APPENDICES

Draft Initial Study/Environmental Checklist and Mitigated Negative Declaration for the Unitarian Universalist Fellowship San Dieguito Improvement Project Solana Beach, California

Prepared for
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RECON Number 8452
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APPENDIX A

Air Quality CalEEMod Emission Calculation Output
RECON Environmental, Inc., August 28, 2019

8452 UUFSD Improvements

San Diego County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	1.23	1000sqft	0.57	1,227.00	0
Parking Lot	7.19	1000sqft	0.17	7,194.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Limits of work = 0.74 acres
sf = proposed building change

Construction Phase - Founders Hall - estiamted 3 montsh
Admin Building - estimated 3 months
Amphitheather, Booth, Parking - estimated 6 months

Grading - 0.74 limits of work

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	65.00
tblConstructionPhase	NumDays	100.00	65.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	100.00	112.00
tblConstructionPhase	PhaseEndDate	5/19/2020	3/31/2020
tblConstructionPhase	PhaseEndDate	10/6/2020	6/30/2020
tblConstructionPhase	PhaseStartDate	5/20/2020	4/1/2020
tblGrading	AcresOfGrading	2.50	0.74
tblLandUse	LotAcreage	0.03	0.57

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					
2020	0.9354	8.9761	7.8898	0.0128	0.8349	0.5232	1.3027	0.4356	0.4813	0.8818	0.0000	1,226.3484	1,226.3484	0.3600	0.0000	1,231.8305
Maximum	**0.9354**	**8.9761**	**7.8898**	**0.0128**	**0.8349**	**0.5232**	**1.3027**	**0.4356**	**0.4813**	**0.8818**	**0.0000**	**1,226.3484**	**1,226.3484**	**0.3600**	**0.0000**	**1,231.8305**

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					
2020	0.9354	8.9761	7.8898	0.0128	0.8349	0.5232	1.3027	0.4356	0.4813	0.8818	0.0000	1,226.3484	1,226.3484	0.3600	0.0000	1,231.8305
Maximum	**0.9354**	**8.9761**	**7.8898**	**0.0128**	**0.8349**	**0.5232**	**1.3027**	**0.4356**	**0.4813**	**0.8818**	**0.0000**	**1,226.3484**	**1,226.3484**	**0.3600**	**0.0000**	**1,231.8305**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0381	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	0.0000		1.9700e-003
Energy	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990
Mobile	0.0661	0.2649	0.6826	2.0700e-003	0.1783	1.8400e-003	0.1801	0.0477	1.7200e-003	0.0494		210.1881	210.1881	0.0123		210.4947
Total	**0.1046**	**0.2687**	**0.6866**	**2.0900e-003**	**0.1783**	**2.1300e-003**	**0.1804**	**0.0477**	**2.0100e-003**	**0.0497**		**214.7617**	**214.7617**	**0.0124**	**8.0000e-005**	**215.0956**

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	0.0381	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	0.0000		1.9700e-003
Energy	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990
Mobile	0.0661	0.2649	0.6826	2.0700e-003	0.1783	1.8400e-003	0.1801	0.0477	1.7200e-003	0.0494		210.1881	210.1881	0.0123		210.4947
Total	**0.1046**	**0.2687**	**0.6866**	**2.0900e-003**	**0.1783**	**2.1300e-003**	**0.1804**	**0.0477**	**2.0100e-003**	**0.0497**		**214.7617**	**214.7617**	**0.0124**	**8.0000e-005**	**215.0956**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Founders Hall	Building Construction	1/1/2020	3/31/2020	5	65	
2	Admin Building	Building Construction	4/1/2020	6/30/2020	5	65	
3	Amp, Booth, Parking Site Prep	Site Preparation	7/1/2020	7/7/2020	5	5	
4	Amp, Booth, Parking Grading	Grading	7/8/2020	7/21/2020	5	10	
5	Amp, Booth Building Construction	Building Construction	7/22/2020	12/24/2020	5	112	
6	Parking Paving	Paving	12/25/2020	12/31/2020	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.17

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

8452 UUFSD Improvements - San Diego County APCD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Founders Hall	Cranes	1	4.00	231	0.29
Founders Hall	Forklifts	2	6.00	89	0.20
Founders Hall	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Admin Building	Cranes	1	4.00	231	0.29
Admin Building	Forklifts	2	6.00	89	0.20
Admin Building	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Parking Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Amp, Booth, Parking Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Amp, Booth Building Construction	Cranes	1	4.00	231	0.29
Amp, Booth Building Construction	Forklifts	2	6.00	89	0.20
Amp, Booth, Parking Site Prep	Graders	1	8.00	187	0.41
Parking Paving	Pavers	1	7.00	130	0.42
Parking Paving	Rollers	1	7.00	80	0.38
Amp, Booth, Parking Grading	Rubber Tired Dozers	1	1.00	247	0.40
Amp, Booth Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Amp, Booth, Parking Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Parking Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Amp, Booth, Parking Site Prep	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Founders Hall	5	4.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Admin Building	5	4.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Amp, Booth Building Construction	5	4.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Amp, Booth, Parking Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Parking Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Amp, Booth, Parking Site Prep	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Founders Hall - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**		**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.2 Founders Hall - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.9100e-003	0.1127	0.0319	2.7000e-004	6.7700e-003	5.6000e-004	7.3300e-003	1.9500e-003	5.4000e-004	2.4900e-003		28.6462	28.6462	2.3100e-003		28.7039
Worker	0.0166	0.0111	0.1069	3.2000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		31.6453	31.6453	9.5000e-004		31.6691
Total	**0.0205**	**0.1238**	**0.1388**	**5.9000e-004**	**0.0396**	**7.9000e-004**	**0.0404**	**0.0107**	**7.5000e-004**	**0.0114**		**60.2915**	**60.2915**	**3.2600e-003**		**60.3730**

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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**	**0.0000**	**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.2 Founders Hall - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.9100e-003	0.1127	0.0319	2.7000e-004	6.7700e-003	5.6000e-004	7.3300e-003	1.9500e-003	5.4000e-004	2.4900e-003		28.6462	28.6462	2.3100e-003		28.7039
Worker	0.0166	0.0111	0.1069	3.2000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		31.6453	31.6453	9.5000e-004		31.6691
Total	**0.0205**	**0.1238**	**0.1388**	**5.9000e-004**	**0.0396**	**7.9000e-004**	**0.0404**	**0.0107**	**7.5000e-004**	**0.0114**		**60.2915**	**60.2915**	**3.2600e-003**		**60.3730**

3.3 Admin Building - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**		**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.3 Admin Building - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.9100e-003	0.1127	0.0319	2.7000e-004	6.7700e-003	5.6000e-004	7.3300e-003	1.9500e-003	5.4000e-004	2.4900e-003		28.6462	28.6462	2.3100e-003		28.7039
Worker	0.0166	0.0111	0.1069	3.2000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		31.6453	31.6453	9.5000e-004		31.6691
Total	**0.0205**	**0.1238**	**0.1388**	**5.9000e-004**	**0.0396**	**7.9000e-004**	**0.0404**	**0.0107**	**7.5000e-004**	**0.0114**		**60.2915**	**60.2915**	**3.2600e-003**		**60.3730**

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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**	**0.0000**	**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.3 Admin Building - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.9100e-003	0.1127	0.0319	2.7000e-004	6.7700e-003	5.6000e-004	7.3300e-003	1.9500e-003	5.4000e-004	2.4900e-003		28.6462	28.6462	2.3100e-003		28.7039
Worker	0.0166	0.0111	0.1069	3.2000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		31.6453	31.6453	9.5000e-004		31.6691
Total	**0.0205**	**0.1238**	**0.1388**	**5.9000e-004**	**0.0396**	**7.9000e-004**	**0.0404**	**0.0107**	**7.5000e-004**	**0.0114**		**60.2915**	**60.2915**	**3.2600e-003**		**60.3730**

3.4 Amp, Booth, Parking Site Prep - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1570	0.0000	0.1570	0.0170	0.0000	0.0170			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085		943.4872	943.4872	0.3051		951.1158
Total	**0.6853**	**8.4307**	**4.0942**	**9.7400e-003**	**0.1570**	**0.3353**	**0.4923**	**0.0170**	**0.3085**	**0.3255**		**943.4872**	**943.4872**	**0.3051**		**951.1158**

3.4 Amp, Booth, Parking Site Prep - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0208	0.0139	0.1336	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.5566	39.5566	1.1900e-003		39.5864
Total	**0.0208**	**0.0139**	**0.1336**	**4.0000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**39.5566**	**39.5566**	**1.1900e-003**		**39.5864**

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					0.1570	0.0000	0.1570	0.0170	0.0000	0.0170			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085	0.0000	943.4872	943.4872	0.3051		951.1158
Total	**0.6853**	**8.4307**	**4.0942**	**9.7400e-003**	**0.1570**	**0.3353**	**0.4923**	**0.0170**	**0.3085**	**0.3255**	**0.0000**	**943.4872**	**943.4872**	**0.3051**		**951.1158**

