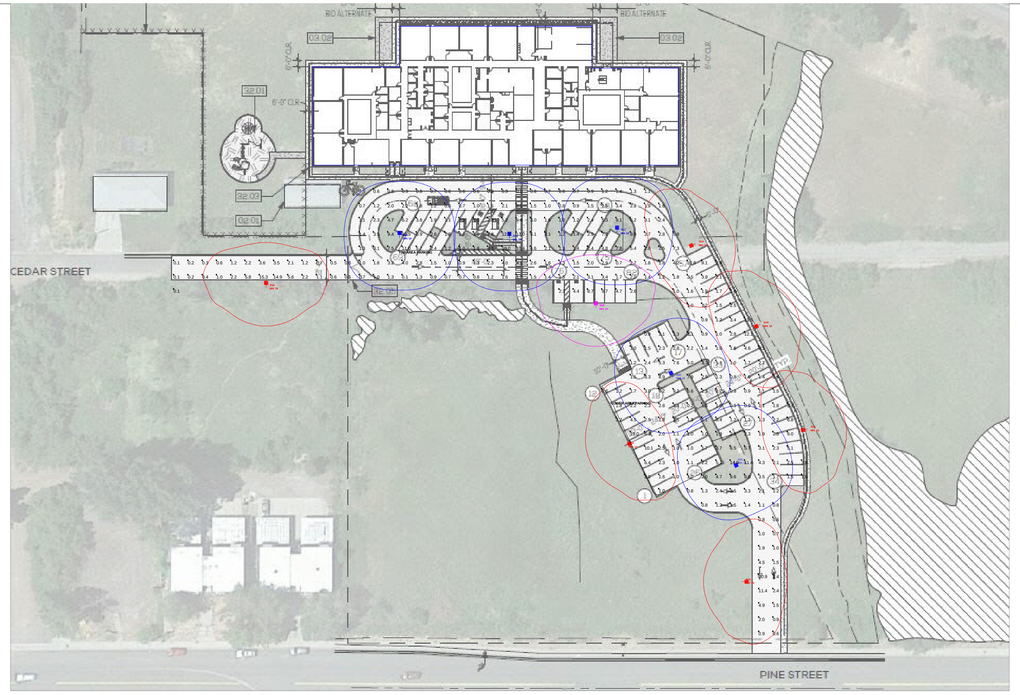
APPENDIX A

PRELIMINARY LIGHTING PLAN



SUMMARY TABLES:

Luminaire Schedule					
Symbol	**Qty**	**Label**	**LLF**	**Description**	**Lum. Watts**
	6	S1A	0.900	LL-SL1-MD-2-150W-41K-T3-SINGLE @ 14' MTG. HT.	150
	1	S1B	0.900	LL-SL1-MD-150W-40K-T4-UNV-SINGLE @ 14' MTG. HT.	150
	5	S1C	0.900	LL-SL1-MD-2-150W-41K-T5-SINGLE @ 14' MTG, HT.	150

Calculation Summary							
Label	**CalcType**	**Units**	**Avg**	**Max**	**Min**	**Avg/Min**	**Max/Min**
CalcPts_1	Illuminance	Fc	2.87	15.5	0.1	28.70	155.00
LOWER AREA PARKING	Illuminance	Fc	2.97	15.0	0.2	14.85	75.00
TOP AREA PARKING	Illuminance	Fc	4.06	13.0	0.9	4.51	14.44

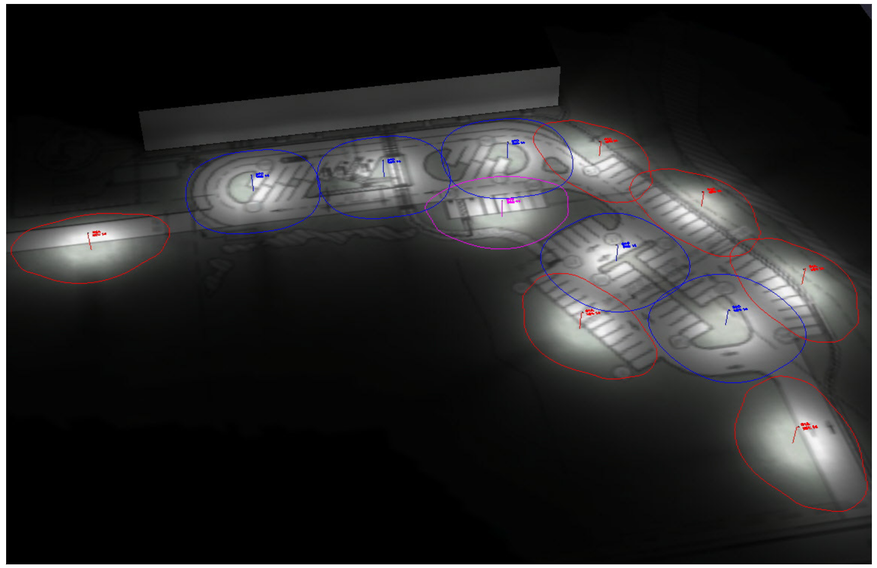
PARAMETERS:

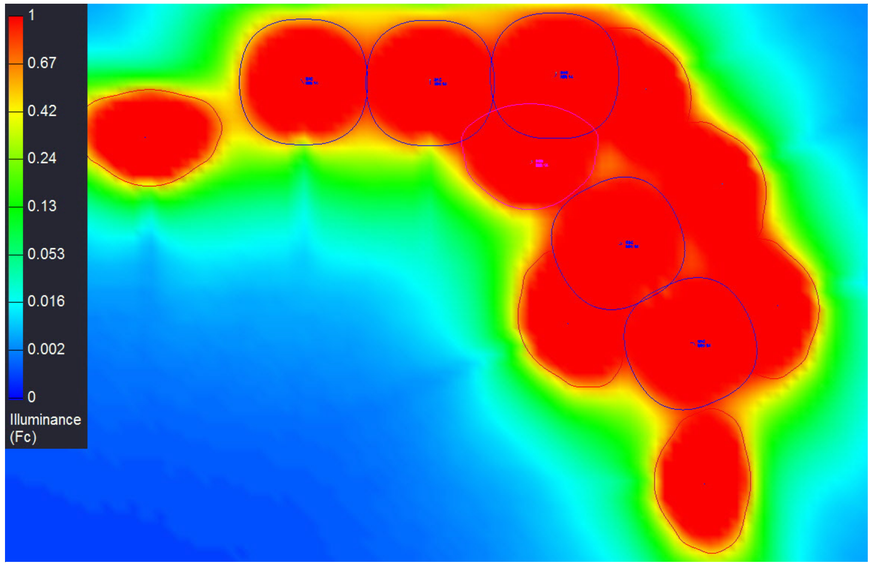
14' Fixture Mtg Ht (150w)- Design Criteria IESNA 1fc Min
.5 Surface Reflectance >>> Calcs on 15' Centers @ Grade

DISCLAIMER:

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY (IESNA) APPROVED METHODS. ADDITIONALLY, THE PREPARER USED INFORMATION PROVIDED BY THE CUSTOMER. IF/WHEN SUFFICIENT INFORMATION WAS NOT PROVIDED, PREPARER USED EDUCATED ASSUMPTIONS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE(S) MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER FIELD CONDITIONS NOT ACOCUNTED FOR IN THIS PHOTOMETRIC ANALYSIS.
THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR ENERGY CODE AND RELEVANT LIGHTING QUALITY COMPLIANCE.

RENDERS:





LED sustainability

Date:4/9/2020

PROJECT:

GOLDEN EAGLE CHARTER SCHOOL
Pine Street Mount Shasta, CA.

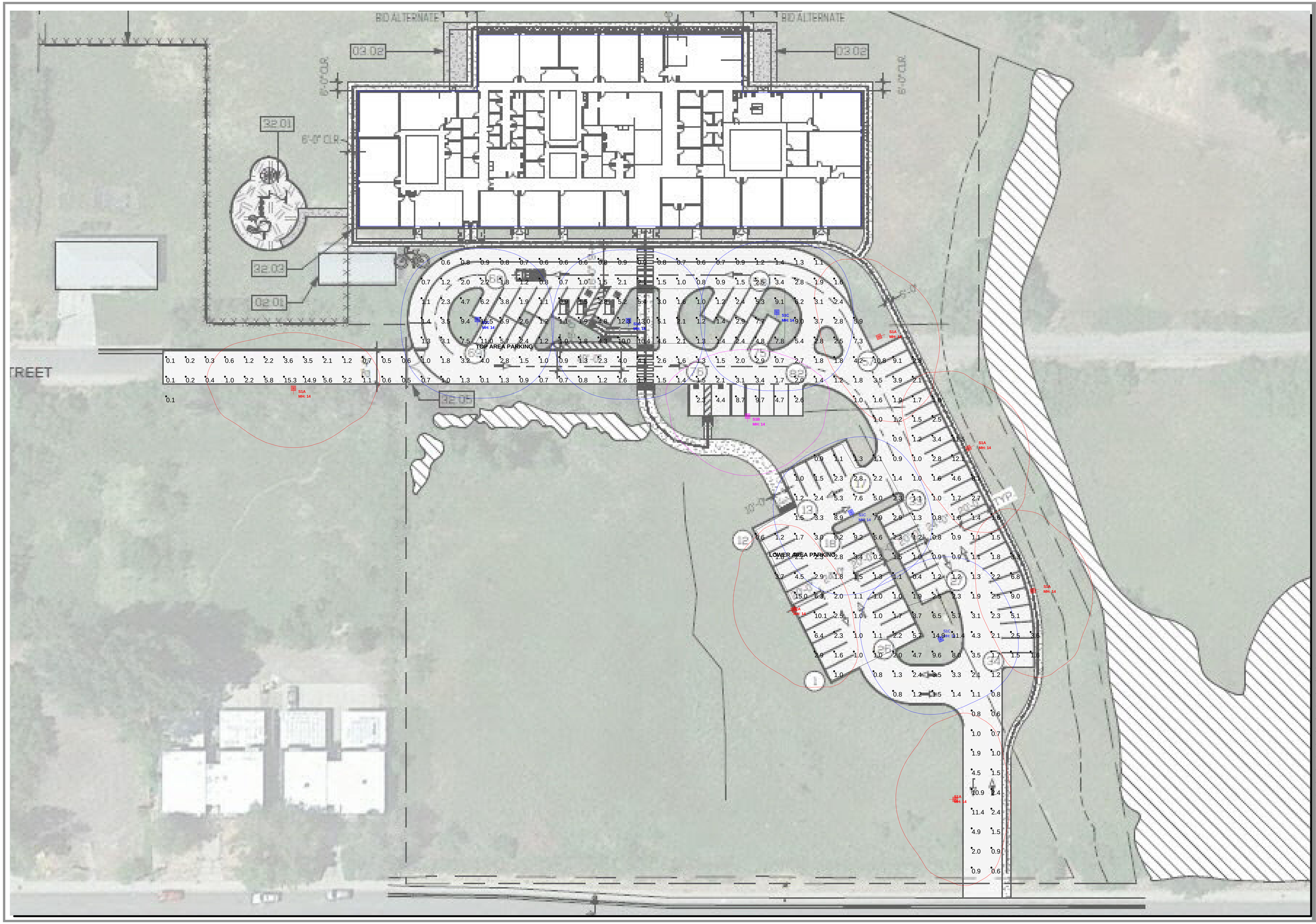
NO	DATE	ISSUE

Drawing:

Lighting Study

REV-2

Drawing Number:
1



Date:4/9/2020

PROJECT:

GOLDEN EAGLE CHARTER SCHOOL

Pine Street Mount Shasta, CA.

NO	DATE	ISSUE

Drawing:

Lighting Study

REV-2

Drawing Number:

1

APPENDIX B

CalEEMod Air Quality/Greenhouse Gas Emissions
Output Files

Golden Eagle Charter School

Siskiyou County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	33.50	1000sqft	0.77	33,500.00	0
Parking Lot	59.13	1000sqft	1.36	59,125.00	0
Other Asphalt Surfaces	10.63	1000sqft	0.24	10,625.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	85
Climate Zone	14			**Operational Year**	2022
Utility Company	PacifiCorp				
CO2 Intensity (lb/MWhr)	1656.39	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Other asphalt surfaces include the play area, sidewalks, and walkways.

Construction Phase - Construction schedule based on project characteristics.

Demolition - Demolition of old barn.

Vehicle Trips - Per Traffic Impact Study for Golden Eagle Charter School (Traffic Works, May 29, 2018), 496 average daily trips.

Road Dust - School Zone.

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation - .

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment -

Trips and VMT - .

Golden Eagle Charter School - Siskiyou County APCD Air District, Summer

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	MeanVehicleSpeed	40	25
tblSequestration	NumberOfNewTrees	0.00	30.00
tblTripsAndVMT	WorkerTripNumber	43.00	33.00
tblVehicleTrips	CW_TL	14.70	6.60
tblVehicleTrips	WD_TR	15.43	14.80

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					
2021	2.1368	20.2761	15.5350	0.0319	6.6801	0.9169	7.5970	3.4014	0.8436	4.2449	0.0000	3,047.9873	3,047.9873	0.7729	0.0000	3,060.0618
2022	82.7684	15.1601	15.0511	0.0318	0.5258	0.6482	1.1740	0.1418	0.6186	0.7604	0.0000	3,029.7606	3,029.7606	0.5508	0.0000	3,041.5746
Maximum	**82.7684**	**20.2761**	**15.5350**	**0.0319**	**6.6801**	**0.9169**	**7.5970**	**3.4014**	**0.8436**	**4.2449**	**0.0000**	**3,047.9873**	**3,047.9873**	**0.7729**	**0.0000**	**3,060.0618**

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					
2021	2.1368	20.2761	15.5350	0.0319	3.0763	0.9169	3.9932	1.5492	0.8436	2.3928	0.0000	3,047.9873	3,047.9873	0.7729	0.0000	3,060.0618
2022	82.7684	15.1601	15.0511	0.0318	0.5258	0.6482	1.1740	0.1418	0.6186	0.7604	0.0000	3,029.7606	3,029.7606	0.5508	0.0000	3,041.5746
Maximum	**82.7684**	**20.2761**	**15.5350**	**0.0319**	**3.0763**	**0.9169**	**3.9932**	**1.5492**	**0.8436**	**2.3928**	**0.0000**	**3,047.9873**	**3,047.9873**	**0.7729**	**0.0000**	**3,060.0618**

	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**	**50.01**	**0.00**	**41.09**	**52.27**	**0.00**	**37.00**	**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	0.9686	1.0000e-004	0.0106	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0226	0.0226	6.0000e-005		0.0241
Energy	0.0142	0.1292	0.1085	7.8000e-004		9.8200e-003	9.8200e-003		9.8200e-003	9.8200e-003		155.0556	155.0556	2.9700e-003	2.8400e-003	155.9770
Mobile	1.2190	10.3168	9.6666	0.0380	1.7780	0.0358	1.8138	0.4767	0.0338	0.5106		3,888.8842	3,888.8842	0.3161		3,896.7855
Total	**2.2018**	**10.4461**	**9.7857**	**0.0388**	**1.7780**	**0.0457**	**1.8237**	**0.4767**	**0.0437**	**0.5204**		**4,043.9624**	**4,043.9624**	**0.3191**	**2.8400e-003**	**4,052.7866**

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	0.9150	1.0000e-004	0.0106	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0226	0.0226	6.0000e-005		0.0241
Energy	0.0142	0.1292	0.1085	7.8000e-004		9.8200e-003	9.8200e-003		9.8200e-003	9.8200e-003		155.0556	155.0556	2.9700e-003	2.8400e-003	155.9770
Mobile	1.2125	10.2572	9.5416	0.0375	1.7424	0.0353	1.7777	0.4672	0.0333	0.5005		3,836.4308	3,836.4308	0.3145		3,844.2924
Total	**2.1417**	**10.3865**	**9.6607**	**0.0382**	**1.7424**	**0.0451**	**1.7876**	**0.4672**	**0.0431**	**0.5103**		**3,991.5090**	**3,991.5090**	**0.3175**	**2.8400e-003**	**4,000.2935**

	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	**2.73**	**0.57**	**1.28**	**1.34**	**2.00**	**1.23**	**1.98**	**2.00**	**1.24**	**1.94**	**0.00**	**1.30**	**1.30**	**0.50**	**0.00**	**1.30**

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	5/3/2021	5/28/2021	5	20	
2	Site Preparation	Site Preparation	5/29/2021	6/2/2021	5	3	
3	Grading	Grading	6/3/2021	6/10/2021	5	6	
4	Building Construction	Building Construction	6/11/2021	4/14/2022	5	220	
5	Paving	Paving	4/15/2022	4/28/2022	5	10	
6	Architectural Coating	Architectural Coating	4/29/2022	5/12/2022	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 50,250; Non-Residential Outdoor: 16,750; Striped Parking Area: 4,185 (Architectural Coating – sqft)

OffRoad Equipment

Golden Eagle Charter School - Siskiyou County APCD Air District, Summer

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	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	2	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
Demolition	4	10.00	0.00	5.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	33.00	17.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

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					0.0541	0.0000	0.0541	8.2000e-003	0.0000	8.2000e-003			0.0000			0.0000
Off-Road	1.5441	15.0580	11.2229	0.0189		0.7960	0.7960		0.7462	0.7462		1,814.9789	1,814.9789	0.4297		1,825.7223
Total	**1.5441**	**15.0580**	**11.2229**	**0.0189**	**0.0541**	**0.7960**	**0.8502**	**8.2000e-003**	**0.7462**	**0.7544**		**1,814.9789**	**1,814.9789**	**0.4297**		**1,825.7223**

3.2 Demolition - 2021

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	1.9900e-003	0.0649	9.9700e-003	2.1000e-004	4.3800e-003	2.2000e-004	4.6100e-003	1.2000e-003	2.1000e-004	1.4100e-003		22.0703	22.0703	1.0100e-003		22.0955
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	0.0935	0.0626	0.6517	1.3500e-003	0.1277	1.1600e-003	0.1289	0.0339	1.0700e-003	0.0349		134.4597	134.4597	6.7800e-003		134.6292
Total	**0.0955**	**0.1275**	**0.6617**	**1.5600e-003**	**0.1321**	**1.3800e-003**	**0.1335**	**0.0351**	**1.2800e-003**	**0.0364**		**156.5300**	**156.5300**	**7.7900e-003**		**156.7247**

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					0.0244	0.0000	0.0244	3.6900e-003	0.0000	3.6900e-003			0.0000			0.0000
Off-Road	1.5441	15.0580	11.2229	0.0189		0.7960	0.7960		0.7462	0.7462	0.0000	1,814.9789	1,814.9789	0.4297		1,825.7223
Total	**1.5441**	**15.0580**	**11.2229**	**0.0189**	**0.0244**	**0.7960**	**0.8204**	**3.6900e-003**	**0.7462**	**0.7499**	**0.0000**	**1,814.9789**	**1,814.9789**	**0.4297**		**1,825.7223**

3.2 Demolition - 2021

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	1.9900e-003	0.0649	9.9700e-003	2.1000e-004	4.3800e-003	2.2000e-004	4.6100e-003	1.2000e-003	2.1000e-004	1.4100e-003		22.0703	22.0703	1.0100e-003		22.0955
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	0.0935	0.0626	0.6517	1.3500e-003	0.1277	1.1600e-003	0.1289	0.0339	1.0700e-003	0.0349		134.4597	134.4597	6.7800e-003		134.6292
Total	**0.0955**	**0.1275**	**0.6617**	**1.5600e-003**	**0.1321**	**1.3800e-003**	**0.1335**	**0.0351**	**1.2800e-003**	**0.0364**		**156.5300**	**156.5300**	**7.7900e-003**		**156.7247**

3.3 Site Preparation - 2021

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					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.5463	18.2862	10.7496	0.0245		0.7019	0.7019		0.6457	0.6457		2,372.8832	2,372.8832	0.7674		2,392.0692
Total	**1.5463**	**18.2862**	**10.7496**	**0.0245**	**1.5908**	**0.7019**	**2.2926**	**0.1718**	**0.6457**	**0.8175**		**2,372.8832**	**2,372.8832**	**0.7674**		**2,392.0692**

3.3 Site Preparation - 2021

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	0.0748	0.0500	0.5214	1.0800e-003	0.1022	9.3000e-004	0.1031	0.0271	8.5000e-004	0.0280		107.5678	107.5678	5.4200e-003		107.7033
Total	**0.0748**	**0.0500**	**0.5214**	**1.0800e-003**	**0.1022**	**9.3000e-004**	**0.1031**	**0.0271**	**8.5000e-004**	**0.0280**		**107.5678**	**107.5678**	**5.4200e-003**		**107.7033**

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					0.7158	0.0000	0.7158	0.0773	0.0000	0.0773			0.0000			0.0000
Off-Road	1.5463	18.2862	10.7496	0.0245		0.7019	0.7019		0.6457	0.6457	0.0000	2,372.8832	2,372.8832	0.7674		2,392.0692
Total	**1.5463**	**18.2862**	**10.7496**	**0.0245**	**0.7158**	**0.7019**	**1.4177**	**0.0773**	**0.6457**	**0.7230**	**0.0000**	**2,372.8832**	**2,372.8832**	**0.7674**		**2,392.0692**

3.3 Site Preparation - 2021

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	0.0748	0.0500	0.5214	1.0800e-003	0.1022	9.3000e-004	0.1031	0.0271	8.5000e-004	0.0280		107.5678	107.5678	5.4200e-003		107.7033
Total	**0.0748**	**0.0500**	**0.5214**	**1.0800e-003**	**0.1022**	**9.3000e-004**	**0.1031**	**0.0271**	**8.5000e-004**	**0.0280**		**107.5678**	**107.5678**	**5.4200e-003**		**107.7033**

3.4 Grading - 2021

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**6.5523**	**0.9158**	**7.4681**	**3.3675**	**0.8425**	**4.2100**		**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

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	0.0935	0.0626	0.6517	1.3500e-003	0.1277	1.1600e-003	0.1289	0.0339	1.0700e-003	0.0349		134.4597	134.4597	6.7800e-003		134.6292
Total	**0.0935**	**0.0626**	**0.6517**	**1.3500e-003**	**0.1277**	**1.1600e-003**	**0.1289**	**0.0339**	**1.0700e-003**	**0.0349**		**134.4597**	**134.4597**	**6.7800e-003**		**134.6292**

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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**2.9486**	**0.9158**	**3.8643**	**1.5154**	**0.8425**	**2.3579**	**0.0000**	**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

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	0.0935	0.0626	0.6517	1.3500e-003	0.1277	1.1600e-003	0.1289	0.0339	1.0700e-003	0.0349		134.4597	134.4597	6.7800e-003		134.6292
Total	**0.0935**	**0.0626**	**0.6517**	**1.3500e-003**	**0.1277**	**1.1600e-003**	**0.1289**	**0.0339**	**1.0700e-003**	**0.0349**		**134.4597**	**134.4597**	**6.7800e-003**		**134.6292**

3.5 Building Construction - 2021

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	1.7424	14.5186	12.8441	0.0225		0.7431	0.7431		0.7090	0.7090		2,081.4578	2,081.4578	0.4233		2,092.0404
Total	**1.7424**	**14.5186**	**12.8441**	**0.0225**		**0.7431**	**0.7431**		**0.7090**	**0.7090**		**2,081.4578**	**2,081.4578**	**0.4233**		**2,092.0404**

3.5 Building Construction - 2021

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	0.0859	1.9360	0.5402	5.0100e-003	0.1043	7.1700e-003	0.1114	0.0300	6.8600e-003	0.0369		522.8124	522.8124	0.0373		523.7451
Worker	0.3085	0.2064	2.1506	4.4600e-003	0.4215	3.8200e-003	0.4253	0.1118	3.5200e-003	0.1153		443.7171	443.7171	0.0224		444.2763
Total	**0.3944**	**2.1424**	**2.6908**	**9.4700e-003**	**0.5258**	**0.0110**	**0.5368**	**0.1418**	**0.0104**	**0.1522**		**966.5295**	**966.5295**	**0.0597**		**968.0214**

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	1.7424	14.5186	12.8441	0.0225		0.7431	0.7431		0.7090	0.7090	0.0000	2,081.4578	2,081.4578	0.4233		2,092.0404
Total	**1.7424**	**14.5186**	**12.8441**	**0.0225**		**0.7431**	**0.7431**		**0.7090**	**0.7090**	**0.0000**	**2,081.4578**	**2,081.4578**	**0.4233**		**2,092.0404**

3.5 Building Construction - 2021

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	0.0859	1.9360	0.5402	5.0100e-003	0.1043	7.1700e-003	0.1114	0.0300	6.8600e-003	0.0369		522.8124	522.8124	0.0373		523.7451
Worker	0.3085	0.2064	2.1506	4.4600e-003	0.4215	3.8200e-003	0.4253	0.1118	3.5200e-003	0.1153		443.7171	443.7171	0.0224		444.2763
Total	**0.3944**	**2.1424**	**2.6908**	**9.4700e-003**	**0.5258**	**0.0110**	**0.5368**	**0.1418**	**0.0104**	**0.1522**		**966.5295**	**966.5295**	**0.0597**		**968.0214**

3.5 Building Construction - 2022

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	1.5788	13.1411	12.6574	0.0225		0.6383	0.6383		0.6092	0.6092		2,081.8035	2,081.8035	0.4168		2,092.2246
Total	**1.5788**	**13.1411**	**12.6574**	**0.0225**		**0.6383**	**0.6383**		**0.6092**	**0.6092**		**2,081.8035**	**2,081.8035**	**0.4168**		**2,092.2246**

3.5 Building Construction - 2022

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	0.0790	1.8359	0.4883	4.9800e-003	0.1043	6.3100e-003	0.1106	0.0300	6.0300e-003	0.0361		519.6508	519.6508	0.0361		520.5537
Worker	0.2868	0.1830	1.9053	4.3100e-003	0.4215	3.6300e-003	0.4251	0.1118	3.3400e-003	0.1151		428.3063	428.3063	0.0196		428.7963
Total	**0.3658**	**2.0189**	**2.3936**	**9.2900e-003**	**0.5258**	**9.9400e-003**	**0.5357**	**0.1418**	**9.3700e-003**	**0.1512**		**947.9571**	**947.9571**	**0.0557**		**949.3500**

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	1.5788	13.1411	12.6574	0.0225		0.6383	0.6383		0.6092	0.6092	0.0000	2,081.8035	2,081.8035	0.4168		2,092.2246
Total	**1.5788**	**13.1411**	**12.6574**	**0.0225**		**0.6383**	**0.6383**		**0.6092**	**0.6092**	**0.0000**	**2,081.8035**	**2,081.8035**	**0.4168**		**2,092.2246**

3.5 Building Construction - 2022

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	0.0790	1.8359	0.4883	4.9800e-003	0.1043	6.3100e-003	0.1106	0.0300	6.0300e-003	0.0361		519.6508	519.6508	0.0361		520.5537
Worker	0.2868	0.1830	1.9053	4.3100e-003	0.4215	3.6300e-003	0.4251	0.1118	3.3400e-003	0.1151		428.3063	428.3063	0.0196		428.7963
Total	**0.3658**	**2.0189**	**2.3936**	**9.2900e-003**	**0.5258**	**9.9400e-003**	**0.5357**	**0.1418**	**9.3700e-003**	**0.1512**		**947.9571**	**947.9571**	**0.0557**		**949.3500**

3.6 Paving - 2022

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	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.4192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3604**	**9.3322**	**11.6970**	**0.0179**		**0.4879**	**0.4879**		**0.4500**	**0.4500**		**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.6 Paving - 2022

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	0.1304	0.0832	0.8660	1.9600e-003	0.1916	1.6500e-003	0.1933	0.0508	1.5200e-003	0.0523		194.6847	194.6847	8.9100e-003		194.9074
Total	**0.1304**	**0.0832**	**0.8660**	**1.9600e-003**	**0.1916**	**1.6500e-003**	**0.1933**	**0.0508**	**1.5200e-003**	**0.0523**		**194.6847**	**194.6847**	**8.9100e-003**		**194.9074**

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	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.4192					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3604**	**9.3322**	**11.6970**	**0.0179**		**0.4879**	**0.4879**		**0.4500**	**0.4500**	**0.0000**	**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.6 Paving - 2022

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	0.1304	0.0832	0.8660	1.9600e-003	0.1916	1.6500e-003	0.1933	0.0508	1.5200e-003	0.0523		194.6847	194.6847	8.9100e-003		194.9074
Total	**0.1304**	**0.0832**	**0.8660**	**1.9600e-003**	**0.1916**	**1.6500e-003**	**0.1933**	**0.0508**	**1.5200e-003**	**0.0523**		**194.6847**	**194.6847**	**8.9100e-003**		**194.9074**

3.7 Architectural Coating - 2022

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	82.4856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**82.6902**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

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	0.0782	0.0499	0.5196	1.1700e-003	0.1150	9.9000e-004	0.1160	0.0305	9.1000e-004	0.0314		116.8108	116.8108	5.3500e-003		116.9445
Total	**0.0782**	**0.0499**	**0.5196**	**1.1700e-003**	**0.1150**	**9.9000e-004**	**0.1160**	**0.0305**	**9.1000e-004**	**0.0314**		**116.8108**	**116.8108**	**5.3500e-003**		**116.9445**

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	82.4856					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**82.6902**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

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	0.0782	0.0499	0.5196	1.1700e-003	0.1150	9.9000e-004	0.1160	0.0305	9.1000e-004	0.0314		116.8108	116.8108	5.3500e-003		116.9445
Total	**0.0782**	**0.0499**	**0.5196**	**1.1700e-003**	**0.1150**	**9.9000e-004**	**0.1160**	**0.0305**	**9.1000e-004**	**0.0314**		**116.8108**	**116.8108**	**5.3500e-003**		**116.9445**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	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	1.2125	10.2572	9.5416	0.0375	1.7424	0.0353	1.7777	0.4672	0.0333	0.5005		3,836.4308	3,836.4308	0.3145		3,844.2924
Unmitigated	1.2190	10.3168	9.6666	0.0380	1.7780	0.0358	1.8138	0.4767	0.0338	0.5106		3,888.8842	3,888.8842	0.3161		3,896.7855

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	495.80	0.00	0.00	590,721	578,906
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	495.80	0.00	0.00	590,721	578,906

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
Elementary School	6.60	6.60	6.60	65.00	30.00	5.00	63	25	12
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.493787	0.037174	0.180112	0.113823	0.031350	0.006007	0.008559	0.119460	0.001193	0.001523	0.004978	0.000987	0.001048
Other Asphalt Surfaces	0.493787	0.037174	0.180112	0.113823	0.031350	0.006007	0.008559	0.119460	0.001193	0.001523	0.004978	0.000987	0.001048
Parking Lot	0.493787	0.037174	0.180112	0.113823	0.031350	0.006007	0.008559	0.119460	0.001193	0.001523	0.004978	0.000987	0.001048

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	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	0.0142	0.1292	0.1085	7.8000e-004		9.8200e-003	9.8200e-003		9.8200e-003	9.8200e-003		155.0556	155.0556	2.9700e-003	2.8400e-003	155.9770
NaturalGas Unmitigated	0.0142	0.1292	0.1085	7.8000e-004		9.8200e-003	9.8200e-003		9.8200e-003	9.8200e-003		155.0556	155.0556	2.9700e-003	2.8400e-003	155.9770

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					
Elementary School	1317.97	0.0142	0.1292	0.1085	7.8000e-004		9.8200e-003	9.8200e-003		9.8200e-003	9.8200e-003		155.0556	155.0556	2.9700e-003	2.8400e-003	155.9770
Other Asphalt Surfaces	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
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
Total		**0.0142**	**0.1292**	**0.1085**	**7.8000e-004**		**9.8200e-003**	**9.8200e-003**		**9.8200e-003**	**9.8200e-003**		**155.0556**	**155.0556**	**2.9700e-003**	**2.8400e-003**	**155.9770**

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					
Elementary School	1.31797	0.0142	0.1292	0.1085	7.8000e-004		9.8200e-003	9.8200e-003		9.8200e-003	9.8200e-003		155.0556	155.0556	2.9700e-003	2.8400e-003	155.9770
Other Asphalt Surfaces	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
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
Total		**0.0142**	**0.1292**	**0.1085**	**7.8000e-004**		**9.8200e-003**	**9.8200e-003**		**9.8200e-003**	**9.8200e-003**		**155.0556**	**155.0556**	**2.9700e-003**	**2.8400e-003**	**155.9770**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

	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	0.9150	1.0000e-004	0.0106	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0226	0.0226	6.0000e-005		0.0241
Unmitigated	0.9686	1.0000e-004	0.0106	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0226	0.0226	6.0000e-005		0.0241

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	0.2260					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7416					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.8000e-004	1.0000e-004	0.0106	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0226	0.0226	6.0000e-005		0.0241
Total	**0.9686**	**1.0000e-004**	**0.0106**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0226**	**0.0226**	**6.0000e-005**		**0.0241**

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	0.2260					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6880					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.8000e-004	1.0000e-004	0.0106	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0226	0.0226	6.0000e-005		0.0241
Total	**0.9150**	**1.0000e-004**	**0.0106**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0226**	**0.0226**	**6.0000e-005**		**0.0241**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

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

Golden Eagle Charter School

Siskiyou County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	33.50	1000sqft	0.77	33,500.00	0
Parking Lot	59.13	1000sqft	1.36	59,125.00	0
Other Asphalt Surfaces	10.63	1000sqft	0.24	10,625.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	85
Climate Zone	14			**Operational Year**	2022
Utility Company	PacifiCorp				
CO2 Intensity (lb/MWhr)	1656.39	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Other asphalt surfaces include the play area, sidewalks, and walkways.

Construction Phase - Construction schedule based on project characteristics.

Demolition - Demolition of old barn.

Vehicle Trips - Per Traffic Impact Study for Golden Eagle Charter School (Traffic Works, May 29, 2018), 496 average daily trips.

Road Dust - School Zone.

Land Use Change -

Sequestration -

Construction Off-road Equipment Mitigation - .

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - .

Off-road Equipment -

Off-road Equipment -

Trips and VMT - .

Golden Eagle Charter School - Siskiyou County APCD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	MeanVehicleSpeed	40	25
tblSequestration	NumberOfNewTrees	0.00	30.00
tblTripsAndVMT	WorkerTripNumber	43.00	33.00
tblVehicleTrips	CW_TL	14.70	6.60
tblVehicleTrips	WD_TR	15.43	14.80

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					
2021	0.1823	1.4603	1.3097	2.6200e-003	0.0609	0.0668	0.1277	0.0208	0.0635	0.0843	0.0000	227.0909	227.0909	0.0389	0.0000	228.0634
2022	0.4941	0.6170	0.6348	1.2800e-003	0.0200	0.0269	0.0468	5.4000e-003	0.0256	0.0310	0.0000	111.2174	111.2174	0.0185	0.0000	111.6805
Maximum	**0.4941**	**1.4603**	**1.3097**	**2.6200e-003**	**0.0609**	**0.0668**	**0.1277**	**0.0208**	**0.0635**	**0.0843**	**0.0000**	**227.0909**	**227.0909**	**0.0389**	**0.0000**	**228.0634**

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					
2021	0.1823	1.4603	1.3097	2.6200e-003	0.0484	0.0668	0.1153	0.0151	0.0635	0.0786	0.0000	227.0907	227.0907	0.0389	0.0000	228.0632
2022	0.4941	0.6170	0.6348	1.2800e-003	0.0200	0.0269	0.0468	5.4000e-003	0.0256	0.0310	0.0000	111.2173	111.2173	0.0185	0.0000	111.6804
Maximum	**0.4941**	**1.4603**	**1.3097**	**2.6200e-003**	**0.0484**	**0.0668**	**0.1153**	**0.0151**	**0.0635**	**0.0786**	**0.0000**	**227.0907**	**227.0907**	**0.0389**	**0.0000**	**228.0632**

	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**	**15.37**	**0.00**	**7.12**	**21.91**	**0.00**	**4.98**	**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	5-3-2021	8-2-2021	0.6111	0.6111
2	8-3-2021	11-2-2021	0.6198	0.6198
3	11-3-2021	2-2-2022	0.6035	0.6035
4	2-3-2022	5-2-2022	0.6119	0.6119
5	5-3-2022	8-2-2022	0.3008	0.3008
		Highest	0.6198	0.6198

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	0.1767	1.0000e-005	9.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8400e-003	1.8400e-003	0.0000	0.0000	1.9700e-003
Energy	2.5900e-003	0.0236	0.0198	1.4000e-004		1.7900e-003	1.7900e-003		1.7900e-003	1.7900e-003	0.0000	212.1193	212.1193	3.7600e-003	1.1500e-003	212.5547
Mobile	0.1526	1.3534	1.3888	4.7800e-003	0.2198	4.7500e-003	0.2245	0.0592	4.4800e-003	0.0637	0.0000	443.4682	443.4682	0.0392	0.0000	444.4475
Waste						0.0000	0.0000		0.0000	0.0000	8.8403	0.0000	8.8403	0.5224	0.0000	21.9014
Water						0.0000	0.0000		0.0000	0.0000	0.3082	10.5177	10.8258	0.0318	7.9000e-004	11.8558
Total	**0.3318**	**1.3769**	**1.4096**	**4.9200e-003**	**0.2198**	**6.5400e-003**	**0.2263**	**0.0592**	**6.2700e-003**	**0.0655**	**9.1484**	**666.1069**	**675.2554**	**0.5972**	**1.9400e-003**	**690.7614**

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	0.1669	1.0000e-005	9.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8400e-003	1.8400e-003	0.0000	0.0000	1.9700e-003
Energy	2.5900e-003	0.0236	0.0198	1.4000e-004		1.7900e-003	1.7900e-003		1.7900e-003	1.7900e-003	0.0000	194.7716	194.7716	3.4500e-003	1.0800e-003	195.1807
Mobile	0.1517	1.3451	1.3730	4.7100e-003	0.2154	4.6800e-003	0.2201	0.0580	4.4200e-003	0.0624	0.0000	437.4248	437.4248	0.0390	0.0000	438.3996
Waste						0.0000	0.0000		0.0000	0.0000	8.8403	0.0000	8.8403	0.5224	0.0000	21.9014
Water						0.0000	0.0000		0.0000	0.0000	0.2465	9.3272	9.5737	0.0255	6.3000e-004	10.3991
Total	**0.3212**	**1.3687**	**1.3938**	**4.8500e-003**	**0.2154**	**6.4700e-003**	**0.2218**	**0.0580**	**6.2100e-003**	**0.0642**	**9.0868**	**641.5254**	**650.6122**	**0.5904**	**1.7100e-003**	**665.8827**

	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	**3.20**	**0.60**	**1.12**	**1.42**	**2.00**	**1.07**	**1.98**	**1.99**	**0.96**	**1.91**	**0.67**	**3.69**	**3.65**	**1.15**	**11.86**	**3.60**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	21.2400
Vegetation Land Change	-11.7232
Total	**9.5168**

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	5/3/2021	5/28/2021	5	20	
2	Site Preparation	Site Preparation	5/29/2021	6/2/2021	5	3	
3	Grading	Grading	6/3/2021	6/10/2021	5	6	
4	Building Construction	Building Construction	6/11/2021	4/14/2022	5	220	
5	Paving	Paving	4/15/2022	4/28/2022	5	10	
6	Architectural Coating	Architectural Coating	4/29/2022	5/12/2022	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 1.6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 50,250; Non-Residential Outdoor: 16,750; Striped Parking Area: 4,185 (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	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	2	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
Demolition	4	10.00	0.00	5.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	33.00	17.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

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					5.4000e-004	0.0000	5.4000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0154	0.1506	0.1122	1.9000e-004		7.9600e-003	7.9600e-003		7.4600e-003	7.4600e-003	0.0000	16.4652	16.4652	3.9000e-003	0.0000	16.5627
Total	**0.0154**	**0.1506**	**0.1122**	**1.9000e-004**	**5.4000e-004**	**7.9600e-003**	**8.5000e-003**	**8.0000e-005**	**7.4600e-003**	**7.5400e-003**	**0.0000**	**16.4652**	**16.4652**	**3.9000e-003**	**0.0000**	**16.5627**

3.2 Demolition - 2021

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	2.0000e-005	6.5000e-004	1.1000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1977	0.1977	1.0000e-005	0.0000	0.1979
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	9.9000e-004	7.5000e-004	6.6400e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1736	1.1736	6.0000e-005	0.0000	1.1751
Total	**1.0100e-003**	**1.4000e-003**	**6.7500e-003**	**1.0000e-005**	**1.2500e-003**	**1.0000e-005**	**1.2600e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.3713**	**1.3713**	**7.0000e-005**	**0.0000**	**1.3731**

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					2.4000e-004	0.0000	2.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0154	0.1506	0.1122	1.9000e-004		7.9600e-003	7.9600e-003		7.4600e-003	7.4600e-003	0.0000	16.4652	16.4652	3.9000e-003	0.0000	16.5627
Total	**0.0154**	**0.1506**	**0.1122**	**1.9000e-004**	**2.4000e-004**	**7.9600e-003**	**8.2000e-003**	**4.0000e-005**	**7.4600e-003**	**7.5000e-003**	**0.0000**	**16.4652**	**16.4652**	**3.9000e-003**	**0.0000**	**16.5627**

3.2 Demolition - 2021

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	2.0000e-005	6.5000e-004	1.1000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1977	0.1977	1.0000e-005	0.0000	0.1979
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	9.9000e-004	7.5000e-004	6.6400e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1736	1.1736	6.0000e-005	0.0000	1.1751
Total	**1.0100e-003**	**1.4000e-003**	**6.7500e-003**	**1.0000e-005**	**1.2500e-003**	**1.0000e-005**	**1.2600e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.3713**	**1.3713**	**7.0000e-005**	**0.0000**	**1.3731**

3.3 Site Preparation - 2021

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					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3200e-003	0.0274	0.0161	4.0000e-005		1.0500e-003	1.0500e-003		9.7000e-004	9.7000e-004	0.0000	3.2290	3.2290	1.0400e-003	0.0000	3.2551
Total	**2.3200e-003**	**0.0274**	**0.0161**	**4.0000e-005**	**2.3900e-003**	**1.0500e-003**	**3.4400e-003**	**2.6000e-004**	**9.7000e-004**	**1.2300e-003**	**0.0000**	**3.2290**	**3.2290**	**1.0400e-003**	**0.0000**	**3.2551**

