

# Plumb Schneiter

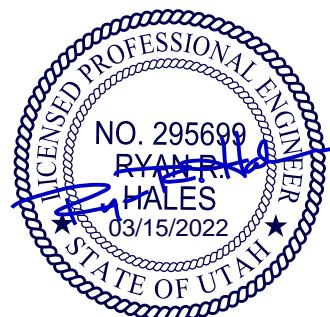
## Traffic Impact Study



## Sandy, Utah

March 15, 2022

UT22-2130



## EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with the proposed Plumb Schneiter development located in Sandy, Utah. The development is located at the Pebblebrook Golf Course, between Harvard Park Drive and 1300 East.

The purpose of this traffic impact study is to analyze traffic operations at key intersections for existing (2022) and future (2027) conditions with and without the proposed project and to recommend mitigation measures as needed. The morning and evening peak hour level of service (LOS) results are shown in Table ES-1. A site plan of the project is provided in Appendix A.

**Table ES-1: Peak Hour Level of Service Results**

Intersection	Level of Service							
	Existing (2022)				Future (2027)			
	Background		Plus Project		Background		Plus Project	
	AM	PM	AM	PM	AM	PM	AM	PM
1	Harvard Park Drive / 8600 South	b	c	b	c	c	c	d
2	Pebble Hills Drive / 8600 South	a	a	a	a	a	b	a
3	1185 East / 8600 South	a	b	a	b	b	b	a
4	8900 South / 1300 East	a	a	a	a	a	a	a
5	Waters Lane & Cy's Road / 1300 East	A	A	A	A	A	A	A
6	Morningview Drive / Mockingbird Lane	a	a	a	a	a	a	a
7	Quarry Bend Drive / 9000 South	a	a	a	a	a	a	a
8	Cy's Road / Harvard Park Drive	a	a	a	a	a	a	a

1. Intersection LOS values represent the overall intersection average for roundabout, signalized, and all-way stop-controlled (AWSC) intersections (uppercase letter) and the worst movement for all other unsignalized intersections (lowercase letter)  
 2. BG = Background (without project traffic), PP = Plus Project (with project traffic)

Source: Hales Engineering, March 2022

## SUMMARY OF KEY FINDINGS & RECOMMENDATIONS

### Project Conditions

- The development will consist of single-family housing
- The project is anticipated to generate approximately 1,330 weekday daily trips, including 98 trips in the morning peak hour, and 132 trips in the evening peak hour

2022	Background	Plus Project
Findings	• Acceptable LOS at all study intersections	• Acceptable LOS at all study intersections
2027	Background	Plus Project
Findings	• Acceptable LOS at all study intersections	• Acceptable LOS at all study intersections

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## I. INTRODUCTION

### A. Purpose

This study addresses the traffic impacts associated with the proposed Plumb Schneiter development located in Sandy, Utah. The proposed project is located at the Pebblebrook Golf Course, between Harvard Park Drive and 1300 East. Figure 1 shows a vicinity map of the proposed development.

The purpose of this traffic impact study is to analyze traffic operations at key intersections for existing (2022) and future (2027) conditions with and without the proposed project and to recommend mitigation measures as needed.



**Figure 1: Vicinity map showing the project location in Sandy, 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:

- Harvard Park Drive / 8600 South
- Pebble Hills Drive / 8600 South
- 1185 East / 8600 South
- 8900 South / 1300 East
- Waters Lane / 1300 East
- Morningview Drive / Mockingbird Lane
- Quarry Bend Drive / 9000 South
- Cy's Road / Harvard Park Drive

## 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.

The *Highway Capacity Manual* (HCM), 7<sup>th</sup> Edition, 2022 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, roundabout, and all-way stop-controlled (AWSC) 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 movement.

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 C. Hales Engineering also calculated the 95<sup>th</sup> percentile queue lengths for 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. A LOS D threshold is consistent with “state-of-the-practice” traffic engineering principles for urbanized areas.

**Table 1: Level of Service Description**

LOS	Description of Traffic Conditions	Average Delay (seconds/vehicle)		
		Signalized Intersections	Unsignalized Intersections	
A		Free Flow / Insignificant Delay	$\leq 10$	$\leq 10$
B		Stable Operations / Minimum Delays	> 10 to 20	> 10 to 15
C		Stable Operations / Acceptable Delays	> 20 to 35	> 15 to 25
D		Approaching Unstable Flows / Tolerable Delays	> 35 to 55	> 25 to 35
E		Unstable Operations / Significant Delays	> 55 to 80	> 35 to 50
F		Forced Flows / Unpredictable Flows / Excessive Delays	> 80	> 50

Source: Hales Engineering Descriptions, based on the *Highway Capacity Manual* (HCM), 7<sup>th</sup> Edition, 2022 Methodology (Transportation Research Board)

## II. EXISTING (2022) 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:

Harvard Park Drive, Waters Lane, and Cy's Road – are city-maintained roadways which is classified by the Sandy Transportation Master Plan (2021) as a minor. The roadway has one travel lane in each direction. The posted speed limit is 25 mph in the study area.

### C. Traffic Volumes

Weekday morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak period traffic counts were performed at the following intersections:

- Harvard Park Drive / 8600 South
- Pebble Hills Drive / 8600 South
- 1185 East / 8600 South
- 8900 South / 1300 East
- Waters Lane / 1300 East
- Morningview Drive / Mockingbird Lane
- Quarry Bend Drive / 9000 South
- Cy's Road / Harvard Park Drive

The counts were performed on Wednesday, February 23, 2022. The morning peak hour was determined to be between 8:00 and 9:00 a.m., and the evening peak hour was determined to be between 4:45 and 5:45 p.m. The morning and evening peak hour volumes were used in the analysis to represent the worst-case conditions. Detailed count data are included in Appendix B.

Hales Engineering evaluated potential seasonal adjustments to the observed traffic volumes. Monthly traffic volume data were obtained from a nearby UDOT automatic traffic recorder (ATR) on S.R. 71 (ATR #406). In recent years, traffic volumes in March have been slightly above average traffic volumes. Therefore, the observed traffic volumes were not adjusted for seasonality.

The traffic counts were collected during the COVID-19 pandemic when traffic volumes may have been slightly reduced. According to the UDOT Automatic Traffic Signal Performance Measures

(ATSPM) website, the traffic volumes on February 26, 2020 (pre-social distancing) were approximately 9% higher than those on February 23, 2022. Therefore, the collected data were increased by 9% to represent normal conditions.

Figure 2 shows the existing morning and evening peak hour volumes as well as intersection geometry at the study intersections.

#### D. Level of Service Analysis

Hales Engineering determined that all study intersections are currently operating at acceptable levels of service during the morning and evening peak hour, as shown in Table 2. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2022) conditions.

#### E. Queuing Analysis

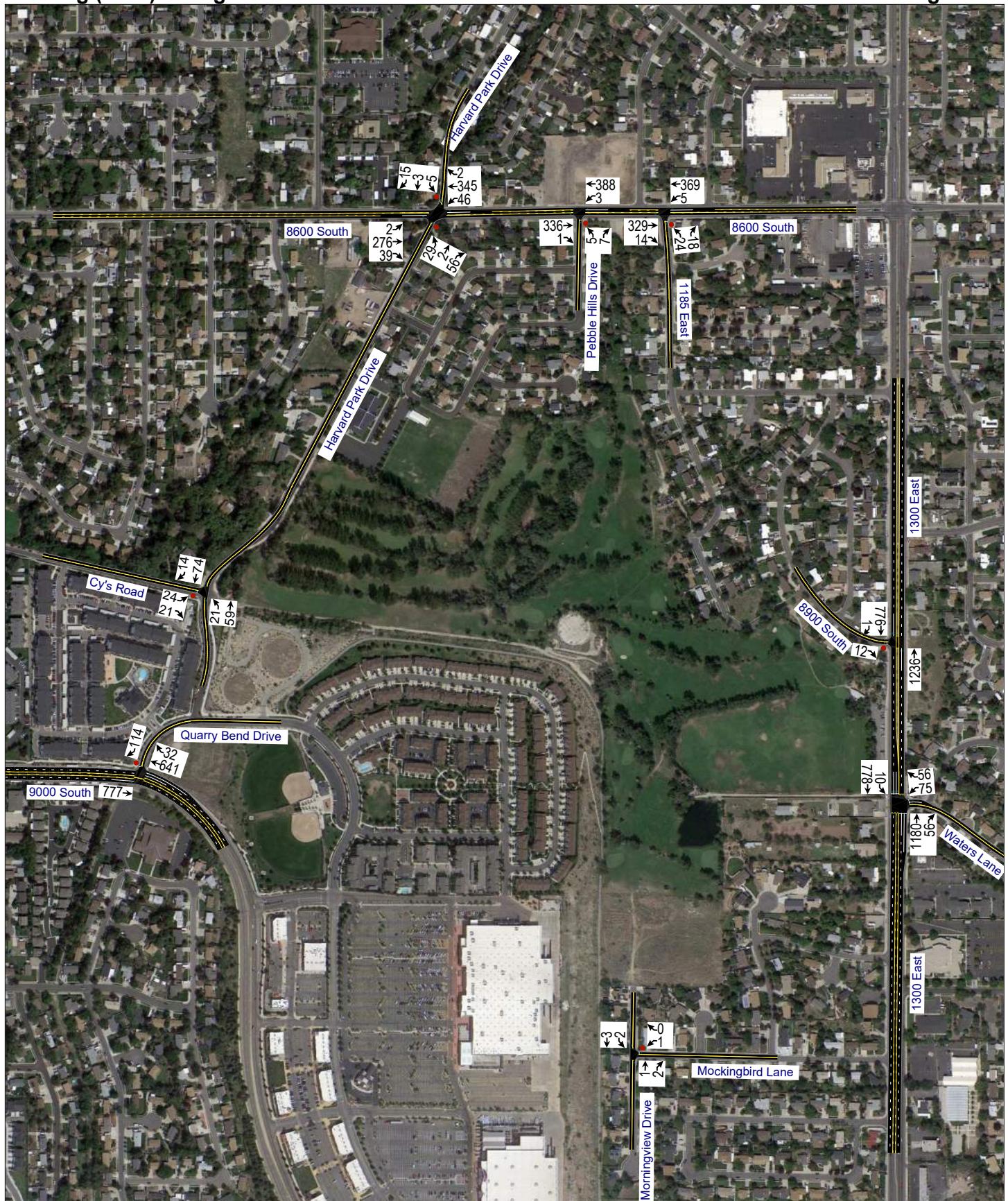
Hales Engineering calculated the 95<sup>th</sup> percentile queue lengths for each of the study intersections. No significant queueing was observed during the morning and evening peak hour.

#### F. Mitigation Measures

No mitigation measures are recommended.

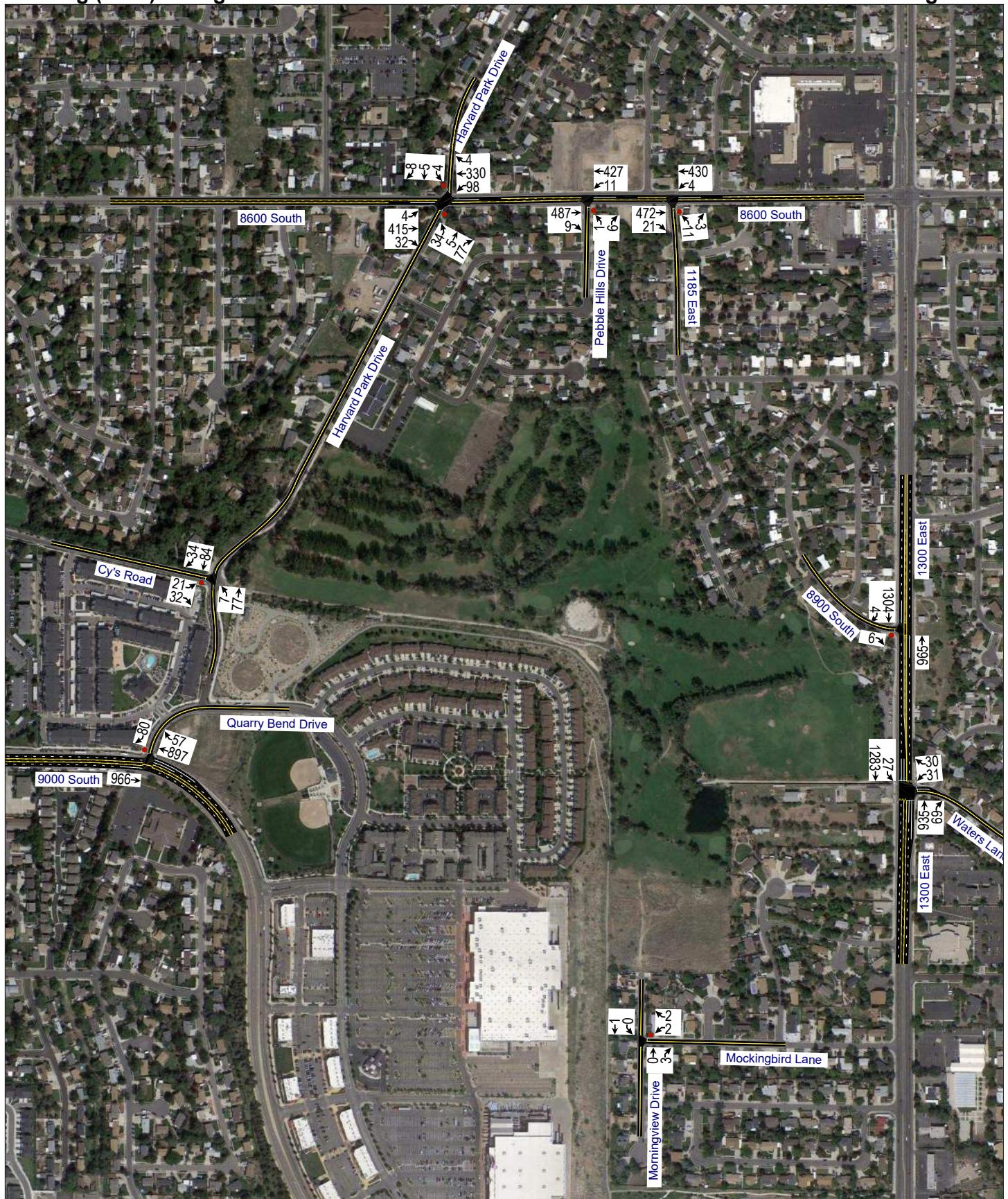
**Sandy Plumb Schneiter TIS  
Existing (2022) Background**

**Morning Peak Hour  
Figure 2a**



**Sandy Plumb Schneiter TIS  
Existing (2022) Background**

**Evening Peak Hour  
Figure 2b**



**Table 2: Existing (2022) Background Peak Hour LOS**

Intersection		LOS (Sec. Delay / Veh.) / Movement <sup>1</sup>	
Description	Control	Morning Peak	Evening Peak
Harvard Park Drive / 8600 South	NB Stop	b (14.1) / NBT	c (18.2) / NBL
Pebble Hills Drive / 8600 South	NB Stop	a (7.1) / NBL	a (4.2) / WBL
1185 East / 8600 South	NB Stop	a (9) / NBL	b (10.1) / NBL
8900 South / 1300 East	EB Stop	a (3.7) / EBR	a (6.3) / EBR
Waters Lane / 1300 East	Signal	A (4.7)	A (2.1)
Morningview Drive / Mockingbird Lane	WB Stop	a (3.5) / WBL	a (3.5) / WBL
Quarry Bend Drive / 9000 South	SB Stop	a (3.5) / SBR	a (4.4) / SBR
Cy's Road / Harvard Park Drive	EB Stop	a (4.8) / EBL	a (4.9) / EBL

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, March 2022

### 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

The proposed Plumb Schneiter development is located at the Pebblebrook Golf Course, between Harvard Park Drive and 1300 East. The development will consist of single-family residential. A concept plan for the proposed development is provided in Appendix A. The proposed land use for the development has been identified in Table 3.

**Table 3: Project Land Uses**

Land Use	Intensity
Single-family detached housing	135 Units

#### C. Trip Generation

Trip generation for the development was calculated using trip generation rates published in the Institute of Transportation Engineers (ITE), *Trip Generation*, 11<sup>th</sup> Edition, 2021. Trip generation for the proposed project is included in Table 4.

The total trip generation for the development is as follows:

- Daily Trips: 1,330
- Morning Peak Hour Trips: 98
- Evening Peak Hour Trips: 132

**Table 4: Trip Generation**

Land Use <sup>1</sup>	# of Units	Unit Type	Trip Generation			New Trips		
			Total	% In	% Out	In	Out	Total
<b>Weekday Daily</b>								
Single-Family Detached Housing (210)	135	DU	1,330	50%	50%	665	665	1,330
		<b>TOTAL</b>	<b>1,330</b>			<b>665</b>	<b>665</b>	<b>1,330</b>
<b>AM Peak Hour</b>								
Single-Family Detached Housing (210)	135	DU	98	26%	74%	25	73	98
		<b>TOTAL</b>	<b>98</b>			<b>25</b>	<b>73</b>	<b>98</b>
<b>PM Peak Hour</b>								
Single-Family Detached Housing (210)	135	DU	132	63%	37%	83	49	132
		<b>TOTAL</b>	<b>132</b>			<b>83</b>	<b>49</b>	<b>132</b>

1. Land Use Code from the Institute of Transportation Engineers (ITE) *Trip Generation*, 11th Edition, 2021.

SOURCE: Hales Engineering, March 2022

#### 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 and evening peak hour is shown in Table 5.

**Table 5: Trip Distribution**

Direction	% To/From Project
North	30%
South	25%
East	15%
West	30%

These trip distribution assumptions were used to assign the morning and evening 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 3.

**Sandy Plumb Schneiter TIS  
Trip Assignment**

**Morning Peak Hour  
Figure 3a**



## E. Access

The proposed access for the site will be gained at the following locations:

Cy's Road:

- Cy's Road will be extended east into the project area from its current terminus at Harvard Park Drive. It will connect to 1300 East at the signal with Waters Lane.

Morningview Drive:

- Morningview Drive will be extended north into the project area. Currently the roadway dead ends north of its intersection with Mockingbird Lane.

Pebble Hills Drive:

- Access to the project will be gained at the southernmost part of Pebble Hills Drive near Gravel Hills Drive.

1185 East:

- Access to the project will be gained at 8825 South near 1185 East and 1205 East. This access will provide connections to 8600 South and 1300 East via 1185 East and 8900 South.

## F. Auxiliary Lanes

Auxiliary lanes are deceleration (ingress) or acceleration (egress) turn lanes that provide for safe turning movements that have less impact on through traffic. These lanes are sometimes needed at accesses or roadway intersections if right- or left-turn volumes are high enough.

Deceleration (ingress) lanes are generally needed when there are at least 50 right-turn vehicles or 25 left-turn vehicles in an hour. These guidelines were used for the City roadways in the study area. Based on these guidelines and the anticipated project traffic, no auxiliary lanes are recommended.