3.4 Amp, Booth, Parking Site Prep - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0208	0.0139	0.1336	4.0000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		39.5566	39.5566	1.1900e-003		39.5864
Total	**0.0208**	**0.0139**	**0.1336**	**4.0000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**39.5566**	**39.5566**	**1.1900e-003**		**39.5864**

3.5 Amp, Booth, Parking Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457		1,147.2352	1,147.2352	0.2169		1,152.6578
Total	**0.8674**	**7.8729**	**7.6226**	**0.0120**	**0.7528**	**0.4672**	**1.2200**	**0.4138**	**0.4457**	**0.8595**		**1,147.2352**	**1,147.2352**	**0.2169**		**1,152.6578**

3.5 Amp, Booth, Parking Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0416	0.0278	0.2673	7.9000e-004	0.0822	5.8000e-004	0.0827	0.0218	5.3000e-004	0.0223		79.1132	79.1132	2.3800e-003		79.1727
Total	**0.0416**	**0.0278**	**0.2673**	**7.9000e-004**	**0.0822**	**5.8000e-004**	**0.0827**	**0.0218**	**5.3000e-004**	**0.0223**		**79.1132**	**79.1132**	**2.3800e-003**		**79.1727**

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457	0.0000	1,147.2352	1,147.2352	0.2169		1,152.6578
Total	**0.8674**	**7.8729**	**7.6226**	**0.0120**	**0.7528**	**0.4672**	**1.2200**	**0.4138**	**0.4457**	**0.8595**	**0.0000**	**1,147.2352**	**1,147.2352**	**0.2169**		**1,152.6578**

3.5 Amp, Booth, Parking Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0416	0.0278	0.2673	7.9000e-004	0.0822	5.8000e-004	0.0827	0.0218	5.3000e-004	0.0223		79.1132	79.1132	2.3800e-003		79.1727
Total	**0.0416**	**0.0278**	**0.2673**	**7.9000e-004**	**0.0822**	**5.8000e-004**	**0.0827**	**0.0218**	**5.3000e-004**	**0.0223**		**79.1132**	**79.1132**	**2.3800e-003**		**79.1727**

3.6 Amp, Booth Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**		**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.6 Amp, Booth Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.9100e-003	0.1127	0.0319	2.7000e-004	6.7700e-003	5.6000e-004	7.3300e-003	1.9500e-003	5.4000e-004	2.4900e-003		28.6462	28.6462	2.3100e-003		28.7039
Worker	0.0166	0.0111	0.1069	3.2000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		31.6453	31.6453	9.5000e-004		31.6691
Total	**0.0205**	**0.1238**	**0.1388**	**5.9000e-004**	**0.0396**	**7.9000e-004**	**0.0404**	**0.0107**	**7.5000e-004**	**0.0114**		**60.2915**	**60.2915**	**3.2600e-003**		**60.3730**

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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**	**0.0000**	**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.6 Amp, Booth Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.9100e-003	0.1127	0.0319	2.7000e-004	6.7700e-003	5.6000e-004	7.3300e-003	1.9500e-003	5.4000e-004	2.4900e-003		28.6462	28.6462	2.3100e-003		28.7039
Worker	0.0166	0.0111	0.1069	3.2000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		31.6453	31.6453	9.5000e-004		31.6691
Total	**0.0205**	**0.1238**	**0.1388**	**5.9000e-004**	**0.0396**	**7.9000e-004**	**0.0404**	**0.0107**	**7.5000e-004**	**0.0114**		**60.2915**	**60.2915**	**3.2600e-003**		**60.3730**

3.7 Parking Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669		1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0891					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8606**	**7.2266**	**7.1128**	**0.0113**		**0.3950**	**0.3950**		**0.3669**	**0.3669**		**1,035.3926**	**1,035.3926**	**0.3016**		**1,042.9323**

3.7 Parking Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0748	0.0500	0.4810	1.4300e-003	0.1479	1.0400e-003	0.1489	0.0392	9.6000e-004	0.0402		142.4038	142.4038	4.2900e-003		142.5109
Total	**0.0748**	**0.0500**	**0.4810**	**1.4300e-003**	**0.1479**	**1.0400e-003**	**0.1489**	**0.0392**	**9.6000e-004**	**0.0402**		**142.4038**	**142.4038**	**4.2900e-003**		**142.5109**

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	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669	0.0000	1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0891					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8606**	**7.2266**	**7.1128**	**0.0113**		**0.3950**	**0.3950**		**0.3669**	**0.3669**	**0.0000**	**1,035.3926**	**1,035.3926**	**0.3016**		**1,042.9323**

3.7 Parking Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0748	0.0500	0.4810	1.4300e-003	0.1479	1.0400e-003	0.1489	0.0392	9.6000e-004	0.0402		142.4038	142.4038	4.2900e-003		142.5109
Total	**0.0748**	**0.0500**	**0.4810**	**1.4300e-003**	**0.1479**	**1.0400e-003**	**0.1489**	**0.0392**	**9.6000e-004**	**0.0402**		**142.4038**	**142.4038**	**4.2900e-003**		**142.5109**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0661	0.2649	0.6826	2.0700e-003	0.1783	1.8400e-003	0.1801	0.0477	1.7200e-003	0.0494		210.1881	210.1881	0.0123		210.4947
Unmitigated	0.0661	0.2649	0.6826	2.0700e-003	0.1783	1.8400e-003	0.1801	0.0477	1.7200e-003	0.0494		210.1881	210.1881	0.0123		210.4947

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Place of Worship	11.18	12.72	44.95	30,348	30,348
Total	11.18	12.72	44.95	30,348	30,348

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
Place of Worship	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990
NaturalGas Unmitigated	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990

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					
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
Place of Worship	38.8606	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990
Total		**4.2000e-004**	**3.8100e-003**	**3.2000e-003**	**2.0000e-005**		**2.9000e-004**	**2.9000e-004**		**2.9000e-004**	**2.9000e-004**		**4.5718**	**4.5718**	**9.0000e-005**	**8.0000e-005**	**4.5990**

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					
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
Place of Worship	0.0388606	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990
Total		**4.2000e-004**	**3.8100e-003**	**3.2000e-003**	**2.0000e-005**		**2.9000e-004**	**2.9000e-004**		**2.9000e-004**	**2.9000e-004**		**4.5718**	**4.5718**	**9.0000e-005**	**8.0000e-005**	**4.5990**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0381	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	0.0000		1.9700e-003
Unmitigated	0.0381	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	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	lb/day										lb/day					
Architectural Coating	9.1700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	0.0000		1.9700e-003
Total	**0.0381**	**1.0000e-005**	**8.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.9700e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.1700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	0.0000		1.9700e-003
Total	**0.0381**	**1.0000e-005**	**8.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.9700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

8452 UUFSD Improvements

San Diego County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	1.23	1000sqft	0.57	1,227.00	0
Parking Lot	7.19	1000sqft	0.17	7,194.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Limits of work = 0.74 acres
sf = proposed building change

Construction Phase - Founders Hall - estiamted 3 montsh
Admin Building - estimated 3 months
Amphitheather, Booth, Parking - estimated 6 months

Grading - 0.74 limits of work

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	65.00
tblConstructionPhase	NumDays	100.00	65.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	100.00	112.00
tblConstructionPhase	PhaseEndDate	5/19/2020	3/31/2020
tblConstructionPhase	PhaseEndDate	10/6/2020	6/30/2020
tblConstructionPhase	PhaseStartDate	5/20/2020	4/1/2020
tblGrading	AcresOfGrading	2.50	0.74
tblLandUse	LotAcreage	0.03	0.57

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					
2020	0.9267	8.9750	7.9060	0.0128	0.8349	0.5232	1.3027	0.4356	0.4813	0.8818	0.0000	1,231.5099	1,231.5099	0.3599	0.0000	1,236.9954
Maximum	**0.9267**	**8.9750**	**7.9060**	**0.0128**	**0.8349**	**0.5232**	**1.3027**	**0.4356**	**0.4813**	**0.8818**	**0.0000**	**1,231.5099**	**1,231.5099**	**0.3599**	**0.0000**	**1,236.9954**

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					
2020	0.9267	8.9750	7.9060	0.0128	0.8349	0.5232	1.3027	0.4356	0.4813	0.8818	0.0000	1,231.5099	1,231.5099	0.3599	0.0000	1,236.9954
Maximum	**0.9267**	**8.9750**	**7.9060**	**0.0128**	**0.8349**	**0.5232**	**1.3027**	**0.4356**	**0.4813**	**0.8818**	**0.0000**	**1,231.5099**	**1,231.5099**	**0.3599**	**0.0000**	**1,236.9954**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0381	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	0.0000		1.9700e-003
Energy	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990
Mobile	0.0682	0.2594	0.6772	2.1800e-003	0.1783	1.8200e-003	0.1801	0.0477	1.7000e-003	0.0494		221.8439	221.8439	0.0121		222.1457
Total	**0.1066**	**0.2632**	**0.6812**	**2.2000e-003**	**0.1783**	**2.1100e-003**	**0.1804**	**0.0477**	**1.9900e-003**	**0.0496**		**226.4175**	**226.4175**	**0.0122**	**8.0000e-005**	**226.7467**