3.3 Site Preparation - 2021

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	1.2000e-004	9.0000e-005	8.0000e-004	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1408	0.1408	1.0000e-005	0.0000	0.1410
Total	**1.2000e-004**	**9.0000e-005**	**8.0000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1408**	**0.1408**	**1.0000e-005**	**0.0000**	**0.1410**

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					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3200e-003	0.0274	0.0161	4.0000e-005		1.0500e-003	1.0500e-003		9.7000e-004	9.7000e-004	0.0000	3.2290	3.2290	1.0400e-003	0.0000	3.2551
Total	**2.3200e-003**	**0.0274**	**0.0161**	**4.0000e-005**	**1.0700e-003**	**1.0500e-003**	**2.1200e-003**	**1.2000e-004**	**9.7000e-004**	**1.0900e-003**	**0.0000**	**3.2290**	**3.2290**	**1.0400e-003**	**0.0000**	**3.2551**

3.3 Site Preparation - 2021

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	1.2000e-004	9.0000e-005	8.0000e-004	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1408	0.1408	1.0000e-005	0.0000	0.1410
Total	**1.2000e-004**	**9.0000e-005**	**8.0000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1408**	**0.1408**	**1.0000e-005**	**0.0000**	**0.1410**

3.4 Grading - 2021

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					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4800e-003	0.0606	0.0293	6.0000e-005		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**5.4800e-003**	**0.0606**	**0.0293**	**6.0000e-005**	**0.0197**	**2.7500e-003**	**0.0224**	**0.0101**	**2.5300e-003**	**0.0126**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

3.4 Grading - 2021

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	3.0000e-004	2.2000e-004	1.9900e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3521	0.3521	2.0000e-005	0.0000	0.3525
Total	**3.0000e-004**	**2.2000e-004**	**1.9900e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.7000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3521**	**0.3521**	**2.0000e-005**	**0.0000**	**0.3525**

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					8.8500e-003	0.0000	8.8500e-003	4.5500e-003	0.0000	4.5500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4800e-003	0.0606	0.0293	6.0000e-005		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**5.4800e-003**	**0.0606**	**0.0293**	**6.0000e-005**	**8.8500e-003**	**2.7500e-003**	**0.0116**	**4.5500e-003**	**2.5300e-003**	**7.0800e-003**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

3.4 Grading - 2021

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	3.0000e-004	2.2000e-004	1.9900e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3521	0.3521	2.0000e-005	0.0000	0.3525
Total	**3.0000e-004**	**2.2000e-004**	**1.9900e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.7000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3521**	**0.3521**	**2.0000e-005**	**0.0000**	**0.3525**

3.5 Building Construction - 2021

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	0.1272	1.0599	0.9376	1.6400e-003		0.0543	0.0543		0.0518	0.0518	0.0000	137.8435	137.8435	0.0280	0.0000	138.5443
Total	**0.1272**	**1.0599**	**0.9376**	**1.6400e-003**		**0.0543**	**0.0543**		**0.0518**	**0.0518**	**0.0000**	**137.8435**	**137.8435**	**0.0280**	**0.0000**	**138.5443**

3.5 Building Construction - 2021

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	6.5600e-003	0.1420	0.0450	3.6000e-004	7.3000e-003	5.3000e-004	7.8300e-003	2.1100e-003	5.1000e-004	2.6300e-003	0.0000	33.9851	33.9851	2.6200e-003	0.0000	34.0506
Worker	0.0239	0.0181	0.1599	3.1000e-004	0.0292	2.8000e-004	0.0295	7.7800e-003	2.6000e-004	8.0300e-003	0.0000	28.2727	28.2727	1.4600e-003	0.0000	28.3091
Total	**0.0305**	**0.1601**	**0.2049**	**6.7000e-004**	**0.0365**	**8.1000e-004**	**0.0373**	**9.8900e-003**	**7.7000e-004**	**0.0107**	**0.0000**	**62.2578**	**62.2578**	**4.0800e-003**	**0.0000**	**62.3597**

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	0.1272	1.0599	0.9376	1.6400e-003		0.0543	0.0543		0.0518	0.0518	0.0000	137.8433	137.8433	0.0280	0.0000	138.5441
Total	**0.1272**	**1.0599**	**0.9376**	**1.6400e-003**		**0.0543**	**0.0543**		**0.0518**	**0.0518**	**0.0000**	**137.8433**	**137.8433**	**0.0280**	**0.0000**	**138.5441**

3.5 Building Construction - 2021

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	6.5600e-003	0.1420	0.0450	3.6000e-004	7.3000e-003	5.3000e-004	7.8300e-003	2.1100e-003	5.1000e-004	2.6300e-003	0.0000	33.9851	33.9851	2.6200e-003	0.0000	34.0506
Worker	0.0239	0.0181	0.1599	3.1000e-004	0.0292	2.8000e-004	0.0295	7.7800e-003	2.6000e-004	8.0300e-003	0.0000	28.2727	28.2727	1.4600e-003	0.0000	28.3091
Total	**0.0305**	**0.1601**	**0.2049**	**6.7000e-004**	**0.0365**	**8.1000e-004**	**0.0373**	**9.8900e-003**	**7.7000e-004**	**0.0107**	**0.0000**	**62.2578**	**62.2578**	**4.0800e-003**	**0.0000**	**62.3597**

3.5 Building Construction - 2022

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	0.0584	0.4862	0.4683	8.3000e-004		0.0236	0.0236		0.0225	0.0225	0.0000	69.8775	69.8775	0.0140	0.0000	70.2273
Total	**0.0584**	**0.4862**	**0.4683**	**8.3000e-004**		**0.0236**	**0.0236**		**0.0225**	**0.0225**	**0.0000**	**69.8775**	**69.8775**	**0.0140**	**0.0000**	**70.2273**

3.5 Building Construction - 2022

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	3.0600e-003	0.0682	0.0206	1.8000e-004	3.7000e-003	2.4000e-004	3.9400e-003	1.0700e-003	2.3000e-004	1.3000e-003	0.0000	17.1169	17.1169	1.2900e-003	0.0000	17.1491
Worker	0.0113	8.1100e-003	0.0713	1.5000e-004	0.0148	1.3000e-004	0.0149	3.9400e-003	1.2000e-004	4.0700e-003	0.0000	13.8319	13.8319	6.4000e-004	0.0000	13.8480
Total	**0.0143**	**0.0763**	**0.0919**	**3.3000e-004**	**0.0185**	**3.7000e-004**	**0.0189**	**5.0100e-003**	**3.5000e-004**	**5.3700e-003**	**0.0000**	**30.9488**	**30.9488**	**1.9300e-003**	**0.0000**	**30.9970**

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	0.0584	0.4862	0.4683	8.3000e-004		0.0236	0.0236		0.0225	0.0225	0.0000	69.8774	69.8774	0.0140	0.0000	70.2272
Total	**0.0584**	**0.4862**	**0.4683**	**8.3000e-004**		**0.0236**	**0.0236**		**0.0225**	**0.0225**	**0.0000**	**69.8774**	**69.8774**	**0.0140**	**0.0000**	**70.2272**

3.5 Building Construction - 2022

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	3.0600e-003	0.0682	0.0206	1.8000e-004	3.7000e-003	2.4000e-004	3.9400e-003	1.0700e-003	2.3000e-004	1.3000e-003	0.0000	17.1169	17.1169	1.2900e-003	0.0000	17.1491
Worker	0.0113	8.1100e-003	0.0713	1.5000e-004	0.0148	1.3000e-004	0.0149	3.9400e-003	1.2000e-004	4.0700e-003	0.0000	13.8319	13.8319	6.4000e-004	0.0000	13.8480
Total	**0.0143**	**0.0763**	**0.0919**	**3.3000e-004**	**0.0185**	**3.7000e-004**	**0.0189**	**5.0100e-003**	**3.5000e-004**	**5.3700e-003**	**0.0000**	**30.9488**	**30.9488**	**1.9300e-003**	**0.0000**	**30.9970**

3.6 Paving - 2022

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	4.7100e-003	0.0467	0.0585	9.0000e-005		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003	0.0000	7.7550	7.7550	2.4600e-003	0.0000	7.8165
Paving	2.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.8100e-003**	**0.0467**	**0.0585**	**9.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.7550**	**7.7550**	**2.4600e-003**	**0.0000**	**7.8165**

3.6 Paving - 2022

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	6.9000e-004	5.0000e-004	4.3800e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8496	0.8496	4.0000e-005	0.0000	0.8506
Total	**6.9000e-004**	**5.0000e-004**	**4.3800e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8496**	**0.8496**	**4.0000e-005**	**0.0000**	**0.8506**

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	4.7100e-003	0.0467	0.0585	9.0000e-005		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003	0.0000	7.7550	7.7550	2.4600e-003	0.0000	7.8165
Paving	2.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.8100e-003**	**0.0467**	**0.0585**	**9.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.7550**	**7.7550**	**2.4600e-003**	**0.0000**	**7.8165**

3.6 Paving - 2022

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	6.9000e-004	5.0000e-004	4.3800e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8496	0.8496	4.0000e-005	0.0000	0.8506
Total	**6.9000e-004**	**5.0000e-004**	**4.3800e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8496**	**0.8496**	**4.0000e-005**	**0.0000**	**0.8506**

3.7 Architectural Coating - 2022

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	0.4124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.4135**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

3.7 Architectural Coating - 2022

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	4.2000e-004	3.0000e-004	2.6300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5098	0.5098	2.0000e-005	0.0000	0.5104
Total	**4.2000e-004**	**3.0000e-004**	**2.6300e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.5098**	**0.5098**	**2.0000e-005**	**0.0000**	**0.5104**

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	0.4124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.4135**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

3.7 Architectural Coating - 2022

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	4.2000e-004	3.0000e-004	2.6300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5098	0.5098	2.0000e-005	0.0000	0.5104
Total	**4.2000e-004**	**3.0000e-004**	**2.6300e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.5098**	**0.5098**	**2.0000e-005**	**0.0000**	**0.5104**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	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	0.1517	1.3451	1.3730	4.7100e-003	0.2154	4.6800e-003	0.2201	0.0580	4.4200e-003	0.0624	0.0000	437.4248	437.4248	0.0390	0.0000	438.3996
Unmitigated	0.1526	1.3534	1.3888	4.7800e-003	0.2198	4.7500e-003	0.2245	0.0592	4.4800e-003	0.0637	0.0000	443.4682	443.4682	0.0392	0.0000	444.4475

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	495.80	0.00	0.00	590,721	578,906
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	495.80	0.00	0.00	590,721	578,906

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
Elementary School	6.60	6.60	6.60	65.00	30.00	5.00	63	25	12
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.493787	0.037174	0.180112	0.113823	0.031350	0.006007	0.008559	0.119460	0.001193	0.001523	0.004978	0.000987	0.001048
Other Asphalt Surfaces	0.493787	0.037174	0.180112	0.113823	0.031350	0.006007	0.008559	0.119460	0.001193	0.001523	0.004978	0.000987	0.001048
Parking Lot	0.493787	0.037174	0.180112	0.113823	0.031350	0.006007	0.008559	0.119460	0.001193	0.001523	0.004978	0.000987	0.001048

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	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	169.1004	169.1004	2.9600e-003	6.1000e-004	169.3570
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	186.4481	186.4481	3.2600e-003	6.8000e-004	186.7310
NaturalGas Mitigated	2.5900e-003	0.0236	0.0198	1.4000e-004		1.7900e-003	1.7900e-003		1.7900e-003	1.7900e-003	0.0000	25.6712	25.6712	4.9000e-004	4.7000e-004	25.8237
NaturalGas Unmitigated	2.5900e-003	0.0236	0.0198	1.4000e-004		1.7900e-003	1.7900e-003		1.7900e-003	1.7900e-003	0.0000	25.6712	25.6712	4.9000e-004	4.7000e-004	25.8237

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					
Elementary School	481060	2.5900e-003	0.0236	0.0198	1.4000e-004		1.7900e-003	1.7900e-003		1.7900e-003	1.7900e-003	0.0000	25.6712	25.6712	4.9000e-004	4.7000e-004	25.8237
Other Asphalt Surfaces	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
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
Total		**2.5900e-003**	**0.0236**	**0.0198**	**1.4000e-004**		**1.7900e-003**	**1.7900e-003**		**1.7900e-003**	**1.7900e-003**	**0.0000**	**25.6712**	**25.6712**	**4.9000e-004**	**4.7000e-004**	**25.8237**

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					
Elementary School	481060	2.5900e-003	0.0236	0.0198	1.4000e-004		1.7900e-003	1.7900e-003		1.7900e-003	1.7900e-003	0.0000	25.6712	25.6712	4.9000e-004	4.7000e-004	25.8237
Other Asphalt Surfaces	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
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
Total		**2.5900e-003**	**0.0236**	**0.0198**	**1.4000e-004**		**1.7900e-003**	**1.7900e-003**		**1.7900e-003**	**1.7900e-003**	**0.0000**	**25.6712**	**25.6712**	**4.9000e-004**	**4.7000e-004**	**25.8237**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	227465	170.9003	2.9900e-003	6.2000e-004	171.1596
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	20693.8	15.5478	2.7000e-004	6.0000e-005	15.5713
Total		**186.4481**	**3.2600e-003**	**6.8000e-004**	**186.7310**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	207687	156.0403	2.7300e-003	5.7000e-004	156.2771
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	17382.8	13.0601	2.3000e-004	5.0000e-005	13.0799
Total		**169.1004**	**2.9600e-003**	**6.2000e-004**	**169.3570**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

Use Low VOC Cleaning Supplies

	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	0.1669	1.0000e-005	9.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8400e-003	1.8400e-003	0.0000	0.0000	1.9700e-003
Unmitigated	0.1767	1.0000e-005	9.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8400e-003	1.8400e-003	0.0000	0.0000	1.9700e-003

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	0.0412					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1353					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8400e-003	1.8400e-003	0.0000	0.0000	1.9700e-003
Total	**0.1767**	**1.0000e-005**	**9.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8400e-003**	**1.8400e-003**	**0.0000**	**0.0000**	**1.9700e-003**

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	0.0412					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1256					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8400e-003	1.8400e-003	0.0000	0.0000	1.9700e-003
Total	**0.1669**	**1.0000e-005**	**9.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8400e-003**	**1.8400e-003**	**0.0000**	**0.0000**	**1.9700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	9.5737	0.0255	6.3000e-004	10.3991
Unmitigated	10.8258	0.0318	7.9000e-004	11.8558

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.971397 / 2.49788	10.8258	0.0318	7.9000e-004	11.8558
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**10.8258**	**0.0318**	**7.9000e-004**	**11.8558**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	0.777117 / 2.34551	9.5737	0.0255	6.3000e-004	10.3991
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**9.5737**	**0.0255**	**6.3000e-004**	**10.3991**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.8403	0.5224	0.0000	21.9014
Unmitigated	8.8403	0.5224	0.0000	21.9014

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	43.55	8.8403	0.5224	0.0000	21.9014
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**8.8403**	**0.5224**	**0.0000**	**21.9014**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	43.55	8.8403	0.5224	0.0000	21.9014
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**8.8403**	**0.5224**	**0.0000**	**21.9014**

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

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	9.5168	0.0000	0.0000	9.5168

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	6.9 / 4.18	-11.7232	0.0000	0.0000	-11.7232
Total		**-11.7232**	**0.0000**	**0.0000**	**-11.7232**

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	30	21.2400	0.0000	0.0000	21.2400
Total		**21.2400**	**0.0000**	**0.0000**	**21.2400**

APPENDIX C

BIOLOGICAL RESOURCES REPORTS

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

COMMON NAME	SCIENTIFIC NAME	STATUS [1]	GENERAL HABITAT DESCRIPTION	HABITAT PRESENT (Y/N)	CRITICAL HABITAT PRESENT (Y/N)	SPECIES PRESENT (Y/N/POT.)	RATIONALE/COMMENTS
PLANTS							
Aleppo avens	*Geum aleppicum*	2B.2	Aleppo avens, an herbaceous plant, grows in meadows within Great Basin scrub and lower montane coniferous forest. The species is reported between 1,400 and 5,000 feet in elevation. The flowering period is June through August.	No	No	No	No potentially suitable habitat for Aleppo avens is present on the project site. The species was not observed during the botanical survey and is not expected to be present.
Broad-nerved hump moss	*Meesia uliginosa*	2B.2	Broad-nerved hump moss occurs on damp soil around meadows, seeps, bogs, and fens in upper montane coniferous forests. The species is reported between 4,200 and 8,200 feet in elevation.	No	No	No	The project site is well below the elevational range for broad-nerved hump moss. The species is not expected to occur in the project site.
Gasquet rose	*Rosa gymnocarpa* var. *serpentina*	1B.3	Gasquet rose, a rhizomatous shrub, occurs on serpentine soils in chaparral and cismontane woodlands. Within these vegetation communities, it may occur along streams, roadsides, ridges, and openings. The species is reported between 1,200 and 4,700 feet in elevation. The flowering period is April through June.	No	No	No	The project site does not include suitable soils for Gasquet rose; thus, the species would not be present.
Jepson's dodder	*Cuscuta jepsonii*	1B.2	Jepson's dodder is an annual vine (parasitic) that occurs on streambanks in North Coast coniferous forest, and other mountainous areas, including Mount Shasta. The species is reported between 3,900 and 7,500 feet in elevation. The flowering period is July through September.	No	No	No	Jepson's dodder has been reported in Siskiyou County once, in 1954 around the southern slopes of Mount Shasta. Neither Jepson's dodder nor its host plants were observed during the botanical survey; the dodder is not expected to be present.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

COMMON NAME	SCIENTIFIC NAME	STATUS [1]	GENERAL HABITAT DESCRIPTION	HABITAT PRESENT (Y/N)	CRITICAL HABITAT PRESENT (Y/N)	SPECIES PRESENT (Y/N/POT.)	RATIONALE/COMMENTS
Marsh skullcap	*Scutellaria galericulata*	2B.2	Marsh skullcap is a perennial member of the mint family. It occurs in meadows, along streambanks and in other wet places at elevations of 3,000 to 7,000 feet. The flowering period is June through September.	No	No	No	According to CNDDB records, marsh skullcap was observed one time in the general project area in 1894. The occurrence is broadly mapped to include the project site. Although potentially suitable habitat for marsh skullcap occurs in the Project site, the species was not observed during the botanical survey and is not expected to be present.
Northern adder's tongue	*Ophioglossum pusillum*	2B.2	Northern adder's tongue occurs along marsh and swamp edges, in meadows and seeps, in low pastures, and grassy roadside ditches. The species is reported between 3,200 and 6,600 feet in elevation. The flowering period is July through September.	Yes	No	No	According to CNDDB records, northern adder's tongue was observed one time in the general project area in 1894. The occurrence is broadly mapped to include the project site. The species was not observed during the botanical survey and is not expected to be present.
Oregon fireweed	*Epilobium oreganum*	1B.2	Oregon fireweed is associated with springs, bogs, fens, and meadows in montane coniferous forest. The species sometimes occurs on serpentine soils. The species is reported between 1,600 and 7,400 feet in elevation. The flowering period is June through September.	Yes	No	No	Potentially suitable habitat for Oregon fireweed is present on the project site. However, the species was not observed during the botanical survey and is not expected to be present.
Pallid bird's-beak	*Cordylanthus tenuis* ssp. *pallescens*	1B.2	Pallid bird's-beak occurs on open volcanic alluvium within lower montane coniferous forest. The species is reported between 2,200 and 5,400 feet in elevation. The flowering period is July through September.	No	No	No	No potentially suitable habitat for pallid bird's-beak is present on the project site. The species was not observed during the botanical survey and is not expected to be present.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

COMMON NAME	SCIENTIFIC NAME	STATUS [1]	GENERAL HABITAT DESCRIPTION	HABITAT PRESENT (Y/N)	CRITICAL HABITAT PRESENT (Y/N)	SPECIES PRESENT (Y/N/POT.)	RATIONALE/COMMENTS
Rattlesnake fern	*Botrypus virginianus*	2B.2	Rattlesnake fern occurs in bogs and fens. The species is reported between 2,400 and 4,300 feet in elevation. The flowering period is June through September.	Yes	No	No	Potentially suitable habitat for rattlesnake fern is present on the project site. However, the species was not observed during the botanical survey and is not expected to be present.
Shasta chaenactis	*Chaenactis suffrutescens*	1B.3	Shasta chaenactis occurs on rocky open slopes, cobbly river terraces, and along roadcuts. The species is found between 2,400 and 8,800 feet in elevation. The flowering period is May through September.	No	No	No	No potentially suitable habitat for Shasta chaenactis is present on the project site. The species was not observed during the botanical survey and is not expected to be present.
Siskiyou clover	*Trifolium siskiyouense*	1B.1	Siskiyou clover is a perennial herb that generally occurs in mountain meadows, seeps, or along streambanks between 2,800 and 4,900 feet in elevation. The flowering period is June and July.	Yes	No	No	According to CNDDB records, Siskiyou clover has been reported four times in California. The plant was reported from “Mt. Shasta and vicinity” in 1892. The last reported occurrence was in 1935, approximately 35 miles northwest of the project site. Although potentially suitable habitat for Siskiyou clover occurs in the project site, the species was not observed during the botanical surveys and is not expected to be present.
Subalpine aster	*Eurybia merita*	2B.3	Subalpine aster, a perennial herb, occurs on moist soils in upper montane coniferous forest. The species is reported between 4,000 and 6,300 feet in elevation. The flowering period is July through August.	No	No	No	The project site is below the elevational range for subalpine aster. The species was not observed during the botanical survey and is not expected to be present.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

COMMON NAME	SCIENTIFIC NAME	STATUS [1]	GENERAL HABITAT DESCRIPTION	HABITAT PRESENT (Y/N)	CRITICAL HABITAT PRESENT (Y/N)	SPECIES PRESENT (Y/N/POT.)	RATIONALE/COMMENTS
Woodnymph	*Moneses uniflora*	2B.2	Woodnymph is a perennial rhizomatous herb that occurs in upland broadleaf forest and North Coast coniferous forest. The species is reported between 300 and 3,600 feet in elevation. The flowering period is May through August.	No	No	No	According to CNDDB records, woodnymph was observed once in "Sisson," presumably prior to 1925 when the town was renamed as Mt. Shasta. The occurrence is broadly mapped to include the project site. No suitable habitat for woodnymph occurs in the project site. The species was not observed during the botanical survey and is not expected to be present.
Woolly balsamroot	*Balsamorhiza lanata*	1B.2	Woolly balsamroot, a perennial herb, occurs in open areas and grassy slopes in cismontane woodland in Siskiyou County. The species is reported between 2,600 and 6,300 feet. The flowering period is April through June.	No	No	No	According to CNDDB records, woolly balsamroot was observed in the general project area in 1998. The species was not observed during the botanical survey and is not expected to be present.
CONIFERS AND CYCADS							
Whitebark pine	*Pinus albicaulis*	FC	In California, whitebark pine typically occurs in cold, windy, high elevation sites in the Coast and Cascade ranges and the Sierra Nevada. The species is found at elevations ranging from 6,500 to 12,200 feet.	No	No	No	The project site is well below the elevational range for whitebark pine; thus, the species would not be present.
INVERTEBRATES							
Conservancy fairy shrimp	*Branchinecta conservatio*	FE	Conservancy fairy shrimp inhabit large, cool-water vernal pools with moderately turbid water.	No	No	No	No vernal pools or other potentially suitable habitats for Conservancy fairy shrimp are present in the project site. Thus, Conservancy fairy shrimp would not be present.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

COMMON NAME	SCIENTIFIC NAME	STATUS [1]	GENERAL HABITAT DESCRIPTION	HABITAT PRESENT (Y/N)	CRITICAL HABITAT PRESENT (Y/N)	SPECIES PRESENT (Y/N/POT.)	RATIONALE/COMMENTS
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	Vernal pool fairy shrimp inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump or basalt-flow depression pools.	No	No	No	No vernal pools or other potentially suitable habitats for vernal pool fairy shrimp are present in the project site; thus, the species would not be present.
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	Vernal pool tadpole shrimp occur in vernal pools in California's Central Valley and in the surrounding foothills.	No	No	No	No vernal pools or other potentially suitable habitats for vernal pool tadpole shrimp are present in the project site; thus, the species would not be present.
INSECTS							
Franklin's bumble Bee	*Bombus franklini*	SCE	Franklin's bumble bees have the most limited geographic distribution of any bumble bee in North America. They are found only from southern Oregon to northern California between the Coast and Sierra-Cascade Ranges. The species inhabits open grassy coastal prairies and Coast Range meadows. Franklin's bumble bee is a generalist forager and has been reported visiting a wide variety of flowering plants. The species has been observed collecting pollen from lupine, California poppy, and collecting nectar from horsemint or nettle-leaf giant hyssop, and mountain mondardella. The species may collect both pollen and nectar from vetch. The flight season is from mid-May to the end of September. Nesting habitat is unknown, but it probably nests in abandoned rodent burrows. Generally, bumble bees overwinter in soft, disturbed soil, or under leaf litter or other debris.	Yes	No	No	According to CNDDB records, Franklin's bumble bee was reported in 1993, approximately 3.2 miles northeast of the project site. Surveys for Franklin's bumble bee were conducted in the Mt. Shasta area by Dr. Robin W. Thorp in 1998, 1999, 2000, 2002, and 2005 through 2017; the species was not observed during the surveys (Xerces Society *et al.*, 2018). Given that surveys for Franklin's bumble bee conducted between 1998 and 2017 did not identify the presence of the species in the Mt. Shasta area, it is not expected that the species would be present in the project site.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

COMMON NAME	SCIENTIFIC NAME	STATUS [1]	GENERAL HABITAT DESCRIPTION	HABITAT PRESENT (Y/N)	CRITICAL HABITAT PRESENT (Y/N)	SPECIES PRESENT (Y/N/POT.)	RATIONALE/COMMENTS
Suckley cuckoo bumble bee	*Bombus suckleyi*	SCE	The Suckley cuckoo bumble bee's range, distribution, and abundance in California are not well known due to the rarity of observations of the species in the State, and the species is known only from a few records in the Klamath Mountains region. Habitat includes meadows largely confined to mountainous regions. Suckley cuckoo bumble bees are dependent on their host species, the Western bumble bee, to collect pollen on which to rear their young. The decline of its host, the Western bumble bee, may be the primary threat to continued survival of the species. Suckley cuckoo bumble bees are nest parasites and have been detected in the nests of several species of bumble bees; however, the species has only been observed reproducing in nests of western bumble bees. Records of known plant associations for this species are scarce. In California, the species is associated with the following genera: "aster", *chrysothamnus, cirsium, solidago,* and *centaurea*, as well as the plant species associated with western bumble bee (Williams *et al.*, 2014). The flight season for females of the species is from late May to late October. Generally, bumble bees overwinter in soft, disturbed soil, or under leaf litter or other debris.	Yes	No	Pot.	According to CNDDB records, Suckley's cuckoo bumble bee has been reported in three locations in Siskiyou County. In 1958, the species was reported in the general project area. The most recent reported occurrence was in 2009, approximately 22 miles west of the project site near the community of Callahan. The third reported occurrence was in 2008, approximately 75 miles northwest of the City. Potentially suitable habitat for Suckley cuckoo bumble bee is present in the project site, and there is a low likelihood that the species would be present.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

COMMON NAME	SCIENTIFIC NAME	STATUS [1]	GENERAL HABITAT DESCRIPTION	HABITAT PRESENT (Y/N)	CRITICAL HABITAT PRESENT (Y/N)	SPECIES PRESENT (Y/N/POT.)	RATIONALE/COMMENTS
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	The valley elderberry longhorn beetle is found only in association with elderberry shrubs (*Sambucus* spp.). The species' elevational range extends from sea level to 3,000 feet. The species is known to occur in the Central Valley and foothills.	No	No	No	No suitable habitat occurs on the project site for the valley elderberry longhorn beetle. Thus, the valley elderberry longhorn beetle would not be present.
Western bumble bee	*Bombus occidentalis*	SCE	Formerly found in much of California, the western bumble bee is now mostly restricted to high-elevation sites in the Sierra Nevada, with some observations on the northern California coast. The species may be found in open grassy areas, urban parks and gardens, and mountain meadows with abundant floral resources. Residential gardens and urban parks may also provide valuable floral resources, and may serve as important habitat refuges for bumble bees The plants most commonly associated with Western bumble bees in California include *cirsium, erigonum, solidago, aster, ceanothus, centaurea,* and *penstemon*. The species is also associated with *chrysothamnus*, *geranium*, *grindellia*, *lupinus*, *melilotus*, *monardella*, *rubus*, and *trifolium*. The flight period is generally from early February to late November. Nests are primarily in underground cavities such as in old animal burrows on open west-southwest slopes bordered by trees. The species may also be able to nest aboveground, such as in log cavities. Generally, bumble bees overwinter in soft, disturbed soil, or under leaf litter or other debris.	Yes	No	Pot.	According to CNDDB records, western bumble bees have been reported in the general project area; however, the most recent reported occurrence in the area was in 1960. The last reported occurrence in Siskiyou County was in 1984, ±13 miles northwest of the City. Review of the Xerces Society's Historic Records and Range Map for the Western Bumble Bee (2019), also identified several occurrences of the species near the base of Mt. Shasta in 1958. Potentially suitable habitat for western bumble bee is present in the project site, and there is a low likelihood that the species would be present.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

COMMON NAME	SCIENTIFIC NAME	STATUS [1]	GENERAL HABITAT DESCRIPTION	HABITAT PRESENT (Y/N)	CRITICAL HABITAT PRESENT (Y/N)	SPECIES PRESENT (Y/N/POT.)	RATIONALE/COMMENTS
BIRDS							
American peregrine falcon	*Falco peregrinus anatum*	FD, SD, SFP	American peregrine falcons frequent water bodies in open areas with cliffs and canyons nearby for nesting. This falcon feeds and breeds near water.	No	No	No	No suitable nesting habitat for the American peregrine falcon is present in the project site or vicinity; thus, the species would not nest in the project site.
Bald eagle	*Haliaeetus leucocephalus*	FD, SE, SFP	Bald eagles nest in large, old-growth trees or snags in mixed stands near open bodies of water. Adults tend to use the same breeding areas year after year and often use the same nest, though a breeding area may include one or more alternate nests. Bald eagles usually do not begin nesting if human disturbance is evident. In California, the bald eagle nesting season is from February through July.	No	No	No	No suitable nesting habitat for the bald eagle is present in the project site or vicinity. No bald eagles or eagle nests were observed during the wildlife survey; thus, the species would not nest in the project site.
Bank swallow	*Riparia riparia*	ST	Bank swallows require vertical banks and cliffs with fine-textured or sandy soils near streams, rivers, ponds, lakes, or the ocean for nesting.	No	No	No	No vertical banks or cliffs are present in the project site; thus, the species would not nest on-site.
Northern goshawk	*Accipiter gentilis*	SSSC	Northern goshawks generally nest on north-facing slopes near water in old-growth coniferous and deciduous forests. Goshawks re-use old nests and maintain alternate nest sites.	No	No	No	No old-growth forest is present in the project site; thus, the species would not nest in the project site.
Northern spotted owl	*Strix occidentalis caurina*	FT, SC, SSSC	Northern spotted owls inhabit dense, old-growth, multi-layered mixed conifer, redwood, and Douglas-fir forests from sea level to approximately 7,600 feet in elevation. Northern spotted owls typically nest in tree cavities, the broken tops of trees, or in snags.	No	No	No	No old-growth forest or potentially suitable nesting trees/snags are present in the project site. Thus, the northern spotted owl would not nest in the project site.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

COMMON NAME	SCIENTIFIC NAME	STATUS [1]	GENERAL HABITAT DESCRIPTION	HABITAT PRESENT (Y/N)	CRITICAL HABITAT PRESENT (Y/N)	SPECIES PRESENT (Y/N/POT.)	RATIONALE/COMMENTS
Western yellow-billed cuckoo / Yellow-billed cuckoo	*Coccyzus americanus occidentalis* & *Coccyzus americanus*	FT, SE	Western yellow-billed cuckoos inhabit and nest in extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, and which abut slow-moving watercourses, backwaters, or seeps. Willows are almost always a dominant component of the vegetation.	No	No	No	According to CNDDB records, western yellow-billed cuckoo was most recently observed in Siskiyou County in 1951. Due to lack of suitable habitat, the species would not nest on the project site.
Yellow rail	*Coturnicops noveboracensis*	SSSC	Yellow rails inhabit dense, grassy marshes, wet meadows, fens, and seeps. Their nest is a shallow cup of sedges and grasses in a shallow part of a marsh, on damp soil or over water less than six inches deep. Yellow rails are highly elusive and are rarely seen. They are most commonly identified by the male's call during the breeding season, a unique metallic 5-note call easily imitated by tapping two stones together.	Yes	No	No	Yellow rails are occasionally sighted in the Mt. Shasta area; eBird records show that the most recent recorded sighting was in 2005. Although potentially suitable habitat for the yellow rail is present on the project site, the species was not detected during the wildlife survey and is not expected to be present.
AMPHIBIANS							
California red-legged frog	*Rana draytonii*	FT	Suitable aquatic habitat for the California red-legged frog (CRLF) consists of permanent water bodies of virtually still or slow-moving fresh water, including natural and man-made ponds, backwaters within streams and creeks, marshes, lagoons, and dune ponds. The CRLF is not characteristically found in deep lacustrine habitats (e.g., deep lakes and reservoirs). Dense, shrubby riparian vegetation, e.g., willow (*Salix*) and bulrush (*Scirpus*) species, and bank overhangs are important features of CRLF breeding habitat. The CRLF tends to occur in greater numbers in deeper, cooler pools with dense emergent and shoreline vegetation.	No	No	No	Historically, inland populations of CRLF ranged as far north as Redding, in southern Shasta County. The project site is well outside the current and historical range for the California red-legged frog, and the species would not be present.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

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Cascades frog	*Rana cascadae*	SCE, SSSC	Standing water is required for reproduction. Breeding occurs between March and mid-August. Eggs are deposited in shallow water features with silty, sandy, or gravelly substrates. Adults are typically found in open, sunny areas along shorelines that provide basking and foraging opportunities; they can occasionally move between basins by crossing over mountain ridges.	No	No	No	CNDDB records show that a Cascades frog was observed in in 1941 ±1.5 miles southwest of the project site near the South Fork of the Sacramento River. Because the frog has not been observed in the area since 1941 and its typical habitat is at a much higher elevation, Cascades frog is not expected to occur in the study area.
Foothill yellow-legged frog	*Rana boylii*	SE, SSSC	Foothill yellow-legged frogs are typically found in shallow, partly-shaded, perennial streams in areas with riffles and rocky substrates. This frog needs at least some cobble-sized substrate for egg-laying. Foothill yellow-legged frogs generally prefer low- to moderate-gradient streams, especially for breeding and egg-laying, although juvenile and adult frogs may utilize moderate- to steep-gradient streams during summer and early fall.	No	No	No	No suitable habitat for the foothill yellow-legged frog is present on the project site. Thus, the foothill yellow-legged frog would not be present.
Oregon spotted frog	*Rana pretiosa*	FT, SSSC	Oregon spotted frog is typically found in or near a perennial body of water that includes zones of shallow water and abundant emergent or floating aquatic plants, which the frogs use as basking sites and for escape cover. The frog prefers large, warm marshes (minimum size of ±9 acres), and is thought to be extirpated from California.	No	No	No	No suitable habitat for the Oregon spotted frog is present on the project site. Thus, the Oregon spotted frog would not be present.
FISH							
Delta smelt	*Hypomesus transpacificus*	FT	Delta smelt primarily inhabit the brackish waters of Sacramento-San Joaquin River Delta. Most spawning occurs in backwater sloughs and channel edgewaters.	No	No	No	The project site is well outside the range for Delta smelt; thus, the species would not be present.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

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Longfin smelt	*Spirinchus thaleichthys*	FC	The longfin smelt is a pelagic fish that ranges from Alaska southward to the San Francisco Bay-Delta in California. The range includes at least 20 scattered populations found in estuaries, rivers, and lakes stretching from California to Alaska. The USFWS found that listing of the longfin smelt is warranted only for the Bay-Delta population, not range-wide.	No	No	No	No suitable habitat occurs on the project site for longfin smelt. Thus, the longfin smelt would not be present.
MAMMALS							
Fisher - west coast DPS	*Pekania pennanti*	ST, SSSC	Fishers inhabit mixed conifer forests dominated by Douglas-fir, although they also are encountered frequently in higher elevation fir and pine forests, and mixed evergreen/broadleaf forests. Suitable habitat for fishers consists of large areas of mature, dense forest stands with snags and greater than 50 percent canopy closure. Fishers den in cavities in large trees, snags, logs, rocky areas, or shelters provided by slash or brush piles. Fishers are very sensitive to human activities. Den sites are most often found in areas with no human disturbance.	No	No	No	Although fishers could potentially stray near the project site, they would not routinely utilize or den in the area given the extent of human activity and urbanization in and adjacent to the project site.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

COMMON NAME	SCIENTIFIC NAME	STATUS [1]	GENERAL HABITAT DESCRIPTION	HABITAT PRESENT (Y/N)	CRITICAL HABITAT PRESENT (Y/N)	SPECIES PRESENT (Y/N/POT.)	RATIONALE/COMMENTS
Gray wolf	*Canis lupus*	FE, SE	Gray wolves are habitat generalists; populations can be found in any type of habitat in the Northern Hemisphere from about 20° latitude to the polar ice pack. Preferred habitats include a year-round abundance of prey, secluded denning and rendezvous sites, and minimal human disturbance. Dens may be a hollow log or a tunnel excavated in loose soil. Dens are often near water, and are usually elevated to detect approaching enemies. Wolf packs establish and defend territories that may range from 20 to 400 square miles. Wolves travel over large areas to hunt, and may cover as much as 30 miles in a day. Young wolves may disperse several hundred miles to seek a mate or to establish their own pack.	No	No	No	A gray wolf pack, known as the "Shasta Pack" became established in southeastern Siskiyou County in the spring of 2015. Continued dispersal of wolves into California is expected. Although gray wolves can travel approximately 30 miles each day, and could potentially stray near the project site, gray wolves would not be expected to stray onto or den in the project site given the extent of human activity and urbanization in and adjacent to the project site.
North American wolverine	*Gulo gulo luscus*	FPT	Wolverines are dependent on areas in high mountains, near the tree-line, where conditions are cold year-round and snow cover persists well into the month of May. Female wolverines use birthing dens that are excavated in snow. Persistent, stable snow greater than 1.5 meters deep appears to be a requirement for birthing dens. Birthing dens consist of tunnels that contain well-used runways and bed sites and may naturally incorporate shrubs, rocks, and downed logs as part of their structure. Birthing dens may occur on rocky sites, such as north-facing boulder talus or subalpine cirques. Wolverines are very sensitive to human activities and often abandon den sites in response to human disturbance.	No	No	No	No suitable habitat occurs on the project site for California wolverine. Thus, the California wolverine would not be present.

Potential for Special-Status Species Identified by the USFWS and CNDDB to Occur on the Project Site
July 2020

COMMON NAME	SCIENTIFIC NAME	STATUS [1]	GENERAL HABITAT DESCRIPTION	HABITAT PRESENT (Y/N)	CRITICAL HABITAT PRESENT (Y/N)	SPECIES PRESENT (Y/N/POT.)	RATIONALE/COMMENTS
Sierra Nevada red fox	*Vulpes vulpes necator*	FC, ST	The Sierra Nevada red fox inhabits remote mountainous areas where encounters with humans are rare. Preferred habitat appears to be red fir and lodgepole pine forests in the subalpine and alpine zones of the Sierra Nevada. This species may hunt in forest openings, meadows, and barren rocky areas associated with its high elevation habitats.	No	No	No	No suitable habitat occurs on the project site for Sierra Nevada red fox. Thus, the Sierra Nevada red fox would not be present.
Spotted bat	*Euderma maculatum*	SSSC	Spotted bats inhabit grasslands, mixed coniferous forests, and deserts. Spotted bats typically roost in cliff crevices, but may also roost in caves and manmade structures. Roosts usually occur near suitable foraging areas (i.e., open water, meadows, riparian habitat, and forest openings).	No	No	No	No potentially suitable roosting habitat for spotted bat is present in the project site; thus, the species is not expected to roost in the project site.
Western mastiff bat	*Eumops perotis californicus*	SSSC	The western mastiff bat is the largest native bat in the continental United States. This bat occurs in a variety of open, semi-arid to arid habitats. The western mastiff bat typically roosts in crevices in rocky canyons and cliffs where the canyon or cliff face is vertical or nearly vertical. The species may also roost in trees, tunnels, buildings, or other manmade structures. Suitable roost sites feature an unobstructed drop-off of at least 6.5 feet to provide takeoff or launching area for flight, with no obstructions.	No	No	No	No potentially suitable roosting habitat for western mastiff bats is present in the project site; thus, the species is not expected to be roost in the site.

