Appendix A

Air Quality and Greenhouse Gas Calculations

Tank Farm Project (Existing)

San Luis Obispo County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Mobile Home Park	35.00	Dwelling Unit	4.41	42,000.00	100

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Default

Vehicle Trips - Trip generation rate based on Traffic Study

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	WD_TR	4.99	4.28

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	8.5652	0.0000	0.0000	7.9454	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.5652**	**0.0000**	**0.0000**	**7.9454**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	8.5652	0.0000	0.0000	7.9454	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.5652**	**0.0000**	**0.0000**	**7.9454**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.3470	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	5.1993	5.1993	5.0700e-003	0.0000	5.3261
Energy	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971
Mobile	0.3679	1.4679	4.0980	0.0110	0.9429	0.0133	0.9562	0.2520	0.0126	0.2646		1,109.8605	1,109.8605	0.0463		1,111.0167
Total	**1.7363**	**1.6841**	**7.0729**	**0.0123**	**0.9429**	**0.0440**	**0.9869**	**0.2520**	**0.0433**	**0.2953**	**0.0000**	**1,348.2710**	**1,348.2710**	**0.0558**	**4.2800e-003**	**1,350.9399**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.3470	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	5.1993	5.1993	5.0700e-003	0.0000	5.3261
Energy	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971
Mobile	0.3679	1.4679	4.0980	0.0110	0.9429	0.0133	0.9562	0.2520	0.0126	0.2646		1,109.8605	1,109.8605	0.0463		1,111.0167
Total	**1.7363**	**1.6841**	**7.0729**	**0.0123**	**0.9429**	**0.0440**	**0.9869**	**0.2520**	**0.0433**	**0.2953**	**0.0000**	**1,348.2710**	**1,348.2710**	**0.0558**	**4.2800e-003**	**1,350.9399**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	2/16/2018	2/15/2018	5	18	
2	Building Construction	Building Construction	2/16/2018	2/15/2018	5	230	
3	Demolition	Demolition	2/16/2018	2/15/2018	5	20	
4	Grading	Grading	2/16/2018	2/15/2018	5	8	
5	Paving	Paving	2/16/2018	2/15/2018	5	18	
6	Site Preparation	Site Preparation	2/16/2018	2/15/2018	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 85,050; Residential Outdoor: 28,350; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	5.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	25.00	4.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3679	1.4679	4.0980	0.0110	0.9429	0.0133	0.9562	0.2520	0.0126	0.2646		1,109.860 5	1,109.860 5	0.0463		1,111.016 7
Unmitigated	0.3679	1.4679	4.0980	0.0110	0.9429	0.0133	0.9562	0.2520	0.0126	0.2646		1,109.860 5	1,109.860 5	0.0463		1,111.016 7

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Mobile Home Park	149.80	175.00	152.60	390,891	390,891
Total	149.80	175.00	152.60	390,891	390,891

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Mobile Home Park	13.00	5.00	5.00	35.80	21.00	43.20	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Mobile Home Park	0.559162	0.032279	0.198583	0.128083	0.030808	0.007362	0.013004	0.019140	0.002385	0.001267	0.005421	0.000811	0.001695

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971
NaturalGas Unmitigated	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Mobile Home Park	1982.3	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971
Total		**0.0214**	**0.1827**	**0.0777**	**1.1700e-003**		**0.0148**	**0.0148**		**0.0148**	**0.0148**		**233.2112**	**233.2112**	**4.4700e-003**	**4.2800e-003**	**234.5971**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Mobile Home Park	1.9823	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971
Total		**0.0214**	**0.1827**	**0.0777**	**1.1700e-003**		**0.0148**	**0.0148**		**0.0148**	**0.0148**		**233.2112**	**233.2112**	**4.4700e-003**	**4.2800e-003**	**234.5971**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.3470	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	5.1993	5.1993	5.0700e-003	0.0000	5.3261
Unmitigated	1.3470	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	5.1993	5.1993	5.0700e-003	0.0000	5.3261

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3600					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8988					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0882	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159		5.1993	5.1993	5.0700e-003		5.3261
Total	**1.3470**	**0.0335**	**2.8971**	**1.5000e-004**		**0.0159**	**0.0159**		**0.0159**	**0.0159**	**0.0000**	**5.1993**	**5.1993**	**5.0700e-003**	**0.0000**	**5.3261**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3600					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8988					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0882	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159		5.1993	5.1993	5.0700e-003		5.3261
Total	**1.3470**	**0.0335**	**2.8971**	**1.5000e-004**		**0.0159**	**0.0159**		**0.0159**	**0.0159**	**0.0000**	**5.1993**	**5.1993**	**5.0700e-003**	**0.0000**	**5.3261**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Tank Farm Project (Existing)

San Luis Obispo County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Mobile Home Park	35.00	Dwelling Unit	4.41	42,000.00	100

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Default

Vehicle Trips - Trip generation rate based on Traffic Study

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	WD_TR	4.99	4.28

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	8.5653	0.0000	0.0000	7.9455	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.5653**	**0.0000**	**0.0000**	**7.9455**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	8.5653	0.0000	0.0000	7.9455	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.5653**	**0.0000**	**0.0000**	**7.9455**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.3470	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	5.1993	5.1993	5.0700e-003	0.0000	5.3261
Energy	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971
Mobile	0.3587	1.5264	4.1977	0.0106	0.9429	0.0134	0.9564	0.2520	0.0127	0.2647		1,066.4600	1,066.4600	0.0468		1,067.6289
Total	**1.7271**	**1.7426**	**7.1726**	**0.0119**	**0.9429**	**0.0441**	**0.9871**	**0.2520**	**0.0434**	**0.2954**	**0.0000**	**1,304.8706**	**1,304.8706**	**0.0563**	**4.2800e-003**	**1,307.5520**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.3470	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	5.1993	5.1993	5.0700e-003	0.0000	5.3261
Energy	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971
Mobile	0.3587	1.5264	4.1977	0.0106	0.9429	0.0134	0.9564	0.2520	0.0127	0.2647		1,066.4600	1,066.4600	0.0468		1,067.6289
Total	**1.7271**	**1.7426**	**7.1726**	**0.0119**	**0.9429**	**0.0441**	**0.9871**	**0.2520**	**0.0434**	**0.2954**	**0.0000**	**1,304.8706**	**1,304.8706**	**0.0563**	**4.2800e-003**	**1,307.5520**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	2/16/2018	2/15/2018	5	18	
2	Building Construction	Building Construction	2/16/2018	2/15/2018	5	230	
3	Demolition	Demolition	2/16/2018	2/15/2018	5	20	
4	Grading	Grading	2/16/2018	2/15/2018	5	8	
5	Paving	Paving	2/16/2018	2/15/2018	5	18	
6	Site Preparation	Site Preparation	2/16/2018	2/15/2018	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 85,050; Residential Outdoor: 28,350; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Tank Farm Project (Existing) - San Luis Obispo County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	5.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	25.00	4.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	0.3587	1.5264	4.1977	0.0106	0.9429	0.0134	0.9564	0.2520	0.0127	0.2647		1,066.460 0	1,066.460 0	0.0468		1,067.628 9
Unmitigated	0.3587	1.5264	4.1977	0.0106	0.9429	0.0134	0.9564	0.2520	0.0127	0.2647		1,066.460 0	1,066.460 0	0.0468		1,067.628 9

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Mobile Home Park	149.80	175.00	152.60	390,891	390,891
Total	149.80	175.00	152.60	390,891	390,891

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Mobile Home Park	13.00	5.00	5.00	35.80	21.00	43.20	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Mobile Home Park	0.559162	0.032279	0.198583	0.128083	0.030808	0.007362	0.013004	0.019140	0.002385	0.001267	0.005421	0.000811	0.001695

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971
NaturalGas Unmitigated	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Mobile Home Park	1982.3	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971
Total		**0.0214**	**0.1827**	**0.0777**	**1.1700e-003**		**0.0148**	**0.0148**		**0.0148**	**0.0148**		**233.2112**	**233.2112**	**4.4700e-003**	**4.2800e-003**	**234.5971**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Mobile Home Park	1.9823	0.0214	0.1827	0.0777	1.1700e-003		0.0148	0.0148		0.0148	0.0148		233.2112	233.2112	4.4700e-003	4.2800e-003	234.5971
Total		**0.0214**	**0.1827**	**0.0777**	**1.1700e-003**		**0.0148**	**0.0148**		**0.0148**	**0.0148**		**233.2112**	**233.2112**	**4.4700e-003**	**4.2800e-003**	**234.5971**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.3470	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	5.1993	5.1993	5.0700e-003	0.0000	5.3261
Unmitigated	1.3470	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	5.1993	5.1993	5.0700e-003	0.0000	5.3261

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3600					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8988					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0882	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159		5.1993	5.1993	5.0700e-003		5.3261
Total	**1.3470**	**0.0335**	**2.8971**	**1.5000e-004**		**0.0159**	**0.0159**		**0.0159**	**0.0159**	**0.0000**	**5.1993**	**5.1993**	**5.0700e-003**	**0.0000**	**5.3261**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3600					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.8988					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0882	0.0335	2.8971	1.5000e-004		0.0159	0.0159		0.0159	0.0159		5.1993	5.1993	5.0700e-003		5.3261
Total	**1.3470**	**0.0335**	**2.8971**	**1.5000e-004**		**0.0159**	**0.0159**		**0.0159**	**0.0159**	**0.0000**	**5.1993**	**5.1993**	**5.0700e-003**	**0.0000**	**5.3261**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Tank Farm Project (Existing)

San Luis Obispo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Mobile Home Park	35.00	Dwelling Unit	4.41	42,000.00	100

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Default

Vehicle Trips - Trip generation rate based on Traffic Study

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	WD_TR	4.99	4.28

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2443	5.5300e-003	0.4780	3.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	0.7783	0.7783	7.6000e-004	0.0000	0.7972
Energy	3.9000e-003	0.0333	0.0142	2.1000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	96.8355	96.8355	3.3700e-003	1.2500e-003	97.2931
Mobile	0.0561	0.2445	0.6582	1.7100e-003	0.1469	2.1400e-003	0.1491	0.0394	2.0100e-003	0.0414	0.0000	155.8711	155.8711	6.7100e-003	0.0000	156.0388
Waste						0.0000	0.0000		0.0000	0.0000	3.2682	0.0000	3.2682	0.1931	0.0000	8.0967
Water						0.0000	0.0000		0.0000	0.0000	0.7235	5.0534	5.7769	0.0745	1.8000e-003	8.1772
Total	**0.3043**	**0.2833**	**1.1505**	**1.9500e-003**	**0.1469**	**7.4700e-003**	**0.1544**	**0.0394**	**7.3400e-003**	**0.0467**	**3.9916**	**258.5383**	**262.5299**	**0.2785**	**3.0500e-003**	**270.4030**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2443	5.5300e-003	0.4780	3.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	0.7783	0.7783	7.6000e-004	0.0000	0.7972
Energy	3.9000e-003	0.0333	0.0142	2.1000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	96.8355	96.8355	3.3700e-003	1.2500e-003	97.2931
Mobile	0.0561	0.2445	0.6582	1.7100e-003	0.1469	2.1400e-003	0.1491	0.0394	2.0100e-003	0.0414	0.0000	155.8711	155.8711	6.7100e-003	0.0000	156.0388
Waste						0.0000	0.0000		0.0000	0.0000	3.2682	0.0000	3.2682	0.1931	0.0000	8.0967
Water						0.0000	0.0000		0.0000	0.0000	0.7235	5.0534	5.7769	0.0745	1.8000e-003	8.1772
Total	**0.3043**	**0.2833**	**1.1505**	**1.9500e-003**	**0.1469**	**7.4700e-003**	**0.1544**	**0.0394**	**7.3400e-003**	**0.0467**	**3.9916**	**258.5383**	**262.5299**	**0.2785**	**3.0500e-003**	**270.4030**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	2/16/2018	2/15/2018	5	18	
2	Building Construction	Building Construction	2/16/2018	2/15/2018	5	230	
3	Demolition	Demolition	2/16/2018	2/15/2018	5	20	
4	Grading	Grading	2/16/2018	2/15/2018	5	8	
5	Paving	Paving	2/16/2018	2/15/2018	5	18	
6	Site Preparation	Site Preparation	2/16/2018	2/15/2018	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 85,050; Residential Outdoor: 28,350; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	5.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	25.00	4.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Demolition - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0561	0.2445	0.6582	1.7100e-003	0.1469	2.1400e-003	0.1491	0.0394	2.0100e-003	0.0414	0.0000	155.8711	155.8711	6.7100e-003	0.0000	156.0388
Unmitigated	0.0561	0.2445	0.6582	1.7100e-003	0.1469	2.1400e-003	0.1491	0.0394	2.0100e-003	0.0414	0.0000	155.8711	155.8711	6.7100e-003	0.0000	156.0388

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Mobile Home Park	149.80	175.00	152.60	390,891	390,891
Total	149.80	175.00	152.60	390,891	390,891

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Mobile Home Park	13.00	5.00	5.00	35.80	21.00	43.20	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Mobile Home Park	0.559162	0.032279	0.198583	0.128083	0.030808	0.007362	0.013004	0.019140	0.002385	0.001267	0.005421	0.000811	0.001695

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	58.2248	58.2248	2.6300e-003	5.4000e-004	58.4529
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	58.2248	58.2248	2.6300e-003	5.4000e-004	58.4529
NaturalGas Mitigated	3.9000e-003	0.0333	0.0142	2.1000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	38.6107	38.6107	7.4000e-004	7.1000e-004	38.8402
NaturalGas Unmitigated	3.9000e-003	0.0333	0.0142	2.1000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	38.6107	38.6107	7.4000e-004	7.1000e-004	38.8402

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Mobile Home Park	723538	3.9000e-003	0.0333	0.0142	2.1000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	38.6107	38.6107	7.4000e-004	7.1000e-004	38.8402
Total		**3.9000e-003**	**0.0333**	**0.0142**	**2.1000e-004**		**2.7000e-003**	**2.7000e-003**		**2.7000e-003**	**2.7000e-003**	**0.0000**	**38.6107**	**38.6107**	**7.4000e-004**	**7.1000e-004**	**38.8402**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Mobile Home Park	723538	3.9000e-003	0.0333	0.0142	2.1000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	38.6107	38.6107	7.4000e-004	7.1000e-004	38.8402
Total		**3.9000e-003**	**0.0333**	**0.0142**	**2.1000e-004**		**2.7000e-003**	**2.7000e-003**		**2.7000e-003**	**2.7000e-003**	**0.0000**	**38.6107**	**38.6107**	**7.4000e-004**	**7.1000e-004**	**38.8402**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Mobile Home Park	200146	58.2248	2.6300e-003	5.4000e-004	58.4529
Total		**58.2248**	**2.6300e-003**	**5.4000e-004**	**58.4529**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Mobile Home Park	200146	58.2248	2.6300e-003	5.4000e-004	58.4529
Total		**58.2248**	**2.6300e-003**	**5.4000e-004**	**58.4529**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2443	5.5300e-003	0.4780	3.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	0.7783	0.7783	7.6000e-004	0.0000	0.7972
Unmitigated	0.2443	5.5300e-003	0.4780	3.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	0.7783	0.7783	7.6000e-004	0.0000	0.7972

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0657					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1640					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0146	5.5300e-003	0.4780	3.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	0.7783	0.7783	7.6000e-004	0.0000	0.7972
Total	**0.2443**	**5.5300e-003**	**0.4780**	**3.0000e-005**		**2.6300e-003**	**2.6300e-003**		**2.6300e-003**	**2.6300e-003**	**0.0000**	**0.7783**	**0.7783**	**7.6000e-004**	**0.0000**	**0.7972**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0657					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1640					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0146	5.5300e-003	0.4780	3.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	0.7783	0.7783	7.6000e-004	0.0000	0.7972
Total	**0.2443**	**5.5300e-003**	**0.4780**	**3.0000e-005**		**2.6300e-003**	**2.6300e-003**		**2.6300e-003**	**2.6300e-003**	**0.0000**	**0.7783**	**0.7783**	**7.6000e-004**	**0.0000**	**0.7972**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.7769	0.0745	1.8000e-003	8.1772
Unmitigated	5.7769	0.0745	1.8000e-003	8.1772

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Mobile Home Park	2.28039 / 1.43764	5.7769	0.0745	1.8000e-003	8.1772
Total		**5.7769**	**0.0745**	**1.8000e-003**	**8.1772**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Mobile Home Park	2.28039 / 1.43764	5.7769	0.0745	1.8000e-003	8.1772
Total		**5.7769**	**0.0745**	**1.8000e-003**	**8.1772**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.2682	0.1931	0.0000	8.0967
Unmitigated	3.2682	0.1931	0.0000	8.0967

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Mobile Home Park	16.1	3.2682	0.1931	0.0000	8.0967
Total		**3.2682**	**0.1931**	**0.0000**	**8.0967**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Mobile Home Park	16.1	3.2682	0.1931	0.0000	8.0967
Total		**3.2682**	**0.1931**	**0.0000**	**8.0967**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Greenhouse Gas Emission Worksheet

N_2O Mobile Emissions

Tank Farm Project - Existing Project

From CalEEMod:

Annual VMT: 390,891

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)**	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)**
Light Auto	55.9%	0.04	0.022368	0.04	0.022368
Light Truck < 3750 lbs	3.2%	0.05	0.001615	0.06	0.001938
Light Truck 3751-5750 lbs	19.9%	0.05	0.009925	0.06	0.01191
Med Truck 5751-8500 lbs	12.8%	0.12	0.015372	0.2	0.02562
Lite-Heavy Truck 8501-10,000 lbs	3.1%	0.12	0.003696	0.2	0.00616
Lite-Heavy Truck 10,001-14,000 lbs	0.7%	0.09	0.000666	0.125	0.000925
Med-Heavy Truck 14,001-33,000 lbs	1.3%	0.06	0.00078	0.05	0.00065
Heavy-Heavy Truck 33,001-60,000 lbs	1.9%	0.06	0.001146	0.05	0.000955
Other Bus	0.2%	0.06	0.000144	0.05	0.00012
Urban Bus	0.1%	0.06	0.000078	0.05	0.000065
Motorcycle	0.5%	0.09	0.000486	0.01	0.000054
School Bus	0.1%	0.06	0.000048	0.05	0.00004
Motor Home	0.2%	0.09	0.000153	0.125	0.0002125
Total	**100.0%**		**0.056477**		**0.0710175**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N20 Emissions:	0.0278	metric tons N2O	**8.61**	metric tons CO2e
		Project Total:	***8.61***	***metric tons CO2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.

** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.

Tank Farm Project (Proposed)

San Luis Obispo County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	356.00	Space	3.20	142,400.00	0
Apartments Low Rise	249.00	Dwelling Unit	6.90	249,000.00	712
Regional Shopping Center	17.50	1000sqft	0.00	17,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Mixed Use - No Lot acreage for retail - all contained in residential

Construction Phase - no demolition of coaches, extended arch coating (refer to IS-MND discussion)

Trips and VMT -

Grading - 25,000 cubic yards of fill, 10.1 acre development

Architectural Coating - 2016 CalGreen Building Code - 50 g/l

Vehicle Trips - vehicle trips from Traffic Study (includes reductions)

Woodstoves - no woodstove

Area Coating - 2016 CalGreen Building Code - 50 g/l

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	150	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstructionPhase	NumDays	20.00	150.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	PhaseEndDate	12/14/2020	4/20/2020
tblConstructionPhase	PhaseStartDate	5/19/2020	9/24/2019
tblGrading	AcresOfGrading	75.00	10.10
tblGrading	MaterialImported	0.00	25,000.00
tblLandUse	LotAcreage	15.56	6.90
tblLandUse	LotAcreage	0.40	0.00
tblProjectCharacteristics	OperationalYear	2018	2021
tblVehicleTrips	WD_TR	6.59	5.08
tblVehicleTrips	WD_TR	42.70	32.60
tblWoodstoves	WoodstoveDayYear	60.00	0.00
tblWoodstoves	WoodstoveWoodMass	2,016.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	18.3279	90.4611	57.8236	0.1472	23.4991	2.5997	25.1156	9.9779	2.3997	12.1781	0.0000	15,293.9778	15,293.9778	2.4481	0.0000	15,355.1799
2020	17.5613	40.2513	52.9511	0.1393	23.4992	1.3697	24.8690	5.9622	1.2951	7.2573	0.0000	13,945.8385	13,945.8385	1.0919	0.0000	13,973.1360
Maximum	**18.3279**	**90.4611**	**57.8236**	**0.1472**	**23.4992**	**2.5997**	**25.1156**	**9.9779**	**2.3997**	**12.1781**	**0.0000**	**15,293.9778**	**15,293.9778**	**2.4481**	**0.0000**	**15,355.1799**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	18.3279	90.4611	57.8236	0.1472	23.4991	2.5997	25.1156	9.9779	2.3997	12.1781	0.0000	15,293.9778	15,293.9778	2.4481	0.0000	15,355.1799
2020	17.5613	40.2513	52.9511	0.1393	23.4992	1.3697	24.8690	5.9622	1.2951	7.2573	0.0000	13,945.8385	13,945.8385	1.0919	0.0000	13,973.1360
Maximum	**18.3279**	**90.4611**	**57.8236**	**0.1472**	**23.4992**	**2.5997**	**25.1156**	**9.9779**	**2.3997**	**12.1781**	**0.0000**	**15,293.9778**	**15,293.9778**	**2.4481**	**0.0000**	**15,355.1799**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.8354	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136	0.0000	37.0713	37.0713	0.0361	0.0000	37.9728
Energy	0.0992	0.8486	0.3657	5.4100e-003		0.0686	0.0686		0.0686	0.0686		1,082.4023	1,082.4023	0.0208	0.0198	1,088.8345
Mobile	4.8449	18.3021	50.2206	0.1402	12.2772	0.1449	12.4221	3.2806	0.1361	3.4167		14,131.7722	14,131.7722	0.5756		14,146.1621
Total	**11.7796**	**19.3887**	**71.2120**	**0.1467**	**12.2772**	**0.3271**	**12.6043**	**3.2806**	**0.3182**	**3.5988**	**0.0000**	**15,251.2457**	**15,251.2457**	**0.6324**	**0.0198**	**15,272.9695**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.8354	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136	0.0000	37.0713	37.0713	0.0361	0.0000	37.9728
Energy	0.0992	0.8486	0.3657	5.4100e-003		0.0686	0.0686		0.0686	0.0686		1,082.4023	1,082.4023	0.0208	0.0198	1,088.8345
Mobile	4.8449	18.3021	50.2206	0.1402	12.2772	0.1449	12.4221	3.2806	0.1361	3.4167		14,131.7722	14,131.7722	0.5756		14,146.1621
Total	**11.7796**	**19.3887**	**71.2120**	**0.1467**	**12.2772**	**0.3271**	**12.6043**	**3.2806**	**0.3182**	**3.5988**	**0.0000**	**15,251.2457**	**15,251.2457**	**0.6324**	**0.0198**	**15,272.9695**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	12/31/2018	5	0	
2	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
3	Grading	Grading	1/15/2019	2/25/2019	5	30	
4	Building Construction	Building Construction	2/26/2019	4/20/2020	5	300	
5	Paving	Paving	4/21/2020	5/18/2020	5	20	
6	Architectural Coating	Architectural Coating	9/24/2019	4/20/2020	5	150	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10.1

Acres of Paving: 3.2

Residential Indoor: 504,225; Residential Outdoor: 168,075; Non-Residential Indoor: 26,250; Non-Residential Outdoor: 8,750; Striped Parking Area: 8,544 (Architectural Coating – sqft)

OffRoad Equipment

Tank Farm Project (Proposed) - San Luis Obispo County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,125.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	53.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	53.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	53.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	49.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	49.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**18.0663**	**2.3904**	**20.4566**	**9.9307**	**2.1991**	**12.1298**		**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0846	0.0729	0.7233	1.7200e-003	0.1780	1.1800e-003	0.1791	0.0472	1.0900e-003	0.0483		171.6027	171.6027	6.3000e-003		171.7603
Total	**0.0846**	**0.0729**	**0.7233**	**1.7200e-003**	**0.1780**	**1.1800e-003**	**0.1791**	**0.0472**	**1.0900e-003**	**0.0483**		**171.6027**	**171.6027**	**6.3000e-003**		**171.7603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.452 9	3,766.452 9	1.1917		3,796.244 5
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**18.0663**	**2.3904**	**20.4566**	**9.9307**	**2.1991**	**12.1298**	**0.0000**	**3,766.452 9**	**3,766.452 9**	**1.1917**		**3,796.244 5**

3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0846	0.0729	0.7233	1.7200e-003	0.1780	1.1800e-003	0.1791	0.0472	1.0900e-003	0.0483		171.6027	171.6027	6.3000e-003		171.7603
Total	**0.0846**	**0.0729**	**0.7233**	**1.7200e-003**	**0.1780**	**1.1800e-003**	**0.1791**	**0.0472**	**1.0900e-003**	**0.0483**		**171.6027**	**171.6027**	**6.3000e-003**		**171.7603**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5325	0.0000	6.5325	3.3720	0.0000	3.3720			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**6.5325**	**2.3827**	**8.9152**	**3.3720**	**2.1920**	**5.5641**		**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0599	35.8599	7.7086	0.0833	1.8169	0.2158	2.0327	0.4977	0.2064	0.7041		8,963.288 7	8,963.288 7	0.4984		8,975.749 7
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0810	0.8037	1.9200e-003	0.1977	1.3100e-003	0.1990	0.0524	1.2100e-003	0.0537		190.6697	190.6697	7.0000e-003		190.8448
Total	**1.1538**	**35.9409**	**8.5123**	**0.0852**	**2.0146**	**0.2171**	**2.2317**	**0.5501**	**0.2077**	**0.7578**		**9,153.958 4**	**9,153.958 4**	**0.5054**		**9,166.594 5**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5325	0.0000	6.5325	3.3720	0.0000	3.3720			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.019 5	6,140.019 5	1.9426		6,188.585 4
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**6.5325**	**2.3827**	**8.9152**	**3.3720**	**2.1920**	**5.5641**	**0.0000**	**6,140.019 5**	**6,140.019 5**	**1.9426**		**6,188.585 4**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0599	35.8599	7.7086	0.0833	1.8169	0.2158	2.0327	0.4977	0.2064	0.7041		8,963.2887	8,963.2887	0.4984		8,975.7497
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0940	0.0810	0.8037	1.9200e-003	0.1977	1.3100e-003	0.1990	0.0524	1.2100e-003	0.0537		190.6697	190.6697	7.0000e-003		190.8448
Total	**1.1538**	**35.9409**	**8.5123**	**0.0852**	**2.0146**	**0.2171**	**2.2317**	**0.5501**	**0.2077**	**0.7578**		**9,153.9584**	**9,153.9584**	**0.5054**		**9,166.5945**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7276	17.9543	5.3437	0.0322	1.7890	0.1435	1.9325	0.4705	0.1372	0.6077		3,418.590 3	3,418.590 3	0.2100		3,423.839 7
Worker	3.4525	2.9773	29.5366	0.0704	19.8991	0.0480	19.9471	5.0279	0.0444	5.0723		7,007.110 1	7,007.110 1	0.2574		7,013.545 4
Total	**4.1802**	**20.9316**	**34.8803**	**0.1026**	**21.6881**	**0.1915**	**21.8796**	**5.4985**	**0.1816**	**5.6800**		**10,425.70 04**	**10,425.70 04**	**0.4674**		**10,437.38 50**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.580 2**	**2,591.580 2**	**0.6313**		**2,607.363 5**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7276	17.9543	5.3437	0.0322	1.7890	0.1435	1.9325	0.4705	0.1372	0.6077		3,418.5903	3,418.5903	0.2100		3,423.8397
Worker	3.4525	2.9773	29.5366	0.0704	19.8991	0.0480	19.9471	5.0279	0.0444	5.0723		7,007.1101	7,007.1101	0.2574		7,013.5454
Total	**4.1802**	**20.9316**	**34.8803**	**0.1026**	**21.6881**	**0.1915**	**21.8796**	**5.4985**	**0.1816**	**5.6800**		**10,425.7004**	**10,425.7004**	**0.4674**		**10,437.3850**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5766	16.4093	4.7024	0.0321	1.7891	0.0891	1.8782	0.4706	0.0852	0.5558		3,415.346 4	3,415.346 4	0.1964		3,420.256 1
Worker	3.1437	2.6224	26.0901	0.0682	19.8991	0.0465	19.9456	5.0279	0.0429	5.0708		6,790.571 5	6,790.571 5	0.2214		6,796.105 3
Total	**3.7203**	**19.0317**	**30.7925**	**0.1003**	**21.6882**	**0.1356**	**21.8238**	**5.4985**	**0.1281**	**5.6266**		**10,205.91 79**	**10,205.91 79**	**0.4177**		**10,216.36 13**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.063 1**	**2,553.063 1**	**0.6229**		**2,568.634 5**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5766	16.4093	4.7024	0.0321	1.7891	0.0891	1.8782	0.4706	0.0852	0.5558		3,415.346 4	3,415.346 4	0.1964		3,420.256 1
Worker	3.1437	2.6224	26.0901	0.0682	19.8991	0.0465	19.9456	5.0279	0.0429	5.0708		6,790.571 5	6,790.571 5	0.2214		6,796.105 3
Total	**3.7203**	**19.0317**	**30.7925**	**0.1003**	**21.6882**	**0.1356**	**21.8238**	**5.4985**	**0.1281**	**5.6266**		**10,205.91 79**	**10,205.91 79**	**0.4177**		**10,216.36 13**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1
Paving	0.4192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7758**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**		**2,207.733 4**	**2,207.733 4**	**0.7140**		**2,225.584 1**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0642	0.0535	0.5325	1.3900e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		138.5831	138.5831	4.5200e-003		138.6960
Total	**0.0642**	**0.0535**	**0.5325**	**1.3900e-003**	**0.1483**	**9.5000e-004**	**0.1492**	**0.0393**	**8.8000e-004**	**0.0402**		**138.5831**	**138.5831**	**4.5200e-003**		**138.6960**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.4192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7758**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**	**0.0000**	**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0642	0.0535	0.5325	1.3900e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		138.5831	138.5831	4.5200e-003		138.6960
Total	**0.0642**	**0.0535**	**0.5325**	**1.3900e-003**	**0.1483**	**9.5000e-004**	**0.1492**	**0.0393**	**8.8000e-004**	**0.0402**		**138.5831**	**138.5831**	**4.5200e-003**		**138.6960**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	11.0598					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**11.3262**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4603	0.3970	3.9382	9.3900e-003	1.8110	6.4100e-003	1.8174	0.4637	5.9100e-003	0.4696		934.2813	934.2813	0.0343		935.1394
Total	**0.4603**	**0.3970**	**3.9382**	**9.3900e-003**	**1.8110**	**6.4100e-003**	**1.8174**	**0.4637**	**5.9100e-003**	**0.4696**		**934.2813**	**934.2813**	**0.0343**		**935.1394**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	11.0598					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**11.3262**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4603	0.3970	3.9382	9.3900e-003	1.8110	6.4100e-003	1.8174	0.4637	5.9100e-003	0.4696		934.2813	934.2813	0.0343		935.1394
Total	**0.4603**	**0.3970**	**3.9382**	**9.3900e-003**	**1.8110**	**6.4100e-003**	**1.8174**	**0.4637**	**5.9100e-003**	**0.4696**		**934.2813**	**934.2813**	**0.0343**		**935.1394**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	11.0598					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**11.3020**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4192	0.3497	3.4787	9.0900e-003	1.8110	6.2000e-003	1.8172	0.4637	5.7200e-003	0.4694		905.4095	905.4095	0.0295		906.1474
Total	**0.4192**	**0.3497**	**3.4787**	**9.0900e-003**	**1.8110**	**6.2000e-003**	**1.8172**	**0.4637**	**5.7200e-003**	**0.4694**		**905.4095**	**905.4095**	**0.0295**		**906.1474**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	11.0598					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**11.3020**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4192	0.3497	3.4787	9.0900e-003	1.8110	6.2000e-003	1.8172	0.4637	5.7200e-003	0.4694		905.4095	905.4095	0.0295		906.1474
Total	**0.4192**	**0.3497**	**3.4787**	**9.0900e-003**	**1.8110**	**6.2000e-003**	**1.8172**	**0.4637**	**5.7200e-003**	**0.4694**		**905.4095**	**905.4095**	**0.0295**		**906.1474**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.8449	18.3021	50.2206	0.1402	12.2772	0.1449	12.4221	3.2806	0.1361	3.4167		14,131.7722	14,131.7722	0.5756		14,146.1621
Unmitigated	4.8449	18.3021	50.2206	0.1402	12.2772	0.1449	12.4221	3.2806	0.1361	3.4167		14,131.7722	14,131.7722	0.5756		14,146.1621

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,264.92	1,782.84	1511.43	3,492,415	3,492,415
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	570.50	874.48	441.70	859,879	859,879
Total	1,835.42	2,657.32	1,953.13	4,352,294	4,352,294

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	13.00	5.00	5.00	35.80	21.00	43.20	86	11	3
Parking Lot	13.00	5.00	5.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	13.00	5.00	5.00	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552
Apartments Low Rise	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552
Regional Shopping Center	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0992	0.8486	0.3657	5.4100e-003		0.0686	0.0686		0.0686	0.0686		1,082.4023	1,082.4023	0.0208	0.0198	1,088.8345
NaturalGas Unmitigated	0.0992	0.8486	0.3657	5.4100e-003		0.0686	0.0686		0.0686	0.0686		1,082.4023	1,082.4023	0.0208	0.0198	1,088.8345

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	9086.31	0.0980	0.8374	0.3563	5.3400e-003		0.0677	0.0677		0.0677	0.0677		1,068.9777	1,068.9777	0.0205	0.0196	1,075.3301
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	114.11	1.2300e-003	0.0112	9.4000e-003	7.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004		13.4247	13.4247	2.6000e-004	2.5000e-004	13.5044
Total		**0.0992**	**0.8486**	**0.3657**	**5.4100e-003**		**0.0686**	**0.0686**		**0.0686**	**0.0686**		**1,082.4023**	**1,082.4023**	**0.0208**	**0.0199**	**1,088.8345**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	9.08631	0.0980	0.8374	0.3563	5.3400e-003		0.0677	0.0677		0.0677	0.0677		1,068.9777	1,068.9777	0.0205	0.0196	1,075.3301
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.11411	1.2300e-003	0.0112	9.4000e-003	7.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004		13.4247	13.4247	2.6000e-004	2.5000e-004	13.5044
Total		**0.0992**	**0.8486**	**0.3657**	**5.4100e-003**		**0.0686**	**0.0686**		**0.0686**	**0.0686**		**1,082.4023**	**1,082.4023**	**0.0208**	**0.0199**	**1,088.8345**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.8354	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136	0.0000	37.0713	37.0713	0.0361	0.0000	37.9728
Unmitigated	6.8354	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136	0.0000	37.0713	37.0713	0.0361	0.0000	37.9728

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4545					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.7535					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.6274	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136		37.0713	37.0713	0.0361		37.9728
Total	**6.8354**	**0.2380**	**20.6257**	**1.0900e-003**		**0.1136**	**0.1136**		**0.1136**	**0.1136**	**0.0000**	**37.0713**	**37.0713**	**0.0361**	**0.0000**	**37.9728**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4545					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.7535					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.6274	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136		37.0713	37.0713	0.0361		37.9728
Total	**6.8354**	**0.2380**	**20.6257**	**1.0900e-003**		**0.1136**	**0.1136**		**0.1136**	**0.1136**	**0.0000**	**37.0713**	**37.0713**	**0.0361**	**0.0000**	**37.9728**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Tank Farm Project (Proposed)

San Luis Obispo County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	356.00	Space	3.20	142,400.00	0
Apartments Low Rise	249.00	Dwelling Unit	6.90	249,000.00	712
Regional Shopping Center	17.50	1000sqft	0.00	17,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Mixed Use - No Lot acreage for retail - all contained in residential

Construction Phase - no demolition of coaches, extended arch coating (refer to IS-MND discussion)

Trips and VMT -

Grading - 25,000 cubic yards of fill, 10.1 acre development

Architectural Coating - 2016 CalGreen Building Code - 50 g/l

Vehicle Trips - vehicle trips from Traffic Study (includes reductions)

Woodstoves - no woodstove

Area Coating - 2016 CalGreen Building Code - 50 g/l

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	150	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstructionPhase	NumDays	20.00	150.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	PhaseEndDate	12/14/2020	4/20/2020
tblConstructionPhase	PhaseStartDate	5/19/2020	9/24/2019
tblGrading	AcresOfGrading	75.00	10.10
tblGrading	MaterialImported	0.00	25,000.00
tblLandUse	LotAcreage	15.56	6.90
tblLandUse	LotAcreage	0.40	0.00
tblProjectCharacteristics	OperationalYear	2018	2021
tblVehicleTrips	WD_TR	6.59	5.08
tblVehicleTrips	WD_TR	42.70	32.60
tblWoodstoves	WoodstoveDayYear	60.00	0.00
tblWoodstoves	WoodstoveWoodMass	2,016.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	18.9045	90.7515	57.7536	0.1460	23.4991	2.6044	25.1197	9.9779	2.4041	12.1781	0.0000	15,158.8310	15,158.8310	2.4647	0.0000	15,220.4493
2020	18.0929	40.5711	52.7421	0.1347	23.4992	1.3725	24.8718	5.9622	1.2978	7.2599	0.0000	13,482.2746	13,482.2746	1.0972	0.0000	13,509.7047
Maximum	**18.9045**	**90.7515**	**57.7536**	**0.1460**	**23.4992**	**2.6044**	**25.1197**	**9.9779**	**2.4041**	**12.1781**	**0.0000**	**15,158.8310**	**15,158.8310**	**2.4647**	**0.0000**	**15,220.4493**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	18.9045	90.7515	57.7536	0.1460	23.4991	2.6044	25.1197	9.9779	2.4041	12.1781	0.0000	15,158.8310	15,158.8310	2.4647	0.0000	15,220.4492
2020	18.0929	40.5711	52.7421	0.1347	23.4992	1.3725	24.8718	5.9622	1.2978	7.2599	0.0000	13,482.2746	13,482.2746	1.0972	0.0000	13,509.7046
Maximum	**18.9045**	**90.7515**	**57.7536**	**0.1460**	**23.4992**	**2.6044**	**25.1197**	**9.9779**	**2.4041**	**12.1781**	**0.0000**	**15,158.8310**	**15,158.8310**	**2.4647**	**0.0000**	**15,220.4492**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.8354	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136	0.0000	37.0713	37.0713	0.0361	0.0000	37.9728
Energy	0.0992	0.8486	0.3657	5.4100e-003		0.0686	0.0686		0.0686	0.0686		1,082.4023	1,082.4023	0.0208	0.0198	1,088.8345
Mobile	4.6985	18.9651	51.7933	0.1347	12.2772	0.1465	12.4237	3.2806	0.1376	3.4182		13,572.9279	13,572.9279	0.5853		13,587.5609
Total	**11.6332**	**20.0517**	**72.7848**	**0.1412**	**12.2772**	**0.3287**	**12.6059**	**3.2806**	**0.3198**	**3.6003**	**0.0000**	**14,692.4015**	**14,692.4015**	**0.6421**	**0.0198**	**14,714.3682**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.8354	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136	0.0000	37.0713	37.0713	0.0361	0.0000	37.9728
Energy	0.0992	0.8486	0.3657	5.4100e-003		0.0686	0.0686		0.0686	0.0686		1,082.4023	1,082.4023	0.0208	0.0198	1,088.8345
Mobile	4.6985	18.9651	51.7933	0.1347	12.2772	0.1465	12.4237	3.2806	0.1376	3.4182		13,572.9279	13,572.9279	0.5853		13,587.5609
Total	**11.6332**	**20.0517**	**72.7848**	**0.1412**	**12.2772**	**0.3287**	**12.6059**	**3.2806**	**0.3198**	**3.6003**	**0.0000**	**14,692.4015**	**14,692.4015**	**0.6421**	**0.0198**	**14,714.3682**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	12/31/2018	5	0	
2	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
3	Grading	Grading	1/15/2019	2/25/2019	5	30	
4	Building Construction	Building Construction	2/26/2019	4/20/2020	5	300	
5	Paving	Paving	4/21/2020	5/18/2020	5	20	
6	Architectural Coating	Architectural Coating	9/24/2019	4/20/2020	5	150	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10.1

Acres of Paving: 3.2

Residential Indoor: 504,225; Residential Outdoor: 168,075; Non-Residential Indoor: 26,250; Non-Residential Outdoor: 8,750; Striped Parking Area: 8,544 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,125.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	53.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	53.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	53.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	49.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	49.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**18.0663**	**2.3904**	**20.4566**	**9.9307**	**2.1991**	**12.1298**		**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0962	0.0828	0.7075	1.6400e-003	0.1780	1.1800e-003	0.1791	0.0472	1.0900e-003	0.0483		163.5759	163.5759	6.1400e-003		163.7294
Total	**0.0962**	**0.0828**	**0.7075**	**1.6400e-003**	**0.1780**	**1.1800e-003**	**0.1791**	**0.0472**	**1.0900e-003**	**0.0483**		**163.5759**	**163.5759**	**6.1400e-003**		**163.7294**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	**4.3350**	**45.5727**	**22.0630**	**0.0380**	**18.0663**	**2.3904**	**20.4566**	**9.9307**	**2.1991**	**12.1298**	**0.0000**	**3,766.4529**	**3,766.4529**	**1.1917**		**3,796.2445**

3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0962	0.0828	0.7075	1.6400e-003	0.1780	1.1800e-003	0.1791	0.0472	1.0900e-003	0.0483		163.5759	163.5759	6.1400e-003		163.7294
Total	**0.0962**	**0.0828**	**0.7075**	**1.6400e-003**	**0.1780**	**1.1800e-003**	**0.1791**	**0.0472**	**1.0900e-003**	**0.0483**		**163.5759**	**163.5759**	**6.1400e-003**		**163.7294**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5325	0.0000	6.5325	3.3720	0.0000	3.3720			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**6.5325**	**2.3827**	**8.9152**	**3.3720**	**2.1920**	**5.5641**		**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0881	36.1393	8.2084	0.0821	1.8169	0.2204	2.0373	0.4977	0.2109	0.7085		8,837.0606	8,837.0606	0.5153		8,849.9423
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1069	0.0920	0.7861	1.8300e-003	0.1977	1.3100e-003	0.1990	0.0524	1.2100e-003	0.0537		181.7510	181.7510	6.8200e-003		181.9215
Total	**1.1950**	**36.2313**	**8.9945**	**0.0840**	**2.0146**	**0.2217**	**2.2363**	**0.5501**	**0.2121**	**0.7622**		**9,018.8115**	**9,018.8115**	**0.5221**		**9,031.8638**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5325	0.0000	6.5325	3.3720	0.0000	3.3720			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	**4.7389**	**54.5202**	**33.3768**	**0.0620**	**6.5325**	**2.3827**	**8.9152**	**3.3720**	**2.1920**	**5.5641**	**0.0000**	**6,140.0195**	**6,140.0195**	**1.9426**		**6,188.5854**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0881	36.1393	8.2084	0.0821	1.8169	0.2204	2.0373	0.4977	0.2109	0.7085		8,837.060 6	8,837.060 6	0.5153		8,849.942 3
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1069	0.0920	0.7861	1.8300e-003	0.1977	1.3100e-003	0.1990	0.0524	1.2100e-003	0.0537		181.7510	181.7510	6.8200e-003		181.9215
Total	**1.1950**	**36.2313**	**8.9945**	**0.0840**	**2.0146**	**0.2217**	**2.2363**	**0.5501**	**0.2121**	**0.7622**		**9,018.811 5**	**9,018.811 5**	**0.5221**		**9,031.863 8**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.580 2	2,591.580 2	0.6313		2,607.363 5
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.580 2**	**2,591.580 2**	**0.6313**		**2,607.363 5**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7653	17.8918	6.0059	0.0312	1.7890	0.1475	1.9365	0.4705	0.1411	0.6116		3,318.6714	3,318.6714	0.2245		3,324.2838
Worker	3.9281	3.3803	28.8906	0.0671	19.8991	0.0480	19.9471	5.0279	0.0444	5.0723		6,679.3479	6,679.3479	0.2507		6,685.6159
Total	**4.6934**	**21.2721**	**34.8964**	**0.0984**	**21.6881**	**0.1955**	**21.8836**	**5.4985**	**0.1854**	**5.6839**		**9,998.0192**	**9,998.0192**	**0.4752**		**10,009.8997**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7653	17.8918	6.0059	0.0312	1.7890	0.1475	1.9365	0.4705	0.1411	0.6116		3,318.6714	3,318.6714	0.2245		3,324.2838
Worker	3.9281	3.3803	28.8906	0.0671	19.8991	0.0480	19.9471	5.0279	0.0444	5.0723		6,679.3479	6,679.3479	0.2507		6,685.6159
Total	**4.6934**	**21.2721**	**34.8964**	**0.0984**	**21.6881**	**0.1955**	**21.8836**	**5.4985**	**0.1854**	**5.6839**		**9,998.0192**	**9,998.0192**	**0.4752**		**10,009.8997**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6098	16.3278	5.2950	0.0311	1.7891	0.0919	1.8810	0.4706	0.0879	0.5585		3,312.139 1	3,312.139 1	0.2100		3,317.388 9
Worker	3.5835	2.9765	25.3828	0.0650	19.8991	0.0465	19.9456	5.0279	0.0429	5.0708		6,472.609 7	6,472.609 7	0.2140		6,477.960 4
Total	**4.1933**	**19.3043**	**30.6778**	**0.0962**	**21.6882**	**0.1384**	**21.8266**	**5.4985**	**0.1308**	**5.6293**		**9,784.748 8**	**9,784.748 8**	**0.4240**		**9,795.349 3**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.063 1**	**2,553.063 1**	**0.6229**		**2,568.634 5**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.6098	16.3278	5.2950	0.0311	1.7891	0.0919	1.8810	0.4706	0.0879	0.5585		3,312.1391	3,312.1391	0.2100		3,317.3889
Worker	3.5835	2.9765	25.3828	0.0650	19.8991	0.0465	19.9456	5.0279	0.0429	5.0708		6,472.6097	6,472.6097	0.2140		6,477.9604
Total	**4.1933**	**19.3043**	**30.6778**	**0.0962**	**21.6882**	**0.1384**	**21.8266**	**5.4985**	**0.1308**	**5.6293**		**9,784.7488**	**9,784.7488**	**0.4240**		**9,795.3493**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.4192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7758**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**		**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0731	0.0607	0.5180	1.3300e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		132.0941	132.0941	4.3700e-003		132.2033
Total	**0.0731**	**0.0607**	**0.5180**	**1.3300e-003**	**0.1483**	**9.5000e-004**	**0.1492**	**0.0393**	**8.8000e-004**	**0.0402**		**132.0941**	**132.0941**	**4.3700e-003**		**132.2033**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.4192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7758**	**14.0656**	**14.6521**	**0.0228**		**0.7528**	**0.7528**		**0.6926**	**0.6926**	**0.0000**	**2,207.7334**	**2,207.7334**	**0.7140**		**2,225.5841**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0731	0.0607	0.5180	1.3300e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		132.0941	132.0941	4.3700e-003		132.2033
Total	**0.0731**	**0.0607**	**0.5180**	**1.3300e-003**	**0.1483**	**9.5000e-004**	**0.1492**	**0.0393**	**8.8000e-004**	**0.0402**		**132.0941**	**132.0941**	**4.3700e-003**		**132.2033**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	11.0598					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**11.3262**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5237	0.4507	3.8521	8.9500e-003	1.8110	6.4100e-003	1.8174	0.4637	5.9100e-003	0.4696		890.5797	890.5797	0.0334		891.4155
Total	**0.5237**	**0.4507**	**3.8521**	**8.9500e-003**	**1.8110**	**6.4100e-003**	**1.8174**	**0.4637**	**5.9100e-003**	**0.4696**		**890.5797**	**890.5797**	**0.0334**		**891.4155**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	11.0598					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**11.3262**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5237	0.4507	3.8521	8.9500e-003	1.8110	6.4100e-003	1.8174	0.4637	5.9100e-003	0.4696		890.5797	890.5797	0.0334		891.4155
Total	**0.5237**	**0.4507**	**3.8521**	**8.9500e-003**	**1.8110**	**6.4100e-003**	**1.8174**	**0.4637**	**5.9100e-003**	**0.4696**		**890.5797**	**890.5797**	**0.0334**		**891.4155**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	11.0598					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**11.3020**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4778	0.3969	3.3844	8.6700e-003	1.8110	6.2000e-003	1.8172	0.4637	5.7200e-003	0.4694		863.0146	863.0146	0.0285		863.7281
Total	**0.4778**	**0.3969**	**3.3844**	**8.6700e-003**	**1.8110**	**6.2000e-003**	**1.8172**	**0.4637**	**5.7200e-003**	**0.4694**		**863.0146**	**863.0146**	**0.0285**		**863.7281**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	11.0598					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**11.3020**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4778	0.3969	3.3844	8.6700e-003	1.8110	6.2000e-003	1.8172	0.4637	5.7200e-003	0.4694		863.0146	863.0146	0.0285		863.7281
Total	**0.4778**	**0.3969**	**3.3844**	**8.6700e-003**	**1.8110**	**6.2000e-003**	**1.8172**	**0.4637**	**5.7200e-003**	**0.4694**		**863.0146**	**863.0146**	**0.0285**		**863.7281**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.6985	18.9651	51.7933	0.1347	12.2772	0.1465	12.4237	3.2806	0.1376	3.4182		13,572.9279	13,572.9279	0.5853		13,587.5609
Unmitigated	4.6985	18.9651	51.7933	0.1347	12.2772	0.1465	12.4237	3.2806	0.1376	3.4182		13,572.9279	13,572.9279	0.5853		13,587.5609

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,264.92	1,782.84	1511.43	3,492,415	3,492,415
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	570.50	874.48	441.70	859,879	859,879
Total	1,835.42	2,657.32	1,953.13	4,352,294	4,352,294

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	13.00	5.00	5.00	35.80	21.00	43.20	86	11	3
Parking Lot	13.00	5.00	5.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	13.00	5.00	5.00	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552
Apartments Low Rise	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552
Regional Shopping Center	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0992	0.8486	0.3657	5.4100e-003		0.0686	0.0686		0.0686	0.0686		1,082.4023	1,082.4023	0.0208	0.0198	1,088.8345
NaturalGas Unmitigated	0.0992	0.8486	0.3657	5.4100e-003		0.0686	0.0686		0.0686	0.0686		1,082.4023	1,082.4023	0.0208	0.0198	1,088.8345

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	9086.31	0.0980	0.8374	0.3563	5.3400e-003		0.0677	0.0677		0.0677	0.0677		1,068.9777	1,068.9777	0.0205	0.0196	1,075.3301
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	114.11	1.2300e-003	0.0112	9.4000e-003	7.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004		13.4247	13.4247	2.6000e-004	2.5000e-004	13.5044
Total		**0.0992**	**0.8486**	**0.3657**	**5.4100e-003**		**0.0686**	**0.0686**		**0.0686**	**0.0686**		**1,082.4023**	**1,082.4023**	**0.0208**	**0.0199**	**1,088.8345**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	9.08631	0.0980	0.8374	0.3563	5.3400e-003		0.0677	0.0677		0.0677	0.0677		1,068.9777	1,068.9777	0.0205	0.0196	1,075.3301
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.11411	1.2300e-003	0.0112	9.4000e-003	7.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004		13.4247	13.4247	2.6000e-004	2.5000e-004	13.5044
Total		**0.0992**	**0.8486**	**0.3657**	**5.4100e-003**		**0.0686**	**0.0686**		**0.0686**	**0.0686**		**1,082.4023**	**1,082.4023**	**0.0208**	**0.0199**	**1,088.8345**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.8354	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136	0.0000	37.0713	37.0713	0.0361	0.0000	37.9728
Unmitigated	6.8354	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136	0.0000	37.0713	37.0713	0.0361	0.0000	37.9728

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4545					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.7535					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.6274	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136		37.0713	37.0713	0.0361		37.9728
Total	**6.8354**	**0.2380**	**20.6257**	**1.0900e-003**		**0.1136**	**0.1136**		**0.1136**	**0.1136**	**0.0000**	**37.0713**	**37.0713**	**0.0361**	**0.0000**	**37.9728**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4545					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.7535					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.6274	0.2380	20.6257	1.0900e-003		0.1136	0.1136		0.1136	0.1136		37.0713	37.0713	0.0361		37.9728
Total	**6.8354**	**0.2380**	**20.6257**	**1.0900e-003**		**0.1136**	**0.1136**		**0.1136**	**0.1136**	**0.0000**	**37.0713**	**37.0713**	**0.0361**	**0.0000**	**37.9728**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Tank Farm Project (Proposed)

San Luis Obispo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	356.00	Space	3.20	142,400.00	0
Apartments Low Rise	249.00	Dwelling Unit	6.90	249,000.00	712
Regional Shopping Center	17.50	1000sqft	0.00	17,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Mixed Use - No Lot acreage for retail - all contained in residential

Construction Phase - no demolition of coaches, extended arch coating (refer to IS-MND discussion)

Trips and VMT -

Grading - 25,000 cubic yards of fill, 10.1 acre development

Architectural Coating - 2016 CalGreen Building Code - 50 g/l

Vehicle Trips - vehicle trips from Traffic Study (includes reductions)

Woodstoves - no woodstove

Area Coating - 2016 CalGreen Building Code - 50 g/l

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	50.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	150	50
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstructionPhase	NumDays	20.00	150.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	PhaseEndDate	12/14/2020	4/20/2020
tblConstructionPhase	PhaseStartDate	5/19/2020	9/24/2019
tblGrading	AcresOfGrading	75.00	10.10
tblGrading	MaterialImported	0.00	25,000.00
tblLandUse	LotAcreage	15.56	6.90
tblLandUse	LotAcreage	0.40	0.00
tblProjectCharacteristics	OperationalYear	2018	2021
tblVehicleTrips	WD_TR	6.59	5.08
tblVehicleTrips	WD_TR	42.70	32.60
tblWoodstoves	WoodstoveDayYear	60.00	0.00
tblWoodstoves	WoodstoveWoodMass	2,016.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	1.2628	6.3767	6.6462	0.0168	2.6094	0.2197	2.8290	0.7154	0.2061	0.9214	0.0000	1,536.3959	1,536.3959	0.1509	0.0000	1,540.1679
2020	0.7158	1.7501	2.2194	5.6100e-003	0.9032	0.0617	0.9649	0.2294	0.0581	0.2875	0.0000	508.6447	508.6447	0.0456	0.0000	509.7849
Maximum	**1.2628**	**6.3767**	**6.6462**	**0.0168**	**2.6094**	**0.2197**	**2.8290**	**0.7154**	**0.2061**	**0.9214**	**0.0000**	**1,536.3959**	**1,536.3959**	**0.1509**	**0.0000**	**1,540.1679**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	1.2628	6.3767	6.6462	0.0168	2.6094	0.2197	2.8290	0.7154	0.2061	0.9214	0.0000	1,536.3954	1,536.3954	0.1509	0.0000	1,540.1674
2020	0.7158	1.7501	2.2194	5.6100e-003	0.9032	0.0617	0.9649	0.2294	0.0581	0.2875	0.0000	508.6445	508.6445	0.0456	0.0000	509.7847
Maximum	**1.2628**	**6.3767**	**6.6462**	**0.0168**	**2.6094**	**0.2197**	**2.8290**	**0.7154**	**0.2061**	**0.9214**	**0.0000**	**1,536.3954**	**1,536.3954**	**0.1509**	**0.0000**	**1,540.1674**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2019**	**3-31-2019**	2.3006	2.3006
2	**4-1-2019**	**6-30-2019**	1.5779	1.5779
3	**7-1-2019**	**9-30-2019**	1.6303	1.6303
4	**10-1-2019**	**12-31-2019**	2.0878	2.0878
5	**1-1-2020**	**3-31-2020**	1.9066	1.9066
6	**4-1-2020**	**6-30-2020**	0.5725	0.5725
		Highest	2.3006	2.3006

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2365	0.0393	3.4033	1.8000e-004		0.0188	0.0188		0.0188	0.0188	0.0000	5.5490	5.5490	5.4000e-003	0.0000	5.6840
Energy	0.0181	0.1549	0.0667	9.9000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	608.9563	608.9563	0.0229	7.3100e-003	611.7051
Mobile	0.6224	2.5846	6.9002	0.0185	1.6352	0.0198	1.6550	0.4379	0.0186	0.4565	0.0000	1,694.900 0	1,694.900 0	0.0714	0.0000	1,696.684 1
Waste						0.0000	0.0000		0.0000	0.0000	26.9816	0.0000	26.9816	1.5946	0.0000	66.8457
Water						0.0000	0.0000		0.0000	0.0000	5.5582	38.8008	44.3589	0.5726	0.0138	62.7998
Total	**1.8770**	**2.7787**	**10.3702**	**0.0197**	**1.6352**	**0.0511**	**1.6863**	**0.4379**	**0.0499**	**0.4878**	**32.5397**	**2,348.206 1**	**2,380.745 9**	**2.2668**	**0.0212**	**2,443.718 7**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2365	0.0393	3.4033	1.8000e-004		0.0188	0.0188		0.0188	0.0188	0.0000	5.5490	5.5490	5.4000e-003	0.0000	5.6840
Energy	0.0181	0.1549	0.0667	9.9000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	608.9563	608.9563	0.0229	7.3100e-003	611.7051
Mobile	0.6224	2.5846	6.9002	0.0185	1.6352	0.0198	1.6550	0.4379	0.0186	0.4565	0.0000	1,694.9000	1,694.9000	0.0714	0.0000	1,696.6841
Waste						0.0000	0.0000		0.0000	0.0000	26.9816	0.0000	26.9816	1.5946	0.0000	66.8457
Water						0.0000	0.0000		0.0000	0.0000	5.5582	38.8008	44.3589	0.5726	0.0138	62.7998
Total	**1.8770**	**2.7787**	**10.3702**	**0.0197**	**1.6352**	**0.0511**	**1.6863**	**0.4379**	**0.0499**	**0.4878**	**32.5397**	**2,348.2061**	**2,380.7459**	**2.2668**	**0.0212**	**2,443.7187**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	12/31/2018	5	0	
2	Site Preparation	Site Preparation	1/1/2019	1/14/2019	5	10	
3	Grading	Grading	1/15/2019	2/25/2019	5	30	
4	Building Construction	Building Construction	2/26/2019	4/20/2020	5	300	
5	Paving	Paving	4/21/2020	5/18/2020	5	20	
6	Architectural Coating	Architectural Coating	9/24/2019	4/20/2020	5	150	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10.1

Acres of Paving: 3.2

Residential Indoor: 504,225; Residential Outdoor: 168,075; Non-Residential Indoor: 26,250; Non-Residential Outdoor: 8,750; Striped Parking Area: 8,544 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,125.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	53.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	53.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	245.00	53.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	49.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	49.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0903**	**0.0120**	**0.1023**	**0.0497**	**0.0110**	**0.0607**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	4.1000e-004	3.5200e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7480	0.7480	3.0000e-005	0.0000	0.7487
Total	**4.3000e-004**	**4.1000e-004**	**3.5200e-003**	**1.0000e-005**	**8.7000e-004**	**1.0000e-005**	**8.7000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**0.7480**	**0.7480**	**3.0000e-005**	**0.0000**	**0.7487**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0903**	**0.0120**	**0.1023**	**0.0497**	**0.0110**	**0.0607**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	4.1000e-004	3.5200e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7480	0.7480	3.0000e-005	0.0000	0.7487
Total	**4.3000e-004**	**4.1000e-004**	**3.5200e-003**	**1.0000e-005**	**8.7000e-004**	**1.0000e-005**	**8.7000e-004**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**0.7480**	**0.7480**	**3.0000e-005**	**0.0000**	**0.7487**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0980	0.0000	0.0980	0.0506	0.0000	0.0506	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0711	0.8178	0.5007	9.3000e-004		0.0357	0.0357		0.0329	0.0329	0.0000	83.5520	83.5520	0.0264	0.0000	84.2129
Total	**0.0711**	**0.8178**	**0.5007**	**9.3000e-004**	**0.0980**	**0.0357**	**0.1337**	**0.0506**	**0.0329**	**0.0835**	**0.0000**	**83.5520**	**83.5520**	**0.0264**	**0.0000**	**84.2129**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0161	0.5488	0.1190	1.2400e-003	0.0266	3.2700e-003	0.0299	7.3100e-003	3.1200e-003	0.0104	0.0000	121.2490	121.2490	6.8900e-003	0.0000	121.4211
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	1.3500e-003	0.0117	3.0000e-005	2.8900e-003	2.0000e-005	2.9100e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.4934	2.4934	9.0000e-005	0.0000	2.4957
Total	**0.0175**	**0.5501**	**0.1307**	**1.2700e-003**	**0.0295**	**3.2900e-003**	**0.0328**	**8.0800e-003**	**3.1400e-003**	**0.0112**	**0.0000**	**123.7423**	**123.7423**	**6.9800e-003**	**0.0000**	**123.9168**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0980	0.0000	0.0980	0.0506	0.0000	0.0506	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0711	0.8178	0.5007	9.3000e-004		0.0357	0.0357		0.0329	0.0329	0.0000	83.5519	83.5519	0.0264	0.0000	84.2128
Total	**0.0711**	**0.8178**	**0.5007**	**9.3000e-004**	**0.0980**	**0.0357**	**0.1337**	**0.0506**	**0.0329**	**0.0835**	**0.0000**	**83.5519**	**83.5519**	**0.0264**	**0.0000**	**84.2128**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0161	0.5488	0.1190	1.2400e-003	0.0266	3.2700e-003	0.0299	7.3100e-003	3.1200e-003	0.0104	0.0000	121.2490	121.2490	6.8900e-003	0.0000	121.4211
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4400e-003	1.3500e-003	0.0117	3.0000e-005	2.8900e-003	2.0000e-005	2.9100e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.4934	2.4934	9.0000e-005	0.0000	2.4957
Total	**0.0175**	**0.5501**	**0.1307**	**1.2700e-003**	**0.0295**	**3.2900e-003**	**0.0328**	**8.0800e-003**	**3.1400e-003**	**0.0112**	**0.0000**	**123.7423**	**123.7423**	**6.9800e-003**	**0.0000**	**123.9168**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2609	2.3292	1.8966	2.9700e-003		0.1425	0.1425		0.1340	0.1340	0.0000	259.7901	259.7901	0.0633	0.0000	261.3723
Total	**0.2609**	**2.3292**	**1.8966**	**2.9700e-003**		**0.1425**	**0.1425**		**0.1340**	**0.1340**	**0.0000**	**259.7901**	**259.7901**	**0.0633**	**0.0000**	**261.3723**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0822	2.0040	0.6287	3.5100e-003	0.1924	0.0160	0.2085	0.0507	0.0153	0.0660	0.0000	338.4804	338.4804	0.0217	0.0000	339.0239
Worker	0.3901	0.3665	3.1744	7.4800e-003	2.1358	5.3100e-003	2.1411	0.5401	4.9000e-003	0.5450	0.0000	675.0197	675.0197	0.0252	0.0000	675.6488
Total	**0.4723**	**2.3705**	**3.8031**	**0.0110**	**2.3282**	**0.0214**	**2.3495**	**0.5908**	**0.0202**	**0.6110**	**0.0000**	**1,013.5001**	**1,013.5001**	**0.0469**	**0.0000**	**1,014.6727**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2609	2.3292	1.8966	2.9700e-003		0.1425	0.1425		0.1340	0.1340	0.0000	259.7898	259.7898	0.0633	0.0000	261.3720
Total	**0.2609**	**2.3292**	**1.8966**	**2.9700e-003**		**0.1425**	**0.1425**		**0.1340**	**0.1340**	**0.0000**	**259.7898**	**259.7898**	**0.0633**	**0.0000**	**261.3720**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0822	2.0040	0.6287	3.5100e-003	0.1924	0.0160	0.2085	0.0507	0.0153	0.0660	0.0000	338.4804	338.4804	0.0217	0.0000	339.0239
Worker	0.3901	0.3665	3.1744	7.4800e-003	2.1358	5.3100e-003	2.1411	0.5401	4.9000e-003	0.5450	0.0000	675.0197	675.0197	0.0252	0.0000	675.6488
Total	**0.4723**	**2.3705**	**3.8031**	**0.0110**	**2.3282**	**0.0214**	**2.3495**	**0.5908**	**0.0202**	**0.6110**	**0.0000**	**1,013.5001**	**1,013.5001**	**0.0469**	**0.0000**	**1,014.6727**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0837	0.7579	0.6655	1.0600e-003		0.0441	0.0441		0.0415	0.0415	0.0000	91.4859	91.4859	0.0223	0.0000	92.0439
Total	**0.0837**	**0.7579**	**0.6655**	**1.0600e-003**		**0.0441**	**0.0441**		**0.0415**	**0.0415**	**0.0000**	**91.4859**	**91.4859**	**0.0223**	**0.0000**	**92.0439**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0234	0.6538	0.1981	1.2500e-003	0.0688	3.5700e-003	0.0724	0.0181	3.4100e-003	0.0215	0.0000	120.8296	120.8296	7.2700e-003	0.0000	121.0113
Worker	0.1270	0.1154	0.9986	2.5900e-003	0.7635	1.8400e-003	0.7653	0.1931	1.6900e-003	0.1948	0.0000	233.8301	233.8301	7.7000e-003	0.0000	234.0226
Total	**0.1503**	**0.7691**	**1.1967**	**3.8400e-003**	**0.8323**	**5.4100e-003**	**0.8377**	**0.2112**	**5.1000e-003**	**0.2163**	**0.0000**	**354.6597**	**354.6597**	**0.0150**	**0.0000**	**355.0338**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0837	0.7579	0.6655	1.0600e-003		0.0441	0.0441		0.0415	0.0415	0.0000	91.4858	91.4858	0.0223	0.0000	92.0438
Total	**0.0837**	**0.7579**	**0.6655**	**1.0600e-003**		**0.0441**	**0.0441**		**0.0415**	**0.0415**	**0.0000**	**91.4858**	**91.4858**	**0.0223**	**0.0000**	**92.0438**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0234	0.6538	0.1981	1.2500e-003	0.0688	3.5700e-003	0.0724	0.0181	3.4100e-003	0.0215	0.0000	120.8296	120.8296	7.2700e-003	0.0000	121.0113
Worker	0.1270	0.1154	0.9986	2.5900e-003	0.7635	1.8400e-003	0.7653	0.1931	1.6900e-003	0.1948	0.0000	233.8301	233.8301	7.7000e-003	0.0000	234.0226
Total	**0.1503**	**0.7691**	**1.1967**	**3.8400e-003**	**0.8323**	**5.4100e-003**	**0.8377**	**0.2112**	**5.1000e-003**	**0.2163**	**0.0000**	**354.6597**	**354.6597**	**0.0150**	**0.0000**	**355.0338**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1902
Paving	4.1900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0178**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1902**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	6.0000e-004	5.1600e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2081	1.2081	4.0000e-005	0.0000	1.2091
Total	**6.6000e-004**	**6.0000e-004**	**5.1600e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2081**	**1.2081**	**4.0000e-005**	**0.0000**	**1.2091**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1901
Paving	4.1900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0178**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1901**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	6.0000e-004	5.1600e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2081	1.2081	4.0000e-005	0.0000	1.2091
Total	**6.6000e-004**	**6.0000e-004**	**5.1600e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2081**	**1.2081**	**4.0000e-005**	**0.0000**	**1.2091**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3926					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4600e-003	0.0652	0.0654	1.1000e-004		4.5700e-003	4.5700e-003		4.5700e-003	4.5700e-003	0.0000	9.0641	9.0641	7.7000e-004	0.0000	9.0832
Total	**0.4021**	**0.0652**	**0.0654**	**1.1000e-004**		**4.5700e-003**	**4.5700e-003**		**4.5700e-003**	**4.5700e-003**	**0.0000**	**9.0641**	**9.0641**	**7.7000e-004**	**0.0000**	**9.0832**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0167	0.0157	0.1360	3.2000e-004	0.0625	2.3000e-004	0.0627	0.0160	2.1000e-004	0.0162	0.0000	28.9149	28.9149	1.0800e-003	0.0000	28.9418
Total	**0.0167**	**0.0157**	**0.1360**	**3.2000e-004**	**0.0625**	**2.3000e-004**	**0.0627**	**0.0160**	**2.1000e-004**	**0.0162**	**0.0000**	**28.9149**	**28.9149**	**1.0800e-003**	**0.0000**	**28.9418**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3926					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4600e-003	0.0652	0.0654	1.1000e-004		4.5700e-003	4.5700e-003		4.5700e-003	4.5700e-003	0.0000	9.0640	9.0640	7.7000e-004	0.0000	9.0832
Total	**0.4021**	**0.0652**	**0.0654**	**1.1000e-004**		**4.5700e-003**	**4.5700e-003**		**4.5700e-003**	**4.5700e-003**	**0.0000**	**9.0640**	**9.0640**	**7.7000e-004**	**0.0000**	**9.0832**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0167	0.0157	0.1360	3.2000e-004	0.0625	2.3000e-004	0.0627	0.0160	2.1000e-004	0.0162	0.0000	28.9149	28.9149	1.0800e-003	0.0000	28.9418
Total	**0.0167**	**0.0157**	**0.1360**	**3.2000e-004**	**0.0625**	**2.3000e-004**	**0.0627**	**0.0160**	**2.1000e-004**	**0.0162**	**0.0000**	**28.9149**	**28.9149**	**1.0800e-003**	**0.0000**	**28.9418**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4369					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5700e-003	0.0665	0.0723	1.2000e-004		4.3800e-003	4.3800e-003		4.3800e-003	4.3800e-003	0.0000	10.0854	10.0854	7.8000e-004	0.0000	10.1049
Total	**0.4464**	**0.0665**	**0.0723**	**1.2000e-004**		**4.3800e-003**	**4.3800e-003**		**4.3800e-003**	**4.3800e-003**	**0.0000**	**10.0854**	**10.0854**	**7.8000e-004**	**0.0000**	**10.1049**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0169	0.0154	0.1332	3.5000e-004	0.0695	2.4000e-004	0.0698	0.0178	2.3000e-004	0.0181	0.0000	31.1774	31.1774	1.0300e-003	0.0000	31.2030
Total	**0.0169**	**0.0154**	**0.1332**	**3.5000e-004**	**0.0695**	**2.4000e-004**	**0.0698**	**0.0178**	**2.3000e-004**	**0.0181**	**0.0000**	**31.1774**	**31.1774**	**1.0300e-003**	**0.0000**	**31.2030**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4369					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5700e-003	0.0665	0.0723	1.2000e-004		4.3800e-003	4.3800e-003		4.3800e-003	4.3800e-003	0.0000	10.0853	10.0853	7.8000e-004	0.0000	10.1049
Total	**0.4464**	**0.0665**	**0.0723**	**1.2000e-004**		**4.3800e-003**	**4.3800e-003**		**4.3800e-003**	**4.3800e-003**	**0.0000**	**10.0853**	**10.0853**	**7.8000e-004**	**0.0000**	**10.1049**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0169	0.0154	0.1332	3.5000e-004	0.0695	2.4000e-004	0.0698	0.0178	2.3000e-004	0.0181	0.0000	31.1774	31.1774	1.0300e-003	0.0000	31.2030
Total	**0.0169**	**0.0154**	**0.1332**	**3.5000e-004**	**0.0695**	**2.4000e-004**	**0.0698**	**0.0178**	**2.3000e-004**	**0.0181**	**0.0000**	**31.1774**	**31.1774**	**1.0300e-003**	**0.0000**	**31.2030**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6224	2.5846	6.9002	0.0185	1.6352	0.0198	1.6550	0.4379	0.0186	0.4565	0.0000	1,694.900 0	1,694.900 0	0.0714	0.0000	1,696.684 1
Unmitigated	0.6224	2.5846	6.9002	0.0185	1.6352	0.0198	1.6550	0.4379	0.0186	0.4565	0.0000	1,694.900 0	1,694.900 0	0.0714	0.0000	1,696.684 1

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,264.92	1,782.84	1511.43	3,492,415	3,492,415
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	570.50	874.48	441.70	859,879	859,879
Total	1,835.42	2,657.32	1,953.13	4,352,294	4,352,294

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	13.00	5.00	5.00	35.80	21.00	43.20	86	11	3
Parking Lot	13.00	5.00	5.00	0.00	0.00	0.00	0	0	0
Regional Shopping Center	13.00	5.00	5.00	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552
Apartments Low Rise	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552
Regional Shopping Center	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	429.7525	429.7525	0.0194	4.0200e-003	431.4364
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	429.7525	429.7525	0.0194	4.0200e-003	431.4364
NaturalGas Mitigated	0.0181	0.1549	0.0667	9.9000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	179.2038	179.2038	3.4300e-003	3.2900e-003	180.2688
NaturalGas Unmitigated	0.0181	0.1549	0.0667	9.9000e-004		0.0125	0.0125		0.0125	0.0125	0.0000	179.2038	179.2038	3.4300e-003	3.2900e-003	180.2688

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	3.3165e+006	0.0179	0.1528	0.0650	9.8000e-004		0.0124	0.0124		0.0124	0.0124	0.0000	176.9812	176.9812	3.3900e-003	3.2400e-003	178.0330
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	41650	2.2000e-004	2.0400e-003	1.7200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.2226	2.2226	4.0000e-005	4.0000e-005	2.2358
Total		**0.0181**	**0.1549**	**0.0668**	**9.9000e-004**		**0.0125**	**0.0125**		**0.0125**	**0.0125**	**0.0000**	**179.2038**	**179.2038**	**3.4300e-003**	**3.2800e-003**	**180.2688**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	3.3165e+006	0.0179	0.1528	0.0650	9.8000e-004		0.0124	0.0124		0.0124	0.0124	0.0000	176.9812	176.9812	3.3900e-003	3.2400e-003	178.0330
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	41650	2.2000e-004	2.0400e-003	1.7200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.2226	2.2226	4.0000e-005	4.0000e-005	2.2358
Total		**0.0181**	**0.1549**	**0.0668**	**9.9000e-004**		**0.0125**	**0.0125**		**0.0125**	**0.0125**	**0.0000**	**179.2038**	**179.2038**	**3.4300e-003**	**3.2800e-003**	**180.2688**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.16033e +006	337.5519	0.0153	3.1600e-003	338.8745
Parking Lot	125312	36.4547	1.6500e-003	3.4000e-004	36.5975
Regional Shopping Center	191625	55.7459	2.5200e-003	5.2000e-004	55.9643
Total		**429.7525**	**0.0194**	**4.0200e-003**	**431.4364**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.16033e +006	337.5519	0.0153	3.1600e-003	338.8745
Parking Lot	125312	36.4547	1.6500e-003	3.4000e-004	36.5975
Regional Shopping Center	191625	55.7459	2.5200e-003	5.2000e-004	55.9643
Total		**429.7525**	**0.0194**	**4.0200e-003**	**431.4364**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2365	0.0393	3.4033	1.8000e-004		0.0188	0.0188		0.0188	0.0188	0.0000	5.5490	5.5490	5.4000e-003	0.0000	5.6840
Unmitigated	1.2365	0.0393	3.4033	1.8000e-004		0.0188	0.0188		0.0188	0.0188	0.0000	5.5490	5.5490	5.4000e-003	0.0000	5.6840

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0830					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0500					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1035	0.0393	3.4033	1.8000e-004		0.0188	0.0188		0.0188	0.0188	0.0000	5.5490	5.5490	5.4000e-003	0.0000	5.6840
Total	**1.2365**	**0.0393**	**3.4033**	**1.8000e-004**		**0.0188**	**0.0188**		**0.0188**	**0.0188**	**0.0000**	**5.5490**	**5.5490**	**5.4000e-003**	**0.0000**	**5.6840**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0830					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0500					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1035	0.0393	3.4033	1.8000e-004		0.0188	0.0188		0.0188	0.0188	0.0000	5.5490	5.5490	5.4000e-003	0.0000	5.6840
Total	**1.2365**	**0.0393**	**3.4033**	**1.8000e-004**		**0.0188**	**0.0188**		**0.0188**	**0.0188**	**0.0000**	**5.5490**	**5.5490**	**5.4000e-003**	**0.0000**	**5.6840**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	44.3589	0.5726	0.0138	62.7998
Unmitigated	44.3589	0.5726	0.0138	62.7998

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	16.2234 / 10.2278	41.0983	0.5303	0.0128	58.1748
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.29627 / 0.794488	3.2607	0.0424	1.0200e-003	4.6250
Total		**44.3589**	**0.5726**	**0.0138**	**62.7998**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	16.2234 / 10.2278	41.0983	0.5303	0.0128	58.1748
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.29627 / 0.794488	3.2607	0.0424	1.0200e-003	4.6250
Total		**44.3589**	**0.5726**	**0.0138**	**62.7998**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.9816	1.5946	0.0000	66.8457
Unmitigated	26.9816	1.5946	0.0000	66.8457

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	114.54	23.2506	1.3741	0.0000	57.6023
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	18.38	3.7310	0.2205	0.0000	9.2433
Total		**26.9816**	**1.5946**	**0.0000**	**66.8457**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	114.54	23.2506	1.3741	0.0000	57.6023
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	18.38	3.7310	0.2205	0.0000	9.2433
Total		**26.9816**	**1.5946**	**0.0000**	**66.8457**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Greenhouse Gas Emission Worksheet

N_2O Mobile Emissions

Tank Farm Project - Proposed Project

From CalEEMod:

Annual VMT: 4,352,294

Vehicle Type	**Percent Type**	**CH4 Emission Factor (g/mile)***	**CH4 Emission (g/mile)****	**N2O Emission Factor (g/mile)***	**N2O Emission (g/mile)****
Light Auto	56.8%	0.04	0.022716	0.04	0.022716
Light Truck < 3750 lbs	3.1%	0.05	0.00154	0.06	0.001848
Light Truck 3751-5750 lbs	19.8%	0.05	0.00992	0.06	0.011904
Med Truck 5751-8500 lbs	12.4%	0.12	0.014892	0.2	0.02482
Lite-Heavy Truck 8501-10,000 lbs	2.8%	0.12	0.003408	0.2	0.00568
Lite-Heavy Truck 10,001-14,000 lbs	0.7%	0.09	0.000621	0.125	0.0008625
Med-Heavy Truck 14,001-33,000 lbs	1.3%	0.06	0.000774	0.05	0.000645
Heavy-Heavy Truck 33,001-60,000 lbs	1.9%	0.06	0.001164	0.05	0.00097
Other Bus	0.2%	0.06	0.000144	0.05	0.00012
Urban Bus	0.1%	0.06	0.000072	0.05	0.00006
Motorcycle	0.5%	0.09	0.000468	0.01	0.000052
School Bus	0.1%	0.06	0.000048	0.05	0.00004
Motor Home	0.2%	0.09	0.000144	0.125	0.0002
Total	**100.0%**		**0.055911**		**0.0699175**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		**Total CO2e units**	
N20 Emissions:	0.3043	metric tons N2O	**94.33**	metric tons CO2e
		Project Total:	***94.33***	***metric tons CO2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.

** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.

Appendix B

Biological Resource Assessment (BRA) & Jurisdictional Delineation (JD)

650 Tank Farm Road Mixed Use

Biological Resources Assessment

prepared for

City of San Luis Obispo
919 Palm Street
San Luis Obispo, California 93401
Contact: Rachel Cohen, City Planner

prepared by

Rincon Consultants, Inc.
1530 Monterey Street, Suite D
San Luis Obispo, California 93401

August 2018

Rincon Consultants, Inc.
Environmental Scientists Planners Engineers
www.rinconconsultants.com

650 Tank Farm Road Mixed Use

Biological Resources Assessment

prepared for

City of San Luis Obispo
919 Palm Street
San Luis Obispo, California 93401
Contact: Rachel Cohen, City Planner

prepared by

Rincon Consultants, Inc.
1530 Monterey Street, Suite D
San Luis Obispo, California 93401

August 2018

Table of Contents

Tables

Figures

Appendices

Executive Summary

Rincon Consultants, Inc. has prepared this biological resources assessment to document existing conditions, summarize a previous biological resource report and study, and provide a basis for evaluation of potential impacts to special status and sensitive biological resources during development of a mixed use project located at 650 Tank Farm Road in the City of San Luis Obispo, San Luis Obispo County, California. The 650 Tank Farm Road Mixed-Use Project (project) is generally located in the southern portion of the City of San Luis Obispo, north of the intersection of Tank Farm Road and Santa Fe Road. The project site is designated Assessor's Parcel Number 053-421-005.

The project is a proposed mixed use development that would include 17,500 square feet of commercial space and 249 residential units. The project includes the development of 15 three-story residential buildings comprised of studios, one and two bedroom apartments, and four three-story mixed-use buildings containing 17,500 square feet of commercial use, and 13,530 square feet of residential use. The mixed-use buildings would be located on the southern portion of the site, along Tank Farm Road, with the residential buildings situated to the north, further from Tank Farm Road. The project includes an indoor/outdoor clubhouse near the center of the site. A pool and an outdoor recreational space would be located adjacent to the clubhouse.

The conceptual site plan for the project includes potential access to the project site through the Digital West property to the west and through the Nick Tompkins property to the east. Access to the project site through the Digital West property to the west may involve modifications, including widening, to the existing crossing over Acacia Creek along the western portion of the project site. Access to the project site through the Nick Tompkins property to the east would involve construction of a new creek crossing over Orcutt Creek along the southeastern portion of the project site. The potential Orcutt Creek crossing would provide a connection to northern side of the existing signalized intersection at the Tank Farm Road/MindBody intersection. The project would also widen Tank Farm Road to accommodate circulation and traffic turning into and out of the project site. In addition, future development of the project site under the proposed rezone may include a pedestrian/bicycle access path from the northern site boundary to the existing pedestrian/bicycle paths at the Damon Garcia-Sports Fields.

Seven vegetation communities / habitat types were observed within the Study Area during the biological field survey: riparian woodland, eucalyptus grove, Bermuda grass lawn, fennel patches, non-native annual grassland, herbaceous wetland, and developed/landscaped/disturbed areas. Orcutt Creek crosses the northeastern and southeastern boundaries of the Study Area. Acacia Creek runs along the western boundary of the Study Area and crosses the Study Area at the Digital West crossing.

Orcutt Creek and Acacia Creek contain approximately 1.74 acres of lake and streambed (below top of bank) and associated riparian habitat, subject to the jurisdiction of the California Department of Fish and Wildlife. Approximately 0.14 acre of wetlands and 0.05 acre (1484 linear feet) of other waters potentially under the U.S. Army Corps of Engineers and Regional Water Quality Control Board jurisdictions (Clean Water Act Sections 404 and 401, respectively) are present in the Study Area. This project is anticipated to require a Nationwide Permit from the United States Army Corps of Engineers pursuant to Section 404 of the Clean Water Act and a Water Quality Certification from the Regional Water Quality Control Board pursuant to Section 401 of the Clean Water Act. Likewise, the proposed project is expected to require a Streambed Alteration Agreement from the California Department of Fish and Wildlife.

Widening of the existing crossing over Acacia Creek, the development of a new crossing over Orcutt Creek, and the addition of a pedestrian/bicycle access path from the northern site boundary to the existing pedestrian/bicycle paths at the Damon Garcia-Sports Fields may result in direct and indirect impacts to potentially jurisdictional areas. The project is expected to adhere to Section 17.16.025 of the City Zoning Regulations, which requires a structure setback of 35 feet from the top of bank or edge of riparian drip line, whichever is farther from the creeks. Direct and indirect impacts to potentially jurisdictional areas would be minimized through proposed avoidance and minimization measures incorporated into the project, and permanent impacts to jurisdictional areas would be offset through mitigation.

The project site contains suitable habitat for six special status plant species: San Luis Obispo sedge (*Carex obispoensis*), Hoover's button-celery (*Eryngium aristulatum* var. *hooveri*), black-flowered figwort (*Scrophularia atrata*), Cambria morning-glory (*Calystegia subacaulis* ssp. *episcopalis*), San Luis Obispo owl's-clover (*Castilleja densiflora* ssp. *obispoensis*), and Adobe sanicle (*Sanicula maritima*). Specifically, suitable habitat occurs within the margins adjacent to Orcutt Creek, Acacia Creek, and the wetland and grassland on the northern portion of the site. Direct impacts to these plant species would be minimized and/or avoided with implementation of conservation measures described in Section 5 of this document. These measures include clearance surveys prior to disturbance in suitable habitat and implementation of avoidance buffers if special status plant species are found.

Eleven special status wildlife species have potential to be impacted by project related activities. These include pallid bat (*Antrozous pallidus*), loggerhead shrike (*Lanius ludovicianus*), purple martin (*Progne subis*), golden eagle (*Aquila chrysaetos*), white-tailed kite (*Elanus leucurus*), American bald eagle (*Haliaeetus leucocephalus*), western pond turtle (*Actinemys* (=*Emys*) *marmorata*), coast range newt (*Taricha torosa torosa*), two-striped garter snake (*Thamnophis hammondii*), South-central California Coast distinct population segment steelhead (*Oncorhynchus mykiss irideus*), and California red-legged frog (*Rana draytonii*). In addition, vegetation with and adjacent to the project site offers potential nesting habitat for bird species that are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. Direct and indirect impacts to these species are not expected with proposed avoidance and minimization measures incorporated into the project.

1 Introduction

Rincon Consultants, Inc. (Rincon) prepared this Biological Resources Assessment (BRA) to document the existing conditions within the project site, evaluate the potential for project-related impacts to biological resources, and recommend measures to avoid, minimize, and mitigate impacts to such resources prior to, during, and following implementation of the 650 Tank Farm Road Mixed Use Project (Project) located in the City of San Luis Obispo (City), San Luis Obispo County, California.

The purpose of this document is to confirm the accuracy of an applicant-provided study, provide additional technical information and impact analysis, and to review the project in sufficient detail to determine to what extent the project may impact special status species and sensitive natural communities. Specifically, this document has been prepared to meet the requirements of the California Environmental Quality Act (CEQA) environmental review process for biological resources.

1.1 Project Location

The project site is located at 650 Tank Farm Road, north of the intersection of Tank Farm Road and Santa Fe Road in the southern portion of the City of San Luis Obispo (Figure 1). The project site is designated Assessor's Parcel Number 053-421-005. The approximate center of the project site occurs at latitude 35°14'54.56"N and longitude 120°38'49.37"W (WGS-84 datum). The project site is within both the *San Luis Obispo* and *Pismo Beach, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangles. The Public Land Survey System depicts the project site within the Mt. Diablo Meridian, Township 31S, Range 12E, Section 12.

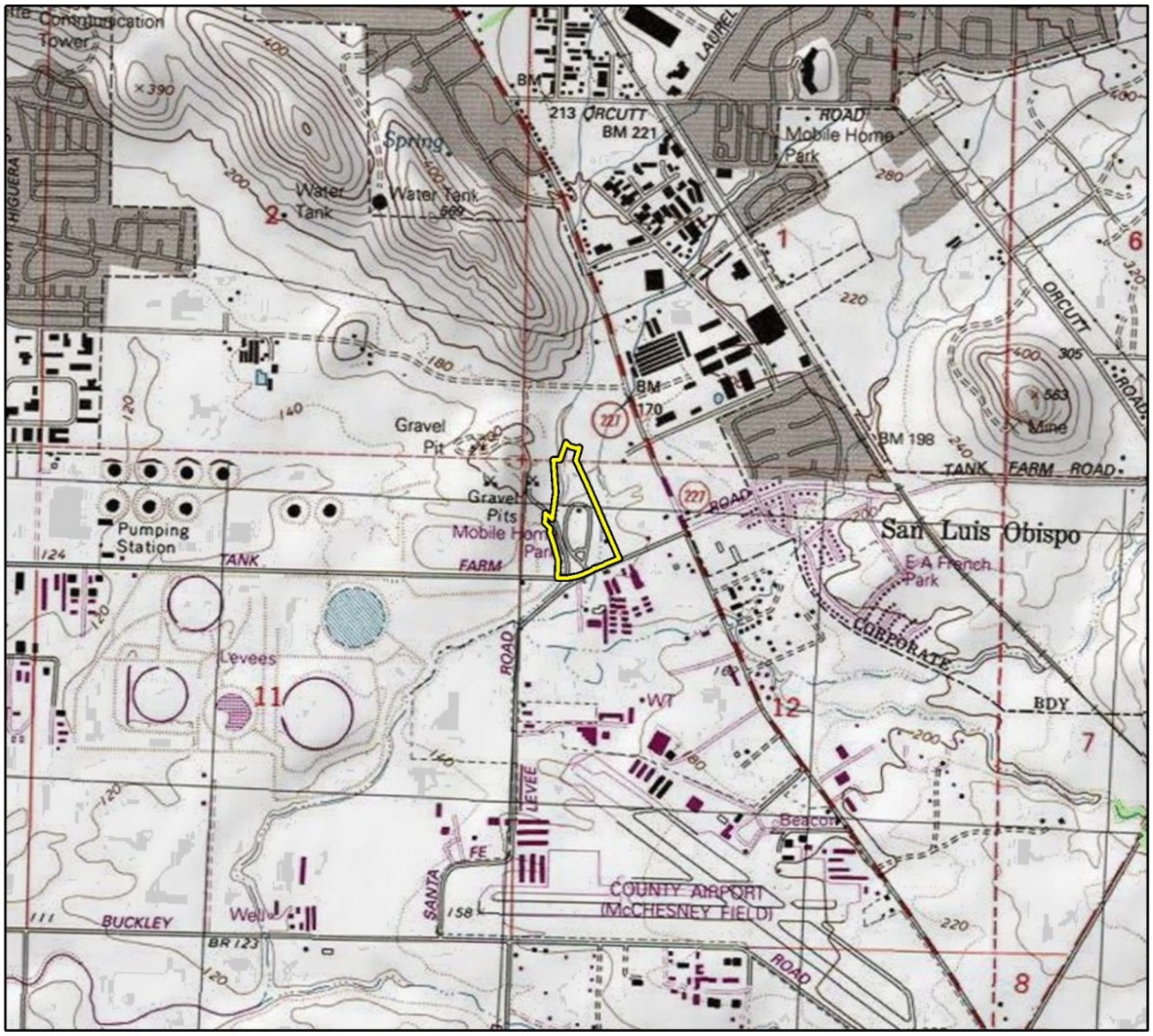
The BRA study area, hereinafter referred to as the "Study Area", was defined for the Project that is extensive enough to include all project components, including access points, laydown yards, potential off-site access improvements, and areas of permanent and temporary disturbance. The Study Area analyzed in this report encompasses roughly 14.12 acres (Figure 2).

1.2 Project Description

The project would include a rezone of the Business Park portion of the site (3.25 acres), and the Medium-Density Residential portion of the site (6.85 acres). The rezoning would result in a net site area of 10.1 acres designated Service Commercial with the Specific Plan overlay (C-S-SP). The 2.65-acre remainder of the 12.75-acre site is zoned Conservation Open Space (C/OS-SP) and includes the site's two creek corridors. The project would include an amendment to the Airport Area Specific Plan (AASP) to delete the existing Medium Density Residential designation discussion related to the mobile home park and density.

The project would develop the site with a mixed-use project that would include 17,500 square feet of commercial space and 249 residential units. The project includes the development of 15 three-story residential buildings comprised of studios, one and two bedroom apartments, and four three-story mixed-use buildings containing 17,500 square feet of commercial use, and 13,530 square feet of residential use.

Figure 1 Regional Location Map



Imagery provided by National Geographic Society, ESRI and its licensors © 2018. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

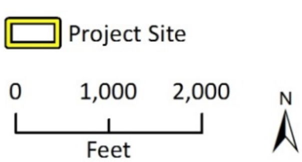


Figure 2 Study Area

Imagery provided by Google and its licensors © 2017.

The mixed-use buildings would be located on the southern portion of the site, along Tank Farm Road, with the residential buildings situated to the north, further from Tank Farm Road.

Other Project Components

The project includes an indoor/outdoor clubhouse near the center of the site. A pool and an outdoor recreational space would be located adjacent to the clubhouse. A landscape buffer zone/stormwater collection basin would be located between the four mixed-use buildings and the 15 residential buildings. In addition to development, the project would require periodic vegetation management around the perimeter of the development (e.g., pruning trees).

Potential Off-Site Access Improvements

The conceptual site plan for the project includes potential access to the project site through the Digital West property to the west and through the Nick Tompkins property to the east. Access to the project site through the Digital West property to the west may involve modifications, including widening, to the existing crossing over Acacia Creek along the western portion of the project site. Access to the project site through the Nick Tompkins property to the east would involve construction of a new creek crossing over Orcutt Creek along the southeastern portion of the project site. The potential Orcutt Creek crossing would provide a connection to northern side of the existing signalized intersection at the Tank Farm Road/MindBody intersection. The project would also widen Tank Farm Road to accommodate circulation and traffic turning into and out of the project site. In addition, future development of the project site under the proposed rezone may include a pedestrian/bicycle access path from the northern site boundary to the existing pedestrian/bicycle paths at the Damon Garcia-Sports Fields.

2 Methodology

2.1 Regulatory Overview

Regulated or sensitive resources studied and analyzed herein include special status plant and animal species, nesting birds and raptors, sensitive plant communities, jurisdictional waters, wildlife movement, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by Federal, State, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the City of San Luis Obispo).

2.1.1 Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes:

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (ESA)
- California Endangered Species Act (CESA)
- Federal Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- City Tree Protection Policies
- City Zoning Regulations

A discussion of resources regulated within this framework is provided in Section 5. Final quantification of impacts and mitigation measures will depend on final project design.

2.1.2 Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. Based on these criteria, the project would have a significant effect on biological resources if it would:

a) *Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.*

c) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.*

2.2 Literature Review

Queries of the USFWS Information for Planning and Consultation System (IPaC; 2017b), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB; 2017), and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (2017) were conducted to obtain comprehensive information regarding State and Federally listed species, as well as other special status species, considered to have potential to occur within the *San Luis Obispo* and *Pismo Beach*, *California* USGS 7.5-minute topographic quadrangles and the surrounding eight quadrangles (*Arroyo Grande NE, Atascadero, Lopez Mtn., Morro Bay North, Morro Bay South, Oceano, Port San Luis,* and *Santa Margarita*).The results of these scientific database queries were compiled into a table that is presented as Appendix D.

In addition, the following resources were reviewed for information about the Study Area:

- Aerial photographs of the Study Area and vicinity;
- *San Luis Obispo* and *Pismo Beach, California* USGS 7.5-minute topographic quadrangles;
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (2017);
- USFWS IpaC list of Federally listed species with potential to occur within the Study Area and vicinity (2017b);
- USFWS Critical Habitat Portal (2017ª);
- NMFS Critical Habitat (2017);
- CDFW CNDDB list of species status species documented within the *San Luis Obispo* and *Pismo Beach*, California USGS 7.5-minute topographic quadrangles and surrounding eight quadrangles (2017b);
- CDFW CNDDB map of State and Federally listed species that have been previously documented within a 5-mile (8-kilometer) radius of the Study Area (2017b);
- CNPS California Rare Plant Rank (CRPR) list of sensitive plant species reported to occur within the *San Luis Obispo* and *Pismo Beach*, California USGS 7.5-minute topographic quadrangles and/or surrounding 8 quadrangles (2017); and
- Terra Verde Environmental Consulting, LLC 2016 report, 650 Tank Farm Waters and Wetland Assessment, San Luis Obispo, California.

2.3 Field Reconnaissance Surveys

Rincon Associate Biologist Jamie Deutsch conducted field reconnaissance surveys on October 24 and December 19, 2017. Mr. Deutsch surveyed the entire Study Area on foot and recorded all biological resources encountered on site. Additional vegetation mapping was conducted on August 8, 2018, to include information about off-site improvement areas not previously studied, particularly in the vicinity of the potential pedestrian path connection.

Surveys were conducted to document the existing site conditions and to evaluate the potential for presence of sensitive biological resources, including sensitive plant and animal species, sensitive plant communities and habitat for nesting birds protected by Federal and State laws. The surveys were also conducted to confirm the accuracy of the 650 Tank Farm Waters and Wetlands Assessment prepared by Terra Verde Environmental Consulting, LLC. (Terra Verde, 2017).

During the October 24 survey, an inventory of all plant and animal species observed was compiled (Appendix C) and an evaluation and confirmation of previously mapped potentially jurisdictional aquatic features was conducted. During the December 19 survey, the top of bank and edge of riparian dripline along Acacia Creek and Orcutt Creek was recorded with the use of a Global Positioning System (GPS) unit to confirm that the extent of these resources has been accurately displayed on project figures.

Plant species nomenclature and taxonomy followed The Jepson Manual: Vascular Plants of California, Second Edition (Baldwin et al., 2012). All plant species encountered were noted and identified to the lowest possible taxonomic level. The vegetation classification system used for this analysis is based on A Manual of California Vegetation, Second Edition (Sawyer et al., 2009) and Preliminary Descriptions of the Terrestrial Communities of California (Holland, 1986), but has been modified as needed to accurately describe the existing habitats observed on site. These vegetation communities were mapped onto aerial imagery depicting the Study Area and then later digitized using ArcGIS® (ESRI, 2017).

Wildlife identification and nomenclature followed standard reference texts, including Sibley Birds West: Field Guide to Birds of Western North America (Sibley, 2016), Field Guide to Western Reptiles and Amphibians (Stebbins, 2003), and Mammals of North America (Bowers et al., 2004). The habitat requirements for each regionally occurring special status species were assessed and compared to the type and quality of the habitats observed within the Study Area during the field survey. Several sensitive species were eliminated from consideration as having potential to occur on site due to lack of suitable habitat, lack of suitable soils/substrate, and/or knowledge of regional distribution. The relative density of fossorial mammal burrows and soil characteristics throughout the site were also noted.

2.4 Jurisdictional Delineation

In addition to the field reconnaissance surveys, Mr. Deutsch conducted a formal jurisdictional delineation of the Study Area on August 8, 2018. Current federal and state methods and guidelines were used to identify and delineate potentially jurisdictional aquatic resources such as streams and wetlands. Potential wetland features were evaluated for presence of wetland indicators, specifically including predominance of hydrophytic vegetation, hydric soils, and wetland hydrology, according to routine delineation procedure (USACE 1987; 2008a). Two sets of paired sample points were investigated. In addition, the Study Area was surveyed for any streams or other drainages that might exhibit an ordinary high water mark (OHWM) and which might constitute waters of the U.S. (Lichvar *et al.* 2008), as well as having a defined channel, bed and banks and any adjacent riparian habitat that could be subject to CDFW jurisdiction under the CFGC.

The entire Study Area was surveyed on foot for potential wetland and non-wetland jurisdictional areas, streambeds, and riparian resources. General site characteristics were noted and vegetation was documented. Extents of potential jurisdictional features and sample points were mapped using a Trimble Geo 7X Global Positioning System (GPS) with sub-meter accuracy, and were also plotted on aerial photographs. Data was recorded on Arid West Wetland Determination forms. For a complete description of the Jurisdictional Delineation methods and results, please refer to the Jurisdictional Waters and Wetlands Delineation Report for the project (Rincon Consultants, Inc. 2018). Final jurisdictional determinations of the boundaries of waters and riparian habitats are made by each agency, typically at the time that authorizations to impact such features are requested.

3 Existing Conditions

This section summarizes the results of the reconnaissance-level field survey and literature review. Discussions regarding the general environmental setting, vegetation communities present, plants and animals observed, potential special status species issues, and other possible constraints regarding the biological resources on site are presented below. A complete list of all plant and animal species observed on site during the field survey is presented as Appendix C and representative photographs of the Study Area are provided in Appendix B.

3.1 Physical Characteristics

The Study Area is located on the coastal side of the Coast Range in San Luis Obispo County, where the moderate climate typifies a Mediterranean climate throughout the year. The majority of rainfall occurs during the winter months.

The Study Area is primarily developed. The majority of the project site is highly disturbed and developed due to the existing mobile home park and recreation vehicle (RV) parking lot. Natural vegetation within the Study Area is primarily associated with the drainages and riparian areas along Orcutt and Acacia Creeks. The Study Area is bordered by Tank Farm Road to the south, Orcutt Creek to the east, Acacia Creek to the west, and the Damon Garcia sports fields to the north.

The topography of the Study Area is generally flat with gentle sloping towards Tank Farm Road. Onsite elevations range from approximately 147 to 176 feet (ft) above mean sea level.

The Study Area is within the South Coast Ranges (ScoR) geographic subregion of California. The ScoR subregion is a component of the larger Central Western California Region, which occurs within the even larger California Floristic Province (Baldwin et al., 2012).

3.1.1 Watershed and Drainages

Hydrology of the Study Area and vicinity was evaluated through review of topographic maps, aerial photos, and the National Hydrography Dataset (USGS, 2017). The Study Area is within the Lower San Luis Obispo Creek watershed (Hydrologic Unit Code (HUC)-12 180600060702; USGS, 2017). Acacia Creek runs along the western side of the Study Area and crosses the Study Area at the existing Digital West Crossing. Acacia Creek is an intermittent to ephemeral stream that flows in a southerly direction and serves as a tributary to the east fork of San Luis Obispo Creek. The eastern side of the Study Area is bordered by Orcutt Creek, which is an ephemeral creek that flows in a southwesterly direction before its confluence with Acacia Creek, south of the Study Area. Orcutt Creek crosses the northeastern and southeastern boundaries of the Study Area respectively, before it enters a culvert and flows beneath tank Farm Road. These creeks are visible on aerial photography and the centerline, tops of bank and associated riparian vegetation are presented in Figure 3 (clipped to edge of the Study Area due to access limitations offsite). Surface waters are discussed in more detail in Section 4.3 and displayed in more detail on Figure 5.

3.1.2 Soils

The NRCS Web Soil Survey delineates one soil map unit within the Study Area: Cropley clay, 0 to2 percent slopes (USDA-NRCS, 2017a). Site-specific soil observations are consistent with those mapped by the NRCS Web Soil Survey. The description of the soil map unit is presented below.

Cropley clay, 0 to 2 percent slopes: Cropley clay soils are moderately well drained, clay soils originating from alluvium derived from sedimentary rock. This soil map unit occurs on gentle topography, typically with 0 to 2 percent slopes. Vegetation in uncultivated or undeveloped areas is annual grasses and forbs with some scattered live oak. A typical soil profile of Cropley clay contains several layers of clay textures, in colors ranging from very dark gray (moist) to brown. A typical profile is at least 66 inches deep. This soil map unit is not included on the *National Hydric Soils List* (United States Department of Agriculture, Natural Resources Conservation Service, 2017b).

Figure 3 Top of Bank/Edge of Riparian Dripline and 35 Foot Setback

3.2 Vegetation/Land Cover Types

Seven terrestrial vegetation community or land cover types occur within the Study Area: developed/landscaped/disturbed areas, eucalyptus grove, fennel patches, Bermuda grass lawn, non-native annual grassland and riparian woodland. Vegetation was classified and mapped during surveys conducted on October 24, 2017 and August 8, 2018 to characterize the project site and is discussed in more detail below. A summary of vegetation/land cover types identified in the Study Area is presented in Table 1, and Figure 4 provides a map of these features.

Habitat characterizations were based on the classification systems presented in A Manual of California Vegetation, Second Edition (MCV2; Sawyer et al., 2009) and Preliminary Description of Terrestrial Natural Communities of California (Holland, 1986); but have been modified slightly to most accurately reflect the existing site conditions. California Vegetation (Holland and Keil, 1995) and California Wildlife Habitat Relationships (CWHR) were also referenced for describing the habitat types within the Study Area. Plant species nomenclature and taxonomy used for the Study Area follow treatments within Baldwin et al. (2012).

Table 1 Summary of Vegetation/Land Cover Types within the Study Area

Habitat Type	Approximate Acreage	Approximate Percent of Total Area
Developed/landscaped/Disturbed	9.15	65
Eucalyptus grove	0.89	6
Fennel patches	0.15	1
Herbaceous wetland	0.08	1
Bermuda grass lawn	3.31	23
Non-native annual grassland	0.16	1
Riparian woodland	0.38	3
Total	14.12	100.00

Developed/Landscaped/Disturbed Areas

This land cover type occurs in areas that are regularly disturbed by human activities and consists of the existing mobile home park, recreation vehicle parking lot, and Nick Tompkins property to the east. This land cover type occupies approximately 9.15 acres of the Study Area and vegetation can vary depending upon the degree of disturbance or development. The developed areas are largely devoid of vegetation.

In less developed areas such as the southeastern corner of the Study Area, ruderal species dominate, including non-native herbaceous species such as mustards and curly dock (*Rumex crispus*). Non-native grasses such as ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*). Cover by plant species is generally low due to disturbance, and there is a high percentage of bare soil.

Landscaped areas includes a mix of trees native in the vicinity of the Study Area, such as Southern California black walnut (*Juglans californica*) and bay laurel (*Umbellularia californica*), as well as other species native to California but not known to occur naturally in the vicinity of the Study Area, such as California juniper (*Juniperus californica*), incense cedar (*Calocedrus decurrens*), and Monterey cypress (*Hesperocyparis macrocarpa*). Other species observed include scattered individuals of Mexican fan palm (*Washingtonia robusta*), Canary Island palm (*Phoenix canariensis*), Peruvian pepper tree (*Schinus molle*), blue-gum eucalyptus (*Eucalyptus globulus*) and iceplant (*Carpobrotus edulis*).

Developed/landscaped/disturbed areas are not classified in the MCV2 classification system (Sawyer et al., 2009) or the Holland classification system (Holland, 1986); however, developed areas are included in the CDFW CWHR as Urban (Mayer and Laudenslayer, 1988).

Eucalyptus Grove

Blue gum eucalyptus grove covers approximately 0.89 acre of the Study Area. The trees range in size from saplings to mature trees 80 to 100 feet tall. Scattered native trees occur within gaps within this community and include intermittent arroyo willow (*Salix lasiolepis*), Southern California black walnut, and Peruvian pepper.

There is little understory in the majority of this community due to the build-up of fallen eucalyptus leaves and woody debris. Where present, the understory beneath the grove consists of non-native ruderal forbs such as bull mallow (*Malva nicaeensis*) and early-colonizing native annual herbs including rough cocklebur (*Xanthium strumarium*). Other species in the understory include cactus (*Cylindropuntia* sp.) and iceplant.

The eucalyptus grove provides nesting habitat for raptors and a variety of songbirds, and roosting habitat for owls and turkey vultures. It also provides foraging habitat for birds and small mammals. The overall health of the eucalyptus trees onsite is degraded, likely due to several years of drought conditions and overall age of the stand.

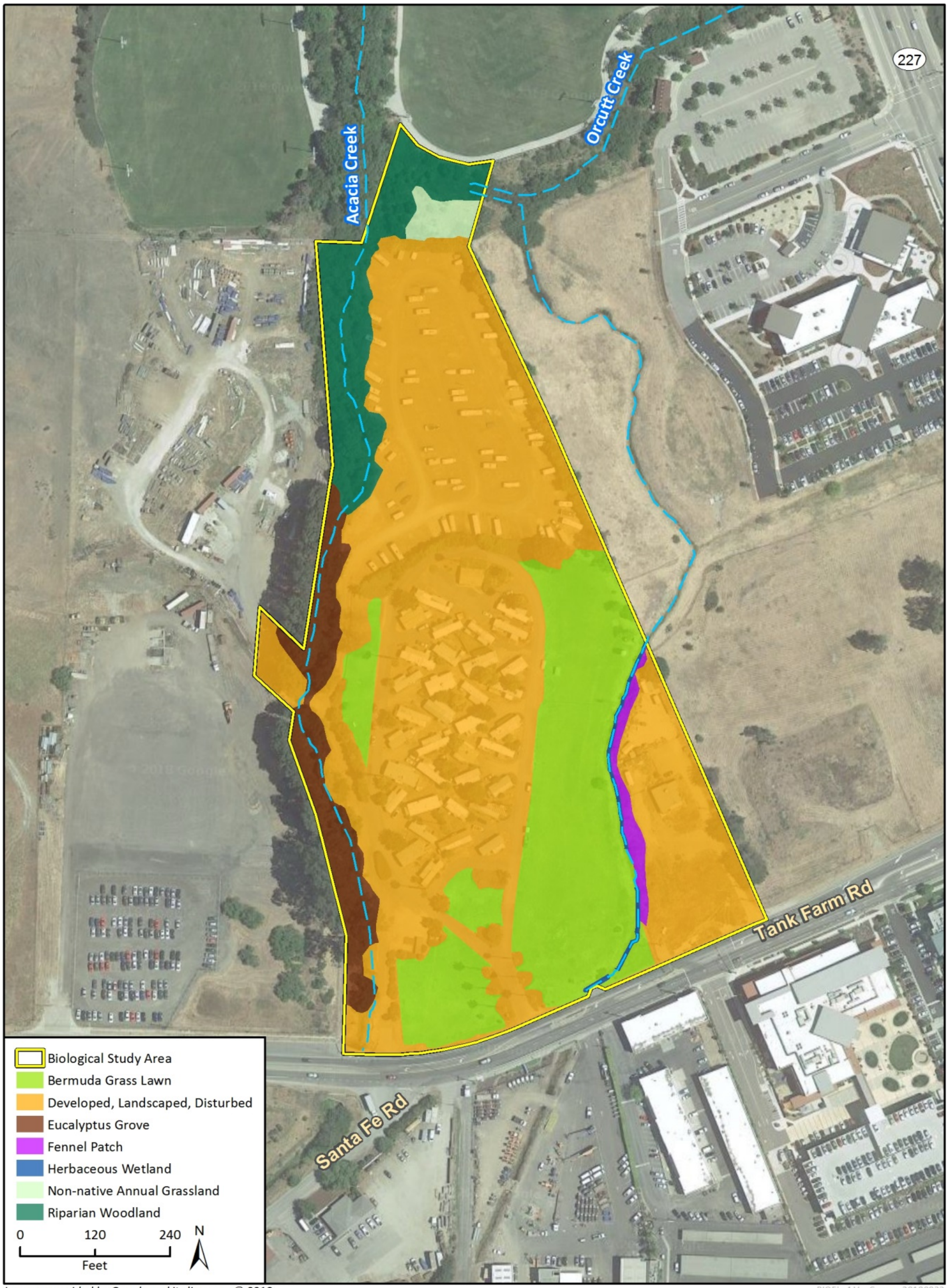
The eucalyptus grove habitat type within the project site is not described by Holland (1986) but most closely corresponds with the Eucalyptus groves Semi-Natural Woodland Stands (*Eucalyptus* [*globulus, camaldulensis*] Semi-Natural Stands) described in MCV2 (Sawyer et al., 2009).

Fennel Patches

Fennel patches occupy approximately 0.15 acre of the Study Area. The patches are dominated by sweet fennel (*Foeniculum vulgare*). Castor bean (*Ricinus communis)*, mustards (*Brassica nigra; Hirschfeldia incana*), curly dock (*Rumex crispus*) and coyote brush (*Baccharis pilularis*) are also present. Intermittent trees consisting of coast live oak (*Quercus agrifolia*), California juniper, incense cedar, and Monterey cypress are also present. Within the Study Area, this vegetation community runs parallel and adjacent to the eastern bank of Orcutt Creek.

This vegetation type within the project area most closely corresponds to non-native grassland described by Holland (1986) and with *Conium maculatum – Foeniculum vulgare* Herbaceous Semi-Natural Alliance described in the MCV2 (Sawyer et al. 2009).

Figure 4 Vegetation Communities/Land Cover Types within the Study Area



Imagery provided by Google and its licensors © 2018.

Herbaceous Wetlands

Herbaceous wetlands occupy approximately 0.08 acre of the Study Area and are confined to the bed of Orcutt Creek along the southeastern side of the Study Area. Vegetation within these in-stream wetlands consists of hydrophytic vegetation dominated by common spikerush (*Eleocharis macrostachya*), rabbitsfoot grass (*Polypogon monspeliensis*), brown headed rush (*Juncus phaeocephalus*), and rough cocklebur (*Xanthium strumarium*).

This vegetation type within the project area most closely corresponds to freshwater seep described by Holland (1986) and with *Eleocharis macrostachya* Herbaceous Alliance described in the MCV2 (Sawyer et al. 2009).

Bermuda Grass Lawn

Bermuda grass lawn was mapped in a routinely mowed area where Bermuda grass (*Cynodon dactylon*) predominates, and occupies approximately 3.31 acres of the Study Area. Intermittent mustards and hayfield tarweed (*Hemizonia congesta*) are also present. This vegetation community had very few native plants and evidence of routine mowing is present and visible on aerial photos and confirmed through direct site observation. This area provides habitat for a variety of small mammals, including pocket gopher (*Thomomys bottae*) and California ground squirrel (*Otospermophilus beecheyi*) and therefore could be suitable foraging habitat for raptors.

Bermuda grass lawn is not classified in the MCV2 classification system (Sawyer et al., 2009) or the Holland classification system (Holland, 1986), but is included in the CDFW CWHR as Urban (Mayer and Laudenslayer, 1988).

Non-native Annual Grassland

A small patch of non-native annual grassland occurs in the northern portion of the Study Area and occupies approximately 0.16 acre of the Study Area. The grassland does not show signs of routine mowing and is relatively undisturbed. The grassland is dominated by ripgut brome, soft chess, and Bermuda grass. Interspersed recruiting individuals of California sagebrush (*Artemisia californica*) are also found throughout this habitat type and saplings of California sycamore (*Platanus racemosa*) were found in and around the western border.

Riparian Woodland

Within the Study Area, riparian woodland is present in and around the northwestern portion of Acacia Creek as well as the westernmost extent of Orcutt Creek and occupies approximately 0.38 acre. Riparian vegetation in this habitat type consists of mature arroyo willow with intermittent California sycamore, box elder (*Acer negundo*) and Northern California black walnut (*Juglans hindsii*) in the overstory. In the understory, California blackberry (*Rubus ursinus*), poison hemlock (*Conium maculatum*), fennel (*Foeniculum vulgare*), poison oak (*Toxicodendron diversilobum*), Himalayan blackberry (*Rubus armeniacus*) and coyote brush are present. There is an in-stream wetland present at the westernmost extent of Orcutt Creek within this vegetation type, where overstory riparian trees occur at a lesser degree and cattail (*Typha domingensis*) and saltmarsh bulrush (*Bolboschoenus maritimus* ssp. *paludosus*) are dominant. Within the southeastern portion of the Study Area, in-channel wetlands are located within the bank of Orcutt Creek. Within the northern portion of the Study Area, a potential jurisdictional wetland extends See section 4.3 and figure 5 respectively for a detailed description and map of the extents of the wetland. This habitat provides excellent nesting and foraging habitat for nesting birds and a variety of common and special status species.

Willow riparian vegetation is consistent with Arroyo Willow Thickets Alliance in A Manual of California Vegetation, Second Edition (Sawyer et al., 2009) and Central Coast arroyo willow riparian forest in the Holland classification (Holland, 1986).

3.3 General Wildlife

Wildlife activity was moderate during the field reconnaissance survey. Vegetation onsite likely supports a suite of avian, mammalian, and reptilian wildlife. Several avian species were observed during the reconnaissance level survey and included western bluebird (*Sialia mexicana*), western scrub jay (*Aphelocoma californica*), turkey vulture (*Cathartes aura*), and northern mockingbird (*Mimus polyglottos*). Other species observed within the project site during survey for this report included cottontail (*Sylvilagus audubonii*), and California ground squirrel (*Otospermophilus beecheyi*).