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	0.0381	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	0.0000		1.9700e-003
Energy	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990
Mobile	0.0682	0.2594	0.6772	2.1800e-003	0.1783	1.8200e-003	0.1801	0.0477	1.7000e-003	0.0494		221.8439	221.8439	0.0121		222.1457
Total	**0.1066**	**0.2632**	**0.6812**	**2.2000e-003**	**0.1783**	**2.1100e-003**	**0.1804**	**0.0477**	**1.9900e-003**	**0.0496**		**226.4175**	**226.4175**	**0.0122**	**8.0000e-005**	**226.7467**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Founders Hall	Building Construction	1/1/2020	3/31/2020	5	65	
2	Admin Building	Building Construction	4/1/2020	6/30/2020	5	65	
3	Amp, Booth, Parking Site Prep	Site Preparation	7/1/2020	7/7/2020	5	5	
4	Amp, Booth, Parking Grading	Grading	7/8/2020	7/21/2020	5	10	
5	Amp, Booth Building Construction	Building Construction	7/22/2020	12/24/2020	5	112	
6	Parking Paving	Paving	12/25/2020	12/31/2020	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.17

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

8452 UUFSD Improvements - San Diego County APCD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Founders Hall	Cranes	1	4.00	231	0.29
Founders Hall	Forklifts	2	6.00	89	0.20
Founders Hall	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Admin Building	Cranes	1	4.00	231	0.29
Admin Building	Forklifts	2	6.00	89	0.20
Admin Building	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Parking Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Amp, Booth, Parking Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Amp, Booth Building Construction	Cranes	1	4.00	231	0.29
Amp, Booth Building Construction	Forklifts	2	6.00	89	0.20
Amp, Booth, Parking Site Prep	Graders	1	8.00	187	0.41
Parking Paving	Pavers	1	7.00	130	0.42
Parking Paving	Rollers	1	7.00	80	0.38
Amp, Booth, Parking Grading	Rubber Tired Dozers	1	1.00	247	0.40
Amp, Booth Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Amp, Booth, Parking Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Parking Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Amp, Booth, Parking Site Prep	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Founders Hall	5	4.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Admin Building	5	4.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Amp, Booth Building Construction	5	4.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Amp, Booth, Parking Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Parking Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Amp, Booth, Parking Site Prep	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Founders Hall - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**		**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.2 Founders Hall - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.7400e-003	0.1128	0.0287	2.7000e-004	6.7700e-003	5.5000e-004	7.3200e-003	1.9500e-003	5.3000e-004	2.4800e-003		29.4040	29.4040	2.1700e-003		29.4582
Worker	0.0147	9.8900e-003	0.1134	3.4000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		33.7099	33.7099	1.0100e-003		33.7351
Total	**0.0184**	**0.1227**	**0.1421**	**6.1000e-004**	**0.0396**	**7.8000e-004**	**0.0404**	**0.0107**	**7.4000e-004**	**0.0114**		**63.1139**	**63.1139**	**3.1800e-003**		**63.1933**

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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**	**0.0000**	**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.2 Founders Hall - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.7400e-003	0.1128	0.0287	2.7000e-004	6.7700e-003	5.5000e-004	7.3200e-003	1.9500e-003	5.3000e-004	2.4800e-003		29.4040	29.4040	2.1700e-003		29.4582
Worker	0.0147	9.8900e-003	0.1134	3.4000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		33.7099	33.7099	1.0100e-003		33.7351
Total	**0.0184**	**0.1227**	**0.1421**	**6.1000e-004**	**0.0396**	**7.8000e-004**	**0.0404**	**0.0107**	**7.4000e-004**	**0.0114**		**63.1139**	**63.1139**	**3.1800e-003**		**63.1933**

3.3 Admin Building - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**		**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.3 Admin Building - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.7400e-003	0.1128	0.0287	2.7000e-004	6.7700e-003	5.5000e-004	7.3200e-003	1.9500e-003	5.3000e-004	2.4800e-003		29.4040	29.4040	2.1700e-003		29.4582
Worker	0.0147	9.8900e-003	0.1134	3.4000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		33.7099	33.7099	1.0100e-003		33.7351
Total	**0.0184**	**0.1227**	**0.1421**	**6.1000e-004**	**0.0396**	**7.8000e-004**	**0.0404**	**0.0107**	**7.4000e-004**	**0.0114**		**63.1139**	**63.1139**	**3.1800e-003**		**63.1933**

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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**	**0.0000**	**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.3 Admin Building - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.7400e-003	0.1128	0.0287	2.7000e-004	6.7700e-003	5.5000e-004	7.3200e-003	1.9500e-003	5.3000e-004	2.4800e-003		29.4040	29.4040	2.1700e-003		29.4582
Worker	0.0147	9.8900e-003	0.1134	3.4000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		33.7099	33.7099	1.0100e-003		33.7351
Total	**0.0184**	**0.1227**	**0.1421**	**6.1000e-004**	**0.0396**	**7.8000e-004**	**0.0404**	**0.0107**	**7.4000e-004**	**0.0114**		**63.1139**	**63.1139**	**3.1800e-003**		**63.1933**

3.4 Amp, Booth, Parking Site Prep - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1570	0.0000	0.1570	0.0170	0.0000	0.0170			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085		943.4872	943.4872	0.3051		951.1158
Total	**0.6853**	**8.4307**	**4.0942**	**9.7400e-003**	**0.1570**	**0.3353**	**0.4923**	**0.0170**	**0.3085**	**0.3255**		**943.4872**	**943.4872**	**0.3051**		**951.1158**

3.4 Amp, Booth, Parking Site Prep - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0184	0.0124	0.1417	4.2000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		42.1374	42.1374	1.2600e-003		42.1688
Total	**0.0184**	**0.0124**	**0.1417**	**4.2000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**42.1374**	**42.1374**	**1.2600e-003**		**42.1688**

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					0.1570	0.0000	0.1570	0.0170	0.0000	0.0170			0.0000			0.0000
Off-Road	0.6853	8.4307	4.0942	9.7400e-003		0.3353	0.3353		0.3085	0.3085	0.0000	943.4872	943.4872	0.3051		951.1158
Total	**0.6853**	**8.4307**	**4.0942**	**9.7400e-003**	**0.1570**	**0.3353**	**0.4923**	**0.0170**	**0.3085**	**0.3255**	**0.0000**	**943.4872**	**943.4872**	**0.3051**		**951.1158**

3.4 Amp, Booth, Parking Site Prep - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0184	0.0124	0.1417	4.2000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.7000e-004	0.0112		42.1374	42.1374	1.2600e-003		42.1688
Total	**0.0184**	**0.0124**	**0.1417**	**4.2000e-004**	**0.0411**	**2.9000e-004**	**0.0414**	**0.0109**	**2.7000e-004**	**0.0112**		**42.1374**	**42.1374**	**1.2600e-003**		**42.1688**

3.5 Amp, Booth, Parking Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457		1,147.2352	1,147.2352	0.2169		1,152.6578
Total	**0.8674**	**7.8729**	**7.6226**	**0.0120**	**0.7528**	**0.4672**	**1.2200**	**0.4138**	**0.4457**	**0.8595**		**1,147.2352**	**1,147.2352**	**0.2169**		**1,152.6578**

3.5 Amp, Booth, Parking Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0367	0.0247	0.2835	8.5000e-004	0.0822	5.8000e-004	0.0827	0.0218	5.3000e-004	0.0223		84.2747	84.2747	2.5200e-003		84.3376
Total	**0.0367**	**0.0247**	**0.2835**	**8.5000e-004**	**0.0822**	**5.8000e-004**	**0.0827**	**0.0218**	**5.3000e-004**	**0.0223**		**84.2747**	**84.2747**	**2.5200e-003**		**84.3376**

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.8674	7.8729	7.6226	0.0120		0.4672	0.4672		0.4457	0.4457	0.0000	1,147.2352	1,147.2352	0.2169		1,152.6578
Total	**0.8674**	**7.8729**	**7.6226**	**0.0120**	**0.7528**	**0.4672**	**1.2200**	**0.4138**	**0.4457**	**0.8595**	**0.0000**	**1,147.2352**	**1,147.2352**	**0.2169**		**1,152.6578**

3.5 Amp, Booth, Parking Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0367	0.0247	0.2835	8.5000e-004	0.0822	5.8000e-004	0.0827	0.0218	5.3000e-004	0.0223		84.2747	84.2747	2.5200e-003		84.3376
Total	**0.0367**	**0.0247**	**0.2835**	**8.5000e-004**	**0.0822**	**5.8000e-004**	**0.0827**	**0.0218**	**5.3000e-004**	**0.0223**		**84.2747**	**84.2747**	**2.5200e-003**		**84.3376**

3.6 Amp, Booth Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806		1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**		**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.6 Amp, Booth Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.7400e-003	0.1128	0.0287	2.7000e-004	6.7700e-003	5.5000e-004	7.3200e-003	1.9500e-003	5.3000e-004	2.4800e-003		29.4040	29.4040	2.1700e-003		29.4582
Worker	0.0147	9.8900e-003	0.1134	3.4000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		33.7099	33.7099	1.0100e-003		33.7351
Total	**0.0184**	**0.1227**	**0.1421**	**6.1000e-004**	**0.0396**	**7.8000e-004**	**0.0404**	**0.0107**	**7.4000e-004**	**0.0114**		**63.1139**	**63.1139**	**3.1800e-003**		**63.1933**