[1] Status Codes

Federal:

FE	Federally Listed – Endangered
FT	Federally Listed – Threatened
FC	Federal Candidate Species
FP	Federal Proposed Species
FD	Federal Delisted

State:

SFP	State Fully Protected
SR	State Rare
SE	State Listed – Endangered
ST	State Listed – Threatened
SC	State Candidate Species
SCE	State Candidate Endangered
SCT	State Candidate Threatened
SSSC	State Species of Special Concern
WL	Watch List
SD	State Delisted

Rare Plant Rank

1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened or Endangered in California and Elsewhere
2A	Presumed extirpated in California, but more common elsewhere
2B	Rare or Endangered in California, but more common elsewhere

Rare Plant Threat Rank

0.1	Seriously Threatened in California
0.2	Fairly Threatened in California
0.3	Not Very Threatened in California

CNDDB Report Summary

Five-Mile Radius of Project Site
July 2020

Listed Element	Quadrangle [1]						Status [2]
	CMS	DU	HO	MC	ME	MS	
ANIMALS							
American peregrine falcon		•					FD, SD, SFP
Bald eagle					•		FD, SE, SFP
Bank swallow	•						ST
Cascades frog*	•						SCE, SSSC
Fisher-west coast DPS	•				•		ST, SSSC
Foothill yellow-legged frog	•				•		SE, SSSC
Franklin's bumblebee				•			SCE
Great blue heron	•						None
Long-eared myotis						•	None
North American porcupine	•						None
Northern goshawk				•			SSSC
Obscure bumblebee*	•					•	None
Osprey	•						WL
Pacific marten				•			None
Sierra Nevada red fox						•	FC, ST
Silver-haired bat	•					•	None
Spotted bat	•						SSSC
Suckley's cuckoo bumble bee*	•						SCE
Western bumblebee*	•						SCE
Western mastiff bat	•						SSSC
Western yellow-billed cuckoo*	•						FT, SE
Yellow rail	•						SSSC
PLANTS							
Aleppo avens	•						2B.2
Baker's globe mallow	•						4.2
Broad-nerved hump moss*	•						2B.2
Gasquet rose	•						1B.3
Jepson's dodder				•			1B.2
Marsh skullcap*	•						2B.2
Northern adder's tongue*	•						2B.2
Oregon fireweed					•		1B.2
Pacific fuzzwort	•				•		4.3
Pallid bird's-beak	•		•				1B.2
Rattlesnake fern	•						2B.2
Shasta chaenactis	•						1B.3
Siskiyou clover*	•						1B.1

Subalpine aster					•		2B.3
Three-ranked hump moss*	•						4.2
Woodnymph*	•						2B.2
Woolly balsamroot	•						1B.2
NATURAL COMMUNITIES							
Fen	•						None

Highlighting denotes the quadrangle in which the project site is located
**Denotes species reported on Project Site*

[1]QUADRANGLE CODE

CMS	City of Mt. Shasta	MC	McCloud
DU	Dunsmuir	ME	Mount Eddy
HO	Hotlum	MS	Mt. Shasta

[2]STATUS CODES

Federal

FE	Federally Listed – Endangered
FT	Federally Listed – Threatened
FC	Federal Candidate Species
FP	Federal Proposed Species
FD	Federally Delisted
FSC	Federal Species of Concern

State

SFP	State Fully Protected
SR	State Rare
SE	State Listed – Endangered
ST	State Listed – Threatened
SC	State Candidate Species
SD	State Delisted
SSSC	State Species of Special Concern
WL	Watch List

Rare Plant Rank

1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened or Endangered in California and Elsewhere
2	Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere
3	Plants About Which We Need More Information *(A Review List)* (generally not considered special-status, unless unusual circumstances warrant)
4	Plants of Limited Distribution *(A Watch List)* (generally not considered special-status, unless unusual circumstances warrant)

Rare Plant Threat Ranks

0.1 Seriously Threatened in California

0.2 Fairly Threatened in California

0.3 Not Very Threatened in California

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Yreka Fish And Wildlife Office
1829 South Oregon Street
Yreka, CA 96097-3446
Phone: (530) 842-5763 Fax: (530) 842-4517

In Reply Refer To:
Consultation Code: 08EYRE00-2018-SLI-0132
Event Code: 08EYRE00-2020-E-00436
Project Name: Golden Eagle Charter School

June 16, 2020

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies federally threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that this list does not reflect State listed species or fulfill requirements related to any California Department of Fish and Wildlife consultation. Additionally, this list does not include species covered by the National Marine Fisheries Service (NMFS). For NMFS species please see the related website at the following link:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

If your project does not involve Federal funding or permits and does not occur on Federal land, we recommend you review this list and determine if any of these species or critical habitat may be affected. If you determine that there will be no effects to federally listed or proposed species or critical habitat, there is no need to coordinate with the Service. If you think or know that there will be effects, please contact our office for further guidance. We can assist you in incorporating measures to avoid or minimize impacts, and discuss whether permits are needed.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential effects to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be

completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

If wetlands, springs, or streams are known to occur in the project area or are present in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (ACOE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the ACOE's Regulatory Section regarding the possible need for a permit.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html).

Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

The table below outlines lead Service field offices by county and land ownership/project type. Please refer to this table when you are ready to coordinate (including requests for section 7 consultation) with the field office corresponding to your project. Please send any documentation regarding your project to that office. Please note that the lead Service field office for your consultation may not be the office listed above in the letterhead. Please visit the following link to view a map of Service field office jurisdictional boundaries:

http://www.fws.gov/yreka/specieslist/JurisdictionalBoundaryES_R8_20150313.pdf

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of the letter you submit to our office along with any request for consultation or correspondence about your project.

Lead FWS offices by County and Ownership/Program

County	Ownership/Program	Species	Office Lead*
Alameda	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Alameda	All ownerships but tidal/estuarine	All	SFWO
Alpine	Humboldt Toiyabe National Forest	All	RFWO
Alpine	Lake Tahoe Basin Management Unit	All	RFWO
Alpine	Stanislaus National Forest	All	SFWO
Alpine	El Dorado National Forest	All	SFWO
Colusa	Mendocino National Forest	All	AFWO
Colusa	Other	All	By jurisdiction (see map)
Contra Costa	Legal Delta (Excluding ECCHCP)	All	BDFWO
Contra Costa	Antioch Dunes NWR	All	BDFWO

Contra Costa	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Contra Costa	All ownerships but tidal/estuarine	All	SFWO
Del Norte	All	All	AFWO
El Dorado	El Dorado National Forest	All	SFWO
El Dorado	LakeTahoe Basin Management Unit		RFWO
Glenn	Mendocino National Forest	All	AFWO
Glenn	Other	All	By jurisdiction (see map)
Humboldt	All except Shasta Trinity National Forest	All	AFWO
Humboldt	Shasta Trinity National Forest	All	YFWO
Lake	Mendocino National Forest	All	AFWO
Lake	Other	All	By jurisdiction (see map)
Lassen	Modoc National Forest	All	KFWO
Lassen	Lassen National Forest	All	SFWO
Lassen	Toiyabe National Forest	All	RFWO
Lassen	BLM Surprise and Eagle Lake Resource Areas	All	RFWO
Lassen	BLM Alturas Resource Area	All	KFWO
Lassen	Lassen Volcanic National Park	All (includes Eagle Lake trout on all ownerships)	SFWO
Lassen	All other ownerships	All	By jurisdiction (see map)

Marin	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Marin	All ownerships but tidal/estuarine	All	SFWO
Mendocino	Russian River watershed	All	SFWO
Mendocino	All except Russian River watershed	All	AFWO
Modoc	Modoc National Forest	All	KFWO
Modoc	BLM Alturas Resource Area	All	KFWO
Modoc	Klamath Basin National Wildlife Refuge Complex	All	KFWO
Modoc	BLM Surprise and Eagle Lake Resource Areas	All	RFWO
Modoc	All other ownerships	All	By jurisdiction (See map)
Mono	Inyo National Forest	All	RFWO
Mono	Humboldt Toiyabe National Forest	All	RFWO
Napa	All ownerships but tidal/estuarine	All	SFWO
Napa	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Nevada	Humboldt Toiyabe National Forest	All	RFWO
Nevada	All other ownerships	All	By jurisdiction (See map)
Placer	Lake Tahoe Basin Management Unit	All	RFWO
Placer	All other ownerships	All	SFWO

Sacramento	Legal Delta	Delta Smelt	BDFWO
Sacramento	Other	All	By jurisdiction (see map)
San Francisco	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Francisco	All ownerships but tidal/estuarine	All	SFWO
San Mateo	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Mateo	All ownerships but tidal/estuarine	All	SFWO
San Joaquin	Legal Delta excluding San Joaquin HCP	All	BDFWO
San Joaquin	Other	All	SFWO
Santa Clara	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
Santa Clara	All ownerships but tidal/estuarine	All	SFWO
Shasta	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Shasta	Hat Creek Ranger District	All	SFWO
Shasta	Bureau of Reclamation (Central Valley Project)	All	BDFWO
Shasta	Whiskeytown National Recreation Area	All	YFWO
Shasta	BLM Alturas Resource Area	All	KFWO
Shasta	Caltrans	By jurisdiction	SFWO/AFWO

Shasta	Ahjumawi Lava Springs State Park	Shasta crayfish	SFWO
Shasta	All other ownerships	All	By jurisdiction (see map)
Shasta	Natural Resource Damage Assessment, all lands	All	SFWO/BDFWO
Sierra	Humboldt Toiyabe National Forest	All	RFWO
Sierra	All other ownerships	All	SFWO
Siskiyou	Klamath National Forest (except Ukonom District)	All	YFWO
Siskiyou	Six Rivers National Forest and Ukonom District	All	AFWO
Siskiyou	Shasta Trinity National Forest	All	YFWO
Siskiyou	Lassen National Forest	All	SFWO
Siskiyou	Modoc National Forest	All	KFWO
Siskiyou	Lava Beds National Volcanic Monument	All	KFWO
Siskiyou	BLM Alturas Resource Area	All	KFWO
Siskiyou	Klamath Basin National Wildlife Refuge Complex	All	KFWO
Siskiyou	All other ownerships	All	By jurisdiction (see map)
Solano	Suisun Marsh	All	BDFWO
Solano	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Solano	All ownerships but tidal/estuarine	All	SFWO
Solano	Other	All	By jurisdiction (see map)

Sonoma	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Sonoma	All ownerships but tidal/estuarine	All	SFWO
Tehama	Mendocino National Forest	All	AFWO
Tehama	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Tehama	All other ownerships	All	By jurisdiction (see map)
Trinity	BLM	All	AFWO
Trinity	Six Rivers National Forest	All	AFWO
Trinity	Shasta Trinity National Forest	All	YFWO
Trinity	Mendocino National Forest	All	AFWO
Trinity	BIA (Tribal Trust Lands)	All	AFWO
Trinity	County Government	All	AFWO
Trinity	All other ownerships	All	By jurisdiction (See map)
Yolo	Yolo Bypass	All	BDFWO
Yolo	Other	All	By jurisdiction (see map)
All	FERC-ESA	All	By jurisdiction (see map)
All	FERC-ESA	Shasta crayfish	SFWO
All	FERC-Relicensing (non-ESA)	All	BDFWO

***Office Leads:**

AFWO=Arcata Fish and Wildlife Office

BDFWO=Bay Delta Fish and Wildlife Office

KFWO=Klamath Falls Fish and Wildlife Office

RFWO=Reno Fish and Wildlife Office

YFWO=Yreka Fish and Wildlife Office

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Yreka Fish And Wildlife Office
1829 South Oregon Street
Yreka, CA 96097-3446
(530) 842-5763

Project Summary

Consultation Code: 08EYRE00-2018-SLI-0132

Event Code: 08EYRE00-2020-E-00436

Project Name: Golden Eagle Charter School

Project Type: DEVELOPMENT

Project Description: Build a new Charter School called Golden Eagle Charter School 032-46

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/41.317185995376065N122.32230543887837W

Counties: Siskiyou, CA

Endangered Species Act Species

There is a total of 14 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Fisher *Pekania pennanti* Population: West coast DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3651	Threatened
Gray Wolf *Canis lupus* Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered
North American Wolverine *Gulo gulo luscus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
Oregon Spotted Frog *Rana pretiosa* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6633	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay delta DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Candidate

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Conifers and Cycads

NAME	STATUS
Whitebark Pine *Pinus albicaulis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1748	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX D

PRELIMINARY DRAINAGE REPORT

Golden Eagle Charter School
Pine Street
Mt. Shasta, CA

Preliminary Drainage Report

Prepared by:

Robertson Erickson
CIVIL ENGINEERS & SURVEYORS

888 Manzanita Ct., Suite 101, Chico, CA 95926
530-894-3500 Fax 530-894-8955
robertsonerickson.com

April 22, 2020

Table of Contents

Hydrology Summary

Plans are being processed for a new school site on Pine Street in Mt. Shasta. This report addresses drainage of the project site and runoff mitigations for impacts created by the project. This study was based on the conceptual site plan developed by Russell Gallaway Associates, Inc., dated April 7, 2020.

Existing Project Setting

The project site is about 4.3 acres in size and currently is a large empty field. The site slopes about 3.5% westerly. Part of the site drains to the north west, but most of the site drains to the south west. Drainage runs into the Caltrans right of way, collects in culverts and is transferred to the west side of Interstate 5. The site mostly consists of grasses, trees, and weeds.

Existing Project Tributary Areas and Runoff

Two drainage shed areas of the property are analyzed for the project area. The north shed area is about 1.04 acres in size. The South Shed area is 3.23 acres in size. The pre-project runoff coefficient utilized is 0.35 for the north and 0.36 for the south shed areas. Time of concentration consists of overland flow and is calculated at 10 minutes for the north shed area and 13 minutes for the south shed area. Current runoff for the north shed area is 0.53 cubic feet per second (cfs) for the 2-year, 0.85 cfs for the 10-year, and 1.31 cfs for the 100-year events. Existing runoff for the south shed area is 1.29 cfs, 2.06 cfs, and 3.20 cfs for the 2, 10, and 100-year event.

Proposed Project Runoff & Conditions

Proposed project runoff will be divided to mimic existing shed areas. This ensures the same runoff drains to the same location offsite. Post construction runoff factor, C, is 0.55 for the north shed and 0.61 for the south shed area.

There is some property to the south within the project parcel boundary that is not being developed at this time. This area was not analyzed for this study. This area does not drain through the project shed areas discussed within this report. Runoff bypasses the project area through existing culverts and drainage ditches. It should be noted that there is a playground proposed within this non-studied area, but the impact to drainage will be negligible as the surface of this play area will be thick bark. Therefore, runoff will not be increased within its footprint.

Prior to discharge offsite, both shed areas will be routed to individual detention basins. Storm pipes will transfer drainage from parking lots, driveways, pavement and building areas to the basins. Each basin will be landscaped to provide runoff filtration prior to discharge from the site. Small pipes at the basin exit will trickle flow out of the basin therefore holding back peak flows created by the project. The basins will be sized to handle the additional volume created by project created peak flowrates.

The detention basin is sized by routing the post construction hydrographs through the detention basin for the 2, 10, and 100-year runoff events. Flows out are limited by the smaller exit pipes drainpipes mentioned previously. The flow of these pipes will limit the

peak outflow to a 2-year event regardless of the storm entering the basin, up to the 100-year event. The basins will be sized to have 12" of freeboard at a minimum. If the basins are ever overwhelmed with a larger storm event, then runoff would top the basin and exit at the project exit points. The basins are located at the elevation low points of the project shed areas.

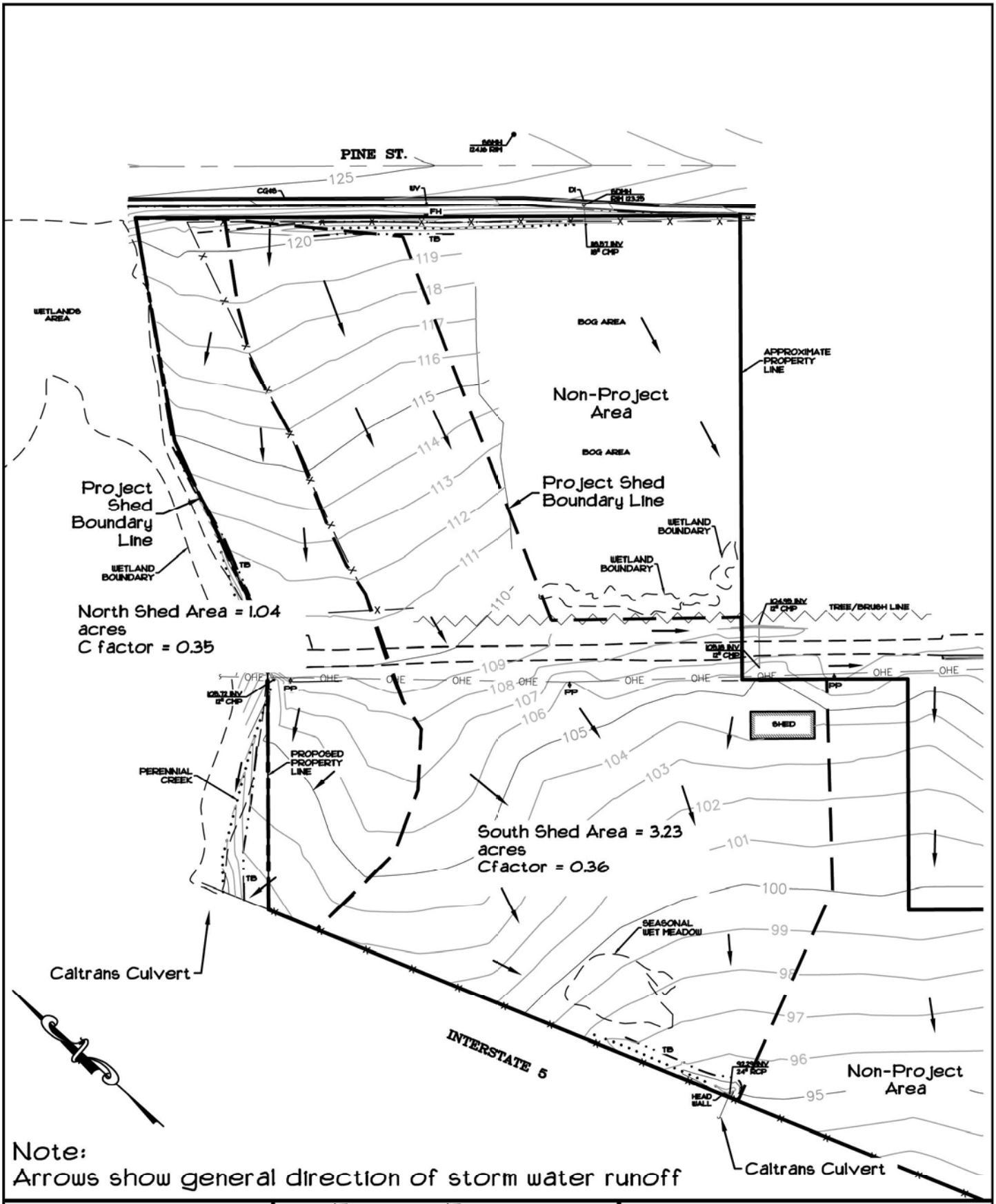
Calculations

Hydrology calculations were performed for the 2, 10, and 100-year storm events. The Rational Method was utilized for runoff analysis. These storms were routed through the detention basins to ensure volume was adequate. Hydrographs were developed for existing and proposed conditions for each shed. Post project shed areas were routed through detentions basins to ensure outflow was limited to pre-project peak flows. Results are presented in the pages to follow.

Conclusion

The development of this school project has the potential to create additional runoff, however, construction of a detention basin with controlling outlet drainage pipe will mitigate the increased runoff. Since the basins will control outflow, peak flowrates will not be increased downstream.

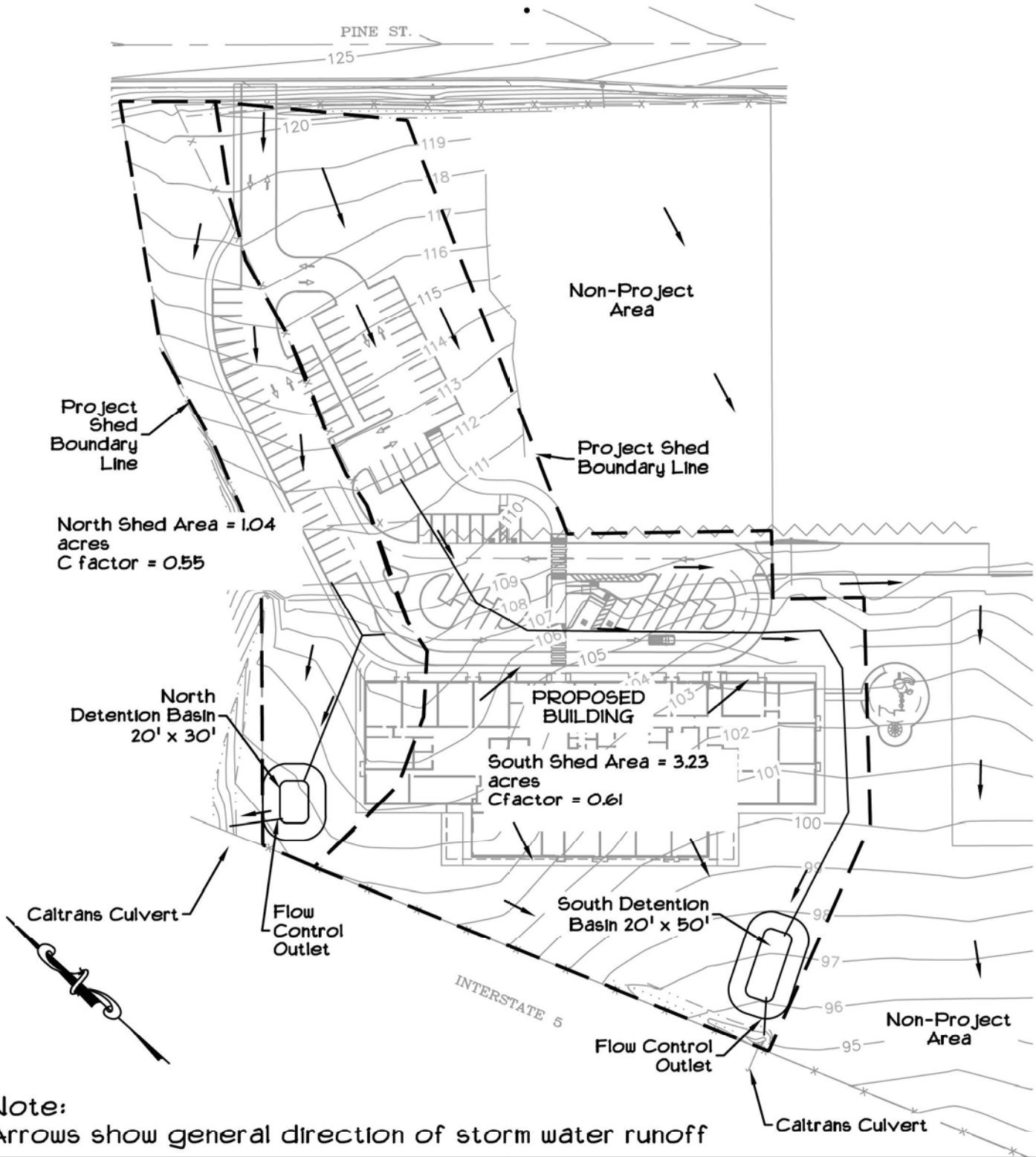
As long as the drainage system and the detention basin are maintained properly, there should be no significant impacts downstream or to the project site.



Note:
Arrows show general direction of storm water runoff

DRAWN BY: re DATE: 4/20/2020 SCALE: 1" = 100' APPROVED BY: RE	Figure 1: Existing Tributary-Areas PROJECT: Golden Eagle Charter School, Pine Street	Robertson Erickson Civil Engineers and Surveyors 888 Manzanita Court, Suite 101 Chico, CA 95926 530-894-3500 894-8955 fax

Proposed Flow Design & Treatment Control Measures:
-Detention Basin with Flow Control



Note:
Arrows show general direction of storm water runoff

DRAWN BY: re DATE: 4/20/2020 SCALE: 1" = 100' APPROVED BY: RE	Figure 2: Proposed Tributary-Area PROJECT: Golden Eagle Charter School	Robertson Erickson Civil Engineers and Surveyors 888 Manzanita Court, Suite 101 Chico, CA 95926 530-894-3500 894-8955 fax

GECS Hydrology

Runoff Coefficient Calculations

Area	Area Roof 0.95	Area Pavement 0.9	Area LS/Natural 0.34	Runoff Coefficient C	Total Area s.f.	Total Area acres
Existing North Shed Area	0	1153	44305	0.35	45458	1.04
Existing South Shed Area	975	3202	136437	0.36	140614	3.23
Proposed North Shed Area	2838	13875	28745	0.55	45458	1.04
Proposed South Shed Area	30708	33992	75914	0.61	140614	3.23

Caltrans Manual Table 819.2A

Landscape/Natural C factor calc existing:	
Relief	0.12
Infiltration	0.08
Vegetal Cover	0.06
Surface Storage	0.08
Cfactor =	0.34

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)							Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	Rational	------	-------	0.525	-------	-------	0.845	-------	-------	1.308	Trib North Existing
2	Rational	------	-------	1.287	-------	-------	2.063	-------	-------	3.202	Existing Project Area
3	Rational	------	-------	0.826	-------	-------	1.327	-------	-------	2.055	North Proposed
4	Rational	------	-------	2.844	-------	-------	4.572	-------	-------	7.078	Project Proposed
5	Reservoir	3	-------	0.218	-------	-------	0.315	-------	-------	0.411	North Post Basin
6	Reservoir	4	-------	0.781	-------	-------	1.027	-------	-------	1.260	Project Pond Routing

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	0.525	1	10	315	------	------	------	Shed North Existing
2	Rational	1.287	1	17	1,313	------	------	------	South Shed Existing
3	Rational	0.826	1	10	495	------	------	------	North Shed Proposed
4	Rational	2.844	1	10	1,706	------	------	------	South Shed Proposed
5	Reservoir	0.218	1	17	487	3	103.52	375	North Post Basin Routing
6	Reservoir	0.781	1	17	1,695	4	96.46	1,243	South Basin Routing

Return Period: 2 Year

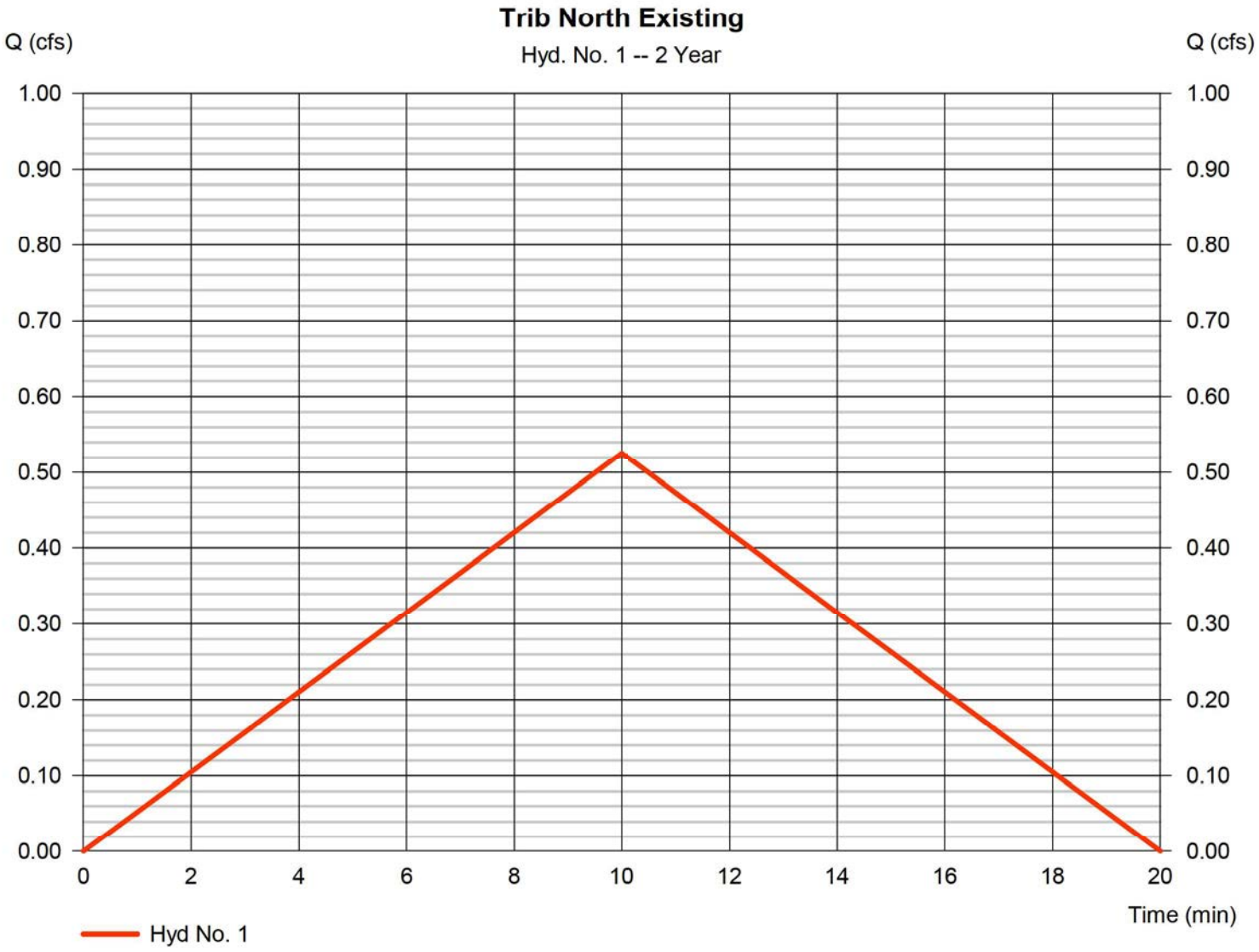
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 1

Shed North Existing

Hydrograph type	= Rational	Peak discharge	= 0.525 cfs
Storm frequency	= 2 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 315 cuft
Drainage area	= 1.040 ac	Runoff coeff.	= 0.35
Intensity	= 1.443 in/hr	Tc by User	= 10.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1



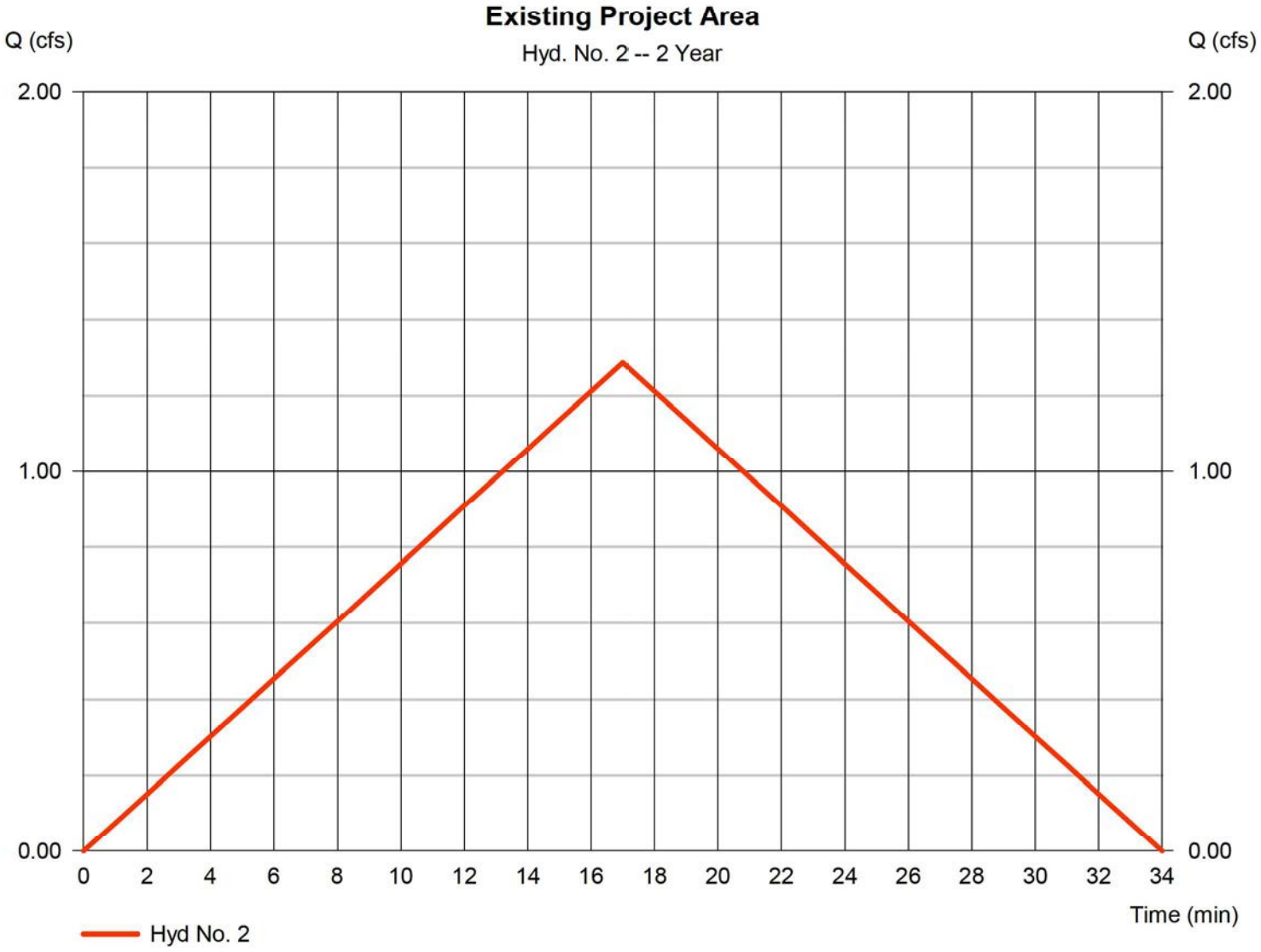
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 2

Shed South Existing

Hydrograph type	= Rational	Peak discharge	= 1.287 cfs
Storm frequency	= 2 yrs	Time to peak	= 17 min
Time interval	= 1 min	Hyd. volume	= 1,313 cuft
Drainage area	= 3.230 ac	Runoff coeff.	= 0.36
Intensity	= 1.107 in/hr	Tc by User	= 17.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1



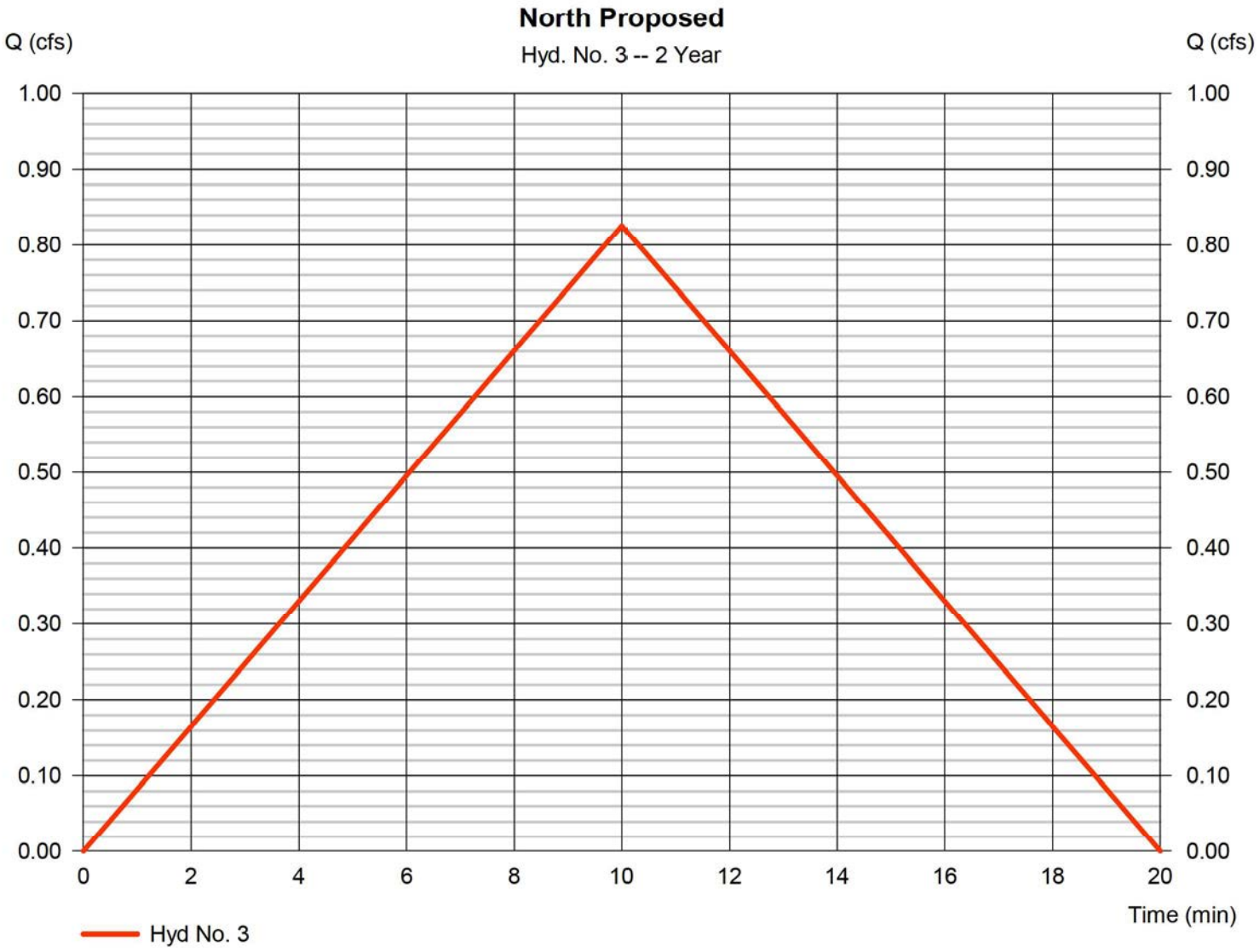
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 3

North Shed Proposed

Hydrograph type	= Rational	Peak discharge	= 0.826 cfs
Storm frequency	= 2 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 495 cuft
Drainage area	= 1.040 ac	Runoff coeff.	= 0.55
Intensity	= 1.443 in/hr	Tc by User	= 10.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1

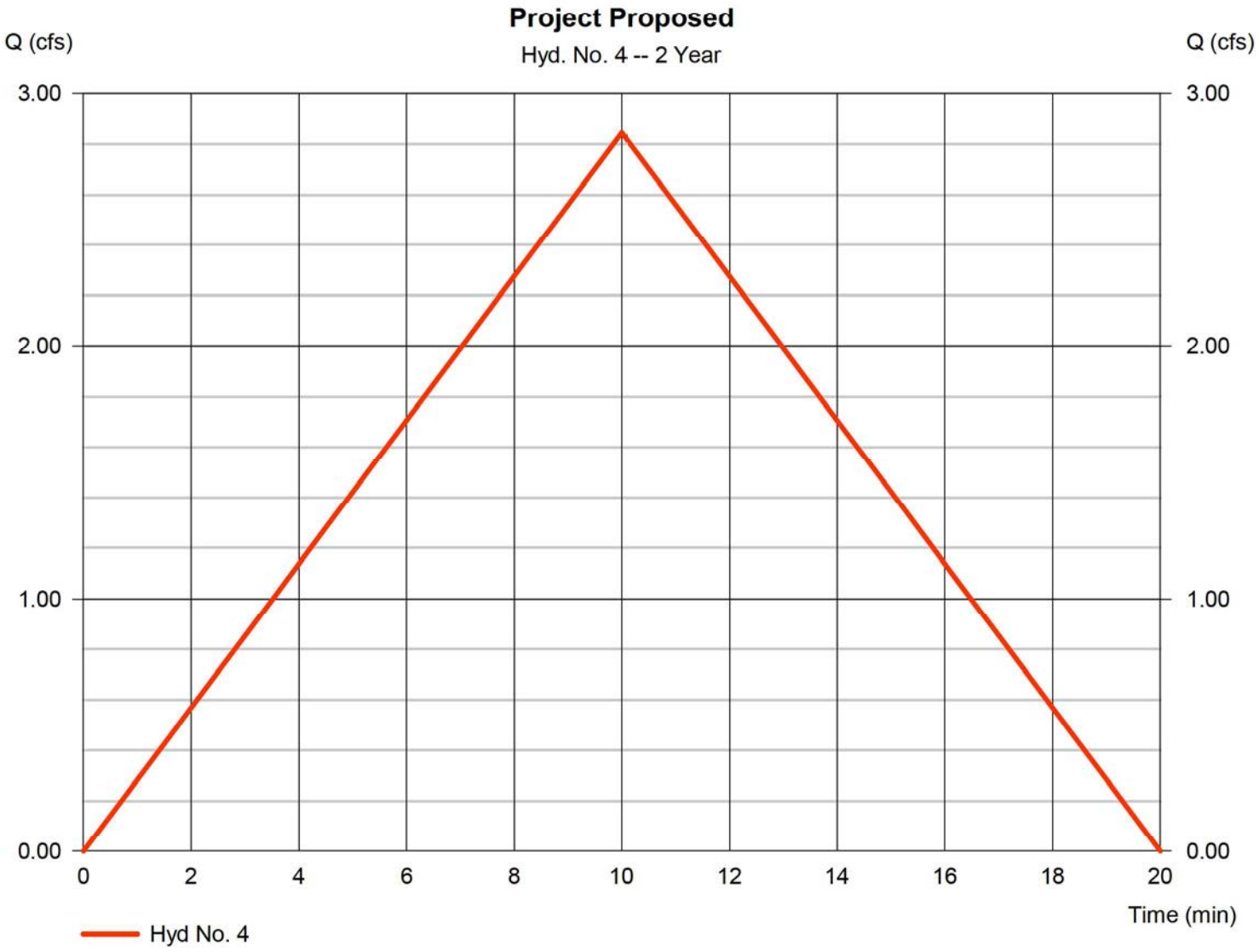


Hydrograph Report

Hyd. No. 4

South Shed Proposed

Hydrograph type	= Rational	Peak discharge	= 2.844 cfs
Storm frequency	= 2 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 1,706 cuft
Drainage area	= 3.230 ac	Runoff coeff.	= 0.61
Intensity	= 1.443 in/hr	Tc by User	= 10.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1



