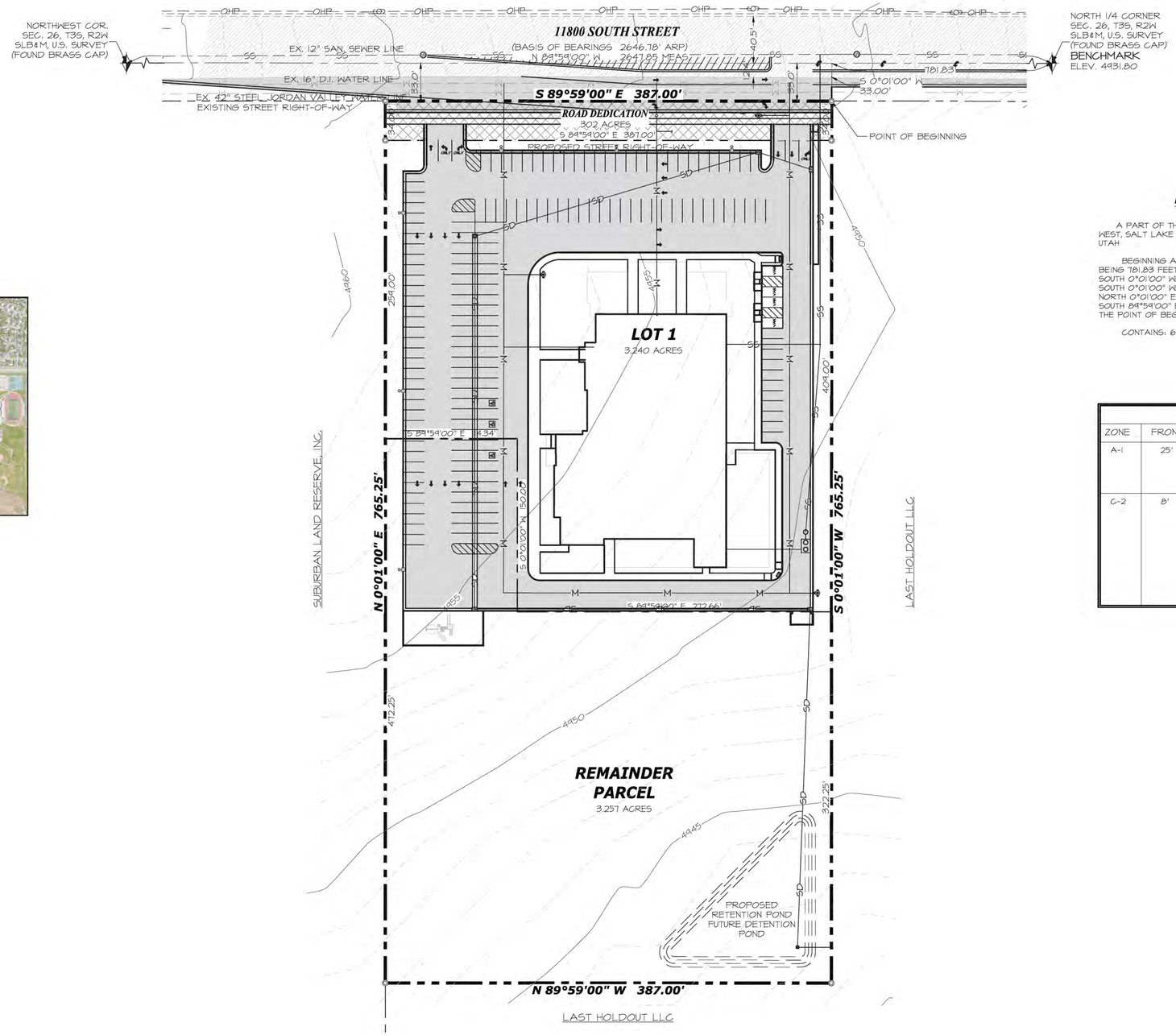
RECORD AND RECORDED THIS _____ DAY OF

_____, 2018 AT _____ IN BOOK _____ OF

OFFICIAL RECORDS PAGE _____

ADVANTAGE ARTS SUBDIVISION

A SUBDIVISION LOCATED IN THE NORTHWEST CORNER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, HERRIMAN CITY, SALT LAKE COUNTY, UTAH



VICINITY MAP

SCALE: NO SCALE

BOUNDARY DESCRIPTION

A PART OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 3 SOUTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY, HERRIMAN CITY, SALT LAKE COUNTY, UTAH

BEGINNING AT A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF 11800 SOUTH STREET, BEING 781.83 FEET NORTH 89°59'00" WEST ALONG THE SECTION LINE, AND 33.00 FEET SOUTH 0°01'00" WEST FROM THE NORTH QUARTER CORNER OF SAID SECTION 26; THENCE SOUTH 0°01'00" WEST 765.25 FEET, THENCE NORTH 89°59'00" WEST 387.00 FEET, THENCE NORTH 0°01'00" EAST 765.25 FEET TO SAID SOUTH LINE OF 11800 SOUTH STREET, THENCE SOUTH 89°59'00" EAST 387.00 FEET ALONG SAID SOUTH LINE OF 11800 SOUTH STREET TO THE POINT OF BEGINNING.

CONTAINS: 6.799 ACRES

MIMINUM YARD SETBACKS

ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

LEGEND

NOT ALL ITEMS IN THE LEGEND MAY BE APPLICABLE

- BOUNDARY LINE
- CENTERLINE
- EASEMENT LINE
- SETBACK LINE
- IRR — NEW IRRIGATION LINE
- SD — NEW STORM DRAIN
- SS — NEW SANITARY SEWER
- SW — NEW SECONDARY WATERLINE
- W — NEW CULINARY WATERLINE
- IRR — EX. IRRIGATION LINE
- OHP — EX. OVERHEAD POWER LINE
- SD — EX. STORM DRAIN
- SS — EX. SANITARY SEWER
- SW — EX. SECONDARY WATERLINE
- T — EX. TELEPHONE LINE
- G — EX. GAS LINE
- W — EX. CULINARY WATERLINE
- SECTION CORNER
- MONUMENT
- CONTROL POINT
- 4250 — EG CONTOUR MINOR
- 4250 — EG CONTOUR MAJOR
- 4250 — FG CONTOUR MINOR
- 4250 — FG CONTOUR MAJOR
- NEW ASPHALT PER DETAIL 1/C3.1
- EXISTING ASPHALT
- EXISTING CURB & GUTTER
- 30" HIGH BACK CURB PER DETAIL 2/C3.1
- 30" RELEASE GUTTER PER DETAIL 3/C3.1

0 50 100 200
SCALE 1"=50'

PRELIMINARY PLAT

ONE WEST CONSTRUCTION
ATTN: TED LEWIS
240 N. FLINT STREET
KAYSVILLE, UTAH
PHONE: 801-444-9878

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL: PROFESSIONAL LAND SURVEYOR 12/12/18 No. 9295283 JASON T. BELL STATE OF UTAH

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

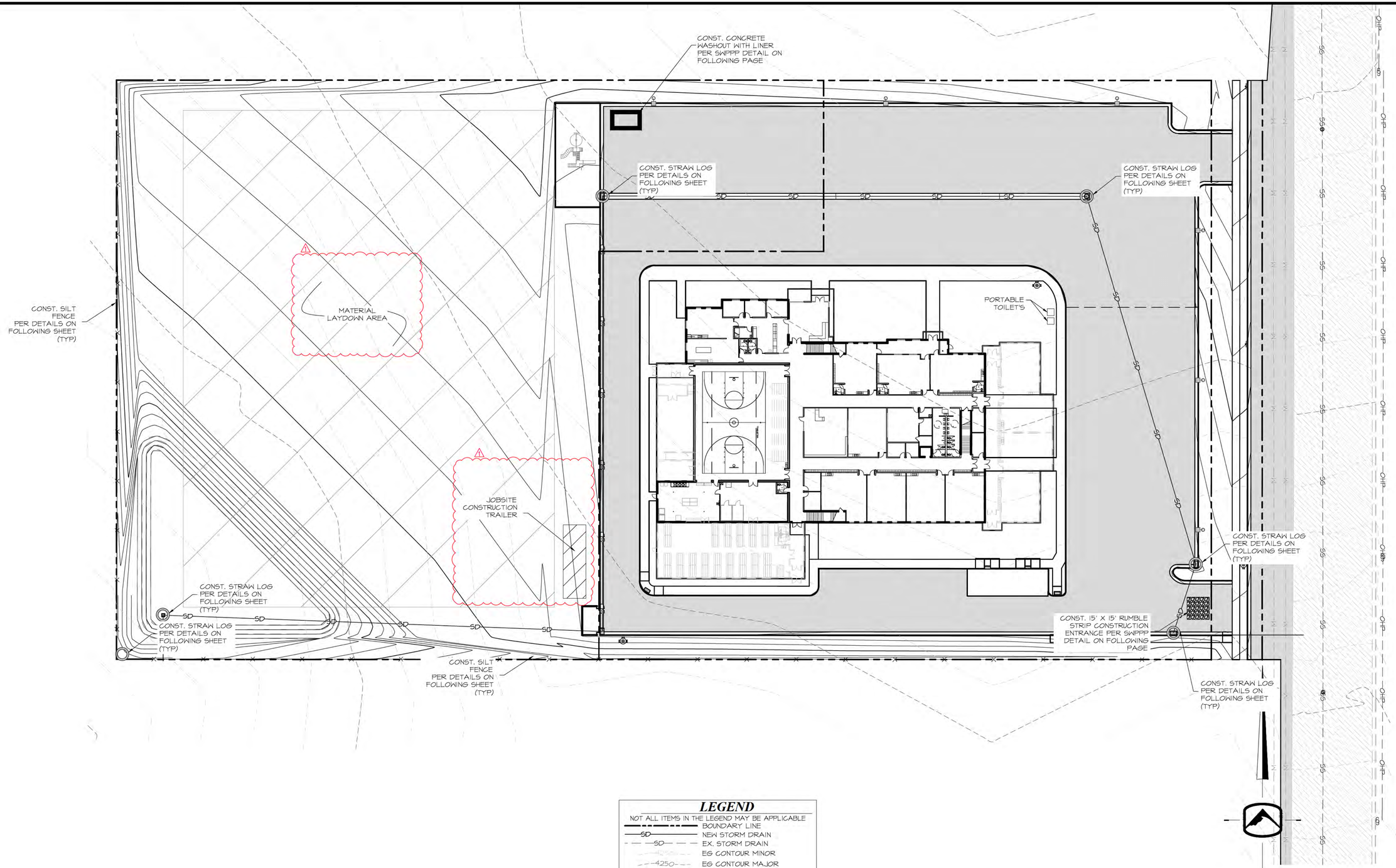
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 12/07/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

PLAT PRELIMINARY

SHEET NUMBER: 1

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



SWPPP

LEGEND

NOT ALL ITEMS IN THE LEGEND MAY BE APPLICABLE

- BOUNDARY LINE
- SD — NEW STORM DRAIN
- SD — EX. STORM DRAIN
- EG CONTOUR MINOR
- 4250 — EG CONTOUR MAJOR
- 4250 — FG CONTOUR MINOR
- 4250 — FG CONTOUR MAJOR
- NEW ASPHALT PER X-SECTION
- EXISTING ASPHALT
- EXISTING CURB & GUTTER
- CONST. CURB & GUTTER PER X-SECTION
- X — CONST. SILT FENCE
- SD INLET PROTECTION

NOTE:

DURING CONSTRUCTION OF THE BUILDING THE PLAYFIELD AND PARKING AREAS WILL BE USED FOR CONSTRUCTION STAGING. DURING CONSTRUCTION OF THE PARKING AREA THE PLAYFIELD AREA WILL BE USED FOR CONSTRUCTION STAGING

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL:

12-7-2018
JOSHUA R. JOHNSON

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 12/07/2018
PROJECT: AW-051
DRAWN BY: JRJ

REVISIONS:
11-27-2018 1

SWPPP

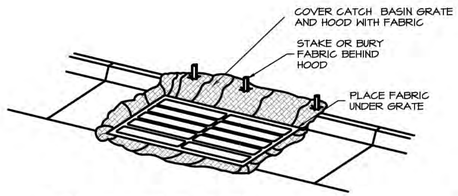
SHEET NUMBER:
C500

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

S:\Silverpeak Projects\Academica\West Jordan\AW-051 Advantage Arts Herriman\Civil\AW-051 CIVIL (5).dwg 12/12/2018 2:08:19 PM

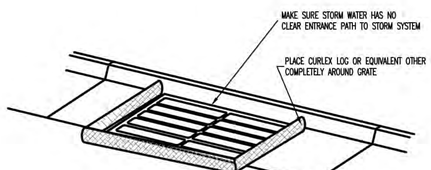
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

ADVANTAGE ARTS ACADEMY SCHOOL



FABRIC UNDER GRATE

MAINTENANCE: LIFT GRATE & CLEAN SEDIMENT OFF OF FABRIC WEEKLY & AFTER A STORM. TAKE CARE WHILE LIFTING GRATE TO PREVENT SEDIMENT FROM FALLING INTO THE CATCH BASIN. DISPOSE OF SEDIMENT AWAY FROM THE STORM DRAIN.



CURLEX LOG (STRAW/CLOTH SACK)

MAINTENANCE: REMOVE & CLEAN CULEX LOGS THOROUGHLY EACH WEEK OR AFTER A STORM. TAKE CARE WHILE MOVING ROCK SACKS TO PREVENT SEDIMENT FROM FALLING INTO THE CATCH BASIN. DISPOSE OF SEDIMENT AWAY FROM THE STORM DRAIN.

INLET PROTECTION

NOTES:

1. USE FABRIC UNDER GRATE TO PROTECT THE CATCH BASIN FROM SEDIMENTATION.

CONSTRUCTION & BMP SEQUENCING

BMP INSPECTION AND MAINTENANCE SHALL BEGIN WITH THE INSTALLATION OF THE FIRST BMP AND CONTINUE UNTIL THE LAST BMP (REVEGETATION) HAS BEEN COMPLETED.

CATCH BASIN PROTECTION

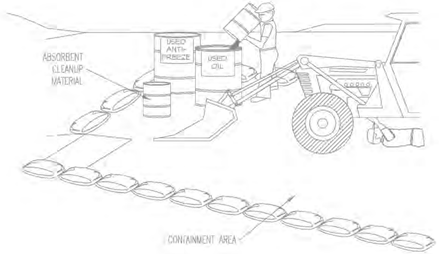
1 CATCH BASIN PROTECTION PER DETAIL LABELED "CURLEX LOG" AND/OR "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF STORM DRAIN CONSTRUCTION.
2 FOR CATCH BASINS LOCATED IN CURB AND GUTTER:
 A "CURLEX LOG" SHALL REMAIN IN PLACE UNTIL CURB AND GUTTER IS CONSTRUCTED.
 B CATCH BASIN PROTECTION PER DETAIL LABELED "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF CURB AND GUTTER CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL FINISH GRADING IS COMPLETED.
3 FOR CATCH BASINS LOCATED IN LANDSCAPE AREAS:
 A "CURLEX LOG" SHALL REMAIN IN PLACE UNTIL SITE GRADING OCCURS.
 B CATCH BASIN PROTECTION PER DETAIL LABELED "CURLEX LOG" AND/OR "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF SITE GRADING, AND SHALL REMAIN IN PLACE UNTIL ALL GRADING & LANDSCAPING IS COMPLETED.

CONCRETE WASTE MANAGEMENT

1 A CONCRETE WASTE MANAGEMENT FACILITY SHALL BE CONSTRUCTED PRIOR TO POURING ANY CONCRETE ON THE SITE, AND SHALL REMAIN IN PLACE UNTIL THE LAST CONCRETE POUR HAS BEEN COMPLETED.
2 CONTRACTOR IS TO REMOVE THE CONCRETE WASTE MANAGEMENT FACILITY BY LEGALLY REMOVING AND DISPOSING OF WASTE CONCRETE AND, IF NECESSARY, ANY NON-SOIL BERM MATERIALS.

REGEVETATION

1 SEEDING AND PLANTING OF THE SITE PER THE LANDSCAPE PLAN SHALL OCCUR WITHIN 14 DAYS OF COMPLETION OF THE FINISH GRADING, IF SAID 14 DAYS OCCUR BETWEEN APRIL 15 AND SEPTEMBER 15. OTHERWISE, SEEDING AND PLANTING SHALL BEGIN APRIL 15.
2 PLANTING EFFORTS SHALL BE COMPLETED WITHIN 15 DAYS.
3 SEEDING AND PLANTING SHALL BE CONSIDERED COMPLETE WHEN 70% OF PLANTINGS ARE ESTABLISHED.



EQUIPMENT MAINTENANCE/REPAIR

NOTES:

1. LEAKING VEHICLES AND EQUIPMENT SHALL NOT BE ALLOWED ON-SITE. EQUIPMENT AND VEHICLES SHALL BE INSPECTED FREQUENTLY FOR LEAKS AND SHALL BE REPAIRED IMMEDIATELY. CLEAN UP SPILLS AND LEAKS PROMPTLY WITH ABSORBENT MATERIALS; DO NOT FLUSH WITH WATER.

2. VEHICLES AND EQUIPMENT SHALL BE MAINTAINED, AND REPAIRED ON-SITE ONLY IN DESIGNATED AREAS. PREVENT RUN-ON AND RUN-OFF FROM DESIGNATED AREAS.

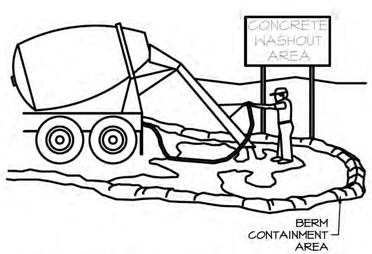
3. CONTAINMENT DEVICES SHALL BE PROVIDED AND AREAS SHALL BE COVERED IF NECESSARY.

4. DESIGNATE ON-SITE VEHICLE AND EQUIPMENT MAINTENANCE AREAS, AWAY FROM STORM DRAIN INLETS AND WATERCOURSES.

5. ALWAYS USE SECONDARY CONTAINMENT, SUCH AS A DRAIN PAN OR DROP CLOTH TO CATCH SPILLS AND LEAKS WHEN REMOVING OR CHANGING FLUIDS. LEGALLY DISPOSE OF USED OILS, FLUIDS AND LUBRICANTS.

6. PROVIDE SPILL CONTAINMENT DIKES OR SECONDARY CONTAINMENT AROUND STORED OIL, FUEL, AND CHEMICAL DRUMS.

7. MAINTAIN AN ADEQUATE SUPPLY OF ABSORBENT SPILL CLEANUP MATERIALS IN DESIGNATED AREAS.



CONCRETE WASTE MANAGEMENT

NOTES:

1. EXCESS AND WASTE CONCRETE SHALL NOT BE WASHED INTO THE STREET OR INTO A DRAINAGE SYSTEM.

2. FOR WASHOUT OF CONCRETE AND MORTAR PRODUCTS, A DESIGNATED CONTAINMENT FACILITY OF SUFFICIENT CAPACITY TO RETAIN LIQUID AND SOLID WASTE SHALL BE PROVIDED ON SITE. THIS DISCHARGE AREA MUST BE LINED WITH AN IMPERMEABLE BARRIER.

3. SLURRY FROM CONCRETE AND ASPHALT SAW CUTTING SHALL BE VACUUMED OR CONTAINED, DRIED, PICKED UP, AND DISPOSED OF PROPERLY.

STORM WATER POLLUTION PREVENTION PLAN SPECIFIC NOTES

1. THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WAS DEVELOPED AT THE REQUEST OF THE OWNER FOR THE CONSTRUCTION OF COMMERCIAL CONSTRUCTION IN HERRIMAN CITY, HERRIMAN COUNTY, STATE OF UTAH. THIS PLAN IDENTIFIES POTENTIAL SOURCES OF POLLUTANTS OF STORM WATER, PRESENTS POLLUTION CONTROL MEASURES, AND ASSISTS IN INSURING IMPLEMENTATION AND MAINTENANCE OF THE BEST MANAGEMENT PRACTICES (BMP'S) INDICATED HEREIN.

2. A NOTICE OF INTENT SHALL BE FILED WITH THE STATE OF UTAH DIVISION OF WATER QUALITY BY THE OWNER SO THAT THIS CONSTRUCTION PROJECT MAY BE COVERED UNDER THE STATE GENERAL PERMIT. THE PERMIT IS UTAH POLLUTION DISCHARGE ELIMINATION SYSTEM (UPDES) GENERAL PERMIT (NO. UTR 300000) FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY. PERMIT FORMS ARE AVAILABLE FOR DOWNLOAD FROM THE DEPARTMENT OF ENVIRONMENTAL QUALITY AT WWW.WATERQUALITY.UTAH.GOV/UPDES/SWCON02.PDF

3. IN THE EVENT OF A CHANGE IN OWNERSHIP, A NEW NOTICE OF INTENT SHALL BE FILED WITH THE DIVISION OF WATER QUALITY.

4. IN THE EVENT OF A RELEASE OF A REPORTABLE QUANTITY OF A POLLUTANT, THE CONTRACTOR SHALL ADVISE THE OWNER TO NOTIFY THE UTAH RESPONSE CENTER, HERRIMAN CITY, AND SILVERPEAK ENGINEERING IF NECESSARY, THIS SWPPP SHOULD BE REVISED TO REFLECT THE CHANGE IN CONDITIONS OF THE CONSTRUCTION ACTIVITY. A REPORTABLE QUANTITY IS ESTABLISHED BY 40 CODE OF FEDERAL REGULATIONS (CFR) 117.3 OR 40 CFR 302.4.

5. ALL CONTRACTORS AND THEIR PERSONNEL WHOSE WORK CAN CONTRIBUTE TO OR CAUSE POLLUTION OF STORM WATER SHALL BE MADE FAMILIAR WITH THIS SWPPP PLAN. ADEQUATE TRAINING FOR IMPLEMENTATION OF THE MEASURES PRESENTED HEREIN SHALL BE PROVIDED TO THE CONTRACTORS AND THEIR PERSONNEL. ALL CONTRACTORS AND SUBCONTRACTORS, EVEN ON RESIDENTIAL CONSTRUCTION WITH DISTURBANCE AREAS LESS THAN ONE ACRE, SHALL ABIDE BY THIS SWPPP.

6. CHANGES IN CONSTRUCTION OR IN CONDITIONS WHICH ARE NOT COVERED BY THIS SWPPP SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER, SKYLAND INVESTMENTS AND DEVELOPMENT AND SILVERPEAK ENGINEERING IF NECESSARY, THIS SWPPP WILL BE REVISED TO REFLECT THE CHANGE IN CONSTRUCTION OR IN CONDITIONS.

7. ALL PREVENTION AND CLEAN UP MEASURES SHALL BE CONDUCTED IN ACCORDANCE WITH HERRIMAN CITY ORDINANCES, AS WELL AS STATE AND FEDERAL REGULATIONS. WASTE MATERIALS SHOULD BE DISPOSED OF IN A LEGAL MANNER. ALL DISCHARGERS OF STORM WATER MUST COMPLY WITH THE LAWFUL REQUIREMENTS OF HERRIMAN CITY REGARDING THE DISCHARGES OF STORM WATER TO STORM DRAINS.

8. THIS SWPPP DOES NOT COVER THE REMOVAL OF HAZARDOUS OR TOXIC WASTE. IN THE EVENT OF A DISCHARGE OR RELEASE OF A REPORTABLE QUANTITY OF TOXIC WASTE, WORK SHALL BE STOPPED UNTIL THE SPILL CAN BE ASSESSED AND A MITIGATION REPORT PREPARED BY A QUALIFIED ENVIRONMENTAL CONSULTANT, AND IF NECESSARY, REVIEWED BY HERRIMAN CITY AND ANY OTHER AGENCY HAVING JURISDICTION.

9. THIS SWPPP SHALL BE MADE AVAILABLE TO THE PUBLIC UNDER SECTION 308(B) OF THE CLEAN WATER ACT. UPON REQUEST BY MEMBERS OF THE PUBLIC, THE DISCHARGER SHALL MAKE AVAILABLE FOR REVIEW A COPY OF THIS SWPPP EITHER TO THE DIVISION OF WATER QUALITY OR DIRECTLY TO THE REQUESTER. THIS SWPPP MUST BE KEPT ON SITE DURING CONSTRUCTION ACTIVITY AND MADE AVAILABLE UPON REQUEST OF A REPRESENTATIVE OF THE DIVISION OF WATER QUALITY AND/OR THE LOCAL AGENCY.

10. CONTACTS

DEVELOPER	[NAME]
ADDRESS	[ADDRESS]
CITY, STATE	[CITY]
TELEPHONE	HERRIMAN
CONTRACTOR/DISCHARGER	ONEWEST CONSTRUCTION
ADDRESS	290 N. FLINT STREET
CITY, STATE	KAYSVILLE, UTAH
TELEPHONE	801-444-9878
CIVIL ENGINEER	SILVERPEAK ENGINEERING
PROJECT MANAGER	JOSHUA R. JENSEN, P.E., S.E.
ADDRESS	177 E ANTELOPE DR, SUITE B
CITY, STATE	LAYTON, UT 84041
TELEPHONE	801-499-5054
HERRIMAN CITY	
ADDRESS	5355 W. HERRIMAN MAIN ST.
CITY, STATE	HERRIMAN, UTAH
TELEPHONE	801-446-5323
STATE OF UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY	288 NORTH 1460 WEST P.O. BOX 144870 SALT LAKE CITY, UTAH 84114-4870
U.S. EPA ENVIRONMENTAL PROTECTION AGENCY DENVER, COLORADO	REGION VIII 800-759-4372
ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460	202-475-9518

11. REFERENCES
 A. PLAN PER SILVERPEAK ENGINEERING,
 B. STORMWATER POLLUTION PREVENTION PLAN PREPARED BY SILVERPEAK ENGINEERING

12. THE PROPOSED CONSTRUCTION ACTIVITY IS THE CONSTRUCTION OF ONE BUILDING PLUS THE CONSTRUCTION OF ALL IMPROVEMENTS, UTILITIES, AND DRAINAGE AND GRADING FEATURES AS SHOWN ON THE PLANS.

13. THE ESTIMATED RUN-OFF COEFFICIENT AFTER COMPLETION IS 0.49
14. A NEGLIGIBLE AMOUNT OF WATER FLOWS ONTO THE SITE.

A. PROHIBITION ON MOST NON-STORM WATER DISCHARGES

ONLY STORM WATER FROM THE PROJECT SITE SHALL BE ALLOWED TO FLOW INTO THE ON-SITE STORM DRAIN SYSTEM. CLEAN WATER FROM THE FLUSHING OF FIRE HYDRANTS, WATER MAINS, AND STORM DRAINS MAY BE DISCHARGED TO THE STORM DRAIN IF IT IS NOT ALLOWED TO COLLECT DIRT, DEBRIS, AND TRASH WHILE FLOWING TO A STORM DRAIN INLET.

B. POTENTIAL SOURCES OF STORM WATER POLLUTANTS

POTENTIAL STORM WATER POLLUTANTS INCLUDE SOIL SEDIMENT AND NUTRIENTS, OIL, GREASE, TOXIC POLLUTANTS, AND HEAVY METALS. SOURCES OF STORM WATER POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO SOIL EROSION BY WATER AND/OR WIND; CLEARING OF VEGETATION; GRADING; VEHICLE AND EQUIPMENT REFUELING AND MAINTENANCE; WASHING OF CONCRETE TRUCKS, MIXERS AND HANDLING EQUIPMENT; PAINTS, SOLVENTS AND ADHESIVES; AND LANDSCAPING WORK.

C. EROSION AND SEDIMENT CONTROLS

1. COVER EXPOSED STOCKPILES OF SOILS, CONSTRUCTION AND LANDSCAPING MATERIALS WITH HEAVY PLASTIC SHEETING.
2. IN LANDSCAPING AREAS WHERE THE VEGETATION HAS NOT ESTABLISHED GROWTH AND TAKEN HOLD, CONSTRUCT SANDBAG OR DIRT BERMS AROUND THEIR PERIMETER TO INSURE THAT WATER WILL BE CONTAINED INSIDE THE LANDSCAPING AREA AND THAT IT WILL NOT BE CONVEYED TO A STORM DRAIN INLET.
3. DISTURBED AREAS SHALL BE SEEDED BY THE THE DEVELOPER. SILT BARRIERS SHALL BE MAINTAINED BY THE DEVELOPER IN THE MEAN TIME. OR, THE DEVELOPER SHALL RE-SEED DISTURBED AREAS AS THEY SEE FIT AND REMOVE THE SEDIMENT CONTROLS.
4. THROUGHOUT CONSTRUCTION, CONTRACTOR SHALL DIVERT STORM WATER RUNOFF AROUND DISTURBED SOILS WITH BERMS OR DIRT SWALES.

D. OTHER CONTROLS

1. WASTE DISPOSAL

 A. KEEP WASTE DISPOSAL CONTAINERS COVERED.
 B. PROVIDE FOR THE WEEKLY (OR MORE FREQUENT, IF NECESSARY) DISPOSAL OF WASTE CONTAINERS.
 C. PROVIDE CONTAINERS AT CONVENIENT LOCATIONS AROUND THE SITE.

2. SWEEPING OF SITE

 A. PROVIDE DAILY, IF NECESSARY, SWEEPING BY HAND OR MECHANICAL MEANS TO KEEP THE PAVED AREAS OF THE SITE FREE OF DUST, DIRT, AND DEBRIS IF NECESSARY DURING PERIODS OF CONSTRUCTION.
 B. DISPOSE OF ACCUMULATED DIRT IN WASTE CONTAINERS, OR HAUL IT OFF THE SITE TO A LANDFILL.

3. SANITARY/SEPTIC DISPOSAL

PORTABLE TOILETS AND OTHER SANITARY FACILITIES SHALL BE SERVICED WEEKLY AND PUMPED CLEAN BY A WASTE DISPOSAL COMPANY. NO TOXIC OR HAZARDOUS WASTE SHALL BE DISPOSED OF IN A PORTABLE TOILET OR IN THE ON-SITE SANITARY SEWER. TOILETS SHALL BE ANCHORED AGAINST OVERTURNING.

4. SPILLS

 A. STORE ADEQUATE ABSORBENT MATERIALS, RAGS, BROOMS, SHOVELS, AND WASTE CONTAINERS ON THE SITE TO CLEAN-UP SPILLS OF MATERIALS SUCH AS FUEL, PAINT, SOLVENTS, OR CLEANERS. CLEAN UP MINOR SPILLS IMMEDIATELY.
 B. FOR REPORTABLE QUANTITY OF HAZARDOUS OR TOXIC SUBSTANCE, SECURE THE SERVICES OF QUALIFIED PERSONNEL FOR CLEAN-UP AND DISPOSAL.

5. CONTROL OF ALLOWABLE NON-STORM WATER DISCHARGES LANDSCAPING IRRIGATION, EROSION CONTROL MEASURES, PIPE FLUSHING AND TESTING, AND PAVEMENT WASHING ARE ALLOWED IF THEY CANNOT FEASIBLY BE ELIMINATED, COMPLY WITH THIS PLAN, DO NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS, AND ARE NOT REQUIRED TO BE PERMITTED BY THE LOCAL REGIONAL WATER QUALITY CONTROL BOARD.

6. VEHICLES AND EQUIPMENT

 A. FIX LEAKS OF FUEL, OIL AND OTHER SUBSTANCES IMMEDIATELY.
 B. PERFORM REFUELING AND SERVICE OF VEHICLES OR EQUIPMENT OFF-SITE WHEN POSSIBLE. IF REFUELING OR SERVICE OF EQUIPMENT IS PERFORMED ON-SITE, THEN PROVIDE AN IMPERVIOUS, CONTAINED AREA WHERE ANY SPILLS CAN BE CONTAINED WITHOUT FLOWING TO A STORM WATER INLET OR INTO THE GROUND.
 C. USE DRIP PANS TO CATCH LEAKS AND SMALL SPILLS.

7. CONCRETE TRUCKS, MIXERS AND HANDLING EQUIPMENT

 A. DO NOT DISPOSE OF WASHOUT FROM THE WASHING OF CONCRETE TRUCKS,MIXERS, AND HANDLING EQUIPMENT WHERE IT WILL FLOW INTO A STORM WATER INLET OR INTO A PUBLIC STREET.
 B. PROVIDE A HOLDING TANK TO RECEIVE ANY WASHOUT FROM CONCRETE EQUIPMENT. DISPOSAL OF TANK CONTENTS SHALL BE CONDUCTED BY CONTRACTOR.
 C. PROVIDE, DESIGNATE AND POST A SIGN MARKING A DESIGNATED AREA FOR WASHING ANY VEHICLES OR EQUIPMENT. DRAINAGE FROM THIS AREA SHOULD BE CONTAINED OR FLOW TO A HOLDING TANK.

8. LANDSCAPING OPERATIONS

 A. USE ONLY THE MINIMUM AMOUNT OF LANDSCAPING FERTILIZES, NUTRIENTS, AND OTHER CHEMICALS THAT ARE NEEDED.
 B. DO NOT OVER WATER FERTILIZED OR TREATED LANDSCAPE AREAS. MINIMIZE RUNOFF OF IRRIGATION WATER FROM LANDSCAPING.
 C. DO NOT PLACE LANDSCAPING MATERIAL IN THE STREET ONCE PAVING IS COMPLETE.

9. STORM WATER INLETS

CONTRACTOR SHALL PROVIDE STRAW FILLED BAGS OR SOCKS AROUND INLETS WITHIN 1000 FEET OF CONSTRUCTION AS BARRIERS TO PREVENT SEDIMENT ENTERING THE INLETS. TRAPPED SEDIMENT SHALL BE REMOVED FOLLOWING STORM EVENTS. BARRIERS SHALL BE REMOVED FOLLOWING COMPLETION OF CONSTRUCTION.

E. INSPECTION

1. REGULAR INTERVAL INSPECTION AND INSPECTION BEFORE AND AFTER STORMS

 A. VISUALLY INSPECT THE SITE WEEKLY TO INSURE THAT STORM WATER INLETS ARE FREE OF DIRT AND DEBRIS.
 B. BEFORE A STORM, INSPECT THE SITE TO INSURE THAT STORM WATER POLLUTION CONTROL MEASURES ARE IN PLACE.
 C. AFTER A STORM, INSPECT ALL STORM WATER INLETS TO INSURE THAT THEY ARE CLEAR OF DIRT AND DEBRIS. CLEAN THOSE STORM WATER INLETS THAT ARE NOT CLEAR AND FREE OF DEBRIS.
 D. THE DIVISION OF WATER QUALITY MAY REQUIRE THE DISCHARGER TO CONDUCT ADDITIONAL SITE INSPECTIONS, SUBMIT REPORTS AND CERTIFICATIONS, OR TO PERFORM SAMPLING AND ANALYSIS.

2. CONDUCT INSPECTIONS OF THE CONSTRUCTION SITE PRIOR TO ANTICIPATED STORM EVENTS AND AFTER ACTUAL STORM EVENTS, TO IDENTIFY AREAS CONTRIBUTING TO A STORM WATER DISCHARGE, TO EVALUATE WHETHER MEASURES TO REDUCE POLLUTANT LOADINGS IDENTIFIED IN THIS SWPPP ARE ADEQUATE, TO PROPERLY IMPLEMENT IN ACCORDANCE WITH THE TERMS OF THE GENERAL PERMIT, AND TO DETERMINE WHETHER ADDITIONAL CONTROL PRACTICES ARE NEEDED.

3. PREPARATION OF REPORTS AND RETENTION OF RECORDS

 A. EACH DISCHARGER MUST CERTIFY ANNUALLY THAT ITS CONSTRUCTION ACTIVITY IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE GENERAL PERMIT AND THIS SWPPP. THIS CERTIFICATION MUST BE BASED ON THE SITE INSPECTIONS. THE FIRST CERTIFICATION MUST BE COMPLETED BY JULY 1, 2009, AND EACH JULY 1 THEREAFTER.
 B. THE DISCHARGER IS REQUIRED TO RETAIN RECORDS OF ALL MONITORING INFORMATION, COPIES OF ALL REPORTS REQUIRED BY THIS GENERAL PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT FOR CONSTRUCTION ACTIVITY FOR A PERIOD OF AT LEAST THREE YEARS. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE STATE. WITH THE EXCEPTION OF NONCOMPLIANCE REPORTING, DISCHARGERS ARE NOT REQUIRED TO SUBMIT THE RECORDS EXCEPT UPON SPECIFIC REQUEST BY THE STATE DEQ DIVISION OF WATER QUALITY.
 C. DISCHARGERS WHO CANNOT CERTIFY COMPLIANCE MUST NOTIFY THE STATE DEQ DIVISION OF WATER QUALITY. THIS NOTIFICATION SHALL IDENTIFY THE TYPE OR TYPES OF NONCOMPLIANCE, DESCRIBE THE ACTIONS NECESSARY TO ACHIEVE COMPLIANCE, AND INCLUDE A TIME SCHEDULE, SUBJECT TO THE MODIFICATIONS BY THE STATE DEQ DIVISION OF WATER QUALITY, INDICATING WHEN COMPLIANCE WILL BE ACHIEVED. NONCOMPLIANCE REPORTS MUST BE SUBMITTED WITHIN 30 DAYS OF THE IDENTIFICATION OF THE NONCOMPLIANCE.

F. MAINTENANCE OF CONTROLS

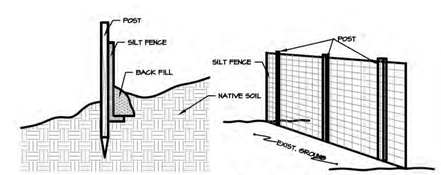
1. MAINTENANCE AND REPAIR ALL CONTROLS AND MEASURES INDICATED ON THIS PLAN SHALL BE MAINTAINED IN GOOD AND EFFECTIVE CONDITION. IF ANY CONTROLS OR MEASURES ARE DAMAGED OR REMOVED, THEY SHALL BE PROMPTLY REPAIRED OR RESTORED.
2. PLAN REVISIONS IF CONSTRUCTION ACTIVITY OR CONDITIONS CHANGE FROM THOSE SHOWN IN THIS PLAN, THEN THIS PLAN SHALL BE REVISED TO REFLECT THE CURRENT CONDITIONS.

G. FINAL STABILIZATION AND POST-CONSTRUCTION CONTROLS

1. AFTER CONSTRUCTION HAS BEEN COMPLETED, THE SITE SHALL BE SWEPT CLEAN. STORM WATER INLETS (GRATES AND BASINS) SHALL BE CLEANED, AND ALL WASTE AND LEFTOVER MATERIALS SHALL BE REMOVED FROM THE SITE.
2. ALL LANDSCAPING AND PLANTING AREAS SHALL BE WELL MAINTAINED TO PREVENT EROSION. AVOID OVER WATERING OF LANDSCAPING.
3. ALL PAVED AREAS SHALL BE SWEPT WEEKLY EITHER BY HAND OR BY MECHANICAL MEANS TO KEEP THE SITE CLEAR OF DIRT, DUST, AND DEBRIS.
4. WASTE MATERIALS ON-SITE SHALL BE STORED IN COVERED CONTAINERS WHICH ARE CLEANED OUT REGULARLY.
5. TESTING OF FIRE HYDRANTS ON-SITE SHALL NOT BE CONDUCTED UNTIL THE AREA WHERE THE WATER DISCHARGES HAS BEEN SWEPT CLEAN OF DIRT AND DEBRIS.
6. STORM DRAIN LINES SHALL BE CHECKED AND CLEANED ANNUALLY TO KEEP THEM CLEAN AND CLEAR OF DEBRIS.
7. ALL ON-SITE STORM WATER INLETS SHOULD BE CLEARLY MARKED "STORM WATER ONLY".

H. COMPLETION OF CONSTRUCTION ACTIVITIES AND NOTICE OF TERMINATION

WHEN CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED ON THIS SITE, THE OWNER SHALL FILE A LETTER WITH THE STATE DEQ DIVISION OF WATER QUALITY. THIS LETTER SHALL CERTIFY THAT THE CONSTRUCTION ACTIVITY HAS BEEN COMPLETED, THAT ALL ELEMENTS OF THE SWPPP HAVE BEEN IMPLEMENTED, THAT CONSTRUCTION AND EQUIPMENT MAINTENANCE WASTES HAVE BEEN DISPOSED OF PROPERLY, THAT THE SITE IS IN COMPLIANCE WITH ALL LOCAL STORM WATER REQUIREMENTS INCLUDING EROSION/SEDIMENT CONTROL REQUIREMENTS, POLICIES, AND GUIDELINES.



SILT FENCE DETAIL

DEFINITIONS

1. "BEST MANAGEMENT PRACTICES" ("BMP'S") MEANS SCHEDULES OF ACTIVITIES, PROHIBITIONS OF PRACTICES, MAINTENANCE PROCEDURES, AND OTHER MANAGEMENT PRACTICES TO PREVENT OR REDUCE THE POLLUTION OF WATERS OF THE UNITED STATES. BMP'S ALSO INCLUDE TREATMENT REQUIREMENTS, OPERATING PROCEDURES, AND PRACTICES TO CONTROL SITE RUNOFF, SPILLAGE OR LEAKS, WASTE DISPOSAL, OR DRAINAGE FROM RAW MATERIAL STORAGE.

2. "CLEAN WATER ACT" ("CWA") MEANS THE FEDERAL WATER POLLUTION CONTROL ACT ENACTED BY PUBLIC LAW 92-500 AS AMENDED BY PUBLIC LAWS 95-217, 95-576, 96-483, AND 97-111; 33 USC 1251 ET SEQ.

3. "CONSTRUCTION SITE" IS THE LOCATION OF THE CONSTRUCTION ACTIVITY.

4. "NON-STORM WATER DISCHARGE" MEANS ANY DISCHARGE TO STORM DRAIN SYSTEMS THAT IS NOT COMPOSED ENTIRELY OF STORM WATER EXCEPT DISCHARGE PURSUANT TO AN NPDES PERMIT AND DISCHARGES RESULTING FROM FIRE FIGHTING ACTIVITIES.

5. "SIGNIFICANT MATERIALS" INCLUDES, BUT IS NOT LIMITED TO RAW MATERIALS; FUELS; MATERIALS SUCH AS SOLVENTS, DETERGENTS, AND PLASTIC PELLETS; FINISHED MATERIALS SUCH AS METALLIC PRODUCTS; RAW MATERIALS USED IN FOOD PROCESSING OR PRODUCTION HAZARDOUS SUBSTANCES DESIGNATED UNDER SECTION 101(14) OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERLCA); ANY CHEMICAL THE FACILITY IS REQUIRED TO REPORT PURSUANT TO SECTION 313 OF TITLE III OF SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA); FERTILIZERS; PESTICIDES; AND WASTE PRODUCTS SUCH AS ASHES, SLAG, AND SLUDGE THAT HAVE THE POTENTIAL TO BE RELEASED WITH STORM WATER DISCHARGES.

6. "SIGNIFICANT QUANTITIES" IS THE VOLUME, CONCENTRATIONS, OR MASS OF A POLLUTANT IN STORM WATER DISCHARGE THAT CAN CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; ADVERSELY IMPACT HUMAN HEALTH OR THE ENVIRONMENT; AND CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY APPLICABLE WATER QUALITY STANDARDS FOR THE RECEIVING WATER.

7. "STORM WATER" MEANS STORM WATER RUNOFF, SNOW MELT RUNOFF, SURFACE RUNOFF AND DRAINAGE. IT EXCLUDES INFILTRATION AND RUNOFF FROM AGRICULTURAL LAND.