The value of the developed/landscaped/disturbed areas and Bermuda grass lawn as habitat for wildlife is limited, as the majority of the Study Area is extremely disturbed and/or developed. Nevertheless, the Study Area is situated adjacent to two drainage features, Acacia Creek and Orcutt Creek. The riparian corridors associated with these two creeks function as important wildlife corridors within the region. Eucalyptus groves can also provide important roost and nesting habitat for a variety of birds. A complete list of species observed can be found in Appendix C. Special status species with potential to occur are discussed below in Section 4.

4 Sensitive Biological Resources

Local, State, and Federal agencies regulate special status species and other sensitive biological resources and require an assessment of their presence or potential presence to be conducted on-site prior to the approval of any proposed development on a property. This section discusses sensitive biological resources observed on the project site, and evaluates the potential for the project site to support other sensitive biological resources. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the survey area, and previous reports for the project site. The potential for each special status species to occur in the survey area was evaluated according to the following criteria:

- **Not Expected.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate Potential**. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential**. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

The evaluation of potential to occur for each species identified in the records search is presented in Appendix D.

4.1 Special Status Species

Rincon staff determined that the Study Area contains suitable habitat for twelve special status animal species and six special status plant species. The majority of the suitable habitat is within the riparian areas, eucalyptus groves, wetland and annual grassland areas, primarily adjacent to but outside the project footprint, but also associated with potential offsite improvements.

4.1.1 Special Status Plant Species

Based on the database and literature review of records from the *San Luis Obispo* and *Pismo Beach*, *California* USGS 7.5-minute topographic quadrangles and surrounding eight quadrangles as well as the USFWS IpaC list of federally listed species, numerous special status plant species are known to or have the potential to occur within the vicinity of the Study Area (Appendix D). Of these, six special status plant species may occur within the Study Area based on the presence of suitable habitat and include:

- Cambria morning-glory (*Calystegia subacaulis* ssp. *episcopalis*) – CRPR 4.2
- San Luis Obispo sedge (*Carex obispoensis*) – CRPR 1B.2
- San Luis Obispo owl's-clover (*Castilleja densiflora* ssp. *obispoensis*) – CRPR 1B.2
- Hoover's button-celery (*Eryngium aristulatum* var. *hooveri*) – CRPR 1B.1
- Adobe sanicle (*Sanicula maritima*) – California Rare (CR) CRPR 1B.1
- Black-flowered figwort (*Scrophularia atrata*) – CRPR 1B.2

None of the special status plant species listed above were detected during the reconnaissance level survey; however, the survey was not conducted within the bloom periods for these species and as such, their potential to occur within the Study Area is based solely on the presence of potentially suitable habitat and the proximity of the Study Area to CNDDB documented occurrences. The onsite development footprint does not contain suitable habitat for these species; however, these species have potential to occur within the riparian corridor and stream setbacks and some of the offsite improvement areas within the Study Area.

CRPR 1B and 2 plant species are typically regarded as rare, threatened, or endangered under the CEQA by lead CEQA agencies and were considered as such in this document. Although not expected to occur, CRPR 3 and 4 plant species are typically not considered for analysis under CEQA except where they are designated as rare or otherwise protected by local governments.

4.1.2 Special Status Wildlife Species

Forty-three (43) special status animal species were identified in the region by using the *San Luis Obispo* and *Pismo Beach*, *California* USGS 7.5-minute topographic quadrangles and the surrounding eight quadrangles, as well as the USFWS IpaC list of federally listed species. Of the 43 species, twelve (12) special status animal species may occur onsite based on the presence of suitable habitat:

- Pallid bat (*Antrozous pallidus*), California Species of Special Concern (SSC)
- Loggerhead shrike (*Lanius ludovicianus*), SSC
- Purple Martin (*Progne subis*), SSC
- Western pond turtle (*Actinemys* (=*Emys*) *marmorata*), SSC
- Golden eagle (*Aquila chrysaetos*), California Fully Protected (FP)
- White-tailed kite (*Elanus leucurus*), FP
- American bald eagle (*Haliaeetus leucocephalus*), State Endangered (SE), FP
- Monarch butterfly (*Danaus plexippus*), California Special Animal (SA); locally important
- Coast Range newt (*Taricha torosa torosa*), SSC
- California red-legged frog (*Rana draytonii*), Federally Threatened (FT), SSC
- Two-striped garter snake (*Thamnophis hammondii*), SSC
- South-central California Coast distinct population segment steelhead (steelhead; *Oncorhyncus mykiss irideus*), FT and SSC

No special status animal species were detected during the reconnaissance-level survey. Even though definitive surveys for special status animal species were not conducted, no individuals or sign indicating the presence of these species were detected. As such, the following analysis of potential for occurrence is based on habitat suitability and CNDDB occurrences of these species in the vicinity.

Western Pond Turtle

This species is an aquatic turtle that occurs in ponds, marshes, rivers, streams and irrigation ditches that typically support aquatic vegetation. It requires downed logs, rocks, mats of vegetation, or exposed banks for basking.

Western pond turtle lay their eggs in nests that are dug along the banks of streams or other uplands in sandy, friable soils. Western pond turtles, especially those that reside in creeks, are also known to overwinter in upland habitats. Upland movements can be quite extensive, and individuals have been recorded nesting or overwintering hundreds of feet from aquatic habitats. The typical nesting season is usually from April through August; however, variation exists depending upon geographic location.

No western pond turtles were observed during the site survey. However, the CNDDB documents an occurrence (Occurrence #1019) within Acacia Creek immediately north of the Study Area. The riparian habitat surrounding Acacia Creek and Orcutt creek in the northern portion of the Study Area may provide suitable nesting habitat for western pond turtle. Therefore, this species may occur onsite.

Pallid Bat

The CDDDB records pallid bat in the San Luis Obispo area, the nearest of which was 2.2 miles northwest of the Study Area (Occurrence #77). No pallid bats were detected and no evidence of bats (e.g., guano) were observed within the Study Area during the field surveys. However, pallid bats may forage in the Study Area, and could roost in tree hollows, or crevices, with the highest potential occurring within the eucalyptus grove. Therefore, this species may occur onsite.

Monarch Butterfly

Monarch butterfly overwintering sites have been documented by the CNDDB within five miles of the Study Area. Monarch butterflies occur widely in coastal California, but have specific roost requirements for overwintering sites, in wind-protected tree groves such as eucalyptus, Monterey pine, and cypress groves, with nectar and water sources nearby.

Eucalyptus trees in the Study Area do not form a suitable grove with appropriate microhabitat for roosting monarch butterfly. The eucalyptus stand within the project site is too thin and small to provide enough shelter to support suitable winter roosting habitat. In addition, the October 24 survey was conducted between the months of October 1 and March 31 when overwintering occurs. No aggregation was documented during the survey. Although individual monarchs may occur, they are not expected to overwinter onsite.

Two-striped Garter Snake

Two-striped garter snake occurs along the coast from the vicinity of Salinas to northwest Baja California. This species is highly aquatic, and found in or near permanent fresh water. It is often along streams with rocky beds and riparian growth.

No two-striped garter snakes were observed during the field survey and this species has not been previously documented within the San Luis Obispo area in the CNDDB; however, suitable riparian habitat exists in the northern portion of the Study Area around Acacia Creek and Orcutt Creek. Therefore, this species may occur onsite.

Coast Range Newt

The Coast Range newt occurs along the coast and within the Coast Range Mountains from Mendocino County south to San Diego County. A disjunct population occurs in the southern Sierra Nevada. Coast Range newt utilizes wet forests, oak woodlands, chaparral, and rolling grassland communities, but requires permanent or seasonal aquatic habitats such as ponds, reservoirs, and sluggish pools in streams for breeding. The Coast Range newt breeding season typically occurs during late December through February. Suitable habitat exists within the Acacia Creek and Orcutt Creek riparian corridor.

No Coast Range newts were observed during the field survey and the closest documented occurrence (Occurrence #61) in the CNDDB is 3.6 miles northeast of the Study Area. Nevertheless, the willow riparian habitat associated with Acacia Creek and Orcutt Creek in the northern portion of the Study Area is considered suitable upland habitat for foraging and aestivation. Therefore, this species may occur onsite.

California Red-legged Frog

The California red-legged frog (CRLF) inhabits quiet pools of streams, marshes, and ponds. All life history stages are most likely to be encountered in and around breeding sites, which include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds. Eggs are typically deposited in permanent pools, attached to emergent vegetation. The Study Area is located within the known range of CRLF in San Luis Obispo County based upon the current range depicted in the USFWS Recovery Plan for the California Red-legged Frog (USFWS, 2002). The Study Area does not occur within federally designated Critical Habitat for the CRLF.

No CRLF were observed onsite during the field survey. The closest CRLF occurrence (Occurrence #895) was recorded by the CNDDB approximately 1.85 miles west of the Study Area in San Luis Obispo Creek. There are no records of CRLF occurring in Orcutt Creek or Acacia Creek and no potential breeding habitat for CLRF was documented onsite during the survey. In addition, no CRLF were documented during the focused protocol level CRLF surveys conducted by Padre in 2008 on the adjacent Tank Farm Site (Padre, 2008).

However, Acacia Creek and Orcutt Creek have potential to serve as dispersal and foraging corridors for CRLF as they move through the region. Therefore, this species may occur onsite.

Upland habitat quality within the majority of the Study Area is poor due to the lack of suitable habitat, existing development, and constant vegetation maintenance activities such as mowing. The upland and dispersal habitat within the riparian corridor in the northern portion of the project site contains the highest quality habitat. However, south and downstream of the project site in both Acacia and Orcutt Creeks, the habitat quality decreases dramatically. This species may be present within both Acacia and Orcutt Creeks, particularly in the northern portion of the Study Area where water and suitable cover are present. However, this species would only be expected to occur in disturbance areas incidentally, if at all, during periods of overland movement occurring during or immediately after rainstorms, due to the disturbed nature and limited vegetative cover in the project footprint. Bullfrog (*Lithobates catesbeianus*) has been reported from Acacia Creek downstream of the Study Area, and this non-native predatory frog is known to both prey upon and outcompete CRLF (Padre 2008).

Steelhead

The South-central California Coast DPS of steelhead (steelhead) requires shaded pools within cool low-flow streams and warm water habitats below some dams or pipeline outfalls where summer releases provide high flows and fast-waters. This species requires gravel substrates with sufficient flow velocities to clean and oxygenate the substrates for spawning. Juveniles typically frequent streams that provide cover from overhanging banks within willow and/or cottonwood riparian forests, woodlands, and scrubs. Steelhead tend to spawn when winter rains have been substantial enough to raise stream flows and breach any sandbars that formed in the dry season. Migration and spawning occur during the months of December through May.

No water was observed in Acacia Creek where the crossing widening is proposed during any of the field surveys. Acacia Creek within the Study Area contains suitable habitat for steelhead; however, suitable spawning areas are not present due to the absence of suitable substrate and water. The existing crossing is likely a barrier to fish passage due to its small capacity, and the formation of a scour pool below the outfall of the elevated culvert suspended five feet from the bed on the south side of the crossing. It is unknown whether or not suitable pools or perennial waters exist upstream of the Study Area for steelhead to exist. The City reported that two steelhead were captured in Acacia Creek immediately downstream from the Study Area where the Tank Farm Road bridge crosses Acacia Creek (Deutsch, pers. comm. 2018).

Special Status Birds

The Study Area contains a eucalyptus grove and willow riparian habitat that provides suitable habitat for five special status birds, of which golden eagle and white-tailed kite are fully protected; loggerhead shrike and purple martin are State Species of Special Concern, and American bald eagle is State Endangered and fully protected. These species have potential to nest and/or forage in or near the Study Area. No nests of special status birds were documented during the survey but such nests could occur in the future.

Other Nesting Birds

Trees and shrubs present in and surrounding the Study Area provide suitable habitat for other bird species to nest. Several species of birds common to the area that typically nest in the habitats found within the Study Area, such as western scrub jay, were detected during the reconnaissance survey. Although no raptor nests were detected during the field survey, any of the larger trees within and adjacent to the Study Area could be utilized by raptors for nesting.

4.2 Sensitive Plant Communities and Critical Habitats

The CNDDB lists eight sensitive natural communities in the ten quadrangles including and surrounding the Study Area (Appendix D). None of the communities listed in Appendix D occur within the Study Area.

The Sensitive Natural Communities List in the CNDDB is not currently maintained and no new information has been added in recent years. Therefore, vegetation types on site were also compared with the List of Vegetation Alliances and Associations (California Department of Fish and Wildlife, 2010). According to the California Department of Fish and Wildlife's Vegetation Program, Alliances with State ranks of S1-S3 are considered to be imperiled, and thus, potentially of special concern. No vegetation types with rank S1-S3 or otherwise designated as high priority or potentially rare in the hierarchical list are present in the project area. Willow riparian vegetation is discussed in Section 4.3.

The CNDDB lists critical habitat for California red-legged frog (*Rana draytonii*) and South/Central California Coast Distinct Population Segment Steelhead (*Oncorhynchus mykiss irideus*) within five miles of the Study Area; however, there is no critical habitat present for either species within the Study Area.

4.3 Jurisdictional Waters and Wetlands

Development of offsite improvements have potential to result in direct impacts to jurisdictional areas, including other waters, wetlands, and riparian habitats. A full jurisdictional delineation was completed for the Study Area (Rincon Consultants, Inc., 2018). Results of the jurisdictional delineation are also summarized here. Table 2, below, summarizes the total acreage of jurisdictional waters, wetlands, streambeds, lakes, and riparian areas onsite by agency and regulation. Figure 5 depicts the location and extent of USACE, RWQCB, and CDFW jurisdictions within the Study Area.

Acacia Creek enters the Study Area west of the Damon-Garcia Sports Field and travels in a southerly direction, passing through a two-foot corrugated pipe culvert set in a concrete one-lane crossing structure before continuing southward to a divided box culvert under Tank Farm Road. Within the Study Area, Acacia Creek has a well-defined bed and bank and is surrounded by a riparian corridor for approximately 600 feet. The vegetation then transitions to a canopy dominated by blue-gum eucalyptus for approximately 900 feet until the creek exits the Study Area and flows beneath Tank Farm Road. This stream meets the USACE jurisdictional standards due to the presence of an OHWM, and may also be regulated by the RWQCB under the Porter-Cologne Act. In addition, this stream meets the definition of a CDFW-jurisdictional streambed.

Orcutt Creek is an ephemeral stream which enters the northern portion of the Study Area before it runs in an easterly and then south easterly direction along the eastern side of the Study Area. Orcutt Creek enters the Study Area again in the southeastern corner of the site and exits the Study Area through a culvert and flows beneath Tank Farm Road. The creek contains in-channel emergent wetlands in some areas. This segment of the channel shows evidence of previous human alteration, including past placement of rock along the banks in some areas, as well as a constructed berm along the banks. During the survey, water was observed in the northern portion of the creek for approximately 100 feet near the Damon-Garcia Sports Complex before the stream turns in an easterly direction and out of the Study Area. No water was observed in the creek where it reenters the Study Area in the southeastern corner of the site. Within the southeastern portion of the Study Area, in-channel wetlands are located within the bank of Orcutt Creek. Within the northern portion of the Study Area, a potential jurisdictional wetland extends from the channel of Orcutt Creek to the west for approximately 90 linear feet. Due to the presence of an OHWM, as well as segments with wetland characteristics, Orcutt Creek and the associated wetlands meet the definition of a USACE jurisdictional feature and may also be regulated by the RWQCB under both the Clean Water Act and the Porter-Cologne Act. In addition, this stream, including associated riparian vegetation, where present meets the definition of a CDFW-jurisdictional streambed.

Table 2 Summary of Jurisdictional Areas within the Study Area

Feature	Waters of the U.S.[1] Non-wetland Waters of the U.S. (acres/linear feet)	Waters of the U.S.[1] Wetland Waters of the U.S. (acres/linear feet)	Waters of the State[1] (acres/linear feet)	CDFW Jurisdictional Streambed[2] (acres/linear feet)
Acacia Creek	0.02 acre/ 1402 feet	--/ --	0.02 acre/ 1402 feet	1.65 acres/ 1623 feet
Orcutt Creek	0.03 acre/ 82 feet	0.14 acre/ 635 feet	0.17 acre/ 717 feet	0.09 acre/ 617 feet
Totals	0.05 acre/ 1484 feet	0.14 acre/ 635 feet	0.19 acre/ 2119 feet	1.74 acres/ 2240 feet

[1]Calculated to OHWM or edge of wetland

[2]Calculated to top of bank or edge of riparian, whichever is greater

*The acreages for the in-stream wetlands are included within the Orcutt Creek row of this table.

Note the final jurisdictional determinations of the boundaries of wetlands, waters, and riparian habitat are made by each agency, typically at the time that authorizations to impact such features are requested.

Figure 5 Jurisdictional Waters

Imagery provided by Google, ESRI, and their licensors © 2018.

4.4 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats within the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) may need to be located within the habitat link at certain intervals to allow slower-moving species to traverse the link.

For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

Wildlife movement corridors can be both large and small scale. Regionally, the Study Area is not located within an Essential Connectivity Area (ECA) as mapped in the report *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California* (2010). ECAs represent principle connections between Natural Landscape Blocks. ECAs are regions in which land conservation and management actions should be prioritized to maintain and enhance ecological connectivity. ECAs are mapped based on coarse ecological condition indicators, rather than the needs of particular species and thus serve the majority of species in each region. Within the Study Area, Acacia Creek and Orcutt Creek provide suitable small scale corridors for wildlife to travel locally. The existing crossing over Acacia Creek is likely a barrier to fish passage due to its small capacity, and the formation of a scour pool below the outfall of the elevated culvert suspended five feet from the bed on the south side of the crossing. The majority of the Study Area is not conducive to frequent use as a movement corridor due to existing development and hardscapes.

4.5 Resources Protected By Local Policies and Ordinances

The project would be required to comply with Section 17.16.025 of the City Zoning Regulations, Creek Setbacks, which establishes setback distances for different classes of creeks. For creeks in areas annexed after 1996, including Orcutt Creek and Acacia Creek, the required setback is 35 feet. Zoning Regulations setbacks are defined in terms of the distances from the top of bank or edge of riparian drip line, whichever is farther from the creek, that development is permitted to occur. The City Zoning Regulations prohibits the following activities from occurring within a set-back area: paving, parking lots, and, in nonresidential zones, areas used for storing or working on vehicles, equipment, or materials.

The City regulates tree removal within its jurisdiction (Tree Ordinance No. 1544 2010 Series). Implementation of the proposed project may require removal of trees onsite. If tree removal is required, a tree removal permit must be obtained from the City prior to the onset of these activities. Once the project plans have been finalized, the exact number, type, and locations of trees within the project site to be removed can be determined and the associated tree removal permit may be obtained, if needed.

The City's Conservation and Open Space Element (COSE) includes goals that address biological resources, including Goal 7.2 Sustainable Natural Populations which includes Policy 7.3.3 and Goal 7.7 Program which includes policies 7.7.8 and 7.7.9. The following COSE policies define the local regulatory setting for biological resources in Study Area.

Policy 7.3.3. Wildlife Habitat and Corridors*. Continuous wildlife habitat, including corridors free of human disruption, shall be preserved and where necessary, created by interconnecting open spaces, wildlife habitat and corridors. To accomplish this, the City will:*

- Require public and private developments, including public works projects, to evaluate animal species and their movements within and through development sites and create habitats and corridors appropriate for wildlife.
- Plan for connectivity of open spaces and wildlife habitat and corridors using specific area plans, neighborhood plans, subdivision maps or other applicable planning processes, consistent with Open Space Guidelines.
- Coordinate with San Luis Obispo County and adjoining jurisdictions, federal and state agencies such as Caltrans to assure regional connectivity of open space and wildlife corridors.
- Preserve and expand links between open spaces and creek corridors.

Policy 7.7.8. Protect Wildlife Corridors*. Condition development permits in accordance with applicable mitigation measures to ensure that important corridors for wildlife movement and dispersal are protected. Features of particular importance to wildlife include riparian corridors, wetlands, lake shorelines, and protected natural areas with cover and water. Linkages and corridors shall be provided to maintain connections between habitat areas.*

Policy 7.7.9. Creek Setbacks*. As further described in the zoning regulations (Section 17.16.025), the City will maintain creek setbacks to include: an appropriate separation from the physical top of bank, the appropriate floodway as identified in the Flood Management Policy, native riparian plants or wildlife habitat and space for paths called for by any city-adopted plan. In addition, creek setbacks should be consistent with the following:*

- The following items should be no closer to the wetland or creek than the setback line: buildings, streets, driveways, parking lots, aboveground utilities, and outdoor commercial storage or work areas.
- Development approvals should respect the separation from creek banks and protection of floodways and natural features identified in Part A above, whether or not the setback line has been established.
- Features which normally would be outside the creek setback may be permitted to encroach where there is no practical alternative, to allow reasonable development of a parcel, consistent with the Conservation and Open Space Element.
- Existing bridges may be replaced or widened, consistent with policies in this Element. Removal of any existing bridge or restoration of a channel to more natural conditions will provide for wildlife corridors, traffic circulation, access, utilities and reasonable use of adjacent properties.

The City's Standard Specifications and Engineering Standards includes standard specifications for creek crossings. The project would be required to comply with these specifications.

5 Impact Analysis and Mitigation Measures

This section discusses the possible adverse impacts to biological resources that may occur from implementation of the project and suggests appropriate avoidance, minimization, and mitigation measures that would reduce those impacts to less than significant levels. The criteria used to evaluate potential project-related impacts/effects to biological resources were presented in Section 2.1.2.

5.1 Special-Status Species

The project would have a significant effect on biological resources if it would:

a) *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

Impact # 1 Special Status Plant Species

Six special status plant species were determined to have potential to occur within the Study Area considering the presence of suitable habitat. The species determined to have potential to occur would be limited to the creek margins and setbacks around Orcutt Creek and Acacia Creek as well as the grassland and wetland in the northern portion of the Study Area. If there is ground disturbance in these areas, such as in association with vegetation management activities or ground disturbance associated with the pedestrian/bicycle access path, direct impacts to special status plant species may occur. Additionally, indirect impacts could occur due to the spread of invasive, non-native species from construction equipment or imported fill materials. Invasive, non-native plant species can out-compete native species and/or alter habitat towards a state that is unsuitable for special status species. For example, the spread of certain weed species can reduce the biodiversity of native habitats through displacement of vital pollinators, potentially eliminating special status plant species, or through competition with native plants for water and light.

Special Status Plant Recommended Mitigation Measures

If ground disturbance is anticipated in the margins or setbacks of Orcutt Creek and/or Acacia Creek, then BIO-1(a-c) would be required to reduce impacts to special status plant species to a less than significant level.

BIO-1(a) **Special Status Plant Species Surveys.** Prior to the start of vegetation management activities on the project site, or prior to the start of any construction activity within potential off-site improvement areas, the developer shall ensure an approved biologist conducts surveys for special status plant species throughout suitable habitat. Surveys shall be conducted when plants with potential to occur are in a phenological stage conducive to positive identification (i.e., usually during the blooming period for the species. Reference sites must be visited prior to botanical surveys to confirm target species are detectable. Valid botanical surveys will be considered current for up to five years; if construction has not commenced within five years of the most recent survey, botanical surveys must be repeated.

BIO-1(b) **Special Status Plant Species Avoidance**. If special status plant species are discovered within the Study Area, the applicant shall ensure an approved biologist will flag and fence these locations before construction activities start to avoid impacts. During vegetation management activities, any special status plants identified during the survey must be flagged for avoidance.

BIO-1(c) **Restoration Plan**. If avoidance is not feasible; the applicant shall ensure all impacts be mitigated at a minimum ratio of 2:1 (number of acres or individuals restored to number of acres or individuals impacted) for each species as a component of habitat restoration. The applicant shall prepare and submit a restoration plan to the City for approval. The restoration plan shall include, at a minimum, the following components:

- Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type);
- Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved];
- Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values);
- Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan [including species to be used, container sizes, seeding rates, etc.]);
- Maintenance activities during the monitoring period, including weed removal and irrigation as appropriate (activities, responsible parties, schedule);
- Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year, along with performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, and annual monitoring reports to be submitted to the City for a minimum of five years at which time the applicant shall demonstrate that performance standards/success criteria have been met;
- Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80% survival of container plants and 70% absolute cover by vegetation type. Absolute cover will be determined in comparison to a reference plot for native species.
- An adaptive management program and remedial measures to address any shortcomings in meeting success criteria;
- Notification of completion of compensatory mitigation and agency confirmation; and

- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).

Impact # 2 Special Status Animal Species

As discussed in Section 4.1.2, twelve special status animal species have potential to occur in the Study Area based upon known ranges, habitat preferences for the species, and species occurrence records from other sites in the vicinity of the survey area from the CNDDB. Of the twelve species, eleven species have potential to be impacted by project related activities. Within the Study Area, the highest quality habitat for special status animal species occurs within Orcutt Creek, Acacia Creek, and the riparian corridors surrounding these creeks. Potential offsite improvements include widening of an existing crossing over Acacia Creek, development of a new creek crossing over Orcutt Creek, and the development of a pedestrian/bicycle access path through the riparian corridor on the northern boundary of the site. Therefore, the potential for direct impacts as a result of these offsite improvements is much higher than that of construction buildout of the onsite project. Impacts as well as recommended avoidance and minimization efforts for special status animals are discussed below.

Western pond turtle

No pond turtles were detected during the field survey. Orcutt Creek and Acacia Creek provide suitable aquatic habitat, and creek margins are suitable for basking. The riparian corridor in the northern portion of the Study Area is suitable for nesting. Therefore, this species' potential to occur onsite, with the highest probability occurring within the riparian corridor. Potential direct impacts to western pond turtle include destruction of nests and harassment or injury of active as well as overwintering individuals if they are present within the Study Area during implementation.

Coast Range newt

No evidence of Coast Range newt was found on site. The riparian corridor surrounding Acacia Creek and Orcutt Creek in the northern portion of the Study Area provides suitable foraging habitat for this species. As such, implementation of potential offsite improvements may result in loss or fragmentation of Coast Range newt habitat. Direct impacts to this species may occur if it is foraging or aestivating onsite during construction activities.

Two-striped garter snake

No two-striped garter snakes were observed onsite during the field survey. The riparian corridor around Acacia Creek and Orcutt Creek in the northern portion of the Study Area provides suitable habitat for this species. Direct impacts to this species may occur during the construction of potential offsite improvements, with the highest probability occurring on the northern side of the Study Area where the potential bicycle/pedestrian path is proposed.

California Red-legged Frog

As previously mentioned in Section 4, CRLF may be present within both Acacia and Orcutt Creeks, particularly in the northern portion of the Study Area where water and suitable cover are present. Implementation of potential offsite improvements would occur in suitable foraging and dispersal habitat for this species. The majority of the upland habitat within the project site isn't suitable for CRLF and this species would only be expected to occur in disturbance areas incidentally, if at all, during periods of overland movement occurring during or immediately after rainstorms, due to the disturbed nature and limited vegetative cover in the project footprint.

Construction of the offsite improvements are expected to result in impacts to potential dispersal and foraging habitat, and therefore potential direct effects to CRLF and its habitat may occur.

Indirect impacts to CRLF could result from general project-related disturbance and noise if individuals are dispersing or aestivating within the Study Area. Indirect impacts to water and habitat quality could occur during construction associated with the widening of an existing crossing over Acacia Creek and the development of a new creek crossing over Orcutt Creek.

Potential direct and indirect impacts to this species resulting from implementation of the project would be minimized with avoidance and minimization measures incorporated.

Steelhead

No water was documented within Acacia Creek during the field surveys where project related disturbance is proposed and no steelhead individuals were observed onsite during the field surveys. Potential direct impacts to steelhead in Acacia Creek include harassment or injury during widening of the existing crossing should they be present within the work area. Widening of the existing crossing also has potential to result in indirect impacts to water and habitat quality. However, depending on final design of the crossing improvement over Acacia Creek, the project could result in net improvements to flow and passage potential at this location by alleviating the choke point currently caused by the existing undersized structure. Construction could result in impacts to habitat and individuals during implementation, but this potential would be minimized with implementation of the avoidance and minimization measures described below.

Nesting Birds

The project has potential to result in direct impacts to nesting birds, including special status birds, if they are nesting within the project site and/or immediate vicinity during construction activities. As mentioned in Section 4.1.2, two State Fully Protected bird species (golden eagle and white-tailed kite), two State Species of Special Concern bird species (loggerhead shrike and purple martin), and one State Endangered and Fully Protected species (American bald eagle) have potential to occur or are known to occur in the vicinity of the Study Area. The project is not anticipated to result in removal of substantial foraging habitat for raptors due to the existing development and disturbed condition of the project site.

Fully Protected birds must be fully avoided; impacts cannot be authorized. Nesting birds are protected under the Migratory Bird Treaty Act and California Fish and Game Code. Additional avoidance measures for special status bird nests such as American bald eagle nests are often required. Mitigation measures are recommended to avoid impacts to special status birds and other nesting birds.

Pallid Bat

The project site contains suitable foraging habitat for pallid bat and this species could roost in trees and/or crevices within the site. Potential direct impacts to pallid bats within the Study Area include removal of roosting habitat and harassment or injury if they are foraging within the project area during project implementation.

Special Status Animal Recommended Mitigation Measures

The following measures would reduce impacts to special status animal species to a less than significant level.

BIO-2(a) **Best Management Practices.** The applicant shall ensure the following Best Management Practices (BMPs) shall be required for project construction activities within the work area.

- No pets or firearms shall be allowed at the project site during construction activities.
- All trash that may attract predators must be properly contained and removed from the work site. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- All refueling, maintenance, and staging of equipment and vehicles shall occur at least 50 feet from Acacia Creek and Orcutt Creek and in a location where a spill would not drain toward aquatic habitat. A plan must be in place for prompt and effective response to any accidental spills prior to the onset of work activities. All workers shall be informed of the appropriate measures to take should an accidental spill occur.
- Pallets or secondary containment areas for chemicals, drums, or bagged materials shall be provided. Should material spills occur, materials and/or contaminants shall be cleaned from the project site and recycled or disposed of to the satisfaction of the Regional Water Quality Control Board (RWQCB).
- Prior to construction activities in areas within 30 feet of potentially jurisdictional features, including Acacia Creek and Orcutt Creek, the features shall be fenced with orange construction fencing and signed to prohibit entry of construction equipment and personnel unless authorized by the City. Fencing should be located a minimum of 30 feet from the edge of the riparian canopy or top of bank and shall be maintained throughout the construction period for each phase of development. Once all phases of construction in this area are complete, the fencing may be removed.
- Erosion control and landscaping specifications allow only natural-fiber, biodegradable meshes and coir rolls, to prevent impacts to the environment and to fish and terrestrial wildlife.
- All vehicles and equipment shall be in good working condition and free of leaks.
- Construction work shall be restricted to daylight hours (7:00 AM to 7:00 PM) to avoid impacts to nocturnal and crepuscular (dawn and dusk activity period) species.
- Concrete truck and tool washout shall be limited to locations designated by a qualified biologist or a Qualified Storm-water Practitioner such that no runoff will reach Acacia Creek or Orcutt Creek.
- All open trenches shall be constructed with appropriate exit ramps to allow species that accidentally fall into a trench to escape. Trenches will remain open for the shortest period necessary to complete required work.
- No water will be impounded in a manner to attract sensitive species.

BIO-2(b) Worker Environmental Awareness Program. Prior to the initiation of construction activities (including staging and mobilization), the applicant shall ensure all personnel associated with project construction attend a Worker Environmental Awareness Program (WEAP) training.

The training shall be conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the project area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and avoidance measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the training.

BIO-2(c) California Red-legged Frog Impact Avoidance and Minimization. The applicant shall implement the following to avoid and minimize potential impacts to CRLF.

- A pre-construction survey of the proposed disturbance footprint (within the project site or potential off-site improvement areas) for California red-legged frog shall be conducted by a qualified biologist within 48 hours prior to the start of project construction to confirm this species is not present in the work area.
- In the event the pre-construction survey identifies the presence of individuals of CRLF, or if individuals of these species are encountered during construction, then the applicant shall stop work and comply with all relevant requirements of the Federal Endangered Species Act prior to resuming project activities.
- Only City- and USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of CRLF.
- If activities occur between November 1 and April 30, the qualified biologist shall conduct a pre-activity clearance sweep prior to start of project activities on the morning following any rain events of 0.1 inch or greater.

BIO-2(d) Coast Range Newt, Two-striped Garter Snake, and Western Pond Turtle Impact Avoidance and Minimization. A qualified biologist shall conduct a pre-construction survey within 48 hours of initial ground disturbing activities associated with the offsite improvements. The survey area should include any proposed disturbance area(s) and all proposed ingress/egress routes. If any of these species are found and the individuals are likely to be injured or killed by work activities, the biologist shall be allowed sufficient time to move them from the project site before work activities begin. The biologist(s) shall relocate any coast range newts, two-striped garter snakes, and/or western pond turtles the shortest distance possible to a location that contains suitable habitat that is not likely to be affected by activities associated with the project.

BIO-2(e) Steelhead – South-central California Coast DPS Impact Avoidance and Minimization. The applicant shall implement the following to avoid and minimize potential impacts to steelhead.

- Construction associated with the widening of the existing crossing over Acacia Creek shall be restricted to periods of dry weather from April 16 through October 31, and shall not be conducted within 48 hours after a rain event of 0.25 inch or greater, or until an approved biologist confirms there is no longer a chance for flowing water to enter the work area.
- Widening of the existing crossing shall follow the design standards developed by the City of San Luis Obispo and shall be developed in a manner that does not impede wildlife movement.

BIO-2(f) **Nesting Birds Impact Avoidance and Minimization**. The applicant shall ensure the following actions are undertaken to avoid and minimize potential impacts to nesting birds:

- For construction activities occurring during the nesting season (generally February 1 to September 15), surveys for nesting birds covered by the California Fish and Game Code and the Migratory Bird Treaty Act shall be conducted by a qualified biologist no more than 14 days prior to vegetation removal. The surveys shall include the disturbance area plus a 500-foot buffer around the site. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 300 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer.
- If feasible, removal of vegetation within suitable nesting bird habitats will be scheduled to occur in the fall and winter (between September 1 and February 14), after fledging and before the initiation of the nesting season.
- If a suspected American bald eagle nest is discovered during the pre-construction survey, then the applicant shall consult with the City, USFWS, and CDFW regarding appropriate nest buffers and nest monitoring. If a nest is discovered with construction underway, a no-activity buffer a minimum of 660 feet from the nest must be implemented, or as otherwise directed by CDFW and USFWS, until appropriate authorizations are obtained. Any subsequent buffer adjustments shall be made in consultation with the City, CDFW and USFWS and shall rely on monitoring observations and activity at the site.

BIO-2(g) **Roosting Bat Impact Avoidance and Minimization.** The applicant shall ensure the following actions are undertaken to avoid and minimize potential impacts to roosting bats:

- Prior to issuance of grading permits, a qualified biologist shall conduct a survey of existing structures within the project site to determine if roosting bats are present. The survey shall be conducted during the non-breeding season (November through March). The biologist shall have access to all interior attics, as needed. If a colony of bats is found roosting in any structure, further surveys shall be conducted sufficient to determine the species present and the type of roost (day, night, maternity, etc.) If the bats are not part of an active maternity colony, passive exclusion measures may be implemented, in close coordination with CDFW. These exclusion measures must include one-way valves that allow bats to exit the structure but are designed so that the bats may not re-enter the structure.

- If a bat colony is excluded from the project site, appropriate alternate bat habitat as determined by a qualified biologist shall be installed on the project site or at an approved location offsite.
- Prior to removal of any trees, a survey shall be conducted by a qualified biologist to determine if any of the trees proposed for removal or trimming harbor sensitive bat species or maternal bat colonies. If a non-maternal roost is found, the qualified biologist, in close coordination with CDFW shall install one-way valves or other appropriate passive relocation method. For each occupied roost removed, one bat box or alternate roost structure shall be installed in similar habitat and should have similar cavity or crevices properties to those which are removed, including access, ventilation, dimensions, height above ground, and thermal conditions. Maternal bat colonies may not be disturbed.

5.2 Sensitive Plant Communities

The project would have a significant effect on biological resources if it would:

b) Would the project have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.

The proposed project is not anticipated to result in direct impacts to sensitive plant communities identified by the CNDDB as well as communities identified as sensitive in the current List of Vegetation Alliances and Associations (CDFW, 2018). Potential project-related impacts to streambed/riparian habitat potentially subject to regulation by CDFW under Section 1600 et seq. of the CFGC are addressed under Section 5.3 below.

5.3 Jurisdictional Waters and Wetlands

The project would have a significant effect on biological resources if it would:

c) Would the project adversely impact federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means.

The study area contains riparian habitat, which may be under CDFW jurisdiction pursuant to Section 1600 et seq. of the California Fish and Game Code. Future development on the project site facilitated by the proposed rezone would not result in direct disturbances to Acacia Creek, Orcutt Creek, or associated jurisdictional areas. However, widening Tank Farm Road along the project site frontage and the implementation of potential off-site improvements have the potential to result in temporary and permanent impacts to jurisdictional aquatic resources, including wetlands, other waters, and riparian habitats. Approximately 0.14 acre of wetlands and 0.05 acre of other waters potentially under USACE and RWQCB jurisdictions (Clean Water Act Sections 404 and 401, respectively) are present in the study area. In addition, 1.74 acres of streambed/riparian habitat potentially subject to regulation by CDFW under Section 1600 et seq. of the CFGC, and RWQCB under Porter-Cologne are also present. The exact location and area of potential impacts that would result from implementation of potential off-site improvements are not yet known. However, off-site improvements would impact these jurisdictional features within the potential off-site improvement areas. Impacts to jurisdictional areas resulting from implementation of potential off-site improvements are potentially significant.

The City has established a zoning regulation that requires a 35-foot setback for development off both Acacia Creek and Orcutt Creek. The setback distance is defined in terms of the distance from the top of bank or edge of riparian drip line, whichever is farther from the creek. Mitigation Measure BIO-2(a) requires implementation of construction BMPs that would avoid indirect impacts to the riparian habitat and stream during construction activities. Modification to the existing crossing over Acacia Creek or the development of a new crossing over Orcutt Creek would be required to comply with the City's Standard Specifications and Engineering Standards for creek crossings. Nevertheless, potential impacts to jurisdictional features and associated riparian habitat would result.

Jurisdictional Waters and Wetlands Recommended Mitigation Measures

The project proponent will acquire all applicable regulatory permits for jurisdictional areas that cannot be fully avoided. There will be no work within jurisdictional areas until all necessary regulatory permits have been acquired. Additionally, the following measures would reduce impacts to jurisdictional waters and wetlands to a less than significant level.

BIO-3(a) **Wetland, Stream, and Riparian Habitat Mitigation and Monitoring.** Temporary impact areas shall be restored at a one to one (1:1) ratio (one acre of restoration for each acre of impact) to offset temporary losses in wetland, stream, or riparian function. Permanent impacts on jurisdictional areas shall be offset through creation, restoration, and/or enhancement of in-kind habitats at a minimum ratio of 2:1. Permitting agencies (CDFW, USACE, RWQCB) may require a higher mitigation ratio associated with applicable permits.

A Mitigation and Monitoring Plan is required to outline the approach that will be taken for restoration and habitat creation or enhancement. The plan shall be prepared by a qualified restoration ecologist. The plan shall include, but not be limited to the following components:

- Description of the project/impact site,
- Goal(s) of the compensatory mitigation project,
- Description of the proposed compensatory mitigation-site,
- Implementation plan for the compensatory mitigation-site,
- Maintenance activities during the monitoring period,
- Monitoring plan for the compensatory mitigation-site,
- Success criteria and performance standards,
- Reporting requirements, and

- Contingency measures and funding mechanisms.

Mitigation Measure BIO-2(a) requires implementation of construction BMPs that would reduce indirect impacts to potentially jurisdictional habitat during construction activities. No further measures are recommended.

5.4 Wildlife Movement

The project would have a significant effect on biological resources if it would:

d) *Would the project interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.*

Future development facilitated by the proposed rezone would result in increased residential development in proximity to riparian areas along Acacia Creek and Orcutt Creek, and the wildlife corridors associated with these features. However, future development would be designed consistent with the City's required 35-foot creek setback from Orcutt Creek and Acacia Creek, which would ensure that development would not result in long-term adverse effects to wildlife utilization and movement along these riparian areas and associated wildlife corridors.

Construction of potential off-site improvements would potentially result in temporary short-term impacts to wildlife movement due to equipment access and staging in and around the riparian corridor. Modification to the existing crossing over Acacia Creek or the development of a new crossing over Orcutt Creek would be required to comply with the City's Standard Specifications and Engineering Standards for creek crossings. Depending on final design of a modified crossing over Acacia Creek, the project could result in net improvements to flow and passage potential at this location by alleviating the choke point currently caused by the existing undersized structure and replacing older asphalt and concrete rubble with materials that facilitate passage. Because the project site and immediate vicinity are already developed and disturbed, the increase in lighting, noise, and human activity onsite due to the project would not result in a substantial change or long term impact to wildlife movement through the region. Therefore, no measures are recommended.

5.5 Local Policies and Ordinances

The project would have a significant effect on biological resources if it would:

e) *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance*

The City has established a zoning regulation that requires a 35-foot setback off both Acacia Creek and Orcutt Creek. The setback distance is defined in terms of the distance from the top of bank or edge of riparian drip line, whichever is farther from the creek.

Planted and naturally-occurring trees are present in the project site. The project may require removal of naturally-occurring native trees. The City regulates tree removal within its jurisdiction. Once the project plans have been finalized, the exact number, type, and locations of trees within the project site to be removed, if any, shall be determined. If trees will be removed, the project applicant would be required to obtain tree removal permit from the City, and to develop and implement a tree protection and replacement plan to ensure the project is consistent with local tree removal regulations. As the project would not conflict with any local policies or ordinances, this impact would be less than significant. Therefore, no further measures are recommended.

5.6 Adopted or Approved Plans

The project would have a significant effect on biological resources if it would:

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.

The project site is not located in any adopted Habitat Conservation Plans or Natural Community Conservation Plans or other approved local, regional, or state habitat conservation plan. Therefore, there would be no impact.

6 Limitations, Assumptions, and Use Reliance

This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. The reconnaissance biological survey for certain taxa may have been conducted as part of this assessment but was not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological survey is limited also by the environmental conditions present at the time of the surveys. In addition, a general biological survey does not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis, or re-establish populations in the future. Our field study was based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

7 References

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley, CA.

Bowers, N., R. Bowers, & K. Kaufman. 2004. Mammals of North America.

Calflora. 2009. Information on wild California plants for conservation, education, and appreciation. Berkeley, California. Updated online and accessed at: http://www.calflora.org/.

California Department of Fish and Wildlife. 2010. List of Vegetation Alliances and Associations. Vegetation Classification and Mapping Program, Sacramento, CA. November 2017.

California Department of Fish and Wildlife. 2017a. Special Animals List. Biogeographic Data Branch, California Natural Diversity Database. November 2017.

California Department of Fish and Wildlife. 2017b. California Natural Diversity Database, Rarefind V (online). Accessed November 2017.

California Department of Fish and Wildlife. 2017c. Biogeographic Information and Observation System (BIOS). Retrieved November 21, 2017 from www.wildlife.ca.gov/data/BIOS.

California Department of Fish and Wildlife. 2017d. *Special Vascular Plants, Bryophytes, and Lichens List*. Biogeographic Data Branch, California Natural Diversity Database. November 2017.

California Native Plant Society. 2017. Inventory of Rare and Endangered Plants. V.7-08c-Interim 8-22-02. Updated online and accessed via: www.rareplants.cnps.org.

City of San Luis Obispo. 2018. *Standard Specifications and Engineering Standards.* Available at http://www.slocity.org/home/showdocument?id=19925

ESRI. 2017. ArcGIS Desktop version 10.5.x.2017.

Google Earth. 2017. Available at: http://earth.google.com/.

Hickman, J.C. (Ed.). 1993. The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California.

Holland, Robert F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Wildlife, Nongame Heritage Program. 156 pgs.

National Oceanic and Atmospheric Administration. 2017. Endangered Species Critical Habitat. Accessed online via http://www.westcoast.fisheries.noaa.gov/maps_data/endangered_species_act_critical_habitat.html.

Padre. 2008. Protocol-level California Red-legged Frog Survey Report for the Former San Luis Obispo Tank Farm Site (Tank Farm) San Luis Obispo County, California. http://www.slocity.org/Home/ShowDocument?id=6147.

RRM Design Group. 2016. 650 Tank Farm Waters and Wetland Assessment, San Luis Obispo, California.

Sawyer, J. O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, California.

Stebbins, R. C. 2003. A Field Guide to Western Reptiles and Amphibians. 2nd ed. Houghton-Mifflin Company. Boston, Massachusetts.

United States Department of Agricultural, Natural Resources Conservation Service. 2017a. Web Soil Survey. Accessed November 21, 2017. Soil Survey Area: San Luis Obispo County, California. Soil Survey Data Available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

United States Department of Agriculture, Natural Resources Conservation Service. 2017b. Lists of Hydric Soils. National Cooperative Soil Survey, U.S. Department of Agriculture. Accessed via: https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/.

United States Fish and Wildlife Service. 1973. The Endangered Species Act of 1973, as amended (16 U.S.C 1531 et seq.).

United States Fish and Wildlife Service. 2000. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants. January 2000.

United States Fish and Wildlife Service. 2017a. Critical Habitat Portal. Available at: https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

United States Fish and Wildlife Service. 2017b. Information, Planning, and Conservation System. Available at: http://ecos.fws.gov/ipac/.

Western Regional Climate Center. 2017. Climate of California. Available at: www.wrcc.dri.edu/Climate/narrative_ca.php.

Zeiner, D., W.F. Laudenslayer, Jr., and K.E. Mayer (May 1988). California's Wildlife. California Statewide Wildlife Habitat Relationship System, Volumes I, II, & III. California Department of Fish and Wildlife.

8 List of Preparers

Rincon Consultants, Inc.

Primary Author

- Jamie Deutsch, Associate Biologist

Technical Review

- Meg Perry, Program Ma–ager - Senior Biologist/Botanist
- Colby J. Boggs, M.S., Principal/Senior Ecologist

Graphics

- Craig Huff, Program Manager - Information Technology and Graphics Services

Field Reconnaissance Surveys

- Jamie Deutsch, Associate Biologist

Appendix A

Regulatory Guidance

Regulatory Setting

Special-status habitats are vegetation types, associations, or sub-associations that support concentrations of special-status plant or animal species, are of relatively limited distribution, or are of particular value to wildlife.

Listed species are those taxa that are formally listed as endangered or threatened by the Federal government (e.g. U.S. Fish and Wildlife Service [USFWS]), pursuant to the Federal Endangered Species Act (FESA) or as endangered, threatened, or rare (for plants only) by the State of California (i.e. California Fish and Game Commission), pursuant to the California Endangered Species Act or the California Native Plant Protection Act. Some species are considered rare (but not formally listed) by resource agencies, organizations with biological interests/expertise (e.g. Audubon Society, CNPS, The Wildlife Society), and the scientific community.

The following is a brief summary of the regulatory context under which biological resources are managed at the Federal, State, and local levels. A number of Federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the project site include:

- U.S. Army Corps of Engineers (wetlands and other waters of the United States);
- Regional Water Quality Control Board (waters of the State);
- U.S. Fish and Wildlife Service (federally listed species and migratory birds);
- California Department Fish and Wildlife (riparian areas and other waters of the State, state-listed species, Species of Special Concern);
- City of San Luis Obispo

U.S. Army Corps of Engineers

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has authority to regulate activities that could discharge fill of material or otherwise adversely modify wetlands or other “waters of the United States.” Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters. The USACE also implements the Federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland value or acres. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any fill or adverse modification of wetlands that are hydrologically connected to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetland acres or values is met through compensatory mitigation involving creation or enhancement of similar habitats.

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Board (RWQCB) have jurisdiction over “waters of the State,” pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements

(WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The Central Coast RWQCB enforces actions under this general order for isolated waters not subject to Federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for waters subject to Federal jurisdiction.

United States Fish and Wildlife Service

The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the Federal Endangered Species Act (FESA) (16 USC § 153 et seq.). Generally, the USFWS implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadramous species. Projects that would result in "take" of any federally threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a Federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the Federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under Federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) derives its authority from the Fish and Game Code of California. The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et. seq.) prohibits take of state listed threatened, endangered or fully protected species. Take under CESA is restricted to direct mortality of a listed species and does not prohibit indirect harm by way of habitat modification. The CDFW also prohibits take for species designated as Fully Protected under the Code.

California Fish and Game Code sections 3503, 3503.5, and 3511 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Fully protected birds (Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs.

Species of Special Concern (SSC) is a category used by the CDFW for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the Fish and Game Code as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species in special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Sectio©913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of plant.

Perennial and intermittent streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 *et seq*. of the Fish and Game Code (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

Local Jurisdiction

The project is located within the City of San Luis Obispo and is subject to the Policies set forth in the City of San Luis Obispo's General Plan as well as the City's zoning regulations. The project is also required to comply with the City's Standard Specifications and Engineering Standards for creek crossings.

This page intentionally left blank.

Appendix B

Site Photographs

Photograph 1. Bermuda grass lawn within Study Area (October 24, 2017).

Photograph 2. The entrance to the Study Area with Bermuda grass lawn bordering both sides of the developed entrance road (October 24, 2017).

Photograph 3. Orcutt Creek in southeastern corner of Study Area, upstream of the culverts beneath Tank Farm Road (October 24, 2017).

Photograph 4. Developed road through Study Area surrounded by landscape vegetation (October 24, 2017).

Photograph 5. Existing RV parking lot on north side of Study Area (October 24, 2017).

Photograph 6. Acacia Creek channel within the western side of the Study Area

Photograph 7. Landscape vegetation within the Study Area (October 24, 2017).

Photograph 8. Bermuda grass lawn and landscape vegetation between the existing mobile home development and Acacia Creek (October 24, 2017).

Photograph 9. The upper bank of Acacia Creek with cactus and iceplant near the entrance to the Study Area (October 24, 2017).

Photograph 10. The downstream (southern) end of the existing crossing over Acacia Creek (August 8, 2018).

Photograph 11. The upstream (northern) end of the existing crossing over Acacia Creek (August 8, 2018).

Photograph 12. The eastern end of the wetland feature that enters the the northern end of the Study Area from the east (August 8, 2018).

Appendix C

Floral and Faunal Compendium

Plant and Animal Species Observed Within the Study Area on [October 24, 2017 and August 8, 2018]

Scientific Name	Common Name	Status	Native or Introduced
Plants			
Trees			
Acer negundo	Box elder	None	Native
Calocedrus decurrens	Incense cedar	None	Native (Planted)
Eucalyptus globulus	blue-gum eucalyptus	None	Introduced; Cal-IPC Moderate
Hesperocyparis macrocarpa	Monterey cypress	None	Native (Planted)
Phoenix canariensis	Canary Island palm	None	Introduced; Cal-IPC Limited
Juglans hindsii	Northern California black walnut	None	Native
Juniperus californica	California juniper	None	Native (Planted)
Ligustrum japonicum	Japanese privet	None	Introduced
Platanus racemosa	Western sycamore	None	Native
Quercus agrifolia	Coast live oak	None	Native
Salix laevigata	Red willow	None	Native
Salix lasiolepis	arroyo willow	None	Native
Schinus molle	Peruvian pepper tree	None	Introduced
Umbellularia californica	Bay laurel	None	Native
Washingtonia robusta	Mexican fan palm	None	Introduced; Cal-IPC Moderate
Shrubs			
Baccharis pilularis	coyote brush	None	Native
Cylindropuntia sp.	cactus	None	Introduced
Nerium oleander	oleander	None	Introduced
Ricinus communis	Castor bean	None	Introduced; Cal-IPC Limited
Rubus armeniacus	Himalayan blackberry	None	Introduced; Cal-IPC High
Rubus ursinus	California blackberry	None	Native
Sambucus nigra	elderberry	None	Native
Herbs			
Bolboschoenus maritimus	Saltmarsh bulrush	None	Native
Brassica nigra	black mustard	None	Introduced; Cal-IPC Moderate
Carex praegracilis	field sedge	None	Native
Carpobrotus chilensis	sea fig	None	Introduced; Cal-IPC Moderate
Carpobrotus edulis	iceplant	None	Introduced; Cal-IPC High
Centaurea solstitialis	yellow star thistle	None	Introduced; Cal-IPC High
Conium maculatum	poison hemlock	None	Introduced; Cal-IPC Moderate
Cyperus eragrostis	tall flatsedge	None	Native
Datura wrightii	Jimsonweed	None	Native
Dipsacus sativus	Fuller's teasel	None	Introduced; Cal-IPC Moderate
Eleocharis macrostachya	common spikerush	None	Native
Erodium cicutarium	red stemmed filaree	None	Introduced; Cal-IPC Limited

Scientific Name	Common Name	Status	Native or Introduced
Foeniculum vulgare	sweet fennel	None	Introduced; Cal-IPC High
Helminthotheca echioides	bristly ox-tongue	None	Introduced; Cal-IPC Limited
Hemizonia congesta	Hayfield tarweed	None	Native
Hirschfeldia incana	perennial mustard	None	Introduced; Cal-IPC Moderate
Juncus phaeocephalus	brown headed rush	None	Native
Lotus corniculatus	bird's foot trefoil	None	Introduced
Malva nicaeensis	bull mallow	None	Introduced
Plantago coronopus	Buckhorn plantain	None	Introduced
Plantago major	Common plantain	None	Introduced
Rumex crispus	Curly dock	None	Introduced; Cal-IPC Limited
Typha domingensis	cattail	None	Native
Xanthium strumarium	rough cocklebur	None	Native
Grasses			
Brachypodium distachyon	False brome	None	Introduced; Cal-IPC Moderate
Cynodon dactylon	Bermuda grass	None	Introduced; Cal-IPC Moderate
Hordeum marinum	Seaside barley	None	Introduced
Paspalum dilatatum	Dallisgrass	None	Introduced
Phalaris aquatica	Harding grass	None	Introduced; Cal-IPC Moderate
Polypogon interruptus	beardgrass	None	Introduced
Polypogon monspeliensis	Rabbitsfoot grass	None	Introduced; Cal-IPC Limited
Wildlife			
Aphelocoma californica	Western scrub jay	None	Native
Cathartes aura	Turkey vulture	None	Native
Corvus brachyrhynchos	American crow	None	Native
Mimus polyglottos	Northern mockingbird	None	Native
Otospermophilus beecheyi	California ground squirrel	None	Native
Sceloporus occidentalis	Western fence lizard	None	Native
Sialia Mexicana	Western bluebird	None	Native
Sylvilagus audubonii	Cottontail	None	Native
Thomomys sp.	Gopher (sign)	None	Native
Zenaida macroura	Mourning dove	None	Native

CRPR – California Rare Plant Rank, defined in California Native Plant Society Online Inventory and CDFW California Natural Diversity Database. Ranks are also fully listed and defined in Appendix D.

Cal-IPC – California Invasive Plant Council

Appendix D

Special Status Species Evaluation Tables

Special Status Natural Communities in the Regional Vicinity of the Project Site

Plant Community	G-Rank / S-Rank	Potential for Impact	Rationale
Central Foredunes	G1 / S1.2	None	No central foredune habitat present within the Study Area.
Central Maritime Chaparral	G2 / S2.2	None	No chaparral vegetation communities present within the Study Area.
Coastal and Valley Freshwater Marsh	G3 / S2.1	None	No Coastal and valley freshwater marsh habitat present within the Study Area.
Coastal Brackish Marsh	G2 / S2.1	None	No coastal brackish marsh habitat present within the Study Area
Northern Coastal Salt Marsh	G3 / S3.2	None	No Northern coastal salt marsh habitat present within the Study Area
Northern Interior Cypress Forest	G2 / S2.2	None	No Northern interior cypress forest present within the Study Area
Serpentine Bunchgrass	G2 / S2.2	None	No serpentine bunchgrass present within Study Area.
Valley Needlegrass Grassland	G3 / S3.1	None	No valley needlegrass grassland present within the Study Area.

G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind3.

Special Status Plant Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Abronia maritima Red sand-verbena	--/-- G4/S3S4 4.2	Coastal dunes. Dune plant. 0-100 m.	None	The appropriate coastal dune habitat is no present onsite; therefore, no impacts to the species are anticipated.
Agrostis hooveri Hoover's bent grass	--/-- G2 / S2 1B.2	Chaparral, cismontane woodland, closed-cone coniferous forest, valley and foothill grassland. Sandy sites. 60-765 m.	None	Suitable habitat within the Study Area lacks sandy soils required by the species. The nearest CNDDB occurrence of the species has been documented on Irish Knob approximately 3 miles south of project site. No impacts to the species are anticipated.
Amsinckia douglasiana Douglas' fiddleneck	--/-- G3 / S3 4.2	Valley and foothill grassland, oak woodland. Monterey shale; dry habitats. 0-1950 m.	None	No Monterey shale required by the species is present onsite. Additionally, no CNDDB occurrences of the species have been documented within 5 miles of the project site. No impacts to the species are anticipated.
Arctostaphylos cruzensis Arroyo de la Cruz manzanita	--/-- G1G2 / S1S2 1B.2	Broad-leafed upland forest, coastal bluff scrub, closed-cone coniferous forest, chaparral, coastal scrub, & valley and foothill grassland. On sandy soils in several different habitat types from chaparral to coastal scrub to woodland. 5-150 m.	None	No CNDDB occurrences of the species have been documented within 5 miles. Additionally, no manzanita species were observed within the project site. No impacts to the species are anticipated.
Arctostaphylos luciana Santa Lucia manzanita	--/-- G3 / S3 1B.2	Chaparral, cismontane woodland. On shale (one site says serpentine) outcrops, on slopes, in chaparral. 105-795 m.	None	The appropriate species habitat is not present onsite. and project site is located well below the elevation range of the species; therefore, no impacts to the species are anticipated.
Arctostaphylos morroensis Morro manzanita	Threatened/-- G1 / S1 1B.1	Chaparral, cismontane woodland, coastal dunes, coastal scrub. On Baywood sands, usually with chaparral associates. 30-125 m.	None	The appropriate species habitat is not present onsite and no CNDDB occurrences of the species have been documented within 5 miles. Additionally, no manzanita species were observed within the project site. No impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Arctostaphylos obispoensis Bishop manzanita	--/-- G4 / S4 4.3	Closed-cone coniferous forest, cismontane woodland, chaparral Rocky, serpentine sites. 150-1005 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore, no impacts to the species are anticipated.
Arctostaphylos osoensis Oso manzanita	--/-- G1 / S1 1B.2	Chaparral, cismontane woodland. Usually occurs in openings within oak woodland on dacite porphyry buttes. 180-275 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore, no impacts to the species are anticipated.
Arctostaphylos pechoensis Pecho manzanita	--/-- G2 / S2 1B.2	Closed-cone coniferous forest, chaparral, coastal scrub. Grows on siliceous shale with other chaparral associates. 60-855 m.	None	The appropriate species habitat is not present onsite and no manzanita species were observed within the project site. Therefore, no impacts to the species are anticipated.
Arctostaphylos pilosula Santa Margarita manzanita	--/-- G2? / S2? 1B.2	Closed-cone coniferous forest, chaparral, broad-leafed upland forest, cismontane woodland. Shale outcrops & slopes; reported growing on decomposed granite or sandstone. 60-1220 m.	None	Although the species has been documented within the Los Padres National Forest, northeast of the project site, the site lacks shale outcrops and slopes and associated habitats for the species. During surveys no manzanita species were observed within the project site. No impacts to the species are anticipated.
Arctostaphylos rudis Sand mesa manzanita	--/-- G2 / S2 1B.2	Chaparral, coastal scrub. On sandy soils in Lompoc/Nipomo area. 20-335 m.	None	The appropriate species habitat is not present onsite and the project site is located outside the Lompoc/Nipomo area. Additionally, no manzanita species were observed within the project site. No impacts to the species are anticipated.
Arctostaphylos tomentosa ssp. *daciticola* Dacite manzanita	--/-- G4T1 / S1 1B.1	Chaparral, cismontane woodland. Only known from one site in SLO County on dacite porphyry buttes. About 120m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Arenaria paludicola Marsh sandwort	Endangered/Endangered G1 / S1 1B.1	Marshes and swamps. Growing up through dense mats of Typha, Juncus, Scirpus, etc. in freshwater marsh. Sandy soil. 3-170 m.	None	The appropriate marsh and swamp habitat required by the species are not present onsite. Additionally, no CNDDB occurrences of the species have been documented within 5 miles; therefore, no impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Aspidotis carlotta-halliae Carlotta Hall's lace fern	--/-- G3 / S3 4.2	Chaparral, cismontane woodland. Generally serpentine slopes, crevices, or outcrops. 100-1400 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Astragalus didymocarpus var. *milesianus* Miles' milk-vetch	--/-- G5T2 / S2 1B.2	Coastal scrub. Clay soils. 50-385 m.	None	Although clay soils required by the species are present onsite, the appropriate species habitat is not present onsite. CNDDB occurrences have been documented within 5 miles of the project site. With a lack of habitat and soils combinations the project is not anticipated to impact the species.
Astragalus nuttallii var. *nuttallii* Ocean bluff milk-vetch	--/-- G4T4 / S4 4.2	Coastal bluff scrub, coastal dunes. 3-120 m.	None	The appropriate species habitat is not present onsite. Additionally, no CNDDB occurrences have been documented within 5 miles of the project site. No impacts to the species are anticipated.
Atriplex coulteri Coulter's saltbush	--/-- G3 / S1S2 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Ocean bluffs, ridgetops, as well as alkaline low places. Alkaline or clay soils. 2-460 m.	None	The appropriate alkaline and clay soils required by the species are not present onsite. No CNDDB occurrences have been documented within 5 miles of the project site. No impacts to the species are anticipated.
Bryoria pseudocapillaris False gray horsehair lichen	--/-- G3 / S2 3.2	Coastal dunes, North Coast coniferous forest (immediate coast). Usually on conifers. 0-90 m.	None	The appropriate species habitat is not present onsite. Additionally, no CNDDB occurrences have been documented within 5 miles of the project site. No impacts to the species are anticipated.
Bryoria spiralifera Twisted horsehair lichen	--/-- G3 / S1S2 1B.1	North coast coniferous forest. Usually on conifers. 0-30 m.	None	The appropriate species habitat is not present onsite. Additionally, no CNDDB occurrences have been documented within 5 miles of the project site. No impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Calandrinia breweri Brewer's calandrinia	--/-- G4 / S4 4.2	Chaparral, coastal scrub. Sandy or loamy soils. Disturbed sites, burns. 10-1200 m.	None	The appropriate species habitats and sandy or loamy soils required by the species are not present onsite. Additionally, no CNDDB occurrences have been documented within 5 miles of the project site. No impacts to the species are anticipated.
Calochortus clavatus var. *clavatus* Club-haired mariposa-lily	--/-- G4T3 / S3 4.3	Chaparral, cismontane woodland, valley and foothill grassland, coastal scrub. Generally on serpentine clay, rocky soils. 75-1300 m.	None	Serpentine soils required by the species are not present onsite. Additionally, no CNDDB occurrences have been documented within 5 miles of the project site. No impacts to the species are anticipated.
Calochortus obispoensis San Luis mariposa-lily	--/-- G2 / S2 1B.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Often in serpentine grassland. 15-550 m.	None	Suitable serpentine soils are not present onsite; therefore, no impacts to the species are anticipated.
Calochortus simulans La Panza mariposa-lily	--/-- G2 / S2 1B.3	Valley and foothill grassland, cismontane woodland, chaparral, lower montane coniferous forest. Decomposed granite. 50-1160 m.	None	Suitable habitat is not present and the project site lacks decomposed granite substrate required by the species. No impacts to the species are anticipated.
Calycadenia villosa Dwarf calycadenia	--/-- G3 / S3 1B.1	Chaparral, cismontane woodland, valley and foothill grassland, meadows and seeps. Open, dry meadows, hillsides, gravelly outwashes. 240-1350 m.	None	The project site is located well below the elevation range of the species and no CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Calystegia subacaulis ssp. *episcopalis* Cambria morning-glory	--/-- G3T2 / S2 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. 5-475 m.	Low	Potentially suitable habitat for this species is limited to the grassland on the northern portion of the Study Area. Implementation of the pedestrian/bicycle access path from the northern site boundary to the existing pedestrian/bicycle paths at the Damon Garcia-Sports Fields may result in impacts to this species.
Camissoniopsis hardhamiae Hardham's evening-primrose	--/-- G2 / S2 1B.2	Chaparral, cismontane woodland. Sandy, decomposed carbonate. 140-945 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Carex obispoensis San Luis Obispo sedge	--/-- G3? / S3? 1B.2	Closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland. Usually in transition zone on sand, clay, serpentine, or gabbro. In seeps. 5-845 m.	Low	The portion of Orcutt Creek and its setback within the project site may contain suitable habitat for this species. Construction of a new crossing over Orcutt Creek vegetation management activities have a low potential to impact this species
Castilleja densiflora var. *obispoensis* San Luis Obispo owl's-clover	--/-- G5T2 / S2 1B.2	Valley and foothill grassland, meadows and seeps. Sometimes on serpentine. 10-485 m.	Low	Potentially suitable habitat for this species is limited to the grassland and wetland on the northern portion of the Study Area. Implementation of the pedestrian/bicycle access path from the northern site boundary to the existing pedestrian/bicycle paths at the Damon Garcia-Sports Fields may result in impacts to this species.
Caulanthus californicus California jewelflower	Endangered/Endangered G1 / S1 1B.1	Annual herb. Blooms Feb-May. Chenopod scrub, valley and foothill grassland, pinyon-juniper woodland. Historical from various valley habitats in both the Central Valley and Carrizo Plain. 65-900m.	None	No CNDDB occurrences of the species have been documented within 5 miles of the project site and the project site is located outside the known range of the species; therefore, the project is not anticipated to impact the species.
Ceanothus cuneatus var. *fascicularis* Lompoc ceanothus	--/-- G5T4 / S4 4.2	Chaparral. Sandy soils. 5-400 m.	None	The appropriate habitat and soils required by the species are not present onsite. No CNDDB occurrences of the species have been documented within 5 miles of the project site. The project is not anticipated to have impacts on the species.
Ceanothus gloriosus var. *gloriosus* Point Reyes ceanothus	--/-- G4T4 / S4 4.3	Closed-cone coniferous forest, coastal dunes, coastal scrub, coastal bluff scrub. Usually on bluffs along the coast in sandy soils, but also known from more inland sites. 5-520 m.	None	The appropriate habitat and soils required by the species are not present onsite. No CNDDB occurrences of the species have been documented within 5 miles of the project site. The project is not anticipated to have impacts on the species.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	--/-- G3T2 / S2 1B.1	Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. 0-230 m.	None	The project site lacks alkaline soils required by the species. No impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Cercocarpus betuloides var. *blancheae* Island mountain-mahogany	--/-- G5T4 / S4 4.3	Chaparral, closed-cone coniferous forest. 30-600 m.	None	The appropriate species habitat is not present onsite. No CNDDB occurrences of the species have been documented within 5 miles of the project site. The project is not anticipated to have impacts on the species.
Chenopodium littoreum Coastal goosefoot	--/-- G2 / S2 1B.2	Coastal dunes. 10-30 m.	None	The appropriate coastal dune habitat is not present onsite and no CNDDB occurrences have been documented within 5 miles of the project site. No impacts to the species are anticipated.
Chlorogalum pomeridianum var. *minus* Dwarf soaproot	--/-- G5T2T3 / S2S3 1B.2	Chaparral. Serpentine. 305-1000 m.	None	The appropriate chaparral habitat with serpentine soils required by the species is not present onsite and the project site is located well below the elevation range of the species; therefore, no impacts to the species are anticipated.
Chloropyron maritimum ssp. *maritimum* Salt marsh bird's-beak	Endangered/Endangered G4?T1 / S1 1B.2	Marshes and swamps, coastal dunes. Limited to the higher zones of salt marsh habitat. 0-10 m.	None	The appropriate species habitat is not present onsite including salt marsh habitat. No CNDDB occurrences have been documented within 5 miles of the project site. No impacts to the species are anticipated.
Chorizanthe breweri Brewer's spineflower	--/-- G3 / S3 1B.3	Chaparral, cismontane woodland, coastal scrub, closed-cone coniferous forest. Rocky or gravelly serpentine sites; usually in barren areas. 45-765 m.	None	The appropriate species habitat and rocky soils required by the species are not present onsite. No impacts to the species are anticipated.
Chorizanthe douglasii Douglas' spineflower	--/-- G4 / S4 4.3	Cismontane woodland, lower montane coniferous forest, chaparral, coastal scrub. 55-1600 m.	None	The appropriate species habitat is not present onsite and no CNDDB occurrences of the species have been documented within 5 miles of the project site. No impacts to the species are anticipated.
Chorizanthe leptotheca Peninsular spineflower	--/-- G3 / S3 4.2	Chaparral, coastal scrub, lower montane coniferous forest. On granitic soils, in alluvial fans. 300-1900 m.	None	The appropriate species habitat and required granitic soils are not present and the project site is not located on an alluvial fan. No CNDDB occurrences of the species have been documented within 5 miles of the project site. No impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Chorizanthe palmeri Palmer's spineflower	--/-- G4? / S4 4.2	Chaparral, cismontane woodland, valley and foothill grassland. Dry, rocky places and hillsides; sometimes on serpentine. 60-945 m.	None	The project site lacks rocky places and serpentine soils. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Chorizanthe rectispina Straight-awned spineflower	--/-- G2 / S2 1B.3	Chaparral, cismontane woodland, coastal scrub. Often on granite in chaparral. 45-1040 m.	None	The appropriate species habitat and granite substrates required by the species are not present onsite. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Chorizanthe ventricosa Potbellied spineflower	--/-- G4 / S4 4.3	Valley and foothill grassland, cismontane woodland. Serpentine. 65-1235 m.	None	The site lacks serpentine soils required by the species. No impacts to the species are anticipated.
Cirsium fontinale var. *obispoense* San Luis Obispo fountain thistle	Endangered/Endangered G2T2 / S2 1B.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Serpentine seeps. 5-385 m.	None	The site lacks serpentine seeps required by the species. No impacts to the species are anticipated.
Cirsium occidentale var. *lucianum* Cuesta Ridge thistle	--/-- G3G4T2 / S2 1B.2	Chaparral. Openings; on serpentinite. Often on steep rocky slopes and along disturbed roadsides. 485-765 m.	None	The appropriate species habitat is not present onsite and project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Cirsium rhothophilum Surf thistle	--/Threatened G1 / S1 1B.2	Coastal dunes, coastal bluff scrub. Open areas in central dune scrub; usually in coastal dunes. 3-60 m.	None	The appropriate species habitat is not present onsite and no CNDDB occurrences of the species have been documented within 5 miles of the project site. No impacts to the species are anticipated.
Cirsium scariosum var. *loncholepis* La Graciosa thistle	Endangered/Threatened G5T1 / S1 1B.1	Coastal dunes, coastal scrub, brackish marshes, valley and foothill grassland, cismontane woodland. Lake edges, riverbanks, other wetlands; often in dune areas. Mesic, sandy sites. 4-220 m.	None	The appropriate species habitat is not present onsite and no CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Cladium californicum California saw-grass	--/-- G4 / S2 2B.2	Meadows and seeps, marshes and swamps (alkaline or freshwater). Freshwater or alkaline moist habitats. -20-2135 m.	None	The appropriate species habitat is not present onsite and no CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Cladonia firma Popcorn lichen	--/-- G4 / S1 2B.1	Coastal dunes, coastal scrub. On soil and detritus on stabilized sand dunes, in pure stands or intermixed with other lichens and mosses forming biotic soil crusts, covering areas up to several meters. 30-80 m.	None	The appropriate species habitat is not present onsite and no CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Clarkia exilis Slender clarkia	--/-- G4 / S4 4.3	Cismontane woodland. 120-1000 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Clarkia speciosa ssp. *immaculata* Pismo clarkia	Endangered/Rare G4T1 / S1 1B.1	Chaparral, cismontane woodland, valley and foothill grassland. On ancient sand dunes not far from the coast. Sandy soils; openings. 30-185 m.	None	The appropriate species habitat is not present onsite; therefore; no impacts to the species are anticipated.
Clinopodium mimuloides Monkey-flower savory	--/-- G3 / S3 4.2	North coast coniferous forest, chaparral Streambanks, mesic sites. 305-1800 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Cordylanthus maritimus ssp. *maritimus* Salt marsh bird's-beak	Endangered/Endangered G4?T1 / S1 1B.2	Blooms May-Jun. Native to the Southwestern United States and northern Baja California. Grows in areas of high salt concentrations, coastal salt marshes, dunes and wetlands or the inland salt flats of the Great Basin. 0-30m.	None	The appropriate species habitat is with high salt concentrations required by the species is not present onsite. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Corethrogyne leucophylla Branching beach aster	--/-- G3Q / S3 3.2	Closed-cone coniferous forest, coastal dunes. 3-60 m.	None	The appropriate species habitat is not present onsite and no CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Deinandra paniculata Paniculate tarplant	--/-- G4 / S4 4.2	Coastal scrub, valley and foothill grassland, vernal pools. Usually in vernally mesic sites. Sometimes in vernal pools or on mima mounds near them. 25-940 m.	None	Although grassland habitats are present within the project site, the site lacks vernally mesic sites commonly associated with the species. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Delphinium parryi ssp. *blochmaniae* Dune larkspur	--/-- G4T2 / S2 1B.2	Chaparral, coastal dunes (maritime). On rocky areas and dunes. 18-305 m.	None	The appropriate species habitat is not present onsite; therefore, no impacts to the species are anticipated.
Delphinium parryi ssp. *eastwoodiae* Eastwood's larkspur	--/-- G4T2 / S2 1B.2	Chaparral, valley and foothill grassland. Serpentine. Openings. 60-640 m.	None	Non-native grassland habitat is present within the project site; however, the site lacks serpentine soils required by the species. No impacts to the species are anticipated.
Delphinium umbraculorum Umbrella larkspur	--/-- G3 / S3 1B.3	Cismontane woodland, chaparral. Mesic sites. 215-2075 m.	None	The appropriate species habitat is not present onsite and project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Dithyrea maritima Beach spectaclepod	--/Threatened G1 / S1 1B.1	Coastal dunes, coastal scrub. Sea shores, on sand dunes, and sandy places near the shore. 3-65 m.	None	The appropriate species habitat is not present onsite and the project site is located greater than 7 miles from the ocean; therefore, no impacts to the species are anticipated.
Dudleya abramsii ssp. *bettinae* Betty's dudleya	--/-- G4T2 / S2 1B.2	Coastal scrub, valley and foothill grassland, chaparral. On rocky, barren exposures of serpentine within scrub vegetation. 20-250 m.	None	The nearest CNDDB occurrence of the species is less than one mile northwest of the site; however, the site lacks rocky serpentine soils required by the species. Therefore, no impacts to the species are anticipated.
Dudleya abramsii ssp. *murina* Mouse-gray dudleya	--/-- G4T2 / S2 1B.3	Chaparral, cismontane woodland, valley and foothill grassland. Serpentine outcrops. 25-535 m.	None	The site lacks serpentine soils required by the species and the nearest CNDDB occurrence is located approximately 5 miles east of the site within the foothills of the Santa Lucia Range. Therefore, no impacts to the species are anticipated.
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	--/-- G3T2 / S2 1B.1	Coastal scrub, coastal bluff scrub, chaparral, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil. 5-450 m.	None	The site lacks rocky slopes with little soil required by the species; therefore, no impacts to the species are anticipated.
Eleocharis parvula Small spikerush	--/-- G5 / S4 4.3	Marshes and swamps. In coastal salt marshes. 1-3020 m.	None	Species has not been documented by the CNDDB within 5- miles of the Study Area. The appropriate species habitat is not present onsite; therefore, no impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Eriastrum luteum Yellow-flowered eriastrum	--/-- G2 / S2 1B.2	Broad-leafed upland forest, cismontane woodland, chaparral. On bare sandy decomposed granite slopes. 240-580 m.	None	The appropriate species habitat is not present onsite and the project site is located below the elevation range of the species; therefore no impacts to the species are anticipated.
Erigeron blochmaniae Blochman's leafy daisy	--/-- G2 / S2 1B.2	Coastal dunes, coastal scrub. Sand dunes and hills. 0-185 m.	None	The appropriate species habitat is not present onsite; therefore, no impacts to the species are anticipated.
Eriodictyon altissimum Indian Knob mountainbalm	Endangered/Endangered G1 / S1 1B.1	Chaparral (maritime), cismontane woodland, coastal scrub. Ridges in open, disturbed areas within chaparral on Pismo sandstone. 90-270 m.	None	The appropriate species habitat is not present onsite and the project site is located below the elevation range of the species; therefore no impacts to the species are anticipated.
Eryngium aristulatum var. *hooveri* Hoover's button-celery	--/-- G5T1 / S1 1B.1	Vernal pools. Alkaline depressions, vernal pools, roadside ditches and other wet places near the coast. 1-50 m.	Low	The portion of Orcutt Creek and its setback within the project site may contain suitable habitat for this species. Construction of a new crossing over Orcutt Creek and vegetation management activities have a low potential to impact this species
Erysimum suffrutescens Suffrutescent wallflower	--/-- G3 / S3 4.2	Coastal dunes, coastal scrub, coastal bluff scrub, chaparral. Coastal dunes and bluffs. 0-150 m.	None	The appropriate species habitat is not present onsite; therefore, no impacts to the species are anticipated.
Extriplex joaquinana San Joaquin spearscale	--/-- G2 / S2 1B.2	Chenopod scrub, alkali meadow, playas, valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with Distichlis spicata, Frankenia, etc. 0-840 m.	None	The site lacks alkali wetlands and associated wetland plants. No impacts to the species are anticipated.
Fritillaria agrestis Stinkbells	--/-- G3 / S3 4.2	Cismontane woodland, chaparral, valley and foothill grassland. Sometimes on serpentine; mostly found in nonnative grassland or in grassy openings in clay soil. 10-1555 m.	None	The appropriate species habitat is not present onsite and no CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Fritillaria ojaiensis Ojai fritillary	--/-- G2? / S2? 1B.2	Broad-leafed upland forest (mesic), chaparral, lower montane coniferous forest, cismontane woodland. Usually loamy soil. Sometimes on serpentine; sometimes along roadsides. 225-1000 m.	None	The appropriate species habitat is not present onsite and project site is located well below the elevation range of the species; therefore no impact to the species is anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Fritillaria viridea San Benito fritillary	--/-- G2 / S2 1B.2	Chaparral, cismontane woodland. Serpentine slopes. Sometimes on rocky streambanks. 365-1360 m.	None	The appropriate species habitat is not present onsite for the species and the project site is located well below the elevation range of the species; therefore no impact to the species is anticipated.
Grindelia hirsutula var. *maritima* San Francisco gumplant	--/-- G5T1Q / S1 3.2	Coastal scrub, coastal bluff scrub, valley and foothill grassland. Sandy or serpentine slopes, sea bluffs. 15-305 m.	None	The site lacks serpentine slopes and sandy soils required by the species; therefore, no impacts to the species are anticipated.
Horkelia cuneata var. *puberula* Mesa horkelia	--/-- G4T1 / S1 1B.1	Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. 15-1645 m.	None	The project site lacks suitable habitat for the species; therefore, no impacts to the species are anticipated.
Horkelia cuneata var. *sericea* Kellogg's horkelia	--/-- G4T1? / S1? 1B.1	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills; openings. Sandy or gravelly soils. 5-430 m.	None	Sandy soils are present within the project site; however, suitable habitat is not present onsite and no CNDDB occurrences of the species have been documented within 5 miles of the project site. Therefore, no impacts to the species are anticipated.
Lasthenia californica ssp. *macrantha* Perennial goldfields	--/-- G3T2 / S2 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. 5-185 m.	None	The appropriate species habitat is not present onsite and no CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	--/-- G4T2 / S2 1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1375 m.	None	The appropriate vernal pools and alkaline soils required by the species are not present onsite. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Layia jonesii Jones' layia	--/-- G2 / S2 1B.2	Chaparral, valley and foothill grassland. Clay soils and serpentine outcrops. 5-245 m.	None	Appropriate serpentine outcrops are not present onsite. Therefore, no impacts to the species are anticipated.
Lomatium parvifolium Small-leaved lomatium	--/-- G4 / S4 4.2	Closed-cone coniferous forest, chaparral, coastal scrub, riparian woodland. On serpentine. 20-700 m.	None	The appropriate species habitat and serpentine soils required by the species are not present onsite. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Lupinus ludovicianus San Luis Obispo County lupine	--/-- G1 / S1 1B.2	Chaparral, cismontane woodland. Open areas in sandy soil, Santa Margarita formation. 85-525 m.	None	The appropriate species habitat is not present onsite and the project site is located below the elevation range of the species; therefore no impact to the species is anticipated.
Lupinus nipomensis Nipomo Mesa lupine	Endangered/Endangered G1 / S1 1B.1	Coastal dunes. Dry sandy flats, restricted to back dunes, associated with central dune scrub habitat - a rare community type. 10-50 m.	None	The appropriate species habitat is not present onsite; therefore, no impacts to the species are anticipated.
Malacothamnus gracilis Slender bush-mallow	--/-- G1Q / S1 1B.1	Chaparral. Dry, rocky slopes. 150-335 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore no impact to the species is anticipated.
Malacothamnus jonesii Jones' bush-mallow	--/-- G4 / S4 4.3	Chaparral, cismontane woodland. 160-825 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Malacothamnus palmeri var. *involucratus* Carmel Valley bush-mallow	--/-- G3T2Q / S2 1B.2	Cismontane woodland, chaparral, coastal scrub. Talus hilltops and slopes, sometimes on serpentine. Fire dependent. 5-520 m.	None	The appropriate species habitat and serpentine soils required by the species are not present onsite. Additionally, the project site lacks frequent fire burns. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Malacothamnus palmeri var. *palmeri* Santa Lucia bush-mallow	--/-- G3T2Q / S2 1B.2	Chaparral. Dry rocky slopes, mostly near summits, but occasionally extending down canyons to the sea. 60-360 m.	None	The appropriate species habitat is not present onsite and the project site is not located near summits; therefore, no impacts to the species are anticipated.
Malacothrix incana Dunedelion	--/-- G4 / S4 4.3	Coastal dunes, coastal scrub. On flats and slopes, as well as unstabilized dunes near the ocean. 2-35 m.	None	The appropriate species habitat is not present onsite and the project site is located approximately 7 miles from the ocean. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Monardella palmeri Palmer's monardella	--/-- G2 / S2 1B.2	Cismontane woodland, chaparral. On serpentine, often found associated with Sargent cypress forests. 90-945 m.	None	The appropriate species habitat is not present onsite and the project site is located below the elevation range of the species; therefore no impact to the species is anticipated.
Monardella sinuata ssp. *sinuata* Southern curly-leaved monardella	--/-- G3T2 / S2 1B.2	Coastal dunes, coastal scrub, chaparral, cismontane woodland. Sandy soils. 20-305 m.	None	The appropriate species habitat is not present onsite along with sandy soils required by the species; therefore, no impacts to the species are anticipated.
Monardella undulata ssp. *crispa* Crisp monardella	--/-- G3T2 / S2 1B.2	Coastal dunes, coastal scrub. Often on the borders of open, sand areas, usually adjacent to typical backdune scrub vegetation. 5-125 m.	None	The appropriate species habitat is not present onsite; therefore, no impacts to the species are anticipated.
Monardella undulata ssp. *undulata* San Luis Obispo monardella	--/-- G2 / S2 1B.2	Coastal dunes, coastal scrub. Stabilized sand of the immediate coast. 5-200 m.	None	The appropriate species habitat is not present onsite and the project site is located approximately 7 miles from the ocean; therefore, no impacts to the species are anticipated.
Monolopia gracilens Woodland woollythreads	--/-- G3 / S3 1B.2	Chaparral, valley and foothill grassland, cismontane woodland, broad-leafed upland forest, North Coast coniferous forest. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns, but may have only weak affinity to serpentine. 120-975 m.	None	The appropriate species habitat is not present onsite and project site is located well below the elevation range of the species; therefore, no impact to the species is anticipated.
Mucronea californica California spineflower	--/-- G3 / S3 4.2	Chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland. Sandy soil. 0-1400 m.	None	The site lacks sandy soils required by the species. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Nasturtium gambelii Gambel's water cress	Endangered/Threatened G1 / S1 1B.1	Marshes and swamps. Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. 5-330 m.	None	The appropriate marsh and swamp habitat is not present onsite; therefore, no impacts to the species are anticipated.
Navarretia fossalis Spreading navarretia	Threatened/-- G1 / S1 1B.1	Annual herb. Blooms Apr-Jun. Vernal pools, chenopod scrub, marshes and swamps, playas. San Diego hardpan and San Diego claypan vernal pools; in swales and V.P's, often surrounded by other habitat types. 30-665m.	None	The appropriate vernal pool habitat required by the species is not present onsite. No impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Navarretia nigelliformis ssp. *radians* Shining navarretia	--/-- G4T2 / S2 1B.2	Cismontane woodland, valley and foothill grassland, vernal pools. Apparently in grassland, and not necessarily in vernal pools. 60-975 m.	None	No CNDDB occurrences of the species have been documented within 5 miles of the project site and site is below the elevation range for this species. No impacts to the species are anticipated.
Nemacaulis denudata var. *denudata* Coast woolly-heads	--/-- G3G4T2 / S2 1B.2	Coastal dunes. 0-100 m.	None	The appropriate coastal dune habitat is not present onsite; therefore, no impacts to the species are anticipated.
Nemacladus secundiflorus var. *secundiflorus* Large-flowered nemacladus	--/-- G3T3? / S3? 4.3	Chaparral, valley and foothill grassland. Dry, sandy to gravelly flats and slopes. 200-2000 m.	None	The project site is located well below the elevation range of the species; therefore, no impacts to the species are anticipated.
Orobanche parishii ssp. *brachyloba* Short-lobed broomrape	--/-- G4?T4 / S3 4.2	Coastal bluff scrub, coastal dunes, coastal scrub. Sandy soil near beaches; reported to grow on Isocoma menziesii and other shrubs. 3-305 m.	None	The appropriate coastal habitat and beach sand with *Isocoma menziesii* are not present onsite. No impacts to the species are anticipated.
Perideridia pringlei Adobe yampah	--/-- G4 / S4 4.3	Chaparral, cismontane woodland, pinyon and juniper woodland, coastal scrub. Serpentine, clay soils. Grassland hillsides; seasonally wet sites. 300-1800 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Phacelia ramosissima var. *austrolitoralis* South coast branching phacelia	--/-- G5?T3 / S3 3.2	Chaparral, coastal scrub, coastal dunes, coastal salt marsh. Sandy, sometimes rocky sites. 5-300 m.	None	The appropriate species habitat is not present onsite along with rocky or sandy soils required by the species. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Piperia michaelii Michael's rein orchid	--/-- G3 / S3 4.2	Coastal bluff scrub, coastal scrub, cismontane woodland, chaparral, closed-cone coniferous forest, lower montane coniferous forest. Mudstone and humus, generally dry sites. 3-915 m.	None	The appropriate species habitat is not present onsite. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Plagiobothrys torreyi var. *perplexans* Chaparral popcornflower	--/-- G4T3? / S3? 4.3	Chaparral, meadows and seeps, lower montane coniferous forest, upper montane coniferous forest. Burned areas. On igneous soils. 1070-2745 m.	None	The appropriate species habitat is not present onsite and project site is located well below the elevation range of the species; therefore, no impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Plagiobothrys uncinatus Hooked popcornflower	--/-- G2 / S2 1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Sandstone outcrops and canyon sides; often in burned or disturbed areas. 210-855 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Poa diaboli Diablo Canyon blue grass	--/-- G2 / S2 1B.2	Chaparral (mesic sites), cismontane woodland, coastal scrub, closed-cone coniferous forest. Shale, sometimes burned areas. 115-400 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Prunus fasciculata var. *punctata* Sand almond	--/-- G5T4 / S4 4.3	Chaparral, coastal scrub, cismontane woodland, coastal dunes. Sandy flats. 15-200 m.	None	The appropriate species habitat and sandy flats are not present; therefore, no impacts to the species are anticipated.
Sanicula hoffmannii Hoffmann's sanicle	--/-- G3 / S3 4.3	Broad-leafed upland forest, coastal scrub, coastal bluff scrub, chaparral, cismontane woodland, lower montane coniferous forest. Cool slopes in deep soil, often in moist shaded serpentine soils, or in clay soils. 30-300 m.	None	Clay soils are present onsite; however, the appropriate species habitat and moist soils are not present. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.
Sanicula maritima Adobe sanicle	--/Rare G2 / S2 1B.1	Meadows and seeps, valley and foothill grassland, chaparral, coastal prairie. Moist clay or ultramafic soils. 15-215 m.	Low	Potentially suitable habitat and clay soils for this species are limited to the grassland and wetland on the northern portion of the Study Area. Implementation of the pedestrian/bicycle access path from the northern site boundary to the existing pedestrian/bicycle paths at the Damon Garcia-Sports Fields may result in impacts to this species.
Scrophularia atrata Black-flowered figwort	--/-- G2? / S2? 1B.2	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub. Sand, diatomaceous shales, and soils derived from other parent material; around swales and in sand dunes. 10-445 m.	Low	The willow riparian habitat along Acacia Creek, Orcutt Creek, and setback areas within the project site may contain suitable habitat for this species. Construction of a pedestrian trail, construction of a new crossing over Orcutt Creek, and vegetation management activities in setback areas have a low potential to impact this species

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Senecio aphanactis Chaparral ragwort	--/-- G3 / S2 2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 20-855 m.	None	The appropriate species habitat and alkaline soils required by the species are not present; therefore, no impacts to the species are anticipated.
Senecio blochmaniae Blochman's ragwort	--/-- G3 / S3 4.2	Coastal dunes. 0-100 m.	None	The appropriate coastal dune habitat is not present onsite; therefore, no impacts to the species are anticipated.
Sidalcea hickmanii ssp. anomala Cuesta Pass checkerbloom	--/Rare G3T1 / S1 1B.2	Closed-cone coniferous forest, chaparral Rocky serpentine soil; associated with Sargent cypress forest. 600-800 m.	None	The appropriate species habitat is not present onsite and project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Solidago guiradonis Guirado's goldenrod	--/-- G3G4 / S3S4 4.3	Cismontane woodland, valley and foothill grassland. Near streams or seeps in asbestos-laden soils; serpentine. 600-1370 m.	None	The appropriate species habitat is not present onsite and project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Streptanthus albidus ssp. *peramoenus* Most beautiful jewelflower	--/-- G2T2 / S2 1B.2	Chaparral, valley and foothill grassland, cismontane woodland. Serpentine outcrops, on ridges and slopes. 90-1040 m.	None	The appropriate species habitat is not present onsite and the project site is located well below the elevation range of the species; therefore no impacts to the species are anticipated.
Suaeda californica California seablite	Endangered/-- G1 / S1 1B.1	Marshes and swamps. Margins of coastal salt marshes. 0-5 m.	None	The appropriate species habitat is not present onsite; therefore, no impact to the species is anticipated.
Sulcaria isidiifera Splitting yarn lichen	--/-- G1 / S1 1B.1	Coastal scrub. On branches of oaks and shrubs in old growth coastal scrub. 20-55 m.	None	The appropriate species habitat is not present onsite; therefore, no impacts to the species are anticipated.
Symphyotrichum defoliatum San Bernardino aster	--/-- G2 / S2 1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 2-2040 m.	None	No CNDDB occurrences of the species have been documented within 5 miles of the project site and species was not documented during appropriately timed survey; therefore no impacts to the species are anticipated.
Trifolium hydrophilum Saline clover	--/-- G2 / S2 1B.2	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 1-335 m.	None	The site lacks vernal pools and alkaline sites required by the species; therefore, no impacts to the species are anticipated.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CRPR	Habitat Requirements	Potential for Impact	Rationale
Tropidocarpum capparideum Caper-fruited tropidocarpum	--/-- G1 / S1 1B.1	Valley and foothill grassland. Alkaline clay. 0-360 m.	None	The site lacks alkaline clay soils required by the species. No CNDDB occurrences of the species have been documented within 5 miles of the project site; therefore, no impacts to the species are anticipated.

Regional Vicinity refers to within a [5] mile radius of site.

FE = Federally Endangered FT = Federally Threatened

SE = State Endangered ST = State Threatened SR = State Rare

G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind3.

CRPR (CNPS California Rare Plant Rank):

1A=Presumed Extinct in California
1B=Rare, Threatened, or Endangered in California and elsewhere
2A=Plants presumed extirpated in California, but more common elsewhere
2B=Plants Rare, Threatened, or Endangered in California, but more common elsewhere
3=Need more information (a Review List)
4=Plants of Limited Distribution (a Watch List)

CRPR Threat Code Extension:

.1=Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2=Fairly endangered in California (20-80% occurrences threatened)
.3=Not very endangered in California (<20% of occurrences threatened)

Special Status Animal Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Invertebrates				
Branchinecta lynchi Vernal pool fairy shrimp	FT/-- G3 / S3	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	None	Species has been documented by CNDDB within a mile of the Study Area within seasonal wetlands and ponds at the former tank farm site. Saturated conditions were observed in Orcutt Creek during the survey conducted by Terra Verde on May 31, 2016; however, they creek was dry during the survey conducted by Rincon on October 24, 2017. Species is not typically found in ephemeral drainages and no impacts to Orcutt Creek are expected.
*Danaus plexippus** Monarch butterfly	--/-- SSA (overwintering)	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	None (roosts)	Eucalyptus grove onsite is too thin to provide enough shelter to support suitable winter roosting habitat. Not expected to overwinter onsite.
Helminthoglypta walkeriana Morro shoulderband (=banded dune) snail	FE/-- G1 / S1S2	Restricted to the coastal strand in the immediate vicinity of Morro Bay. Inhabits the duff beneath *Ericameria* [=*Haplopappus*], *Salvia, Dudleya*, and *Mesembryanthemum*.	None	The Study Area is outside the range of this species.
Euprserpinus euterpe Kern primrose sphinx moth	FT/ -- G1 / S1	Found in the Walker basin, Kern county, and several other scattered locations (Carrizo Plain, Pinnacles NM). Host plant is *Camissonia contorta epilobiodes* (evening primrose).	None	The Study Area is outside the range of this species.
Fish				
Eucyclogobius newberryi Tidewater goby	FE/-- G3 / S3 SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	None	The site is too far inland for this species.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Oncorhynchus mykiss irideus Steelhead – South/Central California Coast DPS	FT/-- G5T2Q/S2	All naturally spawned populations that occur in coastal streams from the Pajaro River south to, but excluding the Santa Maria River. The major watersheds include the Pajaro, Salinas, and Carmel, as well as the smaller rivers along the Big Sur Coast and south.	Low	Species has potential to occur in Acacia Creek. If water is present in Acacia Creek during construction activities related to widening of the existing crossing, this species may be encountered and impacted.
Reptiles				
Anniella pulchra pulchra Silvery legless lizard	--/-- G3 / S3 SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	None	No suitable habitat (i.e., loose sandy soils).
Actinemys (=*Emys*) *marmorata* Western pond turtle	--/-- G3G4 / S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Moderate	Species has been documented by CNDDB in Acacia Creek just upstream from the Study Area. Suitable basking and nesting sites occur within the riparian habitat within the Study Area. This species has a moderate potential to be encountered during the construction of offsite improvements in suitable habitat. The remainder of the Study Area is unsuitable for this species due to lack of sandy banks and landscaping.
Gambelia silus Blunt nosed leopard lizard	FE/SE G1 / S1 FP	Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. Seeks cover in mammal burrows, under shrubs or structures such as fence posts; they do not excavate their own burrows.	None	The site is outside the range for this species.
Phrynosoma blainvillii Blainsville horned lizard	--/-- G3G4 / S3S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	None	The site does not contain suitable habitat for this species.
Amphibians				
Ambystoma californiense California tiger salamander	FT/ST G2G3 / S2S3 SSC	Central Valley DPS federally listed as threatened. Santa Barbara and Sonoma counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	None	Study Area is outside the range for this species. Not expected to occur.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Batrachoseps minor Lesser slender salamander	--/-- G1 / S1 SSC	South Santa Lucia Mountains in tanbark oak, coast live oak, blue oak, sycamore & laurel. Shaded slopes with abundant leaf litter.	None	There are no documented occurrences by CNDDB within 5 miles and there is no suitable habitat within the Study Area
Rana boylii Foothill yellow-legged frog	--/SCT G3 / S3 SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	None	No suitable rocky substrate for this species within the Study Area. Additionally, no impacts to Acacia Creek or Orcutt Creek are expected.
Rana draytonii California red-legged frog	FT/-- G2G3 / S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Low	The closest documented occurrence by CNDDB is approximately 1.85 miles west of the Study Area within the Waste Water Treatment facility property. There are no documented occurrences of CRLF within Acacia Creek or Orcutt Creek; however, these drainage features contain suitable aquatic and foraging habitat for this species. There is no breeding habitat within or adjacent to the Study Area. Due to the proximity of suitable habitat, this species has a low potential to disperse into the work area during construction.
Spea hammondii Western spadefoot	--/-- G3 / S3 SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	None	Species has not been documented within five miles of the Study Area. No vernal pools or ponding was observed during the survey
Taricha torosa Coast Range newt	--/-- G4 / S4 SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs & slow moving streams.	Low	No pools suitable for breeding were observed in the Study Area. Acacia Creek and Orcutt Creek provide suitable habitat for this species. This species has a low potentially to be encountered during the construction of offsite improvements in suitable habitat.
Thamnophis hammondii Two-striped garter snake	--/-- G4/S3S4 SSC	Occurs near pools, creeks, cattle tanks, and other water sources, often in rocky areas, within oak woodland, chaparral, scrub communities, and coniferous forest.	Low	Suitable riparian habitat is present within Acacia Creek riparian corridor. However, no work is expected within this habitat type. Therefore, no impacts are expected.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Birds				
Agelaius tricolor Tricolored blackbird	--/SCE G2G3 / S1S2 SSC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	None	There are no documented occurrences by CNDDB within 5 miles and there is no suitable marsh habitat within the Study Area.
Ammodramus savannarum Grasshopper sparrow	--/-- G5 / S3 SSC	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	None	There are no documented occurrences by CNDDB within 5 miles of the Study Area and the site does not have suitable grasslands for the species.
Aquila chrysaetos Golden eagle	--/-- G5 / S3 FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Low	Golden eagles are known to forage in the vicinity. Potentially suitable nest habitat is present in mature eucalyptus trees. Removal or trimming of eucalyptus trees has a low potential to impact this species.
Athene cunicularia Burrowing owl	--/-- G4 / S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	None	The Study Area does not contain suitable habitat for this species. Not expected to occur.
Brachyramphus marmoratus Marbled murrelet	FT/SE G3G4 / S1	Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	None	Species is not known to occur in this region and it has not been documented by CNDDB within 5 miles of the Study Area. Not expected to occur.
Charadrius alexandrinus nivosus Western snowy plover	FT/-- G3T3 / S2S3 SSC	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	None	In San Luis Obispo County, snowy plovers nest at the coast.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FT/SE G5T2T3 / S1	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	None	No suitable habitat on site. Riparian vegetation around Acacia Creek lacks the structural diversity and contiguous habitat required for this species. In addition, no impacts to this vegetation type are expected.
Elanus leucurus White-tailed kite	--/-- G5 / S3S4 FP	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Low	Suitable habitat onsite for foraging and nesting. White tailed kites could nest in eucalyptus trees. Removal or trimming of eucalyptus trees has a low potential to impact this species.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Empidonax traillii extimus Southwestern willow flycatcher	FE/SE G5T1T2 / S1	Riparian woodlands in Southern California.	None	There are no documented occurrences by CNDDB within 5 miles of the Study Area. No impacts are expected to willows adjacent to Acacia Creek.
Gymnogyps californianus California condor	FE/SE G1 / S1 FP	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. forages up to 100 miles from roost/nest.	None	Extremely unlikely to occur. Marginal foraging habitat.
Haliaeetus leucocephalus Bald eagle	--/SE G5 / S2 FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mi of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Low	Bald eagles are known to forage and have made nest attempts in the vicinity. Potentially suitable nest habitat is present in mature eucalyptus trees. Removal or trimming of eucalyptus trees has a low potential to impact this species.
Lanius ludovicianus Loggerhead shrike	--/-- G4 / S4 SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Low	Marginally suitable nesting and foraging habitat exists within the Study Area. Species has been documented by CNDDB within 5 miles of the site.
Laterallus jamaicensis coturniculus California black rail	--/ST G3G4T1 / S1 FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	None	Species is not known to occur in this area and there are no documented occurrences by CNDDB within 5 miles of the site. No nesting habitat present within the Study Area. No impacts are expected to willows in the wetland and holding ponds.
Progne subis Purple martin (nesting)	--/-- G5 / S3 SSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly; also in human-made structures. Nest often located in tall, isolated tree/snag.	Low	Suitable trees with appropriate nest cavities occur within the Study Area.
Rallus longirostris obsoletus California clapper rail	FE/SE G5T1 / S1 FP	Salt-water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	None	Salt marsh and brackish marsh habitats are not present. Not expected to occur.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Rallus obsoletus obsoletus California Ridgway's rail	FE/SE G5T1 / S1 FP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	None	No suitable habitat occurs within the Study Area for this species. Not expected to occur.
Sternula antillarum browni California least tern	FE/SE G4T2T3Q / S2 FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	None	No suitable habitat occurs within the Study Area for this species. Not expected to occur.
Vireo bellii pusillus Least Bell's vireo	FE/SE G5T2 / S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	None	Species is not known to occur in this area and there are no documented occurrences by CNDDB within 5 miles of the Study Area. No suitable nesting habitat present within the Study area. Additionally, no impacts to willow riparian area are expected.
Mammals				
Antrozous pallidus Pallid bat	--/-- G5 / S3 SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low	May forage onsite; however, suitable roosts for pallid bat are limited in the Study Area. Tree hollows or crevices within the Study Area may be suitable for roosting.
Corynorhinus townsendii Townsend's big-eared bat	--/-- G3G4 / S2 SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	None (Roosts)	May forage onsite; however, suitable roosts for Townsend's bat are not present in the Study Area.
Dipodomys heermanni morroensis Morro Bay kangaroo rat	FE/SE G3G4TH / SH FP	Coastal sage scrub on the south side of Morro Bay. Needs sandy soil, but not active dunes, prefers early seral stages.	None	The Study Area is outside the range of this species. Not expected to occur.
Dipodomys ingens Giant kangaroo rat	FE/SE G1G2 / G2S2	Annual grasslands on the western side of the San Joaquin Valley, marginal habitat in alkali scrub. Need level terrain and sandy loam soils for burrowing.	None	The Study Area is outside the range of this species. Not expected to occur.
Enhydra lutris nereis Southern sea otter	FT/-- G4T2 / S2 FP	Nearshore marine environments from about Ano Nuevo, San Mateo co. to Point Sal, Santa Barbara Co. Needs canopies of giant kelp and bull kelp for rafting and feeding. Prefers rocky substrates with abundant invertebrates.	None	No nearshore marine environments onsite. Not expected to occur.

Scientific Name Common Name	Status Fed/State ESA G-Rank/S-Rank CDFW	Habitat Requirements	Potential for Impact	Potential for Occurrence
Eumops perotis californicus Western mastiff bat	--/-- G5T4 / S3S4 SSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	None (Roosts)	May forage onsite; however, suitable roosts for Western mastiff bats are not present in the Study Area
Neotoma lepida intermedia San Diego desert woodrat	--/-- G5T3T4 / S3S4 SSC	Coastal scrub of Southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	None	Suitable habitats are not present in the study area for desert wood rat.
Nyctinomops macrotis Big free-tailed bat	--/-- G5 / S3 SSC	Low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	None	May forage in the Study Area. However, suitable roosts for big free-tailed bats are not present in the Study Area
Taxidea taxus American badger	--/-- G5 / S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	None	No burrows or individuals were observed during the field survey. Grassland is frequently mowed and not suitable for burrowing. Species is not expected to occur.

FT = Federally Threatened
FC = Federal Candidate Species
FE = Federally Endangered
FS=Federally Sensitive

SE = State Endangered
ST = State Threatened
SR = State Rare
SS=State Sensitive
SCT=State Candidate Threatened
SCE=State Candidate Endangered

G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind3
SC = CDFW Species of Special Concern
FP = Fully Protected

Appendix C

Cultural Resources Technical Report and Paleontological Resources Survey

650 Tank Farm Road Project

Cultural Resources Technical Report

prepared for

City of San Luis Obispo – Community Development
Contact: Rachel Cohen, Associate Planner
919 Palm Street
San Luis Obispo, California 93401
via email: rcohen@slocity.org

prepared by

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93001

September 2018

Rincon Consultants, Inc.
Environmental Scientists Planners Engineers
www.rinconconsultants.com

Please cite this report as follows:

Szromba, Meagan and Christopher Duran

2018 Cultural Resources Technical Report for the 650 Tank Farm Road Project, San Luis Obispo County, California. Rincon Consultants Project No. 17-04701. Report on file, Central Coast Information Center, University of California, Santa Barbara.

Table of Contents

Tables

Figures

Appendices

Executive Summary

Rincon Consultants, Inc. (Rincon) was retained by the City of San Luis Obispo to conduct a cultural resources study for the proposed 650 Tank Farm Road Project (project) in the City of San Luis Obispo, San Luis Obispo County, California. The project includes a rezone of the project site to allow for mixed commercial and residential uses. Specifically, the rezone would be from 3.25 acres of Business Park (BP) land and 6.85 acres of Medium-Density (R-2) Residential land into 10.1 acres of Service Commercial land with a Specific Plan Overlay. In addition, the project proposes potential off-site access improvements including additional access points to the east and west, as well as a pedestrian path to the north. As the project includes a rezone with potential future development pending final development designs, this cultural resources study analyzes possible impacts to cultural resources at a programmatic level. Future developments may require additional analysis depending on final design and construction footprints. This cultural resources study included a cultural resources records search, Native American outreach, pedestrian field survey of the project site, and preparation of this technical report. This project is subject to the California Environmental Quality Act (CEQA).

Based on the results of the records search, Native American outreach, and field survey, no cultural resources were identified within the study area. The project area contains one permanent structure; a single-family residence, constructed more than 50 years ago. The residence is not designated for listing in the National Register of Historic Places, the California Register of Historical Resources or as a City of San Luis Obispo historic resource and is not located within an existing or potential historic district. The remaining built environment resources within the project area include the Hidden Hills Mobilodge, which includes non-permanent structures; therefore was not evaluated as part of this study.

The record search did identify prehistoric archaeological sites within a 0.5-mile radius of the northern portion of the project site; therefore, the area is deemed as potentially sensitive for cultural resources due to the known resources and the project site's proximity to water sources, and poor visibility (>5%). Based on to the presence of cultural resources in the area surrounding the project site, general sensitivity, and poor surface visibility during the pedestrian survey, it is recommended that an Extended Phase I (XPI) testing program take place to explore the potential for buried cultural deposits if there are any earth disturbing activities proposed along the northern portion of the project site within an approximately 100-foot (30-meter) radius of the drainage, or in the northern potential off-site access improvement area.

The current zone change will not result in a significant impact to historical resources. However, future development activities may result in a significant impact. Therefore, we recommend the following measures for future development of the project site facilitated by the proposed rezone. Adherence to the following measures may reduce potential impacts to a less than significant level.

Extended Phase I

If ground disturbance will occur along the northern portion of the project site within an approximately 100-foot (30-meter) radius of the drainage, or in the northern potential off-site access improvement area, Rincon recommends an extended phase I (XPI) study. The XPI program may include limited testing with shovel test pits (STPs) within areas reasonably suspected to have a subsurface archaeological deposit. All archaeological excavation should be observed by a local Native American monitor. An XPI program is not intended to evaluate the significance of a resource. Should a subsurface deposit be found during an XPI program and cannot be avoided by project design, a Phase II evaluation program may be needed to determine if the current project would pose a significant impact to any such resource(s) If any resource(s) is identified as significant as part of the Phase II investigation, a Phase III data recovery program may be required if the resource(s) cannot be avoided.

Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983) should be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation and Native American consultation may be warranted to mitigate any significant impacts.

Unanticipated Discovery of Human Remains

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the county coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

1 Introduction

Rincon Consultants, Inc. (Rincon) was retained by the City of San Luis Obispo to conduct a cultural resources study for the 650 Tank Farm Road Project (project) in the City of San Luis Obispo, San Luis Obispo County, California. This cultural resources study included a cultural resources records search, Native American outreach, pedestrian field survey, and preparation of this technical report. This study has been prepared in conformance with the requirements of the California Environmental Quality Act (CEQA).

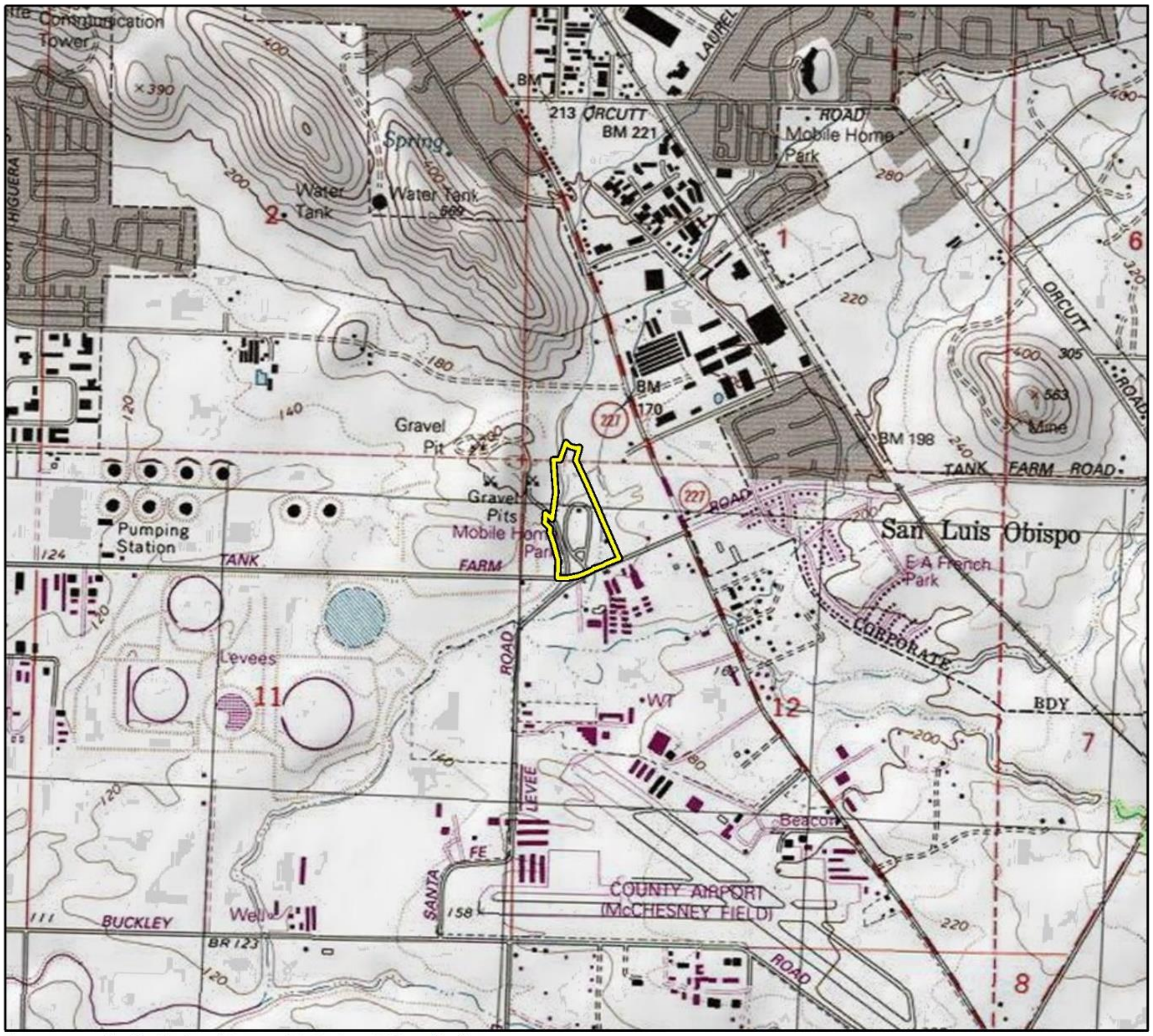
1.1 Project Location and Description

The project is located within Township 31 south, Range 12 east, and Sections 1 and 12 of the United States Geological Survey (USGS) *San Luis Obispo & Pismo Beach, CA* 7.5-minute quadrangles (Figure 1) on the north side of Tank Farm Road, west of Broad Street, and south of the Damon-Garcia Sports Complex (Figure 2). The project site is 12.75 acres currently in use as the Hidden Hills Mobilodge, a mobile home park, and the Lazy Acres RV Storage lot. The project applicant proposes to rezone the land into a mixed-use project site. Specifically, the rezone would be from 3.25 acres of Business Park (BP) land and 6.85 acres of Medium-Density (R-2) Residential land into 10.1 acres of Service Commercial land with a Specific Plan Overlay. The additional 2.65 acres of land within the project site that includes two creek corridors will remained zoned as Conservation Open Space. Future development on the project site could potentially include 17,500 square feet of commercial space and 249 residential units. In addition, the project proposes potential off-site access improvements including additional access points to the east and west, as well as a pedestrian path to the north.

1.2 Personnel

Rincon Archaeologist Meagan Szromba, M.A., Registered Professional Archaeologist (RPA) conducted the cultural resources records search, Native American outreach, pedestrian field survey, and is the primary author of this report. Rincon Archaeological Resources Program Manager and Principal Investigator Chris Duran, M.A., RPA managed this cultural resources study. Mr. Duran meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology (NPS 1983). Rincon Geographic Information Systems (GIS) Analysts Julia Wiswell and Allysen Valencia prepared the figures found in this report. Rincon Sr. Principal Duane Vander Pluym, D.Env., reviewed this report for quality control.

Figure 1 Project Location Map



Imagery provided by National Geographic Society, ESRI and its licensors © 2017. San Luis Obispo & Pismo Beach Quadrangle. T31S R12E S01,12. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

Study Area

0 1,000 2,000
Feet

N

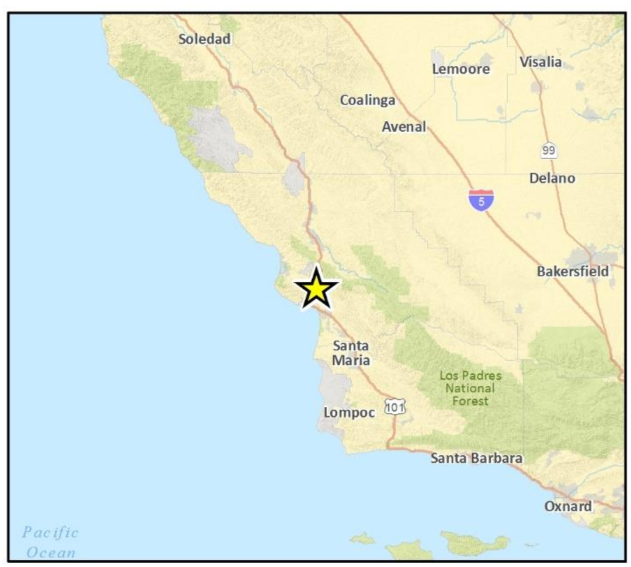


Figure 2 Project Site Map

Imagery provided by Google and its licensors © 2018.