Hydrograph Report

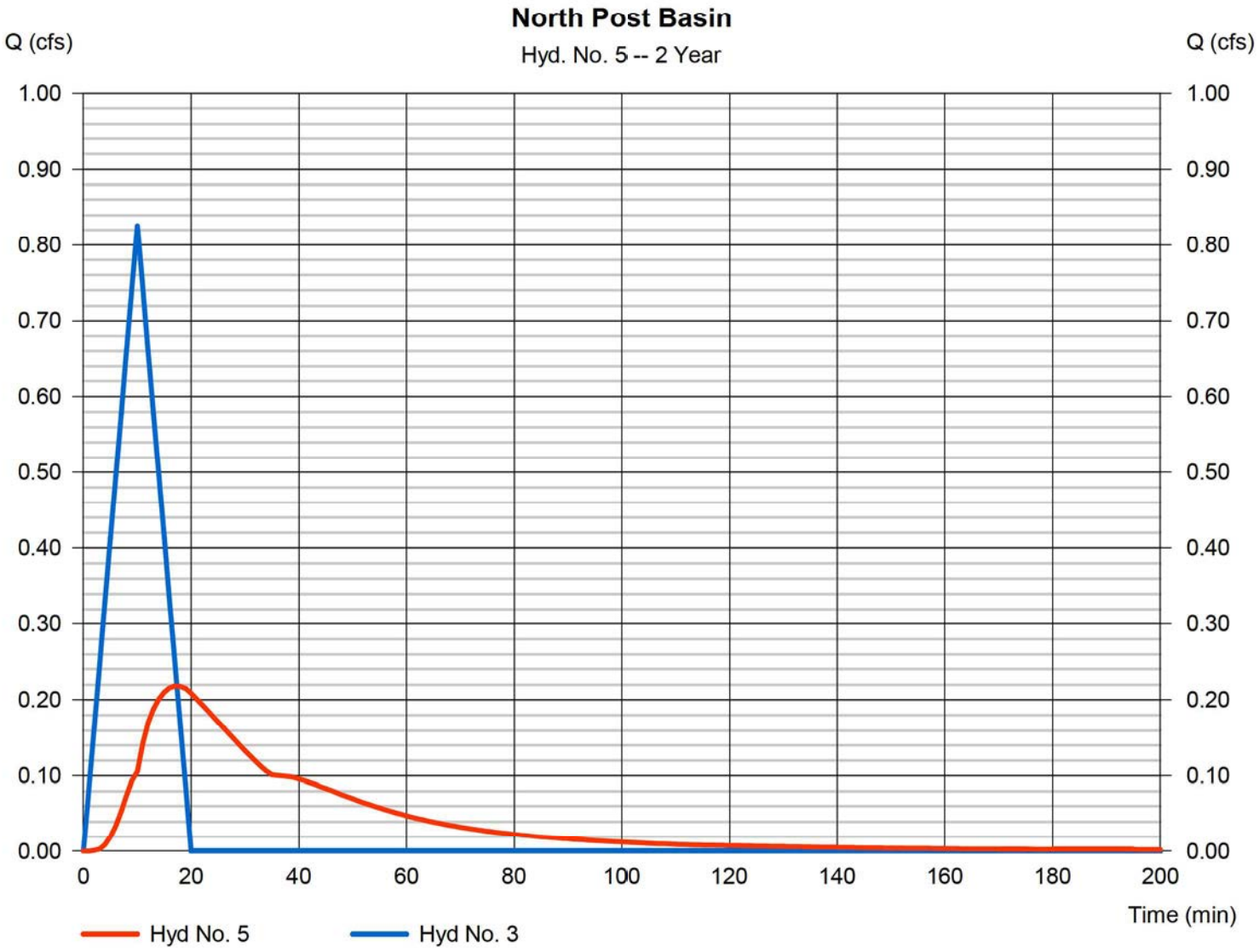
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 5

North Basin Routing

Hydrograph type	= Reservoir	Peak discharge	= 0.218 cfs
Storm frequency	= 2 yrs	Time to peak	= 17 min
Time interval	= 1 min	Hyd. volume	= 487 cuft
Inflow hyd. No.	= 3 - North Proposed	Max. Elevation	= 103.52 ft
Reservoir name	= North Basin	Max. Storage	= 375 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - North Shed Basin

Pond Data

Trapezoid -Bottom L x W = 30.0 x 20.0 ft, Side slope = 4.00:1, Bottom elev. = 103.00 ft, Depth = 3.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	103.00	600	0	0
0.30	103.30	726	199	199
0.60	103.60	863	238	437
0.90	103.90	1,012	281	718
1.20	104.20	1,172	327	1,045
1.50	104.50	1,344	377	1,422
1.80	104.80	1,527	430	1,852
2.10	105.10	1,722	487	2,340
2.40	105.40	1,929	547	2,887
2.70	105.70	2,147	611	3,498
3.00	106.00	2,376	678	4,176

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 4.00	0.00	0.00	0.00
Span (in)	= 4.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 103.00	0.00	0.00	0.00
Length (ft)	= 10.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .011	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

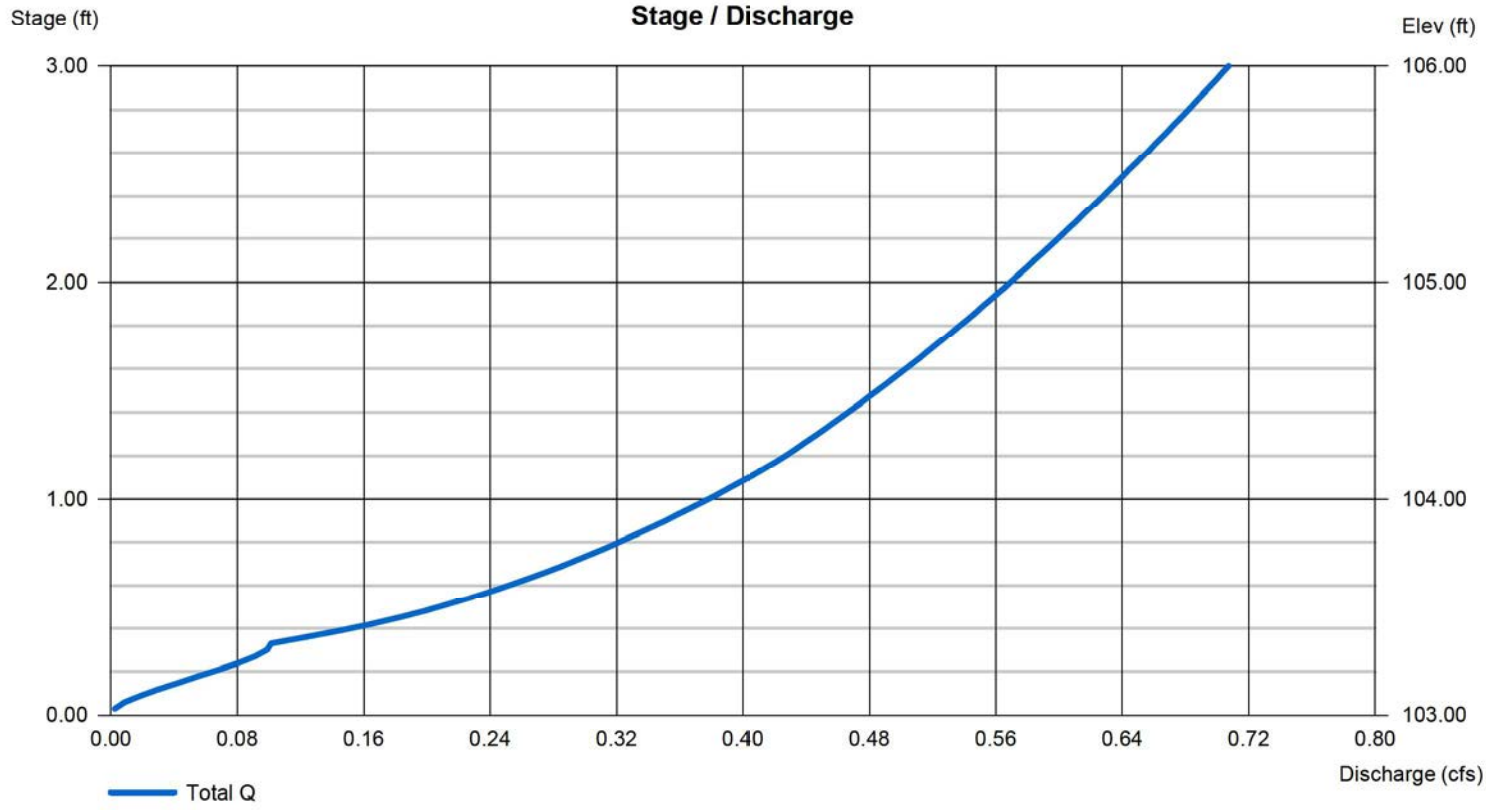
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Hydrograph Report

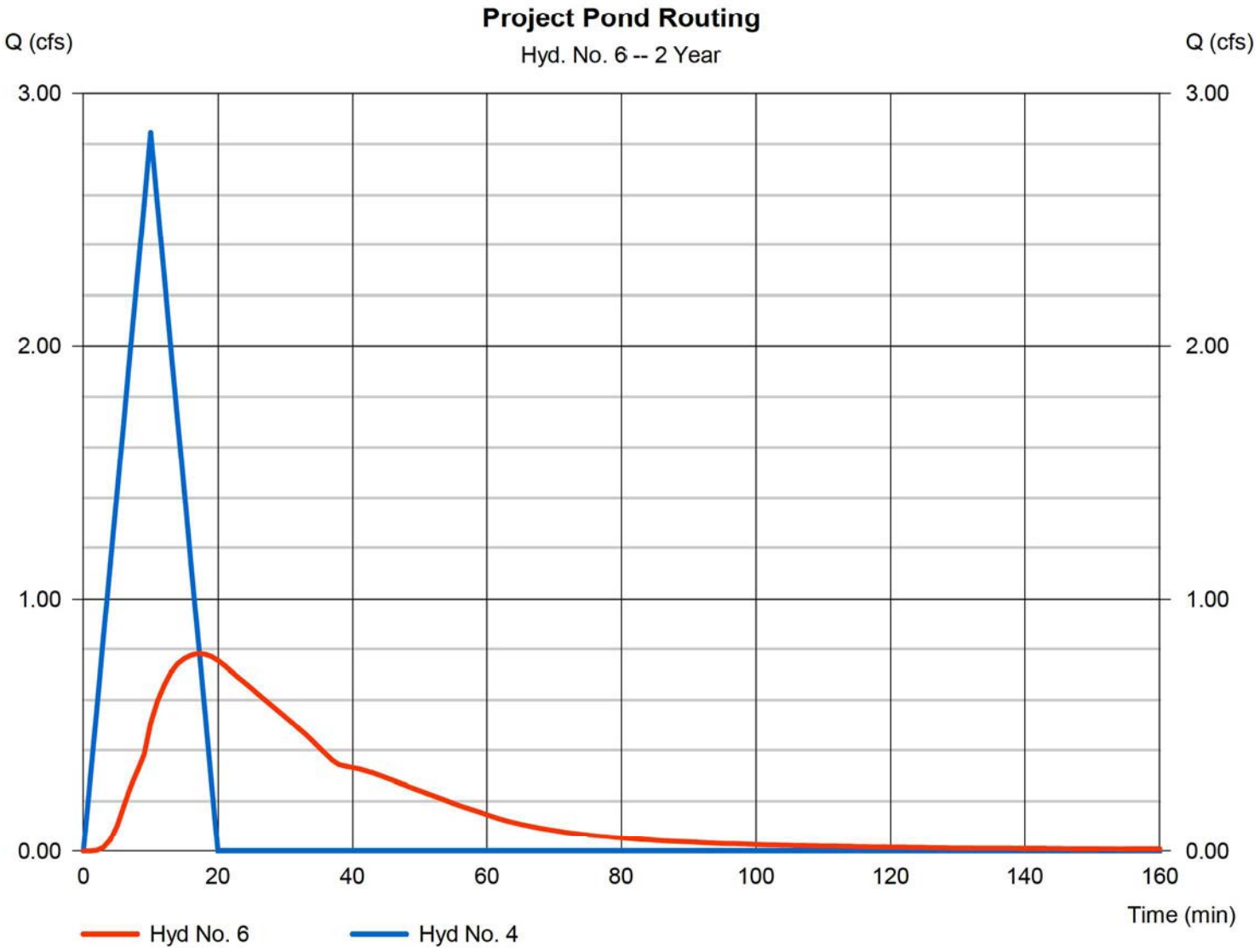
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 6

South Shed Routing

Hydrograph type	= Reservoir	Peak discharge	= 0.781 cfs
Storm frequency	= 2 yrs	Time to peak	= 17 min
Time interval	= 1 min	Hyd. volume	= 1,695 cuft
Inflow hyd. No.	= 4 - Project Proposed	Max. Elevation	= 96.46 ft
Reservoir name	= South Basin	Max. Storage	= 1,243 cuft

Storage Indication method used.



Pond Report

Pond No. 2 - South Basin

Pond Data

Trapezoid -Bottom L x W = 50.0 x 20.0 ft, Side slope = 4.00:1, Bottom elev. = 95.50 ft, Depth = 3.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	95.50	1,000	0	0
0.30	95.80	1,174	326	326
0.60	96.10	1,359	380	705
0.90	96.40	1,556	437	1,142
1.20	96.70	1,764	498	1,640
1.50	97.00	1,984	562	2,202
1.80	97.30	2,215	630	2,832
2.10	97.60	2,458	701	3,532
2.40	97.90	2,713	775	4,308
2.70	98.20	2,979	853	5,161
3.00	98.50	3,256	935	6,096

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 95.50	0.00	0.00	0.00
Length (ft)	= 10.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

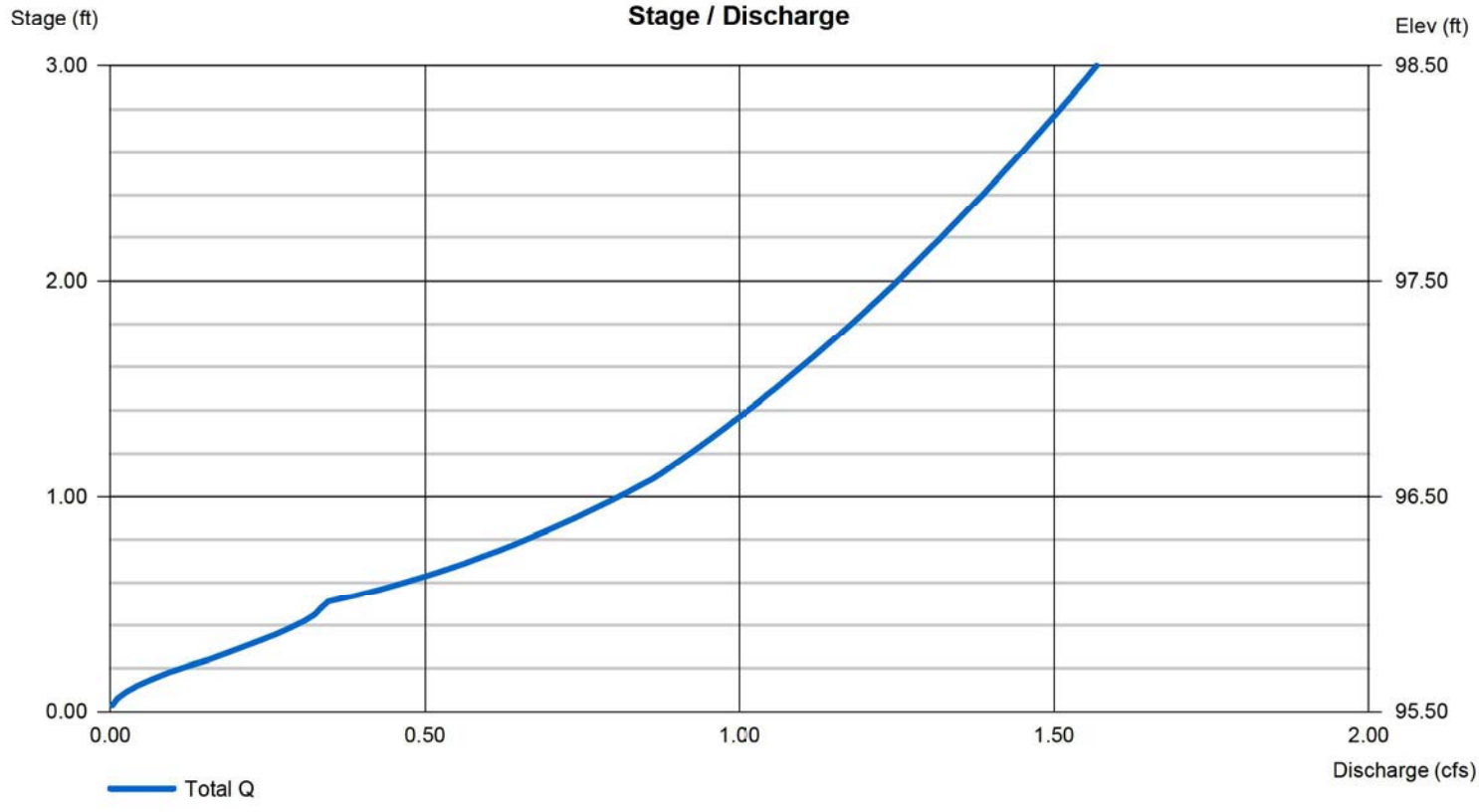
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	0.845	1	10	507	------	------	------	Shed North Existing
2	Rational	2.063	1	17	2,104	------	------	------	Shed South Existing
3	Rational	1.327	1	10	796	------	------	------	Shed North Proposed
4	Rational	4.572	1	10	2,743	------	------	------	Shed South Proposed
5	Reservoir	0.315	1	18	788	3	103.78	606	North Basin Routing
6	Reservoir	1.027	1	18	2,732	4	96.93	2,072	South Basin Routing

Return Period: 10 Year

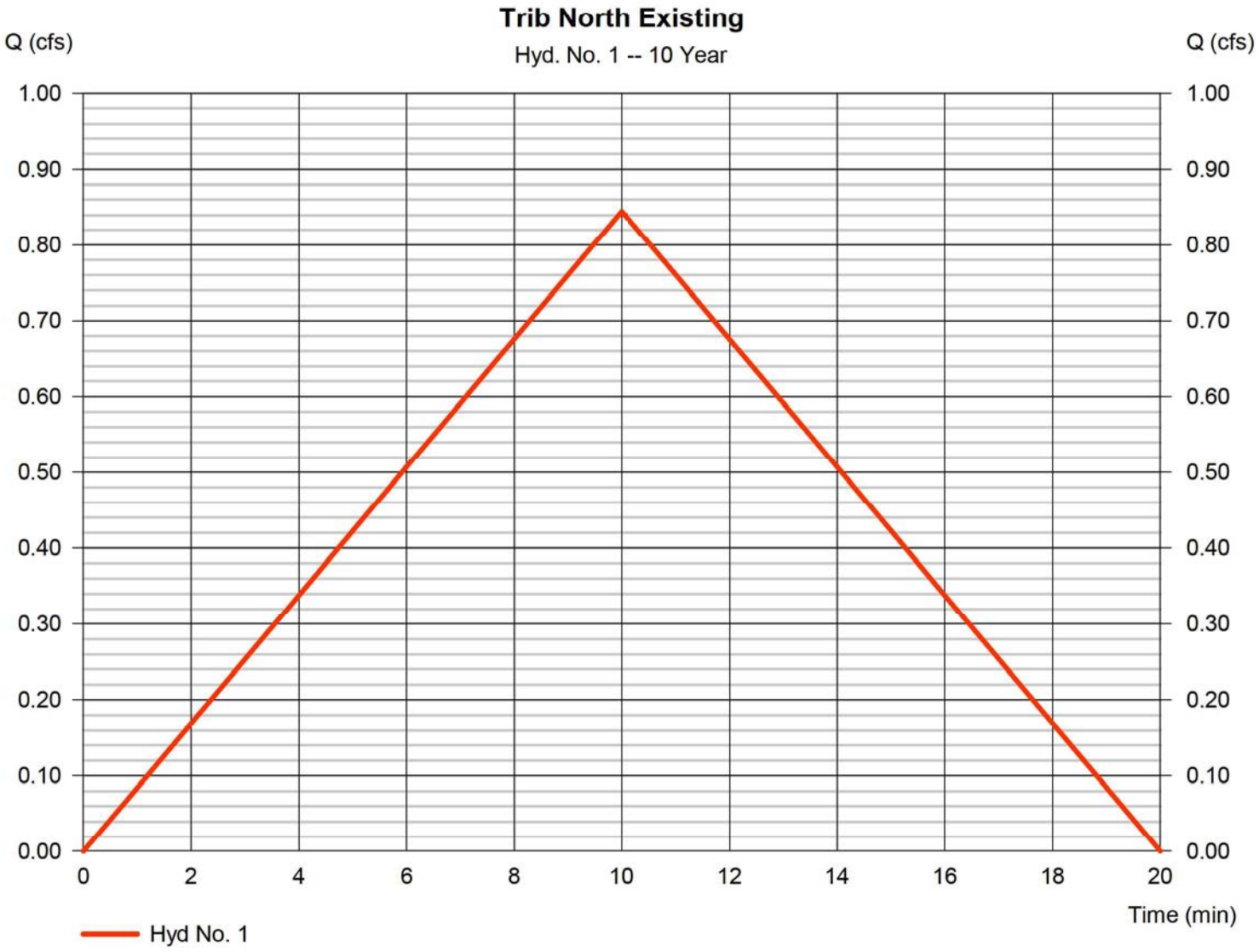
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 1

Shed North Existing

Hydrograph type	= Rational	Peak discharge	= 0.845 cfs
Storm frequency	= 10 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 507 cuft
Drainage area	= 1.040 ac	Runoff coeff.	= 0.35
Intensity	= 2.320 in/hr	Tc by User	= 10.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1



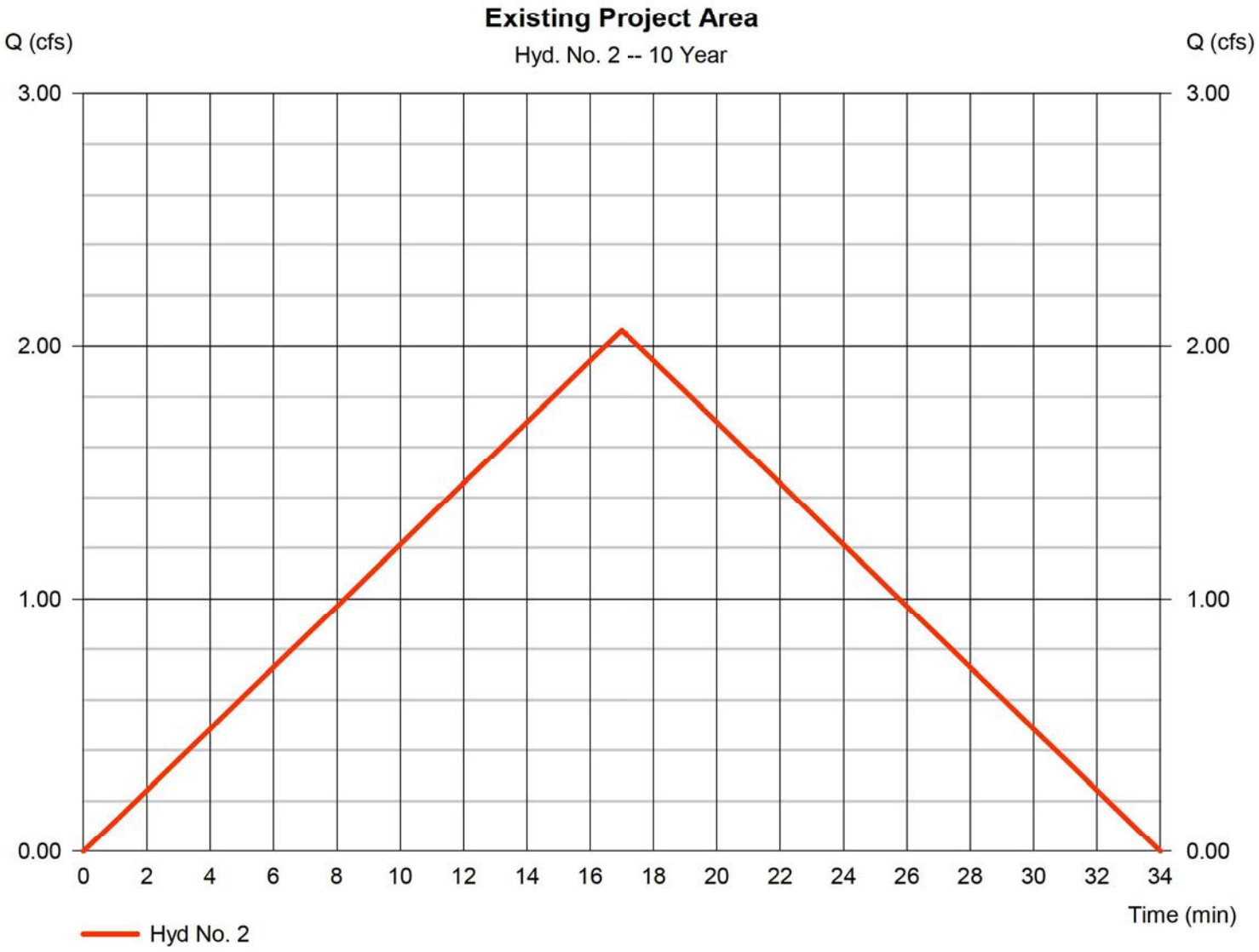
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 2

Shed South Existing

Hydrograph type	= Rational	Peak discharge	= 2.063 cfs
Storm frequency	= 10 yrs	Time to peak	= 17 min
Time interval	= 1 min	Hyd. volume	= 2,104 cuft
Drainage area	= 3.230 ac	Runoff coeff.	= 0.36
Intensity	= 1.774 in/hr	Tc by User	= 17.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1



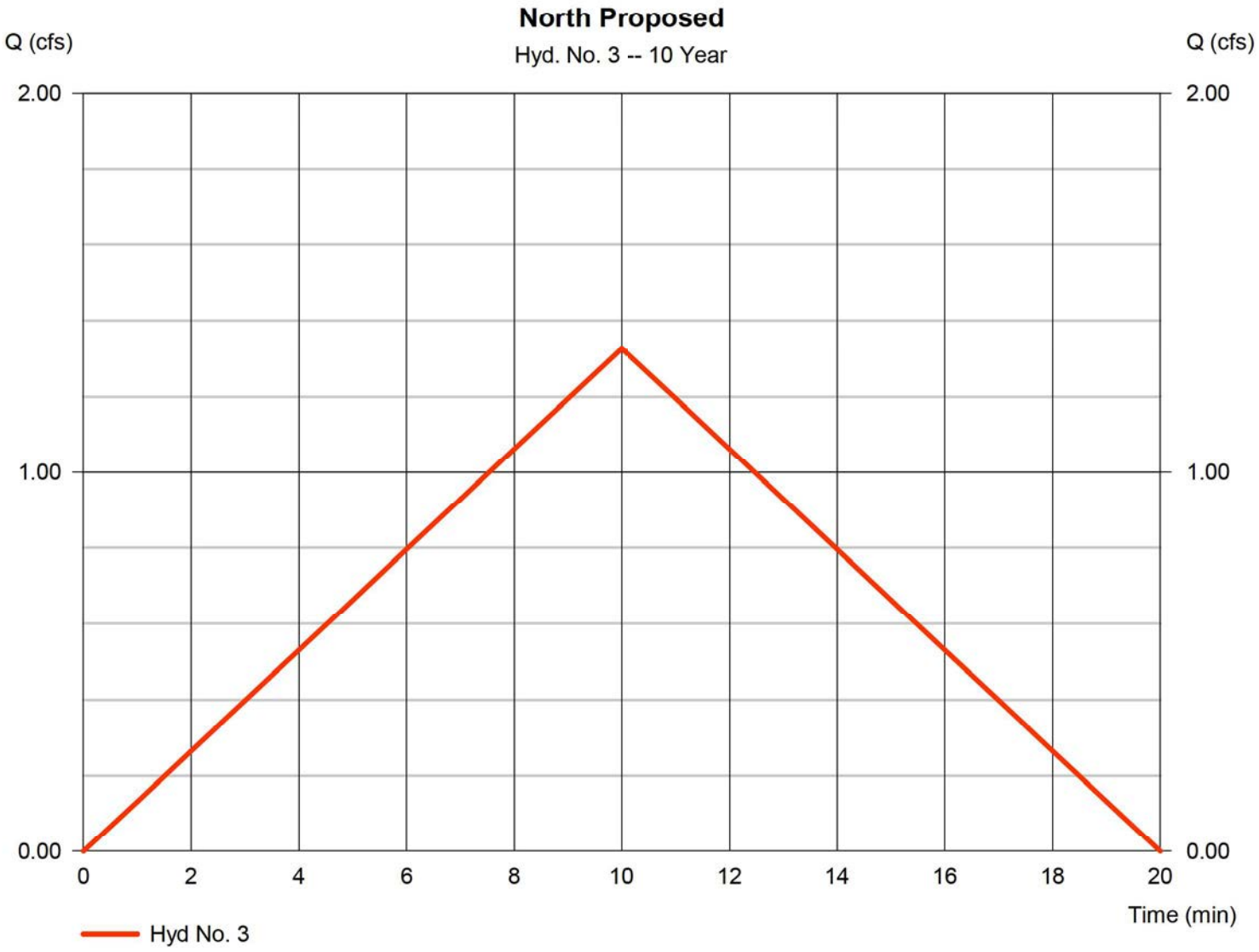
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 3

Shed North Proposed

Hydrograph type	= Rational	Peak discharge	= 1.327 cfs
Storm frequency	= 10 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 796 cuft
Drainage area	= 1.040 ac	Runoff coeff.	= 0.55
Intensity	= 2.320 in/hr	Tc by User	= 10.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1



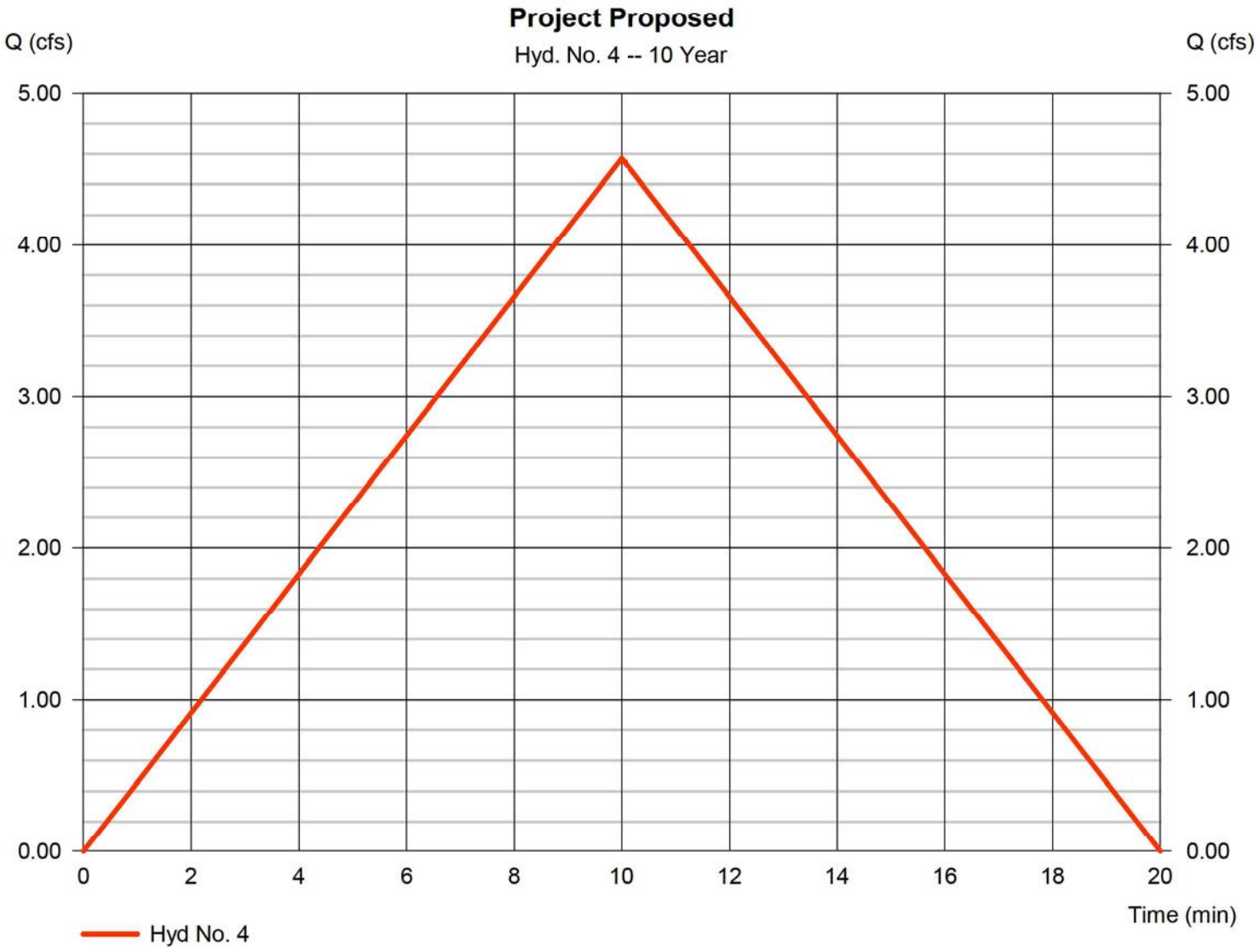
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 4

Shed South Proposed

Hydrograph type	= Rational	Peak discharge	= 4.572 cfs
Storm frequency	= 10 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 2,743 cuft
Drainage area	= 3.230 ac	Runoff coeff.	= 0.61
Intensity	= 2.320 in/hr	Tc by User	= 10.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1



Hydrograph Report

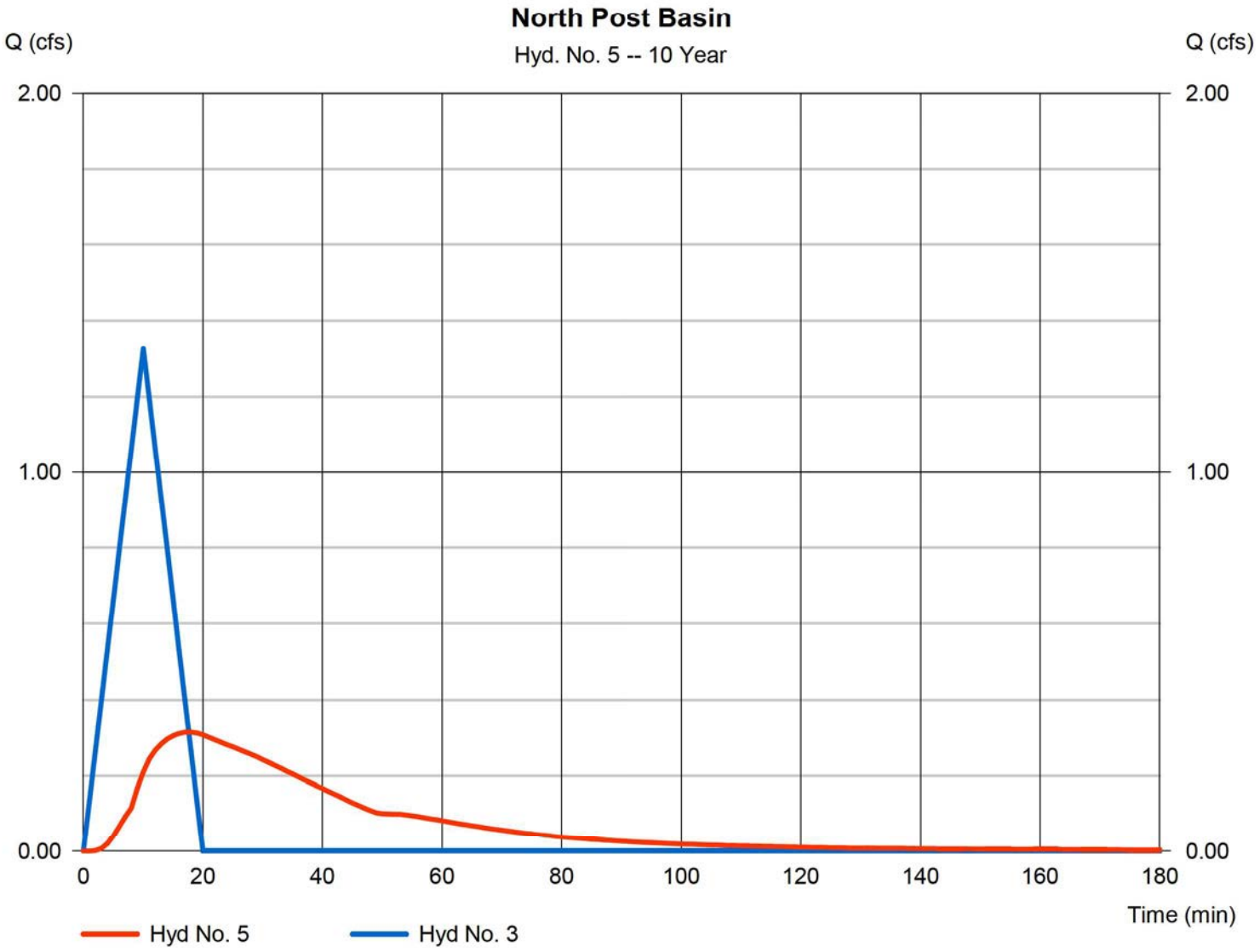
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 5

North Basin Routing

Hydrograph type	= Reservoir	Peak discharge	= 0.315 cfs
Storm frequency	= 10 yrs	Time to peak	= 18 min
Time interval	= 1 min	Hyd. volume	= 788 cuft
Inflow hyd. No.	= 3 - North Proposed	Max. Elevation	= 103.78 ft
Reservoir name	= North Basin	Max. Storage	= 606 cuft

Storage Indication method used.