8. "POLLUTION" MEANS THE "MAN-MADE OR MAN-INDUCED ALTERATION OF THE CHEMICAL, PHYSICAL, BIOLOGICAL, AND RADIOLOGICAL INTEGRITY OF WATER" [CLEAN WATER ACT SECTION 502(19)]. POLLUTION ALSO MEANS "AN ALTERATION OF THE QUALITY OF THE WATERS OF THE STATE BY WASTE TO A DEGREE WHICH UNREASONABLY AFFECTS EITHER... THE WATERS FOR BENEFICIAL USES... OR FACILITIES WHICH SERVE THESE BENEFICIAL USES." [CALIFORNIA WATER CODE SECTION 13050(l)].

9. "CONTAMINATION" MEANS "AN IMPAIRMENT OF THE QUALITY OF THE WATERS OF THE STATE BY WASTE TO A DEGREE WHICH CREATES A HAZARD TO THE PUBLIC HEALTH THROUGH POISONING OR THROUGH THE SPREAD OF DISEASE...INCLUDING ANY EQUIVALENT EFFECT RESULTING FROM THE DISPOSAL OF WASTE, WHETHER OR NOT WATERS OF THE STATE ARE AFFECTED."

10. "NUISANCE" MEANS "ANYTHING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS: (1) IS INJURIOUS TO HEALTH , OR IS INDECENT OR OFFENSIVE TO THE SENSES, OR AN OBSTRUCTION TO THE FREE USE OF PROPERTY, SO AS TO INTERFERE WITH THE COMFORTABLE ENJOYMENT OF LIFE AND PROPERTY; (2) AFFECTS AT THE SAME TIME AN ENTIRE COMMUNITY OR NEIGHBORHOOD, OR ANY CONSIDERABLE NUMBER OF PERSONS, ALTHOUGH THE EXTENT OF THE ANNOYANCE OR DAMAGE INFLICTED UPON INDIVIDUALS MAY BE UNEQUAL; (3) OCCURS DURING OR AS A RESULT OF THE TREATMENT OR DISPOSAL OF WASTES."

11. "LOCAL AGENCY" MEANS ANY AGENCY THAT IS INVOLVED WITH REVIEW, APPROVAL, OR OVERSIGHT OF THE CONSTRUCTION SITES' (a) CONSTRUCTION ACTIVITY, (b) EROSION AND SEDIMENT CONTROLS, (c) STORM WATER DISCHARGE.

SEAL:

12-7-2018

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SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 12/07/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

SWPPP NOTES

SHEET NUMBER:
C501

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

Attachment C
Preliminary Development Plans

ADVANTAGE ARTS ACADEMY

LOCATION:

APPROX 11800 SOUTH 6200 WEST
HERRIMAN, UTAH

CONTRACTOR

ONE WEST CONSTRUCTION

ATTN: TED LEWIS
290 N. FLINT STREET
KAYSVILLE, UTAH
PHONE: 801-444-9878

SILVERPEAK ENGINEERING

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
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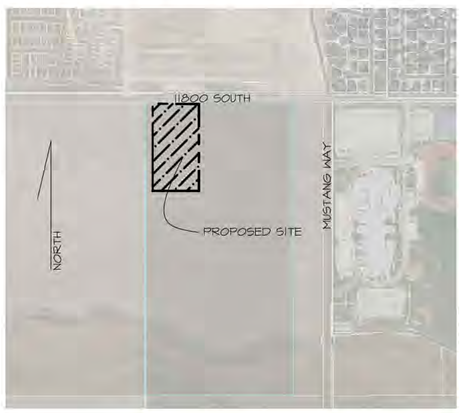
VICINITY MAP



UTILITY DISCLAIMER

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND / OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

NOTICE TO CONTRACTOR

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS: OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF UTAH DEPARTMENT OF INDUSTRIAL RELATIONS CONSTRUCTION SAFETY ORDERS." THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

CONTRACTOR FURTHER AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE CIVIL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

TRAFFIC CONTROL & SAFETY NOTES

1. BARRICADING AND DETOURING SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE CURRENT STATE OF UTAH DEPARTMENT OF TRANSPORTATION MANUAL OF TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE WORK ZONES, THE CURRENT HERRIMAN CITY STANDARD DRAWING, AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY WORK.

2. NO STREET SHALL BE CLOSED TO TRAFFIC WITHOUT WRITTEN PERMISSION FROM THE CITY TRAFFIC ENGINEER, EXCEPT WHEN DIRECTED BY LAW ENFORCEMENT OR FIRE OFFICIALS.

3. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROVIDE FOR SMOOTH TRAFFIC FLOW AND SAFETY. ACCESS SHALL BE MAINTAINED FOR ALL PROPERTIES ADJACENT TO THE WORK.

4. ALL SIGNAGE AND TRAFFIC DEVICES TO BE USED DURING AND AFTER THE CONSTRUCTION PERIOD SHALL BE IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

5. DETOURING OPERATIONS FOR A PERIOD OF SIX CONSECUTIVE CALENDAR DAYS, OR MORE, REQUIRE THE INSTALLATION OF TEMPORARY STREET STRIPING AND REMOVAL OF INTERFERING STRIPING BY SANDBLASTING. THE DETOURING STRIPING PLAN OR CONSTRUCTION TRAFFIC CONTROL PLAN MUST BE SUBMITTED TO THE CITY TRAFFIC ENGINEER FOR REVIEW AND APPROVAL.

6. ALL TRAFFIC CONTROL DEVICES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE END OF THE WORK TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.

7. TRAFFIC CONTROL DEVICES (TCDs) SHALL REMAIN VISIBLE AND OPERATIONAL AT ALL TIMES.

DEFERRED SUBMITTAL

1. FIRE SPRINKLER DRAWINGS & FIRE ALARM DRAWINGS WILL BE PROVIDED PRIOR TO INSTALLATION.

GENERAL NOTES

1) ALL WORK WITHIN THE RIGHT OF WAY OWNER'S RIGHT OF WAY SHALL CONFORM TO THE RIGHT OF WAY OWNER'S STANDARDS & SPECIFICATIONS.

2) ALL WORK PERFORMED ON HERRIMAN CITY OWNED UTILITIES & CONNECTIONS THERETO SHALL CONFORM TO THE PROVO STANDARDS & SPECIFICATIONS. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY HERRIMAN CITY STANDARDS AND DETAILS.

3) THESE PLANS CALL FOR BUT ARE NOT DESIGN DRAWINGS FOR THE RELOCATION, AND/OR REMOVAL OF EXISTING DRY UTILITIES INFRASTRUCTURE. DESIGN DRAWINGS FOR SAID RELOCATIONS AND REMOVALS SHALL BE BY OTHERS.

4) CALL BLUESTAKES 48 HOURS PRIOR TO DIGGING.

5) CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL EXISTING MANHOLES AND OTHER UTILITIES BEFORE BUILDING OR STAKING ANY UTILITY LINES.

PERMISSION TO USE PLANS

ALL DESIGN INFORMATION DEPICTED IN THESE, THE "C" OR CIVIL DRAWINGS IS PROPRIETARY AND THE SOLE PROPERTY OF SILVERPEAK ENGINEERING, INC. THESE DRAWINGS MAY BE USED ONLY BY AUTHORIZATION BY SILVERPEAK ENGINEERING INC. THIS DESIGN IN PART OR IN TOTAL BY NOT BE USED OR DUPLICATED FOR ANY OTHER PROJECT OR PURPOSE. NON PAYMENT OR PARTIAL PAYMENT FOR THIS DESIGN AUTOMATICALLY REVOKES THE AUTHORIZATION OF USE.

INDEX TO DRAWINGS

C001	*CIVIL COVER SHEET*
--	*BUILDING ELEVATIONS*
--	*COLORED ELEVATIONS*
C100	*GENERAL NOTES*
C200	*SITE PLAN*
C201	*SITE DETAILS*
C300	*GRADING / DRAINAGE PLAN*
C301	*GRADING / DRAINAGE DETAILS*
C400	*UTILITY PLAN*
C401	*UTILITY DETAILS*
C402	*PLAN & PROFILE*
C500	*STORM WATER POLLUTION PREVENTION PLAN*
C501	*STORM WATER POLLUTION PREVENTION NOTES*
PLAT	*SUBDIVISION PLAT*

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS
PRIOR TO COMMENCING
ANY CONSTRUCTION

REVISED:

DATE: 11-05-2018
PROJECT: AW-051
DRAWN BY: JRJ
CHECKED BY: JF

664

ADVANTAGE ARTS ACADEMY SCHOOL

S:\Silverpeak Projects\Academy\Herriman\UT\AW-051 Advantage Arts Herriman\CAD\AW-051 CIVIL 3D.dwg 11/27/2018 2:26:04 PM

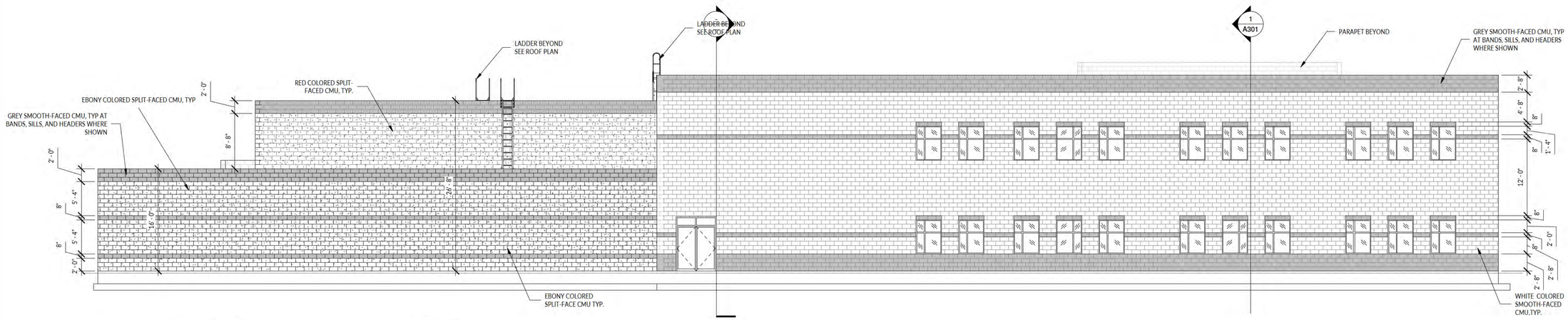
SHEET NUMBER:
C001
COVER

ALL INFORMATION SHOWN HEREON IS NOT FINAL OR APPROVED WITHOUT THE GOVERNING AGENCY'S STAMP AND SIGNATURE. ANY USE OF THIS DRAWING AND ITS CONTENT WITHOUT SAID APPROVAL IS DONE AT THE INDIVIDUAL'S OWN RISK. SILVER PEAK ENGINEERING DOES NOT ASSUME LIABILITY FOR ANY SUCH USE.

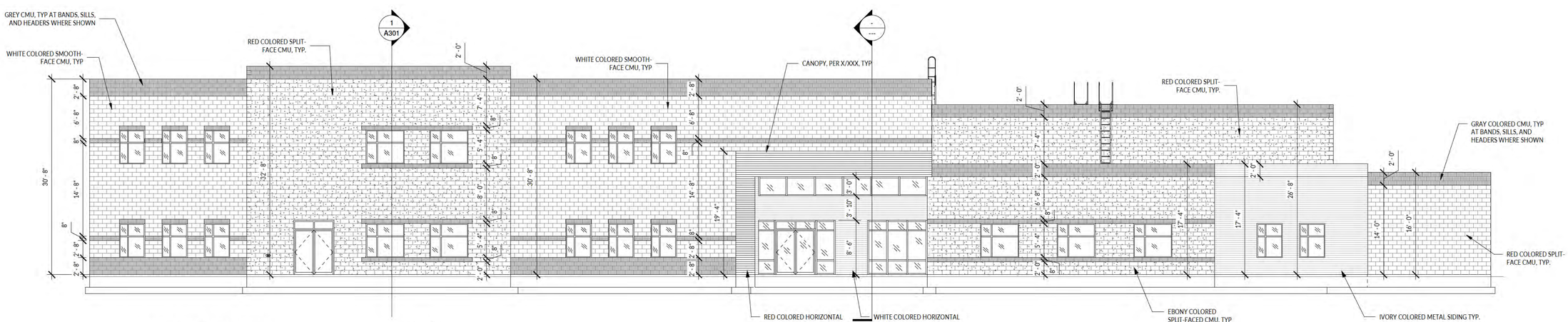
CMU COLOR SELECTIONS

SYMBOL	COLOR	TEXTURE	MANUFACTURER	NOTES
	WHITE	SMOOTH- FACE	TBD	PER OWNER
	GRAY	SMOOTH- FACE	TBD	PER OWNER
	RED	SPLIT- FACE	TBD	PER OWNER
	EBONY	SPLIT- FACE	TBD	PER OWNER

MASONRY NOTES:
1. MASON TO PLACE CONTROL JOINTS IN CMU WALLS NOT MORE THAN 40'-0" APART



SOUTH ELEVATION
SCALE: 1/8" = 1'-0"
1 A201



NORTH ELEVATION
SCALE: 1/8" = 1'-0"
2 A201

SEAL:

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LAYTON, UT 84041
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STRUCTURAL CIVIL SURVEY WWW.SILVERPEAKENG.COM

ADVANTAGE ARTS ACADEMY
APPROX. 13574 SOUTH 6400 WEST
HERRIMAN, UT 84096

DATE: 9/24/2018
PROJECT: AW-051
DRAWN BY: JTR

REVISIONS:

EXTERIOR ELEVATIONS

SHEET NUMBER:
A201

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

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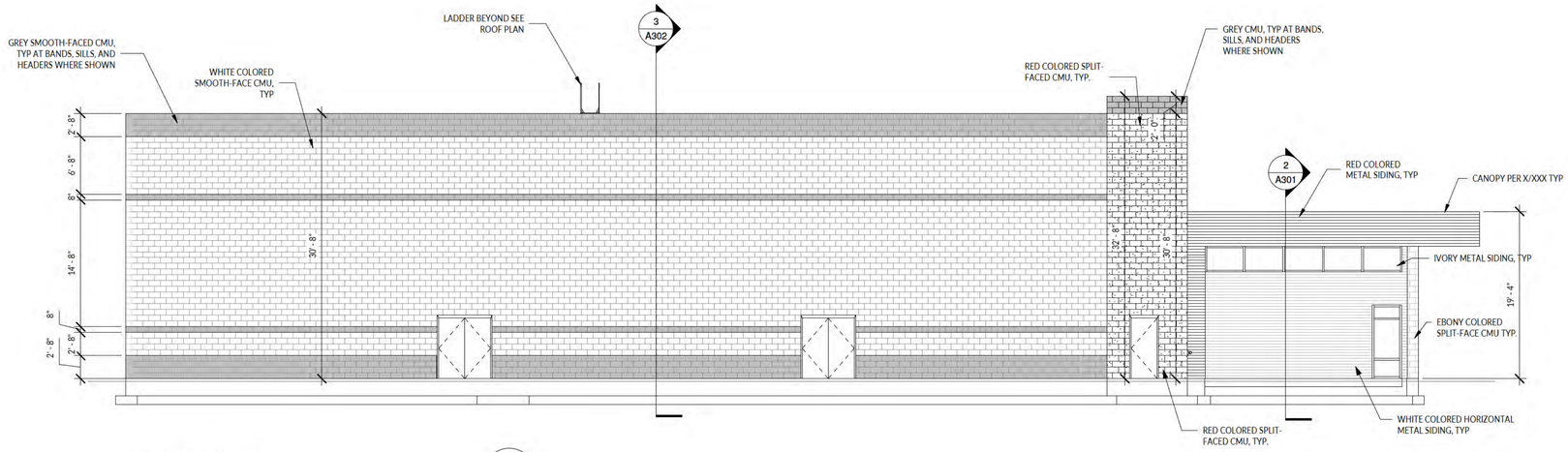

EAST ELEVATION
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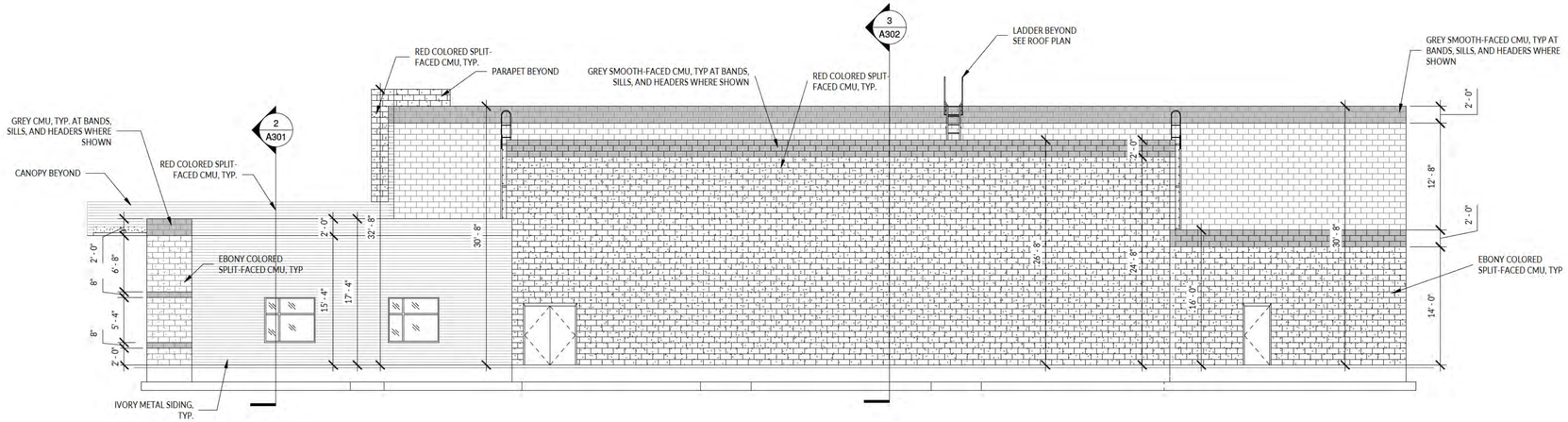

WEST ELEVATION
SCALE: 1/8" = 1'-0"
2
A202

SEAL:

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STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
APPROX. 13574 SOUTH 6400 WEST
HERRIMAN, UT 84096

DATE: 9/24/2018
PROJECT: AW-051
DRAWN BY: Author

REVISIONS:

EXTERIOR ELEVATIONS

SHEET NUMBER:
A202

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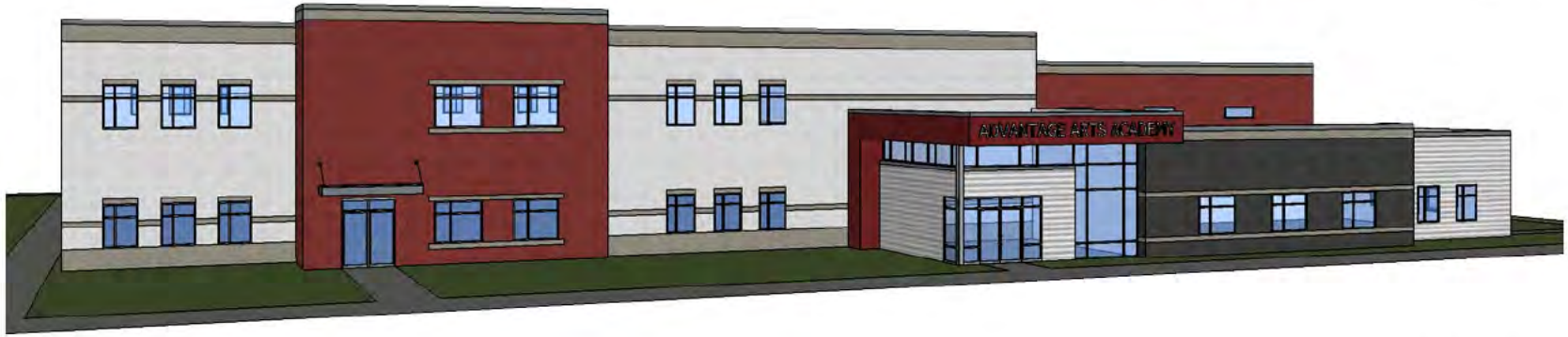
999

FRONT ENTRANCE: PHASE 1

NOT TO SCALE



FRONT ELEVATION: PHASE 1

NOT TO SCALE

DATE 11-05-2018
PROJECT AW-051
DRAWN BY C.D.

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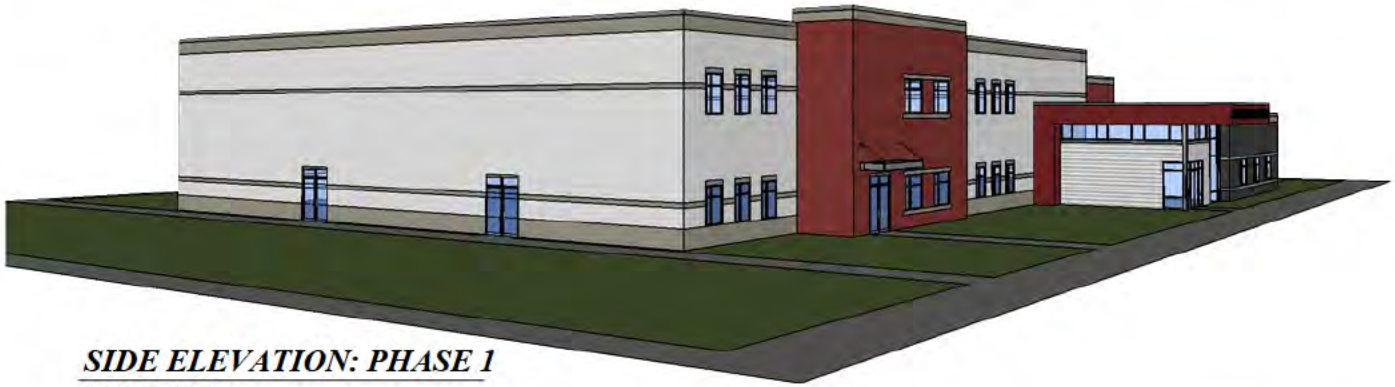
SILVERPEAK ENGINEERING

ADVANTAGE ARTS ACADEMY
HERRIMAN, UTAH

SHEET NUMBER

A1



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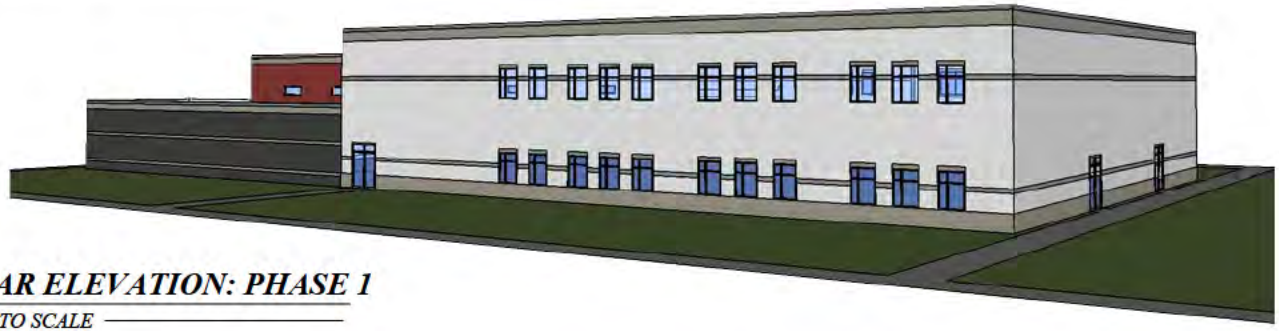

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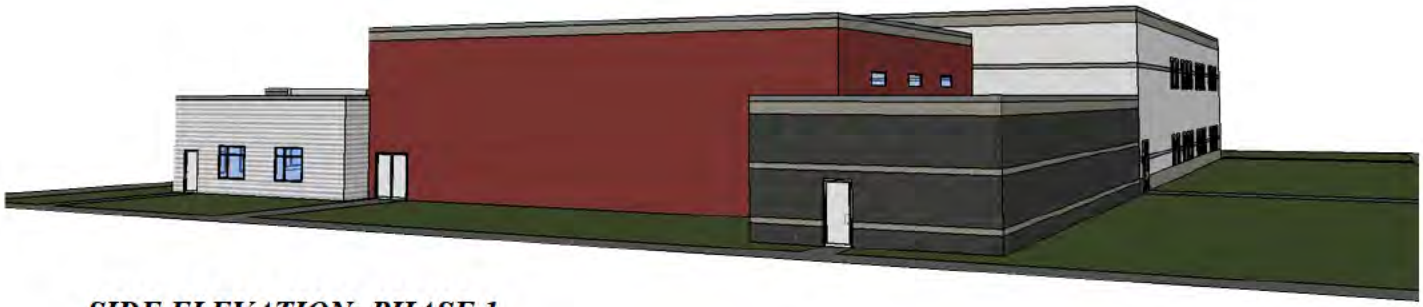


SIDE ELEVATION: PHASE 1

NOT TO SCALE

SIDE ELEVATION: PHASE 1

NOT TO SCALE

DATE 11-05-2018
PROJECT AW-051
DRAWN BY C.D.

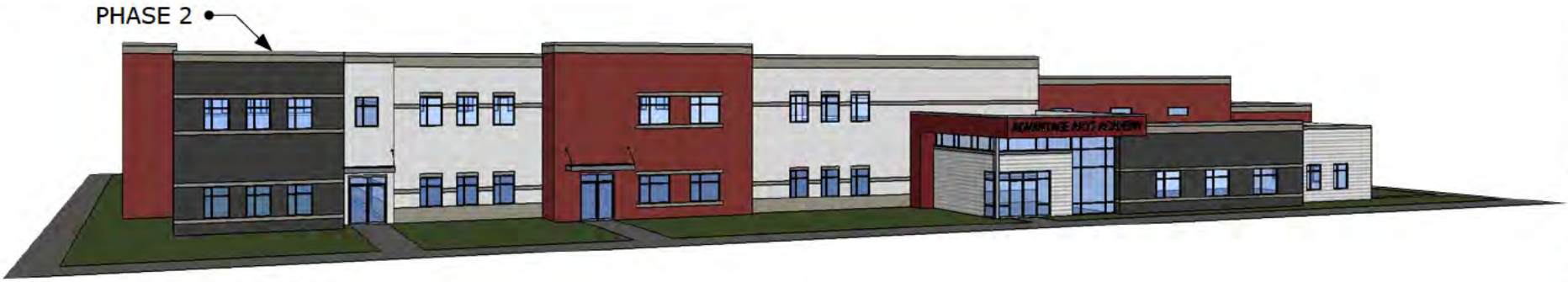
177 E ANTELOPE DR #B
LAYTON, UT 84041
PHONE: (801) 499-5054
FAX: (801) 499-5065

SILVERPEAK ENGINEERING

ADVANTAGE ARTS ACADEMY
HERRIMAN, UTAH

SHEET NUMBER

A2



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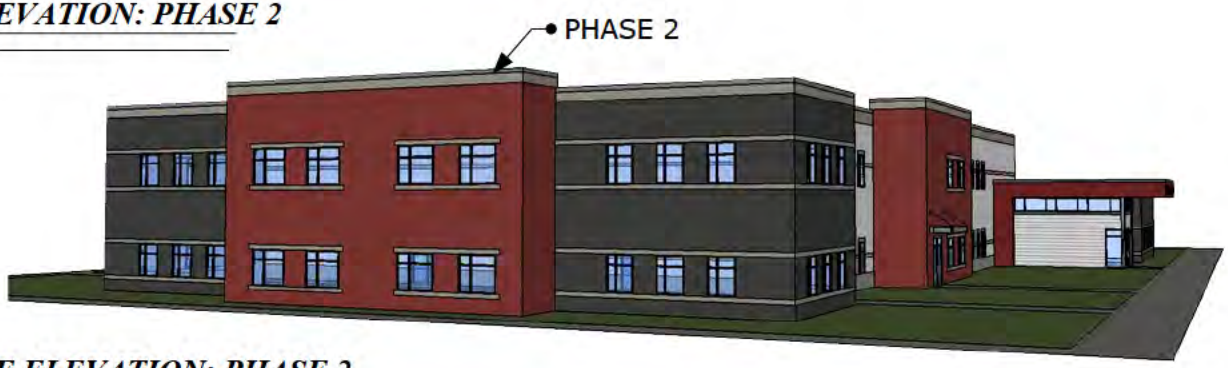

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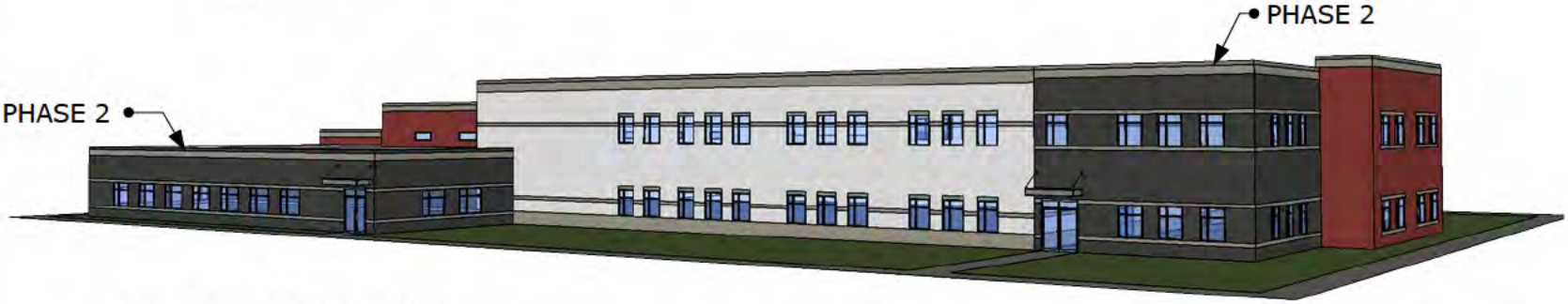
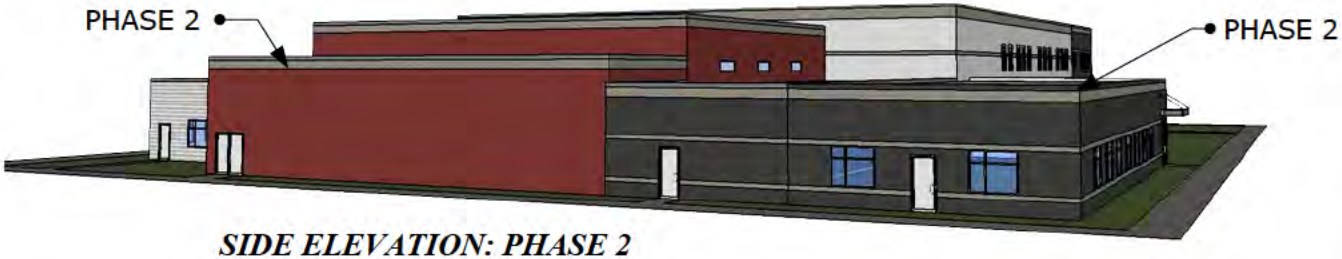
NOT TO SCALE



REAR ELEVATION: PHASE 2

NOT TO SCALE



SIDE ELEVATION: PHASE 2

NOT TO SCALE

DATE 11-05-2018
PROJECT AW-051
DRAWN BY C.D.

177 E ANTELOPE DR #B
LAYTON, UT 84041
PHONE: (801) 499-5054
FAX: (801) 499-5065

SILVERPEAK ENGINEERING

ADVANTAGE ARTS ACADEMY
HERRIMAN, UTAH

SHEET NUMBER

A2

GENERAL NOTES

CONTRACTOR SHALL OBTAIN A COPY OF, AND STRICTLY ADHERE TO THE CURRENT STANDARDS AND SPECIFICATIONS OF ALL APPLICABLE AGENCIES.

ALL WORK TO CONFORM TO HERRIMAN CITY'S STANDARDS, DRAWINGS,AND SPECIFICATIONS. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY HERRIMAN CITY STANDARDS AND DETAILS.

CONTRACTOR TO NOTIFY HERRIMAN CITY'S AND SILVERPEAK ENGINEERING 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION REQUIRED FOR THIS PROJECT.

NO ALLOWANCE WILL BE MADE FOR DISCREPANCIES OR OMISSIONS THAT CAN BE EASILY OBSERVED. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING, AND BRING UP ANY QUESTIONS BEFOREHAND.

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, MAINTAINING, OR RESTORING ALL MONUMENTS AND MONUMENT REFERENCE MARKS WITHIN THE PROJECT SITE. CONTACT THE CITY OR COUNTY SURVEYOR FOR MONUMENT LOCATIONS AND CONSTRUCTION DETAILS.

CONTRACTOR SHALL PROVIDE A CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE CITY OR COUNTY REGULATIONS FOR WORKING IN THE PUBLIC WAY.

CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ACCORDING TO GOVERNING AGENTS STANDARDS. WET DOWN DRY MATERIALS AND RUBBISH TO PREVENT BLOWING.

THE CONTRACTOR IS RESPONSIBLE TO FURNISH ALL MATERIALS TO COMPLETE THE PROJECT.

TRAFFIC CONTROL TO CONFORM TO THE CURRENT MUTCD AND UDOT STANDARDS.

THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THESE PLANS ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTORS FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE.

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

ALL DIMENSIONS, GRADES, AND UTILITY DESIGN SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST, PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

CONTRACTORS MUST START AT THE LOW END OF ALL GRAVITY FED LINES AND WORK UP HILL. FAILURE TO COMPLY WITH THIS NOTE SHALL RELEASE THE CIVIL ENGINEER OF ALL LIABILITY.

CONTRACTOR SHALL LAYOUT AND POTHOLE FOR ALL POTENTIAL CONFLICTS WITH UTILITY LINES ON OR OFF SITE AS REQUIRED PRIOR TO ANY CONSTRUCTION.

NO ALLOWANCE SHALL BE MADE FOR DISCREPANCIES OR OMISSIONS THAT CAN BE EASILY OBSERVED. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING, AND BRING UP ANY QUESTIONS BEFOREHAND.

GEOTECHNICAL NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 96% STANDARD PROCTOR DENSITY PER ASTM TEST D-1557. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED REGISTERED SOILS ENGINEER, VERIFYING THAT ALL FILLED AREAS AND SUB GRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED, HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.

2. THE SOILS REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND IN CASE OF CONFLICT, SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY BETWEEN SOILS REPORT AND PLANS, ETC.

UNDERGROUND INFORMATION

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS IS BASED ON INFORMATION GATHERED FROM UTILITIES AND/OR FROM ABOVE-GROUND STRUCTURES OR EVIDENCE FOUND AT THE TIME OF SURVEY. AS SUCH, THE UNDERGROUND INFORMATION IS A BEST ESTIMATE. SILVER PEAK DOES NOT REPRESENT OR GUARANTEE THAT THE UNDERGROUND INFORMATION PROVIDED IS CORRECT OR UP TO DATE.

IT SHALL BE THE CONTRACTORS FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. CALL BLUESTAKES A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY DIGGING OR UTILITY WORK.

NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE.

UTILITY NOTES

CONTRACTOR SHALL OBTAIN A COPY OF, AND STRICTLY ADHERE TO THE CURRENT STANDARDS AND SPECIFICATIONS OF HERRIMAN CITY. CONTRACTOR IS TO OBTAIN ANY REQUIRED PERMITS AND NOTIFY THE UTILITY OWNER AND SILVER PEAK ENGINEERING PRIOR TO BEGINNING ANY WORK ON WET UTILITIES. CONTRACTOR IS TO COORDINATE DRY UTILITY WORK WITH THE UTILITY OWNERS.

STORM DRAIN
SEE HERRIMAN CITY STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE STORM DRAIN & APPURTENANCES WITHIN THE PUBLIC RIGHT-OF-WAY SHOWN ON THIS PLAN. SEE THE DETAILS PROVIDED ON THIS SET OF DRAWINGS FOR ALL OTHER STORM DRAIN CONSTRUCTION. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY HERRIMAN CITY STANDARDS AND DETAILS.

LAND DRAIN: NOT USED

SANITARY SEWER
SEE SOUTH VALLEY SEWER DISTRICTS STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE SANITARY SEWER & APPURTENANCES SHOWN ON THIS PLAN.

CULINARY WATER
SEE HERRIMAN CITY STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE CULINARY WATER & APPURTENANCES SHOWN ON THIS PLAN.

SECONDARY WATER
SEE [SECONDARY WATER COMPANY NAME] STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE SECONDARY WATER & APPURTENANCES SHOWN ON THIS PLAN.

DRY UTILITIES
THESE PLANS SHOW THE LOCATION OF POWER, NATURAL GAS, AND COMMUNICATIONS UTILITIES, BUT ARE NOT DESIGN DRAWINGS FOR THE RELOCATION OR REMOVAL OF EXISTING DRY UTILITIES, NOR FOR ANY NEW DRY UTILITY STUBS. CONTRACTOR IS TO SUBMIT SITE PLAN TO DRY UTILITIES FOR DESIGN OF SERVICE CONNECTIONS TO BUILDING. ACTUAL CONSTRUCTION OF SAID SERVICES TO BE DONE BY RESPECTIVE UTILITY PROVIDERS.

CONTRACTOR MUST START AT THE LOW END OF ALL GRAVITY FED LINES AND WORK UP HILL. FAILURE TO COMPLY WITH THIS NOTE WILL RELEASE THE CIVIL ENGINEER OF ALL LIABILITY.

THE CONTRACTOR IS TO VERIFY DEPTHS OF UTILITIES IN THE FIELD BY POT HOLING A MINIMUM OF 300 FEET AHEAD OF PIPELINE CONSTRUCTION TO AVOID CONFLICTS WITH DESIGNED PIPELINE GRADE AND ALIGNMENT. IF A CONFLICT ARISES RESULTING FROM THE CONTRACTOR'S NEGLIGENCE TO POTHOLE UTILITIES THE CONTRACTOR WILL BE REQUIRED TO RESOLVE THE CONFLICT WITHOUT ADDITIONAL COST OR CLAIM TO THE OWNER OR ENGINEER.

ALL DIMENSIONS, GRADES, AND UTILITY DESIGN SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST, PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

CONTRACTOR SHALL NOT ALLOW ANY GROUNDWATER OR DEBRIS TO ENTER THE NEW PIPE DURING CONSTRUCTION.

ALL THRUST BLOCKS SHALL BE POURED IN PLACE AGAINST UNDISTURBED SOIL AS PER SPECIFICATIONS, ALL VALVES, FITTINGS, AND APPURTENANCES TO BE BLOCKED.

CONTRACTOR TO LOOP NEW WATERLINE AROUND GRAVITY UTILITIES IF CONFLICT DOES OCCUR. (NOTIFY ENGINEER OF THE PROBLEM).

CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH MECHANICAL DRAWINGS.

NO CHANGE IN DESIGN LOCATION OR GRADE WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF THE PROJECT ENGINEER.

APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY HERRIMAN CITY STANDARDS AND DEVICES.

DEMOLITION NOTES

1. CONTRACTOR TO LEGALLY REMOVE & DISPOSE OF ALL EXTRANEOUS UTILITIES , STRUCTURES, IMPROVEMENTS & DEBRIS ON THE SITE PRIOR TO CONSTRUCTING THE IMPROVEMENTS SHOWN ON THIS PLAN.
2. SAID DEMOLITION MAY INCLUDE, BUT IS NOT LIMITED TO UTILITY SERVICES AS WELL AS ASPHALT, CONCRETE, FENCES, TREES, SHRUBS & OTHER DELETERIOUS MATERIALS ON THE SITE.
3. SAID DEMOLITION EXCLUDES UTILITY MAINS UNLESS SPECIFICALLY SHOWN ON THIS PLAN.
4. SAID DEMOLITION EXCLUDES PUBLICLY OWNED STREET IMPROVEMENTS UNLESS SPECIFICALLY SHOWN ON THIS PLAN.
5. SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL UNDERGROUND TANKS, PIPES, VALVES, ETC.
6. CONTRACTOR IS TO COORDINATE ALL PERMITS, FEES & INSPECTIONS AS REQUIRED BY ANY AGENCY HAVING JURISDICTION.
7. NATURAL VEGETATION AND SOIL COVER SHALL NOT BE DISTURBED PRIOR TO ACTUAL CONSTRUCTION OF A REQUIRED FACILITY OR IMPROVEMENT. MASS CLEARING OF THE SITE IN ANTICIPATION OF CONSTRUCTION SHALL BE AVOIDED. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO ONE APPROACH TO SITE. THE APPROACH SHALL BE DESIGNATED BY THE GENERAL MANAGER.

ABOVE-GROUND IMPROVEMENTS

CONTRACTOR SHALL OBTAIN A COPY OF, AND STRICTLY ADHERE TO THE CURRENT HERRIMAN CITY STANDARDS AND SPECIFICATIONS. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY HERRIMAN CITY STANDARDS AND DETAILS.
CONTRACTOR IS TO OBTAIN ANY REQUIRED PERMITS AND NOTIFY THE STREET OWNER AND SILVER PEAK ENGINEERING PRIOR TO BEGINNING ANY WORK WITHIN SAID STREET.

SITE WORK OUTSIDE OF THE PUBLICLY OWNED RIGHT OF WAY SHALL CONFORM WITH THE NOTES AND DETAILS SHOWN ON THIS SET OF PLANS. CONTRACTOR IS TO NOTIFY THE OWNER AND SILVERPEAK ENGINEERING PRIOR TO BEGINNING SAID WORK.

ALL DIMENSIONS, AND GRADES SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST, PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

ALL EXISTING MANHOLES, WATER VALVES, CLEAN OUTS, ETC., ARE TO BE RAISED OR LOWERED TO GRADE.

ALL NEW VALVES, MANHOLES, ETC. SHALL BE INSTALLED A MINIMUM OF 6" BELOW FINISH GRADE & RAISED TO GRADE AS REQUIRED WITH A MINIMUM 6" CONCRETE RING.

FULL DEPTH EXPANSION JOINTS WILL BE PLACED AGAINST ANY OBJECT DEEMED TO BE FIXED, CHANGES IN DIRECTION, AND AT EQUAL INTERVALS NOT TO EXCEED 50 FEET. SLABS-ON-GRADE WILL BE TYPICALLY SCORED (1/2 THE DEPTH) AT INTERVALS NOT TO EXCEED THEIR WIDTH OR 12 TIMES THEIR DEPTH, WHICHEVER IS LESS. SCORING WILL BE PLACED TO PREVENT RANDOM CRACKING.

CONCRETE WATERWAYS, CURB WALLS, MOW STRIPS, CURB AND GUTTER, ETC., WILL TYPICALLY BE SCORED (1/2 THE DEPTH) AT INTERVALS NOT TO EXCEED 10 FEET, AND HAVE FULL DEPTH EXPANSION JOINTS THAT EQUAL SPACING NOT TO EXCEED 40 FEET.

UNLESS OTHERWISE NOTED, ALL SLABS-ON-GRADE WILL HAVE A MINIMUM 8" TURNED-DOWN EDGE TO HELP CONTROL FROST HEAVE.

UNLESS OTHERWISE NOTED, ALL ON-GRADE CONCRETE WILL BE PLACED ON A MINIMUM 4" GRAVEL BASE OVER A WELL COMPACTED (96% STANDARD PROCTOR DENSITY) SUB GRADE.