2 Regulatory Setting

2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires a lead agency, in this case the City of San Luis Obispo, to determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]). A resource shall be considered *historically significant* if it meets any of the following criteria:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2) Is associated with the lives of persons important in our past;
3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4) Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required. PRC, Section 21083.2[a], [b], and PRC, Section 21083.2(g) defines a *unique archaeological resource* as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, the probability is high that it meets any of the following criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2) Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

2.1.1 Assembly Bill 52

As of July 1, 2015, California Assembly Bill (AB) 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." AB 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and meets either of the following criteria:

- Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. AB 52 requires that lead agencies "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

2.2 City of San Luis Obispo

In 2010, the City of San Luis Obispo passed a Historic Preservation Ordinance to identify and protect important historic resources within the city (City of San Luis Obispo 2010). When determining if a property should be designated as a listed Historic or Cultural Resource, the Cultural Heritage Commission (CHC) and City Council are to consider this ordinance as well as the State Historic Preservation Officer's standards. To be eligible for designation, the resource shall exhibit a high level of historic integrity, be at least fifty (50) years old (less than 50 if it can be demonstrated that enough time has passed to understand its historical importance), and satisfy at least one of the following criteria:

A. Architectural Criteria: Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.
   1. Style: Describes the form of a building, such as size, structural shape and details within that form (e.g. arrangement of windows and doors, ornamentation, etc.). Building style will be evaluated as a measure of:
      a. The relative purity of a traditional style.
      b. Rarity of existence at any time in the locale; and/or current rarity although the structure reflects a once popular style.
      c. Traditional, vernacular and/or eclectic influences that represent a particular social milieu and period of the community; and/or the uniqueness of hybrid styles and how these styles are put together.
   2. Design: Describes the architectural concept of a structure and the quality of artistic merit and craftsmanship of the individual parts. Reflects how well a particular style or combination of styles are expressed through compatibility and detailing of elements. Also, suggests degree to which the designer (e.g., carpenter-builder) accurately interpreted and conveyed the style(s). Building design will be evaluated as a measure of:

a. Notable attractiveness with aesthetic appeal because of its artistic merit, details and craftsmanship (even if not necessarily unique).

b. An expression of interesting details and eclecticism among carpenter-builders, although the craftsmanship and artistic quality may not be superior.

3. Architect: Describes the professional (an individual or firm) directly responsible for the building design and plans of the structure. The architect will be evaluated as a reference to:

   a. A notable architect (e.g., Wright, Morgan), including architects who made significant contributions to the state or region, or an architect whose work influenced development of the city, state or nation.

   b. An architect who, in terms of craftsmanship, made significant contributions to San Luis Obispo (e.g., Abrahams who, according to local sources, designed the house at 810 Osos - Frank Avila's father's home - built between 1927 – 30).

B. Historic Criteria

1. History – Person: Associated with the lives of persons important to local, California, or national history. Historic persons will be evaluated as a measure of the degree to which a person or group was:

   a. Significant to the community as a public leader (e.g., mayor, congress member, etc.) or for his or her fame and outstanding recognition - locally, regionally, or nationally.

   b. Significant to the community as a public servant or person who made early, unique, or outstanding contributions to the community, important local affairs or institutions (e.g., council members, educators, medical professionals, clergymen, railroad officials).

2. History – Event: Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States. Historic event will be evaluated as a measure of:

   a. A landmark, famous, or first-of-its-kind event for the city - regardless of whether the impact of the event spread beyond the city.

   b. A relatively unique, important or interesting contribution to the city (e.g., the Ah Louis Store as the center for Chinese-American cultural activities in early San Luis Obispo history).

3. History-Context: Associated with and also a prime illustration of predominant patterns of political, social, economic, cultural, medical, educational, governmental, military, industrial, or religious history. Historic context will be evaluated as a measure of the degree to which it reflects:

   a. Early, first, or major patterns of local history, regardless of whether the historic effects go beyond the city level, that are intimately connected with the building (e.g., County Museum).

   b. Secondary patterns of local history, but closely associated with the building (e.g., Park Hotel).

C. Integrity: Authenticity of a historical resource's physical identify evidenced by the survival of characteristics that existed during the resource's period of significance. Integrity will be evaluated by a measure of:

1. Whether or not a structure occupies its original site and/or whether or not the original foundation has been changed, if known.
2. The degree to which the structure has maintained enough of its historic character or appearance to be recognizable as an historic resource and to convey the reason(s) for its significance.
3. The degree to which the resource has retained its design, setting, materials, workmanship, feeling and association.

3 Background

3.1 Prehistoric Overview

The project site lies in what is generally described as the Central Coast archaeological region, one of eight organizational divisions of the state (Jones and Klar 2007, Moratto 1984: Fig. 1). The Central Coast archaeological region extends from Monterey Bay to Morro Bay, and includes the County of San Luis Obispo. Following Jones and Klar (2007:137), the prehistoric cultural chronology for the Central Coast can be generally divided into six periods: Paleo-Indian (ca. 10,000–6,000 B.C.), Milling Stone (6,000-3,000 B.C.), Early and Early-Middle Transition (3,000-600 B.C.), Middle (600 B.C.- A.D. 1000), Middle-Late Transition (A.D. 1000-A.D. 1250), and Late (A.D. 1250-historic contact [ca. A.D. 1769]).

Several chronological sequences have been devised to understand cultural changes along the Central Coast from the Millingstone Period to contact. Jones (1993) and Jones and Waugh (1995) presented a Central Coast sequence that integrated data from archaeological studies conducted since the 1980s. Three periods, including the Early, Middle, and Late periods, are presented in their prehistoric sequence subsequent to the Millingstone Period. More recently, Jones and Ferneau (2002:213) updated the sequence following the Millingstone Period as follows: Early, Early-Middle Transition, Middle, Middle-Late Transition, and Late periods. The archaeology of the Central Coast subsequent to the Millingstone Period is distinct from that of the Bay Area and Central Valley. The region has more in common with the Santa Barbara Channel area during the Middle and Middle-Late Transition periods, but few similarities during the Late period (Jones & Ferneau 2002:213).

3.1.1 Paleo-Indian Period (10,000 – 6000 B.C.)

When Wallace (1955, 1978) developed the Early Man horizon in the 1950s (referred to herein as the Paleo-Indian Period), little evidence of human presence was known for the southern California coast prior to 6000 B.C. Archaeological work in the intervening years has identified a number of older sites, including coastal and Channel Islands sites (e.g., Erlandson 1991; Johnson et al. 2002; Moratto 1984).

The earliest accepted dates for human occupation along the Central Coast were recovered from archaeological sites on two of the Northern Channel Islands, located off the southern coast of Santa Barbara County. On San Miguel Island, archaeological evidence from the Daisy Cave site establishes the presence of people in this area approximately 10,000 years ago (Erlandson 1991:105). On Santa Rosa Island, human remains have been dated from the Arlington Springs site to approximately 13,000 years ago (Johnson et al. 2002). In San Luis Obispo County, archaeological sites CA-SLO-1764 (Lebow et al. 2001), Cross Creek (CA-SLO-1797; Fitzgerald 2000), and CA-SLO-832 (Jones et al. 2001) yielded radiocarbon dates from approximately 9,000 years ago (Jones and Ferneau 2002).

Recent data from Paleo-Indian sites in southern California indicate that the economy was a diverse mixture of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (e.g., Jones and Ferneau 2002). Although few Clovis-like or Folsom-like fluted projectile points have been found in southern California (e.g., Erlandson et al. 1987), the emphasis on hunting may have been greater during the Paleo-Indian period than during later periods. A fluted projectile point fragment was recovered from site CA-SBA-1951 on the Santa Barbara Channel coastal plain (Erlandson 1994:44; Erlandson et al. 1987). Another fluted projectile point was reportedly found on the surface in Nipomo, San Luis Obispo County (Mills et al. 2005; Jones and Klar 2007).

Large side-notched projectile points of the Central Coast Stemmed series in this area date to as early as 8,000 years ago (Justice 2002). Points of this type have been recovered along the Central Coast from sites such as Diablo Canyon (CA-SLO-2; Greenwood 1972), Cross Creek (CA-SLO-1797; Fitzgerald 2000), Little Pico Creek (CA-SLO-175; Jones and Waugh 1995), and the Honda Beach site (CA-SBA-530; Glassow 1997), among others. The Metcalf site (CA-SCL-178; Hildebrandt 1983), in southern Santa Clara Valley, yielded two large side-notched projectile points associated with charcoal dates ranging from 9,960 – 8,500 years ago.

3.1.2 Milling Stone Horizon (6000 – 3000 B.C.)

The Milling Stone Horizon, as described by Wallace (1955, 1978), is characterized by an ecological adaptation to collecting plant resources, such as seeds and nuts, suggested by the appearance and abundance of well-made milling (ground stone) implements. The dominance of milling implements is generally associated with the horizontal motion of grinding small seeds and nuts and lends to the name Milling Stone Horizon.

Rogers (1929) originally identified the Milling Stone Horizon along the Santa Barbara Channel in 1929. Excavations at the Tank Site (CA-LAN-1) in Topanga Canyon from 1947 to 1948 (Treganza and Bierman 1958) confirmed the presence of a significant number of milling implements that correspond with the Milling Stone Horizon identified by Rogers in 1929. Wallace (1955, 1978) further defined the Horizon, which was recognized on the Central Coast by Greenwood (1972). The Cross-Creek site (CA-SLO-1797) is a Milling Stone occupation site in San Luis Obispo County that returned radiocarbon dates ranging between 9,500 – 4,700 years ago. This site represents one of the oldest expressions of the pattern (Jones et al. 2007; Fitzgerald 2000:58).

Wallace (1955, 1978) and Warren (1968) identify ground stone implements including milling stones (e.g., metates, milling slabs, or mortars) and hand stones (e.g., manos, mullers, or pestles). Milling stones occur in high frequencies for the first time in the archaeological record of the Central Coast region and become even more prevalent near the end of the Milling Stone Horizon. Flaked stone assemblages, which include crude core and cobble-core tools, flake tools, large side-notched projectile points, and pitted stones (Jones et al. 2007), and shell middens in coastal sites suggest that people during this period practiced a mixed food procurement strategy. Faunal remains identified at Milling Stone sites point to broad-spectrum hunting and gathering of shellfish, fish, birds, and mammals, though large faunal assemblages are uncommon. This mixed food procurement strategy demonstrates adaptation to regional and local environments.

Along the Central Coast, Milling Stone Horizon sites are most common on terraces and knolls, typically set back from the current coastline (Erlandson 1994:46). However, 42 sites have been identified in various settings such as rocky coasts, estuaries, and nearshore interior valleys (Jones and Klar 2007). The larger sites usually contain extensive midden deposits, possible subterranean house pits, and cemeteries. Most of these sites probably reflect intermittent use over many years of local cultural habitation and resource exploitation.

3.1.3 Early Period and Early-Middle Transition Period (3000 – 600 B.C.)

Although Jones and Ferneau (2002:213) have distinguished an Early-Middle Transition period, it is not well defined and is difficult to observe in the archaeological record. Thus, the transition phase is included in the following discussion of the sites and characteristics recognized for the Early Period in the Central Coast region.

A high frequency of shoreline midden deposits has been identified in the Central Coast region dating to the Early Period. This suggests that population numbers increased from the Milling Stone Horizon to the Early Period along the Central Coast (Jones 1995; Jones and Waugh 1995, 1997). Archaeological sites dating to the Early Period include CA-SLO-165 in Estero Bay, and CA-MNT-73, CA-MNT-108, and CA-MNT-1228 in Monterey Bay.

The material culture recovered from Early Period sites within the Central Coast region provides evidence for continued exploitation of inland plant and coastal marine resources. Artifacts include milling slabs and handstones, as well as mortars and pestles, which were used for processing a variety of plant resources. Bipointed bone gorge hooks were used for fishing. Assemblages also include a suite of Olivella beads, bone tools, and pendants made from talc schist. Square abalone shell (Haliotis spp.) beads have been found in Monterey Bay (Jones and Waugh 1997:122).

Shell beads and obsidian are hallmarks of the trade and exchange networks of the central and southern California coasts. The archaeological record indicates that there was a substantial increase in the abundance of obsidian at Early Period sites in the Monterey Bay and San Luis Obispo areas (Jones and Waugh 1997:124–126). Obsidian trade continued to increase during the following Middle period. Flaked stone artifact assemblages from Early Period sites include Central Coast Stemmed Series and side-notched projectile points. Square-stemmed and side-notched points were recovered from deposits at Willow Creek (CA-MNT-282) in Big Sur and Little Pico II (CA-SLO-175) on the San Luis Obispo coast (Jones and Ferneau 2002). This projectile point style trend, first identified by David Banks Rogers in 1929, was confirmed by Greenwood (1972) at Diablo Canyon. The projectile point trend has become apparent at numerous sites throughout the Central Coast. In many cases, manifestations of this trend are associated with the establishment of new settlements (Jones et al. 2007).

3.1.4 Middle Period (600 B.C. – A.D. 1000)

The Middle Period describes a pronounced trend toward greater adaptation to regional or local resources as well as the development of socioeconomic and political complexity in prehistoric populations (Glassow et al. 2007). The remains of fish, land mammals, and sea mammals are increasingly abundant and diverse in archaeological deposits along the coast.

Coastal populations developed shell fishhooks, and projectile points changed from side-notched dart points to contracting stem styles. Flaked stone tools used for hunting and processing—such as large side-notched, stemmed, lanceolate or leaf-shaped projectile points, large knives, edge modified flakes, and drill-like implements—occurred in archaeological deposits in higher frequencies and are more morphologically diversified during the Middle Period. Bone tools, including awls, are more numerous than in the preceding period, and the use of asphaltum adhesive became common. Circular fish hooks that date from between 1000 and 500 B.C., compound bone fish hooks that date between A.D. 300 and 900, notched stone sinkers, and the tule reed or balsa raft, indicative of complex maritime technology, became part of the toolkit during this period (Arnold 1995; Glassow et al. 2007; Jones and Klar 2005:466; Kennett 1998:357; King 1990:87–88).

Populations continued to follow a seasonal settlement pattern until the end of the Middle Period; large, permanently occupied settlements with formal architecture, particularly in coastal areas, appear to have been the norm by the end of the Middle Period (Glassow et al. 2007; Kennett 1998). Prehistoric populations began to bury the deceased in formal cemeteries with artifacts that may represent changes in ideology and the development of ritual practices (Glassow et al. 2007).

3.1.5 Middle-Late Transition Period (A.D. 1000 – 1250)

The Middle-Late Transition period is marked by major changes in settlement patterns, diet, and interregional exchange. Prehistoric populations continued to occupy more permanent settlements, with the continued use of formal cemeteries and the burial of goods with the deceased. The manufacture of the plank canoe, or *tomol*, allowed coastal prehistoric populations to catch larger fish that occupied deeper sea waters (Glassow et al. 2007). Following the introduction of the plank canoe, populations began to use harpoons. The plank canoe appears to have influenced "commerce between the mainland coast and the Channel Islands," and fish remains indicate "a noticeable increase in the acquisition of large deep-sea fish such as tuna and swordfish" (Glassow et al. 2007:204). Projectile points diagnostic of both the Middle and Late periods are found in Northern Bight archaeological sites (Glassow et al. 2007:204). These projectile points include large, contracting-stemmed types typical of the Middle Period, as well as small, leaf-shaped Late Period projectile points, which likely reflect the introduction of the bow and arrow. Middle-Late Transition Period sites indicate that populations replaced atlatl (dart) technologies with the bow and arrow, which required smaller projectile points.

3.1.6 Late Period (A.D. 1250 – Historic Contact)

Late Period archaeological sites indicate sociopolitical and economic complexity among populations in the Northern Bight. Glassow et al. (2007: 205) explain that "sometime between cal A.D. 1200 and 1300 a ranked society emerged." Climatic change may have stimulated the development of specialized crafts, regional trade, and changes in food procurement.

Late Period sites are distinguished by small, finely-worked projectile points and temporally diagnostic shell beads. These shell beads were used as monetary currency to trade with inland populations. Trade brought many maritime goods, such as fish, shellfish, and steatite bowls to inland locations, such as CA-SBA-3404, CA-SBA-485, and CA-SBA-2358, particularly during the latter part of the Late Period. Small, finely-worked projectile points are typically associated with bow and arrow technology, which is believed to have been introduced to the area by the Takic migration from the deserts into southern California.

Unlike the large Middle period shell middens, Late Period sites are more frequently single-component deposits. There are also more inland sites, with fewer and less visible sites along the Pacific shore during the Late Period. The settlement pattern and dietary reconstructions indicate a lesser reliance on marine resources than observed for the Middle and Middle-Late Transition periods, as well as an increased preference for deer and rabbit (Jones 1995). An increase in the number of sites with bedrock mortar features that date to the Late Period suggests that nuts and seeds began to take on a more significant dietary role in Late Period populations.

3.2 Ethnographic Overview

The project site lies within Chumash ethnographic territory, which extends from the current City of Malibu, north beyond San Luis Obispo, and inland as far as 68 km (42 miles) and includes the northern Channel Islands (Glassow 1996:13). Chumash is the term used for the family of closely related Chumashan languages spoken by the populations in this region. These languages have been divided into two broad groups—Northern Chumash (consisting only of Obispeño) and Southern Chumash (Purisimeño, Ineseño, Barbareño, Ventureño, and Island Chumash) (Mithun 1999:389). Groups neighboring the Chumash included the Salinan to the north, the Southern Valley Yokuts and Tataviam to the east, and the Gabrielino (Tongva) to the south. Chumash place names in the project vicinity include *Pismu* (Pismo Beach), *Tematatimi* (along Los Berros Creek), and *Tilhini* (near San Luis Obispo) (Greenwood 1978:520).

Based on the little ethnographic information available, only a general outline of the lifeways of the Obispeño Chumash, so called after their historic period association with Mission San Luis Obispo de Tolosa (Gibson 1983; Kroeber 1976), is known (Greenwood 1978). Although their language was closer to Southern Chumash groups, the material culture and lifeways of the Northern Chumash appear to have been more similar to their northern neighbors, the Salinan. Accordingly, their populations in this area are thought to have been substantially smaller than in the Santa Barbara Channel area, their villages smaller, and their livelihood less based on intensive use of marine fisheries (Glassow et al. 1988; Greenwood 1978).

Chumash villages generally ranged between 30 and 200 people, with the largest settlements numbering anywhere from 500 to 800 people (Glassow 1996:14). Permanent Chumash villages included hemispherical dwellings arranged in close groups, with the chief having the largest for social obligations (Brown 2001). Each Chumash village had a formal cemetery marked by tall painted poles and often with a defined entrance area (Gamble et al. 2001:191). Archaeological studies have identified separate sections for elite and commoner families within the cemetery grounds (King 1969).

The Chumash also lived in temporary special-purpose camps throughout the year to acquire seasonal resources (Glassow 1996:14). The acorn was a dietary staple for the mainland Chumash, though its dominance varied by coastal or inland location. Chumash diet also included cattail roots, fruits and pads from cactus, and bulbs and tubers of plants such as amole (soap plant) (Miller 1988:89). On the coast, populations used *tomols* to procure marine mammals and fish. The *tomol* not only facilitated marine resource procurement but also facilitated an active trade network maintained by frequent crossings between the mainland and the Channel Islands.

Spanish explorers first arrived in the Santa Barbara Channel region in 1542, moving north into the San Luis Obispo region by 1769. Spanish contact led to drastic population decline and culture loss. Though the Chumash languages are no longer commonly spoken (Timbrook 1990), many descendants of the Chumash still live in the region and a cultural revitalization has been ongoing since the twentieth century (Glassow et al. 2007:191).

Chumash populations were decimated by the effects of European colonization and missionization (Johnson 1987). Traditional lifeways largely gave way to laborer jobs on ranches and farms in the Mexican and early American periods. Today, the Santa Ynez Band of Chumash Indians is the only federally recognized Chumash tribe, though many people of Chumash descent continue to live throughout their traditional territory.

3.3 Historic Overview

Post-European contact history for California is generally divided into three periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present). The Spanish Period brought the establishment of the California mission system, while the Mexican Period is largely known for the division of the land of California into private land holdings. Following the Mexican-American war, the United States purchased California from Mexico; population of the state subsequently increased, particularly during the Gold Rush.

3.3.1 Spanish Period (1769 – 1822)

Europeans first visited the Santa Barbara Channel region with the Cabrillo Expedition in October of 1542 (Chesnut 1993). In 1587, Pedro de Unamuno landed in an area that is most likely Morro Bay, but suffered casualties during an attack by Native Americans and left (Bean 1968). Sebastian Rodriguez Cermeño entered the San Luis Obispo region in 1595 as part of his exploration of the Alta California coast (Jones et al. 1994). Another Spanish expedition, consisting of two ships under the command of Sebastian Vizcaino, arrived in the Santa Barbara area in 1602. In the 1760s, the Spanish government established a presidio and mission in Santa Barbara (Weber 1982, 1992). The earliest detailed descriptions of the area come from members of Gaspar de Portolá's land expedition, which passed through the region in 1769 (Squibb 1984). Gaspar de Portolá and Franciscan Father Junípero Serra established the first Spanish settlement in Alta California at Mission San Diego de Alcalá in 1769. Portolá continued north, passing through the project vicinity and reaching San Francisco Bay in 1769. Mission San Luis Obispo de Tolosa was founded in 1772, the fifth of 21 missions established by the Spanish in Alta California (Rolle 2003). Early travelers in the Central Coast region reported seeing no large Native American villages like those noted in the Santa Barbara Channel area.

3.3.2 Mexican Period (1822 – 1848)

Mexico's revolution against Spain achieved success in 1821. News of the victory reached California in 1822, marking the beginning of the Mexican period. The hallmarks of the Mexican period are the secularization of the missions, completely accomplished by 1836, and a greater distribution of private land grants to prominent citizens, including retired military personnel. The Secularization Act of 1833 enabled Mexican governors in California to distribute former mission lands to individuals in the form of land grants.

The land around Laguna Lake in San Luis Obispo was originally part of a rancho associated with the Mission San Luis Obispo de Tolosa. In 1844 Governor Manuel Micheltorena granted the Church one square league or approximately 4,157 acres of land in the place called Laguna (Engelhardt 1915). In 1845 Governor Pio Pico sold the remaining mission lands and buildings to Captain John Wilson and his partners Scott and McKinley $500 (Angel 1883). The distribution of lands following secularization of the missions resulted in the granting of 40 ranchos in what is today San Luis Obispo County (San Luis Obispo County Genealogical Society 2015). The Mexican ranchos were primarily utilized to raise cattle herds and for farming (HRG 2013).

3.3.3 American Period (1848 – Present)

The American Period began with the signing of the Treaty of Guadalupe Hidalgo in 1848, which marked the end of the United States' war with Mexico. The United States agreed to pay Mexico $15 million for the conquered territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. The existing Mexican land grants were expected to be recognized, but over time, as settlement increased throughout the state, disputes arose between rancheros and settlers. Rancho owners expended money and effort attempting to defend their land holdings. The California territory officially became a state in 1850 and the County of San Luis Obispo was established as one of the state's original 27 counties.

3.3.4 San Luis Obispo

In 1850, William Hutton was authorized to survey and lay out the town of San Luis Obispo. The community's economy was based primarily on agricultural development, with a strong focus on cattle ranching and dairy operations (Angel 1883). The region suffered a severe drought between the years of 1862 and 1864 which decimated the cattle herds (HRG 2013). Rancheros struggled with this loss of income, debt, and costs incurred from legally defending their land under the new American law. As a result, many of the rancho lands were sold or lost, but most were subdivided into agricultural parcels or towns. By April 1887, an estimated 3,000 to 4,000 people inhabited the region, and land prices increased dramatically.

In 1894, the Southern Pacific Railroad completed a line from San Jose to San Luis Obispo encouraging trade and further settlement of the region. By the late 1800s, the City of San Luis Obispo had grown into a bustling community and served as a center of trade for central California, as it was surrounded by the agricultural and dairy industries of the region and by Union Oil of California's oil fields (City of San Luis Obispo 2013). As the population increased in the town, Laguna Lake became a popular area for duck hunting and black bass were stocked in the lake. By 1896 farmers around the lake, growing mostly barley at that time, posted "No Hunting Allowed" signs throughout the area, as the popularity of the lake became troublesome to the surrounding landowners (Tognazzini 1996).

California Polytechnic State University (Cal Poly) was established in 1901 leading to further development focused around the campus and drastically influencing the development of greater San Luis Obispo throughout the 20th century. Additionally, in the early twentieth century, Port Harford was renamed Port San Luis, and oil from the Santa Maria and Taft-Coalinga fields was shipped beginning in 1907 and 1913, respectively. With the advent of the automobile, tourism became an important player in the regional economy. Landmarks such as Mission San Luis Obispo and the nearby Hearst Castle added to the tourism industry, and the first motel in the country, the Milestone Mo-tel, was built in 1924.

In the 1930s, the economic effects of the Great Depression were slowed with the county's agriculture and ranching production, as well as the construction and establishment of Camp San Luis Obispo, a military training camp. The establishment of the camp led to increased population as more soldiers and their families moved to the area, particularly at the start of World War II, when the U.S. War Department transferred nearly 100,000 military personnel to bases at Morro Bay, Cambria, Camp Roberts, and Camp San Luis Obispo. Post-World War II saw an increased demand for single-family housing, leading to various expansions of the city's boundaries and the construction of large residential subdivisions throughout the 1950s and 1960s (HRG 2013). San Luis Obispo today continues to maintain its agricultural roots while providing a small-town community feel to its residents.

4 Records Search and Outreach

4.1 Cultural Resources Records Search

On October 24, 2017, Rincon performed a search of the California Historical Resources Information System (CHRIS) from the Central Coast Information Center (CCIC) located at the University of California, Santa Barbara. The search was conducted to identify previously recorded cultural resources (prehistoric or historic), as well as previously conducted cultural resources studies within the project site and 0.5-mile radius of surrounding it. The CHRIS search included a review of the National Register of Historic Places and the California Register of Historical Resources. The records search also included a review of available historic maps and aerial photographs (Appendix A).

The CCIC records search identified 8 previously recorded cultural resources within the records search area (Table 1). None of these resources are located within the current project site.

Table 1 Previously Recorded Cultural Resources

Primary Number	Trinomial	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status	Relationship to Project Site
P-40-000785	CA-SLO-785	Prehistoric site	Shell scatter	Charles E. Dills 1984	Not evaluated	Outside
P-40-001427	CA-SLO-1427	Prehistoric site	Bedrock mortars, stone tools and debitage	Charles E. Dills 1990; Mary Maki 2000; Clay A. Singer 2000	Not evaluated	Outside
P-40-002002	CA-SLO-2002	Prehistoric and site	Bone, shell, lithics, fire-affected rock, glass and ceramic sherds	Larry Carbone 1999	Not evaluated	Outside
P-40-002044	CA-SLO-2044	Prehistoric site	Shell scatter	L. Leach-Palm, D. Miller, P. Woltz, C. Lowgren 1999	Not evaluated	Outside
P-40-002103	CA-SLO-2103H	Historic site	Trash scatter	L. Leach-Palm and S. Mikesell 1999	Not evaluated	Outside
P-40-041008	N/A	Historic building	Log Cabin	BBRC 2000	Nominated	Outside
P-40-041026	N/A	Historic property	House and water tower	L. Leach-Palm, S. Mikesell 1999	Not evaluated	Outside
P-40-041031	N/A	Historic property	House	L. Leach-Palm and S. Mikesell 1999	Not evaluated	Outside

Source: Central Coast Information Center 2017

The CCIC records search additionally identified 44 previously conducted cultural resources studies within the records search area (Table 2). Of these, two studies included a portion of the project site. Neither of these studies identified any cultural resources within the current project site.

Table 2 Previously Conducted Cultural Resources Studies

Report Number	Author(s)	Year	Title	Relationship to Project Site
SL-00006	Hoover, R.	1978	Addendum to Airport Report	Outside
SL-00007	Hoover, R.	1977	Airport Extension Letter Report	Outside
SL-00098	Dills, C.	1977	Islay Hill to Broad Street and Industrial Way, Archaeological Potential of Proposed Development Area	Outside
SL-00138	Dills, C.	1975	Information to aid in Interpretive Planning Map for San Luis Obispo (city) and Environs	Outside
SL-00140	Hoover, R.	1979	Archaeological Reconnaissance, Cheapskate Hill Subdivision, City of SLO	Outside
SL-00151	Breece, W.	1979	Archaeological Test Program at CA-SLO-785	Outside
SL-00326	Haversat, T. and G. Breschini	1981	Preliminary Archaeological Reconnaissance of Nine Proposed Early Warning Siren Locations in SLO County, CA and Preliminary Archaeological Reconnaissance of Several Additional Early Warning	Outside
SL-01306	Singer, C. and J. Atwood	1988	Cultural Resources Survey and Impact Assessment for the Proposed SLO Creek Project near the City of San Luis Obispo, San Luis Obispo County, California	Outside
SL-01307	Dills, C.	1989	Letter Report: Archaeological Potential of Volny Property on Highway 227, San Luis Obispo	Outside
SL-01308	Dills, C.	1989	Letter Report: Archaeological Potential of Ross Property on Highway 227, San Luis Obispo	Outside
SL-01577	Dills, C.	1990	Archaeological Potential of Highway Frontage for Rossetti Property	Outside
SL-01643	Engineering-Science, Inc.	1988	Draft Hazardous Waste Management Plan, Environmental Impact Report	Within
SL-02363	Gibson, Robert O.	1993	Inventory of Cultural Resources for the Water Reclamation Project, City of San Luis Obispo, CA	Outside
SL-02506	Parker, J.	1993	Cultural Resource Investigation of the Proposed State Farm Service Center San Luis Obispo	Outside
SL-02705	Dills, C.	1994	Archaeological Potential of Marigold Project on Broad Street at Tank Farm	Outside
SL-02714	Bertrando, E.	1994	Historical Survey and Significance Determination for Structures Impacted by the Marigold Project	Outside

Report Number	Author(s)	Year	Title	Relationship to Project Site
SL-02729	Parker, J.	1993	Cultural Resource Investigation of the Proposed State Farm Service Center San Luis Obispo	Outside
SL-03366	Conway, Thor	1997	Phase I Archaeological Survey of 3450 Broad Street, San Luis Obispo	Outside
SL-03556	Singer, Clay	1998	Cultural Resources Survey and Impact Assessment for Six Parcels along El Capitan Way in San Luis Obispo County, California	Outside
SL-03745	Singer, Clay	1999	Cultural Resources Survey and Impact Assessment for 11 Acres on Santa Fe Road [Parcel Map Coal-87-311] in San Luis Obispo County, California	Outside
SL-03774	Conway, Thor	1999	Phase I Archaeological Survey of the Muscarella Property, Fuller Road, San Luis Obispo, California	Outside
SL-03780	Conway, Thor	1999	Phase I Archaeological Survey of Annexation #56, Aerovista Place and Airport Way, San Luis Obispo, California	Outside
SL-03919	Shepard, Richard	2000	Archaeological Test Report for the Level 3 Communications 3R D-Node Property, City of San Luis Obispo, San Luis Obispo, California	Outside
SL-03932	Conway, Thor	1999	Phase I Archaeological Survey of the Lathrop Property, Broad St., San Luis Obispo Co., CA	Outside
SL-03938	Conway, Thor	1999	Phase I Archaeological Survey of Gateway Center, Tank Farm Road and Broad Street, San Luis Obispo, California	Outside
SL-03939	Conway, Thor	1999	Phase I Archaeological Survey of the Sacramento Commercial Project, Sacramento Commercial Project, Sacramento Drive, San Luis Obispo, CA	Outside
SL-04035	Bertrando, Ethan and Betsy Bertrando	2000	Cultural Resource Inventory of the Log Cabin Parcel, P#40-041008, Southeast Corner of El Capitan Way and Broad Street, San Luis Obispo, CA	Outside
SL-04065	Conway, Thor	2000	Phase I Archaeological Survey of Tract 2372, Fuller Road Area, San Luis Obispo, CA	Outside
SL-04073	Maki, Mary K.	2000	Phase I Archaeological Survey and Impact Assessment of 23.5+ Acres with an Extended Phase I Subsurface Testing Program at CA-SLO-1427 for the Damon Garcia Sports Complex Project, SLO	Outside
SL-04302	Mason, Roger D., Bruce E. Lander and Richard S. Shepard	1999	Cultural Resources Survey Report and Paleontological Resources Literature Review Report for Level 3 Long Haul Fiber Optic Project: San Luis Obispo 3R D-Node, in the City of San Luis Obispo	Outside

Report Number	Author(s)	Year	Title	Relationship to Project Site
SL-04303	Shepard, Richard S. and Roger D. Mason	1999	Cultural Resources Survey Report for the Level 3 Fiber Optic Project: WS06 Connection to San Luis Obispo 3R Facility and Los Osos Loop Connection Corridor, San Luis Obispo County, CA	Outside
SL-04446	Conway, Thor	2001	Extended Archaeological Surface Survey at Highway 227 and Fuller Road (Post Mile 9.2-9.35), San Luis Obispo, San Luis Obispo County, California	Outside
SL-04852	Gibson, R.	2001	Results of Archival Records Search and Phase One Archaeological Surface Survey for the Water Refuse Project, City of San Luis Obispo, CA	Outside
SL-05130	Conway, Thor	2004	An Archaeological Survey for the Ricardo Court Project, San Luis Obispo, San Luis Obispo County, California	Outside
SL-05298	Singer, Clay	2000	Archaeological Investigations at CA-SLO-1427: An Evaluation of Cultural Resources at the Proposed Damon Garcia Sports Complex in the City of San Luis Obispo	Outside
SL-05328	Conway, Thor	2005	Phase II Archaeological Testing at the Cinderella Carpet One Project, 3510 Broad Street, San Luis Obispo, San Luis Obispo County, California	Outside
SL-05397	Conway, Thor	2004	An Archaeological Survey for 3510 Broad Street, San Luis Obispo, San Luis Obispo County, California	Outside
SL-05418	Maki, Mary K.	2004	Historic Properties Survey Report for the Tank Farm Road Safety and Operational Improvements Project in San Luis Obispo, San Luis Obispo County, California	Within
SL-05418A	Maki, Mary K.	2004	Archaeological Survey Report for the Tank Farm Road Safety and Operational Improvements Project in San Luis Obispo, San Luis Obispo County, California	Outside
SL-05418B	Maki, Mary K.	2004	Appendix A: Central Coast Information Center Record Search, Appendix B: Native American Consultation	Outside
SL-05502	Singer, Clay A.	2005	Cultural Resources Survey and Impact Assessment for 6.2 Acre Property at 4450 Broad Street in the City of San Luis Obispo, California (APN 053-412-004)	Outside
SL-05601	McLean, Roderic N.	2005	Cultural Resources Inventory, Relocation of 13 Diablo Canyon Power Plant Emergency Sirens, San Luis Obispo County, California	Outside

Report Number	Author(s)	Year	Title	Relationship to Project Site
SL-05923	Gibson, Robert O.	1999	Results of Phase One Archaeological Surface Survey and Record Review for the Gateway Business Park Project Along Highway 227, San Luis Obispo County, CA	Outside
SL-06154	Conway, Thor	2008	An Archaeological Surface Survey at the Unocal San Luis Obispo Tank Farm, San Luis Obispo, San Luis Obispo, California	Outside

Source: Central Coast Information Center 2017

4.2 Native American Outreach

Rincon contacted the Native American Heritage Commission (NAHC) on October 20, 2017 to request a Sacred Lands File (SLF) search of the project site and a contact list of Native Americans culturally affiliated with the project site that may have knowledge of cultural resources within the area. The NAHC responded on October 31, 2017 stating that the results of the SLF search was positive and provided the telephone number of the Salinan Tribe of Monterey and San Luis Obispo Counties, whom they recommended be contacted for more information. The NAHC additionally provided a list of 10 groups and/or individuals who may have cultural resources concerns for the project. Rincon sent letters to these 10 contacts and left a voice message for the Salinan Tribe of Monterey and San Luis Obispo Counties on October 31, 2017.

On November 11, 2017, Fred Collins of the Northern Chumash Tribal Council contacted Rincon requesting a copy of the report prepared for the project and stated he would review and make comments on the document. Rincon responded on the same day stating that the report was not yet complete but would coordinate gaining permission from the City of San Luis Obispo to send him a final copy of the report.

On November 11, 2017, Patti Dunton of the of the Salinan Tribe of Monterey and San Luis Obispo Counties contacted Rincon regarding a recorded Sacred Site to the [redacted] of the project site at [redacted], but stated that she was unaware of any cultural resources within the project site. Ms. Dunton requested Native American monitoring for the project given the proximity of the Sacred Site to the project location and asked for a copy of the report.

Freddie Romero of the Santa Ynez Band of Chumash Indians contacted Rincon on November 14, 2017 to verify if local Tribes had been notified of the project, and deferred comments to these local groups.

As of November 27, 2017, Rincon has not received any responses from Native American contacts regarding Sacred Lands or cultural resources within the project area.

Rincon assisted the City of San Luis Obispo with AB 52 consultation by providing instructions, legislation information, draft letters, a project location map, and a correspondence tracking sheet to be used during consultation. Letters were sent to each of the groups listed on the NAHC's Tribal Consultation list on November 15, 2017. The City has not received any requests for consultation from any of these groups regarding the proposed project.

5 Field Survey

5.1 Methods

Rincon conducted a pedestrian field survey of the 12.75-acre project site on October 30, 2017, and on August 18, 2018 for the potential off-site access improvements. The survey was performed using transect intervals spaced no greater than 15 meters apart moving from south to north, west to east, throughout the project site. All exposed ground surfaces were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and drainages were also visually inspected.

In addition to the pedestrian survey, Rincon also consulted historic aerials (NETR 2017; UCSB 2018) to identify any structures that have been in place for at least 50 years within the project site or as part of off-site access improvements.

5.2 Results

The project site is developed to the south with the Hidden Hills Mobilodge, to the north by the Lazy Acres RV Storage lot, and to the west and the east by seasonal creek corridors.

The Mobilodge is mostly paved with concrete apart from community lawn areas and the yards of personal residences (Figures 3 and 4). Visibility of native ground surfaces throughout the mobile home park was poor, ranging from zero to 30 percent, due to prior development on the property.

Areas associated with potential off-site access improvements were largely covered by vegetation. Overall visibility was poor (less than 5%) throughout. During the survey a prefabricated pipe installed to serve as a makeshift culvert was noted, but it was determined to not warrant evaluation as it is a prefabricated apparatus and not a built environment resource (Figure 3). The northern edge of the project site was near Acacia Creek and surrounding area was completely covered up to 7 feet by vegetation.

On the proposed eastern off-site access improvement, APN 053-421-004 contained a single-family residence that was constructed ca. 1940s, according to historic aerial imagery (NETR 2017; UCSB 2018).

Figure 4   Hidden Hills Mobilodge, Facing Northeast

Figure 5 Community Lawn Area, Facing Northwest

The Lazy Acres RV Storage lot is additionally paved with concrete and gravel throughout its entirety and contains several RVs and other vehicles staged throughout the area (Figure 5). No native ground surfaces could be identified.

Figure 6 Lazy Acres RV Storage Lot, Facing Northeast

The western creek corridor was overgrown with trees and brush and contained dead vegetation covering the ground surface, reducing visibility to approximately 50 percent (Figure 6). The western creek did not contain any stagnant or flowing water within it.

Figure 7   Western Creek Corridor, Facing North

The eastern creek corridor was also overgrown with brush, and visibility was approximately 50 percent (Figure 7). A small pool of stagnant water was present in this creek.

Figure 8 Eastern Creek Corridor, Facing South

Figure 9 Eastern Creek Corridor, Facing South

Figure 10 660 Tank Farm Road

The pedestrian field survey did not identify any cultural resources within the project site.

6 Findings and Recommendations

The results of the cultural resources records search, Native American outreach, and pedestrian field survey conducted by Rincon did not identify any prehistoric cultural resources within the project site or within any part of the off-site access improvements. The record search did identify prehistoric archaeological sites within a 0.5-mile radius of the northern portion of the project site; therefore, the area is deemed as potentially sensitive for cultural resources due to its proximity to water sources, and poor visibility (>5%). Based on the presence of cultural resources in the area surrounding the project site, general sensitivity, and poor surface visibility during the pedestrian survey, it is recommended that an Extended Phase I (XPI) testing program take place to explore the potential for buried cultural deposits if there are any earth disturbing activities along the northern portion of the project site within an approximately 100-foot (30-meter) radius of the drainage, or the northern potential off-site access improvement area.

The project area contains one permanent structure; a single-family residence, constructed more than 50 years ago. The residence is not designated for listing in the National Register of Historic Places, the California Register of Historical Resources or as a City of San Luis Obispo historic resource and is not located within an existing or potential historic district. The remaining built environment resources within the project area include the Hidden Hills Mobilodge, which includes temporary structures. Therefore, there are no historical resources present within the project area.

The current zone change will not result in a significant impact to historical resources. Future development activities may result in a significant impact; therefore, we recommend the following measures for any future development. Adherence to the following measures may reduce impacts to less than Signiant levels.

Extended Phase I

If ground disturbance will occur along the northern portion of the project site within a 100-foot (30-meter) radius of the drainage, or in the northern potential off-site access improvement area, Rincon recommends an extended phase I (XPI) study. The XPI program may include limited testing with shovel test pits (STPs) within areas reasonably suspected to have a subsurface archaeological deposit. All archaeological excavation should be observed by a Native American monitor. An XPI program is not intended to evaluate significance of a resource. Should a subsurface deposit be found during an XPI program and cannot be avoided by project design, a Phase II evaluation program may be needed to determine if the current project would pose a significant impact to any such resource(s) If any resource(s) is identified as significant as part of the Phase II investigation, a Phase III data recovery program may be required if the resource(s) cannot be avoided.

Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983) should be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation and Native American consultation may be warranted to mitigate any significant impacts.

Unanticipated Discovery of Human Remains

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the county coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

7 References

Angel, Myron

1883 History of San Luis Obispo County, California. Oakland, California: Thompson & West.

Arnold, Jeanne E.

1995 Transportation Innovation and Social Complexity among Maritime Hunter-Gatherer Societies. American Anthropologist 97(4):733-747.

Bean, Walton

1968 California: An Interpretive History. New York, New York: McGraw-Hill Book Company.

Brown, Alan K., ed.

2001 A Description of Distant Roads: Original Journals of the First Expedition into California, 1769-1770, by Juan Crespi. San Diego, California: San Diego State University Press.

California Office of Surveyor-General

1886 1886 February 25, Corrected Report of Spanish and Mexican 1886 Grants in CA (Completed to 2-25-1886), Supplement to 1883-84 Official Report (1), Surveyor General's Report to Governor of California. Surveyor General Reports, Book 31.

Chesnut, Merlyn

1993 The Gaviota Land: A Glimpse Into California History from a bend on El Camino Real. Santa Barbara, California: Fithian Press.

City of San Luis Obispo

2010 Historic Preservation Ordinance. Electronic document, online at http://www.slocity.org/home/showdocument?id=4142, accessed November 2, 2015.

Engelhardt, Zephyrin

1915 The Missions and Missionaries of California: Vol. IV. Upper California, Part III. General History. San Francisco, California: The James H. Barry Company.

Erlandson, Jon M.

1991 Early Maritime Adaptations on the Northern Channel Islands in Hunter-Gatherers of Early Holocene Coastal California. Volume 1: Perspectives in California Archaeology. Jon M. Erlandson and R. Colten, eds. Pp. 101-111. Los Angeles, California: Costen Institute of Archaeology Press.

1994 Early Hunter-Gatherers of the California Coast. New York, New York: Plenum Press.

Erlandson, Jon M., Theodore Cooley, and Richard Carrico

1987 A Fluted Projectile Point Fragment from the Southern California Coast: Chronology and Context at CA-SBA-1951. Journal of California and Great Basin Anthropology 9(1):120–128.

Fitzgerald, Richard T.

2000 Cross Creek: An Early Holocene/Millingstone Site. Issue 12: California State Water Project, Coastal Branch Series. San Luis Obispo, California: San Luis Obispo County Archaeological Society.

Gamble, Lynn. H., Philip. L. Walker, and Glenn S. Russell

2001 Integrative Approach to Mortuary Analysis: Social and Symbolic Dimensions of Chumash Burial Practices. American Antiquity 66(2):185–212.

Gibson, R.O.

1983 Ethnography of the Salinan People: A Systems Approach. Master's thesis, Department of Anthropology, Geography and Environmental Studies, California State University, East Bay.

Glassow, Michael A.

1996 Purisimeño Chumash Prehistory: Maritime Adaptations along the Southern California Coast. Fort Worth, Texas: Harcourt Brace College Publishers.

1997 Middle Holocene Cultural Development in the Central Santa Barbara Channel Region in Archaeology of the California Coast during the Middle Holocene. Volume 4: Perspectives in California Archaeology. Jon M. Erlandson and Michael A. Glassow, eds. Pp. 73–90. Los Angeles, California: Cotsen Institute of Archaeology Press.

Glassow, Michael A., Larry R. Wilcoxen, and Jon M. Erlandson

1988 Cultural and Environmental Change during the Early Period of Santa Barbara Channel Prehistory in The Archaeology of Prehistoric Coastlines. G. Bailey and J. Parkington, eds. Pp. 64–77. New York, New York: Cambridge University Press.

Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell

2007 Prehistory of the Northern California Bight and the Adjacent Transverse Ranges in California Prehistory: Colonization, Culture, and Complexity. Terry L. Jones and Kathryn A. Klar, eds. Pp. 191-213. Lanham, Maryland: AltaMira Press.

Greenwood, Roberta S.

1972 9000 Years of Prehistory at Diablo Canyon, San Luis Obispo County, California. San Luis Obispo County Archaeological Society Occasional Paper No 7. San Luis Obispo, California: San Luis Obispo Historical Society.

1978 Obispeño and Purisimeño Chumash in Handbook of North American Indians, Vol. 8: California. Robert F. Heizer, ed. and William C. Sturtevant, general ed. Pp. 520-523. Washington, D.C.: Smithsonian Institution Scholarly Press.

Hildebrandt, William

1983 Archaeological Research of the Southern Santa Clara Valley Project. Report on file, California Department of Transportation, San Francisco, California.

Historic Resources Group (HRG)

2013 City of San Luis Obispo Citywide Historic Context Statement. Prepared for the City of San Luis Obispo. Electronic document, online at http://ohp.parks.ca.gov/pages/1054/files/slo%20final%20historic%20context%20statement_1.21.2014.pdf, accessed October 5, 2017.

Johnson, John R.

1987 Chumash Social Organization: An Ethnohistoric Perspective. Ph.D. dissertation, Department of Anthropology, University of California, Santa Barbara.

Johnson, John R., Thomas W. Stafford, Jr., Henry O. Ajie, and Don P. Morris

2002 Arlington Springs Revisited in Proceedings of the Fifth California Islands Symposium. D. Browne, K. Mitchell and H. Chaney, eds. Pp. 541–545. Santa Barbara, California: USDI Minerals Management Service and the Santa Barbara Museum of Natural History.

Jones, D.A., C. Young and W.R. Hildebrandt

2001 Phase II Archaeological Test Excavation at CA-SLO-832 and CA-SLO-1420, for the James Way/Price Street Road Improvement Project, San Luis Obispo County, California. Far Western Anthropological Research Group. Report on file, California Department of Transportation, San Luis Obispo, California.

Jones, Terry L.

1993 Big Sur: A Keystone in Central California Cultural History. Pacific Coast Archaeological Society Quarterly 29(1):1–78.

1995 Transitions in Prehistoric Diet, Mobility, Exchange, and Social Organization along California's Big Sur Coast. Ph.D. dissertation, Department of Anthropology, University of California, Davis.

Jones, Terry L., and Jennifer A. Ferneau

2002 Deintensification along the Central California Coast in Catalysts to Complexity, Late Holocene Societies of the California Coast. Volume 6: Perspectives in California Archaeology. Jon M. Erlandson and Terry L. Jones, eds. Pp. 205-232. Los Angeles, California: Costen Institute of Archaeology Press.

Jones, Terry L. and Kathryn A. Klar

2005 Diffusionism Reconsidered: Linguistic and Archaeological Evidence for Prehistoric Polynesian Contact with Southern California. American Antiquity 70(3):457-484.

2007 California Prehistory: Colonization, Culture, and Complexity. Lanham, Maryland: AltaMira Press.

Jones, Terry L. and Georgie Waugh

1995 Central California Prehistory: A View from Little Pico Creek. Volume 3: Perspectives in California Archaeology. Los Angeles, California: Costen Institute of Archaeology Press.

1997 Climatic Consequences of Population Pragmatism? A Middle Holocene Prehistory of the Central Coast in Archaeology of the California Coast During the Middle Holocene. Volume 4: Perspectives in California Archaeology. Jon M. Erlandson and Michael A. Glassow, eds. Pp. 111–128. Los Angeles, California: Costen Institute of Archaeology Press.

Jones, Terry L., K. Davis, G. Farris, S.D. Grantham, T.W. Fung, and B. Rivers

1994 Toward a Prehistory of Morro Bay: Phase II Archaeological Investigations for the Highway 41 Widening Project, San Luis Obispo County, California. Report on file, California Department of Transportation, San Luis Obispo, California.

Jones, Terry L., Nathan E. Stevens, Deborah A. Jones, Richard T. Fitzgerald, and Mark G. Hylkema

2007 The Central Coast: A Midlatitude Milieu *in* California Prehistory: Colonization, Culture, and Complexity. Terry L. Jones and Kathryn A. Klar, eds. Pp. 125–146. Lanham, Maryland: AltaMira Press.

Justice, Noel D.

2002 Stone Age Spear and Arrow Points of California and the Great Basin. Bloomington, Indiana: Indiana University Press.

Kennett, Douglas J.

1998 Behavioral Ecology and the Evolution of Hunter-Gatherer Societies on the Northern Channel Islands, California. Ph.D. dissertation, Department of Anthropology, University of California, Santa Barbara.

King, Chester D.

1969 Approximate 1769 Chumash Village Locations and Populations. Archaeological Survey Annual Report 11(3). University of California, Los Angeles.

1990 Evolution of Chumash Society: A Comparative Study of Artifacts Used in Social System Maintenance in the Santa Barbara Channel Region Before A.D. 1804 in The Evolution of North American Indians. David Hurst Thomas, ed. New York, New York: Garland Publishing.

Kroeber, Alfred L.

1976 Handbook of the Indians of California. New York, New York: Dover Publications, Inc.

Lebow, C., M.C. Baloian, D.R. Harro, R.L. Mckim, C. Denardo, J. Onken, E. Romanski, and B.A. Price

2001 Final Report of Archaeological Investigations for Reaches 5B and 6 Coastal Branch Aqueduct, Phase II. Applied EarthWorks, Inc. Report on file, Central Coast Water Authority, Buellton, California.

Miller, Bruce W.

1988 Chumash: A Picture of Their World. Los Osos, California: Sand River Press.

Milliken, Randall and John R. Johnson

2005 An Ethnography of Salinan and Northern Chumash Communities- 1769 to 1810. Far Western Anthropological Research Group. Report on file, California Department of Transportation, San Luis Obispo, California.

Mills, Wayne, Michael F. Rondeau, and Terry L. Jones

2005 A Fluted Point from Nipomo, San Luis Obispo County, California. Journal of California and Great Basin Archaeology 25(2):214-220.

Mithun, Marianne

1999 The Languages of Native North America. Cambridge, Massachusetts: Cambridge University Press.

Moratto, Michael J.

1984 California Archaeology. Orlando, Florida: Academic Press, Inc

National Park Service (NPS)

1983 Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines. Electronic document, online at http://www.nps.gov/history/local-law/Arch_Standards.htm, accessed May 19, 2017.

NETRonline

2017 Historic Aerials: 650 Tank Farm Road, San Luis Obispo. Electronic document, online at https://www.historicaerials.com/viewer, accessed October 31, 2017.

Rogers, D.B.

1929 Prehistoric Man of the Santa Barbara Coast. Santa Barbara, California: Santa Barbara Museum of Natural History.

Rolle, Andrew

2003 California: A History. Wheeling, Illinois: Harlan Davidson, Inc.

San Luis Obispo County Genealogical Society

2015 Land Grants, Patents and Ranchos. Electronic document, online at http://www.slocgs.org/carpenter/LandGrants.html, accessed October 5, 2017.

Squibb, Paul

1984 Captain Portola in San Luis Obispo County in 1769. Morro Bay, California: Tabula Rasa Press.

Timbrook, Jan

1990 Ethnobotany of Chumash Indians, California, Based on Collections by John P. Harrington. Economic Botany 44(2):236-253.

Tognazzini, W.N.

1996 100 Years Ago, 1896: Excerpts from the San Luis Obispo Morning Tribune and Breeze. San Luis Obispo, California.

Treganza, Adan E. and Agnes Bierman

1958 The Topanga Culture: Final Report on Excavations, 1948. University of California Anthropological Records 20(2):45–86.

University of California, Santa Barbara Library Frame Finder

2018 Historic Aerials: 650 Tank Farm Road, San Luis Obispo. Electronic document, online at http://mil.library.ucsb.edu/ap_indexes/FrameFinder/, accessed August 21, 2018.

Wallace, William

1955 Suggested Chronology for Southern California Coastal Archaeology. Southwestern Journal of Anthropology 11(3):214–230.

1978 Post-Pleistocene Archaeology, 9000 to 2000 B.C. *in* Handbook of North American Indians, Vol. 8: California. Robert F. Heizer, ed. and William C. Sturtevant, general ed. Pp. 505-508. Washington, D.C.: Smithsonian Institution Scholarly Press.

Warren, Claude N.

1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast *in* Archaic Prehistory in the Western United States. C. Irwin-Williams, ed. Eastern New Mexico University Contributions in Anthropology 1(3):1–14.

Weber, David J.

1982 The Mexican Frontier 1821-1846. Albuquerque, New Mexico: University of New Mexico Press.

1992 The Spanish Frontier in North America. New Haven, Connecticut: Yale University Press.

Appendix A

Records Search Results

Appendix B

Native American Outreach

Rincon Consultants, Inc.

250 East 1st Street, Suite 301
Los Angeles, California 90012

213 788 4842
FAX 908 2200

info@rinconconsultants.com
www.rinconconsultants.com

November 30, 2017
Rincon Project No: 17-04701

Rachel Cohen
Associate Planner
City of San Luis Obispo – Community Development
919 Palm Street
San Luis Obispo, California 93401
Via Email: rcohen@slocity.org

Subject: Paleontological Resources Assessment for the 650 Tank Farm Road Project, San Luis Obispo County, California

Dear Ms. Cohen:

Rincon Consultants, Inc. (Rincon) was retained by the City of San Luis Obispo to conduct a paleontological resource assessment for the 650 Tank Farm Road Project (project) in the City of San Luis Obispo. The goal of the assessment is to identify the geologic units that may be impacted by development from the proposed project, determine the paleontological sensitivity of geologic units within the proposed project area, assess potential for impacts to paleontological resources from development of the proposed project, and recommend mitigation measures to avoid or mitigate impacts to scientifically significant paleontological resources, as necessary.

This paleontological resource assessment consisted of a fossil locality record search at the Natural History Museum of Los Angeles County (LACM) and review of existing geologic maps and primary literature regarding fossiliferous geologic units within the proposed project vicinity and region. Following the literature review and records search, this report assessed the paleontological sensitivity of the geologic units at the project site, determined the potential for impacts to significant paleontological resources, and proposed mitigation measures to reduce impacts to less than significant. Figures are included in Attachment A.

This paleontological resource assessment has been prepared to support environmental review under the California Environmental Quality Act (CEQA).

Project Description

The project is located within Township 31 South, Range 12 East, Sections 1 and 12 of the United States Geological Survey (USGS) San Luis Obispo and Pismo Beach, CA 7.5-minute quadrangles (Figure 1) on the north side of Tank Farm Road, west of Broad Street, and south of the Damon-Garcia Sports Complex (Figure 2). The project site is 12.75 acres currently in use as the Hidden Hills Mobilodge, a mobile home park, and the Lazy Acres RV Storage lot. The project applicant proposes to rezone the land into a mixed-use project site. Specifically, the rezone would be from 3.25 acres of Business Park land and 6.85 acres of Medium-Density Residential land into 10.1 acres of Service Commercial land with a Specific Plan

Overlay. The additional 2.65 acres of land within the project site that includes two creek corridors will remained zoned as Conservation Open Space. Future development on the project site could potentially include 17,500 square feet of commercial space and 249 residential units. The full extent of ground disturbance has not been fully defined and is unknown until project design is finalized.

Regulatory Setting

State Laws and Regulations

The following are California state regulations with respect to paleontological resources.

California Environmental Quality Act

CEQA requires that public agencies and private interests identify the potential environmental consequences of their proposed projects on any object or site considered to be a historical resource of California (California Public Resources Code [PRC], section 21084.1, California Code of Regulations Title 14, section 15064.5). Appendix G of the *State CEQA Guidelines* (California Code of Regulations Title 14, Chapter 3) provides an Environmental Checklist of questions including a single question related to paleontological resources (Section V.c) as follows: "Would the project directly or indirectly destroy a unique paleontological resource or site…?"

CEQA does not define "a unique paleontological resource or site." However, the Society of Vertebrate Paleontology (SVP) has defined a "significant paleontological resource" in the context of environmental review. The SVP defines a Significant Paleontological Resources as:

> *…fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).*

The loss of paleontological resources that meet the criteria outlined above (i.e. considered a significant paleontological resource) would be considered a significant impact under CEQA, and the CEQA lead agency is responsible for ensuring that paleontological resources are protected in compliance with CEQA and other applicable statutes.

Public Resources Code Section 5097.5

Section 5097.5 of the PRC states:

> *No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.*

As used in this PRC section, "public lands" means lands owned by, or under the jurisdiction of, the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, local agencies are required to comply with PRC 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others.

The City of San Luis Obispo General Plan does not set forth policies that specifically address paleontological resources.

Methods

Rincon evaluated the paleontological sensitivity of the geologic units that underlie the project site using the results of the paleontological locality search and review of existing information in the primary literature concerning known fossils within those geologic units. Rincon submitted a request to the LACM for a list of known fossil localities from the project site and immediate vicinity (i.e., localities recorded on the USGS San Luis Obispo and Pismo Beach , 7.5-minute topographic quadrangle), and reviewed geologic maps and primary literature including: Agenbroad 2003; Barboza et al. 2017; Barron 1989; Bartow and Nilsen 1990; Bell et al. 2004; Boessenecker 2013; Dibblee and Minch 2006; Graymer et al. 1996; Groves 1991; Jefferson 1989, 1991a, 1991b; Jefferson at al. 1992; Lettis and Hall 1994; Lettis et al. 1994; Maguire and Holroyd 2016; Norris and Webb 1990; Savage et al. 1954; Surdham and Stanley 1984; Springer et al. 2009; Tomiya et al. 2011; Wilkerson et al. 2011.

Rincon assigned a paleontological sensitivity to the geologic unit within the project site. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. The SVP (2010) has defined paleontological sensitivity and developed a system for assessing paleontological sensitivity, as discussed below

Paleontological Sensitivity

The SVP broadly defines significant paleontological resources as follows (SVP 2010:11):

> *Fossils and fossiliferous deposits consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).*

Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, diagnostically important, or are common but have the potential to provide valuable scientific information for evaluating evolutionary patterns and processes, or which could improve our understanding of paleochronology, paleoecology, paleophylogeography, or depositional histories. New or unique specimens can provide new insights into evolutionary history; however, additional specimens of even well represented lineages can be equally important for studying evolutionary pattern and process, evolutionary rates, and paleophylogeography. Even unidentifiable material can provide useful data for dating geologic units if radiocarbon dating is possible. As such, common fossils (especially vertebrates) may be scientifically important, and therefore considered highly significant.

The SVP (2010) describes sedimentary rock units as having high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. While these standards were specifically written to protect vertebrate paleontological resources, all fields of paleontology have adopted these guidelines:

I. **High Potential (sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas which may contain new vertebrate deposits, traces, or trackways are also classified as significant.

II. **Low Potential (sensitivity)**. Sedimentary rock units that are potentially fossiliferous, but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic, phylogenetic species and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations. However, as excavation for construction gets underway it is possible that significant and unanticipated paleontological resources might be encountered and require a change of classification from Low to High Potential and, thus, require monitoring and mitigation if the resources are found to be significant.

III. **Undetermined Potential (sensitivity)**. Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.

IV. **No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources.

Results

Locality Search

A search of the paleontological locality records at the LACM resulted in no previously recorded fossil localities within the project boundaries. However, McLeod (2017) reports that at least two vertebrate localities have been recorded nearby from within older Quaternary alluvium, which has a similar lithology to the Pleistocene sedimentary deposits that likely underlie the project area at depth. Locality LACM 5903, recorded approximately 10 miles northwest of the project area near Los Osos, yielded a fossil specimen of mastodon (Mammutidae) in stream gravels at a depth of only six feet below the surface. Approximately 10 miles southeast of the project, the locality LACM 5790 yielded a fossil specimen of mammoth (*Mammuthus*) at unspecified, but shallow depth.

In addition to the museum locality records, the paleontological literature for Pleistocene geologic units in coastal California contains an abundant and diverse fossil record (Agenbroad 2003; Axelrod 1983; Barboza et al. 2017; Bell et al. 2004; Boessenecker 2013; Jefferson 1989, 1991a, 1991b; Jefferson at al. 1992; Maguire and Holroyd 2016; Savage et al. 1954; Springer et al. 2009; Tomiya et al. 2011; Wilkerson et al. 2011). The various collections of Pleistocene-aged fossils represent diverse assemblages of vertebrate taxa including amphibians, reptiles, birds and mammals. Important invertebrate and plant fossils have also been recovered from Pleistocene alluvial units, providing important information on the environmental setting of the Pleistocene.

Regional Geologic Setting

The project area is situated within the Coast Ranges, one of eleven major geomorphic provinces in California (California Geological Survey [CGS] 2002). A geomorphic province is a region of unique topography and geology that is readily distinguished from other regions based on its landforms and diastrophic history. The Coast Ranges extend about 600 miles from the Oregon border south to the Santa Ynez River in Santa Barbara County and are characterized by numerous north-south–trending peaks and valleys that range in elevation from approximately 500 feet above mean sea level (amsl) to 7,581 feet amsl at the highest summit. The basement rocks of the Coast Ranges include the Jurassic to Cretaceous rocks of the Franciscan Assemblage, which consist of over 55,000 feet of greywacke, greenstone, bluestone, metasedimentary rocks, and ophiolite sequences. During the Mesozoic and into the Cenozoic, the area of the present-day Coast Ranges was covered by marine waters, resulting in the thick accumulation of marine and nonmarine shale, sandstone, and conglomerate on the Franciscan basement rock (Bartow and Nilsen 1990). Later, these deposits were unconformably overlain by Paleocene to Pliocene marine continental shelf sedimentary rocks (Barron 1989; Graymer et al. 1996). During the Late Miocene to the Late Pliocene, a mountain-building episode occurred in the vicinity of the present-day Coast Ranges, resulting in their uplift above sea level. Subsequently, from the Late Pliocene to Pleistocene, extensive deposits of terrestrial material, including alluvial fans and fluvial sediments, were deposited in the southern Coast Ranges (Norris and Webb 1990). Tectonic activity, faulting, and eustatic (global) events related to Pleistocene climate change continued to occur during the Quaternary Period, resulting in further uplift, deformation, and sea level fluctuations along the Coast Ranges (Jefferson et al. 1992). Dominant geologic features of the Coast Ranges within the vicinity of the project area include the San Luis Range and the Irish Hills; the north-west trending Los Osos Fault Zone; and Morro Rock and the Nine Sisters Miocene volcanic peaks (Lettis and Hall 1994; Lettis et al. 1994; Surdham and Stanley 1984).

The project area includes one (1) geologic unit mapped at the surface (Figure 2): Quaternary (Holocene) alluvium (Qa) (Dibblee and Minch 2006). The Quaternary alluvial deposits are composed of unconsolidated terrestrial sediment consisting of clay, silt, coarse-grained sand, pebbles and cobbles derived from drainage of the neighboring highlands.

Paleontological Sensitivity

Quaternary (Holocene) alluvial deposits, particularly those younger than 5,000 years old, are generally too young to contain fossilized material, and are assigned a low paleontological sensitivity. However, these Holocene sediments may grade into older buried Pleistocene alluvium in which scientifically significant fossils could occur. Alluvial sediments of Pleistocene age have a well-documented record of abundant and diverse vertebrate fauna throughout sedimentary basins in California (Agenbroad 2003; Axelrod 1983; Barboza et al. 2017; Bell et al. 2004; Boessenecker 2013; CGS 2002; Jefferson 1989, 1991a, 1991b; Jefferson at al. 1992; Maguire and Holroyd 2016; Savage et al. 1954; Springer et al. 2009; Tomiya et al. 2011; Wilkerson et al. 2011). Data on the specific depth at which the Holocene unit mapped at the surface of the project transitions into older Pleistocene deposits that have the potential for fossilized material is not available, but they may overlie sensitive older deposits at an unknown, but relatively shallow depth (SVP, 2010).

Impacts Analysis

Quaternary alluvial sediments mapped at ground surface in the project area are Holocene in age, and as such have low paleontological sensitivity. Shallow ground disturbance in these areas would not impact scientifically significant paleontological resources; however, based on regional geologic mapping and previously identified fossil localities, these Holocene sediments may grade into older Pleistocene aged sediments that have high paleontological sensitivity at as few as six feet below ground surface. The maximum depth of proposed project ground disturbance is unknown until project design is finalized. Therefore, any excavations in the project area that disturb the buried highly sensitive Pleistocene alluvium could result in significant impacts to paleontological resources. The following recommended mitigation would address the potentially significant impacts relating to the possible discovery of intact paleontological resources during project implementation. These measures would apply to all phases of project construction and would ensure that any unanticipated fossils present on-site are preserved. Implementation of the recommended mitigation would reduce potential project impacts to paleontological resources to a less than significant level.

Recommended Mitigation

Retain a Qualified Paleontologist. Prior to initial ground disturbance, the applicant shall retain a project paleontologist, defined as a paleontologist who meets the SVP standards for Qualified Professional Paleontologist, to direct all mitigation measures related to paleontological resources. A qualified paleontologist (Principal Paleontologist) is defined by the SVP standards as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least one year (SVP 2010).

Paleontological Worker Environmental Awareness Program (WEAP). Prior to the start of construction, the Principal Paleontologist or his or her designee shall conduct training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. The WEAP shall be fulfilled at the time of a preconstruction meeting at which a qualified paleontologist shall attend.

Paleontological Monitoring. Ground disturbing construction activities (including grading, trenching, foundation work, and other excavations) in previously undisturbed sediments at depths greater than six feet should be monitored on a full-time basis during initial ground disturbance. Monitoring should be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010) for a paleontological resources monitor. The duration and timing of the monitoring will be determined by the Principal Paleontologist and the location and extent of proposed ground disturbance. If the Principal Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, the Principal Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Ground disturbing activity that does not exceed six feet in depth within Quaternary alluvium would not require paleontological monitoring.

Fossil Discoveries

In the event of a fossil discovery by the paleontological monitor or construction personnel, all work in the immediate vicinity of the find shall cease. The Principal Paleontologist shall evaluate the find before restarting construction activity in the area. If it is determined that the fossil(s) is (are) scientifically significant, the Principal Paleontologist shall complete the following conditions to mitigate impacts to significant fossil resources:

1) **Salvage of Fossils.** If fossils are discovered, all work in the immediate vicinity should be halted to allow the paleontological monitor, and/or Principal Paleontologist to evaluate the discovery and determine if the fossil may be considered significant. If the fossils are determined to be potentially significant, the Principal Paleontologist (or paleontological monitor) should recover them following standard field procedures for collecting paleontological resources. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case the paleontologist should have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner.
2) **Preparation and Curation of Recovered Fossils**. Once salvaged, significant fossils should be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection (such as the LACM), along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Principal Paleontologist.

Final Paleontological Mitigation Report. Upon completion of ground disturbing activity (and curation of fossils if necessary) the Principal Paleontologist should prepare a final mitigation and monitoring report outlining the results of the mitigation and monitoring program. The report should include discussion of the location, duration and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated.

If you have any questions regarding this Paleontological Resources Assessment, please contact us.

Sincerely,

Rincon Consultants, Inc.

Heather Clifford

Heather Clifford, M.S.
Associate Paleontologist

Jess DeBusk

Jessica DeBusk
Principal Investigator/Program Manager

Duane Vander Pluym

Duane Vander Pluym, D.Env.
Sr. Principal

Attachments

Attachment A: Figures

References

Agenbroad, L.D. 2003. *New localities, chronology, and comparisons for the pygmy mammoth (Mammuthus exilis).* In J. Reumer (ed.): Advances in Mammoth Research, Proceedings of the 2nd International Mammoth Conference, Rotterdam, the Netherlands. DEINSEA 9:1-16.

Axelrod, D. I. 1983. New Pleistocene Conifer records, coastal California. Geological Sciences No. 127.

Barboza, M. M., J. F. Parham, G.-P. Santos, B. N. Kussman, and J. Velez-Juarbe. 2017. The age of the Oso Member, Capistrano Formation, and a review of fossil crocodylians from California. PaleoBios 34: 1–16.

Barron, J.A. 1989. Diatom stratigraphy of the Monterey Formation and related rocks, San Jose 30 x 60-minute quadrangle, California: Department of the Interior, U.S. Geological Survey Open-File Report 89 565.

Bartow, J. A., and Nilsen, T. H. 1990. Review of the Great Valley Sequence, Eastern Diablo Range and Northern San Joaquin Valley, Central California: U.S. Geological Survey Open-File Report 90 226, Menlo Park, California.

Bell, C.J., E.L. Lundelius, Jr., A.D. Barnosky, R.W. Graham, E.H. Lindsay, D.R. Ruez, Jr., H.A. Semken, Jr., S.D. Webb, and R.J. Zakrzewski. 2004. The Blancan, Irvingtonian, and Rancholabrean Mammal Ages. In Woodburne, M.O. (ed.) Late Cretaceous and Cenozoic Mammals of North America: Biostratigraphy and Geochronology. Columbia University Press, New York, pp. 232-314.

Boessenecker, R. W. 2013. A new marine vertebrate assemblage from the Late Neogene Purisima Formation in Central California, part II: Pinnipeds and Cetaceans. Geodiversitas 35: 815-940.

California Geological Survey (CGS). 2002. California Geomorphic Provinces, Note 36.

Dibblee, T.W., and Minch, J.A. 2006. Geologic map of the Pismo Beach quadrangle, San Luis Obispo County, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-212, scale, 1:24,000.

Graymer, R. W., Jones, D.L., and Brabb, E.E. 1996. Preliminary geologic map emphasizing bedrock formations in Alameda County, California – Digital Database. U.S. Geological Survey Open-File Report 96-252, scale 1:75,000, http://pubs.usgs.gov/of/1996/of96-252/.

Jefferson, G.T. 1989. Late Cenozoic tapirs (Mammalia: Perissodactyla) of western North America. Natural History Museum of Los Angeles County, Contributions in Science, 406:1-22.

______. 1991a. A Catalogue of Late Quaternary Vertebrates from California: Part One, Nonmarine lower vertebrate and avian taxa. Technical Report No 5. Los Angeles: Natural History Museum of Los Angeles County.

______. 1991b. A Catalogue of Late Quaternary Vertebrates from California: Part Two, Mammals. Technical Report No 7. Los Angeles: Natural History Museum of Los Angeles County.

Jefferson, G. T., Fierstine, H. L., Wesling, J. R., and Ku, T. L. 1992. Pleistocene Terrestrial Vertebrates from near Point San Luis, and Other Localities in San Luis Obispo County, California: Bulletin of the Southern California Academy of Sciences, v. 91, no. 1, p. 26-38.

Lettis, W.R., and Hall, N.T. 1994. Los Osos Fault Zone, San Luis Obispo County, California in Alterman, I.B., McMullen, R.B., Cluff, L.S., and Slemmons, D.B., eds., Seismotectonics of the Central California Coast Ranges: Geological Society of America Special Papers, v. 292, p. 73-102.

Lettis, W. R., Kelson, K. I., Wesling, J. R., Angell, M., Hanson, K. L., and Hall, N. T. 1994. Quaternary deformation of the San Luis Range, San Luis Obispo County, California in Alterman, I.B., McMullen, R.B., Cluff, L.S., and Slemmons, D.B., eds., Seismotectonics of the Central California Coast Ranges: Geological Society of America Special Papers, v. 292, p. 111-132.

Maguire, K.C. and P.A. Holroyd. 2016. Pleistocene vertebrates of Silicon Valley (Santa Clara County, California). *PaleoBios* 33(1):1-14.

McLeod, S. 2017. Collections search of the Natural History Museum of Los Angeles County for the 650 Tank Farm Project, City of San Luis Obispo, CA. Received on November 8, 2017.

Norris, R. M. and Webb, R. W. 1990. Geology of California. John Wiley and Sons, Inc. New York.

Savage, D.R. 1951. Late Cenozoic vertebrates of the San Francisco Bay region. *University of California Publications, Bulletin of the Department of Geological Sciences*, 28:215-314.

Society of Vertebrate Paleontology. 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology Impact Mitigation Guidelines Revision Committee.

Springer, K., E. Scott, J.C. Sagebiel, and L.K. Murray. 2009. The Diamond Valley Lake local fauna: Late Pleistocene vertebrates from inland southern California. In Albright, L.B. III (ed.), Papers on Geology, Vertebrate Paleontology, and Biostratigraphy in Honor of Michael O. Woodburne. *Museum of Northern Arizona Bulletin*, 65:217-36.

Surdam, R. C., and Stanley, K. O. 1984. Stratigraphic and Sedimentologic Framework of the Monterey Formation, Pismo Syncline, California in Surdham, R.C., ed., Stratigraphic, Tectonic, Thermal and Diagenetic Histories of the Monterey Formation, Pismo and Huasna: Society for Sedimentary Geology (SEPM).

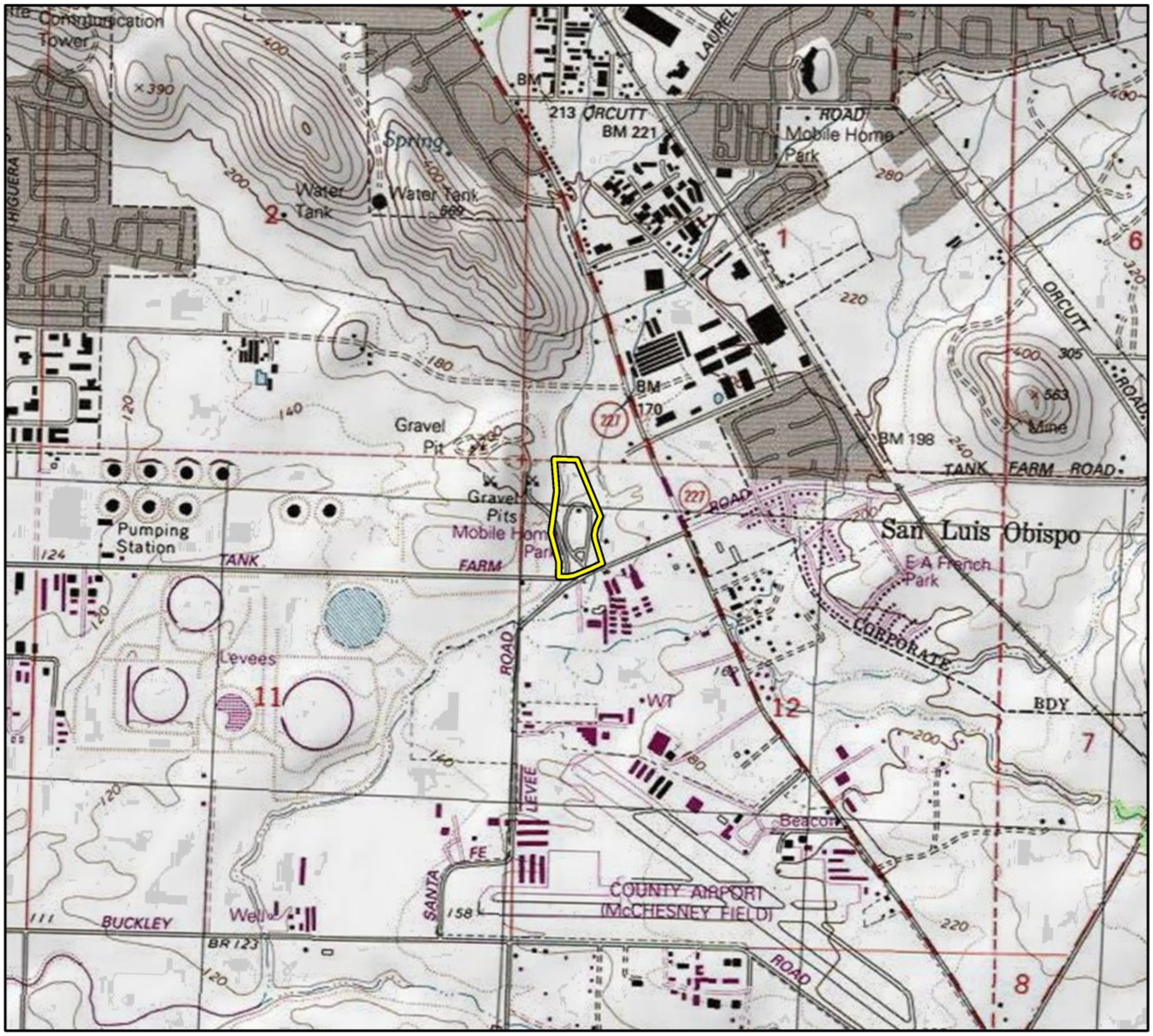
Tomiya, S., J.L. McGuire, R.W. Dedon, S.D. Lerner, R. Setsuda, A.N. Lipps, J.F. Bailey, K.R. Hale, A.B. Shabel, and A.D. Barnosky. 2011. A report on late Quaternary vertebrate fossil assemblages from the eastern San Francisco Bay region, California. *PaleoBios* 30(2):50-71.

Wilkerson, G., T. Elam, and R. Turner. 2011. Lake Thompson Pleistocene mammalian fossil assemblage, Rosamond. In Reynolds, R.E. (ed.) The Incredible Shrinking Pliocene: The 2011 Desert Symposium Field Guide and Proceedings. California State University Desert Studies Consortium, Pp. 88-90.

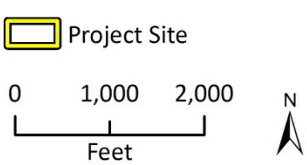
Attachment A

Figures

Figure 1 Project Location Map

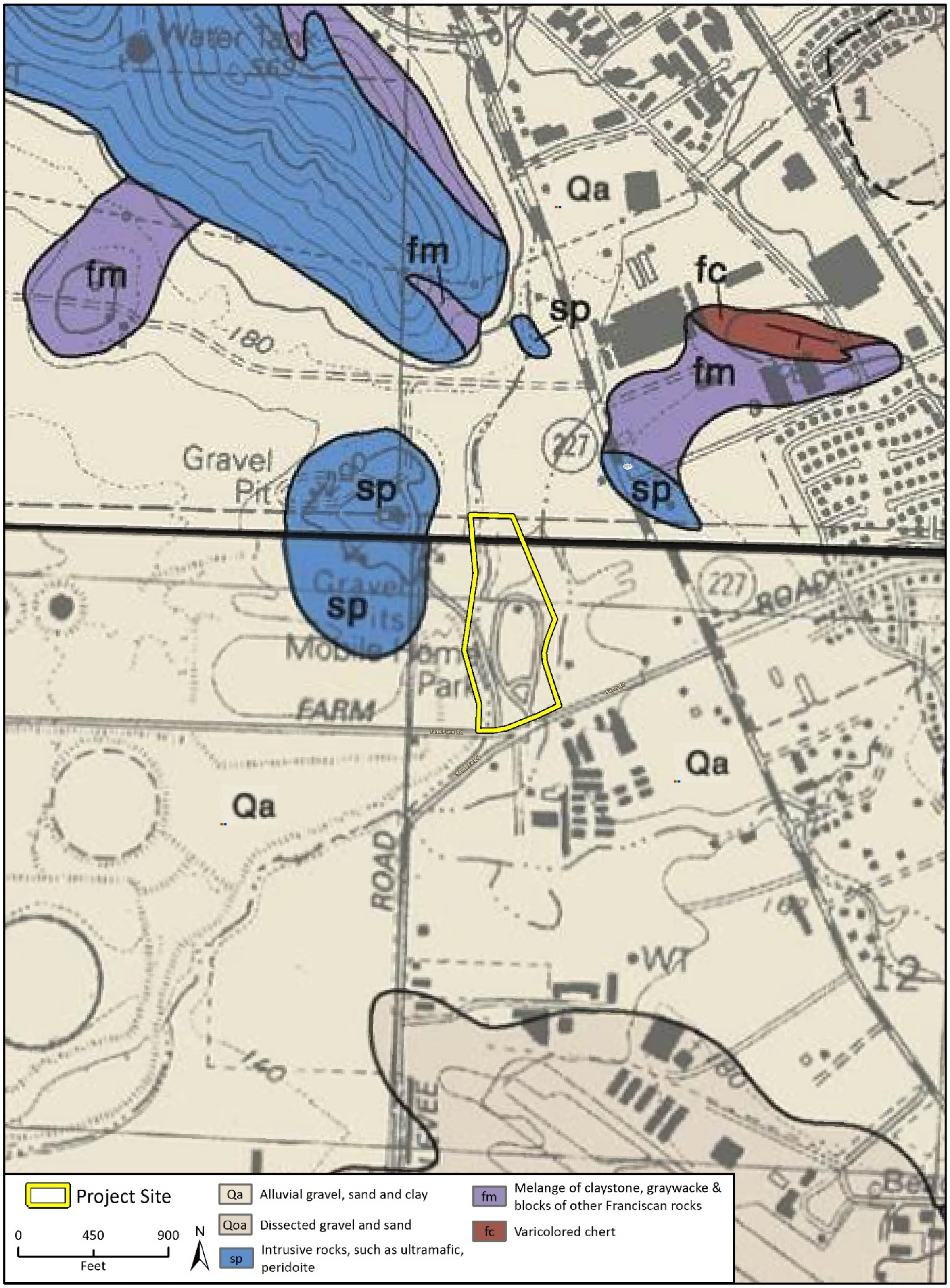


Imagery provided by National Geographic Society, ESRI and its licensors © 2017. San Luis Obispo & Pismo Beach Quadrangle. T31S R12E S01,12. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.



CRFig 1 Proj Locn Map

Figure 2 Geologic Map



Imagery provided by Dibblee and Minch, 2004 & 2006.

CRFig X Geologic

Appendix D

Sound Level Assessment and Construction Noise Estimates

45dB Acoustics

P.O. Box 1406
San Luis Obispo
California 93406

tel. 805.704.8046
www.45dB.com
email: dl@45dB.com

March 3, 2017

Project 1705

RE:
Sound Level Assessment
650 Tank Farm Project
San Luis Obispo, CA

Requested by:
Agera Grove Investments, LLC
4927 Calloway Drive
Bakersfield, CA 93312

1 Introduction

The subject of this assessment is the proposed 650 Tank Farm Road Project, with regard to the potential impact of surrounding noise levels from all sources.

Noise sources examined in this study are vehicular traffic on major and minor roads, as well as flight and ground operations at the San Luis Obispo County Regional Airport. In addition, there are potential existing or future stationary noise sources from neighboring commercial activities along the west boundary of the site.

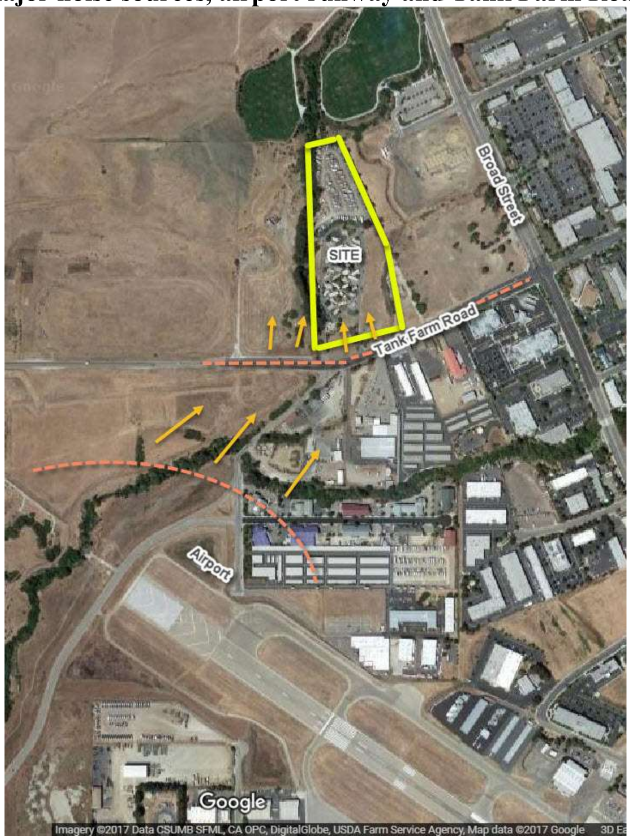
The south side of the site is bordered by Tank Farm Road, a significant transportation noise source with an average daily motor vehicle volume of 21,000. The southwest corner of the site is closest to the San Luis Obispo County Regional Airport, a separate potential source of on-site noise. The general layout and configuration of the site, along with sound level measurement locations are shown on the next page.

Existing sound levels were measured continuously and synchronously on the proposed site and at other key locations at 10-second intervals over a 24-hour period on Thursday and Friday, January 26 - 27, 2017. An acoustic software modeling tool was used to generate sound level contours based on topography, noise sources and measured sound level values.

2 Location

The project is located in the City of San Luis Obispo, north of Tank Farm Road and west of Broad Street. Primary noise sources potentially impacting the site are ground transportation from Tank Farm Road and the San Luis Obispo County Airport operations to the southwest, shown below. The separate relationship of the two major noise sources, the airport and the roadway, allows the simultaneous measurement of each source as a separate contribution to the overall noise level on site.

Figure 1 Map Showing Relationship of the site to major noise sources, airport runway and Tank Farm Road



3 Executive Summary

This Sound Level Assessment is divided into the following main sections:

1. Applicable City Sound Level Standards, including a description of the relevant criteria from the Noise Element of the City's General Plan that is used to evaluate noise impacts.

2. Airport Sound Level Standards from the San Luis Obispo Airport Land Use Plan as well as industry measurement standards for evaluating noise impacts of aircraft operations.

3. Sound Level Measurements & Results. This includes the locations and data collected in field measurements.

4. Other Factors Influencing Noise Levels – This includes discussions about variability in airport operations, future adjacent uses, and helicopter flights.

5. Impacts to a schematic site development plan, which demonstrates how noise levels are moderated and changed by development on the site.

6. Mitigation Strategies, including strategies and techniques that can lower noise levels at outdoor activity areas and habitable spaces on the site.

The major conclusions of this Sound Level Assessment are:

1. Automobile traffic noise is of greater significance than air traffic in terms of existing and projected future noise levels at the site.

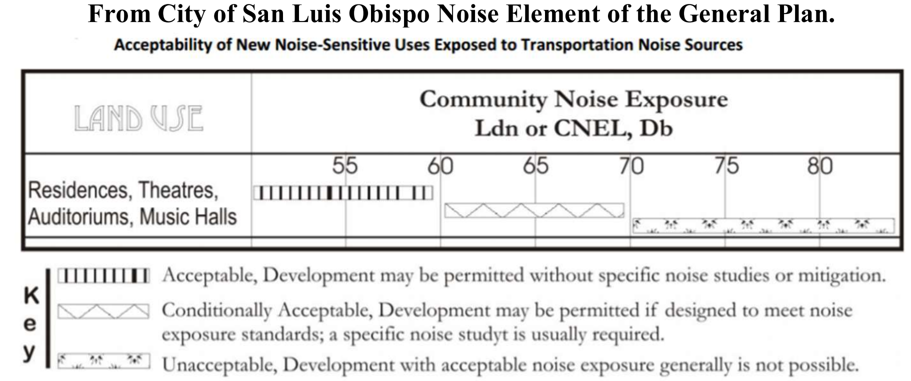
2. The placement of buildings with less sensitive uses that parallel the Tank Farm Road corridor in addition to constructed built forms and land forms on the west side of the site can help to attenuate sound levels toward the interior of the site in order to improve compliance with standards for outdoor uses, less than CNEL = 60 dBA.

3. Through construction techniques with ordinary materials, buildings can properly attenuate noise to compliance level, yielding interior noise levels that are in accord with the City's General Plan and the Airport Land Use Plan.

4 City Sound Level Standards

The Noise Element of the General Plan for the City of San Luis Obispo is one of the guiding standards for determining the feasibility of residential or mixed use development on the site. The Noise Element stipulates the acceptability of noise-sensitive uses exposed to transportation noise sources. The relevant part of Figure 1 of the Noise Element is shown below.

Figure 2. Noise Sensitive Uses and Transportation Noise.
From City of San Luis Obispo Noise Element of the General Plan.



As shown in the figure above, the acceptable limit below which residential development may be permitted without specific noise studies or mitigation is considered to be Community Noise Equivalent Level (CNEL) = 60 dBA and below.

The Noise Element further defines the maximum noise exposure for noise sensitive uses due to transportation noise sources, introducing the standards for noise exposure of outdoor activity areas and indoor spaces. This standard is illustrated by Table 1 in the Noise Element, with an extract shown below. As shown in the table, the maximum noise exposure limit for outdoor activity areas is also CNEL = 60 dBA. Meanwhile, indoor habitable spaces must not exceed CNEL = 45 dBA. The indoor standard is also congruent with the State Building Code.

Figure 3. Maximum Noise Exposure
(from City of San Luis Obispo Noise Element of the General Plan).

Maximum Noise Exposure for Noise-Sensitive Uses Due to Transportation Noise Sources

	Outdoor Activity Areas[1]	Indoor Spaces		
Land Use	L_{dn} or CNEL, in dB	L_{dn} or CNEL, in dB	L_{eq} in db[2]	L_{max} in db[3]
Residences, hotels, motels, hospitals, nursing homes	60	45	-	60

[1] *If the location of outdoor activity areas is not shown, the outdoor noise standard shall apply at the property line of the receiving land use.*

[2] *As determined for a typical worst-case hour during periods of use.*

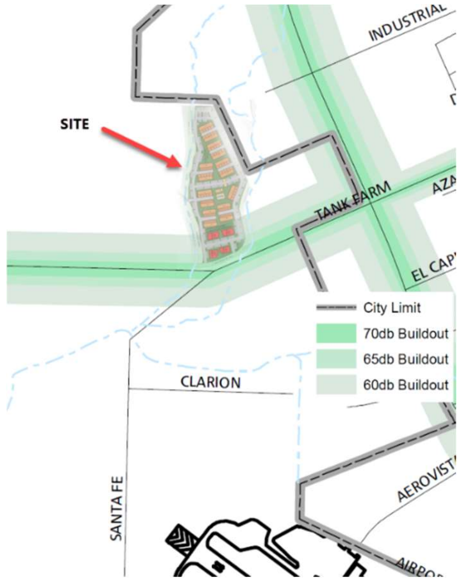
[3] *L_{max} indoor standard applies only to railroad noise at locations south of Orcutt Road.*

The City has published computer-generated noise contours alongside major traffic routes. The relevant noise contour map from 1990 is shown below:

Figure 4. 1990 Noise Contour Map with site overlaid.
(City of San Luis Obispo Noise Element of the General Plan).

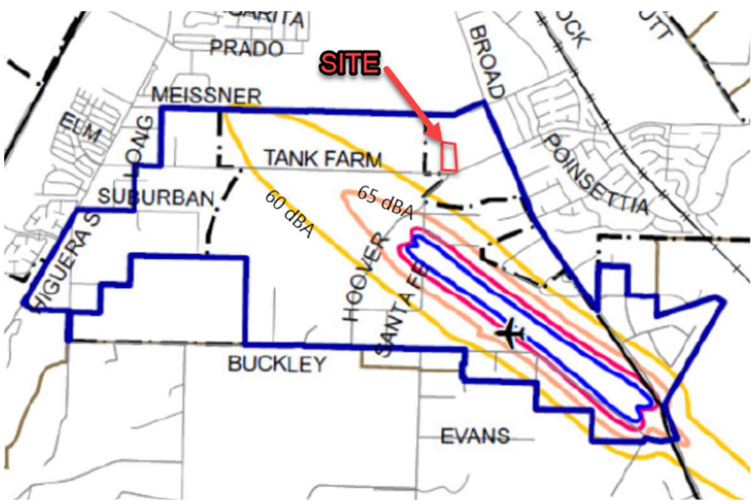
The future buildout noise contour map is shown below. It can be seen that projected noise levels at buildout are 70 dBA at the southern end of the site, and the 60 dBA noise contour passes through the southern 1/4 of the site. In other words, the southern quarter of the site would be in the zone above which residential development is not recommended without mitigation.

Figure 5. Buildout Noise Contour Map with site overlaid.
(City of San Luis Obispo Noise Element of the General Plan).



The proposed development site is within the City's Airport Area Specific Plan, which is outlined in blue in the graphic exhibit below. On this map, the site lies outside the 60 dBA sound level contour:

Figure 6. Airport Noise Contours with site overlaid.
(from San Luis Obispo General Plan Noise Element, figure 6, page 4-19. May 7, 1996)



5 ALUP Sound Level Standards

The Airport Land Use Plan classifies all residential uses as "Extremely Noise Sensitive Land Uses." This definition and description of residential land uses is also followed by a provision for *"other succeeding noise contour projections as may be accepted and deemed valid by the ALUC and adopted by amendment of this ALUP."*

The standard established by the ALUP is 55 dB CNEL as the maximum acceptable average noise level for new residential land uses. The Airport Land Use Commission currently defines the 55 dBA CNEL maximum level as a sound level contour determined by a Brown Buntin study in 2001. Brown Buntin developed the published sound level contours using the Integrated Noise Model (INM) and the Emissions and Dispersion Modeling System (EDMS), developed by the Federal Aviation Administration beginning in 1969, and since discredited. In the last 10 years, published reviews attempting to validate INM, have revealed that lateral sound dispersion in airport noise modeling worldwide has been at variance with measured values as much as 7 dBA (see Reference 5). This brings into question the accuracy of the 2005 ALUP sound level contours.

The FAA has announced that the use of INM has been superseded by the Aviation Environmental Design Tool (AEDT) as of May 2015.

The current Airport Land Use Plan was adopted in December 1973, with the most current amended version dated May, 2005. A proposed amendment to the Airport Land Use Plan is under review, with the most recent updated draft dated September 2014.

5.1 Airport Sound Level

The California Airport Noise Regulations define airport noise compatibility as follows: "The level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a community noise equivalent level (CNEL) value of 65 dB for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep and community reaction."

It is important to understand, however, that the compatibility criterion (i.e., 65 dB CNEL) identified in the Airport Noise regulations is only mandated for a few airports (less than a dozen) that have been formally declared to have a "noise problem", the regulations do not establish a mandatory criterion for evaluating the compatibility of proposed land use development around other airports.

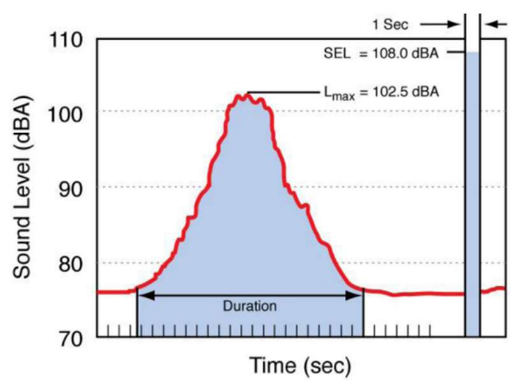
The Equivalent Sound Level, abbreviated Leq, is a measure of the exposure resulting from the accumulation of sound levels over a particular period of interest; e.g., an hour, an eight-hour school day, nighttime, or a full 24-hour day. The applicable period should always be identified or clearly understood when discussing the metric.

The Equivalent Sound Level may be thought of as a constant sound level over the period of interest that contains as much sound energy as the actual varying level. It is a way of assigning a single number to a time-varying sound level.

The Community Noise Equivalent Level (CNEL) is the Leq of the A-weighted noise level over a 24-hour period with a 5 dB penalty applied to noise levels between 7 p.m. and 10 p.m. and a 10 dB penalty applied to noise levels between 10 p.m. and 7 a.m. Sound levels resulting from aircraft operations at San Luis Obispo County Airport have been measured for this report as Leq sound equivalent level. The SEL or Sound Exposure Level, explained below is derived from Leq sound level data.

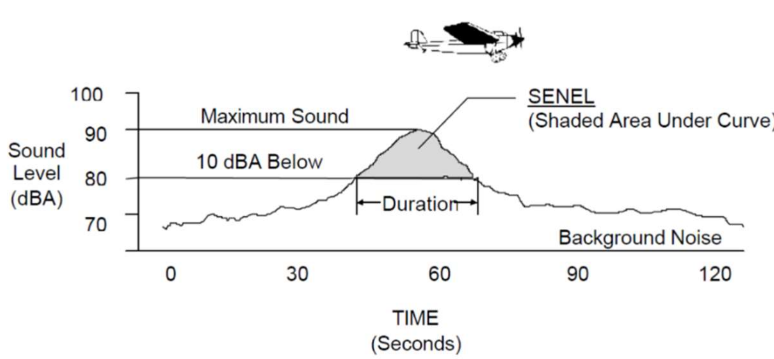
Sound Exposure Level: Used to describe and measure aircraft flyover, the Sound Exposure Level, or SEL is a summation of the A-weighted sound energy over the entire duration of a noise event. SEL expresses the accumulated energy in terms of the one-second-long steady-state sound level that would contain the same amount of energy as the actual time-varying level. In simple terms, SEL "compresses" the energy into a single second. The figure below depicts this compression:

Figure 7. Graphical depiction of a Sound Exposure Level
(after Harris Miller Miller Hansen, 2011)



Single Event Noise Exposure Level, or SENEL: Caltrans Division of Aeronautics noise standards regulations require use of a measure called the Single Event Noise Exposure Level, or SENEL, to describe the cumulative noise exposure for an individual noise event, such as an aircraft flyover. SENEL is a very slight variation on SEL. Just like SEL, it is the one-second-long steady-state level that contains the same amount of energy as the actual time-varying level. However, unlike SEL, it is calculated only over the period when the level exceeds a selected threshold.

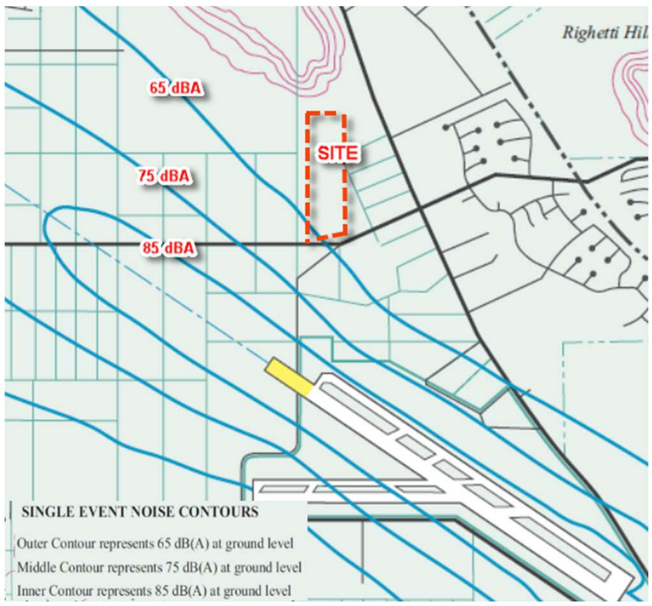
Figure 8. Description of Single Event Noise Exposure Level
(after Harris Miller Miller Hansen, 2011)



Because of the normalization procedure, for most aircraft overflights, the SENEL is on the order of 7 to 12 dBA higher than the Lmax. SENEL measurements generally correlate well with the degree of annoyance generated by a noise event. The SENEL is also the mandated measure of noise for a single aircraft fly-over in California.

Single Event Noise contours for San Luis Obispo County Airport from the Airport Land Use Plan are shown below:

Figure 9. Single Event Noise Contours, Airport Land Use Plan



In the next section we describe the measurement of existing Airport SENEL at the site boundary.

5.2 Measured Airport SENEL

Measured Single Event Noise Exposure Level (SENEL) for the loudest departing flight during the 24-hour measurement period was calculated, based on the distance from the end-of-runway Station LT1. The departing jet aircraft at 8:20 AM on January 27, 2017 was not a scheduled airline but probably a corporate jet. Sound level during departure was measured at 89 dB Lmax at the end of the runway; the SENEL is calculated to be 103 dBA. The nearest boundary of the 650 Tank Farm Road site is 568 meters away. Sound level attenuates over that distance from the end of the runway and the resulting measured SENEL of 60 dBA occurs at the site boundary. The measured value on January 27, 2017 is five decibels below the ALUP sound level contour map prediction.

5.3 Airport CNEL

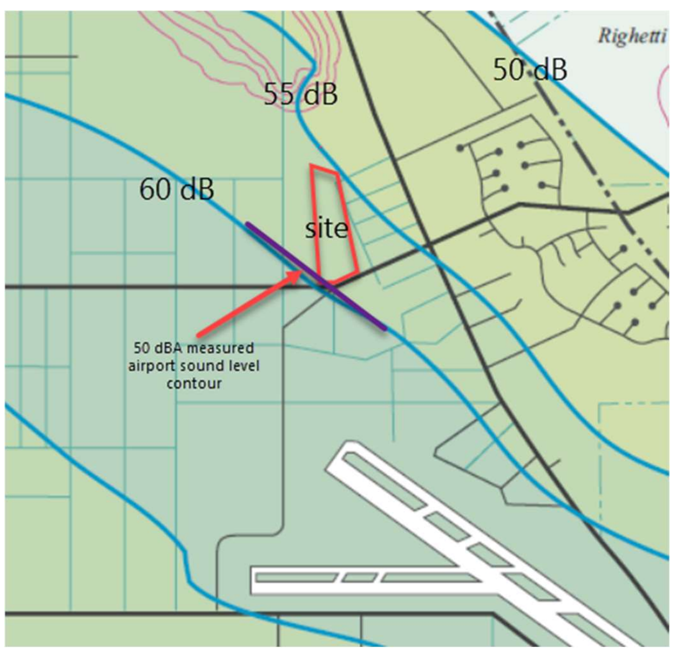
Along with single event metric, SENEL, which occurs over a one-minute period, the 24-hour metric CNEL (Community Noise Equivalent Level) is also used to describe noise around airports. The U.S. Environmental Protection Agency identified CNEL as the most appropriate measure of evaluating airport noise based on the following considerations:

1. CNEL is applicable to the evaluation of pervasive long-term noise in various defined areas and under various conditions over long periods of time.
2. CNEL correlates well with known effects of noise on individuals and the public.
3. CNEL is simple, practical, and accurate. In principal, it is useful for planning as well as for enforcement or monitoring purposes.
4. The required measurement equipment to determine CNEL, with standard characteristics, is commercially available.
5. CNEL is closely related to existing methods currently in use.

Day-Night Level (Ldn) is also used and yields similar results to CNEL. In general, representative values of CNEL/Ldn in an urban environment range from a low of 40 to 45 dB in extremely quiet, isolated locations, to highs of 80 or 85 decibels immediately adjacent to a busy transportation route. CNEL/Ldn is typically in the range of 50 to 55 dB in a quiet suburban residential community and 60 to 65 decibels in an urban residential neighborhood.

The San Luis Obispo ALUP (2005) has a noise contour map that shows CNEL contours in relation to the proposed site. The published ALUP contour map, based on computer modeling, shows the site extending between the 55 dBA and 60 dBA CNEL contours. Comparing the ALUP sound level contour with measured values reveals a 10 dB difference. The measured value is shown super-imposed on the map. If the proposed updated Airport Land Use Plan is adopted, the contours will be adusted downward by approximately 5 dB.

Figure 10 Airport Land Use Plan, published CNEL contours in relation to 650 Tank Farm Road Site. The 50 dBA measured airport sound level contour is overlaid. (From the Airport Land Use Plan, page 14-A, April 2001)



5.4 Helicopter Flight Training

In general, helicopter operations at airports are a minor issue in terms of overall noise exposure, although they generate a more specific type of noise complaint due to the nature of helicopter flight paths at relatively low altitudes. An international helicopter flight training school operates from San Luis Obispo County Regional Airport. In the year 2016, 22 pilots earned certification, which requires 70 to 200 hours of flight training for each pilot. During each year there are about 3,000 hours of helicopter operations in and around the airport. At an average 30 minutes per flight, this would potentially be 20 departures per day during 300 days of operation. Flight patterns during and after departure might mean that student training flights occasionally overfly the 760 Tank Farm Road site. The observed, estimated altitude of the overflights is about 500 to 1,000 feet above ground level.

The primary training aircraft is the Robinson model R22 helicopter, which is powered by a Lycoming O-320-A2B or a Lycoming O-320-B2C reciprocating engine. According to the type-certificate for this aircraft, a level overflight at an altitude of 492 ± 30 feet (150 ± 9 meters) creates a ground-level noise impact of 81 dB EPNL during the overflight. The duration of an overflight is typically 10 to 20 seconds, and may occur as many as ten times per day and only during daytime hours.

EPNL (effective perceived noise level) is a measurement value which recognizes the psychological annoyance of single event aircraft noise, taking into account duration of the overflight and predominant tonal components of the noise. The EPNL, specified in units of EPNdB, is a single number measure calculated from objective acoustic measurements in accordance with the procedures defined by the Federal Aviation Administration (FAA) and the American National Standards Institute (ANSI). EPNL is calculated from a time sequence of tone-adjusted perceived noise levels which are calculated from one-third octave band noise spectra. The tone adjustments are determined from one-third octave band spectra, by a procedure which estimates the extent of discrete frequency (tone) components from irregularities in the shape of the one-third octave band noise spectra.

Periodic helicopter overflights are judged to have a less-than-significant impact on the site when duration and frequency are considered against the total background daytime wall of noise from Tank Farm Road traffic.

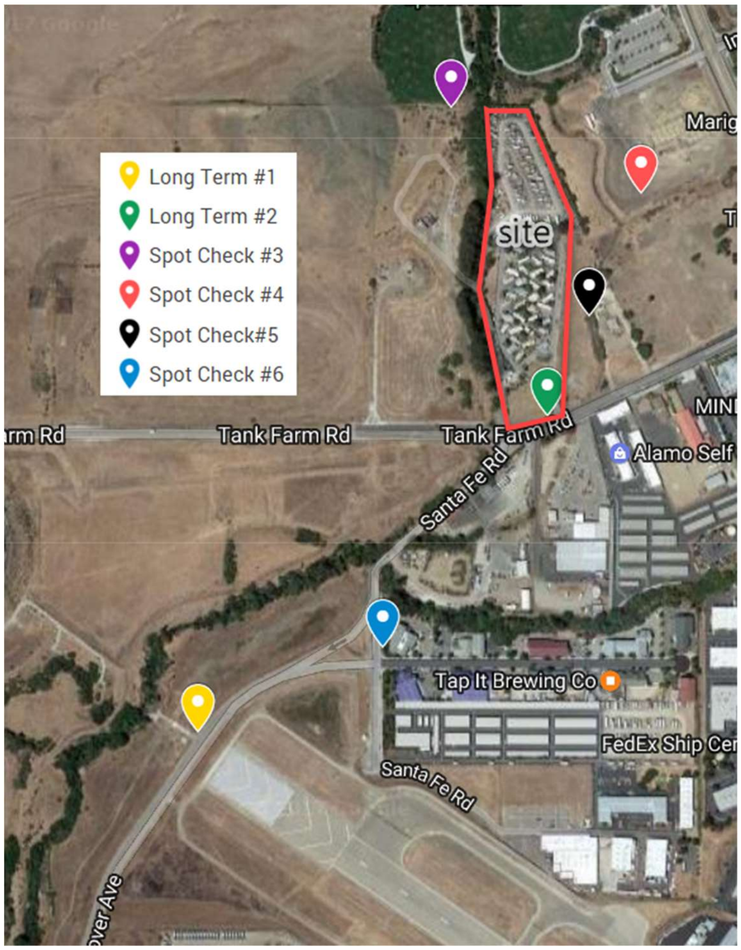
6 Variability in Airport Operations

The two days of the week chosen for this analysis, Thursday and Friday, January 26 and 27, 2017, were characterized by clear weather conditions and low wind speeds. Therefore, these two days may fairly represent optimum conditions for flight activities during a winter month. However, there may be variability in airport operations through the week and through the year. There may be more daily departures during spring, summer and fall seasons. There may be a greater number of departures on a weekend day than during a week day. Therefore, sound level would increase proportionally by as much as three dB in the unlikely case of a doubling of airport operations, or decrease by as much as three dB with halving of airport operations.

7 Sound Level Measurements

Six sound level measurement sites are shown below. The wide distribution of measurement locations allows us to calibrate the sound modeling of the site and to attribute sound levels to different and distinct sources of sound.

Figure 11. Location of Sound Level Measurements for this Sound Level Assessment.



Location of the selected sound level measurement stations is shown above. There are two stations at which sound levels were measured continuously for 24 hours. There are four stations at which short-term spot check sound levels were measured.

By maintaining a separation between measurement stations, the effects of simultaneous and separate road noise and airport noise sources on the site has been measured and visualized through computer modeling and simulation.