## IV. EXISTING (2022) PLUS PROJECT CONDITIONS

### A. Purpose

The purpose of the existing (2022) 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 (2022) background traffic volumes to predict turning movement volumes for existing (2022) plus project conditions. Existing (2022) plus project morning and evening peak hour turning movement volumes are shown in Figure 4.

### C. Level of Service Analysis

Hales Engineering determined that all intersections are anticipated to operate at acceptable levels of service during the morning and evening peak hour with project traffic added, as shown in Table 6.

### D. Queuing Analysis

Hales Engineering calculated the 95<sup>th</sup> percentile queue lengths for each of the study intersections. No significant queueing is anticipated during the morning and evening peak hour.

### E. Mitigation Measures

No mitigation measures are recommended.

**Sandy Plumb Schneiter TIS  
Existing (2022) Plus Project**

**Morning Peak Hour  
Figure 4a**



**Sandy Plumb Schneiter TIS  
Existing (2022) Plus Project**

**Evening Peak Hour  
Figure 4b**



**Table 6: Existing (2022) Plus Project Peak Hour LOS**

Intersection		LOS (Sec. Delay / Veh.) / Movement <sup>1</sup>	
Description	Control	Morning Peak	Evening Peak
Harvard Park Drive / 8600 South	NB Stop	b (10.9) / SBT	c (22.1) / NBT
Pebble Hills Drive / 8600 South	NB Stop	a (7.5) / NBL	a (4.4) / NBR
1185 East / 8600 South	NB Stop	a (8) / NBL	b (11.7) / NBL
8900 South / 1300 East	EB Stop	a (3.3) / EBR	a (7.5) / EBR
Waters Lane & Cy's Road / 1300 East	Signal	A (5.1)	A (3.2)
Morningview Drive / Mockingbird Lane	WB Stop	a (2.1) / WBR	a (3.5) / WBL
Quarry Bend Drive / 9000 South	SB Stop	a (3.8) / SBR	a (4.2) / SBR
Cy's Road / Harvard Park Drive	EB Stop	a (5.6) / EBT	a (7.1) / WBT

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, March 2022

## V. FUTURE (2027) BACKGROUND CONDITIONS

### A. Purpose

The purpose of the future (2027) 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 and the Sandy Transportation Master Plan, there are no projects planned before 2027 in the study area. Therefore, no changes were made to the roadway network for the future (2027) analysis.

### C. Traffic Volumes

Hales Engineering obtained future (2027) forecasted volumes using historical AADT data near the project area. The Wasatch Front Regional Council (WFRC) / Mountainland Association of Governments (MAG) travel demand model was found to be unreliable in the area since it does not accurately forecast volumes on minor roadways. It was observed that in recent years traffic volumes have increased by approximately 2.5% annually. This growth rate was applied to the future scenario. Future (2027) morning and evening peak hour turning movement volumes are shown in Figure 5.

### D. Level of Service Analysis

Hales Engineering determined that all study intersections are anticipated to operate at acceptable levels of service during the morning and evening peak hour in future (2027) background conditions, as shown in Table 7. These results serve as a baseline condition for the impact analysis of the proposed development for future (2027) conditions.

### E. Queuing Analysis

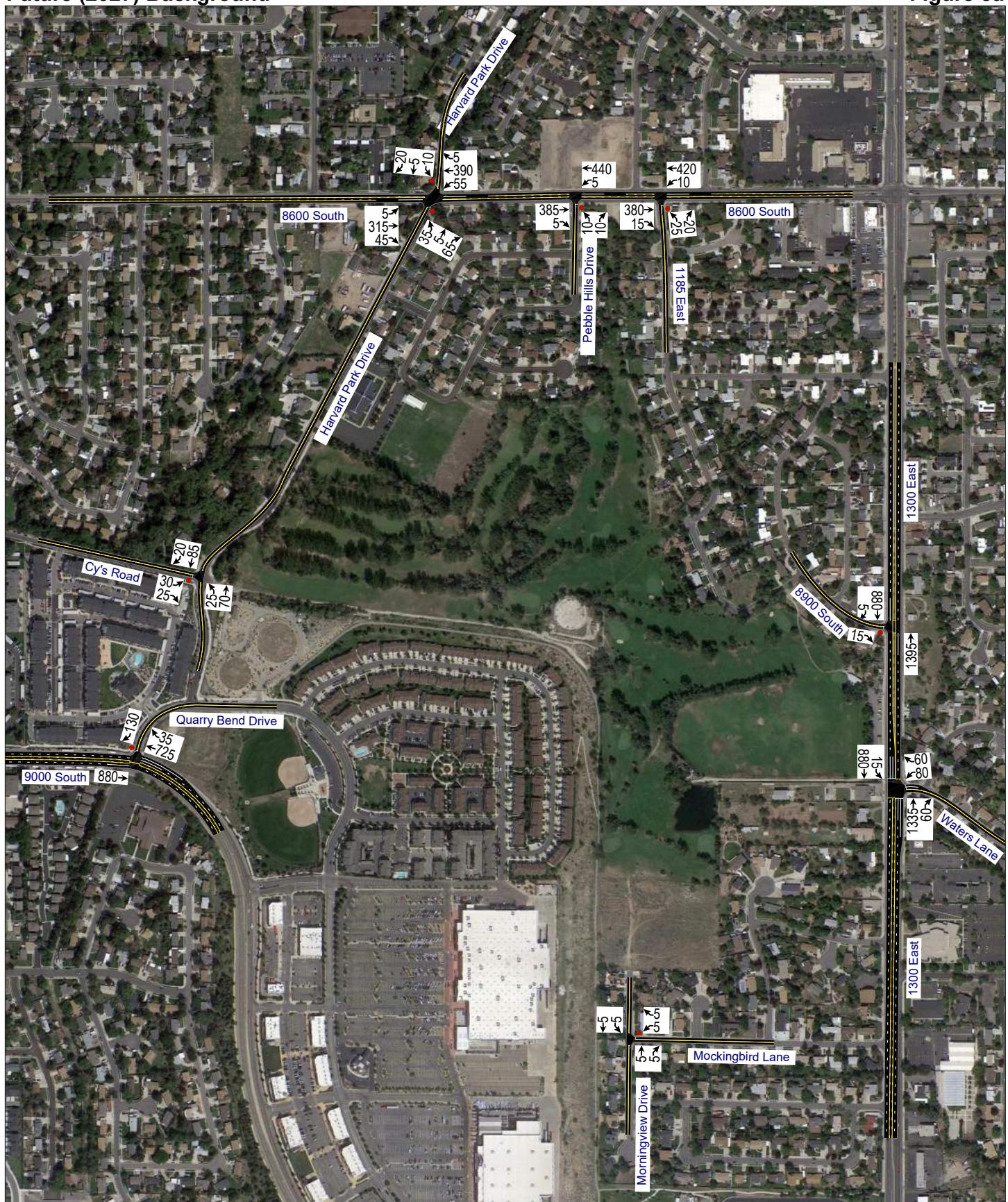
Hales Engineering calculated the 95<sup>th</sup> percentile queue lengths for each of the study intersections. No significant queueing is anticipated during the morning and evening peak hour.

### F. Mitigation Measures

No mitigation measures are recommended.

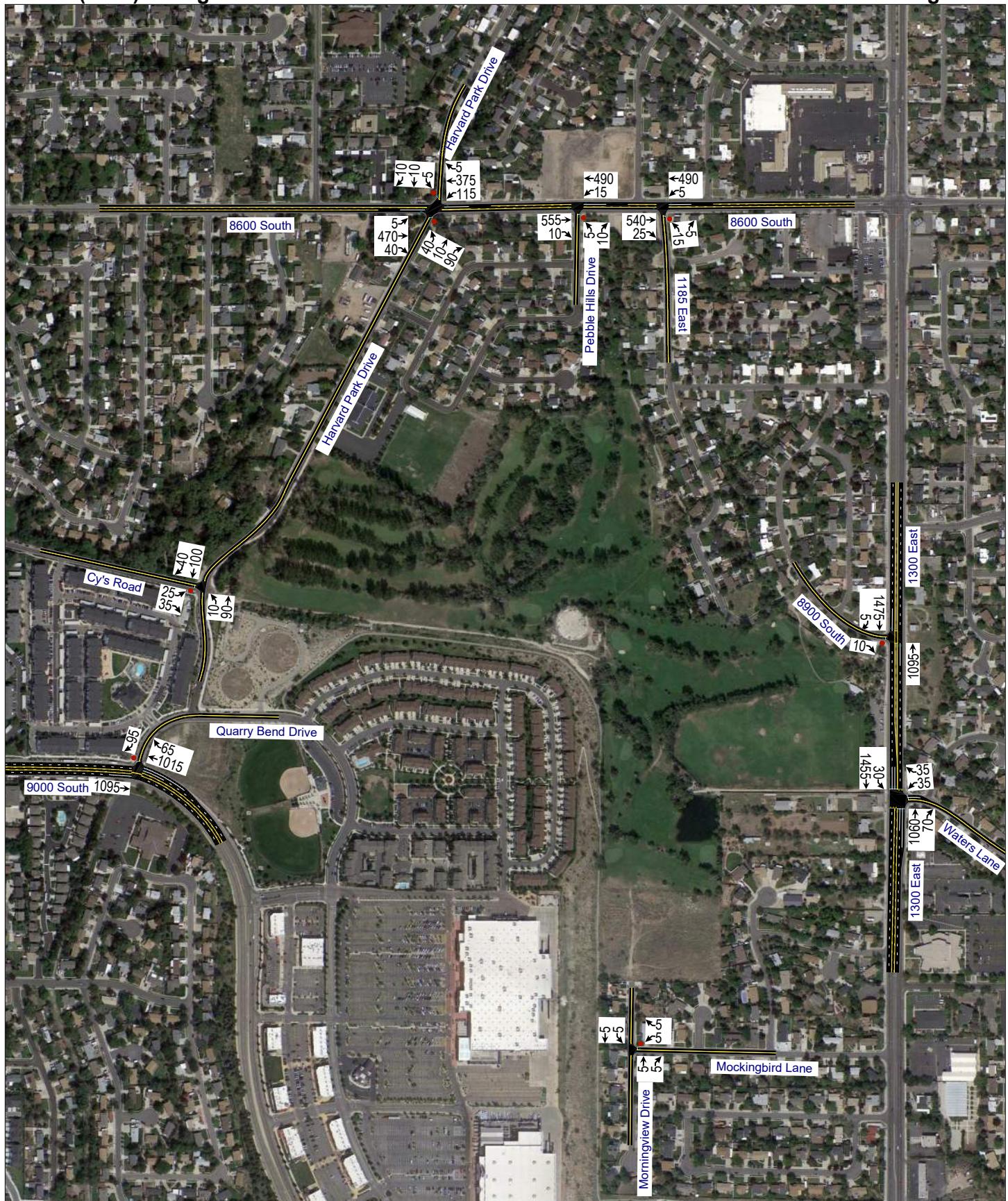
**Sandy Plumb Schneiter TIS  
Future (2027) Background**

**Morning Peak Hour  
Figure 5a**



**Sandy Plumb Schneiter TIS  
Future (2027) Background**

**Evening Peak Hour  
Figure 5b**



**Table 7: Future (2027) Background Peak Hour LOS**

Intersection		LOS (Sec. Delay / Veh.) / Movement <sup>1</sup>	
Description	Control	Morning Peak	Evening Peak
Harvard Park Drive / 8600 South	NB Stop	c (17.3) / SBT	c (24.5) / SBT
Pebble Hills Drive / 8600 South	NB Stop	a (8.9) / NBL	b (13.1) / NBL
1185 East / 8600 South	NB Stop	b (10.1) / NBL	b (13) / NBL
8900 South / 1300 East	EB Stop	a (4.4) / EBR	a (6.3) / EBR
Waters Lane / 1300 East	Signal	A (4.7)	A (2.5)
Morningview Drive / Mockingbird Lane	WB Stop	a (4.1) / WBL	a (4) / WBL
Quarry Bend Drive / 9000 South	SB Stop	a (4.1) / SBR	a (5) / SBR
Cy's Road / Harvard Park Drive	EB Stop	a (4.9) / EBL	a (5) / EBL

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, March 2022

## VI. FUTURE (2027) PLUS PROJECT CONDITIONS

### A. Purpose

The purpose of the future (2027) 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 (2027) background traffic volumes to predict turning movement volumes for future (2027) plus project conditions. Additional through traffic was added on the new connection being made on Cy's Road from Harvard Park Drive to 1300 East. Future (2027) plus project morning and evening 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 and evening peak hour in future (2027) plus project conditions, as shown in Table 8.

### D. Queuing Analysis

Hales Engineering calculated the 95<sup>th</sup> percentile queue lengths for each of the study intersections. No significant queueing is anticipated during the morning and evening peak hour.

### E. Mitigation Measures

No mitigation measures are recommended.

**Sandy Plumb Schneiter TIS  
Future (2027) Plus Project**

**Morning Peak Hour  
Figure 6a**



**Sandy Plumb Schneiter TIS  
Future (2027) Plus Project**

**Evening Peak Hour  
Figure 6b**



**Table 8: Future (2027) Plus Project Peak Hour LOS**

Intersection		LOS (Sec. Delay / Veh.) / Movement <sup>1</sup>	
Description	Control	Morning Peak	Evening Peak
Harvard Park Drive / 8600 South	NB Stop	c (17.3) / NBT	d (32.8) / NBL
Pebble Hills Drive / 8600 South	NB Stop	a (9.8) / NBL	b (13.3) / NBL
1185 East / 8600 South	NB Stop	a (9.6) / NBL	b (13.6) / NBL
8900 South / 1300 East	EB Stop	a (3.9) / EBR	a (8.6) / EBR
Waters Lane & Cy's Road / 1300 East	Signal	A (5.4)	A (4.1)
Morningview Drive / Mockingbird Lane	WB Stop	a (4.4) / WBL	a (3.8) / WBL
Quarry Bend Drive / 9000 South	SB Stop	a (4.1) / SBR	a (5.2) / SBR
Cy's Road / Harvard Park Drive	EB Stop	a (6.5) / EBT	a (6.3) / EBT

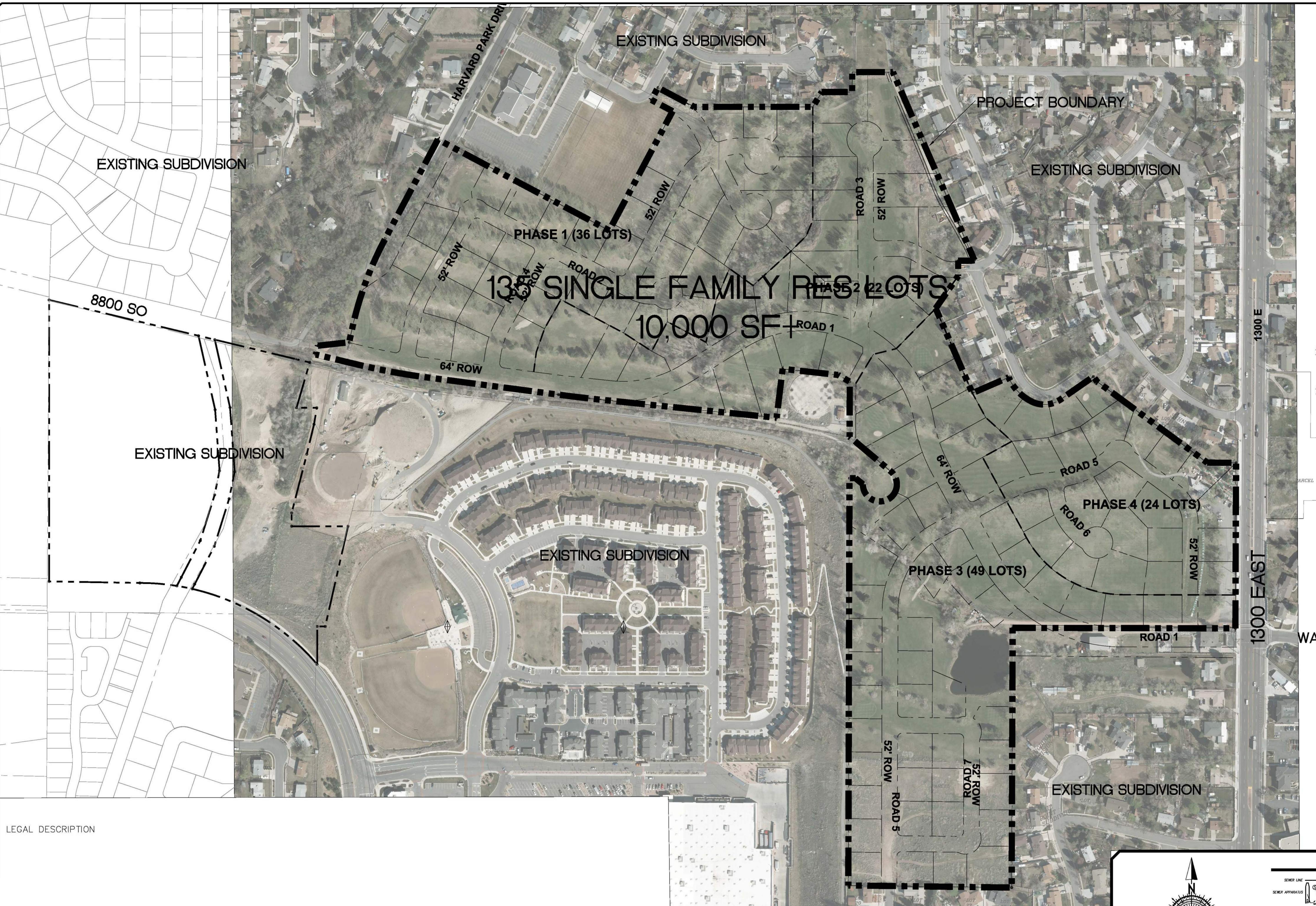
1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