ALL EXPOSED SURFACES WILL HAVE A TEXTURED FINISH, RUBBED, OR BROOMED, ANY "PLASTERING" OF NEW CONCRETE WILL BE DONE WHILE IT IS STILL "GREEN".

ALL JOINTS (CONTROL JOINTS, CONSTRUCTION JOINTS, EXPANSION JOINTS, ETC.), WILL BE SEALED WITH A ONE PART POLYURETHANE SEALANT (SEE SPECIFICATION).

CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ADJACENT SURFACE IMPROVEMENTS.

ALL EXISTING ASPHALT WILL BE SAW CUT IN NEAT STRAIGHT LINES BY THE CONTRACTOR PRIOR TO EXCAVATION.

HANDICAP ACCESSIBILITY: ALL CONSTRUCTION SHALL MEET THE ADA HANDICAP ACCESSIBILITY REQUIREMENTS. FOR ANY DISCREPANCIES BETWEEN THE PLANS AND ADA REQUIREMENTS, ADA REQUIREMENTS WILL GOVERN.

STRIPING WILL BE PER THE PLANS AND/OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. STRIPING TO INCLUDE HANDICAP INSIGNIAS, SIGNS, CROSS-HATCHING, DIRECTION ARROWS, ETC. AS SHOWN OR AS DIRECTED.

NO CHANGE IN DESIGN LOCATION OR GRADE WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF THE PROJECT ENGINEER.

ABBREVIATIONS

NOT ALL ITEMS MAY BE APPLICABLE

Φ	DIAMETER
Δ	DELTA
°	DEGREES
'	MINUTES, FEET
"	SECONDS, INCHES
ADA	AMERICAN DISABILITIES ACT
ARCH	ARCHITECTURAL
B&C	BAR & CAP
BL	BOUNDARY LINE
BM	BENCHMARK
BND	BOUNDARY
BOW	BACK OF WALK
BRG	BEARING
BVC	BEGIN VERTICAL CURVE
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
C&G	CURB AND GUTTER
CB	CATCH BASIN
CH	CHORD
CHB	CHORD BEARING
CI	CAST IRON
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COMBO	COMBINATION
CONC	CONCRETE
CONST	CONSTRUCTION
CUL	CULINARY
CW	CULINARY WATER
CWL	CULINARY WATERLINE
DEMO	DEMOLITION
DI	DUCTILE IRON
DIAM	DIAMETER
DIST	DISTANCE
E	EAST
EG	EXISTING GRADE
EOA	EDGE OF ASPHALT
ELEC	ELECTRICAL
EVC	END VERTICAL CURVE
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EXIST	EXISTING
EX	EXISTING
FDC	FIRE DEPARTMENT CONNECTION
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FND	FOUND
FND	FOUNDATION
FTG	FOOTING
GB	GRADE BREAK
GR	GRATE
GV	GATE VALVE
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HPE	HIGH POINT ELEVATION
HPS	HIGH POINT STATION
HWM	HIGH WATER MARK
INV	INVERT
IRR	IRRIGATION
IRRMH	IRRIGATION MANHOLE
K	RADIUS OF CURVATURE
L	LENGTH
LAT	LATERAL SERVICE
LD	LAND DRAIN
LDMH	LAND DRAIN MANHOLE
LG	LIP OF GUTTER
LP	LIGHT POLE
LPE	LOW POINT ELEVATION
LPS	LOW POINT STATION
MECH	MECHANICAL
MH	MANHOLE
MON	MONUMENT
N	NORTH
NE	NORTHEAST
NR	NON-RADIAL
NW	NORTHWEST
OC	ON CENTER
PL	PROPERTY LINE
PROP	PROPERTY
PUE	PUBLIC UTILTIY EASEMENT
PU&DE	PUBLIC UTILITY & DRAINAGE EASEMENT
PUE&DE	PUBLIC UTILITY EASEMENT & DRAINAGE EASEMENT
PVC	POLYVINYLCHLORIDE
R	RADIUS
RCL	ROADWAY CENTERLINE
RCP	REINFORCED CONCRETE PIPE
S	SOUTH
SD	STORM DRAIN
SDCB	STORM DRAIN CATCH BASIN
SDCO	STORM DRAIN CLEANOUT
SDMH	STORM DRAIN MANHOLE
SE	SOUTHEAST
SEC	SECONDARY
SEC	SECTION
SLB&M	SALT LAKE BASE & MERIDIAN
SPEC	SPECIFICATION
SPECS	SPECIFICATIONS
SPP	STEEL PIPE
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
STD	STANDARD
STDS	STANDARDS
SW	SECONDARY WATER
SW	SOUTHWEST
SWL	SECONDARY WATERLINE
TAN	TANGENT
TB	THRUST BLOCK
TBC	TOP BACK OF CURB
TBW	TOP BACK OF WALK
TEL	TELEPHONE
TGW	TOP OF CURBWALL
TOA	TOP OF ASPHALT
TOC	TOP OF CONCRETE
TOG	TOP OF GRATE
TOW	TOP OF WALL
TYP	TYPICAL
UDOT	UTAH DEPARTMENT OF TRANSPORTATION
U.N.O.	UNLESS NOTED OTHERWISE
UP	UTILITY POLE
UTIL	UTILITY
V	VALVE
VC	VERTICAL CURVE
W	WATER
W	WEST
WL	WATERLINE
WM	WATER METER
WV	WATER VALVE
X	CROSS
X-SECT	CROSS-SECTION

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS
PRIOR TO COMMENCING
ANY CONSTRUCTION

SEAL:

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
STRUCTURAL CIVIL SURVEY WWW.SILVERPEAKENG.COM

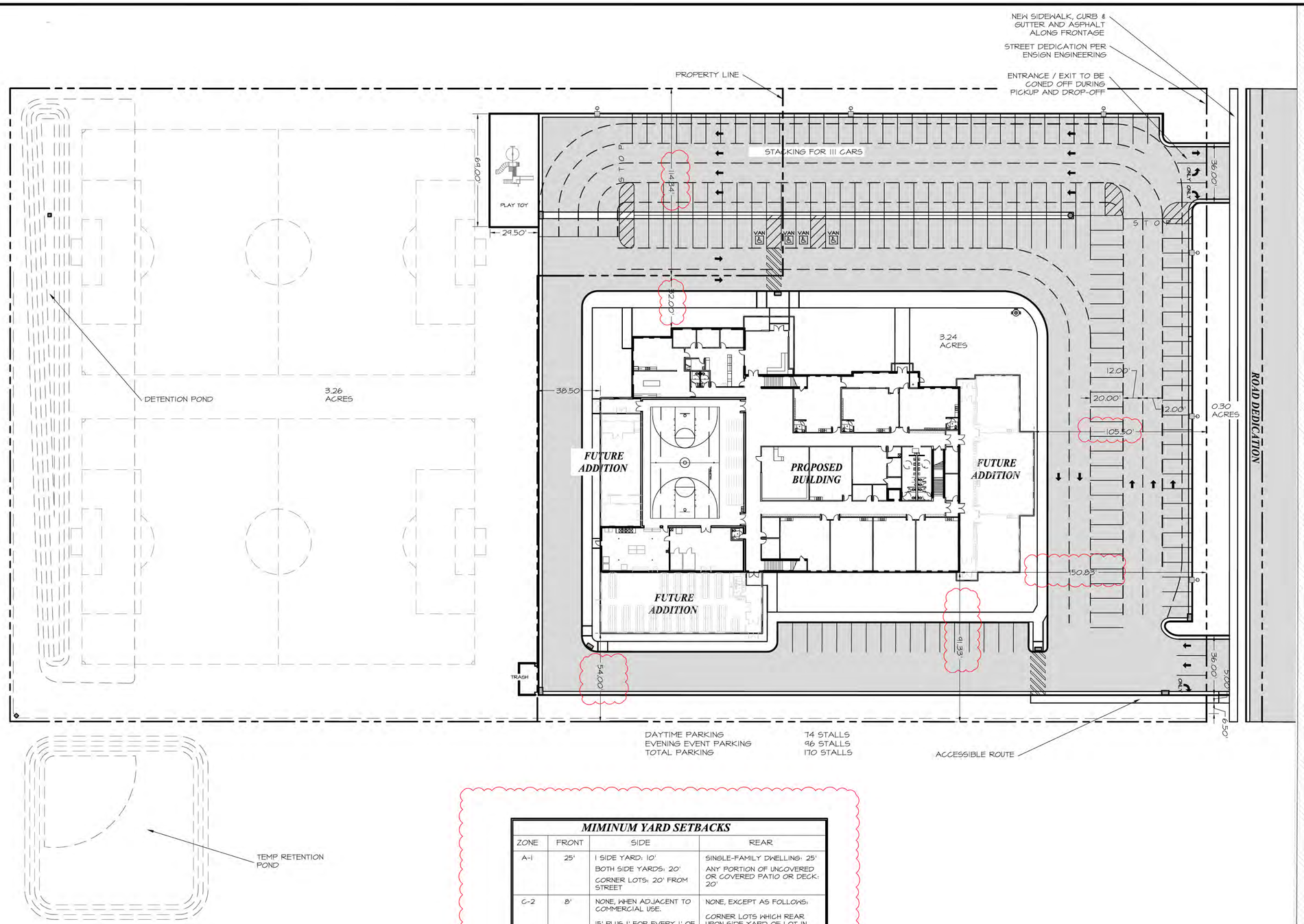
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

GENERAL NOTES

SHEET NUMBER:
C100

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



MIMINUM YARD SETBACKS			
ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

CURRENT PROPERTY ZONE IS A-1

0 30 60 120

HORIZONTAL SCALE: 1"=30'

SITE PLAN

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL:

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

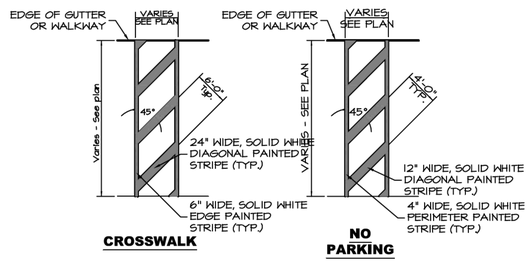
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:
11/27/2018 1

SITE PLAN

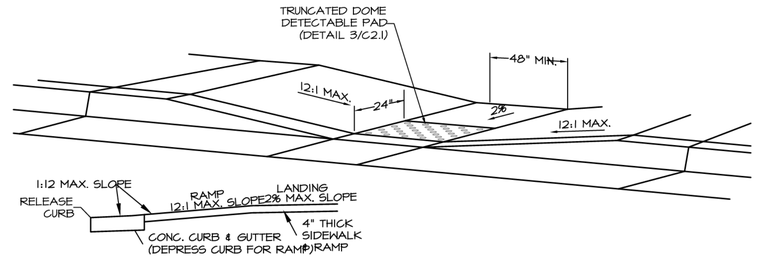
SHEET NUMBER:
C200

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



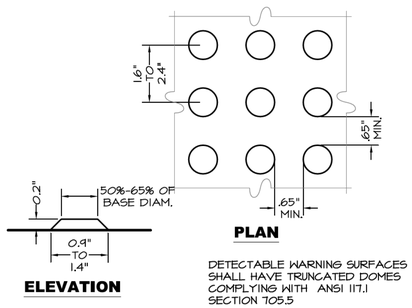
STRIPING DETAILS (1 / C2.1)

NOT TO SCALE



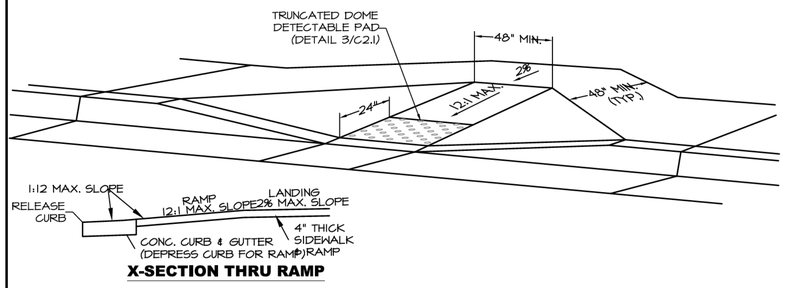
ADA RAMP (2 / C2.1)

NOT TO SCALE



TRUNCATED DOME DETECTABLE PAD (3 / C2.1)

NOT TO SCALE



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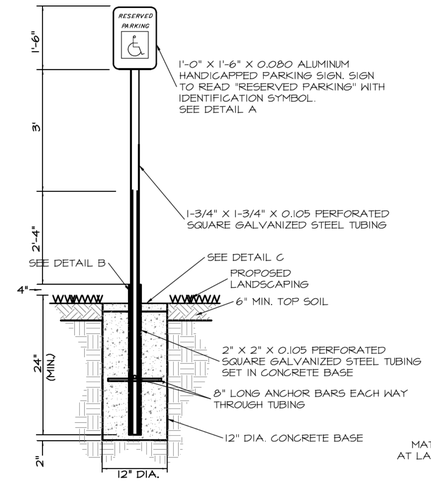
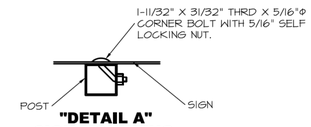
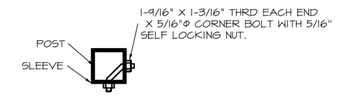


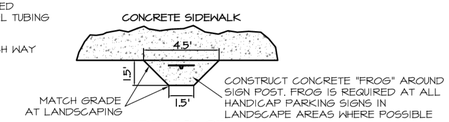
HANDICAPPED PARKING SIGN



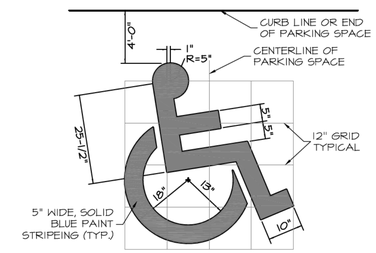
"DETAIL A" SIGN MOUNTING



"DETAIL B" ANCHOR ASSEMBLY



"DETAIL C" CONCRETE "FROG"



HANDICAP PARKING SIGN DETAILS (5 / C2.1)

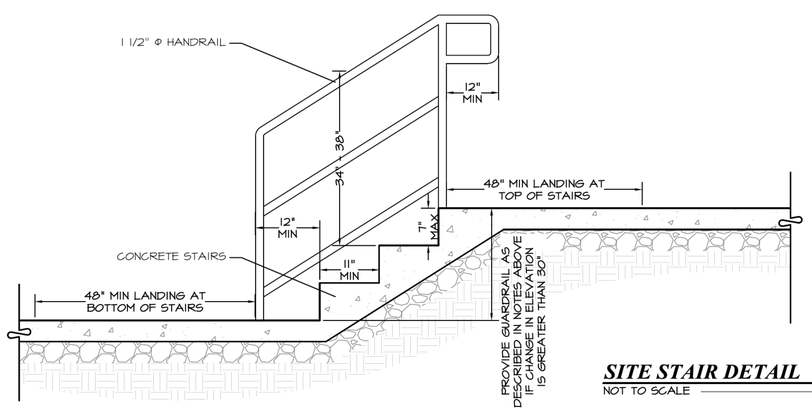
NOT TO SCALE

SITE RAMP AND HANDRAIL NOTES:

1. ALL RAMPS SHALL HAVE A MAXIMUM SLOPE OF 1:12. RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL HAVE HANDRAILS ON BOTH SIDES. LANDINGS SHALL HAVE A SLOPE NOT STEEPER THAN 1:48 IN ANY DIRECTION PER IBC.
2. RAMPS SHALL HAVE LANDINGS AT THE BOTTOM AND TOP OF EACH RAMP. RAMP LANDINGS SHALL BE A MINIMUM OF 60" IN LENGTH, AND AT LEAST AS WIDE AS THE RAMP RUN PER IBC.
3. THE TOPS OF HANDRAIL SHALL BE PLACED NO LESS THAN 34" AND NO MORE THAN 38" ABOVE THE RAMP. THEY SHALL BE CONTINUOUS THE FULL LENGTH OF THE RAMP AND SHALL BE PROVIDED ON BOTH SIDES OF RAMP, PLUS 12" PAST THE RAMP AT THE TOP & BOTTOM OF THE RAMP. ENDS SHOULD RETURN TO WALL, GUARD, OR WALKING SURFACE. THE HAND GRIP PORTION OF HANDRAILS SHALL BE NOT LESS THAN 1 1/4" AND NO MORE THAN 2" IN CROSS-SECTIONAL DIMENSION OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE. THE HAND GRIP PORTION OF HANDRAILS SHALL HAVE A SMOOTH SURFACE WITH NO SHARP CORNERS. HANDRAIL PROJECTING FROM A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1 1/2" BETWEEN THE WALL AND THE HANDRAIL PER IBC.

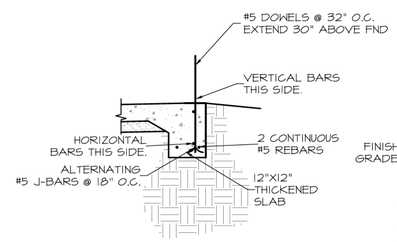
SITE STAIR AND RAILING NOTES:

1. STAIR TREADS TO BE 11" MINIMUM AND RISERS TO BE 7" MAXIMUM.
2. THE TOPS OF HANDRAIL SHALL BE PLACED NO LESS THAN 34" AND NO MORE THAN 38" ABOVE THE NOSING OF TREADS. THEY SHALL BE CONTINUOUS THE FULL LENGTH OF THE STAIRS AND SHALL BE PROVIDED ON BOTH SIDES OF STAIRWAY, PLUS 12" PAST THE STAIRS AT THE TOP OF THE STAIR WAY AND 1 RISER LEGTH PAST THE STAIRS AT THE BOTTOM OF THE STAIRWAY. ENDS SHOULD RETURN TO WALL, GUARD, OR WALKING SURFACE OR BE CONT. TO NEXT STAIR. THE HAND GRIP PORTION OF HANDRAILS SHALL BE NOT LESS THAN 1 1/4" AND NO MORE THAN 2" IN CROSS-SECTIONAL DIMENSION OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE. THE HAND GRIP PORTION OF HANDRAILS SHALL HAVE A SMOOTH SURFACE WITH NO SHARP CORNERS. HANDRAIL PROJECTING FROM A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1 1/2" BETWEEN THE WALL AND THE HANDRAIL PER IBC.
3. ALL OPEN SIDES OF LANDINGS AND STAIRS, BALCONIES, PORCHES, DECKS, AND UN-ENCLOSED FLOOR AND ROOF OPENINGS USED FOR OTHER THAN SERVICE WHICH ARE MORE THAN 30" ABOVE GRADE SHALL BE PROTECTED BY A GUARDRAIL. GUARDRAILS SHALL NOT BE LESS THAN 42" IN HEIGHT.
4. GUARDRAILS SHALL HAVE INTERMEDIATE RAILS OR AN ORNAMENTAL PATTERN SUCH THAT NO OBJECT 4" IN DIAMETER CAN-NOT PASS THROUGH THE GUARDRAIL PER IBC.
5. HANDRAILS NOT REQUIRED PER 2012 IBC 1009.15 EXCEPTION #3 FOR WALKWAYS HAVING A SINGLE CHANGE IN ELEVATIONS WHERE THE LANDING DEPTH ON EACH SIDE OF THE CHANGE OF ELEVATIONS IS GREATER THAN WHAT IS REQUIRED FOR A LANDING.

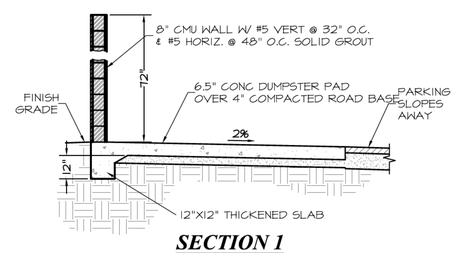


SITE STAIR DETAIL (7 / C2.1)

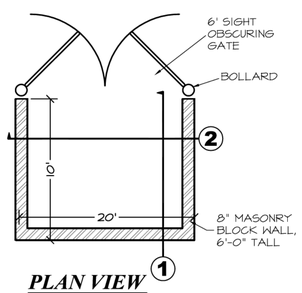
NOT TO SCALE



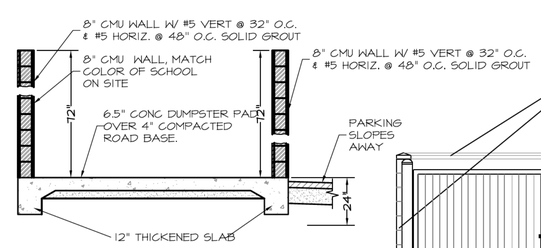
STEM WALL & FOUNDATION SECTION



SECTION 1



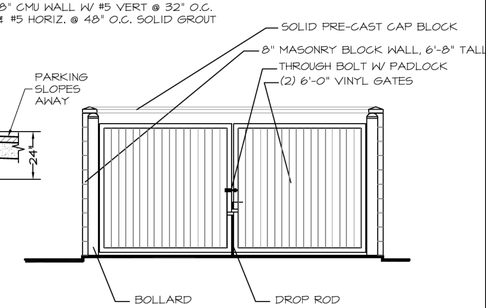
PLAN VIEW



SECTION 2

TYPICAL NO PARKING SIGN (6 / C2.1)

NOT TO SCALE



DUMPSTER ENCLOSURE (8 / C2.1)

NOT TO SCALE

SEAL:

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

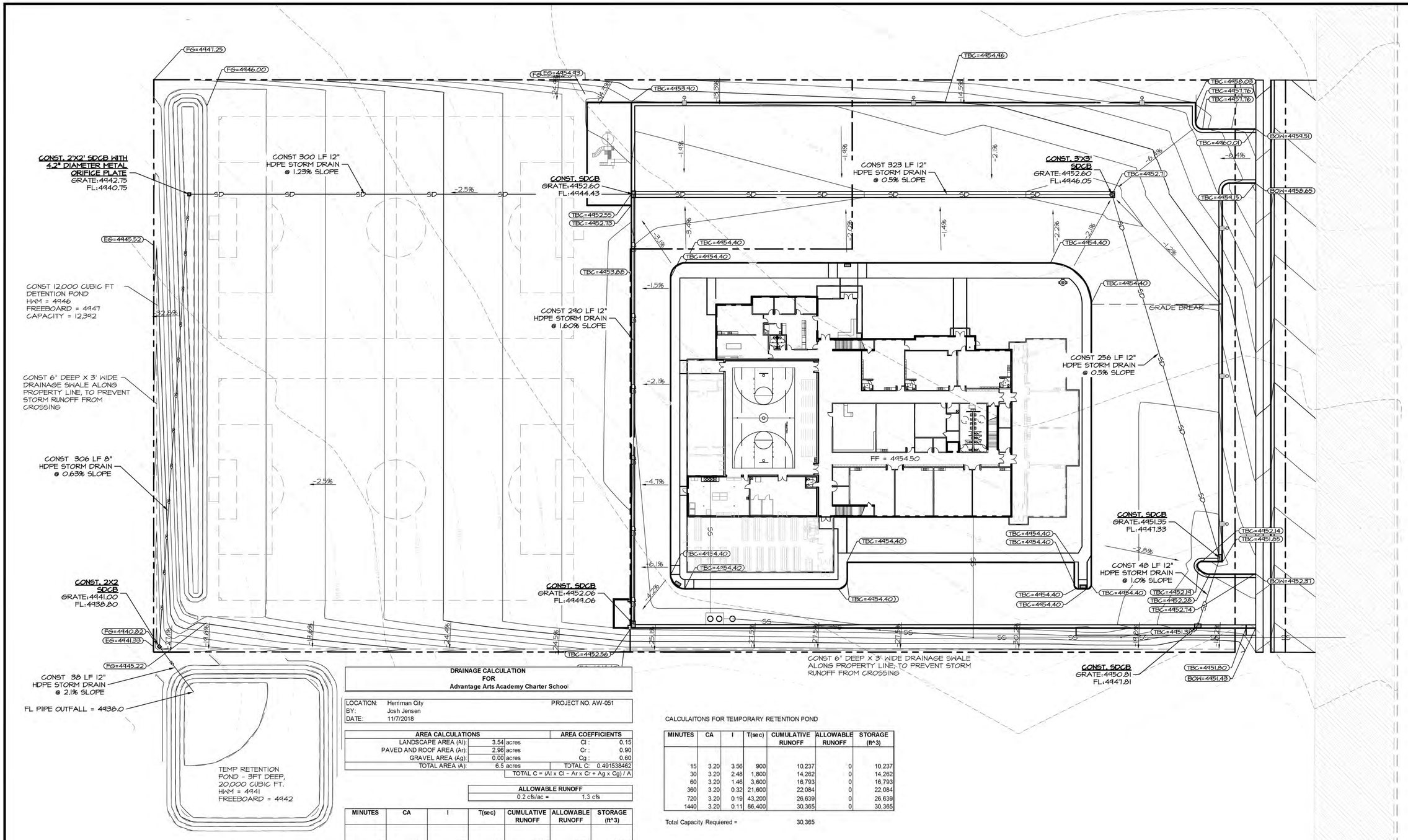
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

SITE DETAILS

SHEET NUMBER: C201

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



DRAINAGE CALCULATION
FOR
Advantage Arts Academy Charter School

LOCATION:	Herriman City	PROJECT NO. AW-051
BY:	Josh Jensen	
DATE:	11/7/2018	

AREA CALCULATIONS			AREA COEFFICIENTS	
LANDSCAPE AREA (Al):	3.54	acres	Cl :	0.15
PAVED AND ROOF AREA (Ar):	2.96	acres	Cr :	0.90
GRAVEL AREA (Ag):	0.00	acres	Cg :	0.60
TOTAL AREA (A):	6.5	acres	TOTAL C:	0.491538462
			TOTAL C = (Al x Cl - Ar x Cr + Ag x Cg) / A	

ALLOWABLE RUNOFF	
0.2 cfs/ac =	1.3 cfs

MINUTES	CA	I	T(sec)	CUMULATIVE RUNOFF	ALLOWABLE RUNOFF	STORAGE (ft^3)
15	3.20	3.56	900	10,237	1,170	9,067
30	3.20	2.48	1,800	14,262	2,340	11,922
60	3.20	1.46	3,600	16,793	4,680	12,113
360	3.20	0.32	21,600	22,084	28,080	-5,996
720	3.20	0.19	43,200	26,639	56,160	-29,521
1440	3.20	0.11	86,400	30,365	112,320	-81,955

NOTE: 100 Year 24 Hour Storm

STORAGE REQUIRED : 12,113 ft^3
STORAGE PROVIDED : ft^3

OUTLET CONTROL					
Q (cfs)=	1.3	HWM	47.0	TYPE OF PIPE:	HDPE
C=	0.6	FL @ GATE	39.0	ROUGHNESS (n) =	0.012
g (ft/s^2)=	32.2	h (ft)=	8.0	PIPE DIA. (d) =	12
				%SLOPE (s) =	0.005
AREA (in^2) =	13.75	= Q / (C x (2 x g x h)^0.5)		Q allow =	2.74
WIDTH (in) =	3.72	HEIGHT (in)	3.70	Check Q (cfs)	OK

PROVIDE 12" DIA. HDPE PIPE
WITH: 3.72" x 3.7" HOLE IN METAL HEADGATE
or 4.2" diameter hole in metal headgate

CALCULAITONS FOR TEMPORARY RETENTION POND

MINUTES	CA	I	T(sec)	CUMULATIVE RUNOFF	ALLOWABLE RUNOFF	STORAGE (ft^3)
15	3.20	3.56	900	10,237	0	10,237
30	3.20	2.48	1,800	14,262	0	14,262
60	3.20	1.46	3,600	16,793	0	16,793
360	3.20	0.32	21,600	22,084	0	22,084
720	3.20	0.19	43,200	26,639	0	26,639
1440	3.20	0.11	86,400	30,365	0	30,365

Total Capacity Requiered = 30,365

0 30 60 120
HORIZONTAL SCALE: 1"=30'

GRADING / DRAINAGE PLAN

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL:

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

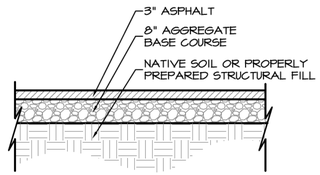
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

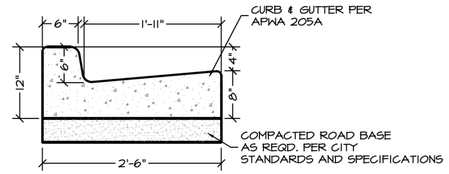
GRADING / DRAINAGE PLAN

SHEET NUMBER:
C300

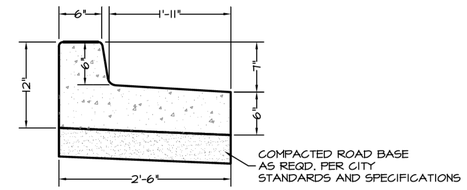
PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



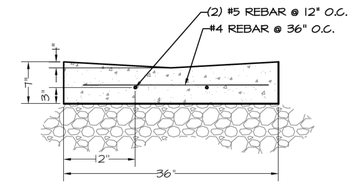
TYPICAL PARKING X-SECTION (1 / C3.1)
NOT TO SCALE



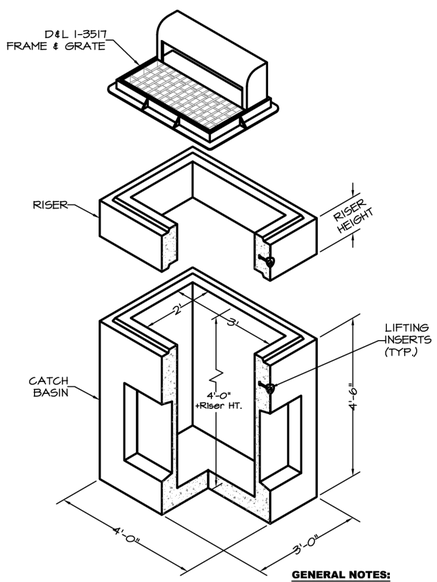
30" HIGH BACK CURB DETAIL (2 / C3.1)
NOT TO SCALE



30" RELEASE GUTTER DETAIL (3 / C3.1)
NOT TO SCALE

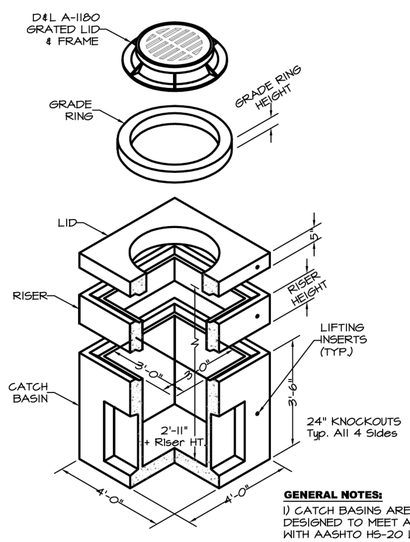


3' WATER WAY (4 / C3.1)
NOT TO SCALE



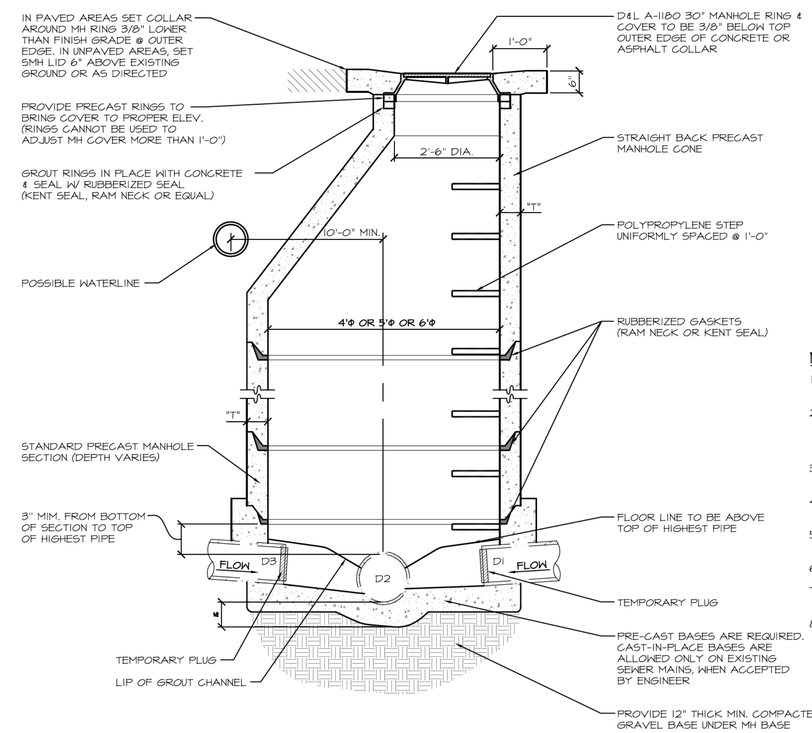
GENERAL NOTES:
1) CATCH BASINS ARE TO BE DESIGNED TO MEET ASTM C858 WITH AASHTO H5-20 LOADING

STORM DRAIN CATCH BASIN (SDCB) (5 / C3.1)
NOT TO SCALE



GENERAL NOTES:
1) CATCH BASINS ARE TO BE DESIGNED TO MEET ASTM C858 WITH AASHTO H5-20 LOADING

STORM DRAIN CLEAN OUT (SDCO) (6 / C3.1)
NOT TO SCALE



WALL THICKNESS (T)	
SMH DIA.	T (INCHES)
4'-0"	5"
5'-0"	6"
6'-0"	7"

NOTES:

1. IF GRADE ALLOWS, INVERTS OF D1 & D3 SHALL MATCH TOP OF D2 OTHERWISE AS APPROVED BY DISTRICT.
2. AFTER ALL GRADING AROUND MANHOLE HAS BEEN COMPLETED & FINAL SURFACING IS IN PLACE, REMOVE DEBRIS & TEMPORARY PLUGS OR PLYWOOD FROM INSIDE OF MANHOLE.
3. IF MANHOLE BASE IS TO BE POURED IN PLACE, FOLLOW SAME PATTERN AS SHOWN EXCEPT USE 10" MIN. WALL THICKNESS.
4. MANHOLES DEEPER THAN 20'-0" SHALL HAVE AN 18" THICK CONCRETE BASE.
5. SET MANHOLE FRAME & COVER TO 3/8" BELOW FINISH GRADE AFTER FINAL STREET GRADING IS COMPLETE.
6. CONE & WALL SECTIONS TO CONFORM TO ASTM C-478.
7. JUNCTIONS OF (3) OR MORE PIPES REQUIRE 5[OR LARGER MANHOLE.
8. DEFLECTION ANGLE OF 75° OR HIGHER REQUIRE 5[OR LARGER MANHOLE.

TYPICAL MANHOLE DETAIL (7 / C3.1)
NOT TO SCALE

674

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STRUCTURAL CIVIL SURVEY

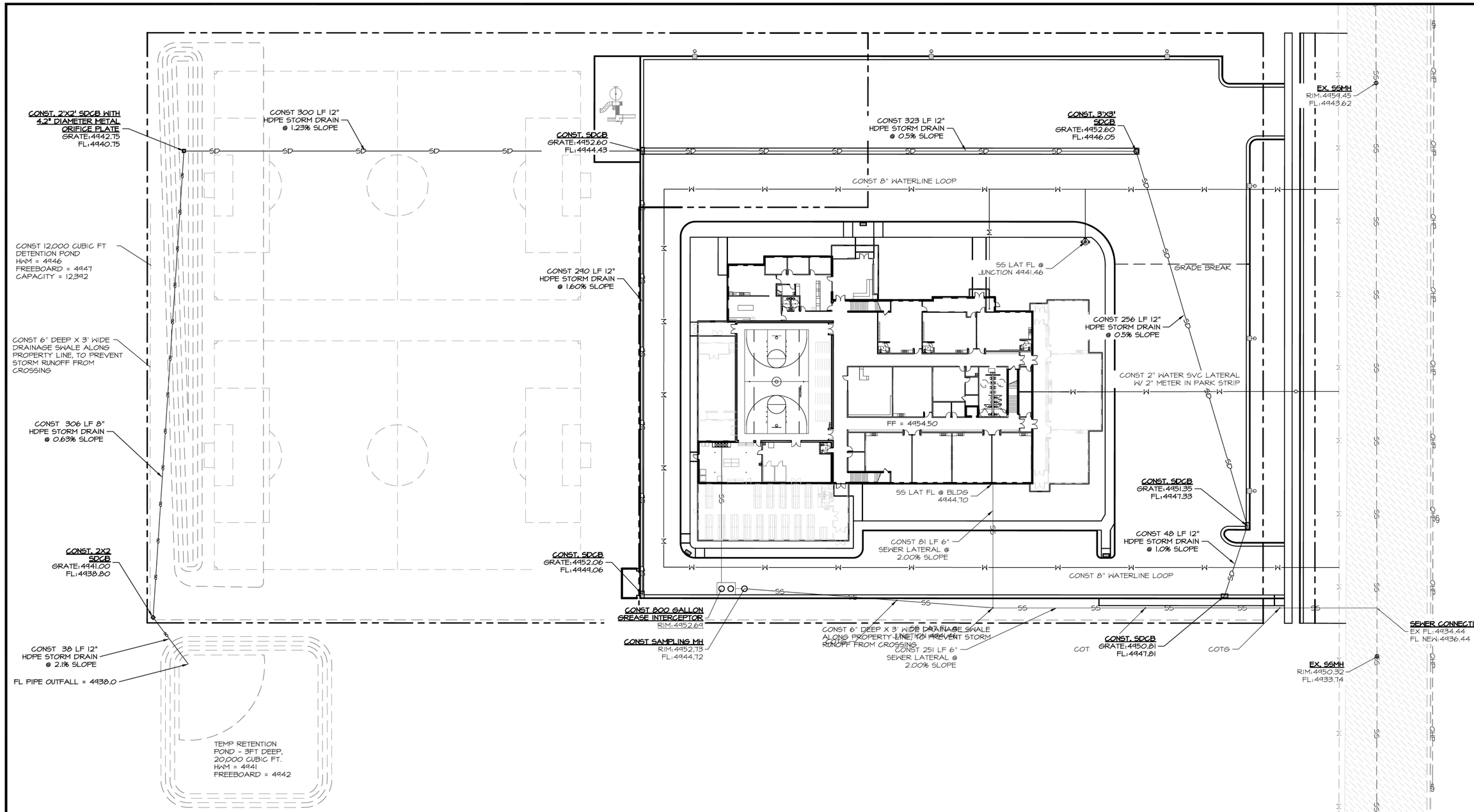
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

GRADING / DRAINAGE DETAILS

SHEET NUMBER:
C301

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



0 30 60 120

HORIZONTAL SCALE: 1"=30'

UTILITY PLAN

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

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STRUCTURAL CIVIL SURVEY WWW.SILVERPEAKENG.COM

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

UTILITY PLAN

SHEET NUMBER:
C400

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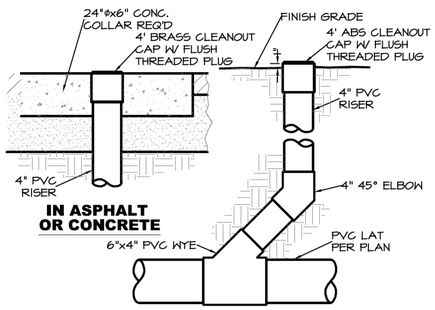
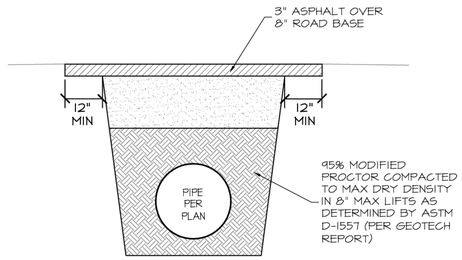


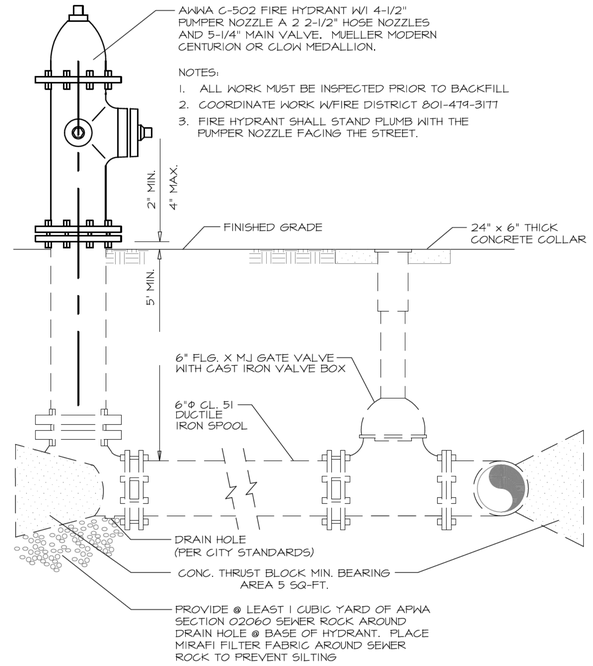
SANITARY SEWER CLEANOUT

NOT TO SCALE — 1 / C4.1



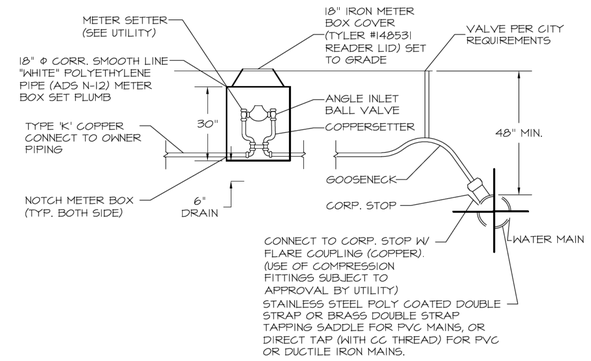
TYPICAL UTILITY TRENCH CROSS SECTION

NOT TO SCALE — 2 / C4.1



FIRE HYDRANT ASSEMBLY

NOT TO SCALE — 3 / C4.1



NOTE:

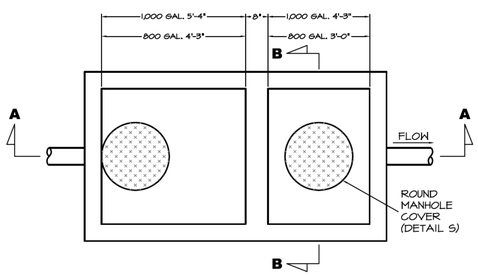
NEW METERS SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLANS. THE LID, BOX, METER, AND SETTER WILL BE PROVIDED BY THE CONTRACTOR. CONNECTION TO THE SUPPLY MAIN, CORP. STOP, AND SERVICE PIPING FROM THE MAIN TO THE METER AND FROM THE METER TO 10'-0" ONTO THE OWNERS PROPERTY SHALL BE PROVIDED BY THE CONTRACTOR.