Hydrograph Report

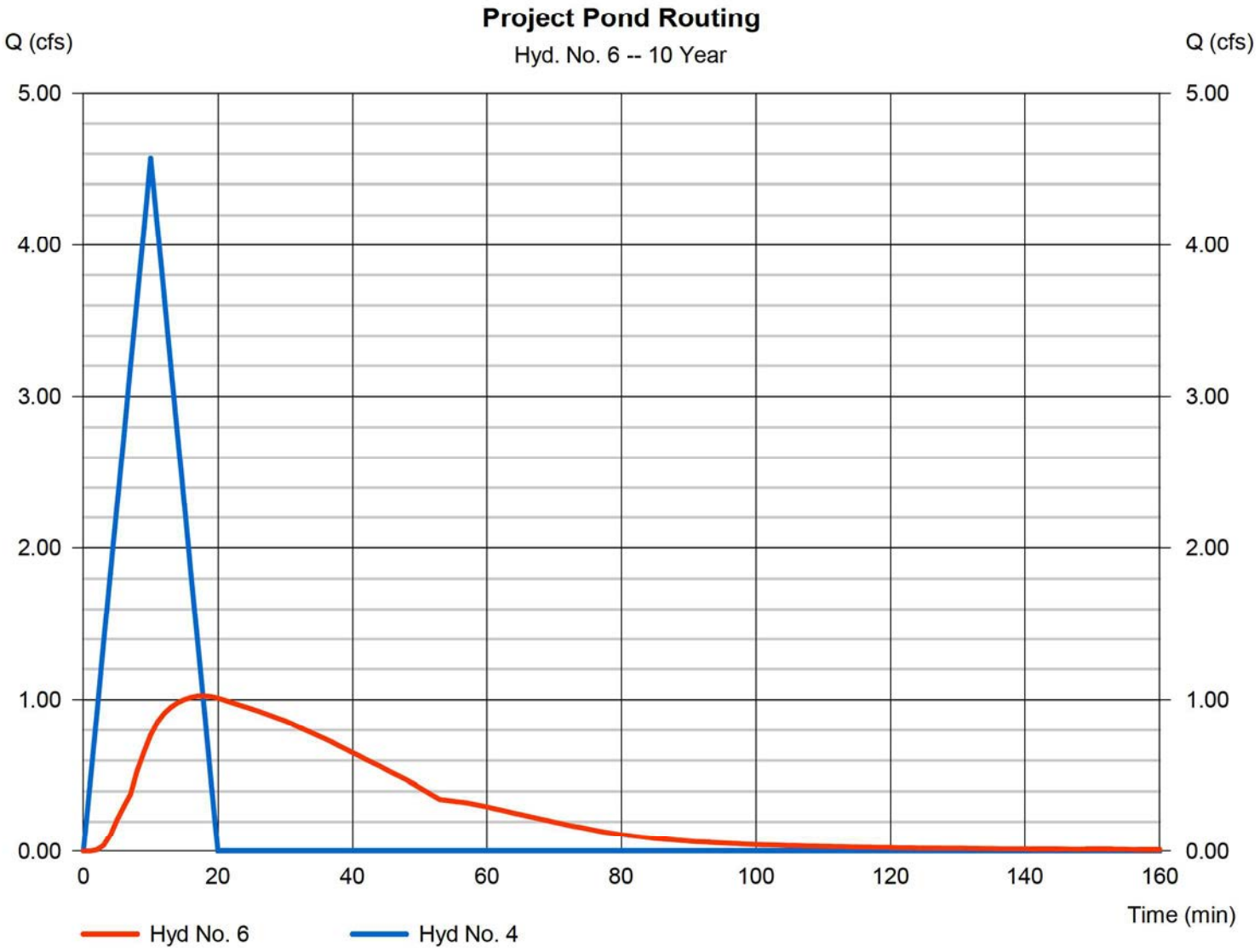
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 6

South Basin Routing

Hydrograph type	= Reservoir	Peak discharge	= 1.027 cfs
Storm frequency	= 10 yrs	Time to peak	= 18 min
Time interval	= 1 min	Hyd. volume	= 2,732 cuft
Inflow hyd. No.	= 4 - Project Proposed	Max. Elevation	= 96.93 ft
Reservoir name	= South Basin	Max. Storage	= 2,072 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	1.308	1	10	785	------	------	------	Shed North Existing
2	Rational	3.202	1	17	3,266	------	------	------	Shed South Existing
3	Rational	2.055	1	10	1,233	------	------	------	Shed North Proposed
4	Rational	7.078	1	10	4,247	------	------	------	Shed South Proposed
5	Reservoir	0.411	1	18	1,224	3	104.13	967	North Post Basin
6	Reservoir	1.260	1	18	4,236	4	97.53	3,364	South Basin Routing

Return Period: 100 Year

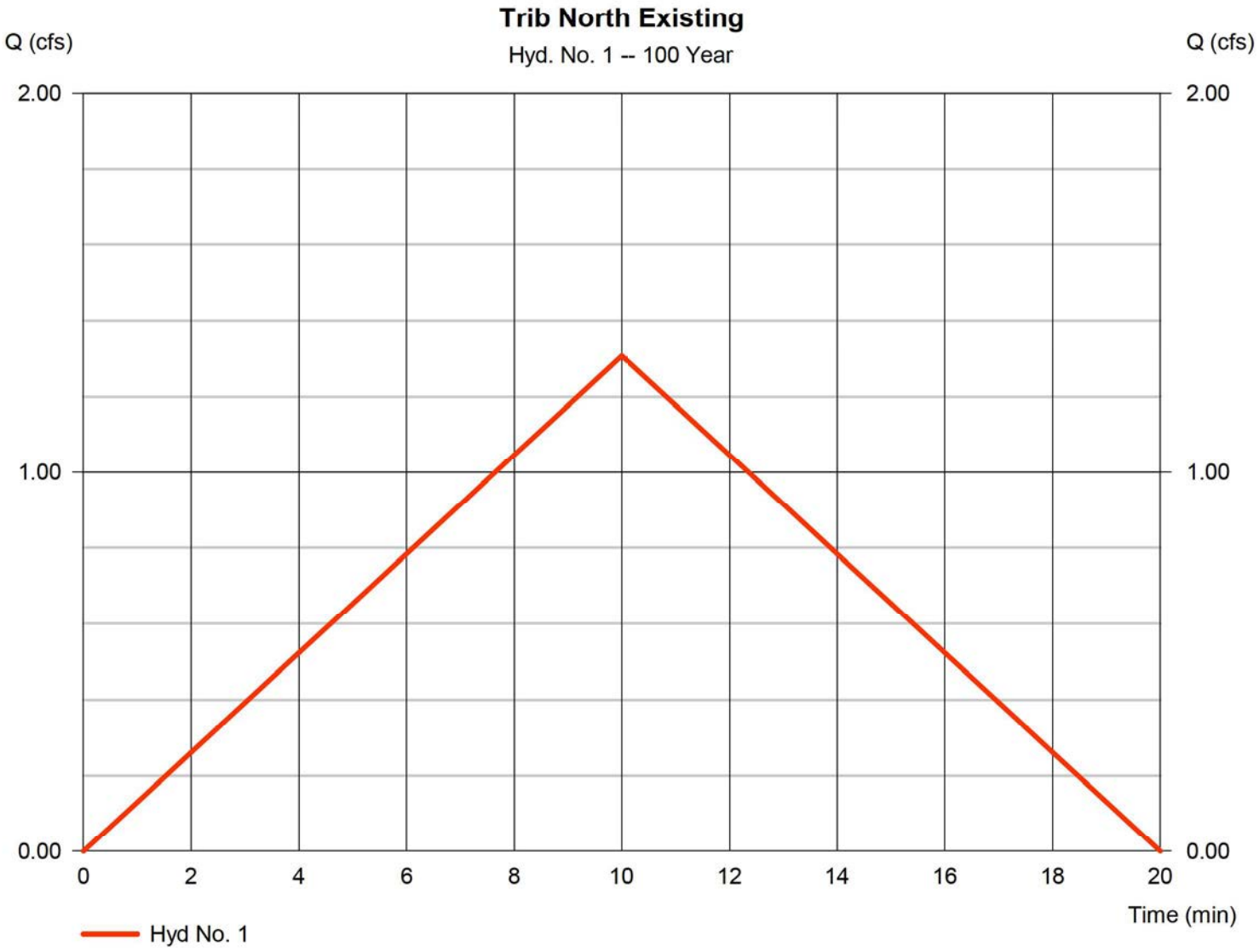
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 1

Shed North Existing

Hydrograph type	= Rational	Peak discharge	= 1.308 cfs
Storm frequency	= 100 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 785 cuft
Drainage area	= 1.040 ac	Runoff coeff.	= 0.35
Intensity	= 3.593 in/hr	Tc by User	= 10.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1



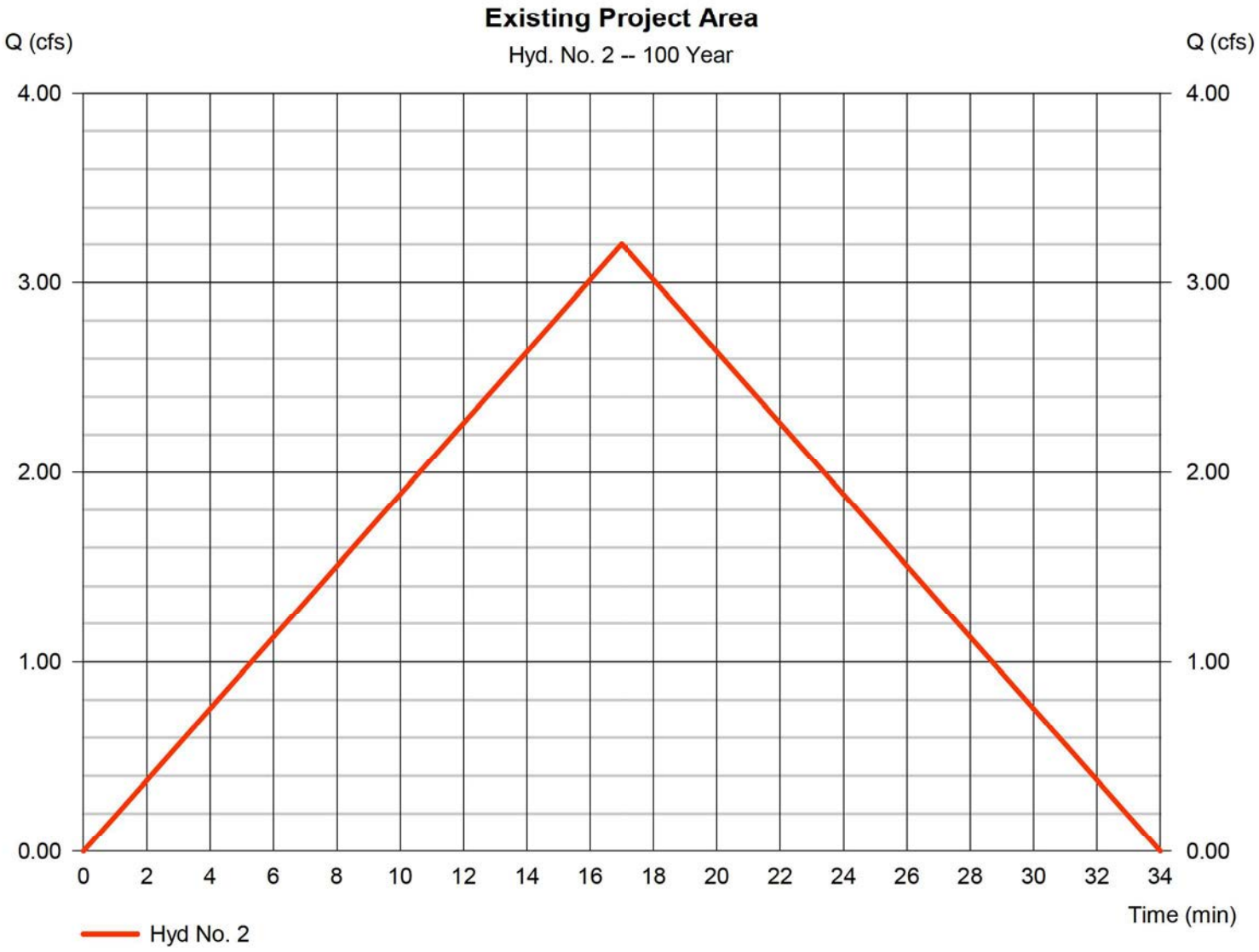
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 2

Shed South Existing

Hydrograph type	= Rational	Peak discharge	= 3.202 cfs
Storm frequency	= 100 yrs	Time to peak	= 17 min
Time interval	= 1 min	Hyd. volume	= 3,266 cuft
Drainage area	= 3.230 ac	Runoff coeff.	= 0.36
Intensity	= 2.754 in/hr	Tc by User	= 17.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1



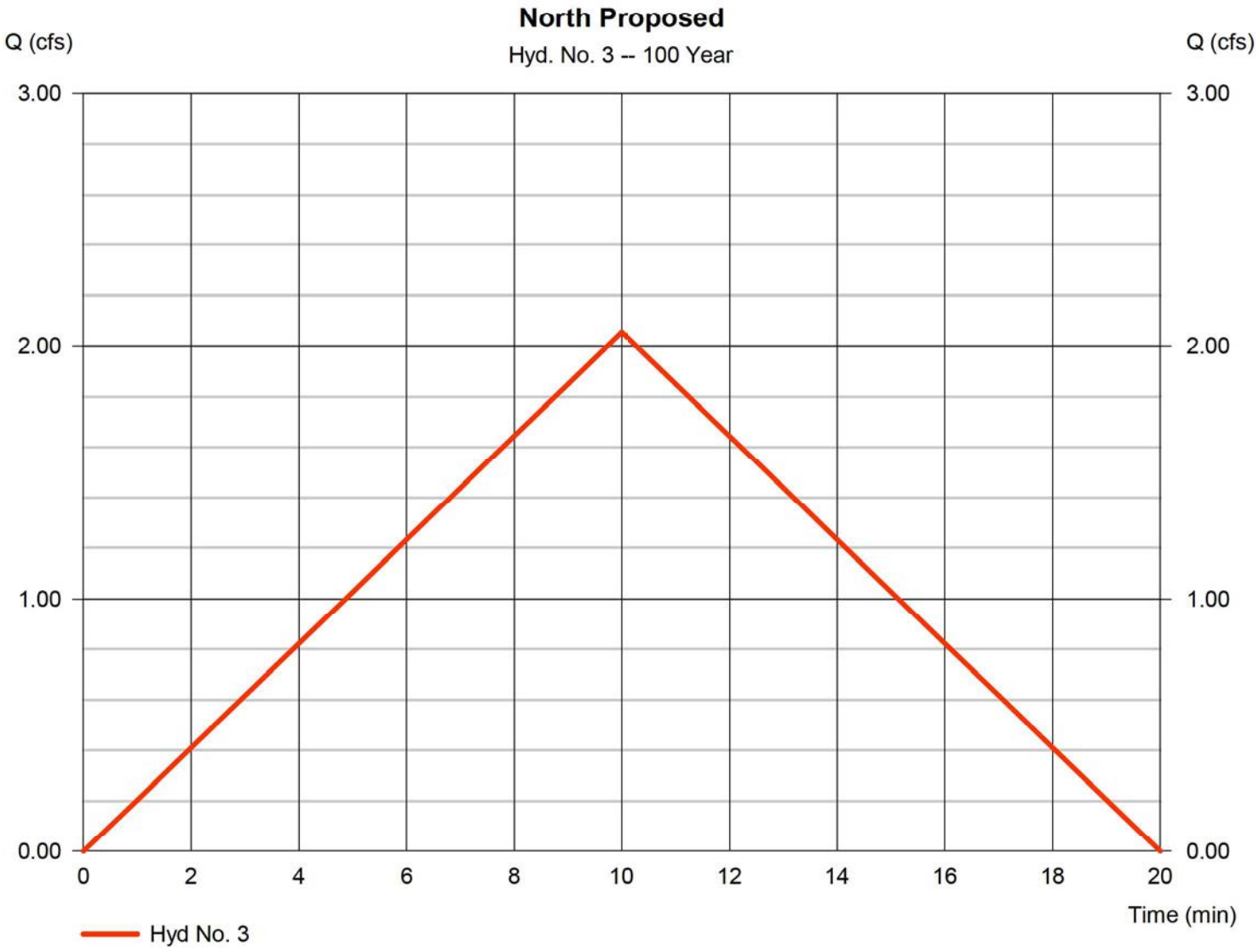
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 3

Shed North Proposed

Hydrograph type	= Rational	Peak discharge	= 2.055 cfs
Storm frequency	= 100 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 1,233 cuft
Drainage area	= 1.040 ac	Runoff coeff.	= 0.55
Intensity	= 3.593 in/hr	Tc by User	= 10.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1



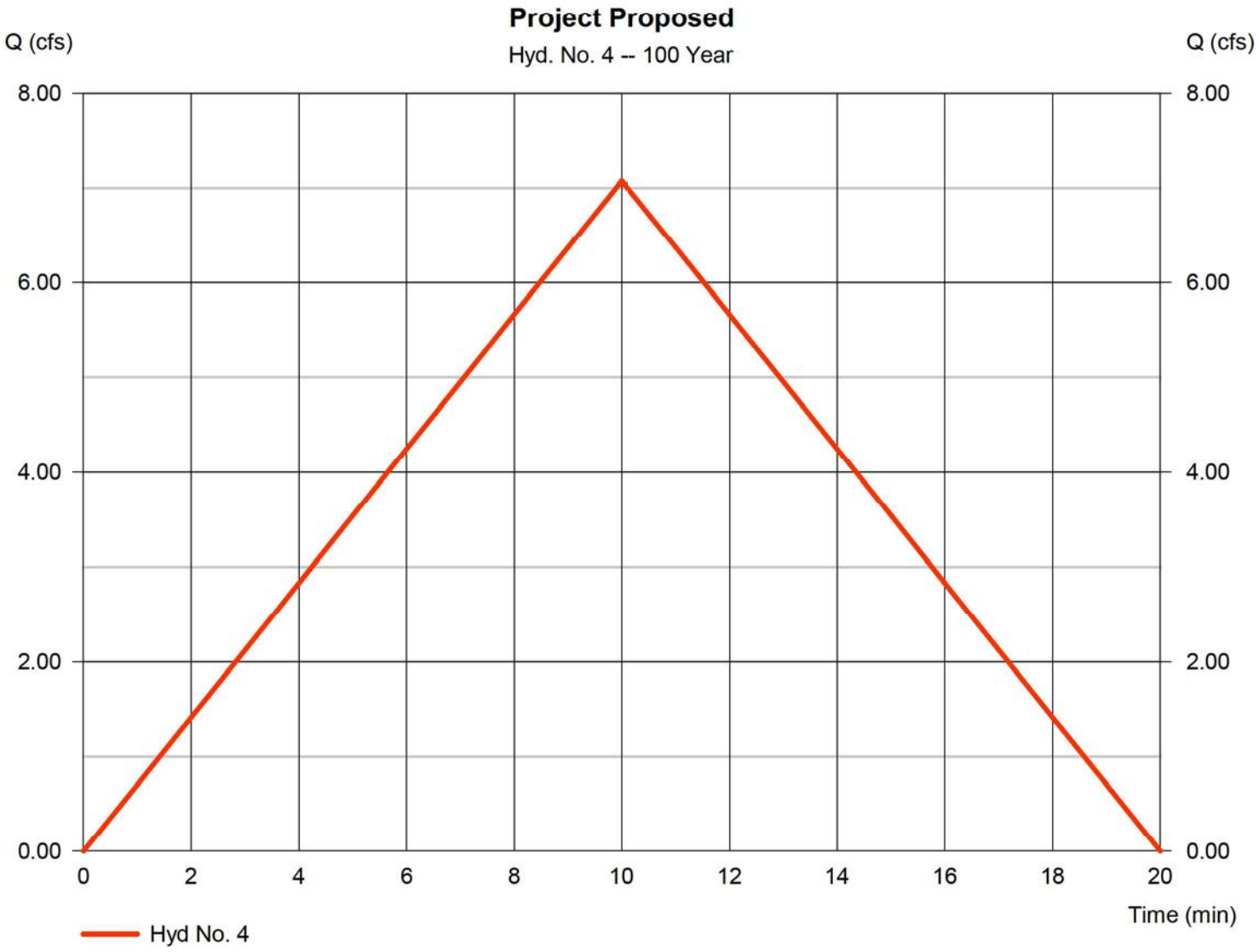
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 4

Shed South Proposed

Hydrograph type	= Rational	Peak discharge	= 7.078 cfs
Storm frequency	= 100 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 4,247 cuft
Drainage area	= 3.230 ac	Runoff coeff.	= 0.61
Intensity	= 3.593 in/hr	Tc by User	= 10.00 min
IDF Curve	= Mt. Shasta.IDF	Asc/Rec limb fact	= 1/1



Hydrograph Report

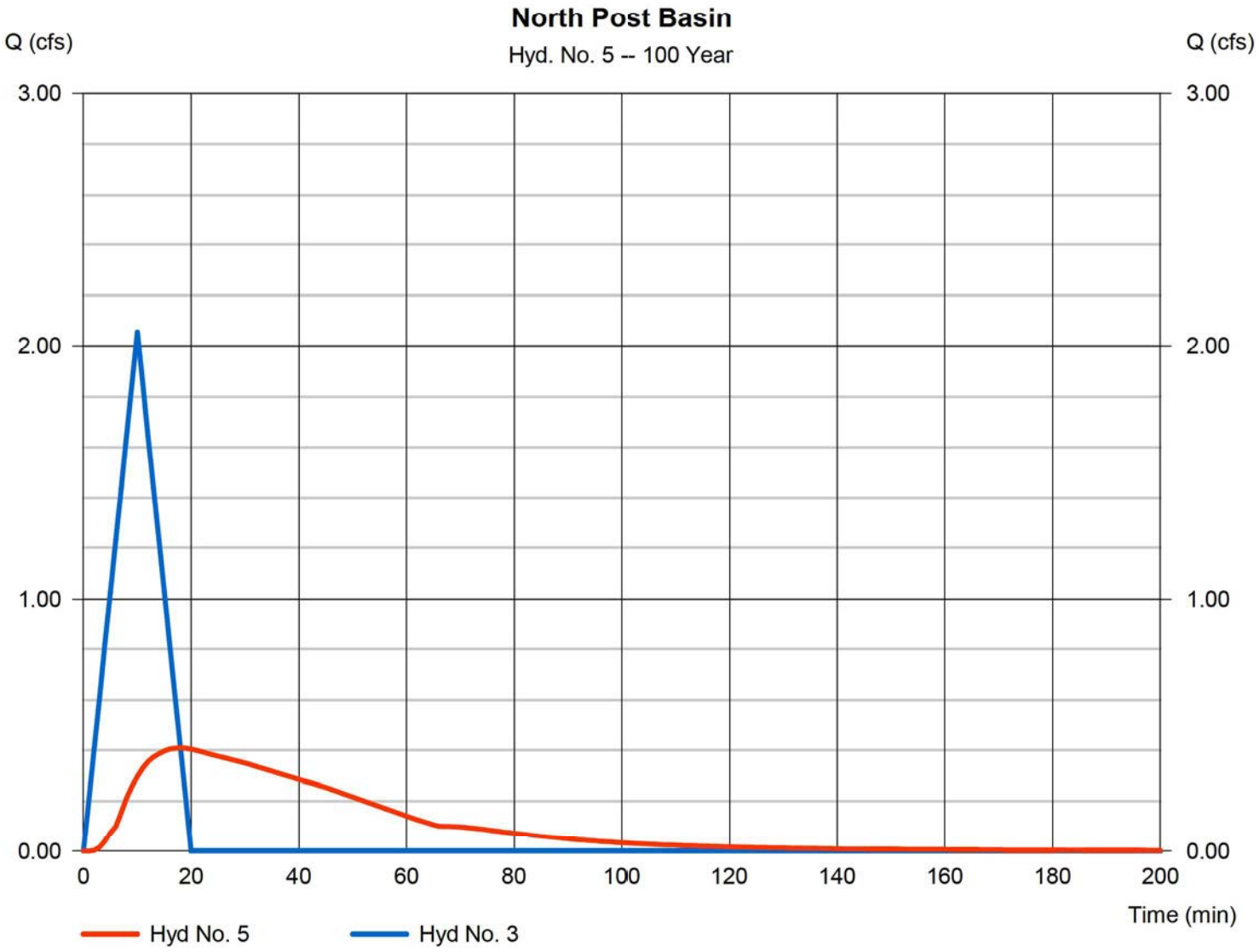
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 5

North Basin Routing

Hydrograph type	= Reservoir	Peak discharge	= 0.411 cfs
Storm frequency	= 100 yrs	Time to peak	= 18 min
Time interval	= 1 min	Hyd. volume	= 1,224 cuft
Inflow hyd. No.	= 3 - North Proposed	Max. Elevation	= 104.13 ft
Reservoir name	= North Basin	Max. Storage	= 967 cuft

Storage Indication method used.



Hydrograph Report

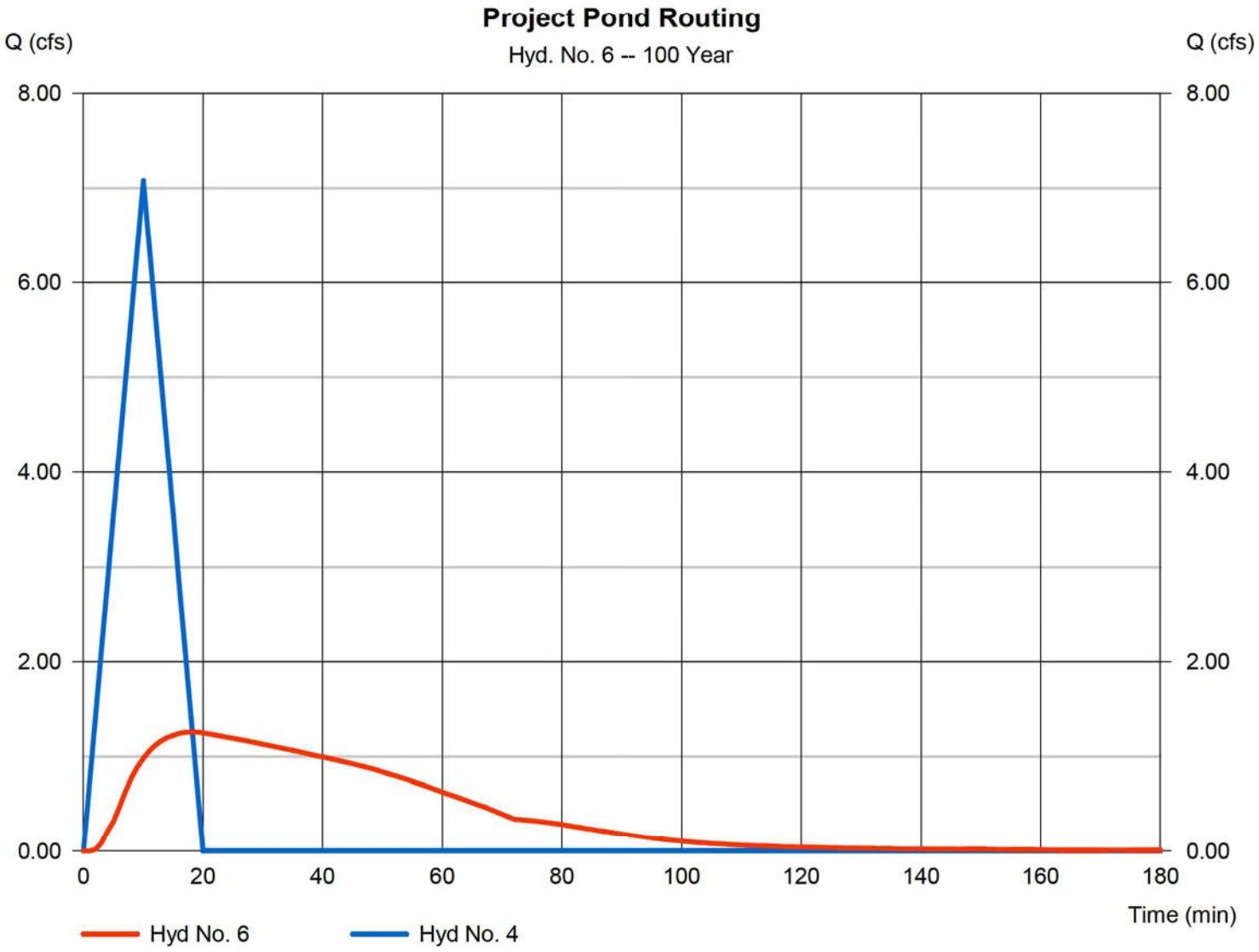
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Tuesday, 04 / 21 / 2020

Hyd. No. 6

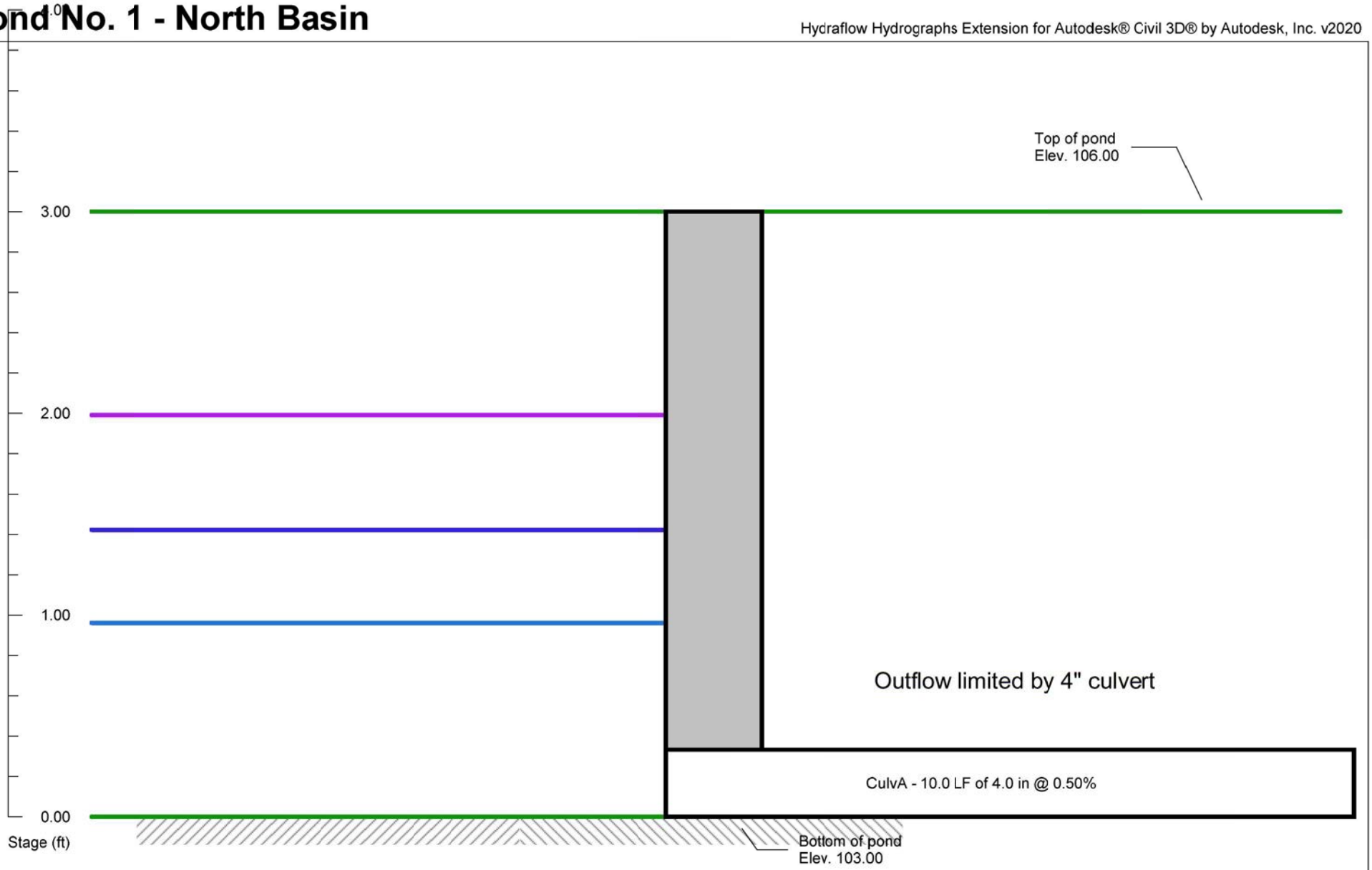
South Basin Routing

Hydrograph type	= Reservoir	Peak discharge	= 1.260 cfs
Storm frequency	= 100 yrs	Time to peak	= 18 min
Time interval	= 1 min	Hyd. volume	= 4,236 cuft
Inflow hyd. No.	= 4 - Project Proposed	Max. Elevation	= 97.53 ft
Reservoir name	= South Basin	Max. Storage	= 3,364 cuft

Storage Indication method used.



Pond No. 1 - North Basin

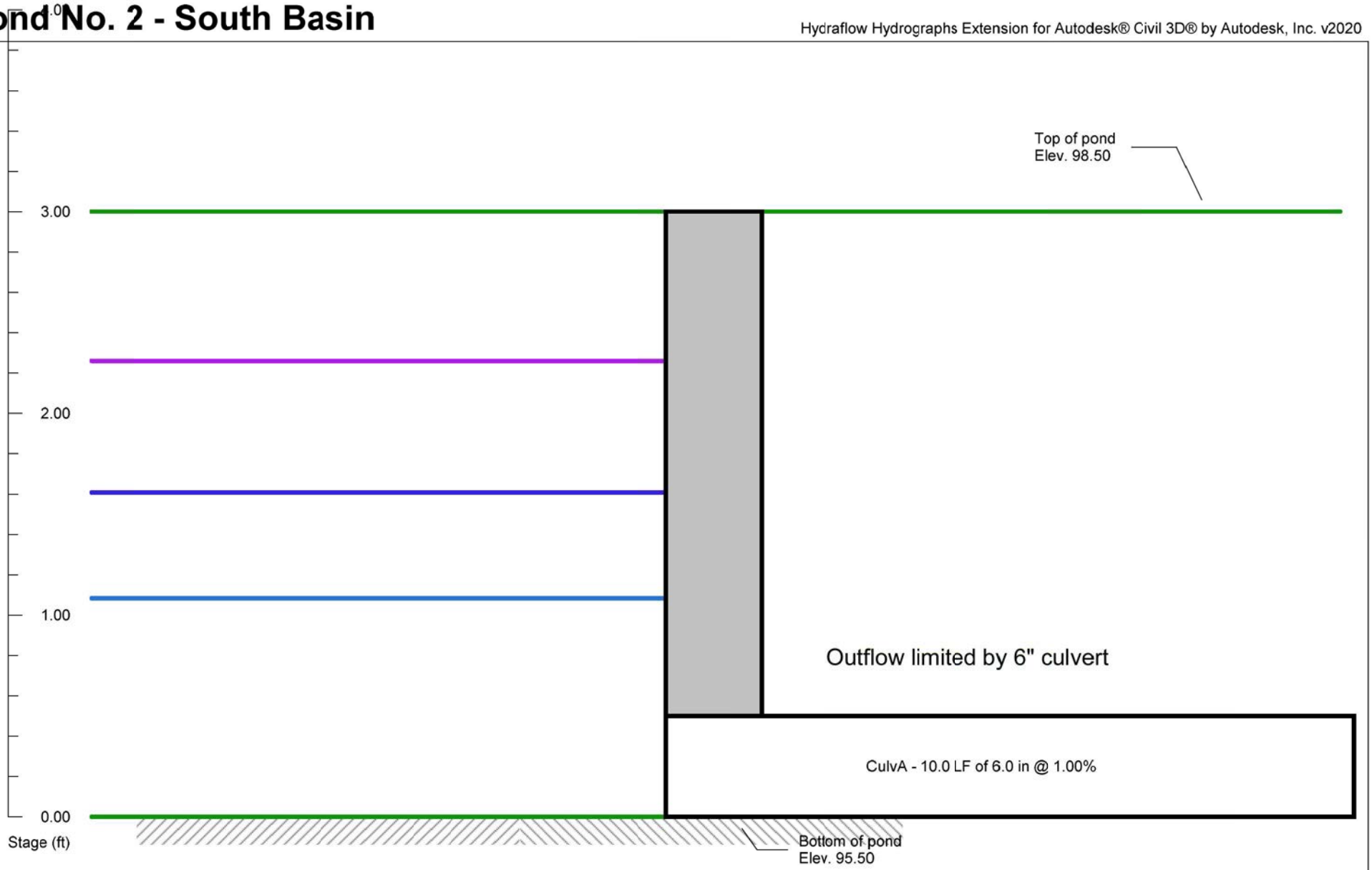


Section
NTS

100-yr
10-yr
2-yr

Inflow hydrograph = 4. Rational - Project Proposed

Pond No. 2 - South Basin

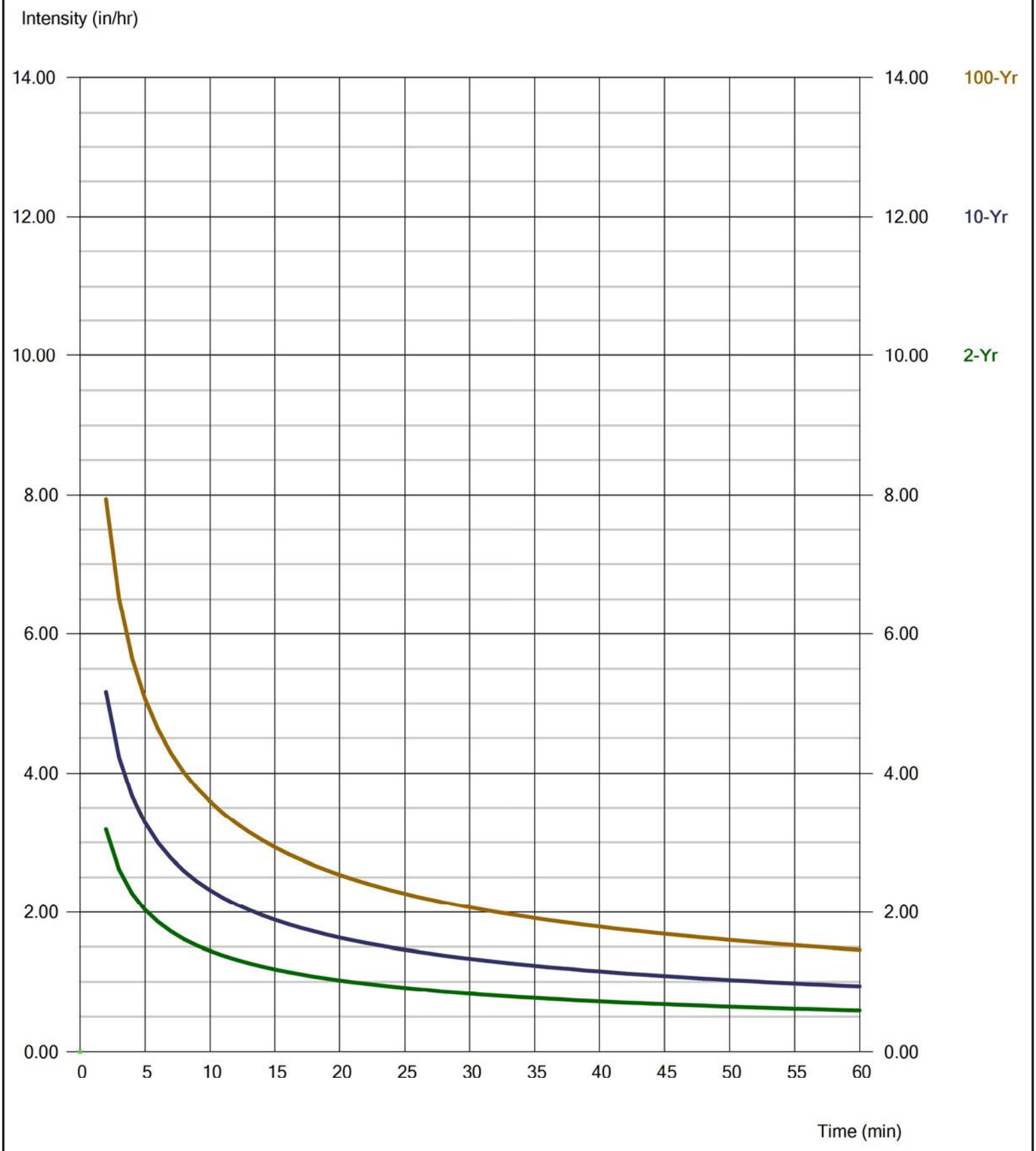


Section
NTS

Inflow hydrograph = 4. Rational - Project Proposed

Hydraflow IDF Curves

IDF file: Mt. Shasta.IDF



NOAA Atlas 14, Volume 6, Version 2
Location name: Mt Shasta, California, USA*
Latitude: 41.3227°, Longitude: -122.3239°
Elevation: 3573.2 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**1.56** (1.34–1.84)	**2.11** (1.81–2.48)	**2.81** (2.40–3.31)	**3.36** (2.84–4.01)	**4.09** (3.34–5.08)	**4.64** (3.70–5.90)	**5.24** (4.06–6.85)	**5.93** (4.44–7.99)	**6.73** (4.81–9.53)	**7.45** (5.11–11.0)
10-min	**1.12** (0.960–1.31)	**1.51** (1.30–1.78)	**2.01** (1.72–2.38)	**2.41** (2.04–2.87)	**2.93** (2.39–3.64)	**3.33** (2.65–4.23)	**3.76** (2.90–4.91)	**4.25** (3.18–5.73)	**4.83** (3.44–6.83)	**5.35** (3.67–7.87)
15-min	**0.900** (0.776–1.06)	**1.22** (1.04–1.44)	**1.62** (1.39–1.92)	**1.94** (1.64–2.32)	**2.37** (1.93–2.93)	**2.68** (2.13–3.41)	**3.03** (2.34–3.96)	**3.42** (2.56–4.62)	**3.89** (2.78–5.51)	**4.31** (2.96–6.34)
30-min	**0.616** (0.530–0.724)	**0.832** (0.714–0.980)	**1.11** (0.948–1.31)	**1.33** (1.12–1.58)	**1.62** (1.32–2.00)	**1.83** (1.46–2.33)	**2.07** (1.60–2.71)	**2.34** (1.75–3.16)	**2.66** (1.90–3.76)	**2.94** (2.02–4.33)
60-min	**0.434** (0.373–0.510)	**0.587** (0.503–0.690)	**0.781** (0.668–0.922)	**0.935** (0.792–1.12)	**1.14** (0.928–1.41)	**1.29** (1.03–1.64)	**1.46** (1.13–1.91)	**1.65** (1.23–2.22)	**1.87** (1.34–2.65)	**2.07** (1.42–3.05)
2-hr	**0.334** (0.286–0.392)	**0.418** (0.358–0.492)	**0.524** (0.448–0.620)	**0.609** (0.516–0.726)	**0.721** (0.588–0.894)	**0.804** (0.640–1.02)	**0.886** (0.686–1.16)	**0.970** (0.726–1.31)	**1.08** (0.770–1.53)	**1.16** (0.796–1.71)
3-hr	**0.294** (0.253–0.346)	**0.358** (0.307–0.421)	**0.438** (0.375–0.517)	**0.502** (0.425–0.598)	**0.585** (0.477–0.726)	**0.647** (0.515–0.822)	**0.709** (0.548–0.926)	**0.770** (0.576–1.04)	**0.850** (0.607–1.20)	**0.911** (0.625–1.34)
6-hr	**0.240** (0.206–0.282)	**0.282** (0.241–0.331)	**0.334** (0.286–0.394)	**0.375** (0.318–0.447)	**0.429** (0.349–0.531)	**0.468** (0.372–0.594)	**0.507** (0.391–0.662)	**0.545** (0.408–0.735)	**0.594** (0.424–0.841)	**0.631** (0.433–0.929)
12-hr	**0.183** (0.157–0.215)	**0.217** (0.186–0.256)	**0.260** (0.222–0.307)	**0.292** (0.247–0.348)	**0.333** (0.271–0.412)	**0.362** (0.288–0.460)	**0.390** (0.301–0.509)	**0.417** (0.312–0.562)	**0.451** (0.322–0.638)	**0.476** (0.326–0.700)
24-hr	**0.139** (0.124–0.160)	**0.173** (0.153–0.199)	**0.213** (0.188–0.245)	**0.242** (0.213–0.282)	**0.279** (0.238–0.334)	**0.305** (0.255–0.372)	**0.329** (0.269–0.411)	**0.352** (0.281–0.451)	**0.381** (0.292–0.507)	**0.401** (0.298–0.551)
2-day	**0.094** (0.084–0.108)	**0.120** (0.106–0.137)	**0.150** (0.133–0.173)	**0.174** (0.153–0.202)	**0.203** (0.173–0.244)	**0.225** (0.188–0.274)	**0.245** (0.200–0.306)	**0.265** (0.211–0.339)	**0.290** (0.222–0.386)	**0.308** (0.229–0.423)
3-day	**0.073** (0.065–0.084)	**0.093** (0.083–0.107)	**0.119** (0.105–0.137)	**0.138** (0.121–0.160)	**0.163** (0.139–0.195)	**0.182** (0.152–0.222)	**0.199** (0.163–0.249)	**0.217** (0.173–0.278)	**0.239** (0.183–0.318)	**0.256** (0.190–0.351)
4-day	**0.062** (0.055–0.071)	**0.079** (0.070–0.091)	**0.101** (0.089–0.116)	**0.117** (0.103–0.136)	**0.139** (0.118–0.166)	**0.154** (0.129–0.189)	**0.170** (0.139–0.212)	**0.184** (0.147–0.236)	**0.203** (0.156–0.271)	**0.217** (0.161–0.299)
7-day	**0.043** (0.038–0.050)	**0.055** (0.049–0.063)	**0.069** (0.061–0.080)	**0.080** (0.071–0.093)	**0.094** (0.080–0.113)	**0.104** (0.087–0.127)	**0.113** (0.093–0.142)	**0.122** (0.098–0.157)	**0.134** (0.103–0.178)	**0.142** (0.106–0.195)
10-day	**0.034** (0.030–0.039)	**0.043** (0.039–0.050)	**0.055** (0.048–0.063)	**0.063** (0.055–0.073)	**0.073** (0.062–0.088)	**0.081** (0.067–0.098)	**0.088** (0.072–0.109)	**0.094** (0.075–0.121)	**0.102** (0.079–0.136)	**0.108** (0.080–0.149)
20-day	**0.022** (0.020–0.026)	**0.028** (0.025–0.033)	**0.035** (0.031–0.041)	**0.041** (0.036–0.047)	**0.047** (0.040–0.056)	**0.052** (0.043–0.063)	**0.056** (0.046–0.070)	**0.060** (0.048–0.076)	**0.064** (0.049–0.086)	**0.068** (0.050–0.093)
30-day	**0.018** (0.016–0.021)	**0.023** (0.020–0.026)	**0.029** (0.025–0.033)	**0.033** (0.029–0.038)	**0.038** (0.032–0.045)	**0.042** (0.035–0.051)	**0.045** (0.037–0.056)	**0.048** (0.038–0.061)	**0.051** (0.039–0.068)	**0.054** (0.040–0.074)
45-day	**0.015** (0.013–0.017)	**0.019** (0.017–0.022)	**0.023** (0.021–0.027)	**0.027** (0.024–0.031)	**0.031** (0.026–0.037)	**0.034** (0.028–0.041)	**0.036** (0.030–0.045)	**0.039** (0.031–0.050)	**0.041** (0.032–0.055)	**0.043** (0.032–0.060)
60-day	**0.013** (0.011–0.015)	**0.016** (0.015–0.019)	**0.020** (0.018–0.024)	**0.023** (0.021–0.027)	**0.027** (0.023–0.032)	**0.029** (0.024–0.036)	**0.031** (0.026–0.039)	**0.033** (0.026–0.043)	**0.036** (0.027–0.047)	**0.037** (0.028–0.051)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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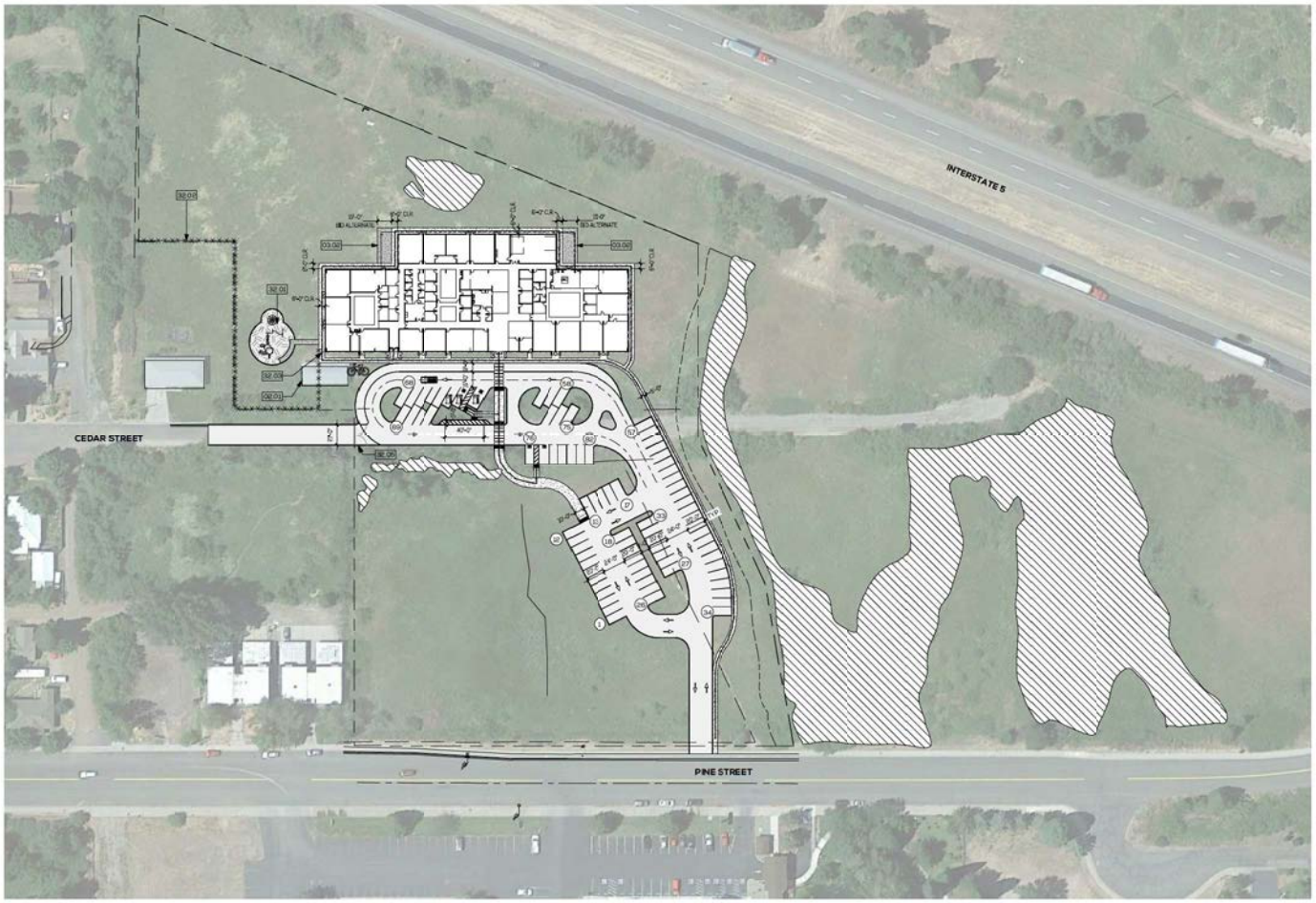