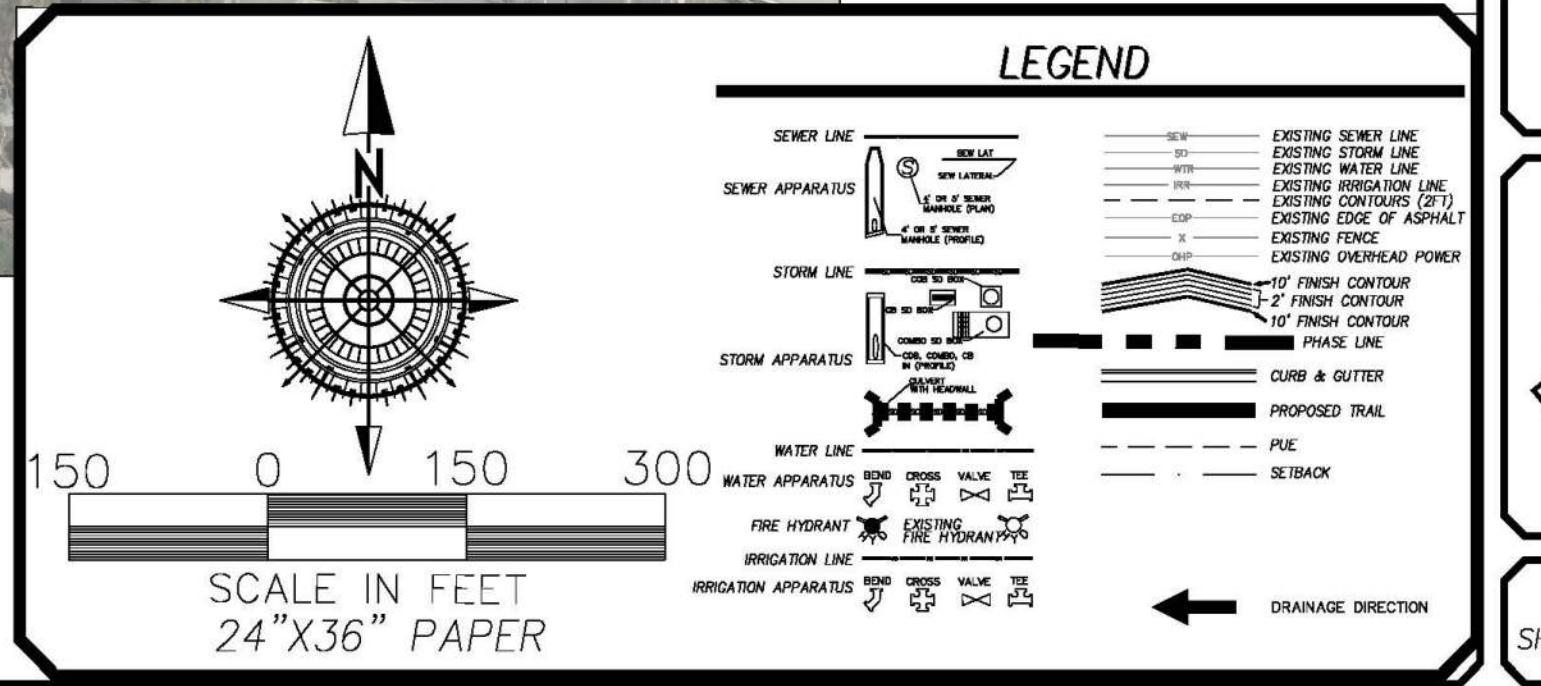
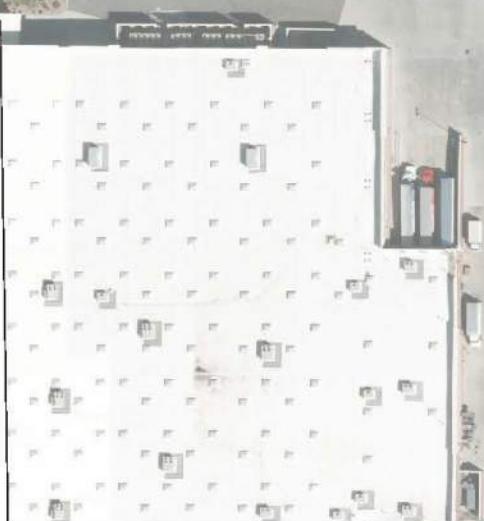
Source: Hales Engineering, March 2022

# APPENDIX A

## Site Plan



LEGAL DESCRIPTION



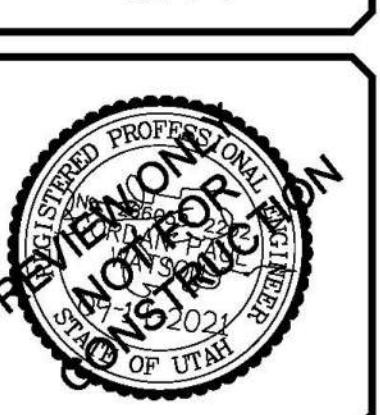
**GATEWAY CONSULTING, Inc.**  
P.O. BOX 951005 SOUTH JORDAN, UT 84095  
PH: (801) 694-5948  
paul@gatewayconsultingllc.com

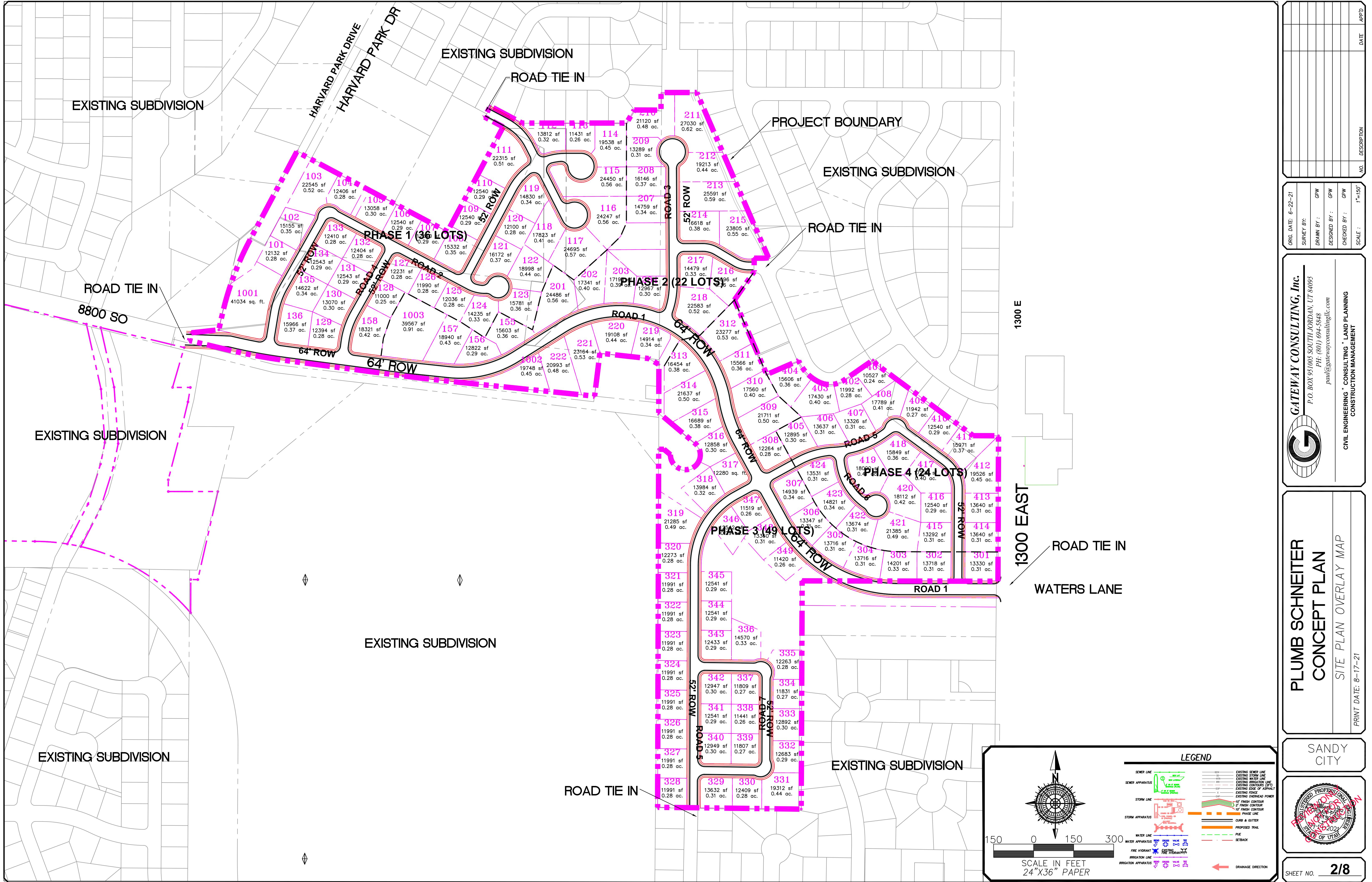
CEMENT ENGINEERING • CONSULTING • LAND PLANNING  
CONSTRUCTION MANAGEMENT

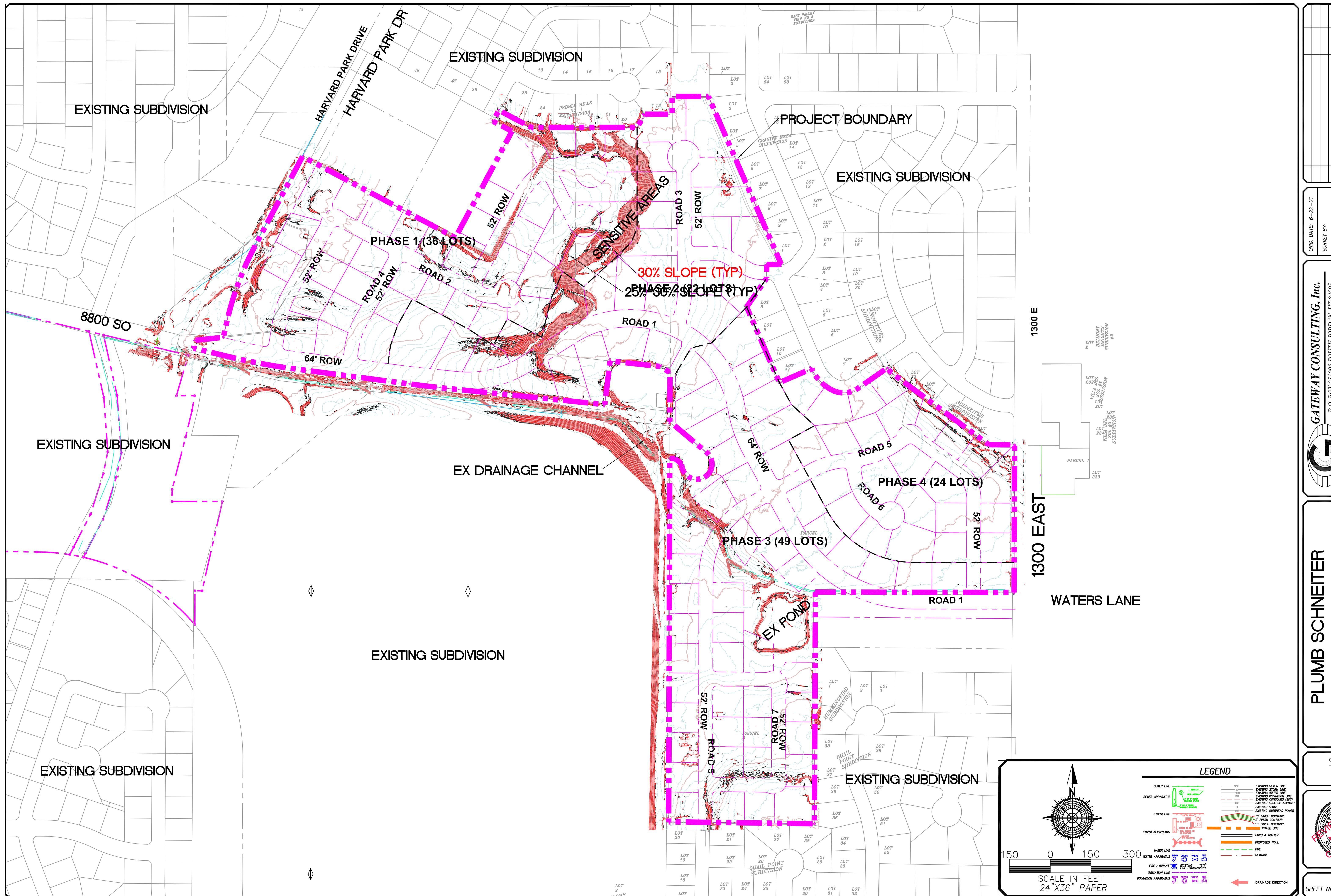
ORIG. DATE: 6-22-21 SURVEY BY: GPW DRAWN BY: GPW DESIGNED BY: GPW CHECKED BY: GPW SCALE: 1"=150'

**PLUMB SCHNEITER CONCEPT PLAN**  
SATELLITE OVERLAY MAP

PRINT DATE: 9-14-2021







ORIG. DATE: 6-22-21  
SURVEY BY:  
DRAWN BY:  
DESIGNED BY:  
CHECKED BY:  
SCALE :  
NO. DESCRIPTION  
DATE APFD

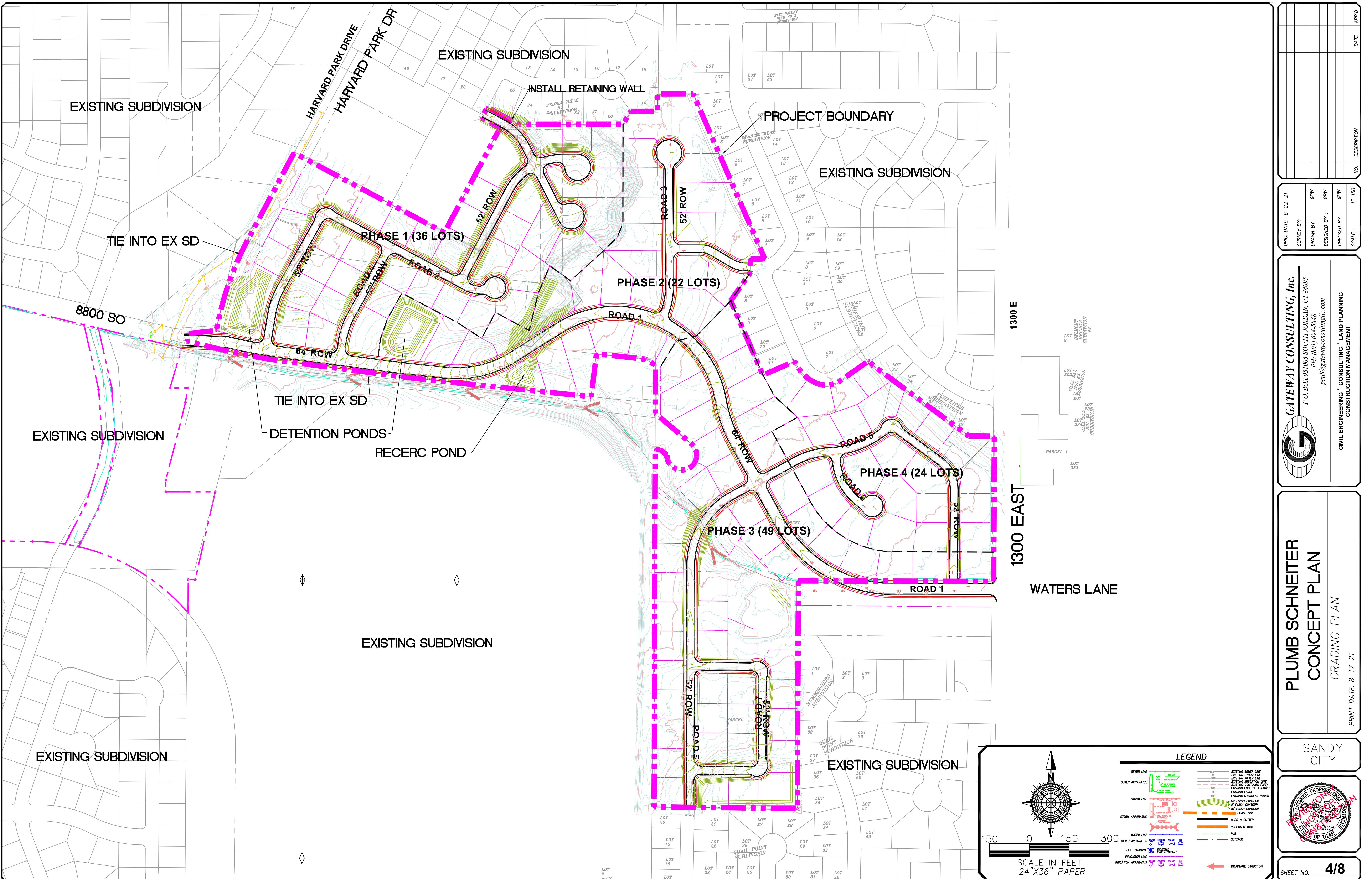
**GATEWAY CONSULTING, Inc.**  
P.O. BOX 95105 SOUTH JORDAN, UT 84095;  
Ph: (801) 694-5848  
pan@gatewayconsultingllc.com  
CIVIL ENGINEERING \* CONSULTING \* LAND PLANNING  
CONSTRUCTION MANAGEMENT