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	0.8617	8.8523	7.3875	0.0114		0.5224	0.5224		0.4806	0.4806	0.0000	1,102.9781	1,102.9781	0.3567		1,111.8962
Total	**0.8617**	**8.8523**	**7.3875**	**0.0114**		**0.5224**	**0.5224**		**0.4806**	**0.4806**	**0.0000**	**1,102.9781**	**1,102.9781**	**0.3567**		**1,111.8962**

3.6 Amp, Booth Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.7400e-003	0.1128	0.0287	2.7000e-004	6.7700e-003	5.5000e-004	7.3200e-003	1.9500e-003	5.3000e-004	2.4800e-003		29.4040	29.4040	2.1700e-003		29.4582
Worker	0.0147	9.8900e-003	0.1134	3.4000e-004	0.0329	2.3000e-004	0.0331	8.7200e-003	2.1000e-004	8.9300e-003		33.7099	33.7099	1.0100e-003		33.7351
Total	**0.0184**	**0.1227**	**0.1421**	**6.1000e-004**	**0.0396**	**7.8000e-004**	**0.0404**	**0.0107**	**7.4000e-004**	**0.0114**		**63.1139**	**63.1139**	**3.1800e-003**		**63.1933**

3.7 Parking Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669		1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0891					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8606**	**7.2266**	**7.1128**	**0.0113**		**0.3950**	**0.3950**		**0.3669**	**0.3669**		**1,035.3926**	**1,035.3926**	**0.3016**		**1,042.9323**

3.7 Parking Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0445	0.5102	1.5200e-003	0.1479	1.0400e-003	0.1489	0.0392	9.6000e-004	0.0402		151.6945	151.6945	4.5300e-003		151.8077
Total	**0.0661**	**0.0445**	**0.5102**	**1.5200e-003**	**0.1479**	**1.0400e-003**	**0.1489**	**0.0392**	**9.6000e-004**	**0.0402**		**151.6945**	**151.6945**	**4.5300e-003**		**151.8077**

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	0.7716	7.2266	7.1128	0.0113		0.3950	0.3950		0.3669	0.3669	0.0000	1,035.3926	1,035.3926	0.3016		1,042.9323
Paving	0.0891					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8606**	**7.2266**	**7.1128**	**0.0113**		**0.3950**	**0.3950**		**0.3669**	**0.3669**	**0.0000**	**1,035.3926**	**1,035.3926**	**0.3016**		**1,042.9323**

3.7 Parking Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0661	0.0445	0.5102	1.5200e-003	0.1479	1.0400e-003	0.1489	0.0392	9.6000e-004	0.0402		151.6945	151.6945	4.5300e-003		151.8077
Total	**0.0661**	**0.0445**	**0.5102**	**1.5200e-003**	**0.1479**	**1.0400e-003**	**0.1489**	**0.0392**	**9.6000e-004**	**0.0402**		**151.6945**	**151.6945**	**4.5300e-003**		**151.8077**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0682	0.2594	0.6772	2.1800e-003	0.1783	1.8200e-003	0.1801	0.0477	1.7000e-003	0.0494		221.8439	221.8439	0.0121		222.1457
Unmitigated	0.0682	0.2594	0.6772	2.1800e-003	0.1783	1.8200e-003	0.1801	0.0477	1.7000e-003	0.0494		221.8439	221.8439	0.0121		222.1457

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Place of Worship	11.18	12.72	44.95	30,348	30,348
Total	11.18	12.72	44.95	30,348	30,348

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
Place of Worship	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990
NaturalGas Unmitigated	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990

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					
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
Place of Worship	38.8606	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990
Total		**4.2000e-004**	**3.8100e-003**	**3.2000e-003**	**2.0000e-005**		**2.9000e-004**	**2.9000e-004**		**2.9000e-004**	**2.9000e-004**		**4.5718**	**4.5718**	**9.0000e-005**	**8.0000e-005**	**4.5990**

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					
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
Place of Worship	0.0388606	4.2000e-004	3.8100e-003	3.2000e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5718	4.5718	9.0000e-005	8.0000e-005	4.5990
Total		**4.2000e-004**	**3.8100e-003**	**3.2000e-003**	**2.0000e-005**		**2.9000e-004**	**2.9000e-004**		**2.9000e-004**	**2.9000e-004**		**4.5718**	**4.5718**	**9.0000e-005**	**8.0000e-005**	**4.5990**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0381	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	0.0000		1.9700e-003
Unmitigated	0.0381	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	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	lb/day										lb/day					
Architectural Coating	9.1700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	0.0000		1.9700e-003
Total	**0.0381**	**1.0000e-005**	**8.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.9700e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	9.1700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-005	1.0000e-005	8.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.8400e-003	1.8400e-003	0.0000		1.9700e-003
Total	**0.0381**	**1.0000e-005**	**8.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.8400e-003**	**1.8400e-003**	**0.0000**		**1.9700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

Biological Resources Report
RECON Environmental, Inc., December 3, 2019

RECON

Biological Resources Report for the Unitarian Universalist Fellowship of San Dieguito Master Plan Solana Beach, California

Prepared for
Domusstudio Architecture
2800 Third Avenue
San Diego, CA 92103

Prepared by
RECON Environmental, Inc.
1927 Fifth Avenue
San Diego, CA 92101
P 619.308.9333

RECON Number 8452
December 3, 2019

Gerry Scheid, Senior Biologist

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FIGURES

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TABLES

ATTACHMENTS

Acronyms

A/V	audiovisual
ADA	Americans with Disabilities Act
BMZ	Brush Management Zone
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDB	California Native Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
ESHA	Environmentally Sensitive Habitat Area
LCP/LUP	Local Coastal Plan/Land Use Plan
MHCP	Multiple Habitat Conservation Program
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UUFSD	Unitarian Universalist Fellowship San Dieguito

1.0 Summary

The Unitarian Universalist Fellowship San Dieguito (UUFSD) Improvement Project (project) would not have direct impacts to sensitive biological resources. These improvements include alterations to the amphitheater, parking lots, administration building, Founders Hall, and curbing along the frontage road.

2.0 Introduction

The UUFSD is an existing church campus located within the City of Solana Beach at 1036 Solana Drive (Figure 1). It is located in an un-sectioned portion in Township 14S and Range 4W on the U.S. Geological Survey (USGS) Del Mar, California 7.5-minute quadrangle (USGS 1994; Figure 2). The UUFSD campus is located south of San Andreas Drive and north of Solana Drive just to the east of Interstate 5 (Figure 3). Land uses adjacent to the property include a mix of residential and commercial development. The property lies within the local coastal zone.

The church campus is primarily an outdoor facility, but includes existing structures such as a 238-seat outdoor amphitheater, an indoor meeting place known as Founders Hall, an administrative center, a library, a youth center, and three preschool classrooms. Support facilities on the campus include an audio/visual (A/V) booth, and a kitchen. The project would not introduce new uses or expand existing uses, but would make site improvements to meet existing demand for the church campus. The proposed site plan identifying existing and proposed improvements is shown on Figure 4.

The project proposes to implement the following site improvements on the existing church campus:

- The project would make the following improvements to the existing amphitheater:
  - Install a new fire-resistive tensile fabric shade structure above the existing amphitheater. This new feature would provide shade for 2,930 square feet of the seating area.
  - Shorten several existing amphitheater benches to introduce space for three Americans with Disabilities Act (ADA) wheelchair compliant seats. The new ADA spaces allowing for wheelchair access would be located at the end of existing rows of amphitheater seating.
  - Raise the height of the last row of existing amphitheater seating to improve views of the amphitheater.
  - Add two new rows of amphitheater seating behind the last row of existing amphitheater seating. One of these two new rows will include one ADA compliant space. The total number of seats in the post-project condition will equal the current number of seats in the existing condition, which equals 238 seats measured at 18 inches of clear space per seat.
  - Raise the stage area of the existing amphitheater six inches.

  - Introduce benches for a choir on the stage of the amphitheater. Choir members would sit within the amphitheater seating for the majority of the service and only sit on the new benches for a brief period to sing during Sunday services.
  - Install an ADA compliant ramp on the west side of the existing amphitheater to provide public access to the amphitheater and to existing seating.
- The project would replace the existing 80-square-foot A/V shack with a 739-square-foot building composed of an A/V booth and ADA restrooms that would be accessible from the public pathways, and a dressing room.
- The project would make the following improvements to existing public access pathways, ramps, and elevated walkways as shown in Figure 5 to meet ADA guidelines:
  - Replace the dangerously sloped path used for egress located west of the proposed A/V building with a stairway.
  - Replace the boardwalks leading to the Amphitheater with boards to reach consistency with applicable ADA slope requirements. Size and width will remain the same.
  - Reboard, repave, or slurry all paths leading to the Amphitheater where necessary to reach consistency with applicable ADA slope requirements.
  - Replace the path from the existing parking lot to the Montessori School on the adjacent site.
- Construct a new 2,925-square-foot parking lot hammerhead turn-around that is required by the Fire Marshal to service the existing site in its current condition.
- Introduce two new pervious paved parking lots (total 3,855 square feet) that would provide an additional 17 standard parking spaces and 4 accessible spaces.
- Expand the existing Administrative Office by 193 square feet on the ground floor over the existing brick patio.
- Improve Founders Hall by introducing a covered roof over the existing patio and replacing the existing double doors with a new multi-fold door.
- Construct a new 375-square-foot open trash/storage area southwest of the amphitheater adjacent to the proposed western parking lot and hammerhead turn-around.
- Install new sewer and water connections to the amphitheater within the existing parking lot.
- Install new curbs along Solana Drive in front of the property.
- Implementation of the project would require a net soil import of 805.32 cubic yards (259.75 cubic yards of cut soil that will be taken off-site and 1,065.07 cubic yards of fill soil that will be imported to the project site).