WATER METER DETAIL

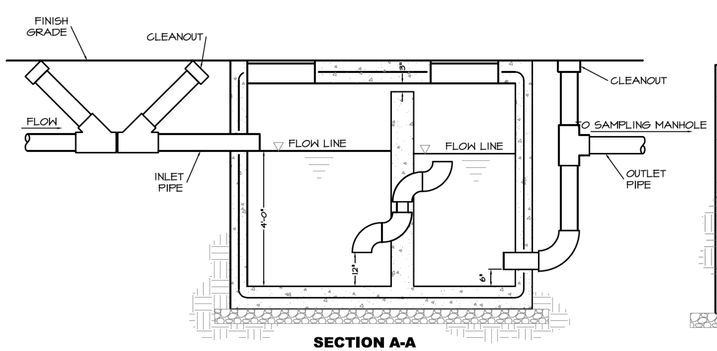
NOT TO SCALE — 4 / C4.1

NOTES

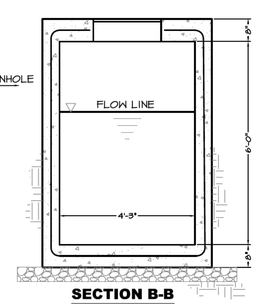
1. PIPING CLEANOUT CONFIGURATION, SIZE AND TYPE OF PIPING MATERIAL AS PER CITY OR SANITARY DISTRICT. INSPECTION BY SVWRF PRIOR TO BACKFILLING IS REQUIRED.
2. INTERCEPTOR PIPING AND OTHER ASSOCIATED PIPING CHANGES THAT ARE NECESSARY TO INSTALL INTERCEPTOR MUST BE IN ACCORDANCE WITH LOCAL REGULATIONS.
3. INTERCEPTOR MUST BE PROPERLY VENTED IN ACCORDANCE WITH UNIFORM PLUMBING CODE STANDARDS.
4. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
5. REINFORCEMENT STEEL SHALL BE ASTM A615 GRADE 60.
6. THE CONCRETE COVER OVER REINFORCEMENT STEEL SHALL BE A MINIMUM OF 1-1/2" INCHES.
7. THE STRUCTURE SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF UTAH.
8. THE STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING CONFIGURATION:
   A) WALLS DESIGNED FOR A SATURATED EQUIVALENT FLUID AT-REST SOIL PRESSURE OF 90 PCF PLUS TRUCK SURCHARGES.
   B) TRUCK LOADING USING AN AASHTO H-20 TRUCK LOAD.
9. MANWAY FRAME AND COVER SHALL BE A TRAFFIC TYPE CASTING FOR H-20 TRUCK LOAD.
10. THE INLET PIPE SHALL BE AT AN ELEVATION 1 INCH HIGHER THAN THE OUTLET PIPE.
11. WHERE THE SEWER LINE ALREADY EXISTS, THE SEWER INVERT INTO AND OUT OF THE INTERCEPTOR SHALL BE 4'-0" ABOVE THE INTERCEPTOR FLOOR.
12. THE BAFFLE IN THE INTERCEPTOR SHALL BE WITHIN 3 INCHES OF THE CEILING.
13. COVERS SHALL BE CIRCULAR AND SOLID.
14. SANITARY WASTE FROM TOILETS MUST NOT BE PLUMBED THROUGH THE INTERCEPTOR.
15. INTERCEPTOR MUST BE LOCATED IN SUCH A MANNER THAT IT IS READILY ACCESSIBLE FOR CLEANING.



PLAN VIEW



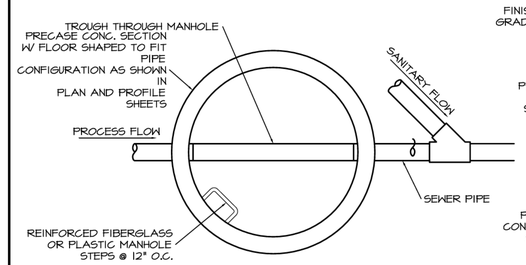
SECTION A-A



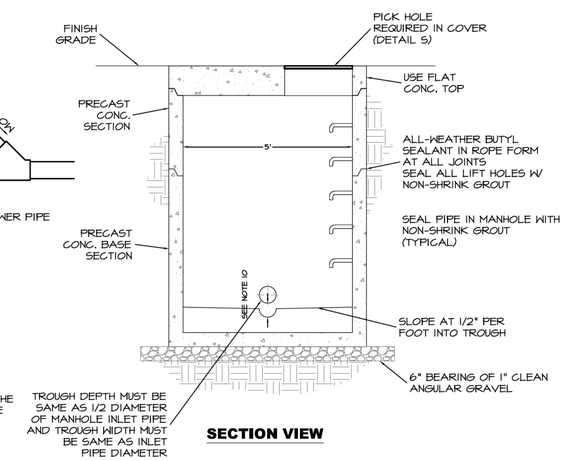
SECTION B-B

GREASE INTERCEPTOR

NOT TO SCALE — 5 / C4.1



PLAN VIEW



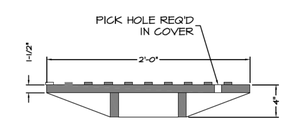
SECTION VIEW

NOTES

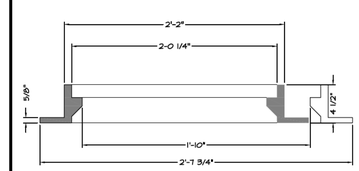
1. PIPING, CLEANOUT CONFIGURATION, SIZE AND TYPE OF PIPING MATERIAL AS PER CITY OR SANITARY DISTRICT. INSPECTION BY SVWRF PRIOR TO BACKFILLING IS REQUIRED.
2. WIDTH OF TROUGH IN THE MANHOLE MUST BE THE SAME SIZE AS THE INLET PIPE INTO MANHOLE. DEPTH OF TROUGH MUST BE THE SAME AS 1/2 OF INLET PIPE DIAMETER.
3. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
4. REINFORCEMENT STEEL SHALL BE ASTM A615 GRADE 60.
5. THE CONCRETE COVER OVER REINFORCEMENT STEEL SHALL BE A MINIMUM OF 1-1/2" INCHES.
6. THE STRUCTURE SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF UTAH.
7. THE STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING CONFIGURATION:
   A) WALLS DESIGNED FOR A SATURATED EQUIVALENT FLUID AT-REST SOIL PRESSURE OF 90 PCF PLUS TRUCK SURCHARGES.
   B) TRUCK LOADING USING AN AASHTO H-20 TRUCK LOAD.
8. MANHOLES OVER 4 FEET IN DEPTH WILL HAVE STAINLESS OR PLASTIC STEPS.
9. ALL MANHOLES MUST HAVE ROUND NOTCHED COVERS WITH PICK HOLE FOR REMOVAL.
10. FOR NEW CONSTRUCTION, BOTTOM OF INLET PIPE INTO MANHOLE MUST BE AT LEAST 3 INCHES ABOVE THE BOTTOM OF THE TROUGH THROUGH THE MANHOLE.

SAMPLING MANHOLE

NOT TO SCALE — 6 / C4.1



MANHOLE COVER



MANHOLE RING

NOTE:
IF CONCRETE GRADE RINGS ARE USED ON A SAMPLING MANHOLE INSTALLATION, THE TOTAL HEIGHT OF THE STACKED RINGS MUST NOT EXCEED 12".

MANHOLE COVER & RING

NOT TO SCALE — 7 / C4.1

SEAL:

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY
WWW.SILVERPEAKENG.COM

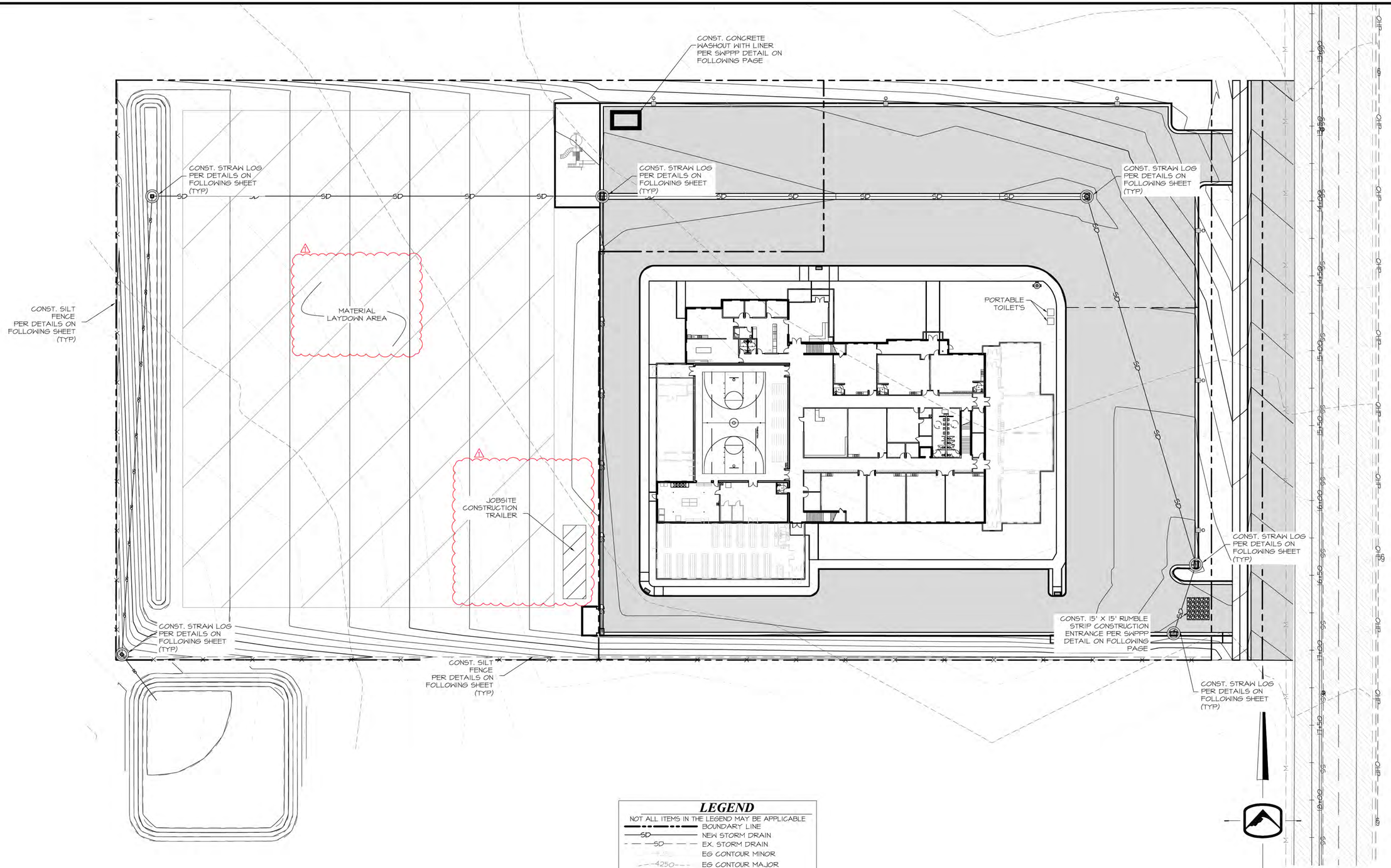
ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

UTILITY DETAILS

SHEET NUMBER:
C401

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



SWPPP

LEGEND

NOT ALL ITEMS IN THE LEGEND MAY BE APPLICABLE

- BOUNDARY LINE
- SD — NEW STORM DRAIN
- SD — EX. STORM DRAIN
- EG CONTOUR MINOR
- 4250 — EG CONTOUR MAJOR
- 4250 — FG CONTOUR MINOR
- 4250 — FG CONTOUR MAJOR
- NEW ASPHALT PER X-SECTION
- EXISTING ASPHALT
- EXISTING CURB & GUTTER
- CONST. CURB & GUTTER PER X-SECTION
- X — CONST. SILT FENCE
- SD INLET PROTECTION

NOTE:

DURING CONSTRUCTION OF THE BUILDING THE PLAYFIELD AND PARKING AREAS WILL BE USED FOR CONSTRUCTION STAGING. DURING CONSTRUCTION OF THE PARKING AREA THE PLAYFIELD AREA WILL BE USED FOR CONSTRUCTION STAGING

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL:

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ

REVISIONS:
11-27-2018 1

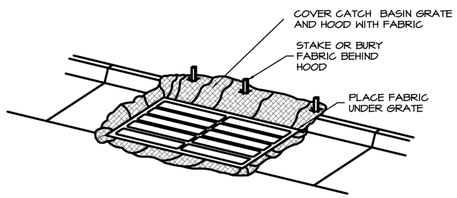
SWPPP

SHEET NUMBER:
C500

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

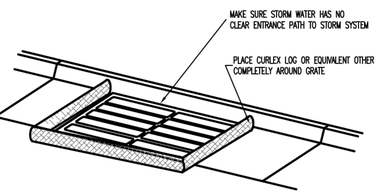
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

ADVANTAGE ARTS ACADEMY SCHOOL



FABRIC UNDER GRATE

MAINTENANCE: LIFT GRATE & CLEAN SEDIMENT OFF OF FABRIC WEEKLY & AFTER A STORM. TAKE CARE WHILE LIFTING GRATE TO PREVENT SEDIMENT FROM FALLING INTO THE CATCH BASIN. DISPOSE OF SEDIMENT AWAY FROM THE STORM DRAIN.



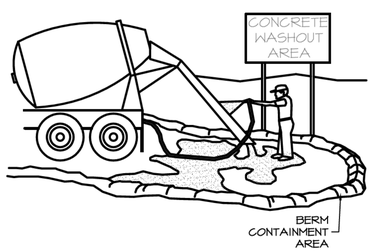
CURLEX LOG (STRAW/CLOTH SACK)

MAINTENANCE: REMOVE & CLEAN CULEX LOGS THOROUGHLY EACH WEEK OR AFTER A STORM. TAKE CARE WHILE MOVING ROCK SACKS TO PREVENT SEDIMENT FROM FALLING INTO THE CATCH BASIN. DISPOSE OF SEDIMENT AWAY FROM THE STORM DRAIN.

INLET PROTECTION

NOTES:

1. USE FABRIC UNDER GRATE TO PROTECT THE CATCH BASIN FROM SEDIMENTATION.



CONCRETE WASTE MANAGEMENT

NOTES:

1. EXCESS AND WASTE CONCRETE SHALL NOT BE WASHED INTO THE STREET OR INTO A DRAINAGE SYSTEM.

2. FOR WASHOUT OF CONCRETE AND MORTAR PRODUCTS, A DESIGNATED CONTAINMENT FACILITY OF SUFFICIENT CAPACITY TO RETAIN LIQUID AND SOLID WASTE SHALL BE PROVIDED ON SITE. THIS DISCHARGE AREA MUST BE LINED WITH AN IMPERMEABLE BARRIER.

3. SLURRY FROM CONCRETE AND ASPHALT SAW CUTTING SHALL BE VACUUMED OR CONTAINED, DRIED, PICKED UP, AND DISPOSED OF PROPERLY.

CONSTRUCTION & BMP SEQUENCING

BMP INSPECTION AND MAINTENANCE SHALL BEGIN WITH THE INSTALLATION OF THE FIRST BMP AND CONTINUE UNTIL THE LAST BMP (REVEGETATION) HAS BEEN COMPLETED.

CATCH BASIN PROTECTION

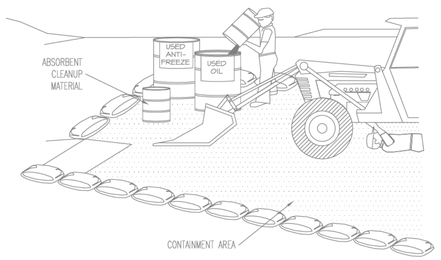
1 CATCH BASIN PROTECTION PER DETAIL LABELED "CURLEX LOG" AND/OR "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF STORM DRAIN CONSTRUCTION.
2 FOR CATCH BASINS LOCATED IN CURB AND GUTTER:
  A "CURLEX LOG" SHALL REMAIN IN PLACE UNTIL CURB AND GUTTER IS CONSTRUCTED.
  B CATCH BASIN PROTECTION PER DETAIL LABELED "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF CURB AND GUTTER CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL FINISH GRADING IS COMPLETED.
3 FOR CATCH BASINS LOCATED IN LANDSCAPE AREAS:
  A "CURLEX LOG" SHALL REMAIN IN PLACE UNTIL SITE GRADING OCCURS.
  B CATCH BASIN PROTECTION PER DETAIL LABELED "CURLEX LOG" AND/OR "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF SITE GRADING, AND SHALL REMAIN IN PLACE UNTIL ALL GRADING & LANDSCAPING IS COMPLETED.

CONCRETE WASTE MANAGEMENT

1 A CONCRETE WASTE MANAGEMENT FACILITY SHALL BE CONSTRUCTED PRIOR TO POURING ANY CONCRETE ON THE SITE, AND SHALL REMAIN IN PLACE UNTIL THE LAST CONCRETE POUR HAS BEEN COMPLETED.
2 CONTRACTOR IS TO REMOVE THE CONCRETE WASTE MANAGEMENT FACILITY BY LEGALLY REMOVING AND DISPOSING OF WASTE CONCRETE AND, IF NECESSARY, ANY NON-SOIL BERM MATERIALS.

REGEVETATION

1 SEEDING AND PLANTING OF THE SITE PER THE LANDSCAPE PLAN SHALL OCCUR WITHIN 14 DAYS OF COMPLETION OF THE FINISH GRADING, IF SAID 14 DAYS OCCUR BETWEEN APRIL 15 AND SEPTEMBER 15. OTHERWISE, SEEDING AND PLANTING SHALL BEGIN APRIL 15.
2 PLANTING EFFORTS SHALL BE COMPLETED WITHIN 15 DAYS.
3 SEEDING AND PLANTING SHALL BE CONSIDERED COMPLETE WHEN 70% OF PLANTINGS ARE ESTABLISHED).



EQUIPMENT MAINTENANCE/REPAIR

NOTES:

1. LEAKING VEHICLES AND EQUIPMENT SHALL NOT BE ALLOWED ON-SITE. EQUIPMENT AND VEHICLES SHALL BE INSPECTED FREQUENTLY FOR LEAKS AND SHALL BE REPAIRED IMMEDIATELY. CLEAN UP SPILLS AND LEAKS PROMPTLY WITH ABSORBENT MATERIALS; DO NOT FLUSH WITH WATER.

2. VEHICLES AND EQUIPMENT SHALL BE MAINTAINED, AND REPAIRED ON-SITE ONLY IN DESIGNATED AREAS. PREVENT RUN-ON AND RUN-OFF FROM DESIGNATED AREAS.

3. CONTAINMENT DEVICES SHALL BE PROVIDED AND AREAS SHALL BE COVERED IF NECESSARY.

4. DESIGNATE ON-SITE VEHICLE AND EQUIPMENT MAINTENANCE AREAS, AWAY FROM STORM DRAIN INLETS AND WATERCOURSES.

5. ALWAYS USE SECONDARY CONTAINMENT, SUCH AS A DRAIN PAN OR DROP CLOTH TO CATCH SPILLS AND LEAKS WHEN REMOVING OR CHANGING FLUIDS. LEGALLY DISPOSE OF USED OILS, FLUIDS AND LUBRICANTS.

6. PROVIDE SPILL CONTAINMENT DIKES OR SECONDARY CONTAINMENT AROUND STORED OIL, FUEL, AND CHEMICAL DRUMS.

7. MAINTAIN AN ADEQUATE SUPPLY OF ABSORBENT SPILL CLEANUP MATERIALS IN DESIGNATED AREAS.

STORM WATER POLLUTION PREVENTION PLAN SPECIFIC NOTES

1. THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WAS DEVELOPED AT THE REQUEST OF THE OWNER FOR THE CONSTRUCTION OF COMMERCIAL CONSTRUCTION IN HERRIMAN CITY, HERRIMAN COUNTY, STATE OF UTAH. THIS PLAN IDENTIFIES POTENTIAL SOURCES OF POLLUTANTS OF STORM WATER, PRESENTS POLLUTION CONTROL MEASURES, AND ASSISTS IN INSURING IMPLEMENTATION AND MAINTENANCE OF THE BEST MANAGEMENT PRACTICES (BMP'S) INDICATED HEREIN.

2. A NOTICE OF INTENT SHALL BE FILED WITH THE STATE OF UTAH DIVISION OF WATER QUALITY BY THE OWNER SO THAT THIS CONSTRUCTION PROJECT MAY BE COVERED UNDER THE STATE GENERAL PERMIT. THE PERMIT IS UTAH POLLUTION DISCHARGE ELIMINATION SYSTEM (UPDES) GENERAL PERMIT (NO. UTR 300000) FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY. PERMIT FORMS ARE AVAILABLE FOR DOWNLOAD FROM THE DEPARTMENT OF ENVIRONMENTAL QUALITY AT WWW.WATERQUALITY.UTAH.GOV/UPDES/SWCON02.PDF

3. IN THE EVENT OF A CHANGE IN OWNERSHIP, A NEW NOTICE OF INTENT SHALL BE FILED WITH THE DIVISION OF WATER QUALITY.

4. IN THE EVENT OF A RELEASE OF A REPORTABLE QUANTITY OF A POLLUTANT, THE CONTRACTOR SHALL ADVISE THE OWNER TO NOTIFY THE UTAH RESPONSE CENTER, HERRIMAN CITY, AND SILVERPEAK ENGINEERING IF NECESSARY, THIS SWPPP SHOULD BE REVISED TO REFLECT THE CHANGE IN CONDITIONS OF THE CONSTRUCTION ACTIVITY. A REPORTABLE QUANTITY IS ESTABLISHED BY 40 CODE OF FEDERAL REGULATIONS (CFR) 117.3 OR 40 CFR 302.4.

5. ALL CONTRACTORS AND THEIR PERSONNEL WHOSE WORK CAN CONTRIBUTE TO OR CAUSE POLLUTION OF STORM WATER SHALL BE MADE FAMILIAR WITH THIS SWPPP PLAN. ADEQUATE TRAINING FOR IMPLEMENTATION OF THE MEASURES PRESENTED HEREIN SHALL BE PROVIDED TO THE CONTRACTORS AND THEIR PERSONNEL. ALL CONTRACTORS AND SUBCONTRACTORS, EVEN ON RESIDENTIAL CONSTRUCTION WITH DISTURBANCE AREAS LESS THAN ONE ACRE, SHALL ABIDE BY THIS SWPPP.

6. CHANGES IN CONSTRUCTION OR IN CONDITIONS WHICH ARE NOT COVERED BY THIS SWPPP SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER, SKYLAND INVESTMENTS AND DEVELOPMENT AND SILVERPEAK ENGINEERING IF NECESSARY, THIS SWPPP WILL BE REVISED TO REFLECT THE CHANGE IN CONSTRUCTION OR IN CONDITIONS.

7. ALL PREVENTION AND CLEAN UP MEASURES SHALL BE CONDUCTED IN ACCORDANCE WITH HERRIMAN CITY ORDINANCES, AS WELL AS STATE AND FEDERAL REGULATIONS. WASTE MATERIALS SHOULD BE DISPOSED OF IN A LEGAL MANNER. ALL DISCHARGERS OF STORM WATER MUST COMPLY WITH THE LAWFUL REQUIREMENTS OF HERRIMAN CITY REGARDING THE DISCHARGES OF STORM WATER TO STORM DRAINS.

8. THIS SWPPP DOES NOT COVER THE REMOVAL OF HAZARDOUS OR TOXIC WASTE. IN THE EVENT OF A DISCHARGE OR RELEASE OF A REPORTABLE QUANTITY OF TOXIC WASTE, WORK SHALL BE STOPPED UNTIL THE SPILL CAN BE ASSESSED AND A MITIGATION REPORT PREPARED BY A QUALIFIED ENVIRONMENTAL CONSULTANT, AND IF NECESSARY, REVIEWED BY HERRIMAN CITY AND ANY OTHER AGENCY HAVING JURISDICTION.

9. THIS SWPPP SHALL BE MADE AVAILABLE TO THE PUBLIC UNDER SECTION 308(B) OF THE CLEAN WATER ACT. UPON REQUEST BY MEMBERS OF THE PUBLIC, THE DISCHARGER SHALL MAKE AVAILABLE FOR REVIEW A COPY OF THIS SWPPP EITHER TO THE DIVISION OF WATER QUALITY OR DIRECTLY TO THE REQUESTER. THIS SWPPP MUST BE KEPT ON SITE DURING CONSTRUCTION ACTIVITY AND MADE AVAILABLE UPON REQUEST OF A REPRESENTATIVE OF THE DIVISION OF WATER QUALITY AND/OR THE LOCAL AGENCY.

10. CONTACTS

DEVELOPER	[NAME]
ADDRESS	[ADDRESS]
CITY, STATE	[CITY]
TELEPHONE	HERRIMAN
CONTRACTOR/DISCHARGER	ONEWEST CONSTRUCTION
ADDRESS	290 N. FLINT STREET
CITY, STATE	KAYSVILLE, UTAH
TELEPHONE	801-444-9878
CIVIL ENGINEER	SILVERPEAK ENGINEERING
PROJECT MANAGER	JOSHUA R. JENSEN, P.E., S.E.
ADDRESS	177 E ANTELOPE DR, SUITE B
CITY, STATE	LAYTON, UT 84041
TELEPHONE	801-499-5054
HERRIMAN CITY	
ADDRESS	5355 W. HERRIMAN MAIN ST.
CITY, STATE	HERRIMAN, UTAH
TELEPHONE	801-446-5323
STATE OF UTAH	288 NORTH 1460 WEST
DEPARTMENT OF ENVIRONMENTAL QUALITY	P.O. BOX 144870
DIVISION OF WATER QUALITY	SALT LAKE CITY, UTAH 84114-4870
U.S. EPA	
ENVIRONMENTAL PROTECTION AGENCY	REGION VIII
DENVER, COLORADO	800-759-4372
ENVIRONMENTAL PROTECTION AGENCY	202-475-9518
WASHINGTON, D.C. 20460	

11. REFERENCES
A. PLAN PER SILVERPEAK ENGINEERING,
B. STORMWATER POLLUTION PREVENTION PLAN PREPARED BY SILVERPEAK ENGINEERING

12. THE PROPOSED CONSTRUCTION ACTIVITY IS THE CONSTRUCTION OF ONE BUILDING PLUS THE CONSTRUCTION OF ALL IMPROVEMENTS, UTILITIES, AND DRAINAGE AND GRADING FEATURES AS SHOWN ON THE PLANS.

13. THE ESTIMATED RUN-OFF COEFFICIENT AFTER COMPLETION IS 0.49
14. A NEGLIGIBLE AMOUNT OF WATER FLOWS ONTO THE SITE.

A. PROHIBITION ON MOST NON-STORM WATER DISCHARGES

ONLY STORM WATER FROM THE PROJECT SITE SHALL BE ALLOWED TO FLOW INTO THE ON-SITE STORM DRAIN SYSTEM. CLEAN WATER FROM THE FLUSHING OF FIRE HYDRANTS, WATER MAINS, AND STORM DRAINS MAY BE DISCHARGED TO THE STORM DRAIN IF IT IS NOT ALLOWED TO COLLECT DIRT, DEBRIS, AND TRASH WHILE FLOWING TO A STORM DRAIN INLET.

B. POTENTIAL SOURCES OF STORM WATER POLLUTANTS

POTENTIAL STORM WATER POLLUTANTS INCLUDE SOIL SEDIMENT AND NUTRIENTS, OIL, GREASE, TOXIC POLLUTANTS, AND HEAVY METALS. SOURCES OF STORM WATER POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO SOIL EROSION BY WATER AND/OR WIND; CLEARING OF VEGETATION; GRADING; VEHICLE AND EQUIPMENT REFUELING AND MAINTENANCE; WASHING OF CONCRETE TRUCKS, MIXERS AND HANDLING EQUIPMENT; PAINTS, SOLVENTS AND ADHESIVES; AND LANDSCAPING WORK.

C. EROSION AND SEDIMENT CONTROLS

1. COVER EXPOSED STOCKPILES OF SOILS, CONSTRUCTION AND LANDSCAPING MATERIALS WITH HEAVY PLASTIC SHEETING.
2. IN LANDSCAPING AREAS WHERE THE VEGETATION HAS NOT ESTABLISHED GROWTH AND TAKEN HOLD, CONSTRUCT SANDBAG OR DIRT BERMS AROUND THEIR PERIMETER TO INSURE THAT WATER WILL BE CONTAINED INSIDE THE LANDSCAPING AREA AND THAT IT WILL NOT BE CONVEYED TO A STORM DRAIN INLET.
3. DISTURBED AREAS SHALL BE SEEDED BY THE THE DEVELOPER. SILT BARRIERS SHALL BE MAINTAINED BY THE DEVELOPER IN THE MEAN TIME. OR, THE DEVELOPER SHALL RE-SEED DISTURBED AREAS AS THEY SEE FIT AND REMOVE THE SEDIMENT CONTROLS.
4. THROUGHOUT CONSTRUCTION, CONTRACTOR SHALL DIVERT STORM WATER RUNOFF AROUND DISTURBED SOILS WITH BERMS OR DIRT SWALES.

D. OTHER CONTROLS

1. WASTE DISPOSAL

A. KEEP WASTE DISPOSAL CONTAINERS COVERED.
B. PROVIDE FOR THE WEEKLY (OR MORE FREQUENT, IF NECESSARY) DISPOSAL OF WASTE CONTAINERS.
C. PROVIDE CONTAINERS AT CONVENIENT LOCATIONS AROUND THE SITE.

2. SWEEPING OF SITE

A. PROVIDE DAILY, IF NECESSARY, SWEEPING BY HAND OR MECHANICAL MEANS TO KEEP THE PAVED AREAS OF THE SITE FREE OF DUST, DIRT, AND DEBRIS IF NECESSARY DURING PERIODS OF CONSTRUCTION.
B. DISPOSE OF ACCUMULATED DIRT IN WASTE CONTAINERS, OR HAUL IT OFF THE SITE TO A LANDFILL.

3. SANITARY/SEPTIC DISPOSAL

PORTABLE TOILETS AND OTHER SANITARY FACILITIES SHALL BE SERVICED WEEKLY AND PUMPED CLEAN BY A WASTE DISPOSAL COMPANY. NO TOXIC OR HAZARDOUS WASTE SHALL BE DISPOSED OF IN A PORTABLE TOILET OR IN THE ON-SITE SANITARY SEWER. TOILETS SHALL BE ANCHORED AGAINST OVERTURNING.

4. SPILLS

A. STORE ADEQUATE ABSORBENT MATERIALS, RAGS, BROOMS, SHOVELS, AND WASTE CONTAINERS ON THE SITE TO CLEAN-UP SPILLS OF MATERIALS SUCH AS FUEL, PAINT, SOLVENTS, OR CLEANERS. CLEAN UP MINOR SPILLS IMMEDIATELY.
B. FOR REPORTABLE QUANTITY OF HAZARDOUS OR TOXIC SUBSTANCE, SECURE THE SERVICES OF QUALIFIED PERSONNEL FOR CLEAN-UP AND DISPOSAL

5. CONTROL OF ALLOWABLE NON-STORM WATER DISCHARGES LANDSCAPING IRRIGATION, EROSION CONTROL MEASURES, PIPE FLUSHING AND TESTING, AND PAVEMENT WASHING ARE ALLOWED IF THEY CANNOT FEASIBLY BE ELIMINATED, COMPLY WITH THIS PLAN, DO NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS, AND ARE NOT REQUIRED TO BE PERMITTED BY THE LOCAL REGIONAL WATER QUALITY CONTROL BOARD.

6. VEHICLES AND EQUIPMENT

A. FIX LEAKS OF FUEL, OIL AND OTHER SUBSTANCES IMMEDIATELY.
B. PERFORM REFUELING AND SERVICE OF VEHICLES OR EQUIPMENT OFF-SITE WHEN POSSIBLE. IF REFUELING OR SERVICE OF EQUIPMENT IS PERFORMED ON-SITE, THEN PROVIDE AN IMPERVIOUS, CONTAINED AREA WHERE ANY SPILLS CAN BE CONTAINED WITHOUT FLOWING TO A STORM WATER INLET OR INTO THE GROUND.
C. USE DRIP PANS TO CATCH LEAKS AND SMALL SPILLS.

7. CONCRETE TRUCKS, MIXERS AND HANDLING EQUIPMENT

A. DO NOT DISPOSE OF WASHOUT FROM THE WASHING OF CONCRETE TRUCKS,MIXERS, AND HANDLING EQUIPMENT WHERE IT WILL FLOW INTO A STORM WATER INLET OR INTO A PUBLIC STREET.
B. PROVIDE A HOLDING TANK TO RECEIVE ANY WASHOUT FROM CONCRETE EQUIPMENT. DISPOSAL OF TANK CONTENTS SHALL BE CONDUCTED BY CONTRACTOR.
C. PROVIDE, DESIGNATE AND POST A SIGN MARKING A DESIGNATED AREA FOR WASHING ANY VEHICLES OR EQUIPMENT. DRAINAGE FROM THIS AREA SHOULD BE CONTAINED OR FLOW TO A HOLDING TANK.

8. LANDSCAPING OPERATIONS

A. USE ONLY THE MINIMUM AMOUNT OF LANDSCAPING FERTILIZES, NUTRIENTS, AND OTHER CHEMICALS THAT ARE NEEDED.
B. DO NOT OVER WATER FERTILIZED OR TREATED LANDSCAPE AREAS. MINIMIZE RUNOFF OF IRRIGATION WATER FROM LANDSCAPING.
C. DO NOT PLACE LANDSCAPING MATERIAL IN THE STREET ONCE PAVING IS COMPLETE.

9. STORM WATER INLETS

CONTRACTOR SHALL PROVIDE STRAW FILLED BAGS OR SOCKS AROUND INLETS WITHIN 1000 FEET OF CONSTRUCTION AS BARRIERS TO PREVENT SEDIMENT ENTERING THE INLETS. TRAPPED SEDIMENT SHALL BE REMOVED FOLLOWING STORM EVENTS. BARRIERS SHALL BE REMOVED FOLLOWING COMPLETION OF CONSTRUCTION.

E. INSPECTION

1. REGULAR INTERVAL INSPECTION AND INSPECTION BEFORE AND AFTER STORMS

A. VISUALLY INSPECT THE SITE WEEKLY TO INSURE THAT STORM WATER INLETS ARE FREE OF DIRT AND DEBRIS.
B. BEFORE A STORM, INSPECT THE SITE TO INSURE THAT STORM WATER POLLUTION CONTROL MEASURES ARE IN PLACE.
C. AFTER A STORM, INSPECT ALL STORM WATER INLETS TO INSURE THAT THEY ARE CLEAR OF DIRT AND DEBRIS. CLEAN THOSE STORM WATER INLETS THAT ARE NOT CLEAR AND FREE OF DEBRIS.
D. THE DIVISION OF WATER QUALITY MAY REQUIRE THE DISCHARGER TO CONDUCT ADDITIONAL SITE INSPECTIONS, SUBMIT REPORTS AND CERTIFICATIONS, OR TO PERFORM SAMPLING AND ANALYSIS.

2. CONDUCT INSPECTIONS OF THE CONSTRUCTION SITE PRIOR TO ANTICIPATED STORM EVENTS AND AFTER ACTUAL STORM EVENTS, TO IDENTIFY AREAS CONTRIBUTING TO A STORM WATER DISCHARGE, TO EVALUATE WHETHER MEASURES TO REDUCE POLLUTANT LOADINGS IDENTIFIED IN THIS SWPPP ARE ADEQUATE, TO PROPERLY IMPLEMENT IN ACCORDANCE WITH THE TERMS OF THE GENERAL PERMIT, AND TO DETERMINE WHETHER ADDITIONAL CONTROL PRACTICES ARE NEEDED.

3. PREPARATION OF REPORTS AND RETENTION OF RECORDS

A. EACH DISCHARGER MUST CERTIFY ANNUALLY THAT ITS CONSTRUCTION ACTIVITY IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE GENERAL PERMIT AND THIS SWPPP. THIS CERTIFICATION MUST BE BASED ON THE SITE INSPECTIONS. THE FIRST CERTIFICATION MUST BE COMPLETED BY JULY 1, 2009, AND EACH JULY 1 THEREAFTER.
B. THE DISCHARGER IS REQUIRED TO RETAIN RECORDS OF ALL MONITORING INFORMATION, COPIES OF ALL REPORTS REQUIRED BY THIS GENERAL PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT FOR CONSTRUCTION ACTIVITY FOR A PERIOD OF AT LEAST THREE YEARS. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE STATE. WITH THE EXCEPTION OF NONCOMPLIANCE REPORTING, DISCHARGERS ARE NOT REQUIRED TO SUBMIT THE RECORDS EXCEPT UPON SPECIFIC REQUEST BY THE STATE DEQ DIVISION OF WATER QUALITY.

C. DISCHARGERS WHO CANNOT CERTIFY COMPLIANCE MUST NOTIFY THE STATE DEQ DIVISION OF WATER QUALITY. THIS NOTIFICATION SHALL IDENTIFY THE TYPE OR TYPES OF NONCOMPLIANCE, DESCRIBE THE ACTIONS NECESSARY TO ACHIEVE COMPLIANCE, AND INCLUDE A TIME SCHEDULE, SUBJECT TO THE MODIFICATIONS BY THE STATE DEQ DIVISION OF WATER QUALITY, INDICATING WHEN COMPLIANCE WILL BE ACHIEVED. NONCOMPLIANCE REPORTS MUST BE SUBMITTED WITHIN 30 DAYS OF THE IDENTIFICATION OF THE NONCOMPLIANCE.

F. MAINTENANCE OF CONTROLS

1. MAINTENANCE AND REPAIR ALL CONTROLS AND MEASURES INDICATED ON THIS PLAN SHALL BE MAINTAINED IN GOOD AND EFFECTIVE CONDITION. IF ANY CONTROLS OR MEASURES ARE DAMAGED OR REMOVED, THEY SHALL BE PROMPTLY REPAIRED OR RESTORED.
2. PLAN REVISIONS IF CONSTRUCTION ACTIVITY OR CONDITIONS CHANGE FROM THOSE SHOWN IN THIS PLAN, THEN THIS PLAN SHALL BE REVISED TO REFLECT THE CURRENT CONDITIONS.

G. FINAL STABILIZATION AND POST-CONSTRUCTION CONTROLS

1. AFTER CONSTRUCTION HAS BEEN COMPLETED, THE SITE SHALL BE SWEPT CLEAN, STORM WATER INLETS (GRATES AND BASINS) SHALL BE CLEANED, AND ALL WASTE AND LEFTOVER MATERIALS SHALL BE REMOVED FROM THE SITE.
2. ALL LANDSCAPING AND PLANTING AREAS SHALL BE WELL MAINTAINED TO PREVENT EROSION. AVOID OVER WATERING OF LANDSCAPING.
3. ALL PAVED AREAS SHALL BE SWEPT WEEKLY EITHER BY HAND OR BY MECHANICAL MEANS TO KEEP THE SITE CLEAR OF DIRT, DUST, AND DEBRIS.
4. WASTE MATERIALS ON-SITE SHALL BE STORED IN COVERED CONTAINERS WHICH ARE CLEANED OUT REGULARLY.
5. TESTING OF FIRE HYDRANTS ON-SITE SHALL NOT BE CONDUCTED UNTIL THE AREA WHERE THE WATER DISCHARGES HAS BEEN SWEPT CLEAN OF DIRT AND DEBRIS.
6. STORM DRAIN LINES SHALL BE CHECKED AND CLEANED ANNUALLY TO KEEP THEM CLEAN AND CLEAR OF DEBRIS.
7. ALL ON-SITE STORM WATER INLETS SHOULD BE CLEARLY MARKED "STORM WATER ONLY".

H. COMPLETION OF CONSTRUCTION ACTIVITIES AND NOTICE OF TERMINATION

WHEN CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED ON THIS SITE, THE OWNER SHALL FILE A LETTER WITH THE STATE DEQ DIVISION OF WATER QUALITY. THIS LETTER SHALL CERTIFY THAT THE CONSTRUCTION ACTIVITY HAS BEEN COMPLETED, THAT ALL ELEMENTS OF THE SWPPP HAVE BEEN IMPLEMENTED, THAT CONSTRUCTION AND EQUIPMENT MAINTENANCE WASTES HAVE BEEN DISPOSED OF PROPERLY, THAT THE SITE IS IN COMPLIANCE WITH ALL LOCAL STORM WATER REQUIREMENTS INCLUDING EROSION/SEDIMENT CONTROL REQUIREMENTS, POLICIES, AND GUIDELINES.

DEFINITIONS

1. "BEST MANAGEMENT PRACTICES" ("BMP'S") MEANS SCHEDULES OF ACTIVITIES, PROHIBITIONS OF PRACTICES, MAINTENANCE PROCEDURES, AND OTHER MANAGEMENT PRACTICES TO PREVENT OR REDUCE THE POLLUTION OF WATERS OF THE UNITED STATES. BMP'S ALSO INCLUDE TREATMENT REQUIREMENTS, OPERATING PROCEDURES, AND PRACTICES TO CONTROL SITE RUNOFF, SPILLAGE OR LEAKS, WASTE DISPOSAL, OR DRAINAGE FROM RAW MATERIAL STORAGE.

2. "CLEAN WATER ACT" ("CWA") MEANS THE FEDERAL WATER POLLUTION CONTROL ACT ENACTED BY PUBLIC LAW 92-500 AS AMENDED BY PUBLIC LAWS 95-217, 95-576, 96-483, AND 97-111; 33 USC 1251 ET SEQ.

3. "CONSTRUCTION SITE" IS THE LOCATION OF THE CONSTRUCTION ACTIVITY.

4. "NON-STORM WATER DISCHARGE" MEANS ANY DISCHARGE TO STORM DRAIN SYSTEMS THAT IS NOT COMPOSED ENTIRELY OF STORM WATER EXCEPT DISCHARGE PURSUANT TO AN NPDES PERMIT AND DISCHARGES RESULTING FROM FIRE FIGHTING ACTIVITIES.

5. "SIGNIFICANT MATERIALS" INCLUDES, BUT IS NOT LIMITED TO RAW MATERIALS; FUELS; MATERIALS SUCH AS SOLVENTS, DETERGENTS, AND PLASTIC PELLETS; FINISHED MATERIALS SUCH AS METALLIC PRODUCTS; RAW MATERIALS USED IN FOOD PROCESSING OR PRODUCTION HAZARDOUS SUBSTANCES DESIGNATED UNDER SECTION 101(14) OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERLCA); ANY CHEMICAL THE FACILITY IS REQUIRED TO REPORT PURSUANT TO SECTION 313 OF TITLE III OF SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA); FERTILIZERS; PESTICIDES; AND WASTE PRODUCTS SUCH AS ASHES, SLAG, AND SLUDGE THAT HAVE THE POTENTIAL TO BE RELEASED WITH STORM WATER DISCHARGES.

6. "SIGNIFICANT QUANTITIES" IS THE VOLUME, CONCENTRATIONS, OR MASS OF A POLLUTANT IN STORM WATER DISCHARGE THAT CAN CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; ADVERSELY IMPACT HUMAN HEALTH OR THE ENVIRONMENT; AND CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY APPLICABLE WATER QUALITY STANDARDS FOR THE RECEIVING WATER.

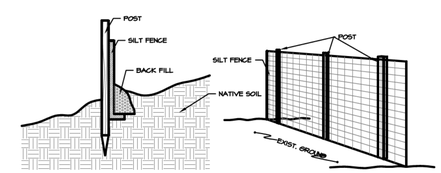
7. "STORM WATER" MEANS STORM WATER RUNOFF, SNOW MELT RUNOFF, SURFACE RUNOFF AND DRAINAGE. IT EXCLUDES INFILTRATION AND RUNOFF FROM AGRICULTURAL LAND.