7.1 Sound Level Results

Figure 12. Measured sound levels near end of runway, at point "LT1"

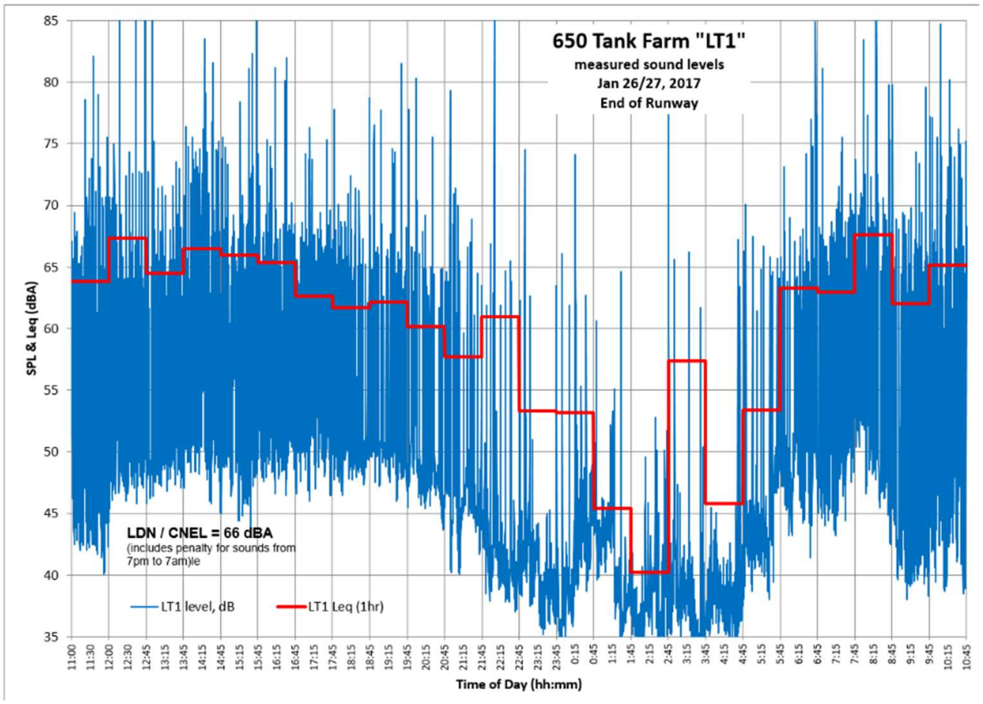


Figure 13. Measured sound levels near 650 Tank Farm Road, at point "LT2"

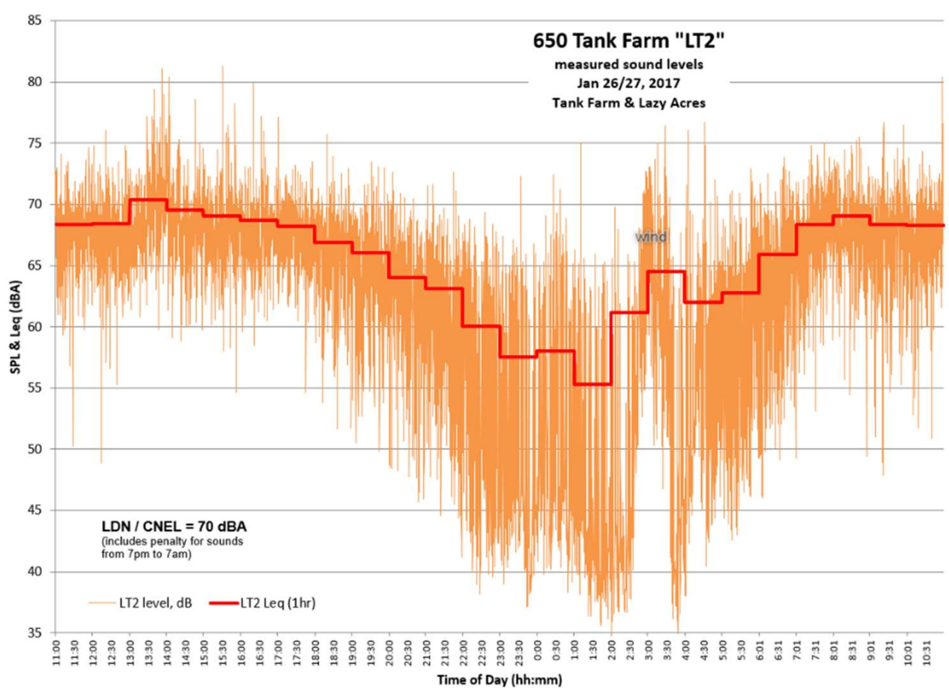
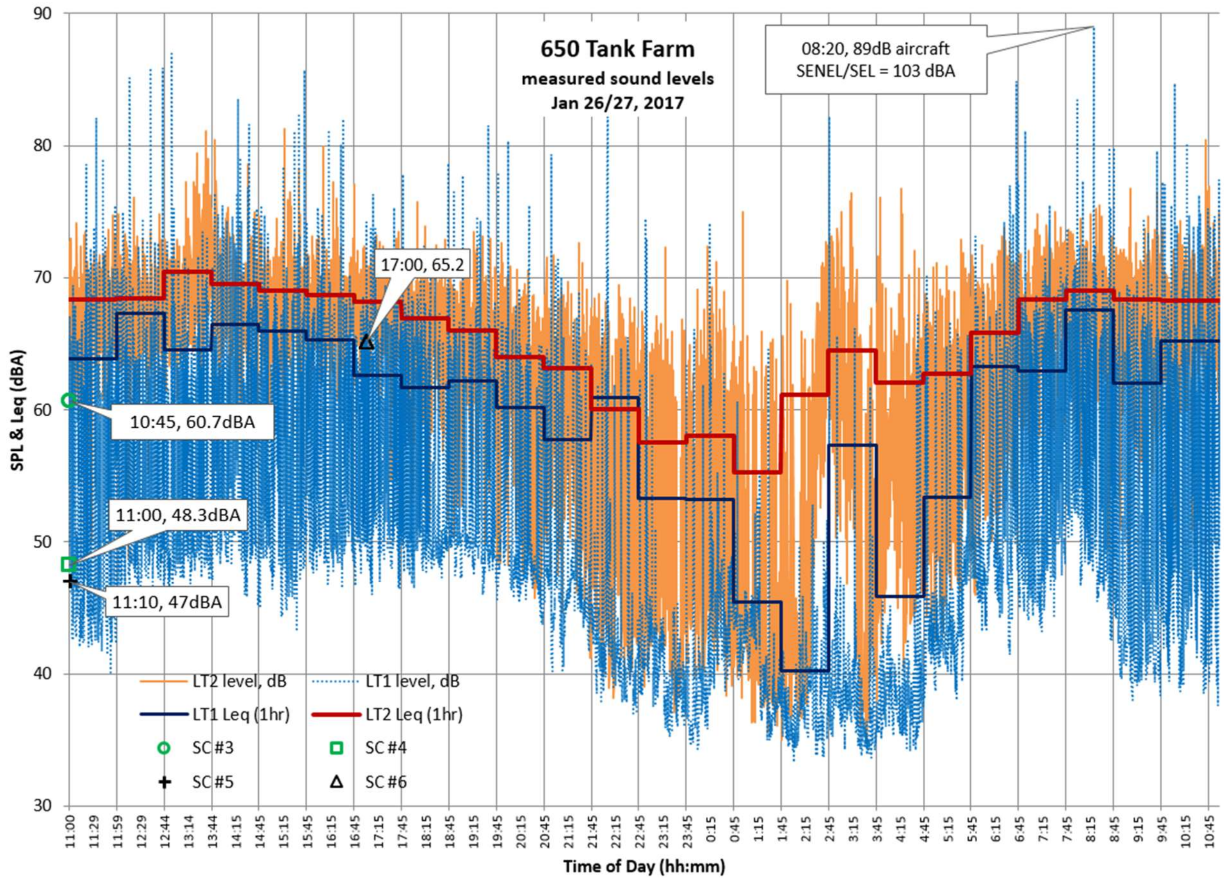


Figure 14. Measured sound levels at all stations (Synchronous Plot)



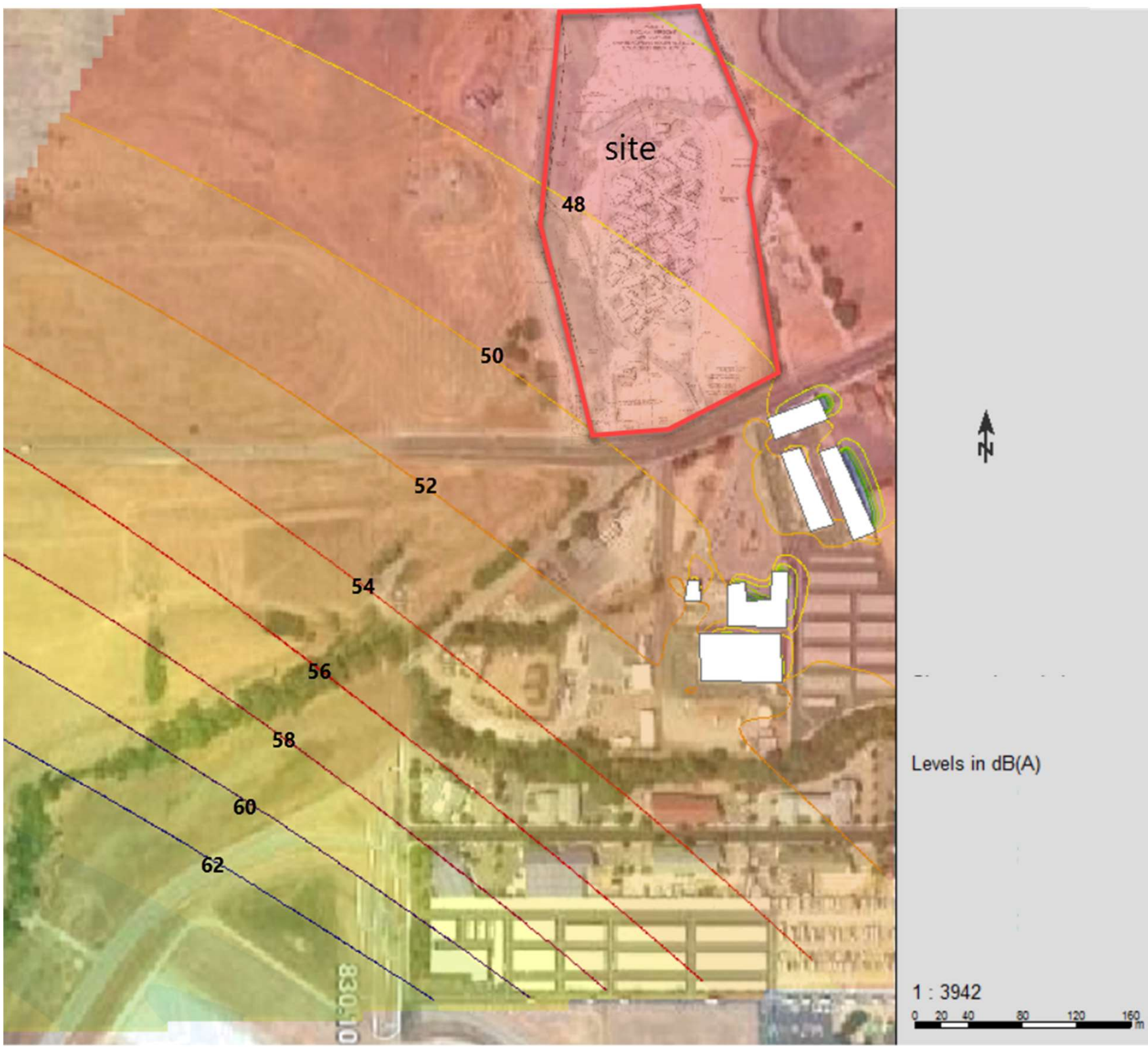
By plotting synchronous sound level data all together on one chart, simultaneous separate noise events can be compared and correlated. Thus the measured airport noise and the measured road traffic noise can be separately and properly attributed to each source.

8 Site Sound Level Contours

A Sound Level Contour is a line on a map that represents equal levels of noise exposure. SoundPlan is an acoustics modeling software program used to calculate noise contours, based on topographic relationships of noise sources and noise receivers. Measured sound level values are used to calibrate and to validate the SoundPlan generated contours.

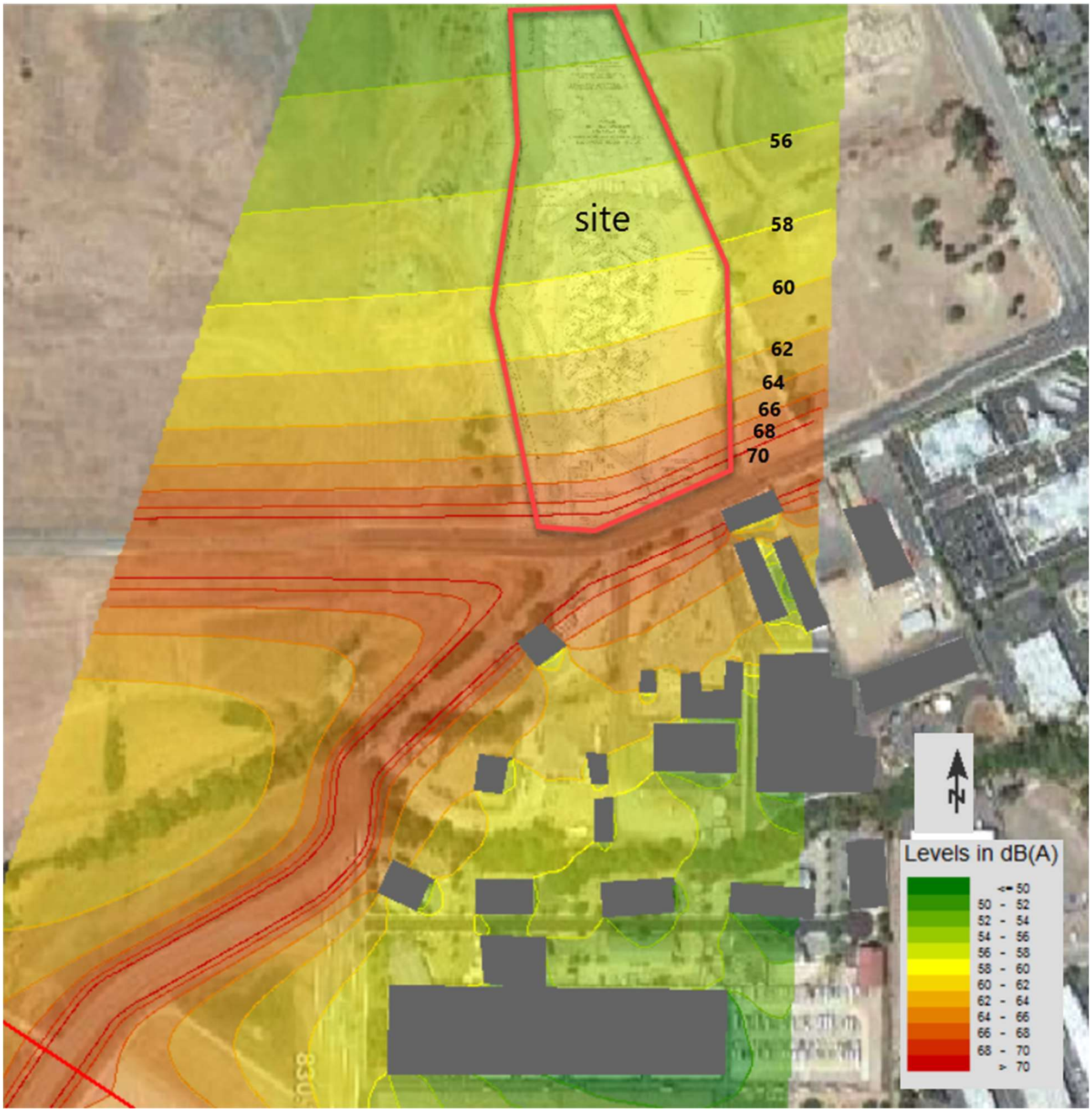
The measured sound levels used to calibrate the model include all aircraft. Nothing has been removed/excluded from the measured data set. The following sound level contours depict sound level on the site under two major conditions.

Figure 15 Sound Level Contours at 650 Tank Farm Road
Resulting from Airport Operations Alone, no road contribution



The measured CNEL values which are modeled above are about ten decibels below the ALUP predicted values. The southwest corner of the 650 Tank Farm Road site is at 50 dBA CNEL, compared to the 60 dBA CNEL shown on the ALUP contour map. The values shown above can only be revealed by subtracting sound level data for road traffic noise, achieved through computer modeling.

Figure 16. Sound Level at 650 Tank Farm Resulting from all sources:
Traffic Noise plus **Airport Operations Combined**



The figure above is the result of all 24-hour measured noise sources combined; the southern side of the site is above 70 dBA CNEL, due to the dominance of road traffic. Traffic noise dominates the site and airport noise is a minor factor in the overall noise portrait of the site.

8.1 Future Noise Level

The calculated future Ldn/CNEL (year 2037) at the south boundary will be about 72 dBA, based on the existing measured sound level of Ldn/CNEL = 70 dBA and anticipated future traffic growth of approximately two percent per year.

Future development along the west boundary may result in additional noise from that direction. If stationary noise from generators or mechanical equipment comes from the possible future Digital West development, the boundary line noise limit is likely to remain similar to the current San Luis Obispo City Noise Ordinance:

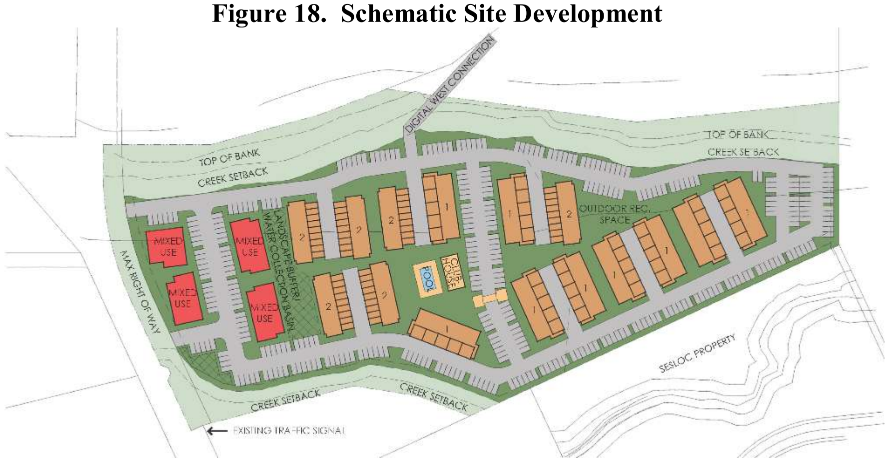
Figure 17. Maximum Noise Levels
(from City of San Luis Obispo Municipal Ordinance 9.12.050)

Maximum noise levels for long-term operation of stationary equipment			
	Single-Family Residential	Multi-family Residential	Mixed Residential /Commercial
Daily, except Sundays and legal holidays 7:00 a.m. to 7:00 p.m.	60 dBA	65 dBA	70 dBA
Daily, 7:00 p.m. to 7:00 am. and all day Sunday and legal holidays	50 dBA	55 dBA	60 dBA

8.2 Schematic Site Development

A trial design and layout of buildings on the site was analyzed for the distribution of sound, affected by the presence of buildings on the site. The conceptual layout is shown below.

Figure 18. Schematic Site Development



Using the previous conceptual layout and the sound levels measured from all sources, the distribution of sound across the site will appear in general as shown in the exhibit shown below. Addition of site hardscape, patio walls, fin walls or parking structure on the west side of the site, or re-orientation of housing along the west side, will be effective in reducing sound levels within the site.

Figure 19. Initial Sound Level Contour Map for Schematic Design.

Figure 20. Predicted spot sound levels at specific locations across the site.
The description for each spot is shown in the following order:
daytime 7am to 7pm
evening 7 – 10pm
night 10 pm to 7am
CNEL = 24 hr. average

9 Conclusion

The measured and predicted sound levels impacting the proposed 650 Tank Farm Road project are primarily a result of transportation noise along Tank Farm Road. Airport noise levels at the site are considerably lower than road traffic noise levels and are mostly inaudible at the southern boundary of the site. Future noise level from transportation sources at buildout is predicted to result in an increase in sound level of less than three decibels.

When commercial mixed use or other building types are placed along Tank Farm Road, an effective sound barrier is created. This results in sound levels in the potential outdoor activity areas across the site which are generally below CNEL = 60 dBA. Potential residential building elevations facing the noise source are mostly below CNEL = 60 dBA. Therefore, ordinary building construction assemblies with a Sound Transmission Class (STC) of 20 or greater will ensure that interior sound levels in habitable spaces are below CNEL = 45 dBA.

Future sound level growth may be less than perceptible. Perceived sound level studies reveal the subjective interpretation of sound differences. Less-than-three dBA increase in sound level is barely noticeable to most subjects. Sound level must increase by five dBA before most listeners report a noticeable or significant change in sound level.

45dB Acoustics, LLC
David Lord

David Lord

10 Glossary of Acoustical Terms

A-Weighted Sound Level (dBA)
The sound pressure level in decibels as measured on a sound level meter using the internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting adjustments have been made. A-weighting de-emphasizes the low and very high frequency components of the sound in a manner similar to the response of the average human ear. A-weighted sound levels correlate well with subjective reactions of people to noise and are universally used for community noise evaluations.

Air-borne Sound
Sound that travels through the air, differentiated from structure-borne sound.

Ambient Sound Level
The prevailing general sound level existing at a location or in a space, which usually consists of a composite of sounds from many sources near and far. The ambient level is typically defined by the Leq level.

Background Sound Level
The underlying, ever-present lower level noise that remains in the absence of intrusive or intermittent sounds. Distant sources, such as Traffic, typically make up the background. The background level is generally defined by the L90 percentile noise level.

Community Noise Equivalent Level (CNEL)
The Leq of the A-weighted noise level over a 24-hour period with a 5 dB penalty applied to noise levels between 7 p.m. and 10 p.m. and a 10 dB penalty applied to noise levels between 10 p.m. and 7 a.m. CNEL is similar to Ldn.

Day-Night Sound Level (Ldn)
The Leq of the A-weighted noise level over a 24-hour period with a 10 dB penalty applied to noise levels between 10 p.m. and 7 a.m. Ldn is similar to CNEL.

Decibel (dB)
The decibel is a measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.

DBA or dB(A)
A-weighted sound level. The ear does not respond equally to all frequencies, but is less sensitive at low and high frequencies than it is at medium or speech range frequencies. Thus, to obtain a single number representing the sound level of a noise containing a wide range of frequencies in a manner representative of the ear's response, it is necessary to reduce the effects of the low and high frequencies with respect to the medium frequencies. The resultant sound level is said to be A-weighted, and the units are dBA. The A-weighted sound level is also called the noise level.

Energy Equivalent Level (Leq)
Because sound levels can vary markedly in intensity over a short period of time, some method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, one describes ambient sounds in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called Leq. In this report, an hourly period is used.

Field Sound Transmission Class (FSTC)
A single number rating similar to STC, except that the transmission loss values used to derive the FSTC are measured in the field. All sound transmitted from the source room to the receiving room is assumed to be through the separating wall or floor-ceiling assembly.

Outdoor-Indoor Transmission Class (OITC)
A single number classification, specified by the American Society for Testing and Materials (ASTM E 1332 issued 1994), that establishes the A-weighted sound level reduction provided by building facade components (walls, doors, windows, and combinations thereof), based upon a reference sound spectra that is an average of typical air, road, and rail transportation sources. The OITC is the preferred rating when exterior façade components are exposed to a noise environment dominated by transportation sources.

Single Event Noise Exposure Level (SENEL)
The time-integrated A-weighted sound pressure level of a single aircraft flyover (which exceeds a threshold noise level) which is expressed by the level of an equivalent one-second duration reference signal.

Sound Transmission Class (STC)
STC is a single number rating, specified by the American Society for Testing and Materials, which can be used to measure the sound insulation properties for comparing the sound transmission capability, in decibels, of interior building partitions for noise sources such as speech, radio, and television. It is used extensively for rating sound insulation characteristics of building materials and products.

Structure-Borne Sound
Sound propagating through building structure. Rapidly fluctuating elastic waves in gypsum board, joists, studs, etc.

Subjective Loudness Level
In addition to precision measurement of sound level changes, there is a subjective characteristic which describes how most people respond to sound:

- A change in sound level of 3 dBA is *barely perceptible* by most listeners.
- A change in level of 6 dBA is *clearly perceptible*.
- A change of 10 dBA is perceived as being *twice* (or *half*) as loud.

11 Appendix

11.1 Sound level modeling

Sound level contours compared to the measured sound level values were generated for assessment using *SoundPlan* noise simulation software. The software calculates sound attenuation of environmental noise around buildings. For this project, the land between the sources (road and airport operations) and receiver project boundary, is generally flat and partially paved. The modeling software calculates the sound field in accordance with ISO 9613-2 "Acoustics - Attenuation of sound during propagation outdoors, Part 2: General Method of Calculation." This standard states that "this part of ISO 9613 specifies an engineering method for calculating the attenuation of sound during propagation outdoors in order to predict the levels of environmental noise at a distance from a variety of sources. The method predicts the equivalent continuous A-weighted sound pressure level under meteorological conditions favorable to propagation from sources of known sound emissions."

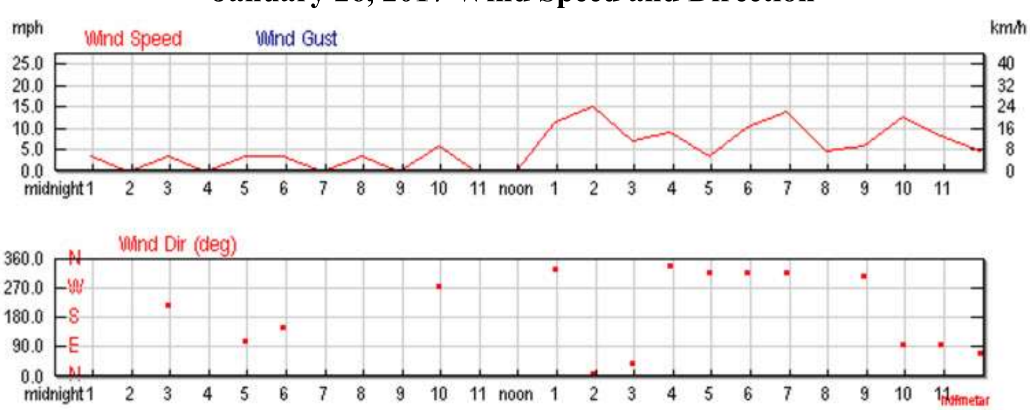
11.2 Sound Level Measurement

The protocol used for the sound level measurements is prescribed in detail by the American Society for Testing and Materials (ASTM) in their E 1014 publication. The procedures and standards in that document were met or exceeded for sound level measurements shown in this report. The standards of ASTM E 1014 are exceeded by using Type 1 (Class 1) sound level meters for all measurements in this report instead of less accurate Type 2 meters. Therefore, the precision of the measurements in this report is likely to be better than +/- 1 dB. The sound level meters used for measurements shown in this report are Norsonic Nor140 Sound Analyzers, with synchronized time settings. These sound level meters meet all requirements of ANSI s1.4, IEC 651 for Class 1 accuracy. The sound level meters were calibrated before and after each sound level measurement. The measurement results from all sound level meters running simultaneously were compared and found to be in close agreement.

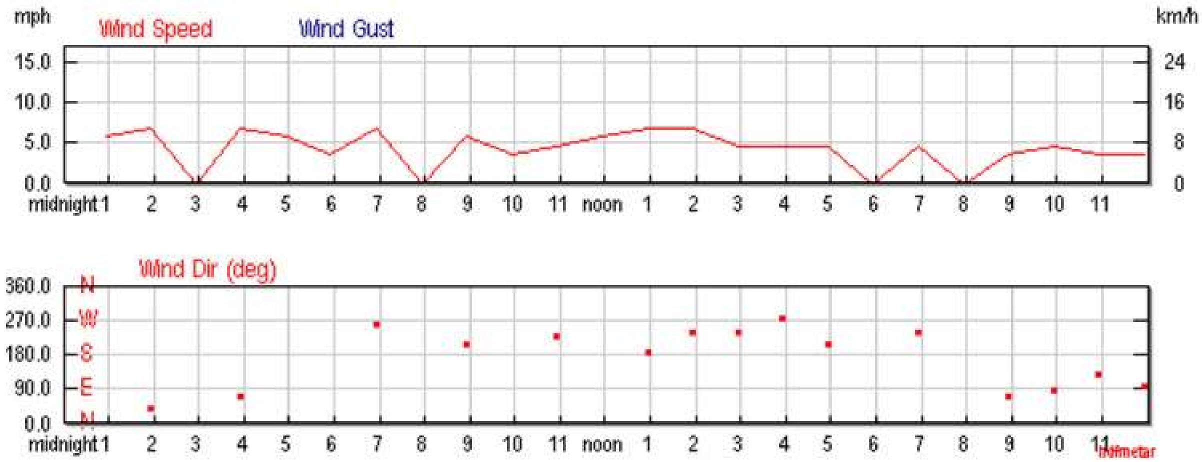
11.3 Wind Speed

Wind speed and direction data was taken from San Luis Obispo County Regional Airport weather station.

January 26, 2017 Wind Speed and Direction



January 27, 2017 Wind Speed and Direction



Wind speed above 12 mph has an increasing adverse effect on the accuracy of sound level measurements (reference: Federal Highway Administration, Noise Measurement). On two occasions in the afternoon of January 26, wind speed at the airport exceeded 12 mph. Wind speed on January 27 was measured below 8 mph throughout the day.

12 References

1. Airport Land Use Commission of San Luis Obispo County. 2005. *Airport Land Use Plan for the San Luis Obispo County Regional Airport*.
2. American National Standards Institute, Inc. 2004. *ANSI 1994 American National Standard Acoustical Terminology*. ANSI S.1.-1994, (R2004), New York, NY.
3. American Society for Testing and Materials. 2004. ASTM E 1014 - 84 (Reapproved 2000) Standard Guide for Measurement of Outdoor A-Weighted Sound Levels.
4. Bolt, Beranek and Newman. 1973. *Fundamentals and Abatement of Highway Traffic Noise*, Report No. PB-222-703. Prepared for Federal Highway Administration.
5. Cooper, Steven, 2006. *Problems with INM: Part 1 – Lateral Attenuation.* Proceedings of Acoustics 2006.
6. State of California Department of Transportation. 2011. California Airport Land Use Planning Handbook.
7. California Airport Noise Regulations – Section 5000 et seq. of the California Code of Regulations (Title 21, Division 2.5, Chapter 6)
8. California Department of Transportation (Caltrans). 1982. *Caltrans Transportation Laboratory Manual.*
9. ______. 1998. Caltrans Traffic Noise Analysis Protocol for New Highway Construction and Highway Reconstruction Projects
10. California Resources Agency. 2007. *Title 14. California Code of Regulations* Chapter 3: Guidelines for Implementation of the California Environmental Quality Act Article 5. Preliminary Review of Projects and Conduct of Initial Study Sections, 15060 to 15065.
11. City of San Luis Obispo, California. 1996. General Plan Chapter 4 Noise.
12. City of San Luis Obispo, California, Public Works, Traffic Data. https://goo.gl/aRJIRq

13. Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide Final Report.* FHWA-HEP-05-054 DOT-VNTSC-FHWA-05-01
14. Federal Highway Administration. 2011. Measurement of Highway-Related Noise. https://goo.gl/dKlwZk
15. Harris, Cyril M., editor. 1979 *Handbook of Noise Control*.
16. Interactive Sound Level Calculator, MAS Environmental https://goo.gl/23zTnQ

Appendix E

Multimodal Draft Transportation Impact Study (TIS)

650 Tank Farm Road

Draft Multimodal Transportation Impact Study

Prepared For: City of San Luis Obispo

Central Coast Transportation Consulting

895 Napa Avenue, Suite A-6

Morro Bay, CA 93442

(805) 316-0101

May 2018

Central Coast Transportation Consulting

Traffic Engineering & Transportation Planning

Executive Summary

This study evaluates the potential transportation impacts of the mixed-use project located at 650 Tank Farm Road in the City of San Luis Obispo. The project consists of 249 apartment dwelling units and 17,500 square feet of retail.

Nine intersections were evaluated during the weekday morning (7-9 AM) and weekday evening (4-6 PM) time periods under Existing and Cumulative conditions with and without the project. The project is expected to generate 1,835 daily trips, 129 AM peak hour trips, and 164 PM peak hour trips.

Impacts and mitigation measures are summarized below.

Existing Plus Project				
#	Location	Mode	Impact	Mitigation Measure
1	Broad / Tank Farm	Auto	Addition of project traffic extends EBL turning queue by one to two vehicles	Either provide a vehicular connection to the adjacent site to the east (allowing project traffic to use Industrial Way to turn north onto Broad Street) or add a second SBL lane at the intersection
2	Project driveway	Auto	Two full-access driveways on an arterial roadway are inconsistent with the City's Access Management policies.	Provide a single right-in/right-out driveway with right turn pocket along Tank Farm Road. Provide access to SESLOC or provide acceptable traffic control at the Digital West driveway on Tank Farm Road.

In addition to the Existing Plus Project impacts and mitigation, the following impacts are noted for Cumulative Plus Project.

Cumulative Plus Project				
#	Location	Mode	Impact	Mitigation Measure
3	Tank Farm / South Higuera	Auto	Intersection operates unacceptably, and addition of project traffic increases V/C by 0.01	Install a second SBL turn lane.
4	Tank Farm / Santa Fe	Auto	Northbound approach operates at LOS F with and without the project.	Install a multi-lane roundabout.
5	Broad / Industrial	Auto	Operates at LOS F during the PM peak hour with and without the project due to long pedestrian crossing times and split phasing.	Convert east and west approaches from split phasing to permissive phasing and restripe both approaches to provide dedicated left turn lanes and shared through/right turn lanes.
6	Broad / Tank Farm	Auto	Operates at LOS F for both peak hours with and without the project. Project traffic increases V/C by 0.01 during the AM peak hour and by 0.09 during the PM peak hour.	Add a second southbound left turn lane, add a dedicated northbound right turn lane, and convert the westbound right turn lane to a shared through/right lane. Establish time-of-day timing plans as recommended in the City's Circulation Element EIR.

Further details are provided in the body of this report.

Contents

Introduction

This study evaluates the potential transportation impacts of the mixed-use project located at 650 Tank Farm in the City of San Luis Obispo. The project consists of 249 apartment dwelling units and 17,500 square feet of retail space.

The project's location and study intersections are shown on **Figure 1**, while **Figure 2** shows the project site plan. Study intersections were identified in consultation with City staff. The following intersections were analyzed during the weekday morning (7-9 AM) and evening (4-6 PM) time periods:

1. Tank Farm Road/South Higuera Street
2. Tank Farm Road/Long Street
3. Tank Farm Road/Santa Fe Road
4. Tank Farm Road/Mindbody Traffic Signal
5. Broad Street/Capitolio Way
6. Broad Street/Industrial Way
7. Broad Street/Tank Farm Road
8. Broad Street/Aero Vista Lane
9. Broad Street/Aero Drive

Vehicular, pedestrian, and bicycle levels of service are reported for each study intersection consistent with the City's Multimodal Transportation Impact Guidelines. The study segments were identified in consultation with City staff consistent with City policies. Four roadway segments were analyzed for bicycle, pedestrian, transit, and auto level of service during the AM and PM peak hours:

1. Tank Farm Road (Broad Street to Higuera Street)
2. Tank Farm Road (Broad Street to Orcutt Road)
3. Broad Street (Orcutt Road to Tank Farm Road)
4. Broad Street (Tank Farm Road to South City Limits)

The study locations were evaluated under these scenarios:

1. **Existing Conditions** reflects 2016 traffic counts and the existing transportation network.
2. **Existing Plus Project** adds Project-generated traffic to Existing Conditions volumes.
3. **Cumulative Conditions** represents future traffic conditions reflective of the buildout of land uses in the area, not including the proposed Project.
4. **Cumulative Plus Project** represents future traffic conditions reflective of the buildout of land uses in the area, including the proposed Project.

Each scenario is described in more detail in the appropriate chapter.

Figure 1: Project and Study Locations

Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

Legend:

- Project Site
- Study Intersection

May 2018

650 Tank Farm TIS

Figure 2: Project Site Plan

Source: RRM Design Group

Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

Analysis Methods

The analysis approach was developed based on the City of San Luis Obispo's standards and policies. Facilities operated by the City of San Luis Obispo were evaluated using thresholds identified in the 2014 Circulation Element. Table 2 of the Circulation Element specifies that level of service (LOS) D or better operations shall be maintained for bicycle, transit, and vehicle modes in the study area. The minimum LOS standard for pedestrians is LOS C. The Circulation Element establishes priorities of each mode as presented in Table 1. Project impacts are considered significant if the project degrades a higher priority mode.

Table 1: Modal Priorities for Level of Service[1]

Priority	Residential Corridors & Neighborhoods	Commercial Corridors & Areas	Regional Arterial and Highway Corridors
1	Pedestrians	Vehicles	Vehicles
2	Bicycles	Bicycles	Transit
3	Vehicle	Transit	Bicycles
4	Transit	Pedestrians	Pedestrians

1. Source: Table 3 City of San Luis Obispo TIS Guidelines

Intersection Analysis

The level of service thresholds for intersections and the pedestrian, bicycle, and transit modes based on the 6th Edition Highway Capacity Manual (HCM) are presented in Table 2.

Table 2: Intersection Level of Service Thresholds

Signalized Intersections[1]		Two-Way Stop Sign Controlled[2]		Pedestrian and Bicycle Modes, Signal Control[3]		Pedestrian and Bicycle Modes, TWSC[4]	
Control Delay (sec/vehicle)	Level of Service	Control Delay (seconds/vehicle)	Level of Service	LOS Score	Level of Service	Control Delay (sec/ped)	Level of Service
≤ 10	A	≤ 10	A	≤ 1.5	A	≤ 5	A
> 10 - 20	B	> 10 - 15	B	>1.5 - 2.5	B	>5 - 10	B
> 20 - 35	C	> 15 - 25	C	>2.5 - 3.5	C	>10 - 20	C
> 35 - 55	D	> 25 - 35	D	>3.5 - 4.5	D	>20 - 30	D
> 55 - 80	E	> 35 - 50	E	> 4.5 - 5.5	E	>30 - 45	E
> 80	F	> 50 or v/c > 1	F	> 5.5	F	>45	F

1. Source: Exhibit 19-8 of the 6th Edition Highway Capacity Manual.
2. Source: Exhibit 20-2 of the 6th Edition Highway Capacity Manual.
3. Source: Exhibit 19-9 of the 6th Edition Highway Capacity Manual
4. Source: Exhibit 20-3 of the 6th Edition Highway Capacity Manual.

The study intersections were analyzed with the Synchro 10 software package applying the HCM 6th Edition methods.

Segment Analysis

The study roadway segments were evaluated for auto, transit, pedestrians, and bicycles using the LOS+ software, which applies the HCM 2010 methods. The LOS score thresholds are shown in Table 3.

Table 3: Roadway Segment Level of Service Thresholds	
Pedestrian, Bicycle, and Transit Modes, Segments[4]	
LOS Score	Level of Service
≤ 2.00	A
> 2.00-2.75	B
> 2.75-3.50	C
> 3.50-4.25	D
> 4.25-5.00	E
> 5.00	F

1. Source: Exhibits 16-5 and 16-6 of the 2010 Highway Capacity Manual, assuming 60 ft^2/p for pedestrian mode.

Thresholds of Significance

Significant impacts to transportation facilities are identified under the following circumstances:

Unsignalized intersections:

Project traffic causes an intersection operating at LOS A, B, C, or D to degrade to unacceptable traffic conditions of LOS E or F; and the volume-demand-to-capacity ratio (V/C), which compares roadway demand (vehicle volumes) with roadway supply (roadway capacity), is increased by 0.01 or more and signal warrants are met; or the project buildout causes or exacerbates 95th percentile turning movement queues exceeding available turn pocket capacity.

Signalized Intersections

Project traffic causes an intersection operating at an acceptable LOS D or better to degrade to unacceptable traffic conditions, and the V/C ratio is increased by 0.01 or more; or the project buildout causes or exacerbates 95th percentile turning movement queues exceeding available turn pocket capacity.

Segments:

Project traffic causes segment operation level of service degradation as follows:

- For bicycles, a segment operating at LOS A, B, C, or D to degrade to LOS E or F.
- For pedestrians, a segment operating at LOS A, B, or C to degrade to LOS D, E, or F.
- For vehicles, segments operating at LOS A, B, C, or D to degrade to LOS E or F and an increase of the V/C ratio by .01 or more.
- For transit service, a segment operating at LOS A, B, C, or D to degrade to LOS E or F; or a segment with a baseline LOS E or F to degrade in a contextually significant way.

The City's Multimodal Transportation Impact Study Guidelines allow discretion when identifying impacts to non-auto modes based on whether the impacts are contextually significant.

Existing Conditions

This section describes the existing transportation system and current operating conditions in the study area.

EXISTING ROADWAY NETWORK

Broad Street is a north-south, two-way road. North of its intersection with South Street and Santa Barbara Avenue, it is a 2-lane residential arterial street with a speed limit of 35 mph. This section of road functions as a main connection between residential areas and the downtown core. South of the Broad/South/Santa Barbara intersection, Broad Street is a 4-lane highway/regional route with a speed limit ranging from 40 mph at the north end of the segment to 45 mph at the southern end. This segment serves as a main route to and from the southern industrial and commercial centers to the downtown core and other regions.

Tank Farm Road is an east-west, 2- lane arterial road with a speed limit of 45 mph in the study area. Tank Farm Road serves a major connection from South Higuera Street to Broad Street, connecting residential with commercial and industrial areas.

Santa Fe Road is a two-lane, two-way commercial collector. Santa Fe Road connects Buckley Road and Hoover Ave to Tank Farm Road.

Industrial Way is a two-lane commercial collector with a speed limit of 40 mph. Industrial Way connects the commercial properties of Broad Street to the rest of the region via Broad Street. West of Broad Street Industrial Way serves Damon Garcia Park and a commercial development.

Aero Vista Lane is a two-lane, two-way highway/regional route with a speed limit of 25 mph. Aero Vista Lane links commercial properties to Broad street, which provides access to the airport region.

Aero Drive is a two-lane, two-way local road with a speed limit of 25 mph. Aero Drive serves as the primary access point for the San Luis Obispo County Regional Airport.

Capitolio Way is a two-lane, two-way commercial collector with a speed limit of 35 mph. It links commercial properties to Sacramento Drive and Broad Street.

Long Street is a two-lane, two-way local road. Long street connects Hind Lane to Tank Farm Road.

South Higuera Street is a north-south, 4-lane arterial with a speed limit of 45 mph in the study area. South Higuera Street serves as the primary north-south route on the east side of US 101 serving local traffic.

Mindbody Driveway is the main entrance serving the main campus of Mindbody, Inc., along with other businesses in the same business park.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals at signalized intersections. South of Rockview Place, Broad Street has a paved sidewalk only on the east side of the street. Broad Street between Tank Farm Road and Aero Vista Lane has a discontinuous sidewalk on the east side of the street. East of the Union Pacific Railroad overhead crossing, Tank Farm Road has a discontinuous sidewalk on its north side. West of Broad Street, Tank Farm Road has no sidewalks on the north side of the road, and between Santa Fe Road and Old Windmill Lane has no sidewalks on either side. All other study segments have paved sidewalks on both sides of the street.

The intersection of Tank Farm Road and Long Street, with stop control only on Long Street, does not have striped crosswalks for any pedestrian movements. The intersection of Tank Farm Road and Santa

Fe Road, with stop control only on Santa Fe Road, does not have striped crosswalks for any pedestrian movements. The signalized intersection of Tank Farm Road and the Mindbody driveway has no pedestrian phases or striped crosswalks. The intersection of Broad Street and Capitolio Way, with stop control only on Capitolio Way, does not have any striped crosswalks. The intersection of Broad Street and Aero Vista Lane, with stop control only on Aero Vista Lane, does not have any striped crosswalks. The signalized intersection of Broad Street and Aero Drive only has pedestrian phases for the north, east, and west legs. All other intersections have crosswalks on all legs.

Bicycle facilities in the study area consist of Class II bike lanes. A Class II bike lane provides a striped lane for one-way bicycle travel on the side of a street. Broad Street and Tank Farm Road both have Class II bike lanes on both sides of the road throughout the study segments.

EXISTING TRANSIT SERVICE

The San Luis Obispo Regional Transit Authority (RTA) and the City of San Luis Obispo Transit Division (SLO Transit) provide transit service to the study area. SLO Transit Routes 1 and 3 provide fixed-route service to the study area. RTA offers Dial-A-Ride curb to curb services within the city limits.

An acceptable transit LOS is primarily predicated on the presence of shelters and benches at bus stops, as well as the frequency and on-time performance of each route. If there are no bus stops on a segment, transit LOS is marked as N/A.

SLO Transit Route 1A passes through the vicinity of the project as it travels north and southbound along Broad Street. Route 1A services the Downtown Transit Center, the Orcutt Road/Johnson Avenue area and the San Luis Obispo County Regional Airport. It enters the vicinity of the project traveling westbound on Tank Farm Road, before turning south to serve the airport and going north on Broad Street to serve the Downtown Transit Center. It has stops at the airport near Aero Drive, Aero Vista Lane, Broad and Tank Farm (Marigold Center), Broad and Industrial, and stops to the north and south of Capitolio Way. It is important to note that the stops along Broad Street north of Tank Farm Road are located on the east side of Broad Street. Route 1A runs daily with hourly headways. Buses typically run from 6:15 AM to 10:00 PM on weekdays and from 8:15 AM to 8:00 PM on weekends.

SLO Transit implemented their latest Short-Range Transit Plan (SRTP) in mid-2017, so long-term boarding data is not available. Before implementation of the SRTP, Route 3 served stops around the Marigold shopping center, which is located on the northeast corner of the Tank Farm Road and Broad Street intersection. The SRTP notes that the stop at the Marigold center served 37 boardings and 10 alightings per day. The stop nearer to Capitolio Way was served 24 boardings and alightings per day.

EXISTING TRANSPORTATION CONDITIONS

This section is divided into the following subsections: 1) intersection operations, 2) segment operations.

1. Intersection Operations

Traffic counts were collected in 2016 by the City of San Luis Obispo as a part of their biannual traffic count data collection program, with the exceptions of Tank Farm Road/Long Street, Tank Farm Road/Santa Fe Road, Tank Farm Road/Mindbody Traffic Signal, and Broad Street/ Aero Vista Lane, which were collected independently in 2016 and 2017. Traffic count sheets are provided in Appendix A.

Figure 3 shows the Existing peak hour traffic volumes. Table 4 shows the LOS for the study intersections and Table 5 summarizes the vehicular queuing, with detailed calculation sheets included in Appendix B.

Table 4: Existing Intersection Auto Levels of Service

Intersection	Peak Hour	V/C[1]	Delay[2] (sec/veh)	LOS
1. Tank Farm Road/South Higuera Street	AM	0.87	26.7	C
	PM	0.93	32.7	C
2. Tank Farm Road/Long Street	AM	0.19	1.9 (23.4)	- (C)
	PM	0.40	**3.8 (41.7)**	**- (E)**
3. Tank Farm Road/Santa Fe Road	AM	0.15	1.3 (20.5)	- (C)
	PM	0.57	**3.7 (39.6)**	**- (E)**
4. Tank Farm Road/MindBody Traffic Signal	AM	0.77	7.4	A
	PM	0.91	14.7	B
5. Broad Street/Capitolio Way	AM	0.20	1.0 (14.7)	- (B)
	PM	0.38	1.7 (23.5)	- (C)
6. Broad Street/Industrial Way	AM	0.79	13.5	B
	PM	0.97	26.9	C
7. Broad Street/Tank Farm Road	AM	0.87	38.2	D
	PM	0.88	43.8	D
8. Broad Street/Aero Vista Lane	AM	0.14	0.8 (19.9)	- (C)
	PM	0.47	2.1 (28.0)	- (D)
9. Broad Street/Aero Drive	AM	0.66	7.6	A
	PM	1.07	32.9	C

1. Volume to capacity ratio reported for worst movement.
2. HCM 6th average control delay in seconds per vehicle. For side-street-stop controlled intersections the worst
Note: Unacceptable operations shown in **bold** text.

The following intersection operates below the LOS D threshold for vehicles:

- Tank Farm Road/Long Street (#2): The southbound approach operates at LOS E during the PM peak hour due to long delays experienced by left-turning traffic.
- Tank Farm Road/Santa Fe Road (#3): The northbound approach operates at LOS E during the PM peak hour due to long delays experienced by left-turning traffic and high volumes on Tank Farm Road.

Tables 5 presents a summary of the existing queues for the study intersections. Existing queue calculations can be found in Appendix B.

Table 5: Existing Queue Summary

Intersection	Movement	Storage Length (ft)	Peak Hour	Existing
				95th Percentile Queues (ft)[1]
1. Tank Farm Road/South Higuera Street	WBL	670	AM	125
			PM	#311
	WBR	250	AM	63
			PM	93
	NBR	140	AM	30
			PM	61
	SBL	165	AM	**#324**
			PM	**#471**
3. Tank Farm Road/Santa Fe Road	NBR	25	AM	11
			PM	**73**
4. Tank Farm Road/MindBody Traffic Signal	WBL	210	AM	36
			PM	20
	NBL	330	AM	21
			PM	#183
5. Broad Street/Capitolio Way	WBL	-	AM	3
			PM	16
6. Broad Street/Industrial Way	EBT/L	350	AM	18
			PM	67
	NBL	150	AM	63
			PM	#96
	SBL	150	AM	79
			PM	**#274**
7. Broad Street/Tank Farm Road	EBL	300	AM	145
			PM	#277
	EBR	90	AM	89
			PM	58
	WBL	150	AM	**#265**
			PM	**#273**
	NBL	290	AM	120
			PM	#210
	SBL	250	AM	95
			PM	#244
	SBR	300	AM	83
			PM	167
8. Broad Street/Aero Vista Lane	EBL	75	AM	11
			PM	51
9. Broad Street / Aero Drive	EBT/L	310	AM	32
			PM	83

1. Queue length that would not be exceeded 95 percent of the time.
# indicates that 95th percentile volume exceeds capacity, queue may be longer.
Bold indicates queue length longer than storage length.
Detailed queues provided in Appendix B.

The following instances of queue spillback or overcapacity movements are noted:

- Tank Farm Road/South Higuera Street (#1): The westbound left turning movement is over capacity and occasionally does not clear in a single cycle during the PM peak hour. The southbound left turning movement queues sometimes require more than one cycle to clear. The reported queues are longer than field-observed conditions due to the high vehicular volumes and the minimum green times required to serve pedestrians. There are relatively few pedestrian calls, so the intersection operates with shorter queues than shown in Table 5. However, some of the observed queues still exceeded the turn pocket lengths and did not clear within a cycle. Additionally, vehicles making a southbound left turning movement can utilize the two-way left turn lane to effectively extend the turn pocket without blocking through movements.
- Tank Farm Road/Santa Fe Road (#3): The northbound right queue exceeds the turn pocket during the PM peak hour. The northbound approach is flared, without a marked turn pocket, so a pocket length of 25 feet was assumed for this analysis. However, the wide flare at this intersection prevents the right-turning queue from blocking left-turning traffic, even if queues exceed 25 feet.
- Broad Street/Industrial Way (#6): In the PM peak hour, the southbound left turning movement is over capacity and the queue length exceeds the turn pocket length. At this location, the pedestrian walk and flashing don't walk times and split phasing dictate long cycle lengths on the east and westbound approaches, resulting in green times longer than are needed to serve the vehicular volumes. Traffic counts and field observations indicate that there are relatively few pedestrian crossings and the reported overcapacity queue operates acceptably in the field.
- Broad Street/Tank Farm Road (#7): In the PM peak hour, the eastbound left movement is over capacity. The westbound left movement is over capacity and exceeds the turn pocket length for both peak hours. The northbound and southbound left movements are over capacity during the PM peak hour. This intersection experiences high turning volumes, which results in queues for many turning movements.

Tables 6 and 7 show the existing pedestrian and bicycle LOS for the study intersections.

Table 6: Existing Intersection Pedestrian Levels of Service					
		AM Peak Hour		PM Peak Hour	
Intersection	Direction	LOS Score[2]	LOS[1]	LOS Score[4]	LOS[1]
1. Tank Farm Road/South Higuera Street	NB	2.83	C	3.05	C
	SB	2.69	C	3.02	C
	EB	1.98	B	2.00	B
	WB	2.68	C	2.85	C
2. Tank Farm Road/Long Street	EB	**>200**	**F**	**>200**	**F**
	WB	**>200**	**F**	**>200**	**F**
3. Tank Farm Road/Santa Fe Road	EB	18.70	C	**30.60**	**E**
	WB	**>200**	**F**	**>200**	**F**
4. Tank Farm Road/MindBody Traffic Signal	NB	1.98	B	2.03	B
	EB	2.56	C	2.79	C
	WB	2.58	C	2.74	C
5. Broad Street/Capitolio Way	NB	**>200**	**F**	**>200**	**F**
	SB	**>200**	**F**	**>200**	**F**
6. Broad Street/Industrial Way	NB	2.87	C	2.92	C
	SB	2.84	C	2.91	C
	EB	2.00	B	2.03	B
	WB	2.09	B	2.16	B
7. Broad Street/Tank Farm Road	NB	2.86	C	2.88	C
	SB	2.87	C	2.92	C
	EB	2.74	C	2.83	C
	WB	2.51	C	2.59	C
8. Broad Street/Aero Vista Lane	NB	**>200**	**F**	**>200**	**F**
	SB	**>200**	**F**	**>200**	**F**
9. Broad Street/Aero Drive	NB	2.70	C	2.68	C
	SB	2.71	C	2.70	C
	EB	1.98	B	2.01	B
	WB	1.97	B	1.97	B

1. HCM 6th pedestrian score and LOS.
2. HCM 6th reports pedestrian LOS at two-way stop controlled intersections in delay (seconds).

Pedestrian service levels exceed the acceptable levels at intersections 2, 3, 5, and 8 due to the presence of side-street stop controlled intersections. There are signalized intersections providing pedestrian signals near all of these locations. No other pedestrian deficiencies are reported.

Table 7: Existing Intersection Bicycle Levels of Service						
		AM Peak Hour		PM Peak Hour		
Intersection	Direction	LOS Score[2]	LOS[1]	LOS Score[4]	LOS[1]
1. Tank Farm Road/South Higuera Street	NB	3.41	C	3.60	D
	SB	3.04	C	3.47	C
	EB	3.12	C	3.10	C
	WB	3.55	D	4.44	D
2. Tank Farm Road/Long Street	EB	N/A		N/A	
	WB				
3. Tank Farm Road/Santa Fe Road	EB	N/A		N/A	
	WB				
4. Tank Farm Road/MindBody Traffic Signal	NB	2.51	C	2.87	C
	SB	-	-	-	-
	EB	2.89	C	3.10	C
	WB	4.13	D	4.50	D
5. Broad Street/Capitolio Way	NB	N/A		N/A	
	SB				
6. Broad Street/Industrial Way	NB	3.12	C	3.28	C
	SB	3.14	C	3.21	C
	EB	2.71	C	2.86	C
	WB	2.89	C	3.25	C
7. Broad Street/Tank Farm Road	NB	3.58	D	3.73	D
	SB	3.69	D	3.80	D
	EB	3.27	C	3.57	D
	WB	3.89	D	3.85	D
8. Broad Street/Aero Vista Lane	NB	N/A		N/A	
	SB				
9. Broad Street/Aero Drive	NB	3.43	C	2.89	C
	SB	2.85	C	3.28	C
	EB	2.70	C	2.90	C
	WB	2.71	C	2.76	C

1. HCM 6th bicycle score and LOS.
2. The HCM 6th does not establish LOS standards for bicycles at stop-controlled intersections.

No bicycle intersection LOS deficiencies are reported.

2. Segment Operations

Tables 8 and 9 show the existing segment operations during the AM and PM peak hours. The following deficiencies are reported:

- **Auto:** Multiple segments of Broad Street operate deficiently because their volume to capacity ratios are greater than one, which results in an automatic LOS F. The segment of westbound Tank Farm from Old Windmill Lane to Santa Fe Road (#1a) also operates unacceptably at LOS F during the PM peak hour due to a volume to capacity ratio greater than one. The remaining segments operate acceptably.

- **Pedestrian:** Multiple segments do not have a pedestrian LOS reported due to the absence of pedestrian facilities, or discontinuous pedestrian facilities. The segment of northbound Broad Street from Orcutt Road to Industrial Way (#3a) operates unacceptably at LOS D during the PM peak hour. This segment has a relatively wide sidewalk (over eight feet in most places) with narrower sections separated from the travel lanes by a landscaped buffer. This buffer was not included in the MMLOS analysis because it is discontinuous; however, coding even a one foot buffer improves this segment to LOS C. The remaining segments operate acceptably. The remaining segments with pedestrian facilities operate accpetably.

- **Bicycle:** All bicycle segments operate acceptably at LOS D or better.

- **Transit:** Multiple study segments operate below the desired transit service level due to relatively infrequent service or the lack of bus stops on a specific segment.

Table 8: Existing AM Segment MMLOS[1]

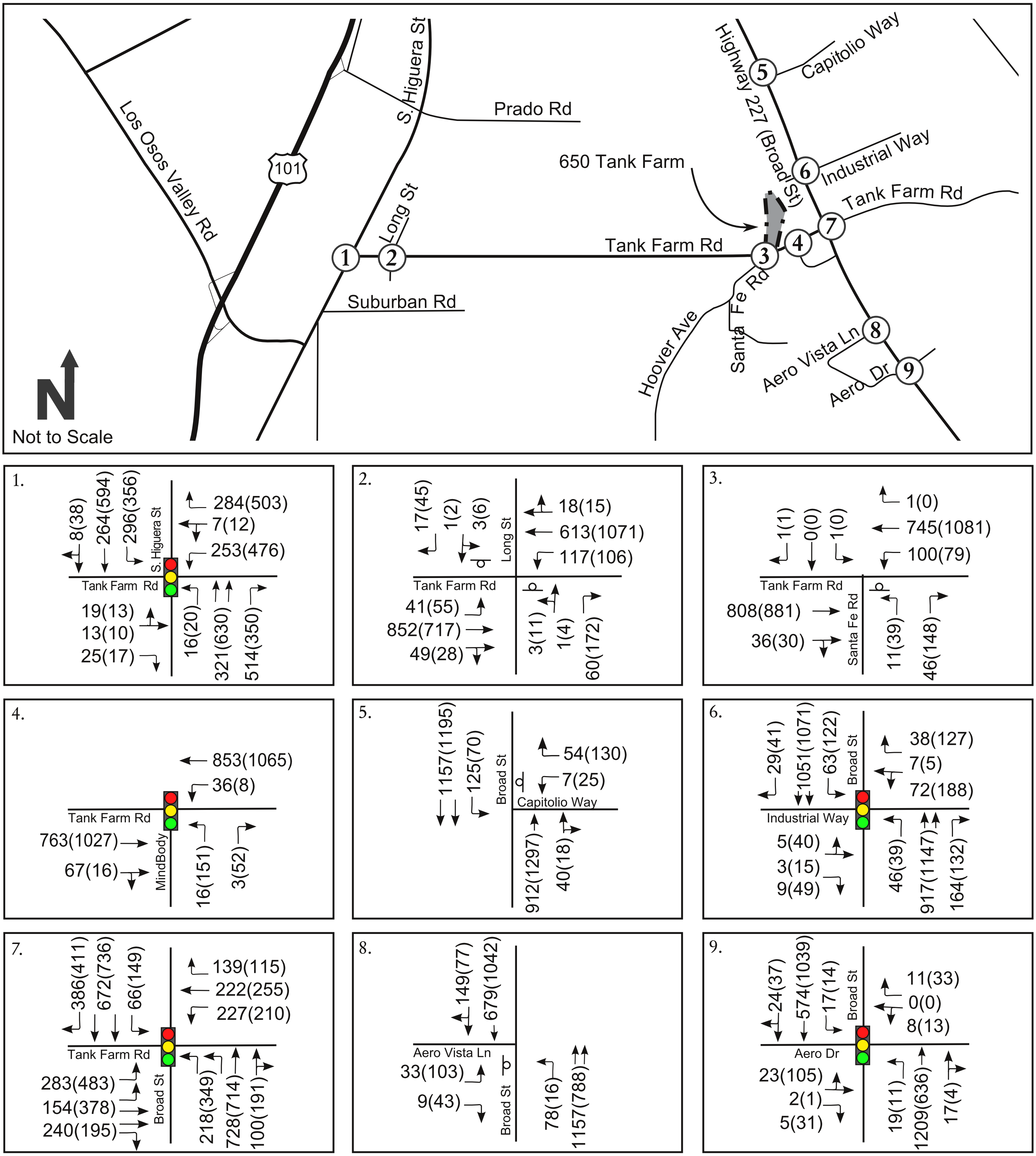
Segment	Direction	Auto		Pedestrian[2]		Bicycle		Transit[3]	
		Score	LOS[1]	Score	LOS	Score	LOS	Score	LOS
1a. Tank Farm Road - Old Windmill Lane to Santa Fe Road	EB	2.34	B	N/A	N/A	2.78	C	N/A	N/A
	WB	2.34	B	N/A	N/A	2.69	B	N/A	N/A
1b. Tank Farm Road - Santa Fe Road to Broad Street	EB	2.75	B	2.79	C	2.05	B	N/A	N/A
	WB	2.75	B	N/A	N/A	2.44	B	N/A	N/A
2a. Tank Farm Road - Broad Street to UPRR	EB	2.47	B	2.84	C	2.18	B	N/A	N/A
	WB	2.47	B	3.14	C	2.38	B	3.33	C
2b. Tank Farm Road - UPRR to Orcutt Road	EB	3.13	C	1.12	A	0.30	A	N/A	N/A
	WB	3.13	C	N/A	N/A	0.47	A	4.17	D
3a. Broad Street - Orcutt Road to Industrial Way	NB	2.14	B	3.14	C	2.21	B	**4.65**	**E**
	SB	2.14	B	N/A	N/A	2.09	B	N/A	N/A
3b. Broad Street - Industrial Way to Tank Farm Road	NB	2.14	B	2.83	C	2.09	B	**5.55**	**F**
	SB	**2.14**	**F**	N/A	N/A	2.06	B	N/A	N/A
4a. Broad Street - Tank Farm Road to Aero Vista Lane	NB	**2.52**	**F**	N/A	N/A	2.08	B	N/A	N/A
	SB	2.52	B	3.22	C	0.98	A	**4.69**	**E**
4b. Broad Street - Aero Vista Lane to Aero Drive	NB	2.14	B	2.89	C	1.24	A	N/A	N/A
	SB	2.14	B	2.18	B	0.92	A	N/A	N/A
4c. Broad Street - Aero Drive to South City Limits	NB	**2.93**	**F**	N/A	N/A	2.10	B	N/A	N/A
	SB	2.93	C	N/A	N/A	1.22	A	**5.70**	**F**

1. HCM 2010 LOS score and LOS.
2. LOS is not established for segments without a sidewalk.
3. LOS is not established for segments without a directional transit route.

Table 9: Existing PM Segment MMLOS[1]									
		Auto		**Pedestrian[2]**		**Bicycle**		**Transit[3]**	
Segment	**Direction**	Score	LOS[1]	Score	LOS	Score	LOS	Score	LOS
1a. Tank Farm Road - Old Windmill Lane to Santa Fe Road	EB	2.34	B	N/A	N/A	2.80	C	N/A	N/A
	WB	2.34	B	N/A	N/A	2.92	C	N/A	N/A
1b. Tank Farm Road - Santa Fe Road to Broad Street	EB	2.75	B	3.11	C	2.20	B	N/A	N/A
	WB	2.75	B	N/A	N/A	2.57	B	N/A	N/A
2a. Tank Farm Road - Broad Street to UPRR	EB	2.47	B	3.30	C	2.59	B	N/A	N/A
	WB	2.47	B	3.13	C	2.37	B	3.32	C
2b. Tank Farm Road - UPRR to Orcutt Road	EB	3.13	C	1.72	A	0.66	A	N/A	N/A
	WB	3.13	C	N/A	N/A	0.33	A	4.14	D
3a. Broad Street - Orcutt Road to Industrial Way	NB	**2.14**	**F**	**3.64**	**D**	2.39	B	**4.71**	**E**
	SB	2.14	B	N/A	N/A	2.11	B	N/A	N/A
3b. Broad Street - Industrial Way to Tank Farm Road	NB	2.14	B	2.80	C	2.11	B	**5.53**	**F**
	SB	**2.14**	**F**	N/A	N/A	2.08	B	N/A	N/A
4a. Broad Street - Tank Farm Road to Aero Vista Lane	NB	**2.52**	**F**	N/A	N/A	2.06	B	N/A	N/A
	SB	2.52	B	3.38	C	1.05	A	**4.72**	**E**
4b. Broad Street - Aero Vista Lane to Aero Drive	NB	2.14	B	2.32	B	0.83	A	N/A	N/A
	SB	**2.14**	**F**	2.68	B	1.18	A	N/A	N/A
4c. Broad Street - Aero Drive to South City Limits	NB	2.93	C	N/A	N/A	1.77	A	N/A	N/A
	SB	2.93	C	N/A	N/A	1.53	A	**5.71**	**F**

1. HCM 2010 LOS score and LOS.
2. LOS is not established for segments without a sidewalk.
3. LOS is not established for segments without a directional transit route.

Figure 3: Existing Peak Hour Volumes and Lane Configurations



Legend:

xx(yy) - AM(PM) Peak Hour Traffic Volumes

- Project Site

- Traffic Signal

(x) - Study Intersection

- Stop Sign

Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

Existing Plus Project Conditions

This section evaluates the impacts of the proposed project on the surrounding transportation network.

PROJECT TRAFFIC ESTIMATES

The amount of project traffic affecting the study locations is estimated in three steps: trip generation, trip distribution, and trip assignment. Trip generation refers to the total number of trips generated by the site. Trip distribution identifies the general origins and destination of these trips, and trip assignment specifies the routes taken to reach these origins and destinations.

Trip Generation

The project's trip generation estimate was developed using weekday daily, AM peak hour, and PM peak hour data provided in the Institute of Transportation Engineers' (ITE) Trip Generation Manual. Table 10 shows the estimated trip generation from the proposed project.

Table 10: Weekday Vehicle Trip Generation

Land Use	Size	Unit[1]	Daily	AM In	AM Out	AM Total	PM In	PM Out	PM Total
Apartment (220)[2]	249	DU	1,656	25	102	127	100	54	154
Shopping Center (820)[3]	17.5	KSF	747	11	6	17	31	34	65
Gross Trips:			***2,403***	***36***	***108***	***144***	***131***	***88***	***219***
Internal Trips			328	0	0	0	13	13	26
Pass-By Trips[4]			90	0	0	0	9	9	18
Existing Mobile Home Park[5]			150	6	9	15	5	6	11
Net New Trips			**1,835**	**30**	**99**	**129**	**104**	**60**	**164**

1) DU = dwelling unit, KSF = thousand square feet
2) ITE Land Use Code #220, Apartment. Fitted curve equations used.
3) ITE Land Use Code #820, Shopping Center. Average rates used.
4) PM Peak Hour rate multiplied by a factor of 5 to determine daily trips.
5) AM Peak Hour rate multiplied by a factor of 10 to determine daily trips.
Source: ITE *Trip Generation Manual*, 9th Edition, 2012; CCTC, 2017.

The project is expected to generate a total of 1,835 new daily trips, 129 new AM peak hour trips, and 164 new PM peak hour trips. Net new trips were found by subtracting internal capture trips, pass-by trips, and existing mobile home park trips from the gross trip generation. Trips from the mobile home park currently at the site were counted and credited to the project.

Trip Distribution and Assignment

Trip distribution and assignment for the project trips were estimated using a select zone procedure in the City's Travel Demand Model, refined based on the site plan and local knowledge. **Figure 4** shows the trip distribution percentages and existing conditions project traffic assignment. **Figure 5** shows the Existing Plus Project volumes.

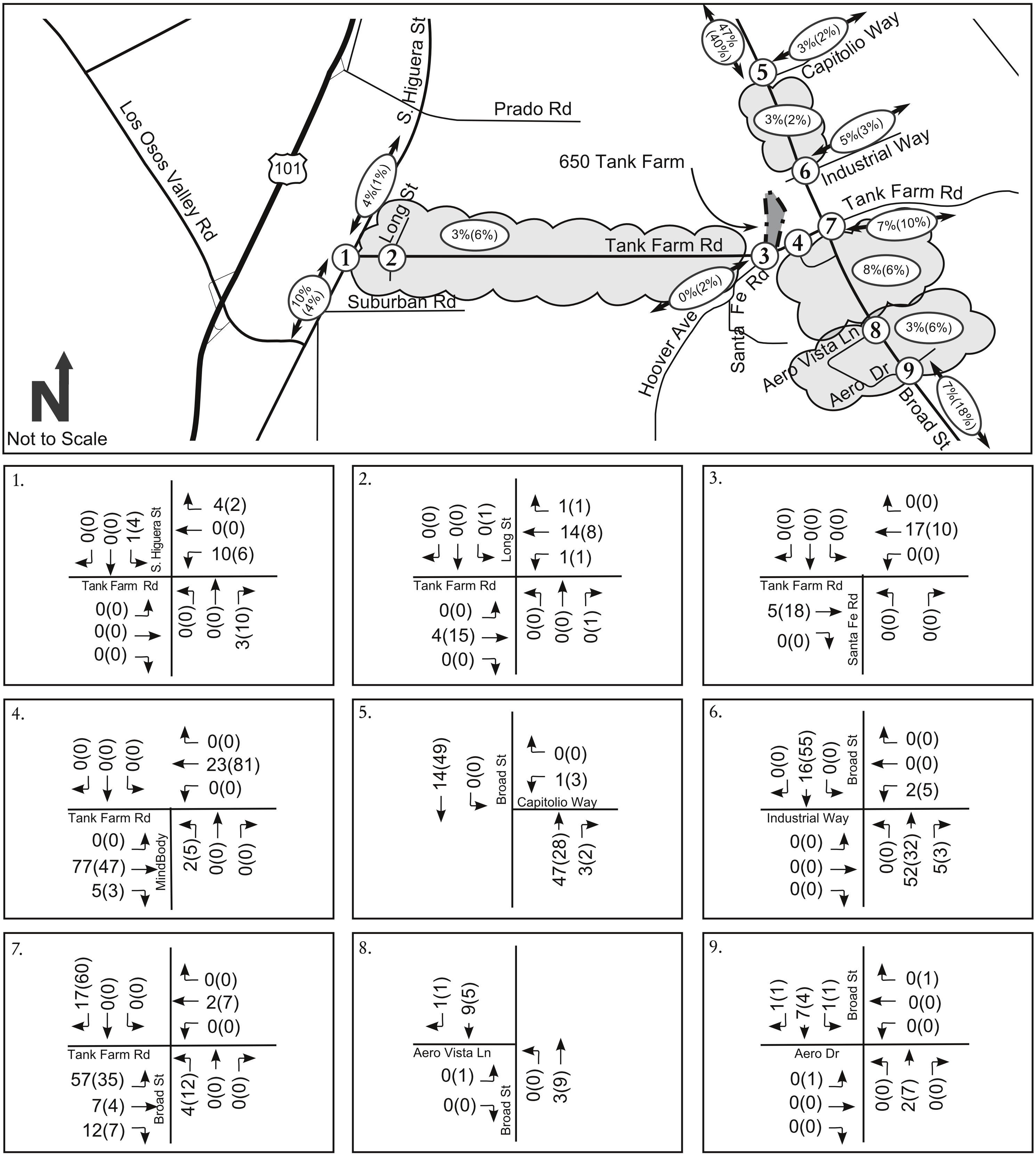
Planned Improvements

The current site plan does not show detailed dimensions of all frontage improvements. Consistent with the Airport Area Specific Plan (AASP), two through lanes, a bike lane, a 5-foot landscaped buffer, and a 6-foot sidewalk were assumed on Tank Farm Road along the project frontage. Simultaneously, Tank

Farm Road was assumed to be consistently widened to two through lanes per direction east of Santa Fe Road. However, sidewalks were not assumed to be provided on Tank Farm Road between Broad Street and the project site under the Existing Plus Project scenario.

Site access is proposed via two side-street stop controlled intersections on Tank Farm Road near Santa Fe Road and via a connection to the Digital West property to the west. These improvements and recommended access changes are discussed in detail in the Site Access and Circulation section of this report.

Figure 4: Project Trip Distribution and Existing Project Volumes



Legend:

xx(yy) - AM(PM) Peak Hour Traffic Volumes

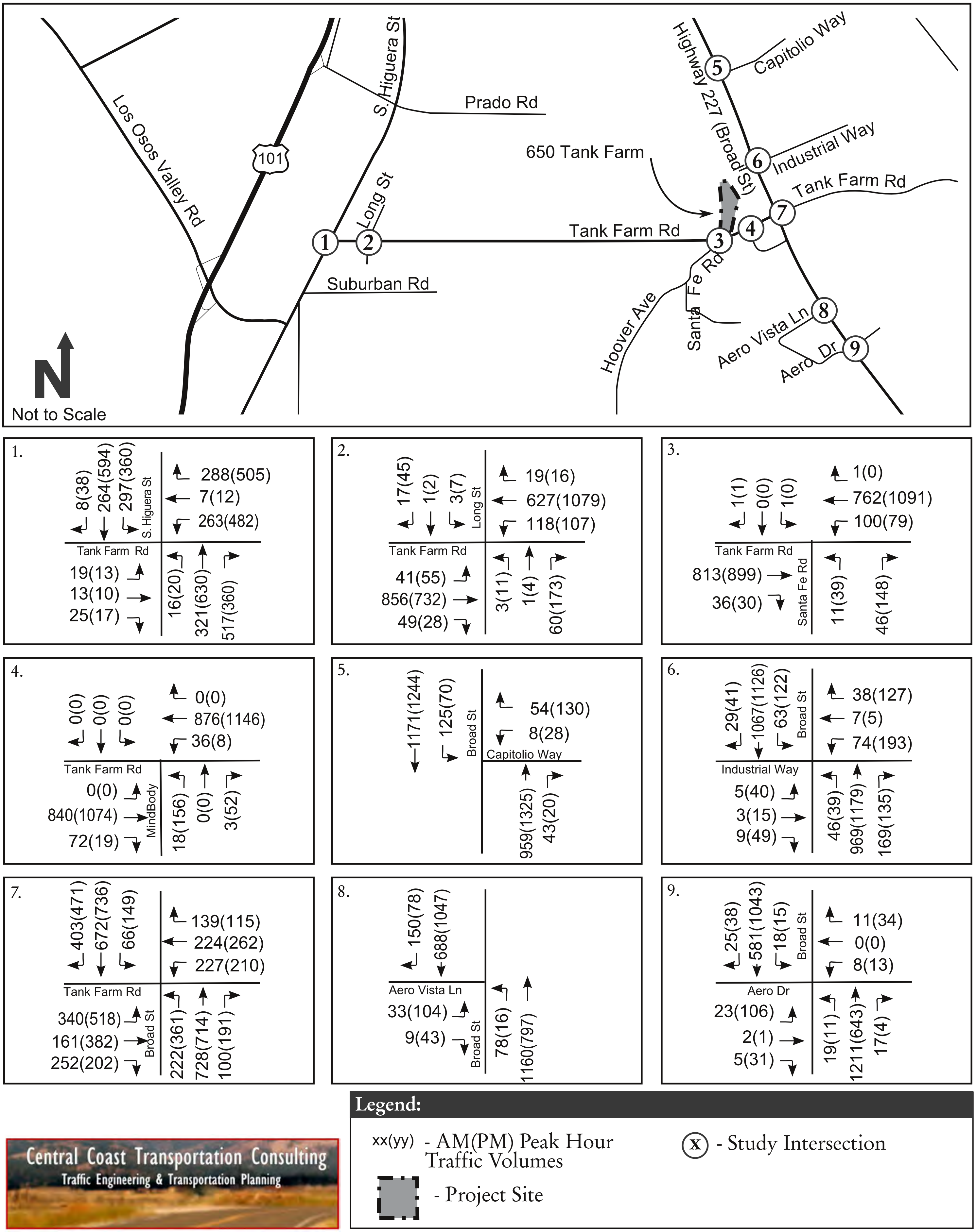
(x) - Study Intersection

- Project Site

x%(y%) - Existing% (Cumulative %) Project Trip Distribution

Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

Figure 5: Existing Plus Project Volumes



Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

EXISTING PLUS PROJECT IMPACT ANALYSIS

1. Intersection Operations

Figure 5 shows the Existing Plus Project peak hour traffic volumes. Table 11 shows the LOS for the study intersections and Table 12 summarizes the vehicular queuing under Existing Plus Project conditions, with detailed calculation sheets included in Appendix B.

Table 11: Existing and Existing Plus Project Intersection Auto Levels of Service

Intersection	Peak Hour	Existing V/C[1]	Existing Delay[2] (sec/veh)	Existing LOS	Existing + Project V/C[1]	Existing + Project V/C Delta	Existing + Project Delay[2] (sec/veh)	Existing + Project LOS
1. Tank Farm Road/South Higuera Street	AM	0.87	26.7	C	0.87	0.00	27.0	C
	PM	0.93	32.7	C	0.94	0.01	33.3	C
2. Tank Farm Road/Long Street	AM	0.19	1.9 (23.4)	- (C)	0.19	0.00	1.9 (24.1)	- (C)
	PM	0.40	**3.8 (41.7)**	**- (E)**	0.42	**0.02**	**4.0 (50.0)**	**- (F)**
3. Tank Farm Road/Santa Fe Road	AM	0.15	1.3 (20.5)	- (C)	0.15	0.00	1.1 (14.9)	- (B)
	PM	0.57	**3.7 (39.6)**	**- (E)**	0.48	-0.09	2.0 (20.0)	- (C)
4. Tank Farm Road/MindBody Traffic Signal	AM	0.77	7.4	A	0.78	0.01	6.3	A
	PM	0.91	14.7	B	0.95	0.04	9.3	A
5. Broad Street/Capitolio Way	AM	0.20	1.0 (14.7)	- (B)	0.21	0.01	1.1 (15.4)	- (C)
	PM	0.38	1.7 (23.5)	- (C)	0.39	0.01	1.8 (24.8)	- (C)
6. Broad Street/Industrial Way	AM	0.79	13.5	B	0.79	0.00	13.6	B
	PM	0.97	26.9	C	0.98	0.01	28.2	C
7. Broad Street/Tank Farm Road	AM	0.87	38.2	D	0.87	0.00	39.2	D
	PM	0.88	43.8	D	0.89	0.01	46.1	D
8. Broad Street/Aero Vista Lane	AM	0.14	0.8 (19.9)	- (C)	0.15	0.01	0.8 (20.1)	- (C)
	PM	0.47	2.1 (28.0)	- (D)	0.48	0.01	2.1 (28.6)	- (D)
9. Broad Street/Aero Drive	AM	0.66	7.6	A	0.66	0.00	7.7	A
	PM	1.07	32.9	C	1.11	0.04	33.8	C

1. Volume to capacity ratio reported for worst movement.
2. HCM 6th average control delay in seconds per vehicle. For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.
Note: Unacceptable operations shown in **bold** text.

The following intersection operates below the LOS D threshold for vehicles:

- Tank Farm Road/Long Street (#2): the side street approaches to this intersection operate unacceptably both with and without the project during the PM peak hour. A traffic signal is in final design for this location and is required as a condition of approval for a nearby project. Installation of a traffic signal would result in acceptable operations.

The remaining intersections operate at an acceptable service level.

Table 12 presents the key queues for the study intersections. Detailed queue and LOS results are provided in Appendix B.

Table 12: Summary Existing and Existing Plus Project Queues

Intersection	Movement	Storage Length (ft)	Peak Hour	Existing	Existing + Project
				95th Percentile Queues (ft)[1]	
1. Tank Farm Road/South Higuera Street	WBL	670	AM	125	47
			PM	**#311**	**#316**
	WBR	250	AM	63	63
			PM	93	94
	NBR	140	AM	30	30
			PM	61	63
	SBL	165	AM	**#324**	**#324**
			PM	**#471**	**#477**
3. Tank Farm Road/Santa Fe Road	NBR	25	AM	11	7
			PM	**73**	**31**
4. Tank Farm Road/MindBody Traffic Signal	WBL	210	AM	36	36
			PM	20	19
	NBL	330	AM	21	23
			PM	#183	#159
5. Broad Street/Capitolio Way	WBL	-	AM	3	9
			PM	16	18
6. Broad Street/Industrial Way	EBT/L	350	AM	18	18
			PM	67	67
	NBL	150	AM	63	63
			PM	#96	#96
	SBL	150	AM	79	79
			PM	**#274**	**#274**
7. Broad Street/Tank Farm Road	EBL	300	AM	145	173
			PM	#277	**#313**
	EBR	90	AM	89	101
			PM	58	59
	WBL	150	AM	**#265**	**#266**
			PM	**#273**	**#276**
	NBL	290	AM	120	122
			PM	#210	#223
	SBL	250	AM	95	95
			PM	**#244**	**#246**
	SBR	300	AM	83	98
			PM	167	230
8. Broad Street/Aero Vista Lane	EBL	75	AM	11	11
			PM	51	53
9. Broad Street / Aero Drive	EBT/L	310	AM	32	32
			PM	83	84

1. Queue length that would not be exceeded 95 percent of the time.
# indicates that 95th percentile volume exceeds capacity, queue may be longer.
Bold indicates queue length longer than storage length.
Detailed queues provided in Appendix B.

The addition of project traffic increases critical queues by at least one vehicle length at the following intersection:

- Broad Street/Tank Farm Road (#7): The eastbound left queue length is increased by one to two vehicles with the addition of project traffic., due to project traffic turning north onto Broad Street.

The queues for Tank Farm Road/Santa Fe Road (#3) and Tank Farm Road/MindBody Traffic Signal (#4) decrease with the addition of the project due to the widening of Tank Farm Road to a four lane cross-section along the project frontage.

Intersection Mitigations

- Tank Farm Road/Long Street (#2): Installation of a traffic signal would result in acceptable operations.
- Broad Street/Tank Farm Road (#7): A vehicular connection from the 650 Tank Farm parcel to the adjacent site to the east, once developed, would allow use of the traffic signal at Industrial Way, thereby avoiding the impacted intersection, reducing the eastbound left turn queue, and improving site circulation. Alternatively, the eastbound left turn queue at Broad Street/Tank Farm Road could be reduced to acceptable levels by providing a second southbound left turn lane. This may require a slight widening of the southbound approach of Broad Street.

Tables 13 and 14 show the Existing and Existing Plus Project pedestrian and bicycle levels of service at the study intersections. The intersection of Tank Farm Road and Santa Fe Road (#3) changes from LOS C to LOS E with the addition of the project. This is due to the widening of Tank Farm Road at the project frontage. Crosswalks are available at the intersection of Tank Farm Road and Broad Street and there are currently very few pedestrians crossing Tank Farm Road at Santa Fe Road, so this change is not anticipated to impact pedestrians. No other new deficiencies are reported from Existing to Existing Plus Project conditions.

Table 13: Existing and Existing Plus Project Intersection Pedestrian Levels of Service

Intersection		Direction	Existing LOS Score[1,2]	Existing LOS[1]	Existing + Project LOS Score[1]	Existing + Project LOS[1]
1. Tank Farm Road/South Higuera Street	AM	NB	2.83	C	2.83	C
		SB	2.69	C	2.69	C
		EB	1.98	B	1.98	B
		WB	2.68	C	2.68	C
	PM	NB	3.05	C	3.05	C
		SB	3.02	C	3.02	C
		EB	2.00	B	2.00	B
		WB	2.85	C	2.86	C
2. Tank Farm Road/Long Street	AM	EB	**>200**	**F**	**>200**	**F**
		WB	**>200**	**F**	**>200**	**F**
	PM	EB	**>200**	**F**	**>200**	**F**
		WB	**>200**	**F**	**>200**	**F**
3. Tank Farm Road/Santa Fe Road	AM	EB	18.70	C	**39.1**	**E**
		WB	**>200**	**F**	**>200**	**F**
	PM	EB	**30.60**	**E**	**85.6**	**F**
		WB	**>200**	**F**	**>200**	**F**
4. Tank Farm Road/MindBody Traffic Signal	AM	NB	1.98	B	1.98	B
		EB	2.56	C	2.62	C
		WB	2.58	C	2.68	C
	PM	NB	2.03	B	2.04	B
		EB	2.79	C	2.81	C
		WB	2.74	C	2.82	C
5. Broad Street/Capitolio Way	AM	NB	**>200**	**F**	**>200**	**F**
		SB	**>200**	**F**	**>200**	**F**
	PM	NB	**>200**	**F**	**>200**	**F**
		SB	**>200**	**F**	**>200**	**F**
6. Broad Street/Industrial Way	AM	NB	2.87	C	2.88	C
		SB	2.84	C	2.85	C
		EB	2.00	B	2.00	B
		WB	2.09	B	2.09	B
	PM	NB	2.92	C	2.94	C
		SB	2.91	C	2.92	C
		EB	2.03	B	2.03	B
		WB	2.16	B	2.17	B
7. Broad Street/Tank Farm Road	AM	NB	2.86	C	2.86	C
		SB	2.87	C	2.88	C
		EB	2.74	C	2.75	C
		WB	2.51	C	2.51	C
	PM	NB	2.88	C	2.88	C
		SB	2.92	C	2.93	C
		EB	2.83	C	2.85	C
		WB	2.59	C	2.59	C
8. Broad Street/Aero Vista Lane	AM	NB	**>200**	**F**	**>200**	**F**
		SB	**>200**	**F**	**>200**	**F**
	PM	NB	**>200**	**F**	**>200**	**F**
		SB	**>200**	**F**	**>200**	**F**
9. Broad Street/Aero Drive	AM	NB	2.70	C	2.70	C
		SB	2.71	C	2.71	C
		EB	1.98	B	1.98	B
		WB	1.97	B	1.97	B
	PM	NB	2.68	C	2.68	C
		SB	2.70	C	2.71	C
		EB	2.01	B	2.01	B
		WB	1.97	B	1.97	B

1. HCM 2010 pedestrian score and LOS.
2. HCM 2010 reports pedestrian LOS at two-way stop controlled intersections in delay (seconds).

Table 14: Existing and Existing Plus Project Intersection Bicycle Levels of Service

Intersection		Direction	Existing LOS Score[1]	Existing LOS[1]	Existing + Project LOS Score[1]	Existing + Project LOS[1]
1. Tank Farm Road/South Higuera Street	AM	NB	3.41	C	3.41	C
		SB	3.04	C	3.04	C
		EB	3.12	C	3.12	C
		WB	3.55	D	3.58	D
	PM	NB	3.60	D	3.60	D
		SB	3.47	C	3.47	C
		EB	3.10	C	3.10	C
		WB	4.44	D	4.46	D
2. Tank Farm Road/Long Street	AM	-	N/A			
	PM	-				
3. Tank Farm Road/Santa Fe Road	AM	-	N/A			
	PM	-				
4. Tank Farm Road/MindBody Traffic Signal	AM	NB	2.51	C	2.70	C
		EB	2.89	C	2.97	C
		WB	4.13	D	3.49	C
	PM	NB	2.87	C	3.06	C
		EB	3.10	C	3.15	C
		WB	4.50	D	3.73	D
5. Broad Street/Capitolio Way	AM	-	N/A			
	PM	-				
6. Broad Street/Industrial Way	AM	NB	3.12	C	3.17	C
		SB	3.14	C	3.15	C
		EB	2.71	C	2.71	C
		WB	2.89	C	2.90	C
	PM	NB	3.28	C	3.31	C
		SB	3.21	C	3.26	C
		EB	2.86	C	2.86	C
		WB	3.25	C	3.25	C
7. Broad Street/Tank Farm Road	AM	NB	3.58	D	3.58	D
		SB	3.69	D	3.70	D
		EB	3.27	C	3.33	C
		WB	3.89	D	3.90	D
	PM	NB	3.73	D	3.74	D
		SB	3.80	D	3.85	D
		EB	3.57	D	3.61	D
		WB	3.85	D	3.86	D
8. Broad Street/Aero Vista Lane	AM	-	N/A			
	PM	-				
9. Broad Street/Aero Drive	AM	NB	3.43	C	3.43	C
		SB	2.85	C	2.86	C
		EB	2.70	C	2.70	C
		WB	2.71	C	2.71	C
	PM	NB	2.89	C	2.89	C
		SB	3.28	C	3.29	C
		EB	2.90	C	2.90	C
		WB	2.76	C	2.76	C

1. HCM 2010 bicycle score and LOS.
2. The 2010 HCM does not establish LOS standards for bicycles at stop-controlled intersections.

2. Segment Operations

Tables 15 and 16 show the Existing Plus Project segment operations during the AM and PM peak hours. The following deficiencies are reported:

- **Auto:** The westbound segment of Tank Farm Road from Santa Fe Road to Broad Street (#1b) operates at LOS F during the PM peak hour because its volume to capacity ratio is greater than one, resulting in an automatic LOS F. The addition of project traffic does not change the auto LOS score. Vehicular capacity on this segment is constrained by the intersections of Tank Farm Road at S Higuera Street and Broad Street, which would meter flow well before the segment capacity caused congestion. This is an insignificant impact. No other new deficiencies were noted with the addition of project traffic.

- **Pedestrian:** The northbound segment of Broad Street from Orcutt Road to Industrial Way operates at LOS D during the PM peak hour both with and without the project due to the high vehicular volumes and percentage of vehicles turning at the downstream intersection. The addition of project traffic increases the LOS score by less than one percent and increases vehicular volumes by less than three percent. This is an insignificant change that would not substantively worsen pedestrian conditions.

- **Bicycle:** No bicycle deficiencies are reported.

- **Transit:** Multiple study segments operate below the desired transit service level due to relatively infrequent service or the lack of bus stops on a specific segment. The addition of project traffic would not overburden or otherwise impact the transit network.

Table 15: Existing Plus Project AM Segment MMLOS[1]										
		Auto		Pedestrian[2]		Bicycle		Transit[3]	
Segment	Direction	Score	LOS[1]	Score	LOS	Score	LOS	Score	LOS
1a. Tank Farm Road - Old Windmill Lane to Santa Fe Road	EB	2.34	B	N/A	N/A	2.79	C	N/A	N/A
	WB	2.34	B	N/A	N/A	2.71	B	N/A	N/A
1b. Tank Farm Road - Santa Fe Road to Broad Street	EB	2.75	B	2.84	C	2.07	B	N/A	N/A
	WB	2.75	B	N/A	N/A	2.10	B	N/A	N/A
2a. Tank Farm Road - Broad Street to UPRR	EB	2.47	B	2.85	C	2.19	B	N/A	N/A
	WB	2.47	B	3.14	C	2.38	B	3.33	C
2b. Tank Farm Road - UPRR to Orcutt Road	EB	3.13	C	1.14	A	0.32	A	N/A	N/A
	WB	3.13	C	N/A	N/A	0.47	A	4.17	D
3a. Broad Street - Orcutt Road to Industrial Way	NB	2.14	B	3.20	C	2.24	B	**4.66**	**E**
	SB	2.14	B	N/A	N/A	2.10	B	N/A	N/A
3b. Broad Street - Industrial Way to Tank Farm Road	NB	2.14	B	2.88	C	2.12	B	**5.55**	**F**
	SB	**2.14**	**F**	N/A	N/A	2.06	B	N/A	N/A
4a. Broad Street - Tank Farm Road to Aero Vista Lane	NB	**2.52**	**F**	N/A	N/A	2.08	B	N/A	N/A
	SB	2.52	B	3.23	C	0.98	A	**4.70**	**E**
4b. Broad Street - Aero Vista Lane to Aero Drive	NB	2.14	B	2.89	C	1.25	A	N/A	N/A
	SB	2.14	B	2.19	B	0.93	A	N/A	N/A
4c. Broad Street - Aero Drive to South City Limits	NB	**2.93**	**F**	N/A	N/A	2.10	B	N/A	N/A
	SB	2.93	C	N/A	N/A	1.22	A	**5.71**	**F**

1. HCM 2010 LOS score and LOS.
2. LOS is not established for segments without a sidewalk.
3. LOS is not established for segments without a directional transit route.

Table 16: Existing Plus Project PM Segment MMLOS[1]										
		Auto		Pedestrian		Bicycle		Transit	
Segment	Direction	Score	LOS[1]	Score	LOS	Score	LOS	Score	LOS
1a. Tank Farm Road - Old Windmill Lane to Santa Fe Road	EB	2.34	B	N/A	N/A	2.81	C	N/A	N/A
	WB	2.34	B	N/A	N/A	2.92	C	N/A	N/A
1b. Tank Farm Road - Santa Fe Road to Broad Street	EB	2.75	B	3.14	C	2.22	B	N/A	N/A
	WB	2.75	B	N/A	N/A	2.24	B	N/A	N/A
2a. Tank Farm Road - Broad Street to UPRR	EB	2.47	B	3.30	C	2.59	B	N/A	N/A
	WB	2.47	B	3.14	C	2.38	B	3.33	C
2b. Tank Farm Road - UPRR to Orcutt Road	EB	3.13	C	1.73	A	0.66	A	N/A	N/A
	WB	3.13	C	N/A	N/A	0.35	A	4.14	D
3a. Broad Street - Orcutt Road to Industrial Way	NB	**2.14**	**F**	**3.67**	**D**	2.40	B	**4.72**	**E**
	SB	2.14	B	N/A	N/A	2.13	B	N/A	N/A
3b. Broad Street - Industrial Way to Tank Farm Road	NB	2.14	B	2.82	C	2.13	B	**5.54**	**F**
	SB	**2.14**	**F**	N/A	N/A	2.10	B	N/A	N/A
4a. Broad Street - Tank Farm Road to Aero Vista Lane	NB	**2.52**	**F**	N/A	N/A	2.07	B	N/A	N/A
	SB	2.52	B	3.39	C	1.05	A	**4.72**	**E**
4b. Broad Street - Aero Vista Lane to Aero Drive	NB	2.14	B	2.33	B	0.83	A	N/A	N/A
	SB	**2.14**	**F**	2.68	B	1.18	A	N/A	N/A
4c. Broad Street - Aero Drive to South City Limits	NB	2.93	C	N/A	N/A	1.77	A	N/A	N/A
	SB	2.93	C	N/A	N/A	1.53	A	**5.71**	**F**

1. HCM 2010 LOS score and LOS.
2. LOS is not established for segments without a sidewalk.
3. LOS is not established for segments without a directional transit route.

SITE ACCESS AND ON-SITE CIRCULATION

This section discusses issues related to site access and on-site circulation. On-site circulation deficiencies would occur if project designs fail to meet appropriate standards, fail to provide adequate truck access, or would result in hazardous conditions.

The site plan is shown on **Figure 2.** The project proposes access from two driveways on Tank Farm Road and a connection to the future Digital West project. Intersection control was not specified. Two full access driveways on an arterial roadway are inconsistent with the City's Access Management policies.

Recommendations

Provide a single right-in/right-out driveway on Tank Farm Road with a right turn pocket on Tank Farm Road. Provide a vehicular connection to the SESLOC parking lot when the adjacent lot is developed, or provide acceptable traffic control at the Digital West Driveway on Tank Farm Road.

Cumulative Conditions

Cumulative Conditions represent build-out of the land uses in the region.

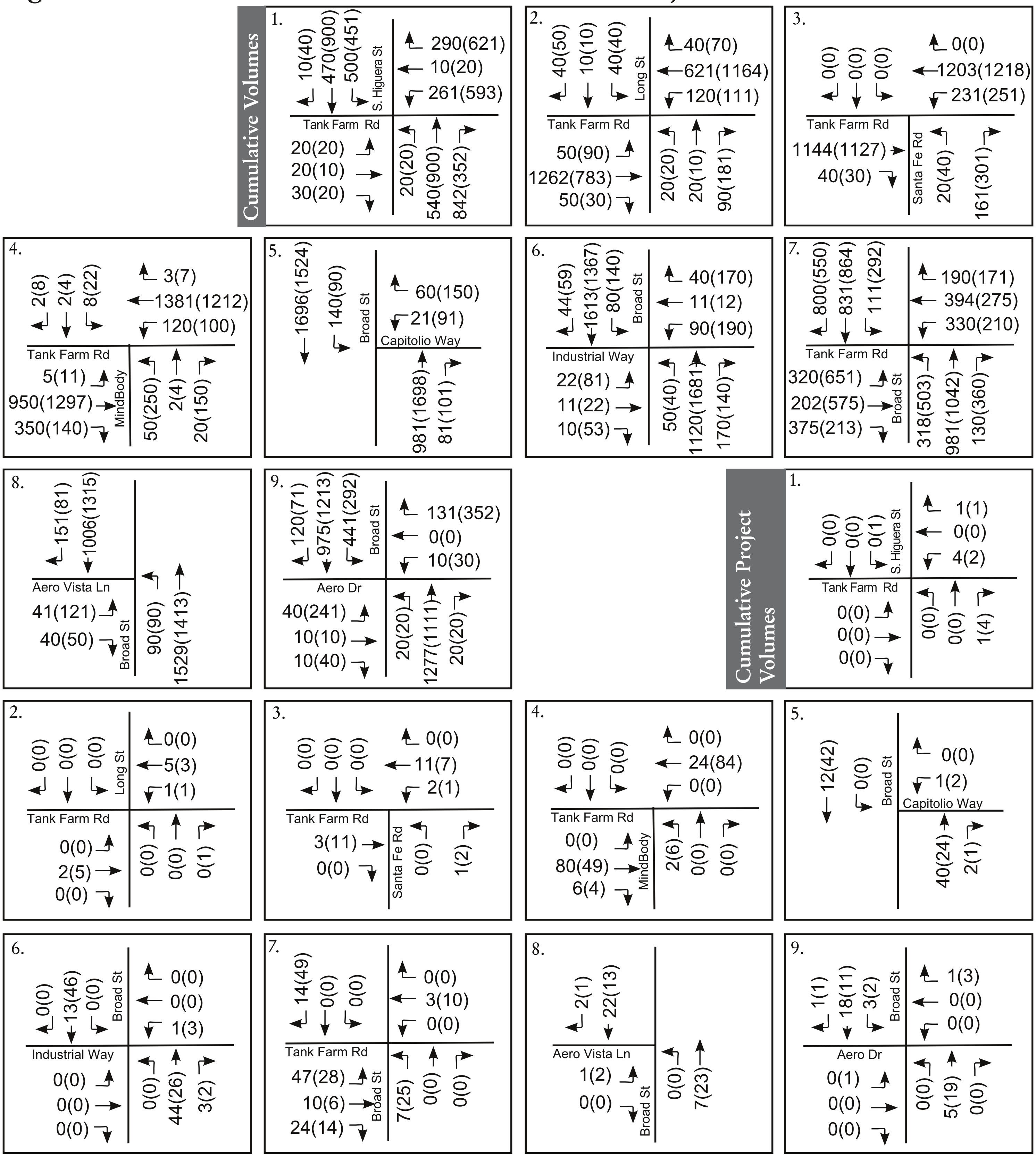
CUMULATIVE VOLUME FORECASTS

Cumulative, Cumulative Project, and Cumulative Plus Project traffic volume forecasts, shown on **Figures 6 and 7**, were developed using the City's Travel Demand Model, which includes planned network and land use changes expected upon buildout of the City's General Plan. The following key network changes will shift travel patterns in the study area:

- Prado Road would extend as a four-lane regional route arterial from S Higuera Street to Broad Street with a new intersection between Capitolio Way and Industrial Way.
- A full interchange would be constructed at Prado Road and US 101.
- Victoria Avenue would be extended from Woodbridge Street to High Street.
- Orcutt Road would be widened as a four-lane arterial from the railroad tracks to Johnson Avenue.
- Tank Farm Road would be widened to four lanes west of 250 Tank Farm Road and east of Santa Fe Road.
- The intersection of Tank Farm Road/Long Street would be signalized.
- Transit conditions were assumed to remain the same as those in Existing conditions.

Figures 6 and 7 show the Cumulative, Cumulative Project, and Cumulative Plus Project traffic volumes.

Figure 6: Cumulative Volumes and Cumulative Project Volumes



Legend:

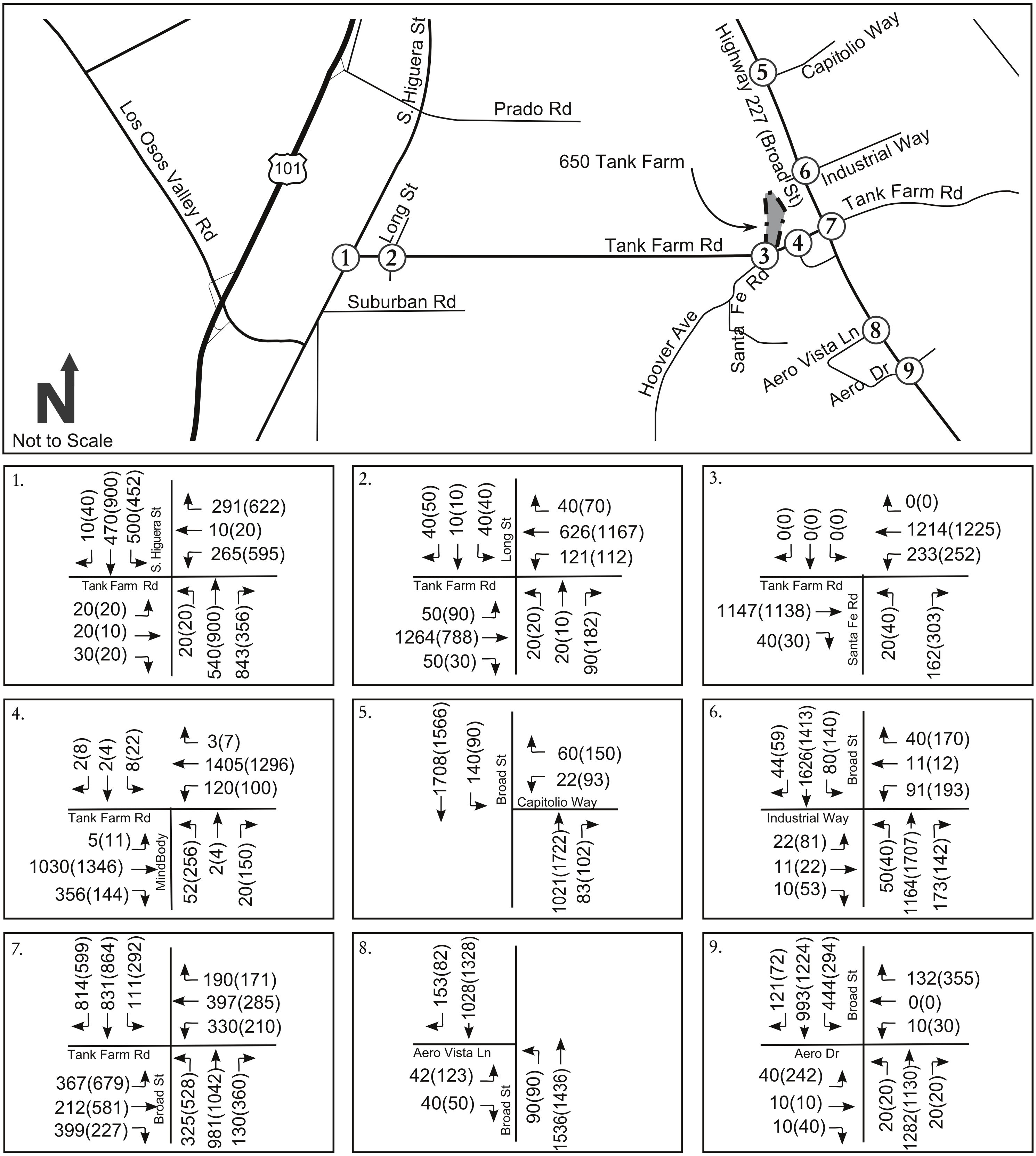
xx(yy) - AM(PM) Peak Hour Traffic Volumes

(x) - Study Intersection

- Project Site

Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

Figure 7: Cumulative Plus Project Volumes



Legend:

xx(yy) - AM(PM) Peak Hour Traffic Volumes

(x) - Study Intersection

- Project Site

Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

CUMULATIVE TRANSPORTATION CONDITIONS

This section describes 1) intersection operations and 2) segment operations under Cumulative and Cumulative Plus Project conditions.

1. Intersection Operations

Figures 6 and 7 show the Cumulative, Cumulative Project, and Cumulative Plus Project peak hour traffic volumes. Table 17 shows the LOS for the study intersections and Table 18 summarizes the vehicular queuing under Cumulative and Cumulative Plus Project conditions, with detailed calculation sheets included in Appendix B.

Table 17: Cumulative and Cumulative Plus Project Intersection Auto Levels of Service

Intersection	Peak Hour	Cumulative			Cumulative + Project			
		V/C[1]	Delay[2] (sec/veh)	LOS	V/C[1]	V/C Delta	Delay[2] (sec/veh)	LOS
1. Tank Farm Road/South Higuera Street	AM	1.35	**94.9**	**F**	1.35	0.00	**94.9**	**F**
	PM	1.70	**78.9**	**E**	1.71	**0.01**	**79.2**	**E**
2. Tank Farm Road/Long Street	AM	0.83	16.9	B	0.83	0.00	17.0	B
	PM	0.75	12.0	B	0.76	0.01	12.1	B
3. Tank Farm Road/Santa Fe Road	AM	>1.00	**- (>200)**	**- (F)**	>1.00	-	**- (>200)**	**- (F)**
	PM	>1.00	**- (>200)**	**- (F)**	>1.00	-	**- (>200)**	**- (F)**
4. Tank Farm Road/MindBody Traffic Signal	AM	0.76	17.4	B	0.85	0.09	18.7	B
	PM	0.96	38.0	D	0.99	0.03	42.5	D
5. Broad Street/Capitolio Way	AM	0.24	1.3 (25.2)	- (D)	0.26	0.02	1.3 (26.6)	- (D)
	PM	1.58	**13.2 (191.2)**	**- (F)**	1.70	**0.12**	**14.6 (>200)**	**- (F)**
6. Broad Street/Industrial Way	AM	1.05	35.1	D	1.06	0.01	36.8	D
	PM	1.35	**106.1**	**F**	1.38	**0.03**	**113.9**	**F**
7. Broad Street/Tank Farm Road	AM	1.36	**103.2**	**F**	1.37	**0.01**	**105.2**	**F**
	PM	1.82	**134.9**	**F**	1.91	**0.09**	**142.6**	**F**
8. Broad Street/Aero Vista Lane	AM	0.29	1.2 (26.7)	- (D)	0.31	0.02	1.2 (27.8)	- (D)
	PM	1.09	**7.8 (132.3)**	**- (F)**	1.13	**0.04**	**8.4 (142.6)**	**- (F)**
9. Broad Street/Aero Drive	AM	0.95	31.7	C	0.95	0.00	32.2	C
	PM	0.91	37.1	D	0.94	0.03	38.4	D

1. Volume to capacity ratio reported for worst movement.
2. HCM 6th average control delay in seconds per vehicle. For side-street-stop controlled intersections the worst approach's delay is reported in parentheses next to the overall intersection delay.
Note: Unacceptable operations shown in bold text.

The following intersections operate below the LOS D threshold for vehicles:

- Tank Farm Road/South Higuera Street (#1) operates at LOS F during the AM peak hour and at LOS E during the PM peak hour both with and without the project. The addition of project traffic increases the worst movement V/C by 0.01 during the PM peak hour.
- Tank Farm Road/Santa Fe Road (#3) operates at LOS F on the northbound approach both with and without the project.
- Broad Street/Capitolio Way (#5) operates at LOS F during the PM peak hour both with and without the project. The westbound approach has a large delay due to the side street stop controlled intersection and the high volume of traffic along Broad Street. The addition of project traffic increases the worst movement V/C by 0.12.
- Broad Street/Industrial Way (#6) operates at LOS F during the PM peak hour both with and without the project due to the presence of long pedestrian crossing times across the north and

south approaches. Without pedestrian actuation, the intersection operates acceptably at LOS D. The addition of project traffic increases the worst movement V/C by 0.03.

- Broad Street/Tank Farm Road (#7) operates at LOS F during the AM and PM peak hours both with and without the project due to high volumes from all approaches of the intersection. The addition of project traffic increases the worst movement V/C by 0.01 during the AM peak hour and by 0.09 during the PM peak hour.
- Broad Street/Aero Vista Lane (#8) operates at LOS F during the PM peak hour both with and without the project. The eastbound approach has high delays due to the side street stop control, and the high volumes and speeds along Broad Street. The addition of project traffic increases the worst movement V/C by 0.04.

Table 18: Summary Cumulative and Cumulative Plus Project Queues					
Intersection	**Movement**	**Storage Length (ft)**	**Peak Hour**	**Cumulative**	**Cumulative + Project**
				95th Percentile Queues (ft)[1]	
1. Tank Farm Road/South Higuera Street	WBL	670	AM	151	153
			PM	#434	#440
	WBR	250	AM	71	71
			PM	**#340**	**#342**
	NBR	140	AM	**#297**	**#298**
			PM	63	63
	SBL	165	AM	**#681**	**#681**
			PM	**#704**	**#706**
3. Tank Farm Road/Santa Fe Road	NBR	25	AM	**48**	**48**
			PM	**167**	**174**
4. Tank Farm Road/MindBody Traffic Signal	WBL	210	AM	#176	#176
			PM	#199	#196
	NBL	330	AM	73	75
			PM	292	#303
5. Broad Street/Capitolio Way	WBL	-	AM	20	22
			PM	191	202
6. Broad Street/Industrial Way	EBT/L	350	AM	41	41
			PM	111	111
	NBL	150	AM	#67	#67
			PM	#98	#98
	SBL	150	AM	#115	#115
			PM	**#311**	**#311**
7. Broad Street/Tank Farm Road	EBL	300	AM	#197	#245
			PM	**#523**	**#553**
	EBR	90	AM	**308**	**#347**
			PM	56	57
	WBL	150	AM	**#554**	**#554**
			PM	**#405**	**#409**
	NBL	290	AM	#251	#256
			PM	**#319**	**#346**
	SBL	250	AM	#237	#237
			PM	**#523**	**#529**
	SBR	300	AM	**#796**	**#824**
			PM	**346**	**#450**
8. Broad Street/Aero Vista Lane	EBL	75	AM	24	26
			PM	**169**	**176**
9. Broad Street / Aero Drive	EBT/L	310	AM	73	73
			PM	**#360**	**#361**

1. Queue length that would not be exceeded 95 percent of the time.
\# indicates that 95th percentile volume exceeds capacity, queue may be longer.
Bold indicates queue length longer than storage length.
Detailed queues provided in Appendix B.

The following queue deficiencies are noted:

- Tank Farm Road/S Higuera Street (#1): Queues exceed storage length during at least one peak hour on the westbound right, northbound right, and southbound left turning movements. The addition of project traffic increases these queues by less than one vehicle length.
- Tank Farm Road/Santa Fe Road (#3): The northbound right turn queue length exceeds storage length during the AM and PM peak hours both with and without the project. The addition of project traffic increases the queue by less than one vehicle length.
- Broad Street/Industrial Way (#6): The southbound left turn queue exceeds storage length during the PM peak hour. The addition of project traffic does not change this queue length.
- Broad Street/Tank Farm Road (#7): During at least one peak hour, the addition of project traffic to queues that exceed storage results in an increase of more than one vehicle length on the eastbound left, eastbound right, northbound left, and southbound right movements.
- Broad Street/Aero Vista Lane (#8): The eastbound left movement exceeds storage during the PM peak hour both with and without the project. The addition of project traffic increases this queue by less than one vehicle length.

Recommendations

The recommendations below would address Cumulative LOS and queueing deficiencies.

- Tank Farm Road/S Higuera Street (#1): The intersection operates unacceptably and the project increases V/C by 0.01. Installing a second southbound left turn lane would improve operations and address this impact.
- Tank Farm Road/Santa Fe Road (#3) operates at LOS F on the northbound approach both with and without the project. Installing a multi-lane roundabout would provide acceptable operations.
- Broad Street/Capitolio Way (#5) operates at LOS F during the PM peak hour both with and without the project. The planned future intersection of Prado Road/Broad Street would be signalized, making signalization of the nearby Broad Street/Capitolio Way intersection undesirable. Capitolio Way is connected to both Orcutt Road and Industrial Way by Sacramento Drive, thereby providing an alternative access point for drivers seeking signalized access to Broad Street. No changes are recommended.
- Broad Street/Industrial Way (#6) operates at LOS F during the PM peak hour both with and without the project due to the presence of long pedestrian crossing times across the north and south approaches and the split phasing. Converting the east and west approaches from split phasing to permissive phasing and restriping both approaches to provide dedicated left turn lanes and shared through/right turn lanes would result in LOS C operations.
- Broad Street/Tank Farm Road (#7) operates at LOS F during the AM and PM peak hours both with and without the project due to high volumes from all approaches of the intersection. The addition of project traffic increases the worst movement V/C by 0.01 during the AM peak hour and by 0.09 during the PM peak hour. Adding a second southbound left turn lane, adding a dedicated northbound right turn lane, and converting the westbound right turn lane to a shared through/right lane would result in delay and V/C better than Cumulative

conditions without the project. However, while some queue lengths would be decreased, others would be increased. The City's Circulation Element EIR recommends establishing time-of-day timing plans at this intersection.

- Broad Street/Aero Vista Lane (#8) operates at LOS F during the PM peak hour both with and without the project. The eastbound approach has high delays due to the side street stop control and the high volumes and speeds along Broad Street. The signalized intersection of Broad Street/Aero Drive provides a viable alternative route for drivers in this area. No improvements are recommended.

Tables 19 and 20 show the bicycle and pedestrian levels of service at the study intersections.

Table 19: Cumulative and Cumulative Plus Project Intersection Pedestrian Levels of Service						
			Cumulative		Cumulative + Project	
Intersection		**Direction**	**LOS Score[1]**	**LOS[1]**	**LOS Score[1]**	**LOS[1]**
1. Tank Farm Road/South Higuera Street	AM	NB	3.03	C	3.03	C
		SB	2.88	C	2.88	C
		EB	1.99	B	1.99	B
		WB	2.89	C	2.89	C
	PM	NB	3.24	C	3.24	C
		SB	3.28	C	3.29	C
		EB	2.00	B	2.00	B
		WB	2.99	C	3.00	C
2. Tank Farm Road/Long Street	AM	NB	2.06	B	2.06	B
		SB	2.02	B	2.02	B
		EB	2.74	C	2.74	C
		WB	2.77	C	2.77	C
	PM	NB	2.06	B	2.07	B
		SB	2.03	B	2.03	B
		EB	2.74	C	2.74	C
		WB	2.78	C	2.78	C
3. Tank Farm Road/Santa Fe Road	AM	EB	**115.40**	**F**	**118.40**	**F**
		WB	**>200**	**F**	**>200**	**F**
	PM	EB	**119.10**	**F**	**121.30**	**F**
		WB	**>200**	**F**	**>200**	**F**
4. Tank Farm Road/MindBody Traffic Signal	AM	NB	2.16	B	2.17	B
		SB	1.97	B	1.97	B
		EB	2.93	C	2.95	C
		WB	2.93	C	2.95	C
	PM	NB	2.20	B	2.21	B
		SB	1.98	B	1.98	B
		EB	2.98	C	3.01	C
		WB	2.99	C	3.02	C
5. Broad Street/Capitolio Way	AM	NB	**>200**	**F**	**>200**	**F**
		SB	**>200**	**F**	**>200**	**F**
	PM	NB	**>200**	**F**	**>200**	**F**
		SB	**>200**	**F**	**>200**	**F**
6. Broad Street/Industrial Way	AM	NB	3.00	C	3.01	C
		SB	2.98	C	2.99	C
		EB	2.01	B	2.01	B
		WB	2.10	B	2.10	B
	PM	NB	3.07	C	3.08	C
		SB	3.07	C	3.08	C
		EB	2.05	B	2.05	B
		WB	2.19	B	2.19	B
7. Broad Street/Tank Farm Road	AM	NB	2.99	C	3.00	C
		SB	3.04	C	3.05	C
		EB	2.98	C	2.99	C
		WB	2.61	C	2.61	C
	PM	NB	3.01	C	3.02	C
		SB	3.08	C	3.09	C
		EB	3.02	C	3.04	C
		WB	2.70	C	2.71	C
8. Broad Street/Aero Vista Lane	AM	NB	**>200**	**F**	**>200**	**F**
		SB	**>200**	**F**	**>200**	**F**
	PM	NB	**>200**	**F**	**>200**	**F**
		SB	**>200**	**F**	**>200**	**F**
9. Broad Street/Aero Drive	AM	NB	2.82	C	2.82	C
		SB	2.96	C	2.97	C
		EB	2.03	B	2.03	B
		WB	2.18	B	2.18	B
	PM	NB	2.84	C	2.85	C
		SB	3.02	C	3.03	C
		EB	2.10	B	2.10	B
		WB	2.21	B	2.21	B

1. HCM 2010 pedestrian score and LOS.
2. HCM 2010 reports pedestrian LOS at two-way stop controlled intersections in delay (seconds).

The following intersections operate below the LOS C threshold for pedestrians:

- Tank Farm Road/Santa Fe Road (#3) operates at LOS F during the AM and PM peak hours both with and without the project due to the presence of side street stop controlled intersections and high volumes and speeds along Tank Farm Road. Installation of the recommended roundabout at this intersection would provide acceptable pedestrian operations.
- Broad Street/Capitolio Way (#5) operates at LOS F during the AM and PM peak hours both with and without the project due to the presence of side street stop controlled intersections and high volumes and speeds along Broad Street. Pedestrians seeking to cross Broad Street would use one of the nearby signalized intersections with dedicated pedestrian phases.
- Broad Street/Aero Vista Lane (#8) operates at LOS F during the AM and PM peak hours both with and without the project due to the presence of side street stop controlled intersections and high volumes and speeds along Broad Street. Pedestrians seeking to cross Broad Street would use one of the nearby signalized intersections with dedicated pedestrian phases.

Table 20: Cumulative and Cumulative Plus Project Intersection Bicycle Levels of Service						
			Cumulative		Cumulative + Project	
Intersection		Direction	LOS Score[1]	LOS[1]	LOS Score[1]	LOS[1]
1. Tank Farm Road/South Higuera Street	AM	NB	3.89	D	3.89	D
		SB	3.40	C	3.4	C
		EB	3.15	C	3.15	C
		WB	3.58	D	3.59	D
	PM	NB	3.85	D	3.85	D
		SB	3.84	D	3.84	D
		EB	3.12	C	3.12	C
		WB	**4.89**	**E**	**4.90**	**E**
2. Tank Farm Road/Long Street	AM	NB	2.72	C	2.72	C
		SB	2.61	C	2.61	C
		EB	3.35	C	3.35	C
		WB	2.83	C	2.83	C
	PM	NB	2.85	C	2.85	C
		SB	2.62	C	2.62	C
		EB	2.90	C	2.90	C
		WB	3.29	C	3.29	C
3. Tank Farm Road/Santa Fe Road	AM	-	N/A			
	PM	-				
4. Tank Farm Road/MindBody Traffic Signal	AM	NB	2.83	C	2.83	C
		SB	2.50	C	2.50	C
		EB	3.34	C	3.42	C
		WB	3.54	D	3.56	D
	PM	NB	3.46	C	3.47	C
		SB	2.54	C	2.54	C
		EB	3.49	C	3.54	D
		WB	3.38	C	3.46	C
5. Broad Street/Capitolio Way	AM	-	N/A			
	PM	-				
6. Broad Street/Industrial Way	AM	NB	3.31	C	3.35	C
		SB	3.66	D	3.68	D
		EB	2.75	C	2.75	C
		WB	2.94	C	2.94	C
	PM	NB	3.75	D	3.77	D
		SB	3.50	C	3.54	D
		EB	2.95	C	2.95	C
		WB	3.34	C	3.34	C
7. Broad Street/Tank Farm Road	AM	NB	3.92	D	3.93	D
		SB	4.41	D	4.42	D
		EB	3.46	C	3.53	D
		WB	4.45	D	4.46	D
	PM	NB	4.29	D	4.31	D
		SB	4.34	D	4.38	D
		EB	3.90	D	3.94	D
		WB	3.96	D	3.98	D
8. Broad Street/Aero Vista Lane	AM	-	N/A			
	PM	-				
9. Broad Street/Aero Drive	AM	NB	3.49	C	3.5	D
		SB	3.69	D	3.71	D
		EB	2.76	C	2.76	C
		WB	2.94	C	2.94	C
	PM	NB	3.34	C	3.36	C
		SB	3.72	D	3.74	D
		EB	3.18	C	3.18	C
		WB	3.37	C	3.38	C

1. HCM 2010 bicycle score and LOS.
2. The 2010 HCM does not establish LOS standards for bicycles at stop-controlled intersections.