3.0 Survey Methods

RECON biologists Gerry Scheid and Beth Procsal conducted a general biological survey on the project site on October 25, 2016, and subsequent site visits were completed by RECON biologist Gerry Scheid on February 10, 2017 and March 20, 2017. The survey involved walking the site, noting plant, animal, and vegetation types. Vegetation communities were mapped on an aerial photograph flown in 2016. Vegetation community classifications follow Holland (1986) as modified by Oberbauer (1996). Plant species observed on-site were documented. The survey also included a directed search for sensitive plants that would have been apparent during the time of the survey. Limitations to the compilation of a comprehensive floral checklist were imposed by seasonal factors, such as blooming period. Animal species observed directly or detected from calls, tracks, scat, nests, or other sign were noted.

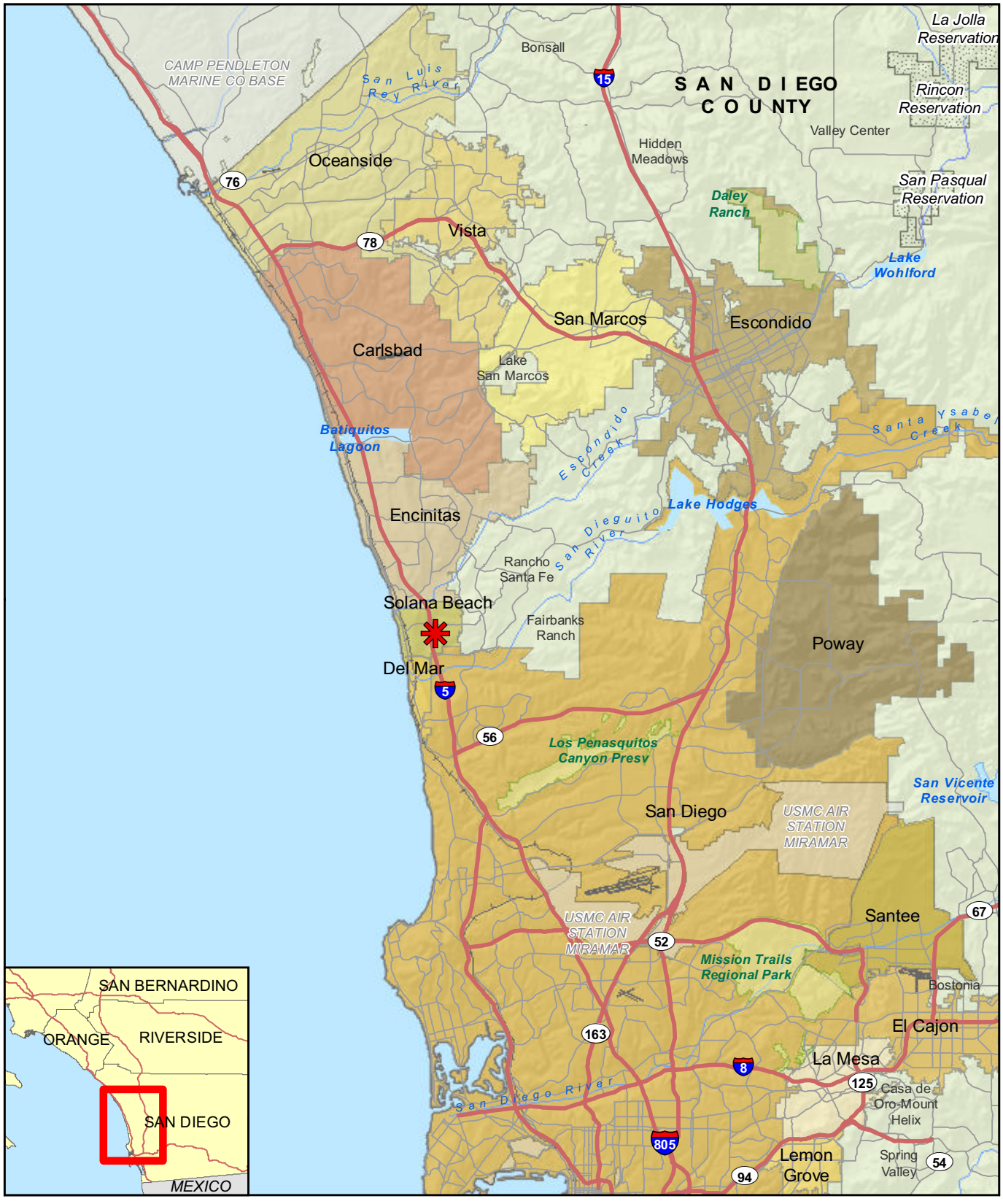
Floral nomenclature for common plants follows the Jepson Online Interchange (University of California 2018), for ornamental plants Brenzel (2001), and for sensitive plants California Native Plant Society (CNPS; 2018). Vegetation community classifications follow Oberbauer (2008), which is based on Holland's 1986 Preliminary Descriptions of the Terrestrial Natural Communities of California. Zoological nomenclature for birds is in accordance with the American Ornithologists' Union Checklist (2016) and Unitt (2004); for mammals with Baker et al. (2003); and for reptiles with Crother et al. (2008). Determination of the potential occurrence for listed, sensitive, or noteworthy species is based upon known ranges and habitat preferences for the species (Jennings and Hayes 1994; Unitt 2004; CNPS 2018; Reiser 2001), and species occurrence records from the California Natural Diversity Database (CNDDB; State of California 2018a) and other sites in the vicinity of the survey area.

4.0 Existing Conditions

The project site is located on the southern flank of an existing hill. Elevations in the project area range from 180 feet above mean sea level to 250 feet above mean sea level. Three soil types are mapped in the project area: Carlsbad gravelly loamy sand; Loamy alluvial land – Huerhuero Complex; and Terrace escarpments (U.S. Department of Agriculture [USDA] 1973). Terrace escarpment soils occur in the northwestern corner of the site, the Huerhuero Complex soils throughout the central portion of the site, and the Carlsbad gravelly loamy sand in the southeastern corner of the site. Existing structures on the project site are shown in Figure 4.

4.1 Botany

Five vegetation/land cover types occur in the survey area: southern maritime chaparral, disturbed habitat, native planting, ornamental plantings, and developed land (Figure 5). The acreages of vegetation communities and land cover types are listed in Table 1. A total of 39 plant species were identified on the site (Attachment 1). Of these 39 species, 25 are considered native to California and 14 are considered non-native plant species.



Project Location

FIGURE 1
Regional Location

RECON

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Map Source: USGS 7.5 minute topographic map series, Del Mar quadrangle, 1994, T14S R04W Sect 1