EE - OVERALL SITE PLAN
SCALE: 1" = 50'-0"

BUILDING SUMMARY
HEIGHT: 1 STOR. 41'-0" MAX @ UNITS
15'-0" MAX @ GARAGE

BUILDING FOOTPRINT
33,504 SF

AREA SUMMARY
SITE AREA 12.4 ACRES
540,144 SF

SITE COVERAGE* = 33,504 SF / 540,144 SF
= 6.2%

VEHICLE PARKING REQUIRED

GRADE K-8				
60 STUDENTS	@	1:10 STUDENTS	=	6 SPACES
7 EMPLOYEES	@	1:1 EMPLOYEES	=	7 SPACES
HIGH SCHOOL				
24,945 SF	@	1:500 SF	=	50 SPACES
19 EMPLOYEES	@	1:1.8 EMPLOYEES	=	19 SPACES
TOTAL VEHICLE PARKING REQUIRED:				**82 SPACES**
ELECTRICAL VEHICLE CHARGING SPACES=				3% = 3 SPACES (CGBSC 4.106.4.2)

VEHICLE PARKING PROVIDED

STANDARD PARKING SPACES	76 SPACES
COMPACT PARKING SPACES	2 SPACES
ACCESSIBLE PARKING SPACES	5% = 4 SPACES (2 VAN, 2 REGULAR) (CBC 1109A.5)
TOTAL VEHICLE PARKING PROVIDED:	**82 SPACES**
ELECTRICAL VEHICLE CHARGING SPACES	3 SPACES 0 ACCESSIBLE SPACE)

BIKE PARKING REQUIRED
BUILDINGS ≥2,000 SF OR MORE — 2 SPACES (MSMC 15.44.130)

BIKE PARKING PROVIDED
U-RACK PER SITE PLAN — 2 SPACES

PROPERTY LINE
ZONING SETBACK
ACCESSIBLE SITE PATH OF TRAVEL
UTILITY EASEMENT
FENCE
FIRE LANE

(1) PARKING SPACE COUNT
9'-0" WIDE, 20'-0" LONG (MIN)

ACCESSIBLE PARKING SPACE SEE CIVIL D'WGS

(1) BICYCLE U-RACK, SEE DETAIL L1/A0.2
PROVIDES (2) 2' x 6' PARKING SPACES

FUTURE ELECTRICAL VEHICLE CHARGING STATION

CONCRETE SIDWALK
BID ALTERNATE CONCRETE SIDEWALK
WETLAND - SEE CIVIL DRAWINGS
ASPHALT PAVING
LANDSCAPING

GENERAL NOTES
1. SEE LANDSCAPE DRAWINGS FOR FENCING, PLANTING, TREE MITIGATION, AND SHADE ANALYSIS
2. ACCESSIBLE SITE CIRCULATION ROUTE SHALL COMPLY WITH CIRCULATION ROUTE NOTES
3. SEE SHEET G0.2 FOR FIRE SEPARATION DISTANCE ANALYSIS
BELOW. SEE SHEETS G0.2, G0.3 AND G0.4 FOR ACCESSIBLE PATH OF TRAVEL AT LOCATIONS INTERIOR TO THE BUILDING

SITE CIRCULATION ROUTE NOTES:
ACCESSIBLE "PATH OF TRAVEL" (P.O.T.) AS INDICATED, IS A COMMON BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. THE PATH SURFACE IS SLIP RESISTANT, STABLE, FIRM AND SMOOTH. PASSING SPACES (11B-403.5.3) AT LEAST 60"X 60" ARE LOCATED NOT MORE THAN 200' APART. THE CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL AND IS LESS THAN 5% UNLESS OTHERWISE INDICATED. (P.O.T.) SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (11B-307.4) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL AND ABOVE 27" AND LESS THAN 80" (11B-307.2).

KEYNOTES	
02.01	EXISTING SHED STRUCTURE TO BE REMOVED - SEE CIVIL DRAWINGS
03.02	BID ALTERNATE 1). ADD ADDITIONAL CONCRETE SIDEWALK
32.01	BID ALTERNATE 8). ADD PLAYGROUND EQUIPMENT. OFCI PLAY EQUIPMENT, DISMANTLE, RELOCATE, RE-ERECT. PROVIDE 1850 SF OF BARK FOR FALL ARREST PER PLAN. WOOD PERIMETER FOR BARK CONTAINMENT, AND CONCRETE RAMP FOR ACCESSIBLE ENTRY TO PLAY AREA.
32.02	6' TALL BLACK VINYL COATED CHAIN LINK FENCE
32.03	3" MAN GATE WITH PANIC HARDWARE & SELF CLOSER
32.05	6' TALL VEHICLE GATE BLACK VINYL COATED CHAIN LINK FENCE. PROVIDE KNOX @A. SIDE FOR EMERGENCY ACCESS.

AA - SITE LEGEND
SCALE: NONE

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PLAN CHECK #	-
DRAWN	KJE
CHECKED	RGA
GMAX SET	2020.03.18
BID ADDENDUM	2020.03.25
REVISED SITE	2020.04.07

SITE PLAN

A0.1

References

NOAA Atlas 14, Volume 6, Version 2, Point Precipitation Frequency Estimates, National Weather Service & NOAA, 2020.

Hydraflow Hydrographs Extension for AutoCAD® Civil 3d, 2020, by Autodesk

Caltrans Highway Design Manual, Sixth Edition, California Department of Transportation, 2019

Golden Eagle Charter School Site Plan, Russell Gallaway Associates, Inc. 2020

APPENDIX E

NOISE ANALYSIS

Golden Eagle Charter School
Environmental Noise Analysis

Mount Shasta, California

April 16, 2020
jcb Project # 2018-132

Prepared for:
Golden Eagle Charter School

2405 S. Mount Shasta Blvd. #3
Mount Shasta, CA 96067
Attn:
Shelley Blakely
c/o Nick Trover

Prepared by:

j.c. brennan & associates, Inc.

Jim Brennan, INCE
President
Member, Institute of Noise Control Engineering (INCE)

INTRODUCTION

The Golden Eagle Charter School (GECS) is looking to relocate and consolidate their programs with a new facility at the Pine Street property (See Figure 1 for the project location). The GECS students arrive and depart throughout the day as required for their learning plan. The school has up to 502 students, with only approximately 225-250 on site at any one time. The GECS proposes to construct a 34,973 square foot resource center and associated parking facilities, and a small outdoor play area. Construction activities will take place during the standard hours, and days which are consistent with the General Plan Noise Element. Figures 2 shows the site plan.

This analysis will evaluate the potential noise impacts associated with I-5 traffic and railroad operations, as it may affect the project site. This analysis will also evaluate on-site activities at the adjacent residential uses. In addition, this analysis will evaluate the potential increases in traffic noise levels due to the project.

This analysis is not intended to strictly conform to the CEQA guidelines for a EIR, Negative Declaration, or Mitigated Negative Declaration. It is the responsibility to of the CEQA consultant to utilize this document and incorporate it in to the appropriate CEQA document. This includes incorporating the CEQA guidelines for a significant impact and the discussion of Cumulative Impacts.

Previous Noise Analysis and Changes to the Site Plan

The project has undergone several revisions and accompanying Environmental Noise Assessments prepared by j.c. brennan & associates, Inc.. The most recent was dated November 7, 2019. This revised analysis differs from the previous assessment as follows:

- The proposed Resource Center has been moved substantially closer to I-5;
- The parking configurations have changed from the previous analysis;
- The previous site plan included a Future Play Field close to I-5 and has been eliminated:
- The new site plan includes a small outdoor play area to west of the Resource Center;
- The gymnasium has been eliminated.

ENVIRONMENTAL SETTING

Noise Background

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective. Often, someone's music is described as noise by another.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dBA. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dBA, and changes in levels (dBA) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels.

There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but may be expressed as dBA, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dBA apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise.

The day/night average level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of maximum noise levels associated with common noise sources.

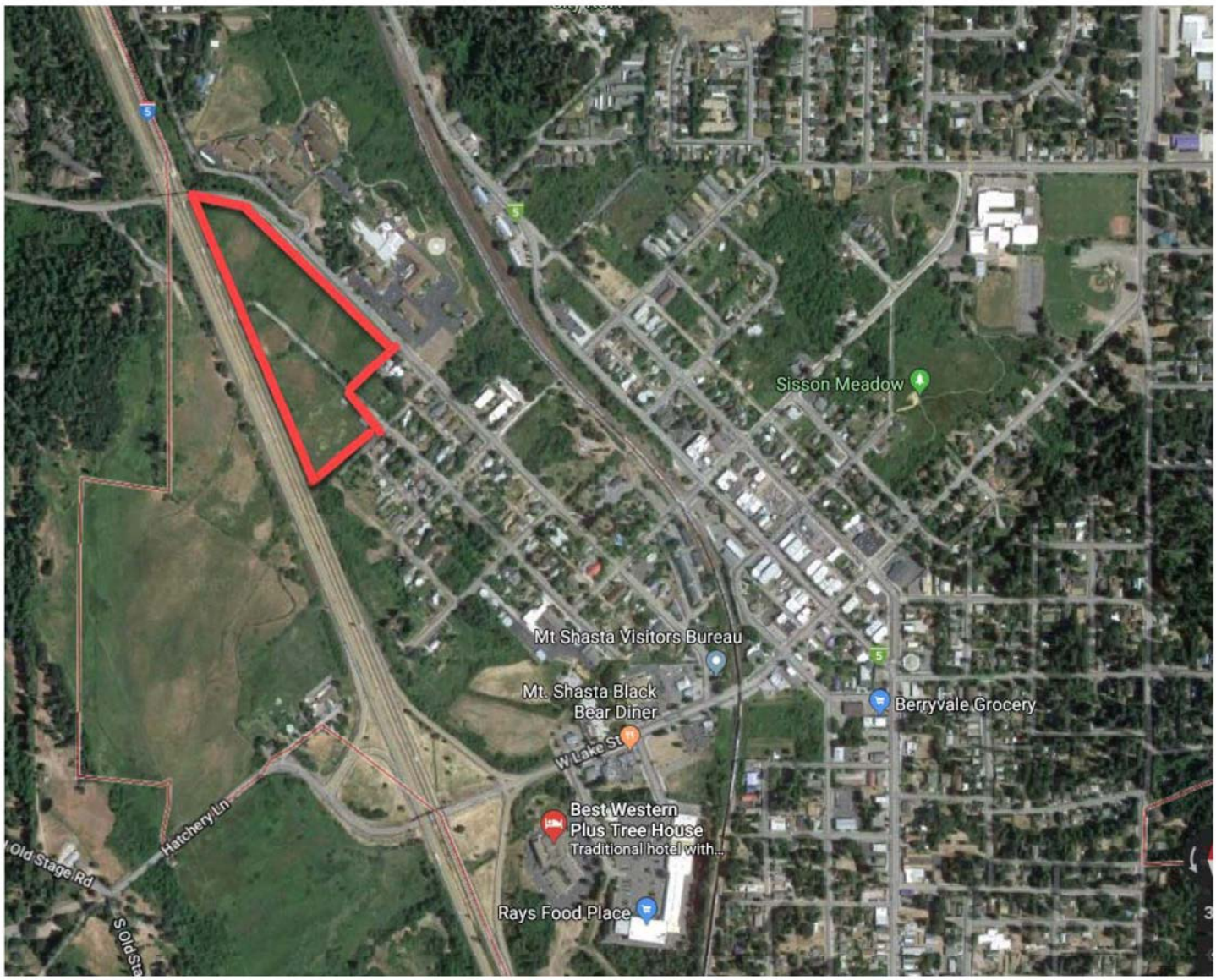

Figure 1
Project Location

j.c. brennan & associates
consultants in acoustics

Date:
5/21/18

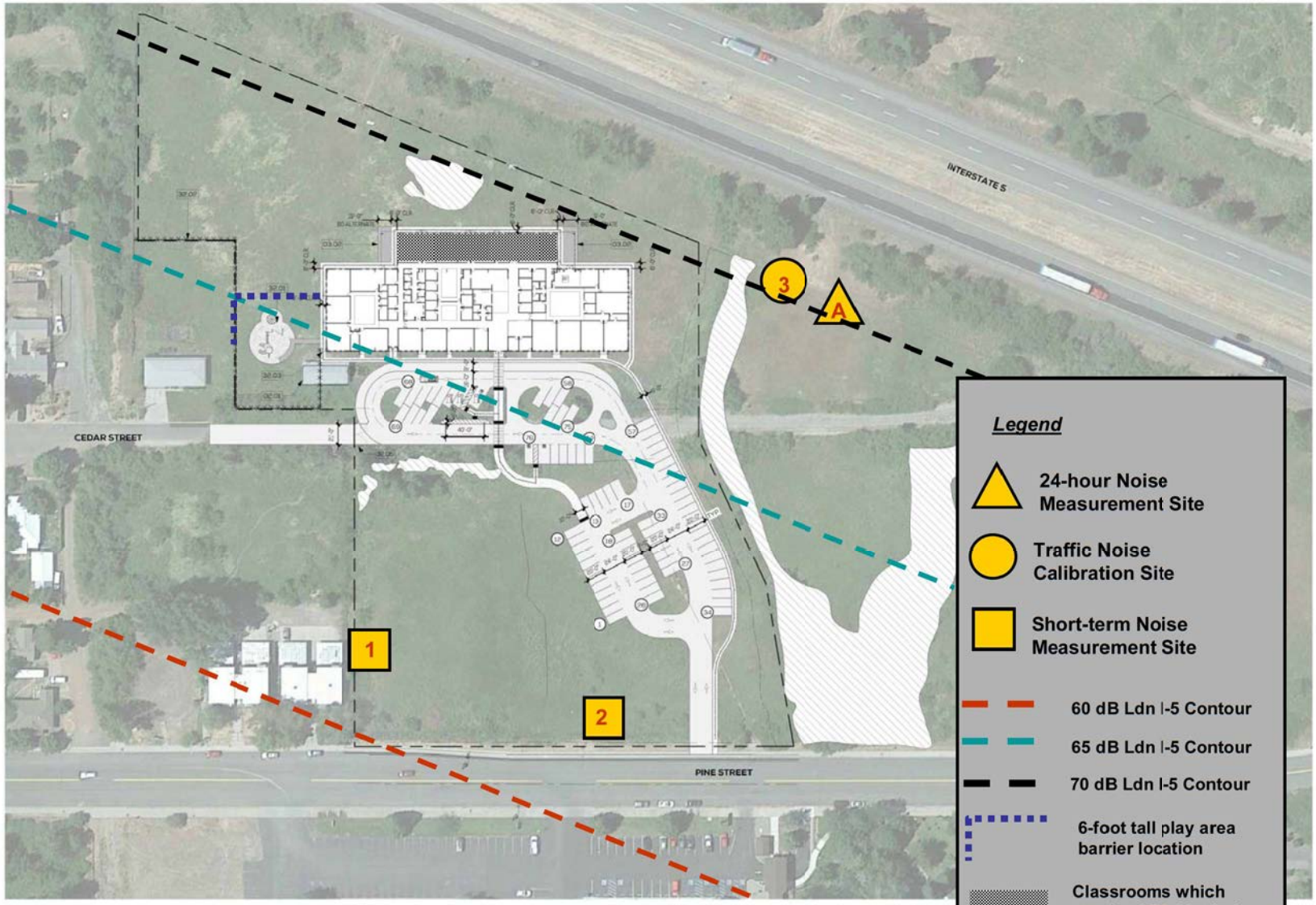

Figure 2
Project Site Plan
Noise Monitoring Sites/Distances to Contours

j.c. brennan & associates
consultants in acoustics

Rev. 1/11/17

Table 1

LOUDNESS COMPARISON CHART (dBA)

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 1000 ft	110	Rock Band
	100	
Gas Lawn Mower at 3 ft		
	90	Food Blender at 3 ft
Diesel Truck at 50 ft at 50 mph	80	Garbage Disposal at 3 ft
Noisy Urban Area, Daytime		Vacuum Cleaner at 10 ft
Gas Lawn Mower at 100 ft	70	Normal Speech at 3 ft
Commercial Area		
Heavy Traffic at 300 ft	60	Large Business Office
Quiet Urban, Daytime	50	Dishwasher Next Room
Quiet Urban, Nighttime		
Quiet Suburban, Nighttime	40	Theater, Large Conference Room (Background)
	30	Library
Quiet Rural, Nighttime		Bedroom at Night, Concert Hall (Background)
	20	Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

An increase of 3 dBA is barely perceptible to the human ear.

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Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dBA per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

A complete listing of acoustical terminology is provided in Appendix A.

EXISTING NOISE ENVIRONMENT IN PROJECT VICINITY

The primary noise sources in the project vicinity include roadway traffic on Interstate 5 (I-5), and some noise associated with the Union Pacific Railroad operations to the east.

To quantify existing ambient noise levels in the vicinity of the project site, j.c. brennan & associates, Inc., conducted continuous 24-hour noise measurements on the project site on July 13, 2019. The noise level measurements were conducted to determine typical existing background noise levels associated with I-5 traffic at the site. A summary of the results of the continuous hourly ambient noise survey are shown in Table 2. Appendix B graphically shows the results of the noise measurements. Figures 2 and 3 show the location of the noise measurement site. In addition, short-term noise level measurements were conducted at two separate locations adjacent to the project site. The short-term noise measurement results are also shown in Table 2 and the locations are shown on Figures 2 and 3. Short-term noise measurements were conducted for a period of approximately 15 to 30 minutes, when a stable Leq was observed on the sound level meter.

Equipment used for the noise measurement surveys included Larson Davis Laboratories (LDL) Models 820 and 824 precision integrating sound level meters. The meters were calibrated with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

Table 2
Summary of Measured Ambient Noise Levels
July 13, 2019

Site	Measured Ldn	Average Hourly Daytime (7:00am - 10:00pm)			Average Hourly Nighttime (10:00pm – 7:00am)		
		Leq	L50	Lmax	Leq	L50	Lmax
Continuous 24-hour Noise Measurements at 150-feet from the I-5 Centerline							
A	67.5 dB	64.1 dB	62.5 dB	74.6 dB	60.3 dB	55.0 dB	74.0 dB
Short-term Noise Measurements							
1	NA	55.8 dB	54.9 dB	62.6 dB	@11:15 a.m.		
2	NA	53.1 dB	52.4 dB	60.1 dB	@ 12:00 p.m.		
Source: j.c. brennan & associates, Inc. - 2019							

REGULATORY FRAMEWORK

Federal

There are no federal regulations related to noise that apply to the Proposed Project.

State

There are no state regulations related to noise that apply to the Proposed Project.

Mount Shasta General Plan Noise Element

Mount Shasta has a General Plan which includes a Noise Element. The General Plan Noise Element includes criteria for both transportation noise sources, and stationary noise sources. Tables 3 and 4 below show the proposed Stationary and Transportation noise source criteria, respectively from the General Plan.

Table 3 (7-5 of the General Plan)
Noise Standards for New Uses Affected by Non-Transportation Noise
Outdoor Activity Area -

New Land Use	Leq		Interior – Leq	Notes
	Daytime	Nighttime	Day & Night	
All Residential	50	45	35	1, 2, 7
Transient Lodging	55	---	40	3
Hospitals & Nursing Homes	50	45	35	4
Theaters & Auditoriums	---	---	35	
Churches, Meeting Halls, Schools, Libraries, etc.	55	---	40	
Office Buildings	55	---	45	5, 6
Commercial Buildings	55	---	45	5, 6
Playgrounds, Parks, etc.	65	65	---	6
Industry	65	65	50	5

Notes:

1. Outdoor activity areas for single-family residential uses are defined as back yards. For large parcels or residences with no clearly defined outdoor activity area, the standard shall be applicable within a 100 foot radius of the residence.

2. For multi-family residential uses, the exterior noise level standard shall be applied at the common outdoor recreation area, such as at pools, play areas or tennis courts.

3. Outdoor activity areas of transient lodging facilities include swimming pool and picnic areas, and are not commonly used during nighttime hours.

4. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

5. Only the exterior spaces of these uses designated for employee or customer relaxation have any degree of sensitivity to noise.

6. The outdoor activity areas of office, commercial and park uses are not typically utilized during nighttime hours.

7. It may not be possible to achieve compliance with this standard at residential uses located immediately adjacent to loading dock areas of commercial uses while trucks are unloading. The daytime and nighttime noise level standards applicable to loading docks shall be 55 and 50 dB Leq, respectively.

Table 4 (Table 7-6 of the General Plan)
Noise Standards for New Uses Affected by Traffic and Railroad Noise

New Land Use	Outdoor Activity Area - Ldn	Interior - Ldn/Peak Hour Leq[1]	Notes
All Residential	60-65	45	2, 3, 4
Transient Lodging	65	45	5
Hospitals & Nursing Homes	60	45	6
Theaters & Auditoriums	---	35	
Churches, Meeting Halls, Schools, Libraries, etc.	60	40	
Office Buildings	65	45	7
Commercial Buildings	65	50	7
Playgrounds, Parks, etc.	70	---	
Industry	65	50	7

Notes:
1. For traffic noise within the City, Ldn and peak-hour Leq values are estimated to be approximately similar. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
2. Outdoor activity areas for single-family residential uses are defined as back yards. For large parcels or residences with no clearly defined outdoor activity area, the standard shall be applicable within a 100-foot radius of the residence.
3. For multi-family residential uses, the exterior noise level standard shall be applied at the common outdoor recreation area, such as at pools, play areas or tennis courts.
4. Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
5. Outdoor activity areas of transient lodging facilities include swimming pool and picnic areas.
6. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

Significance of Changes in Ambient Noise Levels

The significance of project-related noise impacts are also determined by comparison of project-related noise levels to existing no-project noise levels, as required by CEQA. An increase in similar noise levels of less than 3 dBA is generally not perceptible. An increase of at least 3 dBA in similar noise sources is usually required before most people will perceive a change in noise levels, and an increase of 5 dBA is required before the change will be clearly noticeable.

PROJECT IMPACT NOISE ASSESSMENT

Off-Site Traffic Noise Impacts

The proposed project will add traffic to the local street system. The road which will primarily be affected by increased traffic and resulting increased traffic noise is Pine Street The FHWA traffic noise prediction model was used to determine the future traffic noise levels and the changes in traffic noise levels associated with the project. Table 5 shows the results of the analysis. Based upon Table 5, the project will not result in any significant increases in traffic noise levels.

Table 5
Off-Site Traffic Noise Levels On the Local Street System

Roadway	Scenario	Traffic Noise Level @ 75-feet	Change
Pine Street - North of Ivy St.	Existing Existing + Project	57 dB Ldn 58 dB Ldn	+1 dB
Pine Street - South of Ivy St.	Existing Existing + Project	57 dB Ldn 58 dB Ldn	+1 dB

Source: FHWA-RD-77-108 with inputs from Traffic Works and j.c. brennan & associates, Inc.
*Distances to traffic noise contours are measured in feet from the centerlines of the roadways.

On-Site Play Area Noise

Based upon the project site plan and descriptions the number of students (children) per recess is going to be approximately 100 students. Play area noise associated with children playing could generate noise by occasional shouting and cheering associated with typical play areas. j.c. brennan & associates, Inc. file data collected at various playgrounds and parks indicate that average noise levels generated during games with approximately 100 children is approximately 60 dB Leq at a distance of 75 feet from the focal point or effective noise center of the play areas. This assumes that the students are on the play area for the entire hour. Occasional maximum noise levels can reach 75 dB. The main play area on the site plan is the future play field. The nearest residences are located approximately 220-feet to the west from the center of the play area. Based upon that distance, the predicted noise levels would be 50 dB Leq, and 65 dB Lmax at the nearest residences. This is in compliance with the daytime (7:00 a.m. - 10:00

p.m.) exterior noise level standard of 50 dB Leq. It would also be considerably less than the background noise levels associated with I-5.

On-Site Traffic Noise Impacts

To predict existing noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions.

j.c. brennan & associates, Inc., staff conducted short-term noise level measurements and concurrent counts of traffic on I-5 on the project site on July 13, 2019. The purpose of the short-term traffic noise level measurements was to determine the accuracy of the FHWA model in describing the existing noise environment on the project site, while accounting for existing site conditions such as intervening structures, actual travel speeds, and roadway grade. Noise measurement results were compared to the FHWA model results by entering the observed traffic volume, speed, and distance as inputs to the FHWA model. Figures 2 and 3 show the noise measurement site.

Instrumentation used for the measurement was a Larson Davis Laboratories (LDL) Model 824 precision integrating sound level meter which was calibrated in the field before use with an LDL CAL-200 acoustical calibrator. Table 6 shows the results of the traffic noise calibration. Appendix C provides the complete inputs and results of the FHWA model calibration procedures.

TABLE 6
COMPARISON OF FHWA MODEL TO MEASURED EXISTING TRAFFIC NOISE LEVELS

VEHICLES / MEASUREMENT PERIOD					SPEED (MPH)	DIST. (FEET)	MEASURED, LEQ	MODELED, LEQ*	DIFFERENCE
SITE	ROADWAY	AUTOS	MED. TRK.	HVY.TRK.					
3	I-5	408	28	77	60	150	65.0 dB	70.0 dB	5 dB

* Acoustically "soft" site assumed
Source: j.c. brennan & associates, Inc. - 2019

Based upon Table 6, the FHWA model was found to over-predict I-5 traffic noise levels at the site by +5 dB. This was noted to be due to shielding by the overpass to the north, and some excess ground attenuation. For this analysis, a conservative -3 dBA correction will be added to the calculated future traffic noise at the project site.

The most recent traffic volume forecasts were obtained from the 2016 Regional Transportation Plan (RTP) for Siskiyou County. The future traffic volumes for the year 2035, as contained in the RTP are 24,610 Annual Average Daily Traffic (AADT). Truck mix percentages for I-5 were obtained from Caltrans. The effective day/night distribution of traffic was based upon the 24-hour noise measurements conducted at the site. Table 7 shows the predicted I-5 traffic noise levels on the project site. Figure shows the locations of the 70 dB, 65 dB and 60 dB Ldn, I-5 traffic noise contours. These contours account for the -3 dB correction due to the calibration results shown in Table 6.

TABLE 7
PREDICTED FUTURE TRAFFIC NOISE LEVELS
AND DISTANCES TO CONTOURS INTERSTATE 5
(YEAR 2035)

Roadway	Location	Ldn	Distance to Contours (Ldn)		
			70 dBA	65 dBA	60 dBA
I-5	150-feet from Roadway Centerline	71 dBA	168-feet	361-feet	778-feet

Notes: Distances to traffic noise contours are measured in feet from the centerlines of the roadways.
Source: FHWA-RD-77-108 with inputs from Caltrans, Siskiyou County RTP, and j.c. brennan & associates, Inc. 2019.

Based upon Table 7, and Figure 2, the Resource Center will be exposed to I-5 traffic noise levels of approximately 70 dBA Ldn. This is in excess of the exterior noise level standard of 60 dB Ldn, which is applied at the outdoor activity areas. The small outdoor play area is exposed to traffic noise levels of 65 dB Ldn. Therefore, this analysis will focus on the Resource Center complying with the interior noise level standard of 40 dB, and developing mitigation for the outdoor play area.

Outdoor Play Area Noise Mitigation

j.c. brennan & associates, Inc. conducted a barrier analysis for the play area, and is shown in Appendix C. Based upon the barrier calculation, a 6-foot tall barrier would reduce the I-5 traffic noise levels to 60 dB Ldn. Figure 2 shows the location and configuration of the barrier.

Resource Center Interior Noise Levels and Mitigation

Typical construction will result in an exterior to interior noise level reduction of 25 dBA. The proposed Resource Center will be exposed to traffic noise levels of approximately 70 dB Ldn/Leq. Therefore, the Resource Center may require mitigation to comply with the interior noise level standard of 40 dBA Ldn/Leq.

Based upon wall sections provided by the project architect, the building will include an 8-inch stud wall assembly, with a 6-1/2" solid foam insulation in the stud cavities. The exterior wall is a

24-gauge metal wall panels. The interior wall assembly includes 5/8" gypsum board screwed to channels with a 1-1/2" gap between the studs. To determine the STC rating and transmission loss of this wall type, j.c. brennan & associates, Inc. utilized the Marshall Day Acoustics Sound Insulation Prediction Software (INSUL).

To calculate interior noise levels, it is necessary to determine the noise reduction provided by the building wall facades. This may be calculated by assuming a generalized A-weighted noise frequency spectrum for roadway traffic noise. The composite transmission loss and resulting noise level in the receiving room. After correcting for room absorption, the overall noise level in the room is calculated. Table 8 shows the results of the analysis.

Table 8
Golden Eagle Charter School
Calculated Interior Noise Levels (Requiring STC 33 Windows)

	Exterior Noise Levels		Interior Roadway Noise Levels		
Unit	Traffic Parallel Exterior	Traffic Perpendicular Exterior	Traffic Parallel Interior	Traffic Perpendicular Interior	**Cumulative Interior**
End Unit	70dB Ldn/Leq	70 dB Ldn/Leq	38 dB Ldn/Leq	35 dB Ldn/Leq	**34 dB Ldn/Leq**

Appendix D shows the results of the Interior Calculation Model.
Source: j.c. brennan & associates, Inc., 2020

Based upon Table 8, the first row of classrooms (as shown on Figure 2) will require windows with an STC rating of 33 or higher to comply with the interior noise level standard of 40 dB Leq. This only applies to the facades which are parallel to I-5.

On-Site Railroad Noise Impacts

The Union Pacific Railroad (UPRR) track is located approximately 675-feet east of the nearest edge of the project site. Based upon noise measurements conducted for the General Plan Noise Element, the distance to the 60 dBA Ldn noise contour associated with the UPRR operations, is 631-feet. This does not assume any shielding which may occur due to intervening development or topography. Therefore, the UPRR operations are not expected to exceed any of the exterior or interior noise level standards.

On-Site Parking Lot and Access Road Noise Impacts

Service Drive Noise Levels:

Peak hour trip generation occurs both in the morning and the afternoon. The morning peak hour estimate, based upon the project traffic analysis, is 162 vehicles per hour. The afternoon peak hour is 116 vehicles per hour. The potential for annoyance or exceeding the City of Mount Shasta daytime noise level criterion of 50 dBA Leq, could potentially occur at the residences adjacent to the south property line of the project site.

Using the FHWA traffic noise prediction model, the predicted peak hour noise level at the nearest residences would be 33.0 dB Leq. This also assumes a worst case of a minimum of 2 medium size trucks and a delivery truck during that hour. This would comply with the daytime hourly standard of 50 dB Leq.

Parking Lot Noise Levels:

The project includes approximately 83 parking spaces for students and faculty. For this analysis, it is assumed that the nearest lot is the primary noise source, and that all parking spaces are filled in a one hour period.

In this case, noise levels due to parking lot operations are represented by the sound exposure levels (SEL's). The measured SEL's account for the sound energy during each parking lot arrival or departure, and the overall duration (number of seconds) of the event. The SEL essentially compresses all of the sound energy during the entire event into 1 second. In general, the measured SEL due to a parking lot arrival or departure is approximately 5 dB to 10 dB higher than the measured maximum noise level. Figure 3 shows the relationship between a maximum noise level and an SEL. Figure 3 is based upon an aircraft overflight, however, it is the same principle for an automobile arrival and departure.

As a means of determining the noise levels due to parking lot activities, j.c. brennan & associates, Inc., utilized noise level data collected for previous parking lot studies. A typical SEL due to automobile arrivals/departures, including car doors slamming and people conversing is approximately 71 dB, at a distance of 50 feet. To determine the peak hour noise levels at the site, the following equation can be used:

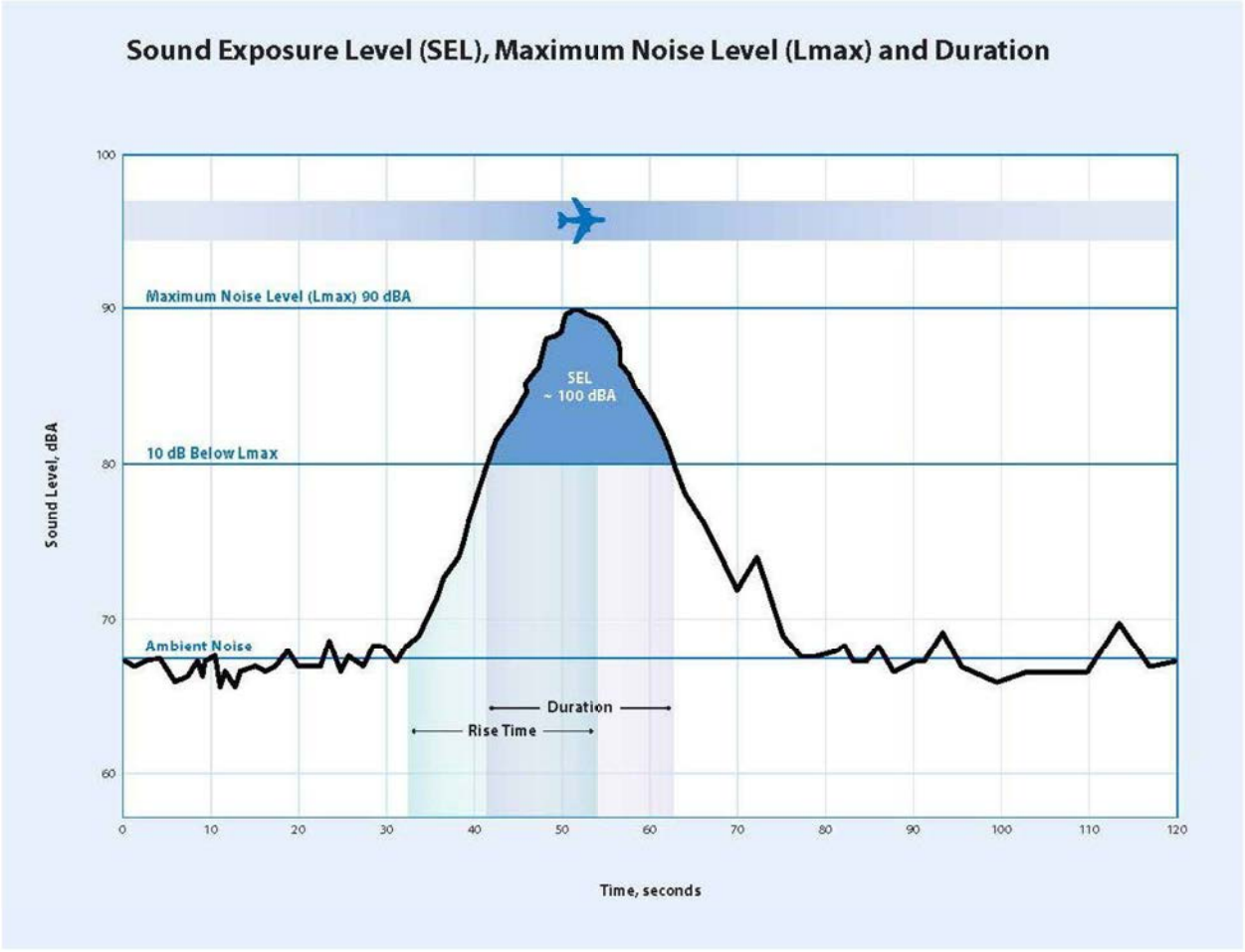
Leq = SEL + 10 * (logarithm of 84) - 35.6; where:

SEL is the mean measured sound exposure level (71 dB), 10 * logarithm of 84 = 19, and 35.6 is 10 times the logarithm of the number of seconds in an hour. Based upon the calculation, the peak hour Leq is 54 dB, at a distance of 50-feet. Based upon the nearest residences at approximately 300-feet from the center of the nearest parking lot, the peak hour Leq is approximately 47 dB. Therefore, it will comply with the Mount Shasta daytime exterior noise level standard of 50 dB Leq.

Student Drop-off Noise Levels:

Based upon the traffic study, there is a peak hour traffic volume of 63 vehicles which will traverse through the drop-off/parking area. The drop-off/parking area is located approximately 157-feet from the nearest residences. Using the FHWA traffic noise model, the predicted noise level at the nearest residences is less than 35 dB Leq.

Figure 3



CONCLUSIONS AND RECOMMENDATIONS

1. The project requires a barrier 6-feet in height at the play area, as shown in Figure 2;

2. The first row of classrooms (as shown on Figure 2) will require windows with an STC rating of 33 or higher to comply with the interior noise level standard of 40 dB Leq. This only applies to the facades which are parallel to I-5.