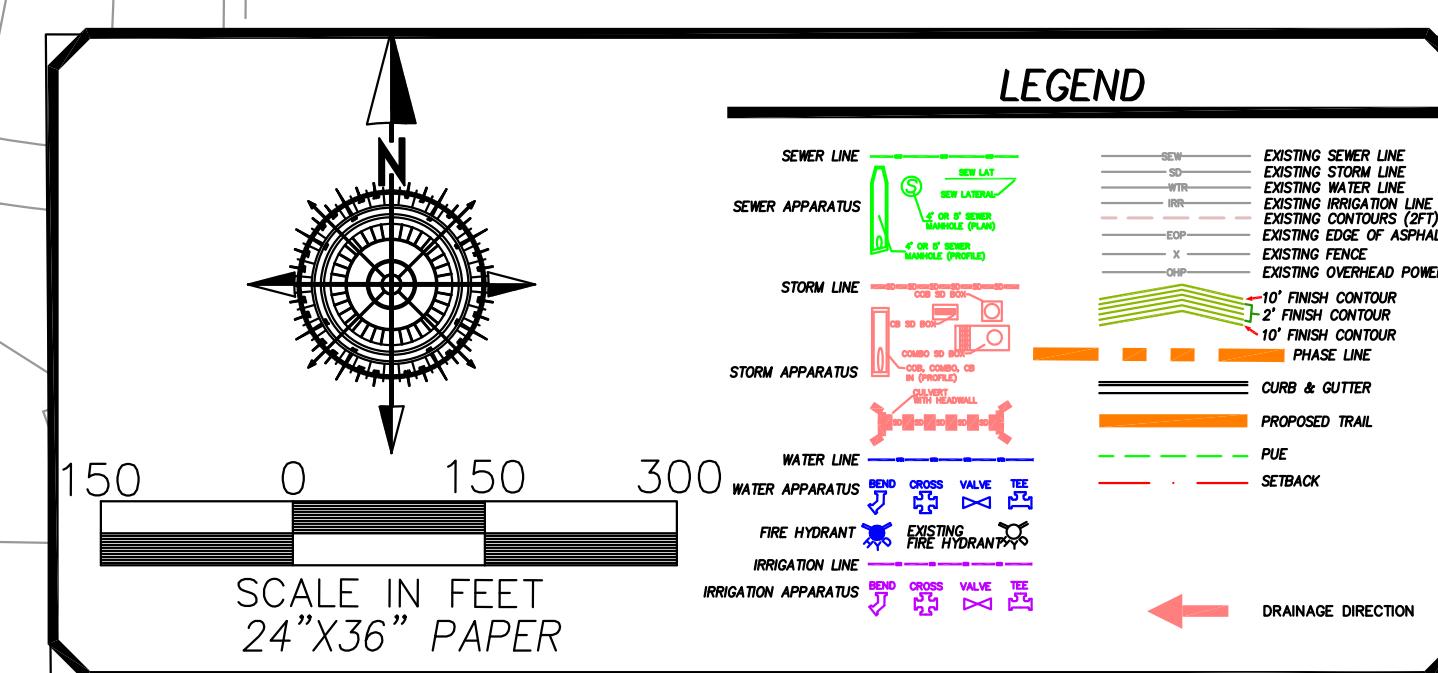
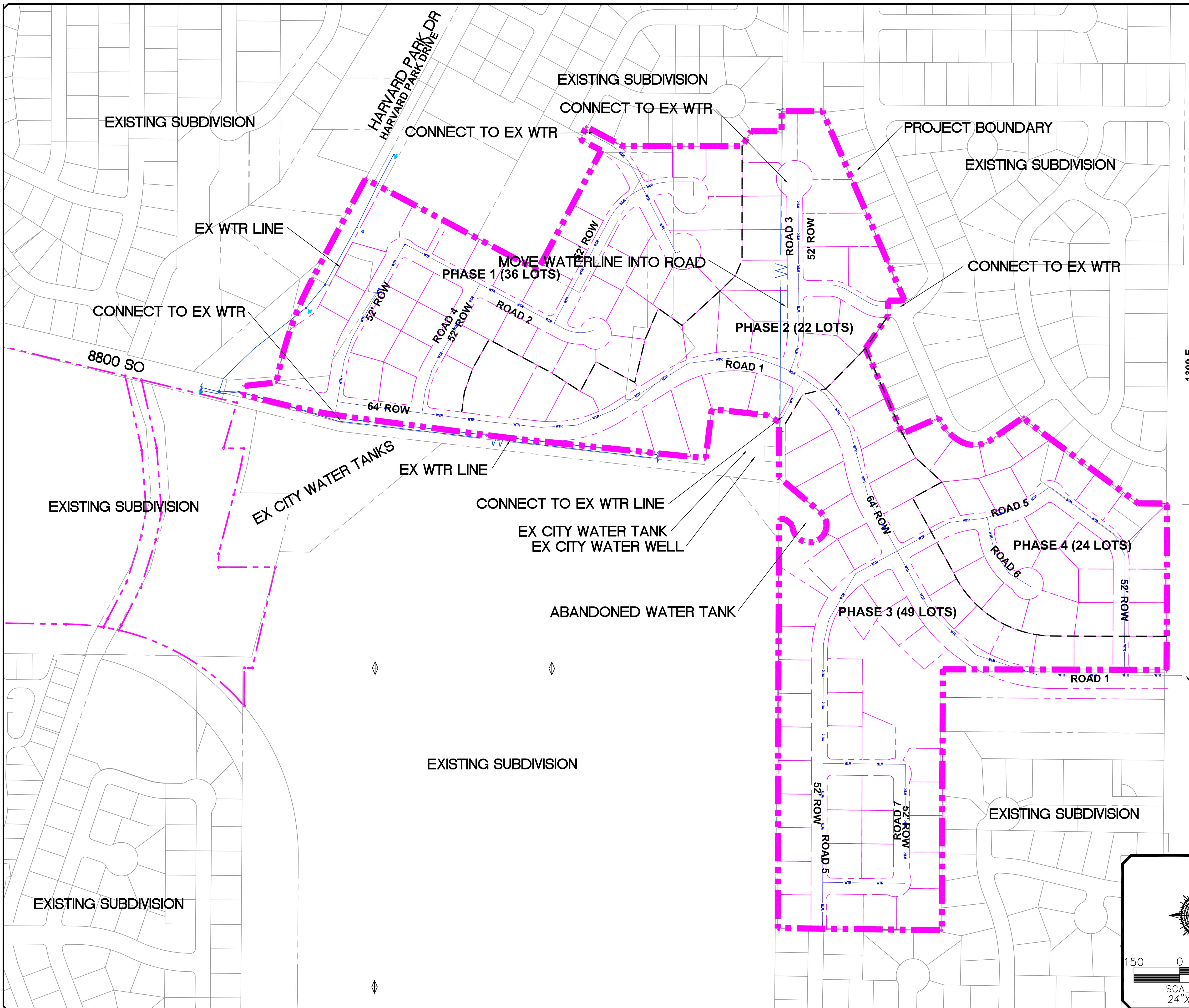
**PLUMB SCHNEITER CONCEPT PLAN**  
EXISTING AND CONSTRAINTS  
PRINT DATE: 8-17-21

SANDY CITY



3/8





## PLUMB SCHNEITER CONCEPT PLAN

PRINT DATE: 8-17-21

**GATEWAY CONSULTING, Inc.**  
P.O. BOX 951005 SOUTH JORDAN, UT 84095  
PH: (801) 694-5848  
paul@gatewayconsultinginc.com

CIVIL ENGINEERING CONSULTING LAND PLANNING CONSTRUCTION MANAGEMENT

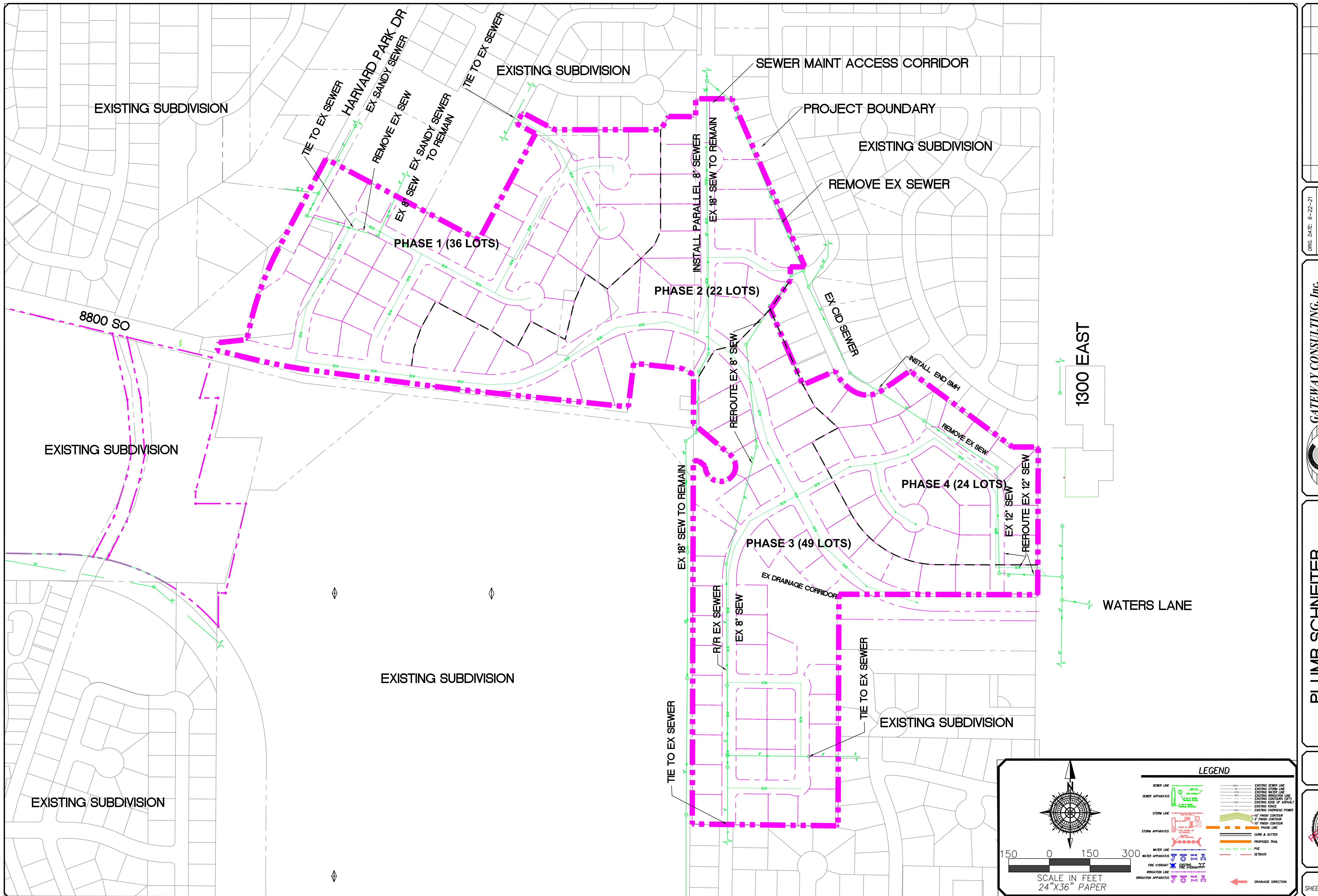
SANDY CITY



5/8

ORIG. DATE: 6-22-21  
SURVEY BY:  
DRAWN BY:  
DESIGNED BY:  
CHECKED BY:  
SCALE: 1"-150'

NO. DESCRIPTION  
DATE



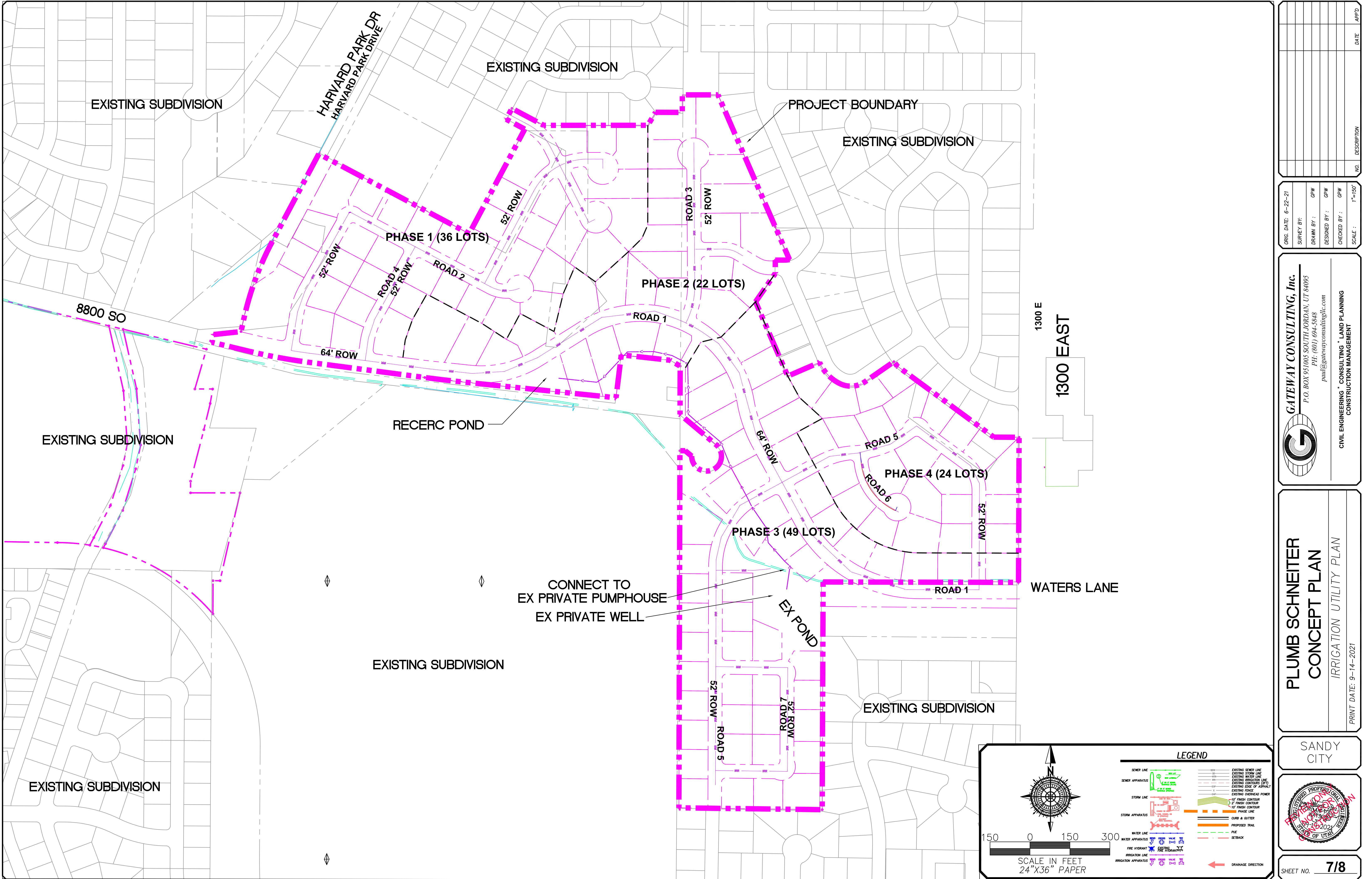
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					1'=150'
NO. DESCRIPTION DATE AFPD					

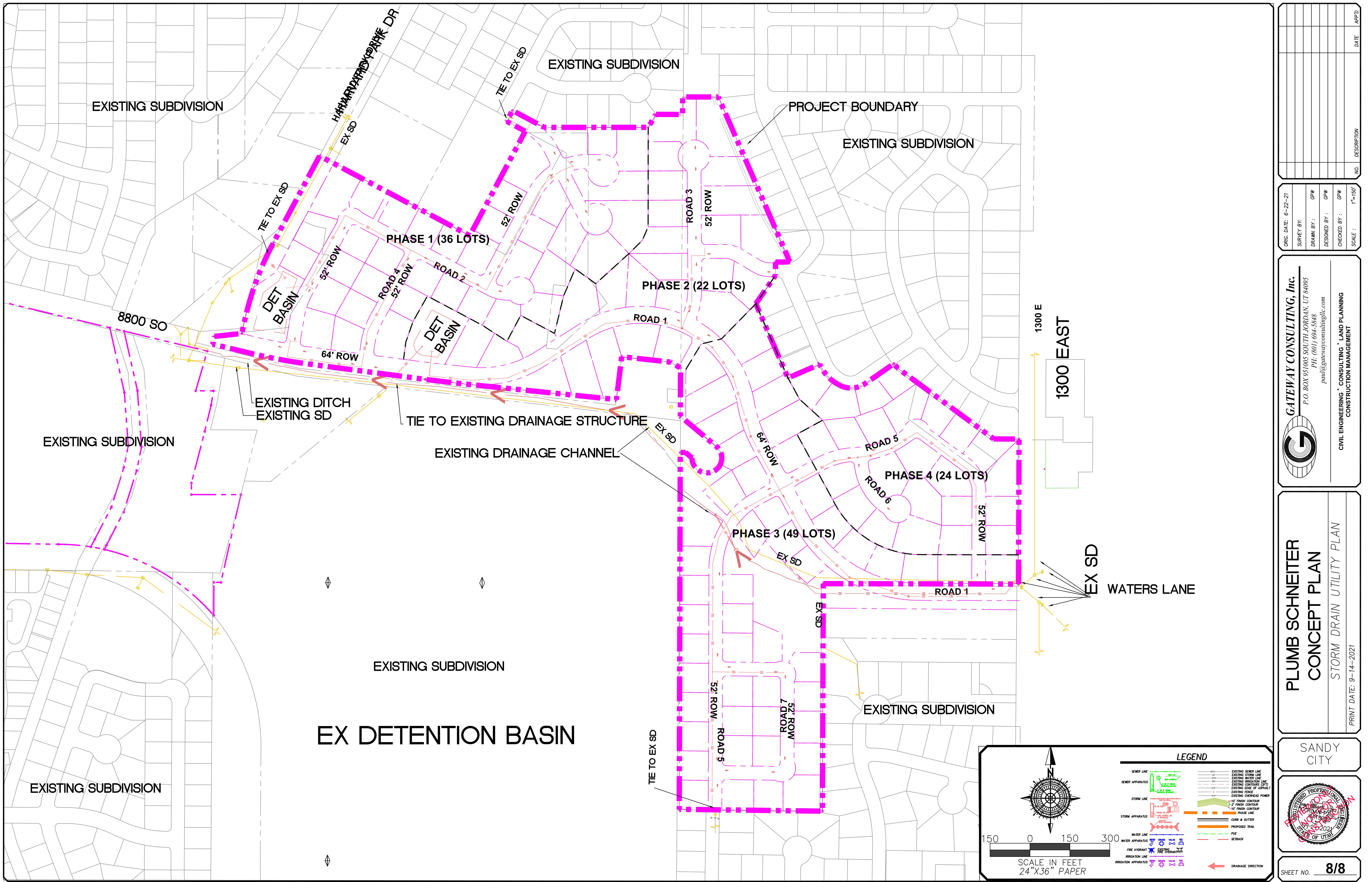
**GATEWAY CONSULTING, Inc.**  
P.O. BOX 951005 SOUTH JORDAN, UT 84095  
PH: (801) 694-5848  
email: paul@gatewayconsultinglc.com