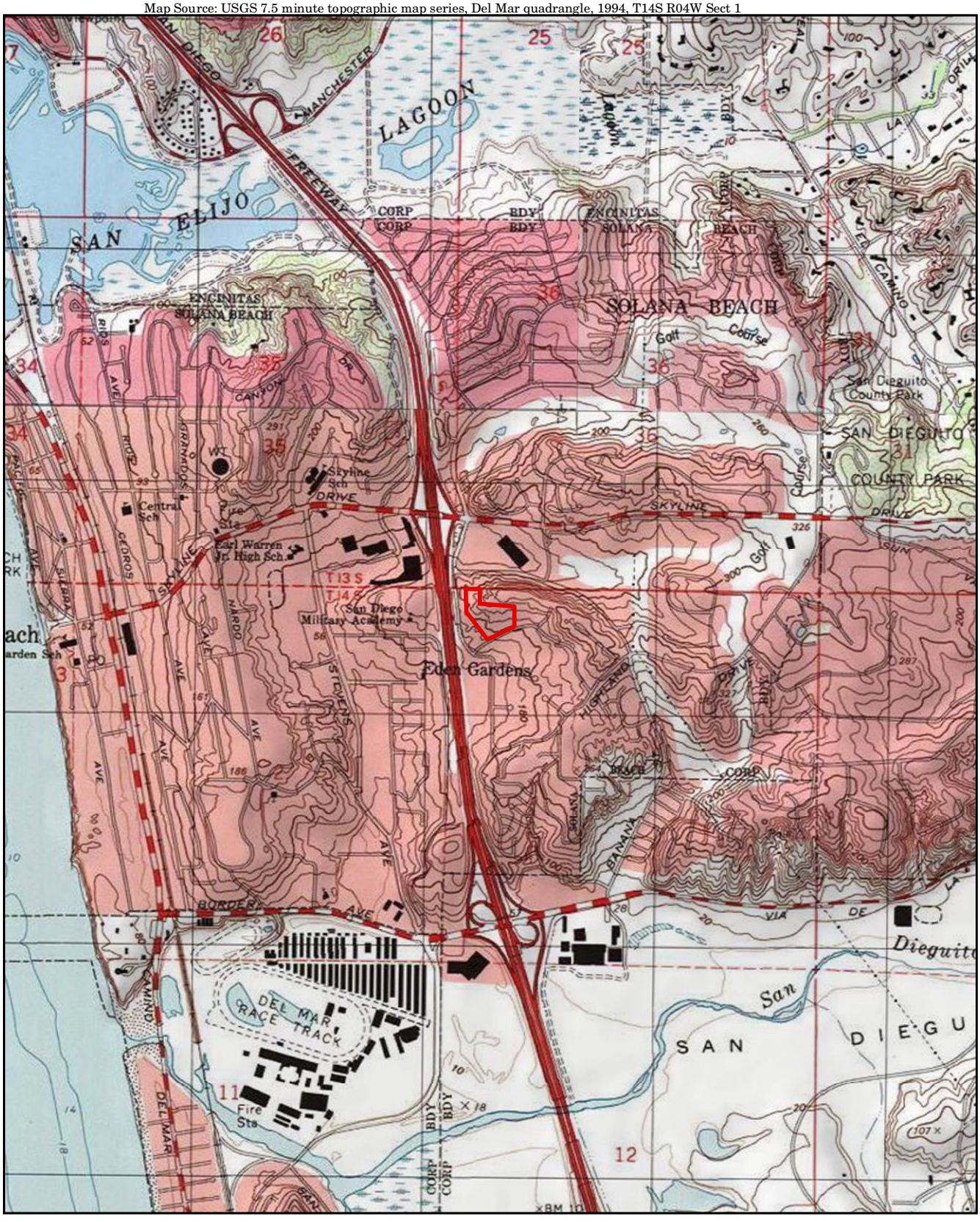

FIGURE 2

Project Location on USGS Map

RECON

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Image Source: NearMaps (flown February 2019)

0 Feet 150

Project Boundary

FIGURE 3

Project Location on Aerial Photograph

RECON

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Image Source: NearMaps (flown February 2019)

0 Feet 100

Site Improvements

Project Boundary

RECON

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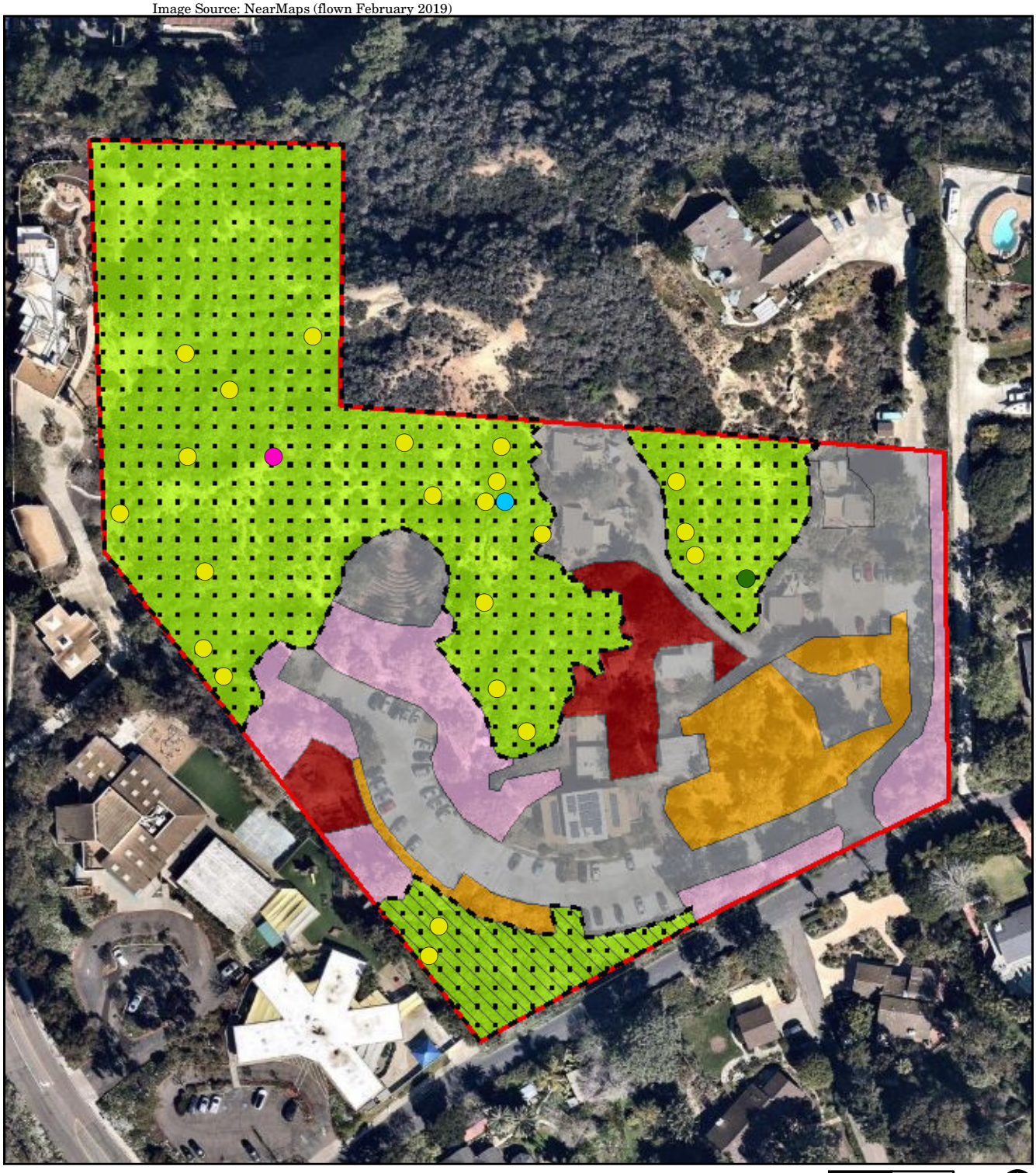
FIGURE 4
Proposed Site Improvements

Image Source: NearMaps (flown February 2019)



0 Feet 100

Project Boundary

ESHA

Ash Spike-moss

Nuttall's Scrub Oak

San Diego Desert Woodrat Nest

Wart-stemmed Ceanothus

Vegetation Community

Southern Maritime Chaparral

Disturbed Southern Maritime Chaparral

Native Plantings

Ornamental Plantings

Disturbed Habitat

Developed

RECON

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FIGURE 5

Existing Biological Resources

Table 1 Existing Vegetation Communities and Land Cover Types	
Vegetation Communities/Land Cover Types	Acres
Southern Maritime Chaparral	2.93
Disturbed Southern Maritime Chaparral	0.31
Disturbed Habitat	0.31
Native Plantings	0.47
Ornamental Plantings	0.66
Developed Land	1.83
TOTAL	**6.51**

4.1.1 Southern Maritime Chaparral

Southern maritime chaparral is a low, fairly open native shrub land type that occurs within the coastal fog belt in central San Diego County. This vegetation type on the project site is dominated by a mixture of native shrub species that include chamise (*Adenostema fasciculatum*), Eastwood manzanita (*Arctostaphylos glandulosa* ssp. *glandulosa*), mission manzanita (*Xylococcus* bicolor), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), bushrue (*Cneoridium dumosum*), Nuttall's scrub oak (*Quercus dumosa*), and wart-stemmed ceanothus (*Ceanothus verrucosus*). It occurs on the project site as a relatively undisturbed patch in the northwestern portion of the site, in patches around the existing buildings in the central and northeastern part of the site, and in an isolated disturbed patch in the southern portion of the site.

4.1.2 Disturbed Habitat

Disturbed habitat refers to areas that were once native habitat, but have been altered by human activities. While areas characterized as disturbed habitat on the project site contain some native species, the density of plants is much lower than intact habitat and is subject to human encroachments and edge effects. Disturbed habitat is mapped in the central portion of the site in-between clusters of existing buildings. Trails allow foot-traffic in these areas and smaller out-buildings and evidence of maintenance is present. A few scattered laurel sumac bushes occur in this area. Another small area of disturbed habitat occurs on the western portion of the site and includes an open area that allows access to adjacent off-site areas.

4.1.3 Native Plantings

Areas mapped as native plantings refer to areas where UUFSD has created native plant gardens or used native plants in the landscape. These areas are located to the east of the main group of buildings and on a thin strip along the edge of the main parking lot (see Figure 5). Prominent species planted in these areas include California encelia (*Encelia califonica*), big saltbush (*Atriplex lentiformis*), coast live oak (*Quercus agrifolia*), and San Diego viguiera (*Bahiopsis laciniata*). These areas do not constitute native habitat as they are small in area and contain an eclectic mix of native plants.