Appendix A
Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50% of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the AMaximum@ level, which is the highest RMS level.
RT_{60}	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is s rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B
2018-132 Golden Eagle Charter School
24hr Continuous Noise Monitoring - Site A
07/13/2019 - 07/14/2019

Hour	Leq	Lmax	L50	L90
12:00	64	75	62	55
13:00	64	73	63	59
14:00	64	75	63	58
15:00	64	74	63	58
16:00	64	78	63	58
17:00	65	74	63	58
18:00	65	74	64	58
19:00	64	75	63	56
20:00	63	72	62	55
21:00	62	73	61	52
22:00	62	72	59	49
23:00	60	75	57	46
0:00	60	81	54	41
1:00	61	74	55	43
2:00	59	72	54	40
3:00	60	73	53	41
4:00	58	73	52	37
5:00	60	72	55	45
6:00	62	74	58	50
7:00	62	73	60	52
8:00	64	78	62	55
9:00	65	73	64	59
10:00	65	78	64	59
11:00	64	75	62	57

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	65.4	62.2	64.1	61.7	58.3	60.3
Lmax (Maximum)	78.5	72.3	74.6	81.4	71.9	74.0
L50 (Median)	64.2	59.6	62.5	58.8	51.6	55.0
L90 (Background)	59.3	51.8	56.5	49.9	37.0	43.5

Computed Ldn, dB	67.5
% Daytime Energy	80%
% Nighttime Energy	20%

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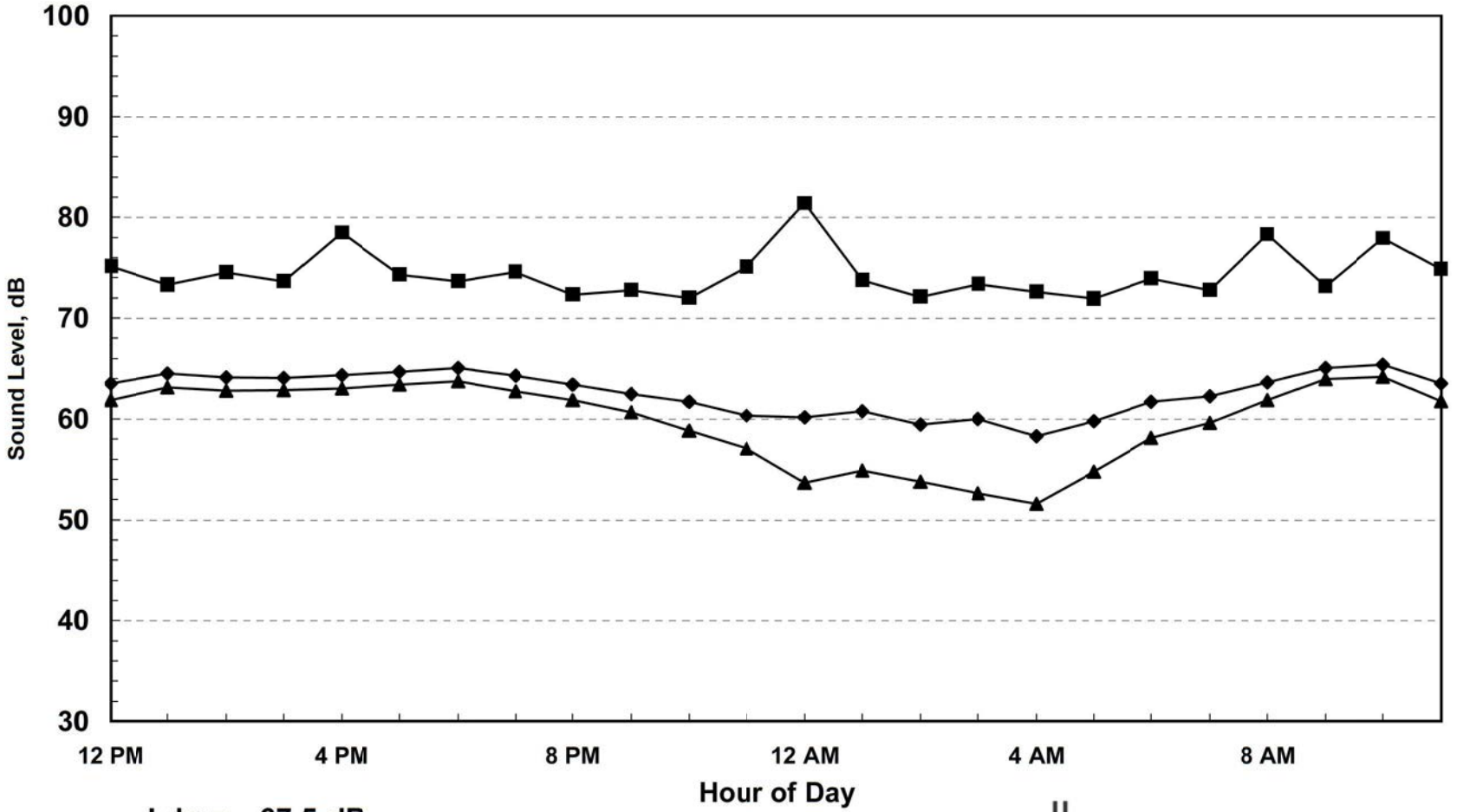
Appendix B

2018-132 Golden Eagle Charter School

24hr Continuous Noise Monitoring - Site A

07/13/2019 - 07/14/2019



Ldn = 67.5 dB

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Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2018-132
Description: Golden Eagle Charter School
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	Existing Pine Street	North of Ivy	3,530	87		13	2	1	35	75	
2	Existing Pine Street	South of Ivy	3,700	87		13	2	1	35	75	
3											
4	Existing + Project Pine	North of Ivy	4,370	87		13	2	1	35	75	
5	Existing + Project Pine	South of Ivy	4,630	87		13	2	1	35	75	
6											
7	Future I-5	At Outdoor Play Area	24,610	80		20	2	26	70	361	-3
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2018-132
Description: Golden Eagle Charter School
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Segment Description	Autos	Medium Trucks	Heavy Trucks	Total
1	Existing Pine Street	North of Ivy	55.3	48.2	50.4	57
2	Existing Pine Street	South of Ivy	55.5	48.4	50.6	57
4	Existing + Project Pine	North of Ivy	56.3	49.1	51.3	58
5	Existing + Project Pine	South of Ivy	56.5	49.4	51.5	58
7	Future I-5	At Outdoor Play Area	59.0	49.2	63.6	65

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Noise Contour Output

Project #: 2018-132
Description: Golden Eagle Charter School
Ldn/CNEL: Ldn
Hard/Soft: Soft

			-------- Distances to Traffic Noise Contours --------				
Segment	Roadway Name	Segment Description	75	70	65	60	55
1	Existing Pine Street	North of Ivy	5	10	22	48	104
2	Existing Pine Street	South of Ivy	5	11	23	50	107
4	Existing + Project Pine	North of Ivy	6	12	26	56	120
5	Existing + Project Pine	South of Ivy	6	12	27	58	125
7	Future I-5	At Outdoor Play Area	78	168	361	778	1676

Appendix D

FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)
Noise Barrier Effectiveness Prediction Worksheet

Project Information:

Job Number: 2018-132
Description Golden Eagle Charter School
Roadway Name: Future I-5
Location(s): 7

Noise Level Data:

Year: 2025
Auto L_{dn}, dB: 59
Medium Truck L_{dn}, dB: 49
Heavy Truck L_{dn}, dB: 64

Site Geometry:

Receiver Description: At Outdoor Play Area
Centerline to Barrier Distance (C_1): 336
Barrier to Receiver Distance (C_2): 25
Automobile Elevation: 0
Medium Truck Elevation: 2
Heavy Truck Elevation: 8
Pad/Ground Elevation at Receiver: 0
Receiver Elevation[1]: 5
Base of Barrier Elevation: 0
Starting Barrier Height 5

Barrier Effectiveness:

Top of Barrier Elevation (ft)	Barrier Height[2] (ft)	L_{dn}, dB Autos	Medium Trucks	Heavy Trucks	Total	Barrier Breaks Line of Sight to... Autos?	Medium Trucks?	Heavy Trucks?
5	5	54	44	59	**60**	Yes	Yes	No
6	6	54	44	58	**60**	Yes	Yes	Yes
7	7	53	43	58	**59**	Yes	Yes	Yes
8	8	52	42	57	**58**	Yes	Yes	Yes
9	9	51	41	56	**57**	Yes	Yes	Yes
10	10	50	40	55	**57**	Yes	Yes	Yes
11	11	49	40	54	**56**	Yes	Yes	Yes
12	12	49	39	53	**55**	Yes	Yes	Yes
13	13	48	38	53	**54**	Yes	Yes	Yes

Notes: 1.Standard receiver elevation is five feet above grade/pad elevations at the receiver location(s)

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Appendix D

Building Facade Noise Reduction Worksheet

Golden Eagle Charter School Resource Center

Plans Dated:
Analysis Date: 4/16/2020 0:00
Room Description: Classroom
Parallel Panel Size, ft²: 270 **Perpendicular Panel Size, ft²:** 135
Parallel Exterior level, dB: 70 **Perpendicular Exterior level, dB:** 70
Correction Factor, dB: 3

Noise Source Information:

Freeway Traffic - I5 Sacramento	Parallel, dB	46	40	42	45	49	53	58	62	64	64	61	58	55	53	50	46
Freeway Traffic - I5 Sacramento	Perpendicular, dB	46	40	42	45	49	53	58	62	64	64	61	58	55	53	50	46

		One-Third Octave Band Center Frequency (Hz)															
Material	***Area(ft²)***	***125***	***160***	***200***	***250***	***315***	***400***	***500***	***630***	***800***	***1K***	***1.25K***	***1.6K***	***2K***	***2.5K***	***3.15K***	***4K***
Sound Absorption Data:																	
Gyp Board	1170	0.29	0.29	0.10	0.10	0.10	0.05	0.05	0.05	0.04	0.04	0.04	0.07	0.07	0.07	0.09	0.09
Glass	90	0.35	0.35	0.25	0.25	0.25	0.18	0.18	0.18	0.12	0.12	0.12	0.01	0.01	0.01	0.04	0.04
Marble or glazed tile	210	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
Soft Furnishings	50	0.19	0.19	0.37	0.37	0.37	0.56	0.56	0.56	0.67	0.67	0.67	0.61	0.61	0.61	0.59	0.59
		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
	Absorption Parallel, dB:	-2	-2	2	2	2	4	4	4	5	5	5	4	4	4	3	3
	Absorption Perpendicular, dB:	-5	-5	-1	-1	-1	1	1	1	2	2	2	1	1	1	0	0
Transmission Loss Information: Parallel Façade																	
Golden Eagle INSUL	210	25	31	36	41	43	46	50	53	56	59	61	62	61	59	60	64
Window - Cascade 9100HS STC 33	60	25	23	21	22	23	28	30	32	34	35	36	37	38	38	38	37
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Transmission Loss Information: Perpendicular Façade																	
Golden Eagle INSUL	105	25	31	36	41	43	46	50	53	56	59	61	62	61	59	60	64
Window - Cascade 9100HS STC 33	30	25	23	21	22	23	28	30	32	34	35	36	37	38	38	38	37
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Summary																	
	Composite TL - Parallel, dB:	25	28	27	28	29	34	36	38	40	41	42	43	44	44	44	44
	Composite TL - Perpendicular, dB:	25	28	27	28	29	34	36	38	40	41	42	43	44	44	44	44
	Absorption Parallel, dB:	-2	-2	2	2	2	4	4	4	5	5	5	4	4	4	3	3
	Absorption Perpendicular, dB:	-5	-5	-1	-1	-1	1	1	1	2	2	2	1	1	1	0	0
	Safety Factor, dB:	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Interior Level - Parallel, dB:	22	14	20	22	25	25	29	30	31	30	27	21	17	15	11	9
	Interior Level - Perpendicular, dB:	19	11	17	19	22	22	26	27	28	27	24	18	14	12	8	6

Parallel Outside Level, dB: 70 *Perpendicular Outside Level, dB:* 70
Noise Reduction, dB: 30
Parallel Interior Level, dB: 38 *Perpendicular Interior Level, dB:* 38

Total Interior Noise Level, dB: **40**

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Sound Insulation Prediction (v7.0.9)

- Key No. 0591

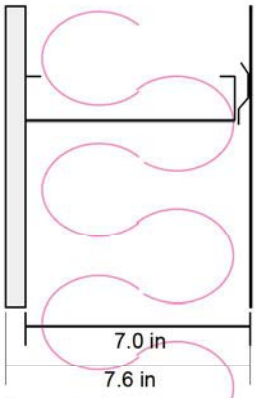
Margin of error is generally within STC +/- 3 dB

Job Name:

Job No.: Page No.: Notes:

Date: 16 Apr 20 Initials:Jim2

File Name: insul resource center.ixl



STC 49

OITC 34

System description

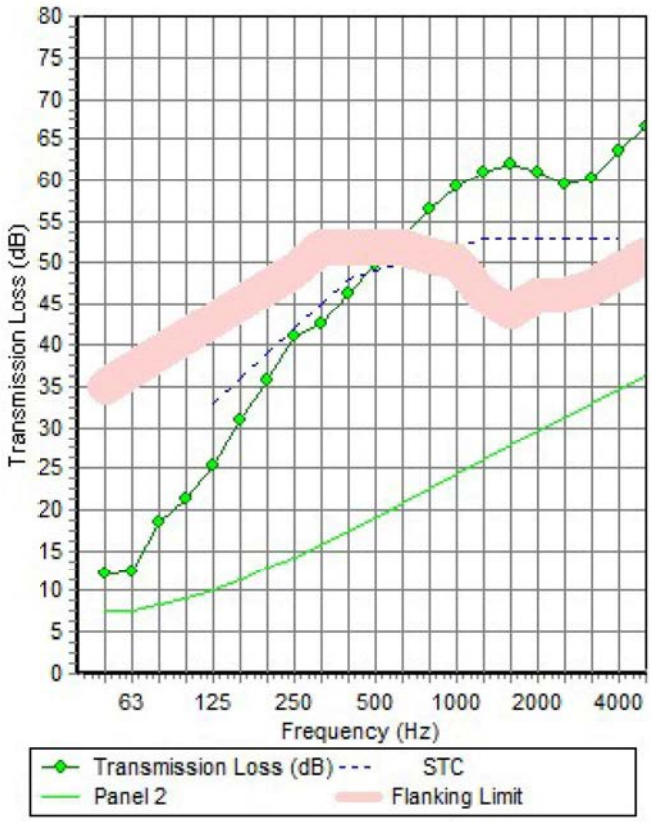
Panel 1 Outer layer: 1 x 0.63 in Type X Gypsum Board- (m=2.24 lb/ft2, fc=2511 Hz, Damping=0.01) Profile

Cavity: Steel stud + resil. rail @ 16 in , Infill 4" fiberglass (1.4 lb/ft3) Thickness 6 in
Panel 2 Inner layer: 1 x 0.02 in Steel- (m=0.96 lb/ft2, fc=20853 Hz, Damping=0.01) Profile

Mass-air-mass resonant frequency =67 Hz

frequency (Hz)	TL(dB)	TL(dB)
50	12	
63	12	14
80	18	
100	21	
125	25	24
160	31	
200	36	
250	41	39
315	43	
400	46	
500	50	49
630	53	
800	56	
1000	59	58
1250	61	
1600	62	
2000	61	61
2500	59	
3150	60	
4000	64	63
5000	67	

Panel Size 8.9x13 ft



APPENDIX F

TRAFFIC IMPACT STUDY

Traffic Impact Study

FOR

Golden Eagle Charter School

Mount Shasta, CA

May 29, 2018

PREPARED FOR:

Golden Eagle Charter School

PREPARED BY:

TRAFFIC WORKS, LLC
2240 St. George Lane, Suite 1, Chico, California 95926
530.897.0199
www.Traffic-Works.com

YOUR QUESTIONS ANSWERED QUICKLY

Why did you perform this study?

This Traffic Impact Study evaluates the potential traffic impacts associated with the proposed Golden Eagle Charter School project in Mount Shasta, CA. This study of potential transportation impacts was undertaken for planning purposes and to determine what traffic controls or other mitigations may be needed to reduce potential impacts, if any are identified.

What does the project consist of?

The project consists of a charter school serving Kindergarten through 12th Grade with approximately 350 students and 30 staff. However, due to intentional scheduling only 200 students and 15 staff will be on site at any one time. The analysis is based on the latter numbers.

How much traffic will the project generate?

The project is anticipated to generate 496 Daily, 162 AM peak hour, and 116 Afternoon peak hour (when school is dismissed) trips.

Are there any traffic impacts?

There are no significant traffic impacts.

Are any improvements recommended?

In order to provide adequate sight triangles for vehicles exiting the full access driveway on Pine Street, the project proposes to prohibit on-street parking 55 feet north of the driveway and 35 feet south of the driveway (see **Exhibit 2** on page 10).

Cedar Street is currently approximately 15 feet wide where the project would connect, which is adequate for an emergency access, but if the roadway were to become a full access connection in the future, half-street improvements would be needed to widen the roadway for two-way travel.

A school zone should be created on Pine Street in accordance with *California Manual on Uniform Traffic Control Devices (MUTCD)* standards.

LIST OF FIGURES

LIST OF APPENDICES

INTRODUCTION

This report summarizes the results of a Traffic Impact Analysis completed to assess the potential impacts to the local roadway network associated with the development of the Golden Eagle Charter School project in Mount Shasta, California. This Traffic Impact Study has been prepared to describe existing traffic conditions, identify potential impacts on all modes of transportation, document findings, and make recommendations to mitigate impacts, if any are found.

Study Area and Evaluated Scenarios

The proposed project is located east of Interstate 5 (I-5) between Pine Street and Cedar Street and across from Mount Shasta Mercy Hospital. The project location is shown on **Figure 1** and the project site plan is shown on **Figure 2**.

The following intersections are included in the analysis:

- Cedar Street / W. Ivy Street
- Pine Street / W. Ivy Street
- Pine Street / W. Lake Street
- Pine Street / South School Driveway (Plus Project Conditions only)
- Pine Street / School Drop-Off Entrance (Plus Project Conditions only)

The existing study intersection lane configurations and traffic controls are shown on **Figure 3**, attached.

This study includes analysis of the weekday AM peak hour and weekday Afternoon peak hour of school traffic (when school is dismissed) as these are the periods of time in which the project is expected to generate the most traffic. The evaluated development scenarios are:

- Existing Conditions (no project)
- Existing Plus Project Conditions

Future year scenarios have not been evaluated at this time due to very low levels of growth anticipated in the 20 year horizon. City staff is not aware of any significant planned development projects in the study area. Lacking other growth in the area, future (cumulative) conditions would not likely be substantially different than the Existing Plus Project scenario presented in this report.

ANALYSIS METHODOLOGY

Level of service (LOS) is a term commonly used by transportation practitioners to measure and describe the operational characteristics of intersections, roadway segments, and other facilities. This term equates seconds of delay per vehicle at intersections to letter grades “A” through “F” with “A” representing optimum conditions and “F” representing breakdown or over capacity flows.

Intersections

Intersection level of service methodology is established in the Highway Capacity Manual (HCM), 2010, published by the Transportation Research Board. The methodology for unsignalized (side-street stop controlled) intersections determines the level of service by comparing the average control delay for the worst movement/approach to the delay thresholds in **Table 1**.

Table 1: Level of Service Definition for Intersections

Level of Service	Brief Description	Average Delay (seconds per vehicle)
		Unsignalized Intersections
A	Free flow conditions.	< 10
B	Stable conditions with some affect from other vehicles.	10 to 15
C	Stable conditions with significant affect from other vehicles.	15 to 25
D	High density traffic conditions still with stable flow.	25 to 35
E	At or near capacity flows.	35 to 50
F	Over capacity conditions.	> 50

Source: Highway Capacity Manual (2010), Chapters 19, 20, and 21

Level of service calculations were performed using the Synchro 9 software package with results reported in accordance with the current HCM 2010 methodology.

Level of Service Policy

Siskiyou County

The *2016 Siskiyou County Regional Transportation Plan* includes the following objectives and policies related to level of service:

> ***Objective 3.3.1.2:*** *Maintain regionally significant roadways at acceptable safety standards and acceptable Level of Service.*
>
> > ***Policy 3.3.1.2.1:*** *Identify and eliminate unsafe conditions on State highways in coordination with Caltrans.*
>
> ***Objective 3.3.1.3:*** *Maintain a target LOS at the transition between LOS C and LOS D or better for average daily conditions on designated State highways.*
>
> > ***Policy 3.3.1.2.1:*** *The traffic impacts of proposed land uses shall be evaluated and mitigated in relation to stated goals, objectives, and policies of the RTP.*

City of Mount Shasta

The *City of Mount Shasta 2007 General Plan* includes the goals, policies, and implementation measures related to level of service:

Goal C1-1: *Ensure that land development does not exceed road capacities.*

Policy C1-1.1: *Level of service shall be the standard for judging whether a road has adequate remaining capacity for average daily traffic generated by a proposed project.*

Policy C1-1.2: *Level of service "C" shall be the minimum acceptable service level during normal conditions. Peak-hour reduction to level of service "D" may be permitted provided there are plans in place to make improvements required to improve the level of service.*

Implementation Measures:

CI-1.2(a): *Public Works, in cooperation with Caltrans and Siskiyou County, shall regularly monitor traffic volume on roads that presently have levels of service of C or D. Average Daily Trips (ADT) shall be determined and made available to the Planning Department for review of development proposals.*

CI-1.2(b): *When a road segment or intersection is found to be approaching Level of Service C (defined as ADT being within ten percent of the highest LOS C traffic volume threshold), or to have significant safety issues related to the volume of use, the City shall initiate plans for improvements designed to increase capacity, and/or to improve other operational features of the roadway or intersection to improve the LOS and traffic safety.*

CI-1.2(c): *The improvements shall be designed to be initiated by the time traffic volume is approaching Level of Service D. This may result in the generation of impact fees as a means of accumulating funds for the improvements caused by private development.*

CI-1.2(d): *The City shall require traffic analysis to be conducted for all projects that will generate sufficient traffic to use ten (10) percent or more of the capacity of the roadway at LOS C as shown in Table 4-2. When a project will potentially impact a state highway, consideration will be given to the Caltrans Guide for the Preparation of Traffic Impact Studies to determine when and how a related traffic study should be completed.*

CI-1.2(e): *Projects that will impact streets and/or intersections that currently, or are projected to operate, at below LOS C, shall prepare a traffic analysis to determine the extent to which they impact the streets and/or intersections. For facilities that are (short-term conditions), or will be (cumulative condition), operating at unacceptable Levels of Service without the project, an impact is considered significant if the project: 1) increases the average delay at intersections by more than five seconds, or 2) increases the volume-to-capacity ratio by 0.05 or more on a roadway segment.*

CI-1.2(f): *If a street and/or intersection is impacted by a project for short-term conditions, and the project's pro-rata share is equal to or above twenty five (25) percent, then the project shall be required to construct the necessary improvements to maintain an acceptable level of service.*

CI-1.2(g): *If a street and/or intersection is impacted by a project for cumulative conditions, and the project's pro-rata share is below twenty five (25) percent, then the project shall be required to pay their pro-rata share of the cost of constructing these improvements.*

CI-1.2(h): *The City shall regulate truck travel as appropriate for the transport of goods, consistent with circulation, air quality, noise, and land use goals.*

CI-1.2(i): *The City may install, or require to be installed, traffic calming measures on existing and future streets.*

LOS C was used as the threshold (i.e. minimum acceptable level of service) for this analysis.

Parking Requirements

The *Mount Shasta Municipal Code* includes the following parking space requirements for Educational Facilities:

- Public, Private, or Parochial Elementary: 1 space per 500 square feet of floor area PLUS 1 space per employee PLUS adequate space for loading/unloading of students
- High School or College: 1 space per 10 students PLUS 1 space per employee PLUS adequate space for loading/unloading of students

EXISTING TRANSPORTATION FACILITIES

Roadway Facilities

A brief description of the key roadways in the study area is provided below.

Pine Street is a two-lane Arterial roadway from Lassen Lane to Lake Street. The roadway runs in a northwest-southeast direction and has a posted speed limit of 25 mph from Lake Street to Alma Street and 30 mph from Alma Street to Lassen Lane. Pine Street crosses over Interstate 5 (I-5) and is called Lassen Lane west of I-5.

Lake Street is a four-lane Arterial roadway with left-turn pockets from Morgan Way (west of Pine Street) to Pine Street. East of Pine Street, Lake Street has one-lane in the eastbound direction and two-lanes in the westbound direction. East of Maple Street, Lake Street is a two-lane roadway with one lane in each direction. Lake Street has a posted speed limit of 25 mph in the project area.

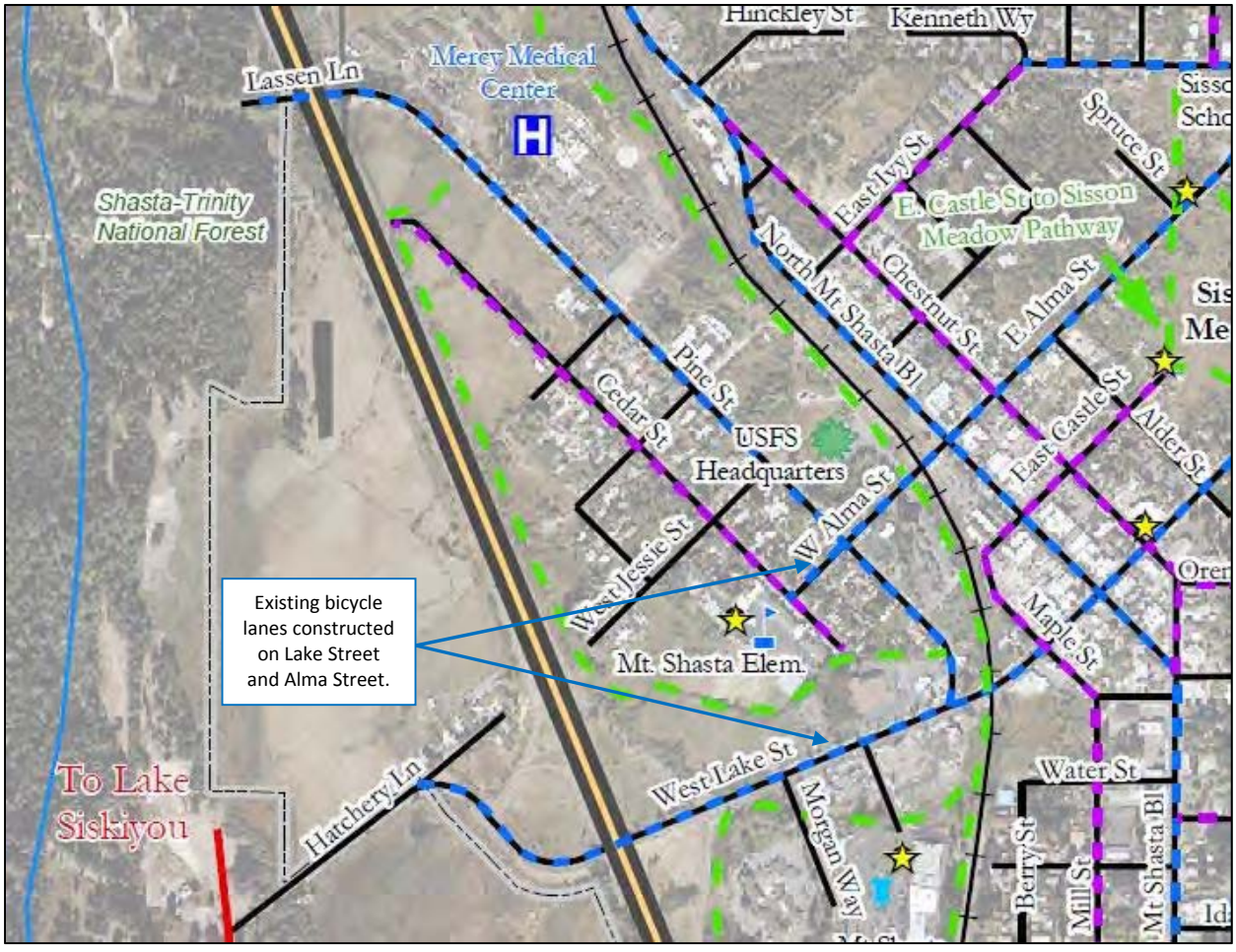
Cedar Street is a two-lane local roadway that runs parallel to Pine Street. Cedar Street primarily serves residential uses, as well as Mount Shasta Elementary School at its south end. Cedar Street will serve as a secondary emergency access roadway to the project site at its north end.

West Ivy Street is a local, residential roadway that connects Pine Street and Cedar Street, and serves residential uses.

Bicycle and Pedestrian Facilities

Existing bicycle facilities near the project site are limited. There are existing bicycle lanes on Lake Street and Alma Street. The City of Mount Shasta *Bicycle, Pedestrian, and Trails Master Plan 2009* (Alta Planning and Design) includes proposed Class II bicycle lanes on Pine Street from Lake Street to Lassen Lane, and a Class III bicycle route on Cedar Street. The Plan also proposes a Class I bicycle path that would border the west side of the project site and make a loop from the north end of Pine Street to the south end of Pine Street (shown in green on **Exhibit 1** below).

Exhibit 1: Proposed Bikeway System



Source: Map 3 - Mount Shasta Bicycle, Pedestrian, and Trails Master Plan (February 2009)

Existing pedestrian facilities are more readily available near the project site, with sidewalks along at least one side of Pine Street for its entire length between Lake Street and Lassen Lane. Sidewalks also exist along both sides of Lake Street east of Morgan Way in the project area. Sidewalks are intermittent along Cedar Street and Ivy Street. Crosswalks are available at most of the intersections on Pine Street and Lake

Street, however there are no crosswalks at the Cedar Street / W. Ivy Street and Pine Street / W. Ivy Street intersections.

Transit Facilities

The Siskiyou Transit and General Express (STAGE) provides transit service throughout Siskiyou County. STAGE provides service in Mount Shasta with a stop on Pine Street at Mercy Hospital, directly across from the proposed project site. Service is provided Monday through Friday from approximately 6:30 AM to 7:30 PM.

EXISTING CONDITIONS

Traffic Volumes

Existing AM (7:00 AM to 9:00 AM) and Afternoon (2:00 PM to 4:00 PM – when school is dismissed) peak hour turning movement volumes were collected at the study intersections on a mid-week day in March 2018 when schools were in full session. **Figure 3** shows the existing intersection turning movement volumes at the study intersections.

Note, the traffic volumes at the Cedar Street / Ivy Street intersection are very low (with multiple movements with zero volume). Synchro analysis software is not able to analyze intersections with zero volume movements, therefore the movements with zero volume were changed to 1 vehicle for analysis purposes.

Intersection Level of Service Analysis

Existing conditions intersection level of service analysis was performed using Synchro 9 software, with reports based on *HCM 2010* methodology. The peak hour factors (PHF) from the existing counts were used in the analysis. A default heavy vehicle percentage of 2 percent was also used in analysis. The level of service results are presented in **Table 2** and the calculation sheets are provided in **Appendix A**, attached.

Table 2: Existing Conditions Intersection Level of Service

Intersection	Control	AM		PM	
		Delay[1]	LOS	Delay[1]	LOS
Cedar St/Ivy St	Side-Street STOP				
Eastbound Approach		8.8	A	9.0	A
Westbound Approach		8.7	A	8.7	A
Northbound Left		7.2	A	7.2	A
Southbound Left		7.2	A	7.2	A
Pine St/Ivy St	Side-Street STOP				
Eastbound Approach		9.7	A	10.8	B
Westbound Approach		12.3	B	12.2	B
Northbound Left		7.6	A	7.7	A
Southbound Left		7.7	A	0	A
Lake St/Pine St	Side-Street STOP				
Southbound Approach		10.4	B	11.7	B
Eastbound Left		8.0	A	8.5	A

Notes: 1. Delay is reported in seconds per vehicle for the worst approach/movement for side-street stop controlled intersections.
Source: Traffic Works, 2018

As shown in the table, the existing study intersections currently operate at acceptable levels of service during the AM and PM peak hours.

PROJECT CONDITIONS

Project Description

The proposed project consists of a charter school serving Kindergarten through 12th Grade with approximately 350 students and 30 staff. However, due to intentional scheduling only 200 students and 15 staff will be on site at any one time. The analysis is based on the latter numbers. The project site is located on a vacant parcel west of Pine Street and east of Cedar Street, and across from Mount Shasta Mercy Hospital.

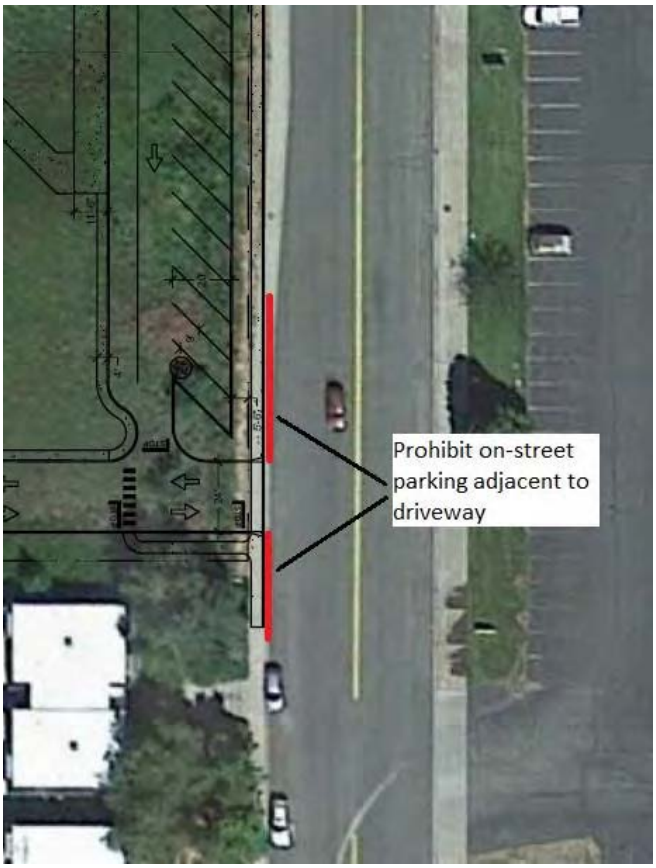
Project Access

As shown on the project site plan (**Figure 2**), the proposed project includes one full access driveway and one drop-off entrance on Pine Street, as well as an emergency access only driveway on Cedar Street. The full access driveway on Pine Street would also serve as the exit for the student drop-off zone.

On-street parking is currently allowed on both sides of Pine Street adjacent to the project site. To provide adequate site triangles for vehicles exiting the full access (south) driveway on Pine Street, it is recommended that parking be prohibited on the north and south sides of that driveway. The American Association of State Highway and Transportation Officials (ASHTO) *Geometric Design of Highways and Streets 2004 (Green Book)* provides standards for determining adequate sight triangles for vehicles entering a major street from a stop sign based on the major street speed limit. The posted speed limit on

Pine Street is 30 mph. As shown on **Exhibit 2**, on-street parking should be prohibited for at least 55 feet north of the driveway and at least 35 feet south of the driveway.

Exhibit 2: Site Access Recommendations



Cedar Street north of W. Field Street (dirt road north of Ivy Street) narrows to approximately 15 feet wide (as shown on **Exhibit 3**), which can only accommodate one-lane of traffic. This is adequate for an emergency access, but if the roadway were to become a full access connection in the future, half-street improvements would be needed to widen the roadway for two-way traffic.

Emergency access would be adequately provided with multiple points of ingress and egress to the site.

Exhibit 3: Cedar Street at W. Field Street

Parking

The minimum number of parking spaces required was calculated based on the parking standards presented in the Analysis Methodology section above. The standards include requirements for an elementary school and a high school. This analysis assumes 31 percent of the students are high school students (assuming an even number of students per grade and 4 high school grades divided by a total of 13 grades). **Table 3** shows the parking requirements for the project.

Table 3: Parking Requirements

	Size[1]	Spaces Required	Number of Parking Spaces
Elementary School (69% of students attending)	24,504 s.f. (69% of total square footage)	1 space per 500 square feet	49
High School (31% of students attending)	62 students (31% of total students)	1 space per 10 students	6
Employees	15 employees	1 space per employee	15
Total Spaces			***70***

Notes: 1. Based on a total school square footage of 35,513 square feet, and 200 total students on campus at any given time.
Source: Traffic Works, 2018

As shown in **Table 3**, a minimum of 70 parking spaces are needed to adequately accommodate the project. As shown on **Figure 2**, the project would include 83 parking spaces for staff and students, more than the minimum required.

Trip Generation

Trip generation estimates for the proposed project were calculated based on average trip rates presented in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition*. The ITE land use 536 – Private School (K-12) was used, as this use best represents the proposed project with private automobile being the primary source of student arrival/departure. **Table 4** provides the Daily, AM, and Afternoon peak hour trip generation estimates for the proposed project. The Afternoon peak hour is between 2:00 PM and 4:00 PM when school is dismissed.

Table 4: Trip Generation Estimates

Land Use (ITE Code)	Size	Trips[1]						
		Daily	AM	AM In	AM Out	Afternoon	Afternoon In	Afternoon Out
Private School, K-12 (536)	200 students	496	162	99	63	116	49	67

Notes: 1. Based on the following trip generation rates presented in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition*: Daily – 2.48 trips per student; AM – 0.81 trips per student; PM – 0.58 trips per student
2. The Afternoon peak hour is between 2:00 PM and 4:00 PM when school is dismissed.
Source: Traffic Works, 2018

As shown in the table, the project would generate approximately 496 Daily, 162 AM peak hour, and 116 Afternoon peak hour trips.

Trip Distribution

Project generated traffic was distributed to the surrounding roadway network based on the location of the project in relation to complimentary land uses, major activity centers, and local roadway connections. The following trip distribution percentages were used:

- 20% to/from north on Pine Street
- 10% to/from east on Alma Street
- 30% to/from west on Lake Street
- 40% to/from east on Lake Street

The project trip distribution and assignment are shown on **Figure 4**.

EXISTING PLUS PROJECT CONDITIONS

Traffic Volumes

Existing Plus Project traffic volumes were developed by adding the project generated trips (**Figure 4**) to the existing traffic volumes (**Figure 3**) and are shown on **Figure 5**, attached.

Intersection Level of Service Analysis

Existing Plus Project intersection level of service analysis was performed using Synchro 9 software. The Existing Plus Project traffic volumes shown on **Figure 5**, as well as the existing peak hour factors were used in the analysis. **Table 5** shows the level of service results and the calculations sheets are provided in **Appendix B**.

Table 5: Existing Plus Project Conditions Intersection Level of Service

Intersection	Control	Existing				Existing Plus Project			
		AM		PM		AM		PM	
		Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
Cedar St/Ivy St	Side-Street STOP								
Eastbound Approach		8.8	A	9.0	A	No traffic added to this intersection under this scenario			
Westbound Approach		8.7	A	8.7	A				
Northbound Left		7.2	A	7.2	A				
Southbound Left		7.2	A	7.2	A				
Pine St/Ivy St	Side-Street STOP								
Eastbound Approach		9.7	A	10.8	B	10.3	A	11.6	B
Westbound Approach		12.3	B	12.2	B	14.2	B	13.5	B
Northbound Left		7.6	A	7.7	A	7.8	A	7.8	A
Southbound Left		7.7	A	0	A	7.9	A	0	A
Lake St/Pine St	Side-Street STOP								
Southbound Approach		10.4	B	11.7	B	11.5	B	12.8	B
Eastbound Left		8.0	A	8.5	A	8.2	A	8.7	A
Pine St/ South School Dwy	Side-Street STOP								
Eastbound Approach		NA				10.2	B	9.9	A
Northbound Left						7.7	A	7.6	A
Pine St/ School Drop-Off Entrance	Side-Street STOP								
Northbound Left		NA				7.7	A	7.5	A

Notes: 1. Delay is reported in seconds per vehicle for the worst approach/movement for side-street stop controlled intersections.
Source: Traffic Works, 2018

As shown in the table, the study intersections and project driveways are expected to operate at acceptable levels of service under existing plus project conditions.

Cedar Street Access Alternative

If Cedar Street were to become a full access connection in the future, traffic volumes would change or increase at the Cedar Street / Ivy Street and Pine Street / Ivy Street intersections. Intersection level of service analysis was performed for this scenario assuming approximately 10 percent of vehicles would use Cedar Street instead of Pine Street. **Table 6** shows the level of service results for the Cedar Street / Ivy Street and Pine Street / Ivy Street intersections. Traffic volumes and level of service at the Lake Street / Pine Street intersection would not change, and volumes at the Pine Street driveway intersections would decrease, and therefore were not included the table.

Table 6: Existing Plus Project Conditions Intersection Level of Service

Intersection	Control	Existing				Existing Plus Project			
		AM		PM		AM		PM	
		Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
Cedar St/Ivy St	Side-Street STOP								
Eastbound Approach		8.8	A	9.0	A	8.9	A	9.1	A
Westbound Approach		8.7	A	8.7	A	8.6	A	8.7	A
Northbound Left		7.2	A	7.2	A	7.2	A	7.2	A
Southbound Left		7.2	A	7.2	A	7.2	A	7.3	A
Pine St/Ivy St	Side-Street STOP								
Eastbound Approach		9.7	A	10.8	B	10.1	A	11.2	B
Westbound Approach		12.3	B	12.2	B	14.4	B	13.7	B
Northbound Left		7.6	A	7.7	A	7.8	A	7.8	A
Southbound Left		7.7	A	0	A	7.9	A	0	A

Notes: 1. Delay is reported in seconds per vehicle for the worst approach/movement for side-street stop controlled intersections.
Source: Traffic Works, 2018

As shown in the table, the Cedar Street / Ivy Street and Pine Street / Ivy Street intersections are expected to operate at acceptable levels of service if full access were provided to the project site via Cedar Street.

CEQA TRANSPORTATION IMPACT EVALUATION

The CEQA *Appendix G Environmental Checklist Form* was used to develop significance criteria for determining potential transportation impacts. The questions and answers below address the CEQA standard questions and other transportation related questions commonly asked in the review process.

Would the project:

Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

- The proposed project is not expected to conflict with any applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. The study intersections are expected to operate at acceptable levels of service under Existing Plus Project conditions. This is considered a *less than significant impact.*

Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

- There is no congestion management program applicable to the study area roadways or intersections. The study intersections are expected to operate at acceptable levels of service under Existing Plus Project conditions. Therefore, this is considered a *less than significant impact*.

Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

- The project would not result in a change to air traffic patterns or a change in location for air traffic. Therefore, there would be *no impact.*

Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

- The project would include one full access driveway and one drop-off entrance on Pine Street, as well as an emergency access only connection on Cedar Street. Existing on-street parking on Pine Street would inhibit visibility for vehicles exiting the full access driveway. Therefore, the project proposes to construct red curb to prohibited parking 55 feet north of the driveway and 35 feet south of the driveway (see **Exhibit 2** on page 10). With this improvement, the project would have a *less than significant* impact regarding safety.

Result in inadequate emergency access?

- The project would include one full access driveway and one drop-off entrance on Pine Street, as well as an emergency access only connection on Cedar Street. Emergency access would be adequately provided with multiple points of ingress and egress to the site. Therefore, this impact is *less than significant.*

Conflict with adopted policies, plans, programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

- The project site is currently served by public transit with a stop on Pine Street at Mercy Hospital directly across from the project site. The study intersections, including the project driveways, are expected to operate at acceptable levels of service under Existing Plus Project conditions and therefore would not significantly impact transit service. Sidewalks are available throughout the majority of the project area and would not change with the project. The project is not expected to interfere with existing or planned multi-modal facilities. Therefore, this impact is *less than significant.*

Conflict with adopted parking standards?

- The question of adequate parking has been removed from the CEQA environmental checklist with recent CEQA revisions, as availability or lack of convenient parking is generally no longer considered an "environmental impact." However, the project must still meet applicable City of Mount Shasta Code as a matter of project entitlement and permitting. The project would provide adequate parking supply in accordance with *Mount Shasta Municipal Code*. Therefore, this impact is considered *less than significant.*

Conflict with adopted policies regarding Vehicle Miles Travelled (VMT)?

- The City of Mount Shasta does not have any specific thresholds or significance criteria related to VMT at this time. Generally speaking, the City and State of California have goals of reducing VMT and Green House Gas emissions. The project would increase travel and therefore can be expected to increase VMT to some degree. VMT is simplistically calculated by multiplying the number of daily trips by the trip lengths. Since Mount Shasta does not have a travel demand model, it is difficult to ascertain or quantify the trip lengths to/from the proposed project relative to the trips and their length made to existing schools. The trip lengths may be shorter, longer, or very similar. To be conservative, it should be assumed that an increase in VMT is probable with the project. Since no threshold values have been adopted by the City related to VMT, this impact is considered *less than significant*.