CIVIL ENGINEERING • CONSULTING • LAND PLANNING  
CONSTRUCTION MANAGEMENT

**PLUMB SCHNEITER CONCEPT PLAN**  
SEWER UTILIT Y PLAN  
PRINT DATE: 9-14-2021







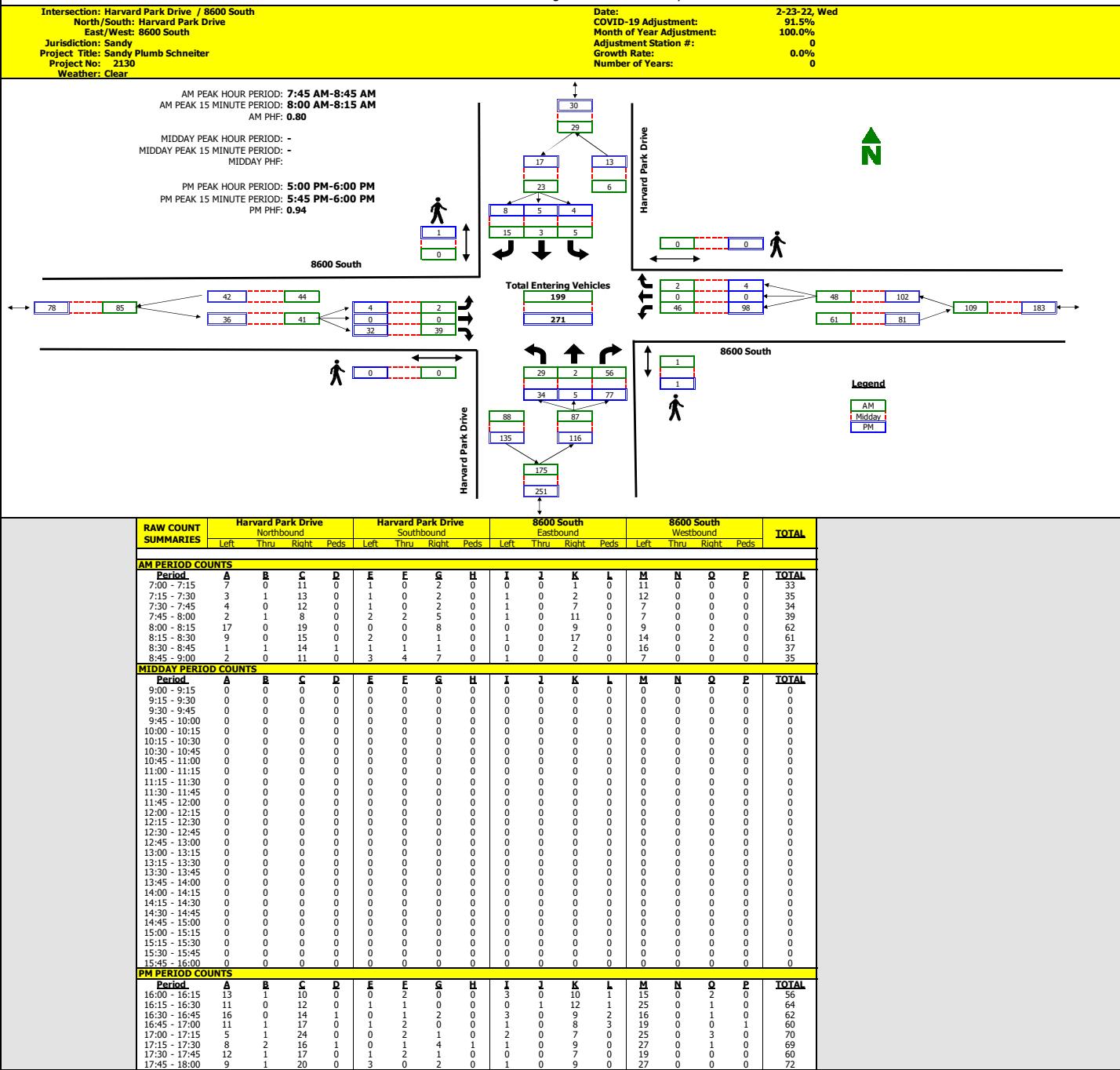
# **APPENDIX B**

## Turning Movement Counts

# TrafficCounts

2364 North 1450 East  
 Lehi, UT 84043  
 801.636.0891

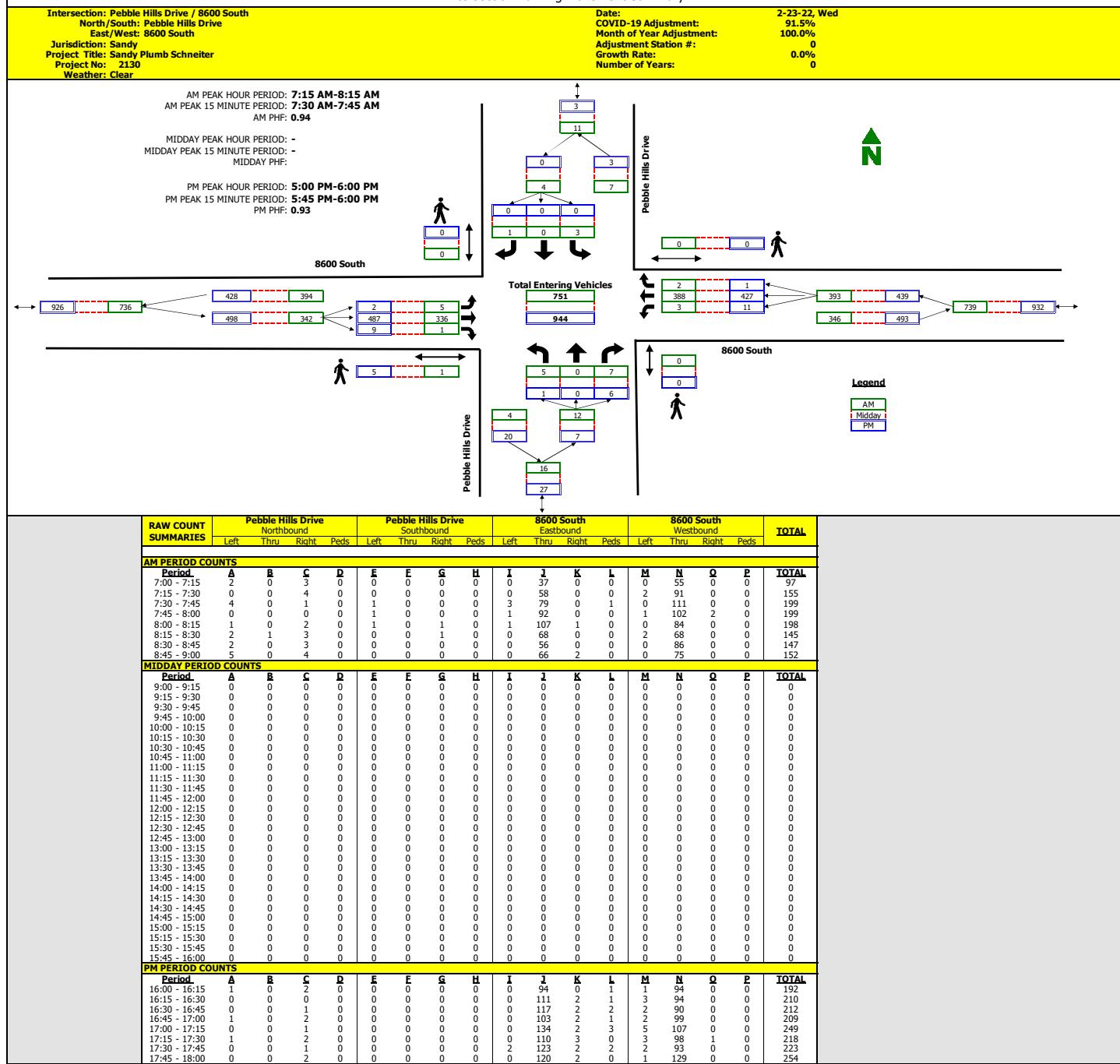
## Intersection Turning Movement Summary



# TrafficCounts

2364 North 1450 East  
Lehi, UT 84043  
801.636.0891

## Intersection Turning Movement Summary





**TrafficCounts**

**2364 North 1450 East  
Lehi, UT 84043  
801.636.0891**

## Intersection Turning Movement Summary

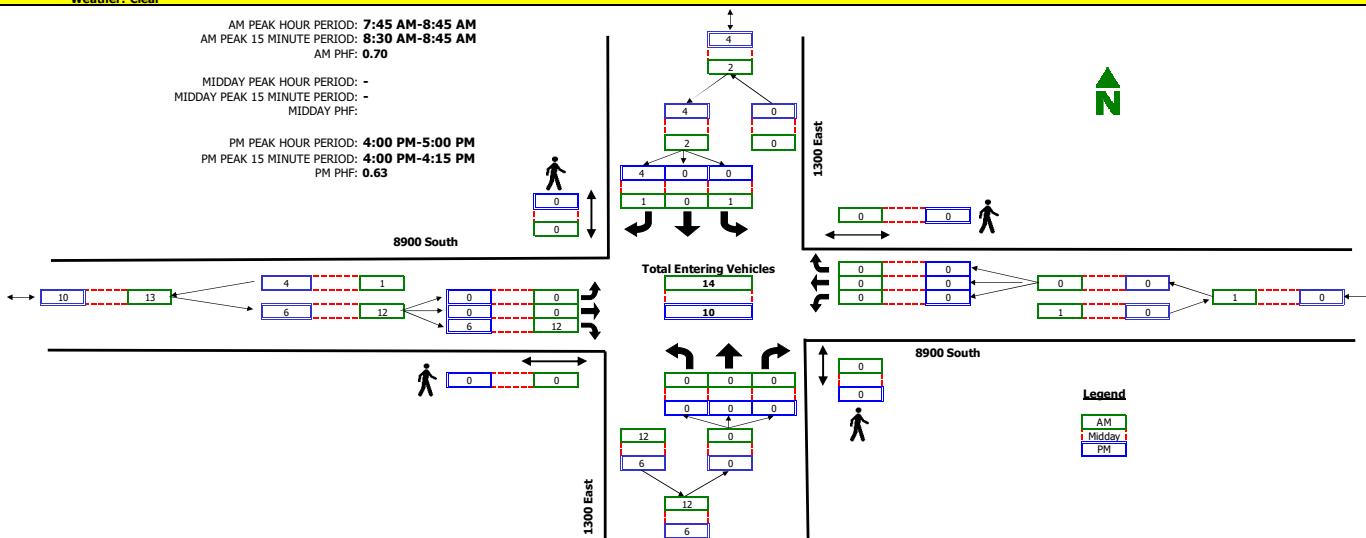
**Intersection:** 1300 East / 8900 South  
**North/South:** 1300 East  
**East/West:** 8900 South  
**Jurisdiction:** Sandy  
**Project Title:** Sandy Plumb Schneider  
**Project No.:** 2130  
**Weather:** Clear

**Date:** 2-23-22, Wed  
**COVID-19 Adjustment:** 91.5%  
**Month of Year Adjustment:** 100.0%  
**Adjustment Station #:** 0  
**Growth Rate:** 0.0%  
**Number of Years:** 0

**AM PEAK HOUR PERIOD: 7:45 AM-8:45 AM  
AM PEAK 15 MINUTE PERIOD: 8:30 AM-8:45 AM  
AM PHF: 0.70**

MIDDAY PEAK HOUR PERIOD: -  
MIDDAY PEAK 15 MINUTE PERIOD: -  
MIDDAY PHE:

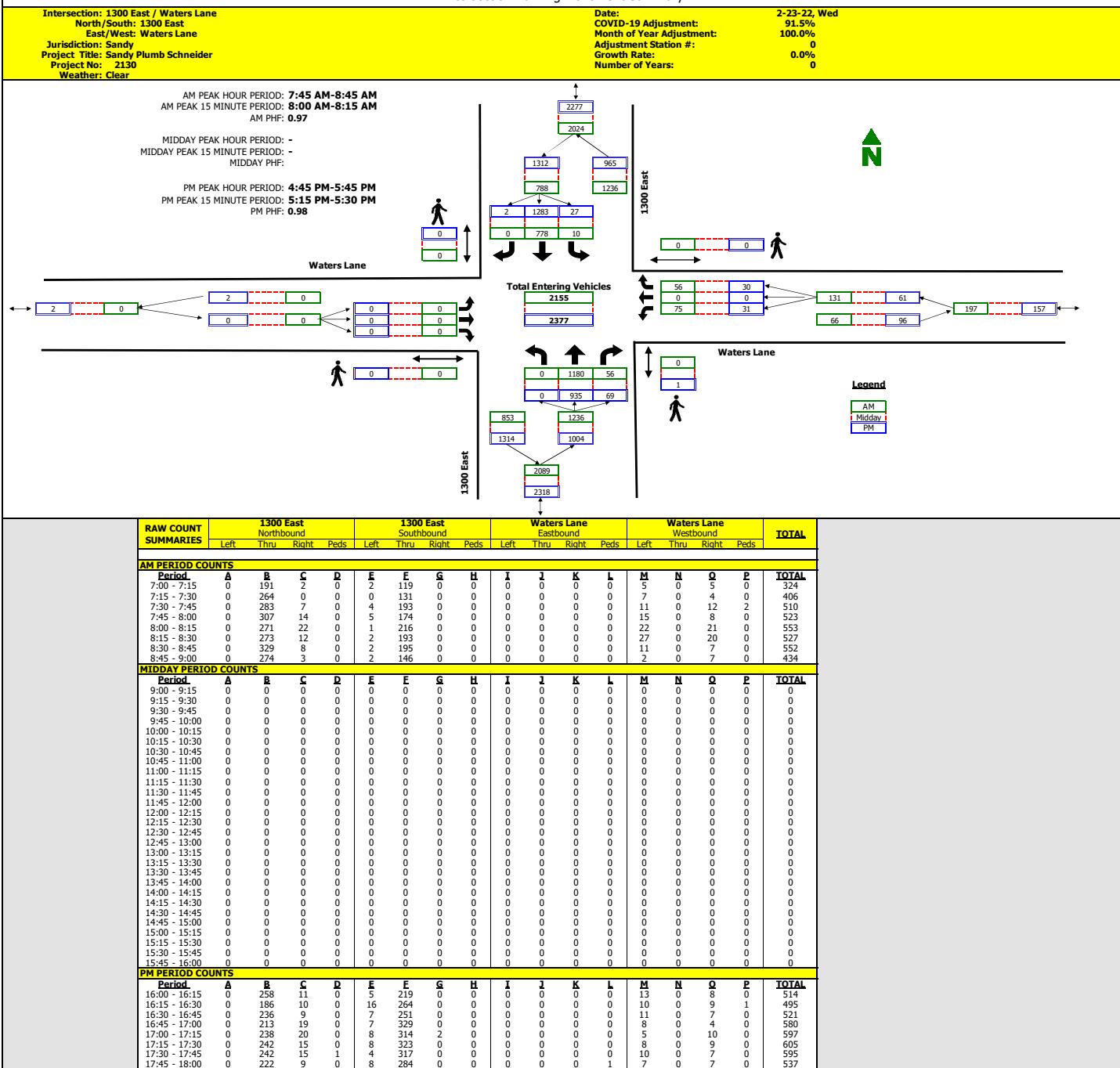
PM PEAK HOUR PERIOD: **4:00 PM-5:00 PM**  
PM PEAK 15 MINUTE PERIOD: **4:00 PM-4:15 PM**  
PM PHE: **0.63**



# TrafficCounts

2364 North 1450 East  
Lehi, UT 84043  
801.636.0891

## Intersection Turning Movement Summary



**TrafficCounts**

**2364 North 1450 East  
Lehi, UT 84043  
801.636.0891**

## Intersection Turning Movement Summary

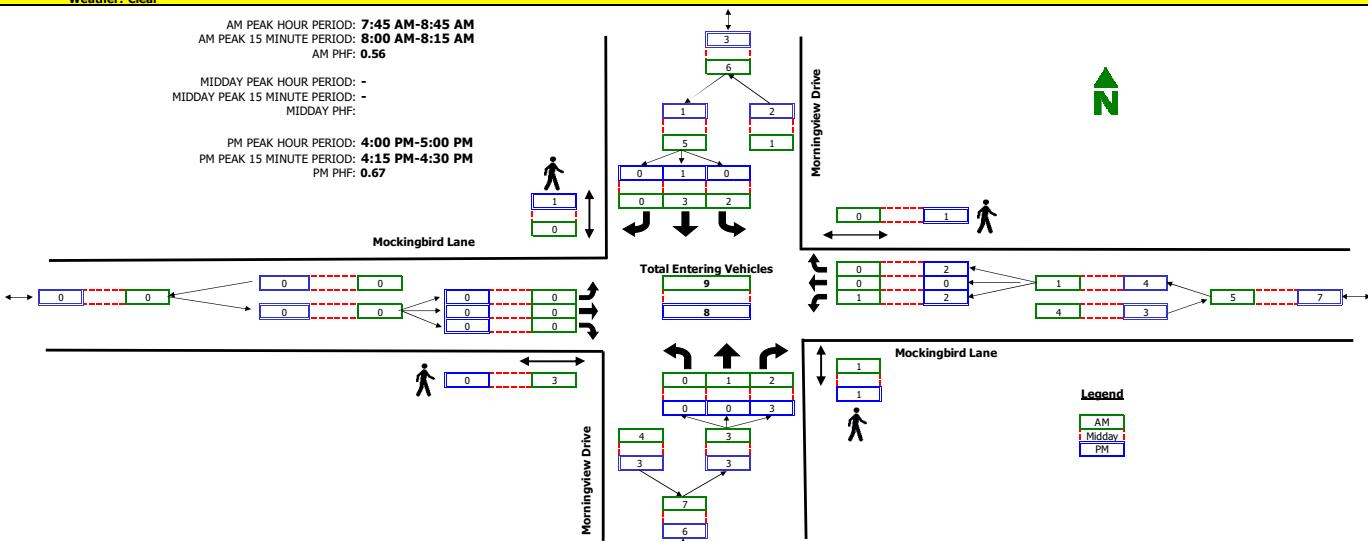
**Intersection:** Morningview Drive / Mockingbird Lane  
**North/South:** Morningview Drive  
**East/West:** Mockingbird Lane  
**Jurisdiction:** Sandy  
**Project Title:** Sandy Plumb Schneider  
**Project No.:** 2130  
**Weather:** Clear

Date:	2-23-22, Wed
COVID-19 Adjustment:	91.5%
Month of Year Adjustment:	100.0%
Adjustment Station #:	0
Growth Rate:	0.0%
Number of Years:	0

AM PEAK HOUR PERIOD: **7:45 AM-8:45 AM**  
AM PEAK 15 MINUTE PERIOD: **8:00 AM-8:15 AM**  
AM PHF: **0.56**

MIDDAY PEAK HOUR PERIOD: -  
MIDDAY PEAK 15 MINUTE PERIOD: -  
MIDDAY PHF:

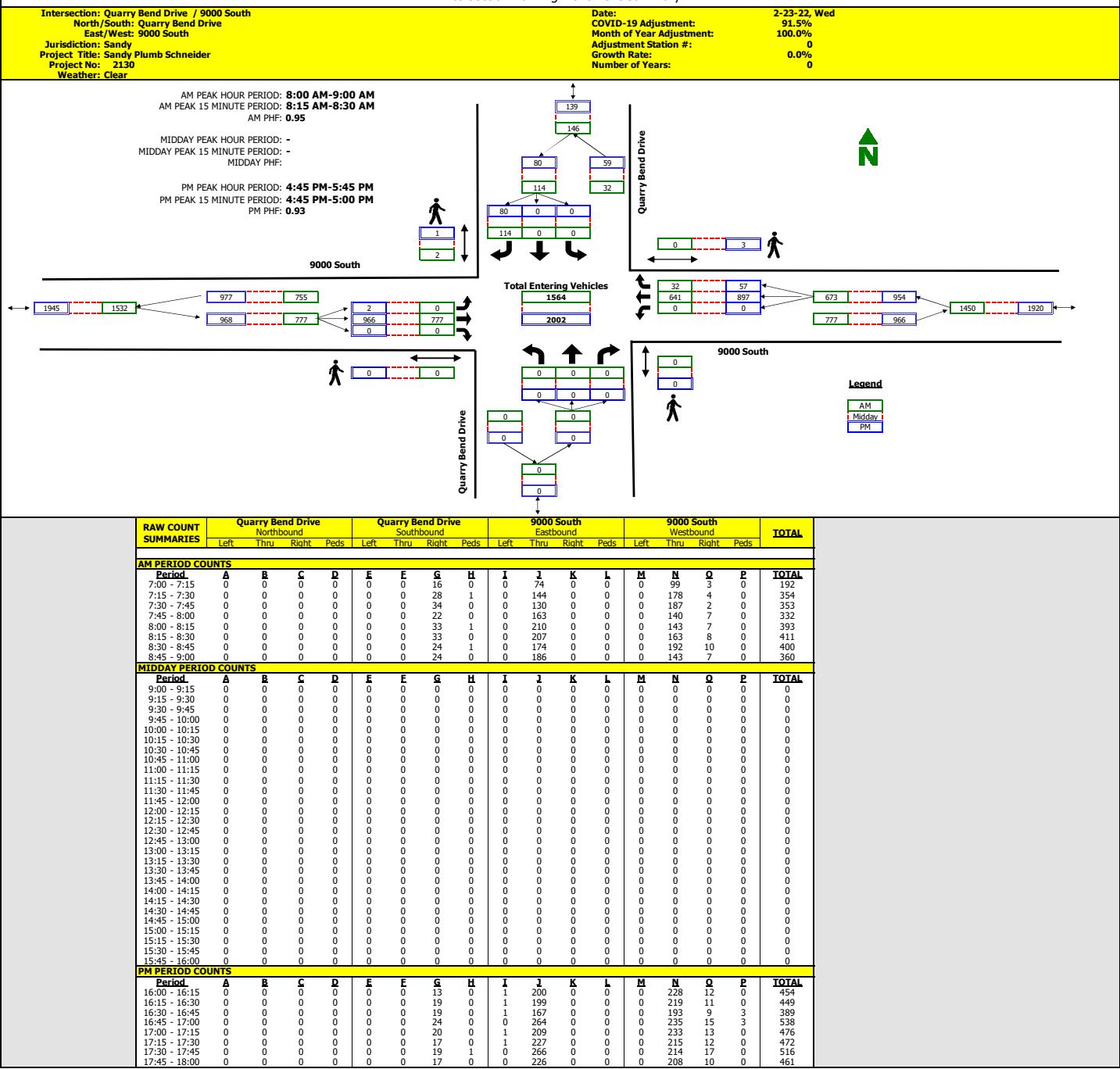
**PM PEAK HOUR PERIOD: 4:00 PM-5:00 PM**  
**PM PEAK 15 MINUTE PERIOD: 4:15 PM-4:30 PM**  
**PM PHF: 0.67**



# TrafficCounts

2364 North 1450 East  
Lehi, UT 84043  
801.636.0891

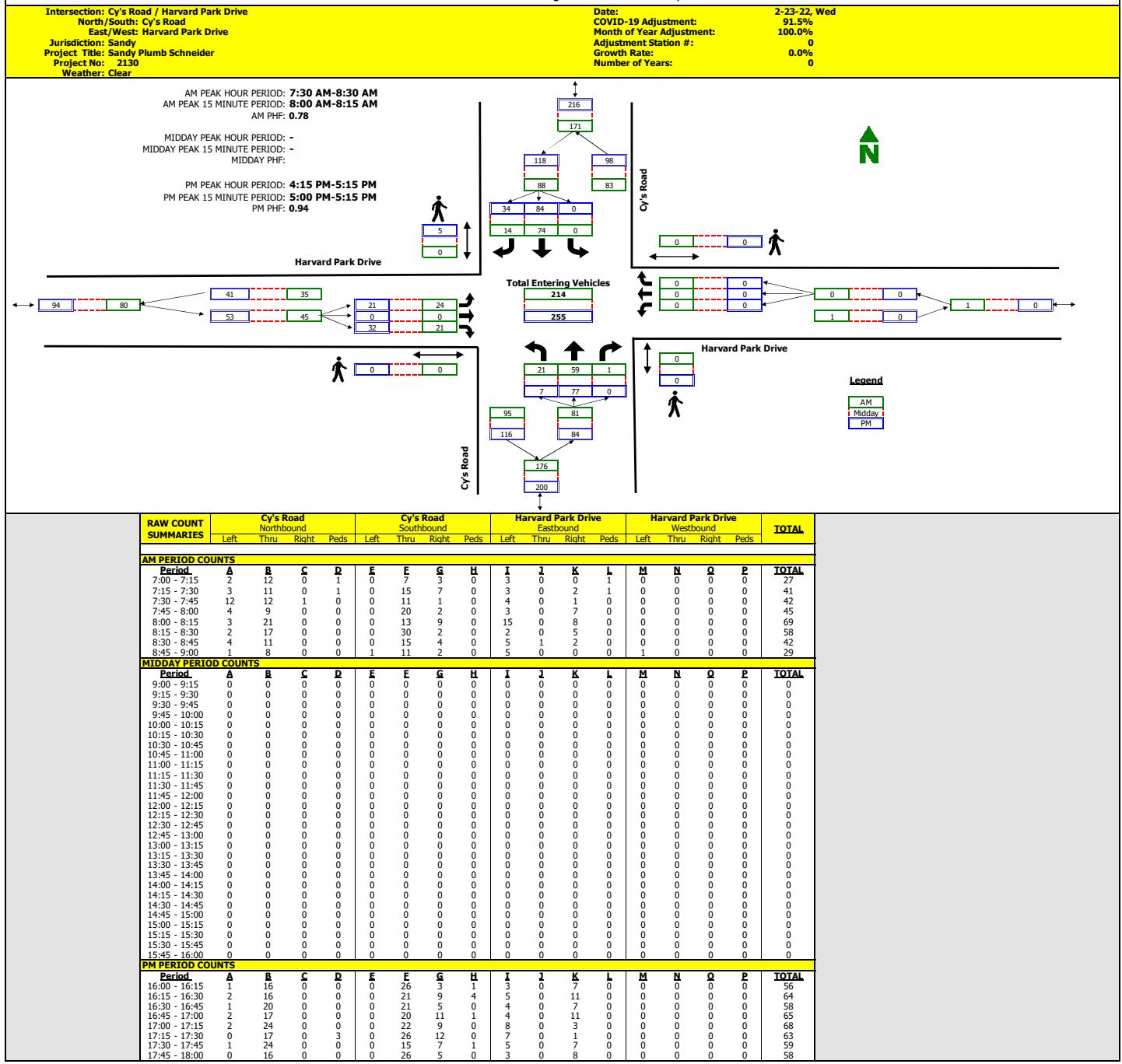
## Intersection Turning Movement Summary



# TrafficCounts

2364 North 1450 East  
Lehi, UT 84043  
801.636.0891

## Intersection Turning Movement Summary



# **APPENDIX C**

## **LOS Results**

## ***SimTraffic LOS Report***

**Project:** **Sandy Plumb Schneiter TIS**  
**Analysis Period:** **Existing (2022) Background**  
**Time Period:** **Morning Peak Hour**      **Project #:** **UT22-2130**

**Intersection:** **Harvard Park Drive & 8600 South**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	29	28	97	10.7	B
	T	<b>2</b>	<b>2</b>	<b>100</b>	<b>14.1</b>	<b>B</b>
	R	56	59	105	5.7	A
	Subtotal	87	89	102	7.5	A
SB	L	5	6	120	9.3	A
	T	3	4	133	11.9	B
	R	15	16	105	5.6	A
	Subtotal	23	26	113	7.4	A
EB	L	2	1	50	2.1	A
	T	276	276	100	1.4	A
	R	39	36	92	1.0	A
	Subtotal	317	313	99	1.4	A
WB	L	46	44	96	3.9	A
	T	345	350	102	0.6	A
	R	2	2	100	0.3	A
	Subtotal	393	396	101	1.0	A
<b>Total</b>		820	824	100	2.0	A

**Intersection:** **Pebble Hills Drive & 8600 South**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	<b>5</b>	<b>5</b>	<b>100</b>	<b>7.1</b>	<b>A</b>
	R	7	6	83	4.0	A
	Subtotal	12	11	92	5.4	A
EB	T	337	340	101	0.6	A
	R	1	1	100	0.3	A
	Subtotal	338	341	101	0.6	A
WB	L	3	2	67	3.2	A
	T	391	394	101	0.3	A
	Subtotal	394	396	101	0.3	A
<b>Total</b>		744	748	101	0.5	A

## ***SimTraffic LOS Report***

**Project:** **Sandy Plumb Schneiter TIS**  
**Analysis Period:** *Existing (2022) Background*  
**Time Period:** *Morning Peak Hour*      **Project #:** *UT22-2130*

**Intersection:** **1185 East & 8600 South**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	<b>24</b>	<b>21</b>	<b>88</b>	<b>9.0</b>	<b>A</b>
	R	18	21	115	4.2	A
	Subtotal	42	42	100	6.6	A
<b>EB</b>	T	330	331	100	0.5	A
	R	14	15	105	0.2	A
	Subtotal	344	346	101	0.5	A
<b>WB</b>	L	5	6	120	2.7	A
	T	369	374	101	0.5	A
	Subtotal	374	380	102	0.5	A
<b>Total</b>		760	768	101	0.8	A

**Intersection:** **1300 East & 8900 South**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	T	1,236	1,230	99	1.3	A
	Subtotal	1,236	1,230	100	1.3	A
<b>SB</b>	T	776	784	101	0.5	A
	R	1	1	100	0.1	A
	Subtotal	777	785	101	0.5	A
<b>EB</b>	<b>R</b>	<b>12</b>	<b>11</b>	<b>90</b>	<b>3.7</b>	<b>A</b>
	Subtotal	12	11	92	3.7	A
<b>Total</b>		2,026	2,026	100	1.0	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Background  
**Time Period:** Morning Peak Hour      **Project #:** UT22-2130

**Intersection:** 1300 East & Waters Lane  
**Type:** Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	1,180	1,173	99	2.9	A
	R	56	56	100	1.4	A
	Subtotal	1,236	1,229	99	2.8	A
SB	L	10	8	78	14.9	B
	T	778	785	101	1.6	A
	Subtotal	788	793	101	1.7	A
WB	L	75	76	101	61.6	E
	R	56	58	103	10.1	B
	Subtotal	131	134	102	39.3	D
Total		2,156	2,156	100	4.7	A

**Intersection:** Morningview Drive & Mockingbird Lane  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	1	0	0	0.0	A
	R	2	3	150	0.0	A
	Subtotal	3	3	100	0.0	A
SB	L	2	1	50	1.8	A
	T	3	4	133	0.0	A
	Subtotal	5	5	100	0.4	A
<b>WB</b>	<b>L</b>	<b>1</b>	<b>1</b>	<b>100</b>	<b>3.5</b>	<b>A</b>
	Subtotal	1	1	100	3.5	A
Total		9	9	100	0.6	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Background  
**Time Period:** Morning Peak Hour      **Project #:** UT22-2130

**Intersection:** 9000 South & Quarry Bend Drive  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>SB</b>	R	<b>114</b>	<b>118</b>	<b>104</b>	<b>3.5</b>	<b>A</b>
	Subtotal	114	118	104	3.5	A
<b>EB</b>	T	777	766	99	0.3	A
	Subtotal	777	766	99	0.3	A
<b>WB</b>	T	641	646	101	0.3	A
	R	32	31	98	0.1	A
	Subtotal	673	677	101	0.3	A
<b>Total</b>		1,564	1,561	100	0.5	A

**Intersection:** Harvard Park Drive & Cy's Road  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	21	22	106	1.8	A
	T	59	61	103	0.2	A
<b>SB</b>	Subtotal	80	83	104	0.6	A
	T	75	71	95	0.3	A
<b>EB</b>	R	14	12	84	0.2	A
	Subtotal	89	83	93	0.3	A
<b>EB</b>	<b>L</b>	<b>24</b>	<b>23</b>	<b>97</b>	<b>4.8</b>	<b>A</b>
	R	21	21	101	2.9	A
<b>EB</b>	Subtotal	45	44	98	3.9	A
<b>Total</b>		214	210	98	1.2	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Background  
**Time Period:** Evening Peak Hour      **Project #:** UT22-2130

**Intersection:** Harvard Park Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	<b>34</b>	<b>31</b>	<b>91</b>	<b>18.2</b>	<b>C</b>
	T	5	5	100	16.1	C
	R	77	75	97	7.4	A
	Subtotal	116	111	96	10.8	B
<b>SB</b>	L	4	3	75	15.6	C
	T	5	5	100	15.0	B
	R	8	9	109	5.5	A
	Subtotal	17	17	100	10.1	A
<b>EB</b>	L	4	4	100	2.6	A
	T	415	416	100	1.1	A
	R	32	32	101	0.5	A
	Subtotal	451	452	100	1.1	A
<b>WB</b>	L	98	100	102	5.7	A
	T	330	328	99	0.7	A
	R	4	5	125	0.3	A
	Subtotal	432	433	100	1.9	A
<b>Total</b>		1,017	1,013	100	2.6	A

**Intersection:** Pebble Hills Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	1	0	0		
	R	6	5	83	3.5	A
	Subtotal	7	5	71	3.5	A
<b>EB</b>	T	488	484	99	0.8	A
	R	9	9	97	0.4	A
	Subtotal	497	493	99	0.8	A
<b>WB</b>	L	<b>11</b>	<b>10</b>	<b>89</b>	<b>4.2</b>	<b>A</b>
	T	430	430	100	0.3	A
	Subtotal	441	440	100	0.4	A
<b>Total</b>		945	938	99	0.6	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Background  
**Time Period:** Evening Peak Hour Project #: UT22-2130

**Intersection:** 1185 East & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	11	12	107	10.1	<b>B</b>
	R	3	3	100	4.1	A
	Subtotal	14	15	107	8.9	A
<b>EB</b>	T	473	468	99	0.6	A
	R	21	21	101	0.2	A
	Subtotal	494	489	99	0.6	A
<b>WB</b>	L	4	4	100	3.3	A
	T	430	429	100	0.5	A
	Subtotal	434	433	100	0.5	A
<b>Total</b>		942	937	100	0.7	A

**Intersection:** 1300 East & 8900 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	T	965	958	99	0.8	A
	Subtotal	965	958	99	0.8	A
<b>SB</b>	T	1,304	1,307	100	0.4	A
	R	4	4	100	0.1	A
	Subtotal	1,308	1,311	100	0.4	A
<b>EB</b>	<b>R</b>	<b>6</b>	<b>7</b>	<b>117</b>	<b>6.3</b>	<b>A</b>
	Subtotal	6	7	117	6.3	A
<b>Total</b>		2,279	2,276	100	0.6	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Background  
**Time Period:** Evening Peak Hour Project #: UT22-2130

**Intersection:** 1300 East & Waters Lane  
**Type:** Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	935	930	99	1.4	A
	R	69	74	108	0.5	A
	Subtotal	1,004	1,004	100	1.3	A
SB	L	27	24	90	8.0	A
	T	1,284	1,290	100	1.4	A
	Subtotal	1,311	1,314	100	1.5	A
WB	L	31	28	91	55.0	D
	R	30	29	97	6.7	A
	Subtotal	61	57	93	30.4	C
<b>Total</b>		2,375	2,375	100	2.1	A

**Intersection:** Morningview Drive & Mockingbird Lane  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	3	3	100	0.0	A
	Subtotal	3	3	100	0.0	A
SB	T	1	0	0		
	Subtotal	1				
WB	L	2	2	100	3.5	A
	R	2	3	150	2.4	A
	Subtotal	4	5	125	2.8	A
<b>Total</b>		8	8	100	1.8	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Background  
**Time Period:** Evening Peak Hour      **Project #:** UT22-2130

**Intersection:** 9000 South & Quarry Bend Drive  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>SB</b>	R	<b>80</b>	<b>88</b>	<b>110</b>	<b>4.4</b>	<b>A</b>
	Subtotal	80	88	110	4.4	A
<b>EB</b>	T	966	959	99	0.4	A
	Subtotal	966	959	99	0.4	A
<b>WB</b>	T	897	894	100	0.4	A
	R	57	55	96	0.2	A
	Subtotal	954	949	99	0.4	A
<b>Total</b>		2,000	1,996	100	0.5	A

**Intersection:** Harvard Park Drive & Cy's Road  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	7	6	83	2.3	A
	T	77	74	96	0.1	A
	Subtotal	84	80	95	0.3	A
<b>SB</b>	T	101	102	101	0.6	A
	R	34	35	103	0.3	A
	Subtotal	135	137	101	0.5	A
<b>EB</b>	L	<b>21</b>	<b>20</b>	<b>96</b>	<b>4.9</b>	<b>A</b>
	R	32	34	107	3.3	A
	Subtotal	53	54	102	3.9	A
<b>Total</b>		272	271	100	1.1	A

## ***SimTraffic LOS Report***

**Project:** **Sandy Plumb Schneiter TIS**  
**Analysis Period:** *Existing (2022) Plus Project*  
**Time Period:** *Morning Peak Hour*      **Project #:** **UT22-2130**

**Intersection:** **Harvard Park Drive & 8600 South**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	29	28	97	10.1	B
	T	2	2	100	8.9	A
	R	59	60	101	5.2	A
	Subtotal	90	90	100	6.8	A
SB	L	5	5	100	9.7	A
	T	<b>3</b>	<b>3</b>	<b>100</b>	<b>10.9</b>	<b>B</b>
	R	15	12	79	4.9	A
	Subtotal	23	20	87	7.0	A
EB	L	2	2	100	3.4	A
	T	279	279	100	1.7	A
	R	39	43	110	0.8	A
	Subtotal	320	324	101	1.6	A
WB	L	46	46	100	4.1	A
	T	347	341	98	0.6	A
	R	2	2	100	0.2	A
	Subtotal	395	389	98	1.0	A
<b>Total</b>		828	823	99	2.0	A

**Intersection:** **Pebble Hills Drive & 8600 South**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	7	7	97	7.5	A
	R	9	9	97	4.0	A
	Subtotal	16	16	100	5.5	A
EB	T	341	343	101	0.7	A
	R	3	2	67	0.7	A
	Subtotal	344	345	100	0.7	A
WB	L	4	4	100	2.2	A
	T	391	386	99	0.3	A
	Subtotal	395	390	99	0.3	A
<b>Total</b>		756	751	99	0.6	A

## ***SimTraffic LOS Report***

**Project:** **Sandy Plumb Schneiter TIS**  
**Analysis Period:** *Existing (2022) Plus Project*  
**Time Period:** *Morning Peak Hour*      **Project #:** **UT22-2130**

**Intersection:** **1185 East & 8600 South**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	<b>24</b>	<b>18</b>	<b>76</b>	<b>8.0</b>	<b>A</b>
	R	21	20	96	4.1	A
	Subtotal	45	38	84	5.9	A
<b>EB</b>	T	334	338	101	0.5	A
	R	16	16	98	0.2	A
	Subtotal	350	354	101	0.5	A
<b>WB</b>	L	6	5	83	3.2	A
	T	370	372	100	0.5	A
	Subtotal	376	377	100	0.5	A
<b>Total</b>		771	769	100	0.8	A