4.1.4 Ornamental Plantings

Areas vegetated with primarily non-native plant species are characterized as ornamental plantings. Non-native trees are the primary plant occurring in these areas and include specimens of eucalyptus trees (*Eucalyptus* spp.), Allepo pine (*Pinus radiate*), date palm (*Phoenix dactylifera*), and Brazilian pepper tree (*Schinus terebinthifolius*). Plants found in the understory of these trees may include acacia (*Acacia* sp.), jade plant (*Crassula ovata*), natal plum (*Carissa macrocarpa*), and plumbago (*Plumbago auriculata*).

4.1.5 Developed Land

Areas on the site that contain existing buildings, roads, parking lots, and an amphitheater are considered developed land. These areas are generally devoid of vegetation, except for adjacent landscape plantings.

4.2 Wildlife

Wildlife species observed during the site visits are those commonly associated with the wildland-urban interface. Ten species of birds, three mammal species, one reptile species, and one invertebrate species were documented. A list of wildlife species observed is provided as Attachment 2.

4.3 North County Multiple Habitat Conservation Program

The North County Multiple Habitat Conservation Program (NCMHCP) is a comprehensive conservation planning program developed to designate a multiple jurisdiction ecosystem preserve in northwestern San Diego County (San Diego Association of Governments [SANDAG] 2003). The regional preserve system would protect populations of sensitive plant and wildlife species and their habitats, while accommodating continued development in the north county region. The City of Solana Beach (City) is within the boundary of the NCMHCP. The UUFSD property is not located within a Focused Planning Area, areas proposed for conservation as part of the NCMHCP.

5.0 Sensitive Biological Resources

5.1 Sensitivity Criteria

For purposes of this report, species will be considered sensitive if they are: (1) covered species under the NCMHCP (SANDAG 2003) (2) listed by state or federal agencies as threatened or endangered or are proposed for listing (State of California 2018b, 2018c, 2017a, 2017b); or (3) on California Rare Plant Rank (CRPR) 1B (considered endangered throughout its range) or CRPR 2 (considered endangered in California but more common elsewhere) of the CNPS Inventory of Rare and Endangered Vascular Plants of California

(2018). Noteworthy plant species are considered those on CRPR 3 (more information about the plant's distribution and rarity needed) and CRPR 4 (plants of limited distribution) of the CNPS Inventory (2018). Sensitive vegetation communities are those identified by the CNDDB (Holland 1986), identified by the NCMHCP (SANDAG 2003), or qualify as Environmentally Sensitive Habitat Areas (ESHA) in the coastal zone.

Under Section 3503 of the California Department of Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.3 of the California Department of Fish and Game Code prohibits take, possession, or destruction of any birds in the orders Falconiformes (raptors) or Strigiformes (owls), or of their nests and eggs (State of California 1991).

Assessments for the potential occurrence of sensitive species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, and species occurrence records from other sites in the vicinity of the project site.

5.2 Sensitive Vegetation Communities

One sensitive vegetation community under the NCMHCP (SANDAG 2003) occurs within on the project site: southern maritime chaparral, including areas of disturbed southern mixed chaparral. Southern maritime chaparral is considered a Group B: Rare Upland vegetation community.

5.3 Sensitive Plant Species

Three sensitive plant species were observed in native habitat on the project site, all within the southern maritime chaparral habitat. The sensitive plant species observed include Nuttall's scrub oak, wart-stemmed ceanothus, and ashy spike-moss (*Selagniella* cinerascens). None of these three species are considered NCMHCP narrow endemic species (SANDAG 2003). Sensitive plant species known to occur in the project vicinity (within one mile of the survey area) that are federally listed, threatened, or endangered, considered NCMHCP narrow endemic, or that have potential to occur based on species range are addressed in Attachment 3.

Nuttall's scrub oak is classified as a CNPS Rank 1B.1 plant species. It is generally confined to the coastal chaparral habitats. In general terms, this species is threatened by loss of habitat due to development and unnatural fire regimes (i.e., increased frequency and intensity of fires). One individual of this species was observed on the project site (see Figure 5).

Wart-stemmed ceanothus is classified as a CNPS Rank 2B.2 plant species. Its distribution is limited to western San Diego County and Baja California, Mexico, where it is associated with southern maritime chaparral and southern mixed chaparral habitats. In general terms, this species is threatened by loss of habitat due to development and associated edge effects (i.e., fuel modification, fuel suppression, and invasion of non-native plant species).

Individuals of this species were observed throughout the southern maritime chaparral on the project site (see Figure 5).

Ashy spike-moss is a CNPS Rank 4.1 species. It occurs in coastal chaparral and sage scrub habitat types. In general terms, this species is threatened by loss of habitat due to development. One patch of this species was observed in the project area (see Figure 5).

The City's ESHA map that includes this property shows two additional sensitive plant species as occurring on the site: San Diego marsh elder (*Iva hayesiana*) and San Diego viguiera (*Viguierea laciniata*). These two perennial shrub species would have easily been observable at the time of the survey. Individuals of San Diego viguiera were observed that had been planted on-site in a native plant garden; however, as this is not a natural occurrence they are not considered sensitive. The marsh elder was not observed on the project site.

Several individuals of Torrey pine (*Pinus torreyana* ssp. *torreyana*; CNPS Rank 1B.2) have been planted on the site. However, these trees are not part of a natural population, and therefore are not considered sensitive.

5.4 Sensitive Wildlife Species

One sensitive wildlife species was detected within the project site; San Diego desert woodrat (*Neotoma lepida intermedia*). A woodrat nest was observed in the southern maritime chaparral habitat. Attachment 4 provides a list of sensitive species that have known occurrences in the vicinity of the project site or have a potential to occur based on the ranges and habitat requirements of these species, and includes an assessment of the likelihood of the on-site occurrence for these species.

5.5 Wildlife Movement Corridor

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Wildlife movement corridors are important, because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife movement corridors are considered sensitive by resource and conservation agencies.

The survey area is located immediately east of the Interstate 5 and south of a residential and commercial development. The site is surrounded by developed land with small patches of native vegetation along steep slopes and hillsides. Although it is reasonable to assume that wildlife may move locally through this survey area, the site is ultimately restricted by commercial and residential development to the north and south. While there may be some wildlife movement within the property, the site, as a whole, does not provide a major movement corridor for wildlife species.

5.6 Environmentally Sensitive Habitat Area

ESHA is defined in the California Coastal Act as: ". . . any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." The southern maritime chaparral that occurs on the site is considered ESHA as the vegetation community type is a rare habitat in southern California and it also supports three sensitive plant species. The Coastal Commission and local Coastal Zone Program have oversight of ESHA.

The City's ESHA maps show ESHA on the proposed project site and adjacent to the site to the north. The current vegetation and ESHA mapping of the UUFSD site differs slightly from the ESHA map contained in the City's Local Coastal Plan/Land Use Plan (LCP/LUP) (City of Solana Beach 2014) in that no coastal sage scrub was mapped on site. The previously mapped areas of coastal sage scrub have now been included within southern maritime chaparral due to a reevaluation of species composition within these areas. There also appears to be slightly less ESHA than depicted on the City's ESHA map due to more detailed mapping of the project site. Also, two sensitive plant species (i.e., San Diego marsh elder and San Diego viguiera) shown on the City's ESHA map to occur on the property were not observed in native habitat during the current survey.