The following intersection operates below the LOS D threshold for bicycles:

- Tank Farm Road/South Higuera Street (#1) operates at LOS E in the westbound direction during the PM peak hour both with and without the project. The addition of project traffic to this intersection would not noticeably change bicycle comfort, so this is an insignificant impact.

2. Segment Operations

Tables 21, 22, 23, and 24 show the segment operations during the AM and PM peak hours under Cumulative and Cumulative Plus Project conditions.

The following deficiencies are reported:

Auto:

The following segments have a V/C ratio that is greater than one, resulting in an automatic LOS F, even thought the LOS scores are acceptable. The addition of project traffic does not change the auto LOS, and the nearby intersections would constrain flow before the segments did, so the project would have an insignificant effect on these segments.

- #3a: Southbound Broad Street from Orcutt Road to Industrial Way – AM and PM
- #3a: Northbound Broad Street from Orcutt Road to Industrial Way – PM
- #3b: Southbound Broad Street from Industrial Way to Tank Farm Road – AM and PM
- #3b: Northbound Broad Street from Industrial Way to Tank Farm Road – PM
- #4a: Northbound Broad Street from Aero Vista Lane to Tank Farm Road – AM and PM
- #4b: Southbound Broad Street from Aero Vista Lane to Aero Drive – AM and PM
- #4c: Northbound Broad Street from South City Limits to Aero Drive – AM and PM

Pedestrian:

- Multiple segments do not have a pedestrian LOS reported due to the absence of pedestrian facilities, or the presence of discontinuous pedestrian facilities.
- The eastbound segment of Tank Farm Road from Santa Fe Road to Broad Street (#1b) operates unacceptably at LOS D during the PM peak hour due to high vehicular volumes and speeds.
- The segment of Tank Farm Road from UPRR to Orcutt Road (#2a) operates unacceptably at LOS D westbound during the AM peak hour and eastbound during the PM peak hour due to high vehicular volumes and speeds. The addition of project traffic does not change the pedestrian score at this location.
- The segment of northbound Broad Street from Orcutt Road to Industrial Way (#3a) operates unacceptably at LOS E with the project during the PM peak hour due to the high vehicular volumes and speeds.
- The segment of southbound Broad Street from Industrial Way to Tank Farm Road (#3b) operates unacceptably at LOS D during the PM peak hour due to the high vehicular volumes and speeds along Broad Street.

- The segment of southbound Broad Street from Tank Farm Road to Aero Vista Lane (#4a) operates unacceptably at LOS D during both peak hours with and without the project due to high vehicular volumes and speeds.

Bicycle: No bicycle deficiencies are reported.

Transit: Several segments operate below the transit LOS threshold due to infrequent service to the study segments. Given the relatively low boardings on stops in the area, the addition of project traffic would not overburden or otherwise impact the transit network.

Recommendations

No mitigations are recommended for the segments with deficient pedestrian LOS scores. On each of these segments, the addition of project traffic increases the pedestrian LOS score by less than two percent and increases vehicular volumes by less than three percent. These are insignificant changes that would not substantively worsen pedestrian conditions.

Table 21: Cumulative AM Segment MMLOS[1]

Segment	Direction	Auto Score	Auto LOS[1]	Pedestrian[2] Score	Pedestrian[2] LOS	Bicycle Score	Bicycle LOS	Transit[3] Score	Transit[3] LOS
1a. Tank Farm Road - Old Windmill Lane to Santa Fe Road	EB	2.34	B	N/A	N/A	2.98	C	N/A	N/A
	WB	2.34	B	N/A	N/A	2.88	C	N/A	N/A
1b. Tank Farm Road - Santa Fe Road to Broad Street	EB	2.75	B	3.17	C	2.23	B	N/A	N/A
	WB	2.75	B	3.11	C	2.38	B	N/A	N/A
2a. Tank Farm Road - Broad Street to UPRR	EB	2.47	B	2.98	C	2.34	B	N/A	N/A
	WB	2.47	B	**3.51**	**D**	2.60	B	3.38	C
2b. Tank Farm Road - UPRR to Orcutt Road	EB	3.13	C	0.94	A	0.12	A	N/A	N/A
	WB	3.13	C	N/A	N/A	0.34	A	4.14	D
3a. Broad Street - Orcutt Road to Industrial Way	NB	2.14	B	3.31	C	2.28	B	**4.68**	**E**
	SB	**2.14**	**F**	N/A	N/A	2.29	B	N/A	N/A
3b. Broad Street - Industrial Way to Tank Farm Road	NB	2.14	B	3.04	C	2.20	B	**5.58**	**F**
	SB	**2.14**	**F**	**3.55**	**D**	2.27	B	N/A	N/A
4a. Broad Street - Tank Farm Road to Aero Vista Lane	NB	**2.52**	**F**	N/A	N/A	2.23	B	N/A	N/A
	SB	2.52	B	**3.63**	**D**	1.14	A	**4.76**	**E**
4b. Broad Street - Aero Vista Lane to Aero Drive	NB	2.14	B	3.22	C	1.35	A	N/A	N/A
	SB	**2.14**	**F**	2.91	C	1.26	A	N/A	N/A
4c. Broad Street - Aero Drive to South City Limits	NB	**2.93**	**F**	N/A	N/A	2.13	B	N/A	N/A
	SB	2.93	C	N/A	N/A	1.48	A	**5.84**	**F**

1. HCM 2010 LOS score and LOS.
2. LOS is not established for segments without a sidewalk.
3. LOS is not established for segments without a directional transit route.

Table 22: Cumulative PM Segment MMLOS[1]

Segment	Direction	Auto Score	Auto LOS[1]	Pedestrian[2] Score	Pedestrian[2] LOS	Bicycle Score	Bicycle LOS	Transit[3] Score	Transit[3] LOS
1a. Tank Farm Road - Old Windmill Lane to Santa Fe Road	EB	2.34	B	N/A	N/A	2.89	C	N/A	N/A
	WB	2.34	B	N/A	N/A	3.00	C	N/A	N/A
1b. Tank Farm Road - Santa Fe Road to Broad Street	EB	2.75	B	**3.55**	**D**	2.36	B	N/A	N/A
	WB	2.75	B	3.03	C	2.35	B	N/A	N/A
2a. Tank Farm Road - Broad Street to UPRR	EB	2.47	B	**3.88**	**D**	2.86	C	N/A	N/A
	WB	2.47	B	3.21	C	2.43	B	3.34	C
2b. Tank Farm Road - UPRR to Orcutt Road	EB	3.13	C	1.55	A	0.58	A	N/A	N/A
	WB	3.13	C	N/A	N/A	0.05	A	4.10	D
3a. Broad Street - Orcutt Road to Industrial Way	NB	**2.14**	**F**	**4.23**	**D**	2.55	B	**4.80**	**E**
	SB	**2.14**	**F**	N/A	N/A	2.23	B	N/A	N/A
3b. Broad Street - Industrial Way to Tank Farm Road	NB	**2.14**	**F**	3.21	C	2.29	B	**5.60**	**F**
	SB	**2.14**	**F**	3.30	C	2.20	B	N/A	N/A
4a. Broad Street - Tank Farm Road to Aero Vista Lane	NB	**2.52**	**F**	N/A	N/A	2.30	B	N/A	N/A
	SB	2.52	B	**3.62**	**D**	1.13	A	**4.76**	**E**
4b. Broad Street - Aero Vista Lane to Aero Drive	NB	2.14	B	3.25	C	1.19	A	N/A	N/A
	SB	**2.14**	**F**	3.11	C	1.33	A	N/A	N/A
4c. Broad Street - Aero Drive to South City Limits	NB	**2.93**	**F**	N/A	N/A	2.06	B	N/A	N/A
	SB	2.93	C	N/A	N/A	1.61	A	**5.77**	**F**

1. HCM 2010 LOS score and LOS.
2. LOS is not established for segments without a sidewalk.
3. LOS is not established for segments without a directional transit route.

Table 23: Cumulative Plus Project AM Segment MMLOS[1]									
		Auto		Pedestrian[2]		Bicycle		Transit[3]	
Segment	Direction	Score	LOS[1]	Score	LOS	Score	LOS	Score	LOS
1a. Tank Farm Road - Old Windmill Lane to Santa Fe Road	EB	2.34	B	N/A	N/A	2.98	C	N/A	N/A
	WB	2.34	B	N/A	N/A	2.88	C	N/A	N/A
1b. Tank Farm Road - Santa Fe Road to Broad Street	EB	2.75	B	3.22	C	2.25	B	N/A	N/A
	WB	2.75	B	3.13	C	2.38	B	N/A	N/A
2a. Tank Farm Road - Broad Street to UPRR	EB	2.47	B	2.99	C	2.35	B	N/A	N/A
	WB	2.47	B	**3.51**	**D**	2.60	B	3.38	C
2b. Tank Farm Road - UPRR to Orcutt Road	EB	3.13	C	0.95	A	0.13	A	N/A	N/A
	WB	3.13	C	N/A	N/A	0.34	A	4.14	D
3a. Broad Street - Orcutt Road to Industrial Way	NB	2.14	B	3.36	C	2.30	B	**4.69**	**E**
	SB	**2.14**	**F**	N/A	N/A	2.29	B	N/A	N/A
3b. Broad Street - Industrial Way to Tank Farm Road	NB	2.14	B	3.08	C	2.22	B	**5.58**	**F**
	SB	**2.14**	**F**	**3.57**	**D**	2.28	B	N/A	N/A
4a. Broad Street - Tank Farm Road to Aero Vista Lane	NB	**2.52**	**F**	N/A	N/A	2.23	B	N/A	N/A
	SB	2.52	B	**3.66**	**D**	1.15	A	**4.76**	**E**
4b. Broad Street - Aero Vista Lane to Aero Drive	NB	2.14	B	3.23	C	1.35	A	N/A	N/A
	SB	**2.14**	**F**	2.94	C	1.27	A	N/A	N/A
4c. Broad Street - Aero Drive to South City Limits	NB	**2.93**	**F**	N/A	N/A	2.13	B	N/A	N/A
	SB	2.93	C	N/A	N/A	1.49	A	**5.85**	**F**

1. HCM 2010 LOS score and LOS.
2. LOS is not established for segments without a sidewalk.
3. LOS is not established for segments without a directional transit route.

Table 24: Cumulative Plus Project PM Segment MMLOS[1]									
		Auto		Pedestrian[2]		Bicycle		Transit[3]	
Segment	Direction	Score	LOS[1]	Score	LOS	Score	LOS	Score	LOS
1a. Tank Farm Road - Old Windmill Lane to Santa Fe Road	EB	2.34	B	N/A	N/A	2.89	C	N/A	N/A
	WB	2.34	B	N/A	N/A	3.00	C	N/A	N/A
1b. Tank Farm Road - Santa Fe Road to Broad Street	EB	2.75	B	**3.59**	**D**	2.37	B	N/A	N/A
	WB	2.75	B	3.08	C	2.37	B	N/A	N/A
2a. Tank Farm Road - Broad Street to UPRR	EB	2.47	B	**3.88**	**D**	2.86	C	N/A	N/A
	WB	2.47	B	3.23	C	2.44	B	3.34	C
2b. Tank Farm Road - UPRR to Orcutt Road	EB	3.13	C	1.55	A	0.58	A	N/A	N/A
	WB	3.13	C	N/A	N/A	0.06	A	4.10	D
3a. Broad Street - Orcutt Road to Industrial Way	NB	**2.14**	**F**	**4.26**	**E**	2.56	B	**4.81**	**E**
	SB	**2.14**	**F**	N/A	N/A	2.24	B	N/A	N/A
3b. Broad Street - Industrial Way to Tank Farm Road	NB	**2.14**	**F**	3.23	C	2.30	B	**5.60**	**F**
	SB	**2.14**	**F**	3.36	C	2.22	B	N/A	N/A
4a. Broad Street - Tank Farm Road to Aero Vista Lane	NB	**2.52**	**F**	N/A	N/A	2.31	B	N/A	N/A
	SB	2.52	B	**3.64**	**D**	1.14	A	**4.76**	**E**
4b. Broad Street - Aero Vista Lane to Aero Drive	NB	2.14	B	3.27	C	1.19	A	N/A	N/A
	SB	**2.14**	**F**	3.13	C	1.34	A	N/A	N/A
4c. Broad Street - Aero Drive to South City Limits	NB	**2.93**	**F**	N/A	N/A	2.07	B	N/A	N/A
	SB	2.93	C	N/A	N/A	1.62	A	**5.78**	**F**

1. HCM 2010 LOS score and LOS.
2. LOS is not established for segments without a sidewalk.
3. LOS is not established for segments without a directional transit route.

References

City of San Luis Obispo. 2010. Orcutt Area Specific Plan.

_______. 2014. Circulation Element of the General Plan.

_______. 2014. Airport Area Specific Plan.

_______. 2014. Bicycle Transportation Plan.

_______. 2014. South Broad Street Area Plan.

_______. 2015. Multimodal Transportation Impact Guidelines.

_______. 2016. SLO Transit Short Range Transit Plan.

Institute of Transportation Engineers (ITE). 2012. Trip Generation, 9th Edition.

_______. 2014. Trip Generation Handbook.

San Luis Obispo Council of Governments. 2014. Regional Transportation Plan/Sustainable Communities Strategy.

Transportation Research Board. 2017. Highway Capacity Manual, 6th Edition.

Appendix A: Traffic Counts

AimTD LLC

TURNING MOVEMENT COUNTS

Higuera

4,156	96 (0)	2,273	1,787	TOTAL	4,682
1,767	63 (0)	1,060	644	PM	2,060
1,438	21 (0)	764	653	MD	1,499
951	12 (0)	449	490	AM	1,123

N

Tank Farm

TOTAL	PM	MD	AM
252	137	77	38
119	33	33	53
55	14	17	24
98 (0)	31 (0)	30 (0)	37 (0)
272	78	80	114

San Luis Obispo

SC0843

ALL HOURS

AM	MD	PM	TOTAL
926	1,404	1,817	4,147
482 (29	687 (41	908 (49	2077 (1
8	14	24	46
436	703	885	2,024
1,461	1,444	1,383	4,288

Tank Farm

922	AM	18	588	947 (351)	1,553
1,497	MD	42	779	774 (336)	1,595
1,976	PM	50	1,119	725 (282)	1,894
4,395	TOTAL	110	2,486	2446 (969)	5,042

Higuera

Higuera

2,314	60 (0)	1,256	998	TOTAL	2,603
988	38 (0)	594	356	PM	1,146
758	14 (0)	398	346	MD	833
568	8 (0)	264	296	AM	624

N

Tank Farm

TOTAL	PM	MD	AM
148	70	47	31
48	13	16	19
32	10	9	13
60 (0)	17 (0)	18 (0)	25 (0)
140	40	43	57

PEAK HOUR

AM 8:00 AM

MIDDAY 12:00 PM

PM 4:30 PM

AM	MD	PM	TOTAL
544	752	991	2,287
284 (17,	399 (21	503 (26	1186 (6
7	11	12	30
253	342	476	1,071
823	745	716	2,284

Tank Farm

542	AM	16	321	514 (180)	851
758	MD	22	418	390 (183)	830
1,087	PM	20	630	350 (114)	1,000
2,387	Total	58	1,369	1254 (477)	2,681

Higuera

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE:	LOCATION:	San Luis Obispo	PROJECT #:	SC0843
Wed, Feb 3, 16	NORTH & SOUTH:	Higuera	LOCATION #:	54
	EAST & WEST:	Tank Farm	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
◄ W
E ►
S ▼

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
			Higuera			Higuera			Tank Farm			Tank Farm		
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	1	1	2	0	0.5	0.5	1	1.5	0.5	1	
AM	7:00 AM	0	0	0	0	3	0	1	0	0	1	0	0	5
	7:15 AM	0	1	0	1	1	0	0	0	1	0	0	0	4
	7:30 AM	0	1	0	2	1	0	1	0	0	0	0	0	5
	7:45 AM	0	1	1	0	1	0	0	1	0	1	0	0	5
	8:00 AM	0	1	0	2	1	0	0	0	0	0	0	0	4
	8:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	2
	8:30 AM	0	1	0	0	1	0	0	0	1	0	0	0	3
	8:45 AM	0	1	0	0	2	0	0	0	0	3	0	0	6
	VOLUMES	0	6	1	5	11	0	2	2	2	5	0	0	34
	APPROACH %	0%	86%	14%	31%	69%	0%	33%	33%	33%	100%	0%	0%	
	APP/DEPART	7	/	8	16	/	18	6	/	8	5	/	0	0
	BEGIN PEAK HR		7:00 AM											
	VOLUMES	0	3	1	3	6	0	2	1	1	2	0	0	19
	APPROACH %	0%	75%	25%	33%	67%	0%	50%	25%	25%	100%	0%	0%	
	PEAK HR FACTOR		0.500			0.750			1.000			0.500		0.950
	APP/DEPART	4	/	5	9	/	9	4	/	5	2	/	0	0
MD	11:00 AM	0	2	1	0	1	1	0	0	0	0	0	0	5
	11:15 AM	0	1	0	0	1	0	0	0	0	3	0	0	5
	11:30 AM	0	0	0	0	2	0	0	0	0	1	0	0	3
	11:45 AM	0	4	2	1	5	0	0	0	0	1	0	0	13
	12:00 PM	0	4	1	0	2	0	0	1	0	2	0	1	11
	12:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	12:30 PM	0	1	0	0	3	0	0	0	0	1	0	0	5
	12:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	2
	VOLUMES	0	13	4	2	15	1	0	1	0	8	0	1	45
	APPROACH %	0%	76%	24%	11%	83%	6%	0%	100%	0%	89%	0%	11%	
	APP/DEPART	17	/	14	18	/	23	1	/	7	9	/	1	0
	BEGIN PEAK HR		11:15 AM											
	VOLUMES	0	9	3	1	10	0	0	1	0	7	0	1	32
	APPROACH %	0%	75%	25%	9%	91%	0%	0%	100%	0%	88%	0%	13%	
	PEAK HR FACTOR		0.500			0.458			0.250			0.667		0.615
	APP/DEPART	12	/	10	11	/	17	1	/	5	8	/	0	0
PM	04:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	6
	4:15 PM	0	2	0	0	1	0	0	0	0	1	0	0	4
	4:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	6
	4:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
	5:00 PM	0	1	0	0	0	0	0	0	0	0	0	1	2
	5:15 PM	0	1	0	1	3	0	1	0	0	1	1	0	8
	5:30 PM	0	3	0	0	0	0	0	1	0	1	0	2	7
	5:45 PM	0	2	0	0	0	0	0	0	0	2	0	0	4
	VOLUMES	0	17	0	1	10	0	1	1	0	5	1	3	39
	APPROACH %	0%	100%	0%	9%	91%	0%	50%	50%	0%	56%	11%	33%	
	APP/DEPART	17	/	21	11	/	15	2	/	2	9	/	1	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	7	0	1	3	0	1	1	0	4	1	3	21
	APPROACH %	0%	100%	0%	25%	75%	0%	50%	50%	0%	50%	13%	38%	
	PEAK HR FACTOR		0.583			0.250			0.500			0.667		0.656
	APP/DEPART	7	/	11	4	/	7	2	/	2	8	/	1	0

Higuera

NORTH SIDE

Tank Farm WEST SIDE

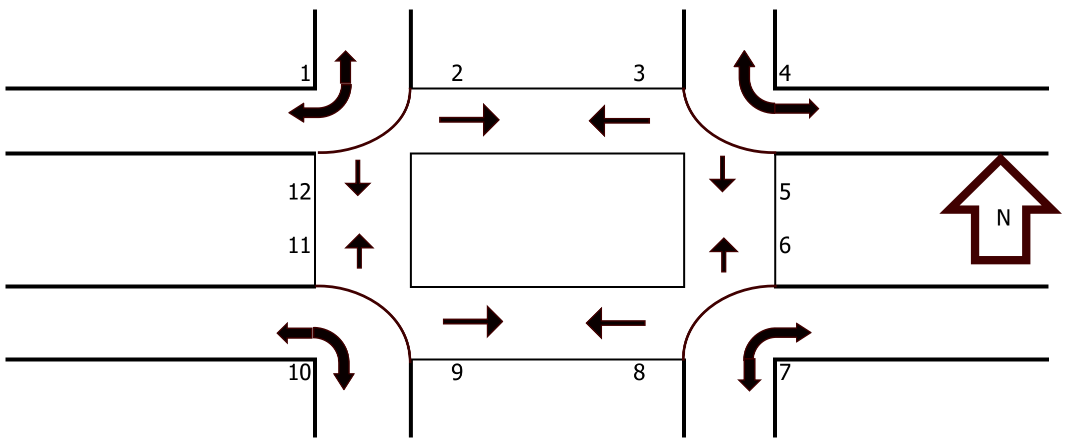
EAST SIDE **Tank Farm**

SOUTH SIDE

Higuera

Higuera and Tank Farm
Pedestrian Counts

		PEDESTRIAN CROSSINGS												
		1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
	7:15 AM	0	0	0	0	8	0	0	0	0	0	0	0	8
	7:30 AM	0	0	0	0	0	1	0	3	0	1	0	1	6
	7:45 AM	0	0	0	0	0	1	0	1	0	0	1	1	4
	8:00 AM	0	0	0	0	1	3	0	0	1	1	0	0	6
	8:15 AM	0	0	0	0	0	2	0	0	0	0	0	0	2
	8:30 AM	0	1	0	1	1	0	0	0	0	0	0	0	3
	8:45 AM	0	0	1	0	1	1	0	3	0	0	0	0	6
	TOTAL	0	1	1	1	11	8	0	7	1	3	1	2	36
MD	11:00 AM	0	0	0	0	3	2	0	1	0	0	0	1	7
	11:15 AM	0	0	0	0	2	1	0	0	0	0	1	0	4
	11:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	11:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
	12:00 PM	0	1	0	1	1	1	0	0	0	0	0	1	5
	12:15 PM	0	0	1	1	2	5	0	0	0	0	0	0	9
	12:30 PM	0	0	0	0	3	0	0	2	1	0	1	3	10
	12:45 PM	0	0	0	0	1	0	0	0	0	1	1	0	3
	TOTAL	0	1	2	2	12	9	0	3	1	1	4	5	40
PM	4:00 PM	0	0	0	0	0	1	0	0	4	0	5	0	10
	4:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	4
	4:30 PM	0	0	1	0	1	2	0	0	3	0	1	1	9
	4:45 PM	0	0	0	0	2	1	0	0	1	0	0	0	4
	5:00 PM	0	0	0	0	2	0	0	0	1	0	0	0	3
	5:15 PM	0	0	0	0	1	0	0	0	1	0	0	1	3
	5:30 PM	0	0	1	0	0	0	0	1	1	0	0	1	4
	5:45 PM	0	0	0	0	1	0	0	0	1	0	2	1	5
	TOTAL	0	0	2	0	7	6	0	3	12	0	8	4	42



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

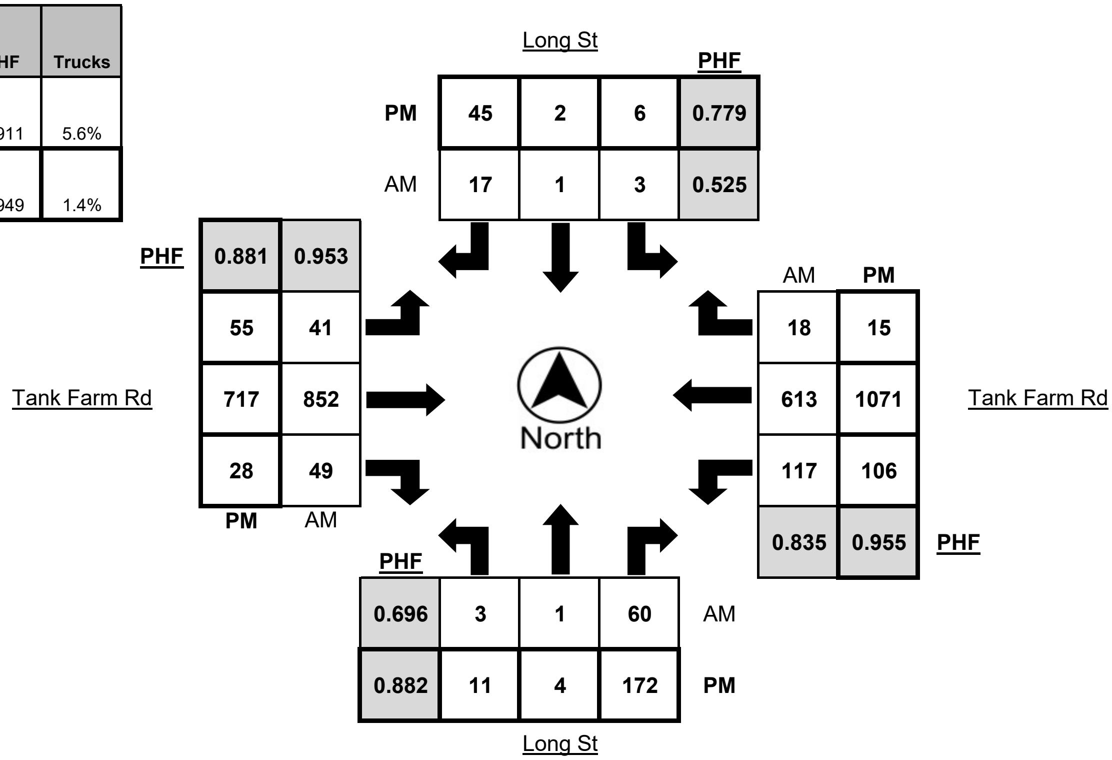
LOCATION	Tank Farm Rd @ Long St	**LATITUDE**	35.246802°
COUNTY	San Luis Obispo	**LONGITUDE**	-120.671143°
COLLECTION DATE	Thursday, October 5, 2017	**WEATHER**	Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	0	6	0	0	0	4	0	5	113	9	6	12	55	4	1
7:15 AM - 7:30 AM	1	0	5	1	1	0	1	0	4	141	3	7	14	85	2	12
7:30 AM - 7:45 AM	3	0	13	1	1	0	5	1	3	168	4	13	16	108	1	14
7:45 AM - 8:00 AM	1	0	11	3	0	1	3	0	8	224	15	9	29	188	7	14
8:00 AM - 8:15 AM	1	0	22	4	0	0	10	0	10	218	11	10	25	160	4	13
8:15 AM - 8:30 AM	0	1	12	0	2	0	1	0	12	199	10	9	39	117	6	9
8:30 AM - 8:45 AM	1	0	15	2	1	0	3	0	11	211	13	11	24	148	1	15
8:45 AM - 9:00 AM	2	0	23	0	2	0	2	0	7	202	11	10	25	123	3	11
TOTAL	**9**	**1**	**107**	**11**	**7**	**1**	**29**	**1**	**60**	**1476**	**76**	**75**	**184**	**984**	**28**	**89**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	4	0	39	1	3	0	11	1	15	176	9	4	31	221	3	2
4:15 PM - 4:30 PM	2	1	33	1	2	0	3	0	13	184	10	5	19	253	6	3
4:30 PM - 4:45 PM	2	0	51	1	2	0	15	0	14	164	5	5	28	280	4	1
4:45 PM - 5:00 PM	4	2	36	0	2	2	10	0	15	165	7	4	20	261	7	4
5:00 PM - 5:15 PM	1	2	45	1	0	0	9	0	10	206	11	6	25	279	0	3
5:15 PM - 5:30 PM	4	0	40	0	2	0	11	0	16	182	5	3	33	251	4	3
5:30 PM - 5:45 PM	2	0	46	1	1	1	10	0	13	143	5	5	15	227	2	2
5:45 PM - 6:00 PM	2	0	24	0	3	2	17	0	8	116	0	0	22	185	1	1
TOTAL	**21**	**5**	**314**	**5**	**15**	**5**	**86**	**1**	**104**	**1336**	**52**	**32**	**193**	**1957**	**27**	**19**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:45 AM - 8:45 AM	3	1	60	9	3	1	17	0	41	852	49	39	117	613	18	51
4:30 PM - 5:30 PM	11	4	172	2	6	2	45	0	55	717	28	18	106	1071	15	11

	PHF	Trucks
AM	0.911	5.6%
PM	0.949	1.4%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

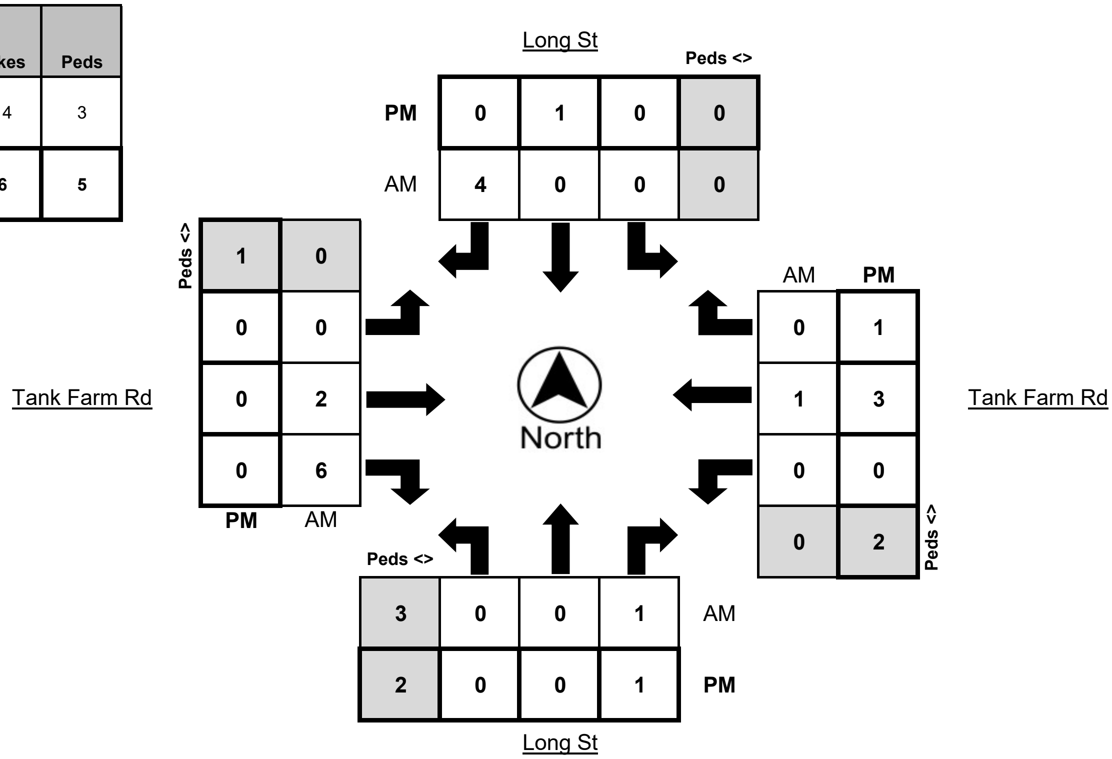
LOCATION Tank Farm Rd @ Long St
LATITUDE 35.246802°
COUNTY San Luis Obispo
LONGITUDE -120.671143°
COLLECTION DATE Thursday, October 5, 2017
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0
7:15 AM - 7:30 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	1	0	0	0	4	1	0	0	1	0	0	1	0	0
8:45 AM - 9:00 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0
TOTAL	**0**	**0**	**4**	**0**	**0**	**0**	**4**	**4**	**0**	**6**	**6**	**0**	**1**	**3**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	1	0	0	0	0	1	1	1	0	0	1	0	0	0	1	0
4:15 PM - 4:30 PM	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0
5:00 PM - 5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	1	0	1	0	0	0	2	0	0	0	0
5:30 PM - 5:45 PM	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	4	0	0
TOTAL	**1**	**1**	**3**	**2**	**0**	**4**	**1**	**3**	**0**	**0**	**1**	**4**	**0**	**7**	**2**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:45 AM - 8:45 AM	0	0	1	0	0	0	4	3	0	2	6	0	0	1	0	0
4:30 PM - 5:30 PM	0	0	1	0	0	1	0	2	0	0	0	2	0	3	1	1

	Bikes	Peds
AM Peak Total	14	3
PM Peak Total	**6**	**5**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

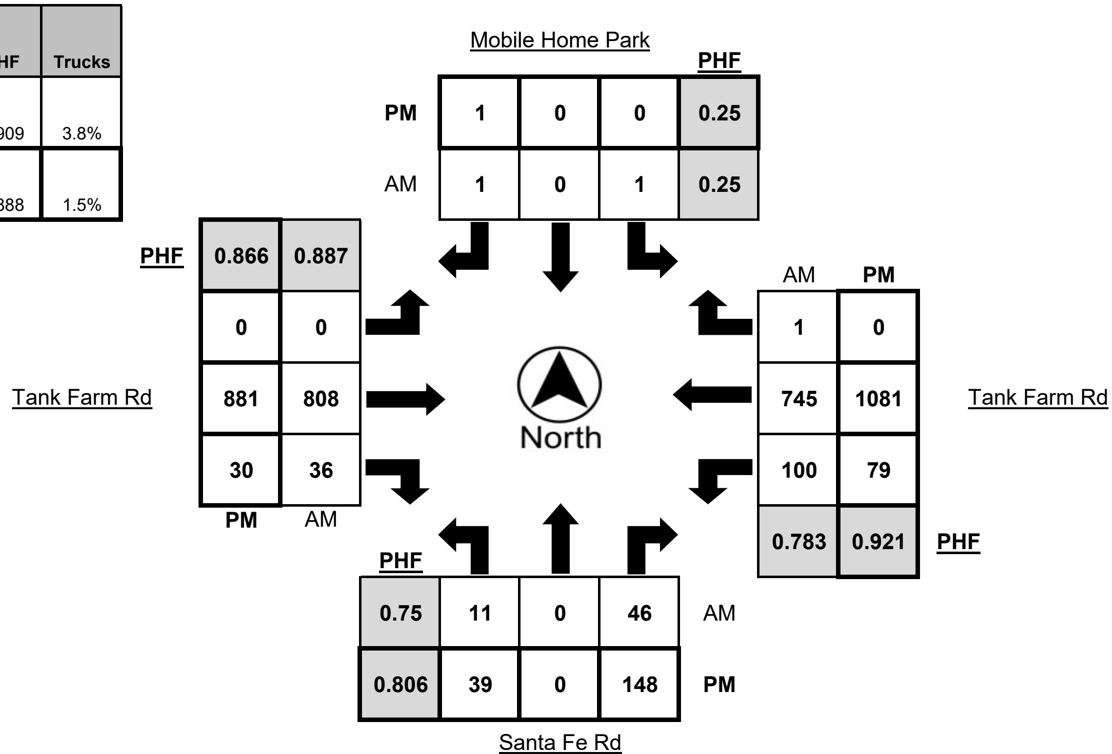
LOCATION	Tank Farm Rd @ Santa Fe Rd	**LATITUDE**	35.246811°
COUNTY	San Luis Obispo	**LONGITUDE**	-120.647384°
COLLECTION DATE	Thursday, October 5, 2017	**WEATHER**	Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	0	11	0	0	0	0	0	0	91	14	3	12	77	0	2
7:15 AM - 7:30 AM	1	0	9	2	0	0	0	0	0	127	2	1	23	104	0	3
7:30 AM - 7:45 AM	1	0	19	0	0	0	0	0	0	168	8	14	18	121	0	6
7:45 AM - 8:00 AM	4	0	15	2	0	0	0	0	0	182	10	8	31	239	0	7
8:00 AM - 8:15 AM	2	0	8	0	1	0	1	0	0	229	9	13	29	169	1	6
8:15 AM - 8:30 AM	0	0	9	2	0	0	0	0	0	197	7	6	32	173	0	8
8:30 AM - 8:45 AM	5	0	14	2	0	0	0	0	0	200	10	7	8	164	0	6
8:45 AM - 9:00 AM	3	0	17	3	0	0	0	0	0	207	6	7	18	147	1	5
TOTAL	**16**	**0**	**102**	**11**	**1**	**0**	**1**	**0**	**0**	**1401**	**66**	**59**	**171**	**1194**	**2**	**43**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	15	0	32	3	0	0	0	0	0	207	6	8	11	230	0	1
4:15 PM - 4:30 PM	9	0	37	2	0	0	0	0	0	205	8	7	5	245	0	2
4:30 PM - 4:45 PM	16	0	28	2	0	0	0	0	0	211	10	5	14	268	0	1
4:45 PM - 5:00 PM	4	0	30	1	0	0	1	0	0	191	5	4	19	248	0	5
5:00 PM - 5:15 PM	10	0	48	1	0	0	0	0	0	256	7	3	23	292	0	4
5:15 PM - 5:30 PM	9	0	42	3	0	0	0	0	0	223	8	4	23	273	0	1
5:30 PM - 5:45 PM	12	0	34	1	0	0	0	0	0	187	3	1	12	200	1	1
5:45 PM - 6:00 PM	8	0	22	0	1	0	1	0	0	153	3	1	9	181	0	1
TOTAL	**83**	**0**	**273**	**13**	**1**	**0**	**2**	**0**	**0**	**1633**	**50**	**33**	**116**	**1937**	**1**	**16**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:45 AM - 8:45 AM	11	0	46	6	1	0	1	0	0	808	36	34	100	745	1	27
4:30 PM - 5:30 PM	39	0	148	7	0	0	1	0	0	881	30	16	79	1081	0	11

	PHF	**Trucks**
AM	0.909	3.8%
PM	0.888	1.5%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

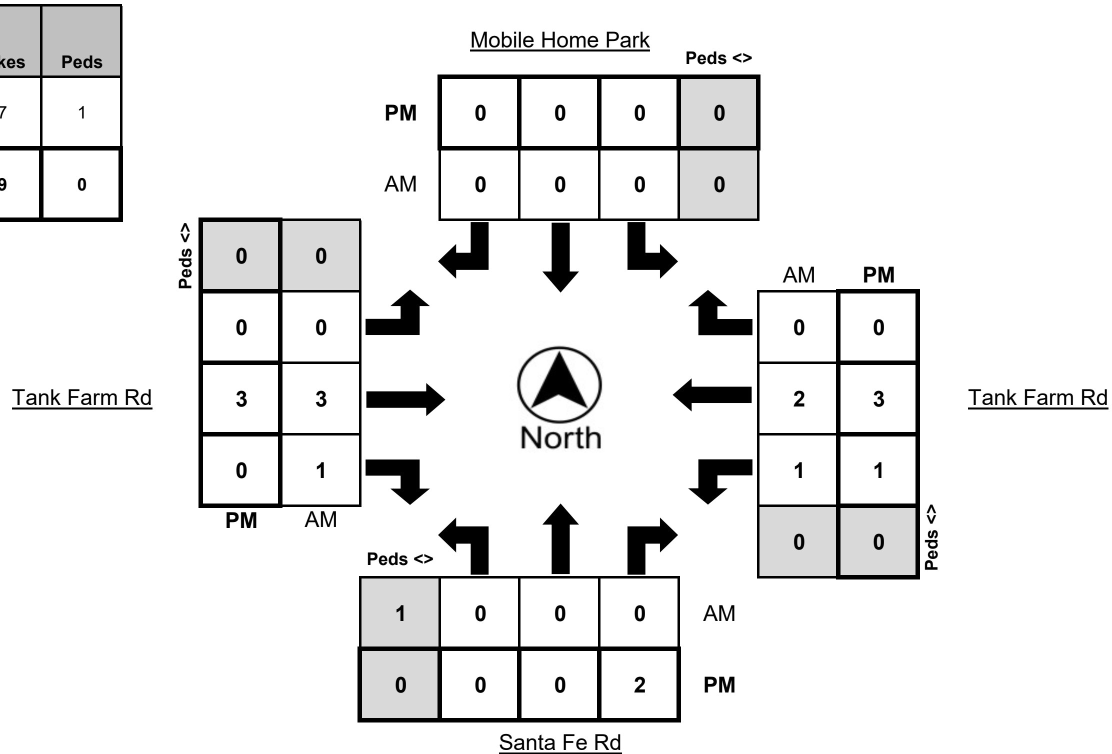
LOCATION	Tank Farm Rd @ Santa Fe Rd	**LATITUDE**	35.246811°
COUNTY	San Luis Obispo	**LONGITUDE**	-120.647384°
COLLECTION DATE	Thursday, October 5, 2017	**WEATHER**	Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	2	0	0
8:45 AM - 9:00 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0
TOTAL	0	0	2	0	0	0	0	1	0	8	1	0	1	8	0	0

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0
5:15 PM - 5:30 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0
5:45 PM - 6:00 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	4	0	0
TOTAL	1	0	6	0	0	0	0	0	0	6	0	0	1	8	0	0

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:45 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	3	1	0	1	2	0	0
4:30 PM - 5:30 PM	0	0	2	0	0	0	0	0	0	3	0	0	1	3	0	0

	Bikes	Peds
AM Peak Total	7	1
PM Peak Total	9	0



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

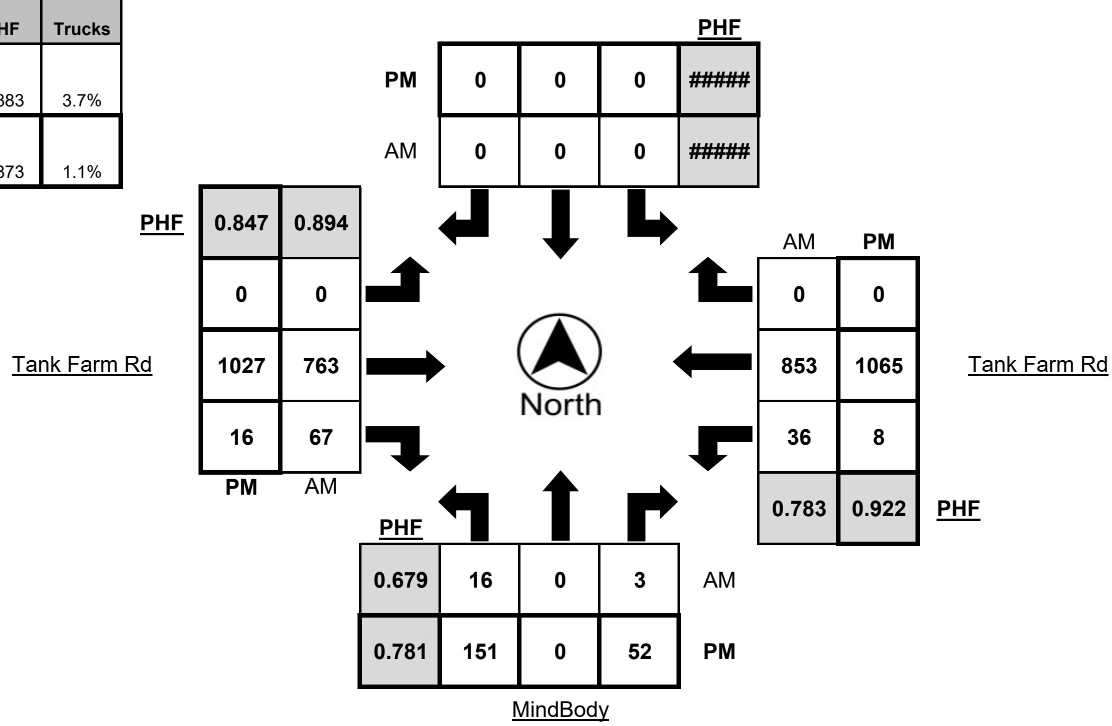
LOCATION	Tank Farm Rd @ MindBody Entrance/Signal	**LATITUDE**	35.247295°
COUNTY	San Luis Obispo	**LONGITUDE**	-120.645686°
COLLECTION DATE	Thursday, October 5, 2017	**WEATHER**	Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	3	0	0	0	0	0	0	0	0	99	7	4	2	83	0	2
7:15 AM - 7:30 AM	5	0	0	0	0	0	0	0	0	122	12	4	4	135	0	4
7:30 AM - 7:45 AM	1	0	1	0	0	0	0	0	0	163	18	12	7	129	0	4
7:45 AM - 8:00 AM	5	0	1	0	0	0	0	0	0	182	20	12	13	271	0	9
8:00 AM - 8:15 AM	2	0	0	0	0	0	0	0	0	219	13	13	3	203	0	6
8:15 AM - 8:30 AM	5	0	2	0	0	0	0	0	0	175	17	5	7	209	0	8
8:30 AM - 8:45 AM	4	0	0	1	0	0	0	0	0	187	17	5	13	170	0	6
8:45 AM - 9:00 AM	5	0	3	0	0	0	0	0	0	200	17	9	8	166	0	5
TOTAL	**30**	**0**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**1347**	**121**	**64**	**57**	**1366**	**0**	**44**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	21	0	14	0	0	0	0	0	0	241	0	9	1	219	0	3
4:15 PM - 4:30 PM	19	0	8	0	0	0	0	0	0	235	3	6	0	243	0	3
4:30 PM - 4:45 PM	29	0	10	0	0	0	0	0	0	232	4	7	2	257	0	4
4:45 PM - 5:00 PM	33	0	11	0	0	0	0	0	0	227	3	2	1	238	0	5
5:00 PM - 5:15 PM	50	0	15	0	0	0	0	0	0	300	8	1	4	287	0	3
5:15 PM - 5:30 PM	39	0	16	0	0	0	0	0	0	268	1	4	1	283	0	0
5:30 PM - 5:45 PM	25	0	17	0	0	0	0	0	0	211	3	1	2	200	0	1
5:45 PM - 6:00 PM	22	0	4	0	0	0	0	0	0	175	2	1	1	160	0	1
TOTAL	**238**	**0**	**95**	**0**	**0**	**0**	**0**	**0**	**0**	**1889**	**24**	**31**	**12**	**1887**	**0**	**20**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:45 AM - 8:45 AM	16	0	3	1	0	0	0	0	0	763	67	35	36	853	0	29
4:30 PM - 5:30 PM	151	0	52	0	0	0	0	0	0	1027	16	14	8	1065	0	12

	PHF	Trucks
AM	0.883	3.7%
PM	0.873	1.1%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

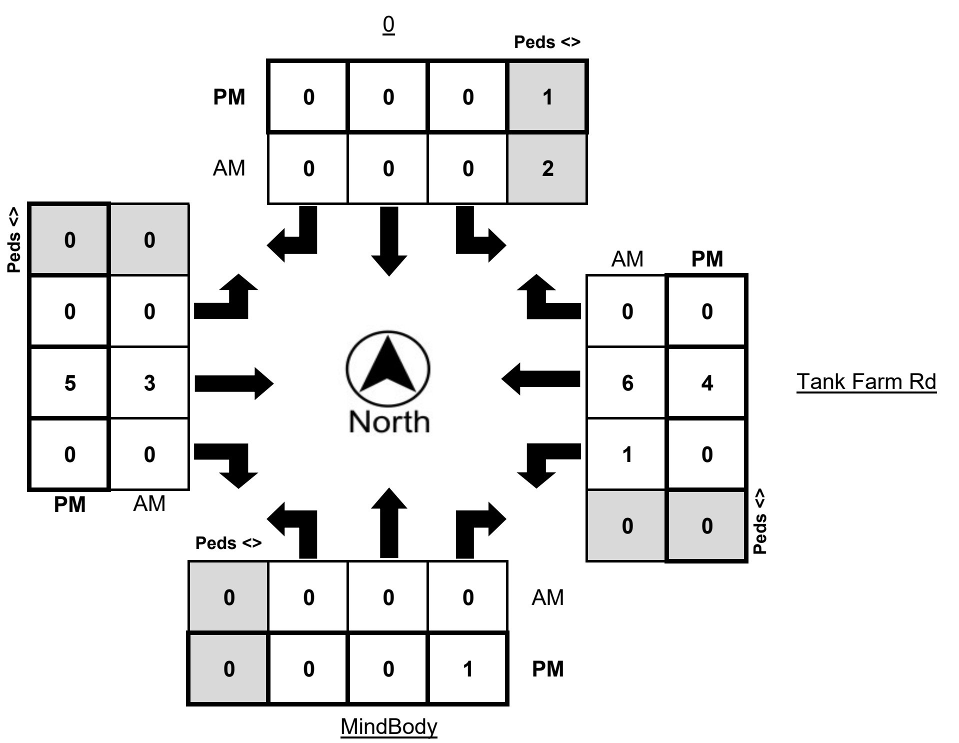
LOCATION	Tank Farm Rd @ MindBody Entrance/Signal	**LATITUDE**	35.247295°
COUNTY	San Luis Obispo	**LONGITUDE**	-120.645686°
COLLECTION DATE	Thursday, October 5, 2017	**WEATHER**	Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
7:45 AM - 8:00 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	2	0	0
8:00 AM - 8:15 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	2	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0
8:45 AM - 9:00 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0
TOTAL	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**6**	**2**	**0**	**1**	**13**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
4:45 PM - 5:00 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	2	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
5:45 PM - 6:00 PM	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
TOTAL	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**6**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:45 AM - 8:45 AM	0	0	0	2	0	0	0	0	0	3	0	0	1	6	0	0
4:30 PM - 5:30 PM	0	0	1	1	0	0	0	0	0	5	0	0	0	4	0	0

	Bikes	Peds
AM Peak Total	10	2
PM Peak Total	**10**	**1**



AimTD LLC

TURNING MOVEMENT COUNTS

San Luis Obispo

SC0843

ALL HOURS

Broad (north leg)

TOTAL	**6,839**	**0 (0)**	**6,341**	**498**	**6,631**
PM	**2,425**	0 (0)	2,287	138	2,601
MD	**2,212**	0 (0)	2,066	146	2,243
AM	**2,202**	0 (0)	1,988	214	1,787

N

Capitolio (east leg)

	AM	MD	PM	TOTAL
	115	**219**	**251**	**585**
	96 (0)	180 (0)	211 (0)	**487 (0)**
	0	0	0	**0**
	19	39	40	**98**
	284	187	181	**652**

Capitolio (west leg)

	TOTAL	PM	MD	AM
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0 (0)	0 (0)	0 (0)	0 (0)
	0	**0**	**0**	**0**

Broad (south leg)

2,007	AM	0	1,686	75 (0)	**1,761**
2,105	MD	0	2,060	44 (0)	**2,104**
2,327	PM	0	2,389	44 (0)	**2,433**
6,439	TOTAL	**0**	**6,135**	**163 (0)**	**6,298**

Broad

Broad (north leg)

TOTAL	**3,713**	**0 (0)**	**3,445**	**268**	**3,686**
PM	**1,265**	0 (0)	1,195	70	1,428
MD	**1,166**	0 (0)	1,093	73	1,289
AM	**1,282**	0 (0)	1,157	125	969

N

PEAK HOUR

AM 7:45 AM

MIDDAY 11:45 AM

PM 4:30 PM

Capitolio (east leg)

	AM	MD	PM	TOTAL
	61	**122**	**155**	**338**
	54 (0)	103 (0)	130 (0)	**287 (0)**
	0	0	0	**0**
	7	19	25	**51**
	162	94	87	**343**

Capitolio (west leg)

	TOTAL	PM	MD	AM
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0 (0)	0 (0)	0 (0)	0 (0)
	0	**0**	**0**	**0**

Broad (south leg)

1,164	AM	0	912	40 (0)	**952**
1,112	MD	0	1,183	24 (0)	**1,207**
1,220	PM	0	1,297	18 (0)	**1,315**
3,496	Total	**0**	**3,392**	**82 (0)**	**3,474**

Broad

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE:	LOCATION:	San Luis Obispo	PROJECT #:	SC0843
Wed, Mar 16, 16	NORTH & SOUTH:	Broad	LOCATION #:	12
	EAST & WEST:	Capitolio	CONTROL:	STOP W

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
◄ W
E ►
S ▼

		NORTHBOUND Broad			SOUTHBOUND Broad			EASTBOUND Capitolio			WESTBOUND Capitolio			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	2	0	1	2	X	X	X	X	1	X	1	
AM	7:15 AM	0	1	0	0	3	0	0	0	0	0	0	0	4
	7:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
	7:45 AM	0	0	0	1	5	0	0	0	0	0	0	0	6
	8:00 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
	8:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
	8:30 AM	0	2	0	0	6	0	0	0	0	0	0	0	8
	8:45 AM	0	0	0	2	5	0	0	0	0	0	0	0	7
	9:00 AM	0	1	0	1	2	0	0	0	0	0	0	0	4
	VOLUMES	0	6	0	4	26	0	0	0	0	0	0	0	36
	APPROACH %	0%	100%	0%	13%	87%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	6	/	6	30	/	26	0	/	4	0	/	0	0
	BEGIN PEAK HR		8:15 AM											
	VOLUMES	0	3	0	3	15	0	0	0	0	0	0	0	21
	APPROACH %	0%	100%	0%	17%	83%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.375			0.643			0.000			0.000		0.656
	APP/DEPART	3	/	3	18	/	15	0	/	3	0	/	0	0
MD	11:30 AM	0	0	0	1	3	0	0	0	0	0	0	0	4
	11:45 AM	0	4	0	0	4	0	0	0	0	0	0	0	8
	12:00 PM	0	2	0	0	3	0	0	0	0	0	0	0	5
	12:15 PM	0	2	0	0	4	0	0	0	0	0	0	0	6
	12:30 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
	12:45 PM	0	3	0	0	2	0	0	0	0	0	0	0	5
	1:00 PM	0	2	1	0	1	0	0	0	0	0	0	0	4
	1:15 PM	0	2	0	0	4	0	0	0	0	0	0	1	7
	VOLUMES	0	15	1	1	24	0	0	0	0	0	0	1	42
	APPROACH %	0%	94%	6%	4%	96%	0%	0%	0%	0%	0%	0%	100%	
	APP/DEPART	16	/	16	25	/	24	0	/	2	1	/	0	0
	BEGIN PEAK HR		11:30 AM											
	VOLUMES	0	8	0	1	14	0	0	0	0	0	0	0	23
	APPROACH %	0%	100%	0%	7%	93%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.500			0.938			0.000			0.000		0.719
	APP/DEPART	8	/	8	15	/	14	0	/	1	0	/	0	0
PM	04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	3	0	1	4	0	0	0	0	0	0	0	8
	4:45 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
	5:00 PM	0	7	0	0	2	0	0	0	0	0	0	0	9
	5:15 PM	0	2	0	0	4	0	0	0	0	0	0	0	6
	5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
	5:45 PM	0	3	0	0	1	0	0	0	0	0	0	0	4
	6:00 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
	VOLUMES	0	20	0	1	14	0	0	0	0	0	0	0	35
	APPROACH %	0%	100%	0%	7%	93%	0%	0%	0%	0%	0%	0%	0%	
	APP/DEPART	20	/	20	15	/	14	0	/	1	0	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	14	0	1	11	0	0	0	0	0	0	0	26
	APPROACH %	0%	100%	0%	8%	92%	0%	0%	0%	0%	0%	0%	0%	
	PEAK HR FACTOR		0.500			0.600			0.000			0.000		0.722
	APP/DEPART	14	/	14	12	/	11	0	/	1	0	/	0	0

Broad

NORTH SIDE

Capitolio WEST SIDE

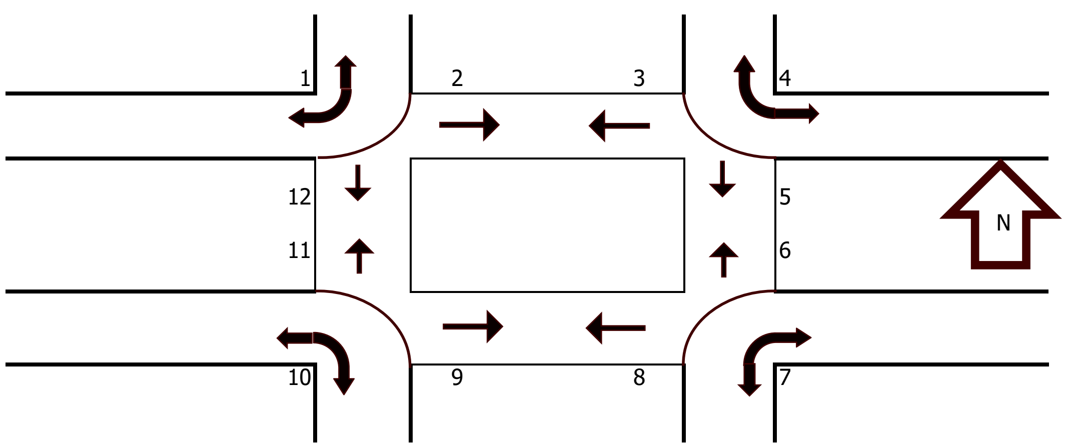
EAST SIDE **Capitolio**

SOUTH SIDE

Broad

Broad and Capitolio
Pedestrian Counts

		PEDESTRIAN CROSSINGS												
		1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
AM	7:15 AM	0	0	0	0	1	1	0	0	0	0	0	1	3
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
	7:45 AM	0	0	0	0	0	1	0	0	0	0	0	1	2
	8:00 AM	0	0	0	0	1	0	0	0	0	0	0	1	2
	8:15 AM	0	0	0	0	3	4	0	0	0	0	0	3	10
	8:30 AM	0	0	0	0	1	3	0	0	0	0	0	0	4
	8:45 AM	0	0	0	0	0	1	0	0	0	0	0	1	2
	9:00 AM	0	0	0	0	0	2	0	0	0	0	0	0	2
	TOTAL	0	0	0	0	6	12	0	0	0	0	0	8	26
MD	11:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	11:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
	12:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
	12:15 PM	0	0	0	0	1	1	0	0	0	0	0	0	2
	12:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	2
	12:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	3	5	0	0	0	0	0	0	8
PM	4:15 PM	0	0	0	1	1	1	0	0	0	0	0	0	3
	4:30 PM	0	0	0	0	1	0	0	0	0	0	0	1	2
	4:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
	5:00 PM	0	0	0	0	4	2	0	0	0	0	1	0	7
	5:15 PM	0	0	0	0	2	1	0	0	0	0	0	0	3
	5:30 PM	0	0	0	0	0	1	0	0	0	0	0	1	2
	5:45 PM	0	0	0	0	2	0	0	0	0	0	1	0	3
	6:00 PM	0	0	0	0	2	1	0	0	0	0	0	0	3
	TOTAL	0	0	0	1	14	6	0	0	0	0	2	2	25



AimTD LLC

TURNING MOVEMENT COUNTS

Broad

6,428	**271 (3)**	**5,578**	**579**	**TOTAL**	**6,302**
2,261	86 (1)	1,966	209	**PM**	2,351
2,195	138 (1)	1,802	255	**MD**	2,198
1,972	47 (1)	1,810	115	**AM**	1,753

N

Industrial

	TOTAL	**PM**	**MD**	**AM**
	583	178	264	141
	210	85	111	14
	73	24	39	10
	221 (48	96 (23)	114 (20	11 (5)
	504	**205**	**264**	**35**

San Luis Obispo

SC0843

ALL HOURS

Industrial

	AM	**MD**	**PM**	**TOTAL**
	253	**662**	**594**	**1,509**
	83 (18)	288 (24	241 (24	**612 (66**
	13	31	15	**59**
	157	343	338	**838**
	409	559	457	**1,425**

1,980	**AM**	83	1,655	285 (1)	**2,023**
2,263	**MD**	99	1,797	267 (6)	**2,163**
2,401	**PM**	78	2,024	225 (9)	**2,327**
6,644	**TOTAL**	**260**	**5,476**	**777 (16)**	**6,513**

Broad

Broad

3,518	**138 (3)**	**3,063**	**317**	**TOTAL**	**3,336**
1,234	41 (1)	1,071	122	**PM**	1,314
1,141	68 (1)	941	132	**MD**	1,062
1,143	29 (1)	1,051	63	**AM**	960

N

Industrial

	TOTAL	**PM**	**MD**	**AM**
	310	85	143	82
	106	40	61	5
	35	15	17	3
	115 (20)	49 (9)	57 (6)	9 (5)
	256	**104**	**135**	**17**

PEAK HOUR

AM 7:45 AM

MIDDAY 12:30 PM

PM 4:30 PM

Industrial

	AM	**MD**	**PM**	**TOTAL**
	117	**387**	**320**	**824**
	38 (9)	155 (9)	127 (12	**320 (30**
	7	21	5	**33**
	72	211	188	**471**
	230	288	269	**787**

1,132	**AM**	46	917	164 (1)	**1,127**
1,211	**MD**	56	844	141 (5)	**1,041**
1,308	**PM**	39	1,147	132 (7)	**1,318**
3,651	**Total**	**141**	**2,908**	**437 (13)**	**3,486**

Broad

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: Tue, Mar 15, 16	LOCATION:	San Luis Obispo	PROJECT #:	SC0843
	NORTH & SOUTH:	Broad	LOCATION #:	13
	EAST & WEST:	Industrial	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N ◄ W E ► S ▼

		NORTHBOUND Broad			SOUTHBOUND Broad			EASTBOUND Industrial			WESTBOUND Industrial			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	1	1	2	1	0.5	0.5	1	0.5	0.5	1	
	7:15 AM	0	0	0	0	3	0	0	0	0	0	0	1	4
	7:30 AM	0	1	0	0	3	0	0	0	0	1	0	0	5
	7:45 AM	0	0	0	0	5	1	0	0	0	1	0	0	7
	8:00 AM	0	3	0	0	1	0	0	1	0	0	0	0	5
	8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
	8:30 AM	0	0	0	1	1	0	0	0	0	2	0	0	4
	8:45 AM	0	1	0	0	4	0	0	0	0	0	0	1	6
AM	9:00 AM	0	0	0	0	5	0	0	0	0	0	0	0	5
	VOLUMES	0	5	0	1	22	1	0	1	0	5	0	2	37
	APPROACH %	0%	100%	0%	4%	92%	4%	0%	100%	0%	71%	0%	29%	
	APP/DEPART	5	/	7	24	/	27	1	/	2	7	/	1	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	4	0	0	12	1	0	1	0	2	0	1	21
	APPROACH %	0%	100%	0%	0%	92%	8%	0%	100%	0%	67%	0%	33%	
	PEAK HR FACTOR		0.333			0.542			0.250			0.750		0.750
	APP/DEPART	4	/	5	13	/	14	1	/	1	3	/	1	0
	11:30 AM	0	2	0	0	3	1	0	1	1	0	0	0	8
	11:45 AM	1	5	0	1	3	0	0	0	0	0	0	0	10
	12:00 PM	1	2	0	0	3	0	0	0	3	0	2	0	11
	12:15 PM	0	3	0	0	3	0	0	0	1	2	1	0	10
	12:30 PM	0	1	0	0	3	0	0	0	0	0	0	0	4
	12:45 PM	0	2	0	0	2	0	0	1	0	0	0	0	5
	1:00 PM	0	1	1	0	0	0	0	0	0	0	1	0	3
MD	1:15 PM	0	0	0	3	3	0	0	0	0	0	0	0	6
	VOLUMES	2	16	1	4	20	1	0	2	5	2	4	0	57
	APPROACH %	11%	84%	5%	16%	80%	4%	0%	29%	71%	33%	67%	0%	
	APP/DEPART	19	/	16	25	/	27	7	/	7	6	/	7	0
	BEGIN PEAK HR		11:30 AM											
	VOLUMES	2	12	0	1	12	1	0	1	5	2	3	0	39
	APPROACH %	14%	86%	0%	7%	86%	7%	0%	17%	83%	40%	60%	0%	
	PEAK HR FACTOR		0.583			0.875			0.500			0.417		0.886
	APP/DEPART	14	/	12	14	/	19	6	/	2	5	/	6	0
	04:15 PM	0	0	0	0	2	0	0	1	0	0	0	0	3
	4:30 PM	0	3	0	0	1	0	0	3	1	0	0	2	10
	4:45 PM	0	2	0	0	2	0	0	0	0	0	0	1	5
	5:00 PM	0	5	0	0	1	0	0	0	0	2	0	0	8
	5:15 PM	0	3	1	0	2	0	0	1	0	0	0	0	7
	5:30 PM	0	1	0	0	1	0	0	0	1	0	0	0	3
	5:45 PM	0	3	3	1	3	0	0	0	0	0	0	0	10
PM	6:00 PM	0	2	0	0	0	0	0	0	0	1	0	1	4
	VOLUMES	0	19	4	1	12	0	0	5	2	3	0	4	50
	APPROACH %	0%	83%	17%	8%	92%	0%	0%	71%	29%	43%	0%	57%	
	APP/DEPART	23	/	23	13	/	17	7	/	10	7	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	13	1	0	6	0	0	4	1	2	0	3	30
	APPROACH %	0%	93%	7%	0%	100%	0%	0%	80%	20%	40%	0%	60%	
	PEAK HR FACTOR		0.700			0.750			0.313			0.625		0.750
	APP/DEPART	14	/	16	6	/	9	5	/	5	5	/	0	0

Broad

NORTH SIDE

Industrial WEST SIDE

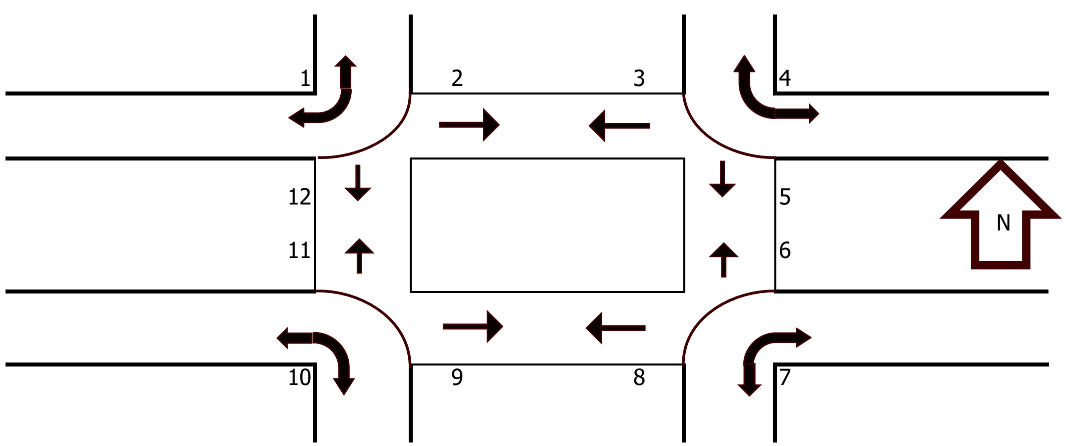
EAST SIDE **Industrial**

SOUTH SIDE

Broad

Broad and Industrial
Pedestrian Counts

		PEDESTRIAN CROSSINGS												
		1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
AM	7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	1	1	1	0	0	0	0	0	0	0	1	0	4
	8:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
	8:15 AM	0	0	0	2	1	0	0	0	0	0	0	0	3
	8:30 AM	0	0	0	1	0	0	0	0	0	2	0	0	3
	8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
	9:00 AM	0	0	0	0	2	1	0	0	0	0	0	0	3
	TOTAL	1	1	2	3	4	1	0	0	1	2	1	0	16
MD	11:30 AM	0	0	1	2	2	2	0	0	0	0	0	0	7
	11:45 AM	0	0	0	0	0	0	0	1	1	0	0	0	2
	12:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	12:15 PM	0	0	0	0	0	3	0	0	1	2	0	0	6
	12:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
	12:45 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
	1:00 PM	1	1	0	0	0	0	0	0	2	0	0	0	4
	1:15 PM	1	0	0	0	1	0	0	1	0	0	0	0	3
	TOTAL	2	1	1	2	4	5	0	5	5	2	0	0	27
PM	4:15 PM	0	0	0	0	0	1	0	0	0	1	0	1	3
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	2
	5:30 PM	0	0	1	0	0	2	0	0	0	0	0	0	3
	5:45 PM	0	0	0	0	0	1	0	0	0	0	0	1	2
	6:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	TOTAL	0	0	1	2	0	4	0	1	0	1	0	2	11



AimTD LLC

TURNING MOVEMENT COUNTS

San Luis Obispo

SC0843

ALL HOURS

Broad

6,528	**2365 (697)**	**3,572**	**591**	**TOTAL**	**6,584**
2,340	764 (320)	1,302	274	**PM**	2,285
2,267	926 (169)	1,143	198	**MD**	2,197
1,921	675 (208)	1,127	119	**AM**	2,102

N

Tank Farm

TOTAL	**PM**	**MD**	**AM**
4,943	1,809	1,686	1,448
2,372	881	934	557
1,334	669	371	294
1133 (3	327 (12	392 (47	414 (13
4,839	**1,877**	**1,697**	**1,265**

Tank Farm

AM	**MD**	**PM**	**TOTAL**
995	**679**	**1,024**	**2,698**
222 (75	167 (84	226 (89	**615 (24**
397	264	449	**1,110**
376	248	349	**973**
599	716	1,282	**2,597**

1,917	**AM**	376	1,323	186 (14)	**1,885**
1,783	**MD**	496	1,095	148 (9)	**1,739**
1,978	**PM**	595	1,179	339 (27)	**2,113**
5,678	**TOTAL**	**1,467**	**3,597**	**673 (50)**	**5,737**

Broad

Broad

3,519	**1246 (368)**	**1,946**	**327**	**TOTAL**	**3,642**
1,296	411 (171)	736	149	**PM**	1,311
1,099	449 (84)	538	112	**MD**	1,181
1,124	386 (113)	672	66	**AM**	1,150

N

PEAK HOUR

AM 7:45 AM

MIDDAY 11:00 AM

PM 4:30 PM

Tank Farm

TOTAL	**PM**	**MD**	**AM**
2,690	1,016	848	826
1,254	483	488	283
721	378	189	154
630 (15	195 (66	195 (22	240 (68
2,605	**1,056**	**872**	**677**

Tank Farm

AM	**MD**	**PM**	**TOTAL**
588	**343**	**580**	**1,511**
139 (45	73 (46)	115 (46	**327 (13**
222	136	255	**613**
227	134	210	**571**
320	380	718	**1,418**

1,139	**AM**	218	728	100 (7)	**1,046**
867	**MD**	263	619	80 (3)	**962**
1,141	**PM**	349	714	191 (19)	**1,254**
3,147	**Total**	**830**	**2,061**	**371 (29)**	**3,262**

Broad

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE: Tue, Mar 15, 16	LOCATION:	San Luis Obispo	PROJECT #:	SC0843
	NORTH & SOUTH:	Broad	LOCATION #:	14
	EAST & WEST:	Tank Farm	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N

◄ W

E ►

S ▼

		NORTHBOUND Broad			SOUTHBOUND Broad			EASTBOUND Tank Farm			WESTBOUND Tank Farm			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	2	1.5	0.5	1	2	1	2	2	1	1	1	1	
AM	7:30 AM	0	2	0	0	3	0	0	0	0	0	5	0	10
AM	7:45 AM	0	0	0	0	5	0	1	0	0	1	1	0	8
AM	8:00 AM	0	1	0	0	1	0	0	0	0	2	0	1	5
AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
AM	8:30 AM	0	1	0	1	0	0	0	1	0	0	1	0	4
AM	8:45 AM	1	1	0	0	4	0	0	0	0	2	0	0	8
AM	9:00 AM	0	0	0	0	2	1	0	0	0	1	0	0	4
AM	9:15 AM	0	0	0	0	3	0	0	0	0	2	0	0	5
AM	VOLUMES	1	5	0	1	18	1	1	1	0	8	8	1	45
AM	APPROACH %	17%	83%	0%	5%	90%	5%	50%	50%	0%	47%	47%	6%	
AM	APP/DEPART	6	/	7	20	/	26	2	/	2	17	/	10	0
AM	BEGIN PEAK HR		7:30 AM											
AM	VOLUMES	0	3	0	0	9	0	1	0	0	3	7	1	24
AM	APPROACH %	0%	100%	0%	0%	100%	0%	100%	0%	0%	27%	64%	9%	
AM	PEAK HR FACTOR		0.375			0.450			0.250			0.550		0.600
AM	APP/DEPART	3	/	5	9	/	12	1	/	0	11	/	7	0
MD	11:00 AM	0	1	0	4	2	0	1	1	0	1	0	0	10
MD	11:15 AM	0	0	0	0	3	0	0	4	0	0	2	1	10
MD	11:30 AM	3	2	1	0	2	0	0	3	0	1	0	0	12
MD	11:45 AM	0	0	0	0	2	0	2	1	0	0	1	0	6
MD	12:00 PM	0	1	0	0	0	0	0	2	0	0	0	0	3
MD	12:15 PM	0	0	0	0	3	0	0	0	1	0	0	0	4
MD	12:30 PM	0	5	0	0	1	0	1	0	0	1	2	0	10
MD	12:45 PM	1	0	0	0	1	0	0	1	6	2	0	0	11
MD	VOLUMES	4	9	1	4	14	0	4	12	7	5	5	1	66
MD	APPROACH %	29%	64%	7%	22%	78%	0%	17%	52%	30%	45%	45%	9%	
MD	APP/DEPART	14	/	14	18	/	26	23	/	17	11	/	9	0
MD	BEGIN PEAK HR		11:00 AM											
MD	VOLUMES	3	3	1	4	9	0	3	9	0	2	3	1	38
MD	APPROACH %	43%	43%	14%	31%	69%	0%	25%	75%	0%	33%	50%	17%	
MD	PEAK HR FACTOR		0.292			0.542			0.750			0.500		0.792
MD	APP/DEPART	7	/	7	13	/	11	12	/	14	6	/	6	0
PM	04:15 PM	0	1	0	0	0	0	0	2	0	1	0	0	4
PM	4:30 PM	0	1	0	0	1	0	2	4	1	0	0	0	9
PM	4:45 PM	0	2	0	0	2	0	0	1	0	0	0	0	5
PM	5:00 PM	0	1	2	0	0	0	5	1	0	0	0	0	9
PM	5:15 PM	0	2	1	1	2	0	1	1	0	0	1	0	9
PM	5:30 PM	0	1	0	0	0	0	0	0	0	0	1	0	2
PM	5:45 PM	0	7	0	0	3	1	2	2	0	0	0	0	15
PM	6:00 PM	1	0	0	0	0	1	1	0	0	0	0	0	3
PM	VOLUMES	1	15	3	1	8	2	11	11	1	1	2	0	56
PM	APPROACH %	5%	79%	16%	9%	73%	18%	48%	48%	4%	33%	67%	0%	
PM	APP/DEPART	19	/	26	11	/	10	23	/	15	3	/	5	0
PM	BEGIN PEAK HR		5:00 PM											
PM	VOLUMES	0	11	3	1	5	1	8	4	0	0	2	0	35
PM	APPROACH %	0%	79%	21%	14%	71%	14%	67%	33%	0%	0%	100%	0%	
PM	PEAK HR FACTOR		0.500			0.438			0.500			0.500		0.583
PM	APP/DEPART	14	/	19	7	/	5	12	/	8	2	/	3	0

Broad

NORTH SIDE

Tank Farm WEST SIDE

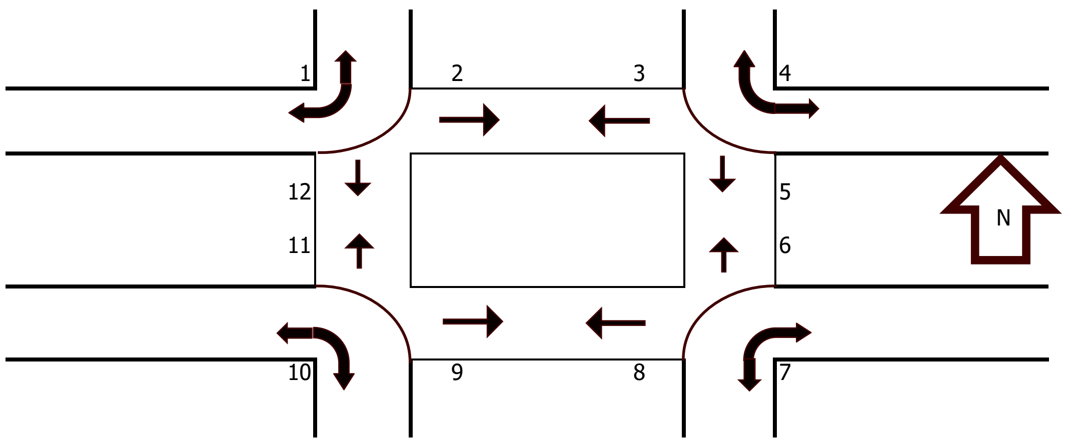
EAST SIDE **Tank Farm**

SOUTH SIDE

Broad

Broad and Tank Farm
Pedestrian Counts

		PEDESTRIAN CROSSINGS												
		1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
AM	7:30 AM	0	0	2	0	0	0	0	0	0	0	1	0	3
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
	8:00 AM	0	0	2	0	0	0	0	3	2	0	2	0	9
	8:15 AM	0	0	0	0	0	0	0	0	3	0	0	0	3
	8:30 AM	0	0	1	0	0	1	0	0	3	0	1	0	6
	8:45 AM	0	0	0	0	2	0	0	2	5	0	0	0	9
	9:00 AM	0	3	1	0	2	0	0	0	4	0	1	3	14
	9:15 AM	0	2	0	0	0	0	0	1	0	0	0	1	4
	TOTAL	0	5	6	0	4	1	0	6	17	0	6	4	49
MD	11:00 AM	0	5	2	0	0	2	0	12	3	2	2	3	31
	11:15 AM	0	10	3	0	4	1	0	3	10	0	2	9	42
	11:30 AM	0	1	9	0	2	9	0	10	6	0	12	1	50
	11:45 AM	0	1	5	0	0	2	1	7	7	0	4	0	27
	12:00 PM	0	2	5	0	2	0	0	2	7	0	4	2	24
	12:15 PM	0	0	2	0	4	3	0	5	6	0	4	0	24
	12:30 PM	0	0	4	0	1	1	0	5	1	0	4	0	16
	12:45 PM	0	0	2	0	0	2	0	0	1	0	2	0	7
	TOTAL	0	19	32	0	13	20	1	44	41	2	34	15	221
PM	4:15 PM	0	0	0	0	0	2	1	3	0	0	0	1	7
	4:30 PM	0	0	0	0	0	1	0	4	1	0	0	0	6
	4:45 PM	0	0	0	0	2	3	0	2	3	0	0	0	10
	5:00 PM	0	0	0	0	0	0	1	2	1	0	0	0	4
	5:15 PM	0	0	0	0	1	4	0	5	0	0	0	1	11
	5:30 PM	0	0	0	0	0	2	0	4	3	0	0	0	9
	5:45 PM	0	0	0	0	1	2	0	2	0	0	0	1	6
	6:00 PM	1	1	0	0	0	1	1	0	0	0	0	1	5
	TOTAL	1	1	0	0	4	15	3	22	8	0	0	4	58



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

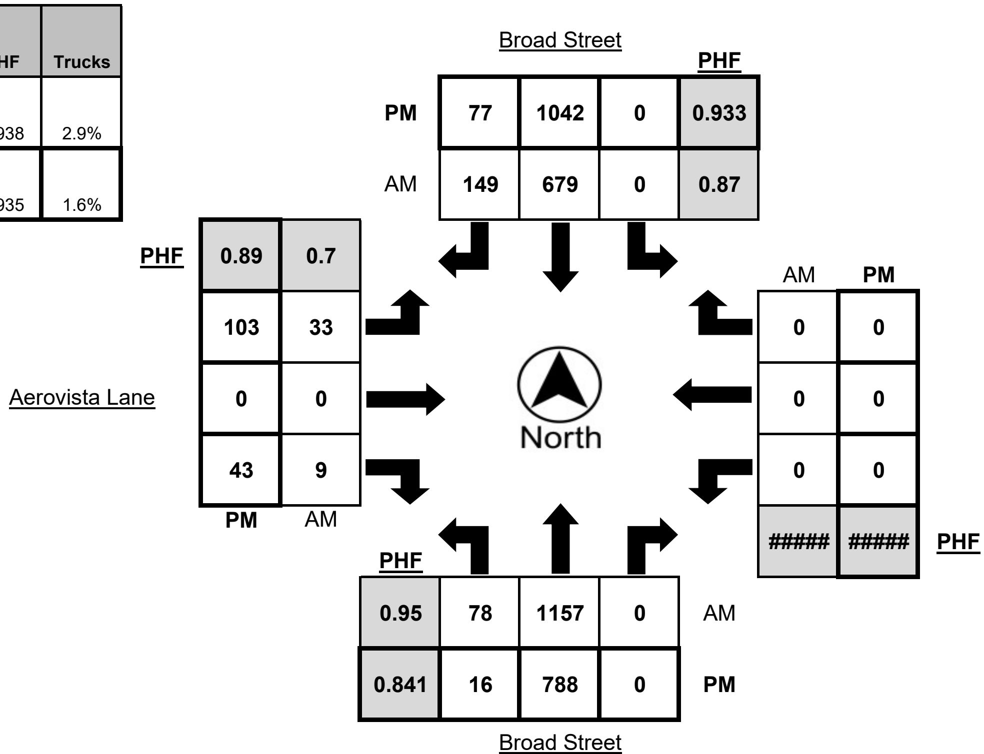
LOCATION Broad St @ Aerovista Ln
LATITUDE 35.243115°
COUNTY San Luis Obispo
LONGITUDE -120.639959°
COLLECTION DATE Thursday, October 5, 2017
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	5	130	0	2	0	121	20	8	28	0	4	0	0	0	0	0
7:15 AM - 7:30 AM	7	201	0	7	0	104	13	4	6	0	1	0	0	0	0	0
7:30 AM - 7:45 AM	8	254	0	6	0	134	20	7	7	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	5	320	0	7	0	156	38	9	7	0	1	0	0	0	0	0
8:00 AM - 8:15 AM	23	270	0	7	0	208	30	8	7	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	24	301	0	8	0	181	40	10	11	0	4	0	0	0	0	0
8:30 AM - 8:45 AM	26	266	0	11	0	134	41	2	8	0	4	0	0	0	0	0
8:45 AM - 9:00 AM	14	191	0	7	0	155	42	6	7	0	5	0	0	0	0	0
TOTAL	**112**	**1933**	**0**	**55**	**0**	**1193**	**244**	**54**	**81**	**0**	**19**	**0**	**0**	**0**	**0**	**0**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	3	180	0	3	0	258	40	5	16	0	11	0	0	0	0	0
4:15 PM - 4:30 PM	2	189	0	3	0	240	24	1	29	0	13	0	0	0	0	0
4:30 PM - 4:45 PM	5	171	0	3	0	266	23	11	34	0	7	0	0	0	0	0
4:45 PM - 5:00 PM	4	173	0	4	0	242	13	5	22	0	14	0	0	0	0	0
5:00 PM - 5:15 PM	5	234	0	4	0	265	10	2	24	0	15	0	0	0	0	0
5:15 PM - 5:30 PM	2	210	0	1	0	269	31	3	23	0	7	0	0	0	0	0
5:30 PM - 5:45 PM	2	190	0	4	0	226	14	5	19	0	9	0	0	0	0	0
5:45 PM - 6:00 PM	1	123	0	0	0	186	16	0	13	0	10	0	0	0	0	0
TOTAL	**24**	**1470**	**0**	**22**	**0**	**1952**	**171**	**32**	**180**	**0**	**86**	**0**	**0**	**0**	**0**	**0**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:45 AM - 8:45 AM	78	1157	0	33	0	679	149	29	33	0	9	0	0	0	0	0
4:30 PM - 5:30 PM	16	788	0	12	0	1042	77	21	103	0	43	0	0	0	0	0

	PHF	**Trucks**
AM	0.938	2.9%
PM	0.935	1.6%



Metro Traffic Data Inc.

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

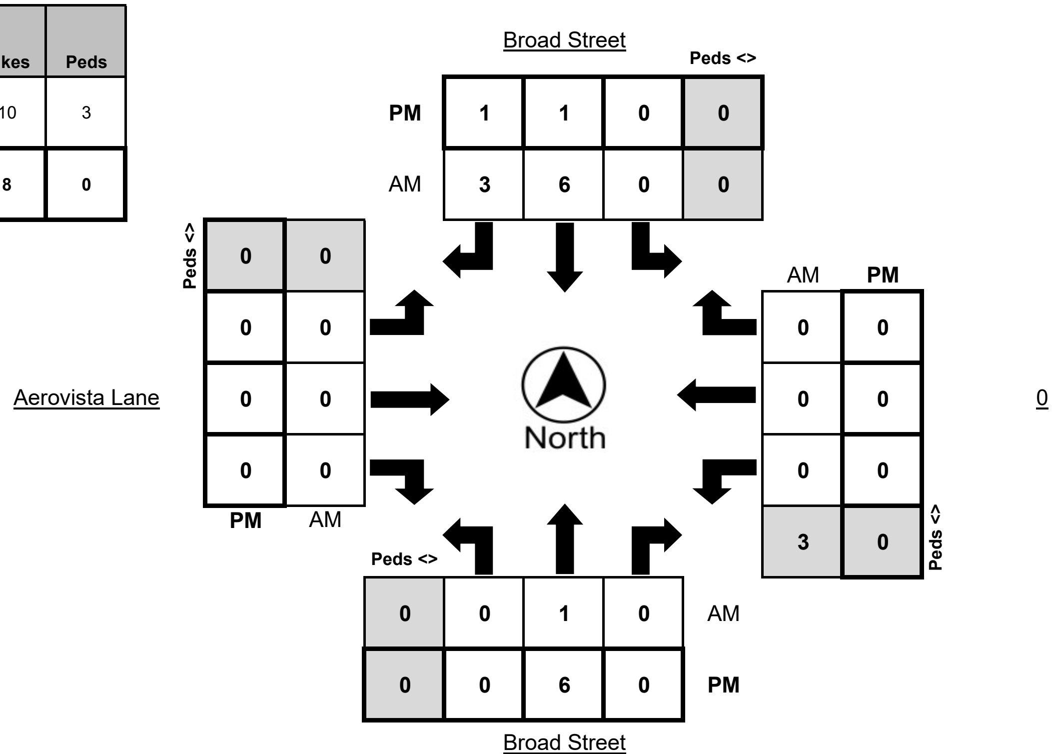
LOCATION Broad St @ Aerovista Ln
LATITUDE 35.243115°
COUNTY San Luis Obispo
LONGITUDE -120.639959°
COLLECTION DATE Thursday, October 5, 2017
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	1	1	0	0	0	0	3	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**2**	**0**	**0**	**0**	**9**	**5**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0
5:45 PM - 6:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**9**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**	**Left**	**Thru**	**Right**	**Peds**
7:45 AM - 8:45 AM	0	1	0	0	0	6	3	0	0	0	0	3	0	0	0	0
4:30 PM - 5:30 PM	0	6	0	0	0	1	1	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	10	3
PM Peak Total	8	0



AimTD LLC

TURNING MOVEMENT COUNTS

Broad

3,066	**148 (0)**	**2,856**	**62**	**TOTAL**
1,906	83 (0)	1,806	17	**PM**
0	0 (0)	0	0	**MD**
1,160	65 (0)	1,050	45	**AM**

3,590	TOTAL
1,440	PM
0	MD
2,150	AM

N

Aero

TOTAL	**PM**	**MD**	**AM**
216	107	0	109
221	171	0	50
4	2	0	2
61 (30)	48 (21)	0 (0)	13 (9)
286	**221**	**0**	**65**

San Luis Obispo

SC0843

ALL HOURS

Aero

AM	**MD**	**PM**	**TOTAL**
59	**0**	**65**	**124**
39 (12)	0 (0)	47 (29)	**86 (41)**
0	0	0	**0**
20	0	18	**38**
75	0	25	**100**

1,083	**AM**	44	2,061	28 (0)	**2,133**
0	**MD**	0	0	0 (0)	**0**
1,872	**PM**	23	1,223	6 (0)	**1,252**
2,955	**TOTAL**	**67**	**3,284**	**34 (0)**	**3,385**

Broad

Broad

1,705	**61 (0)**	**1,613**	**31**	**TOTAL**
1,090	37 (0)	1,039	14	**PM**
0	0 (0)	0	0	**MD**
615	24 (0)	574	17	**AM**

2,016	TOTAL
773	PM
0	MD
1,243	AM

N

Aero

TOTAL	**PM**	**MD**	**AM**
92	49	0	43
128	105	0	23
3	1	0	2
36 (18)	31 (13)	0 (0)	5 (5)
167	**137**	**0**	**30**

PEAK HOUR

AM 7:30 AM

MIDDAY 11:00 AM

PM 4:30 PM

Aero

AM	**MD**	**PM**	**TOTAL**
19	**0**	**46**	**65**
11 (6)	0 (0)	33 (21)	**44 (27)**
0	0	0	**0**
8	0	13	**21**
36	0	19	**55**

587	**AM**	19	1,209	17 (0)	**1,245**
0	**MD**	0	0	0 (0)	**0**
1,083	**PM**	11	636	4 (0)	**651**
1,670	**Total**	**30**	**1,845**	**21 (0)**	**1,896**

Broad

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

DATE:	LOCATION:	San Luis Obispo	PROJECT #:	SC0843
Tue, Mar 15, 16	NORTH & SOUTH:	Broad	LOCATION #:	15
	EAST & WEST:	Aero	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
◄ W
E ►
S ▼

		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
			Broad			Broad			Aero			Aero		
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	0.5	0.5	1	0	1	0	
AM	7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
AM	7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
AM	7:45 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
AM	8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
AM	8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	2	0	0	5	0	0	0	0	0	0	0	7
AM	9:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
AM	VOLUMES	0	5	0	0	12	0	0	0	0	0	0	0	17
AM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
AM	APP/DEPART	5	/	5	12	/	12	0	/	0	0	/	0	0
AM	BEGIN PEAK HR		8:00 AM											
AM	VOLUMES	0	4	0	0	6	0	0	0	0	0	0	0	10
AM	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	
AM	PEAK HR FACTOR		0.500			0.300			0.000			0.000		0.357
AM	APP/DEPART	4	/	4	6	/	6	0	/	0	0	/	0	0
MD	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
MD	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
MD	BEGIN PEAK HR		11:00 AM											
MD	VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
MD	PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000
MD	APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	04:15 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
PM	4:30 PM	0	1	0	0	1	0	0	0	1	0	0	0	3
PM	4:45 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
PM	5:00 PM	0	4	0	0	0	0	0	0	0	0	0	0	4
PM	5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
PM	5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
PM	5:45 PM	0	2	0	0	3	0	0	0	0	0	0	0	5
PM	6:00 PM	0	2	0	0	1	1	0	0	0	0	0	0	4
PM	VOLUMES	0	13	0	0	11	1	0	0	1	0	0	0	26
PM	APPROACH %	0%	100%	0%	0%	92%	8%	0%	0%	100%	0%	0%	0%	
PM	APP/DEPART	13	/	13	12	/	12	1	/	0	0	/	1	0
PM	BEGIN PEAK HR		4:15 PM											
PM	VOLUMES	0	8	0	0	4	1	0	0	0	0	0	0	13
PM	APPROACH %	0%	100%	0%	0%	80%	20%	0%	0%	0%	0%	0%	0%	
PM	PEAK HR FACTOR		0.500			0.417			0.000			0.000		0.650
PM	APP/DEPART	8	/	8	5	/	4	0	/	0	0	/	1	0

Broad

NORTH SIDE

Aero WEST SIDE

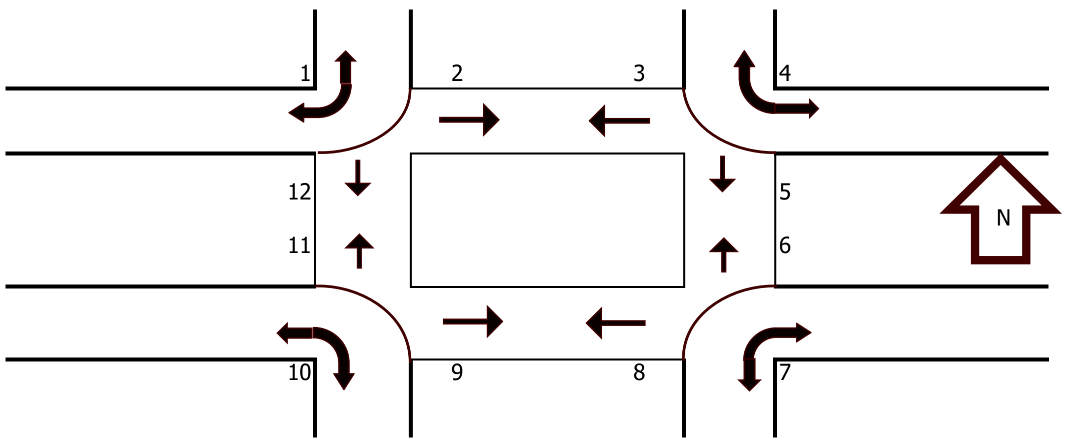
EAST SIDE **Aero**

SOUTH SIDE

Broad

Broad and Aero
Pedestrian Counts

		PEDESTRIAN CROSSINGS												
		1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
AM	7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	2
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	1	1	0	0	1	0	0	0	0	0	0	3
MD	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	1	1	0	0	0	0	0	0	0	0	0	0	2
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
	5:45 PM	0	1	0	0	0	0	0	0	0	0	0	1	2
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1	2	0	0	0	0	0	0	0	0	0	2	5



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

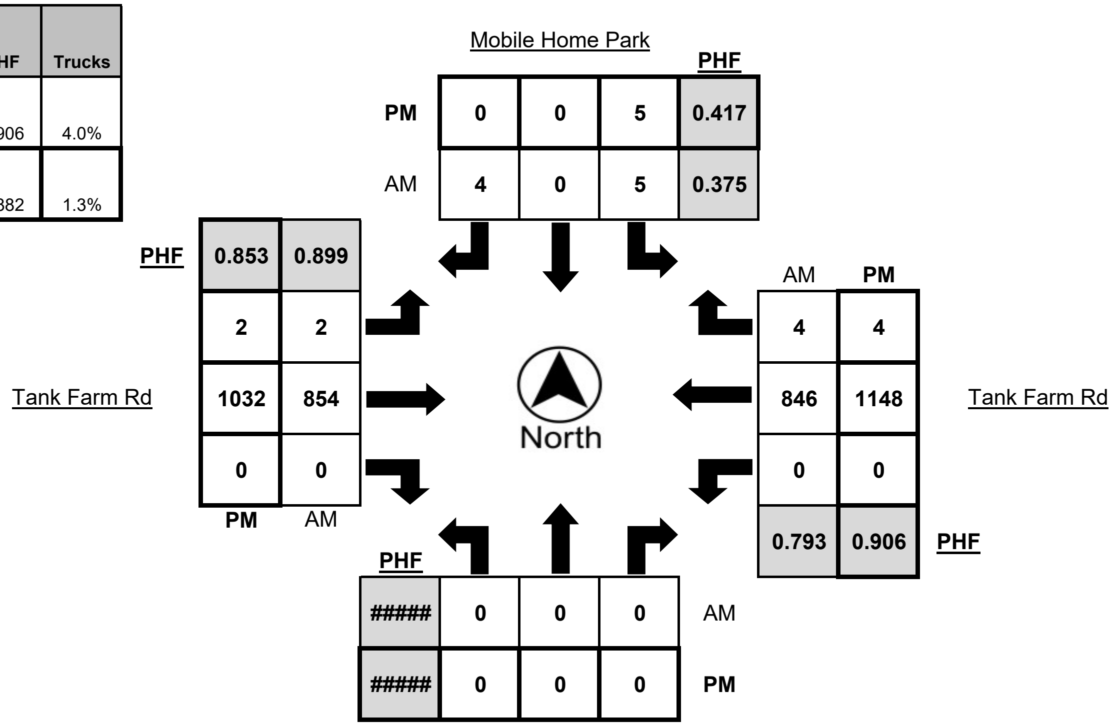
LOCATION Tank Farm Rd @ Mobile Home Park Driveway
LATITUDE 35.246968°
COUNTY San Luis Obispo
LONGITUDE -120.646609°
COLLECTION DATE Thursday, October 5, 2017
WEATHER Clear

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	0	0	0	2	0	0	0	0	104	0	2	0	92	0	2
7:15 AM - 7:30 AM	0	0	0	0	1	0	0	0	0	135	0	3	0	134	0	3
7:30 AM - 7:45 AM	0	0	0	0	1	0	0	0	0	183	0	12	0	137	0	5
7:45 AM - 8:00 AM	0	0	0	0	1	0	1	0	1	202	0	12	0	268	0	9
8:00 AM - 8:15 AM	0	0	0	0	3	0	3	0	1	237	0	13	0	203	0	6
8:15 AM - 8:30 AM	0	0	0	0	1	0	0	0	0	199	0	7	0	211	1	9
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	216	0	6	0	164	3	6
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	1	225	0	7	0	172	1	4
TOTAL	**0**	**0**	**0**	**0**	**9**	**0**	**4**	**0**	**3**	**1501**	**0**	**62**	**0**	**1381**	**5**	**44**

	Northbound				Southbound				Eastbound				Westbound			
Time	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	0	0	0	0	0	1	0	1	240	0	10	0	237	0	2
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	1	241	0	7	0	265	2	3
4:30 PM - 4:45 PM	0	0	0	0	1	0	0	0	1	236	0	9	0	276	1	2
4:45 PM - 5:00 PM	0	0	0	0	3	0	0	0	0	224	0	3	0	273	1	6
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	1	302	0	1	0	316	2	3
5:15 PM - 5:30 PM	0	0	0	0	1	0	0	0	0	270	0	4	0	283	0	1
5:30 PM - 5:45 PM	0	0	0	0	0	0	1	0	0	216	0	3	0	219	0	2
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	172	0	1	0	189	0	1
TOTAL	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**0**	**4**	**1901**	**0**	**38**	**0**	**2058**	**6**	**20**

	Northbound				Southbound				Eastbound				Westbound			
PEAK HOUR	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**	**Left**	**Thru**	**Right**	**Trucks**
7:45 AM - 8:45 AM	0	0	0	0	5	0	4	0	2	854	0	38	0	846	4	30
4:30 PM - 5:30 PM	0	0	0	0	5	0	0	0	2	1032	0	17	0	1148	4	12

	PHF	**Trucks**
AM	0.906	4.0%
PM	0.882	1.3%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
Central Coast Transportation Consulting
895 Napa Avenue, Suite A-6
Morro Bay, CA 93442

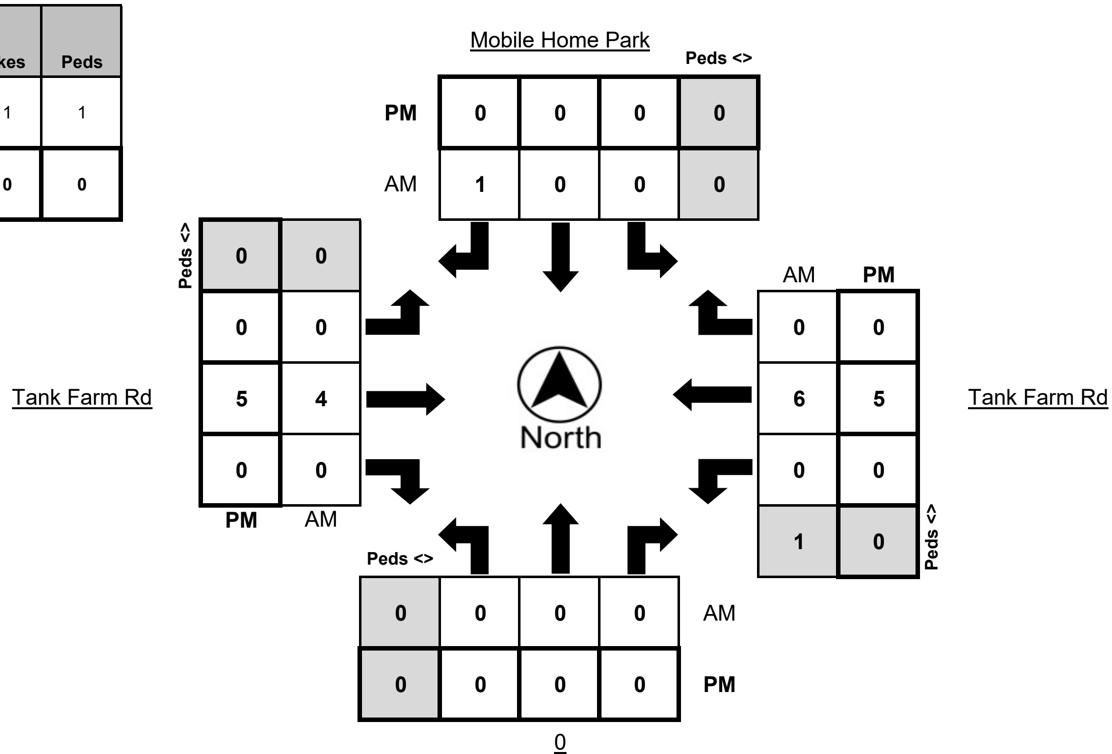
LOCATION	Tank Farm Rd @ Mobile Home Park Driveway	**LATITUDE**	35.246968°
COUNTY	San Luis Obispo	**LONGITUDE**	-120.646609°
COLLECTION DATE	Thursday, October 5, 2017	**WEATHER**	Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	2	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**11**	**0**	**1**	**0**	**12**	**0**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**10**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:45 AM - 8:45 AM	0	0	0	0	0	0	1	0	0	4	0	1	0	6	0	0
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	0

	Bikes	Peds
AM Peak Total	11	1
PM Peak Total	**10**	**0**



Appendix B: Intersection LOS Calculation Sheets

Existing

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	34	26	136	137	299	17	338	541	312	286
v/c Ratio	0.20	0.08	0.41	0.40	0.53	0.15	0.56	0.58	0.68	0.18
Control Delay	38.6	0.5	31.3	30.8	7.5	42.2	33.3	3.5	37.6	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	0.5	31.3	30.8	7.5	42.2	33.3	3.5	37.6	15.6
Queue Length 50th (ft)	16	0	61	62	0	8	81	0	141	39
Queue Length 95th (ft)	47	0	125	125	63	31	135	30	#324	91
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	647	685	490	510	693	117	1166	1043	461	1839
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.04	0.28	0.27	0.43	0.15	0.29	0.52	0.68	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	13	25	253	7	284	16	321	514	296	264	8
Future Volume (veh/h)	19	13	25	253	7	284	16	321	514	296	264	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	14	26	271	0	0	17	338	541	312	278	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	43	87	434	0		28	1123	681	359	1768	51
Arrive On Green	0.06	0.06	0.06	0.12	0.00	0.00	0.02	0.32	0.32	0.20	0.50	0.50
Sat Flow, veh/h	1069	748	1512	3563	0	1585	1781	3554	1545	1781	3524	101
Grp Volume(v), veh/h	34	0	26	271	0	0	17	338	541	312	140	146
Grp Sat Flow(s),veh/h/ln	1817	0	1512	1781	0	1585	1781	1777	1545	1781	1777	1848
Q Serve(g_s), s	1.4	0.0	1.3	5.5	0.0	0.0	0.7	5.5	23.0	12.9	3.2	3.3
Cycle Q Clear(g_c), s	1.4	0.0	1.3	5.5	0.0	0.0	0.7	5.5	23.0	12.9	3.2	3.3
Prop In Lane	0.59		1.00	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	105	0	87	434	0		28	1123	681	359	891	927
V/C Ratio(X)	0.32	0.00	0.30	0.62	0.00		0.60	0.30	0.79	0.87	0.16	0.16
Avail Cap(c_a), veh/h	646	0	537	1032	0		117	1123	681	446	891	927
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	34.3	31.7	0.0	0.0	37.1	19.6	18.5	29.3	10.2	10.2
Incr Delay (d2), s/veh	1.8	0.0	1.9	1.5	0.0	0.0	18.8	0.1	6.4	14.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.5	2.3	0.0	0.0	0.4	2.1	10.3	6.4	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	36.2	33.2	0.0	0.0	55.9	19.8	24.9	43.5	10.3	10.3
LnGrp LOS	D	A	D	C	A		E	B	C	D	B	B
Approach Vol, veh/h		60			271	A		896			598	
Approach Delay, s/veh		36.2			33.2			23.6			27.6	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.3	30.0		10.4	6.2	44.1		15.3
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	19.0	24.0		27.0	5.0	38.0		22.0
Max Q Clear Time (g_c+I1), s	14.9	25.0		3.4	2.7	5.3		7.5
Green Ext Time (p_c), s	0.5	0.0		0.2	0.0	1.6		0.9

Intersection Summary			
HCM 6th Ctrl Delay			26.7
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	57.5	57.5	57.5	57.5
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	1.98	2.68	2.83	2.69
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	60	572	896	598
Effct. Green for Bike (s)	7.3	15.4	13.1	34.8
Cross Street Width (ft)	67.8	54.5	58.5	50.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	127	268	228	605
Bicycle Delay (s/bike)	50.4	43.1	45.1	28.0
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.12	3.55	3.41	3.04
Bicycle LOS	C	D	C	C

Intersection												
Int Delay, s/veh	1.9											
Movement	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Lane Configurations												
Traffic Vol, veh/h	41	852	49	117	613	18	3	1	60	3	1	17
Future Vol, veh/h	41	852	49	117	613	18	3	1	60	3	1	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	160	-	-	-	-	25	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	936	54	129	674	20	3	1	66	3	1	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	694	0	0	990	0	0	1649	2005	495	1501	2022	347
Stage 1	-	-	-	-	-	-	1053	1053	-	942	942	-
Stage 2	-	-	-	-	-	-	596	952	-	559	1080	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	897	-	-	694	-	-	65	59	520	84	57	649
Stage 1	-	-	-	-	-	-	242	301	-	283	340	-
Stage 2	-	-	-	-	-	-	457	336	-	481	293	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	897	-	-	694	-	-	51	46	520	59	44	649
Mov Cap-2 Maneuver	-	-	-	-	-	-	51	46	-	59	44	-
Stage 1	-	-	-	-	-	-	230	286	-	269	277	-
Stage 2	-	-	-	-	-	-	360	274	-	397	278	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.8	17.3	23.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	50	520	897	-	-	694	-	-	54	649
HCM Lane V/C Ratio	0.088	0.127	0.05	-	-	0.185	-	-	0.081	0.029
HCM Control Delay (s)	83.8	12.9	9.2	-	-	11.4	-	-	77.5	10.7
HCM Lane LOS	F	B	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	0.3	0.4	0.2	-	-	0.7	-	-	0.3	0.1

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	17896.6
Level of Service	F
Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1465
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.89
Delay for adq Gap	17899.01
Avg Ped Delay (s)	17896.56

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	25375.5
Level of Service	F
Crosswalk	
Length (ft)	69
Lanes Crossed	4
Veh Vol Crossed	1465
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.71
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.90
Delay for adq Gap	25377.95
Avg Ped Delay (s)	25375.49

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	808	36	100	745	11	46
Future Vol, veh/h	808	36	100	745	11	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	25
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	898	40	111	828	12	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	938	0	1968	918
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	1050	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	730	-	69	329
Stage 1	-	-	-	-	389	-
Stage 2	-	-	-	-	337	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	730	-	59	329
Mov Cap-2 Maneuver	-	-	-	-	148	-
Stage 1	-	-	-	-	330	-
Stage 2	-	-	-	-	337	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	20.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	148	329	-	-	730	-
HCM Lane V/C Ratio	0.083	0.155	-	-	0.152	-
HCM Control Delay (s)	31.5	17.9	-	-	10.8	-
HCM Lane LOS	D	C	-	-	B	-
HCM 95th %tile Q(veh)	0.3	0.5	-	-	0.5	-

Approach	
Approach Direction	EB
Median Present?	Yes
Approach Delay(s)	18.7
Level of Service	C

Crosswalk		
Length (ft)	12	16
Lanes Crossed	1	1
Veh Vol Crossed	808	745
Ped Vol Crossed	0	0
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	7.57
Prob of Delayed X-ing	0.76	0.79
Prob of Blocked Lane	0.76	0.79
Delay for adq Gap	10.44	13.59
Avg Ped Delay (s)	7.97	10.75

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	8388.3
Level of Service	F

Crosswalk	
Length (ft)	56
Lanes Crossed	2
Veh Vol Crossed	1553
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	19.00
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	8390.64
Avg Ped Delay (s)	8388.33

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	943	41	969	18	3
v/c Ratio	0.33	0.19	0.55	0.11	0.02
Control Delay	4.1	22.6	3.3	22.9	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	22.6	3.3	22.9	17.0
Queue Length 50th (ft)	0	9	0	4	0
Queue Length 95th (ft)	134	36	245	21	6
Internal Link Dist (ft)	357		533	330	
Turn Bay Length (ft)		210			120
Base Capacity (vph)	2782	214	1739	171	156
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.34	0.19	0.56	0.11	0.02

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	763	67	36	853	16	3
Future Volume (veh/h)	763	67	36	853	16	3
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	867	76	41	969	18	3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1525	134	66	1232	37	33
Arrive On Green	0.46	0.46	0.04	0.66	0.02	0.02
Sat Flow, veh/h	3399	290	1781	1870	1781	1585
Grp Volume(v), veh/h	466	477	41	969	18	3
Grp Sat Flow(s),veh/h/ln	1777	1818	1781	1870	1781	1585
Q Serve(g_s), s	7.2	7.2	0.8	13.7	0.4	0.1
Cycle Q Clear(g_c), s	7.2	7.2	0.8	13.7	0.4	0.1
Prop In Lane		0.16	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	820	839	66	1232	37	33
V/C Ratio(X)	0.57	0.57	0.62	0.79	0.48	0.09
Avail Cap(c_a), veh/h	1328	1359	238	1947	190	169
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.4	7.4	17.8	4.5	18.1	18.0
Incr Delay (d2), s/veh	0.6	0.6	9.1	1.1	9.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.9	0.5	1.7	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.0	8.0	26.9	5.7	27.5	19.1
LnGrp LOS	A	A	C	A	C	B
Approach Vol, veh/h	943			1010	21	
Approach Delay, s/veh	8.0			6.5	26.3	
Approach LOS	A			A	C	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		6.8	7.4	23.3				30.7
Change Period (Y+Rc), s		6.0	6.0	6.0				6.0
Max Green Setting (Gmax), s		4.0	5.0	28.0				39.0
Max Q Clear Time (g_c+I1), s		2.4	2.8	9.2				15.7
Green Ext Time (p_c), s		0.0	0.0	6.3				8.9

Intersection Summary			
HCM 6th Ctrl Delay			7.4
HCM 6th LOS			A

Approach	EB	WB	NB
Crosswalk Length (ft)	59.2	60.1	36.2
Crosswalk Width (ft)	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	3
Number of Right-Turn Islands	0	0	0
Type of Control	None	None	None
Corresponding Signal Phase	8	2	4
Effective Walk Time (s)	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0
85th percentile speed (mph)	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-
Pedestrian Delay (s/p)	27.5	27.5	27.5
Pedestrian Compliance Code	Fair	Fair	Fair
Pedestrian Crosswalk Score	2.56	2.58	1.98
Pedestrian Crosswalk LOS	C	C	B

Approach	EB	WB	NB
Bicycle Flow Rate (bike/h)	0	0	0
Total Flow Rate (veh/h)	943	1010	21
Effct. Green for Bike (s)	35.1	39.9	4.1
Cross Street Width (ft)	36.2	59.2	60.1
Through Lanes Number	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0
Curb Is Present?	No	No	No
On Street Parking?	No	No	No
Bicycle Lane Capacity (bike/h)	1276	1451	149
Bicycle Delay (s/bike)	3.6	2.1	23.6
Bicycle Compliance	Good	Good	Fair
Bicycle LOS Score	2.89	4.13	2.51
Bicycle LOS	C	D	C

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	54	912	40	125	1157
Future Vol, veh/h	7	54	912	40	125	1157
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	57	960	42	132	1218

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1866	513	0	0	1014	0
Stage 1	993	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	64	506	-	-	680	-
Stage 1	319	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	51	500	-	-	672	-
Mov Cap-2 Maneuver	171	-	-	-	-	-
Stage 1	254	-	-	-	-	-
Stage 2	369	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	171	500	672	-
HCM Lane V/C Ratio	-	-	0.043	0.114	0.196	-
HCM Control Delay (s)	-	-	27	13.1	11.7	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.4	0.7	-

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	689713.8
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2069
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	689715.56
Avg Ped Delay (s)	689713.81

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	689713.8
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2069
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	689715.56
Avg Ped Delay (s)	689713.81

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	8	10	84	40	49	976	174	67	1118	31
v/c Ratio	0.05	0.04	0.37	0.14	0.33	0.46	0.18	0.38	0.52	0.03
Control Delay	37.5	0.3	37.5	1.0	42.6	13.6	6.4	42.3	13.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	0.3	37.5	1.0	42.6	13.6	6.4	42.3	13.8	0.1
Queue Length 50th (ft)	3	0	32	0	19	129	14	26	151	0
Queue Length 95th (ft)	18	0	88	0	63	267	60	79	312	0
Internal Link Dist (ft)	288		473			1028			1931	
Turn Bay Length (ft)		100		180	150		170	150		430
Base Capacity (vph)	907	835	817	784	152	2267	1014	177	2305	1036
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.10	0.05	0.32	0.43	0.17	0.38	0.49	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	3	9	72	7	38	46	917	164	63	1051	29
Future Volume (veh/h)	5	3	9	72	7	38	46	917	164	63	1051	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	3	10	77	7	40	49	976	174	67	1118	31
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	12	27	130	12	126	69	1618	700	85	1649	717
Arrive On Green	0.02	0.02	0.02	0.08	0.08	0.08	0.04	0.46	0.46	0.05	0.46	0.46
Sat Flow, veh/h	1134	680	1547	1639	149	1585	1781	3554	1537	1781	3554	1546
Grp Volume(v), veh/h	8	0	10	84	0	40	49	976	174	67	1118	31
Grp Sat Flow(s),veh/h/ln	1814	0	1547	1788	0	1585	1781	1777	1537	1781	1777	1546
Q Serve(g_s), s	0.2	0.0	0.3	2.4	0.0	1.3	1.5	11.1	3.7	2.0	13.2	0.6
Cycle Q Clear(g_c), s	0.2	0.0	0.3	2.4	0.0	1.3	1.5	11.1	3.7	2.0	13.2	0.6
Prop In Lane	0.62		1.00	0.92		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	32	0	27	142	0	126	69	1618	700	85	1649	717
V/C Ratio(X)	0.25	0.00	0.37	0.59	0.00	0.32	0.71	0.60	0.25	0.79	0.68	0.04
Avail Cap(c_a), veh/h	1182	0	1008	1066	0	944	199	2746	1187	232	2812	1223
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	26.1	23.9	0.0	23.3	25.5	11.0	9.0	25.3	11.2	7.9
Incr Delay (d2), s/veh	4.1	0.0	8.1	3.9	0.0	1.4	12.7	0.4	0.2	15.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	1.1	0.0	0.5	0.8	3.6	1.1	1.1	4.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	0.0	34.2	27.8	0.0	24.8	38.3	11.4	9.2	40.4	11.7	7.9
LnGrp LOS	C	A	C	C	A	C	D	B	A	D	B	A
Approach Vol, veh/h		18			124			1199			1216	
Approach Delay, s/veh		32.4			26.8			12.1			13.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	30.9		5.9	7.1	31.4		9.3				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	7.0	41.5		35.0	6.0	42.5		32.0				
Max Q Clear Time (g_c+I1), s	4.0	13.1		2.3	3.5	15.2		4.4				
Green Ext Time (p_c), s	0.0	7.2		0.0	0.0	9.7		0.6				