**Intersection:** **1300 East & 8900 South**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	T	1,259	1,262	100	1.3	A
	Subtotal	1,259	1,262	100	1.3	A
<b>SB</b>	T	781	783	100	0.5	A
	R	3	4	133	0.2	A
	Subtotal	784	787	100	0.5	A
<b>EB</b>	<b>R</b>	<b>12</b>	<b>11</b>	<b>90</b>	<b>3.3</b>	<b>A</b>
	Subtotal	12	11	92	3.3	A
<b>Total</b>		2,055	2,060	100	1.1	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Plus Project  
**Time Period:** Morning Peak Hour      **Project #:** UT22-2130

**Intersection:** 1300 East & Cy's Road/Waters Lane  
**Type:** Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	5	100	5.3	A
	T	1,180	1,180	100	3.2	A
	R	56	57	101	1.6	A
	Subtotal	1,241	1,242	100	3.1	A
SB	L	10	9	88	12.2	B
	T	778	778	100	2.0	A
	R	5	7	140	0.7	A
	Subtotal	793	794	100	2.1	A
EB	L	22	23	106	51.1	D
	R	12	13	106	5.6	A
	Subtotal	34	36	106	34.7	C
WB	L	75	73	97	54.8	D
	R	56	57	101	8.1	A
	Subtotal	131	130	99	34.3	C
<b>Total</b>		2,199	2,202	100	5.1	A

**Intersection:** Morningview Drive & Mockingbird Lane  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	1	0	0	0.0	A
	R	2	2	100	0.0	A
	Subtotal	3	2	67	0.0	A
SB	L	4	3	75	1.4	A
	T	3	2	67	0.0	A
	Subtotal	7	5	71	0.8	A
WB	L	1	0	0	2.1	A
	R	1	2	200	2.1	A
	Subtotal	2	2	100	2.1	A
<b>Total</b>		12	9	75	1.1	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Plus Project  
**Time Period:** Morning Peak Hour      **Project #:** UT22-2130

**Intersection:** 9000 South & Quarry Bend Drive  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>SB</b>	<b>R</b>	<b>113</b>	<b>117</b>	<b>104</b>	<b>3.8</b>	<b>A</b>
	Subtotal	113	117	104	3.8	A
<b>EB</b>	<b>T</b>	<b>777</b>	<b>781</b>	<b>100</b>	<b>0.3</b>	<b>A</b>
	Subtotal	777	781	101	0.3	A
<b>WB</b>	<b>T</b>	<b>641</b>	<b>658</b>	<b>103</b>	<b>0.3</b>	<b>A</b>
	<b>R</b>	<b>34</b>	<b>36</b>	<b>106</b>	<b>0.1</b>	<b>A</b>
	Subtotal	675	694	103	0.3	A
<b>Total</b>		1,565	1,592	102	0.6	A

**Intersection:** Harvard Park Drive & Cy's Road  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	<b>L</b>	21	22	106	1.9	A
	<b>T</b>	59	58	98	0.2	A
	<b>R</b>	2	2	100	0.0	A
	Subtotal	82	82	100	0.7	A
<b>SB</b>	<b>T</b>	75	78	104	0.4	A
	<b>R</b>	14	16	112	0.2	A
	Subtotal	89	94	106	0.4	A
<b>EB</b>	<b>L</b>	24	25	105	5.0	A
	<b>T</b>	<b>5</b>	<b>6</b>	<b>120</b>	<b>5.6</b>	<b>A</b>
	<b>R</b>	21	22	106	3.2	A
	Subtotal	50	53	106	4.3	A
<b>WB</b>	<b>L</b>	19	20	104	4.5	A
	<b>T</b>	8	9	109	5.4	A
	<b>R</b>	3	4	133	2.7	A
	Subtotal	30	33	110	4.5	A
<b>Total</b>		251	262	104	1.8	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Plus Project  
**Time Period:** Evening Peak Hour      **Project #:** UT22-2130

**Intersection:** Harvard Park Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	34	32	94	17.7	C
	T	<b>5</b>	<b>5</b>	<b>100</b>	<b>22.1</b>	<b>C</b>
	R	79	77	97	11.0	B
	Subtotal	118	114	97	13.4	B
SB	L	4	4	100	14.6	B
	T	5	5	100	19.8	C
	R	8	8	97	6.4	A
	Subtotal	17	17	100	12.3	B
EB	L	4	2	50	3.9	A
	T	419	429	102	1.8	A
	R	42	43	102	1.1	A
	Subtotal	465	474	102	1.7	A
WB	L	99	105	106	6.7	A
	T	332	341	103	0.7	A
	R	4	4	100	0.2	A
	Subtotal	435	450	103	2.1	A
<b>Total</b>		1,036	1,055	102	3.3	A

**Intersection:** Pebble Hills Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0	<b>4.4</b>	<b>A</b>
	R	<b>9</b>	<b>10</b>	<b>108</b>		
	Subtotal	10	10	100		
EB	T	492	500	102	1.0	A
	R	11	12	107	0.7	A
	Subtotal	503	512	102	1.0	A
WB	L	13	13	98	3.1	A
	T	433	449	104	0.3	A
	Subtotal	446	462	104	0.4	A
<b>Total</b>		960	984	102	0.7	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Plus Project  
**Time Period:** Evening Peak Hour Project #: UT22-2130

**Intersection:** 1185 East & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	13	14	106	11.7	<b>B</b>
	R	5	6	120	5.0	A
	Subtotal	18	20	111	9.7	A
<b>EB</b>	T	478	484	101	0.7	A
	R	24	26	109	0.3	A
	Subtotal	502	510	102	0.7	A
<b>WB</b>	L	7	8	110	3.0	A
	T	433	449	104	0.5	A
	Subtotal	440	457	104	0.5	A
<b>Total</b>		960	987	103	0.8	A

**Intersection:** 1300 East & 8900 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	T	978	970	99	0.9	A
	Subtotal	978	970	99	0.9	A
<b>SB</b>	T	1,321	1,330	101	0.8	A
	R	7	8	110	0.4	A
	Subtotal	1,328	1,338	101	0.8	A
<b>EB</b>	<b>R</b>	<b>8</b>	<b>9</b>	<b>109</b>	<b>7.5</b>	<b>A</b>
	Subtotal	8	9	113	7.5	A
<b>Total</b>		2,314	2,317	100	0.8	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Plus Project  
**Time Period:** Evening Peak Hour      **Project #:** UT22-2130

**Intersection:** 1300 East & Cy's Road/Waters Lane  
**Type:** Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	21	20	96	11.8	B
	T	935	928	99	1.8	A
	R	69	70	102	0.6	A
	Subtotal	1,025	1,018	99	1.9	A
SB	L	27	26	97	8.1	A
	T	1,286	1,298	101	2.3	A
	R	17	18	104	0.9	A
	Subtotal	1,330	1,342	101	2.4	A
EB	L	12	10	82	63.2	E
	R	11	13	116	7.2	A
	Subtotal	23	23	100	31.5	C
WB	L	31	29	94	58.8	E
	R	30	34	114	6.0	A
	Subtotal	61	63	103	30.3	C
<b>Total</b>		2,438	2,446	100	3.2	A

**Intersection:** Morningview Drive & Mockingbird Lane  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	R	3	3	100	0.0	A
	Subtotal	3	3	100	0.0	A
SB	L	2	1	50	1.2	A
	T	1	1	100	0.0	A
	Subtotal	3	2	67	0.6	A
WB	L	2	2	100	3.5	A
	R	4	5	125	2.6	A
	Subtotal	6	7	117	2.9	A
<b>Total</b>		12	12	100	1.8	A

### ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Existing (2022) Plus Project  
**Time Period:** Evening Peak Hour      **Project #:** UT22-2130

**Intersection:** 9000 South & Quarry Bend Drive  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>SB</b>	R	90	92	102	4.2	A
	Subtotal	90	92	102	4.2	A
<b>EB</b>	T	966	979	101	0.4	A
	Subtotal	966	979	101	0.4	A
<b>WB</b>	T	897	910	101	0.4	A
	R	61	64	105	0.2	A
	Subtotal	958	974	102	0.4	A
<b>Total</b>		2,014	2,045	102	0.5	A

**Intersection:** Harvard Park Drive & Cy's Road  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	7	7	97	1.6	A
	T	77	74	96	0.1	A
	R	4	3	75	0.1	A
	Subtotal	88	84	95	0.2	A
<b>SB</b>	L	11	12	107	2.0	A
	T	101	104	103	0.6	A
	R	34	37	109	0.5	A
	Subtotal	146	153	105	0.7	A
<b>EB</b>	L	21	22	106	5.2	A
	T	20	19	96	5.7	A
	R	32	32	101	3.4	A
	Subtotal	73	73	100	4.5	A
<b>WB</b>	L	10	10	98	5.1	A
	T	3	3	100	7.1	A
	R	2	2	100	2.6	A
	Subtotal	15	15	100	5.2	A
<b>Total</b>		322	325	101	1.7	A

## SimTraffic LOS Report

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Background  
**Time Period:** Morning Peak Hour **Project #:** UT22-2130

**Intersection:** Harvard Park Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	33	94	13.6	B
	T	5	6	114	14.5	B
	R	65	67	103	7.7	A
	Subtotal	105	106	101	9.9	A
SB	L	10	10	98	13.9	B
	T	5	6	120	17.3	C
	R	20	19	96	7.3	A
	Subtotal	35	35	100	10.9	B
EB	L	5	5	100	3.9	A
	T	315	308	98	1.8	A
	R	45	49	109	0.9	A
	Subtotal	365	362	99	1.7	A
WB	L	55	49	89	5.0	A
	T	390	391	100	0.7	A
	R	5	5	100	0.5	A
	Subtotal	450	445	99	1.2	A
<b>Total</b>		955	948	99	2.7	A

**Intersection:** Pebble Hills Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	10	12	117	8.9	A
	R	10	12	117	3.8	A
	Subtotal	20	24	120	6.4	A
EB	T	386	380	99	0.9	A
	R	5	6	120	0.6	A
	Subtotal	391	386	99	0.9	A
WB	L	5	4	80	2.8	A
	T	440	436	99	0.3	A
	Subtotal	445	440	99	0.3	A
<b>Total</b>		856	850	99	0.7	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Background  
**Time Period:** Morning Peak Hour Project #: UT22-2130

**Intersection:** 1185 East & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	<b>25</b>	<b>26</b>	<b>105</b>	<b>10.1</b>	<b>B</b>
	R	20	21	106	4.8	A
	Subtotal	45	47	104	7.7	A
<b>EB</b>	T	380	376	99	0.6	A
	R	15	13	85	0.2	A
	Subtotal	395	389	98	0.6	A
<b>WB</b>	L	10	10	98	2.9	A
	T	420	413	98	0.5	A
	Subtotal	430	423	98	0.6	A
<b>Total</b>		870	859	99	0.9	A

**Intersection:** 1300 East & 8900 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	T	1,395	1,392	100	1.4	A
	Subtotal	1,395	1,392	100	1.4	A
<b>SB</b>	T	880	865	98	0.5	A
	R	5	6	120	0.2	A
	Subtotal	885	871	98	0.5	A
<b>EB</b>	<b>R</b>	<b>15</b>	<b>14</b>	<b>92</b>	<b>4.4</b>	<b>A</b>
	Subtotal	15	14	93	4.4	A
<b>Total</b>		2,295	2,277	99	1.1	A

### ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Background  
**Time Period:** Morning Peak Hour    **Project #:** UT22-2130

**Intersection:** 1300 East & Waters Lane  
**Type:** Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	1,335	1,333	100	3.1	A
	R	60	62	104	1.6	A
	Subtotal	1,395	1,395	100	3.0	A
SB	L	15	15	98	12.8	B
	T	880	863	98	1.8	A
	Subtotal	895	878	98	2.0	A
WB	L	80	75	94	59.5	E
	R	60	60	100	11.6	B
	Subtotal	140	135	96	38.2	D
Total		2,430	2,408	99	4.7	A

**Intersection:** Morningview Drive & Mockingbird Lane  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	5	5	100	0.0	A
	R	5	7	140	0.0	A
	Subtotal	10	12	120	0.0	A
SB	L	5	5	100	1.5	A
	T	5	5	100	0.0	A
	Subtotal	10	10	100	0.8	A
WB	L	5	4	80	4.1	A
	R	5	6	120	2.6	A
	Subtotal	10	10	100	3.2	A
Total		30	32	107	1.2	A

### **SimTraffic LOS Report**

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Background  
**Time Period:** Morning Peak Hour Project #: UT22-2130

**Intersection:** 9000 South & Quarry Bend Drive  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>SB</b>	R	<b>130</b>	<b>131</b>	<b>101</b>	<b>4.1</b>	<b>A</b>
	Subtotal	130	131	101	4.1	A
<b>EB</b>	T	880	875	99	0.3	A
	Subtotal	880	875	99	0.3	A
<b>WB</b>	T	725	739	102	0.3	A
	R	35	37	106	0.1	A
	Subtotal	760	776	102	0.3	A
<b>Total</b>		<b>1,770</b>	<b>1,782</b>	<b>101</b>	<b>0.6</b>	<b>A</b>

**Intersection:** Harvard Park Drive & Cy's Road  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	25	25	101	1.8	A
	T	70	70	100	0.2	A
	Subtotal	95	95	100	0.6	A
<b>SB</b>	T	86	84	98	0.4	A
	R	20	21	106	0.3	A
	Subtotal	106	105	99	0.4	A
<b>EB</b>	L	<b>30</b>	<b>31</b>	<b>104</b>	<b>4.9</b>	<b>A</b>
	R	25	23	93	3.2	A
	Subtotal	55	54	98	4.2	A
<b>Total</b>		<b>254</b>	<b>254</b>	<b>100</b>	<b>1.3</b>	<b>A</b>

### ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Background  
**Time Period:** Evening Peak Hour **Project #:** UT22-2130

**Intersection:** Harvard Park Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	40	38	95	23.1	C
	T	10	11	107	24.3	C
	R	90	89	99	13.7	B
	Subtotal	140	138	99	17.1	C
SB	L	5	4	80	17.9	C
	T	10	10	98	24.5	C
	R	10	11	107	7.7	A
	Subtotal	25	25	100	16.1	C
EB	L	5	6	120	3.9	A
	T	470	466	99	2.0	A
	R	40	41	102	1.0	A
	Subtotal	515	513	100	1.9	A
WB	L	115	116	101	6.7	A
	T	376	386	103	0.8	A
	R	5	7	140	0.5	A
	Subtotal	496	509	103	2.1	A
<b>Total</b>		1,177	1,185	101	4.1	A

**Intersection:** Pebble Hills Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	3	60	13.1	B
	R	10	10	98	4.7	A
	Subtotal	15	13	87	6.6	A
EB	T	555	550	99	1.0	A
	R	10	10	98	0.5	A
	Subtotal	565	560	99	1.0	A
WB	L	15	15	98	4.3	A
	T	490	504	103	0.3	A
	Subtotal	505	519	103	0.4	A
<b>Total</b>		1,086	1,092	101	0.8	A

### ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Background  
**Time Period:** Evening Peak Hour Project #: UT22-2130

**Intersection:** 1185 East & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	15	14	92	13.0	<b>B</b>
	R	5	6	120	3.6	A
	Subtotal	20	20	100	10.2	<i>B</i>
<b>EB</b>	T	541	536	99	0.7	A
	R	25	24	97	0.2	A
	Subtotal	566	560	99	0.7	A
<b>WB</b>	L	5	4	80	4.1	A
	T	490	504	103	0.6	A
	Subtotal	495	508	103	0.6	A
<b>Total</b>		1,081	1,088	101	0.9	A

**Intersection:** 1300 East & 8900 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	T	1,096	1,101	100	0.9	A
	Subtotal	1,096	1,101	100	0.9	A
<b>SB</b>	T	1,475	1,489	101	0.5	A
	R	5	5	100	0.3	A
	Subtotal	1,480	1,494	101	0.5	A
<b>EB</b>	<b>R</b>	<b>10</b>	<b>11</b>	<b>107</b>	<b>6.3</b>	<b>A</b>
	Subtotal	10	11	110	6.3	A
<b>Total</b>		2,586	2,606	101	0.7	A

## ***SimTraffic LOS Report***

<b>Project:</b>	<b>Sandy Plumb Schneiter TIS</b>
<b>Analysis Period:</b>	<i>Future (2027) Background</i>
<b>Time Period:</b>	<i>Evening Peak Hour</i>
	<b>Project #:</b> <i>UT22-2130</i>

**Intersection:** 1300 East & Waters Lane  
**Type:** Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	1,060	1,062	100	1.6	A
	R	70	71	102	0.6	A
	Subtotal	1,130	1,133	100	1.5	A
SB	L	30	26	87	9.7	A
	T	1,456	1,474	101	1.7	A
	Subtotal	1,486	1,500	101	1.8	A
WB	L	35	33	94	57.3	E
	R	35	36	103	7.1	A
	Subtotal	70	69	99	31.1	C
Total		2,685	2,702	101	2.5	A

**Intersection:** Morningview Drive & Mockingbird Lane  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	5	5	100	0.0	A
	R	5	5	100	0.0	A
	Subtotal	10	10	100	0.0	A
SB	L	5	6	120	1.4	A
	T	5	5	100	0.0	A
	Subtotal	10	11	110	0.8	A
WB	L	5	5	100	4.0	A
	R	5	5	100	2.8	A
	Subtotal	10	10	100	3.4	A
Total		30	31	103	1.4	A

## *SimTraffic LOS Report*

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Background  
**Time Period:** Evening Peak Hour                              **Project #:** UT22-2130

**Intersection:** 9000 South & Quarry Bend Drive  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>SB</b>	<b>R</b>	<b>95</b>	<b>97</b>	<b>102</b>	<b>5.0</b>	<b>A</b>
	Subtotal	95	97	102	5.0	A
<b>EB</b>	<b>T</b>	<b>1,095</b>	<b>1,092</b>	<b>100</b>	<b>0.4</b>	<b>A</b>
	Subtotal	1,095	1,092	100	0.4	A
<b>WB</b>	<b>T</b>	<b>1,015</b>	<b>1,008</b>	<b>99</b>	<b>0.4</b>	<b>A</b>
	<b>R</b>	<b>65</b>	<b>70</b>	<b>108</b>	<b>0.2</b>	<b>A</b>
	Subtotal	1,080	1,078	100	0.4	A
<b>Total</b>		<b>2,270</b>	<b>2,267</b>	<b>100</b>	<b>0.6</b>	<b>A</b>

**Intersection:** Harvard Park Drive & Cy's Road  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	<b>L</b>	10	10	98	2.3	A
	<b>T</b>	90	90	100	0.1	A
	Subtotal	100	100	100	0.3	A
<b>SB</b>	<b>T</b>	<b>125</b>	<b>127</b>	<b>101</b>	<b>0.5</b>	<b>A</b>
	<b>R</b>	40	40	100	0.4	A
	Subtotal	165	167	101	0.5	A
<b>EB</b>	<b>L</b>	<b>25</b>	<b>23</b>	<b>93</b>	<b>5.0</b>	<b>A</b>
	<b>R</b>	35	35	100	3.1	A
	Subtotal	60	58	97	3.9	A
<b>Total</b>		<b>326</b>	<b>325</b>	<b>100</b>	<b>1.1</b>	<b>A</b>