8. "POLLUTION" MEANS THE "MAN-MADE OR MAN-INDUCED ALTERATION OF THE CHEMICAL, PHYSICAL, BIOLOGICAL, AND RADIOLOGICAL INTEGRITY OF WATER" [CLEAN WATER ACT SECTION 502(19)]. POLLUTION ALSO MEANS "AN ALTERATION OF THE QUALITY OF THE WATERS OF THE STATE BY WASTE TO A DEGREE WHICH UNREASONABLY AFFECTS EITHER... THE WATERS FOR BENEFICIAL USES... OR FACILITIES WHICH SERVE THESE BENEFICIAL USES." [CALIFORNIA WATER CODE SECTION 13050(l)].

9. "CONTAMINATION" MEANS "AN IMPAIRMENT OF THE QUALITY OF THE WATERS OF THE STATE BY WASTE TO A DEGREE WHICH CREATES A HAZARD TO THE PUBLIC HEALTH THROUGH POISONING OR THROUGH THE SPREAD OF DISEASE...INCLUDING ANY EQUIVALENT EFFECT RESULTING FROM THE DISPOSAL OF WASTE, WHETHER OR NOT WATERS OF THE STATE ARE AFFECTED."

10. "NUISANCE" MEANS "ANYTHING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS: (1) IS INJURIOUS TO HEALTH , OR IS INDECENT OR OFFENSIVE TO THE SENSES, OR AN OBSTRUCTION TO THE FREE USE OF PROPERTY, SO AS TO INTERFERE WITH THE COMFORTABLE ENJOYMENT OF LIFE AND PROPERTY; (2) AFFECTS AT THE SAME TIME AN ENTIRE COMMUNITY OR NEIGHBORHOOD, OR ANY CONSIDERABLE NUMBER OF PERSONS, ALTHOUGH THE EXTENT OF THE ANNOYANCE OR DAMAGE INFLICTED UPON INDIVIDUALS MAY BE UNEQUAL; (3) OCCURS DURING OR AS A RESULT OF THE TREATMENT OR DISPOSAL OF WASTES."

11. "LOCAL AGENCY" MEANS ANY AGENCY THAT IS INVOLVED WITH REVIEW, APPROVAL, OR OVERSIGHT OF THE CONSTRUCTION SITES' (a) CONSTRUCTION ACTIVITY, (b) EROSION AND SEDIMENT CONTROLS, (c) STORM WATER DISCHARGE.



SILT FENCE DETAIL

SEAL:

SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:

SWPPP NOTES

SHEET NUMBER:
C501

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

Attachment D

Advantage Arts Academy Schedule

Advantage Arts Academy

School Year 2019-2020

www.AdvantageArts.org

AUGUST 2019

S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

SEPTEMBER 2019

S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

OCTOBER 2019

S	M	T	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER 2019

S	M	T	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

DECEMBER 2019

S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JANUARY 2020

S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY 2020

S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

MARCH 2020

S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL 2020

S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY 2020

S	M	T	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE 2020

S	M	T	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

JULY 2020

S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

YEAR AT A GLANCE

FRIDAYS	Early Out	Early Release Days
August 7-13	No School	Professional Development
August 14	Early Out	First Day of School Grades 1-6
August 15	Early Out	Grades 1-6
August 14-20	Testing	Kindergarten Assessments
August 21	School Starts	First Day of Kindergarten
September 2	No School	Labor Day
October 16	End of Quarter	End of First Quarter (45 Days)
October 17-18	No School	Fall Break
November 1	No School	Legislative PD Day
November 6-7	Early Out	Parent Teacher Conferences
November 8	No School	Teacher Compensation Day
November 27-29	No School	Thanksgiving Recess
Dec 23 - Jan 3	No School	Winter Recess
January 10	End of Quarter	End of Second Quarter (47 Days)
January 20	No School	Martin Luther King Jr. Day
Janary 21	No School	Legislative PD Day
February 17	No School	Washington and Lincoln Day
March 6	No School	Legislative PD Day
March 11-12	Early Out	Parent Teacher Conferences
March 13	No School	Teacher Comp Day / End of Third Quarter (43 Days)
April 6-10	No School	Spring Break
May 22	Early Out	Last Day of School / End of Fourth Quarter (45 Days)
May 25	Summer Break Begins	Memorial Day

DAILY SCHOOL SCHEDULE

AM KINDERGARTEN	PM KINDERGARTEN	GRADES 1-6
Monday - Thursday: 9:00 AM - 12:00 PM	Monday - Thursday: 12:30 - 3:30 PM	Monday - Thursday: 9:00 AM - 3:30 PM
Friday / Early Out: 9:00 - 11:00 AM	Friday / Early Out: 11:45 AM - 1:45 PM	Friday / Early Out: 9:00 AM - 1:45 PM

SUBJECT TO CHANGE UPON REVIEW AND APPROVAL OF GOVERNING BOARD

Attachment E
Development Review Committee Comments

Development Review Committee

December 4, 2018

Advantage Arts Academy
11800 South 6200 West

DATE	DEPARTMENT	ACTION BY	COMMENTS
11/30/2018	Zoning Review	McCarty, Bryn	1. Charter school is a permitted use in the C-2 zone. 2. The preliminary subdivision plat fee needs to be paid. The fee is $1,000 plus $30 per lot. 3. The Planning Department is concerned that the site may be unsuitable due to unresolved and unmitigated public safety concerns identified within the traffic impact study and City Engineer. The State Statute provides the following in 10-9a-305: *(2)(a)Except as provided in Subsection (3), a school district or charter school is subject to a municipality's land use ordinances.* *(b)(i)Notwithstanding Subsection (3), a municipality may:* *(A)subject a charter school to standards within each zone pertaining to setback, height, bulk and massing regulations, off-site parking, curb cut, traffic circulation, and construction staging; and* *(B)* ***impose regulations upon the location of a project that are necessary to avoid unreasonable risks to health or safety, as provided in Subsection (3)(f).*** *(ii)The standards to which a municipality may subject a charter school under Subsection (2)(b)(i) shall be objective standards only and may not be subjective.* ***(iii)Except as provided in Subsection (7)(d), the only basis upon which a municipality may deny or withhold approval of a charter school's land use application is the charter school's failure to comply with a standard imposed under Subsection (2)(b)(i).*** 4. Setback for the front yard shall be 8 feet 5. Setbacks for the side yard shall be 15 feet plus 1 foot for every 1 foot of building height about 15 feet. 6. Rear yard shall be 20 feet. 7. Maximum building height is 45 feet. 8. Maximum lot coverage for all buildings should be 60% of the lot. 9. At least 15% of the site shall be landscaped. This should include trees in the parking lot. 10. Parking should be provided at 1 space for each 3.5 seats in an auditorium, plus 1 space for each administrator and faculty member 11. *53E-3-710(5)Prior to beginning construction on a school site, a school district or charter school shall submit to the Department of Transportation a child access routing plan as described in Section 53G-4-402.* A copy of this plan should be provided. 12. For all buildings, at least two (2) of the following elements should repeat horizontally. Buildings with facades greater than one hundred feet (100') in length should include several of such elements, repeated at appropriate intervals, either horizontally or vertically: a. Color change. Minimum of three (3) colors per elevation shall be required. b. Texture change. c. Material change. d. Architectural variety and interest through a change in plane, such as offsets. e. Reveals, archways or projecting ribs. f. Wall plan projections of recesses.

11/30/2018	Building Review	Hunting, Boyd	There needs to be a clarification at the Accessible parking the accessible route should carry through the space in front of those parking spaces you shouldn't access those spaces from behind the spaces in the travel lanes of the parking lot the entrance to the van accessible space must be accessed from the Accessible route plans don't show this. 2009 ANSI 117.1 502.4.1 location, if there is a curb at the front of the spaces they will need an approach that's sloped to accommodate accessibility.
12/3/2018	Engineering Review	Thomas, Blake	• This project may be subject to review and approval of a soils remediation plan by Salt Lake County Health Department and/or the State of Utah Department of Environmental Remediation and Response for lead and arsenic contamination since it is located within an operable unit of the Kennecott South Zone. • The location of K-6 schools is recommended by AASHTO in the *Guide for the Planning, Design, and Operation of Pedestrian Facilities* to be located on collector streets in the middle of a neighborhood. The proposed location only has access along an arterial roadway and is not in compliance with AASHTO recommended standards. • The proposed location of the school is isolated from existing residential development and currently does not have an option for a safe walking route, thus increasing the vehicular traffic anticipated at the school. • The traffic impact study raises several concerns: o 2024 (Plus Project) Queuing: ▪ Northbound traffic on 6000 West at 11800 South extends beyond the entrance to Herriman High School. No mitigation to this unsafe queuing which blocks a main access to the school's main parking lot is provided, widening the roadway is not an effective solution to this problem. ▪ Westbound queuing extends over 2,000 feet. No mitigation to this problem of unsafe queuing across critical intersections is provided. Although this is noted as an existing problem the queue length is extended in such a manner that it will create unsafe conditions at downstream intersections.
11/27/2018	Water Review	Edwards, Justun	1. Verify connection to appropriate waterline (work with engineering to determine correct waterline) 2. Show existing 42" Jordan Valley Water Conservancy District Waterline on plans 3. Provide Fire Flow Analysis 4. Provide peak day flows, along with average monthly and annual water demands 5. Provide and reference appropriate City Standards or APWA details 6. Show water service to supply athletic fields and landscape.
11/27/2018	Unified Fire Authority	DeVoogd, Dan	1. Provide the total sq ft, construction type and occupant load for the building. 2. Provide the required fire flow based on the construction type – IFC B105.1 3. Provide additional hydrants as required by IFC C105.1 based on the fire flow requirement (3-4 new hydrants). 4. Fire suppression and fire alarm systems are required and need to be noted on the plan. 5. Provide the location of the fire line coming into the building, FDC and PIV. 6. (1) fire hydrant to be located with 100' of the FDC. 7. Add a new fire hydrant along the 11800 South frontage as part of the roadway improvements?

November 28, 2018

David Chang
Hales Engineering
1220 North 500 West, Suite 202
Lehi, UT 84043

Re: Advantage Arts Academy-Traffic Impact Study 1st Review

Dear Mr. Chang:

This purpose of this letter is to summarize comments from Herriman City Staff review of the draft Traffic Impact Study for the proposed Advantage Arts Academy at the site located on the south side of 11800 South and east of the proposed Teton Ranch Development.

- The study should follow the report format as outlined in Section 4.02 of the Herriman City Development Standards and be consistent with the following requirements:
    - Address pedestrian and bicycle impacts.
    - Discuss impacts to air quality.
- Recommended storage lengths on Table 8 should include recommendations for Mustang Trail Way/11800 South for the Northbound LT and RT, and Southbound LT and RT that impact the existing center median.
    - Modifications to the median require coordination with South Jordan City.
- There are no trips shown from the proposed commercial development east of the proposed school site. Update the study to show the trips from this future development.
    - The trips shown are not consistent with the Teton Ranch TIS.
- The recommended deceleration lane for right turn movements into the project appears to require additional ROW off site (affecting Teton Ranch Development).
    - Provide updated site plan showing how this affects the overall site plan.
- The City of Herriman has no control over school starting times, there will need to be an agreement in place between the school and Herriman City that provides a mechanism for the City to dictate school start and stop times to ensure safety on the roadway.

5355 W. Herriman Main St. • Herriman, Utah 84096
(801) 446-5323 office • (801) 446-5324 fax • herriman.org
Herriman City

- Provide a threshold or time when left-turn phasing is needed for the left turn movement from 11800 South to Mustang Trail Way.
- Provide a threshold or time when it will be required to widen 11800 South west of Mustang Trail Way to a 5-lane cross section.
- Discuss options to deter drop-off along 11800 South.
    - Fencing, setbacks, etc.
- There is no discussion regarding the safe neighborhood access program (SNAP) and the circulation of pedestrian traffic to and through the school site.
    - There are no existing offsite walking paths to the proposed school site.
    - 11800 South does not have any street crossings west of 6000 West, address this issue and provide a mitigation.

If you have any questions, please feel free to email or call at bthomas@herriman.org or (801) 446-5323.

Sincerely,

Blake Thomas

Blake J. Thomas, P.E.
City Engineer

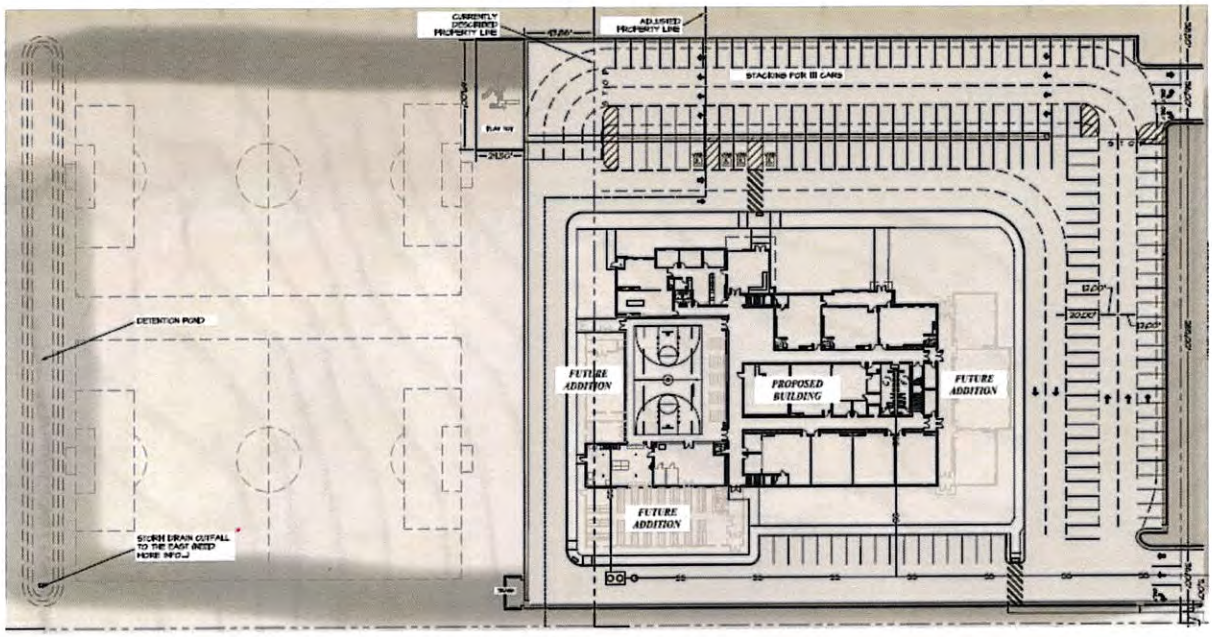
5355 W. Herriman Main St. • Herriman, Utah 84096
(801) 446-5323 office • (801) 446-5324 fax • herriman.org
Herriman City

Attachment F
Traffic Impact Study

HALES ENGINEERING
innovative transportation solutions

Advantage Arts Academy

Traffic Impact Study



Herriman, Utah

November 30, 2018

UT18-1343

LICENSED PROFESSIONAL ENGINEER
10957702
DAVID CHANG
11-30-18
STATE OF UTAH

1220 North 500 West, Ste. 202 Lehi, UT 84043 p 801.766.4343
www.halesengineering.com

EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and east of the Teton Ranch development.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways near the site. Future 2024 conditions were also analyzed.

The morning peak hour level of service (LOS) was computed for each study intersection. The results of this analysis are shown in Table ES-1. Recommended storage lengths are shown in Table ES-2.

TABLE ES-1
LOS Analysis - Morning Peak Hour
Herriman - Advantage Arts Academy TIS

Intersection	Level of Service (Sec/Veh)[1]				
	Existing (2018) Background	Existing (2018) Plus Project	Future (2024) Background	Future (2024) Plus Project	Future (2024) Plus Project - Mitigated
Mustang Trail Way / 11800 South	**A (8.5)**	**B (10.3)**	**C (27.8)**	**E (73.4)**	**C (23.7)**
Willow Walk Drive / 11800 South	**A (4.4) / SB**	**A (5.2) / SB**	**B (13.1)**	**C (18.0) / SB**	**B (14.3) / SB**
East Access / 11800 South	**-**	**A (4.7) / NB**	**-**	**F (>50) / NB**	**B (10.8) / NB**

1. Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for roundabout, signalized, all-way stop controlled intersections and the worst approach for all other unsignalized intersections.
2. This intersection is a project access and was only analyzed in "plus project" scenarios.

Source: Hales Engineering, November 2018

TABLE ES-2
Recommended Storage Lengths
Herriman - Advantage Arts Academy TIS

Intersection	Storage Length (feet)							
	Northbound		Southbound		Eastbound		Westbound	
	LT	RT	LT	RT	LT	RT	LT	RT
Mustang Trail Way / 11800 South	225	225	200	50	150	150	350	100
East Access / 11800 South	-	-	-	-	-	-	275	100

Source: Hales Engineering, November 2018

SUMMARY OF KEY FINDINGS/RECOMMENDATIONS

The following is a summary of key findings and recommendations:

- All study intersections are currently operating at an acceptable LOS during the morning peak hour in existing (2018) background conditions.
    - A new high school is planned to open next Fall (2019) in the Rosecrest Area. Some students from Herriman High School will be moved to the new high school. It was assumed that only ¼ of the current enrollment will be moved to the new high school. Traffic volumes were also reduced by ¼ in only the northbound right-turn and westbound left-turn movements.
- The development will consist of a charter school with an enrollment of 525 with the first phase of building. The maximum number of students the Advantage Arts Academy can have is 700.
    - The existing conditions were completed with 525 students, the anticipated enrollment.
    - The future 2024 conditions were completed with the anticipated maximum, 700 students.
    - It is recommended that the East Access have both westbound left-turn and an eastbound right-turn deceleration lane.
    - It is recommended that the West Access have a westbound left-turn deceleration lane.
- All study intersections are anticipated to operate at an acceptable LOS during the morning peak hour with project traffic added.
    - Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the Advantage Arts Academy school have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.
- For the future (2024) background conditions, all intersections are anticipated to perform at acceptable LOS during the morning peak hour.
    - 11800 South is over a 2-lane capacity west of Mustang Trail Way.
        - It is recommended that 11800 South be widened to 5-lanes
        - The westbound to southbound left-turn lane at Mustang Trail Way / 11800 South is shorter than the anticipated 95th percentile queue lengths. In the 2024 background analysis and a previously completed study (Teton Ranch), this same issue surfaced before any additional project traffic was added to the roadway network for either project. Since this has been identified as a background problem, it is recommended that the City look into this problem further to identify an appropriate solution.

  - It is recommended that left-turn phasing be added to the signal when warrants are met.
  - It is also recommended that a northbound right-turn overlapping phase be added to the Mustang Trail Way / 11800 South intersection.
- For the future (2024) plus project conditions, all intersections are anticipated to perform at acceptable LOS during the morning peak hour except Mustang Trail Way / 11800 South and East Access / 11800 South.
  - It is recommended that 11800 South be widened to a 5-lane cross section west of Mustang Trail Way.
    - The westbound to southbound left-turn lane at Mustang Trail Way / 11800 South is shorter than the anticipated 95th percentile queue lengths. In the 2024 background analysis and a previously completed study (Teton Ranch), this same issue surfaced before any additional project traffic was added to the roadway network for either project. Since this has been identified as a background problem, it is recommended that the City look into this problem further to identify an appropriate solution.
  - It is recommended that the Advantage Arts Academy school have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.
- An additional analysis was completed with the proposed widening of 11800 South to 5-lanes west of Mustang Trail Way.
  - All intersections are anticipated to perform at acceptable LOS.
- An internal site circulation analysis was completed to determine if the planned queue storage will be adequate to handle demand during the pick-up times.
  - It was assumed that the school enrollment would be 700 students to ensure that the full-build of the school would still fit in the storage area.
  - The currently site plan has approximately 2,200 feet of on-site queue storage. This is approximately equal to 111 vehicles.
  - The 95th percentile maximum queue length was calculated to be approximately 2,000 feet.
    - The 95th percentile, maximum queue demand is anticipated to be approximately 200 feet shorter than the supplied on-site storage.
    - The on-site storage is anticipated to be sufficient for the full-build-out of the Advantage Arts Academy.
- An air quality report has been prepared and can be found in Table 9 in Chapter VI.
  - As with all developments, air pollutants will increase with more vehicles on the road.

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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and just to the east of the Teton Ranch development. Figure 1 shows a vicinity map of the proposed development.

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways near the site. Future 2024 conditions were also analyzed.

Figure 1: Vicinity map showing the project location in Herriman, Utah

B. Scope

The study area was defined based on conversations with the development team. This study was scoped to evaluate the traffic operational performance impacts of the project on the following intersections:

- Mustang Trail Way / 11800 South
- Willow Walk Drive / 11800 South

C. Analysis Methodology

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections. Figure 2 provides a visual representation of each LOS letter designation.

The *Highway Capacity Manual* (HCM), 6th Edition, 2016 methodology was used in this study to remain consistent with "state-of-the-practice" professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized and all-way stop intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For all other unsignalized intersections, LOS is reported based on the worst approach.

Using Synchro/SimTraffic software, which follow the HCM methodology, the peak hour LOS was computed for each study intersection. Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. The detailed LOS reports are provided in Appendix B. Hales Engineering also calculated the 95th percentile queue lengths for each of the study intersections using SimTraffic. The detailed queue length reports are provided in Appendix D.

D. Level of Service Standards

For the purposes of this study, a minimum acceptable intersection performance for each of the study intersections was set at LOS D. If levels of service E or F conditions exist, an explanation and/or mitigation measures will be presented. An LOS D threshold is consistent with "state-of-the-practice" traffic engineering principles for urbanized areas.

Table 1: Level of Service Description

Level of Service	Description of Traffic Conditions	Average Delay (seconds/vehicle)
	Signalized Intersections	**Overall Intersection**
A	Extremely favorable progression and a very low level of control delay. Individual users are virtually unaffected by others in the traffic stream.	0 ≤ 10.0
B	Good progression and a low level of control delay. The presence of other users in the traffic stream becomes noticeable.	> 10.0 and ≤ 20.0
C	Fair progression and a moderate level of control delay. The operation of individual users becomes somewhat affected by interactions with others in the traffic stream.	>20.0 and ≤ 35.0
D	Marginal progression with relatively elevated levels of control delay. Operating conditions are noticeably more constrained.	> 35.0 and ≤ 55.0
E	Poor progression with unacceptably elevated levels of control delay. Operating conditions are at or near capacity.	> 55.0 and ≤ 80.0
F	Unacceptable progression with forced or breakdown operating conditions.	> 80.0
	Unsignalized Intersections	**Worst Approach**
A	Free Flow / Insignificant Delay	0 ≤ 10.0
B	Stable Operations / Minimum Delays	>10.0 and ≤ 15.0
C	Stable Operations / Acceptable Delays	>15.0 and ≤ 25.0
D	Approaching Unstable Flows / Tolerable Delays	>25.0 and ≤ 35.0
E	Unstable Operations / Significant Delays Can Occur	>35.0 and ≤ 50.0
F	Forced Flows / Unpredictable Flows / Excessive Delays Occur	> 50.0

Source: Hales Engineering Descriptions, based on the *Highway Capacity Manual* (HCM), 6th Edition, 2016 Methodology (Transportation Research Board)

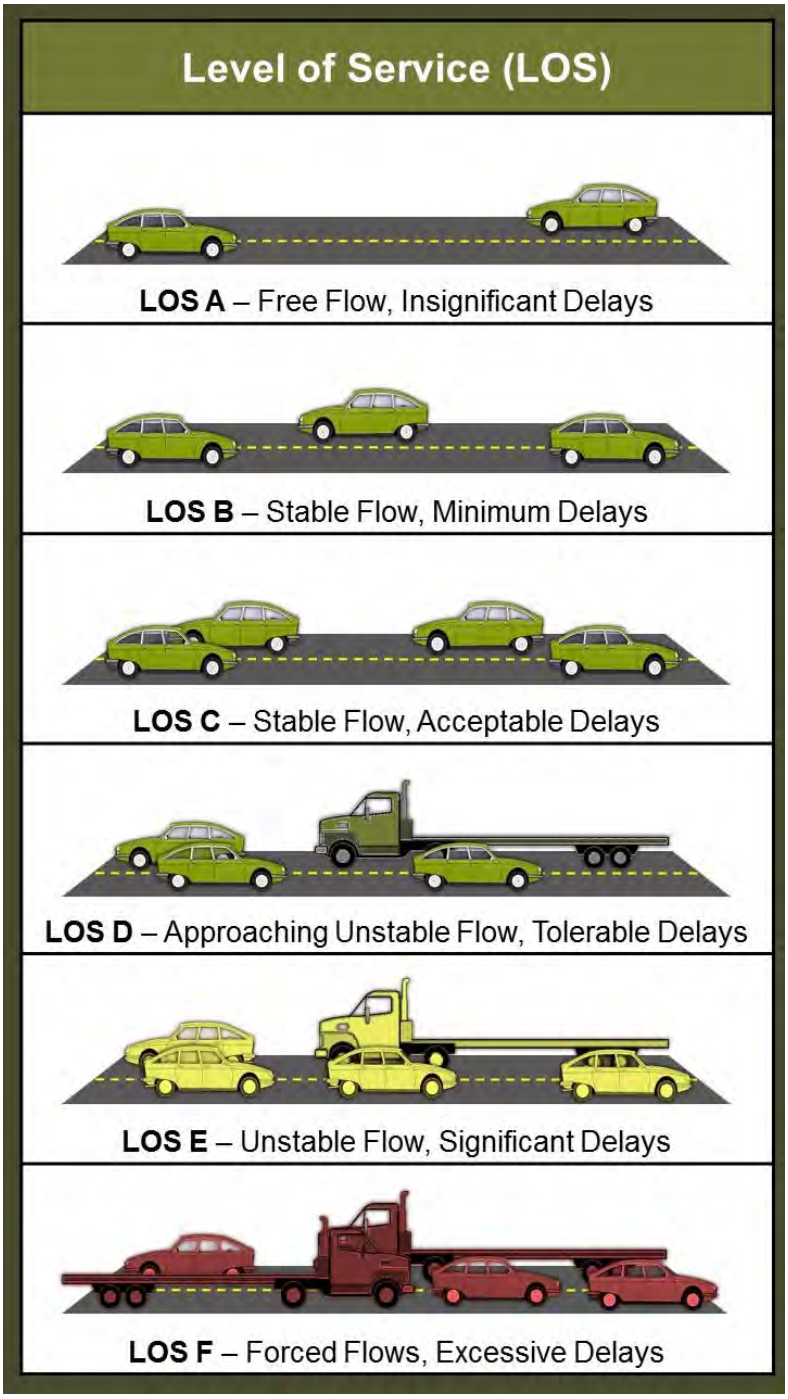

Figure 2: Visual representation of the LOS letter designations

II. EXISTING (2018) BACKGROUND CONDITIONS

A. Purpose

The purpose of the background analysis is to study the intersections and roadways during the peak travel periods of the day with background traffic and geometric conditions. Through this analysis, background traffic operational deficiencies can be identified, and potential mitigation measures recommended. This analysis provides a baseline condition that may be compared to the build conditions to identify the impacts of the development.

B. Roadway System

The primary roadways that will provide access to the project site are described below:

11800 South – is classified by the Herriman City Transportation Master Plan (2009) as a "minor arterial." This roadway currently consists of one travel lane in each direction adjacent to the project site and expands to two travel lanes in each direction with a center two-way left-turn lane (TWLTL) east of Mustang Trail Way. The posted speed limit is 35 mph.

There are currently no bicycle or pedestrian facilities adjacent to the proposed development. According the Cities Bicycle Master Plan, 11800 South west of 6000 West is planned to be a signed bike route (Type III). These bike routes will have to share the road with vehicles and or use future shoulders.

The nearest existing sidewalks are located at the Mustang Trail Way / 11800 South intersection. There are currently no existing sidewalks to tie into. The AAA school is planning on building sidewalks on the southside of 11800 South. The Teton Ranch development west of the AAA school will build a sidewalk on the frontage of their property that the school can then tie into. As further development occurs in the area, the sidewalks will be extended east and west and tie into existing paths.

Mustang Trail Way – is a city-maintained roadway. The Herriman City Transportation Master Plan (2009) classifies Herriman Parkway as a "minor collector." This road has one travel lane in each direction with a center two-way left-turn lane (TWLTL). The posted speed limit is 35 mph.

C. Traffic Volumes

Weekday morning (7:00 to 9:00 a.m.) and afternoon (2:00 to 4:00 p.m.) peak period traffic counts were performed at the following intersections:

- Mustang Trail Way / 11800 South

- Willow Walk Drive / 11800 South

The counts were performed on Tuesday, November 6, 2018. The morning peak hour was determined to be between 7:00 and 8:00 a.m., and the afternoon peak hour was determined to be between 2:30 and 3:30 p.m. The morning peak hour volumes were approximately 33% higher than the afternoon peak hour volumes. Therefore, the morning peak hour volumes were used in the analysis to represent the worst-case conditions. Detailed count data are included in morning Appendix A.

Starting in the Fall of 2019, a new high school is planned to be opened in the Rosecrest area in Herriman. Some of the students from the existing Herriman High School are expected to be moved to the new school, this is also the same year the Advantage Arts Academy is expected to open. It was assumed that only a quarter of the existing students would be moved to the new school to be conservative. The northbound right-turns and westbound left-turns were reduced by one quarter to mimic the reduction in student population.

Hales Engineering made seasonal adjustments to the observed traffic volumes. Monthly traffic volume data were obtained from a nearby UDOT automatic traffic recorder (ATR) on Redwood Road (ATR #407). In recent years, traffic volumes in November have been equal to approximately 96.2% of average traffic volumes. The observed traffic volumes were adjusted accordingly to determine average turning movement counts at the study intersections.

Figure 3 shows the existing morning peak hour volumes (with the reduction mentioned above) as well as intersection geometry at the study intersections.

Herriman - Advantage Arts Academy TIS
Existing (2018) Background

Morning Peak Hour
Figure 3

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D. Level of Service Analysis

Hales Engineering determined that all study intersections are currently operating at acceptable levels of service during the morning peak hour, as shown in Table 2. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2018) conditions.

Table 2: Existing (2018) Background Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	8.5	A
Willow Walk Drive / 11800 South	SB Stop	SB	4.4	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. No significant queueing was observed during the morning peak hour.

F. Mitigation Measures

No mitigation measures are recommended.

III. PROJECT CONDITIONS

A. Purpose

The project conditions discussion explains the type and intensity of development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in Chapter I.

B. Project Description

This study addresses the traffic impacts associated with the proposed Advantage Arts Academy development located in Herriman, Utah. The proposed project is located on the south side of 11800 South and just to the east of the Teton Ranch development. The Advantage Arts Academy is planned to have a phase 1 build-out of approximately 525 students. The school has a maximum charter of 700 students. For this study, it was assumed that full-build-out would occur by 2024 to analyze the worst-case conditions. A concept plan for the proposed developments is provided in Appendix C.

The proposed land use for the development has been identified as follows for 2018:

- Charter School 525 Units

The proposed land use for the development has been identified as follows for 2024:

- Charter School 700 Units

C. Trip Generation

The most recent edition of the ITE Trip Generation Manual (10th Edition, 2017) includes the Charter Elementary School land use. Previous editions did not include data for charter schools. The ITE data has a very small sample size (two data points) and is therefore highly variable and likely unreliable.

Over the last several years, Hales Engineering has used local data collected at several different charter schools around Salt Lake, Weber, and Utah Counties to estimate trip generation characteristics of charter schools. This data collected along the Wasatch Front shows that charter elementary schools typically generate approximately 0.65 trips per enrolled student during the afternoon peak hour. This previously collected data was compared to newer data collected at the Excelsior Academy in Erda, Utah. Data collected at the Erda school showed an afternoon peak hour trip generation rate of 0.65. Trip Generation for the proposed project is included in Table 3.

The trip generation for the 2018 phase of the development is as follows:

- Morning Peak Hour Trips: 341

The trip generation for the 2024 phase of the development is as follows:

- Morning Peak Hour Trips: 455

Table 3
Herriman - Advantage Arts Academy TIS
Trip Generation

Morning Peak Hour Land Use[1]	Number of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total a.m. Trips
K-8 Charter School	525	Students	341	56%	44%	191	150	**341**
Project Total a.m. Peak Hour Trips						**191**	**150**	**341**

1. Land Use Code from the Institute of Transportation Engineers Trip Generation Manual (9th Edition - 2012)

SOURCE: Hales Engineering, November 2018

D. Trip Distribution and Assignment

Project traffic is assigned to the roadway network based on the type of trip and the proximity of project access points to major streets, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provide helpful guidance to establishing these distribution percentages, especially near the site. The resulting distribution of project generated trips during the morning peak hour is as follows:

<u>To/From Project:</u>

- 15% North
- 35% South
- 10% West
- 40% East

These trip distribution assumptions were used to assign the morning peak hour generated traffic at the study intersections to create trip assignment for the proposed development. Trip assignment for the development is shown in Figure 4 and Figure 5.

Herriman - Advantage Arts Academy TIS
Trip Assignment (2018)

Morning Peak Hour
Figure 4

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Herriman - Advantage Arts Academy TIS
Trip Assignment (2024)

Morning Peak Hour
Figure 5

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11/14/2018

E. Access

The proposed access for the site will be gained at the following locations (see also concept plan in Appendix C):

<u>11800 South:</u>

- The East Access will be located approximately 1,000 feet west of the Mustang Trail Way / 11800 South intersection. This access is anticipated to be a ¾ access meaning that right- and left-turns into the site and only right-turns out of the site will be allowed. Left-turns onto 11800 South will not be allowed. This access onto 11800 South is planned to be stop controlled.
    - It is recommended that a left-turn lane be provided in the westbound direction into the school
    - It is also recommended that a right-turn pocket be provided for the eastbound right-turn vehicles.
    - Based on the site plan, there does not appear to be any sight distance obstructions in either the east- or westbound directions, we recommend field verification. 11800 South is a straight roadway with no curves with-in the study area.
- The West Access will be located approximately 265 feet from the East Access. This access is planned to be a full-movement, stop controlled access. This access is planned to be closed during the morning and afternoon drop off and pick up times.
    - It is recommended that a left-turn lane be provided in the westbound direction into the school.
    - Based on the site plan, there does not appear to be any sight distance obstructions in either the east- or westbound directions, we recommend field verification. 11800 South is a straight roadway with no curves with-in the study area.
    - As the Teton Ranch builds, care should be taken to insure no obstructions are placed with-in the sight triangles.

F. On-street Drop-offs

Parents dropping off or picking up students may find it difficult or time consuming to drop off their students in the designated drop off zone. When there are long lines for parents to have to wait in, dropping off students along the main road (11800 South) becomes enticing and dangerous. To discourage on street drop offs, the school and city should consider the following:

- Paint curbs red and mark for no parking/pick-up
- Place signs that read no parking/pick-up
- Paint excess shoulders for bike lanes

- Enforcement

G. On-site Pedestrian & Bike Facilities

The school has designated a sidewalk location at only the East Access on the east side. The planned side walk parallels the East Access for approximately 100 feet. At this point, the sidewalk ends, and a school cross walk has been designated to cross the service road to the drop off zone. This prevents the students and the pick-up and dropping-off vehicles from interacting with each other and creating a safer environment.

As mentioned previously, there are no sidewalks around the proposed school. There will be an approximate 1,000-foot gap between the nearest sidewalk and the proposed school. It is recommended that the City and school collaborate to find a potential solution to the issue for existing and future connectivity.

IV. EXISTING (2018) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the existing (2018) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for existing background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the existing (2018) background traffic volumes to predict turning movement volumes for existing (2018) plus project conditions. Existing (2018) plus project morning peak hour turning movement volumes are shown in Figure 6.

C. Level of Service Analysis

Hales Engineering determined that all intersections are anticipated to operate at acceptable levels of service during the morning peak hour with project traffic added, as shown in Table 4.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. No significant queuing is anticipated during the morning peak hour.

E. Mitigation Measures

Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the AAA School have a starting and ending time that does not coincide with the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

Herriman - Advantage Arts Academy TIS
Existing (2018) Plus Project

Morning Peak Hour
Figure 6

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Table 4: Existing (2018) Plus Project Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	10.3	B
Willow Walk Drive / 11800 South	SB Stop	SB	5.2	A	-	-
East School Access / 11800 South	NB Stop	NB	4.7	A	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

V. FUTURE (2024) BACKGROUND CONDITIONS

A. Purpose

The purpose of the future (2024) background analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions. Through this analysis, future background traffic operational deficiencies can be identified, and potential mitigation measures recommended.

B. Roadway Network

According to the Wasatch Front Regional Council (WFRC) Regional Transportation Plan, there are no projects planned before 2024 in the study area. Therefore, no changes were made to the roadway network for the future (2024) analysis. With the high volumes of southbound left-turns at the Mustang Trail Way / 11800 South and opposing northbound right-turns, it was previously recommended that southbound left-turn phasing be added to the signal. This recommendation was included from the Teton Ranch Traffic Impact Study. It was also assumed that a northbound right-turn overlapping phase be included at this same signal.

C. Traffic Volumes

Hales Engineering obtained future (2024) forecasted volumes from the Wasatch Front Regional Council (WFRC) / Mountainland Association of Governments (MAG) travel demand model. Peak period turning movement counts were estimated using National Cooperative Highway Research Program (NCHRP) 255 methodologies which utilize existing peak period turn volumes and future average weekday daily traffic (AWDT) volumes to project the future turn volumes at the major intersections. An adjacent development to the west, east, and south was also included in the background of the conditions. Future (2024) morning peak hour turning movement volumes are shown in Figure 7.

D. Level of Service Analysis

Hales Engineering determined that all study intersections are anticipated to operate at acceptable levels of service during the morning peak hour in future (2024) background conditions, as shown in Table 5. These results serve as a baseline condition for the impact analysis of the proposed development for future (2024) conditions.

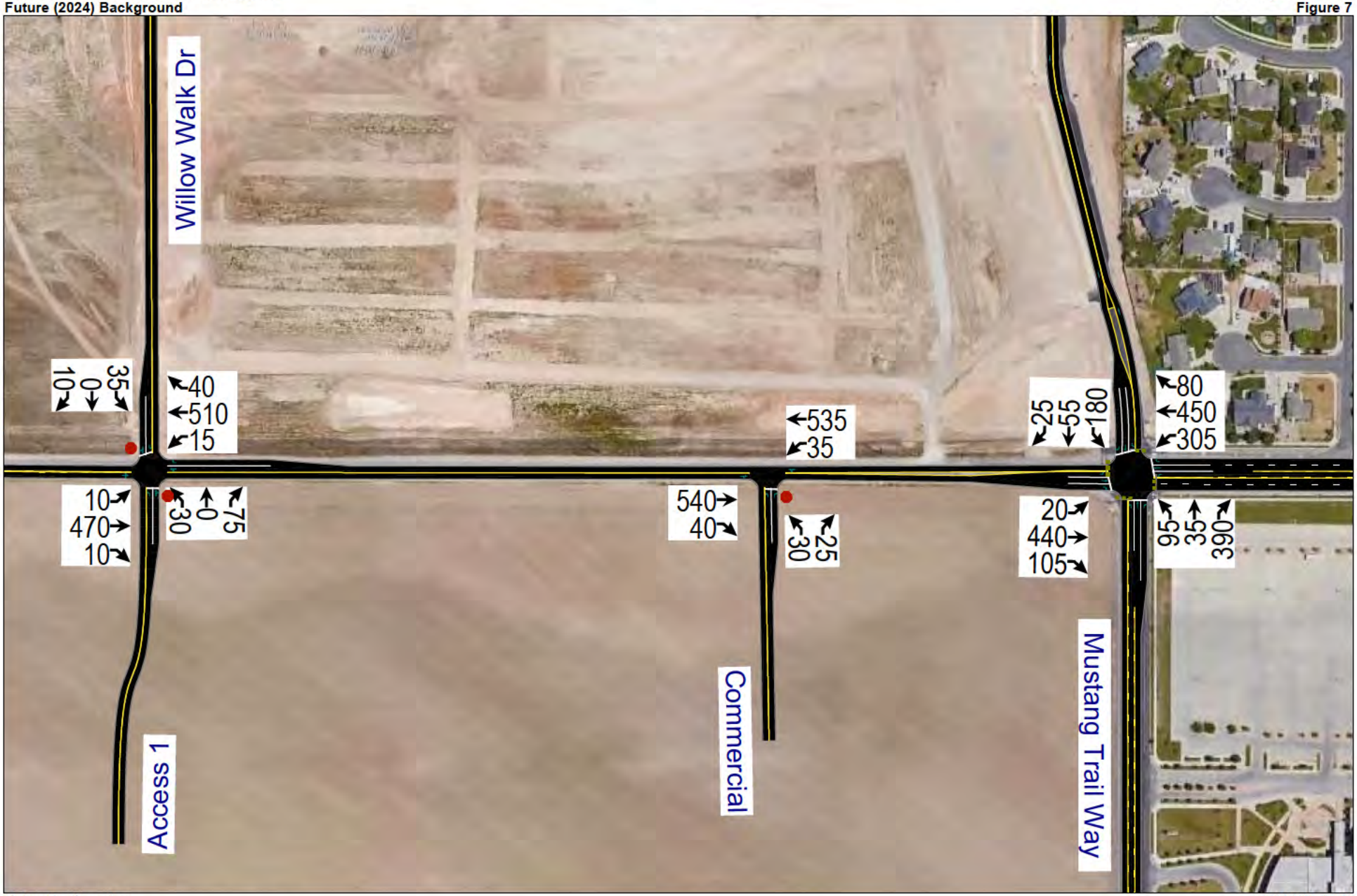
Willow Walk Dr
Mustang Trail Way
Commercial
Access 1
35
0
10
40
510
15
10
470
10
30
0
75
535
35
540
40
25
30
25
55
180
20
440
105
80
450
305
95
35
390

Table 5: Future (2024) Background Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	27.8	C
Willow Walk Drive / 11800 South	SB Stop	SB	13.1	B	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Some queueing is anticipated at the Mustang Trail Way / 11800 South intersection in the East- and westbound directions of approximately 450 and 680 feet respectively. No other significant queuing is anticipated during the morning peak hour.

F. Mitigation Measures

At the Mustang Trail Way / 11800 South intersection, the westbound to southbound left-turn pocket is limited by a raised median. The raised median currently delineates a left-turn pocket for an adjacent street. Since the westbound left-turn lane at Mustang Trail Way is approximately 200 feet in length, the left-turn vehicles occasionally back out onto the main line of traffic and block it causing long queues. In the 2024 Background analysis and a previously completed study (Teton Ranch), identified this same issue. This was found to be a background problem and is anticipated to exist before any project traffic is added to the roadway network. It is recommended that the City look into this issue further to define an appropriate fix. Currently, through vehicles can simply go around stopped vehicles wanting to make a left-turn in the right-turn lane. In the future, when 11800 South is expanded into a 5-lane cross section on the westside of Mustang Trail Way, going around stopped left-turn vehicles will become more dangerous.

The capacity of a two-lane roadway is anticipated to be exceeded by the year 2024 with-out the project traffic. 11800 South east of Mustang Trail Way is planned to be widened as a phase 2 project (between 2025 and 2034). It is recommended that 11800 South be widened to a 5-lane cross section by the year 2024. This measure will also help to alleviate the Mustang Trail Way / 11800 South intersection.

VI. FUTURE (2024) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the future (2024) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on future background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the future (2024) background traffic volumes to predict turning movement volumes for future (2024) plus project conditions. Future (2024) plus project morning peak hour turning movement volumes are shown in Figure 8.

C. Level of Service Analysis

Hales Engineering determined that all intersections are anticipated to operate at acceptable levels of service during the morning peak hour in future (2024) plus project conditions, as shown in Table 6 except Mustang Trail Way / 11800 South and East Access / 11800 South.