Intersection Summary			
HCM 6th Ctrl Delay			13.5
HCM 6th LOS			B

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	68.5	68.5	68.5	68.5
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.00	2.09	2.87	2.84
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	18	124	1199	1216
Effct. Green for Bike (s)	6.1	9.2	43.0	43.8
Cross Street Width (ft)	73.1	73.9	37.5	37.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	89	134	628	639
Bicycle Delay (s/bike)	62.5	59.6	32.2	31.7
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	2.71	2.89	3.12	3.14
Bicycle LOS	C	C	C	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	304	166	258	244	239	149	234	891	71	723	415
v/c Ratio	0.61	0.32	0.61	0.72	0.67	0.35	0.57	0.71	0.47	0.69	0.56
Control Delay	44.0	37.7	14.1	50.1	45.0	8.2	46.2	30.7	54.7	33.8	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.0	37.7	14.1	50.1	45.0	8.2	46.2	30.7	54.7	33.8	6.2
Queue Length 50th (ft)	90	48	15	138	137	0	69	240	42	195	0
Queue Length 95th (ft)	145	81	89	#265	223	50	120	369	95	305	75
Internal Link Dist (ft)		533			770			1992		1028	
Turn Bay Length (ft)	300		300	150		125	250		250		300
Base Capacity (vph)	652	1385	739	405	801	757	479	1323	168	1190	792
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.12	0.35	0.60	0.30	0.20	0.49	0.67	0.42	0.61	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑	↱	↰	↑	↱	↰↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	283	154	240	227	222	139	218	728	100	66	672	386
Future Volume (veh/h)	283	154	240	227	222	139	218	728	100	66	672	386
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	304	166	258	244	239	149	234	783	108	71	723	415
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	387	896	385	279	556	456	306	1021	141	92	1029	438
Arrive On Green	0.11	0.25	0.25	0.16	0.30	0.30	0.09	0.33	0.33	0.05	0.29	0.29
Sat Flow, veh/h	3456	3554	1527	1781	1870	1535	3456	3124	431	1781	3554	1514
Grp Volume(v), veh/h	304	166	258	244	239	149	234	445	446	71	723	415
Grp Sat Flow(s),veh/h/ln	1728	1777	1527	1781	1870	1535	1728	1777	1778	1781	1777	1514
Q Serve(g_s), s	8.9	3.8	15.7	13.8	10.6	7.8	6.8	23.3	23.3	4.1	18.8	27.7
Cycle Q Clear(g_c), s	8.9	3.8	15.7	13.8	10.6	7.8	6.8	23.3	23.3	4.1	18.8	27.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	387	896	385	279	556	456	306	581	581	92	1029	438
V/C Ratio(X)	0.79	0.19	0.67	0.87	0.43	0.33	0.76	0.77	0.77	0.78	0.70	0.95
Avail Cap(c_a), veh/h	568	1203	517	353	696	572	418	584	585	146	1031	439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	30.3	34.8	42.6	29.3	28.3	46.1	31.3	31.3	48.5	32.7	35.9
Incr Delay (d2), s/veh	4.4	0.1	2.0	17.5	0.5	0.4	5.6	6.0	6.0	13.0	2.2	29.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	1.6	6.0	7.4	4.8	2.9	3.2	10.7	10.8	2.1	8.3	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	30.4	36.8	60.1	29.8	28.7	51.6	37.3	37.3	61.5	34.9	65.6
LnGrp LOS	D	C	D	E	C	C	D	D	D	E	C	E
Approach Vol, veh/h		728			632			1125			1209	
Approach Delay, s/veh		40.5			41.3			40.3			47.0	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	39.3	21.7	31.6	14.7	35.4	17.1	36.2
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	8.5	34.0	20.5	35.0	12.5	30.0	17.0	38.5
Max Q Clear Time (g_c+I1), s	6.1	25.3	15.8	17.7	8.8	29.7	10.9	12.6
Green Ext Time (p_c), s	0.0	3.8	0.4	2.1	0.3	0.2	0.7	2.2

Intersection Summary			
HCM 6th Ctrl Delay			42.7
HCM 6th LOS			D

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	6	5	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.74	2.51	2.86	2.87
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	728	632	1125	1209
Effct. Green for Bike (s)	13.6	17.7	33.2	27.0
Cross Street Width (ft)	72.3	84.2	71.3	73.8
Through Lanes Number	2	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	227	295	553	450
Bicycle Delay (s/bike)	47.2	43.6	31.4	36.0
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	3.27	3.89	3.58	3.69
Bicycle LOS	C	D	D	D

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	9	78	1157	679	149
Future Vol, veh/h	33	9	78	1157	679	149
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	10	83	1231	722	159

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1584	441	881	0	-	0
Stage 1	802	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	99	564	763	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	88	564	763	-	-	-
Mov Cap-2 Maneuver	244	-	-	-	-	-
Stage 1	358	-	-	-	-	-
Stage 2	411	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.9	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	763	-	244	564	-	-
HCM Lane V/C Ratio	0.109	-	0.144	0.017	-	-
HCM Control Delay (s)	10.3	-	22.2	11.5	-	-
HCM Lane LOS	B	-	C	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.5	0.1	-	-

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	157321.6
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	1836
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	157323.58
Avg Ped Delay (s)	157321.63

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	1045976.3
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	1836
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	1045978.25
Avg Ped Delay (s)	1045976.31

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	5	9	12	21	1348	19	657
v/c Ratio	0.11	0.02	0.04	0.04	0.12	0.46	0.14	0.23
Control Delay	26.2	0.2	25.9	0.3	29.4	4.7	30.9	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	0.2	25.9	0.3	29.4	4.7	30.9	3.4
Queue Length 50th (ft)	6	0	2	0	5	0	5	0
Queue Length 95th (ft)	32	0	16	0	29	254	28	101
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	1073	954	1073	954	175	2847	140	2794
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.01	0.01	0.01	0.12	0.47	0.14	0.24

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	2	5	8	0	11	19	1209	17	17	574	24
Future Volume (veh/h)	23	2	5	8	0	11	19	1209	17	17	574	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	2	5	9	0	12	21	1329	19	19	631	26
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	0	69	162	0	69	37	2028	29	34	1959	81
Arrive On Green	0.04	0.04	0.04	0.04	0.00	0.04	0.02	0.57	0.57	0.02	0.56	0.56
Sat Flow, veh/h	0	0	1585	0	0	1585	1781	3585	51	1781	3475	143
Grp Volume(v), veh/h	27	0	5	9	0	12	21	658	690	19	322	335
Grp Sat Flow(s),veh/h/ln	0	0	1585	0	0	1585	1781	1777	1860	1781	1777	1841
Q Serve(g_s), s	0.0	0.0	0.1	0.0	0.0	0.3	0.5	11.3	11.4	0.5	4.3	4.3
Cycle Q Clear(g_c), s	1.9	0.0	0.1	1.9	0.0	0.3	0.5	11.3	11.4	0.5	4.3	4.3
Prop In Lane	0.93		1.00	1.00		1.00	1.00		0.03	1.00		0.08
Lane Grp Cap(c), veh/h	156	0	69	162	0	69	37	1005	1052	34	1002	1038
V/C Ratio(X)	0.17	0.00	0.07	0.06	0.00	0.17	0.57	0.66	0.66	0.57	0.32	0.32
Avail Cap(c_a), veh/h	1028	0	1036	1022	0	1036	201	1622	1698	161	1582	1639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	20.4	22.2	0.0	20.4	21.5	6.6	6.7	21.6	5.2	5.2
Incr Delay (d2), s/veh	0.5	0.0	0.4	0.1	0.0	1.2	13.3	0.7	0.7	14.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	0.1	0.0	0.1	0.3	2.8	2.9	0.3	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.7	0.0	20.8	22.3	0.0	21.6	34.9	7.4	7.4	35.7	5.3	5.3
LnGrp LOS	C	A	C	C	A	C	C	A	A	D	A	A
Approach Vol, veh/h		32			21			1369			676	
Approach Delay, s/veh		22.4			21.9			7.8			6.2	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	31.6		6.9	5.9	31.5		6.9				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	4.0	40.5		29.0	5.0	39.5		29.0				
Max Q Clear Time (g_c+I1), s	2.5	13.4		3.9	2.5	6.3		3.9				
Green Ext Time (p_c), s	0.0	11.7		0.1	0.0	4.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			7.6
HCM 6th LOS			A

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	45.0	45.0	45.0	45.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	1.98	1.97	2.70	2.71
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	32	21	1369	676
Effct. Green for Bike (s)	6.9	6.7	44.5	44.3
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	153	149	989	984
Bicycle Delay (s/bike)	38.4	38.5	11.5	11.6
Bicycle Compliance	Poor	Poor	Fair	Fair
Bicycle LOS Score	2.70	2.71	3.43	2.85
Bicycle LOS	C	C	C	C

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	19	273	275	565	22	708	393	400	710
v/c Ratio	0.21	0.07	0.75	0.73	0.71	0.22	0.79	0.44	1.01	0.41
Control Delay	47.4	0.5	50.3	48.1	8.7	50.4	41.1	4.7	85.7	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	0.5	50.3	48.1	8.7	50.4	41.1	4.7	85.7	17.5
Queue Length 50th (ft)	16	0	173	173	0	14	225	28	~282	133
Queue Length 95th (ft)	43	0	#311	#305	93	40	#317	61	#471	231
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	483	564	365	380	796	105	905	903	398	1735
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.03	0.75	0.72	0.71	0.21	0.78	0.44	1.01	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	10	17	476	12	503	20	630	350	356	594	38
Future Volume (veh/h)	13	10	17	476	12	503	20	630	350	356	594	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	11	19	544	0	0	22	708	393	400	667	43
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	38	75	673	0		34	895	687	432	1607	104
Arrive On Green	0.05	0.05	0.05	0.19	0.00	0.00	0.02	0.25	0.25	0.24	0.48	0.48
Sat Flow, veh/h	1049	769	1503	3563	0	1585	1781	3554	1540	1781	3382	218
Grp Volume(v), veh/h	26	0	19	544	0	0	22	708	393	400	350	360
Grp Sat Flow(s),veh/h/ln	1818	0	1503	1781	0	1585	1781	1777	1540	1781	1777	1823
Q Serve(g_s), s	1.2	0.0	1.1	13.1	0.0	0.0	1.1	16.7	17.2	19.7	11.6	11.6
Cycle Q Clear(g_c), s	1.2	0.0	1.1	13.1	0.0	0.0	1.1	16.7	17.2	19.7	11.6	11.6
Prop In Lane	0.58		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	91	0	75	673	0		34	895	687	432	844	866
V/C Ratio(X)	0.29	0.00	0.25	0.81	0.00		0.66	0.79	0.57	0.93	0.41	0.42
Avail Cap(c_a), veh/h	546	0	452	872	0		119	989	728	436	844	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	0.0	41.1	34.9	0.0	0.0	43.8	31.4	18.9	33.3	15.4	15.4
Incr Delay (d2), s/veh	1.7	0.0	1.7	4.4	0.0	0.0	19.7	4.1	1.0	25.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	5.8	0.0	0.0	0.6	7.2	8.2	11.0	4.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	0.0	42.8	39.3	0.0	0.0	63.5	35.5	19.8	59.1	15.7	15.7
LnGrp LOS	D	A	D	D	A		E	D	B	E	B	B
Approach Vol, veh/h		45			544	A		1123			1110	
Approach Delay, s/veh		42.8			39.3			30.6			31.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	27.8	28.6		10.5	7.7	48.7		23.0
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	22.0	25.0		27.0	6.0	41.0		22.0
Max Q Clear Time (g_c+I1), s	21.7	19.2		3.2	3.1	13.6		15.1
Green Ext Time (p_c), s	0.1	3.0		0.2	0.0	4.3		1.4

Intersection Summary			
HCM 6th Ctrl Delay			32.7
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.00	2.85	3.05	3.02
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	45	1113	1123	1110
Effct. Green for Bike (s)	7.0	21.9	25.0	48.6
Cross Street Width (ft)	67.8	54.5	58.5	50.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	117	365	417	810
Bicycle Delay (s/bike)	53.2	40.1	37.6	21.2
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.10	4.44	3.60	3.47
Bicycle LOS	C	D	D	C

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	717	28	106	1071	15	11	4	172	6	2	45
Future Vol, veh/h	55	717	28	106	1071	15	11	4	172	6	2	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	160	-	-	-	-	25	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	755	29	112	1127	16	12	4	181	6	2	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1143	0	0	784	0	0	1675	2253	392	1855	2259	572
Stage 1	-	-	-	-	-	-	886	886	-	1359	1359	-
Stage 2	-	-	-	-	-	-	789	1367	-	496	900	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	607	-	-	830	-	-	62	41	607	46	41	463
Stage 1	-	-	-	-	-	-	306	361	-	157	215	-
Stage 2	-	-	-	-	-	-	350	213	-	524	355	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	607	-	-	830	-	-	44	32	607	24	32	463
Mov Cap-2 Maneuver	-	-	-	-	-	-	44	32	-	24	32	-
Stage 1	-	-	-	-	-	-	277	326	-	142	186	-
Stage 2	-	-	-	-	-	-	269	184	-	328	321	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.9	23.9	41.7
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	40	607	607	-	-	830	-	-	26	463
HCM Lane V/C Ratio	0.395	0.298	0.095	-	-	0.134	-	-	0.324	0.102
HCM Control Delay (s)	144.6	13.4	11.6	-	-	10	-	-	199.5	13.7
HCM Lane LOS	F	B	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.4	1.2	0.3	-	-	0.5	-	-	1	0.3

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	104330.8
Level of Service	F

Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1788
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.93
Delay for adq Gap	104332.84
Avg Ped Delay (s)	104330.83

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	29076.2
Level of Service	F

Crosswalk	
Length (ft)	57
Lanes Crossed	4
Veh Vol Crossed	1788
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	19.29
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.91
Delay for adq Gap	29078.24
Avg Ped Delay (s)	29076.23

Intersection						
Int Delay, s/veh	3.7					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	881	30	79	1081	39	148
Future Vol, veh/h	881	30	79	1081	39	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	25
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	990	34	89	1215	44	166

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1024	0	2400	1007
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	1393	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	678	-	~ 37	292
Stage 1	-	-	-	-	353	-
Stage 2	-	-	-	-	230	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	678	-	~ 32	292
Mov Cap-2 Maneuver	-	-	-	-	100	-
Stage 1	-	-	-	-	307	-
Stage 2	-	-	-	-	230	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	39.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	100	292	-	-	678	-
HCM Lane V/C Ratio	0.438	0.569	-	-	0.131	-
HCM Control Delay (s)	66.5	32.5	-	-	11.1	-
HCM Lane LOS	F	D	-	-	B	-
HCM 95th %tile Q(veh)	1.9	3.3	-	-	0.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s   +: Computation Not Defined   *: All major volume in platoon

Approach		
Approach Direction	EB	
Median Present?	Yes	
Approach Delay(s)	30.6	
Level of Service	E	

Crosswalk		
Length (ft)	12	16
Lanes Crossed	1	1
Veh Vol Crossed	881	1081
Ped Vol Crossed	0	0
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	6.43	7.57
Prob of Delayed X-ing	0.79	0.90
Prob of Blocked Lane	0.79	0.90
Delay for adq Gap	11.59	23.91
Avg Ped Delay (s)	9.19	21.45

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	57619.0
Level of Service	F

Crosswalk	
Length (ft)	56
Lanes Crossed	2
Veh Vol Crossed	1962
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	19.00
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	57620.88
Avg Ped Delay (s)	57619.04

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1198	9	1224	174	60
v/c Ratio	0.48	0.11	0.91	0.74	0.23
Control Delay	7.0	44.2	21.1	57.2	12.3
Queue Delay	0.0	0.0	3.5	0.0	0.0
Total Delay	7.0	44.2	24.7	57.2	12.3
Queue Length 50th (ft)	118	5	447	97	0
Queue Length 95th (ft)	224	20	#701	#183	33
Internal Link Dist (ft)	357		533	330	
Turn Bay Length (ft)		210			120
Base Capacity (vph)	2521	83	1454	251	276
Starvation Cap Reductn	0	0	153	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.11	0.94	0.69	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1027	16	8	1065	151	52
Future Volume (veh/h)	1027	16	8	1065	151	52
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1180	18	9	1224	174	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2278	35	16	1351	219	195
Arrive On Green	0.64	0.64	0.01	0.72	0.12	0.12
Sat Flow, veh/h	3676	55	1781	1870	1781	1585
Grp Volume(v), veh/h	585	613	9	1224	174	60
Grp Sat Flow(s),veh/h/ln	1777	1861	1781	1870	1781	1585
Q Serve(g_s), s	13.9	13.9	0.4	40.8	7.4	2.7
Cycle Q Clear(g_c), s	13.9	13.9	0.4	40.8	7.4	2.7
Prop In Lane		0.03	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1130	1183	16	1351	219	195
V/C Ratio(X)	0.52	0.52	0.56	0.91	0.79	0.31
Avail Cap(c_a), veh/h	1283	1343	92	1592	276	245
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.7	7.7	38.3	8.6	33.1	31.0
Incr Delay (d2), s/veh	0.4	0.4	26.5	7.0	11.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	4.6	0.3	13.6	3.8	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.0	8.0	64.8	15.7	45.0	31.9
LnGrp LOS	A	A	E	B	D	C
Approach Vol, veh/h	1198			1233	234	
Approach Delay, s/veh	8.0			16.0	41.6	
Approach LOS	A			B	D	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		15.5	6.7	55.3				62.0
Change Period (Y+Rc), s		6.0	6.0	6.0				6.0
Max Green Setting (Gmax), s		12.0	4.0	56.0				66.0
Max Q Clear Time (g_c+I1), s		9.4	2.4	15.9				42.8
Green Ext Time (p_c), s		0.2	0.0	11.2				13.3

Intersection Summary		
HCM 6th Ctrl Delay		14.7
HCM 6th LOS		B

Approach	EB	WB	NB
Crosswalk Length (ft)	59.2	60.1	36.2
Crosswalk Width (ft)	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	3
Number of Right-Turn Islands	0	0	0
Type of Control	None	None	None
Corresponding Signal Phase	8	5	4
Effective Walk Time (s)	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0
85th percentile speed (mph)	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-
Pedestrian Delay (s/p)	45.0	45.0	45.0
Pedestrian Compliance Code	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.79	2.74	2.03
Pedestrian Crosswalk LOS	C	C	B

Approach	EB	WB	NB
Bicycle Flow Rate (bike/h)	0	0	0
Total Flow Rate (veh/h)	1198	1233	234
Effct. Green for Bike (s)	59.9	61.8	11.3
Cross Street Width (ft)	36.2	59.2	60.1
Through Lanes Number	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0
Curb Is Present?	No	No	No
On Street Parking?	No	No	No
Bicycle Lane Capacity (bike/h)	1331	1373	251
Bicycle Delay (s/bike)	5.0	4.4	34.4
Bicycle Compliance	Good	Good	Poor
Bicycle LOS Score	3.10	4.50	2.87
Bicycle LOS	C	D	C

Intersection						
Int Delay, s/veh	1.7					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	130	1297	18	70	1195
Future Vol, veh/h	25	130	1297	18	70	1195
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	140	1395	19	75	1285

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2210	719	0	0	1426	0
Stage 1	1417	-	-	-	-	-
Stage 2	793	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	37	371	-	-	473	-
Stage 1	190	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	31	367	-	-	468	-
Mov Cap-2 Maneuver	136	-	-	-	-	-
Stage 1	158	-	-	-	-	-
Stage 2	406	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.5	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	136	367	468	-
HCM Lane V/C Ratio	-	-	0.198	0.381	0.161	-
HCM Control Delay (s)	-	-	37.9	20.7	14.2	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	0.7	1.7	0.6	-

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	7987607.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2492
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	7987608.50
Avg Ped Delay (s)	7987607.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	7987607.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2492
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	7987608.50
Avg Ped Delay (s)	7987607.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	58	52	203	134	41	1207	139	128	1127	43
v/c Ratio	0.23	0.16	0.59	0.32	0.44	0.97	0.23	1.09	0.80	0.06
Control Delay	33.6	1.0	38.4	8.1	59.1	49.2	10.4	153.6	32.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.6	1.0	38.4	8.1	59.1	49.2	10.4	153.6	32.0	0.2
Queue Length 50th (ft)	25	0	87	0	19	281	9	~67	248	0
Queue Length 95th (ft)	67	0	204	48	#96	#828	74	#274	#746	0
Internal Link Dist (ft)	288		473			1028			1931	
Turn Bay Length (ft)		100		180	150		170	150		430
Base Capacity (vph)	833	789	752	748	93	1242	603	117	1401	674
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.07	0.27	0.18	0.44	0.97	0.23	1.09	0.80	0.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	15	49	188	5	127	39	1147	132	122	1071	41
Future Volume (veh/h)	40	15	49	188	5	127	39	1147	132	122	1071	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	16	52	198	5	134	41	1207	139	128	1127	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	31	95	285	7	260	57	1352	583	132	1503	654
Arrive On Green	0.06	0.06	0.06	0.16	0.16	0.16	0.03	0.38	0.38	0.07	0.42	0.42
Sat Flow, veh/h	1307	498	1543	1739	44	1585	1781	3554	1533	1781	3554	1545
Grp Volume(v), veh/h	58	0	52	203	0	134	41	1207	139	128	1127	43
Grp Sat Flow(s),veh/h/ln	1805	0	1543	1783	0	1585	1781	1777	1533	1781	1777	1545
Q Serve(g_s), s	2.1	0.0	2.2	7.2	0.0	5.2	1.5	21.4	4.2	4.8	18.0	1.1
Cycle Q Clear(g_c), s	2.1	0.0	2.2	7.2	0.0	5.2	1.5	21.4	4.2	4.8	18.0	1.1
Prop In Lane	0.72		1.00	0.98		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	0	95	293	0	260	57	1352	583	132	1503	654
V/C Ratio(X)	0.52	0.00	0.55	0.69	0.00	0.52	0.72	0.89	0.24	0.97	0.75	0.07
Avail Cap(c_a), veh/h	939	0	803	849	0	754	106	1400	604	132	1503	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	0.0	30.7	26.5	0.0	25.7	32.3	19.5	14.2	31.0	16.4	11.5
Incr Delay (d2), s/veh	3.8	0.0	4.9	2.9	0.0	1.6	15.9	7.5	0.2	67.7	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	3.2	0.0	2.0	0.9	9.3	1.4	4.5	7.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	0.0	35.5	29.5	0.0	27.2	48.2	27.0	14.4	98.7	18.5	11.6
LnGrp LOS	C	A	D	C	A	C	D	C	B	F	B	B
Approach Vol, veh/h		110			337			1387			1298	
Approach Delay, s/veh		34.9			28.6			26.4			26.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	32.1		9.1	7.1	34.9		16.0
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0
Max Green Setting (Gmax), s	5.0	26.5		35.0	4.0	27.5		32.0
Max Q Clear Time (g_c+I1), s	6.8	23.4		4.2	3.5	20.0		9.2
Green Ext Time (p_c), s	0.0	2.2		0.5	0.0	4.5		1.8

Intersection Summary			
HCM 6th Ctrl Delay			26.9
HCM 6th LOS			C

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.03	2.16	2.92	2.91
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	110	337	1387	1298
Effct. Green for Bike (s)	11.4	15.5	28.1	31.7
Cross Street Width (ft)	73.1	73.9	37.5	37.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	190	258	468	528
Bicycle Delay (s/bike)	49.1	45.5	35.2	32.5
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	2.86	3.25	3.28	3.21
Bicycle LOS	C	C	C	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	503	394	203	219	266	120	364	943	155	767	428
v/c Ratio	0.79	0.51	0.41	0.77	0.73	0.31	0.76	0.85	0.78	0.74	0.49
Control Delay	53.2	40.1	7.6	62.8	53.7	11.0	57.1	42.7	75.8	40.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.2	40.1	7.6	62.8	53.7	11.0	57.1	42.7	75.8	40.8	9.3
Queue Length 50th (ft)	177	133	0	149	181	7	129	313	110	257	68
Queue Length 95th (ft)	#277	183	58	#273	271	55	#210	#471	#244	365	167
Internal Link Dist (ft)		533			770			1992		1028	
Turn Bay Length (ft)	300		300	150		125	250		250		300
Base Capacity (vph)	674	1192	650	331	610	584	514	1195	198	1093	885
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.33	0.31	0.66	0.44	0.21	0.71	0.79	0.78	0.70	0.48

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	483	378	195	210	255	115	349	714	191	149	736	411
Future Volume (veh/h)	483	378	195	210	255	115	349	714	191	149	736	411
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	503	394	203	219	266	120	364	744	199	155	767	428
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	583	923	397	253	436	356	436	850	227	184	1017	701
Arrive On Green	0.17	0.26	0.26	0.14	0.23	0.23	0.13	0.31	0.31	0.10	0.29	0.29
Sat Flow, veh/h	3456	3554	1528	1781	1870	1527	3456	2752	736	1781	3554	1513
Grp Volume(v), veh/h	503	394	203	219	266	120	364	480	463	155	767	428
Grp Sat Flow(s),veh/h/ln	1728	1777	1528	1781	1870	1527	1728	1777	1711	1781	1777	1513
Q Serve(g_s), s	15.2	9.9	12.2	12.9	13.7	7.0	11.1	27.5	27.5	9.2	21.1	23.1
Cycle Q Clear(g_c), s	15.2	9.9	12.2	12.9	13.7	7.0	11.1	27.5	27.5	9.2	21.1	23.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	583	923	397	253	436	356	436	549	528	184	1017	701
V/C Ratio(X)	0.86	0.43	0.51	0.87	0.61	0.34	0.84	0.88	0.88	0.84	0.75	0.61
Avail Cap(c_a), veh/h	675	1190	512	331	609	497	514	612	589	199	1091	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	33.1	34.0	45.1	36.9	34.3	45.9	35.2	35.2	47.3	34.9	22.3
Incr Delay (d2), s/veh	10.0	0.3	1.0	16.8	1.4	0.6	10.0	12.5	12.9	25.1	2.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	4.3	4.6	6.9	6.4	2.7	5.3	13.6	13.1	5.3	9.4	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.5	33.4	35.0	61.9	38.3	34.9	55.9	47.7	48.1	72.4	37.7	23.7
LnGrp LOS	D	C	C	E	D	C	E	D	D	E	D	C
Approach Vol, veh/h		1100			605			1307			1350	
Approach Delay, s/veh		42.9			46.2			50.1			37.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	38.2	20.3	32.9	18.6	35.8	23.1	30.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	12.0	37.0	20.0	36.0	16.0	33.0	21.0	35.0
Max Q Clear Time (g_c+I1), s	11.2	29.5	14.9	14.2	13.1	25.1	17.2	15.7
Green Ext Time (p_c), s	0.0	3.7	0.4	3.7	0.5	4.5	0.9	2.1

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	6	5	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	62.5	62.5	62.5	62.5
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.83	2.59	2.88	2.92
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1100	605	1307	1350
Effct. Green for Bike (s)	23.7	21.1	34.6	31.6
Cross Street Width (ft)	72.3	84.2	71.3	73.8
Through Lanes Number	2	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	379	338	554	506
Bicycle Delay (s/bike)	41.0	43.2	32.7	34.9
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	3.57	3.85	3.73	3.80
Bicycle LOS	D	D	D	D

Intersection						
Int Delay, s/veh	2.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	103	43	16	788	1042	77
Future Vol, veh/h	103	43	16	788	1042	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	110	46	17	838	1109	82

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1603	596	1191	0	-	0
Stage 1	1150	-	-	-	-	-
Stage 2	453	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 96	447	582	-	-	-
Stage 1	264	-	-	-	-	-
Stage 2	607	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 93	447	582	-	-	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	256	-	-	-	-	-
Stage 2	607	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	582	-	231	447	-	-
HCM Lane V/C Ratio	0.029	-	0.474	0.102	-	-
HCM Control Delay (s)	11.4	-	33.9	14	-	-
HCM Lane LOS	B	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.3	0.3	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s   +: Computation Not Defined   *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	152117.9
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	1830
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	152119.89
Avg Ped Delay (s)	152117.92

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	1005140.6
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	1830
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	1005142.56
Avg Ped Delay (s)	1005140.56

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	116	34	14	36	12	703	15	1183
v/c Ratio	0.46	0.09	0.06	0.09	0.09	0.32	0.11	0.54
Control Delay	26.4	0.4	19.1	0.5	27.9	7.6	28.3	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	0.4	19.1	0.5	27.9	7.6	28.3	9.7
Queue Length 50th (ft)	30	0	3	0	3	49	4	101
Queue Length 95th (ft)	83	0	17	0	20	138	23	273
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	746	932	708	932	136	2126	136	2118
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.04	0.02	0.04	0.09	0.33	0.11	0.56

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	1	31	13	0	33	11	636	4	14	1039	37
Future Volume (veh/h)	105	1	31	13	0	33	11	636	4	14	1039	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	1	34	14	0	36	12	699	4	15	1142	41
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	1	614	108	0	614	21	1358	8	25	1320	47
Arrive On Green	0.39	0.39	0.39	0.39	0.00	0.39	0.01	0.38	0.38	0.01	0.38	0.38
Sat Flow, veh/h	27	1	1585	27	0	1585	1781	3622	21	1781	3496	125
Grp Volume(v), veh/h	116	0	34	14	0	36	12	343	360	15	580	603
Grp Sat Flow(s),veh/h/ln	29	0	1585	27	0	1585	1781	1777	1866	1781	1777	1844
Q Serve(g_s), s	0.6	0.0	1.0	0.6	0.0	1.1	0.5	11.0	11.0	0.6	22.3	22.3
Cycle Q Clear(g_c), s	28.6	0.0	1.0	28.6	0.0	1.1	0.5	11.0	11.0	0.6	22.3	22.3
Prop In Lane	0.99		1.00	1.00		1.00	1.00		0.01	1.00		0.07
Lane Grp Cap(c), veh/h	108	0	614	108	0	614	21	666	700	25	671	696
V/C Ratio(X)	1.07	0.00	0.06	0.13	0.00	0.06	0.58	0.51	0.51	0.60	0.87	0.87
Avail Cap(c_a), veh/h	115	0	622	115	0	622	96	734	770	96	734	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	0.0	14.2	36.7	0.0	14.2	36.3	17.9	17.9	36.2	21.3	21.3
Incr Delay (d2), s/veh	107.3	0.0	0.0	0.5	0.0	0.0	23.2	0.6	0.6	20.7	9.9	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	0.3	0.3	0.0	0.4	0.3	4.3	4.5	0.4	10.4	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	144.1	0.0	14.2	37.3	0.0	14.2	59.5	18.5	18.5	56.9	31.2	30.9
LnGrp LOS	F	A	B	D	A	B	E	B	B	E	C	C
Approach Vol, veh/h		150			50			715			1198	
Approach Delay, s/veh		114.6			20.7			19.2			31.4	
Approach LOS		F			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	34.3		33.8	5.9	34.5		33.8				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	4.0	30.5		29.0	4.0	30.5		29.0				
Max Q Clear Time (g_c+I1), s	2.6	13.0		30.6	2.5	24.3		30.6				
Green Ext Time (p_c), s	0.0	4.3		0.0	0.0	3.8		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			32.9
HCM 6th LOS			C

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	40.0	40.0	40.0	40.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.01	1.97	2.68	2.70
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	150	50	715	1198
Effct. Green for Bike (s)	10.3	10.0	33.8	33.8
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	258	250	845	845
Bicycle Delay (s/bike)	30.4	30.6	13.3	13.3
Bicycle Compliance	Poor	Poor	Fair	Fair
Bicycle LOS Score	2.90	2.76	2.89	3.28
Bicycle LOS	C	C	C	C

Existing Plus Project

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	34	26	141	143	303	17	338	544	313	286
v/c Ratio	0.20	0.08	0.43	0.41	0.53	0.15	0.56	0.58	0.68	0.18
Control Delay	38.7	0.5	31.5	31.0	7.4	42.2	33.4	3.5	37.9	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	0.5	31.5	31.0	7.4	42.2	33.4	3.5	37.9	15.7
Queue Length 50th (ft)	16	0	64	64	0	8	81	0	142	40
Queue Length 95th (ft)	47	0	129	129	63	31	135	30	#324	91
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	645	684	488	509	694	117	1163	1044	460	1834
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.04	0.29	0.28	0.44	0.15	0.29	0.52	0.68	0.16

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	13	25	263	7	288	16	321	517	297	264	8
Future Volume (veh/h)	19	13	25	263	7	288	16	321	517	297	264	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	14	26	282	0	0	17	338	544	313	278	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	43	87	445	0		28	1117	684	360	1763	51
Arrive On Green	0.06	0.06	0.06	0.12	0.00	0.00	0.02	0.31	0.31	0.20	0.50	0.50
Sat Flow, veh/h	1069	748	1512	3563	0	1585	1781	3554	1545	1781	3524	101
Grp Volume(v), veh/h	34	0	26	282	0	0	17	338	544	313	140	146
Grp Sat Flow(s),veh/h/ln	1817	0	1512	1781	0	1585	1781	1777	1545	1781	1777	1848
Q Serve(g_s), s	1.4	0.0	1.3	5.7	0.0	0.0	0.7	5.5	23.3	13.0	3.3	3.3
Cycle Q Clear(g_c), s	1.4	0.0	1.3	5.7	0.0	0.0	0.7	5.5	23.3	13.0	3.3	3.3
Prop In Lane	0.59		1.00	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	105	0	87	445	0		28	1117	684	360	889	925
V/C Ratio(X)	0.33	0.00	0.30	0.63	0.00		0.60	0.30	0.80	0.87	0.16	0.16
Avail Cap(c_a), veh/h	642	0	535	1026	0		117	1117	684	443	889	925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	34.5	31.7	0.0	0.0	37.3	19.8	18.5	29.5	10.3	10.3
Incr Delay (d2), s/veh	1.8	0.0	1.9	1.5	0.0	0.0	18.8	0.2	6.5	14.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.5	2.4	0.0	0.0	0.4	2.1	10.5	6.5	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	0.0	36.4	33.2	0.0	0.0	56.2	20.0	25.0	44.0	10.4	10.4
LnGrp LOS	D	A	D	C	A		E	B	C	D	B	B
Approach Vol, veh/h		60			282	A		899			599	
Approach Delay, s/veh		36.4			33.2			23.7			28.0	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.4	30.0		10.4	6.2	44.2		15.5
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	19.0	24.0		27.0	5.0	38.0		22.0
Max Q Clear Time (g_c+I1), s	15.0	25.3		3.4	2.7	5.3		7.7
Green Ext Time (p_c), s	0.4	0.0		0.2	0.0	1.6		1.0

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	57.5	57.5	57.5	57.5
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	1.98	2.68	2.83	2.69
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	60	587	899	599
Effct. Green for Bike (s)	7.3	15.6	13.1	34.8
Cross Street Width (ft)	67.8	54.5	58.5	50.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	127	271	228	605
Bicycle Delay (s/bike)	50.4	43.0	45.1	28.0
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.12	3.58	3.41	3.04
Bicycle LOS	C	D	C	C

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	856	49	118	627	19	3	1	60	3	1	17
Future Vol, veh/h	41	856	49	118	627	19	3	1	60	3	1	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	160	-	-	-	-	25	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	941	54	130	689	21	3	1	66	3	1	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	710	0	0	995	0	0	1663	2028	498	1521	2045	355
Stage 1	-	-	-	-	-	-	1058	1058	-	960	960	-
Stage 2	-	-	-	-	-	-	605	970	-	561	1085	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	885	-	-	691	-	-	64	57	518	81	55	641
Stage 1	-	-	-	-	-	-	240	300	-	276	333	-
Stage 2	-	-	-	-	-	-	451	330	-	480	291	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	885	-	-	691	-	-	50	44	518	57	42	641
Mov Cap-2 Maneuver	-	-	-	-	-	-	50	44	-	57	42	-
Stage 1	-	-	-	-	-	-	228	285	-	262	270	-
Stage 2	-	-	-	-	-	-	354	268	-	396	276	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.8	17.7	24.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	48	518	885	-	-	691	-	-	52	641
HCM Lane V/C Ratio	0.092	0.127	0.051	-	-	0.188	-	-	0.085	0.029
HCM Control Delay (s)	87.4	13	9.3	-	-	11.4	-	-	80.5	10.8
HCM Lane LOS	F	B	A	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	0.3	0.4	0.2	-	-	0.7	-	-	0.3	0.1

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	19723.5
Level of Service	F

Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1483
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.89
Delay for adq Gap	19725.91
Avg Ped Delay (s)	19723.49

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	24964.2
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1483
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.90
Delay for adq Gap	24966.60
Avg Ped Delay (s)	24964.18

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↱		↰	↑↑	↰	↱
Traffic Vol, veh/h	813	36	100	762	11	46
Future Vol, veh/h	813	36	100	762	11	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	25
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	903	40	111	847	12	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	943	0	1569	472
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	646	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	723	-	101	538
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	484	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	723	-	85	538
Mov Cap-2 Maneuver	-	-	-	-	188	-
Stage 1	-	-	-	-	294	-
Stage 2	-	-	-	-	484	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	188	538	-	-	723	-
HCM Lane V/C Ratio	0.065	0.095	-	-	0.154	-
HCM Control Delay (s)	25.5	12.4	-	-	10.9	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0.5	-

Approach	
Approach Direction	EB
Median Present?	Yes
Approach Delay(s)	39.1
Level of Service	E

Crosswalk		
Length (ft)	10	28
Lanes Crossed	2	1
Veh Vol Crossed	813	762
Ped Vol Crossed	0	0
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	5.86	11.00
Prob of Delayed X-ing	0.73	0.90
Prob of Blocked Lane	0.48	0.90
Delay for adq Gap	8.64	36.29
Avg Ped Delay (s)	6.34	32.75

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	41713.8
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1575
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.91
Delay for adq Gap	41716.04
Avg Ped Delay (s)	41713.76

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1037	41	995	20	3
v/c Ratio	0.36	0.19	0.32	0.10	0.02
Control Delay	5.3	24.1	2.0	24.0	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	24.1	2.0	24.0	17.7
Queue Length 50th (ft)	0	7	0	4	0
Queue Length 95th (ft)	153	36	70	23	6
Internal Link Dist (ft)	100		503	330	
Turn Bay Length (ft)		210			120
Base Capacity (vph)	2661	221	3143	199	181
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.19	0.32	0.10	0.02

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↱		↰	↑↑	↰	↱
Traffic Volume (veh/h)	840	72	36	876	18	3
Future Volume (veh/h)	840	72	36	876	18	3
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	955	82	41	995	20	3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1530	131	66	2357	41	36
Arrive On Green	0.46	0.46	0.04	0.66	0.02	0.02
Sat Flow, veh/h	3405	284	1781	3647	1781	1585
Grp Volume(v), veh/h	512	525	41	995	20	3
Grp Sat Flow(s),veh/h/ln	1777	1819	1781	1777	1781	1585
Q Serve(g_s), s	8.0	8.0	0.8	4.8	0.4	0.1
Cycle Q Clear(g_c), s	8.0	8.0	0.8	4.8	0.4	0.1
Prop In Lane		0.16	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	821	841	66	2357	41	36
V/C Ratio(X)	0.62	0.62	0.62	0.42	0.49	0.08
Avail Cap(c_a), veh/h	1358	1391	243	3784	219	195
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.4	7.4	17.4	2.9	17.7	17.5
Incr Delay (d2), s/veh	0.8	0.8	9.0	0.1	9.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.1	0.5	0.4	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.2	8.2	26.4	3.0	26.6	18.5
LnGrp LOS	A	A	C	A	C	B
Approach Vol, veh/h	1037			1036	23	
Approach Delay, s/veh	8.2			3.9	25.6	
Approach LOS	A			A	C	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		6.3	7.4	22.9				30.3
Change Period (Y+Rc), s		5.5	6.0	6.0				6.0
Max Green Setting (Gmax), s		4.5	5.0	28.0				39.0
Max Q Clear Time (g_c+I1), s		2.4	2.8	10.0				6.8
Green Ext Time (p_c), s		0.0	0.0	6.9				9.0

Intersection Summary		
HCM 6th Ctrl Delay		6.3
HCM 6th LOS		A

Approach	EB	WB	NB
Crosswalk Length (ft)	59.2	60.1	36.2
Crosswalk Width (ft)	12.0	12.0	12.0
Total Number of Lanes Crossed	4	5	3
Number of Right-Turn Islands	0	0	0
Type of Control	None	None	None
Corresponding Signal Phase	8	5	4
Effective Walk Time (s)	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0
85th percentile speed (mph)	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-
Pedestrian Delay (s/p)	27.5	27.5	27.5
Pedestrian Compliance Code	Fair	Fair	Fair
Pedestrian Crosswalk Score	2.62	2.68	1.98
Pedestrian Crosswalk LOS	C	C	B

Approach	EB	WB	NB
Bicycle Flow Rate (bike/h)	0	0	0
Total Flow Rate (veh/h)	1037	1036	23
Effct. Green for Bike (s)	34.8	38.1	4.8
Cross Street Width (ft)	36.2	70.4	72.0
Through Lanes Number	2	2	1
Through Lane Width (ft)	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0
Curb Is Present?	No	No	No
On Street Parking?	No	No	No
Bicycle Lane Capacity (bike/h)	1265	1385	175
Bicycle Delay (s/bike)	3.7	2.6	22.9
Bicycle Compliance	Good	Good	Fair
Bicycle LOS Score	2.97	3.49	2.70
Bicycle LOS	C	C	C

Intersection						
Int Delay, s/veh	1.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	54	959	43	125	1171
Future Vol, veh/h	8	54	959	43	125	1171
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	57	1009	45	132	1233

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1925	539	0	0	1066	0
Stage 1	1044	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	59	487	-	-	649	-
Stage 1	300	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	46	481	-	-	642	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	236	-	-	-	-	-
Stage 2	365	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	163	481	642	-
HCM Lane V/C Ratio	-	-	0.052	0.118	0.205	-
HCM Control Delay (s)	-	-	28.3	13.5	12	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.4	0.8	-

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	979723.1
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2130
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	979724.75
Avg Ped Delay (s)	979723.06

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	979723.1
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2130
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	979724.75
Avg Ped Delay (s)	979723.06

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	8	10	86	40	49	1031	180	67	1135	31
v/c Ratio	0.05	0.04	0.39	0.14	0.34	0.49	0.19	0.39	0.53	0.03
Control Delay	37.8	0.3	38.1	1.0	43.3	13.8	6.7	43.1	13.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	0.3	38.1	1.0	43.3	13.8	6.7	43.1	13.9	0.1
Queue Length 50th (ft)	3	0	34	0	20	140	16	27	155	0
Queue Length 95th (ft)	18	0	89	0	63	288	63	79	322	0
Internal Link Dist (ft)	288		473			1028			1931	
Turn Bay Length (ft)		100		180	150		170	150		430
Base Capacity (vph)	881	814	793	765	147	2244	1004	172	2281	1027
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.11	0.05	0.33	0.46	0.18	0.39	0.50	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	3	9	74	7	38	46	969	169	63	1067	29
Future Volume (veh/h)	5	3	9	74	7	38	46	969	169	63	1067	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	3	10	79	7	40	49	1031	180	67	1135	31
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	12	27	133	12	128	69	1630	705	85	1663	723
Arrive On Green	0.02	0.02	0.02	0.08	0.08	0.08	0.04	0.46	0.46	0.05	0.47	0.47
Sat Flow, veh/h	1134	680	1547	1643	146	1585	1781	3554	1537	1781	3554	1546
Grp Volume(v), veh/h	8	0	10	86	0	40	49	1031	180	67	1135	31
Grp Sat Flow(s),veh/h/ln	1814	0	1547	1788	0	1585	1781	1777	1537	1781	1777	1546
Q Serve(g_s), s	0.2	0.0	0.3	2.5	0.0	1.3	1.5	12.0	3.9	2.0	13.6	0.6
Cycle Q Clear(g_c), s	0.2	0.0	0.3	2.5	0.0	1.3	1.5	12.0	3.9	2.0	13.6	0.6
Prop In Lane	0.62		1.00	0.92		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	32	0	27	144	0	128	69	1630	705	85	1663	723
V/C Ratio(X)	0.25	0.00	0.37	0.60	0.00	0.31	0.72	0.63	0.26	0.79	0.68	0.04
Avail Cap(c_a), veh/h	1168	0	996	1052	0	933	197	2712	1173	229	2778	1208
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	0.0	26.4	24.1	0.0	23.6	25.8	11.2	9.0	25.6	11.3	7.9
Incr Delay (d2), s/veh	4.1	0.0	8.2	3.9	0.0	1.4	12.9	0.4	0.2	15.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	1.1	0.0	0.5	0.8	3.9	1.1	1.2	4.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	0.0	34.6	28.0	0.0	24.9	38.8	11.6	9.2	40.6	11.8	7.9
LnGrp LOS	C	A	C	C	A	C	D	B	A	D	B	A
Approach Vol, veh/h		18			126			1260			1233	
Approach Delay, s/veh		32.7			27.0			12.3			13.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	31.4		6.0	7.1	31.9		9.4				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	7.0	41.5		35.0	6.0	42.5		32.0				
Max Q Clear Time (g_c+I1), s	4.0	14.0		2.3	3.5	15.6		4.5				
Green Ext Time (p_c), s	0.0	7.7		0.0	0.0	9.9		0.6				

Intersection Summary			
HCM 6th Ctrl Delay			13.6
HCM 6th LOS			B

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	68.5	68.5	68.5	68.5
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.00	2.09	2.88	2.85
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	18	126	1260	1233
Effct. Green for Bike (s)	6.1	9.2	44.3	45.0
Cross Street Width (ft)	73.1	73.9	37.5	37.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	89	134	647	657
Bicycle Delay (s/bike)	62.5	59.6	31.4	30.9
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	2.71	2.90	3.17	3.15
Bicycle LOS	C	C	C	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	366	173	271	244	241	149	239	891	71	723	433
v/c Ratio	0.66	0.30	0.61	0.73	0.68	0.35	0.58	0.72	0.48	0.72	0.49
Control Delay	44.8	37.0	14.6	51.7	46.2	8.3	47.5	32.1	56.1	35.5	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	37.0	14.6	51.7	46.2	8.3	47.5	32.1	56.1	35.5	5.7
Queue Length 50th (ft)	111	51	23	145	144	0	74	254	43	207	27
Queue Length 95th (ft)	173	83	101	#266	226	50	122	370	95	306	98
Internal Link Dist (ft)		503			770			1992		1028	
Turn Bay Length (ft)	300		300	150		125	250		250		300
Base Capacity (vph)	640	1359	729	398	787	745	470	1299	164	1168	915
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.13	0.37	0.61	0.31	0.20	0.51	0.69	0.43	0.62	0.47

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	161	252	227	224	139	222	728	100	66	672	403
Future Volume (veh/h)	340	161	252	227	224	139	222	728	100	66	672	403
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	366	173	271	244	241	149	239	783	108	71	723	433
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	447	917	394	280	534	438	312	997	138	92	996	637
Arrive On Green	0.13	0.26	0.26	0.16	0.29	0.29	0.09	0.32	0.32	0.05	0.28	0.28
Sat Flow, veh/h	3456	3554	1528	1781	1870	1534	3456	3123	431	1781	3554	1542
Grp Volume(v), veh/h	366	173	271	244	241	149	239	445	446	71	723	433
Grp Sat Flow(s),veh/h/ln	1728	1777	1528	1781	1870	1534	1728	1777	1777	1781	1777	1542
Q Serve(g_s), s	10.6	3.9	16.4	13.7	10.8	7.9	6.9	23.4	23.4	4.0	18.9	23.7
Cycle Q Clear(g_c), s	10.6	3.9	16.4	13.7	10.8	7.9	6.9	23.4	23.4	4.0	18.9	23.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	447	917	394	280	534	438	312	567	567	92	996	637
V/C Ratio(X)	0.82	0.19	0.69	0.87	0.45	0.34	0.77	0.79	0.79	0.78	0.73	0.68
Avail Cap(c_a), veh/h	572	1211	521	356	701	575	421	588	589	147	1038	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	29.7	34.3	42.3	30.1	29.0	45.6	31.7	31.7	48.1	33.4	24.9
Incr Delay (d2), s/veh	7.2	0.1	2.4	17.2	0.6	0.5	5.8	6.7	6.7	13.0	2.5	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	1.7	6.3	7.3	4.9	2.9	3.2	10.9	10.9	2.1	8.3	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	29.8	36.8	59.5	30.7	29.5	51.4	38.5	38.5	61.1	35.8	27.6
LnGrp LOS	D	C	D	E	C	C	D	D	D	E	D	C
Approach Vol, veh/h		810			634			1130			1227	
Approach Delay, s/veh		41.6			41.5			41.2			34.4	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	38.3	21.6	32.0	14.8	34.3	18.8	34.8
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	8.5	34.0	20.5	35.0	12.5	30.0	17.0	38.5
Max Q Clear Time (g_c+I1), s	6.0	25.4	15.7	18.4	8.9	25.7	12.6	12.8
Green Ext Time (p_c), s	0.0	3.8	0.4	2.2	0.3	2.7	0.7	2.2

Intersection Summary	
HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	7	5	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.86	2.51	2.86	2.88
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	810	634	1130	1227
Effct. Green for Bike (s)	15.5	18.0	33.1	26.7
Cross Street Width (ft)	72.3	83.5	71.3	85.5
Through Lanes Number	2	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	258	300	552	445
Bicycle Delay (s/bike)	45.5	43.3	31.5	36.3
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	3.33	3.88	3.58	3.88
Bicycle LOS	C	D	D	D

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	9	78	1160	688	150
Future Vol, veh/h	33	9	78	1160	688	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	10	83	1234	732	160

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1595	446	892	0	-	0
Stage 1	812	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	98	560	756	-	-	-
Stage 1	397	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	87	560	756	-	-	-
Mov Cap-2 Maneuver	242	-	-	-	-	-
Stage 1	353	-	-	-	-	-
Stage 2	411	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.1	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	756	-	242	560	-	-
HCM Lane V/C Ratio	0.11	-	0.145	0.017	-	-
HCM Control Delay (s)	10.3	-	22.4	11.5	-	-
HCM Lane LOS	B	-	C	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.5	0.1	-	-

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	168274.6
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	1848
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	168276.58
Avg Ped Delay (s)	168274.63

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	1132727.4
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	1848
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	1132729.38
Avg Ped Delay (s)	1132727.38

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	5	9	12	21	1350	20	665
v/c Ratio	0.11	0.02	0.04	0.04	0.12	0.46	0.14	0.23
Control Delay	26.2	0.2	25.9	0.3	29.4	4.7	31.1	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	0.2	25.9	0.3	29.4	4.7	31.1	3.5
Queue Length 50th (ft)	6	0	2	0	5	0	5	0
Queue Length 95th (ft)	32	0	16	0	29	255	28	102
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	1072	953	1072	953	175	2847	140	2793
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.01	0.01	0.01	0.12	0.47	0.14	0.24

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	2	5	8	0	11	19	1211	17	18	581	25
Future Volume (veh/h)	23	2	5	8	0	11	19	1211	17	18	581	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	2	5	9	0	12	21	1331	19	20	638	27
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	0	69	162	0	69	37	2028	29	35	1960	83
Arrive On Green	0.04	0.04	0.04	0.04	0.00	0.04	0.02	0.57	0.57	0.02	0.56	0.56
Sat Flow, veh/h	0	0	1585	0	0	1585	1781	3585	51	1781	3470	147
Grp Volume(v), veh/h	27	0	5	9	0	12	21	659	691	20	326	339
Grp Sat Flow(s),veh/h/ln	0	0	1585	0	0	1585	1781	1777	1860	1781	1777	1840
Q Serve(g_s), s	0.0	0.0	0.1	0.0	0.0	0.3	0.5	11.4	11.4	0.5	4.4	4.4
Cycle Q Clear(g_c), s	1.9	0.0	0.1	1.9	0.0	0.3	0.5	11.4	11.4	0.5	4.4	4.4
Prop In Lane	0.93		1.00	1.00		1.00	1.00		0.03	1.00		0.08
Lane Grp Cap(c), veh/h	156	0	69	162	0	69	37	1005	1052	35	1004	1039
V/C Ratio(X)	0.17	0.00	0.07	0.06	0.00	0.17	0.57	0.66	0.66	0.57	0.33	0.33
Avail Cap(c_a), veh/h	1025	0	1034	1019	0	1034	200	1618	1693	160	1578	1634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	20.4	22.2	0.0	20.5	21.6	6.7	6.7	21.6	5.2	5.2
Incr Delay (d2), s/veh	0.5	0.0	0.4	0.1	0.0	1.2	13.4	0.7	0.7	13.7	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	0.1	0.0	0.1	0.3	2.8	2.9	0.3	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	0.0	20.8	22.4	0.0	21.7	34.9	7.4	7.4	35.3	5.3	5.3
LnGrp LOS	C	A	C	C	A	C	C	A	A	D	A	A
Approach Vol, veh/h		32			21			1371			685	
Approach Delay, s/veh		22.5			22.0			7.8			6.2	
Approach LOS		C			C			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	31.7		6.9	5.9	31.6		6.9				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	4.0	40.5		29.0	5.0	39.5		29.0				
Max Q Clear Time (g_c+I1), s	2.5	13.4		3.9	2.5	6.4		3.9				
Green Ext Time (p_c), s	0.0	11.7		0.1	0.0	4.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			7.7									
HCM 6th LOS			A									

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	45.0	45.0	45.0	45.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	1.98	1.97	2.70	2.71
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	32	21	1371	685
Effct. Green for Bike (s)	6.9	6.7	44.5	44.3
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	153	149	989	984
Bicycle Delay (s/bike)	38.4	38.5	11.5	11.6
Bicycle Compliance	Poor	Poor	Fair	Fair
Bicycle LOS Score	2.70	2.71	3.43	2.86
Bicycle LOS	C	C	C	C

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	19	276	279	567	22	708	404	404	710
v/c Ratio	0.21	0.07	0.76	0.74	0.71	0.22	0.79	0.45	1.02	0.41
Control Delay	47.4	0.5	50.5	48.5	8.7	50.4	41.3	4.8	88.6	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	0.5	50.5	48.5	8.7	50.4	41.3	4.8	88.6	17.6
Queue Length 50th (ft)	16	0	175	176	0	14	225	29	~287	133
Queue Length 95th (ft)	43	0	#316	#311	94	40	#317	63	#477	231
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	481	564	364	379	797	104	903	905	397	1730
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.03	0.76	0.74	0.71	0.21	0.78	0.45	1.02	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	10	17	482	12	505	20	630	360	360	594	38
Future Volume (veh/h)	13	10	17	482	12	505	20	630	360	360	594	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	11	19	551	0	0	22	708	404	404	667	43
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	38	75	677	0		33	900	691	432	1613	104
Arrive On Green	0.05	0.05	0.05	0.19	0.00	0.00	0.02	0.25	0.25	0.24	0.48	0.48
Sat Flow, veh/h	1049	769	1503	3563	0	1585	1781	3554	1540	1781	3382	218
Grp Volume(v), veh/h	26	0	19	551	0	0	22	708	404	404	350	360
Grp Sat Flow(s),veh/h/ln	1818	0	1503	1781	0	1585	1781	1777	1540	1781	1777	1823
Q Serve(g_s), s	1.3	0.0	1.1	13.4	0.0	0.0	1.1	16.9	18.0	20.2	11.7	11.7
Cycle Q Clear(g_c), s	1.3	0.0	1.1	13.4	0.0	0.0	1.1	16.9	18.0	20.2	11.7	11.7
Prop In Lane	0.58		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	90	0	75	677	0		33	900	691	432	847	869
V/C Ratio(X)	0.29	0.00	0.25	0.81	0.00		0.66	0.79	0.58	0.94	0.41	0.41
Avail Cap(c_a), veh/h	541	0	447	864	0		118	979	726	432	847	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	0.0	41.5	35.2	0.0	0.0	44.2	31.6	19.1	33.7	15.5	15.5
Incr Delay (d2), s/veh	1.7	0.0	1.8	4.7	0.0	0.0	19.9	4.0	1.1	27.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	5.9	0.0	0.0	0.7	7.2	8.6	11.4	4.3	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	0.0	43.3	40.0	0.0	0.0	64.1	35.6	20.2	61.5	15.8	15.8
LnGrp LOS	D	A	D	D	A		E	D	C	E	B	B
Approach Vol, veh/h		45			551	A		1134			1114	
Approach Delay, s/veh		43.3			40.0			30.7			32.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	28.0	29.0		10.5	7.7	49.3		23.3				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	22.0	25.0		27.0	6.0	41.0		22.0				
Max Q Clear Time (g_c+I1), s	22.2	20.0		3.3	3.1	13.7		15.4				
Green Ext Time (p_c), s	0.0	2.8		0.2	0.0	4.3		1.4				

Intersection Summary			
HCM 6th Ctrl Delay			33.3
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.00	2.86	3.05	3.02
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	45	1122	1134	1114
Effct. Green for Bike (s)	7.0	22.1	24.9	48.6
Cross Street Width (ft)	67.8	54.5	58.5	50.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	117	368	415	810
Bicycle Delay (s/bike)	53.2	39.9	37.7	21.2
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.10	4.46	3.60	3.47
Bicycle LOS	C	D	D	C

Intersection												
Int Delay, s/veh	4											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	732	28	107	1079	16	11	4	173	7	2	45
Future Vol, veh/h	55	732	28	107	1079	16	11	4	173	7	2	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	160	-	-	-	-	25	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	771	29	113	1136	17	12	4	182	7	2	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1153	0	0	800	0	0	1697	2281	400	1875	2287	577
Stage 1	-	-	-	-	-	-	902	902	-	1371	1371	-
Stage 2	-	-	-	-	-	-	795	1379	-	504	916	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	602	-	-	819	-	-	60	39	600	44	39	460
Stage 1	-	-	-	-	-	-	299	355	-	154	212	-
Stage 2	-	-	-	-	-	-	347	210	-	518	349	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	602	-	-	819	-	-	42	30	600	23	30	460
Mov Cap-2 Maneuver	-	-	-	-	-	-	42	30	-	23	30	-
Stage 1	-	-	-	-	-	-	270	321	-	139	183	-
Stage 2	-	-	-	-	-	-	265	181	-	322	315	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.9	24.9	50
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	38	600	602	-	-	819	-	-	24	460
HCM Lane V/C Ratio	0.416	0.304	0.096	-	-	0.138	-	-	0.395	0.103
HCM Control Delay (s)	155.3	13.6	11.6	-	-	10.1	-	-	231.4	13.7
HCM Lane LOS	F	B	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.4	1.3	0.3	-	-	0.5	-	-	1.2	0.3

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	118445.8
Level of Service	F

Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1811
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	118447.80
Avg Ped Delay (s)	118445.81

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	157900.1
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1811
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	157902.09
Avg Ped Delay (s)	157900.11

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	899	30	79	1091	39	148
Future Vol, veh/h	899	30	79	1091	39	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	25
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1010	34	89	1226	44	166

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1044	0	1818	522
Stage 1	-	-	-	-	1027	-
Stage 2	-	-	-	-	791	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	662	-	69	499
Stage 1	-	-	-	-	306	-
Stage 2	-	-	-	-	407	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	662	-	60	499
Mov Cap-2 Maneuver	-	-	-	-	159	-
Stage 1	-	-	-	-	265	-
Stage 2	-	-	-	-	407	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	20
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	159	499	-	-	662	-
HCM Lane V/C Ratio	0.276	0.333	-	-	0.134	-
HCM Control Delay (s)	36	15.8	-	-	11.3	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	1.1	1.4	-	-	0.5	-

Approach	
Approach Direction	EB
Median Present?	Yes
Approach Delay(s)	85.6
Level of Service	F

Crosswalk		
Length (ft)	10	28
Lanes Crossed	2	1
Veh Vol Crossed	899	1091
Ped Vol Crossed	0	0
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	5.86	11.00
Prob of Delayed X-ing	0.77	0.96
Prob of Blocked Lane	0.52	0.96
Delay for adq Gap	9.67	81.12
Avg Ped Delay (s)	7.43	78.22

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	438344.3
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1990
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.95
Delay for adq Gap	438346.09
Avg Ped Delay (s)	438344.28

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1256	9	1317	179	60
v/c Ratio	0.60	0.07	0.60	0.55	0.18
Control Delay	9.6	32.9	8.2	31.8	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	32.9	8.2	31.8	9.7
Queue Length 50th (ft)	119	3	129	49	0
Queue Length 95th (ft)	245	19	169	#159	30
Internal Link Dist (ft)	88		620	330	
Turn Bay Length (ft)		210			120
Base Capacity (vph)	3276	121	3403	380	387
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.07	0.39	0.47	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1074	19	8	1146	156	52
Future Volume (veh/h)	1074	19	8	1146	156	52
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1234	22	9	1317	179	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1860	33	17	2288	246	219
Arrive On Green	0.52	0.52	0.01	0.64	0.14	0.14
Sat Flow, veh/h	3666	64	1781	3647	1781	1585
Grp Volume(v), veh/h	614	642	9	1317	179	60
Grp Sat Flow(s),veh/h/ln	1777	1859	1781	1777	1781	1585
Q Serve(g_s), s	13.3	13.3	0.3	11.1	5.1	1.8
Cycle Q Clear(g_c), s	13.3	13.3	0.3	11.1	5.1	1.8
Prop In Lane		0.03	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	968	17	2288	246	219
V/C Ratio(X)	0.66	0.66	0.54	0.58	0.73	0.27
Avail Cap(c_a), veh/h	1887	1974	135	4448	422	376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.3	9.3	26.0	5.3	21.8	20.4
Incr Delay (d2), s/veh	0.8	0.8	24.4	0.2	4.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	4.3	0.2	2.5	2.2	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.1	10.0	50.4	5.5	25.9	21.0
LnGrp LOS	B	B	D	A	C	C
Approach Vol, veh/h	1256			1326	239	
Approach Delay, s/veh	10.1			5.8	24.7	
Approach LOS	B			A	C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		12.8	6.5	33.5				40.0
Change Period (Y+Rc), s		5.5	6.0	6.0				6.0
Max Green Setting (Gmax), s		12.5	4.0	56.0				66.0
Max Q Clear Time (g_c+I1), s		7.1	2.3	15.3				13.1
Green Ext Time (p_c), s		0.4	0.0	12.1				15.4

Note: the Timer header prints only phases 2, 3, 4 and 8; the phase 1, 5, 6 and 7 columns are added here for alignment and are blank.

Intersection Summary	
HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Approach	EB	WB	NB
Crosswalk Length (ft)	59.2	60.1	36.2
Crosswalk Width (ft)	12.0	12.0	12.0
Total Number of Lanes Crossed	4	5	3
Number of Right-Turn Islands	0	0	0
Type of Control	None	None	None
Corresponding Signal Phase	8	5	4
Effective Walk Time (s)	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0
85th percentile speed (mph)	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-
Pedestrian Delay (s/p)	45.0	45.0	45.0
Pedestrian Compliance Code	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.81	2.82	2.04
Pedestrian Crosswalk LOS	C	C	B

Approach	EB	WB	NB
Bicycle Flow Rate (bike/h)	0	0	0
Total Flow Rate (veh/h)	1256	1326	239
Effct. Green for Bike (s)	35.5	37.0	11.0
Cross Street Width (ft)	36.2	70.3	72.0
Through Lanes Number	2	2	1
Through Lane Width (ft)	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0
Curb Is Present?	No	No	No
On Street Parking?	No	No	No
Bicycle Lane Capacity (bike/h)	789	822	244
Bicycle Delay (s/bike)	16.5	15.6	34.7
Bicycle Compliance	Fair	Fair	Poor
Bicycle LOS Score	3.15	3.73	3.06
Bicycle LOS	C	D	C

Intersection						
Int Delay, s/veh	1.8					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	130	1325	20	70	1244
Future Vol, veh/h	28	130	1325	20	70	1244
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	140	1425	22	75	1338

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2267	736	0	0	1459	0
Stage 1	1448	-	-	-	-	-
Stage 2	819	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	34	361	-	-	459	-
Stage 1	183	-	-	-	-	-
Stage 2	394	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 28	357	-	-	454	-
Mov Cap-2 Maneuver	130	-	-	-	-	-
Stage 1	151	-	-	-	-	-
Stage 2	394	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.8	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	130	357	454	-
HCM Lane V/C Ratio	-	-	0.232	0.392	0.166	-
HCM Control Delay (s)	-	-	40.8	21.4	14.5	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	0.8	1.8	0.6	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s   +: Computation Not Defined   *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	12518184.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2569
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	12518185.00
Avg Ped Delay (s)	12518184.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	12518184.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2569
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	12518185.00
Avg Ped Delay (s)	12518184.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	58	52	208	134	41	1241	142	128	1185	43
v/c Ratio	0.23	0.16	0.60	0.32	0.44	1.00	0.24	1.09	0.85	0.06
Control Delay	33.7	1.0	38.6	8.1	59.3	55.9	10.7	153.7	34.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	1.0	38.6	8.1	59.3	55.9	10.7	153.7	34.2	0.2
Queue Length 50th (ft)	25	0	90	0	19	295	10	~68	268	0
Queue Length 95th (ft)	67	0	209	48	#96	#857	77	#274	#797	0
Internal Link Dist (ft)	288		473			1028			1931	
Turn Bay Length (ft)		100		180	150		170	150		430
Base Capacity (vph)	831	787	750	746	93	1238	601	117	1398	672
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.07	0.28	0.18	0.44	1.00	0.24	1.09	0.85	0.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	15	49	193	5	127	39	1179	135	122	1126	41
Future Volume (veh/h)	40	15	49	193	5	127	39	1179	135	122	1126	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	16	52	203	5	134	41	1241	142	128	1185	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	30	94	290	7	264	56	1359	586	131	1507	655
Arrive On Green	0.06	0.06	0.06	0.17	0.17	0.17	0.03	0.38	0.38	0.07	0.42	0.42
Sat Flow, veh/h	1307	498	1543	1740	43	1585	1781	3554	1533	1781	3554	1545
Grp Volume(v), veh/h	58	0	52	208	0	134	41	1241	142	128	1185	43
Grp Sat Flow(s),veh/h/ln	1805	0	1543	1783	0	1585	1781	1777	1533	1781	1777	1545
Q Serve(g_s), s	2.1	0.0	2.2	7.5	0.0	5.2	1.6	22.5	4.3	4.9	19.6	1.1
Cycle Q Clear(g_c), s	2.1	0.0	2.2	7.5	0.0	5.2	1.6	22.5	4.3	4.9	19.6	1.1
Prop In Lane	0.72		1.00	0.98		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	0	94	297	0	264	56	1359	586	131	1507	655
V/C Ratio(X)	0.52	0.00	0.55	0.70	0.00	0.51	0.73	0.91	0.24	0.98	0.79	0.07
Avail Cap(c_a), veh/h	929	0	794	839	0	746	105	1385	598	131	1507	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	0.0	31.0	26.7	0.0	25.8	32.6	19.9	14.3	31.4	16.9	11.6
Incr Delay (d2), s/veh	3.8	0.0	4.9	3.0	0.0	1.5	16.1	9.4	0.2	71.3	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	3.3	0.0	2.0	0.9	10.1	1.4	4.6	7.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	0.0	35.9	29.7	0.0	27.3	48.7	29.3	14.5	102.7	19.7	11.6
LnGrp LOS	C	A	D	C	A	C	D	C	B	F	B	B
Approach Vol, veh/h		110			342			1424			1356	
Approach Delay, s/veh		35.3			28.8			28.4			27.3	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	32.5		9.2	7.2	35.3		16.3
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0
Max Green Setting (Gmax), s	5.0	26.5		35.0	4.0	27.5		32.0
Max Q Clear Time (g_c+I1), s	6.9	24.5		4.2	3.6	21.6		9.5
Green Ext Time (p_c), s	0.0	1.5		0.5	0.0	3.8		1.9

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.03	2.17	2.94	2.92
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	110	342	1424	1356
Effct. Green for Bike (s)	11.4	15.7	28.1	31.7
Cross Street Width (ft)	73.1	73.9	37.5	37.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	190	262	468	528
Bicycle Delay (s/bike)	49.1	45.3	35.2	32.5
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	2.86	3.25	3.31	3.26
Bicycle LOS	C	C	C	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	540	398	210	219	273	120	376	943	155	767	491
v/c Ratio	0.83	0.50	0.41	0.77	0.74	0.31	0.78	0.86	0.79	0.75	0.56
Control Delay	55.9	39.7	7.4	63.8	54.4	11.5	58.6	43.7	77.8	41.8	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	39.7	7.4	63.8	54.4	11.5	58.6	43.7	77.8	41.8	12.0
Queue Length 50th (ft)	193	135	0	149	187	9	135	315	110	258	106
Queue Length 95th (ft)	#313	184	59	#276	278	56	#223	#475	#246	367	230
Internal Link Dist (ft)		620			770			1992		1028	
Turn Bay Length (ft)	300		300	150		125	250		250		300
Base Capacity (vph)	665	1176	648	327	602	576	507	1180	195	1078	876
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.34	0.32	0.67	0.45	0.21	0.74	0.80	0.79	0.71	0.56

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	518	382	202	210	262	115	361	714	191	149	736	471
Future Volume (veh/h)	518	382	202	210	262	115	361	714	191	149	736	471
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	540	398	210	219	273	120	376	744	199	155	767	491
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	607	943	406	251	432	353	442	858	230	183	1019	721
Arrive On Green	0.18	0.27	0.27	0.14	0.23	0.23	0.13	0.31	0.31	0.10	0.29	0.29
Sat Flow, veh/h	3456	3554	1529	1781	1870	1527	3456	2752	736	1781	3554	1542
Grp Volume(v), veh/h	540	398	210	219	273	120	376	480	463	155	767	491
Grp Sat Flow(s),veh/h/ln	1728	1777	1529	1781	1870	1527	1728	1777	1711	1781	1777	1542
Q Serve(g_s), s	17.1	10.4	13.1	13.5	14.7	7.3	11.9	28.5	28.5	9.6	22.0	28.1
Cycle Q Clear(g_c), s	17.1	10.4	13.1	13.5	14.7	7.3	11.9	28.5	28.5	9.6	22.0	28.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	607	943	406	251	432	353	442	554	534	183	1019	721
V/C Ratio(X)	0.89	0.42	0.52	0.87	0.63	0.34	0.85	0.87	0.87	0.85	0.75	0.68
Avail Cap(c_a), veh/h	649	1144	492	319	585	478	494	588	566	191	1048	733
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	34.0	35.0	47.0	38.7	35.9	47.7	36.3	36.3	49.3	36.3	23.7
Incr Delay (d2), s/veh	13.8	0.3	1.0	18.7	1.5	0.6	12.3	12.5	12.9	27.4	3.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	4.5	5.0	7.3	6.9	2.8	5.9	14.1	13.6	5.6	9.9	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	34.3	36.0	65.8	40.3	36.5	60.0	48.8	49.2	76.7	39.3	26.2
LnGrp LOS	E	C	D	E	D	D	E	D	D	E	D	C
Approach Vol, veh/h		1148			612			1319			1413	
Approach Delay, s/veh		46.2			48.6			52.1			38.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	39.9	20.8	34.7	19.3	37.1	24.6	30.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	12.0	37.0	20.0	36.0	16.0	33.0	21.0	35.0
Max Q Clear Time (g_c+I1), s	11.6	30.5	15.5	15.1	13.9	30.1	19.1	16.7
Green Ext Time (p_c), s	0.0	3.3	0.3	3.7	0.4	2.0	0.6	2.1

Intersection Summary		
HCM 6th Ctrl Delay		46.0
HCM 6th LOS		D

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	7	5	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	62.5	62.5	62.5	62.5
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.94	2.59	2.88	2.93
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1148	612	1319	1413
Effct. Green for Bike (s)	24.8	21.6	34.7	31.4
Cross Street Width (ft)	72.3	83.5	71.3	85.2
Through Lanes Number	2	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	397	346	555	502
Bicycle Delay (s/bike)	40.2	42.8	32.6	35.0
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	3.61	3.85	3.74	4.03
Bicycle LOS	D	D	D	D

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	104	43	16	797	1047	78
Future Vol, veh/h	104	43	16	797	1047	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	111	46	17	848	1114	83

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1614	599	1197	0	-	0
Stage 1	1156	-	-	-	-	-
Stage 2	458	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 95	445	579	-	-	-
Stage 1	262	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 92	445	579	-	-	-
Mov Cap-2 Maneuver	229	-	-	-	-	-
Stage 1	254	-	-	-	-	-
Stage 2	604	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.6	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	579	-	229	445	-	-
HCM Lane V/C Ratio	0.029	-	0.483	0.103	-	-
HCM Control Delay (s)	11.4	-	34.6	14	-	-
HCM Lane LOS	B	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.4	0.3	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	164540.7
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	1844
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	164542.66
Avg Ped Delay (s)	164540.70

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	1103034.5
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	1844
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	1103036.50
Avg Ped Delay (s)	1103034.50

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	117	34	14	37	12	711	16	1188
v/c Ratio	0.46	0.09	0.06	0.10	0.09	0.32	0.12	0.54
Control Delay	26.5	0.4	19.1	0.5	27.9	7.6	28.5	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	0.4	19.1	0.5	27.9	7.6	28.5	9.7
Queue Length 50th (ft)	30	0	3	0	3	50	5	102
Queue Length 95th (ft)	84	0	17	0	20	140	24	275
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	744	931	707	931	135	2119	135	2111
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.04	0.02	0.04	0.09	0.34	0.12	0.56

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	1	31	13	0	34	11	643	4	15	1043	38
Future Volume (veh/h)	106	1	31	13	0	34	11	643	4	15	1043	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	1	34	14	0	37	12	707	4	16	1146	42
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	1	614	105	0	614	21	1358	8	27	1321	48
Arrive On Green	0.39	0.39	0.39	0.39	0.00	0.39	0.01	0.38	0.38	0.01	0.38	0.38
Sat Flow, veh/h	22	1	1585	22	0	1585	1781	3622	20	1781	3493	128
Grp Volume(v), veh/h	117	0	34	14	0	37	12	347	364	16	583	605
Grp Sat Flow(s),veh/h/ln	24	0	1585	22	0	1585	1781	1777	1866	1781	1777	1844
Q Serve(g_s), s	0.5	0.0	1.0	0.5	0.0	1.1	0.5	11.2	11.2	0.7	22.5	22.5
Cycle Q Clear(g_c), s	28.7	0.0	1.0	28.7	0.0	1.1	0.5	11.2	11.2	0.7	22.5	22.5
Prop In Lane	0.99		1.00	1.00		1.00	1.00		0.01	1.00		0.07
Lane Grp Cap(c), veh/h	106	0	614	105	0	614	21	666	700	27	672	697
V/C Ratio(X)	1.11	0.00	0.06	0.13	0.00	0.06	0.58	0.52	0.52	0.60	0.87	0.87
Avail Cap(c_a), veh/h	111	0	620	110	0	620	96	731	768	96	731	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	0.0	14.2	36.9	0.0	14.2	36.5	18.0	18.0	36.3	21.3	21.3
Incr Delay (d2), s/veh	118.7	0.0	0.0	0.6	0.0	0.0	23.0	0.6	0.6	19.9	10.2	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	0.3	0.3	0.0	0.4	0.3	4.4	4.6	0.4	10.5	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	155.6	0.0	14.2	37.5	0.0	14.3	59.5	18.6	18.6	56.2	31.5	31.2
LnGrp LOS	F	A	B	D	A	B	E	B	B	E	C	C
Approach Vol, veh/h		151			51			723			1204	
Approach Delay, s/veh		123.8			20.7			19.3			31.7	
Approach LOS		F			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	34.4		33.9	5.9	34.7		33.9				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	4.0	30.5		29.0	4.0	30.5		29.0				
Max Q Clear Time (g_c+I1), s	2.7	13.2		30.7	2.5	24.5		30.7				
Green Ext Time (p_c), s	0.0	4.3		0.0	0.0	3.8		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			33.8
HCM 6th LOS			C

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	40.0	40.0	40.0	40.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.01	1.97	2.68	2.71
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	151	51	723	1204
Effct. Green for Bike (s)	10.3	10.0	33.8	33.8
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	258	250	845	845
Bicycle Delay (s/bike)	30.4	30.6	13.3	13.3
Bicycle Compliance	Poor	Poor	Fair	Fair
Bicycle LOS Score	2.90	2.76	2.89	3.29
Bicycle LOS	C	C	C	C

Cumulative

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	42	32	143	143	305	21	568	886	526	506
v/c Ratio	0.29	0.11	0.40	0.39	0.52	0.20	0.75	0.88	1.26	0.31
Control Delay	47.9	0.8	37.0	36.4	7.6	49.9	40.9	16.4	168.3	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	0.8	37.0	36.4	7.6	49.9	40.9	16.4	168.3	17.6
Queue Length 50th (ft)	25	0	78	78	0	13	171	84	~428	90
Queue Length 95th (ft)	61	0	151	150	71	39	238	#297	#681	163
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	509	570	383	399	612	110	988	1028	418	1666
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.06	0.37	0.36	0.50	0.19	0.57	0.86	1.26	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	20	30	261	10	290	20	540	842	500	470	10
Future Volume (veh/h)	20	20	30	261	10	290	20	540	842	500	470	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	21	32	283	0	0	21	568	886	526	495	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	55	90	428	0		33	1067	654	453	1904	42
Arrive On Green	0.06	0.06	0.06	0.12	0.00	0.00	0.02	0.30	0.30	0.25	0.54	0.54
Sat Flow, veh/h	912	912	1514	3563	0	1585	1781	3554	1544	1781	3551	79
Grp Volume(v), veh/h	42	0	32	283	0	0	21	568	886	526	247	259
Grp Sat Flow(s),veh/h/ln	1825	0	1514	1781	0	1585	1781	1777	1544	1781	1777	1853
Q Serve(g_s), s	1.9	0.0	1.8	6.6	0.0	0.0	1.0	11.5	26.0	22.0	6.5	6.5
Cycle Q Clear(g_c), s	1.9	0.0	1.8	6.6	0.0	0.0	1.0	11.5	26.0	22.0	6.5	6.5
Prop In Lane	0.50		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	109	0	90	428	0		33	1067	654	453	952	993
V/C Ratio(X)	0.39	0.00	0.35	0.66	0.00		0.64	0.53	1.35	1.16	0.26	0.26
Avail Cap(c_a), veh/h	569	0	472	905	0		123	1067	654	453	952	993
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	39.1	36.4	0.0	0.0	42.2	25.2	22.1	32.3	10.8	10.8
Incr Delay (d2), s/veh	2.2	0.0	2.3	1.7	0.0	0.0	19.2	0.5	169.4	94.9	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.7	2.8	0.0	0.0	0.6	4.6	44.2	20.7	2.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	0.0	41.4	38.1	0.0	0.0	61.4	25.7	191.4	127.2	11.0	11.0
LnGrp LOS	D	A	D	D	A		E	C	F	F	B	B
Approach Vol, veh/h		74			283	A		1475			1032	
Approach Delay, s/veh		41.4			38.1			125.8			70.2	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	27.0	32.0		11.2	6.6	52.4		16.4
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	22.0	26.0		27.0	6.0	42.0		22.0
Max Q Clear Time (g_c+I1), s	24.0	28.0		3.9	3.0	8.5		8.6
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	3.0		1.0

Intersection Summary	
HCM 6th Ctrl Delay	94.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	1.99	2.89	3.03	2.88
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	74	591	1475	1032
Effct. Green for Bike (s)	7.9	20.8	20.5	44.1
Cross Street Width (ft)	67.8	54.5	58.5	50.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	132	347	342	735
Bicycle Delay (s/bike)	52.4	41.0	41.3	24.0
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.15	3.58	3.89	3.40
Bicycle LOS	C	D	D	C

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	55	1442	132	726	44	99	55	44
v/c Ratio	0.10	0.62	0.41	0.29	0.21	0.33	0.30	0.16
Control Delay	3.1	10.0	8.1	5.2	27.4	9.8	29.4	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.1	10.0	8.1	5.2	27.4	9.8	29.4	5.5
Queue Length 50th (ft)	4	175	10	57	15	0	20	0
Queue Length 95th (ft)	12	273	38	95	42	36	50	16
Internal Link Dist (ft)		1057		1748	155		449	
Turn Bay Length (ft)	225		160			25		25
Base Capacity (vph)	561	2414	329	2526	655	741	596	724
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.60	0.40	0.29	0.07	0.13	0.09	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1262	50	120	621	40	20	20	90	40	10	40
Future Volume (veh/h)	50	1262	50	120	621	40	20	20	90	40	10	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	1387	55	132	682	44	22	22	99	44	11	44
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	1681	67	269	1709	110	91	67	444	121	20	444
Arrive On Green	0.04	0.48	0.48	0.06	0.50	0.50	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1781	3484	138	1781	3389	219	40	238	1585	88	72	1585
Grp Volume(v), veh/h	55	706	736	132	357	369	44	0	99	55	0	44
Grp Sat Flow(s),veh/h/ln	1781	1777	1846	1781	1777	1831	277	0	1585	160	0	1585
Q Serve(g_s), s	1.0	23.0	23.1	2.5	8.4	8.4	0.5	0.0	3.2	1.5	0.0	1.4
Cycle Q Clear(g_c), s	1.0	23.0	23.1	2.5	8.4	8.4	18.4	0.0	3.2	18.9	0.0	1.4
Prop In Lane	1.00		0.07	1.00		0.12	0.50		1.00	0.80		1.00
Lane Grp Cap(c), veh/h	450	857	891	269	896	923	158	0	444	141	0	444
V/C Ratio(X)	0.12	0.82	0.83	0.49	0.40	0.40	0.28	0.00	0.22	0.39	0.00	0.10
Avail Cap(c_a), veh/h	490	1003	1042	323	1056	1088	278	0	565	245	0	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.4	15.0	15.0	13.2	10.3	10.4	19.8	0.0	18.6	28.5	0.0	17.9
Incr Delay (d2), s/veh	0.1	4.9	4.9	1.4	0.3	0.3	0.9	0.0	0.3	1.8	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	9.1	9.5	0.9	2.9	3.0	0.5	0.0	1.1	0.9	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	19.9	19.9	14.6	10.6	10.6	20.7	0.0	18.8	30.3	0.0	18.0
LnGrp LOS	A	B	B	B	B	B	C	A	B	C	A	B
Approach Vol, veh/h		1497			858			143			99	
Approach Delay, s/veh		19.5			11.2			19.4			24.8	
Approach LOS		B			B			B			C	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		23.8	8.1	36.9		23.8	6.5	38.4
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		24.0	6.0	38.0		24.0	4.0	40.0
Max Q Clear Time (g_c+I1), s		20.4	4.5	25.1		20.9	3.0	10.4
Green Ext Time (p_c), s		0.2	0.1	8.1		0.1	0.0	5.3

Intersection Summary		
HCM 6th Ctrl Delay		16.9
HCM 6th LOS		B

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	57.8	60.4	36.1	36.7
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	5	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	40.0	40.0	40.0	40.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.74	2.77	2.06	2.02
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1497	858	143	99
Effct. Green for Bike (s)	38.2	41.3	7.8	7.8
Cross Street Width (ft)	36.1	36.7	60.4	57.8
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	955	1032	195	195
Bicycle Delay (s/bike)	10.9	9.4	32.6	32.6
Bicycle Compliance	Fair	Good	Poor	Poor
Bicycle LOS Score	3.35	2.83	2.72	2.61
Bicycle LOS	C	C	C	C

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	176386.5
Level of Service	F

Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1883
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	176388.38
Avg Ped Delay (s)	176386.47

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	237840.2
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1883
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.95
Delay for adq Gap	237842.11
Avg Ped Delay (s)	237840.20

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1144	40	231	1203	20	161
Future Vol, veh/h	1144	40	231	1203	20	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	25
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1271	44	257	1337	22	179

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1315	0	2476	658
Stage 1	-	-	-	-	1293	-
Stage 2	-	-	-	-	1183	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	522	-	25	407
Stage 1	-	-	-	-	221	-
Stage 2	-	-	-	-	253	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	522	-	~ 13	407
Mov Cap-2 Maneuver	-	-	-	-	~ -7	-
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	253	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	+	407	-	-	522	-
HCM Lane V/C Ratio	-	0.44	-	-	0.492	-
HCM Control Delay (s)	-	20.6	-	-	18.4	-
HCM Lane LOS	-	C	-	-	C	-
HCM 95th %tile Q(veh)	-	2.2	-	-	2.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Approach		
Approach Direction	EB	
Median Present?	Yes	
Approach Delay(s)	115.4	
Level of Service	F	
Crosswalk		
Length (ft)	10	28
Lanes Crossed	2	1
Veh Vol Crossed	1144	1203
Ped Vol Crossed	0	0
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	5.86	11.00
Prob of Delayed X-ing	0.84	0.97
Prob of Blocked Lane	0.61	0.97
Delay for adq Gap	13.30	106.86
Avg Ped Delay (s)	11.24	104.16

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	3436526.5
Level of Service	F
Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2347
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.97
Delay for adq Gap	3436528.00
Avg Ped Delay (s)	3436526.50

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	1478	136	1569	3	57	25	9	4
v/c Ratio	0.06	0.72	0.67	0.57	0.00	0.37	0.15	0.11	0.04
Control Delay	45.2	16.3	57.0	8.0	0.0	46.6	19.0	46.6	35.0
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	16.3	57.0	8.2	0.0	46.6	19.0	46.6	35.0
Queue Length 50th (ft)	3	275	73	145	0	30	1	5	1
Queue Length 95th (ft)	15	475	#176	448	0	73	26	22	12
Internal Link Dist (ft)		149		109			330		342
Turn Bay Length (ft)	100		210		50				
Base Capacity (vph)	81	2052	202	2750	1259	182	594	81	524
Starvation Cap Reductn	0	0	0	449	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.72	0.67	0.68	0.00	0.31	0.04	0.11	0.01

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	950	350	120	1381	3	50	2	20	8	2	2
Future Volume (veh/h)	5	950	350	120	1381	3	50	2	20	8	2	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1080	398	136	1569	3	57	2	23	9	2	2
Peak Hour Factor	0.92	0.88	0.88	0.88	0.88	0.92	0.88	0.92	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9	1346	488	171	2217	989	88	10	111	16	24	24
Arrive On Green	0.01	0.53	0.53	0.10	0.62	0.62	0.05	0.08	0.08	0.01	0.03	0.03
Sat Flow, veh/h	1781	2555	926	1781	3554	1585	1781	128	1476	1781	858	858
Grp Volume(v), veh/h	5	746	732	136	1569	3	57	0	25	9	0	4
Grp Sat Flow(s),veh/h/ln	1781	1777	1704	1781	1777	1585	1781	0	1605	1781	0	1716
Q Serve(g_s), s	0.2	27.4	28.6	6.0	23.8	0.1	2.5	0.0	1.2	0.4	0.0	0.2
Cycle Q Clear(g_c), s	0.2	27.4	28.6	6.0	23.8	0.1	2.5	0.0	1.2	0.4	0.0	0.2
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.92	1.00		0.50
Lane Grp Cap(c), veh/h	9	936	898	171	2217	989	88	0	120	16	0	49
V/C Ratio(X)	0.53	0.80	0.82	0.80	0.71	0.00	0.65	0.00	0.21	0.56	0.00	0.08
Avail Cap(c_a), veh/h	89	1130	1084	222	2549	1137	200	0	630	89	0	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.8	15.5	15.7	35.5	10.2	5.7	37.4	0.0	34.8	39.6	0.0	37.9
Incr Delay (d2), s/veh	40.0	3.4	4.2	14.1	0.8	0.0	7.7	0.0	0.8	26.8	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	10.7	10.9	3.2	8.0	0.0	1.3	0.0	0.5	0.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.7	18.8	19.9	49.5	10.9	5.7	45.2	0.0	35.7	66.3	0.0	38.6
LnGrp LOS	E	B	B	D	B	A	D	A	D	E	A	D
Approach Vol, veh/h		1483			1708			82			13	
Approach Delay, s/veh		19.6			14.0			42.3			57.8	
Approach LOS		B			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	12.0	13.7	48.3	10.0	8.3	5.9	56.0
Change Period (Y+Rc), s	5.5	6.0	6.0	6.0	6.0	* 6	5.5	6.0
Max Green Setting (Gmax), s	4.0	31.5	10.0	51.0	9.0	* 27	4.0	57.5
Max Q Clear Time (g_c+I1), s	2.4	3.2	8.0	30.6	4.5	2.2	2.2	25.8
Green Ext Time (p_c), s	0.0	0.1	0.1	11.7	0.0	0.0	0.0	16.7

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	59.2	60.1	36.2	24.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	6	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.93	2.93	2.16	1.97
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1483	1708	82	13
Effct. Green for Bike (s)	52.5	68.3	8.1	5.8
Cross Street Width (ft)	36.3	37.4	74.2	60.2
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	875	1138	135	97
Bicycle Delay (s/bike)	19.0	11.1	52.2	54.3
Bicycle Compliance	Fair	Fair	Poor	Poor
Bicycle LOS Score	3.34	3.54	2.83	2.50
Bicycle LOS	C	D	C	C

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	60	981	81	140	1696
Future Vol, veh/h	21	60	981	81	140	1696
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	63	1033	85	147	1785

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2275	571	0	0	1130	0
Stage 1	1088	-	-	-	-	-
Stage 2	1187	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	34	464	-	-	614	-
Stage 1	284	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	26	459	-	-	607	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	213	-	-	-	-	-
Stage 2	252	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.2	0	1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	91	459	607	-
HCM Lane V/C Ratio	-	-	0.243	0.138	0.243	-
HCM Control Delay (s)	-	-	56.8	14.1	12.8	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	0.9	0.5	0.9	-

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	23543750.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2677
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	23543752.00
Avg Ped Delay (s)	23543750.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	23543750.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2677
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	23543752.00
Avg Ped Delay (s)	23543750.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	11	108	43	53	1191	181	85	1716	47
v/c Ratio	0.19	0.04	0.42	0.13	0.43	0.72	0.24	0.70	0.93	0.05
Control Delay	31.6	0.3	32.4	0.8	44.5	21.2	7.8	64.7	34.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	0.3	32.4	0.8	44.5	21.2	7.8	64.7	34.2	0.1
Queue Length 50th (ft)	14	0	43	0	22	238	19	36	~490	0
Queue Length 95th (ft)	41	0	89	0	#67	#404	64	#115	#684	1
Internal Link Dist (ft)	288		473			497			1931	
Turn Bay Length (ft)		100		180	150		170	150		430
Base Capacity (vph)	972	898	879	843	122	1655	768	122	1851	855
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.01	0.12	0.05	0.43	0.72	0.24	0.70	0.93	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	11	10	90	11	40	50	1120	170	80	1613	44
Future Volume (veh/h)	22	11	10	90	11	40	50	1120	170	80	1613	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	12	11	96	12	43	53	1191	181	85	1716	47
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	22	56	154	19	153	70	1562	675	108	1638	713
Arrive On Green	0.04	0.04	0.04	0.10	0.10	0.10	0.04	0.44	0.44	0.06	0.46	0.46
Sat Flow, veh/h	1190	621	1545	1592	199	1585	1781	3554	1536	1781	3554	1546
Grp Volume(v), veh/h	35	0	11	108	0	43	53	1191	181	85	1716	47
Grp Sat Flow(s),veh/h/ln	1811	0	1545	1791	0	1585	1781	1777	1536	1781	1777	1546
Q Serve(g_s), s	1.1	0.0	0.4	3.4	0.0	1.5	1.7	16.5	4.4	2.8	27.0	1.0
Cycle Q Clear(g_c), s	1.1	0.0	0.4	3.4	0.0	1.5	1.7	16.5	4.4	2.8	27.0	1.0
Prop In Lane	0.66		1.00	0.89		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	65	0	56	173	0	153	70	1562	675	108	1638	713
V/C Ratio(X)	0.54	0.00	0.20	0.63	0.00	0.28	0.75	0.76	0.27	0.78	1.05	0.07
Avail Cap(c_a), veh/h	1082	0	923	978	0	866	137	1638	708	137	1638	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	27.4	25.4	0.0	24.6	27.8	13.8	10.4	27.1	15.8	8.8
Incr Delay (d2), s/veh	6.7	0.0	1.7	3.7	0.0	1.0	14.9	2.1	0.2	20.3	35.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	1.5	0.0	0.6	1.0	6.0	1.3	1.7	17.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	0.0	29.1	29.1	0.0	25.6	42.8	15.9	10.6	47.4	51.6	8.8
LnGrp LOS	C	A	C	C	A	C	D	B	B	D	F	A
Approach Vol, veh/h		46			151			1425			1848	
Approach Delay, s/veh		33.2			28.1			16.2			50.3	
Approach LOS		C			C			B			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	32.2		7.1	7.3	33.5		10.7				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	4.5	27.0		35.0	4.5	27.0		32.0				
Max Q Clear Time (g_c+I1), s	4.8	18.5		3.1	3.7	29.0		5.4				
Green Ext Time (p_c), s	0.0	4.9		0.2	0.0	0.0		0.8				

Intersection Summary			
HCM 6th Ctrl Delay			35.1
HCM 6th LOS			D

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.01	2.10	3.00	2.98
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	46	151	1425	1848
Effct. Green for Bike (s)	6.9	9.4	30.8	34.4
Cross Street Width (ft)	72.9	73.9	37.5	37.9
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	115	157	513	573
Bicycle Delay (s/bike)	53.3	51.0	33.2	30.5
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	2.75	2.94	3.31	3.66
Bicycle LOS	C	C	C	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	344	217	403	355	424	204	342	1195	119	894	860
v/c Ratio	0.74	0.24	0.82	1.31	0.85	0.40	1.04	1.00	1.18	0.83	1.11
Control Delay	58.4	34.1	39.1	199.9	55.5	15.5	111.0	63.5	193.5	45.5	90.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	34.1	39.1	199.9	55.5	15.5	111.0	63.5	193.5	45.5	90.9
Queue Length 50th (ft)	128	66	183	~343	294	45	~143	~477	~107	327	~504
Queue Length 95th (ft)	#197	100	308	#554	416	110	#251	#667	#237	#455	#796
Internal Link Dist (ft)		344			770			1992		451	
Turn Bay Length (ft)	300		300	150		125	250		250		300
Base Capacity (vph)	468	1091	572	272	607	593	329	1197	101	1078	776
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.20	0.70	1.31	0.70	0.34	1.04	1.00	1.18	0.83	1.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	202	375	330	394	190	318	981	130	111	831	800
Future Volume (veh/h)	320	202	375	330	394	190	318	981	130	111	831	800
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	344	217	403	355	424	204	342	1055	140	119	894	860
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	1017	438	262	591	486	316	1029	136	97	1033	634
Arrive On Green	0.12	0.29	0.29	0.15	0.32	0.32	0.09	0.33	0.33	0.05	0.29	0.29
Sat Flow, veh/h	3456	3554	1532	1781	1870	1537	3456	3141	416	1781	3554	1542
Grp Volume(v), veh/h	344	217	403	355	424	204	342	596	599	119	894	860
Grp Sat Flow(s),veh/h/ln	1728	1777	1532	1781	1870	1537	1728	1777	1781	1781	1777	1542
Q Serve(g_s), s	11.6	5.5	30.3	17.5	23.9	12.5	10.9	39.0	39.0	6.5	28.4	34.6
Cycle Q Clear(g_c), s	11.6	5.5	30.3	17.5	23.9	12.5	10.9	39.0	39.0	6.5	28.4	34.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	404	1017	438	262	591	486	316	582	583	97	1033	634
V/C Ratio(X)	0.85	0.21	0.92	1.36	0.72	0.42	1.08	1.02	1.03	1.22	0.87	1.36
Avail Cap(c_a), veh/h	450	1045	450	262	591	486	316	582	583	97	1033	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	32.3	41.2	50.8	36.0	32.1	54.1	40.0	40.0	56.3	40.0	35.4
Incr Delay (d2), s/veh	13.3	0.1	23.7	183.1	4.2	0.6	73.9	43.6	44.3	163.2	7.9	170.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	2.4	14.2	21.1	11.5	4.7	8.0	23.8	24.0	7.3	13.4	48.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.9	32.4	64.9	233.9	40.2	32.7	128.0	83.6	84.3	219.4	47.9	206.2
LnGrp LOS	E	C	E	F	D	C	F	F	F	F	D	F
Approach Vol, veh/h		964			983			1537			1873	
Approach Delay, s/veh		57.6			108.6			93.8			131.5	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	44.5	23.0	39.6	16.4	40.1	19.4	43.1
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	6.5	39.0	17.5	35.0	10.9	34.6	15.5	37.0
Max Q Clear Time (g_c+I1), s	8.5	41.0	19.5	32.3	12.9	36.6	13.6	25.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	0.0	0.3	2.9

Intersection Summary	
HCM 6th Ctrl Delay	103.2
HCM 6th LOS	F

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	7	5	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.98	2.61	2.99	3.04
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	964	983	1537	1873
Effct. Green for Bike (s)	28.6	30.6	39.1	34.7
Cross Street Width (ft)	72.3	83.0	71.5	85.4
Through Lanes Number	2	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	477	510	652	578
Bicycle Delay (s/bike)	34.8	33.3	27.3	30.3
Bicycle Compliance	Poor	Poor	Fair	Poor
Bicycle LOS Score	3.46	4.45	3.92	4.41
Bicycle LOS	C	D	D	D

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	40	90	1529	1006	151
Future Vol, veh/h	41	40	90	1529	1006	151
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	43	96	1627	1070	161

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2157	616	1231	0	-	0
Stage 1	1151	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 41	433	562	-	-	-
Stage 1	263	-	-	-	-	-
Stage 2	314	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 34	433	562	-	-	-
Mov Cap-2 Maneuver	149	-	-	-	-	-
Stage 1	218	-	-	-	-	-
Stage 2	314	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.7	0.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	562	-	149	433	-	-
HCM Lane V/C Ratio	0.17	-	0.293	0.098	-	-
HCM Control Delay (s)	12.7	-	38.9	14.2	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0.6	-	1.1	0.3	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	8393756.0
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	2535
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	8393758.00
Avg Ped Delay (s)	8393756.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	114774376.0
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	2535
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	114774376.00
Avg Ped Delay (s)	114774376.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	55	11	11	144	22	1425	485	1203
v/c Ratio	0.44	0.04	0.09	0.53	0.26	0.92	0.98	0.47
Control Delay	54.0	0.3	42.7	14.9	54.6	37.0	72.9	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Total Delay	54.0	0.3	42.7	14.9	54.6	37.6	72.9	6.3
Queue Length 50th (ft)	34	0	7	0	14	434	307	98
Queue Length 95th (ft)	73	0	24	56	40	#633	#540	241
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	397	530	375	545	85	1551	495	2539
Starvation Cap Reductn	0	0	0	0	0	22	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.02	0.03	0.26	0.26	0.93	0.98	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	10	10	10	0	131	20	1277	20	441	975	120
Future Volume (veh/h)	40	10	10	10	0	131	20	1277	20	441	975	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	11	11	11	0	144	22	1403	22	485	1071	132
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	42	181	244	0	181	33	1554	24	512	2233	275
Arrive On Green	0.11	0.11	0.11	0.11	0.00	0.11	0.02	0.43	0.43	0.29	0.70	0.70
Sat Flow, veh/h	1141	367	1585	1511	0	1585	1781	3579	56	1781	3176	391
Grp Volume(v), veh/h	55	0	11	11	0	144	22	696	729	485	599	604
Grp Sat Flow(s),veh/h/ln	1508	0	1585	1511	0	1585	1781	1777	1858	1781	1777	1790
Q Serve(g_s), s	2.7	0.0	0.6	0.0	0.0	8.9	1.2	36.5	36.6	26.7	15.1	15.2
Cycle Q Clear(g_c), s	3.3	0.0	0.6	0.6	0.0	8.9	1.2	36.5	36.6	26.7	15.1	15.2
Prop In Lane	0.80		1.00	1.00		1.00	1.00		0.03	1.00		0.22
Lane Grp Cap(c), veh/h	236	0	181	244	0	181	33	771	807	512	1249	1258
V/C Ratio(X)	0.23	0.00	0.06	0.05	0.00	0.80	0.68	0.90	0.90	0.95	0.48	0.48
Avail Cap(c_a), veh/h	498	0	459	490	0	459	89	807	844	515	1249	1258
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	0.0	39.6	39.6	0.0	43.3	48.9	26.4	26.4	35.0	6.7	6.7
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.1	0.0	7.8	21.7	13.1	12.7	26.9	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.2	0.2	0.0	3.8	0.7	17.5	18.3	15.1	5.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	0.0	39.8	39.7	0.0	51.1	70.6	39.4	39.1	61.9	6.9	7.0
LnGrp LOS	D	A	D	D	A	D	E	D	D	E	A	A
Approach Vol, veh/h		66			155			1447			1688	
Approach Delay, s/veh		41.0			50.3			39.8			22.7	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.8	50.0		16.4	6.8	77.0		16.4				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	29.0	45.5		29.0	5.0	69.5		29.0				
Max Q Clear Time (g_c+I1), s	28.7	38.6		5.3	3.2	17.2		10.9				
Green Ext Time (p_c), s	0.1	4.9		0.3	0.0	12.0		0.6				

Intersection Summary			
HCM 6th Ctrl Delay			31.7
HCM 6th LOS			C

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.03	2.18	2.82	2.96
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	66	155	1447	1688
Effct. Green for Bike (s)	9.2	9.2	45.5	75.6
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	153	153	758	1260
Bicycle Delay (s/bike)	51.2	51.2	23.1	8.2
Bicycle Compliance	Poor	Poor	Fair	Good
Bicycle LOS Score	2.76	2.94	3.49	3.69
Bicycle LOS	C	C	C	D

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	22	346	342	698	22	1011	396	507	1056
v/c Ratio	0.25	0.08	0.96	0.91	0.90	0.32	0.91	0.42	1.77	0.60
Control Delay	48.2	0.5	76.6	66.5	24.8	59.8	45.1	4.8	386.2	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	0.5	76.6	66.5	24.8	59.8	45.1	4.8	386.2	20.3
Queue Length 50th (ft)	20	0	~236	228	99	14	332	34	~497	231
Queue Length 95th (ft)	50	0	#434	#418	#340	41	#476	63	#704	373
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	477	561	362	377	779	69	1114	954	287	1760
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.96	0.91	0.90	0.32	0.91	0.42	1.77	0.60

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	10	20	593	20	621	20	900	352	451	900	40
Future Volume (veh/h)	20	10	20	593	20	621	20	900	352	451	900	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	11	22	682	0	0	22	1011	396	507	1011	45
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	31	78	769	0		33	1119	829	298	1604	71
Arrive On Green	0.05	0.05	0.05	0.22	0.00	0.00	0.02	0.31	0.31	0.17	0.46	0.46
Sat Flow, veh/h	1207	603	1505	3563	0	1585	1781	3554	1545	1781	3460	154
Grp Volume(v), veh/h	33	0	22	682	0	0	22	1011	396	507	519	537
Grp Sat Flow(s),veh/h/ln	1810	0	1505	1781	0	1585	1781	1777	1545	1781	1777	1837
Q Serve(g_s), s	1.7	0.0	1.3	17.8	0.0	0.0	1.2	26.1	15.5	16.0	21.2	21.2
Cycle Q Clear(g_c), s	1.7	0.0	1.3	17.8	0.0	0.0	1.2	26.1	15.5	16.0	21.2	21.2
Prop In Lane	0.67		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	93	0	78	769	0		33	1119	829	298	824	851
V/C Ratio(X)	0.35	0.00	0.28	0.89	0.00		0.67	0.90	0.48	1.70	0.63	0.63
Avail Cap(c_a), veh/h	510	0	424	818	0		74	1150	842	298	824	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	0.0	43.7	36.4	0.0	0.0	46.7	31.4	14.2	39.9	19.5	19.5
Incr Delay (d2), s/veh	2.3	0.0	2.0	11.1	0.0	0.0	20.8	9.9	0.4	330.8	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.5	8.5	0.0	0.0	0.7	11.9	7.9	34.0	8.2	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.1	0.0	45.7	47.6	0.0	0.0	67.5	41.3	14.6	370.7	21.0	21.0
LnGrp LOS	D	A	D	D	A		E	D	B	F	C	C
Approach Vol, veh/h		55			682	A		1429			1563	
Approach Delay, s/veh		45.9			47.6			34.3			134.4	
Approach LOS		D			D			C			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	22.0	36.2		10.9	7.8	50.4		26.7
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	16.0	31.0		27.0	4.0	43.0		22.0
Max Q Clear Time (g_c+I1), s	18.0	28.1		3.7	3.2	23.2		19.8
Green Ext Time (p_c), s	0.0	2.1		0.2	0.0	6.5		0.8

Intersection Summary		
HCM 6th Ctrl Delay		78.9
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.00	2.99	3.24	3.28
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	55	1386	1429	1563
Effct. Green for Bike (s)	7.4	22.1	31.2	49.5
Cross Street Width (ft)	67.8	54.5	58.5	50.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	123	368	520	825
Bicycle Delay (s/bike)	52.8	39.9	32.9	20.7
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.12	4.89	3.85	3.84
Bicycle LOS	C	E	D	D

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	95	856	117	1299	32	191	53	53
v/c Ratio	0.33	0.44	0.24	0.64	0.15	0.49	0.26	0.18
Control Delay	6.7	8.8	4.1	9.9	21.5	8.8	23.7	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	8.8	4.1	9.9	21.5	8.8	23.7	5.1
Queue Length 50th (ft)	6	78	8	128	9	0	15	0
Queue Length 95th (ft)	20	132	23	215	28	44	41	16
Internal Link Dist (ft)		1057		1798	155		449	
Turn Bay Length (ft)	225		160			25		25
Base Capacity (vph)	286	1991	483	2092	702	847	658	787
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.43	0.24	0.62	0.05	0.23	0.08	0.07

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	783	30	111	1164	70	20	10	181	40	10	50
Future Volume (veh/h)	90	783	30	111	1164	70	20	10	181	40	10	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	824	32	117	1225	74	21	11	191	42	11	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	1646	64	460	1627	98	153	56	353	175	31	353
Arrive On Green	0.06	0.47	0.47	0.06	0.48	0.48	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3487	135	1781	3405	205	147	254	1585	201	141	1585
Grp Volume(v), veh/h	95	420	436	117	639	660	32	0	191	53	0	53
Grp Sat Flow(s),veh/h/ln	1781	1777	1846	1781	1777	1833	400	0	1585	342	0	1585
Q Serve(g_s), s	1.3	8.1	8.1	1.6	14.6	14.6	0.2	0.0	5.3	1.3	0.0	1.3
Cycle Q Clear(g_c), s	1.3	8.1	8.1	1.6	14.6	14.6	9.6	0.0	5.3	10.1	0.0	1.3
Prop In Lane	1.00		0.07	1.00		0.11	0.66		1.00	0.79		1.00
Lane Grp Cap(c), veh/h	330	839	871	460	849	876	209	0	353	206	0	353
V/C Ratio(X)	0.29	0.50	0.50	0.25	0.75	0.75	0.15	0.00	0.54	0.26	0.00	0.15
Avail Cap(c_a), veh/h	370	1001	1040	561	1073	1107	595	0	766	539	0	766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	9.1	9.1	6.5	10.6	10.6	16.0	0.0	17.1	19.9	0.0	15.5
Incr Delay (d2), s/veh	0.5	0.5	0.4	0.3	2.3	2.3	0.3	0.0	1.3	0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.5	2.6	0.5	4.9	5.0	0.3	0.0	1.8	0.6	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.8	9.5	9.5	6.8	12.9	12.9	16.3	0.0	18.4	20.5	0.0	15.7
LnGrp LOS	A	A	A	A	B	B	B	A	B	C	A	B
Approach Vol, veh/h		951			1416			223			106	
Approach Delay, s/veh		9.4			12.4			18.1			18.1	
Approach LOS		A			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		15.7	7.2	27.6		15.7	6.9	27.9
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		24.0	6.0	28.0		24.0	4.0	30.0
Max Q Clear Time (g_c+I1), s		11.6	3.6	10.1		12.1	3.3	16.6
Green Ext Time (p_c), s		0.8	0.1	5.5		0.3	0.0	7.5

Intersection Summary		
HCM 6th Ctrl Delay		12.0
HCM 6th LOS		B

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	57.8	60.4	36.1	36.7
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	5	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	35.0	35.0	35.0	35.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.74	2.78	2.06	2.03
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	951	1416	223	106
Effct. Green for Bike (s)	28.0	29.5	7.4	7.4
Cross Street Width (ft)	36.1	36.7	60.4	57.8
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	800	843	211	211
Bicycle Delay (s/bike)	12.6	11.7	28.0	28.0
Bicycle Compliance	Fair	Fair	Fair	Fair
Bicycle LOS Score	2.90	3.29	2.85	2.62
Bicycle LOS	C	C	C	C

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	251606.7
Level of Service	F

Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1947
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.95
Delay for adq Gap	251608.55
Avg Ped Delay (s)	251606.70

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	342728.1
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1947
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.95
Delay for adq Gap	342729.91
Avg Ped Delay (s)	342728.06

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1127	30	251	1218	40	301
Future Vol, veh/h	1127	30	251	1218	40	301
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	25
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1266	34	282	1369	45	338

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1300	0	2532	650
Stage 1	-	-	-	-	1283	-
Stage 2	-	-	-	-	1249	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	529	-	~ 23	412
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	234	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	529	-	~ 11	412
Mov Cap-2 Maneuver	-	-	-	-	~ -135	-
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	234	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	+	412	-	-	529	-
HCM Lane V/C Ratio	-	0.821	-	-	0.533	-
HCM Control Delay (s)	-	43.1	-	-	19.3	-
HCM Lane LOS	-	E	-	-	C	-
HCM 95th %tile Q(veh)	-	7.6	-	-	3.1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach		
Approach Direction	EB	
Median Present?	Yes	
Approach Delay(s)	119.1	
Level of Service	F	
Crosswalk		
Length (ft)	10	28
Lanes Crossed	2	1
Veh Vol Crossed	1127	1218
Ped Vol Crossed	0	0
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	5.86	11.00
Prob of Delayed X-ing	0.84	0.98
Prob of Blocked Lane	0.60	0.98
Delay for adq Gap	13.01	110.89
Avg Ped Delay (s)	10.93	108.21

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	3396865.3
Level of Service	F
Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2345
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.97
Delay for adq Gap	3396866.75
Avg Ped Delay (s)	3396865.25

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	1652	115	1393	8	287	176	24	13
v/c Ratio	0.18	0.93	0.85	0.65	0.01	0.81	0.42	0.35	0.12
Control Delay	60.2	36.5	96.7	18.5	0.0	58.7	17.6	67.5	35.2
Queue Delay	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	36.5	96.7	19.3	0.0	58.7	17.6	67.5	35.2
Queue Length 50th (ft)	8	470	74	230	0	174	35	15	2
Queue Length 95th (ft)	30	#822	#199	532	0	292	102	#48	24
Internal Link Dist (ft)		160		81			330		315
Turn Bay Length (ft)	100		210		50				
Base Capacity (vph)	67	1775	135	2157	1036	457	554	69	144
Starvation Cap Reductn	0	0	0	425	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.93	0.85	0.80	0.01	0.63	0.32	0.35	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	1297	140	100	1212	7	250	4	150	22	4	8
Future Volume (veh/h)	11	1297	140	100	1212	7	250	4	150	22	4	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	1491	161	115	1393	8	287	4	172	24	4	9
Peak Hour Factor	0.92	0.87	0.87	0.87	0.87	0.92	0.87	0.92	0.87	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	1573	168	132	1965	876	324	7	318	34	19	42
Arrive On Green	0.01	0.49	0.49	0.07	0.55	0.55	0.18	0.20	0.20	0.02	0.04	0.04
Sat Flow, veh/h	1781	3238	347	1781	3554	1585	1781	36	1554	1781	512	1151
Grp Volume(v), veh/h	12	812	840	115	1393	8	287	0	176	24	0	13
Grp Sat Flow(s),veh/h/ln	1781	1777	1808	1781	1777	1585	1781	0	1591	1781	0	1663
Q Serve(g_s), s	0.7	46.9	48.3	6.9	31.2	0.2	17.0	0.0	10.7	1.5	0.0	0.8
Cycle Q Clear(g_c), s	0.7	46.9	48.3	6.9	31.2	0.2	17.0	0.0	10.7	1.5	0.0	0.8
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.98	1.00		0.69
Lane Grp Cap(c), veh/h	20	863	878	132	1965	876	324	0	325	34	0	61
V/C Ratio(X)	0.60	0.94	0.96	0.87	0.71	0.01	0.88	0.00	0.54	0.71	0.00	0.21
Avail Cap(c_a), veh/h	66	869	885	132	1965	876	444	0	461	67	0	130
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.3	26.4	26.8	49.7	17.8	10.9	43.2	0.0	38.5	52.8	0.0	50.6
Incr Delay (d2), s/veh	25.8	17.9	20.4	43.3	1.2	0.0	14.8	0.0	1.4	23.8	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	23.1	24.7	4.7	12.4	0.1	8.8	0.0	4.3	0.9	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.1	44.2	47.1	92.9	19.0	10.9	58.0	0.0	39.9	76.6	0.0	52.3
LnGrp LOS	E	D	D	F	B	B	E	A	D	E	A	D
Approach Vol, veh/h		1664			1516			463			37	
Approach Delay, s/veh		46.0			24.6			51.1			68.1	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	28.2	14.0	58.6	25.7	10.0	6.7	65.9
Change Period (Y+Rc), s	5.5	6.0	6.0	6.0	6.0	* 6	5.5	6.0
Max Green Setting (Gmax), s	4.1	31.4	8.0	53.0	27.0	* 8.5	4.0	57.5
Max Q Clear Time (g_c+I1), s	3.5	12.7	8.9	50.3	19.0	2.8	2.7	33.2
Green Ext Time (p_c), s	0.0	1.0	0.0	2.3	0.7	0.0	0.0	12.5

Intersection Summary	
HCM 6th Ctrl Delay	38.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	59.2	60.1	36.2	24.0
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	6	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.98	2.99	2.20	1.98
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1664	1516	463	37
Effct. Green for Bike (s)	53.6	64.3	22.2	6.1
Cross Street Width (ft)	36.3	37.5	74.4	60.1
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	893	1072	370	102
Bicycle Delay (s/bike)	18.4	12.9	39.9	54.1
Bicycle Compliance	Fair	Fair	Poor	Poor
Bicycle LOS Score	3.49	3.38	3.46	2.54
Bicycle LOS	C	C	C	C

Intersection	
Int Delay, s/veh	13.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	91	150	1698	101	90	1524
Future Vol, veh/h	91	150	1698	101	90	1524
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	161	1826	109	97	1639