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Plus Project  
**Time Period:** Morning Peak Hour Project #: UT22-2130

**Intersection:** Harvard Park Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	33	94	16.9	C
	T	<b>5</b>	<b>6</b>	<b>114</b>	<b>17.3</b>	<b>C</b>
	R	68	68	100	9.3	A
	Subtotal	108	107	99	12.1	B
SB	L	10	9	88	13.8	B
	T	5	5	100	15.0	B
	R	20	21	106	6.3	A
	Subtotal	35	35	100	9.5	A
EB	L	5	4	80	4.4	A
	T	318	317	100	1.5	A
	R	45	45	100	0.7	A
	Subtotal	368	366	99	1.4	A
WB	L	55	54	98	5.3	A
	T	392	390	99	0.7	A
	R	5	6	120	0.2	A
	Subtotal	452	450	100	1.2	A
<b>Total</b>		963	958	99	2.9	A

**Intersection:** Pebble Hills Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	12	11	90	<b>9.8</b>	<b>A</b>
	R	12	10	82	4.0	A
	Subtotal	24	21	88	7.0	A
EB	T	390	389	100	0.8	A
	R	7	6	83	0.5	A
	Subtotal	397	395	99	0.8	A
WB	L	6	5	83	3.2	A
	T	440	440	100	0.3	A
	Subtotal	446	445	100	0.3	A
<b>Total</b>		868	861	99	0.7	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Plus Project  
**Time Period:** Morning Peak Hour                              **Project #:** UT22-2130

**Intersection:** 1185 East & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	<b>25</b>	<b>21</b>	<b>85</b>	<b>9.6</b>	<b>A</b>
	R	23	24	105	4.4	A
	Subtotal	48	45	94	6.8	A
<b>EB</b>	T	385	383	100	0.5	A
	R	16	17	105	0.1	A
	Subtotal	401	400	100	0.5	A
<b>WB</b>	L	11	11	98	3.0	A
	T	421	425	101	0.5	A
	Subtotal	432	436	101	0.6	A
<b>Total</b>		880	881	100	0.9	A

**Intersection:** 1300 East & 8900 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	T	1,418	1,440	102	1.5	A
	Subtotal	1,418	1,440	102	1.5	A
<b>SB</b>	T	885	889	100	0.3	A
	R	7	8	110	0.1	A
	Subtotal	892	897	101	0.3	A
<b>EB</b>	<b>R</b>	<b>15</b>	<b>16</b>	<b>105</b>	<b>3.9</b>	<b>A</b>
	Subtotal	15	16	107	3.9	A
<b>Total</b>		2,325	2,353	101	1.1	A

## ***SimTraffic LOS Report***

**Project:** **Sandy Plumb Schneiter TIS**  
**Analysis Period:** *Future (2027) Plus Project*  
**Time Period:** *Morning Peak Hour*      **Project #:** **UT22-2130**

**Intersection:** **1300 East & Cy's Road/Waters Lane**  
**Type:** **Signalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	5	100	7.2	A
	T	1,335	1,358	102	3.3	A
	R	60	58	97	1.0	A
	Subtotal	1,400	1,421	102	3.2	A
SB	L	15	13	85	17.0	B
	T	880	887	101	2.2	A
	R	5	4	80	1.0	A
	Subtotal	900	904	100	2.4	A
EB	L	22	19	87	57.7	E
	T	5	5	100	56.2	E
	R	12	12	98	8.3	A
	Subtotal	39	36	92	41.0	D
WB	L	70	66	95	55.7	E
	T	10	10	98	52.3	D
	R	60	60	100	15.4	B
	Subtotal	140	136	97	37.7	D
<b>Total</b>		2,479	2,497	101	5.4	A

**Intersection:** **Morningview Drive & Mockingbird Lane**  
**Type:** **Unsignalized**

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	5	3	60	0.0	A
	R	5	6	120	0.0	A
	Subtotal	10	9	90	0.0	A
SB	L	7	7	97	1.5	A
	T	5	6	120	0.0	A
	Subtotal	12	13	108	0.8	A
WB	L	5	4	80	4.4	A
	R	6	7	117	2.6	A
	Subtotal	11	11	100	3.3	A
<b>Total</b>		33	33	99	1.4	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Plus Project  
**Time Period:** Morning Peak Hour                              **Project #:** UT22-2130

**Intersection:** 9000 South & Quarry Bend Drive  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>SB</b>	<b>R</b>	<b>149</b>	<b>149</b>	<b>100</b>	<b>4.1</b>	<b>A</b>
	Subtotal	149	149	100	4.1	A
<b>EB</b>	<b>T</b>	<b>880</b>	<b>877</b>	<b>100</b>	<b>0.3</b>	<b>A</b>
	Subtotal	880	877	100	0.3	A
<b>WB</b>	<b>T</b>	<b>725</b>	<b>716</b>	<b>99</b>	<b>0.3</b>	<b>A</b>
	<b>R</b>	<b>37</b>	<b>37</b>	<b>100</b>	<b>0.1</b>	<b>A</b>
	Subtotal	762	753	99	0.3	A
<b>Total</b>		1,791	1,779	99	0.6	A

**Intersection:** Harvard Park Drive & Cy's Road  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	25	25	101	1.8	A
	T	70	68	97	0.2	A
	R	7	8	110	0.1	A
	Subtotal	102	101	99	0.6	A
<b>SB</b>	L	5	5	100	2.1	A
	T	85	84	99	0.4	A
	R	20	21	106	0.2	A
	Subtotal	110	110	100	0.4	A
<b>EB</b>	L	30	30	101	5.2	A
	<b>T</b>	<b>10</b>	<b>10</b>	<b>98</b>	<b>6.5</b>	<b>A</b>
	R	25	27	109	3.0	A
	Subtotal	65	67	103	4.5	A
<b>WB</b>	L	19	19	99	5.1	A
	T	8	6	73	5.7	A
	R	3	4	133	2.4	A
	Subtotal	30	29	97	4.9	A
<b>Total</b>		307	307	100	1.8	A

## **SimTraffic LOS Report**

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Plus Project  
**Time Period:** Evening Peak Hour                                  **Project #:** UT22-2130

**Intersection:** Harvard Park Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	<b>40</b>	<b>40</b>	<b>100</b>	<b>32.8</b>	<b>D</b>
	T	10	10	98	32.6	D
	R	92	93	101	19.0	C
	Subtotal	142	143	101	23.8	C
<b>SB</b>	L	5	5	100	23.1	C
	T	10	9	88	25.3	D
	R	10	11	107	7.3	A
	Subtotal	25	25	100	16.9	C
<b>EB</b>	L	5	5	100	4.0	A
	T	475	474	100	1.8	A
	R	50	53	105	0.8	A
	Subtotal	530	532	100	1.7	A
<b>WB</b>	L	116	121	104	8.4	A
	T	378	376	99	0.9	A
	R	5	6	120	0.7	A
	Subtotal	499	503	101	2.7	A
<b>Total</b>		1,197	1,203	100	5.1	A

**Intersection:** Pebble Hills Drive & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	<b>5</b>	<b>4</b>	<b>80</b>	<b>13.3</b>	<b>B</b>
	R	13	14	106	4.9	A
	Subtotal	18	18	100	6.8	A
<b>EB</b>	T	560	560	100	1.1	A
	R	12	12	98	0.7	A
	Subtotal	572	572	100	1.1	A
<b>WB</b>	L	17	17	99	3.8	A
	T	493	499	101	0.4	A
	Subtotal	510	516	101	0.5	A
<b>Total</b>		1,101	1,106	100	0.9	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Plus Project  
**Time Period:** Evening Peak Hour                              **Project #:** UT22-2130

**Intersection:** 1185 East & 8600 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	L	17	15	87	13.6	B
	R	7	7	97	4.8	A
	Subtotal	24	22	92	10.8	B
<b>EB</b>	T	546	547	100	0.7	A
	R	28	28	101	0.3	A
	Subtotal	574	575	100	0.7	A
<b>WB</b>	L	8	8	97	4.3	A
	T	493	502	102	0.6	A
	Subtotal	501	510	102	0.7	A
<b>Total</b>		1,100	1,107	101	0.9	A

**Intersection:** 1300 East & 8900 South  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	T	1,107	1,110	100	1.1	A
	Subtotal	1,107	1,110	100	1.1	A
<b>SB</b>	T	1,492	1,486	100	0.6	A
	R	8	7	85	0.2	A
	Subtotal	1,500	1,493	100	0.6	A
<b>EB</b>	R	12	11	90	8.6	A
	Subtotal	12	11	92	8.6	A
<b>Total</b>		2,620	2,614	100	0.8	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Plus Project  
**Time Period:** Evening Peak Hour    **Project #:** UT22-2130

**Intersection:** 1300 East & Cy's Road/Waters Lane  
**Type:** Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	21	23	111	12.9	B
	T	1,060	1,062	100	2.3	A
	R	70	74	106	0.7	A
	Subtotal	1,151	1,159	101	2.4	A
SB	L	30	27	91	10.2	B
	T	1,458	1,451	100	3.0	A
	R	17	19	110	1.6	A
	Subtotal	1,505	1,497	99	3.1	A
EB	L	12	12	98	60.1	E
	T	10	9	88	51.6	D
	R	11	12	107	12.5	B
	Subtotal	33	33	100	40.5	D
WB	L	35	34	97	58.0	E
	T	10	8	78	50.1	D
	R	35	37	106	9.6	A
	Subtotal	80	79	99	34.5	C
<b>Total</b>		2,769	2,768	100	4.1	A

**Intersection:** Morningview Drive & Mockingbird Lane  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	5	2	40	0.0	A
	R	5	6	120	0.0	A
	Subtotal	10	8	80	0.0	A
SB	L	7	7	97	1.7	A
	T	5	4	80	0.0	A
	Subtotal	12	11	92	1.1	A
WB	L	5	5	100	3.8	A
	R	7	10	138	2.6	A
	Subtotal	12	15	125	3.0	A
<b>Total</b>		34	34	99	1.7	A

## ***SimTraffic LOS Report***

**Project:** Sandy Plumb Schneiter TIS  
**Analysis Period:** Future (2027) Plus Project  
**Time Period:** Evening Peak Hour      **Project #:** UT22-2130

**Intersection:** 9000 South & Quarry Bend Drive  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>SB</b>	<b>R</b>	<b>105</b>	<b>111</b>	<b>106</b>	<b>5.2</b>	<b>A</b>
	Subtotal	105	111	106	5.2	A
<b>EB</b>	<b>T</b>	<b>1,095</b>	<b>1,094</b>	<b>100</b>	<b>0.4</b>	<b>A</b>
	Subtotal	1,095	1,094	100	0.4	A
<b>WB</b>	<b>T</b>	<b>1,015</b>	<b>1,021</b>	<b>101</b>	<b>0.4</b>	<b>A</b>
	<b>R</b>	<b>69</b>	<b>69</b>	<b>100</b>	<b>0.2</b>	<b>A</b>
	Subtotal	1,084	1,090	101	0.4	A
<b>Total</b>		2,284	2,295	100	0.6	A

**Intersection:** Harvard Park Drive & Cy's Road  
**Type:** Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
<b>NB</b>	<b>L</b>	10	10	98	1.9	A
	<b>T</b>	90	92	102	0.2	A
	<b>R</b>	4	4	100	0.0	A
	Subtotal	104	106	102	0.4	A
<b>SB</b>	<b>L</b>	11	14	124	2.5	A
	<b>T</b>	125	128	102	0.7	A
	<b>R</b>	40	42	105	0.6	A
	Subtotal	176	184	105	0.8	A
<b>EB</b>	<b>L</b>	25	24	97	5.5	A
	<b>T</b>	<b>30</b>	<b>30</b>	<b>101</b>	<b>6.3</b>	<b>A</b>
	<b>R</b>	35	34	97	3.7	A
	Subtotal	90	88	98	5.1	A
<b>WB</b>	<b>L</b>	10	10	98	4.8	A
	<b>T</b>	13	13	98	6.3	A
	<b>R</b>	2	3	150	3.0	A
	Subtotal	25	26	104	5.3	A
<b>Total</b>		396	404	102	1.9	A

# **APPENDIX D**

## **95<sup>th</sup> Percentile Queue Length Reports**

*SimTraffic Queueing Report*

**Project: Sandy Plumb Schneiter TIS**

## **Analysis: Existing (2022) Background**

## Time Period: Morning Peak Hour

95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft



**HALES**  **ENGINEERING**  
innovative transportation solutions

innovative transportation solutions

Project #: UT22-2130

Intersection	NB					SB				EB			WB		
	LR	LT	LTR	R	T	L	LTR	R	T	L	LR	R	L	LR	R
01: Harvard Park Drive & 8600 South			75				50						50		
02: Pebble Hills Drive & 8600 South	50														
03: 1185 East & 8600 South	50														
04: 1300 East & 8900 South													50		
05: 1300 East & Waters Lane						100	50			75				150	100
06: Morningview Drive & Mockingbird Lane										75					
07: 9000 South & Quarry Bend Drive										75					
08: Harvard Park Drive & Cy's Road											50				

*SimTraffic Queueing Report*

**Project: Sandy Plumb Schneiter TIS**

## **Analysis: Existing (2022) Background**

## Time Period: Evening Peak Hour

95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft



**HALES**  **ENGINEERING**  
innovative transportation solutions

innovative transportation solutions

Project #: UT22-2130

Intersection	NB					SB				EB				WB		
	LR	LT	LTR	R	T	L	LTR	R	T	L	LR	R	TR	L	LR	R
01: Harvard Park Drive & 8600 South			75				50							50		
02: Pebble Hills Drive & 8600 South																
03: 1185 East & 8600 South	50															
04: 1300 East & 8900 South						75	50			75			50			
05: 1300 East & Waters Lane														75		50
06: Morningview Drive & Mockingbird Lane										50						
07: 9000 South & Quarry Bend Drive																
08: Harvard Park Drive & Cy's Road												75				

**SimTraffic Queueing Report****Project: Sandy Plumb Schneiter TIS****Analysis: Existing (2022) Plus Project****Time Period: Morning Peak Hour**95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft**Project #: UT22-2130**

Intersection	NB					SB					EB					WB		
	L	LR	LTR	R	T	L	LTR	R	T	TR	L	LTR	R	TR	L	LR	TR	
01: Harvard Park Drive & 8600 South			75					50							50			
02: Pebble Hills Drive & 8600 South		50																
03: 1185 East & 8600 South		50																
04: 1300 East & 8900 South													50					
05: 1300 East & Cy's Road/Waters Lane				100	25			75	75	75			50		125		75	
06: Morningview Drive & Mockingbird Lane																		
07: 9000 South & Quarry Bend Drive								75						50				
08: Harvard Park Drive & Cy's Road														50			25	

**SimTraffic Queueing Report****Project: Sandy Plumb Schneiter TIS****Analysis: Existing (2022) Plus Project****Time Period: Evening Peak Hour**95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft**Project #: UT22-2130**

Intersection	NB					SB					EB					WB		
	L	LR	LTR	R	T	L	LTR	R	T	TR	L	LTR	R	TR	L	LR	TR	
01: Harvard Park Drive & 8600 South			75					50							75			
02: Pebble Hills Drive & 8600 South		50																
03: 1185 East & 8600 South		50																
04: 1300 East & 8900 South													50					
05: 1300 East & Cy's Road/Waters Lane	50			100	50			100	100	50			50		75		50	
06: Morningview Drive & Mockingbird Lane																50		
07: 9000 South & Quarry Bend Drive								50					50					
08: Harvard Park Drive & Cy's Road													50		25			

**SimTraffic Queueing Report**

Project: Sandy Plumb Schneiter TIS

## **Analysis: Future (2027) Background**

## Time Period: Morning Peak Hour

95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft



**ENGINEERING**  
innovative transportation solutions

Project #: UT22-2130

Intersection	NB					SB					EB					WB		
	LR	LT	LTR	R	T	L	LT	LTR	R	T	L	LR	R	TR	L	LR	R	
01: Harvard Park Drive & 8600 South			75					50							50			
02: Pebble Hills Drive & 8600 South	50																	
03: 1185 East & 8600 South	75																	
04: 1300 East & 8900 South														50				
05: 1300 East & Waters Lane						125	50				100				150		100	
06: Morningview Drive & Mockingbird Lane																50		
07: 9000 South & Quarry Bend Drive											75							
08: Harvard Park Drive & Cy's Road													50					

# SimTraffic Queueing Report

Project: Sandy Plumb Schneiter TIS

Analysis: Future (2027) Background

Time Period: Evening Peak Hour

95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft



Project #: UT22-2130

Intersection	NB					SB					EB					WB				
	LR	LT	LTR	R	T	L	LT	LTR	R	T	L	LR	R	TR	L	LR	R	TR		
01: Harvard Park Drive & 8600 South			100						50						50					
02: Pebble Hills Drive & 8600 South	50														50					
03: 1185 East & 8600 South	50																			
04: 1300 East & 8900 South														50						
05: 1300 East & Waters Lane				100	50				100						75	75				
06: Morningview Drive & Mockingbird Lane										75					50					
07: 9000 South & Quarry Bend Drive																				
08: Harvard Park Drive & Cy's Road											75									

**SimTraffic Queueing Report****Project: Sandy Plumb Schneiter TIS****Analysis: Future (2027) Plus Project****Time Period: Morning Peak Hour**95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft**Project #: UT22-2130**

Intersection	NB					SB					EB					WB		
	L	LR	LTR	R	T	L	LTR	R	T	TR	L	LTR	R	TR	L	LR	TR	
01: Harvard Park Drive & 8600 South			75					50							50			
02: Pebble Hills Drive & 8600 South		50																
03: 1185 East & 8600 South		50																
04: 1300 East & 8900 South													50					
05: 1300 East & Cy's Road/Waters Lane				150	50			100	75	50			50		125	100		
06: Morningview Drive & Mockingbird Lane															50			
07: 9000 South & Quarry Bend Drive								75						50				
08: Harvard Park Drive & Cy's Road														50				

## ***SimTraffic Queueing Report***

**Project: Sandy Plumb Schneiter TIS**

Analysis: Future (2027) Plus Project

### **Time Period: Evening Peak Hour**

95<sup>th</sup> Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

**HALES**  **ENGINEERING**  
innovative transportation solutions

Project #: UT22-2130

Intersection	NB					SB					EB				WB		
	L	LR	LTR	R	T	L	LTR	R	T	TR	L	LTR	R	TR	L	LR	TR
01: Harvard Park Drive & 8600 South			125					50							75		50
02: Pebble Hills Drive & 8600 South			50												50		
03: 1185 East & 8600 South			50														
04: 1300 East & 8900 South														50			
05: 1300 East & Cy's Road/Waters Lane	50			100	50			125	125	50			50		75		75
06: Morningview Drive & Mockingbird Lane															50		
07: 9000 South & Quarry Bend Drive							75										
08: Harvard Park Drive & Cy's Road										75					25		50