D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Queueing is anticipated at the Mustang Trail Way / 11800 South and East Access / 11800 South intersections as follows:

<u>Mustang Trail Way / 11800 South</u>
Northbound (880 feet)
Southbound (370 feet)
Eastbound (620 feet)
Westbound (2,120 feet)

<u>East Access / 11800 South</u>
Northbound (480 feet)

No other significant queuing is anticipated during the morning peak hour.

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Future (2024) Plus Project

Morning Peak Hour
Figure 8

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Table 6: Future (2024) Plus Project Morning Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	73.4	E
Willow Walk Drive / 11800 South	SB Stop	SB	18.0	C	-	-
East Access / 11800 South	NB Stop	NB	> 50	F	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

E. Mitigation Measures

The intersection of Mustang Trail Way / 11800 South is anticipated to perform at a poor LOS in the future year 2024. There is also anticipated to be queueing in all directions. As previously mentioned, 11800 South, west of Mustang Trail Way, is anticipated to be over capacity by the year 2024 and will need widening. It is recommended that 11800 South be widened to 5-lanes east of Mustang Trail Way and northbound left-turn phasing be added to the signal

An additional analysis was completed with the recommended mitigation measures. The results from this analysis can be seen in Table 7. As shown in Table 7, all study intersections are anticipated to perform at acceptable LOS. Some queueing is anticipated at the Mustang Trail Way / 11800 South intersection in the westbound left-turn movement of approximately 400 feet.

As previously mentioned, the westbound to southbound left-turn queue at Mustang Trail Way / 11800 South is longer than the existing storage length and blocking a through lane. There is a raised median that limits the length of the storage. This study and previously completed study for Teton Ranch identified this same issue. This was identified to be a background problem and is anticipated to exist before any project traffic is added to the roadway network. It is recommended that the City look into this issue further.

Although all intersections are anticipated to perform at acceptable LOS in this analysis, it is recommended that the AAA School have a starting and ending time that does not coincide with

the high school starting and ending times. It is recommended that there be at least 20 minutes between the two schools bell schedules.

Table 7: Future (2024) Plus Project Morning Peak Hour Level of Service - Mitigated

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Mustang Trail Way / 11800 South	Signal	-	-	-	23.7	C
Willow Walk Drive / 11800 South	SB Stop	SB	14.3	B	-	-
East Access / 11800 South	NB Stop	NB	10.8	B	-	-

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle) and is reported for all-way stop and signal controlled intersections.
3. SB = Southbound approach, etc.

Source: Hales Engineering, November 2018

F. Recommended Storage Lengths

Hales Engineering determined recommended storage lengths based on the 95th percentile queue lengths given in the future (2024) plus project scenario. These storage lengths do not include the taper length. Recommended storage lengths for the study intersections are shown in Table 8. Intersections shown in Table 8 include new intersections and existing intersections that have recommended storage length changes. Any changes to storage lengths on 11800 South and the north leg or Mustang Trail Way must be coordinated with South Jordan.

Table 8: Recommended Storage Lengths

Recommended Storage Lengths Herriman - Advantage Arts Academy TIS								
Intersection	Storage Length (feet)							
	Northbound		Southbound		Eastbound		Westbound	
	LT	RT	LT	RT	LT	RT	LT	RT
Mustang Trail Way / 11800 South	225	225	200	50	150	150	350	100
East Access / 11800 South	-	-	-	-	-	-	275	100
Source: Hales Engineering, November 2018								

G. Air Quality Report

Hales Engineering found the air quality pollutants for Hydro Carbons, Carbon Monoxide, and Nitrogen Oxide emissions. With the addition of any project, residential, commercial, office, school, or recreational, an increase in these pollutants will occur. Table 9 shows the average pollutants for each of the analysis periods. Additional details can be found in Appendix E.

Table 9: Air Pollutants

Air Quality Comparison Herriman - Advantage Arts Academy TIS				
Intersection	Storage Length (feet)			
	Existing (2018) Background (g)	Existing (2018) Plus Project (g)	Future (2024) Background (g)	Future (2024) Plus Project - Mitigated (g)
Hydro Carbons	332	487	793	1,008
Carbon Monoxide	9,327	13,841	21,671	28,195
Nitrogen Oxide	1,111	1,593	2,538	3,299
Source: Hales Engineering, November 2018				

VII. ON-SITE CIRCULATION

A. Purpose

This section of the report examines the on-site out-load queueing that is anticipated to occur within the proposed development. This scenario provides insight into the efficiency and viability of the proposed on-site circulation plan.

B. Traffic Volumes

Project trips generated by the development were used in this analysis to determine the necessary on-site storage lengths. Based on observations at other charter schools around the state, many vehicles arrive before school lets out and start queueing up. The number of vehicles that arrive before school lets out was estimated to be between 20 and 25 percent of all vehicles.

C. On-Site Circulation and Queuing Analysis Results

The on-site circulation and queuing analysis was completed in VISSIM to closely represent the on-site out-loading conditions. Multiple runs were used to provide a statistical evaluation of the site circulation operations. The 95th percentile maximum queue length was found to be approximately 2,000 linear feet during the afternoon peak hour for the plus project conditions. Currently, the site plan has approximately 2,200 feet of queueing space through the parking lot. The on-site storage is anticipated to be adequate based on the existing site plan.

HALES ENGINEERING
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APPENDIX A

Turning Movement Counts

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

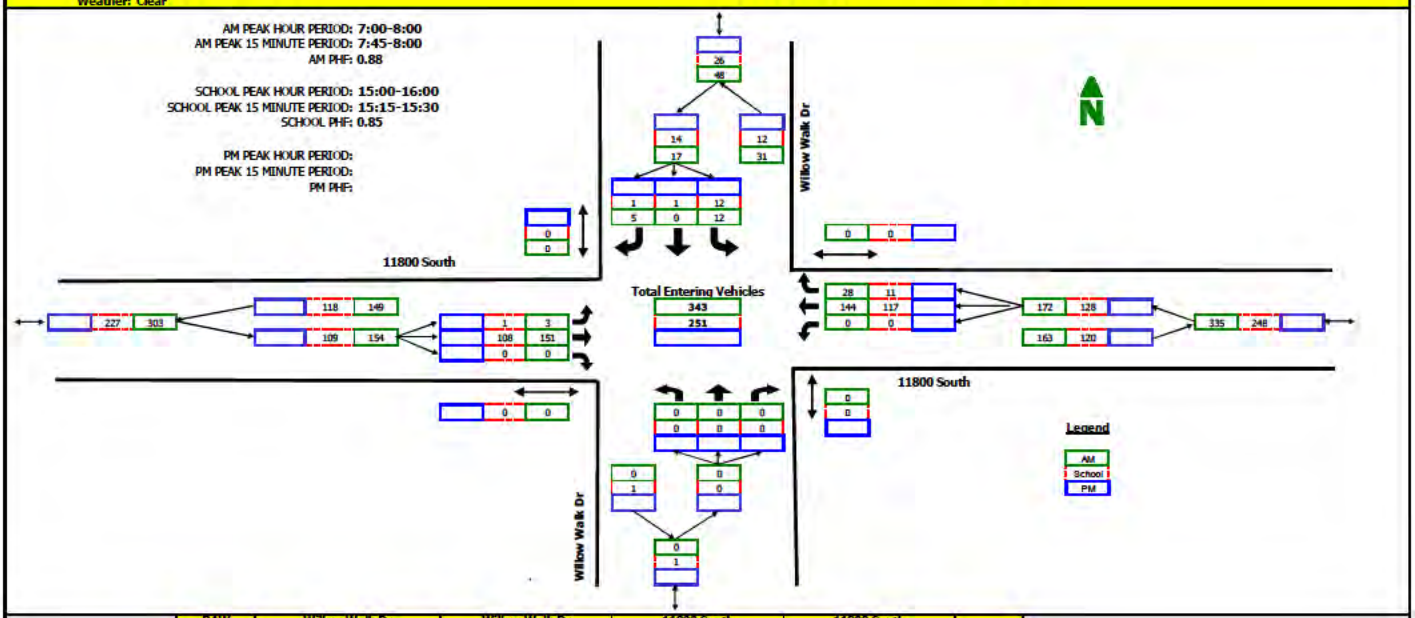
Intersection: Willow Walk Dr / 11800 South
North/South: Willow Walk Dr
East/West: 11800 South
Jurisdiction: Herriman
Project Title: Advantage Arts Academy TIS
Project No: UT18-1343
Weather: Clear

Date: 11-6-18, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 96.2%
Adjustment Station #: 407
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: 7:00-8:00
AM PEAK 15 MINUTE PERIOD: 7:45-8:00
AM PHF: 0.88

SCHOOL PEAK HOUR PERIOD: 15:00-16:00
SCHOOL PEAK 15 MINUTE PERIOD: 15:15-15:30
SCHOOL PHF: 0.85

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF:



RAW COUNT SUMMARIES	Willow Walk Dr Northbound				Willow Walk Dr Southbound				11800 South Eastbound				11800 South Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00-7:15	0	0	0	0	2	0	3	0	0	31	0	0	0	27	4	0	67
7:15-7:30	0	0	0	0	2	0	2	0	2	42	0	0	0	42	5	0	95
7:30-7:45	0	0	0	0	3	0	0	0	1	37	0	0	0	38	5	0	84
7:45-8:00	0	0	0	0	5	0	0	0	0	41	0	0	0	37	14	0	97
8:00-8:15	0	0	0	0	7	0	1	0	1	24	0	0	0	30	11	0	74
8:15-8:30	0	0	0	0	5	0	1	0	5	20	0	0	0	27	5	0	63
8:30-8:45	0	0	0	0	5	0	2	0	1	16	0	0	0	23	11	0	58
8:45-9:00	0	0	0	0	8	0	2	0	0	28	0	0	0	28	14	0	80
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	0	0	0	0	5	0	3	0	1	10	0	0	0	22	8	0	49
14:15-14:30	0	0	0	0	1	0	5	0	2	12	0	0	0	18	1	0	39
14:30-14:45	0	0	0	0	4	0	1	0	2	18	0	0	0	18	2	0	45
14:45-15:00	0	0	0	0	2	0	1	0	4	20	0	0	0	19	1	0	47
15:00-15:15	0	0	0	0	2	1	0	0	1	21	0	0	0	11	0	0	36
15:15-15:30	0	0	0	0	4	0	0	0	0	33	0	0	0	34	3	0	74
15:30-15:45	0	0	0	0	3	0	0	0	0	20	0	0	0	42	6	0	71
15:45-16:00	0	0	0	0	3	0	1	0	0	34	0	0	0	30	2	0	70
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

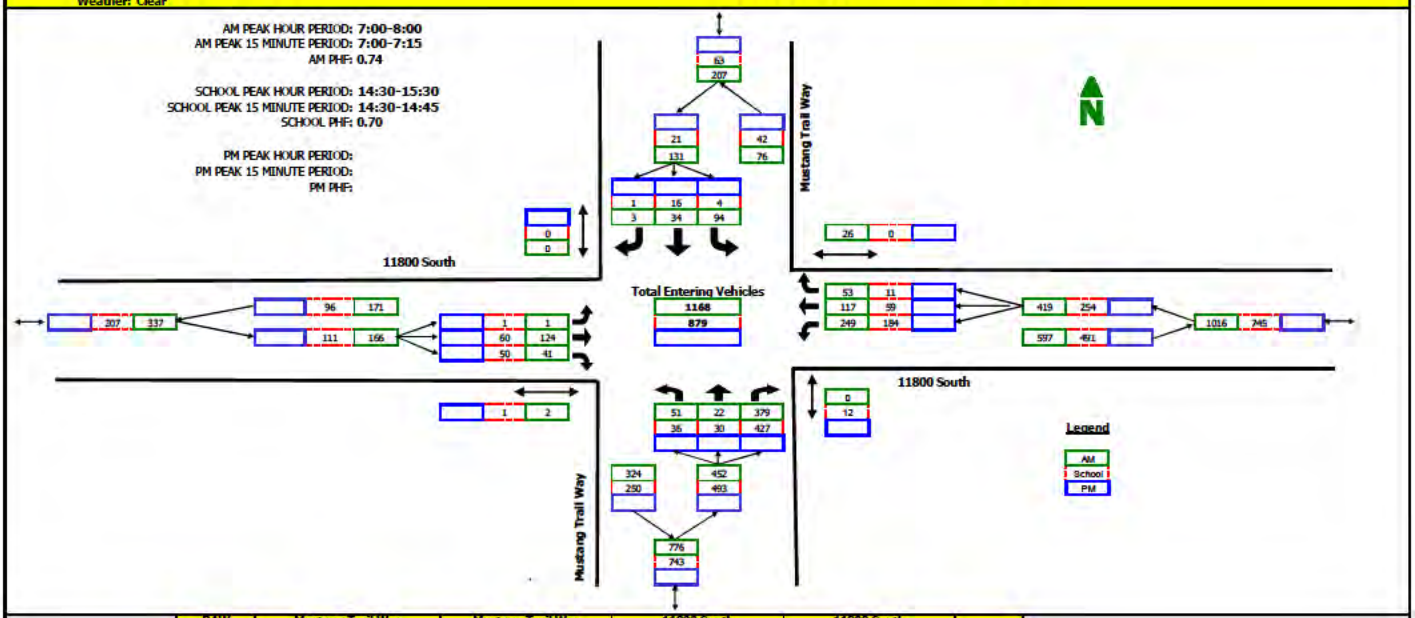
Intersection: Mustang Trail Way / 11800 South
North/South: Mustang Trail Way
East/West: 11800 South
Jurisdiction: Herriman
Project Title: Advantage Arts Academy TIS
Project No: UT18-1343
Weather: Clear

Date: 11-6-18, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 96.2%
Adjustment Station #: 407
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: 7:00-8:00
AM PEAK 15 MINUTE PERIOD: 7:00-7:15
AM PHF: 0.74

SCHOOL PEAK HOUR PERIOD: 14:30-15:30
SCHOOL PEAK 15 MINUTE PERIOD: 14:30-14:45
SCHOOL PHF: 0.70

PM PEAK HOUR PERIOD:
PM PEAK 15 MINUTE PERIOD:
PM PHF:



RAW COUNT SUMMARIES	Mustang Trail Way Northbound				Mustang Trail Way Southbound				11800 South Eastbound				11800 South Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00-7:15	7	1	99	0	51	9	0	0	0	50	6	0	87	55	31	15	396
7:15-7:30	14	10	142	0	40	16	3	0	0	38	10	2	72	27	10	7	382
7:30-7:45	14	7	80	0	1	6	0	0	0	14	9	0	47	18	7	4	203
7:45-8:00	16	4	58	0	2	3	0	0	1	22	16	0	43	17	5	0	187
8:00-8:15	12	8	115	1	3	4	0	0	0	22	7	0	30	20	1	0	222
8:15-8:30	6	3	36	0	1	1	0	0	1	17	3	0	18	19	2	0	107
8:30-8:45	8	1	36	0	0	3	0	1	0	15	5	0	30	16	2	0	116
8:45-9:00	7	3	59	0	1	4	0	0	0	26	14	0	25	15	2	0	156
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00-9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15-13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30-13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45-14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00-14:15	7	2	27	2	2	2	1	0	0	15	2	0	36	17	3	2	114
14:15-14:30	8	9	68	0	2	3	0	0	1	7	4	0	44	12	5	0	163
14:30-14:45	12	12	199	8	1	6	0	0	0	9	14	1	43	12	4	0	312
14:45-15:00	11	10	104	2	1	5	1	0	0	17	7	0	36	9	2	0	203
15:00-15:15	3	4	72	2	2	5	0	0	0	16	10	0	52	10	3	0	177
15:15-15:30	10	4	52	0	0	0	0	0	1	18	19	0	53	28	2	0	187
15:30-15:45	20	5	120	0	5	2	2	0	0	16	6	0	44	23	2	0	245
15:45-16:00	17	5	87	4	1	2	1	0	0	24	10	0	53	11	5	2	216
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HALES ENGINEERING
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APPENDIX B

LOS Results

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Existing (2018) Background*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	51	50	99	8.7	*A*
	T	22	24	108	7.8	*A*
	R	305	300	98	4.9	*A*
	Subtotal	378	374	99	5.6	*A*
SB	L	94	94	100	13.8	*B*
	T	34	32	95	6.7	*A*
	R	3	4	123	1.3	*A*
	Subtotal	131	130	99	11.7	*B*
EB	L	1	1	100	7.4	*A*
	T	126	125	99	9.1	*A*
	R	41	42	103	3.0	*A*
	Subtotal	168	168	100	7.6	*A*
WB	L	190	188	99	14.8	*B*
	T	118	120	102	8.2	*A*
	R	53	57	108	2.1	*A*
	Subtotal	361	365	101	10.6	*B*
Total		1,038	1,037	100	8.5	*A*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	12	13	106	5.0	*A*
	R	5	6	126	3.0	*A*
	Subtotal	***17***	***19***	***112***	***4.4***	***A***
EB	L	3	2	62	3.8	*A*
	T	154	152	99	0.5	*A*
	Subtotal	157	154	98	0.5	*A*
WB	T	148	150	102	2.3	*A*
	R	28	28	100	1.8	*A*
	Subtotal	176	178	101	2.2	*A*
Total		350	351	100	1.6	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.4	2.5	4.0	0.2	3.8	1.4
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.9	12.6	6.9	2.0	8.1	6.5	4.0	10.7	6.3	0.7	7.2
Vehicles Entered	28	9	43	26	14	12	6	66	19	8	1	232
Vehicles Exited	29	8	43	26	13	12	6	65	19	7	1	229
Hourly Exit Rate	116	32	172	104	52	48	24	260	76	28	4	916
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	104	89	102	99	111	107	120	96	90	93	133	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	1.2	0.2	0.1	2.1	0.5	2.2	3.9	0.4	2.8
Total Delay (hr)	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Total Del/Veh (s)		8.2	2.4	11.2	7.6	1.7	7.2	6.5	4.1	10.6	6.7	1.4
Vehicles Entered	0	25	9	39	27	11	11	5	66	22	6	1
Vehicles Exited	0	24	9	38	26	11	11	5	66	22	6	1
Hourly Exit Rate	0	96	36	152	104	44	44	20	264	88	24	4
Input Volume	1	112	36	169	105	47	45	20	271	84	30	3
% of Volume	0	86	100	90	99	94	98	100	97	105	80	133

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	0.5
Total Del/Veh (s)	6.9
Vehicles Entered	222
Vehicles Exited	219
Hourly Exit Rate	876
Input Volume	923
% of Volume	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.1	1.1	0.2	0.2	2.1	0.8	2.4	4.0	0.4	5.6
Total Delay (hr)	0.0	0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.0
Total Del/Veh (s)		10.8	3.6	17.3	9.1	2.3	10.8	9.6	6.3	18.7	7.5	2.3
Vehicles Entered	0	41	15	62	41	21	15	7	100	31	12	1
Vehicles Exited	0	40	15	61	40	20	15	7	100	31	12	1
Hourly Exit Rate	0	160	60	244	160	80	60	28	400	124	48	4
Input Volume	1	170	55	253	157	71	68	29	407	125	45	4
% of Volume	0	94	109	96	102	113	88	97	98	99	107	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.4
Total Delay (hr)	1.0
Total Del/Veh (s)	10.2
Vehicles Entered	346
Vehicles Exited	342
Hourly Exit Rate	1368
Input Volume	1385
% of Volume	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.4	0.5	2.4	3.9	0.2	4.0	1.5
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.5
Total Del/Veh (s)	7.7	2.4	13.2	7.2	1.9	7.0	8.1	3.9	11.1	4.8	0.7	7.3
Vehicles Entered	31	10	44	26	12	12	6	68	22	7	1	239
Vehicles Exited	31	10	45	28	13	12	6	68	22	7	1	243
Hourly Exit Rate	124	40	180	112	52	48	24	272	88	28	4	972
Input Volume	112	36	169	105	47	45	20	271	84	30	3	923
% of Volume	111	111	107	107	111	107	120	100	105	93	133	105

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.2	0.2	0.1	2.2	0.6	2.4	3.9	0.3	4.1
Total Delay (hr)	0.0	0.3	0.0	0.8	0.3	0.0	0.1	0.1	0.4	0.4	0.1	0.0
Total Del/Veh (s)	7.4	9.1	3.0	14.8	8.2	2.1	8.7	7.8	4.9	13.8	6.7	1.3
Vehicles Entered	1	125	42	189	120	57	50	24	300	94	32	4
Vehicles Exited	1	125	42	188	120	57	50	24	300	94	32	4
Hourly Exit Rate	1	125	42	188	120	57	50	24	300	94	32	4
Input Volume	1	126	41	190	118	53	51	22	305	94	34	3
% of Volume	100	99	103	99	102	108	99	108	98	100	95	123

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.4
Total Delay (hr)	2.5
Total Del/Veh (s)	8.5
Vehicles Entered	1038
Vehicles Exited	1037
Hourly Exit Rate	1037
Input Volume	1038
% of Volume	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.9	0.4	2.1	2.2	4.2	3.0	1.4
Vehicles Entered	1	33	34	6	3	1	78
Vehicles Exited	1	33	34	6	3	1	78
Hourly Exit Rate	4	132	136	24	12	4	312
Input Volume	3	137	131	25	11	4	311
% of Volume	133	96	104	96	109	100	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.6	2.1	1.7	4.4	4.9	1.5
Vehicles Entered	0	32	33	6	3	1	75
Vehicles Exited	0	31	33	6	3	1	74
Hourly Exit Rate	0	124	132	24	12	4	296
Input Volume	3	137	131	25	11	4	311
% of Volume	0	91	101	96	109	100	95

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.1	0.6	2.5	1.8	5.1	2.8	1.7
Vehicles Entered	1	51	48	10	4	2	116
Vehicles Exited	1	51	47	10	4	2	115
Hourly Exit Rate	4	204	188	40	16	8	460
Input Volume	4	205	197	37	16	7	466
% of Volume	100	100	95	108	100	114	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.4	1.9	1.5	4.6	4.3	1.4
Vehicles Entered	0	36	35	6	4	1	82
Vehicles Exited	0	37	36	6	4	1	84
Hourly Exit Rate	0	148	144	24	16	4	336
Input Volume	3	137	131	25	11	4	311
% of Volume	0	108	110	96	145	100	108

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.8	0.5	2.3	1.8	5.0	3.0	1.6
Vehicles Entered	2	152	150	28	13	6	351
Vehicles Exited	2	152	150	28	13	6	351
Hourly Exit Rate	2	152	150	28	13	6	351
Input Volume	3	154	148	28	12	5	350
% of Volume	62	99	102	100	106	126	100

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.1	0.1	0.1	0.1	0.4
Denied Del/Veh (s)	1.5	1.5	1.4	1.5	1.5
Total Delay (hr)	0.6	0.6	1.3	0.7	3.3
Total Del/Veh (s)	8.9	8.6	12.4	9.1	11.0
Vehicles Entered	233	225	350	240	1049
Vehicles Exited	230	224	342	247	1044
Hourly Exit Rate	920	896	1368	988	1044
Input Volume	2162	2162	3242	2162	2432
% of Volume	43	41	42	46	43

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	52	24	94	47	23	51	21	72	54	30	4
Average Queue (ft)	27	8	54	24	11	22	8	43	31	9	1
95th Queue (ft)	56	26	102	54	27	53	26	77	56	33	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)			0								
Queuing Penalty (veh)			0								

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	3	63	26	88	68	27	38	23	70	67	25	8
Average Queue (ft)	0	26	10	49	29	10	17	7	40	35	9	1
95th Queue (ft)	5	67	30	87	69	30	43	25	75	69	30	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	2	92	32	128	102	33	42	30	115	94	41	13
Average Queue (ft)	0	43	17	83	44	17	22	10	63	55	16	2
95th Queue (ft)	5	87	37	139	102	36	49	32	118	92	45	11
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				1	0				0			
Queuing Penalty (veh)				1	0				0			

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	55	32	98	49	24	37	23	66	71	22	5
Average Queue (ft)	29	11	60	23	11	17	8	37	36	9	0
95th Queue (ft)	62	34	100	53	27	41	25	68	69	28	5
Link Distance (ft)	1774			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	5	102	40	140	104	44	56	32	119	98	50	18
Average Queue (ft)	0	31	12	62	30	12	20	8	46	39	11	1
95th Queue (ft)	4	70	32	112	73	31	47	27	89	76	35	7
Link Distance (ft)		1774			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		0		0	0				0			
Queuing Penalty (veh)		0		0	0				0			

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	3	30
Average Queue (ft)	0	11
95th Queue (ft)	6	35
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	12
95th Queue (ft)	37
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	9	33
Average Queue (ft)	1	17
95th Queue (ft)	11	42
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	8	30
Average Queue (ft)	1	17
95th Queue (ft)	13	41
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	20	35
Average Queue (ft)	1	14
95th Queue (ft)	9	39
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 2
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 0

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Existing (2018) Plus Project*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	118	119	101	13.0	*B*
	T	22	25	112	8.8	*A*
	R	305	296	97	5.9	*A*
	Subtotal	445	440	99	8.0	*A*
SB	L	94	91	97	17.1	*B*
	T	34	34	101	8.3	*A*
	R	18	18	100	3.2	*A*
	Subtotal	146	143	98	13.3	*B*
EB	L	24	26	109	19.9	*B*
	T	198	202	102	9.4	*A*
	R	93	94	101	3.1	*A*
	Subtotal	315	322	102	8.4	*A*
WB	L	190	190	100	18.9	*B*
	T	195	196	101	9.8	*A*
	R	53	55	104	2.4	*A*
	Subtotal	438	441	101	12.8	*B*
Total		1,360	1,359	100	10.3	*B*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	25	24	95	5.6	*A*
	R	5	5	105	3.2	*A*
	Subtotal	***30***	***29***	***97***	***5.2***	***A***
EB	L	3	2	62	2.0	*A*
	T	173	175	101	0.6	*A*
	Subtotal	176	177	101	0.6	*A*
WB	T	159	157	99	0.5	*A*
	R	28	30	107	0.1	*A*
	Subtotal	187	187	100	0.4	*A*
Total		393	393	100	0.9	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Existing (2018) Plus Project***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	150	155	103	4.7	*A*
	Subtotal	***150***	***155***	***103***	***4.7***	***A***
EB	T	167	164	98	0.6	*A*
	R	32	35	110	0.2	*A*
	Subtotal	199	199	100	0.5	*A*
WB	L	159	158	99	5.3	*A*
	T	198	198	100	1.6	*A*
	Subtotal	357	356	100	3.2	*A*
Total		706	710	101	2.8	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	1.3	0.2	0.1	2.3	0.5	2.3	4.0	0.3	3.5	1.3
Total Delay (hr)	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.6
Total Del/Veh (s)	7.6	2.7	13.7	7.7	2.1	10.4	7.0	4.1	11.2	6.9	2.3	7.6
Vehicles Entered	41	21	43	42	11	26	5	65	21	8	5	288
Vehicles Exited	41	21	43	42	12	26	5	65	21	8	5	289
Hourly Exit Rate	164	84	172	168	48	104	20	260	84	32	20	1156
Input Volume	167	80	169	160	47	105	20	271	84	30	16	1150
% of Volume	98	105	102	105	102	99	100	96	100	107	125	101

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.0	1.2	0.2	0.1	2.4	0.4	2.4	3.9	0.4	3.9
Total Delay (hr)	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0
Total Del/Veh (s)		7.7	2.4	13.5	8.2	1.9	9.2	6.4	4.5	11.8	7.1	2.6
Vehicles Entered	0	43	19	43	40	11	26	6	64	21	8	4
Vehicles Exited	0	43	18	42	39	11	26	6	63	21	9	4
Hourly Exit Rate	0	172	72	168	156	44	104	24	252	84	36	16
Input Volume	1	167	80	169	160	47	105	20	271	84	30	16
% of Volume	0	103	90	99	98	94	99	120	93	100	120	100

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	1.3
Total Delay (hr)	0.6
Total Del/Veh (s)	7.8
Vehicles Entered	285
Vehicles Exited	282
Hourly Exit Rate	1128
Input Volume	1150
% of Volume	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.4	0.5	0.1	0.4	1.1	0.2	0.2	2.2	1.0	2.4	3.9	0.5
Total Delay (hr)	0.1	0.1	0.2	0.0	0.5	0.3	0.0	0.2	0.0	0.2	0.2	0.0
Total Del/Veh (s)	17.6	19.4	11.1	3.7	24.6	11.8	2.9	17.1	12.1	8.3	26.5	12.2
Vehicles Entered	12	24	77	34	63	75	21	41	8	102	30	10
Vehicles Exited	11	23	76	34	61	72	20	40	8	100	28	10
Hourly Exit Rate	44	92	304	136	244	288	80	160	32	400	112	40
Input Volume	60	92	292	133	253	300	71	157	29	407	125	45
% of Volume	73	100	104	102	96	96	113	102	110	98	90	89

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.8	1.2
Total Delay (hr)	0.0	1.9
Total Del/Veh (s)	4.7	13.4
Vehicles Entered	6	503
Vehicles Exited	6	489
Hourly Exit Rate	24	1956
Input Volume	24	1988
% of Volume	100	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.2	0.2	0.2	2.5	0.8	2.3	4.0	0.3
Total Delay (hr)	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.1	0.1	0.0
Total Del/Veh (s)	21.0	16.9	8.3	2.7	15.4	7.8	2.2	10.5	7.2	4.2	12.3	5.5
Vehicles Entered	1	1	40	20	41	39	11	26	6	65	19	8
Vehicles Exited	2	3	42	20	44	42	11	27	6	68	20	7
Hourly Exit Rate	8	12	168	80	176	168	44	108	24	272	80	28
Input Volume	0	1	167	80	169	160	47	105	20	271	84	30
% of Volume		1200	101	100	104	105	94	103	120	100	95	93

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.1
Denied Del/Veh (s)	4.3	1.3
Total Delay (hr)	0.0	0.7
Total Del/Veh (s)	2.4	8.3
Vehicles Entered	3	280
Vehicles Exited	3	295
Hourly Exit Rate	12	1180
Input Volume	16	1150
% of Volume	75	103

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.2	0.1	0.0
Denied Del/Veh (s)	0.3	0.4	0.0	0.1	1.2	0.2	0.1	2.4	0.7	2.3	3.9	0.4
Total Delay (hr)	0.1	0.1	0.5	0.1	1.0	0.5	0.0	0.4	0.1	0.5	0.4	0.1
Total Del/Veh (s)	19.4	19.9	9.4	3.1	18.9	9.8	2.4	13.0	8.8	5.9	17.1	8.3
Vehicles Entered	13	26	201	93	190	196	54	119	25	296	91	34
Vehicles Exited	13	26	202	94	190	196	55	119	25	296	91	34
Hourly Exit Rate	13	26	202	94	190	196	55	119	25	296	91	34
Input Volume	15	24	198	93	190	195	53	118	22	305	94	34
% of Volume	87	109	102	101	100	101	104	101	112	97	97	101

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	0.5
Denied Del/Veh (s)	3.8	1.3
Total Delay (hr)	0.0	3.9
Total Del/Veh (s)	3.2	10.3
Vehicles Entered	18	1356
Vehicles Exited	18	1359
Hourly Exit Rate	18	1359
Input Volume	18	1360
% of Volume	100	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1		0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.5	0.4	0.1	5.4		0.7
Vehicles Entered	0	39	37	6	4	0	86
Vehicles Exited	0	39	37	6	4	0	86
Hourly Exit Rate	0	156	148	24	16	0	344
Input Volume	3	148	141	25	21	4	342
% of Volume	0	105	105	96	76	0	101

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.1	0.5	0.5	0.0	4.9	4.0	0.8
Vehicles Entered	1	35	34	6	5	1	82
Vehicles Exited	0	35	35	6	5	1	82
Hourly Exit Rate	0	140	140	24	20	4	328
Input Volume	3	148	141	25	21	4	342
% of Volume	0	95	99	96	95	100	96

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.9	0.5	0.1	5.8	2.8	1.0
Vehicles Entered	0	68	52	9	9	2	140
Vehicles Exited	0	66	52	9	9	2	138
Hourly Exit Rate	0	264	208	36	36	8	552
Input Volume	4	247	213	37	38	7	546
% of Volume	0	107	98	97	95	114	101

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.8	0.4	0.7	0.1	4.9	2.6	0.9
Vehicles Entered	1	34	34	9	6	2	86
Vehicles Exited	1	36	33	9	6	2	87
Hourly Exit Rate	4	144	132	36	24	8	348
Input Volume	3	148	141	25	21	4	342
% of Volume	133	97	94	144	114	200	102

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.0	0.6	0.5	0.1	5.6	3.2	0.9
Vehicles Entered	3	175	157	30	24	5	394
Vehicles Exited	2	175	157	30	24	5	393
Hourly Exit Rate	2	175	157	30	24	5	393
Input Volume	3	173	159	28	25	5	393
% of Volume	62	101	99	107	95	105	100

8: West Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.2	0.2
Vehicles Entered	43	43	86
Vehicles Exited	43	43	86
Hourly Exit Rate	172	172	344
Input Volume	170	166	336
% of Volume	101	104	102

8: West Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.2
Vehicles Entered	40	41	81
Vehicles Exited	40	41	81
Hourly Exit Rate	160	164	324
Input Volume	170	166	336
% of Volume	94	99	96

8: West Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.1	0.2
Vehicles Entered	74	60	134
Vehicles Exited	74	60	134
Hourly Exit Rate	296	240	536
Input Volume	285	249	534
% of Volume	104	96	100

8: West Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.1	0.2
Vehicles Entered	41	43	84
Vehicles Exited	42	43	85
Hourly Exit Rate	168	172	340
Input Volume	170	166	336
% of Volume	99	104	101

8: West Access & 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.1	0.2
Vehicles Entered	199	187	386
Vehicles Exited	199	186	385
Hourly Exit Rate	199	186	385
Input Volume	199	187	386
% of Volume	100	100	100

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.3	0.1	3.9	1.5	3.3	1.9
Vehicles Entered	37	6	27	47	25	142
Vehicles Exited	37	6	28	47	25	143
Hourly Exit Rate	148	24	112	188	100	572
Input Volume	149	21	106	181	100	557
% of Volume	99	114	106	104	100	103

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.1	3.8	1.5	3.1	2.0
Vehicles Entered	34	7	25	45	28	139
Vehicles Exited	34	7	25	45	28	139
Hourly Exit Rate	136	28	100	180	112	556
Input Volume	149	21	106	181	100	557
% of Volume	91	133	94	99	112	100

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.3	0.0	0.4	0.2
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.3
Total Del/Veh (s)	1.1	0.3	6.5	1.8	6.0	3.9
Vehicles Entered	58	16	76	61	77	288
Vehicles Exited	58	16	72	61	76	283
Hourly Exit Rate	232	64	288	244	304	1132
Input Volume	221	64	318	249	300	1152
% of Volume	105	100	91	98	101	98

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.1	4.2	1.5	3.5	2.1
Vehicles Entered	36	6	30	45	25	142
Vehicles Exited	36	6	33	46	27	148
Hourly Exit Rate	144	24	132	184	108	592
Input Volume	149	21	106	181	100	557
% of Volume	97	114	125	102	108	106

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.3	0.1
Total Delay (hr)	0.0	0.0	0.2	0.1	0.2	0.6
Total Del/Veh (s)	0.6	0.2	5.3	1.6	4.7	2.8
Vehicles Entered	164	35	158	199	155	711
Vehicles Exited	164	35	158	198	155	710
Hourly Exit Rate	164	35	158	198	155	710
Input Volume	167	32	159	198	150	706
% of Volume	98	110	99	100	103	101

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.1	0.1	0.2	0.1	0.5
Denied Del/Veh (s)	1.3	1.3	1.3	1.3	1.3
Total Delay (hr)	0.9	0.9	2.6	1.0	5.4
Total Del/Veh (s)	9.6	10.0	16.8	10.2	13.5
Vehicles Entered	295	294	533	287	1411
Vehicles Exited	299	292	504	319	1417
Hourly Exit Rate	1196	1168	2016	1276	1417
Input Volume	3538	3538	6300	3538	4228
% of Volume	34	33	32	36	34

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	65	30	99	77	23	63	23	63	62	31	20
Average Queue (ft)	34	16	61	38	10	34	7	38	34	9	6
95th Queue (ft)	71	32	103	81	26	67	24	67	67	31	22
Link Distance (ft)	1101			2469	2469		1751			1010	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		150	150			150		150	150		150
Storage Blk Time (%)				0							
Queuing Penalty (veh)				0							

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	2	68	29	100	83	25	56	21	80	67	31	18
Average Queue (ft)	0	35	15	57	41	9	33	6	42	35	12	5
95th Queue (ft)	5	68	32	99	83	28	62	23	79	67	36	20
Link Distance (ft)		1101			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				0								
Queuing Penalty (veh)				0								

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	103	125	43	161	150	33	100	31	120	104	38	23
Average Queue (ft)	55	73	23	100	76	17	59	11	72	59	17	8
95th Queue (ft)	109	127	44	165	149	37	100	33	127	110	45	25
Link Distance (ft)		1101			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	0	0		2	0				0	0		
Queuing Penalty (veh)	0	1		7	1				1	0		

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	72	76	31	104	73	30	73	27	82	72	28	17
Average Queue (ft)	10	38	17	62	40	13	35	9	42	36	9	4
95th Queue (ft)	57	76	36	105	76	34	72	28	83	71	30	17
Link Distance (ft)		1101			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)				0					0			
Queuing Penalty (veh)				0					0			

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	108	130	46	163	150	44	103	36	124	109	47	26
Average Queue (ft)	16	45	18	70	49	12	40	8	49	41	12	6
95th Queue (ft)	68	94	37	127	106	32	80	28	96	83	36	21
Link Distance (ft)		1101			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	0	0		1	0				0	0		
Queuing Penalty (veh)	0	0		2	0				0	0		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	SB
Directions Served	LR
Maximum Queue (ft)	39
Average Queue (ft)	17
95th Queue (ft)	45
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	5	37
Average Queue (ft)	0	19
95th Queue (ft)	0	45
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	SB
Directions Served	LR
Maximum Queue (ft)	44
Average Queue (ft)	26
95th Queue (ft)	50
Link Distance (ft)	1194
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	3	36
Average Queue (ft)	0	25
95th Queue (ft)	6	48
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	8	51
Average Queue (ft)	0	22
95th Queue (ft)	3	48
Link Distance (ft)	1902	1194
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: West Access & 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #3

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, Interval #4

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: West Access & 11800 South, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: East Access & 11800 South, Interval #1

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	51	44
Average Queue (ft)	18	28
95th Queue (ft)	52	45
Link Distance (ft)		400
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, Interval #2

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	35	51
Average Queue (ft)	14	29
95th Queue (ft)	41	50
Link Distance (ft)		400
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	EB	WB	NB
Directions Served	T	R	L	R
Maximum Queue (ft)	2	13	112	104
Average Queue (ft)	0	2	52	61
95th Queue (ft)	5	13	112	110
Link Distance (ft)	277			400
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100	100	
Storage Blk Time (%)			1	
Queuing Penalty (veh)			2	

Intersection: 10: East Access & 11800 South, Interval #4

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	47	49
Average Queue (ft)	18	30
95th Queue (ft)	52	50
Link Distance (ft)		400
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	EB	WB	NB
Directions Served	T	R	L	R
Maximum Queue (ft)	2	13	112	104
Average Queue (ft)	0	1	25	37
95th Queue (ft)	2	6	73	75
Link Distance (ft)	277			400
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100	100	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			1	

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, Interval #3: 12
Network wide Queuing Penalty, Interval #4: 0
Network wide Queuing Penalty, All Intervals: 3

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Background*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	95	90	95	51.6	*D*
	T	35	36	103	46.1	*D*
	R	390	395	101	10.8	*B*
	Subtotal	520	521	100	20.3	*C*
SB	L	180	186	103	43.0	*D*
	T	55	58	105	34.3	*C*
	R	25	28	112	6.6	*A*
	Subtotal	260	272	105	37.4	*D*
EB	L	20	20	101	32.7	*C*
	T	443	447	101	34.0	*C*
	R	105	102	97	11.6	*B*
	Subtotal	568	569	100	29.9	*C*
WB	L	305	300	98	41.1	*D*
	T	450	446	99	23.7	*C*
	R	80	83	104	2.5	*A*
	Subtotal	835	829	99	27.9	*C*
Total		2,182	2,191	100	27.8	*C*

Intersection: Access 1/Willow Walk Dr & 11800 South
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	26	85	15.4	*C*
	R	75	76	101	6.4	*A*
	Subtotal	105	102	97	8.7	*A*
SB	L	35	33	94	15.8	*C*
	R	10	10	100	4.2	*A*
	Subtotal	***45***	***43***	***96***	***13.1***	***B***
EB	L	10	10	100	5.2	*A*
	T	470	475	101	1.4	*A*
	R	10	11	110	0.5	*A*
	Subtotal	490	496	101	1.5	*A*
WB	L	15	15	98	5.4	*A*
	T	512	502	98	2.3	*A*
	R	40	42	104	1.6	*A*
	Subtotal	567	559	99	2.3	*A*
Total		1,208	1,200	99	2.9	*A*

1: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.4	0.3	0.2	1.0	0.6	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.7	0.0	0.4	0.4	0.0	0.3	0.1	0.2	0.6	0.1	0.0
Total Del/Veh (s)	23.2	25.1	6.9	21.0	12.0	2.1	49.2	44.7	8.2	41.2	34.2	5.4
Vehicles Entered	5	101	20	68	103	20	20	7	90	46	12	7
Vehicles Exited	5	101	20	67	102	20	20	7	89	47	12	7
Hourly Exit Rate	20	404	80	268	408	80	80	28	356	188	48	28
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	99	86	99	99	110	95	90	103	114	98	122

1: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:30

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	2.9
Total Del/Veh (s)	19.9
Vehicles Entered	499
Vehicles Exited	497
Hourly Exit Rate	1988
Input Volume	1973
% of Volume	101

1: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.3	0.3	0.2	0.9	0.5	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.9	0.0	0.4	0.4	0.0	0.3	0.1	0.2	0.4	0.1	0.0
Total Del/Veh (s)	29.9	28.3	7.1	22.7	13.2	2.1	44.7	42.4	8.3	36.3	32.0	5.2
Vehicles Entered	5	107	23	65	103	21	20	9	88	40	14	8
Vehicles Exited	5	105	23	66	103	21	21	9	88	40	13	8
Hourly Exit Rate	20	420	92	264	412	84	84	36	352	160	52	32
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	103	99	97	100	115	100	116	101	97	106	139

1: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:45

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	3.0
Total Del/Veh (s)	20.2
Vehicles Entered	503
Vehicles Exited	502
Hourly Exit Rate	2008
Input Volume	1973
% of Volume	102

1: Mustang Trail Way & 11800 South Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.2	0.0	1.3	0.4	0.3	1.2	0.9	1.2	0.0	0.0	0.0
Total Delay (hr)	0.1	1.6	0.2	1.8	1.5	0.0	0.4	0.2	0.6	0.7	0.2	0.0
Total Del/Veh (s)	37.4	40.8	17.5	62.2	37.6	3.2	51.7	42.1	15.0	45.0	34.0	8.1
Vehicles Entered	5	137	35	102	140	25	27	13	129	55	19	7
Vehicles Exited	5	135	34	90	129	24	25	12	127	53	19	7
Hourly Exit Rate	20	540	136	360	516	96	100	48	508	212	76	28
Input Volume	25	550	140	407	563	100	127	47	520	225	73	31
% of Volume	80	98	97	88	92	96	79	102	98	94	104	90