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2907	980	0	0	1947	0
Stage 1	1893	-	-	-	-	-
Stage 2	1014	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 12	249	-	-	297	-
Stage 1	104	-	-	-	-	-
Stage 2	311	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 8	246	-	-	294	-
Mov Cap-2 Maneuver	~ 62	-	-	-	-	-
Stage 1	~ 69	-	-	-	-	-
Stage 2	311	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	191.2	0	1.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	62	246	294	-
HCM Lane V/C Ratio	-	-	1.578	0.656	0.329	-
HCM Control Delay (s)	-	-	$ 434.3	43.7	23.1	-
HCM Lane LOS	-	-	F	E	C	-
HCM 95th %tile Q(veh)	-	-	8.7	4.1	1.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	583470080.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	3222
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	583470080.00
Avg Ped Delay (s)	583470080.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	583470080.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	3222
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	583470080.00
Avg Ped Delay (s)	583470080.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	108	56	213	179	42	1769	147	147	1439	62
v/c Ratio	0.39	0.16	0.62	0.40	0.49	1.54	0.26	1.36	1.12	0.10
Control Delay	36.3	1.0	40.0	7.8	64.3	273.5	11.3	247.8	94.9	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.3	1.0	40.0	7.8	64.3	273.5	11.3	247.8	94.9	1.3
Queue Length 50th (ft)	49	0	96	0	20	~628	12	~92	~437	0
Queue Length 95th (ft)	111	0	214	55	#98	#1308	81	#311	#1015	7
Internal Link Dist (ft)	288		473			404			1931	
Turn Bay Length (ft)		100		180	150		170	150		430
Base Capacity (vph)	767	738	696	728	86	1147	565	108	1282	626
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.08	0.31	0.25	0.49	1.54	0.26	1.36	1.12	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	22	53	190	12	170	40	1681	140	140	1367	59
Future Volume (veh/h)	81	22	53	190	12	170	40	1681	140	140	1367	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	23	56	200	13	179	42	1769	147	147	1439	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	36	146	284	18	269	56	1309	564	124	1443	627
Arrive On Green	0.09	0.09	0.09	0.17	0.17	0.17	0.03	0.37	0.37	0.07	0.41	0.41
Sat Flow, veh/h	1416	383	1551	1677	109	1585	1781	3554	1533	1781	3554	1545
Grp Volume(v), veh/h	108	0	56	213	0	179	42	1769	147	147	1439	62
Grp Sat Flow(s),veh/h/ln	1800	0	1551	1786	0	1585	1781	1777	1533	1781	1777	1545
Q Serve(g_s), s	4.2	0.0	2.4	8.1	0.0	7.6	1.7	26.5	4.8	5.0	29.1	1.8
Cycle Q Clear(g_c), s	4.2	0.0	2.4	8.1	0.0	7.6	1.7	26.5	4.8	5.0	29.1	1.8
Prop In Lane	0.79		1.00	0.94		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	0	146	303	0	269	56	1309	564	124	1443	627
V/C Ratio(X)	0.64	0.00	0.38	0.70	0.00	0.67	0.75	1.35	0.26	1.19	1.00	0.10
Avail Cap(c_a), veh/h	875	0	754	794	0	705	99	1309	564	124	1443	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	0.0	30.6	28.2	0.0	28.0	34.6	22.7	15.9	33.5	21.3	13.2
Incr Delay (d2), s/veh	4.0	0.0	1.7	3.0	0.0	2.8	17.6	163.5	0.2	140.0	22.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	1.0	3.6	0.0	3.0	1.0	39.8	1.6	6.9	15.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	0.0	32.3	31.2	0.0	30.8	52.2	186.2	16.1	173.5	44.3	13.3
LnGrp LOS	D	A	C	C	A	C	D	F	B	F	D	B
Approach Vol, veh/h		164			392			1958			1648	
Approach Delay, s/veh		34.3			31.0			170.5			54.6	
Approach LOS		C			C			F			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	33.0		11.8	7.3	35.7		17.2
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0
Max Green Setting (Gmax), s	5.0	26.5		35.0	4.0	27.5		32.0
Max Q Clear Time (g_c+I1), s	7.0	28.5		6.2	3.7	31.1		10.1
Green Ext Time (p_c), s	0.0	0.0		0.9	0.0	0.0		2.1

Intersection Summary	
HCM 6th Ctrl Delay	106.1
HCM 6th LOS	F

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.05	2.19	3.07	3.07
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	164	392	1958	1648
Effct. Green for Bike (s)	13.3	16.5	27.5	30.7
Cross Street Width (ft)	72.9	73.9	37.4	37.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	222	275	458	512
Bicycle Delay (s/bike)	47.4	44.6	35.7	33.2
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	2.95	3.34	3.75	3.50
Bicycle LOS	C	C	D	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	678	599	222	219	286	178	524	1460	304	900	573
v/c Ratio	1.77	0.70	0.41	1.66	0.74	0.40	0.91	1.08	1.68	0.78	0.71
Control Delay	384.6	41.3	6.5	361.3	52.2	10.1	65.8	81.5	358.6	39.1	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	384.6	41.3	6.5	361.3	52.2	10.1	65.8	81.5	358.6	39.1	18.6
Queue Length 50th (ft)	~359	197	0	~220	185	11	184	~585	~306	292	172
Queue Length 95th (ft)	#523	256	56	#405	276	66	#319	#824	#523	417	346
Internal Link Dist (ft)		372			770			1992		544	
Turn Bay Length (ft)	300		300	150		125	250		250		300
Base Capacity (vph)	384	1289	698	132	608	616	577	1350	181	1156	812
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.77	0.46	0.32	1.66	0.47	0.29	0.91	1.08	1.68	0.78	0.71

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	651	575	213	210	275	171	503	1042	360	292	864	550
Future Volume (veh/h)	651	575	213	210	275	171	503	1042	360	292	864	550
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	678	599	222	219	286	178	524	1085	375	304	900	573
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	969	417	128	443	362	558	974	331	176	1117	656
Arrive On Green	0.11	0.27	0.27	0.07	0.24	0.24	0.16	0.38	0.38	0.10	0.31	0.31
Sat Flow, veh/h	3456	3554	1530	1781	1870	1528	3456	2583	877	1781	3554	1544
Grp Volume(v), veh/h	678	599	222	219	286	178	524	740	720	304	900	573
Grp Sat Flow(s),veh/h/ln	1728	1777	1530	1781	1870	1528	1728	1777	1684	1781	1777	1544
Q Serve(g_s), s	12.0	16.4	13.7	8.0	15.3	11.2	16.7	42.0	42.0	11.0	25.9	35.0
Cycle Q Clear(g_c), s	12.0	16.4	13.7	8.0	15.3	11.2	16.7	42.0	42.0	11.0	25.9	35.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	372	969	417	128	443	362	558	670	635	176	1117	656
V/C Ratio(X)	1.82	0.62	0.53	1.71	0.65	0.49	0.94	1.11	1.13	1.73	0.81	0.87
Avail Cap(c_a), veh/h	372	1244	536	128	588	480	558	670	635	176	1117	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	35.4	34.5	51.7	38.3	36.7	46.1	34.7	34.7	50.2	35.1	29.6
Incr Delay (d2), s/veh	379.9	0.6	1.1	351.1	1.6	1.0	23.8	67.2	78.4	350.3	4.4	12.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.8	7.2	5.2	16.0	7.2	4.3	9.0	30.1	30.5	22.0	11.7	15.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	429.6	36.1	35.5	402.8	39.9	37.7	70.0	101.8	113.1	400.5	39.5	42.0
LnGrp LOS	F	D	D	F	D	D	E	F	F	F	D	D
Approach Vol, veh/h		1499			683			1984			1777	
Approach Delay, s/veh		214.0			155.7			97.5			102.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	47.0	13.0	35.4	23.0	40.0	17.0	31.4
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	11.0	42.0	8.0	39.0	18.0	35.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	13.0	44.0	10.0	18.4	18.7	37.0	14.0	17.3
Green Ext Time (p_c), s	0.0	0.0	0.0	5.4	0.0	0.0	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	134.9
HCM 6th LOS	F

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	7	5	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	3.02	2.70	3.01	3.08
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1499	683	1984	1777
Effct. Green for Bike (s)	26.1	22.1	42.1	35.1
Cross Street Width (ft)	72.3	83.1	71.4	85.7
Through Lanes Number	2	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	435	368	702	585
Bicycle Delay (s/bike)	36.7	39.9	25.3	30.0
Bicycle Compliance	Poor	Poor	Fair	Poor
Bicycle LOS Score	3.90	3.96	4.29	4.34
Bicycle LOS	D	D	D	D

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	121	50	90	1413	1315	81
Future Vol, veh/h	121	50	90	1413	1315	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	53	96	1503	1399	86

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2386	743	1485	0	-	0
Stage 1	1442	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 28	358	449	-	-	-
Stage 1	184	-	-	-	-	-
Stage 2	339	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 22	358	449	-	-	-
Mov Cap-2 Maneuver	~ 118	-	-	-	-	-
Stage 1	145	-	-	-	-	-
Stage 2	339	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	132.3	0.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	449	-	118	358	-	-
HCM Lane V/C Ratio	0.213	-	1.091	0.149	-	-
HCM Control Delay (s)	15.2	-	180	16.8	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	0.8	-	7.7	0.5	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	25564822.0
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	2728
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	25564824.00
Avg Ped Delay (s)	25564822.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	426589408.0
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	2728
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	426589408.00
Avg Ped Delay (s)	426589408.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	276	44	33	387	22	1243	321	1411
v/c Ratio	0.90	0.10	0.22	0.62	0.29	0.90	0.90	0.68
Control Delay	74.1	0.4	40.1	12.0	65.9	42.5	74.2	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Total Delay	74.1	0.4	40.1	12.0	65.9	43.5	74.2	18.4
Queue Length 50th (ft)	205	0	20	34	17	467	244	400
Queue Length 95th (ft)	#360	0	51	134	46	#606	#412	486
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	339	497	169	650	75	1464	378	2116
Starvation Cap Reductn	0	0	0	0	0	71	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.09	0.20	0.60	0.29	0.89	0.85	0.67

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	241	10	40	30	0	352	20	1111	20	292	1213	71
Future Volume (veh/h)	241	10	40	30	0	352	20	1111	20	292	1213	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	265	11	44	33	0	387	22	1221	22	321	1333	78
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	426	15	412	495	0	412	32	1401	25	353	1952	114
Arrive On Green	0.26	0.26	0.26	0.26	0.00	0.26	0.02	0.39	0.39	0.20	0.57	0.57
Sat Flow, veh/h	1392	58	1585	1654	0	1585	1781	3569	64	1781	3407	199
Grp Volume(v), veh/h	276	0	44	33	0	387	22	608	635	321	694	717
Grp Sat Flow(s),veh/h/ln	1450	0	1585	1654	0	1585	1781	1777	1857	1781	1777	1829
Q Serve(g_s), s	17.5	0.0	2.3	0.0	0.0	26.5	1.4	35.0	35.0	19.5	30.3	30.5
Cycle Q Clear(g_c), s	19.1	0.0	2.3	1.5	0.0	26.5	1.4	35.0	35.0	19.5	30.3	30.5
Prop In Lane	0.96		1.00	1.00		1.00	1.00		0.03	1.00		0.11
Lane Grp Cap(c), veh/h	441	0	412	495	0	412	32	697	729	353	1018	1048
V/C Ratio(X)	0.63	0.00	0.11	0.07	0.00	0.94	0.70	0.87	0.87	0.91	0.68	0.68
Avail Cap(c_a), veh/h	457	0	430	511	0	430	80	778	813	402	1099	1132
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	0.0	31.2	30.9	0.0	40.1	54.1	31.0	31.1	43.4	16.6	16.6
Incr Delay (d2), s/veh	2.6	0.0	0.1	0.1	0.0	28.0	23.9	9.8	9.5	22.4	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	0.0	0.9	0.7	0.0	13.4	0.8	16.5	17.2	10.7	12.1	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	0.0	31.3	30.9	0.0	68.1	78.0	40.9	40.5	65.8	18.1	18.2
LnGrp LOS	D	A	C	C	A	E	E	D	D	E	B	B
Approach Vol, veh/h		320			420			1265			1732	
Approach Delay, s/veh		38.6			65.1			41.3			27.0	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.0	49.9		33.8	7.0	69.9		33.8				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	25.0	48.5		30.0	5.0	68.5		30.0				
Max Q Clear Time (g_c+I1), s	21.5	37.0		21.1	3.4	32.5		28.5				
Green Ext Time (p_c), s	0.4	6.5		1.2	0.0	14.2		0.3				

Intersection Summary			
HCM 6th Ctrl Delay			37.1
HCM 6th LOS			D

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.10	2.21	2.84	3.02
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	320	420	1265	1732
Effct. Green for Bike (s)	27.5	27.5	46.2	69.3
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	458	458	770	1155
Bicycle Delay (s/bike)	35.7	35.7	22.7	10.7
Bicycle Compliance	Poor	Poor	Fair	Fair
Bicycle LOS Score	3.18	3.37	3.34	3.72
Bicycle LOS	C	C	C	D

Cumulative Plus Project

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	42	32	145	145	306	21	568	887	526	506
v/c Ratio	0.29	0.11	0.41	0.39	0.52	0.20	0.75	0.88	1.26	0.31
Control Delay	48.0	0.8	37.1	36.5	7.6	49.9	40.8	16.4	168.5	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	0.8	37.1	36.5	7.6	49.9	40.8	16.4	168.5	17.6
Queue Length 50th (ft)	25	0	80	80	0	13	171	85	~428	90
Queue Length 95th (ft)	61	0	153	152	71	39	238	#298	#681	163
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	508	570	383	399	612	110	987	1028	417	1665
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.06	0.38	0.36	0.50	0.19	0.58	0.86	1.26	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	20	30	265	10	291	20	540	843	500	470	10
Future Volume (veh/h)	20	20	30	265	10	291	20	540	843	500	470	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	21	32	287	0	0	21	568	887	526	495	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	55	90	432	0		33	1066	655	452	1901	42
Arrive On Green	0.06	0.06	0.06	0.12	0.00	0.00	0.02	0.30	0.30	0.25	0.54	0.54
Sat Flow, veh/h	912	912	1514	3563	0	1585	1781	3554	1544	1781	3551	79
Grp Volume(v), veh/h	42	0	32	287	0	0	21	568	887	526	247	259
Grp Sat Flow(s),veh/h/ln	1825	0	1514	1781	0	1585	1781	1777	1544	1781	1777	1853
Q Serve(g_s), s	1.9	0.0	1.8	6.7	0.0	0.0	1.0	11.5	26.0	22.0	6.5	6.5
Cycle Q Clear(g_c), s	1.9	0.0	1.8	6.7	0.0	0.0	1.0	11.5	26.0	22.0	6.5	6.5
Prop In Lane	0.50		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	109	0	90	432	0		33	1066	655	452	951	992
V/C Ratio(X)	0.39	0.00	0.35	0.66	0.00		0.64	0.53	1.35	1.16	0.26	0.26
Avail Cap(c_a), veh/h	568	0	471	904	0		123	1066	655	452	951	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	39.2	36.4	0.0	0.0	42.3	25.3	22.0	32.4	10.9	10.9
Incr Delay (d2), s/veh	2.2	0.0	2.3	1.8	0.0	0.0	19.2	0.5	169.0	95.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.7	2.8	0.0	0.0	0.6	4.6	44.2	20.7	2.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	0.0	41.5	38.2	0.0	0.0	61.5	25.8	191.1	127.9	11.0	11.0
LnGrp LOS	D	A	D	D	A		E	C	F	F	B	B
Approach Vol, veh/h		74			287	A		1476			1032	
Approach Delay, s/veh		41.5			38.2			125.6			70.6	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	27.0	32.0		11.2	6.6	52.4		16.5
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	22.0	26.0		27.0	6.0	42.0		22.0
Max Q Clear Time (g_c+I1), s	24.0	28.0		3.9	3.0	8.5		8.7
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	3.0		1.0

Intersection Summary	
HCM 6th Ctrl Delay	94.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	1.99	2.89	3.03	2.88
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	74	596	1476	1032
Effct. Green for Bike (s)	7.9	20.8	20.5	44.2
Cross Street Width (ft)	67.8	54.5	58.5	50.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	132	347	342	737
Bicycle Delay (s/bike)	52.4	41.0	41.3	23.9
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.15	3.59	3.89	3.40
Bicycle LOS	C	D	D	C

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	55	1444	133	732	44	99	55	44
v/c Ratio	0.10	0.62	0.41	0.29	0.21	0.33	0.30	0.16
Control Delay	3.1	10.0	8.2	5.2	27.4	9.8	29.4	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.1	10.0	8.2	5.2	27.4	9.8	29.4	5.5
Queue Length 50th (ft)	4	175	10	58	15	0	20	0
Queue Length 95th (ft)	12	274	39	96	42	36	50	16
Internal Link Dist (ft)		1057		1748	155		449	
Turn Bay Length (ft)	225		160			25		25
Base Capacity (vph)	559	2413	329	2526	655	741	595	723
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.60	0.40	0.29	0.07	0.13	0.09	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1264	50	121	626	40	20	20	90	40	10	40
Future Volume (veh/h)	50	1264	50	121	626	40	20	20	90	40	10	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	1389	55	133	688	44	22	22	99	44	11	44
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	448	1682	66	269	1712	109	91	66	444	121	20	444
Arrive On Green	0.04	0.48	0.48	0.06	0.50	0.50	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1781	3485	138	1781	3391	217	40	237	1585	88	71	1585
Grp Volume(v), veh/h	55	707	737	133	360	372	44	0	99	55	0	44
Grp Sat Flow(s),veh/h/ln	1781	1777	1846	1781	1777	1831	277	0	1585	159	0	1585
Q Serve(g_s), s	1.0	23.1	23.2	2.5	8.5	8.5	0.5	0.0	3.2	1.5	0.0	1.4
Cycle Q Clear(g_c), s	1.0	23.1	23.2	2.5	8.5	8.5	18.4	0.0	3.2	18.9	0.0	1.4
Prop In Lane	1.00		0.07	1.00		0.12	0.50		1.00	0.80		1.00
Lane Grp Cap(c), veh/h	448	857	891	269	897	924	158	0	444	141	0	444
V/C Ratio(X)	0.12	0.82	0.83	0.49	0.40	0.40	0.28	0.00	0.22	0.39	0.00	0.10
Avail Cap(c_a), veh/h	487	1001	1040	322	1054	1086	276	0	564	244	0	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.4	15.0	15.0	13.3	10.4	10.4	19.8	0.0	18.6	28.6	0.0	18.0
Incr Delay (d2), s/veh	0.1	5.0	4.9	1.4	0.3	0.3	1.0	0.0	0.3	1.8	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	9.2	9.6	0.9	3.0	3.0	0.5	0.0	1.1	0.9	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	20.0	20.0	14.7	10.7	10.7	20.8	0.0	18.9	30.3	0.0	18.1
LnGrp LOS	A	C	B	B	B	B	C	A	B	C	A	B
Approach Vol, veh/h		1499			865			143			99	
Approach Delay, s/veh		19.6			11.3			19.5			24.9	
Approach LOS		B			B			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.8	8.1	36.9		23.8	6.5	38.5				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		24.0	6.0	38.0		24.0	4.0	40.0				
Max Q Clear Time (g_c+I1), s		20.4	4.5	25.2		20.9	3.0	10.5				
Green Ext Time (p_c), s		0.2	0.1	8.1		0.1	0.0	5.3				

Intersection Summary			
HCM 6th Ctrl Delay			17.0
HCM 6th LOS			B

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	57.8	60.4	36.1	36.7
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	5	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	40.0	40.0	40.0	40.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.74	2.77	2.06	2.02
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1499	865	143	99
Effct. Green for Bike (s)	38.2	41.3	7.8	7.8
Cross Street Width (ft)	36.1	36.7	60.4	57.8
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	955	1032	195	195
Bicycle Delay (s/bike)	10.9	9.4	32.6	32.6
Bicycle Compliance	Fair	Good	Poor	Poor
Bicycle LOS Score	3.35	2.83	2.72	2.61
Bicycle LOS	C	C	C	C

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	183363.7
Level of Service	F

Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1890
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	183365.61
Avg Ped Delay (s)	183363.70

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	247522.9
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1890
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.95
Delay for adq Gap	247524.81
Avg Ped Delay (s)	247522.91

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1147	40	233	1214	20	162
Future Vol, veh/h	1147	40	233	1214	20	162
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	25
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1274	44	259	1349	22	180

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1318	0	2489	659
Stage 1	-	-	-	-	1296	-
Stage 2	-	-	-	-	1193	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	520	-	24	406
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	250	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	520	-	~ 12	406
Mov Cap-2 Maneuver	-	-	-	-	~ -13	-
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	250	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	+	406	-	-	520	-
HCM Lane V/C Ratio	-	0.443	-	-	0.498	-
HCM Control Delay (s)	-	20.7	-	-	18.6	-
HCM Lane LOS	-	C	-	-	C	-
HCM 95th %tile Q(veh)	-	2.2	-	-	2.7	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach		
Approach Direction	EB	
Median Present?	Yes	
Approach Delay(s)	118.4	
Level of Service	F	
Crosswalk		
Length (ft)	10	28
Lanes Crossed	2	1
Veh Vol Crossed	1147	1214
Ped Vol Crossed	0	0
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	5.86	11.00
Prob of Delayed X-ing	0.85	0.98
Prob of Blocked Lane	0.61	0.98
Delay for adq Gap	13.36	109.80
Avg Ped Delay (s)	11.29	107.12

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	3727492.0
Level of Service	F
Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2361
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.97
Delay for adq Gap	3727493.50
Avg Ped Delay (s)	3727492.00

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	1575	136	1597	3	59	25	9	4
v/c Ratio	0.06	0.76	0.69	0.58	0.00	0.39	0.15	0.11	0.04
Control Delay	45.2	17.7	58.8	8.1	0.0	47.2	19.0	46.8	35.2
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	17.7	58.8	8.4	0.0	47.2	19.0	46.8	35.2
Queue Length 50th (ft)	3	312	73	151	0	31	1	5	1
Queue Length 95th (ft)	15	534	#176	463	0	75	26	22	12
Internal Link Dist (ft)		149		109			330		342
Turn Bay Length (ft)	100		210		50				
Base Capacity (vph)	79	2072	197	2748	1258	177	579	79	511
Starvation Cap Reductn	0	0	0	441	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.76	0.69	0.69	0.00	0.33	0.04	0.11	0.01

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1030	356	120	1405	3	52	2	20	8	2	2
Future Volume (veh/h)	5	1030	356	120	1405	3	52	2	20	8	2	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1170	405	136	1597	3	59	2	23	9	2	2
Peak Hour Factor	0.92	0.88	0.88	0.88	0.88	0.92	0.88	0.92	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9	1410	477	170	2263	1009	90	10	111	16	24	24
Arrive On Green	0.01	0.54	0.54	0.10	0.64	0.64	0.05	0.08	0.08	0.01	0.03	0.03
Sat Flow, veh/h	1781	2606	882	1781	3554	1585	1781	128	1476	1781	858	858
Grp Volume(v), veh/h	5	789	786	136	1597	3	59	0	25	9	0	4
Grp Sat Flow(s),veh/h/ln	1781	1777	1712	1781	1777	1585	1781	0	1605	1781	0	1716
Q Serve(g_s), s	0.2	30.8	32.8	6.3	24.9	0.1	2.7	0.0	1.2	0.4	0.0	0.2
Cycle Q Clear(g_c), s	0.2	30.8	32.8	6.3	24.9	0.1	2.7	0.0	1.2	0.4	0.0	0.2
Prop In Lane	1.00		0.52	1.00		1.00	1.00		0.92	1.00		0.50
Lane Grp Cap(c), veh/h	9	961	926	170	2263	1009	90	0	121	16	0	48
V/C Ratio(X)	0.54	0.82	0.85	0.80	0.71	0.00	0.66	0.00	0.21	0.56	0.00	0.08
Avail Cap(c_a), veh/h	85	1078	1039	212	2431	1084	191	0	601	85	0	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.7	15.9	16.4	37.2	10.1	5.6	39.2	0.0	36.5	41.5	0.0	39.8
Incr Delay (d2), s/veh	40.2	4.7	6.2	15.9	0.9	0.0	7.9	0.0	0.8	27.1	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	12.4	13.0	3.4	8.4	0.0	1.4	0.0	0.5	0.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.9	20.7	22.6	53.2	10.9	5.6	47.1	0.0	37.3	68.6	0.0	40.5
LnGrp LOS	F	C	C	D	B	A	D	A	D	E	A	D
Approach Vol, veh/h		1580			1736			84			13	
Approach Delay, s/veh		21.8			14.2			44.2			60.0	
Approach LOS		C			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	12.3	14.0	51.5	10.2	8.4	5.9	59.5
Change Period (Y+Rc), s	5.5	6.0	6.0	6.0	6.0	* 6	5.5	6.0
Max Green Setting (Gmax), s	4.0	31.5	10.0	51.0	9.0	* 27	4.0	57.5
Max Q Clear Time (g_c+I1), s	2.4	3.2	8.3	34.8	4.7	2.2	2.2	26.9
Green Ext Time (p_c), s	0.0	0.1	0.1	10.7	0.0	0.0	0.0	16.8

Intersection Summary		
HCM 6th Ctrl Delay		18.7
HCM 6th LOS		B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	59.2	60.1	36.2	24.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	6	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.95	2.95	2.17	1.97
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1580	1736	84	13
Effct. Green for Bike (s)	54.3	69.8	8.2	5.7
Cross Street Width (ft)	36.3	37.4	74.2	60.2
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	905	1163	137	95
Bicycle Delay (s/bike)	18.0	10.5	52.1	54.4
Bicycle Compliance	Fair	Fair	Poor	Poor
Bicycle LOS Score	3.42	3.56	2.83	2.50
Bicycle LOS	C	D	C	C

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↱		↰	↑↑
Traffic Vol, veh/h	22	60	1021	83	140	1708
Future Vol, veh/h	22	60	1021	83	140	1708
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	63	1075	87	147	1798

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2324	593	0	0	1174	0
Stage 1	1131	-	-	-	-	-
Stage 2	1193	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	31	449	-	-	591	-
Stage 1	270	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 23	444	-	-	584	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	200	-	-	-	-	-
Stage 2	250	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.6	0	1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	88	444	584	-
HCM Lane V/C Ratio	-	-	0.263	0.142	0.252	-
HCM Control Delay (s)	-	-	59.9	14.4	13.2	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	1	0.5	1	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	31931440.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2729
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	31931442.00
Avg Ped Delay (s)	31931440.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	31931440.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2729
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	31931442.00
Avg Ped Delay (s)	31931440.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	11	109	43	53	1238	184	85	1730	47
v/c Ratio	0.19	0.04	0.43	0.13	0.43	0.75	0.24	0.70	0.93	0.05
Control Delay	31.6	0.3	32.4	0.8	44.5	22.2	8.0	64.7	35.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	0.3	32.4	0.8	44.5	22.2	8.0	64.7	35.1	0.1
Queue Length 50th (ft)	14	0	43	0	22	252	20	36	~496	0
Queue Length 95th (ft)	41	0	90	0	#67	#430	65	#115	#691	1
Internal Link Dist (ft)	288		473			497			1931	
Turn Bay Length (ft)		100		180	150		170	150		430
Base Capacity (vph)	972	898	879	843	122	1655	768	122	1851	855
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.01	0.12	0.05	0.43	0.75	0.24	0.70	0.93	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	11	10	91	11	40	50	1164	173	80	1626	44
Future Volume (veh/h)	22	11	10	91	11	40	50	1164	173	80	1626	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	12	11	97	12	43	53	1238	184	85	1730	47
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	22	56	155	19	154	70	1561	675	108	1637	712
Arrive On Green	0.04	0.04	0.04	0.10	0.10	0.10	0.04	0.44	0.44	0.06	0.46	0.46
Sat Flow, veh/h	1190	621	1545	1594	197	1585	1781	3554	1536	1781	3554	1546
Grp Volume(v), veh/h	35	0	11	109	0	43	53	1238	184	85	1730	47
Grp Sat Flow(s),veh/h/ln	1811	0	1545	1791	0	1585	1781	1777	1536	1781	1777	1546
Q Serve(g_s), s	1.1	0.0	0.4	3.4	0.0	1.5	1.7	17.6	4.5	2.8	27.0	1.0
Cycle Q Clear(g_c), s	1.1	0.0	0.4	3.4	0.0	1.5	1.7	17.6	4.5	2.8	27.0	1.0
Prop In Lane	0.66		1.00	0.89		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	65	0	56	174	0	154	70	1561	675	108	1637	712
V/C Ratio(X)	0.54	0.00	0.20	0.63	0.00	0.28	0.75	0.79	0.27	0.78	1.06	0.07
Avail Cap(c_a), veh/h	1081	0	923	978	0	865	137	1637	707	137	1637	712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	0.0	27.4	25.4	0.0	24.6	27.9	14.1	10.5	27.1	15.8	8.8
Incr Delay (d2), s/veh	6.7	0.0	1.7	3.7	0.0	1.0	15.0	2.7	0.2	20.3	39.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	1.5	0.0	0.6	1.0	6.5	1.3	1.7	17.8	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	0.0	29.2	29.1	0.0	25.5	42.8	16.8	10.7	47.5	54.8	8.8
LnGrp LOS	C	A	C	C	A	C	D	B	B	D	F	A
Approach Vol, veh/h		46			152			1475			1862	
Approach Delay, s/veh		33.2			28.1			17.0			53.3	
Approach LOS		C			C			B			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	32.2		7.1	7.3	33.5		10.7				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	4.5	27.0		35.0	4.5	27.0		32.0				
Max Q Clear Time (g_c+I1), s	4.8	19.6		3.1	3.7	29.0		5.4				
Green Ext Time (p_c), s	0.0	4.6		0.2	0.0	0.0		0.8				

Intersection Summary			
HCM 6th Ctrl Delay			36.8
HCM 6th LOS			D

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.01	2.10	3.01	2.99
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	46	152	1475	1862
Effct. Green for Bike (s)	6.9	9.4	30.8	34.4
Cross Street Width (ft)	72.9	73.9	37.5	37.9
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	115	157	513	573
Bicycle Delay (s/bike)	53.3	51.0	33.2	30.5
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	2.75	2.94	3.35	3.68
Bicycle LOS	C	C	C	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	395	228	429	355	427	204	349	1195	119	894	875
v/c Ratio	0.84	0.26	0.87	1.31	0.85	0.40	1.06	1.00	1.18	0.83	1.13
Control Delay	66.1	34.3	44.9	200.3	55.9	15.6	117.0	63.9	194.4	45.6	99.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.1	34.3	44.9	200.3	55.9	15.6	117.0	63.9	194.4	45.6	99.4
Queue Length 50th (ft)	151	70	207	~344	296	45	~150	~494	~108	329	~532
Queue Length 95th (ft)	#245	104	#347	#554	420	110	#256	#667	#237	#455	#824
Internal Link Dist (ft)		344			770			1992		451	
Turn Bay Length (ft)	300		300	150		125	250		250		300
Base Capacity (vph)	468	1089	572	272	606	592	328	1196	101	1077	773
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.21	0.75	1.31	0.70	0.34	1.06	1.00	1.18	0.83	1.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	212	399	330	397	190	325	981	130	111	831	814
Future Volume (veh/h)	367	212	399	330	397	190	325	981	130	111	831	814
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	228	429	355	427	204	349	1055	140	119	894	875
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	1036	447	260	577	474	314	1021	135	96	1025	649
Arrive On Green	0.13	0.29	0.29	0.15	0.31	0.31	0.09	0.32	0.32	0.05	0.29	0.29
Sat Flow, veh/h	3456	3554	1533	1781	1870	1537	3456	3141	416	1781	3554	1542
Grp Volume(v), veh/h	395	228	429	355	427	204	349	596	599	119	894	875
Grp Sat Flow(s),veh/h/ln	1728	1777	1533	1781	1870	1537	1728	1777	1781	1781	1777	1542
Q Serve(g_s), s	13.5	5.8	33.0	17.5	24.6	12.7	10.9	39.0	39.0	6.5	28.7	34.6
Cycle Q Clear(g_c), s	13.5	5.8	33.0	17.5	24.6	12.7	10.9	39.0	39.0	6.5	28.7	34.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	446	1036	447	260	577	474	314	577	579	96	1025	649
V/C Ratio(X)	0.89	0.22	0.96	1.37	0.74	0.43	1.11	1.03	1.03	1.23	0.87	1.35
Avail Cap(c_a), veh/h	446	1036	447	260	577	474	314	577	579	96	1025	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	32.2	41.8	51.3	37.2	33.1	54.5	40.5	40.5	56.7	40.6	35.1
Incr Delay (d2), s/veh	18.8	0.1	32.3	187.7	5.1	0.6	84.3	46.0	46.7	167.0	8.4	166.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	2.5	16.3	21.3	12.0	4.8	8.4	24.1	24.3	7.4	13.6	48.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	32.3	74.1	238.9	42.2	33.7	138.9	86.5	87.2	223.7	49.0	201.6
LnGrp LOS	E	C	E	F	D	C	F	F	F	F	D	F
Approach Vol, veh/h		1052			986			1544			1888	
Approach Delay, s/veh		63.6			111.3			98.6			130.7	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	44.5	23.0	40.5	16.4	40.1	21.0	42.5
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	6.5	39.0	17.5	35.0	10.9	34.6	15.5	37.0
Max Q Clear Time (g_c+I1), s	8.5	41.0	19.5	35.0	12.9	36.6	15.5	26.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	105.2
HCM 6th LOS	F

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	7	5	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.99	2.61	3.00	3.05
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1052	986	1544	1888
Effct. Green for Bike (s)	28.8	30.8	39.1	34.7
Cross Street Width (ft)	72.3	83.0	71.5	85.4
Through Lanes Number	2	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	480	513	652	578
Bicycle Delay (s/bike)	34.7	33.2	27.3	30.3
Bicycle Compliance	Poor	Poor	Fair	Poor
Bicycle LOS Score	3.53	4.46	3.93	4.42
Bicycle LOS	D	D	D	D

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	40	90	1536	1028	153
Future Vol, veh/h	42	40	90	1536	1028	153
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	43	96	1634	1094	163

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2185	629	1257	0	-	0
Stage 1	1176	-	-	-	-	-
Stage 2	1009	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 39	425	549	-	-	-
Stage 1	255	-	-	-	-	-
Stage 2	313	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 32	425	549	-	-	-
Mov Cap-2 Maneuver	145	-	-	-	-	-
Stage 1	210	-	-	-	-	-
Stage 2	313	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.8	0.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	549	-	145	425	-	-
HCM Lane V/C Ratio	0.174	-	0.308	0.1	-	-
HCM Control Delay (s)	12.9	-	40.5	14.4	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0.6	-	1.2	0.3	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	9919347.0
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	2564
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	9919348.00
Avg Ped Delay (s)	9919347.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	139754512.0
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	2564
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	139754512.00
Avg Ped Delay (s)	139754512.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	55	11	11	145	22	1431	488	1224
v/c Ratio	0.44	0.04	0.09	0.54	0.26	0.92	0.99	0.48
Control Delay	54.0	0.3	42.7	14.9	54.6	37.4	74.4	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Total Delay	54.0	0.3	42.7	14.9	54.6	38.1	74.4	6.4
Queue Length 50th (ft)	34	0	7	0	14	438	309	101
Queue Length 95th (ft)	73	0	24	57	40	#636	#546	247
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	397	530	375	546	85	1551	495	2539
Starvation Cap Reductn	0	0	0	0	0	22	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.02	0.03	0.27	0.26	0.94	0.99	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

9: Broad & Aero

HCM 6th Signalized Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	10	10	10	0	132	20	1282	20	444	993	121
Future Volume (veh/h)	40	10	10	10	0	132	20	1282	20	444	993	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	11	11	11	0	145	22	1409	22	488	1091	133
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	42	181	244	0	181	33	1553	24	513	2237	272
Arrive On Green	0.11	0.11	0.11	0.11	0.00	0.11	0.02	0.43	0.43	0.29	0.70	0.70
Sat Flow, veh/h	1141	366	1585	1511	0	1585	1781	3579	56	1781	3180	387
Grp Volume(v), veh/h	55	0	11	11	0	145	22	699	732	488	609	615
Grp Sat Flow(s),veh/h/ln	1508	0	1585	1511	0	1585	1781	1777	1858	1781	1777	1790
Q Serve(g_s), s	2.7	0.0	0.6	0.0	0.0	9.0	1.2	37.0	37.1	27.1	15.6	15.6
Cycle Q Clear(g_c), s	3.3	0.0	0.6	0.6	0.0	9.0	1.2	37.0	37.1	27.1	15.6	15.6
Prop In Lane	0.80		1.00	1.00		1.00	1.00		0.03	1.00		0.22
Lane Grp Cap(c), veh/h	237	0	181	244	0	181	33	771	806	513	1250	1259
V/C Ratio(X)	0.23	0.00	0.06	0.05	0.00	0.80	0.68	0.91	0.91	0.95	0.49	0.49
Avail Cap(c_a), veh/h	495	0	456	488	0	456	88	803	839	513	1250	1259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	0.0	39.8	39.7	0.0	43.5	49.2	26.6	26.6	35.2	6.7	6.7
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.1	0.0	7.8	21.8	13.7	13.3	27.9	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.2	0.2	0.0	3.9	0.7	17.9	18.6	15.4	5.1	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	0.0	39.9	39.8	0.0	51.3	70.9	40.3	40.0	63.1	7.0	7.0
LnGrp LOS	D	A	D	D	A	D	E	D	D	E	A	A
Approach Vol, veh/h		66			156			1453			1712	
Approach Delay, s/veh		41.1			50.5			40.6			23.0	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	34.0	50.2	16.5	6.8	77.4	16.5
Change Period (Y+Rc), s	5.0	6.5	5.0	5.0	6.5	5.0
Max Green Setting (Gmax), s	29.0	45.5	29.0	5.0	69.5	29.0
Max Q Clear Time (g_c+I1), s	29.1	39.1	5.3	3.2	17.6	11.0
Green Ext Time (p_c), s	0.0	4.6	0.3	0.0	12.4	0.6

Intersection Summary	
HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

9: Broad & Aero

HCM 6th Signals-Pedestrians

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.03	2.18	2.82	2.97
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	66	156	1453	1712
Effct. Green for Bike (s)	9.2	9.2	45.5	75.6
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	153	153	758	1260
Bicycle Delay (s/bike)	51.2	51.2	23.1	8.2
Bicycle Compliance	Poor	Poor	Fair	Good
Bicycle LOS Score	2.76	2.94	3.50	3.71
Bicycle LOS	C	C	C	D

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	22	348	343	699	22	1011	400	508	1056
v/c Ratio	0.25	0.08	0.96	0.91	0.90	0.32	0.91	0.42	1.77	0.60
Control Delay	48.2	0.5	77.8	66.9	25.0	59.8	45.1	4.9	387.7	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	0.5	77.8	66.9	25.0	59.8	45.1	4.9	387.7	20.3
Queue Length 50th (ft)	20	0	~241	229	100	14	332	35	~498	231
Queue Length 95th (ft)	50	0	#440	#418	#342	41	#476	63	#706	373
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	477	561	362	377	779	69	1114	955	287	1760
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.96	0.91	0.90	0.32	0.91	0.42	1.77	0.60

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	10	20	595	20	622	20	900	356	452	900	40
Future Volume (veh/h)	20	10	20	595	20	622	20	900	356	452	900	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	11	22	685	0	0	22	1011	400	508	1011	45
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	31	78	771	0		33	1119	829	297	1603	71
Arrive On Green	0.05	0.05	0.05	0.22	0.00	0.00	0.02	0.31	0.31	0.17	0.46	0.46
Sat Flow, veh/h	1207	603	1505	3563	0	1585	1781	3554	1545	1781	3460	154
Grp Volume(v), veh/h	33	0	22	685	0	0	22	1011	400	508	519	537
Grp Sat Flow(s),veh/h/ln	1810	0	1505	1781	0	1585	1781	1777	1545	1781	1777	1837
Q Serve(g_s), s	1.7	0.0	1.3	17.9	0.0	0.0	1.2	26.1	15.7	16.0	21.2	21.2
Cycle Q Clear(g_c), s	1.7	0.0	1.3	17.9	0.0	0.0	1.2	26.1	15.7	16.0	21.2	21.2
Prop In Lane	0.67		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	93	0	78	771	0		33	1119	829	297	823	851
V/C Ratio(X)	0.35	0.00	0.28	0.89	0.00		0.67	0.90	0.48	1.71	0.63	0.63
Avail Cap(c_a), veh/h	510	0	424	818	0		74	1149	842	297	823	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	0.0	43.8	36.4	0.0	0.0	46.8	31.5	14.2	39.9	19.5	19.5
Incr Delay (d2), s/veh	2.3	0.0	2.0	11.4	0.0	0.0	20.8	10.0	0.4	332.9	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.5	8.6	0.0	0.0	0.7	11.9	8.0	34.1	8.2	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.2	0.0	45.7	47.8	0.0	0.0	67.6	41.4	14.7	372.9	21.1	21.0
LnGrp LOS	D	A	D	D	A		E	D	B	F	C	C
Approach Vol, veh/h		55			685	A		1433			1564	
Approach Delay, s/veh		46.0			47.8			34.3			135.3	
Approach LOS		D			D			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.0	36.2		10.9	7.8	50.4		26.7				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	16.0	31.0		27.0	4.0	43.0		22.0				
Max Q Clear Time (g_c+I1), s	18.0	28.1		3.7	3.2	23.2		19.9				
Green Ext Time (p_c), s	0.0	2.1		0.2	0.0	6.5		0.7				

Intersection Summary			
HCM 6th Ctrl Delay			79.2
HCM 6th LOS			E

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.00	3.00	3.24	3.29
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	55	1390	1433	1564
Effct. Green for Bike (s)	7.4	22.1	31.2	49.5
Cross Street Width (ft)	67.8	54.5	58.5	50.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	123	368	520	825
Bicycle Delay (s/bike)	52.8	39.9	32.9	20.7
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.12	4.90	3.85	3.84
Bicycle LOS	C	E	D	D

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	95	861	118	1302	32	192	53	53
v/c Ratio	0.33	0.45	0.25	0.64	0.15	0.49	0.26	0.18
Control Delay	6.7	8.8	4.1	9.9	21.5	8.8	23.7	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	8.8	4.1	9.9	21.5	8.8	23.7	5.2
Queue Length 50th (ft)	6	78	8	128	9	0	15	0
Queue Length 95th (ft)	20	133	23	216	28	44	41	16
Internal Link Dist (ft)		1057		1798	155		449	
Turn Bay Length (ft)	225		160			25		25
Base Capacity (vph)	286	1990	480	2092	701	847	657	787
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.43	0.25	0.62	0.05	0.23	0.08	0.07

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	788	30	112	1167	70	20	10	182	40	10	50
Future Volume (veh/h)	90	788	30	112	1167	70	20	10	182	40	10	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	829	32	118	1228	74	21	11	192	42	11	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	329	1647	64	458	1628	98	152	56	353	174	31	353
Arrive On Green	0.06	0.47	0.47	0.06	0.48	0.48	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3488	135	1781	3405	205	147	253	1585	201	141	1585
Grp Volume(v), veh/h	95	422	439	118	640	662	32	0	192	53	0	53
Grp Sat Flow(s),veh/h/ln	1781	1777	1846	1781	1777	1833	400	0	1585	341	0	1585
Q Serve(g_s), s	1.3	8.2	8.2	1.6	14.6	14.7	0.2	0.0	5.3	1.3	0.0	1.3
Cycle Q Clear(g_c), s	1.3	8.2	8.2	1.6	14.6	14.7	9.6	0.0	5.3	10.2	0.0	1.3
Prop In Lane	1.00		0.07	1.00		0.11	0.66		1.00	0.79		1.00
Lane Grp Cap(c), veh/h	329	839	872	458	850	877	209	0	353	206	0	353
V/C Ratio(X)	0.29	0.50	0.50	0.26	0.75	0.76	0.15	0.00	0.54	0.26	0.00	0.15
Avail Cap(c_a), veh/h	369	1000	1038	559	1071	1105	593	0	764	537	0	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	9.1	9.1	6.5	10.6	10.6	16.0	0.0	17.1	19.9	0.0	15.5
Incr Delay (d2), s/veh	0.5	0.5	0.5	0.3	2.3	2.3	0.3	0.0	1.3	0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.5	2.6	0.5	4.9	5.0	0.3	0.0	1.8	0.6	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.8	9.6	9.5	6.8	12.9	12.9	16.3	0.0	18.4	20.6	0.0	15.7
LnGrp LOS	A	A	A	A	B	B	B	A	B	C	A	B
Approach Vol, veh/h		956			1420			224			106	
Approach Delay, s/veh		9.5			12.4			18.1			18.1	
Approach LOS		A			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.7	7.2	27.7		15.7	6.9	28.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		24.0	6.0	28.0		24.0	4.0	30.0				
Max Q Clear Time (g_c+I1), s		11.6	3.6	10.2		12.2	3.3	16.7				
Green Ext Time (p_c), s		0.8	0.1	5.5		0.3	0.0	7.5				

Intersection Summary			
HCM 6th Ctrl Delay			12.1
HCM 6th LOS			B

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	57.8	60.4	36.1	36.7
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	5	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	35.0	35.0	35.0	35.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.74	2.78	2.07	2.03
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	956	1420	224	106
Effct. Green for Bike (s)	28.0	29.6	7.4	7.4
Cross Street Width (ft)	36.1	36.7	60.4	57.8
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	800	846	211	211
Bicycle Delay (s/bike)	12.6	11.7	28.0	28.0
Bicycle Compliance	Fair	Fair	Fair	Fair
Bicycle LOS Score	2.90	3.29	2.85	2.62
Bicycle LOS	C	C	C	C

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	263049.1
Level of Service	F

Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1955
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.95
Delay for adq Gap	263050.91
Avg Ped Delay (s)	263049.06

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	358769.8
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1955
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.95
Delay for adq Gap	358771.69
Avg Ped Delay (s)	358769.84

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1138	30	252	1225	40	303
Future Vol, veh/h	1138	30	252	1225	40	303
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	25
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1279	34	283	1376	45	340

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1313	0	2550	657
Stage 1	-	-	-	-	1296	-
Stage 2	-	-	-	-	1254	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	523	-	~ 22	407
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	232	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	523	-	~ 10	407
Mov Cap-2 Maneuver	-	-	-	-	~ -160	-
Stage 1	-	-	-	-	101	-
Stage 2	-	-	-	-	232	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	+	407	-	-	523	-
HCM Lane V/C Ratio	-	0.836	-	-	0.541	-
HCM Control Delay (s)	-	45.5	-	-	19.7	-
HCM Lane LOS	-	E	-	-	C	-
HCM 95th %tile Q(veh)	-	7.9	-	-	3.2	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach		
Approach Direction	EB	
Median Present?	Yes	
Approach Delay(s)	121.3	
Level of Service	F	

Crosswalk		
Length (ft)	10	28
Lanes Crossed	2	1
Veh Vol Crossed	1138	1225
Ped Vol Crossed	0	0
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	5.86	11.00
Prob of Delayed X-ing	0.84	0.98
Prob of Blocked Lane	0.60	0.98
Delay for adq Gap	13.20	112.83
Avg Ped Delay (s)	11.13	110.16

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	3771035.5
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2363
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.97
Delay for adq Gap	3771037.00
Avg Ped Delay (s)	3771035.50

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	1713	115	1490	8	294	176	24	13
v/c Ratio	0.18	0.97	0.85	0.69	0.01	0.81	0.42	0.35	0.12
Control Delay	60.3	42.3	97.6	19.8	0.0	59.2	17.8	67.8	34.8
Queue Delay	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	42.3	97.6	21.0	0.0	59.2	17.8	67.8	34.8
Queue Length 50th (ft)	8	512	74	262	0	179	36	15	3
Queue Length 95th (ft)	30	#872	#199	592	0	300	103	#48	24
Internal Link Dist (ft)		160		81			330		315
Turn Bay Length (ft)	100		210		50				
Base Capacity (vph)	67	1769	135	2149	1032	456	551	69	143
Starvation Cap Reductn	0	0	0	403	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.97	0.85	0.85	0.01	0.64	0.32	0.35	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	1346	144	100	1296	7	256	4	150	22	4	8
Future Volume (veh/h)	11	1346	144	100	1296	7	256	4	150	22	4	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	1547	166	115	1490	8	294	4	172	24	4	9
Peak Hour Factor	0.92	0.87	0.87	0.87	0.87	0.92	0.87	0.92	0.87	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	1572	167	130	1960	874	331	8	323	34	19	42
Arrive On Green	0.01	0.48	0.48	0.07	0.55	0.55	0.19	0.21	0.21	0.02	0.04	0.04
Sat Flow, veh/h	1781	3241	344	1781	3554	1585	1781	36	1554	1781	512	1151
Grp Volume(v), veh/h	12	841	872	115	1490	8	294	0	176	24	0	13
Grp Sat Flow(s),veh/h/ln	1781	1777	1808	1781	1777	1585	1781	0	1591	1781	0	1663
Q Serve(g_s), s	0.7	50.5	52.5	7.0	35.4	0.2	17.6	0.0	10.8	1.5	0.0	0.8
Cycle Q Clear(g_c), s	0.7	50.5	52.5	7.0	35.4	0.2	17.6	0.0	10.8	1.5	0.0	0.8
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.98	1.00		0.69
Lane Grp Cap(c), veh/h	20	862	877	130	1960	874	331	0	331	34	0	61
V/C Ratio(X)	0.60	0.98	0.99	0.88	0.76	0.01	0.89	0.00	0.53	0.71	0.00	0.21
Avail Cap(c_a), veh/h	65	862	877	130	1960	874	440	0	457	67	0	129
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.8	27.5	28.0	50.2	18.9	11.0	43.4	0.0	38.6	53.3	0.0	51.1
Incr Delay (d2), s/veh	25.9	24.7	29.0	45.3	1.8	0.0	15.9	0.0	1.3	24.0	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	26.3	28.5	4.7	14.3	0.1	9.1	0.0	4.3	0.9	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.7	52.2	57.0	95.5	20.7	11.0	59.3	0.0	39.9	77.3	0.0	52.9
LnGrp LOS	E	D	E	F	C	B	E	A	D	E	A	D
Approach Vol, veh/h		1725			1613			470			37	
Approach Delay, s/veh		54.8			26.0			52.0			68.7	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	28.7	14.0	59.0	26.3	10.0	6.7	66.3
Change Period (Y+Rc), s	5.5	6.0	6.0	6.0	6.0	* 6	5.5	6.0
Max Green Setting (Gmax), s	4.1	31.4	8.0	53.0	27.0	* 8.5	4.0	57.5
Max Q Clear Time (g_c+I1), s	3.5	12.8	9.0	54.5	19.6	2.8	2.7	37.4
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.7	0.0	0.0	12.0

Intersection Summary	
HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	59.2	60.1	36.2	24.0
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	6	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	3.01	3.02	2.21	1.98
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1725	1613	470	37
Effct. Green for Bike (s)	53.5	64.3	22.6	6.1
Cross Street Width (ft)	36.3	37.5	74.4	60.1
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	892	1072	377	102
Bicycle Delay (s/bike)	18.4	12.9	39.5	54.1
Bicycle Compliance	Fair	Fair	Poor	Poor
Bicycle LOS Score	3.54	3.46	3.47	2.54
Bicycle LOS	D	C	C	C

Intersection	
Int Delay, s/veh	14.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	93	150	1722	102	90	1566
Future Vol, veh/h	93	150	1722	102	90	1566
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	161	1852	110	97	1684

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2955	993	0	0	1974	0
Stage 1	1919	-	-	-	-	-
Stage 2	1036	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 11	244	-	-	290	-
Stage 1	101	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 7	241	-	-	287	-
Mov Cap-2 Maneuver	~ 59	-	-	-	-	-
Stage 1	~ 66	-	-	-	-	-
Stage 2	303	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	215.3	0	1.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	59	241	287	-
HCM Lane V/C Ratio	-	-	1.695	0.669	0.337	-
HCM Control Delay (s)	-	-	$ 488.8	45.7	23.8	-
HCM Lane LOS	-	-	F	E	C	-
HCM 95th %tile Q(veh)	-	-	9.2	4.3	1.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	862561088.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	3288
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	862561088.00
Avg Ped Delay (s)	862561088.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	862561088.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	3288
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	862561088.00
Avg Ped Delay (s)	862561088.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	108	56	216	179	42	1797	149	147	1487	62
v/c Ratio	0.39	0.16	0.62	0.39	0.49	1.57	0.26	1.36	1.16	0.10
Control Delay	36.3	1.0	40.2	7.7	64.5	285.2	11.5	247.9	110.3	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.3	1.0	40.2	7.7	64.5	285.2	11.5	247.9	110.3	1.3
Queue Length 50th (ft)	49	0	98	0	20	~645	13	~93	~466	0
Queue Length 95th (ft)	111	0	216	55	#98	#1332	84	#311	#1056	7
Internal Link Dist (ft)	288		473			404			1931	
Turn Bay Length (ft)		100		180	150		170	150		430
Base Capacity (vph)	766	737	695	727	86	1145	564	108	1280	625
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.08	0.31	0.25	0.49	1.57	0.26	1.36	1.16	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	22	53	193	12	170	40	1707	142	140	1413	59
Future Volume (veh/h)	81	22	53	193	12	170	40	1707	142	140	1413	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	23	56	203	13	179	42	1797	149	147	1487	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	36	146	287	18	271	56	1306	563	123	1440	626
Arrive On Green	0.09	0.09	0.09	0.17	0.17	0.17	0.03	0.37	0.37	0.07	0.41	0.41
Sat Flow, veh/h	1416	383	1551	1679	108	1585	1781	3554	1533	1781	3554	1545
Grp Volume(v), veh/h	108	0	56	216	0	179	42	1797	149	147	1487	62
Grp Sat Flow(s),veh/h/ln	1800	0	1551	1786	0	1585	1781	1777	1533	1781	1777	1545
Q Serve(g_s), s	4.2	0.0	2.4	8.2	0.0	7.6	1.7	26.5	4.9	5.0	29.2	1.8
Cycle Q Clear(g_c), s	4.2	0.0	2.4	8.2	0.0	7.6	1.7	26.5	4.9	5.0	29.2	1.8
Prop In Lane	0.79		1.00	0.94		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	0	146	306	0	271	56	1306	563	123	1440	626
V/C Ratio(X)	0.64	0.00	0.38	0.71	0.00	0.66	0.75	1.38	0.26	1.19	1.03	0.10
Avail Cap(c_a), veh/h	873	0	753	793	0	703	99	1306	563	123	1440	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	30.7	28.2	0.0	27.9	34.6	22.8	16.0	33.6	21.5	13.3
Incr Delay (d2), s/veh	4.0	0.0	1.7	3.0	0.0	2.7	17.7	174.2	0.2	141.1	32.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	1.0	3.6	0.0	3.0	1.0	41.7	1.7	6.9	17.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	0.0	32.4	31.2	0.0	30.7	52.3	197.1	16.2	174.6	54.0	13.4
LnGrp LOS	D	A	C	C	A	C	D	F	B	F	F	B
Approach Vol, veh/h		164			395			1988			1696	
Approach Delay, s/veh		34.4			30.9			180.4			63.0	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	33.0		11.8	7.3	35.7		17.3				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	5.0	26.5		35.0	4.0	27.5		32.0				
Max Q Clear Time (g_c+I1), s	7.0	28.5		6.2	3.7	31.2		10.2				
Green Ext Time (p_c), s	0.0	0.0		0.9	0.0	0.0		2.1				

Intersection Summary			
HCM 6th Ctrl Delay			113.9
HCM 6th LOS			F

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.05	2.19	3.08	3.08
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	164	395	1988	1696
Effct. Green for Bike (s)	13.3	16.6	27.5	30.7
Cross Street Width (ft)	72.9	73.9	37.4	37.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	222	277	458	512
Bicycle Delay (s/bike)	47.4	44.5	35.7	33.2
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	2.95	3.34	3.77	3.54
Bicycle LOS	C	C	D	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	707	605	236	219	297	178	550	1460	304	900	624
v/c Ratio	1.85	0.69	0.42	1.67	0.76	0.39	0.96	1.09	1.69	0.78	0.78
Control Delay	422.5	40.9	6.4	365.8	52.4	10.4	74.8	84.5	363.5	39.8	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	422.5	40.9	6.4	365.8	52.4	10.4	74.8	84.5	363.5	39.8	23.3
Queue Length 50th (ft)	~384	200	0	~222	194	13	196	~592	~309	295	221
Queue Length 95th (ft)	#553	258	57	#409	288	68	#346	#834	#529	#425	#450
Internal Link Dist (ft)		372			770			1992		544	
Turn Bay Length (ft)	300		300	150		125	250		250		300
Base Capacity (vph)	382	1280	704	131	604	611	573	1340	180	1149	802
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.85	0.47	0.34	1.67	0.49	0.29	0.96	1.09	1.69	0.78	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	679	581	227	210	285	171	528	1042	360	292	864	599
Future Volume (veh/h)	679	581	227	210	285	171	528	1042	360	292	864	599
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	707	605	236	219	297	178	550	1085	375	304	900	624
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	371	979	422	127	449	366	556	970	330	175	1112	653
Arrive On Green	0.11	0.28	0.28	0.07	0.24	0.24	0.16	0.38	0.38	0.10	0.31	0.31
Sat Flow, veh/h	3456	3554	1531	1781	1870	1528	3456	2583	877	1781	3554	1544
Grp Volume(v), veh/h	707	605	236	219	297	178	550	740	720	304	900	624
Grp Sat Flow(s),veh/h/ln	1728	1777	1531	1781	1870	1528	1728	1777	1684	1781	1777	1544
Q Serve(g_s), s	12.0	16.6	14.8	8.0	16.0	11.2	17.8	42.0	42.0	11.0	26.1	35.0
Cycle Q Clear(g_c), s	12.0	16.6	14.8	8.0	16.0	11.2	17.8	42.0	42.0	11.0	26.1	35.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	371	979	422	127	449	366	556	667	632	175	1112	653
V/C Ratio(X)	1.91	0.62	0.56	1.72	0.66	0.49	0.99	1.11	1.14	1.73	0.81	0.95
Avail Cap(c_a), veh/h	371	1239	534	127	585	478	556	667	632	175	1112	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	35.4	34.7	51.9	38.4	36.6	46.8	34.9	34.9	50.4	35.3	31.5
Incr Delay (d2), s/veh	417.8	0.6	1.2	354.1	1.8	1.0	35.1	68.8	80.2	353.3	4.6	24.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.7	7.2	5.6	16.1	7.5	4.3	10.3	30.4	30.8	22.1	11.8	20.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	467.7	36.0	35.9	406.0	40.2	37.6	81.9	103.7	115.1	403.8	39.9	56.0
LnGrp LOS	F	D	D	F	D	D	F	F	F	F	D	E
Approach Vol, veh/h		1548			694			2010			1828	
Approach Delay, s/veh		233.2			155.0			101.8			105.9	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	47.0	13.0	35.8	23.0	40.0	17.0	31.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	11.0	42.0	8.0	39.0	18.0	35.0	12.0	35.0
Max Q Clear Time (g_c+I1), s	13.0	44.0	10.0	18.6	19.8	37.0	14.0	18.0
Green Ext Time (p_c), s	0.0	0.0	0.0	5.5	0.0	0.0	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	142.6
HCM 6th LOS	F

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	7	5	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	3.04	2.71	3.02	3.09
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1548	694	2010	1828
Effct. Green for Bike (s)	26.9	22.8	42.1	35.1
Cross Street Width (ft)	72.3	83.1	71.4	85.7
Through Lanes Number	2	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	448	380	702	585
Bicycle Delay (s/bike)	36.1	39.4	25.3	30.0
Bicycle Compliance	Poor	Poor	Fair	Poor
Bicycle LOS Score	3.94	3.98	4.31	4.38
Bicycle LOS	D	D	D	D

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	123	50	90	1436	1328	82
Future Vol, veh/h	123	50	90	1436	1328	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	131	53	96	1528	1413	87

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2413	750	1500	0	-	0
Stage 1	1457	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 27	354	443	-	-	-
Stage 1	181	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 21	354	443	-	-	-
Mov Cap-2 Maneuver	~ 116	-	-	-	-	-
Stage 1	142	-	-	-	-	-
Stage 2	334	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	142.6	0.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	443	-	116	354	-	-
HCM Lane V/C Ratio	0.216	-	1.128	0.15	-	-
HCM Control Delay (s)	15.4	-	193.6	17	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	0.8	-	8	0.5	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	31485814.0
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	2764
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	31485816.00
Avg Ped Delay (s)	31485814.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	545272320.0
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	2764
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	545272320.00
Avg Ped Delay (s)	545272320.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	277	44	33	390	22	1264	323	1424
v/c Ratio	0.90	0.10	0.22	0.63	0.29	0.91	0.91	0.69
Control Delay	74.6	0.4	40.2	12.4	66.0	43.9	75.2	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Total Delay	74.6	0.4	40.2	12.4	66.0	45.3	75.2	18.6
Queue Length 50th (ft)	207	0	20	36	17	480	246	405
Queue Length 95th (ft)	#361	0	51	138	46	#624	#417	494
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	336	494	166	646	75	1454	376	2101
Starvation Cap Reductn	0	0	0	0	0	70	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.09	0.20	0.60	0.29	0.91	0.86	0.68

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	10	40	30	0	355	20	1130	20	294	1224	72
Future Volume (veh/h)	242	10	40	30	0	355	20	1130	20	294	1224	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	266	11	44	33	0	390	22	1242	22	323	1345	79
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	426	15	413	495	0	413	31	1407	25	354	1959	115
Arrive On Green	0.26	0.26	0.26	0.26	0.00	0.26	0.02	0.39	0.39	0.20	0.58	0.58
Sat Flow, veh/h	1393	58	1585	1654	0	1585	1781	3570	63	1781	3406	200
Grp Volume(v), veh/h	277	0	44	33	0	390	22	618	646	323	700	724
Grp Sat Flow(s),veh/h/ln	1450	0	1585	1654	0	1585	1781	1777	1857	1781	1777	1829
Q Serve(g_s), s	17.9	0.0	2.4	0.0	0.0	27.2	1.4	36.4	36.4	20.0	31.1	31.4
Cycle Q Clear(g_c), s	19.5	0.0	2.4	1.6	0.0	27.2	1.4	36.4	36.4	20.0	31.1	31.4
Prop In Lane	0.96		1.00	1.00		1.00	1.00		0.03	1.00		0.11
Lane Grp Cap(c), veh/h	441	0	413	495	0	413	31	700	732	354	1022	1052
V/C Ratio(X)	0.63	0.00	0.11	0.07	0.00	0.94	0.70	0.88	0.88	0.91	0.68	0.69
Avail Cap(c_a), veh/h	449	0	422	503	0	422	79	765	799	395	1080	1112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	0.0	31.7	31.4	0.0	40.8	55.0	31.7	31.7	44.2	16.8	16.8
Incr Delay (d2), s/veh	2.7	0.0	0.1	0.1	0.0	29.6	24.3	11.1	10.8	23.6	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	0.9	0.7	0.0	13.9	0.8	17.4	18.1	11.1	12.5	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	0.0	31.8	31.4	0.0	70.5	79.4	42.8	42.5	67.8	18.5	18.5
LnGrp LOS	D	A	C	C	A	E	E	D	D	E	B	B
Approach Vol, veh/h		321			423			1286			1747	
Approach Delay, s/veh		39.4			67.4			43.3			27.6	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.4	50.9		34.4	7.0	71.3		34.4				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	25.0	48.5		30.0	5.0	68.5		30.0				
Max Q Clear Time (g_c+I1), s	22.0	38.4		21.5	3.4	33.4		29.2				
Green Ext Time (p_c), s	0.4	6.0		1.2	0.0	14.3		0.2				

Intersection Summary			
HCM 6th Ctrl Delay			38.4
HCM 6th LOS			D

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.10	2.21	2.85	3.03
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	321	423	1286	1747
Effct. Green for Bike (s)	27.7	27.7	46.5	69.7
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	462	462	775	1162
Bicycle Delay (s/bike)	35.5	35.5	22.5	10.5
Bicycle Compliance	Poor	Poor	Fair	Fair
Bicycle LOS Score	3.18	3.38	3.36	3.74
Bicycle LOS	C	C	C	D

Mitigated

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	34	26	141	143	303	17	338	544	313	286
v/c Ratio	0.20	0.08	0.43	0.41	0.53	0.15	0.56	0.58	0.68	0.18
Control Delay	38.7	0.5	31.5	31.0	7.4	42.2	33.4	3.5	37.9	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	0.5	31.5	31.0	7.4	42.2	33.4	3.5	37.9	15.7
Queue Length 50th (ft)	16	0	64	64	0	8	81	0	142	40
Queue Length 95th (ft)	47	0	129	129	63	31	135	30	#324	91
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	645	684	488	509	694	117	1163	1044	460	1834
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.04	0.29	0.28	0.44	0.15	0.29	0.52	0.68	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	13	25	263	7	288	16	321	517	297	264	8
Future Volume (veh/h)	19	13	25	263	7	288	16	321	517	297	264	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	14	26	282	0	0	17	338	544	313	278	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	43	87	445	0		28	1117	684	360	1763	51
Arrive On Green	0.06	0.06	0.06	0.12	0.00	0.00	0.02	0.31	0.31	0.20	0.50	0.50
Sat Flow, veh/h	1069	748	1512	3563	0	1585	1781	3554	1545	1781	3524	101
Grp Volume(v), veh/h	34	0	26	282	0	0	17	338	544	313	140	146
Grp Sat Flow(s),veh/h/ln	1817	0	1512	1781	0	1585	1781	1777	1545	1781	1777	1848
Q Serve(g_s), s	1.4	0.0	1.3	5.7	0.0	0.0	0.7	5.5	23.3	13.0	3.3	3.3
Cycle Q Clear(g_c), s	1.4	0.0	1.3	5.7	0.0	0.0	0.7	5.5	23.3	13.0	3.3	3.3
Prop In Lane	0.59		1.00	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	105	0	87	445	0		28	1117	684	360	889	925
V/C Ratio(X)	0.33	0.00	0.30	0.63	0.00		0.60	0.30	0.80	0.87	0.16	0.16
Avail Cap(c_a), veh/h	642	0	535	1026	0		117	1117	684	443	889	925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	34.5	31.7	0.0	0.0	37.3	19.8	18.5	29.5	10.3	10.3
Incr Delay (d2), s/veh	1.8	0.0	1.9	1.5	0.0	0.0	18.8	0.2	6.5	14.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.5	2.4	0.0	0.0	0.4	2.1	10.5	6.5	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	0.0	36.4	33.2	0.0	0.0	56.2	20.0	25.0	44.0	10.4	10.4
LnGrp LOS	D	A	D	C	A		E	B	C	D	B	B
Approach Vol, veh/h		60			282	A		899			599	
Approach Delay, s/veh		36.4			33.2			23.7			28.0	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.4	30.0		10.4	6.2	44.2		15.5				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	19.0	24.0		27.0	5.0	38.0		22.0				
Max Q Clear Time (g_c+I1), s	15.0	25.3		3.4	2.7	5.3		7.7				
Green Ext Time (p_c), s	0.4	0.0		0.2	0.0	1.6		1.0				

Intersection Summary			
HCM 6th Ctrl Delay			27.0
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	57.5	57.5	57.5	57.5
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	1.98	2.68	2.83	2.69
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	60	587	899	599
Effct. Green for Bike (s)	7.3	15.6	13.1	34.8
Cross Street Width (ft)	67.8	54.5	58.5	50.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	127	271	228	605
Bicycle Delay (s/bike)	50.4	43.0	45.1	28.0
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.12	3.58	3.41	3.04
Bicycle LOS	C	D	C	C

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	45	995	130	710	4	66	4	19
v/c Ratio	0.08	0.46	0.29	0.28	0.01	0.20	0.01	0.06
Control Delay	2.9	7.2	4.3	4.9	16.0	5.2	16.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	7.2	4.3	4.9	16.0	5.2	16.0	0.4
Queue Length 50th (ft)	2	77	7	24	1	0	1	0
Queue Length 95th (ft)	9	130	20	85	7	17	7	0
Internal Link Dist (ft)		1057		626	155		449	
Turn Bay Length (ft)	225		160			25		25
Base Capacity (vph)	591	2187	450	2572	1159	1018	1159	1018
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.45	0.29	0.28	0.00	0.06	0.00	0.02

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	856	49	118	627	19	3	1	60	3	1	17
Future Volume (veh/h)	41	856	49	118	627	19	3	1	60	3	1	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	941	54	130	689	21	3	1	66	3	1	19
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	585	1539	88	527	1748	53	280	29	113	278	28	113
Arrive On Green	0.04	0.45	0.45	0.09	0.50	0.50	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1781	3416	196	1781	3521	107	1057	400	1585	1021	388	1585
Grp Volume(v), veh/h	45	489	506	130	348	362	4	0	66	4	0	19
Grp Sat Flow(s),veh/h/ln	1781	1777	1835	1781	1777	1851	1456	0	1585	1409	0	1585
Q Serve(g_s), s	0.4	6.4	6.4	1.1	3.8	3.8	0.0	0.0	1.2	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.4	6.4	6.4	1.1	3.8	3.8	0.1	0.0	1.2	0.1	0.0	0.3
Prop In Lane	1.00		0.11	1.00		0.06	0.75		1.00	0.75		1.00
Lane Grp Cap(c), veh/h	585	801	827	527	882	919	309	0	113	306	0	113
V/C Ratio(X)	0.08	0.61	0.61	0.25	0.39	0.39	0.01	0.00	0.58	0.01	0.00	0.17
Avail Cap(c_a), veh/h	743	1215	1255	603	1215	1266	1317	0	1187	1279	0	1187
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.2	6.4	6.4	4.4	4.8	4.8	13.3	0.0	13.8	13.3	0.0	13.4
Incr Delay (d2), s/veh	0.1	0.8	0.7	0.2	0.3	0.3	0.0	0.0	4.7	0.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.4	1.4	0.2	0.7	0.7	0.0	0.0	0.5	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.2	7.2	7.1	4.6	5.1	5.1	13.3	0.0	18.5	13.3	0.0	14.1
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	B
Approach Vol, veh/h		1040			840			70			23	
Approach Delay, s/veh		7.0			5.0			18.2			14.0	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		6.2	6.7	17.8		6.2	5.3	19.2
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		23.0	4.0	21.0		23.0	4.0	21.0
Max Q Clear Time (g_c+I1), s		3.2	3.1	8.4		2.3	2.4	5.8
Green Ext Time (p_c), s		0.2	0.0	5.4		0.0	0.0	4.1

Intersection Summary			
HCM 6th Ctrl Delay			6.7
HCM 6th LOS			A

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	57.8	60.5	36.1	36.7
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	5	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	30.0	30.0	30.0	30.0
Pedestrian Compliance Code	Fair	Fair	Fair	Fair
Pedestrian Crosswalk Score	2.63	2.65	2.02	1.96
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1040	840	70	23
Effct. Green for Bike (s)	23.5	27.7	5.9	5.9
Cross Street Width (ft)	36.1	36.7	60.5	57.8
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	783	923	197	197
Bicycle Delay (s/bike)	11.1	8.7	24.4	24.4
Bicycle Compliance	Fair	Good	Fair	Fair
Bicycle LOS Score	2.97	2.81	2.60	2.48
Bicycle LOS	C	C	C	B

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	19723.5
Level of Service	F

Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1483
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.89
Delay for adq Gap	19725.91
Avg Ped Delay (s)	19723.49

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	24964.2
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1483
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.90
Delay for adq Gap	24966.60
Avg Ped Delay (s)	24964.18

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	813	36	100	762	11	46
Future Vol, veh/h	813	36	100	762	11	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	25
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	903	40	111	847	12	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	943	0	1569	472
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	646	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	723	-	101	538
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	484	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	723	-	85	538
Mov Cap-2 Maneuver	-	-	-	-	188	-
Stage 1	-	-	-	-	294	-
Stage 2	-	-	-	-	484	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	188	538	-	-	723	-
HCM Lane V/C Ratio	0.065	0.095	-	-	0.154	-
HCM Control Delay (s)	25.5	12.4	-	-	10.9	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0.5	-

Approach		
Approach Direction	EB	
Median Present?	Yes	
Approach Delay(s)	39.1	
Level of Service	E	

Crosswalk		
Length (ft)	10	28
Lanes Crossed	2	1
Veh Vol Crossed	813	762
Ped Vol Crossed	0	0
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	5.86	11.00
Prob of Delayed X-ing	0.73	0.90
Prob of Blocked Lane	0.48	0.90
Delay for adq Gap	8.64	36.29
Avg Ped Delay (s)	6.34	32.75

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	41713.8
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1575
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.91
Delay for adq Gap	41716.04
Avg Ped Delay (s)	41713.76

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1037	41	995	20	3
v/c Ratio	0.36	0.19	0.32	0.10	0.02
Control Delay	5.3	24.1	2.0	24.0	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	24.1	2.0	24.0	17.7
Queue Length 50th (ft)	0	7	0	4	0
Queue Length 95th (ft)	153	36	70	23	6
Internal Link Dist (ft)	100		503	330	
Turn Bay Length (ft)		210			120
Base Capacity (vph)	2661	221	3143	199	181
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.19	0.32	0.10	0.02

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	840	72	36	876	18	3
Future Volume (veh/h)	840	72	36	876	18	3
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	955	82	41	995	20	3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1530	131	66	2357	41	36
Arrive On Green	0.46	0.46	0.04	0.66	0.02	0.02
Sat Flow, veh/h	3405	284	1781	3647	1781	1585
Grp Volume(v), veh/h	512	525	41	995	20	3
Grp Sat Flow(s),veh/h/ln	1777	1819	1781	1777	1781	1585
Q Serve(g_s), s	8.0	8.0	0.8	4.8	0.4	0.1
Cycle Q Clear(g_c), s	8.0	8.0	0.8	4.8	0.4	0.1
Prop In Lane		0.16	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	821	841	66	2357	41	36
V/C Ratio(X)	0.62	0.62	0.62	0.42	0.49	0.08
Avail Cap(c_a), veh/h	1358	1391	243	3784	219	195
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.4	7.4	17.4	2.9	17.7	17.5
Incr Delay (d2), s/veh	0.8	0.8	9.0	0.1	9.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.1	0.5	0.4	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.2	8.2	26.4	3.0	26.6	18.5
LnGrp LOS	A	A	C	A	C	B
Approach Vol, veh/h	1037			1036	23	
Approach Delay, s/veh	8.2			3.9	25.6	
Approach LOS	A			A	C	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	6.3	7.4	22.9	30.3
Change Period (Y+Rc), s	5.5	6.0	6.0	6.0
Max Green Setting (Gmax), s	4.5	5.0	28.0	39.0
Max Q Clear Time (g_c+I1), s	2.4	2.8	10.0	6.8
Green Ext Time (p_c), s	0.0	0.0	6.9	9.0

Intersection Summary	
HCM 6th Ctrl Delay	6.3
HCM 6th LOS	A

Approach	EB	WB	NB
Crosswalk Length (ft)	59.2	60.1	36.2
Crosswalk Width (ft)	12.0	12.0	12.0
Total Number of Lanes Crossed	4	5	3
Number of Right-Turn Islands	0	0	0
Type of Control	None	None	None
Corresponding Signal Phase	8	5	4
Effective Walk Time (s)	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0
85th percentile speed (mph)	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-
Pedestrian Delay (s/p)	27.5	27.5	27.5
Pedestrian Compliance Code	Fair	Fair	Fair
Pedestrian Crosswalk Score	2.62	2.68	1.98
Pedestrian Crosswalk LOS	C	C	B

Approach	EB	WB	NB
Bicycle Flow Rate (bike/h)	0	0	0
Total Flow Rate (veh/h)	1037	1036	23
Effct. Green for Bike (s)	34.8	38.1	4.8
Cross Street Width (ft)	36.2	70.4	72.0
Through Lanes Number	2	2	1
Through Lane Width (ft)	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0
Curb Is Present?	No	No	No
On Street Parking?	No	No	No
Bicycle Lane Capacity (bike/h)	1265	1385	175
Bicycle Delay (s/bike)	3.7	2.6	22.9
Bicycle Compliance	Good	Good	Fair
Bicycle LOS Score	2.97	3.49	2.70
Bicycle LOS	C	C	C

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	54	959	43	125	1171
Future Vol, veh/h	8	54	959	43	125	1171
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	57	1009	45	132	1233

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1925	539	0	0	1066	0
Stage 1	1044	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	59	487	-	-	649	-
Stage 1	300	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	46	481	-	-	642	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	236	-	-	-	-	-
Stage 2	365	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	163	481	642	-
HCM Lane V/C Ratio	-	-	0.052	0.118	0.205	-
HCM Control Delay (s)	-	-	28.3	13.5	12	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.4	0.8	-

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	979723.1
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2130
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	979724.75
Avg Ped Delay (s)	979723.06

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	979723.1
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2130
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	979724.75
Avg Ped Delay (s)	979723.06

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	8	10	86	40	49	1031	180	67	1135	31
v/c Ratio	0.05	0.04	0.39	0.14	0.34	0.49	0.19	0.39	0.53	0.03
Control Delay	37.8	0.3	38.1	1.0	43.3	13.8	6.7	43.1	13.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	0.3	38.1	1.0	43.3	13.8	6.7	43.1	13.9	0.1
Queue Length 50th (ft)	3	0	34	0	20	140	16	27	155	0
Queue Length 95th (ft)	18	0	89	0	63	288	63	79	322	0
Internal Link Dist (ft)	288		473			1028			1931	
Turn Bay Length (ft)		100		180	150		170	150		430
Base Capacity (vph)	881	814	793	765	147	2244	1004	172	2281	1027
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.01	0.11	0.05	0.33	0.46	0.18	0.39	0.50	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	3	9	74	7	38	46	969	169	63	1067	29
Future Volume (veh/h)	5	3	9	74	7	38	46	969	169	63	1067	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	3	10	79	7	40	49	1031	180	67	1135	31
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	12	27	133	12	128	69	1630	705	85	1663	723
Arrive On Green	0.02	0.02	0.02	0.08	0.08	0.08	0.04	0.46	0.46	0.05	0.47	0.47
Sat Flow, veh/h	1134	680	1547	1643	146	1585	1781	3554	1537	1781	3554	1546
Grp Volume(v), veh/h	8	0	10	86	0	40	49	1031	180	67	1135	31
Grp Sat Flow(s),veh/h/ln	1814	0	1547	1788	0	1585	1781	1777	1537	1781	1777	1546
Q Serve(g_s), s	0.2	0.0	0.3	2.5	0.0	1.3	1.5	12.0	3.9	2.0	13.6	0.6
Cycle Q Clear(g_c), s	0.2	0.0	0.3	2.5	0.0	1.3	1.5	12.0	3.9	2.0	13.6	0.6
Prop In Lane	0.62		1.00	0.92		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	32	0	27	144	0	128	69	1630	705	85	1663	723
V/C Ratio(X)	0.25	0.00	0.37	0.60	0.00	0.31	0.72	0.63	0.26	0.79	0.68	0.04
Avail Cap(c_a), veh/h	1168	0	996	1052	0	933	197	2712	1173	229	2778	1208
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	0.0	26.4	24.1	0.0	23.6	25.8	11.2	9.0	25.6	11.3	7.9
Incr Delay (d2), s/veh	4.1	0.0	8.2	3.9	0.0	1.4	12.9	0.4	0.2	15.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	1.1	0.0	0.5	0.8	3.9	1.1	1.2	4.4	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	0.0	34.6	28.0	0.0	24.9	38.8	11.6	9.2	40.6	11.8	7.9
LnGrp LOS	C	A	C	C	A	C	D	B	A	D	B	A
Approach Vol, veh/h		18			126			1260			1233	
Approach Delay, s/veh		32.7			27.0			12.3			13.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	31.4		6.0	7.1	31.9		9.4				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	7.0	41.5		35.0	6.0	42.5		32.0				
Max Q Clear Time (g_c+I1), s	4.0	14.0		2.3	3.5	15.6		4.5				
Green Ext Time (p_c), s	0.0	7.7		0.0	0.0	9.9		0.6				

Intersection Summary			
HCM 6th Ctrl Delay			13.6
HCM 6th LOS			B

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	68.5	68.5	68.5	68.5
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.00	2.09	2.88	2.85
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	18	126	1260	1233
Effct. Green for Bike (s)	6.1	9.2	44.3	45.0
Cross Street Width (ft)	84.6	79.7	39.7	37.8
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	89	134	647	657
Bicycle Delay (s/bike)	62.5	59.6	31.4	30.9
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	2.88	2.99	3.21	3.16
Bicycle LOS	C	C	C	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	366	173	271	244	241	149	239	891	71	723	433
v/c Ratio	0.66	0.29	0.61	0.73	0.67	0.35	0.58	0.72	0.27	0.73	0.49
Control Delay	44.5	36.7	14.6	51.1	45.8	8.2	47.1	31.6	47.0	35.9	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	36.7	14.6	51.1	45.8	8.2	47.1	31.6	47.0	35.9	5.7
Queue Length 50th (ft)	110	51	22	142	142	0	73	249	22	207	27
Queue Length 95th (ft)	173	83	101	#266	226	50	122	370	46	306	98
Internal Link Dist (ft)		503			770			1992		1028	
Turn Bay Length (ft)	300		300	150		125	250		250		300
Base Capacity (vph)	644	1368	733	401	792	750	474	1311	322	1173	917
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.13	0.37	0.61	0.30	0.20	0.50	0.68	0.22	0.62	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	161	252	227	224	139	222	728	100	66	672	403
Future Volume (veh/h)	340	161	252	227	224	139	222	728	100	66	672	403
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	366	173	271	244	241	149	239	783	108	71	723	433
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	447	917	394	280	534	438	312	1048	145	121	996	637
Arrive On Green	0.13	0.26	0.26	0.16	0.29	0.29	0.09	0.34	0.34	0.04	0.28	0.28
Sat Flow, veh/h	3456	3554	1528	1781	1870	1534	3456	3124	431	3456	3554	1542
Grp Volume(v), veh/h	366	173	271	244	241	149	239	445	446	71	723	433
Grp Sat Flow(s),veh/h/ln	1728	1777	1528	1781	1870	1534	1728	1777	1778	1728	1777	1542
Q Serve(g_s), s	10.6	3.9	16.4	13.7	10.8	7.9	6.9	22.8	22.8	2.1	18.9	23.7
Cycle Q Clear(g_c), s	10.6	3.9	16.4	13.7	10.8	7.9	6.9	22.8	22.8	2.1	18.9	23.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	447	917	394	280	534	438	312	596	597	121	996	637
V/C Ratio(X)	0.82	0.19	0.69	0.87	0.45	0.34	0.77	0.75	0.75	0.59	0.73	0.68
Avail Cap(c_a), veh/h	572	1211	521	356	701	575	421	596	597	286	1038	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	29.7	34.3	42.3	30.1	29.0	45.6	30.2	30.2	48.8	33.4	24.9
Incr Delay (d2), s/veh	7.2	0.1	2.4	17.2	0.6	0.5	5.8	5.1	5.1	4.4	2.5	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	1.7	6.3	7.3	4.9	2.9	3.2	10.4	10.4	1.0	8.3	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	29.8	36.8	59.5	30.7	29.5	51.4	35.4	35.4	53.2	35.8	27.6
LnGrp LOS	D	C	D	E	C	C	D	D	D	D	D	C
Approach Vol, veh/h		810			634			1130			1227	
Approach Delay, s/veh		41.6			41.5			38.8			33.9	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	40.0	21.6	32.0	14.8	34.3	18.8	34.8
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	8.5	34.0	20.5	35.0	12.5	30.0	17.0	38.5
Max Q Clear Time (g_c+I1), s	4.1	24.8	15.7	18.4	8.9	25.7	12.6	12.8
Green Ext Time (p_c), s	0.1	4.0	0.4	2.2	0.3	2.7	0.7	2.2

Intersection Summary	
HCM 6th Ctrl Delay	38.3
HCM 6th LOS	D

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	7	5	6	7
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.86	2.51	2.86	2.97
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	810	634	1130	1227
Effct. Green for Bike (s)	15.4	17.9	33.1	26.2
Cross Street Width (ft)	72.3	83.9	71.4	85.5
Through Lanes Number	2	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	257	298	552	437
Bicycle Delay (s/bike)	45.6	43.4	31.5	36.7
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	3.33	3.89	3.58	3.88
Bicycle LOS	C	D	D	D

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	9	78	1160	688	150
Future Vol, veh/h	33	9	78	1160	688	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	10	83	1234	732	160

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1595	446	892	0	-	0
Stage 1	812	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	98	560	756	-	-	-
Stage 1	397	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	87	560	756	-	-	-
Mov Cap-2 Maneuver	242	-	-	-	-	-
Stage 1	353	-	-	-	-	-
Stage 2	411	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.1	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	756	-	242	560	-	-
HCM Lane V/C Ratio	0.11	-	0.145	0.017	-	-
HCM Control Delay (s)	10.3	-	22.4	11.5	-	-
HCM Lane LOS	B	-	C	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.5	0.1	-	-

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	168274.6
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	1848
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	168276.58
Avg Ped Delay (s)	168274.63

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	1132727.4
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	1848
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	1132729.38
Avg Ped Delay (s)	1132727.38

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	5	9	12	21	1350	20	665
v/c Ratio	0.11	0.02	0.04	0.04	0.12	0.46	0.14	0.23
Control Delay	26.2	0.2	25.9	0.3	29.4	4.7	31.1	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	0.2	25.9	0.3	29.4	4.7	31.1	3.5
Queue Length 50th (ft)	6	0	2	0	5	0	5	0
Queue Length 95th (ft)	32	0	16	0	29	255	28	102
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	1072	953	1072	953	175	2847	140	2793
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.01	0.01	0.01	0.12	0.47	0.14	0.24

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	2	5	8	0	11	19	1211	17	18	581	25
Future Volume (veh/h)	23	2	5	8	0	11	19	1211	17	18	581	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	2	5	9	0	12	21	1331	19	20	638	27
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	0	69	162	0	69	37	2028	29	35	1960	83
Arrive On Green	0.04	0.04	0.04	0.04	0.00	0.04	0.02	0.57	0.57	0.02	0.56	0.56
Sat Flow, veh/h	0	0	1585	0	0	1585	1781	3585	51	1781	3470	147
Grp Volume(v), veh/h	27	0	5	9	0	12	21	659	691	20	326	339
Grp Sat Flow(s),veh/h/ln	0	0	1585	0	0	1585	1781	1777	1860	1781	1777	1840
Q Serve(g_s), s	0.0	0.0	0.1	0.0	0.0	0.3	0.5	11.4	11.4	0.5	4.4	4.4
Cycle Q Clear(g_c), s	1.9	0.0	0.1	1.9	0.0	0.3	0.5	11.4	11.4	0.5	4.4	4.4
Prop In Lane	0.93		1.00	1.00		1.00	1.00		0.03	1.00		0.08
Lane Grp Cap(c), veh/h	156	0	69	162	0	69	37	1005	1052	35	1004	1039
V/C Ratio(X)	0.17	0.00	0.07	0.06	0.00	0.17	0.57	0.66	0.66	0.57	0.33	0.33
Avail Cap(c_a), veh/h	1025	0	1034	1019	0	1034	200	1618	1693	160	1578	1634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	20.4	22.2	0.0	20.5	21.6	6.7	6.7	21.6	5.2	5.2
Incr Delay (d2), s/veh	0.5	0.0	0.4	0.1	0.0	1.2	13.4	0.7	0.7	13.7	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	0.1	0.0	0.1	0.3	2.8	2.9	0.3	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	0.0	20.8	22.4	0.0	21.7	34.9	7.4	7.4	35.3	5.3	5.3
LnGrp LOS	C	A	C	C	A	C	C	A	A	D	A	A
Approach Vol, veh/h		32			21			1371			685	
Approach Delay, s/veh		22.5			22.0			7.8			6.2	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.9	31.7		6.9	5.9	31.6		6.9
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0
Max Green Setting (Gmax), s	4.0	40.5		29.0	5.0	39.5		29.0
Max Q Clear Time (g_c+I1), s	2.5	13.4		3.9	2.5	6.4		3.9
Green Ext Time (p_c), s	0.0	11.7		0.1	0.0	4.8		0.0

Intersection Summary		
HCM 6th Ctrl Delay		7.7
HCM 6th LOS		A

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	45.0	45.0	45.0	45.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	1.98	1.97	2.70	2.71
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	32	21	1371	685
Effct. Green for Bike (s)	6.9	6.7	44.5	44.3
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	153	149	989	984
Bicycle Delay (s/bike)	38.4	38.5	11.5	11.6
Bicycle Compliance	Poor	Poor	Fair	Fair
Bicycle LOS Score	2.70	2.71	3.43	2.86
Bicycle LOS	C	C	C	C

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	19	276	279	567	22	708	404	404	710
v/c Ratio	0.21	0.07	0.76	0.74	0.71	0.22	0.79	0.45	1.02	0.41
Control Delay	47.4	0.5	50.5	48.5	8.7	50.4	41.3	4.8	88.6	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	0.5	50.5	48.5	8.7	50.4	41.3	4.8	88.6	17.6
Queue Length 50th (ft)	16	0	175	176	0	14	225	29	~287	133
Queue Length 95th (ft)	43	0	#316	#311	94	40	#317	63	#477	231
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	481	564	364	379	797	104	903	905	397	1730
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.03	0.76	0.74	0.71	0.21	0.78	0.45	1.02	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	10	17	482	12	505	20	630	360	360	594	38
Future Volume (veh/h)	13	10	17	482	12	505	20	630	360	360	594	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	11	19	551	0	0	22	708	404	404	667	43
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	38	75	677	0		33	900	691	432	1613	104
Arrive On Green	0.05	0.05	0.05	0.19	0.00	0.00	0.02	0.25	0.25	0.24	0.48	0.48
Sat Flow, veh/h	1049	769	1503	3563	0	1585	1781	3554	1540	1781	3382	218
Grp Volume(v), veh/h	26	0	19	551	0	0	22	708	404	404	350	360
Grp Sat Flow(s),veh/h/ln	1818	0	1503	1781	0	1585	1781	1777	1540	1781	1777	1823
Q Serve(g_s), s	1.3	0.0	1.1	13.4	0.0	0.0	1.1	16.9	18.0	20.2	11.7	11.7
Cycle Q Clear(g_c), s	1.3	0.0	1.1	13.4	0.0	0.0	1.1	16.9	18.0	20.2	11.7	11.7
Prop In Lane	0.58		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	90	0	75	677	0		33	900	691	432	847	869
V/C Ratio(X)	0.29	0.00	0.25	0.81	0.00		0.66	0.79	0.58	0.94	0.41	0.41
Avail Cap(c_a), veh/h	541	0	447	864	0		118	979	726	432	847	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	0.0	41.5	35.2	0.0	0.0	44.2	31.6	19.1	33.7	15.5	15.5
Incr Delay (d2), s/veh	1.7	0.0	1.8	4.7	0.0	0.0	19.9	4.0	1.1	27.8	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.4	5.9	0.0	0.0	0.7	7.2	8.6	11.4	4.3	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.3	0.0	43.3	40.0	0.0	0.0	64.1	35.6	20.2	61.5	15.8	15.8
LnGrp LOS	D	A	D	D	A		E	D	C	E	B	B
Approach Vol, veh/h		45			551	A		1134			1114	
Approach Delay, s/veh		43.3			40.0			30.7			32.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	28.0	29.0		10.5	7.7	49.3		23.3
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	22.0	25.0		27.0	6.0	41.0		22.0
Max Q Clear Time (g_c+I1), s	22.2	20.0		3.3	3.1	13.7		15.4
Green Ext Time (p_c), s	0.0	2.8		0.2	0.0	4.3		1.4

Intersection Summary	
HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.00	2.86	3.05	3.02
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	45	1122	1134	1114
Effct. Green for Bike (s)	7.0	22.1	24.9	48.6
Cross Street Width (ft)	67.8	54.5	58.5	50.7
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	117	368	415	810
Bicycle Delay (s/bike)	53.2	39.9	37.7	21.2
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.10	4.46	3.60	3.47
Bicycle LOS	C	D	D	C

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	58	800	113	1153	16	182	9	47
v/c Ratio	0.15	0.43	0.22	0.50	0.07	0.44	0.04	0.14
Control Delay	4.4	9.5	4.1	7.5	16.3	7.4	16.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.4	9.5	4.1	7.5	16.3	7.4	16.0	2.8
Queue Length 50th (ft)	3	66	7	48	3	0	2	0
Queue Length 95th (ft)	13	123	23	182	15	39	11	9
Internal Link Dist (ft)		1057		848	155		449	
Turn Bay Length (ft)	225		160			25		25
Base Capacity (vph)	375	2048	529	2288	813	967	816	927
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.39	0.21	0.50	0.02	0.19	0.01	0.05

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	732	28	107	1079	16	11	4	173	7	2	45
Future Volume (veh/h)	55	732	28	107	1079	16	11	4	173	7	2	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	771	29	113	1136	17	12	4	182	7	2	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	382	1513	57	512	1645	25	335	88	267	328	73	267
Arrive On Green	0.05	0.43	0.43	0.07	0.46	0.46	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	3492	131	1781	3584	54	977	523	1585	920	433	1585
Grp Volume(v), veh/h	58	392	408	113	563	590	16	0	182	9	0	47
Grp Sat Flow(s),veh/h/ln	1781	1777	1847	1781	1777	1861	1500	0	1585	1353	0	1585
Q Serve(g_s), s	0.6	5.9	5.9	1.2	9.3	9.3	0.0	0.0	4.0	0.0	0.0	0.9
Cycle Q Clear(g_c), s	0.6	5.9	5.9	1.2	9.3	9.3	0.3	0.0	4.0	0.1	0.0	0.9
Prop In Lane	1.00		0.07	1.00		0.03	0.75		1.00	0.78		1.00
Lane Grp Cap(c), veh/h	382	770	800	512	815	854	423	0	267	401	0	267
V/C Ratio(X)	0.15	0.51	0.51	0.22	0.69	0.69	0.04	0.00	0.68	0.02	0.00	0.18
Avail Cap(c_a), veh/h	488	960	998	668	1056	1106	1043	0	942	955	0	942
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.2	7.6	7.6	5.4	7.9	7.9	12.9	0.0	14.5	12.9	0.0	13.2
Incr Delay (d2), s/veh	0.2	0.5	0.5	0.2	1.3	1.3	0.0	0.0	3.1	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.6	1.7	0.3	2.5	2.6	0.1	0.0	1.4	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	8.2	8.1	5.6	9.2	9.2	12.9	0.0	17.5	12.9	0.0	13.5
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	B
Approach Vol, veh/h		858			1266			198			56	
Approach Delay, s/veh		8.0			8.9			17.1			13.4	
Approach LOS		A			A			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.2	6.7	20.0		10.2	5.8	21.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		22.0	6.0	20.0		22.0	4.0	22.0				
Max Q Clear Time (g_c+I1), s		6.0	3.2	7.9		2.9	2.6	11.3				
Green Ext Time (p_c), s		0.7	0.1	4.2		0.2	0.0	5.7				

Intersection Summary			
HCM 6th Ctrl Delay			9.4
HCM 6th LOS			A

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	57.8	60.4	36.1	36.7
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	5	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	30.0	30.0	30.0	30.0
Pedestrian Compliance Code	Fair	Fair	Fair	Fair
Pedestrian Crosswalk Score	2.69	2.73	2.05	1.98
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	858	1266	198	56
Effct. Green for Bike (s)	21.2	26.0	6.7	6.7
Cross Street Width (ft)	36.1	36.7	60.4	57.8
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	707	867	223	223
Bicycle Delay (s/bike)	12.5	9.6	23.7	23.7
Bicycle Compliance	Fair	Good	Fair	Fair
Bicycle LOS Score	2.82	3.17	2.81	2.54
Bicycle LOS	C	C	C	C

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	118445.8
Level of Service	F

Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1811
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	118447.80
Avg Ped Delay (s)	118445.81

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	157900.1
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1811
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	157902.09
Avg Ped Delay (s)	157900.11

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	899	30	79	1091	39	148
Future Vol, veh/h	899	30	79	1091	39	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	110	-	0	25
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1010	34	89	1226	44	166

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1044	0	1818	522
Stage 1	-	-	-	-	1027	-
Stage 2	-	-	-	-	791	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	662	-	69	499
Stage 1	-	-	-	-	306	-
Stage 2	-	-	-	-	407	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	662	-	60	499
Mov Cap-2 Maneuver	-	-	-	-	159	-
Stage 1	-	-	-	-	265	-
Stage 2	-	-	-	-	407	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	20
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	159	499	-	-	662	-
HCM Lane V/C Ratio	0.276	0.333	-	-	0.134	-
HCM Control Delay (s)	36	15.8	-	-	11.3	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	1.1	1.4	-	-	0.5	-

Approach		
Approach Direction	EB	
Median Present?	Yes	
Approach Delay(s)	85.6	
Level of Service	F	

Crosswalk		
Length (ft)	10	28
Lanes Crossed	2	1
Veh Vol Crossed	899	1091
Ped Vol Crossed	0	0
Yield Rate(%)	0	0
Ped Platooning	No	No
Critical Headway (s)	5.86	11.00
Prob of Delayed X-ing	0.77	0.96
Prob of Blocked Lane	0.52	0.96
Delay for adq Gap	9.67	81.12
Avg Ped Delay (s)	7.43	78.22

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	438344.3
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1990
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.95
Delay for adq Gap	438346.09
Avg Ped Delay (s)	438344.28

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1256	9	1317	179	60
v/c Ratio	0.60	0.07	0.60	0.55	0.18
Control Delay	9.6	32.9	8.2	31.8	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	32.9	8.2	31.8	9.7
Queue Length 50th (ft)	119	3	129	49	0
Queue Length 95th (ft)	245	19	169	#159	30
Internal Link Dist (ft)	88		620	330	
Turn Bay Length (ft)		210			120
Base Capacity (vph)	3276	121	3403	380	387
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.07	0.39	0.47	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1074	19	8	1146	156	52
Future Volume (veh/h)	1074	19	8	1146	156	52
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1234	22	9	1317	179	60
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1860	33	17	2288	246	219
Arrive On Green	0.52	0.52	0.01	0.64	0.14	0.14
Sat Flow, veh/h	3666	64	1781	3647	1781	1585
Grp Volume(v), veh/h	614	642	9	1317	179	60
Grp Sat Flow(s),veh/h/ln	1777	1859	1781	1777	1781	1585
Q Serve(g_s), s	13.3	13.3	0.3	11.1	5.1	1.8
Cycle Q Clear(g_c), s	13.3	13.3	0.3	11.1	5.1	1.8
Prop In Lane		0.03	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	925	968	17	2288	246	219
V/C Ratio(X)	0.66	0.66	0.54	0.58	0.73	0.27
Avail Cap(c_a), veh/h	1887	1974	135	4448	422	376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.3	9.3	26.0	5.3	21.8	20.4
Incr Delay (d2), s/veh	0.8	0.8	24.4	0.2	4.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	4.3	0.2	2.5	2.2	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.1	10.0	50.4	5.5	25.9	21.0
LnGrp LOS	B	B	D	A	C	C
Approach Vol, veh/h	1256			1326	239	
Approach Delay, s/veh	10.1			5.8	24.7	
Approach LOS	B			A	C	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.8	6.5	33.5				40.0
Change Period (Y+Rc), s		5.5	6.0	6.0				6.0
Max Green Setting (Gmax), s		12.5	4.0	56.0				66.0
Max Q Clear Time (g_c+I1), s		7.1	2.3	15.3				13.1
Green Ext Time (p_c), s		0.4	0.0	12.1				15.4

Intersection Summary		
HCM 6th Ctrl Delay		9.3
HCM 6th LOS		A

Approach	EB	WB	NB
Crosswalk Length (ft)	59.2	60.1	36.2
Crosswalk Width (ft)	12.0	12.0	12.0
Total Number of Lanes Crossed	4	5	3
Number of Right-Turn Islands	0	0	0
Type of Control	None	None	None
Corresponding Signal Phase	8	5	4
Effective Walk Time (s)	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0
85th percentile speed (mph)	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-
Pedestrian Delay (s/p)	45.0	45.0	45.0
Pedestrian Compliance Code	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.81	2.82	2.04
Pedestrian Crosswalk LOS	C	C	B

Approach	EB	WB	NB
Bicycle Flow Rate (bike/h)	0	0	0
Total Flow Rate (veh/h)	1256	1326	239
Effct. Green for Bike (s)	35.5	37.0	11.0
Cross Street Width (ft)	36.2	70.3	72.0
Through Lanes Number	2	2	1
Through Lane Width (ft)	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0
Curb Is Present?	No	No	No
On Street Parking?	No	No	No
Bicycle Lane Capacity (bike/h)	789	822	244
Bicycle Delay (s/bike)	16.5	15.6	34.7
Bicycle Compliance	Fair	Fair	Poor
Bicycle LOS Score	3.15	3.73	3.06
Bicycle LOS	C	D	C

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	130	1325	20	70	1244
Future Vol, veh/h	28	130	1325	20	70	1244
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	140	1425	22	75	1338

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2267	736	0	0	1459	0
Stage 1	1448	-	-	-	-	-
Stage 2	819	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	34	361	-	-	459	-
Stage 1	183	-	-	-	-	-
Stage 2	394	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 28	357	-	-	454	-
Mov Cap-2 Maneuver	130	-	-	-	-	-
Stage 1	151	-	-	-	-	-
Stage 2	394	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.8	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	130	357	454	-
HCM Lane V/C Ratio	-	-	0.232	0.392	0.166	-
HCM Control Delay (s)	-	-	40.8	21.4	14.5	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	0.8	1.8	0.6	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	12518184.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2569
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	12518185.00
Avg Ped Delay (s)	12518184.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	12518184.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2569
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	12518185.00
Avg Ped Delay (s)	12518184.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	58	52	208	134	41	1241	142	128	1185	43
v/c Ratio	0.23	0.16	0.60	0.32	0.44	1.00	0.24	1.09	0.85	0.06
Control Delay	33.7	1.0	38.6	8.1	59.3	55.9	10.7	153.7	34.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	1.0	38.6	8.1	59.3	55.9	10.7	153.7	34.2	0.2
Queue Length 50th (ft)	25	0	90	0	19	295	10	~68	268	0
Queue Length 95th (ft)	67	0	209	48	#96	#857	77	#274	#797	0
Internal Link Dist (ft)	288		473			1028			1931	
Turn Bay Length (ft)		100		180	150		170	150		430
Base Capacity (vph)	831	787	750	746	93	1238	601	117	1398	672
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.07	0.28	0.18	0.44	1.00	0.24	1.09	0.85	0.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	15	49	193	5	127	39	1179	135	122	1126	41
Future Volume (veh/h)	40	15	49	193	5	127	39	1179	135	122	1126	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	16	52	203	5	134	41	1241	142	128	1185	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	30	94	290	7	264	56	1359	586	131	1507	655
Arrive On Green	0.06	0.06	0.06	0.17	0.17	0.17	0.03	0.38	0.38	0.07	0.42	0.42
Sat Flow, veh/h	1307	498	1543	1740	43	1585	1781	3554	1533	1781	3554	1545
Grp Volume(v), veh/h	58	0	52	208	0	134	41	1241	142	128	1185	43
Grp Sat Flow(s),veh/h/ln	1805	0	1543	1783	0	1585	1781	1777	1533	1781	1777	1545
Q Serve(g_s), s	2.1	0.0	2.2	7.5	0.0	5.2	1.6	22.5	4.3	4.9	19.6	1.1
Cycle Q Clear(g_c), s	2.1	0.0	2.2	7.5	0.0	5.2	1.6	22.5	4.3	4.9	19.6	1.1
Prop In Lane	0.72		1.00	0.98		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	0	94	297	0	264	56	1359	586	131	1507	655
V/C Ratio(X)	0.52	0.00	0.55	0.70	0.00	0.51	0.73	0.91	0.24	0.98	0.79	0.07
Avail Cap(c_a), veh/h	929	0	794	839	0	746	105	1385	598	131	1507	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	0.0	31.0	26.7	0.0	25.8	32.6	19.9	14.3	31.4	16.9	11.6
Incr Delay (d2), s/veh	3.8	0.0	4.9	3.0	0.0	1.5	16.1	9.4	0.2	71.3	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	3.3	0.0	2.0	0.9	10.1	1.4	4.6	7.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	0.0	35.9	29.7	0.0	27.3	48.7	29.3	14.5	102.7	19.7	11.6
LnGrp LOS	C	A	D	C	A	C	D	C	B	F	B	B
Approach Vol, veh/h		110			342			1424			1356	
Approach Delay, s/veh		35.3			28.8			28.4			27.3	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	32.5		9.2	7.2	35.3		16.3				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	5.0	26.5		35.0	4.0	27.5		32.0				
Max Q Clear Time (g_c+I1), s	6.9	24.5		4.2	3.6	21.6		9.5				
Green Ext Time (p_c), s	0.0	1.5		0.5	0.0	3.8		1.9				

Intersection Summary			
HCM 6th Ctrl Delay			28.2
HCM 6th LOS			C

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.03	2.17	2.94	2.92
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	110	342	1424	1356
Effct. Green for Bike (s)	11.4	15.7	28.1	31.7
Cross Street Width (ft)	84.6	79.7	39.7	37.8
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	190	262	468	528
Bicycle Delay (s/bike)	49.1	45.3	35.2	32.5
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	3.04	3.34	3.34	3.26
Bicycle LOS	C	C	C	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	540	398	210	219	273	120	376	943	155	767	491
v/c Ratio	0.78	0.47	0.40	0.77	0.73	0.28	0.76	0.82	0.61	0.82	0.57
Control Delay	50.6	37.0	6.8	63.9	53.1	4.8	57.0	39.3	61.5	46.2	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	37.0	6.8	63.9	53.1	4.8	57.0	39.3	61.5	46.2	11.9
Queue Length 50th (ft)	188	131	0	150	187	0	135	306	56	266	103
Queue Length 95th (ft)	#290	177	57	#288	278	29	#223	435	#105	#380	227
Internal Link Dist (ft)		620			770			1992		1028	
Turn Bay Length (ft)	300		300	150		125	250		250		300
Base Capacity (vph)	750	1311	699	319	619	618	522	1278	260	1042	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.30	0.30	0.69	0.44	0.19	0.72	0.74	0.60	0.74	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	518	382	202	210	262	115	361	714	191	149	736	471
Future Volume (veh/h)	518	382	202	210	262	115	361	714	191	149	736	471
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	540	398	210	219	273	120	376	744	199	155	767	491
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	621	964	415	251	435	355	443	948	254	215	989	714
Arrive On Green	0.18	0.27	0.27	0.14	0.23	0.23	0.13	0.34	0.34	0.06	0.28	0.28
Sat Flow, veh/h	3456	3554	1530	1781	1870	1527	3456	2753	736	3456	3554	1541
Grp Volume(v), veh/h	540	398	210	219	273	120	376	480	463	155	767	491
Grp Sat Flow(s),veh/h/ln	1728	1777	1530	1781	1870	1527	1728	1777	1712	1728	1777	1541
Q Serve(g_s), s	16.8	10.1	12.8	13.3	14.5	7.2	11.7	26.8	26.8	4.9	21.9	28.0
Cycle Q Clear(g_c), s	16.8	10.1	12.8	13.3	14.5	7.2	11.7	26.8	26.8	4.9	21.9	28.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	621	964	415	251	435	355	443	612	590	215	989	714
V/C Ratio(X)	0.87	0.41	0.51	0.87	0.63	0.34	0.85	0.78	0.78	0.72	0.78	0.69
Avail Cap(c_a), veh/h	720	1256	541	307	593	484	501	628	605	250	998	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	33.0	34.0	46.4	38.1	35.3	47.1	32.5	32.5	50.8	36.7	23.8
Incr Delay (d2), s/veh	10.0	0.3	1.0	20.1	1.5	0.6	11.8	6.4	6.6	8.2	3.9	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	4.4	4.8	7.3	6.8	2.7	5.8	12.4	12.0	2.3	9.9	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	33.3	34.9	66.5	39.6	35.9	58.8	38.9	39.1	59.0	40.5	26.5
LnGrp LOS	D	C	C	E	D	D	E	D	D	E	D	C
Approach Vol, veh/h		1148			612			1319			1413	
Approach Delay, s/veh		43.3			48.5			44.6			37.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	43.0	20.6	34.9	19.2	35.7	24.8	30.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	39.0	19.0	39.0	16.0	31.0	23.0	35.0
Max Q Clear Time (g_c+I1), s	6.9	28.8	15.3	14.8	13.7	30.0	18.8	16.5
Green Ext Time (p_c), s	0.1	4.6	0.3	3.9	0.4	0.8	1.1	2.1

Intersection Summary	
HCM 6th Ctrl Delay	42.6
HCM 6th LOS	D

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	7	5	6	7
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	62.5	62.5	62.5	62.5
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.94	2.59	2.88	3.01
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1148	612	1319	1413
Effct. Green for Bike (s)	25.9	21.4	35.7	28.3
Cross Street Width (ft)	72.3	83.9	71.4	85.2
Through Lanes Number	2	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	414	342	571	453
Bicycle Delay (s/bike)	39.3	42.9	31.9	37.4
Bicycle Compliance	Poor	Poor	Poor	Poor
Bicycle LOS Score	3.61	3.85	3.74	4.03
Bicycle LOS	D	D	D	D

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	104	43	16	797	1047	78
Future Vol, veh/h	104	43	16	797	1047	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	111	46	17	848	1114	83

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1614	599	1197	0	-	0
Stage 1	1156	-	-	-	-	-
Stage 2	458	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 95	445	579	-	-	-
Stage 1	262	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 92	445	579	-	-	-
Mov Cap-2 Maneuver	229	-	-	-	-	-
Stage 1	254	-	-	-	-	-
Stage 2	604	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.6	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	579	-	229	445	-	-
HCM Lane V/C Ratio	0.029	-	0.483	0.103	-	-
HCM Control Delay (s)	11.4	-	34.6	14	-	-
HCM Lane LOS	B	-	D	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.4	0.3	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	164540.7
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	1844
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	164542.66
Avg Ped Delay (s)	164540.70

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	1103034.5
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	1844
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.96
Delay for adq Gap	1103036.50
Avg Ped Delay (s)	1103034.50

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	117	34	14	37	12	711	16	1188
v/c Ratio	0.46	0.09	0.06	0.10	0.09	0.32	0.12	0.54
Control Delay	26.5	0.4	19.1	0.5	27.9	7.6	28.5	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	0.4	19.1	0.5	27.9	7.6	28.5	9.7
Queue Length 50th (ft)	30	0	3	0	3	50	5	102
Queue Length 95th (ft)	84	0	17	0	20	140	24	275
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	744	931	707	931	135	2119	135	2111
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.04	0.02	0.04	0.09	0.34	0.12	0.56

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	1	31	13	0	34	11	643	4	15	1043	38
Future Volume (veh/h)	106	1	31	13	0	34	11	643	4	15	1043	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	1	34	14	0	37	12	707	4	16	1146	42
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	1	614	105	0	614	21	1358	8	27	1321	48
Arrive On Green	0.39	0.39	0.39	0.39	0.00	0.39	0.01	0.38	0.38	0.01	0.38	0.38
Sat Flow, veh/h	22	1	1585	22	0	1585	1781	3622	20	1781	3493	128
Grp Volume(v), veh/h	117	0	34	14	0	37	12	347	364	16	583	605
Grp Sat Flow(s),veh/h/ln	24	0	1585	22	0	1585	1781	1777	1866	1781	1777	1844
Q Serve(g_s), s	0.5	0.0	1.0	0.5	0.0	1.1	0.5	11.2	11.2	0.7	22.5	22.5
Cycle Q Clear(g_c), s	28.7	0.0	1.0	28.7	0.0	1.1	0.5	11.2	11.2	0.7	22.5	22.5
Prop In Lane	0.99		1.00	1.00		1.00	1.00		0.01	1.00		0.07
Lane Grp Cap(c), veh/h	106	0	614	105	0	614	21	666	700	27	672	697
V/C Ratio(X)	1.11	0.00	0.06	0.13	0.00	0.06	0.58	0.52	0.52	0.60	0.87	0.87
Avail Cap(c_a), veh/h	111	0	620	110	0	620	96	731	768	96	731	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	0.0	14.2	36.9	0.0	14.2	36.5	18.0	18.0	36.3	21.3	21.3
Incr Delay (d2), s/veh	118.7	0.0	0.0	0.6	0.0	0.0	23.0	0.6	0.6	19.9	10.2	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	0.3	0.3	0.0	0.4	0.3	4.4	4.6	0.4	10.5	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	155.6	0.0	14.2	37.5	0.0	14.3	59.5	18.6	18.6	56.2	31.5	31.2
LnGrp LOS	F	A	B	D	A	B	E	B	B	E	C	C
Approach Vol, veh/h		151			51			723			1204	
Approach Delay, s/veh		123.8			20.7			19.3			31.7	
Approach LOS		F			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	34.4		33.9	5.9	34.7		33.9
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0
Max Green Setting (Gmax), s	4.0	30.5		29.0	4.0	30.5		29.0
Max Q Clear Time (g_c+I1), s	2.7	13.2		30.7	2.5	24.5		30.7
Green Ext Time (p_c), s	0.0	4.3		0.0	0.0	3.8		0.0

Intersection Summary		
HCM 6th Ctrl Delay		33.8
HCM 6th LOS		C

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	40.0	40.0	40.0	40.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.01	1.97	2.68	2.71
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	151	51	723	1204
Effct. Green for Bike (s)	10.3	10.0	33.8	33.8
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	258	250	845	845
Bicycle Delay (s/bike)	30.4	30.6	13.3	13.3
Bicycle Compliance	Poor	Poor	Fair	Fair
Bicycle LOS Score	2.90	2.76	2.89	3.29
Bicycle LOS	C	C	C	C

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	42	32	145	145	306	21	568	887	526	506
v/c Ratio	0.28	0.11	0.39	0.38	0.51	0.19	0.73	0.86	0.73	0.32
Control Delay	47.3	0.8	36.4	35.9	7.4	49.3	39.2	15.2	41.1	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	0.8	36.4	35.9	7.4	49.3	39.2	15.2	41.1	17.9
Queue Length 50th (ft)	25	0	80	80	0	13	170	83	154	90
Queue Length 95th (ft)	61	0	153	152	71	39	238	#298	228	163
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	535	591	403	420	628	115	1039	1047	853	1721
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.36	0.35	0.49	0.18	0.55	0.85	0.62	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	20	30	265	10	291	20	540	843	500	470	10
Future Volume (veh/h)	20	20	30	265	10	291	20	540	843	500	470	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	21	32	287	0	0	21	568	887	526	495	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	55	55	92	446	0		33	1175	710	660	1786	40
Arrive On Green	0.06	0.06	0.06	0.13	0.00	0.00	0.02	0.33	0.33	0.19	0.50	0.50
Sat Flow, veh/h	912	912	1514	3563	0	1585	1781	3554	1546	3456	3551	79
Grp Volume(v), veh/h	42	0	32	287	0	0	21	568	887	526	247	259
Grp Sat Flow(s),veh/h/ln	1825	0	1514	1781	0	1585	1781	1777	1546	1728	1777	1853
Q Serve(g_s), s	1.7	0.0	1.6	6.0	0.0	0.0	0.9	10.0	26.0	11.4	6.3	6.3
Cycle Q Clear(g_c), s	1.7	0.0	1.6	6.0	0.0	0.0	0.9	10.0	26.0	11.4	6.3	6.3
Prop In Lane	0.50		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	111	0	92	446	0		33	1175	710	660	894	932
V/C Ratio(X)	0.38	0.00	0.35	0.64	0.00		0.63	0.48	1.25	0.80	0.28	0.28
Avail Cap(c_a), veh/h	626	0	520	997	0		136	1175	710	967	949	990
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	0.0	35.4	32.7	0.0	0.0	38.3	21.0	18.7	30.4	11.3	11.3
Incr Delay (d2), s/veh	2.1	0.0	2.2	1.6	0.0	0.0	17.9	0.3	124.0	3.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.6	2.5	0.0	0.0	0.5	3.8	37.4	4.6	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	0.0	37.7	34.3	0.0	0.0	56.3	21.3	142.8	33.3	11.5	11.5
LnGrp LOS	D	A	D	C	A		E	C	F	C	B	B
Approach Vol, veh/h		74			287	A		1476			1032	
Approach Delay, s/veh		37.7			34.3			94.8			22.6	
Approach LOS		D			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.0	32.0		10.8	6.5	45.6		15.8
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	22.0	26.0		27.0	6.0	42.0		22.0
Max Q Clear Time (g_c+I1), s	13.4	28.0		3.7	2.9	8.3		8.0
Green Ext Time (p_c), s	1.6	0.0		0.3	0.0	3.0		1.0