CONCLUSIONS & RECOMMENDATIONS

The following is a list of key findings and recommendations:

Proposed Project: The project consists of a charter school serving Kindergarten through 12th Grade with approximately 350 students and 30 staff. However, due to intentional scheduling only 200 students and 15 staff will be on site at any one time. The analysis is based on the latter numbers.

Project Trips: The project is anticipated to generate 496 Daily, 162 AM peak hour, and 116 Afternoon peak hour (when school is dismissed) trips.

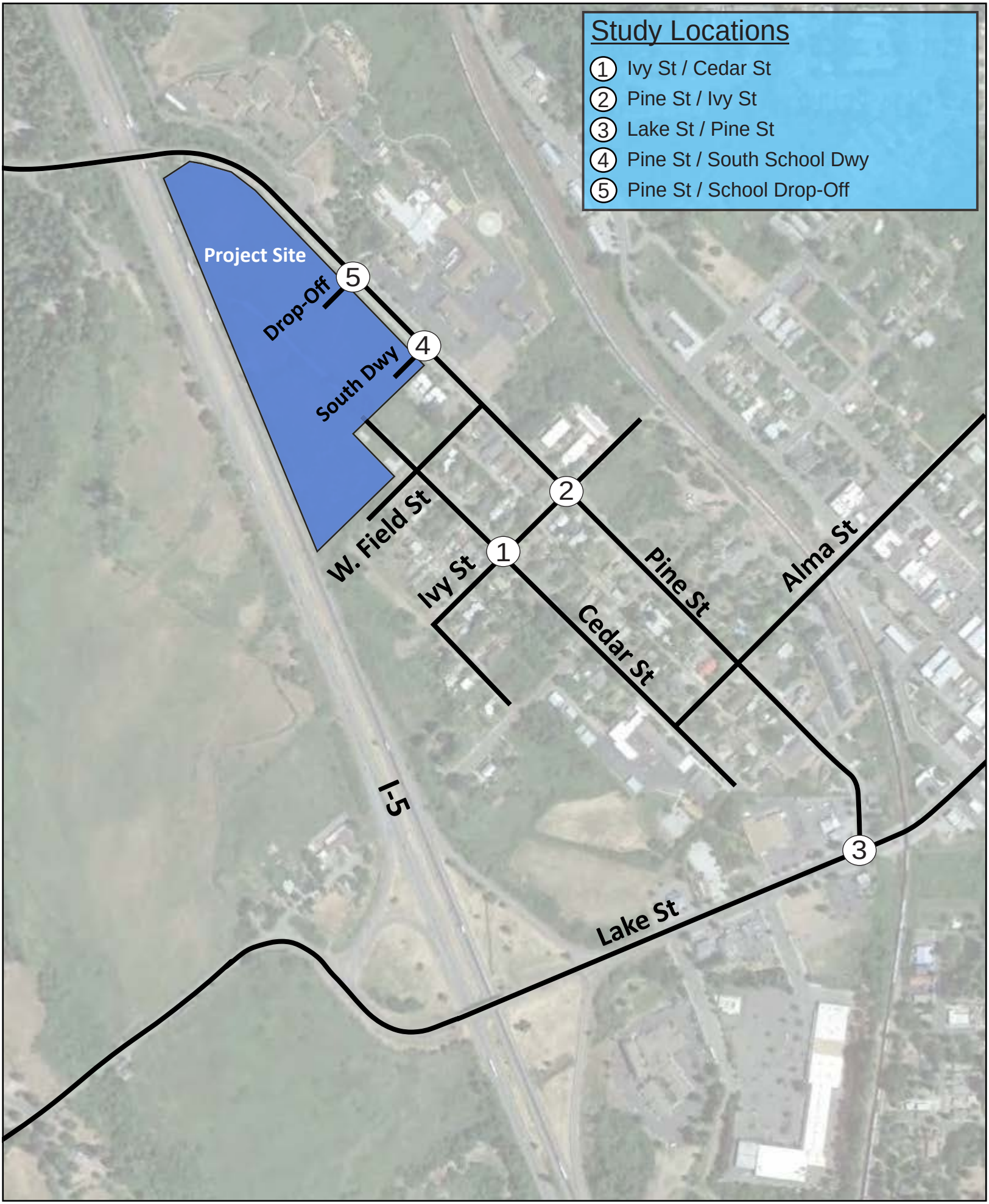
Project Access: The proposed project includes one full access driveway and one drop-off entrance on Pine Street, as well as an emergency access only connection on Cedar Street. The full access driveway on Pine Street also serves as the exit for the student drop-off zone. Existing on-street parking on Pine Street would inhibit visibility for vehicles exiting the full access driveway; therefore, the project proposes to prohibit parking 55 feet north and 35 feet south of the south driveway by painting red curb to provide adequate sight lines (see **Exhibit 2** on page 10). Additionally, Cedar Street is currently approximately 15 feet wide where the project would connect, which is adequate for emergency access, but if the roadway were to become a full access connection in the future, half-street improvements would be needed to widen the roadway for two-way travel.

Existing Level of Service: The study intersections currently operate at acceptable levels of service during the AM and Afternoon peak hours.

Existing Plus Project Level of Service: The study intersections and project driveways are expected to operate at acceptable levels of service with project generated traffic during the AM and Afternoon peak hours.

School Zone: The project proposes to implement a "school zone" in accordance with the Chapter 7 of the *CA MUTCD*.

Impact Evaluation: The project is not anticipated to cause any significant traffic impacts.



TRAFFIC WORKS

NO SCALE

Figure 1
Golden Eagle Charter School
TRAFFIC IMPACT STUDY
Project Location

TRAFFIC WORKS LLC

NO SCALE

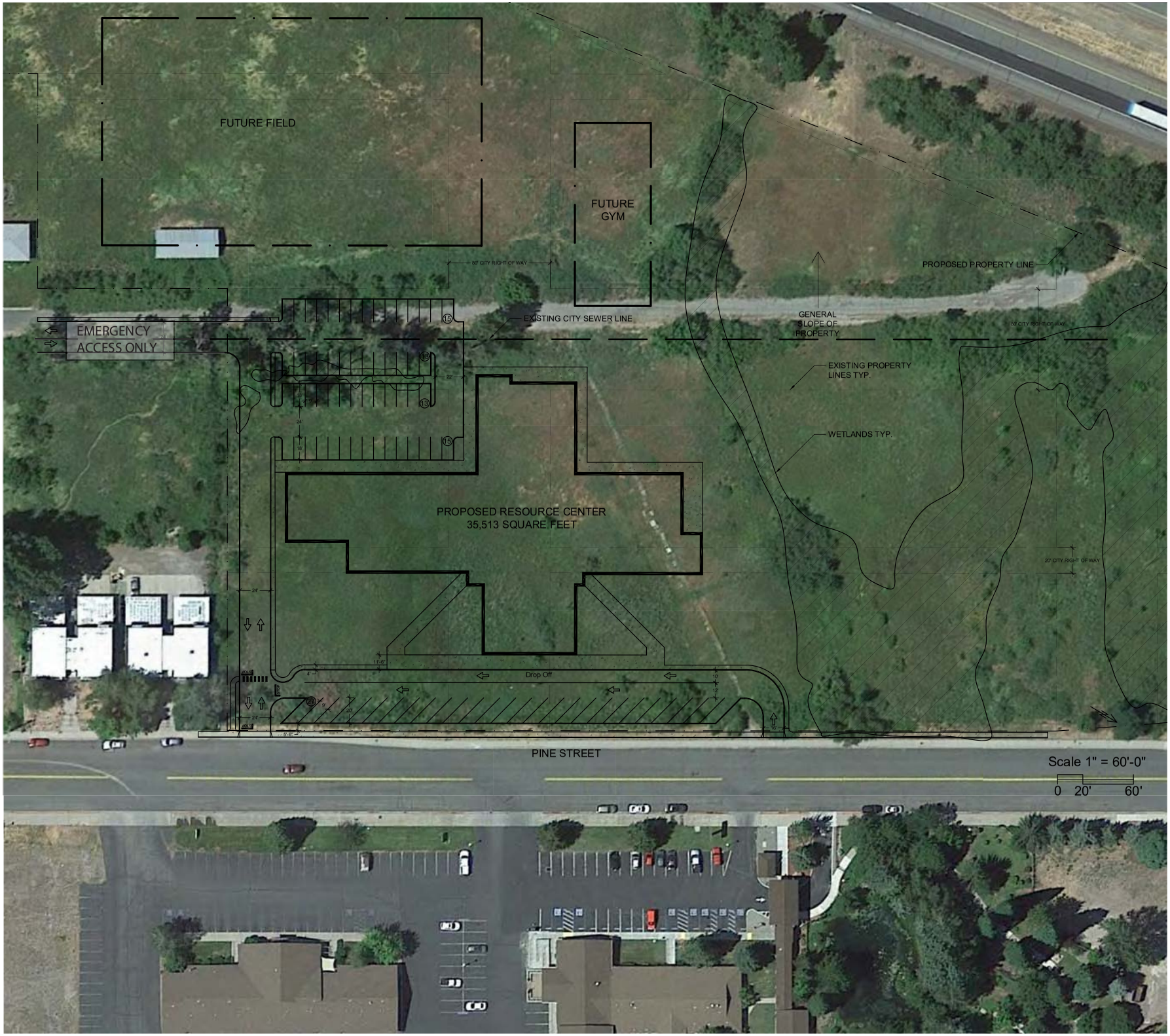
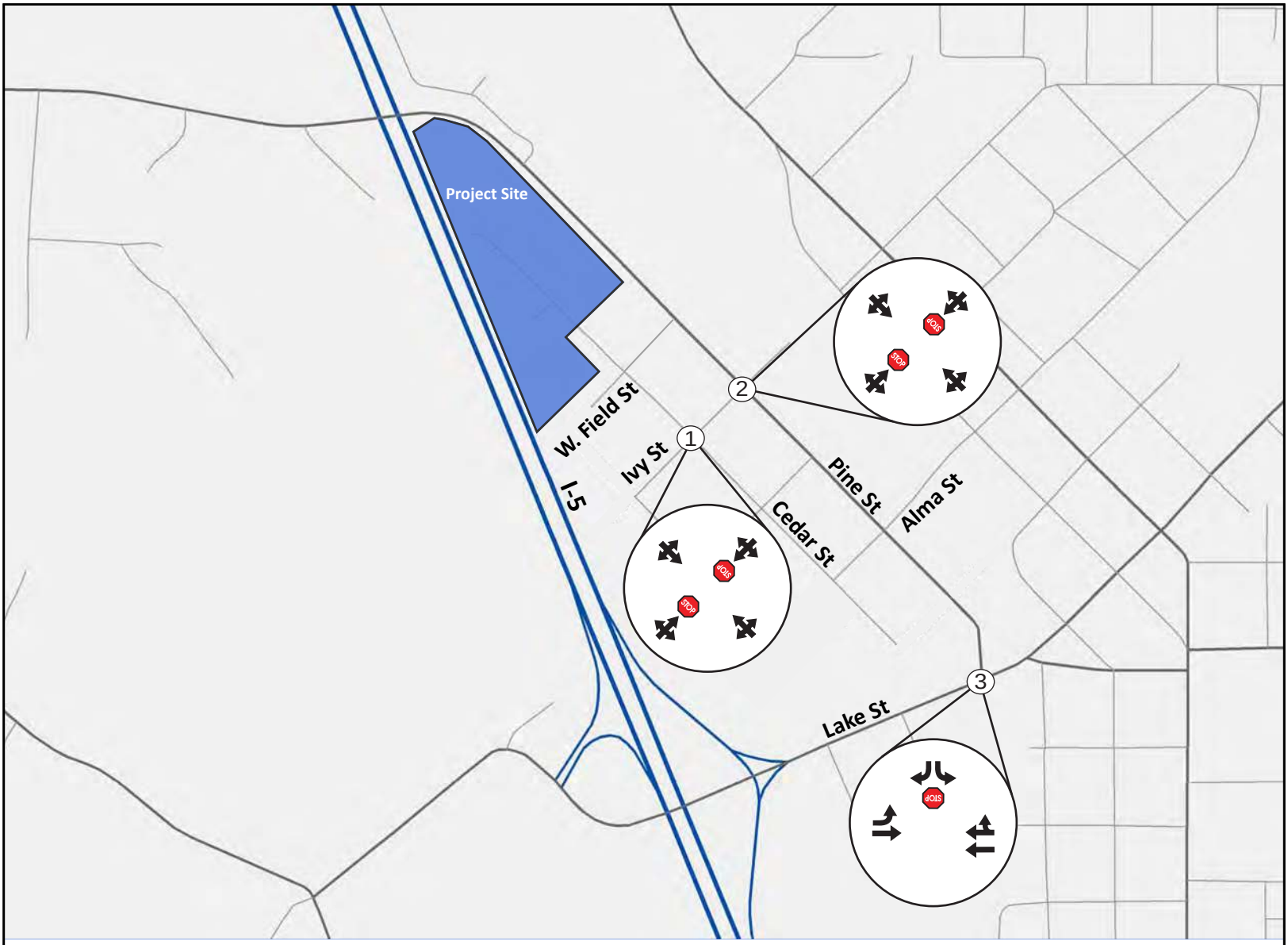
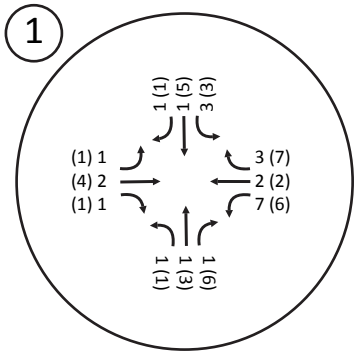


Figure 2

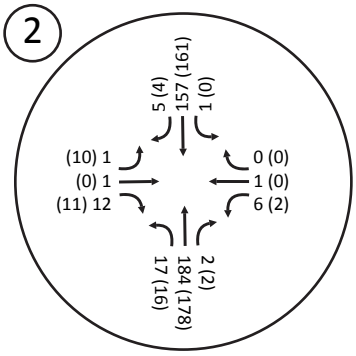
Golden Eagle Charter School
TRAFFIC IMPACT STUDY
Site Plan



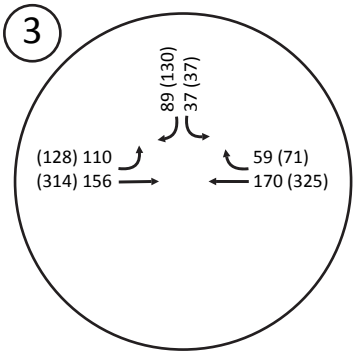
Ivy St / Cedar St



Pine St / Ivy St



Lake St / Pine St



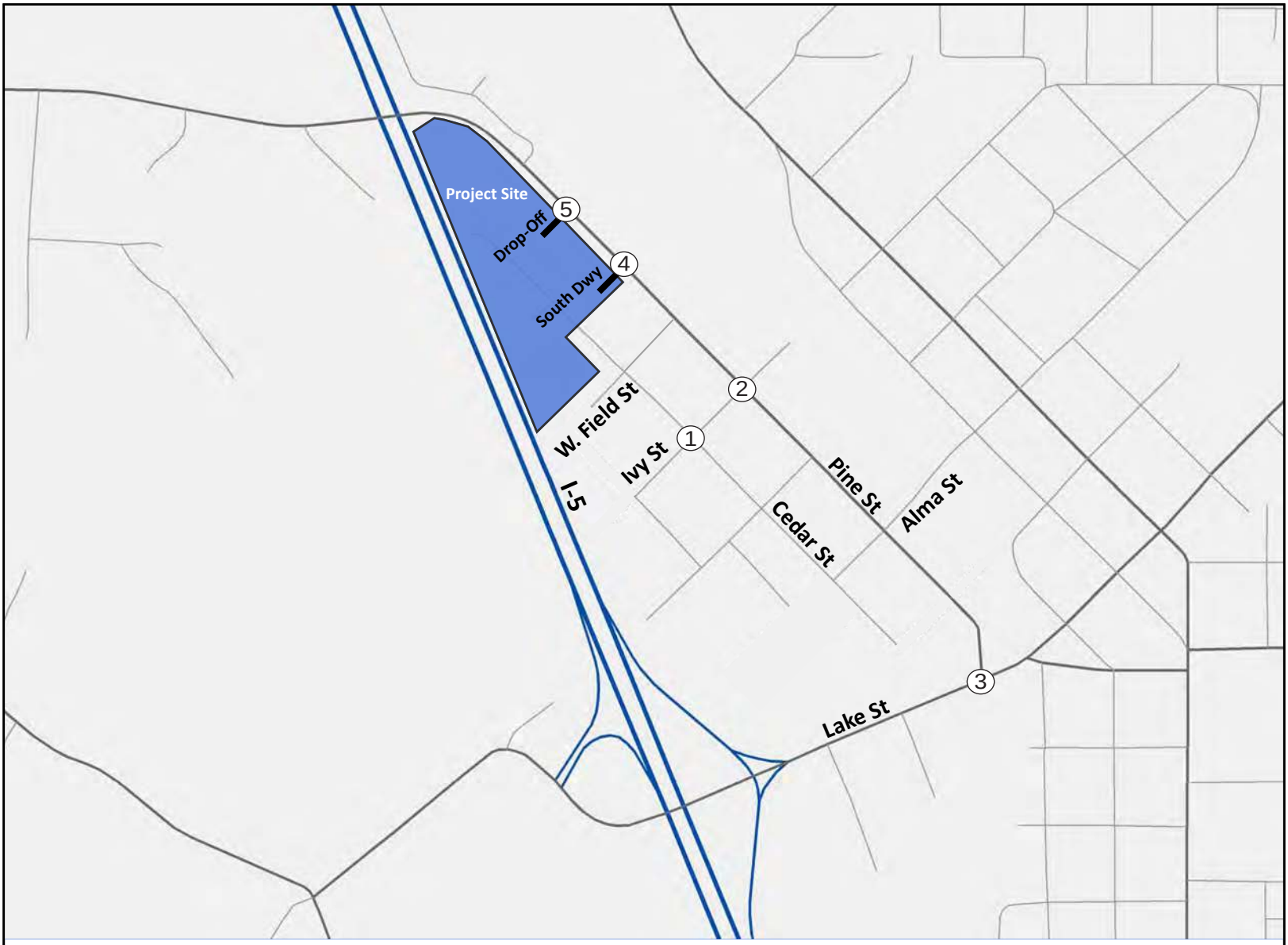
AM Peak Hour Volume (PM Peak Hour Volume)

TRAFFIC WORKS

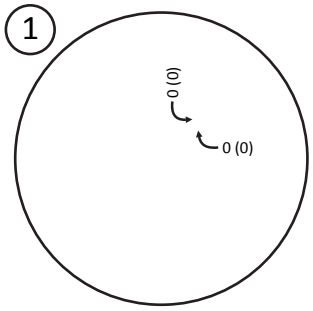
NO SCALE

Figure 3

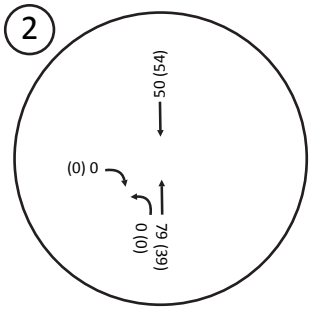
Golden Eagle Charter School
TRAFFIC IMPACT STUDY
Existing Lane Configurations, Controls, and Traffic Volumes



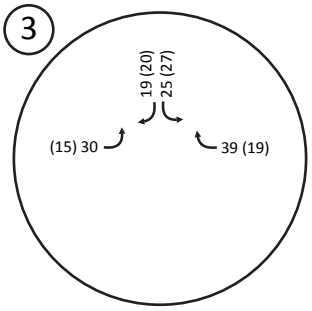
Ivy St / Cedar St



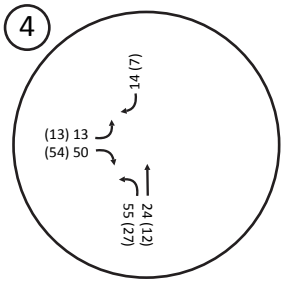
Pine St / Ivy St



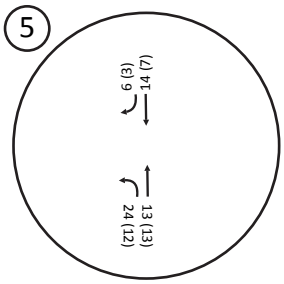
Lake St / Pine St



Pine St / South School Dwy



Pine St / School Drop-Off

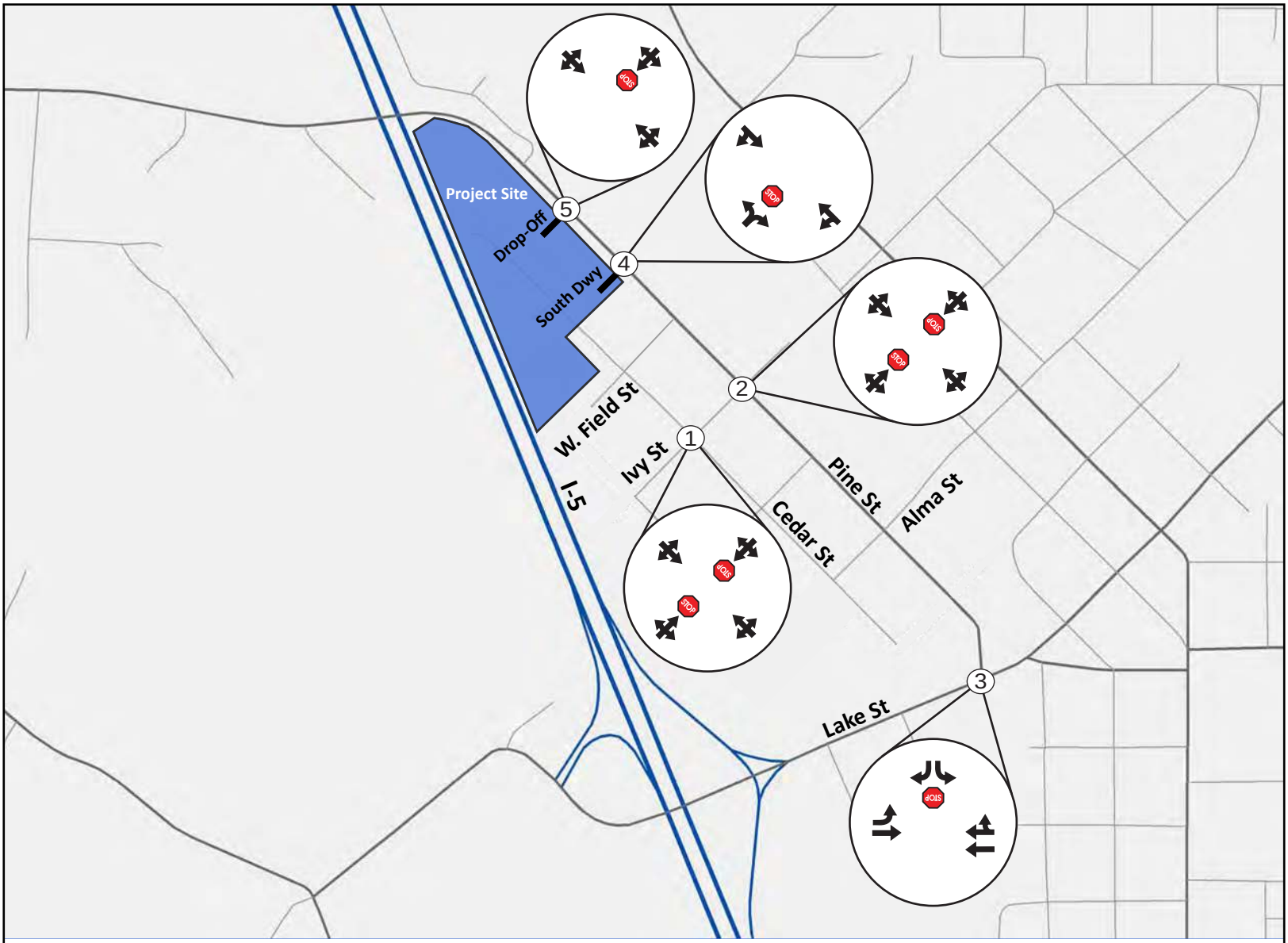


AM Peak Hour Volume (PM Peak Hour Volume)

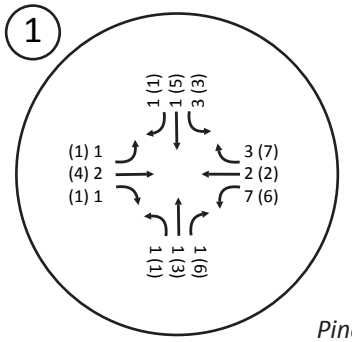
TRAFFIC WORKS

NO SCALE

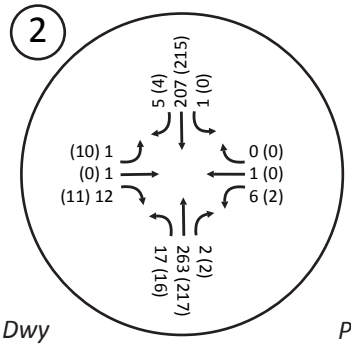
Figure 4
Golden Eagle Charter School
TRAFFIC IMPACT STUDY
Project Trips



Ivy St / Cedar St

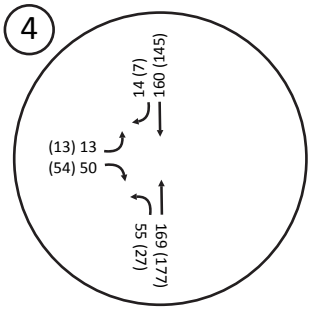


Pine St / Ivy St

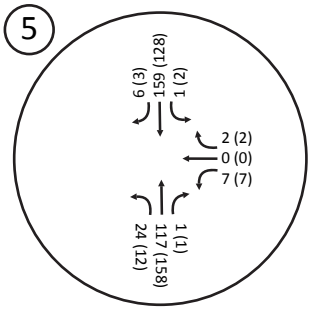


Lake St / Pine St

Pine St / South School Dwy



Pine St / School Drop-Off



AM Peak Hour Volume (PM Peak Hour Volume)

TRAFFIC WORKS

NO SCALE

Figure 5

Golden Eagle Charter School
TRAFFIC IMPACT STUDY

Existing Plus Project Lane Configurations, Controls, and Traffic Volumes

Appendix A
Existing LOS Calculations

TRAFFIC WORKS LLC

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	1	7	2	3	1	1	1	3	1	1
Future Vol, veh/h	1	2	1	7	2	3	1	1	1	3	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	3	1	9	3	4	1	1	1	4	1	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	18	15	2	17	16	2	3	0	0	3	0	0
Stage 1	10	10	-	5	5	-	-	-	-	-	-	-
Stage 2	8	5	-	12	11	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	996	879	1082	998	878	1082	1619	-	-	1619	-	-
Stage 1	1011	887	-	1017	892	-	-	-	-	-	-	-
Stage 2	1013	892	-	1009	886	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	988	876	1082	992	875	1082	1619	-	-	1619	-	-
Mov Cap-2 Maneuver	988	876	-	992	875	-	-	-	-	-	-	-
Stage 1	1010	885	-	1016	891	-	-	-	-	-	-	-
Stage 2	1005	891	-	1003	884	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	8.7	2.4	4.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1619	-	-	948	991	1619	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.016	0.002	-	-
HCM Control Delay (s)	7.2	0	-	8.8	8.7	7.2	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	12	6	1	0	17	184	2	1	157	5
Future Vol, veh/h	1	1	12	6	1	0	17	184	2	1	157	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	14	7	1	0	20	214	2	1	183	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	443	444	185	450	446	215	188	0	0	216	0	0
Stage 1	188	188	-	255	255	-	-	-	-	-	-	-
Stage 2	255	256	-	195	191	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	525	508	857	519	507	825	1386	-	-	1354	-	-
Stage 1	814	745	-	749	696	-	-	-	-	-	-	-
Stage 2	749	696	-	807	742	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	517	499	857	503	498	825	1386	-	-	1354	-	-
Mov Cap-2 Maneuver	517	499	-	503	498	-	-	-	-	-	-	-
Stage 1	801	744	-	737	685	-	-	-	-	-	-	-
Stage 2	736	685	-	792	741	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	12.3	0.6	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1386	-	-	780	502	1354	-	-
HCM Lane V/C Ratio	0.014	-	-	0.021	0.016	0.001	-	-
HCM Control Delay (s)	7.6	0	-	9.7	12.3	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	110	156	170	59	37	89
Future Vol, veh/h	110	156	170	59	37	89
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	-	-	-	75	0
Veh in Median Storage, #	-	0	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	117	166	181	63	39	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	244	0	-	0	612	122
Stage 1	-	-	-	-	212	-
Stage 2	-	-	-	-	400	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1321	-	-	-	440	907
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	676	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1321	-	-	-	401	907
Mov Cap-2 Maneuver	-	-	-	-	494	-
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	616	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1321	-	-	-	494	907
HCM Lane V/C Ratio	0.089	-	-	-	0.08	0.104
HCM Control Delay (s)	8	-	-	-	12.9	9.4
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.3	0.3

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	4	1	6	2	7	1	3	6	3	5	1
Future Vol, veh/h	1	4	1	6	2	7	1	3	6	3	5	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	5	1	8	3	9	1	4	8	4	6	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	31	29	7	28	26	8	8	0	0	12	0	0
Stage 1	15	15	-	10	10	-	-	-	-	-	-	-
Stage 2	16	14	-	18	16	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	977	864	1075	981	867	1074	1612	-	-	1607	-	-
Stage 1	1005	883	-	1011	887	-	-	-	-	-	-	-
Stage 2	1004	884	-	1001	882	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	964	861	1075	972	864	1074	1612	-	-	1607	-	-
Mov Cap-2 Maneuver	964	861	-	972	864	-	-	-	-	-	-	-
Stage 1	1004	880	-	1010	886	-	-	-	-	-	-	-
Stage 2	992	883	-	991	879	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.7	0.7	2.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1612	-	-	907	1000	1607	-	-
HCM Lane V/C Ratio	0.001	-	-	0.009	0.019	0.002	-	-
HCM Control Delay (s)	7.2	0	-	9	8.7	7.2	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	11	2	0	0	16	178	2	0	161	4
Future Vol, veh/h	10	0	11	2	0	0	16	178	2	0	161	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	13	2	0	0	19	212	2	0	192	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	445	446	194	452	447	213	196	0	0	214	0	0
Stage 1	194	194	-	251	251	-	-	-	-	-	-	-
Stage 2	251	252	-	201	196	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	523	507	847	518	506	827	1377	-	-	1356	-	-
Stage 1	808	740	-	753	699	-	-	-	-	-	-	-
Stage 2	753	698	-	801	739	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	517	499	847	504	498	827	1377	-	-	1356	-	-
Mov Cap-2 Maneuver	517	499	-	504	498	-	-	-	-	-	-	-
Stage 1	795	740	-	741	688	-	-	-	-	-	-	-
Stage 2	741	687	-	789	739	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	12.2	0.6	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1377	-	-	650	504	1356	-	-
HCM Lane V/C Ratio	0.014	-	-	0.038	0.005	-	-	-
HCM Control Delay (s)	7.7	0	-	10.8	12.2	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	128	314	325	71	37	130
Future Vol, veh/h	128	314	325	71	37	130
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	-	-	-	75	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	324	335	73	38	134

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	408	0	-	0	960	204
Stage 1	-	-	-	-	372	-
Stage 2	-	-	-	-	588	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1149	-	-	-	269	803
Stage 1	-	-	-	-	668	-
Stage 2	-	-	-	-	554	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1149	-	-	-	238	803
Mov Cap-2 Maneuver	-	-	-	-	362	-
Stage 1	-	-	-	-	668	-
Stage 2	-	-	-	-	490	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1149	-	-	-	362	803
HCM Lane V/C Ratio	0.115	-	-	-	0.105	0.167
HCM Control Delay (s)	8.5	-	-	-	16.1	10.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.4	0.6

Appendix B
Existing Plus Project LOS Calculations

TRAFFIC WORKS LLC

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	12	6	1	0	17	263	2	1	207	5
Future Vol, veh/h	1	1	12	6	1	0	17	263	2	1	207	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	14	7	1	0	20	306	2	1	241	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	593	594	244	600	596	307	247	0	0	308	0	0
Stage 1	246	246	-	347	347	-	-	-	-	-	-	-
Stage 2	347	348	-	253	249	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	417	418	795	413	417	733	1319	-	-	1253	-	-
Stage 1	758	703	-	669	635	-	-	-	-	-	-	-
Stage 2	669	634	-	751	701	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	410	410	795	399	409	733	1319	-	-	1253	-	-
Mov Cap-2 Maneuver	410	410	-	399	409	-	-	-	-	-	-	-
Stage 1	744	702	-	657	624	-	-	-	-	-	-	-
Stage 2	656	623	-	736	700	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	14.2	0.5	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1319	-	-	701	400	1253	-	-
HCM Lane V/C Ratio	0.015	-	-	0.023	0.02	0.001	-	-
HCM Control Delay (s)	7.8	0	-	10.3	14.2	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	156	170	98	62	108
Future Vol, veh/h	140	156	170	98	62	108
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	-	-	-	75	0
Veh in Median Storage, #	-	0	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	149	166	181	104	66	115

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	285	0	-	0	697	143
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	464	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1276	-	-	-	391	879
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	632	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1276	-	-	-	345	879
Mov Cap-2 Maneuver	-	-	-	-	446	-
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	558	-

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1276	-	-	-	446	879
HCM Lane V/C Ratio	0.117	-	-	-	0.148	0.131
HCM Control Delay (s)	8.2	-	-	-	14.5	9.7
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.4	-	-	-	0.5	0.4

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	50	55	169	160	14
Future Vol, veh/h	13	50	55	169	160	14
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	54	60	184	174	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	485	182	189	0	-	0
Stage 1	182	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	541	861	1385	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	749	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	515	861	1385	-	-	-
Mov Cap-2 Maneuver	515	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	713	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1385	-	756	-	-
HCM Lane V/C Ratio	0.043	-	0.091	-	-
HCM Control Delay (s)	7.7	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Vol, veh/h	0	0	0	7	0	2	24	117	1	1	159	6
Future Vol, veh/h	0	0	0	7	0	2	24	117	1	1	159	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	73	92	73	92	73	73	73	73	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	10	0	3	26	160	1	1	218	7

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	437	440	161	224	0	0	162	0	0
Stage 1	213	213	-	-	-	-	-	-	-
Stage 2	224	227	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	577	511	884	1345	-	-	1417	-	-
Stage 1	823	726	-	-	-	-	-	-	-
Stage 2	813	716	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	564	0	884	1345	-	-	1417	-	-
Mov Cap-2 Maneuver	564	0	-	-	-	-	-	-	-
Stage 1	806	0	-	-	-	-	-	-	-
Stage 2	812	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	1.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1345	-	-	613	1417	-	-
HCM Lane V/C Ratio	0.019	-	-	0.02	0.001	-	-
HCM Control Delay (s)	7.7	0	-	11	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	11	2	0	0	16	217	2	0	215	4
Future Vol, veh/h	10	0	11	2	0	0	16	217	2	0	215	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	13	2	0	0	19	258	2	0	256	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	556	557	258	563	559	260	261	0	0	261	0	0
Stage 1	258	258	-	298	298	-	-	-	-	-	-	-
Stage 2	298	299	-	265	261	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	442	439	781	437	438	779	1303	-	-	1303	-	-
Stage 1	747	694	-	711	667	-	-	-	-	-	-	-
Stage 2	711	666	-	740	692	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	436	432	781	424	431	779	1303	-	-	1303	-	-
Mov Cap-2 Maneuver	436	432	-	424	431	-	-	-	-	-	-	-
Stage 1	734	694	-	699	656	-	-	-	-	-	-	-
Stage 2	699	655	-	728	692	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	13.5	0.5	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1303	-	-	567	424	1303	-	-
HCM Lane V/C Ratio	0.015	-	-	0.044	0.006	-	-	-
HCM Control Delay (s)	7.8	0	-	11.6	13.5	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	143	314	325	90	64	150
Future Vol, veh/h	143	314	325	90	64	150
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	-	-	-	75	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	147	324	335	93	66	155

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	428	0	-	0	1000	214
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	619	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1130	-	-	-	254	792
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	536	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1130	-	-	-	221	792
Mov Cap-2 Maneuver	-	-	-	-	345	-
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	466	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1130	-	-	-	345	792
HCM Lane V/C Ratio	0.13	-	-	-	0.191	0.195
HCM Control Delay (s)	8.7	-	-	-	17.9	10.6
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	0.7

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	54	27	177	145	7
Future Vol, veh/h	13	54	27	177	145	7
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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	59	29	192	158	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	412	161	165	0	-	0
Stage 1	161	-	-	-	-	-
Stage 2	251	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	596	884	1413	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	791	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	582	884	1413	-	-	-
Mov Cap-2 Maneuver	582	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	773	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1413	-	803	-	-
HCM Lane V/C Ratio	0.021	-	0.091	-	-
HCM Control Delay (s)	7.6	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Vol, veh/h	0	0	0	7	0	2	12	158	1	2	128	3
Future Vol, veh/h	0	0	0	7	0	2	12	158	1	2	128	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	86	92	86	92	86	86	86	86	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	8	0	2	13	184	1	2	149	3

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	365	367	184	152	0	0	185	0	0
Stage 1	210	210	-	-	-	-	-	-	-
Stage 2	155	157	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	635	562	858	1429	-	-	1390	-	-
Stage 1	825	728	-	-	-	-	-	-	-
Stage 2	873	768	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	627	0	858	1429	-	-	1390	-	-
Mov Cap-2 Maneuver	627	0	-	-	-	-	-	-	-
Stage 1	817	0	-	-	-	-	-	-	-
Stage 2	871	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0.5	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1429	-	-	667	1390	-	-
HCM Lane V/C Ratio	0.009	-	-	0.016	0.002	-	-
HCM Control Delay (s)	7.5	0	-	10.5	7.6	0	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	2	1	7	2	13	1	1	1	9	1	1
Future Vol, veh/h	1	2	1	7	2	13	1	1	1	9	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	3	1	9	3	17	1	1	1	12	1	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	41	31	2	33	32	2	3	0	0	3	0	0
Stage 1	26	26	-	5	5	-	-	-	-	-	-	-
Stage 2	15	5	-	28	27	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	963	862	1082	974	861	1082	1619	-	-	1619	-	-
Stage 1	992	874	-	1017	892	-	-	-	-	-	-	-
Stage 2	1005	892	-	989	873	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	940	855	1082	965	854	1082	1619	-	-	1619	-	-
Mov Cap-2 Maneuver	940	855	-	965	854	-	-	-	-	-	-	-
Stage 1	991	868	-	1016	891	-	-	-	-	-	-	-
Stage 2	985	891	-	978	867	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	8.6	2.4	5.9
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1619	-	-	924	1018	1619	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.029	0.007	-	-
HCM Control Delay (s)	7.2	0	-	8.9	8.6	7.2	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	18	6	1	0	27	253	2	1	201	5
Future Vol, veh/h	1	1	18	6	1	0	27	253	2	1	201	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	21	7	1	0	31	294	2	1	234	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	598	598	237	608	600	295	240	0	0	297	0	0
Stage 1	239	239	-	358	358	-	-	-	-	-	-	-
Stage 2	359	359	-	250	242	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	414	416	802	408	415	744	1327	-	-	1264	-	-
Stage 1	764	708	-	660	628	-	-	-	-	-	-	-
Stage 2	659	627	-	754	705	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	404	404	802	388	403	744	1327	-	-	1264	-	-
Mov Cap-2 Maneuver	404	404	-	388	403	-	-	-	-	-	-	-
Stage 1	743	707	-	642	610	-	-	-	-	-	-	-
Stage 2	639	609	-	732	704	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	14.4	0.7	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1327	-	-	730	390	1264	-	-
HCM Lane V/C Ratio	0.024	-	-	0.032	0.021	0.001	-	-
HCM Control Delay (s)	7.8	0	-	10.1	14.4	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	4	1	6	2	12	1	3	6	10	5	1
Future Vol, veh/h	1	4	1	6	2	12	1	3	6	10	5	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	5	1	8	3	16	1	4	8	13	6	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	52	47	7	46	44	8	8	0	0	12	0	0
Stage 1	33	33	-	10	10	-	-	-	-	-	-	-
Stage 2	19	14	-	36	34	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	947	845	1075	955	848	1074	1612	-	-	1607	-	-
Stage 1	983	868	-	1011	887	-	-	-	-	-	-	-
Stage 2	1000	884	-	980	867	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	925	837	1075	943	840	1074	1612	-	-	1607	-	-
Mov Cap-2 Maneuver	925	837	-	943	840	-	-	-	-	-	-	-
Stage 1	982	861	-	1010	886	-	-	-	-	-	-	-
Stage 2	982	883	-	965	860	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	8.7	0.7	4.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1612	-	-	884	1004	1607	-	-
HCM Lane V/C Ratio	0.001	-	-	0.009	0.026	0.008	-	-
HCM Control Delay (s)	7.2	0	-	9.1	8.7	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	18	2	0	0	21	212	2	0	208	4
Future Vol, veh/h	10	0	18	2	0	0	21	212	2	0	208	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	21	2	0	0	25	252	2	0	248	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	554	555	250	565	556	254	252	0	0	255	0	0
Stage 1	250	250	-	304	304	-	-	-	-	-	-	-
Stage 2	304	305	-	261	252	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	443	440	789	436	439	785	1313	-	-	1310	-	-
Stage 1	754	700	-	705	663	-	-	-	-	-	-	-
Stage 2	705	662	-	744	698	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	436	430	789	417	429	785	1313	-	-	1310	-	-
Mov Cap-2 Maneuver	436	430	-	417	429	-	-	-	-	-	-	-
Stage 1	737	700	-	689	648	-	-	-	-	-	-	-
Stage 2	689	647	-	724	698	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	13.7	0.7	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1313	-	-	612	417	1310	-	-
HCM Lane V/C Ratio	0.019	-	-	0.054	0.006	-	-	-
HCM Control Delay (s)	7.8	0	-	11.2	13.7	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-	-