1: Mustang Trail Way & 11800 South Performance by movement Interval #3 8:00

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.6
Total Delay (hr)	7.3
Total Del/Veh (s)	36.4
Vehicles Entered	694
Vehicles Exited	660
Hourly Exit Rate	2640
Input Volume	2808
% of Volume	94

1: Mustang Trail Way & 11800 South Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.2	0.0	1.4	0.3	0.2	1.2	0.5	1.1	0.0	0.0	0.0
Total Delay (hr)	0.0	1.0	0.1	0.8	0.7	0.0	0.3	0.1	0.2	0.5	0.1	0.0
Total Del/Veh (s)	32.8	33.4	10.2	34.5	20.6	2.0	43.3	36.8	8.4	41.2	34.6	7.0
Vehicles Entered	4	105	23	66	99	16	22	7	89	44	13	7
Vehicles Exited	5	106	24	77	112	18	25	8	91	46	13	7
Hourly Exit Rate	20	424	96	308	448	72	100	32	364	184	52	28
Input Volume	18	407	93	271	412	73	84	31	347	165	49	23
% of Volume	111	104	103	114	109	99	119	103	105	112	106	122

1: Mustang Trail Way & 11800 South Performance by movement Interval #4 8:15

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.6
Total Delay (hr)	4.0
Total Del/Veh (s)	25.4
Vehicles Entered	495
Vehicles Exited	532
Hourly Exit Rate	2128
Input Volume	1973
% of Volume	108

1: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	1.3	0.4	0.2	1.1	0.7	1.1	0.0	0.0	0.0
Total Delay (hr)	0.2	4.3	0.3	3.5	3.0	0.1	1.3	0.5	1.2	2.2	0.6	0.1
Total Del/Veh (s)	32.7	34.0	11.6	41.1	23.7	2.5	51.6	46.1	10.8	43.0	34.3	6.6
Vehicles Entered	20	449	102	301	446	83	89	36	395	185	58	28
Vehicles Exited	20	447	102	300	446	83	90	36	395	186	58	28
Hourly Exit Rate	20	447	102	300	446	83	90	36	395	186	58	28
Input Volume	20	443	105	305	450	80	95	35	390	180	55	25
% of Volume	101	101	97	98	99	104	95	103	101	103	105	112

1: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.6
Total Delay (hr)	17.1
Total Del/Veh (s)	27.8
Vehicles Entered	2192
Vehicles Exited	2191
Hourly Exit Rate	2191
Input Volume	2182
% of Volume	100

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #1 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.4	0.0	0.0	0.0	0.2	4.1	0.2	3.6	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	5.8	0.9	0.3	4.4	1.7	1.2	13.1	5.0	11.0	4.1	2.2
Vehicles Entered	2	102	3	3	119	9	7	18	7	2	272
Vehicles Exited	2	102	3	3	122	9	7	18	7	2	275
Hourly Exit Rate	8	408	12	12	488	36	28	72	28	8	1100
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	89	95	133	86	104	97	100	104	88	89	99

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #2 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.3	0.2	0.0	0.0	0.0	0.3	4.0	0.2	3.9	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.6	0.9	0.3	5.0	1.8	1.2	12.5	6.0	13.1	4.2	2.3
Vehicles Entered	2	113	2	4	115	10	5	17	8	3	279
Vehicles Exited	2	114	2	4	112	10	5	17	8	3	277
Hourly Exit Rate	8	456	8	16	448	40	20	68	32	12	1108
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	89	106	89	114	96	108	71	99	100	133	100

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #3 8:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	0.5	0.5	0.0	0.0	0.0	0.4	4.0	0.1	3.7	0.5
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.4
Total Del/Veh (s)	6.7	2.3	0.9	8.6	2.9	2.4	19.3	8.4	24.0	4.2	4.1
Vehicles Entered	3	150	3	4	141	12	9	24	10	3	359
Vehicles Exited	2	149	3	4	143	12	8	24	9	3	357
Hourly Exit Rate	8	596	12	16	572	48	32	96	36	12	1428
Input Volume	13	588	13	19	639	50	38	94	44	13	1511
% of Volume	62	101	92	84	90	96	84	102	82	92	95

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Interval #4 8:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.3	4.0	0.1	3.1	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.6	0.9	0.2	4.9	2.3	1.4	12.3	5.0	12.6	4.4	2.5
Vehicles Entered	3	110	2	4	126	11	5	16	9	2	288
Vehicles Exited	3	110	3	4	125	11	6	16	9	2	289
Hourly Exit Rate	12	440	12	16	500	44	24	64	36	8	1156
Input Volume	9	431	9	14	469	37	28	69	32	9	1107
% of Volume	133	102	133	114	107	119	86	93	112	89	104

9: Access 1/Willow Walk Dr & 11800 South Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	0.3	0.4	0.3	0.0	0.0	0.0	0.3	4.0	0.2	3.6	0.4
Total Delay (hr)	0.0	0.2	0.0	0.0	0.3	0.0	0.1	0.1	0.1	0.0	1.0
Total Del/Veh (s)	5.2	1.4	0.5	5.4	2.3	1.6	15.4	6.4	15.8	4.2	2.9
Vehicles Entered	10	475	11	15	502	42	26	76	34	10	1201
Vehicles Exited	10	475	11	15	502	42	26	76	33	10	1200
Hourly Exit Rate	10	475	11	15	502	42	26	76	33	10	1200
Input Volume	10	470	10	15	512	40	30	75	35	10	1208
% of Volume	100	101	110	98	98	104	85	101	94	100	99

13: Commercial & 11800 South Performance by movement Interval #1 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.2	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.5	1.1	5.8	2.3	12.1	5.3	2.3
Vehicles Entered	119	8	7	122	6	7	269
Vehicles Exited	119	8	7	124	6	7	271
Hourly Exit Rate	476	32	28	496	24	28	1084
Input Volume	495	37	32	490	28	23	1105
% of Volume	96	86	88	101	86	122	98

13: Commercial & 11800 South Performance by movement Interval #2 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	4.2	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.5	0.9	6.8	2.9	14.4	5.6	2.6
Vehicles Entered	130	10	7	125	7	6	285
Vehicles Exited	128	10	7	122	6	6	279
Hourly Exit Rate	512	40	28	488	24	24	1116
Input Volume	495	37	32	490	28	23	1105
% of Volume	103	108	88	100	86	104	101

13: Commercial & 11800 South Performance by movement Interval #3 8:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	3.9	0.1
Total Delay (hr)	0.3	0.0	0.0	0.3	0.1	0.0	0.7
Total Del/Veh (s)	5.4	2.2	13.6	6.2	34.8	8.6	6.7
Vehicles Entered	170	13	11	150	10	8	362
Vehicles Exited	169	12	11	151	9	7	359
Hourly Exit Rate	676	48	44	604	36	28	1436
Input Volume	676	50	44	677	38	31	1516
% of Volume	100	96	100	89	95	90	95

13: Commercial & 11800 South Performance by movement Interval #4 8:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	4.0	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.3
Total Del/Veh (s)	2.1	2.0	6.4	3.5	17.5	7.7	3.4
Vehicles Entered	124	11	7	137	6	7	292
Vehicles Exited	125	11	7	135	7	7	292
Hourly Exit Rate	500	44	28	540	28	28	1168
Input Volume	495	37	32	490	28	23	1105
% of Volume	101	119	88	110	100	122	106

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	4.1	0.1
Total Delay (hr)	0.4	0.0	0.1	0.6	0.2	0.1	1.4
Total Del/Veh (s)	2.9	1.7	9.1	3.9	22.6	6.9	4.0
Vehicles Entered	543	41	32	533	29	28	1206
Vehicles Exited	542	41	32	532	29	27	1203
Hourly Exit Rate	542	41	32	532	29	27	1203
Input Volume	540	40	35	537	30	25	1208
% of Volume	100	102	91	99	95	108	100

Total Network Performance By Interval

Interval Start	7:30	7:45	8:00	8:15	All
Denied Delay (hr)	0.1	0.1	0.2	0.1	0.5
Denied Del/Veh (s)	0.8	0.8	0.9	0.8	0.8
Total Delay (hr)	3.5	3.7	8.9	4.8	20.9
Total Del/Veh (s)	21.9	22.4	39.9	26.9	31.6
Vehicles Entered	527	531	739	522	2324
Vehicles Exited	525	529	683	579	2317
Hourly Exit Rate	2100	2116	2732	2316	2317
Input Volume	6996	6996	9802	6996	7698
% of Volume	30	30	28	33	30

Intersection: 1: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	29	320	126	170	220	29	106	66	128	158	165	29
Average Queue (ft)	11	207	41	104	113	12	61	28	81	101	47	11
95th Queue (ft)	33	349	148	178	226	33	106	71	129	167	159	32
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)											0	
Queuing Penalty (veh)											0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)		33	0	8	6		8	1	0	14	1	
Queuing Penalty (veh)		37	1	33	16		29	2	0	10	1	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	37	302	169	158	246	32	94	68	128	143	93	25
Average Queue (ft)	14	194	51	101	126	13	64	37	81	86	36	10
95th Queue (ft)	41	313	172	179	261	35	110	85	125	147	101	28
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	0	40	0	8	8		4	1	0	8	0	
Queuing Penalty (veh)	1	45	2	31	21		17	2	1	6	0	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	150	497	250	180	791	178	141	141	217	166	209	28
Average Queue (ft)	32	356	136	158	486	47	77	53	135	119	76	10
95th Queue (ft)	135	556	312	222	1061	279	136	149	226	182	203	28
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		2									2	
Queuing Penalty (veh)		15									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	1	47	1	42	11		13	1	8	20	1	
Queuing Penalty (veh)	5	77	5	236	45		73	7	15	21	2	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #3

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	0
95th Queue (ft)	0
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	79	379	211	178	669	30	128	67	144	160	198	30
Average Queue (ft)	19	219	70	131	248	11	76	33	89	106	58	10
95th Queue (ft)	88	416	224	207	634	32	139	78	144	177	195	30
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		1									0	
Queuing Penalty (veh)		4									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)		42	0	19	9		8	1	1	15	1	
Queuing Penalty (veh)		47	1	80	25		30	2	1	11	2	

Intersection: 1: Mustang Trail Way & 11800 South, Interval #4

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	2
95th Queue (ft)	22
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 1: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	157	503	250	180	869	186	148	148	222	176	257	40
Average Queue (ft)	19	244	74	124	243	21	70	38	96	103	54	10
95th Queue (ft)	85	444	229	206	678	141	124	102	169	171	170	30
Link Distance (ft)		593			2410	2410		1139			264	
Upstream Blk Time (%)		1									1	
Queuing Penalty (veh)		5									0	
Storage Bay Dist (ft)	70		70	105			95		150	115		115
Storage Blk Time (%)	0	41	0	19	9		8	1	2	14	1	
Queuing Penalty (veh)	2	51	2	95	27		37	3	4	12	1	

Intersection: 1: Mustang Trail Way & 11800 South, All Intervals

Movement	B24
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	1
95th Queue (ft)	10
Link Distance (ft)	355
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	L	TR	L	TR
Maximum Queue (ft)	24	19	41	60	34	18
Average Queue (ft)	6	3	23	34	17	5
95th Queue (ft)	34	19	52	58	39	19
Link Distance (ft)	593	1078	676		1000	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #2

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	40	43	2	37	57	43	21
Average Queue (ft)	7	8	0	15	33	20	7
95th Queue (ft)	36	39	4	43	59	46	22
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	105	90	2	48	80	56	19
Average Queue (ft)	22	19	0	25	41	24	6
95th Queue (ft)	145	96	4	52	77	58	22
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)		0			0	0	
Queuing Penalty (veh)		0			0	0	

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	L	TR	L	TR
Maximum Queue (ft)	38	41	39	50	44	20
Average Queue (ft)	7	7	20	31	22	5
95th Queue (ft)	39	40	48	55	47	19
Link Distance (ft)	593	1078	676		1000	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 9: Access 1/Willow Walk Dr & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	137	106	4	60	86	65	21
Average Queue (ft)	10	9	0	21	35	21	6
95th Queue (ft)	78	55	3	49	64	48	21
Link Distance (ft)	593	1078		676		1000	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			190		100		100
Storage Blk Time (%)		0			0	0	
Queuing Penalty (veh)		0			0	0	

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	2	68	37	43
Average Queue (ft)	0	19	20	20
95th Queue (ft)	5	67	47	51
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	LT	L	R
Maximum Queue (ft)	90	39	49
Average Queue (ft)	23	20	20
95th Queue (ft)	92	47	52
Link Distance (ft)	593	467	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	80	191	56	49
Average Queue (ft)	24	66	31	23
95th Queue (ft)	185	221	62	54
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	25	102	46	45
Average Queue (ft)	5	34	18	20
95th Queue (ft)	56	114	51	49
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	NB	NB
Directions Served	TR	LT	L	R
Maximum Queue (ft)	80	209	63	65
Average Queue (ft)	7	35	22	21
95th Queue (ft)	93	137	53	52
Link Distance (ft)	1078	593	467	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Network Summary

Network wide Queuing Penalty, Interval #1: 130
Network wide Queuing Penalty, Interval #2: 125
Network wide Queuing Penalty, Interval #3: 500
Network wide Queuing Penalty, Interval #4: 202
Network wide Queuing Penalty, All Intervals: 239

HALES ENGINEERING
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SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	182	99	115.6	*F*
	T	35	35	100	60.7	*E*
	R	390	389	100	64.1	*E*
	Subtotal	609	606	100	79.4	*E*
SB	L	180	179	99	87.5	*F*
	T	55	55	100	39.9	*D*
	R	45	50	111	22.0	*C*
	Subtotal	280	284	101	66.8	*E*
EB	L	50	48	96	61.0	*E*
	T	536	523	98	45.4	*D*
	R	175	166	95	21.5	*C*
	Subtotal	761	737	97	41.0	*D*
WB	L	305	289	95	141.6	*F*
	T	552	530	96	85.7	*F*
	R	80	84	105	10.7	*B*
	Subtotal	937	903	96	96.6	*F*
Total		2,608	2,549	98	73.4	*E*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	30	99	14.4	*B*
	R	75	76	101	7.9	*A*
	Subtotal	105	106	101	9.7	*A*
SB	L	53	52	98	20.4	*C*
	R	10	11	110	6.8	*A*
	Subtotal	***63***	***63***	***100***	***18.0***	***C***
EB	L	10	10	98	6.0	*A*
	T	496	501	101	2.3	*A*
	R	10	10	100	1.5	*A*
	Subtotal	516	521	101	2.4	*A*
WB	L	15	13	88	4.8	*A*
	T	530	513	97	1.4	*A*
	R	40	42	104	0.5	*A*
	Subtotal	585	568	97	1.4	*A*
Total		1,270	1,258	99	3.3	*A*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	200	194	97	109.2	*F*
	Subtotal	***200***	***194***	***97***	***109.2***	***F***
EB	T	582	584	100	4.5	*A*
	R	44	46	105	1.4	*A*
	Subtotal	626	630	101	4.3	*A*
WB	L	211	209	99	26.6	*D*
	T	589	572	97	0.9	*A*
	Subtotal	800	781	98	7.8	*A*
Total		1,626	1,605	99	18.9	*C*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.3	0.0	0.0	0.1	1.2	0.3	0.2	2.5	0.9	2.6	3.8	0.6
Total Delay (hr)	0.0	0.1	0.6	0.1	0.4	0.4	0.0	0.6	0.1	0.5	0.5	0.1
Total Del/Veh (s)	17.2	21.2	18.0	5.7	23.3	11.4	2.2	53.2	41.4	19.1	46.9	32.8
Vehicles Entered	3	10	113	38	61	123	20	38	8	86	39	13
Vehicles Exited	4	10	119	38	63	129	20	36	7	84	34	12
Hourly Exit Rate	16	40	476	152	252	516	80	144	28	336	136	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	104	106	101	105	113	91	90	97	85	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.5
Total Del/Veh (s)	7.2	20.8
Vehicles Entered	11	563
Vehicles Exited	11	567
Hourly Exit Rate	44	2268
Input Volume	37	2252
% of Volume	119	101

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.4	0.3	0.2	2.6	1.0	2.6	3.7	0.4
Total Delay (hr)	0.0	0.1	0.6	0.0	0.4	0.5	0.0	0.6	0.1	0.5	0.6	0.1
Total Del/Veh (s)	24.2	24.1	18.0	4.8	24.0	13.4	2.6	50.8	39.8	19.2	48.1	32.9
Vehicles Entered	5	9	111	30	61	123	19	37	8	91	40	13
Vehicles Exited	5	9	107	30	60	116	19	40	8	92	44	13
Hourly Exit Rate	20	36	428	120	240	464	76	160	32	368	176	52
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	92	93	83	96	95	107	101	103	106	110	106

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.6
Total Del/Veh (s)	9.9	22.0
Vehicles Entered	10	557
Vehicles Exited	10	553
Hourly Exit Rate	40	2212
Input Volume	37	2252
% of Volume	108	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	3.6	2.6	1.0	3.1	1.9	1.0	0.8	3.1	2.2	3.5	3.6	0.9
Total Delay (hr)	0.1	0.3	2.6	0.4	4.6	4.4	0.1	2.6	0.2	2.8	1.7	0.2
Total Del/Veh (s)	81.0	77.4	59.2	30.3	136.3	82.4	10.8	130.7	56.5	75.7	96.3	43.1
Vehicles Entered	6	15	154	49	116	179	26	69	11	129	60	18
Vehicles Exited	6	14	151	46	81	144	25	52	10	105	49	17
Hourly Exit Rate	24	56	604	184	324	576	100	208	40	420	196	68
Input Volume	33	83	765	269	469	736	107	263	47	520	240	73
% of Volume	73	67	79	68	69	78	93	79	85	81	82	93

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.5
Denied Del/Veh (s)	3.5	2.1
Total Delay (hr)	0.1	20.2
Total Del/Veh (s)	23.3	81.8
Vehicles Entered	19	851
Vehicles Exited	17	717
Hourly Exit Rate	68	2868
Input Volume	69	3674
% of Volume	99	78

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.8	0.8	2.3	1.1	1.3	3.0	1.5	2.8	3.8	0.6
Total Delay (hr)	0.1	0.4	3.0	0.5	6.8	8.0	0.1	2.2	0.2	3.3	1.6	0.1
Total Del/Veh (s)	100.5	86.4	66.4	33.1	225.7	170.3	24.5	137.7	81.9	101.0	106.8	38.1
Vehicles Entered	5	15	156	49	66	121	20	38	9	86	42	11
Vehicles Exited	5	15	147	51	86	141	21	54	10	107	52	12
Hourly Exit Rate	20	60	588	204	344	564	84	216	40	428	208	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	154	128	142	138	115	118	137	129	123	130	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.3
Denied Del/Veh (s)	3.7	1.7
Total Delay (hr)	0.1	26.5
Total Del/Veh (s)	39.8	119.0
Vehicles Entered	10	628
Vehicles Exited	12	713
Hourly Exit Rate	48	2852
Input Volume	37	2252
% of Volume	130	127

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	1.2	0.8	0.5	1.2	1.7	0.7	0.7	2.8	1.5	3.0	3.7	0.6
Total Delay (hr)	0.3	0.8	6.8	1.0	12.3	13.3	0.3	5.9	0.6	7.1	4.4	0.6
Total Del/Veh (s)	58.9	61.0	45.4	21.5	141.6	85.7	10.7	115.6	60.7	64.1	87.5	39.9
Vehicles Entered	19	49	534	166	305	546	85	182	35	393	181	55
Vehicles Exited	19	48	523	166	289	530	84	182	35	389	179	55
Hourly Exit Rate	19	48	523	166	289	530	84	182	35	389	179	55
Input Volume	20	50	536	175	305	552	80	184	35	390	180	55
% of Volume	94	96	98	95	95	96	105	99	100	100	99	100

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.1	1.2
Denied Del/Veh (s)	3.6	1.6
Total Delay (hr)	0.3	53.8
Total Del/Veh (s)	22.0	73.4
Vehicles Entered	50	2600
Vehicles Exited	50	2549
Hourly Exit Rate	50	2549
Input Volume	45	2608
% of Volume	111	98

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.2	4.0	0.1	2.4	0.4
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	4.4	1.9	2.2	4.7	1.4	0.4	10.7	5.7	16.5	4.5	2.7
Vehicles Entered	2	116	2	3	122	11	5	18	12	3	294
Vehicles Exited	3	116	2	3	122	11	5	17	12	3	294
Hourly Exit Rate	12	464	8	12	488	44	20	68	48	12	1176
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	133	105	89	92	104	122	74	101	104	133	104

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.2	4.1	0.1	3.0	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	5.1	1.6	1.3	4.1	1.1	0.3	9.6	4.6	11.2	5.2	2.2
Vehicles Entered	2	104	2	2	114	10	8	16	11	2	271
Vehicles Exited	2	103	2	2	115	10	8	16	11	3	272
Hourly Exit Rate	8	412	8	8	460	40	32	64	44	12	1088
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	93	89	62	98	111	119	96	96	133	96

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.6	0.6	0.6	0.0	0.0	0.0	0.4	3.9	0.2	1.6	0.6
Total Delay (hr)	0.0	0.2	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.0	0.5
Total Del/Veh (s)	7.0	3.1	2.5	7.0	1.7	0.7	18.4	11.7	29.3	6.2	4.9
Vehicles Entered	3	169	3	4	137	12	10	25	18	4	385
Vehicles Exited	3	168	3	4	135	12	10	25	17	3	380
Hourly Exit Rate	12	672	12	16	540	48	40	100	68	12	1520
Input Volume	14	661	13	20	707	53	40	100	74	13	1695
% of Volume	86	102	92	80	76	91	100	100	92	92	90

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.4	0.2	0.0	0.0	0.0	0.3	3.9	0.1	2.4	0.4
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	5.4	1.9	0.5	4.0	1.2	0.6	14.7	6.6	14.3	10.5	2.7
Vehicles Entered	2	112	2	3	140	10	7	17	11	2	306
Vehicles Exited	3	115	2	3	142	10	7	17	12	2	313
Hourly Exit Rate	12	460	8	12	568	40	28	68	48	8	1252
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	133	104	89	92	121	111	104	101	104	89	111

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Denied Del/Veh (s)	0.3	0.4	0.3	0.0	0.0	0.0	0.3	4.0	0.1	2.2	0.4
Total Delay (hr)	0.0	0.3	0.0	0.0	0.2	0.0	0.1	0.2	0.3	0.0	1.2
Total Del/Veh (s)	6.0	2.3	1.5	4.8	1.4	0.5	14.4	7.9	20.4	6.8	3.3
Vehicles Entered	10	501	10	13	513	42	30	75	52	11	1257
Vehicles Exited	10	501	10	13	513	42	30	76	52	11	1258
Hourly Exit Rate	10	501	10	13	513	42	30	76	52	11	1258
Input Volume	10	496	10	15	530	40	30	75	53	10	1270
% of Volume	98	101	100	88	97	104	99	101	98	110	99

8: 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.6	0.4	0.5
Vehicles Entered	145	136	281
Vehicles Exited	145	136	281
Hourly Exit Rate	580	544	1124
Input Volume	554	520	1074
% of Volume	105	105	105

8: 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.5	0.4	0.5
Vehicles Entered	130	126	256
Vehicles Exited	130	127	257
Hourly Exit Rate	520	508	1028
Input Volume	554	520	1074
% of Volume	94	98	96

8: 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	1.6	0.4	1.1
Vehicles Entered	215	154	369
Vehicles Exited	214	153	367
Hourly Exit Rate	856	612	1468
Input Volume	855	780	1635
% of Volume	100	78	90

8: 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	1.4	0.4	0.9
Vehicles Entered	143	151	294
Vehicles Exited	146	152	298
Hourly Exit Rate	584	608	1192
Input Volume	554	520	1074
% of Volume	105	117	111

8: 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.2	0.1	0.3
Total Del/Veh (s)	1.1	0.4	0.8
Vehicles Entered	633	568	1201
Vehicles Exited	634	568	1202
Hourly Exit Rate	634	568	1202
Input Volume	629	585	1214
% of Volume	101	97	99

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	0.8	0.2	5.2	0.6	5.4	1.6
Vehicles Entered	136	7	35	135	28	341
Vehicles Exited	136	7	36	136	29	344
Hourly Exit Rate	544	28	144	544	116	1376
Input Volume	518	29	141	520	133	1341
% of Volume	105	97	102	105	87	103

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.2
Total Del/Veh (s)	0.9	0.3	5.1	0.6	5.5	1.7
Vehicles Entered	119	9	35	128	35	326
Vehicles Exited	120	9	34	126	35	324
Hourly Exit Rate	480	36	136	504	140	1296
Input Volume	518	29	141	520	133	1341
% of Volume	93	124	96	97	105	97

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	1.5	1.5
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	53.9	9.7
Total Delay (hr)	0.4	0.0	1.1	0.1	2.7	4.3
Total Del/Veh (s)	6.9	2.1	47.6	1.6	125.5	28.7
Vehicles Entered	192	23	86	158	78	537
Vehicles Exited	185	23	82	158	60	508
Hourly Exit Rate	740	92	328	632	240	2032
Input Volume	773	88	422	796	400	2479
% of Volume	96	105	78	79	60	82

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	3.1	3.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	194.9	27.8
Total Delay (hr)	0.3	0.0	0.3	0.0	3.2	3.9
Total Del/Veh (s)	7.7	1.7	19.6	0.8	154.7	31.8
Vehicles Entered	137	7	54	151	57	406
Vehicles Exited	143	7	57	152	70	429
Hourly Exit Rate	572	28	228	608	280	1716
Input Volume	518	29	141	520	133	1341
% of Volume	110	97	162	117	211	128

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	4.7	4.7
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	84.2	10.4
Total Delay (hr)	0.7	0.0	1.6	0.1	6.0	8.5
Total Del/Veh (s)	4.5	1.4	26.6	0.9	109.2	18.9
Vehicles Entered	584	46	209	572	198	1609
Vehicles Exited	584	46	209	572	194	1605
Hourly Exit Rate	584	46	209	572	194	1605
Input Volume	582	44	211	589	200	1626
% of Volume	100	105	99	97	97	99

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.3	4.3	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.1	0.0	0.2
Total Del/Veh (s)	1.4	0.7	6.8	1.8	29.4	4.9	2.3
Vehicles Entered	156	9	7	175	6	5	358
Vehicles Exited	156	9	7	175	6	6	359
Hourly Exit Rate	624	36	28	700	24	24	1436
Input Volume	624	36	31	683	27	22	1423
% of Volume	100	100	90	102	89	109	101

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	4.1	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	1.4	0.6	6.0	1.7	20.5	6.1	2.1
Vehicles Entered	146	10	8	166	7	6	343
Vehicles Exited	146	10	8	166	7	6	343
Hourly Exit Rate	584	40	32	664	28	24	1372
Input Volume	624	36	31	683	27	22	1423
% of Volume	94	111	103	97	104	109	96

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.6	0.2	0.3	4.2	0.2
Total Delay (hr)	2.0	0.1	0.0	0.2	0.6	0.4	3.3
Total Del/Veh (s)	30.8	25.5	14.9	2.5	212.4	141.2	23.0
Vehicles Entered	235	11	9	236	10	9	510
Vehicles Exited	220	10	8	236	9	5	488
Hourly Exit Rate	880	40	32	944	36	20	1952
Input Volume	1120	53	47	1178	40	33	2471
% of Volume	79	75	68	80	90	61	79

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	1.4	0.0	0.0	0.1	0.2	3.8	0.7
Total Delay (hr)	2.8	0.1	0.0	0.1	0.3	0.9	4.3
Total Del/Veh (s)	45.6	39.1	19.9	2.0	141.1	295.8	32.8
Vehicles Entered	204	11	9	206	6	7	443
Vehicles Exited	215	12	9	207	6	8	457
Hourly Exit Rate	860	48	36	828	24	32	1828
Input Volume	624	36	31	683	27	22	1423
% of Volume	138	133	116	121	89	145	128

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.0	0.2	0.1	0.3	4.1	0.3
Total Delay (hr)	4.9	0.2	0.1	0.4	1.0	1.3	8.0
Total Del/Veh (s)	23.9	18.6	12.7	2.0	119.4	175.3	17.4
Vehicles Entered	741	41	32	784	29	27	1654
Vehicles Exited	738	40	32	785	28	24	1647
Hourly Exit Rate	738	40	32	785	28	24	1647
Input Volume	748	40	35	807	30	25	1685
% of Volume	99	99	91	97	93	97	98

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	2.1	3.6	6.1
Denied Del/Veh (s)	1.3	1.4	7.4	20.1	7.7
Total Delay (hr)	4.6	4.7	29.2	35.8	74.3
Total Del/Veh (s)	24.4	24.7	97.8	140.2	91.5
Vehicles Entered	605	604	994	637	2842
Vehicles Exited	604	602	793	768	2771
Hourly Exit Rate	2416	2408	3172	3072	2771
Input Volume	9566	9566	15975	9566	11168
% of Volume	25	25	20	32	25

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	94	305	148	170	228	33	186	63	222	158	100	41
Average Queue (ft)	37	168	42	104	141	14	103	20	99	92	35	18
95th Queue (ft)	104	289	139	179	249	35	188	61	211	157	93	44
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		10		1	4		5		6	3	0	
Queuing Penalty (veh)		20		7	10		20		12	3	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	94	262	210	186	255	37	171	55	201	182	122	35
Average Queue (ft)	35	142	49	105	118	14	115	26	125	119	53	15
95th Queue (ft)	103	266	178	193	259	41	187	61	220	212	188	37
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)		8		2	5		6		6	10	0	
Queuing Penalty (veh)		17		10	14		23		12	9	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	234	521	250	250	2066	1650	398	831	425	238	376	133
Average Queue (ft)	110	445	170	235	958	369	280	360	297	175	169	38
95th Queue (ft)	254	646	336	295	2063	1494	492	1142	506	280	471	139
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		23			3	1		2				
Queuing Penalty (veh)		257			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	50		62	14		56		51	41	0	
Queuing Penalty (veh)	14	194		453	63		317		158	58	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	249	521	250	250	2207	1949	399	895	411	228	307	57
Average Queue (ft)	133	511	176	247	1756	963	249	477	314	186	168	21
95th Queue (ft)	298	550	340	267	2915	2644	479	1306	554	282	510	76
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		29			9	2		0				
Queuing Penalty (veh)		186			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	56		73	14		39		51	41	0	
Queuing Penalty (veh)	5	111		361	36		149		96	35	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	UL	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	250	523	250	250	2212	2082	408	942	426	239	401	133
Average Queue (ft)	79	317	109	173	743	340	187	221	209	143	106	23
95th Queue (ft)	218	618	286	303	2119	1537	397	881	446	254	367	85
Link Distance (ft)		505			2469	2469		1751			1010	
Upstream Blk Time (%)		13			3	1		1				
Queuing Penalty (veh)		111			0	0		0				
Storage Bay Dist (ft)	150		150	150			150		150	150		150
Storage Blk Time (%)	1	31		35	9		27		29	24	0	
Queuing Penalty (veh)	5	86		208	31		127		69	26	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	26	60	35	49	59	27
Average Queue (ft)	6	12	17	32	30	9
95th Queue (ft)	33	65	43	55	64	32
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)					1	
Queuing Penalty (veh)					0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	31	38	43	53	44	29
Average Queue (ft)	5	7	22	31	29	9
95th Queue (ft)	32	38	50	55	55	31
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	64	88	51	80	84	38
Average Queue (ft)	11	18	26	45	47	12
95th Queue (ft)	60	72	58	81	93	41
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)			0	0	2	
Queuing Penalty (veh)			0	0	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	54	60	45	62	51	32
Average Queue (ft)	11	11	21	34	29	8
95th Queue (ft)	51	58	50	64	59	30
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	78	104	62	90	90	42
Average Queue (ft)	8	12	22	36	34	10
95th Queue (ft)	45	60	51	66	70	34
Link Distance (ft)	1889	272	706		1194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				100		100
Storage Blk Time (%)			0	0	1	
Queuing Penalty (veh)			0	0	0	

Intersection: 8: 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #3

Movement	EB
Directions Served	TR
Maximum Queue (ft)	63
Average Queue (ft)	8
95th Queue (ft)	60
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: 11800 South, Interval #4

Movement	EB
Directions Served	TR
Maximum Queue (ft)	46
Average Queue (ft)	9
95th Queue (ft)	71
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: 11800 South, All Intervals

Movement	EB
Directions Served	TR
Maximum Queue (ft)	78
Average Queue (ft)	4
95th Queue (ft)	45
Link Distance (ft)	272
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: East Access & 11800 South, Interval #1

Movement	EB	WB	NB
Directions Served	T	L	R
Maximum Queue (ft)	2	76	56
Average Queue (ft)	0	38	32
95th Queue (ft)	5	77	59
Link Distance (ft)	277		400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	9	64	59
Average Queue (ft)	1	37	37
95th Queue (ft)	12	69	61
Link Distance (ft)			400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	232	113	301	242	426
Average Queue (ft)	70	26	181	63	312
95th Queue (ft)	231	123	363	295	519
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	1			0	39
Queuing Penalty (veh)	8			3	0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	9		46	0	
Queuing Penalty (veh)	8		357	0	

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	248	82	176	45	435
Average Queue (ft)	107	12	82	6	360
95th Queue (ft)	248	89	192	95	567
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	1				68
Queuing Penalty (veh)	4				0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	8		10		
Queuing Penalty (veh)	2		54		

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	EB	WB	WB	NB
Directions Served	T	R	L	T	R
Maximum Queue (ft)	268	149	312	261	440
Average Queue (ft)	44	10	84	17	186
95th Queue (ft)	175	74	231	149	476
Link Distance (ft)	277			528	400
Upstream Blk Time (%)	0			0	27
Queuing Penalty (veh)	3			1	0
Storage Bay Dist (ft)		100	100		
Storage Blk Time (%)	4		14	0	
Queuing Penalty (veh)	3		103	0	

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	30	50	39
Average Queue (ft)	11	22	18
95th Queue (ft)	36	56	47
Link Distance (ft)		484	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)		1	
Queuing Penalty (veh)		0	

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	49	44
Average Queue (ft)	15	22	21
95th Queue (ft)	42	53	54
Link Distance (ft)		484	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	537	41	26	160	93
Average Queue (ft)	306	19	5	87	49
95th Queue (ft)	690	49	42	161	105
Link Distance (ft)	528		505	484	
Upstream Blk Time (%)	6				
Queuing Penalty (veh)	74				
Storage Bay Dist (ft)		100			100
Storage Blk Time (%)			0	31	6
Queuing Penalty (veh)			0	10	3

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	538	38	170	130
Average Queue (ft)	506	16	99	80
95th Queue (ft)	651	45	236	149
Link Distance (ft)	528		484	
Upstream Blk Time (%)	8			
Queuing Penalty (veh)	53			
Storage Bay Dist (ft)		100		100
Storage Blk Time (%)			21	33
Queuing Penalty (veh)			5	9

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	541	52	26	193	134
Average Queue (ft)	203	15	1	58	42
95th Queue (ft)	612	44	20	158	107
Link Distance (ft)	528		505	484	
Upstream Blk Time (%)	4				
Queuing Penalty (veh)	32				
Storage Bay Dist (ft)		100			100
Storage Blk Time (%)			0	13	10
Queuing Penalty (veh)			0	4	3

Network Summary

Network wide Queuing Penalty, Interval #1: 73
Network wide Queuing Penalty, Interval #2: 85
Network wide Queuing Penalty, Interval #3: 1979
Network wide Queuing Penalty, Interval #4: 1106
Network wide Queuing Penalty, All Intervals: 811

HALES ENGINEERING
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SimTraffic LOS Report

Project: Herriman - AAA TIS
Analysis Period: *Future (2024) Plus Project - Mitigated*
Time Period: *Morning Peak Hour* **Project #:** *UT18-1343*

Intersection: Mustang Trail Way & 11800 South
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	184	181	98	48.5	*D*
	T	35	37	106	49.2	*D*
	R	390	390	100	16.0	*B*
	Subtotal	609	608	100	27.7	*C*
SB	L	180	184	102	49.2	*D*
	T	55	54	98	49.2	*D*
	R	45	46	102	8.7	*A*
	Subtotal	280	284	101	42.6	*D*
EB	L	50	49	98	36.1	*D*
	T	536	537	100	20.2	*C*
	R	175	168	96	7.3	*A*
	Subtotal	761	754	99	18.4	*B*
WB	L	305	312	102	36.2	*D*
	T	552	539	98	12.0	*B*
	R	80	86	108	3.6	*A*
	Subtotal	937	937	100	19.3	*B*
Total		2,608	2,603	100	23.7	*C*

Intersection: 11800 South & Willow Walk Drive
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	29	96	11.4	*B*
	R	75	75	100	4.6	*A*
	Subtotal	105	104	99	6.5	*A*
SB	L	53	50	94	16.3	*C*
	R	10	10	100	4.2	*A*
	Subtotal	***63***	***60***	***95***	***14.3***	***B***
EB	L	10	10	98	4.8	*A*
	T	496	495	100	0.8	*A*
	R	10	10	100	1.1	*A*
	Subtotal	516	515	100	0.9	*A*
WB	L	15	13	88	4.5	*A*
	T	530	514	97	0.3	*A*
	R	40	41	102	0.2	*A*
	Subtotal	585	568	97	0.4	*A*
Total		1,270	1,247	98	1.8	*A*

HALES ENGINEERING
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SimTraffic LOS Report

Project: **Herriman - AAA TIS**
Analysis Period: ***Future (2024) Plus Project - Mitigated***
Time Period: ***Morning Peak Hour*** **Project #:** ***UT18-1343***

Intersection: **East Access & 11800 South**
Type: **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	200	200	100	10.8	*B*
	Subtotal	***200***	***200***	***100***	***10.8***	***B***
EB	T	582	575	99	0.6	*A*
	R	44	44	101	0.4	*A*
	Subtotal	626	619	99	0.6	*A*
WB	L	211	217	103	13.3	*B*
	T	589	571	97	0.4	*A*
	Subtotal	800	788	99	4.0	*A*
Total		1,626	1,607	99	3.5	*A*

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.3	0.2	1.3	2.6	0.9	2.5	3.8	0.4
Total Delay (hr)	0.0	0.0	0.4	0.0	0.3	0.3	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	17.3	15.6	11.2	3.2	16.9	7.4	3.0	41.6	53.6	10.2	42.5	45.2
Vehicles Entered	4	10	115	35	61	120	18	39	7	88	39	13
Vehicles Exited	4	10	112	34	60	117	18	43	8	89	40	14
Hourly Exit Rate	16	40	448	136	240	468	72	172	32	356	160	56
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	98	94	96	95	101	109	103	103	100	114

3: Mustang Trail Way & 11800 South Performance by movement Interval #1 7:00

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.9	1.2
Total Delay (hr)	0.0	2.6
Total Del/Veh (s)	4.9	16.0
Vehicles Entered	9	558
Vehicles Exited	9	558
Hourly Exit Rate	36	2232
Input Volume	37	2252
% of Volume	97	99

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	1.4	0.3	1.2	2.6	1.0	2.7	3.7	0.7
Total Delay (hr)	0.0	0.0	0.4	0.0	0.3	0.3	0.0	0.5	0.1	0.3	0.5	0.2
Total Del/Veh (s)	14.4	17.9	11.6	3.4	16.3	7.9	2.2	41.5	43.5	10.0	43.2	48.1
Vehicles Entered	4	10	114	34	63	120	18	39	8	87	40	12
Vehicles Exited	4	10	116	34	64	121	17	36	8	86	37	12
Hourly Exit Rate	16	40	464	136	256	484	68	144	32	344	148	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	100	103	101	94	102	99	96	91	103	99	92	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #2 7:15

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.9	1.2
Total Delay (hr)	0.0	2.6
Total Del/Veh (s)	5.3	15.9
Vehicles Entered	9	558
Vehicles Exited	9	554
Hourly Exit Rate	36	2216
Input Volume	37	2252
% of Volume	97	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.2	1.3	0.4	1.1	2.5	1.7	2.6	3.6	0.8
Total Delay (hr)	0.1	0.3	1.6	0.2	1.9	0.9	0.0	1.1	0.2	0.9	0.9	0.3
Total Del/Veh (s)	49.5	51.0	30.9	12.2	54.1	16.9	5.1	55.2	45.6	24.6	49.9	50.7
Vehicles Entered	7	20	188	61	122	180	30	68	15	125	62	18
Vehicles Exited	7	17	182	60	107	173	28	67	14	121	61	17
Hourly Exit Rate	28	68	728	240	428	692	112	268	56	484	244	68
Input Volume	33	83	765	269	469	736	107	263	47	520	240	73
% of Volume	85	82	95	89	91	94	105	102	119	93	102	93

3: Mustang Trail Way & 11800 South Performance by movement Interval #3 7:30

Movement	SBR	All
Denied Delay (hr)	0.0	0.3
Denied Del/Veh (s)	3.6	1.2
Total Delay (hr)	0.1	8.5
Total Del/Veh (s)	12.2	32.3
Vehicles Entered	18	914
Vehicles Exited	17	871
Hourly Exit Rate	68	3484
Input Volume	69	3674
% of Volume	99	95

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	1.3	0.2	1.2	2.8	1.0	2.7	3.8	0.7
Total Delay (hr)	0.0	0.1	0.7	0.1	0.7	0.4	0.0	0.4	0.1	0.3	0.6	0.1
Total Del/Veh (s)	30.1	34.6	18.4	6.2	28.4	10.5	2.9	37.7	51.0	12.6	46.2	41.3
Vehicles Entered	5	9	120	39	68	120	20	34	7	90	44	11
Vehicles Exited	5	12	126	39	81	128	22	35	8	94	46	12
Hourly Exit Rate	20	48	504	156	324	512	88	140	32	376	184	48
Input Volume	16	39	459	144	250	491	71	158	31	347	160	49
% of Volume	125	123	110	108	130	104	124	89	103	108	115	98

3: Mustang Trail Way & 11800 South Performance by movement Interval #4 7:45

Movement	SBR	All
Denied Delay (hr)	0.0	0.2
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.0	3.7
Total Del/Veh (s)	7.7	20.2
Vehicles Entered	10	577
Vehicles Exited	11	619
Hourly Exit Rate	44	2476
Input Volume	37	2252
% of Volume	119	110

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.2	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.1	1.3	0.3	1.2	2.6	1.2	2.6	3.7	0.7
Total Delay (hr)	0.2	0.5	3.0	0.3	3.2	1.8	0.1	2.5	0.5	1.8	2.6	0.8
Total Del/Veh (s)	31.2	36.1	20.2	7.3	36.2	12.0	3.6	48.5	49.2	16.0	49.2	49.2
Vehicles Entered	20	48	537	169	313	539	86	180	37	390	185	54
Vehicles Exited	20	49	537	168	312	539	86	181	37	390	184	54
Hourly Exit Rate	20	49	537	168	312	539	86	181	37	390	184	54
Input Volume	20	50	536	175	305	552	80	184	35	390	180	55
% of Volume	99	98	100	96	102	98	108	98	106	100	102	98

3: Mustang Trail Way & 11800 South Performance by movement Entire Run

Movement	SBR	All
Denied Delay (hr)	0.0	0.9
Denied Del/Veh (s)	3.7	1.2
Total Delay (hr)	0.1	17.3
Total Del/Veh (s)	8.7	23.7
Vehicles Entered	46	2604
Vehicles Exited	46	2603
Hourly Exit Rate	46	2603
Input Volume	45	2608
% of Volume	102	100