Intersection Summary		
HCM 6th Ctrl Delay		61.3
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	1.99	2.89	3.03	2.94
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	74	596	1476	1032
Effct. Green for Bike (s)	8.0	21.1	20.5	41.3
Cross Street Width (ft)	78.9	66.6	58.5	49.8
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	133	352	342	688
Bicycle Delay (s/bike)	52.3	40.8	41.3	25.8
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.32	3.78	3.89	3.39
Bicycle LOS	C	D	D	C

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	55	1444	133	732	44	99	55	44
v/c Ratio	0.10	0.61	0.39	0.28	0.22	0.34	0.30	0.17
Control Delay	3.1	10.2	6.7	4.9	31.1	10.7	33.1	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.1	10.2	6.7	4.9	31.1	10.7	33.1	7.4
Queue Length 50th (ft)	4	185	10	60	16	0	20	0
Queue Length 95th (ft)	12	296	34	96	48	40	57	20
Internal Link Dist (ft)		1057		1748	155		449	
Turn Bay Length (ft)	225		160			25		25
Base Capacity (vph)	558	2643	381	2803	626	713	569	690
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.55	0.35	0.26	0.07	0.14	0.10	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1264	50	121	626	40	20	20	90	40	10	40
Future Volume (veh/h)	50	1264	50	121	626	40	20	20	90	40	10	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	1389	55	133	688	44	22	22	99	44	11	44
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	451	1736	69	268	1764	113	85	62	441	112	19	441
Arrive On Green	0.04	0.50	0.50	0.06	0.52	0.52	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1781	3485	138	1781	3391	217	37	222	1585	81	67	1585
Grp Volume(v), veh/h	55	707	737	133	360	372	44	0	99	55	0	44
Grp Sat Flow(s),veh/h/ln	1781	1777	1846	1781	1777	1831	260	0	1585	147	0	1585
Q Serve(g_s), s	1.1	24.1	24.2	2.6	8.9	8.9	0.5	0.0	3.5	1.5	0.0	1.5
Cycle Q Clear(g_c), s	1.1	24.1	24.2	2.6	8.9	8.9	19.7	0.0	3.5	20.2	0.0	1.5
Prop In Lane	1.00		0.07	1.00		0.12	0.50		1.00	0.80		1.00
Lane Grp Cap(c), veh/h	451	885	919	268	924	953	147	0	441	130	0	441
V/C Ratio(X)	0.12	0.80	0.80	0.50	0.39	0.39	0.30	0.00	0.22	0.42	0.00	0.10
Avail Cap(c_a), veh/h	485	1127	1170	361	1225	1262	229	0	524	202	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.5	15.2	15.2	13.6	10.5	10.5	21.4	0.0	20.1	31.2	0.0	19.4
Incr Delay (d2), s/veh	0.1	3.2	3.2	1.4	0.3	0.3	1.1	0.0	0.3	2.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	9.3	9.7	1.0	3.1	3.2	0.6	0.0	1.3	1.0	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.6	18.4	18.4	15.0	10.7	10.7	22.6	0.0	20.4	33.4	0.0	19.5
LnGrp LOS	A	B	B	B	B	B	C	A	C	C	A	B
Approach Vol, veh/h		1499			865			143			99	
Approach Delay, s/veh		18.1			11.4			21.1			27.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		25.1	8.3	40.6		25.1	6.6	42.3
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		24.0	8.0	46.0		24.0	4.0	50.0
Max Q Clear Time (g_c+I1), s		21.7	4.6	26.2		22.2	3.1	10.9
Green Ext Time (p_c), s		0.1	0.1	10.9		0.1	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	57.8	60.4	36.1	36.7
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	5	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	45.0	45.0	45.0	45.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.75	2.78	2.06	2.02
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1499	865	143	99
Effct. Green for Bike (s)	41.3	45.4	8.2	8.2
Cross Street Width (ft)	36.1	36.7	60.4	57.8
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	918	1009	182	182
Bicycle Delay (s/bike)	13.2	11.1	37.2	37.2
Bicycle Compliance	Fair	Fair	Poor	Poor
Bicycle LOS Score	3.35	2.83	2.72	2.61
Bicycle LOS	C	C	C	C

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	183363.7
Level of Service	F

Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1890
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.94
Delay for adq Gap	183365.61
Avg Ped Delay (s)	183363.70

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	247522.9
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1890
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.95
Delay for adq Gap	247524.81
Avg Ped Delay (s)	247522.91

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Approach	EB	WB	NB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	1318	1608	202
Demand Flow Rate, veh/h	1344	1640	206
Vehicles Circulating, veh/h	264	22	1299
Vehicles Exiting, veh/h	1398	1483	309
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	11.6	9.8	14.1
Approach LOS	B	A	B

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	LT	TR	LT	TR	L	TR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	0.107	0.893
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	632	712	771	869	22	184
Cap Entry Lane, veh/h	1059	1135	1323	1394	409	471
Entry HV Adj Factor	0.980	0.981	0.980	0.981	1.000	0.978
Flow Entry, veh/h	619	698	756	852	22	180
Cap Entry, veh/h	1037	1113	1297	1367	409	460
V/C Ratio	0.597	0.628	0.583	0.623	0.054	0.391
Control Delay, s/veh	11.5	11.7	9.5	10.0	9.6	14.7
LOS	B	B	A	B	A	B
95th %tile Queue, veh	4	5	4	5	0	2

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	5	1575	136	1597	3	59	25	9	4
v/c Ratio	0.06	0.75	0.77	0.58	0.00	0.39	0.15	0.12	0.04
Control Delay	45.2	16.6	68.6	8.1	0.0	47.2	19.0	46.8	35.2
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	16.6	68.6	8.4	0.0	47.2	19.0	46.8	35.2
Queue Length 50th (ft)	3	301	74	151	0	31	1	5	1
Queue Length 95th (ft)	15	521	#188	463	0	75	26	22	12
Internal Link Dist (ft)		149		109			330		342
Turn Bay Length (ft)	100		210		50				
Base Capacity (vph)	78	2111	177	2749	1258	177	579	78	510
Starvation Cap Reductn	0	0	0	441	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.75	0.77	0.69	0.00	0.33	0.04	0.12	0.01

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1030	356	120	1405	3	52	2	20	8	2	2
Future Volume (veh/h)	5	1030	356	120	1405	3	52	2	20	8	2	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1170	405	136	1597	3	59	2	23	9	2	2
Peak Hour Factor	0.92	0.88	0.88	0.88	0.88	0.92	0.88	0.92	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9	1416	479	169	2270	1012	90	10	111	16	24	24
Arrive On Green	0.01	0.54	0.54	0.09	0.64	0.64	0.05	0.08	0.08	0.01	0.03	0.03
Sat Flow, veh/h	1781	2606	882	1781	3554	1585	1781	128	1476	1781	858	858
Grp Volume(v), veh/h	5	789	786	136	1597	3	59	0	25	9	0	4
Grp Sat Flow(s),veh/h/ln	1781	1777	1712	1781	1777	1585	1781	0	1605	1781	0	1716
Q Serve(g_s), s	0.2	30.9	32.8	6.3	24.9	0.1	2.8	0.0	1.2	0.4	0.0	0.2
Cycle Q Clear(g_c), s	0.2	30.9	32.8	6.3	24.9	0.1	2.8	0.0	1.2	0.4	0.0	0.2
Prop In Lane	1.00		0.52	1.00		1.00	1.00		0.92	1.00		0.50
Lane Grp Cap(c), veh/h	9	965	930	169	2270	1012	90	0	121	16	0	48
V/C Ratio(X)	0.54	0.82	0.85	0.81	0.70	0.00	0.66	0.00	0.21	0.56	0.00	0.08
Avail Cap(c_a), veh/h	84	1092	1052	190	2416	1078	190	0	598	84	0	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.0	15.9	16.3	37.5	10.0	5.5	39.5	0.0	36.7	41.7	0.0	40.1
Incr Delay (d2), s/veh	40.3	4.5	5.9	20.0	0.9	0.0	8.0	0.0	0.8	27.2	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	12.4	12.9	3.6	8.4	0.0	1.4	0.0	0.5	0.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.2	20.3	22.2	57.6	10.9	5.5	47.4	0.0	37.6	68.9	0.0	40.8
LnGrp LOS	F	C	C	E	B	A	D	A	D	E	A	D
Approach Vol, veh/h		1580			1736			84			13	
Approach Delay, s/veh		21.5			14.5			44.5			60.3	
Approach LOS		C			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	12.4	14.0	52.0	10.3	8.4	5.9	60.0
Change Period (Y+Rc), s	5.5	6.0	6.0	6.0	6.0	* 6	5.5	6.0
Max Green Setting (Gmax), s	4.0	31.5	9.0	52.0	9.0	* 27	4.0	57.5
Max Q Clear Time (g_c+I1), s	2.4	3.2	8.3	34.8	4.8	2.2	2.2	26.9
Green Ext Time (p_c), s	0.0	0.1	0.0	11.2	0.0	0.0	0.0	16.8

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	59.2	60.1	36.2	24.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	6	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.95	2.95	2.17	1.97
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1580	1736	84	13
Effct. Green for Bike (s)	55.3	69.8	8.2	5.7
Cross Street Width (ft)	36.3	37.4	74.2	60.2
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	922	1163	137	95
Bicycle Delay (s/bike)	17.4	10.5	52.1	54.4
Bicycle Compliance	Fair	Fair	Poor	Poor
Bicycle LOS Score	3.42	3.56	2.83	2.50
Bicycle LOS	C	D	C	C

Intersection						
Int Delay, s/veh	1.3					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	60	1021	83	140	1708
Future Vol, veh/h	22	60	1021	83	140	1708
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	63	1075	87	147	1798

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2324	593	0	0	1174	0
Stage 1	1131	-	-	-	-	-
Stage 2	1193	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	31	449	-	-	591	-
Stage 1	270	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 23	444	-	-	584	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	200	-	-	-	-	-
Stage 2	250	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.6	0	1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	88	444	584	-
HCM Lane V/C Ratio	-	-	0.263	0.142	0.252	-
HCM Control Delay (s)	-	-	59.9	14.4	13.2	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	1	0.5	1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s   +: Computation Not Defined   *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	31931440.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2729
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	31931442.00
Avg Ped Delay (s)	31931440.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	31931440.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	2729
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	31931442.00
Avg Ped Delay (s)	31931440.00

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	23	23	97	55	53	1238	184	85	1730	47
v/c Ratio	0.13	0.10	0.54	0.22	0.41	0.57	0.19	0.46	0.76	0.05
Control Delay	38.7	26.0	50.7	17.5	54.1	13.4	4.3	49.9	15.7	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	26.0	50.7	17.5	54.1	13.4	4.3	49.9	15.7	1.5
Queue Length 50th (ft)	13	7	57	7	32	225	14	50	366	0
Queue Length 95th (ft)	36	29	109	41	74	350	50	101	536	10
Internal Link Dist (ft)		288		473		497			1931	
Turn Bay Length (ft)	100		180		150		170	150		430
Base Capacity (vph)	523	674	538	666	137	2237	1016	242	2421	1077
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.03	0.18	0.08	0.39	0.55	0.18	0.35	0.71	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	11	10	91	11	40	50	1164	173	80	1626	44
Future Volume (veh/h)	22	11	10	91	11	40	50	1164	173	80	1626	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	12	11	97	12	43	53	1238	184	85	1730	47
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	101	92	236	41	145	67	2154	934	111	2241	976
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.04	0.61	0.61	0.06	0.63	0.63
Sat Flow, veh/h	1349	889	815	1388	358	1282	1781	3554	1541	1781	3554	1548
Grp Volume(v), veh/h	23	0	23	97	0	55	53	1238	184	85	1730	47
Grp Sat Flow(s),veh/h/ln	1349	0	1704	1388	0	1640	1781	1777	1541	1781	1777	1548
Q Serve(g_s), s	1.2	0.0	0.9	5.1	0.0	2.3	2.2	15.9	4.0	3.6	26.5	0.9
Cycle Q Clear(g_c), s	3.5	0.0	0.9	6.0	0.0	2.3	2.2	15.9	4.0	3.6	26.5	0.9
Prop In Lane	1.00		0.48	1.00		0.78	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	0	193	236	0	186	67	2154	934	111	2241	976
V/C Ratio(X)	0.11	0.00	0.12	0.41	0.00	0.30	0.79	0.57	0.20	0.77	0.77	0.05
Avail Cap(c_a), veh/h	678	0	789	721	0	759	165	2643	1146	290	2892	1260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	30.1	32.8	0.0	30.7	36.1	9.0	6.7	34.9	10.0	5.3
Incr Delay (d2), s/veh	0.2	0.0	0.3	1.1	0.0	0.9	18.0	0.2	0.1	10.4	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.4	1.7	0.0	0.9	1.3	5.2	1.2	1.8	8.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	0.0	30.4	34.0	0.0	31.6	54.1	9.2	6.8	45.3	11.0	5.3
LnGrp LOS	C	A	C	C	A	C	D	A	A	D	B	A
Approach Vol, veh/h		46			152			1475			1862	
Approach Delay, s/veh		31.5			33.1			10.5			12.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	52.3		13.6	7.9	54.2		13.6
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0
Max Green Setting (Gmax), s	12.3	56.2		35.0	7.0	61.5		35.0
Max Q Clear Time (g_c+I1), s	5.6	17.9		5.5	4.2	28.5		8.0
Green Ext Time (p_c), s	0.1	11.2		0.2	0.0	19.2		0.7

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.01	2.10	3.01	2.99
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	46	152	1475	1862
Effct. Green for Bike (s)	12.0	12.0	56.3	58.9
Cross Street Width (ft)	72.6	72.1	37.7	37.5
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	200	200	938	982
Bicycle Delay (s/bike)	48.6	48.6	16.9	15.6
Bicycle Compliance	Poor	Poor	Fair	Fair
Bicycle LOS Score	2.75	2.91	3.35	3.67
Bicycle LOS	C	C	C	D

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	395	228	429	355	631	349	1055	140	119	894	875
v/c Ratio	0.60	0.25	0.88	1.11	0.71	1.21	0.92	0.24	0.83	0.90	1.08
Control Delay	47.5	33.4	48.8	125.4	38.9	166.5	51.7	8.4	96.9	53.2	78.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	33.4	48.8	125.4	38.9	166.5	51.7	8.4	96.9	53.2	78.3
Queue Length 50th (ft)	141	69	223	~311	198	~168	403	9	46	342	~690
Queue Length 95th (ft)	201	103	#369	#519	261	#273	#568	57	#106	#487	#737
Internal Link Dist (ft)		344			770		1992			451	
Turn Bay Length (ft)	300		300	150		250		250	250		300
Base Capacity (vph)	654	1129	572	321	1088	289	1155	582	143	1004	813
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.20	0.75	1.11	0.58	1.21	0.91	0.24	0.83	0.89	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	212	399	330	397	190	325	981	130	111	831	814
Future Volume (veh/h)	367	212	399	330	397	190	325	981	130	111	831	814
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	228	429	355	427	204	349	1055	140	119	894	875
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	472	1049	453	306	766	362	275	1097	475	136	954	630
Arrive On Green	0.14	0.30	0.30	0.17	0.33	0.33	0.08	0.31	0.31	0.04	0.27	0.27
Sat Flow, veh/h	3456	3554	1533	1781	2317	1094	3456	3554	1537	3456	3554	1541
Grp Volume(v), veh/h	395	228	429	355	326	305	349	1055	140	119	894	875
Grp Sat Flow(s),veh/h/ln	1728	1777	1533	1781	1777	1634	1728	1777	1537	1728	1777	1541
Q Serve(g_s), s	13.3	5.8	32.6	20.5	17.9	18.3	9.5	34.8	8.3	4.1	29.3	32.0
Cycle Q Clear(g_c), s	13.3	5.8	32.6	20.5	17.9	18.3	9.5	34.8	8.3	4.1	29.3	32.0
Prop In Lane	1.00		1.00	1.00		0.67	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	472	1049	453	306	588	540	275	1097	475	136	954	630
V/C Ratio(X)	0.84	0.22	0.95	1.16	0.56	0.56	1.27	0.96	0.29	0.87	0.94	1.39
Avail Cap(c_a), veh/h	623	1073	463	306	588	540	275	1097	475	136	954	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	31.6	41.1	49.3	32.7	32.8	54.8	40.5	31.3	56.9	42.6	35.6
Incr Delay (d2), s/veh	7.6	0.1	28.8	101.6	1.2	1.4	145.7	18.6	0.3	42.0	16.1	184.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	2.5	15.8	17.7	7.9	7.4	9.7	17.8	3.1	2.6	14.9	50.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	31.7	69.9	150.9	33.9	34.2	200.6	59.1	31.7	98.9	58.7	220.2
LnGrp LOS	E	C	E	F	C	C	F	E	C	F	E	F
Approach Vol, veh/h		1052			986			1544			1888	
Approach Delay, s/veh		57.0			76.1			88.6			136.1	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	42.3	26.0	40.7	15.0	37.5	21.8	44.9
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	4.7	36.8	20.5	36.0	9.5	32.0	21.5	35.0
Max Q Clear Time (g_c+I1), s	6.1	36.8	22.5	34.6	11.5	34.0	15.3	20.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	0.0	1.0	3.7

Intersection Summary	
HCM 6th Ctrl Delay	96.7
HCM 6th LOS	F

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	7	5	7	7
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.99	2.61	3.06	3.11
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1052	986	1544	1888
Effct. Green for Bike (s)	29.2	28.2	36.6	31.8
Cross Street Width (ft)	84.2	84.1	72.9	85.5
Through Lanes Number	2	2	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	487	470	610	530
Bicycle Delay (s/bike)	34.4	35.1	29.0	32.4
Bicycle Compliance	Poor	Poor	Fair	Poor
Bicycle LOS Score	3.72	3.66	3.95	4.43
Bicycle LOS	D	D	D	D

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	40	90	1536	1028	153
Future Vol, veh/h	42	40	90	1536	1028	153
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	43	96	1634	1094	163

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2185	629	1257	0	-	0
Stage 1	1176	-	-	-	-	-
Stage 2	1009	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 39	425	549	-	-	-
Stage 1	255	-	-	-	-	-
Stage 2	313	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 32	425	549	-	-	-
Mov Cap-2 Maneuver	145	-	-	-	-	-
Stage 1	210	-	-	-	-	-
Stage 2	313	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.8	0.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	549	-	145	425	-	-
HCM Lane V/C Ratio	0.174	-	0.308	0.1	-	-
HCM Control Delay (s)	12.9	-	40.5	14.4	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0.6	-	1.2	0.3	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	9919347.0
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	2564
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.98
Delay for adq Gap	9919348.00
Avg Ped Delay (s)	9919347.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	139754512.0
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	2564
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	139754512.00
Avg Ped Delay (s)	139754512.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	55	11	11	145	22	1431	488	1224
v/c Ratio	0.44	0.04	0.09	0.54	0.26	0.92	0.99	0.48
Control Delay	54.0	0.3	42.7	14.9	54.6	37.4	74.4	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Total Delay	54.0	0.3	42.7	14.9	54.6	38.1	74.4	6.4
Queue Length 50th (ft)	34	0	7	0	14	438	309	101
Queue Length 95th (ft)	73	0	24	57	40	#636	#546	247
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	397	530	375	546	85	1551	495	2539
Starvation Cap Reductn	0	0	0	0	0	22	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.02	0.03	0.27	0.26	0.94	0.99	0.48

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	10	10	10	0	132	20	1282	20	444	993	121
Future Volume (veh/h)	40	10	10	10	0	132	20	1282	20	444	993	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	11	11	11	0	145	22	1409	22	488	1091	133
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	42	181	244	0	181	33	1553	24	513	2237	272
Arrive On Green	0.11	0.11	0.11	0.11	0.00	0.11	0.02	0.43	0.43	0.29	0.70	0.70
Sat Flow, veh/h	1141	366	1585	1511	0	1585	1781	3579	56	1781	3180	387
Grp Volume(v), veh/h	55	0	11	11	0	145	22	699	732	488	609	615
Grp Sat Flow(s),veh/h/ln	1508	0	1585	1511	0	1585	1781	1777	1858	1781	1777	1790
Q Serve(g_s), s	2.7	0.0	0.6	0.0	0.0	9.0	1.2	37.0	37.1	27.1	15.6	15.6
Cycle Q Clear(g_c), s	3.3	0.0	0.6	0.6	0.0	9.0	1.2	37.0	37.1	27.1	15.6	15.6
Prop In Lane	0.80		1.00	1.00		1.00	1.00		0.03	1.00		0.22
Lane Grp Cap(c), veh/h	237	0	181	244	0	181	33	771	806	513	1250	1259
V/C Ratio(X)	0.23	0.00	0.06	0.05	0.00	0.80	0.68	0.91	0.91	0.95	0.49	0.49
Avail Cap(c_a), veh/h	495	0	456	488	0	456	88	803	839	513	1250	1259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	0.0	39.8	39.7	0.0	43.5	49.2	26.6	26.6	35.2	6.7	6.7
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.1	0.0	7.8	21.8	13.7	13.3	27.9	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.2	0.2	0.0	3.9	0.7	17.9	18.6	15.4	5.1	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	0.0	39.9	39.8	0.0	51.3	70.9	40.3	40.0	63.1	7.0	7.0
LnGrp LOS	D	A	D	D	A	D	E	D	D	E	A	A
Approach Vol, veh/h		66			156			1453			1712	
Approach Delay, s/veh		41.1			50.5			40.6			23.0	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	34.0	50.2		16.5	6.8	77.4		16.5				
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0				
Max Green Setting (Gmax), s	29.0	45.5		29.0	5.0	69.5		29.0				
Max Q Clear Time (g_c+I1), s	29.1	39.1		5.3	3.2	17.6		11.0				
Green Ext Time (p_c), s	0.0	4.6		0.3	0.0	12.4		0.6				

Intersection Summary			
HCM 6th Ctrl Delay			32.2
HCM 6th LOS			C

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.03	2.18	2.82	2.97
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	66	156	1453	1712
Effct. Green for Bike (s)	9.2	9.2	45.5	75.6
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	153	153	758	1260
Bicycle Delay (s/bike)	51.2	51.2	23.1	8.2
Bicycle Compliance	Poor	Poor	Fair	Good
Bicycle LOS Score	2.76	2.94	3.50	3.71
Bicycle LOS	C	C	C	D

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	22	348	343	699	22	1011	400	508	1056
v/c Ratio	0.25	0.08	0.92	0.87	0.89	0.32	0.91	0.41	0.97	0.61
Control Delay	48.2	0.5	68.1	59.9	24.5	59.8	45.1	4.6	75.4	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	0.5	68.1	59.9	24.5	59.8	45.1	4.6	75.4	21.1
Queue Length 50th (ft)	20	0	233	226	105	14	332	32	~179	236
Queue Length 95th (ft)	50	0	#428	#408	#347	41	#476	60	#286	380
Internal Link Dist (ft)	109			1057			1054			1668
Turn Bay Length (ft)					250	140		100	165	
Base Capacity (vph)	477	561	379	394	784	69	1114	971	523	1724
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.92	0.87	0.89	0.32	0.91	0.41	0.97	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	10	20	595	20	622	20	900	356	452	900	40
Future Volume (veh/h)	20	10	20	595	20	622	20	900	356	452	900	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	11	22	685	0	0	22	1011	400	508	1011	45
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	31	78	783	0		33	1127	838	547	1580	70
Arrive On Green	0.05	0.05	0.05	0.22	0.00	0.00	0.02	0.32	0.32	0.16	0.46	0.46
Sat Flow, veh/h	1207	603	1506	3563	0	1585	1781	3554	1545	3456	3459	154
Grp Volume(v), veh/h	33	0	22	685	0	0	22	1011	400	508	519	537
Grp Sat Flow(s),veh/h/ln	1810	0	1506	1781	0	1585	1781	1777	1545	1728	1777	1837
Q Serve(g_s), s	1.7	0.0	1.3	17.6	0.0	0.0	1.2	25.7	15.3	13.7	21.3	21.3
Cycle Q Clear(g_c), s	1.7	0.0	1.3	17.6	0.0	0.0	1.2	25.7	15.3	13.7	21.3	21.3
Prop In Lane	0.67		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	94	0	78	783	0		33	1127	838	547	812	839
V/C Ratio(X)	0.35	0.00	0.28	0.88	0.00		0.67	0.90	0.48	0.93	0.64	0.64
Avail Cap(c_a), veh/h	516	0	429	864	0		75	1162	854	547	812	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	0.0	43.2	35.7	0.0	0.0	46.2	30.9	13.7	39.4	19.8	19.8
Incr Delay (d2), s/veh	2.2	0.0	1.9	9.3	0.0	0.0	20.6	9.3	0.4	22.5	1.7	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.5	8.2	0.0	0.0	0.7	11.6	7.9	7.2	8.3	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	0.0	45.2	45.1	0.0	0.0	66.8	40.2	14.1	61.8	21.5	21.4
LnGrp LOS	D	A	D	D	A		E	D	B	E	C	C
Approach Vol, veh/h		55			685	A		1433			1564	
Approach Delay, s/veh		45.5			45.1			33.3			34.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.0	36.0		10.9	7.8	49.3		26.8
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0
Max Green Setting (Gmax), s	15.0	31.0		27.0	4.0	42.0		23.0
Max Q Clear Time (g_c+I1), s	15.7	27.7		3.7	3.2	23.3		19.6
Green Ext Time (p_c), s	0.0	2.3		0.2	0.0	6.4		1.1

Intersection Summary	
HCM 6th Ctrl Delay	36.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	50.7	58.5	67.8	54.5
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	4	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	25	45	45	45
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.00	3.00	3.24	3.28
Pedestrian Crosswalk LOS	B	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	55	1390	1433	1564
Effct. Green for Bike (s)	7.4	23.1	31.2	48.5
Cross Street Width (ft)	78.9	66.6	58.5	49.8
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	10.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	123	385	520	808
Bicycle Delay (s/bike)	52.8	39.1	32.9	21.3
Bicycle Compliance	Poor	Poor	Poor	Fair
Bicycle LOS Score	3.29	5.09	3.85	3.83
Bicycle LOS	C	E	D	D

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	95	861	118	1302	32	192	53	53
v/c Ratio	0.33	0.45	0.25	0.64	0.15	0.49	0.26	0.18
Control Delay	6.7	8.8	4.1	9.9	21.5	8.8	23.7	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	8.8	4.1	9.9	21.5	8.8	23.7	5.2
Queue Length 50th (ft)	6	78	8	128	9	0	15	0
Queue Length 95th (ft)	20	133	23	216	28	44	41	16
Internal Link Dist (ft)		1057		1798	155		449	
Turn Bay Length (ft)	225		160			25		25
Base Capacity (vph)	286	1990	480	2092	701	847	657	787
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.43	0.25	0.62	0.05	0.23	0.08	0.07

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	788	30	112	1167	70	20	10	182	40	10	50
Future Volume (veh/h)	90	788	30	112	1167	70	20	10	182	40	10	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	829	32	118	1228	74	21	11	192	42	11	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	329	1647	64	458	1628	98	152	56	353	174	31	353
Arrive On Green	0.06	0.47	0.47	0.06	0.48	0.48	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	3488	135	1781	3405	205	147	253	1585	201	141	1585
Grp Volume(v), veh/h	95	422	439	118	640	662	32	0	192	53	0	53
Grp Sat Flow(s),veh/h/ln	1781	1777	1846	1781	1777	1833	400	0	1585	341	0	1585
Q Serve(g_s), s	1.3	8.2	8.2	1.6	14.6	14.7	0.2	0.0	5.3	1.3	0.0	1.3
Cycle Q Clear(g_c), s	1.3	8.2	8.2	1.6	14.6	14.7	9.6	0.0	5.3	10.2	0.0	1.3
Prop In Lane	1.00		0.07	1.00		0.11	0.66		1.00	0.79		1.00
Lane Grp Cap(c), veh/h	329	839	872	458	850	877	209	0	353	206	0	353
V/C Ratio(X)	0.29	0.50	0.50	0.26	0.75	0.76	0.15	0.00	0.54	0.26	0.00	0.15
Avail Cap(c_a), veh/h	369	1000	1038	559	1071	1105	593	0	764	537	0	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	9.1	9.1	6.5	10.6	10.6	16.0	0.0	17.1	19.9	0.0	15.5
Incr Delay (d2), s/veh	0.5	0.5	0.5	0.3	2.3	2.3	0.3	0.0	1.3	0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.5	2.6	0.5	4.9	5.0	0.3	0.0	1.8	0.6	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.8	9.6	9.5	6.8	12.9	12.9	16.3	0.0	18.4	20.6	0.0	15.7
LnGrp LOS	A	A	A	A	B	B	B	A	B	C	A	B
Approach Vol, veh/h		956			1420			224			106	
Approach Delay, s/veh		9.5			12.4			18.1			18.1	
Approach LOS		A			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.7	7.2	27.7		15.7	6.9	28.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		24.0	6.0	28.0		24.0	4.0	30.0				
Max Q Clear Time (g_c+I1), s		11.6	3.6	10.2		12.2	3.3	16.7				
Green Ext Time (p_c), s		0.8	0.1	5.5		0.3	0.0	7.5				

Intersection Summary			
HCM 6th Ctrl Delay			12.1
HCM 6th LOS			B

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	57.8	60.4	36.1	36.7
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	5	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	35.0	35.0	35.0	35.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.74	2.78	2.07	2.03
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	956	1420	224	106
Effct. Green for Bike (s)	28.0	29.6	7.4	7.4
Cross Street Width (ft)	36.1	36.7	60.4	57.8
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	800	846	211	211
Bicycle Delay (s/bike)	12.6	11.7	28.0	28.0
Bicycle Compliance	Fair	Fair	Fair	Fair
Bicycle LOS Score	2.90	3.29	2.85	2.62
Bicycle LOS	C	C	C	C

Approach	
Approach Direction	EB
Median Present?	No
Approach Delay(s)	263049.1
Level of Service	F

Crosswalk	
Length (ft)	66
Lanes Crossed	4
Veh Vol Crossed	1955
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	21.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.95
Delay for adq Gap	263050.91
Avg Ped Delay (s)	263049.06

Approach	
Approach Direction	WB
Median Present?	No
Approach Delay(s)	358769.8
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	1955
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.95
Delay for adq Gap	358771.69
Avg Ped Delay (s)	358769.84

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Approach	EB	WB	NB
Entry Lanes	2	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	1313	1659	385
Demand Flow Rate, veh/h	1340	1693	393
Vehicles Circulating, veh/h	289	46	1305
Vehicles Exiting, veh/h	1450	1652	324
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	12.1	10.7	28.5
Approach LOS	B	B	D

Lane	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	L	TR
Assumed Moves	LT	TR	LT	TR	L	TR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	0.117	0.883
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	630	710	796	897	46	347
Cap Entry Lane, veh/h	1035	1111	1294	1366	406	468
Entry HV Adj Factor	0.980	0.980	0.980	0.981	0.978	0.980
Flow Entry, veh/h	617	696	780	880	45	340
Cap Entry, veh/h	1014	1089	1268	1339	398	459
V/C Ratio	0.609	0.639	0.615	0.657	0.113	0.741
Control Delay, s/veh	12.0	12.2	10.3	11.0	10.8	30.8
LOS	B	B	B	B	B	D
95th %tile Queue, veh	4	5	4	5	0	6

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	1713	115	1490	8	294	176	24	13
v/c Ratio	0.18	0.97	0.85	0.69	0.01	0.82	0.42	0.35	0.12
Control Delay	59.9	42.0	97.2	19.6	0.0	59.9	18.0	67.4	35.2
Queue Delay	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	42.0	97.2	20.8	0.0	59.9	18.0	67.4	35.2
Queue Length 50th (ft)	8	515	74	265	0	179	36	15	3
Queue Length 95th (ft)	30	#860	#196	583	0	#303	104	#49	24
Internal Link Dist (ft)		160		81			330		315
Turn Bay Length (ft)	100		210		50				
Base Capacity (vph)	67	1770	135	2150	1033	439	552	69	159
Starvation Cap Reductn	0	0	0	402	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.97	0.85	0.85	0.01	0.67	0.32	0.35	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	1346	144	100	1296	7	256	4	150	22	4	8
Future Volume (veh/h)	11	1346	144	100	1296	7	256	4	150	22	4	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	1547	166	115	1490	8	294	4	172	24	4	9
Peak Hour Factor	0.92	0.87	0.87	0.87	0.87	0.92	0.87	0.92	0.87	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	1573	167	130	1961	875	330	7	322	34	19	42
Arrive On Green	0.01	0.49	0.49	0.07	0.55	0.55	0.19	0.21	0.21	0.02	0.04	0.04
Sat Flow, veh/h	1781	3241	344	1781	3554	1585	1781	36	1554	1781	512	1151
Grp Volume(v), veh/h	12	841	872	115	1490	8	294	0	176	24	0	13
Grp Sat Flow(s),veh/h/ln	1781	1777	1808	1781	1777	1585	1781	0	1591	1781	0	1663
Q Serve(g_s), s	0.7	50.5	52.4	7.0	35.3	0.2	17.6	0.0	10.8	1.5	0.0	0.8
Cycle Q Clear(g_c), s	0.7	50.5	52.4	7.0	35.3	0.2	17.6	0.0	10.8	1.5	0.0	0.8
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.98	1.00		0.69
Lane Grp Cap(c), veh/h	20	862	878	130	1961	875	330	0	330	34	0	61
V/C Ratio(X)	0.60	0.97	0.99	0.88	0.76	0.01	0.89	0.00	0.53	0.71	0.00	0.21
Avail Cap(c_a), veh/h	65	862	878	130	1961	875	424	0	457	67	0	145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.8	27.5	28.0	50.1	18.9	11.0	43.4	0.0	38.6	53.3	0.0	51.1
Incr Delay (d2), s/veh	25.9	24.6	28.8	45.2	1.8	0.0	17.2	0.0	1.3	24.0	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	26.2	28.5	4.7	14.2	0.1	9.3	0.0	4.3	0.9	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.7	52.0	56.8	95.3	20.7	11.0	60.6	0.0	39.9	77.3	0.0	52.8
LnGrp LOS	E	D	E	F	C	B	E	A	D	E	A	D
Approach Vol, veh/h		1725			1613			470			37	
Approach Delay, s/veh		54.6			25.9			52.9			68.7	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	28.6	14.0	59.0	26.2	10.0	6.7	66.3
Change Period (Y+Rc), s	5.5	6.0	6.0	6.0	6.0	* 6	5.5	6.0
Max Green Setting (Gmax), s	4.1	31.4	8.0	53.0	26.0	* 9.5	4.0	57.5
Max Q Clear Time (g_c+I1), s	3.5	12.8	9.0	54.4	19.6	2.8	2.7	37.3
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.6	0.0	0.0	12.0

Intersection Summary			
HCM 6th Ctrl Delay			42.5
HCM 6th LOS			D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	59.2	60.1	36.2	24.0
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	5	6	3	3
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	3.01	3.02	2.21	1.98
Pedestrian Crosswalk LOS	C	C	B	B

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1725	1613	470	37
Effct. Green for Bike (s)	53.5	64.2	22.5	6.1
Cross Street Width (ft)	36.3	37.5	74.4	60.1
Through Lanes Number	2	2	1	1
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	892	1070	375	102
Bicycle Delay (s/bike)	18.4	13.0	39.6	54.1
Bicycle Compliance	Fair	Fair	Poor	Poor
Bicycle LOS Score	3.54	3.46	3.47	2.54
Bicycle LOS	D	C	C	C

Intersection						
Int Delay, s/veh	14.6					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	93	150	1722	102	90	1566
Future Vol, veh/h	93	150	1722	102	90	1566
Conflicting Peds, #/hr	0	0	0	12	12	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	200	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	161	1852	110	97	1684

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2955	993	0	0	1974	0
Stage 1	1919	-	-	-	-	-
Stage 2	1036	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 11	244	-	-	290	-
Stage 1	101	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 7	241	-	-	287	-
Mov Cap-2 Maneuver	~ 59	-	-	-	-	-
Stage 1	~ 66	-	-	-	-	-
Stage 2	303	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	215.3	0	1.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	59	241	287	-
HCM Lane V/C Ratio	-	-	1.695	0.669	0.337	-
HCM Control Delay (s)	-	-	$ 488.8	45.7	23.8	-
HCM Lane LOS	-	-	F	E	C	-
HCM 95th %tile Q(veh)	-	-	9.2	4.3	1.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	862561088.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	3288
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	862561088.00
Avg Ped Delay (s)	862561088.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	862561088.0
Level of Service	F

Crosswalk	
Length (ft)	68
Lanes Crossed	4
Veh Vol Crossed	3288
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.43
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	862561088.00
Avg Ped Delay (s)	862561088.00

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	85	79	203	192	42	1797	149	147	1487	62
v/c Ratio	0.46	0.21	0.75	0.45	0.39	0.93	0.17	0.89	0.68	0.06
Control Delay	44.9	14.5	56.8	17.0	62.0	33.8	8.2	97.1	18.1	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	14.5	56.8	17.0	62.0	33.8	8.2	97.1	18.1	3.5
Queue Length 50th (ft)	52	13	132	40	28	559	24	101	364	0
Queue Length 95th (ft)	100	50	212	102	70	#931	70	#252	594	21
Internal Link Dist (ft)		288		473		404			1931	
Turn Bay Length (ft)	100		180		150		170	150		430
Base Capacity (vph)	292	576	429	606	115	1931	870	165	2200	984
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.14	0.47	0.32	0.37	0.93	0.17	0.89	0.68	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	22	53	193	12	170	40	1707	142	140	1413	59
Future Volume (veh/h)	81	22	53	193	12	170	40	1707	142	140	1413	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	23	56	203	13	179	42	1797	149	147	1487	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	106	258	308	24	332	54	1895	821	164	2116	921
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.03	0.53	0.53	0.09	0.60	0.60
Sat Flow, veh/h	1191	477	1162	1320	108	1493	1781	3554	1539	1781	3554	1547
Grp Volume(v), veh/h	85	0	79	203	0	192	42	1797	149	147	1487	62
Grp Sat Flow(s),veh/h/ln	1191	0	1639	1320	0	1602	1781	1777	1539	1781	1777	1547
Q Serve(g_s), s	7.4	0.0	4.3	16.1	0.0	11.5	2.5	51.8	5.4	8.9	31.6	1.8
Cycle Q Clear(g_c), s	18.9	0.0	4.3	20.4	0.0	11.5	2.5	51.8	5.4	8.9	31.6	1.8
Prop In Lane	1.00		0.71	1.00		0.93	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	205	0	364	308	0	356	54	1895	821	164	2116	921
V/C Ratio(X)	0.41	0.00	0.22	0.66	0.00	0.54	0.78	0.95	0.18	0.89	0.70	0.07
Avail Cap(c_a), veh/h	325	0	529	440	0	517	115	1917	830	164	2116	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.6	0.0	34.5	42.8	0.0	37.3	52.2	23.9	13.1	48.7	15.3	9.2
Incr Delay (d2), s/veh	1.3	0.0	0.3	2.4	0.0	1.3	21.3	10.7	0.1	41.5	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	1.7	5.4	0.0	4.6	1.5	23.2	1.9	5.8	12.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	0.0	34.8	45.2	0.0	38.5	73.6	34.6	13.2	90.2	16.3	9.3
LnGrp LOS	D	A	C	D	A	D	E	C	B	F	B	A
Approach Vol, veh/h		164			395			1988			1696	
Approach Delay, s/veh		41.1			42.0			33.8			22.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	15.0	64.3	29.1	8.3	71.1	29.1
Change Period (Y+Rc), s	5.0	6.5	5.0	5.0	6.5	5.0
Max Green Setting (Gmax), s	10.0	58.5	35.0	7.0	61.5	35.0
Max Q Clear Time (g_c+I1), s	10.9	53.8	20.9	4.5	33.6	22.4
Green Ext Time (p_c), s	0.0	4.1	0.7	0.0	14.2	1.7

Intersection Summary	
HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	36.0	36.1	61.3	62.1
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	6	6
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.05	2.19	3.08	3.08
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	164	395	1988	1696
Effct. Green for Bike (s)	22.3	22.3	58.8	67.0
Cross Street Width (ft)	72.7	72.1	37.7	37.5
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	372	372	980	1117
Bicycle Delay (s/bike)	39.8	39.8	15.6	11.7
Bicycle Compliance	Poor	Poor	Fair	Fair
Bicycle LOS Score	2.94	3.31	3.78	3.53
Bicycle LOS	C	C	D	D

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	707	605	236	219	475	550	1085	375	304	900	624
v/c Ratio	1.22	0.71	0.45	0.88	0.60	1.22	0.86	0.50	1.19	0.85	0.73
Control Delay	154.7	42.0	9.4	80.9	32.3	160.1	41.3	7.8	159.8	45.0	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	154.7	42.0	9.4	80.9	32.3	160.1	41.3	7.8	159.8	45.0	18.7
Queue Length 50th (ft)	~312	203	16	151	122	~243	360	25	~131	304	191
Queue Length 95th (ft)	#479	262	78	#324	174	#392	#545	111	#243	#462	381
Internal Link Dist (ft)		372			770		1992			544	
Turn Bay Length (ft)	300		300	150		250		250	250		300
Base Capacity (vph)	578	1258	677	248	1159	449	1291	762	256	1092	856
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.22	0.48	0.35	0.88	0.41	1.22	0.84	0.49	1.19	0.82	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	679	581	227	210	285	171	528	1042	360	292	864	599
Future Volume (veh/h)	679	581	227	210	285	171	528	1042	360	292	864	599
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	707	605	236	219	297	178	550	1085	375	304	900	624
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	560	930	400	241	500	290	436	1248	541	249	1056	715
Arrive On Green	0.16	0.26	0.26	0.14	0.23	0.23	0.13	0.35	0.35	0.07	0.30	0.30
Sat Flow, veh/h	3456	3554	1529	1781	2133	1237	3456	3554	1541	3456	3554	1543
Grp Volume(v), veh/h	707	605	236	219	246	229	550	1085	375	304	900	624
Grp Sat Flow(s),veh/h/ln	1728	1777	1529	1781	1777	1593	1728	1777	1541	1728	1777	1543
Q Serve(g_s), s	18.0	16.8	15.0	13.5	13.6	14.3	14.0	31.7	23.2	8.0	26.5	33.0
Cycle Q Clear(g_c), s	18.0	16.8	15.0	13.5	13.6	14.3	14.0	31.7	23.2	8.0	26.5	33.0
Prop In Lane	1.00		1.00	1.00		0.78	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	560	930	400	241	417	374	436	1248	541	249	1056	715
V/C Ratio(X)	1.26	0.65	0.59	0.91	0.59	0.61	1.26	0.87	0.69	1.22	0.85	0.87
Avail Cap(c_a), veh/h	560	1216	523	241	560	502	436	1248	541	249	1056	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	36.5	35.8	47.4	37.8	38.0	48.5	33.6	30.9	51.5	36.7	27.2
Incr Delay (d2), s/veh	131.9	0.8	1.4	34.9	1.3	1.6	135.5	6.8	3.8	130.1	6.9	11.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.9	7.3	5.7	8.3	6.1	5.7	14.2	14.6	9.1	7.9	12.3	16.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	178.4	37.3	37.2	82.3	39.1	39.6	184.0	40.5	34.7	181.6	43.6	38.7
LnGrp LOS	F	D	D	F	D	D	F	D	C	F	D	D
Approach Vol, veh/h		1548			694			2010			1828	
Approach Delay, s/veh		101.7			52.9			78.7			64.9	
Approach LOS		F			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	44.0	20.0	34.1	19.0	38.0	23.0	31.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	8.0	39.0	15.0	38.0	14.0	33.0	18.0	35.0
Max Q Clear Time (g_c+I1), s	10.0	33.7	15.5	18.8	16.0	35.0	20.0	16.3
Green Ext Time (p_c), s	0.0	3.0	0.0	5.4	0.0	0.0	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	77.4
HCM 6th LOS	E

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	73.8	71.3	72.3	84.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	7	5	7	7
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	3.04	2.71	3.08	3.14
Pedestrian Crosswalk LOS	C	C	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	1548	694	2010	1828
Effct. Green for Bike (s)	26.0	23.0	38.2	32.2
Cross Street Width (ft)	84.2	84.1	73.0	85.7
Through Lanes Number	2	2	2	2
Through Lane Width (ft)	12.0	12.0	12.0	12.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	433	383	637	537
Bicycle Delay (s/bike)	36.8	39.2	27.9	32.1
Bicycle Compliance	Poor	Poor	Fair	Poor
Bicycle LOS Score	4.12	3.42	4.33	4.38
Bicycle LOS	D	C	D	D

Intersection						
Int Delay, s/veh	8.4					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	123	50	90	1436	1328	82
Future Vol, veh/h	123	50	90	1436	1328	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	200	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	131	53	96	1528	1413	87

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2413	750	1500	0	-	0
Stage 1	1457	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 27	354	443	-	-	-
Stage 1	181	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 21	354	443	-	-	-
Mov Cap-2 Maneuver	~ 116	-	-	-	-	-
Stage 1	142	-	-	-	-	-
Stage 2	334	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	142.6	0.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	443	-	116	354	-	-
HCM Lane V/C Ratio	0.216	-	1.128	0.15	-	-
HCM Control Delay (s)	15.4	-	193.6	17	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	0.8	-	8	0.5	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s   +: Computation Not Defined   *: All major volume in platoon

Approach	
Approach Direction	NB
Median Present?	No
Approach Delay(s)	31485814.0
Level of Service	F

Crosswalk	
Length (ft)	67
Lanes Crossed	4
Veh Vol Crossed	2764
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	22.14
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	31485816.00
Avg Ped Delay (s)	31485814.00

Approach	
Approach Direction	SB
Median Present?	No
Approach Delay(s)	545272320.0
Level of Service	F

Crosswalk	
Length (ft)	80
Lanes Crossed	4
Veh Vol Crossed	2764
Ped Vol Crossed	0
Yield Rate(%)	0
Ped Platooning	No
Critical Headway (s)	25.86
Prob of Delayed X-ing	1.00
Prob of Blocked Lane	0.99
Delay for adq Gap	545272320.00
Avg Ped Delay (s)	545272320.00

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	277	44	33	390	22	1264	323	1424
v/c Ratio	0.90	0.10	0.22	0.63	0.29	0.91	0.91	0.69
Control Delay	74.6	0.4	40.2	12.4	66.0	43.9	75.2	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Total Delay	74.6	0.4	40.2	12.4	66.0	45.3	75.2	18.6
Queue Length 50th (ft)	207	0	20	36	17	480	246	405
Queue Length 95th (ft)	#361	0	51	138	46	#624	#417	494
Internal Link Dist (ft)	310		100			537		936
Turn Bay Length (ft)		75		75	200		200	
Base Capacity (vph)	336	494	166	646	75	1454	376	2101
Starvation Cap Reductn	0	0	0	0	0	70	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.09	0.20	0.60	0.29	0.91	0.86	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	10	40	30	0	355	20	1130	20	294	1224	72
Future Volume (veh/h)	242	10	40	30	0	355	20	1130	20	294	1224	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	266	11	44	33	0	390	22	1242	22	323	1345	79
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	426	15	413	495	0	413	31	1407	25	354	1959	115
Arrive On Green	0.26	0.26	0.26	0.26	0.00	0.26	0.02	0.39	0.39	0.20	0.58	0.58
Sat Flow, veh/h	1393	58	1585	1654	0	1585	1781	3570	63	1781	3406	200
Grp Volume(v), veh/h	277	0	44	33	0	390	22	618	646	323	700	724
Grp Sat Flow(s),veh/h/ln	1450	0	1585	1654	0	1585	1781	1777	1857	1781	1777	1829
Q Serve(g_s), s	17.9	0.0	2.4	0.0	0.0	27.2	1.4	36.4	36.4	20.0	31.1	31.4
Cycle Q Clear(g_c), s	19.5	0.0	2.4	1.6	0.0	27.2	1.4	36.4	36.4	20.0	31.1	31.4
Prop In Lane	0.96		1.00	1.00		1.00	1.00		0.03	1.00		0.11
Lane Grp Cap(c), veh/h	441	0	413	495	0	413	31	700	732	354	1022	1052
V/C Ratio(X)	0.63	0.00	0.11	0.07	0.00	0.94	0.70	0.88	0.88	0.91	0.68	0.69
Avail Cap(c_a), veh/h	449	0	422	503	0	422	79	765	799	395	1080	1112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	0.0	31.7	31.4	0.0	40.8	55.0	31.7	31.7	44.2	16.8	16.8
Incr Delay (d2), s/veh	2.7	0.0	0.1	0.1	0.0	29.6	24.3	11.1	10.8	23.6	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	0.9	0.7	0.0	13.9	0.8	17.4	18.1	11.1	12.5	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	0.0	31.8	31.4	0.0	70.5	79.4	42.8	42.5	67.8	18.5	18.5
LnGrp LOS	D	A	C	C	A	E	E	D	D	E	B	B
Approach Vol, veh/h		321			423			1286			1747	
Approach Delay, s/veh		39.4			67.4			43.3			27.6	
Approach LOS		D			E			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	27.4	50.9		34.4	7.0	71.3		34.4
Change Period (Y+Rc), s	5.0	6.5		5.0	5.0	6.5		5.0
Max Green Setting (Gmax), s	25.0	48.5		30.0	5.0	68.5		30.0
Max Q Clear Time (g_c+I1), s	22.0	38.4		21.5	3.4	33.4		29.2
Green Ext Time (p_c), s	0.4	6.0		1.2	0.0	14.3		0.2

Intersection Summary			
HCM 6th Ctrl Delay			38.4
HCM 6th LOS			D

Approach	EB	WB	NB	SB
Crosswalk Length (ft)	34.0	34.2	57.2	59.2
Crosswalk Width (ft)	12.0	12.0	12.0	12.0
Total Number of Lanes Crossed	3	3	5	5
Number of Right-Turn Islands	0	0	0	0
Type of Control	None	None	None	None
Corresponding Signal Phase	6	2	4	8
Effective Walk Time (s)	0.0	0.0	0.0	0.0
Right Corner Size A (ft)	9.0	9.0	9.0	9.0
Right Corner Size B (ft)	9.0	9.0	9.0	9.0
Right Corner Curb Radius (ft)	0.0	0.0	0.0	0.0
Right Corner Total Area (sq.ft)	81.00	81.00	81.00	81.00
Ped. Left-Right Flow Rate (p/h)	0	0	0	0
Ped. Right-Left Flow Rate (p/h)	0	0	0	0
Ped. R. Sidewalk Flow Rate (p/h)	0	0	0	0
Veh. Perm. L. Flow in Walk (v/h)	0	0	0	0
Veh. Perm. R. Flow in Walk (v/h)	0	0	0	0
Veh. RTOR Flow in Walk (v/h)	0	0	0	0
85th percentile speed (mph)	30	30	30	30
Right Corner Area per Ped (sq.ft)	0.0	0.0	0.0	0.0
Right Corner Quality of Service	-	-	-	-
Ped. Circulation Area (sq.ft)	0.0	0.0	0.0	0.0
Crosswalk Circulation Code	-	-	-	-
Pedestrian Delay (s/p)	60.0	60.0	60.0	60.0
Pedestrian Compliance Code	Poor	Poor	Poor	Poor
Pedestrian Crosswalk Score	2.10	2.21	2.85	3.03
Pedestrian Crosswalk LOS	B	B	C	C

Approach	EB	WB	NB	SB
Bicycle Flow Rate (bike/h)	0	0	0	0
Total Flow Rate (veh/h)	321	423	1286	1747
Effct. Green for Bike (s)	27.7	27.7	46.5	69.7
Cross Street Width (ft)	57.2	59.2	34.2	34.0
Through Lanes Number	1	1	2	2
Through Lane Width (ft)	11.0	11.0	11.0	11.0
Bicycle Lane Width (ft)	0.0	0.0	0.0	0.0
Striped Parking Lane Width (ft)	0.0	0.0	0.0	0.0
Paved Shoulder Width (ft)	0.0	0.0	0.0	0.0
Curb Is Present?	No	No	No	No
On Street Parking?	No	No	No	No
Bicycle Lane Capacity (bike/h)	462	462	775	1162
Bicycle Delay (s/bike)	35.5	35.5	22.5	10.5
Bicycle Compliance	Poor	Poor	Fair	Fair
Bicycle LOS Score	3.18	3.38	3.36	3.74
Bicycle LOS	C	C	C	D

Appendix C: Segment LOS Calculation Sheets

Existing

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing AM Broad Street Northbound
Direction: Northbound
Date: 12/13/2017

Limits: Orcutt Road to South City Limits
Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	0.69	2.14	B	16632.00	3.14	C	2.21	B	4.65	E
2	Industrial	Tank Farm Road	0.62	2.14	B	11088.00	2.83	C	2.09	B	5.55	F
3	Tank Farm Road	Aerovista	1.06	2.52	F (v/c>1)	#DIV/0!	3.44	#DIV/0!	2.08	B	#DIV/0!	N/A
4	Aerovista	Aero	0.36	2.14	B	9503.99	2.89	C	1.24	A	#DIV/0!	N/A
5	Aero	South City Limits	1.88	2.93	F (v/c>1)	#DIV/0!	4.30	#DIV/0!	2.10	B	#DIV/0!	N/A

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing AM Broad Street Southbound
Direction: Southbound
Date: 12/13/2017

Limits: Orcutt Road to South City Limits
Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	0.90	2.14	B	#DIV/0!	3.41	#DIV/0!	2.09	B	#DIV/0!	N/A
2	Industrial	Tank Farm Road	1.04	2.14	F (v/c>1)	#DIV/0!	4.40	#DIV/0!	2.06	B	#DIV/0!	N/A
3	Tank Farm Road	Aerovista	0.24	2.52	B	6692.39	3.22	C	0.98	A	4.69	E
4	Aerovista	Aero	0.61	2.14	B	11880.00	2.18	B	0.92	A	#DIV/0!	N/A
5	Aero	South City Limits	0.26	2.93	C	#DIV/0!	3.81	#DIV/0!	1.22	A	5.70	F

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing AM Tank Farm Road Eastbound — Direction: Eastbound — Date: 12/13/2017

Limits: Old Windmill Lane to Orcutt Road — Analyst: DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.40	2.34	B	#DIV/0!	5.40	#DIV/0!	2.78	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.18	2.75	B	1552.28	2.79	C	2.05	B	#DIV/0!	N/A
3	Broad	UPRR	0.10	2.47	B	2534.38	2.84	C	2.18	B	#DIV/0!	N/A
4	UPRR	Orcutt	0.03	3.13	C	1900.77	1.12	A	0.30	A	#DIV/0!	N/A
5												

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing AM Tank Farm Road Westbound — Direction: Westbound — Date: 12/13/2017

Limits: Orcutt Road to Old Windmill Lane — Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.34	2.34	B	#DIV/0!	5.08	#DIV/0!	2.69	B	#DIV/0!	N/A
2	Santa Fe	Broad	0.64	2.75	B	#DIV/0!	3.79	#DIV/0!	2.44	B	#DIV/0!	N/A
3	Broad	UPRR	0.18	2.47	B	6335.99	3.14	C	2.38	B	3.33	C
4	UPRR	Orcutt	0.08	3.13	C	#DIV/0!	3.18	#DIV/0!	0.47	A	4.17	D
5												

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing PM Broad Street Northbound — Direction: Northbound — Date: 12/13/2017

Limits: Orcutt Road to South City Limits — Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	1.12	2.14	F (v/c>1)	10295.99	3.64	D	2.39	B	4.71	E
2	Industrial	Tank Farm Road	0.77	2.14	B	11088.00	2.80	C	2.11	B	5.53	F
3	Tank Farm Road	Aerovista	1.06	2.52	F (v/c>1)	#DIV/0!	3.39	#DIV/0!	2.06	B	#DIV/0!	N/A
4	Aerovista	Aero	0.23	2.14	B	9503.99	2.32	B	0.83	A	#DIV/0!	N/A
5	Aero	South City Limits	0.95	2.93	C	#DIV/0!	2.95	#DIV/0!	1.77	A	#DIV/0!	N/A

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing AM Broad Street Southbound — Direction: Southbound — Date: 12/13/2017

Limits: Orcutt Road to South City Limits — Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	0.89	2.14	B	#DIV/0!	4.54	#DIV/0!	2.11	B	#DIV/0!	N/A
2	Industrial	Tank Farm Road	1.14	2.14	F (v/c>1)	#DIV/0!	4.43	#DIV/0!	2.08	B	#DIV/0!	N/A
3	Tank Farm Road	Aerovista	0.32	2.52	B	6692.39	3.38	C	1.05	A	4.72	E
4	Aerovista	Aero	1.04	2.14	F (v/c>1)	11880.00	2.68	B	1.18	A	#DIV/0!	N/A
5	Aero	South City Limits	0.48	2.93	C	#DIV/0!	3.90	#DIV/0!	1.53	A	5.71	F

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing PM Tank Farm Road Eastbound | Direction: Eastbound | Date: 12/13/2017

Limits: Old Windmill Lane to Orcutt Road | Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.41	2.34	B	#DIV/0!	5.45	#DIV/0!	2.80	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.38	2.75	B	1552.28	3.11	C	2.20	B	#DIV/0!	N/A
3	Broad	UPRR	0.22	2.47	B	6335.99	3.30	C	2.59	B	#DIV/0!	N/A
4	UPRR	Orcutt	0.13	3.13	C	19008.00	1.72	A	0.66	A	#DIV/0!	N/A
5												

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing PM Tank Farm Road Westbound | Direction: Westbound | Date: 12/13/2017

Limits: Orcutt Road to Old Windmill Lane | Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.52	2.34	B	#DIV/0!	6.00	#DIV/0!	2.92	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.29	2.75	B	#DIV/0!	4.40	#DIV/0!	2.57	B	#DIV/0!	N/A
3	Broad	UPRR	0.18	2.47	B	6335.99	3.13	C	2.37	B	3.32	C
4	UPRR	Orcutt	0.07	3.13	C	#DIV/0!	2.99	#DIV/0!	0.33	A	4.14	D
5												

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

Existing Plus Project

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing Plus Project AM Broad Street Northbound — Direction: Northbound — Date: 4/19/2018

Limits: Orcutt Road to South City Limits — Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	0.72	2.14	B	16632.00	3.20	C	2.24	B	4.66	E
2	Industrial	Tank Farm Road	0.66	2.14	B	11088.00	2.88	C	2.12	B	5.55	F
3	Tank Farm Road	Aerovista	1.06	2.52	F (v/c>1)	#DIV/0!	3.44	#DIV/0!	2.08	B	#DIV/0!	N/A
4	Aerovista	Aero	0.36	2.14	B	9503.99	2.89	C	1.25	A	#DIV/0!	N/A
5	Aero	South City Limits	1.88	2.93	F (v/c>1)	#DIV/0!	4.31	#DIV/0!	2.10	B	#DIV/0!	N/A

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing Plus Project AM Broad Street Southbound — Direction: Southbound — Date: 4/19/2018

Limits: Orcutt Road to South City Limits — Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	0.91	2.14	B	#DIV/0!	3.43	#DIV/0!	2.10	B	#DIV/0!	N/A
2	Industrial	Tank Farm Road	1.06	2.14	F (v/c>1)	#DIV/0!	3.33	#DIV/0!	2.06	B	#DIV/0!	N/A
3	Tank Farm Road	Aerovista	0.25	2.52	B	6692.39	3.23	C	0.98	A	4.70	E
4	Aerovista	Aero	0.62	2.14	B	11880.00	2.19	B	0.93	A	#DIV/0!	N/A
5	Aero	South City Limits	0.87	2.93	C	#DIV/0!	3.83	#DIV/0!	1.22	A	5.71	F

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing Plus Project AM Tank Farm Road Eastbound | Direction: Eastbound | Date: 4/19/2018

Limits: Old Windmill Lane to Orcutt Road | Analyst: DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.40	2.34	B	#DIV/0!	5.41	#DIV/0!	2.79	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.17	2.75	B	1552.28	2.84	C	2.07	B	#DIV/0!	N/A
3	Broad	UPRR	0.10	2.47	B	2534.38	2.85	C	2.19	B	#DIV/0!	N/A
4	UPRR	Orcutt	0.03	3.13	C	1900.77	1.14	A	0.32	A	#DIV/0!	N/A
5												

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing Plus Project AM Tank Farm Road Westbound | Direction: Westbound | Date: 4/19/2018

Limits: Orcutt Road to Old Windmill Lane | Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.34	2.34	B	#DIV/0!	5.12	#DIV/0!	2.71	B	#DIV/0!	N/A
2	Santa Fe	Broad	0.33	2.75	B	#DIV/0!	3.98	#DIV/0!	2.10	B	#DIV/0!	N/A
3	Broad	UPRR	0.18	2.47	B	6335.99	3.14	C	2.38	B	3.33	C
4	UPRR	Orcutt	0.08	3.13	C	#DIV/0!	3.18	#DIV/0!	0.47	A	4.17	D
5												

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing Plus Project PM Broad Street Northbound | Direction: Northbound | Date: 4/19/2018

Limits: Orcutt Road to South City Limits | Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	1.14	2.14	F (v/c>1)	10295.99	3.67	D	2.40	B	4.72	E
2	Industrial	Tank Farm Road	0.79	2.14	B	11088.00	2.82	C	2.13	B	5.54	F
3	Tank Farm Road	Aerovista	1.07	2.52	F (v/c>1)	#DIV/0!	3.40	#DIV/0!	2.07	B	#DIV/0!	N/A
4	Aerovista	Aero	0.24	2.14	B	9503.99	2.33	B	0.83	A	#DIV/0!	N/A
5	Aero	South City Limits	0.96	2.93	C	#DIV/0!	2.97	#DIV/0!	1.77	A	#DIV/0!	N/A

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing Plus Project AM Broad Street Southbound | Direction: Southbound | Date: 4/19/2018

Limits: Orcutt Road to South City Limits | Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	0.93	2.14	B	#DIV/0!	4.60	#DIV/0!	2.13	B	#DIV/0!	N/A
2	Industrial	Tank Farm Road	1.19	2.14	F (v/c>1)	#DIV/0!	4.50	#DIV/0!	2.10	B	#DIV/0!	N/A
3	Tank Farm Road	Aerovista	0.32	2.52	B	6692.39	3.39	C	1.05	A	4.72	E
4	Aerovista	Aero	1.05	2.14	F (v/c>1)	11880.00	2.68	B	1.18	A	#DIV/0!	N/A
5	Aero	South City Limits	0.48	2.93	C	#DIV/0!	3.91	#DIV/0!	1.53	A	5.71	F

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing Plus Project PM Tank Farm Road Eastbound — Direction: Eastbound — Date: 4/19/2018

Limits: Old Windmill Lane to Orcutt Road — Analyst: DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.42	2.34	B	#DIV/0!	5.50	#DIV/0!	2.81	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.39	2.75	B	1552.28	3.14	C	2.22	B	#DIV/0!	N/A
3	Broad	UPRR	0.22	2.47	B	6335.99	3.30	C	2.59	B	#DIV/0!	N/A
4	UPRR	Orcutt	0.13	3.13	C	19008.00	1.73	A	0.66	A	#DIV/0!	N/A
5												

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Existing Plus Project PM Tank Farm Road Westbound — Direction: Westbound — Date: 4/19/2018

Limits: Old Windmill to Orcutt — Analyst: LC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.52	2.34	B	#DIV/0!	6.02	#DIV/0!	2.92	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.50	2.75	B	#DIV/0!	4.30	#DIV/0!	2.24	B	#DIV/0!	N/A
3	Broad	UPRR	0.18	2.47	B	6335.99	3.14	C	2.38	B	3.33	C
4	UPRR	Orcutt	0.07	3.13	C	#DIV/0!	3.01	#DIV/0!	0.35	A	4.14	D
5												

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

Cumulative

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Cumulative AM Broad Street Northbound — Direction: Northbound — Date: 5/8/2018

Limits: Orcutt Road to South City Limits — Analyst: DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	0.79	2.14	B	16632.00	3.31	C	2.28	B	4.68	E
2	Industrial	Tank Farm Road	0.80	2.14	B	11088.00	3.04	C	2.20	B	5.58	F
3	Tank Farm Road	Aerovista	1.42	2.52	F (v/c>1)	#DIV/0!	3.87	#DIV/0!	2.23	B	#DIV/0!	N/A
4	Aerovista	Aero	0.44	2.14	B	9503.99	3.22	C	1.35	A	#DIV/0!	N/A
5	Aero	South City Limits	1.99	2.93	F (v/c>1)	#DIV/0!	4.47	#DIV/0!	2.13	B	#DIV/0!	N/A

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Cumulative AM Broad Street Southbound — Direction: Southbound — Date: 5/8/2018

Limits: Orcutt Road to South City Limits — Analyst: DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	1.33	2.14	F (v/c>1)	#DIV/0!	4.06	#DIV/0!	2.29	B	#DIV/0!	N/A
2	Industrial	Tank Farm Road	1.60	2.14	F (v/c>1)	9503.99	3.55	D	2.27	B	#DIV/0!	N/A
3	Tank Farm Road	Aerovista	0.35	2.52	B	6692.39	3.63	D	1.14	A	4.76	E
4	Aerovista	Aero	1.07	2.14	F (v/c>1)	11880.00	2.91	C	1.26	A	#DIV/0!	N/A
5	Aero	South City Limits	0.44	2.93	C	#DIV/0!	4.74	#DIV/0!	1.48	A	5.84	F

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Cumulative AM Tank Farm Road Eastbound — Direction: Eastbound — Date: 5/8/2018

Limits: Old Windmill Lane to Orcutt Road — Analyst: DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.58	2.34	B	#DIV/0!	6.33	#DIV/0!	2.98	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.25	2.75	B	1552.28	3.17	C	2.23	B	#DIV/0!	N/A
3	Broad	UPRR	0.13	2.47	B	2534.38	2.98	C	2.34	B	#DIV/0!	N/A
4	UPRR	Orcutt	0.02	3.13	C	1900.77	0.94	A	0.12	A	#DIV/0!	N/A
5												

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Cumulative AM Tank Farm Road Westbound — Direction: Westbound — Date: 5/8/2018

Limits: Orcutt Road to Old Windmill Lane — Analyst: DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.48	2.34	B	#DIV/0!	5.81	#DIV/0!	2.88	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.73	2.75	B	9345.59	3.11	C	2.38	B	#DIV/0!	N/A
3	Broad	UPRR	0.28	2.47	B	6335.99	3.51	D	2.60	B	3.38	C
4	UPRR	Orcutt	0.06	3.13	C	#DIV/0!	3.00	#DIV/0!	0.34	A	4.14	D
5												

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Cumulative PM Broad Street Northbound | Direction: Northbound | Date: 5/8/2018

Limits: Orcutt Road to South City Limits | Analyst: DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	1.54	2.14	F (v/c>1)	10295.99	4.23	D	2.55	B	4.80	E
2	Industrial	Tank Farm Road	1.13	2.14	F (v/c>1)	11088.00	3.21	C	2.29	B	5.60	F
3	Tank Farm Road	Aerovista	1.63	2.52	F (v/c>1)	#DIV/0!	4.12	#DIV/0!	2.30	B	#DIV/0!	N/A
4	Aerovista	Aero	0.46	2.14	B	9503.99	3.25	C	1.19	A	#DIV/0!	N/A
5	Aero	South City Limits	1.68	2.93	F (v/c>1)	#DIV/0!	4.09	#DIV/0!	2.06	B	#DIV/0!	N/A

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Cumulative AM Broad Street Southbound | Direction: Southbound | Date: 5/8/2018

Limits: Orcutt Road to South City Limits | Analyst: DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	1.14	2.14	F (v/c>1)	#DIV/0!	4.93	#DIV/0!	2.23	B	#DIV/0!	N/A
2	Industrial	Tank Farm Road	1.47	2.14	F (v/c>1)	9503.99	3.30	C	2.20	B	#DIV/0!	N/A
3	Tank Farm Road	Aerovista	0.38	2.52	B	6692.39	3.62	D	1.13	A	4.76	E
4	Aerovista	Aero	1.30	2.14	F (v/c>1)	11880.00	3.11	C	1.33	A	#DIV/0!	N/A
5	Aero	South City Limits	0.56	2.93	C	#DIV/0!	4.35	#DIV/0!	1.61	A	5.77	F

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Cumulative PM Tank Farm Road Eastbound | Direction: Eastbound | Date: 5/8/2018

Limits: Old Windmill Lane to Orcutt Road | Analyst: DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.49	2.34	B	#DIV/0!	5.86	#DIV/0!	2.89	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.58	2.75	B	1552.28	3.55	D	2.36	B	#DIV/0!	N/A
3	Broad	UPRR	0.37	2.47	B	6335.99	3.88	D	2.86	C	#DIV/0!	N/A
4	UPRR	Orcutt	0.11	3.13	C	19008.00	1.55	A	0.58	A	#DIV/0!	N/A
5												

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street: Cumulative PM Tank Farm Road Westbound | Direction: Westbound | Date: 5/8/2018

Limits: Orcutt Road to Old Windmill Lane | Analyst: DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.61	2.34	B	#DIV/0!	6.48	#DIV/0!	3.00	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.19	2.75	B	1869.09	3.03	C	2.35	B	#DIV/0!	N/A
3	Broad	UPRR	0.66	2.47	B	6335.99	3.21	C	2.43	B	3.34	C
4	UPRR	Orcutt	0.04	3.13	C	#DIV/0!	2.73	#DIV/0!	0.05	A	4.10	D
5												

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

Cumulative Plus Project

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street Cumulative Plus Project AM Broad Street Northbound | Direction Northbound | Date 5/8/2018

Limits Orcutt Road to South City Limits | Analyst DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	0.82	2.14	B	16632.00	3.36	C	2.30	B	4.69	E
2	Industrial	Tank Farm Road	0.82	2.14	B	11088.00	3.08	C	2.22	B	5.58	F
3	Tank Farm Road	Aerovista	1.43	2.52	F (v/c>1)	#DIV/0!	3.88	#DIV/0!	2.23	B	#DIV/0!	N/A
4	Aerovista	Aero	0.45	2.14	B	9503.99	3.23	C	1.35	A	#DIV/0!	N/A
5	Aero	South City Limits	2.00	2.93	F (v/c>1)	#DIV/0!	4.48	#DIV/0!	2.13	B	#DIV/0!	N/A

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street Cumulative Plus Project AM Broad Street Southbound | Direction Southbound | Date 5/8/2018

Limits Orcutt Road to South City Limits | Analyst DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	1.34	2.14	F (v/c>1)	#DIV/0!	4.08	#DIV/0!	2.29	B	#DIV/0!	N/A
2	Industrial	Tank Farm Road	1.61	2.14	F (v/c>1)	9503.99	3.57	D	2.28	B	#DIV/0!	N/A
3	Tank Farm Road	Aerovista	0.36	2.52	B	6692.39	3.66	D	1.15	A	4.76	E
4	Aerovista	Aero	1.08	2.14	F (v/c>1)	11880.00	2.94	C	1.27	A	#DIV/0!	N/A
5	Aero	South City Limits	0.44	2.93	C	#DIV/0!	4.78	#DIV/0!	1.49	A	5.85	F

Note:

1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)

Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street Cumulative Plus Project AM Tank Farm Road Eastbound   Direction Eastbound   Date 5/8/2018

Limits Old Windmill Lane to Orcutt Road   Analyst DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.58	2.34	B	#DIV/0!	6.34	#DIV/0!	2.98	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.26	2.75	B	1552.28	3.22	C	2.25	B	#DIV/0!	N/A
3	Broad	UPRR	0.14	2.47	B	2534.38	2.99	C	2.35	B	#DIV/0!	N/A
4	UPRR	Orcutt	0.02	3.13	C	1900.77	0.95	A	0.13	A	#DIV/0!	N/A
5												

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street Cumulative Plus Project AM Tank Farm Road Westbound   Direction Westbound   Date 5/8/2018

Limits Orcutt Road to Old Windmill Lane   Analyst DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.48	2.34	B	#DIV/0!	5.83	#DIV/0!	2.88	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.74	2.75	B	9345.59	3.13	C	2.38	B	#DIV/0!	N/A
3	Broad	UPRR	0.28	2.47	B	6335.99	3.51	D	2.60	B	3.38	C
4	UPRR	Orcutt	0.06	3.13	C	#DIV/0!	3.00	#DIV/0!	0.34	A	4.14	D
5												

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street Cumulative Plus Project PM Broad Street Northbound Direction Northbound Date 5/8/2018

Limits Orcutt Road to South City Limits Analyst DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	1.56	2.14	F (v/c>1)	10295.99	4.26	E	2.56	B	4.81	E
2	Industrial	Tank Farm Road	1.14	2.14	F (v/c>1)	11088.00	3.23	C	2.30	B	5.60	F
3	Tank Farm Road	Aerovista	1.65	2.52	F (v/c>1)	#DIV/0!	4.15	#DIV/0!	2.31	B	#DIV/0!	N/A
4	Aerovista	Aero	0.47	2.14	B	9503.99	3.27	C	1.19	A	#DIV/0!	N/A
5	Aero	South City Limits	1.71	2.93	F (v/c>1)	#DIV/0!	4.13	#DIV/0!	2.07	B	#DIV/0!	N/A

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street Cumulative Plus Project AM Broad Street Southbound Direction Southbound Date 5/8/2018

Limits Orcutt Road to South City Limits Analyst DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Orcutt	Industrial	1.17	2.14	F (v/c>1)	#DIV/0!	4.98	#DIV/0!	2.24	B	#DIV/0!	N/A
2	Industrial	Tank Farm Road	1.51	2.14	F (v/c>1)	9503.99	3.36	C	2.22	B	#DIV/0!	N/A
3	Tank Farm Road	Aerovista	0.38	2.52	B	6692.39	3.64	D	1.14	A	4.76	E
4	Aerovista	Aero	1.31	2.14	F (v/c>1)	11880.00	3.13	C	1.34	A	#DIV/0!	N/A
5	Aero	South City Limits	0.57	2.93	C	#DIV/0!	4.38	#DIV/0!	1.62	A	5.78	F

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street Cumulative Plus Project PM Tank Farm Road Eastbound   Direction Eastbound   Date 5/8/2018

Limits Old Windmill Lane to Orcutt Road   Analyst DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.49	2.34	B	#DIV/0!	5.88	#DIV/0!	2.89	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.57	2.75	B	1552.28	3.59	D	2.37	B	#DIV/0!	N/A
3	Broad	UPRR	0.37	2.47	B	6335.99	3.88	D	2.86	C	#DIV/0!	N/A
4	UPRR	Orcutt	0.11	3.13	C	19008.00	1.55	A	0.58	A	#DIV/0!	N/A
5												

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

LOS+ Multimodal Level of Service for Urban Streets
Results Summary

Street Cumulative Plus Project PM Tank Farm Road Westbound   Direction Westbound   Date 5/8/2018

Limits Old Windmill to Orcutt   Analyst DC

Segment	From	To	Auto Mode			Pedestrian Mode			Bicycle Mode		Transit Mode	
			V/C Ratio	LOS Score	LOS	Ped Space[1]	LOS Score	LOS	LOS Score	LOS	LOS Score	LOS
1	Old Windmill	Santa Fe	0.61	2.34	B	#DIV/0!	6.49	#DIV/0!	3.00	C	#DIV/0!	N/A
2	Santa Fe	Broad	0.67	2.75	B	1869.09	3.08	C	2.37	B	#DIV/0!	N/A
3	Broad	UPRR	0.20	2.47	B	6335.99	3.23	C	2.44	B	3.34	C
4	UPRR	Orcutt	0.04	3.13	C	#DIV/0!	2.74	#DIV/0!	0.06	A	4.10	D
5												

Note:
1. Pedestrian space is reported in square feet per pedestrian (ft^2/ped)
Source: NCHRP Project 3-70 Multimodal Level of Service For Urban Streets and Highway Capacity Manual 2010, Chapter 17

Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

MEMORANDUM

Date: October 3, 2018

To: Bryan Wheeler, City of San Luis Obispo

From: Joe Fernandez, CCTC

Subject: 650 Tank Farm- Tank Farm Road Fair Share Calculation

---

This memorandum summarizes the fair share calculation for the widening of Tank Farm Road to four lanes between Santa Fe Road and Old Windmill Lane. The Multimodal Transportation Impact Study ('TIS', CCTC, May 2018) prepared for the project evaluated segment Level of Service (LOS) using a different methodology than was used in the 2014 Circulation Element Update. This memorandum summarizes the LOS on this segment using a method consistent with the Circulation Element and calculates the project's share of cumulative traffic.

ANALYSIS

The Circulation Element update applied generalized LOS thresholds obtained from the FDOT Quality/Level of Service Handbook. Table 1 summarizes the thresholds applicable to the segment of Tank Farm Road between Santa Fe Road and Old Windmill Lane.

Table 1: Roadway Auto Segment Level of Service Thresholds

Peak Hour Volume	Level of Service
N/A	A
<1,167	B
1,167-1,775	C
1,776-2,405	D
2,406-3,224	E
>3,224	F

1. Source: Table 4 of FDOT Quality/Level of Service Handbook.

Under Cumulative conditions the PM peak hour volume along the study segment is 2,415 vehicles which corresponds to LOS E. The 650 Tank Farm project adds 18 vehicles, for a total of 2,433 vehicles under Cumulative Plus Project conditions, also LOS E.

The 650 Tank Farm project's proportional share is 0.74 percent (18/2,433=.0074).

Please let me know if you have any questions.

(805) 316-0101
895 Napa Avenue Suite A-6, Morro Bay, CA 93442

Appendix F

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Monitoring and Reporting Program

This document is the Mitigation Monitoring and Reporting Program (MMRP) for the 650 Tank Farm Mixed-Use Project, proposed in the City of San Luis Obispo, California. Public Resources Code Section 21081.6 requires that a Lead Agency adopt an MMRP before approving a project in order to mitigate or avoid significant impacts that have been identified in the Initial Study-Mitigated Negative Declaration (IS-MND). The purpose of the MMRP is to ensure that the required mitigation measures identified in the IS-MND are implemented as part of the overall project development process. In addition to ensuring implementation of mitigation measures, the MMRP provides guidance to agency staff and decision-makers during project implementation, and identifies the need for enforcement action before irreversible environmental damage occurs. Where an impact was identified to be less than significant in the IS-MND, no mitigation measures were required.

The 650 Tank Farm Mixed-Use Project consists of a General Plan Amendment, a rezone of the property and a Specific Plan Amendment to the AASP, a Conditional Use Permit for a mixed-use project within the C-S-SP zone, approval of a parking reduction request, and approval of a mobile home park conversation impact report for a 12.75-acre site project site in the City of San Luis Obispo. The following table summarizes the mitigation measures for each issue area identified in the IS-MND for the project. Specifically, the table identifies each mitigation measure; the action required for the measure to be implemented; the time at which the monitoring is to occur; the monitoring conditions; and the agency or party responsible for ensuring that the monitoring is performed. In addition, the table includes columns for compliance verification.

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
Air Quality						
AQ-1(a) SLOAPCD Operational Emissions Reduction Measures Prior to issuance of grading permits, the applicant shall define and incorporate into project design at least four of the standard emission reduction measures from the SLOAPCD *CEQA Air Quality Handbook* (Table 3-5). Emission reduction measures shall include, but would not be limited to: • Provide a pedestrian friendly and interconnected streetscape with good access to/from the development for pedestrians, bicyclists, and transit users to make alternative transportation more convenient, comfortable, and safe. • Provide shade over 50% of parking spaces to reduce evaporative emissions from parked vehicles. • Incorporate traffic calming modification into project roads to reduce vehicle speeds and increase pedestrian and bicycle usage and safety. • Work with SLOCOG to create, improve, or expand a nearby 'Park and Ride' lot with car parking and bike lockers in proportion to the size of the project. • Exceed Cal Green standards by 25% for providing on-site bicycle parking: both short term racks and long term lockers, or a locked room with standard racks and access limited to bicyclists only. • Provide improved public transit amenities (covered transit turnouts, direct pedestrian access, bicycle racks, covered bench, smart signage, route information displays, lighting, etc.) • Provide bicycle-share program for development. • Provide dedicated parking for carpools, vanpools, and/or high-efficiency vehicles to meet or exceed Cal Green Tier 2.	The applicant shall incorporate operational emissions reduction measures into development plans and submit evidence to the Community Development Department that these provisions would reduce long-term operational emissions have been reduced to below daily threshold levels prior to issuance of grading permits.	The Community Development Department shall verify compliance prior to issuance of construction permits. The Community Development Department shall site inspect to ensure development is in accordance with approved plans prior to occupancy clearance. Community Development staff shall verify installation of operational emissions reduction measures in accordance with approved building plans.	City of San Luis Obispo			
AQ-1(b) Fugitive Dust Control Measures Construction projects shall implement the following dust control measures so as to reduce PM_{10} emissions in accordance with SLOAPCD requirements. • Reduce the amount of the disturbed area where possible; • Water trucks or sprinkler systems shall be used during construction in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency shall be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water shall be used whenever possible; • All dirt stock pile areas shall be sprayed daily as needed; • Permanent dust control measures identified in the approved project revegetation and landscape plans shall be implemented as soon as possible following completion of any soil disturbing activities; • Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established; • All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD; • All roadways, driveways, sidewalks, etc. to be paved shall be completed as soon as possible after grading unless seeding or soil binders are used; • Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;	Fugitive dust control measures and standard control measures for construction equipment shall be shown on grading and construction plans prior to issuance of permits.	The Community Development Department shall verify compliance prior to issuance of grading permits. The contractor or builder shall designate a person or persons to monitor fugitive dust emissions as necessary during construction to minimize dust complaints, reduce visible emissions below 20 percent opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the SLOAPCD Compliance Division prior to the start of any grading, earthwork or demolition. The Community Development Department shall site inspect to ensure construction activities are completed in accordance with approved plans.				

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
• All trucks hauling dirt, sand, soil, or other loose materials are to be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114; • Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site; • Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible;						
AQ-1(c) Standard Control Measures for Construction Equipment The following standard air quality mitigation measures shall be implemented during construction activities at the project site: • Maintain all construction equipment in proper tune according to manufacturer's specifications; • Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road); • Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation; • Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation; • Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NOX exempt area fleets) may be eligible by proving alternative compliance; • All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5 minute idling limit; • Diesel idling within 1,000 feet of sensitive receptors is not permitted; • Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors; • Electrify equipment when feasible; • Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and • Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas, liquefied natural gas, propane or biodiesel.	Fugitive dust control measures and standard control measures for construction equipment shall be shown on grading and construction plans prior to issuance of permits.	The Community Development Department shall verify compliance prior to issuance of grading permits. The Community Development Department shall site inspect to ensure construction activities are completed in accordance with approved plans.				
Biological Resources						
BIO-1(a) Special Status Plant Species Surveys Prior to the start of vegetation management activities on the project site, or prior to the start of any construction activity within potential off-site improvement areas, the developer shall ensure an approved biologist conducts surveys for special status plant species throughout suitable habitat. Surveys shall be conducted when plants with potential to occur are in a phenological stage conducive to positive identification (i.e., usually during the blooming period for the species), a qualified biologist shall conduct surveys for special status plant species throughout suitable habitat within all potential vegetation management	Special status species protection plans and surveys shall be prepared by the applicant and shall be submitted to for review and approval by the City prior to the approval of grading and construction permits. Any required permits shall be obtained from the state and federal agencies prior to issuance of grading permits	The Environmental Monitor shall monitor environmental compliance of the construction activities throughout the construction period or as stipulated in the species- or resource-specific mitigation measure and provide monitoring reports to the City	City of San Luis Obispo			

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
areas. Reference sites must be visited prior to botanical surveys to confirm target species are detectable. Valid botanical surveys will be considered current for up to five years; if construction has not commenced within five years of the most recent survey, botanical surveys must be repeated.						
BIO-1(b) Special Status Plant Species Avoidance If special status plant species are discovered within the project site or potential off-site improvement areas, an approved biologist shall flag and fence these locations before construction activities start to avoid impacts. During vegetation management activities, any special status plants identified during the survey must be flagged for avoidance.	Special status species protection plans and surveys shall be prepared by the applicant and shall be submitted to for review and approval by the City prior to the approval of grading and construction permits. Any required permits shall be obtained from the state and federal agencies prior to issuance of grading permits	The Environmental Monitor shall monitor environmental compliance of the construction activities throughout the construction period or as stipulated in the species- or resource-specific mitigation measure and provide monitoring reports to the City	City of San Luis Obispo			
BIO-1(c) Restoration Plan If avoidance is not feasible; all impacts shall be mitigated at a minimum ratio of 2:1 (number of acres or individuals restored to number of acres or individuals impacted) for each species as a component of habitat restoration. A qualified biologist shall prepare and submit a restoration plan to the City for approval. The restoration plan shall include, at a minimum, the following components: • Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type); • Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved]; • Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values); • Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan [including species to be used, container sizes, seeding rates, etc.]); • Maintenance activities during the monitoring period, including weed removal and irrigation as appropriate (activities, responsible parties, schedule); • Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year, along with performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, and annual monitoring reports to be submitted to the City for a minimum of five years at which time the applicant shall demonstrate that performance standards/success criteria have been met; • Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80% survival of container plants and 30% relative cover by vegetation type; • An adaptive management program and remedial measures to address any shortcomings in meeting success criteria; • Notification of completion of compensatory mitigation and agency confirmation; and • Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).	Special status species protection plans and surveys shall be prepared by the applicant and shall be submitted to for review and approval by the City prior to the approval of grading and construction permits. Any required permits shall be obtained from the state and federal agencies prior to issuance of grading permits	The Environmental Monitor shall monitor environmental compliance of the construction activities throughout the construction period or as stipulated in the species- or resource-specific mitigation measure and provide monitoring reports to the City	City of San Luis Obispo			
BIO-2(a) Best Management Practices	Special status species protection plans and surveys shall be prepared by the	The Environmental Monitor shall monitor environmental compliance of the	City of San			

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
The following Best Management Practices (BMPs) shall be implemented for project construction activities within the work area. • No pets or firearms shall be allowed at the project site during construction activities. • All trash that may attract predators must be properly contained and removed from the work site. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site. • All refueling, maintenance, and staging of equipment and vehicles shall occur at least 50 feet from Acacia Creek and Orcutt Creek and in a location where a spill would not drain toward aquatic habitat. A plan must be in place for prompt and effective response to any accidental spills prior to the onset of work activities. All workers shall be informed of the appropriate measures to take should an accidental spill occur. • Pallets or secondary containment areas for chemicals, drums, or bagged materials shall be provided. Should material spills occur, materials and/or contaminants shall be cleaned from the project site and recycled or disposed of to the satisfaction of the Regional Water Quality Control Board. • Prior to construction activities within 30 feet of potentially jurisdictional features, including Acacia Creek and Orcutt Creek, the drainage features shall be fenced with orange construction fencing and signed to prohibit entry of construction equipment and personnel unless authorized by the City. Fencing should be located a minimum of 30 feet from the edge of the riparian canopy or top of bank and shall be maintained throughout the construction period for each phase of development. Once all phases of construction in this area are complete, the fencing may be removed. • Erosion control and landscaping specifications allow only natural-fiber, biodegradable meshes and coir rolls, to prevent impacts to the environment and to fish and terrestrial wildlife. • All vehicles and equipment shall be in good working condition and free of leaks. • Construction work shall be restricted to daylight hours (7:00 AM to 7:00 PM) to avoid impacts to nocturnal and crepuscular (dawn and dusk activity period) species. • Concrete truck and tool washout shall be limited to locations designated by a qualified biologist or a Qualified Storm-water Practitioner such that no runoff will reach Acacia Creek or Orcutt Creek. • All open trenches shall be constructed with appropriate exit ramps to allow species that accidentally fall into a trench to escape. Trenches will remain open for the shortest period necessary to complete required work. • No water will be impounded in a manner to attract sensitive species.	applicant and shall be submitted to for review and approval by the City prior to the approval of grading and construction permits. Any required permits shall be obtained from the state and federal agencies prior to issuance of grading permits	construction activities throughout the construction period or as stipulated in the species- or resource-specific mitigation measure and provide monitoring reports to the City	Luis Obispo			
BIO-2(b) Worker Environmental Awareness Program Prior to the initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training. The training shall be conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the project area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and	Special status species protection plans and surveys shall be prepared by the applicant and shall be submitted to for review and approval by the City prior to the approval of grading and construction permits. Any required permits shall be obtained from the state and federal agencies prior to issuance of grading permits	The Environmental Monitor shall monitor environmental compliance of the construction activities throughout the construction period or as stipulated in the species- or resource-specific mitigation measure and provide monitoring reports to the City	City of San Luis Obispo			

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
avoidance measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the training.						
BIO-2(c) California Red-legged Frog Impact Avoidance and Minimization The following shall be implemented to avoid and minimize potential impacts to CRLF. • A pre-construction survey of the proposed disturbance footprint (within the project site or potential off-site improvement areas) for California red-legged frog shall be conducted by a qualified biologist within 48 hours prior to the start of project construction to confirm this species is not present in the work area. • In the event the pre-construction survey identifies the presence of individuals of CRLF, or if individuals of these species are encountered during construction, then the applicant shall stop work and comply with all relevant requirements of the Federal Endangered Species Act prior to resuming project activities. • Only City- and USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of CRLF. • If activities occur between November 1 and April 30, the qualified biologist shall conduct a pre-activity clearance sweep prior to start of project activities on the morning following any rain events of 0.1 inch or greater.	Special status species protection plans and surveys shall be prepared by the applicant and shall be submitted to for review and approval by the City prior to the approval of grading and construction permits. Any required permits shall be obtained from the state and federal agencies prior to issuance of grading permits	The Environmental Monitor shall monitor environmental compliance of the construction activities throughout the construction period or as stipulated in the species- or resource-specific mitigation measure and provide monitoring reports to the City	City of San Luis Obispo			
BIO-2(d) Coast Range Newt, Two-striped Garter Snake, and Western Pond Turtle Impact Avoidance and Minimization A qualified biologist shall conduct a pre-construction survey within 48 hours of initial ground disturbing activities associated with any off-site improvements, including modifications to the existing crossing over Acacia Creek or the development of a new crossing over Orcutt Creek. The survey area shall include any proposed disturbance area(s) and all proposed ingress/egress routes. If any of these species are found and individuals may be injured or killed by work activities, the biologist shall be allowed sufficient time to move them from the project site before work activities begin. The biologist(s) shall relocate any coast range newts, two-striped garter snakes, and/or western pond turtles the shortest distance possible to a location that contains suitable habitat that is not likely to be affected by activities associated with the project.	Special status species protection plans and surveys shall be prepared by the applicant and shall be submitted to for review and approval by the City prior to the approval of grading and construction permits. Any required permits shall be obtained from the state and federal agencies prior to issuance of grading permits	The Environmental Monitor shall monitor environmental compliance of the construction activities throughout the construction period or as stipulated in the species- or resource-specific mitigation measure and provide monitoring reports to the City	City of San Luis Obispo			
BIO-2(e) Steelhead – South-central California Coast DPS Impact Avoidance and Minimization The applicant shall implement the following to avoid and minimize potential impacts to steelhead. • Construction associated with the widening of the existing crossing over Acacia Creek shall be restricted to periods of dry weather from April 16 through October 31, and shall not be conducted within 48 hours after a rain event of 0.25 inch or greater, or until an approved biologist confirms there is no longer a chance for flowing water to enter the work area. • Widening of the existing crossing shall follow the design standards developed by the City of San Luis Obispo and shall be developed in a manner that does	Special status species protection plans and surveys shall be prepared by the applicant and shall be submitted to for review and approval by the City prior to the approval of grading and construction permits. Any required permits shall be obtained from the state and federal agencies prior to issuance of grading permits	The Environmental Monitor shall monitor environmental compliance of the construction activities throughout the construction period or as stipulated in the species- or resource-specific mitigation measure and provide monitoring reports to the City	City of San Luis Obispo			

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
not impede wildlife movement.						
BIO-2(f) Nesting Birds Impact Avoidance and Minimization The following actions shall be undertaken to avoid and minimize potential impacts to nesting birds. • For construction activities occurring during the nesting season (generally February 1 to September 15), surveys for nesting birds covered by the California Fish and Game Code and the Migratory Bird Treaty Act shall be conducted by a qualified biologist no more than 14 days prior to vegetation removal. The surveys shall include the disturbance area plus a 500-foot buffer around the site. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 300 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer. • If feasible, removal of vegetation within suitable nesting bird habitats will be scheduled to occur in the fall and winter (between September 1 and February 14), after fledging and before the initiation of the nesting season. • If a suspected American bald eagle nest is discovered during the pre-construction survey, then the applicant shall consult with the City, USFWS, and CDFW regarding appropriate nest buffers and nest monitoring. If a nest is discovered with construction underway, a no-activity buffer a minimum of 660 feet from the nest must be implemented, or as otherwise directed by CDFW and USFWS, until appropriate authorizations are obtained. Any subsequent buffer adjustments shall be made in consultation with the City, CDFW and USFWS and shall rely on monitoring observations and activity at the site. Additional avoidance measures for special status bird nests such as American bald eagle nests are often required, and would be developed in consultation with the City, CDFW and USFWS.	Special status species protection plans and surveys shall be prepared by the applicant and shall be submitted to for review and approval by the City prior to the approval of grading and construction permits. Any required permits shall be obtained from the state and federal agencies prior to issuance of grading permits	The Environmental Monitor shall monitor environmental compliance of the construction activities throughout the construction period or as stipulated in the species- or resource-specific mitigation measure and provide monitoring reports to the City	City of San Luis Obispo			
BIO-2(g) Roosting Bat Impact Avoidance and Minimization The following actions shall be undertaken to avoid and minimize potential impacts to roosting bats: • Prior to issuance of grading permits, a qualified biologist shall conduct a survey of existing structures within the project site to determine if roosting bats are present. The survey shall be conducted during the non-breeding season (November through March). The biologist shall have access to all interior attics, as needed. If a colony of bats is found roosting in any structure, further surveys shall be conducted sufficient to determine the species present and the type of roost (day, night, maternity, etc.) If the bats are not part of an active maternity colony, passive exclusion measures may be implemented, in close coordination with CDFW. These exclusion measures must include one-way valves that allow bats to exit the structure but are designed so that the bats may not re-enter the structure. • If a bat colony is excluded from the project site, appropriate alternate bat	Special status species protection plans and surveys shall be prepared by the applicant and shall be submitted to for review and approval by the City prior to the approval of grading and construction permits. Any required permits shall be obtained from the state and federal agencies prior to issuance of grading permits	The Environmental Monitor shall monitor environmental compliance of the construction activities throughout the construction period or as stipulated in the species- or resource-specific mitigation measure and provide monitoring reports to the City	City of San Luis Obispo			

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
habitat as determined by a qualified biologist shall be installed on the project site or at an approved location offsite. • Prior to removal of any trees, a survey shall be conducted by a qualified biologist to determine if any of the trees proposed for removal or trimming harbor sensitive bat species or maternal bat colonies. If a non-maternal roost is found, the qualified biologist, in close coordination with CDFW shall install one-way valves or other appropriate passive relocation method. For each occupied roost removed, one bat box or alternate roost structure shall be installed in similar habitat and should have similar cavity or crevices properties to those which are removed, including access, ventilation, dimensions, height above ground, and thermal conditions. Maternal bat colonies may not be disturbed.						
BIO-3 Wetland, Stream, and Riparian Habitat Mitigation and Monitoring Temporary impact areas shall be restored at a one to one (1:1) ratio (one acre of restoration for each acre of impact) to offset temporary losses in wetland, stream, or riparian function. Permanent impacts on jurisdictional areas shall be offset through creation, restoration, and/or enhancement of in-kind habitats at a minimum ratio of 2:1. Permitting agencies (CDFW, USACE, RWQCB) may require a higher mitigation ratio associated with applicable permits. A Mitigation and Monitoring Plan is required to outline the approach that will be taken for restoration and habitat creation or enhancement. The plan shall be prepared by a qualified restoration ecologist. The plan shall include, but not be limited to the following components: • Description of the project/impact site, • Goal(s) of the compensatory mitigation, • Description of the proposed compensatory mitigation-site, • Implementation plan for the compensatory mitigation-site, • Maintenance activities during the monitoring period, • Monitoring plan for the compensatory mitigation-site, • Success criteria and performance standards, • Reporting requirements, and • Contingency measures and funding mechanisms.	Crossing structure designs and the Mitigation and Monitoring Plan shall be prepared by the applicant and shall be submitted to for review and approval by the City prior to the approval of grading and construction permits. Any required permits shall be obtained from the state and federal agencies prior to issuance of grading permits.	The Environmental Monitor shall monitor environmental compliance of the construction activities throughout the construction period or as stipulated in the Mitigation and Monitoring Plan and provide monitoring reports to the City.	City of San Luis Obispo			
Cultural Resources						
CR-2(a) Retain a Qualified Principal Investigator In accordance with the City's Conservation and Open Space Policies 3.5.6 and 3.5.7, a qualified principal investigator, defined as an archaeologist who meets the Secretary of the Interior's Standards for professional archaeology (hereafter qualified archaeologist), shall be retained to carry out all mitigation measures related to archaeological resources. Monitoring shall involve inspection of subsurface construction disturbance in the immediate vicinity of known sites, or at locations that may harbor buried resources that were not identified on the site surface. A Native American monitor shall also be present because the area is a culturally-sensitive location. The monitor(s) shall be on-site on a full-time basis during earthmoving activities, including grading, trenching, vegetation removal, or other excavation activities.	The project applicant shall retain a qualified archaeologist prior to the issuance of grading permits.	The City shall confirm the qualifications of and approve the applicant's choice of a qualified archaeologist. The City shall inspect the site periodically during grading and demolition to ensure compliance with this measure.	City of San Luis Obispo			

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
CR-2(b) Extended Phase I (XPI) Testing Program An extended phase I (XPI) testing program, utilizing standard shovel test pits and/or hand auguring at arbitrary levels, shall be conducted for development activity that would require ground disturbance within the potential off-site improvement areas, including riparian areas associated with the Orcutt Creek and Acacia Creek corridors, and in riparian areas immediately north of the project site. If the XPI program identifies subsurface deposits that cannot be avoided by project design, a Phase II evaluation program shall be prepared to determine whether development would significantly impact identified resources. If the Phase II evaluation program identifies identified resources as significant, a Phase III data recovery program shall be prepared and implemented. The purpose of the Phase III data recovery program is to recover, analyze, interpret, report, curate, and preserve archaeological data that would otherwise be destroyed. The testing and evaluation programs shall be prepared by a qualified archaeologist prior to the issuance of grading permits, and shall be submitted for review and approval by the City prior to the approval of grading and construction permits. The qualified archaeologist shall monitor compliance with testing and evaluation program requirements during implementation of the testing and evaluation programs.	The project applicant shall retain a qualified archaeologist prior to the issuance of grading permits. If resources are found, the project applicant shall retain a qualified archaeologist and Native American monitor prior to the issuance of grading permits.	The City shall confirm the qualifications of and approve the applicant's choice of a qualified archaeologist. The City shall inspect the site periodically during grading and demolition to ensure compliance with this measure. The City shall review construction plans and periodically inspect project construction to ensure compliance with these measures.	City of San Luis Obispo			
CR-2(c) Unanticipated Discovery of Cultural Resources If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983) should be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation and Native American consultation may be warranted to mitigate any significant impacts.	The requirement that construction work be stopped in the event of discovery of archaeological resources shall be included on construction plans prior to the issuance of grading permits.	The City shall inspect the site periodically during grading and demolition to ensure compliance with this measure. The City shall review construction plans and periodically inspect project construction to ensure compliance with these measures.	City of San Luis Obispo			
CR-3(a) Paleontological Monitoring Prior to the commencement of ground disturbing activities under the project, a qualified professional paleontologist shall be retained to conduct paleontological monitoring during project ground disturbing activities. The Qualified Paleontologist (Principal Paleontologist) shall have at least a Master's Degree or equivalent work experience in paleontology, shall have knowledge of the local paleontology, and shall be familiar with paleontological procedures and techniques. Ground disturbing construction activities (including grading, trenching, drilling with an auger greater than 3 feet in diameter, and other excavation) within previously undisturbed sediments at depths greater than six feet shall be monitored on a full-time basis. Monitoring shall be supervised by the Qualified Paleontologist and shall be conducted by a qualified paleontological monitor, who is defined as an individual who meets the minimum qualifications per standards set forth by the SVP (2010), which includes a B.S. or B.A. degree in geology or paleontology with one year of monitoring experience and knowledge of collection and salvage of paleontological resources. The duration and timing of the monitoring shall be determined by the Qualified	The project applicant shall retain the qualified paleontologist prior to the issuance of grading permits. Prior to the issuance of any construction related permits, the City shall confirm that the training of construction personnel has occurred. During initial ground disturbance, the project applicant shall ensure that the qualified paleontologist is on-site and monitoring during these activities.	Prior to initial ground disturbance, the City shall confirm the qualifications of and approve the applicant's choice of the qualified paleontologist. The City shall inspect the site periodically during grading and demolition to ensure compliance with this measure. The City shall review construction plans and periodically inspect project construction to ensure compliance with these measures.	City of San Luis Obispo			

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
Paleontologist. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, he or she may recommend reducing monitoring to periodic spot-checking or cease entirely. Monitoring would be reinstated if any new ground disturbances are required and reduction or suspension would need to be reconsidered by the Qualified Paleontologist. Ground-disturbing activity that does not exceed six feet in depth within Quaternary alluvium would not require paleontological monitoring.						
CR-3(b) Fossil Discovery, Preparation, and Curation In the event that a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps. Curation fees are assessed by the repository, and are the responsibility of the project owner.	During initial ground disturbance, the project applicant shall ensure that the qualified paleontologist is on-site and monitoring during these activities.	The City shall inspect the site periodically during grading and demolition to ensure compliance with this measure. The City shall review construction plans and periodically inspect project construction to ensure compliance with these measures.	City of San Luis Obispo			
CR-3(c) Final Paleontological Mitigation Report At the conclusion of laboratory work and museum curation, a final report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The report shall be submitted to the lead agency(s) for the project. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the designated museum repository.	The Final Paleontological Monitoring Report shall be submitted to the City of San Luis Obispo once ground-disturbing activities are finished.	The City shall review and approval the Final Paleontological Monitoring Report.	City of San Luis Obispo			
Geology and Soils						
GEO-1 Site Geotechnical Study A geotechnical study shall be prepared for the project site prior to site development. This report shall include an analysis of the liquefaction potential of the underlying materials according to the most current liquefaction analysis procedures. If the site is confirmed to be in an area prone to seismically-induced liquefaction, appropriate techniques to minimize liquefaction potential shall be prescribed and implemented. In addition to a liquefaction analysis, the Geotechnical Study shall include an evaluation of the potential for soil settlement and soil expansion beneath the project site. All on-site structures shall comply with applicable methods of State and Local Building Codes. Future development of the site shall incorporate all applicable engineering requirements and recommendations as presented in the Geotechnical Study. Suitable measures to reduce liquefaction, settlement, and soil expansion impacts may include one or more of the following techniques, as determined by a registered geotechnical engineer: • Specialized design of foundations by a structural engineer; • Removal or treatment of liquefiable soils to reduce the potential for liquefaction;	The Applicant shall submit a geotechnical study in accordance with this mitigation measure for approval prior to site development. Applicable engineering requirements shall be incorporated into project site plans submitted for approval before the issuance of grading and building permits.	The Community Development Department shall verify compliance prior to issuance of grading permits. The Community Development Department shall site inspect to ensure development is in accordance with approved plans prior to occupancy clearance. Community Development staff shall verify installation in accordance with approved building plans.	City of San Luis Obispo			

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
• In-situ densification of soils or other alterations to the ground characteristics; or • Other alterations to the ground characteristics. • Excavation and re-compaction of on-site or imported soils; • Treatment of existing soils by mixing a chemical grout into the soils prior to re-compaction; or • Foundation design that can accommodate certain amounts of differential settlement such as post tensional slab and/or ribbed foundations designed in accordance with the California Building Code.						
Hydrology and Water Quality						
HYD-1 Conditional Letter of Map Revision/Letter of Map Revision The applicant shall prepare the CLOMR application and obtain a LOMR from FEMA.	The applicant shall prepare the CLOMR application and submit it to FEMA.	The City will confirm that FEMA has approved the CLOMR prior to issuance of a grading permit, and LOMR prior to issuance of a building permit.	City of San Luis Obispo			
Noise						
N-1 Interior Noise Reduction If the final project site design includes residential units facing Tank Farm Road in the structures located closest to Tank Farm Road, the project site developer shall implement the following measures, or similar combination of measures, which demonstrate that interior noise levels in residences facing Tank Farm Road would be reduced below the City's 45 dBA CNEL interior noise standard. The required interior noise reduction shall be achieved through a combination of standard interior noise reduction techniques, which may include (but are not limited to): • In order for windows and doors to remain closed, mechanical ventilation such as air conditioning shall be provided for all units facing Tank Farm Road (passive ventilation may be provided, if mechanical ventilation is not necessary to achieve interior noise standards, as demonstrated by a qualified acoustical consultant). • All exterior walls shall be constructed with a minimum STC rating of 50, consisting of construction of 2 inch by 4 inch wood studs with one layer of 5/8 inch Type "X" gypsum board on each side of resilient channels on 24 inch centers and 3 ½ inch fiberglass insulation. • All windows and glass doors shall be rated STC 39 or higher such that the noise reduction provided will satisfy the interior noise standard of 45 dBA CNEL. • An acoustical test report of all the sound-rated windows and doors shall be provided to the City for review by a qualified acoustical consultant to ensure that the selected windows and doors in combination with wall assemblies would reduce interior noise levels sufficiently to meet the City's interior noise standard. • All vent ducts connecting interior spaces to the exterior (i.e., bathroom exhaust, etc.) shall have at least two 90 degree turns in the duct. • All windows and doors facing Tank Farm Road shall be installed in an acoustically-effective manner. Sliding window panels shall form an air-tight seal when in the closed position and the window frames shall be caulked to the wall opening around the perimeter with a non-hardening caulking compound to prevent sound infiltration. Exterior doors shall seal air-tight	These requirements shall be incorporated into all the building plan submittals.	The Community Development Department shall verify compliance prior to approval of the building plans and shall verify installation in accordance with approved building plans.	City of San Luis Obispo			

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
around the full perimeter when in the closed position. • The applicant shall submit a report to the Community Development Department by a qualified acoustical consultant certifying that the specific interior noise reduction techniques included in residential, hotel, and office components of the project would achieve interior noise levels that would not exceed 45 dBA CNEL.						
N-2(a) Construction Equipment Best Management Practices For all construction activity at the project site, noise attenuation techniques shall be employed to ensure that noise levels are maintained within levels allowed by the City of San Luis Obispo Municipal Code, Title 9, Chapter 9.12 (Noise Control). Such techniques shall include: • Sound blankets on noise-generating equipment. • Stationary construction equipment that generates noise levels above 60 dBA at the project boundaries shall be shielded with barriers that meet a sound transmission class (a rating of how well noise barriers attenuate sound) of 25. • All diesel equipment shall be operated with closed engine doors and shall be equipped with factory-recommended mufflers. • For stationary equipment, the applicant shall designate equipment areas with appropriate acoustic shielding on building and grading plans. Equipment and shielding shall be installed prior to construction and remain in the designated location throughout construction activities. • Electrical power shall be used to power air compressors and similar power tools. • The movement of construction-related vehicles, with the exception of passenger vehicles, along roadways adjacent to sensitive receptors shall be limited to the hours between 7:00 AM and 7:00 PM, Monday through Saturday. No movement of heavy equipment shall occur on Sundays or official holidays (e.g., Thanksgiving, Labor Day). • Temporary sound barriers shall be constructed between the construction site and the single-family residence to the southeast.	Construction plans shall note construction hours, truck routes, and construction Best Management Practices (BMPs) and shall be submitted to the City for approval prior to grading and building permit issuance for each project phase. BMPs shall be identified and described for submittal to the City for review and approval prior to building or grading permit issuance. BMPs shall be adhered to for the duration of the project. All construction workers shall be briefed at a pre-construction meeting on how, why, and where BMP measures are to be implemented.	City staff shall ensure compliance throughout all construction phases. Building inspectors and permit compliance staff shall periodically inspect the site for compliance with activity schedules and respond to complaints.	City of San Luis Obispo			
N-2(b) Neighboring Property Owner Notification and Construction Noise Complaints The contractor shall inform the property owner of the single-family residence to the southeast of the project site of proposed construction timelines and noise complaint procedures to minimize potential annoyance related to construction noise. Proof of mailing the notice shall be provided to the Community Development Department before the City issues a zoning clearance. Signs shall be in place before beginning of and throughout grading and construction activities. Noise-related complaints shall be directed to the City's Community Development Department.	The applicant shall provide and post signs stating these restrictions at construction site entries. Signs shall be posted prior to commencement of construction and maintained throughout construction. Schedule and neighboring property owner notification mailing list shall be submitted 10 days prior to initiation of any earth movement. The Community Development department shall confirm that construction noise reduction measures are incorporated in plans prior to approval of grading/building permit issuance. All construction workers shall be briefed at a pre-construction meeting on construction hour limitations. A workday schedule will be adhered to for the duration of construction for all phases.	City staff shall ensure compliance throughout all construction phases. Building inspectors and permit compliance staff shall periodically inspect the site for compliance with activity schedules and respond to complaints.	City of San Luis Obispo			
Transportation/Traffic						
T-1 Broad Street/Tank Farm Road Intersection Improvements The project applicant shall pay fair share costs for required intersection improvements to address the project's identified queueing impact at the Broad	The City shall calculate the fair share costs required for payment by the applicant. The applicant shall pay fair share costs upon acceptance by the City of final design plans and in accordance with the timing of improvements. A	The City shall verify payment of fair share costs (or inclusion of a vehicular connection to the adjacent site to the east on project site plans) upon acceptance by the City of final design plans.	City of San Luis Obispo			

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
Street/Tank Farm Road intersection. Required intersection improvements include: • Broad Street/Tank Farm Road: Re-stripe the existing cross-sectional width to provide a second southbound left turn lane. Alternatively, the identified queueing impact at the Broad Street/Tank Farm Road intersection would be eliminated if the applicant provides a vehicular connection to the adjacent site to the east, which would allow use of the traffic signal at Industrial Way.	funding mechanism shall be established as a condition of project approval. Otherwise, the City shall verify that a vehicular connection to the adjacent site to the east, which would allow use of the traffic signal at Industrial Way, is provided on project site plans.					
T-2 Fair Share Costs for Required Intersection Improvements The project applicant shall pay fair share costs for required intersection improvements to address the project's contribution to identified cumulative intersection level of service and queueing impacts. Required intersection improvements include: • Tank Farm Road/South Higuera Street: Install a second southbound left turn lane. • Tank Farm Road/Santa Fe Road: Install a multi-lane roundabout. • Broad Street/Industrial Way: Convert the east and west approaches from split phasing to permissive phasing and restripe both approaches to provide dedicated left turn lanes and shared through/right turn lanes. • Broad Street/Tank Farm Road: Add a second southbound left turn lane, add a dedicated northbound right turn lane, convert the westbound right turn lane to a shared through/right lane, and establish time-of-day timing plans.	The City shall calculate the fair share costs required for payment by the applicant for development of the project site. The applicant shall pay fair share costs upon acceptance by the City of final design plans and in accordance with the timing of improvements. A funding mechanism shall be established as a condition of project approval.	The City shall verify payment of fair share costs upon acceptance by the City of final design plans and in accordance with the timing of improvements.	City of San Luis Obispo			
Utilities and Service Systems						
UT-1 Wastewater Reduction Measures Prior to issuance of grading permits, the applicant shall define and incorporate into the project design an Inflow and Infiltration reduction strategy consistent with the City's *Wastewater Infrastructure Renewal Strategy*. Prior to issuance of a certificate of occupancy, the developer shall be required to implement, and demonstrate off-site sewer rehabilitation that results in quantifiable inflow and infiltration reduction in the City's wastewater collection system in sub-basin A1, A2, A3, A4, B.2 or B.3 in an amount equal to offset the project's wastewater flow increase. This may be satisfied by one of the following: • Sufficient reductions in wastewater flow within sub-basins A1, A2, A3, A4, B.2 or B.3, commensurate with the additional wastewater flow contributed by the project, to be achieved by the verified replacement of compromised private sewer laterals, or public sewer mains, either by the developer, or any property owner located within said basins; or • Participation in a sewer lateral replacement program, or similar inflow and infiltration reduction program to be developed by City if program is in place prior to issuance of certificate of occupancy; or any other off-site sewer rehabilitation proposed by the developer and approved by the Utilities Director, which will achieve a reduction in wastewater flow commensurate with the additional wastewater flow contributed by the project. The final selection of the inflow and infiltration reduction project will be approved by the Utilities Director.	The applicant shall incorporate wastewater reduction measures into development plans and submit evidence to the Utilities Department that these provisions would result in quantifiable inflow and infiltration reduction in the City's wastewater collection system in sub-basin A1, A2, A3, A4, B.2 or B.3 in an amount equal to offset the project's wastewater flow increase.	The Utilities Department shall verify compliance prior to issuance of building permits.	City of San Luis Obispo			

Mitigation Measure	Plan Requirements and Timing	Monitoring	Responsible Agency or Party	Compliance Verification		
				Initial	Date	Comments
UT-2 Water Reduction Measures Prior to issuance of grading permits, the applicant shall define and incorporate into the project design water reduction measures consistent with the City's *Recycled Water Master Plan*. Prior to issuance of a certificate of occupancy, the developer shall be required to implement, and demonstrate water offsets that result in quantifiable water demand reductions in the City's potable water distribution system with an amount equal to offset the project's water flow increase. This may be satisfied by one of the following: • Sufficient reductions in potable water demands, commensurate with the additional water demands contributed by the project, to be achieved by verified conversions of existing irrigation system from potable water to recycled water systems located within the City's potable water distribution system; • Participation in the construction of new mains for the recycled water transmission system; or construction of any other recycled water main proposed by the developer and approved by the Utilities Director, which will achieve a reduction in potable water demands commensurate with the additional water demands contributed by the project.	The applicant shall incorporate water reduction measures into development plans and submit evidence to the Utilities Department that these provisions would result in quantifiable water demand reductions in the City's potable water distribution system with an amount equal to offset the project's water flow increase.	The Utilities Department shall verify compliance prior to issuance of building permits.	City of San Luis Obispo			