6: 11800 South & Willow Walk Drive Performance by movement Interval #1 7:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.2	0.1	0.8	0.0	0.0	0.0	0.3	4.0	0.1	2.8	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	6.8	0.7	0.4	7.0	0.3	0.2	8.9	3.8	13.0	3.7	1.5
Vehicles Entered	2	114	2	2	114	10	6	17	11	2	280
Vehicles Exited	2	113	2	2	115	10	6	17	11	2	280
Hourly Exit Rate	8	452	8	8	460	40	24	68	44	8	1120
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	102	89	62	98	111	89	101	96	89	99

6: 11800 South & Willow Walk Drive Performance by movement Interval #2 7:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.0	0.1	1.7	0.0	0.0	0.0	0.2	4.0	0.1	2.4	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	2.4	0.7	1.1	3.5	0.3	0.1	9.8	3.4	8.5	4.3	1.3
Vehicles Entered	2	111	3	3	114	9	6	16	11	2	277
Vehicles Exited	2	110	3	3	113	9	6	16	11	2	275
Hourly Exit Rate	8	440	12	12	452	36	24	64	44	8	1100
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	100	133	92	96	100	89	96	96	89	98

6: 11800 South & Willow Walk Drive Performance by movement Interval #3 7:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.6	0.2	1.0	0.0	0.0	0.0	0.5	3.9	0.1	1.8	0.4
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3
Total Del/Veh (s)	5.4	1.0	1.0	5.0	0.4	0.2	14.3	5.6	22.2	5.0	2.3
Vehicles Entered	3	163	4	5	164	12	9	24	16	4	404
Vehicles Exited	3	161	4	5	165	12	9	24	16	3	402
Hourly Exit Rate	12	644	16	20	660	48	36	96	64	12	1608
Input Volume	14	661	13	20	707	53	40	100	74	13	1695
% of Volume	86	97	123	100	93	91	90	96	86	92	95

6: 11800 South & Willow Walk Drive Performance by movement Interval #4 7:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1.4	0.1	1.7	0.0	0.0	0.0	0.4	3.9	0.1	2.1	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.0	0.7	1.2	3.0	0.3	0.1	9.4	4.3	13.7	3.6	1.6
Vehicles Entered	2	108	2	3	121	10	7	17	11	3	284
Vehicles Exited	2	111	2	3	121	10	7	18	12	3	289
Hourly Exit Rate	8	444	8	12	484	40	28	72	48	12	1156
Input Volume	9	441	9	13	471	36	27	67	46	9	1128
% of Volume	89	101	89	92	103	111	104	107	104	133	102

6: 11800 South & Willow Walk Drive Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	1.6	0.1	1.4	0.0	0.0	0.0	0.4	3.9	0.1	2.2	0.3
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.6
Total Del/Veh (s)	4.8	0.8	1.1	4.5	0.3	0.2	11.4	4.6	16.3	4.2	1.8
Vehicles Entered	9	496	10	13	514	40	29	75	50	11	1247
Vehicles Exited	10	495	10	13	514	41	29	75	50	10	1247
Hourly Exit Rate	10	495	10	13	514	41	29	75	50	10	1247
Input Volume	10	496	10	15	530	40	30	75	53	10	1270
% of Volume	98	100	100	88	97	102	96	100	94	100	98

8: 11800 South Performance by movement Interval #1 7:00

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.2
Vehicles Entered	141	127	268
Vehicles Exited	141	127	268
Hourly Exit Rate	564	508	1072
Input Volume	554	520	1074
% of Volume	102	98	100

8: 11800 South Performance by movement Interval #2 7:15

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.2
Vehicles Entered	138	127	265
Vehicles Exited	137	126	263
Hourly Exit Rate	548	504	1052
Input Volume	554	520	1074
% of Volume	99	97	98

8: 11800 South Performance by movement Interval #3 7:30

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.4	0.3	0.3
Vehicles Entered	205	181	386
Vehicles Exited	205	181	386
Hourly Exit Rate	820	724	1544
Input Volume	855	780	1635
% of Volume	96	93	94

8: 11800 South Performance by movement Interval #4 7:45

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.3
Vehicles Entered	141	133	274
Vehicles Exited	142	133	275
Hourly Exit Rate	568	532	1100
Input Volume	554	520	1074
% of Volume	103	102	102

8: 11800 South Performance by movement Entire Run

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.1
Total Del/Veh (s)	0.3	0.2	0.3
Vehicles Entered	625	568	1193
Vehicles Exited	624	567	1191
Hourly Exit Rate	624	567	1191
Input Volume	629	585	1214
% of Volume	99	97	98

10: East Access & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.3	0.1	4.9	0.3	4.3	1.2
Vehicles Entered	132	7	36	127	31	333
Vehicles Exited	132	7	37	127	31	334
Hourly Exit Rate	528	28	148	508	124	1336
Input Volume	518	29	141	520	133	1341
% of Volume	102	97	105	98	93	100

10: East Access & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.2	5.1	0.4	4.4	1.3
Vehicles Entered	127	8	36	128	33	332
Vehicles Exited	127	8	36	127	33	331
Hourly Exit Rate	508	32	144	508	132	1324
Input Volume	518	29	141	520	133	1341
% of Volume	98	110	102	98	99	99

10: East Access & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.5	0.1
Total Delay (hr)	0.1	0.0	0.6	0.0	0.5	1.1
Total Del/Veh (s)	1.1	0.7	20.3	0.5	15.7	6.7
Vehicles Entered	184	22	102	184	103	595
Vehicles Exited	183	22	98	184	100	587
Hourly Exit Rate	732	88	392	736	400	2348
Input Volume	773	88	422	796	400	2479
% of Volume	95	100	93	92	100	95

10: East Access & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.2
Total Del/Veh (s)	0.5	0.3	9.0	0.4	6.5	2.2
Vehicles Entered	133	7	42	133	32	347
Vehicles Exited	133	8	47	133	36	357
Hourly Exit Rate	532	32	188	532	144	1428
Input Volume	518	29	141	520	133	1341
% of Volume	103	110	133	102	108	106

10: East Access & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay (hr)	0.1	0.0	0.8	0.1	0.6	1.6
Total Del/Veh (s)	0.6	0.4	13.3	0.4	10.8	3.5
Vehicles Entered	575	44	217	571	200	1607
Vehicles Exited	575	44	217	571	200	1607
Hourly Exit Rate	575	44	217	571	200	1607
Input Volume	582	44	211	589	200	1626
% of Volume	99	101	103	97	100	99

13: Commercial & 11800 South Performance by movement Interval #1 7:00

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.2	0.0	0.2	4.0	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.4	5.6	1.1	19.5	3.7	1.3
Vehicles Entered	156	9	6	170	8	5	354
Vehicles Exited	156	9	6	168	8	5	352
Hourly Exit Rate	624	36	24	672	32	20	1408
Input Volume	624	36	31	683	27	22	1423
% of Volume	100	100	77	98	119	91	99

13: Commercial & 11800 South Performance by movement Interval #2 7:15

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.2	4.4	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	0.4	0.4	6.8	1.1	12.6	3.6	1.2
Vehicles Entered	153	10	6	166	7	6	348
Vehicles Exited	152	10	7	169	7	6	351
Hourly Exit Rate	608	40	28	676	28	24	1404
Input Volume	624	36	31	683	27	22	1423
% of Volume	97	111	90	99	104	109	99

13: Commercial & 11800 South Performance by movement Interval #3 7:30

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.4	0.1	0.3	4.4	0.1
Total Delay (hr)	0.1	0.0	0.0	0.1	0.6	0.0	0.8
Total Del/Veh (s)	0.9	0.9	16.1	1.4	166.6	20.4	5.0
Vehicles Entered	270	13	11	282	12	7	595
Vehicles Exited	269	13	11	278	9	7	587
Hourly Exit Rate	1076	52	44	1112	36	28	2348
Input Volume	1120	53	47	1178	40	33	2471
% of Volume	96	98	94	94	90	85	95

13: Commercial & 11800 South Performance by movement Interval #4 7:45

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	3.8	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.2	0.0	0.3
Total Del/Veh (s)	0.5	0.5	6.9	1.2	66.7	15.1	3.0
Vehicles Entered	162	9	8	174	7	7	367
Vehicles Exited	164	9	8	178	10	7	376
Hourly Exit Rate	656	36	32	712	40	28	1504
Input Volume	624	36	31	683	27	22	1423
% of Volume	105	100	103	104	148	127	106

13: Commercial & 11800 South Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.2	4.1	0.1
Total Delay (hr)	0.1	0.0	0.1	0.3	0.8	0.1	1.4
Total Del/Veh (s)	0.6	0.6	10.0	1.3	88.2	12.5	3.0
Vehicles Entered	741	40	32	793	33	25	1664
Vehicles Exited	741	40	32	794	33	25	1665
Hourly Exit Rate	741	40	32	794	33	25	1665
Input Volume	748	40	35	807	30	25	1685
% of Volume	99	99	91	98	109	101	99

Total Network Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Denied Delay (hr)	0.2	0.2	0.4	0.2	1.0
Denied Del/Veh (s)	1.3	1.4	1.3	1.4	1.3
Total Delay (hr)	3.3	3.3	11.5	4.8	22.9
Total Del/Veh (s)	17.9	17.5	37.4	22.4	28.3
Vehicles Entered	601	602	1028	609	2840
Vehicles Exited	601	594	944	692	2835
Hourly Exit Rate	2404	2376	3776	2768	2835
Input Volume	9566	9566	15975	9566	11168
% of Volume	25	25	24	29	25

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	62	102	110	40	125	95	91	26	178	73	120	164
Average Queue (ft)	25	59	63	21	79	50	47	10	109	26	77	95
95th Queue (ft)	63	116	126	46	140	105	100	28	176	72	128	161
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)			0		0	0	1		3	0	0	3
Queuing Penalty (veh)			0		1	0	1		13	0	0	3

Intersection: 3: Mustang Trail Way & 11800 South, Interval #1

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	109	26
Average Queue (ft)	45	13
95th Queue (ft)	104	31
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	51	114	119	56	151	100	98	28	162	53	132	160
Average Queue (ft)	26	61	68	23	86	54	52	10	94	21	67	94
95th Queue (ft)	58	112	121	59	150	104	101	32	172	55	127	166
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)		0	0	0	1	0	1	0	3		1	3
Queuing Penalty (veh)		0	0	0	3	0	1	0	13		2	3

Intersection: 3: Mustang Trail Way & 11800 South, Interval #2

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	98	26
Average Queue (ft)	44	15
95th Queue (ft)	105	32
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	171	259	263	204	250	522	425	32	277	127	269	232
Average Queue (ft)	84	190	196	105	206	292	194	14	181	46	159	152
95th Queue (ft)	177	289	302	233	300	705	580	34	309	125	296	245
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	4	16	19	1	36	1	4		25	0	17	20
Queuing Penalty (veh)	14	18	50	3	133	6	4		144	0	54	28

Intersection: 3: Mustang Trail Way & 11800 South, Interval #3

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	254	69
Average Queue (ft)	87	28
95th Queue (ft)	246	79
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	118	182	204	108	221	390	289	39	161	56	183	194
Average Queue (ft)	40	80	94	37	121	124	99	14	84	22	95	118
95th Queue (ft)	116	171	192	110	237	441	358	38	164	57	182	198
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	2	3	4	0	9	0	2		2		2	5
Queuing Penalty (veh)	5	1	5	0	21	1	1		9		4	4

Intersection: 3: Mustang Trail Way & 11800 South, Interval #4

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	137	37
Average Queue (ft)	48	16
95th Queue (ft)	146	42
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	181	259	273	214	250	556	447	46	287	129	282	241
Average Queue (ft)	44	97	105	47	123	130	98	12	117	29	100	115
95th Queue (ft)	120	215	226	142	243	439	353	33	228	83	207	202
Link Distance (ft)		505	505			2469	2469			1739		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150			150	150			100	150		150	150
Storage Blk Time (%)	2	5	6	0	12	0	2	0	9	0	5	8
Queuing Penalty (veh)	5	5	14	1	40	2	2	0	45	0	15	10

Intersection: 3: Mustang Trail Way & 11800 South, All Intervals

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	264	74
Average Queue (ft)	56	18
95th Queue (ft)	163	51
Link Distance (ft)	998	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #1

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	L	T	L	L	TR	L	TR
Maximum Queue (ft)	23	2	25	27	44	51	18
Average Queue (ft)	5	0	8	15	22	25	6
95th Queue (ft)	22	4	31	36	44	54	20
Link Distance (ft)		1888		676		1163	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100		100		100		100
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	11	15	34	37	43	22
Average Queue (ft)	2	4	16	22	23	5
95th Queue (ft)	12	20	39	40	47	21
Link Distance (ft)			676		1163	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100	100		100		100
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #3

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	L	T	L	TR	L	TR
Maximum Queue (ft)	35	2	4	30	2	46	61	66	27
Average Queue (ft)	8	0	1	10	0	23	29	34	9
95th Queue (ft)	32	4	6	34	4	49	57	64	27
Link Distance (ft)		1888	1888		271	676		1163	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	100			100			100		100
Storage Blk Time (%)								0	
Queuing Penalty (veh)								0	

Intersection: 6: 11800 South & Willow Walk Drive, Interval #4

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	R	L	TR	L	TR
Maximum Queue (ft)	22	20	4	35	47	50	20
Average Queue (ft)	4	4	1	17	25	26	7
95th Queue (ft)	19	20	6	40	51	59	22
Link Distance (ft)				676		1163	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	100	100	100		100		100
Storage Blk Time (%)					0	0	
Queuing Penalty (veh)					0	0	

Intersection: 6: 11800 South & Willow Walk Drive, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	L	T	R	L	TR	L	TR
Maximum Queue (ft)	36	2	4	36	2	4	52	69	76	29
Average Queue (ft)	4	0	0	6	0	0	18	24	27	7
95th Queue (ft)	22	2	4	27	2	3	42	49	57	23
Link Distance (ft)		1888	1888		271		676		1163	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100			100		100		100		100
Storage Blk Time (%)								0	0	
Queuing Penalty (veh)								0	0	

Intersection: 8: 11800 South, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #3

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, Interval #4

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 8: 11800 South, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: East Access & 11800 South, Interval #1

Movement	EB	EB	WB	NB
Directions Served	T	R	L	R
Maximum Queue (ft)	2	4	76	65
Average Queue (ft)	0	1	38	34
95th Queue (ft)	5	6	77	65
Link Distance (ft)	278			388
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100	100	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 10: East Access & 11800 South, Interval #2

Movement	EB	WB	NB
Directions Served	R	L	R
Maximum Queue (ft)	2	65	64
Average Queue (ft)	0	36	35
95th Queue (ft)	5	71	62
Link Distance (ft)			388
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100	100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 10: East Access & 11800 South, Interval #3

Movement	EB	EB	EB	WB	WB	NB
Directions Served	T	T	R	L	T	R
Maximum Queue (ft)	2	4	27	231	24	198
Average Queue (ft)	0	1	8	125	4	117
95th Queue (ft)	5	6	28	240	52	215
Link Distance (ft)	278	278			528	388
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100	100		
Storage Blk Time (%)				23		
Queuing Penalty (veh)				89		

Intersection: 10: East Access & 11800 South, Interval #4

Movement	EB	EB	EB	WB	NB
Directions Served	T	T	R	L	R
Maximum Queue (ft)	2	2	10	138	101
Average Queue (ft)	0	0	2	56	42
95th Queue (ft)	5	5	10	137	97
Link Distance (ft)	278	278			388
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100	100	
Storage Blk Time (%)				3	
Queuing Penalty (veh)				8	

Intersection: 10: East Access & 11800 South, All Intervals

Movement	EB	EB	EB	WB	WB	NB
Directions Served	T	T	R	L	T	R
Maximum Queue (ft)	6	6	27	235	24	200
Average Queue (ft)	0	0	3	64	1	57
95th Queue (ft)	4	4	15	160	25	140
Link Distance (ft)	278	278			528	388
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100	100		
Storage Blk Time (%)				7		
Queuing Penalty (veh)				24		

Intersection: 13: Commercial & 11800 South, Interval #1

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	48	25
Average Queue (ft)	15	23	11
95th Queue (ft)	43	53	32
Link Distance (ft)		460	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #2

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	35	34	30
Average Queue (ft)	14	16	13
95th Queue (ft)	41	40	33
Link Distance (ft)		460	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Commercial & 11800 South, Interval #3

Movement	EB	WB	WB	NB	NB
Directions Served	R	L	T	L	R
Maximum Queue (ft)	10	66	9	131	52
Average Queue (ft)	1	27	1	71	22
95th Queue (ft)	13	66	19	197	77
Link Distance (ft)			505	460	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	100			100
Storage Blk Time (%)		0		18	
Queuing Penalty (veh)		3		6	

Intersection: 13: Commercial & 11800 South, Interval #4

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	103	48
Average Queue (ft)	14	38	21
95th Queue (ft)	42	162	87
Link Distance (ft)		460	
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	100		100
Storage Blk Time (%)		5	
Queuing Penalty (veh)		1	

Intersection: 13: Commercial & 11800 South, All Intervals

Movement	EB	WB	WB	NB	NB
Directions Served	R	L	T	L	R
Maximum Queue (ft)	10	66	9	143	58
Average Queue (ft)	0	18	0	37	17
95th Queue (ft)	6	49	9	134	63
Link Distance (ft)			505	460	
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)	100	100			100
Storage Blk Time (%)		0		6	
Queuing Penalty (veh)		1		2	

Network Summary

Network wide Queuing Penalty, Interval #1: 19
Network wide Queuing Penalty, Interval #2: 22
Network wide Queuing Penalty, Interval #3: 554
Network wide Queuing Penalty, Interval #4: 62
Network wide Queuing Penalty, All Intervals: 164

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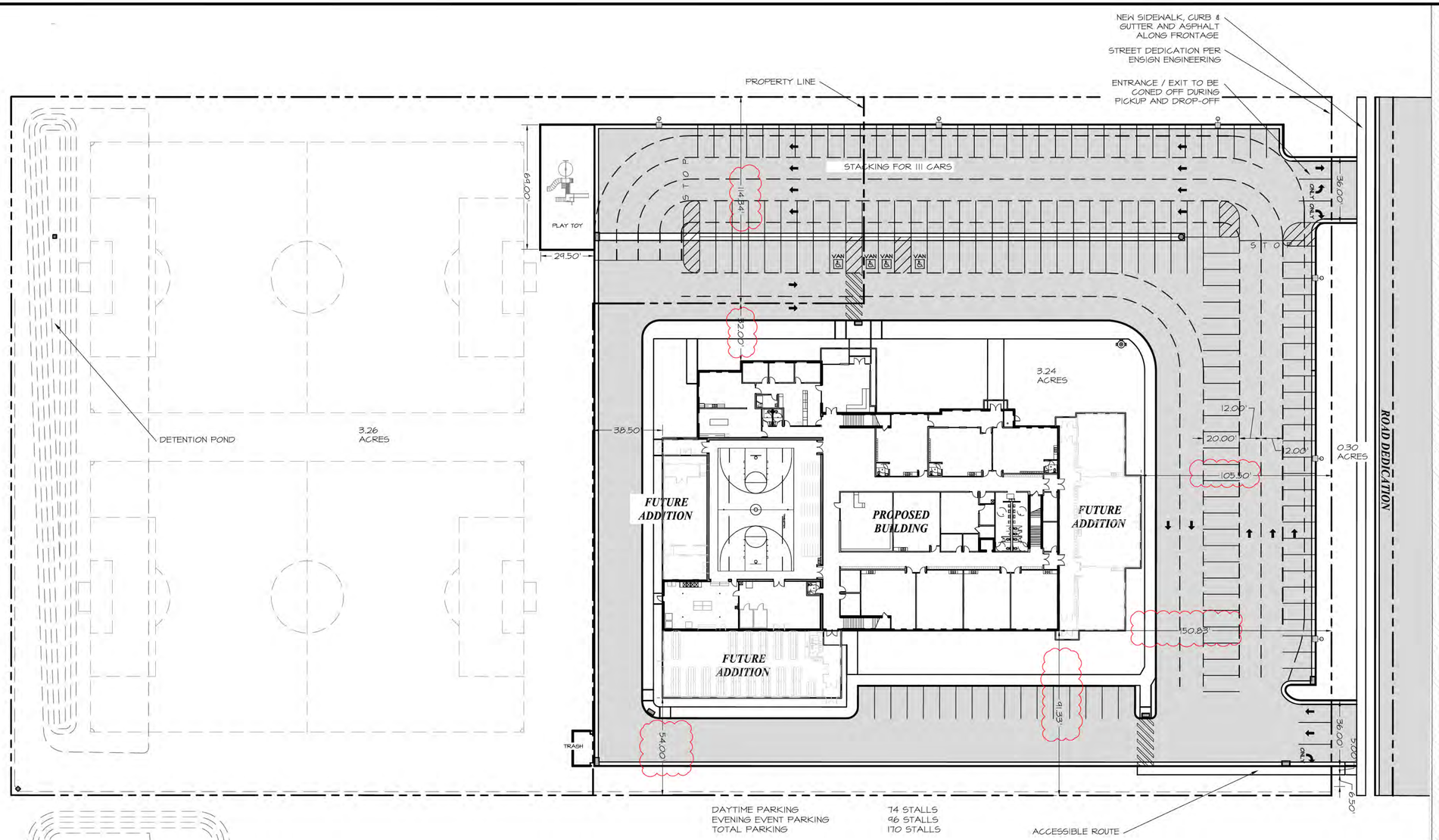
APPENDIX C

Site Plan



MIMINUM YARD SETBACKS			
ZONE	FRONT	SIDE	REAR
A-1	25'	1 SIDE YARD: 10' BOTH SIDE YARDS: 20' CORNER LOTS: 20' FROM STREET	SINGLE-FAMILY DWELLING: 25' ANY PORTION OF UNCOVERED OR COVERED PATIO OR DECK: 20'
C-2	8'	NONE, WHEN ADJACENT TO COMMERCIAL USE. 15' PLUS 1' FOR EVERY 1' OF BUILDING HEIGHT ABOVE 15'. CORNER LOT 20' FROM STREET.	NONE, EXCEPT AS FOLLOWS: CORNER LOTS WHICH REAR UPON SIDE YARD OF LOT IN AGRICULTURAL OR RESIDENTIAL ZONE: BUILDING HEIGHT 35' OR LESS: 20' BUILDING HEIGHT MORE THAN 35': 30'

CURRENT PROPERTY ZONE IS A-1

0 30 60 120

HORIZONTAL SCALE: 1"=30'

SITE PLAN

CALL BLUESTAKES
@ 1-800-662-4111
AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL:

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM
STRUCTURAL CIVIL SURVEY

ADVANTAGE ARTS ACADEMY
ADDRESS
HERRIMAN, UTAH

DATE: 11/05/2018
PROJECT: AW-051
DRAWN BY: JRJ
REVISIONS:
11/27/2018 1

SITE PLAN

SHEET NUMBER:
C200

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

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APPENDIX D

95th Percentile Queue Length Reports

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Existing (2018) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

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Project #: UT18-1343

Intersection	EB				NB			SB				WB		
	L	LT	R	T	L	R	T	L	LR	R	T	L	R	T
11800 South & Willow Walk Drive	--	9	--	--	--	--	--	--	39	--	--	--	--	--
Mustang Trail Way & 11800 South	4	--	32	70	47	89	27	76	--	7	35	112	31	73

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Existing (2018) Plus Project

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT18-1343

Intersection	EB				NB			SB				WB		
	LT	R	T	UL	L	R	T	L	LR	R	T	L	R	T
11800 South & Willow Walk Drive	3	--	--	--	--	--	--	--	48	--	--	--	--	--
East Access & 11800 South	--	6	2	--	--	75	--	--	--	--	--	73	--	--
Mustang Trail Way & 11800 South	--	37	94	68	80	96	28	83	--	21	36	127	32	106

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
Innovative transportation solutions

Project #: UT18-1343

Intersection	EB				NB				SB				WB			
	L	LTR	R	T	L	R	T	TR	L	R	T	TR	L	LT	R	T
Access 1/Willow Walk Dr & 11800 South	--	78	--	--	49	--	--	64	48	--	--	21	--	55	3	--
Mustang Trail Way & 11800 South	85	--	229	444	124	169	102	--	171	30	170	--	206	--	141	678

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
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Project #: UT18-1343

Intersection	EB				NB				SB				WB			
	LTR	R	T	UL	L	R	T	TR	L	R	T	TR	L	LTR	R	T
11800 South & Willow Walk Drive	45	--	--	--	51	--	--	66	70	--	--	34	--	60	--	--
East Access & 11800 South	--	74	175	--	--	476	--	--	--	--	--	--	231	--	--	149
Mustang Trail Way & 11800 South	--	286	618	218	397	446	881	--	254	85	367	--	303	--	1,537	2,119

SimTraffic Queueing Report

Project: Herriman - AAA TIS

Analysis: Future (2024) Plus Project - Mitigated

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet)

HALES ENGINEERING
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Project #: UT18-1343

Intersection	EB				NB				SB				WB		
	L	R	T	UL	L	R	T	TR	L	R	T	TR	L	R	T
11800 South & Willow Walk Drive	22	--	3	--	42	--	--	49	57	--	--	23	27	3	2
East Access & 11800 South	--	15	4	--	--	140	--	--	--	--	--	--	160	--	25
Mustang Trail Way & 11800 South	--	142	221	120	228	207	83	--	202	51	163	--	243	33	396

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APPENDIX E

Air Quality Report

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	81	111	61	69	120	70	65
CO Emissions (g)	2296	2667	1758	1923	2892	2040	1893
NOx Emissions (g)	274	352	209	233	374	240	224

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	90	93	65	82
CO Emissions (g)	2216	2409	1845	2194
NOx Emissions (g)	288	298	216	271

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	82	56	64	45	90	55	75
CO Emissions (g)	2209	1719	1956	1503	2288	1622	2067
NOx Emissions (g)	262	198	214	166	288	189	247

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	97	72	111	75
CO Emissions (g)	2495	1986	2716	2056
NOx Emissions (g)	309	240	349	246

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	90	130	100	129	129	106	93
CO Emissions (g)	2729	3310	3074	3406	3364	3109	2753
NOx Emissions (g)	318	415	345	417	416	357	318

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	119	91	89	108
CO Emissions (g)	3446	2822	2724	3074
NOx Emissions (g)	401	320	308	361

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	80	102	76	41	61	45	80
CO Emissions (g)	2201	2680	2109	1584	1820	1540	2221
NOx Emissions (g)	271	336	258	162	211	164	265

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	50	58	77	67
CO Emissions (g)	1723	1924	2237	2004
NOx Emissions (g)	188	209	265	233

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	333	399	301	283	401	277	313
CO Emissions (g)	9435	10375	8897	8415	10364	8310	8934
NOx Emissions (g)	1125	1300	1026	978	1289	950	1054

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	357	314	342	332
CO Emissions (g)	9880	9140	9523	9327
NOx Emissions (g)	1185	1067	1138	1111

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	113	160	66	81	143	110	98
CO Emissions (g)	3086	3772	2267	2476	3561	2978	2836
NOx Emissions (g)	373	481	238	274	451	358	333

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	101	127	83	108
CO Emissions (g)	2652	3358	2550	2954
NOx Emissions (g)	326	398	284	352

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	112	91	78	111	80	99	73
CO Emissions (g)	3061	2646	2380	2940	2474	2705	2317
NOx Emissions (g)	369	306	268	357	275	319	248

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	99	100	152	99
CO Emissions (g)	2834	2950	3784	2809
NOx Emissions (g)	327	343	477	329

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	164	215	156	181	205	179	170
CO Emissions (g)	5106	5701	4888	5155	5508	5141	4831
NOx Emissions (g)	558	672	534	591	655	582	554

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	198	155	166	179
CO Emissions (g)	5728	4868	4895	5182
NOx Emissions (g)	626	512	547	583

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	108	88	120	79	97	126	96
CO Emissions (g)	3144	2810	3228	2443	2821	3319	2888
NOx Emissions (g)	361	307	381	264	322	403	318

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	115	76	91	100
CO Emissions (g)	3102	2413	2792	2896
NOx Emissions (g)	367	262	307	329

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	497	555	419	451	526	514	438
CO Emissions (g)	14397	14929	12763	13014	14364	14143	12872
NOx Emissions (g)	1661	1766	1421	1486	1703	1662	1453

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	514	458	493	487
CO Emissions (g)	14315	13590	14021	13841
NOx Emissions (g)	1646	1516	1615	1593

Total Network Performance Interval #1 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	190	230	167	202	267	203	161
CO Emissions (g)	5033	5800	4530	5037	6393	5287	4599
NOx Emissions (g)	597	699	541	623	801	638	520

Total Network Performance Interval #1 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	185	233	176	201
CO Emissions (g)	4779	5750	4863	5207
NOx Emissions (g)	580	715	572	629

Total Network Performance Interval #2 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	190	172	141	208	153	202	160
CO Emissions (g)	5177	4844	4219	5396	4434	5122	4531
NOx Emissions (g)	612	571	470	655	501	630	519

Total Network Performance Interval #2 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	154	164	208	175
CO Emissions (g)	4446	4650	5362	4818
NOx Emissions (g)	501	542	645	565

Total Network Performance Interval #3 8:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	211	257	208	213	275	195	259
CO Emissions (g)	6307	6900	6164	6330	7207	5787	7062
NOx Emissions (g)	710	814	690	715	861	643	816

Total Network Performance Interval #3 8:00

Run Number	28	29	30	Avg
HC Emissions (g)	322	211	249	240
CO Emissions (g)	7988	6096	6742	6658
NOx Emissions (g)	960	695	795	770

Total Network Performance Interval #4 8:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	265	199	165	152	129	198	189
CO Emissions (g)	6611	5265	4734	4748	3995	5474	5245
NOx Emissions (g)	807	632	539	518	439	632	608

Total Network Performance Interval #4 8:15

Run Number	28	29	30	Avg
HC Emissions (g)	123	160	184	176
CO Emissions (g)	4074	4621	5105	4987
NOx Emissions (g)	438	540	594	575

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	855	859	681	774	824	798	769
CO Emissions (g)	23128	22809	19647	21511	22029	21670	21436
NOx Emissions (g)	2727	2716	2240	2511	2603	2543	2462

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	785	767	817	793
CO Emissions (g)	21287	21117	22072	21671
NOx Emissions (g)	2479	2492	2606	2538

Total Network Performance Interval #1 7:00

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	201	266	152	182	318	189	202
CO Emissions (g)	5705	6760	4648	5225	7591	5566	5765
NOx Emissions (g)	670	835	525	607	981	634	674

Total Network Performance Interval #1 7:00

Run Number	28	29	30	Avg
HC Emissions (g)	170	273	157	211
CO Emissions (g)	5084	7085	4901	5833
NOx Emissions (g)	569	861	551	691

Total Network Performance Interval #2 7:15

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	235	225	199	181	229	168	148
CO Emissions (g)	6253	6053	5737	5219	6082	4912	4630
NOx Emissions (g)	759	730	659	608	735	566	512

Total Network Performance Interval #2 7:15

Run Number	28	29	30	Avg
HC Emissions (g)	201	200	267	205
CO Emissions (g)	5688	5743	6824	5714
NOx Emissions (g)	668	670	842	675

Total Network Performance Interval #3 7:30

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	337	388	333	400	388	426	339
CO Emissions (g)	9869	10678	9753	10567	10771	11632	9855
NOx Emissions (g)	1131	1252	1110	1266	1243	1338	1123

Total Network Performance Interval #3 7:30

Run Number	28	29	30	Avg
HC Emissions (g)	381	391	401	378
CO Emissions (g)	10596	10561	10601	10488
NOx Emissions (g)	1219	1240	1274	1220

Total Network Performance Interval #4 7:45

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	259	230	206	188	191	226	251
CO Emissions (g)	7143	6373	5949	5565	5910	6761	6902
NOx Emissions (g)	843	759	675	645	658	771	813

Total Network Performance Interval #4 7:45

Run Number	28	29	30	Avg
HC Emissions (g)	156	227	205	214
CO Emissions (g)	4975	5982	6029	6159
NOx Emissions (g)	544	736	692	714

Total Network Performance Entire Run

Run Number	21	22	23	24	25	26	27
HC Emissions (g)	1032	1109	890	951	1126	1008	940
CO Emissions (g)	28971	29864	26088	26577	30354	28871	27152
NOx Emissions (g)	3402	3576	2969	3125	3618	3309	3121

Total Network Performance Entire Run

Run Number	28	29	30	Avg
HC Emissions (g)	908	1091	1030	1008
CO Emissions (g)	26343	29371	28355	28195
NOx Emissions (g)	3000	3507	3359	3299

Attachment G
City Engineer Email

Michael Maloy

From: Blake Thomas
Sent: Thursday, December 27, 2018 10:54 PM
To: Michael Maloy
Cc: Gordon Haight
Subject: AAA Charter School PC Recommendations from Engineering

Mike,

Here are my comments for the AAA Charter School:

- Traffic & Transportation
  - Isolated location of school does not allow for a safe walking route. Offsite improvements will be required to provide a route to this project.
  - Single point access of traffic into the school site has not worked for previous charter schools. In previous cases the school administration and city staff have had to coordinate and open a second access to mitigate dangerous situations created by having a single point access.
  - Minimal access to school sites in prior cases has led to dangerous driving behavior being exhibited by parents driving their children to school. Dangerous maneuvers include u-turns to avoid long queues and drop off/pick up occurring on the street rather than at the designated location within the school property.
    - The school administrators need to provide a solution to these problems which may include raised medians, strict pick up/drop off regulations, and other solutions as needed.
  - The site plan needs to be updated to show how the decel lane will be integrated into the site design as required in the traffic impact study.
  - Full roadway improvements along the project frontage are required including asphalt, curb, gutter, park strip landscaping, street lighting, and sidewalk as shown on the standard 106 ft. cross section
    - Right-of-way width of 120 ft. (60 ft. from road centerline) shall be dedicated to Herriman City for future road widening.
- Storm Water
  - The site does not have an outfall so the storm water will need to be maintained in a temporary retention pond sized to the 100-year, 24-hour event with 1 ft of freeboard.
    - If this facility is placed on an off-site location an easement will be required to be recorded prior to commencement of construction of the facility.
    - A long-term storm water maintenance agreement will be required for any private and temporary storm drain improvements.
- Other Items
  - Contaminated soil
    - Site must adhere to the requirements of the State of Utah DEQ and Salt Lake County Health Department whereas it is within the designated operable unit 6 of the Kennecott South Zone contamination area.

Thank you,

Blake J. Thomas, P.E.
City Engineer
(801) 446-5323 Office
(801) 727-0910 Direct
bthomas@herriman.org

Attachment H

Neighborhood Meeting Minutes & Comment

Community Outreach
Neighborhood Meeting

Date:	12/17/2018
Developer/Applicant:	Tyler Bodrero with Pace CM Public Charter School at 6301 W 11800 South
Community:	Zone 2
Community Facilitator:	Robert Bradfield
Number of Mailed Notices:	136
Number of Attendees:	9

Minutes of comments by Herriman Citizens:

Presenter Tyler went into his message and info about this location and address of the exact location and details of the proposed plan, and as he got into his presentation many citizens wanted to stop and ask questions right away about the location and why there mostly? Tyler continued and again stopped and took questions after showing the traffic route proposed for use, but again that stirred up more questions and problems with citizens asking about the traffic and do they realize this is on 11800 South, a soon to be a major road with semi traffic use and in a business area? Tyler from this point on really just answered questions and had to add bits of presentation as t went according to questions.

*** Citizen Questions ***

Dave Hadley – Has this already been approved to do there in this location? And why would a school be put on a pre-zoned Commercial lot? Who sold it to you to do with this what you are now talking about to do here in the location, after this particular commercial lot has already been discussed for prior needs planned for the city and with the citizens that was approved, and we were promised and told it would be commercial use only in this 30 acre plot? Dave also asked about how dumb it would be to place this here in a location where perhaps a Smoke shop could be placed right next to it in the other commercial use spaces. It invites perhaps bad character people and perhaps predators in a commercial use area like this, no sense at all!

He further commented on why is it fair that if this charter school was supposed to be in 2-3 other locations, that it now gets dumped here and sold so place right away for the best needs to fit a time frame in a spot that makes no sense, and affect us in this area, when it was supposed to be approved already to the citizens as commercial a year ago. A city referendum was approved and done, over this land and space and you are not going to be welcomed here!!! Very frustrated and angry at them for trying to sneak this in. Perhaps the buys of this land may have done a little homework to know this was already taken!

Emily Berbert – Ridiculous site to place in a commercial area, next to 11800 South, and also near High School, and 4 other elementary schools already in this very congested

area, including a Charter school (Athlos). And why does the timing of your school needs supersede the needs of the citizens in this area, so as to disregard their concerns and the existing already approved and designed plans for the needs of the city for income. The city made deals already with this particular land with the sellers (Bastian Sisters) rep Doug Young through a City Referendum that passed, to provide this for the needs of Business here in the North end of Herriman. This is the only Commercial area in all of North Herriman and this is taking from it and placing another school in the spot. We need to help you find another location. One that has not been already promised to the citizens and agreed upon with the so-called developer with the city already voted upon for commercial use. This looks bad, is not safe for the children, and is in a very bad spot for your school. We won't support it, and will do all we can to discourage it. We feel you are stealing our land for use that the city and the citizens already agreed upon and needs here.

Justin Swain – Charter schools are great, but with no busses, the traffic is intense and way too much. All these mothers driving kids to school is way too much and on this busy major thru way of 11800 south is a major mistake and unsafe completely unsafe. We have kids that attend charter schools and we love them, but not here in this location! This area seems like a dumping area out here, and this is just another example of this to the neighborhood. Someone sees a space and thinks, oh well we can meet the minimum requirements, so let's just go there. And no traffic study or safety eval will work here and you just don't get it because you don't live here, and you have not taken the time to see already what we are dealing with her on this end of Herriman. Wait till all the empty land is filled, then worse then and because of poor thought and planning we suffer here.

The attendance is low here for a meeting, but there is a history of late notice given, and done really quick meetings to show apparently not much concern. However, many are very interested and involved and disagree with this here. When you show up on Jan 3rd to propose, you just wait and see after we have some real info and notice! The process is wrong, the location is wrong and the timing is wrong telling us in this area to take it since it was moved already 2 times before. Why is that fair to us and our children and neighborhood to drop that on us and this location and part of the city???

Lorin Palmer – A background given of a referendum in this location and a plan was made and agreed upon by both city and citizens for 30 acres of commercial. Traffic is a major problem. We need to figure out why the City is bouncing them from other sites and allowing them to do this to us to begin with. The fault also needs to be on the city here. And who is to blame for this happening to the charter as well?

Becky Slagowsi – This process has not been done properly, and with not enough notice, it always feels the process is not in line with citizens desires or just plain fair. Just look at the problems we deal with it always when it comes to some development. It seems like the city runs this halfway serious and hectic manner as they deal for one location and to the next with developers and schools, and the citizens are told to take it and hope for the best. Only it does not seem like the best as we are approving some many high-density locations and units all over the place, the city is running out of money, placing schools

like Athlos charter schools on corners of busy roads 12600 South and 6000 West, and causing traffic nightmares, kids have been hit by cars, and it is just a cluster mess. Then you want to add this to a commercially zoned area next to a major thru-way of 11800 south, you are crazy to even want to go there! And you will not have the community's support to be profitable and make it work, promised!

Robert Bradfield – This location does not make sense at all, and was already planned through referendum to be the important use for commercial needs of the city. It is a poor choice to have on the very busy road of 11800 South and is unsafe most likely for kids to be on that road, and really a bad environment next to a commercial use area that could bring in unwanted crime and other problems. I always think of a school in a neighborhood, people support that here. This land is really just been purchased very recently through the Bastian sisters. And I see no real reason why it can't be just moved a little to the West, also on land owned and available to the residents on 11800 South in the Jackson community. Yes it has been purchased, and closed, but homework should have been done beforehand by the charter of this situation on this here with regards to the city and the citizens and how this would affect them. And no less about the representative that has been with the Bastian sisters for many years that made these deals prior with us and the city, (Doug Young). So this land should have never been sold by the sisters to you! They likely were without further understanding, likely the Bastian sisters are just trying to help and put in good things and are wonderful people, but they did not I am guessing know about what their rep had already planned for this area for the use of Commercial.

So as Tyler asks for suggestions to help this issues and traffic problems etc., that the charter can help to provide, it is the problem, that can't be fixed and unrecognized that you are just not wanted to be in the space that we as citizens feel like you are stealing from us and the city here. That can't be fixed with a re-route of kids pick up time and drop off times winding around the parking lot. You just are not wanted to be dumped on us and in this location period! This neighborhood will fight you, and fight to make it hard on you every step possible, and it needs to be creatively thought of how to make things be good for the city, the citizens, and your business needs totally agreed. But coming here in this location is a bad choice!

Again, knowing the Bastian sisters would like to just help, perhaps you go back to them and ask per trying to keep the peace, why don't you just take the same space needed just West on their land still, in Jackson, and carve out 7 acres there, in a residential plot? It makes more sense for everyone! I know they are not greedy. They just want to make it work and moving over a little I would bet, they would not fight over that land, compared to this land as you are seeing now. I live in Heritage Place Estates, and this affects me, and what we have already fought for in the North end of Herriman, for my family.

From: Lisa Brown [redacted]
Sent: Monday, December 17, 2018 2:32 PM
To: Community Outreach <communityoutreach@herriman.org>
Cc: Brett Wood <bwood@herriman.org>; Jared Henderson <jhenderson@herriman.org>
Subject: community meeting concerns

Dear Sandra and staff,

I will not be able to attend Doug Young's community meeting this evening. But I wanted to express a couple of thoughts on it anyway. First and foremost is the simple fact that it's Doug we're dealing with here, and once again he's trying to weasel his way out of prior agreements. I absolutely oppose the idea of charter school being put in Teton along 118th south - cutting into part of the commercial center property. We have too many schools is too small an area as is, and I know the city has told the school this as well. Doug needs to be held to his original agreements. End of story.

But my other concerns are regarding the way these meetings play out in general. (And this is not a criticism of you at all in any way as a facilitator - but rather a failing in terms of perception from a citizen point of view). I have attended two community meetings so far. I understand the intent of community meetings is to help put the developer and the community be on the same page prior to anything being officially submitted to the city. And in theory this is nice. But in reality I feel like these meetings end up coming across the wrong way. Both times I have felt like I am a resident being "told" what is going to happen, and consequently that there is nothing I can do about it. For example, in the most recent community meeting I went to, Doug's lawyer was there representing him and he was not receptive at all to citizen input. He was frankly quite condescending and as a result the atmosphere became more hostile, instead of being one of mutual respect and compromise.

I don't how this perception problem can be solved because my guess is most developers - and Doug in particular - do these meetings in order to check the box that they've done due diligence and "involved" the community, when in reality they have no intention of pleasing residents at all. They really don't care. They want to get approvals, make money, and move on. What do you hope they will gain from these meetings that can't happen otherwise? Even after a meeting like this things can change drastically before a plan is presented to the city - as we've seen happening with Teton in particular.

I will be interested to hear from my friends and neighbors how this goes tonight with Doug's proposal. I'm hoping there will be enough community backlash that Doug decides to scrap it. (But knowing him, I'm sure he's already got some backdoor deal going that will keep him feeling like he has the upper hand).

Thanks,
Lisa Brown