6.0 Impacts to Biological Resources

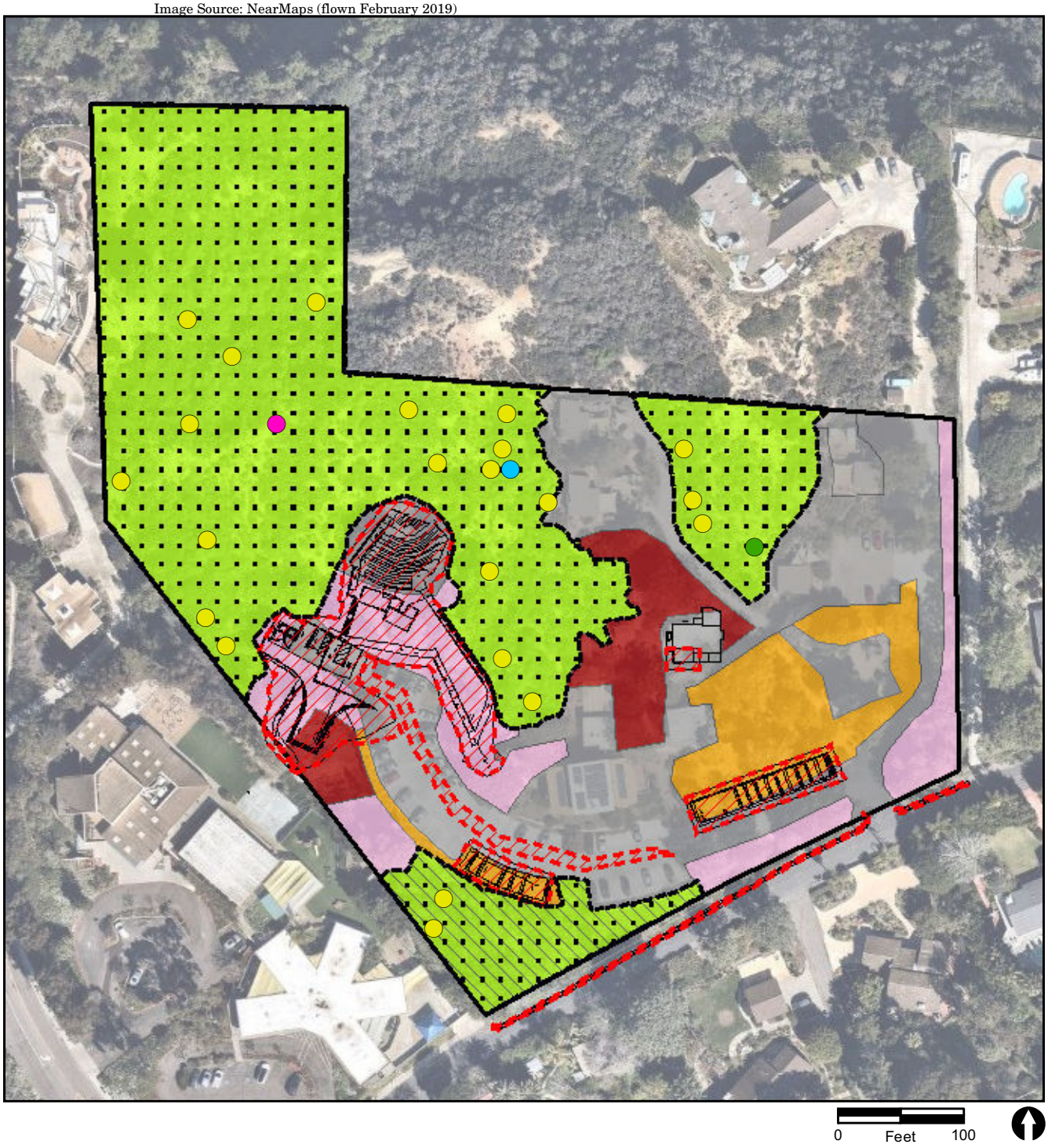
Impacts to biological resources due to the proposed project are discussed below. Mitigation would be required for impacts that are considered significant.

6.1 Sensitive Vegetation Communities

As shown in Figure 6 and Table 2, direct impacts associated with the project would be limited to disturbed habitat, native plantings, ornamental plantings, and developed land. None of these vegetation communities qualify as sensitive habitats. As shown in Figure 6, the project does not propose any change to the existing condition of areas on the project site classified as Southern Maritime Chaparral or Disturbed Southern Maritime Chaparral. Therefore, no impact to vegetation communities would occur.

Potential direct impacts could occur to nesting avian species through the removal of mature trees during construction. Similarly, indirect impacts may occur to nesting avian species if construction activities occur during the typical bird breeding season (February 1 to September 15), which could generate noise that could affect breeding behavior. These impacts may be considered significant, but can be avoided with implementation of the mitigation outlined in Section 7.0 below.

Image Source: NearMaps (flown February 2019)



Project Boundary
Limit of Work
Site Improvements
ESHA
Ash Spike-moss
Nuttall's Scrub Oak
San Diego Desert Woodrat Nest
Wart-stemmed Ceanothus

Vegetation Community

Southern Maritime Chaparral
Disturbed Southern Maritime Chaparral
Native Plantings
Ornamental Plantings
Disturbed Land
Disturbed Habitat
Developed

RECON

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FIGURE 6

Impacts to Biological Resources

Table 2 Summary of Impacts to Vegetation Communities and Land Cover Types (acres)			
Vegetation Communities/ Land Cover Types	Site Improvement Impacts (on-site)	Off-site Impacts	**TOTAL**
Southern Maritime Chaparral	0	0	**0**
Disturbed Southern Maritime Chaparral	0	0	**0**
Disturbed Habitat	0.04	0	**0.04**
Native Plantings	0.10	0	**0.10**
Ornamental Plantings	0.28	0	**0.28**
Developed Land	0.29	0.03	**0.32**
TOTAL	**0.71**	**0.03**	**0.74**

6.2 Environmentally Sensitive Habitat Area

The site improvements proposed by this project would not have direct impacts on ESHA.

The proposed site improvements are in compliance with the California Coastal Act (CCA) provisions and land use provisions/policies contained in the City LCP/LUP. A summary of those provisions and policies applicable to the proposed project along with a statement on how the project is in compliance with the LCP/LUP is provided in Table 3. Other provisions and policies contained in the City LCP/LUP that were not included in this report were considered not applicable due to the relatively small size of the project that consists primarily of minor improvements to existing structures.

Table 3 Compliance with the City of Solana Beach LCP/LUP	
LCP/LUP Provisions and Policies	
Coastal Act Provision	**Project Compliance**
Section 30240	
(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.	(a) The proposed site improvements would not encroach into any environmentally sensitive habitat areas (ESHA). No impact would occur.
(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.	(b) The proposed site improvements would occur in an area adjacent to an ESHA. However, these improvements have been designed in a manner that would avoid impacts to the ESHA and would be compatible with the continuance of these habitat areas. No impact would occur.

Table 3 Compliance with the City of Solana Beach LCP/LUP	
LCP/LUP Provisions and Policies	
Land Use Plan Provisions	**Project Compliance**
Policy 3.10: If the application of the policies and standards contained in this LCP regarding use of property designated as ESHA or ESHA buffer, including the restriction of ESHA to only resource-dependent use, would likely constitute a taking of private property without just compensation, then a use that is not consistent with the ESHA provisions of the LCP shall be allowed on the property, provided such use is consistent with all other applicable policies of the LCP, the approved project is the alternative that would result in the fewest or least significant impacts, and it is the minimum amount of development necessary to avoid a taking of private property without just compensation. In such a case, the development shall demonstrate the extent of ESHA on the property and include mitigation, or, if on-site mitigation is not feasible, payment of an in-lieu fee, for unavoidable impacts to ESHA or ESHA buffers from the removal, conversion, or modification of natural habitat for new development, including required fuel modification and brush clearance per Policy 3.12. Mitigation shall not substitute for implementation of a feasible project alternative that would avoid adverse impacts to ESHA.	The application of the policies and standards contained in the LCP regarding the use of property designated as ESHA or ESHA buffer would not result in a taking of private property. No impact would occur.
Policy 3.11: New development shall be sited and designed to avoid impacts to ESHA. For development permitted pursuant to Policy 3.10, if there is no feasible alternative that can eliminate all impacts, then the alternative that would result in the fewest or least significant impacts shall be selected. Impacts to ESHA that cannot be avoided through the implementation of sitting and design alternatives shall be fully mitigated, with priority given to on-site mitigation. Off-site mitigation measures shall only be approved when it is not feasible to fully mitigate impacts on-site or where off-site mitigation is more protective. Mitigation shall not substitute for implementation of the project alternative that would avoid impacts to ESHA. Mitigation for impacts to ESHA shall be provided at a 3:1 ratio.	The proposed site improvements have been designed in a manner that would avoid impacts to ESHA and would be compatible with the continuance of these habitat areas. No impact would occur.

Table 3 Compliance with the City of Solana Beach LCP/LUP	
LCP/LUP Provisions and Policies	
Policy 3.22: Development adjacent to ESHAs shall minimize impacts to habitat values or sensitive species to the maximum extent feasible. Native vegetation buffer areas shall be provided around ESHAs to serve as transitional habitat and provide distance and physical barriers to human intrusion. Buffers shall be of a sufficient size to ensure the biological integrity and preservation of the ESHA they are designed to protect. All buffers around (non-wetland) ESHA shall be a minimum of 100 feet in width, or a lesser width may be approved by the Planning Department and Fire Marshal as addressed in Policy 3.65. However, in no case can the buffer size be reduced to less than 50 feet.	The proposed site improvements have been designed in a manner that would avoid impacts to ESHA and would be compatible with the continuance of these habitat areas. Proposed site improvements associated with the project would not require new brush management clearance. No impact would occur. Existing native buffers to ESHA would not be reduced further as a result of the project.
Policy 3.24: New development, including, but not limited to, vegetation removal, vegetation thinning, or planting of non-native or invasive vegetation shall not be permitted in required ESHA or park buffer areas. Habitat restoration and invasive plant eradication may be permitted within required buffer areas if designed to protect and enhance habitat values.	The proposed site improvements would upgrade existing facilities and are not located within ESHA buffer areas. Existing ESHA buffers would remain. The proposed site improvements have been designed in a manner that would avoid impacts to ESHA and would be compatible with the continuance of these habitat areas. No impact would occur.
Policy 3.25: Required buffer areas shall extend from the outer edge of the tree or shrub canopy of ESHA.	ESHA buffers are provided from the outer edge of ESHA canopy. The proposed site improvements have been designed in a manner that would avoid impacts to ESHA and ESHA buffers. Proposed site improvements associated with the project would not require new brush management clearance. No impact would occur.
Policy 3.28: Permitted development located within or adjacent to ESHA and/or parklands that can adversely impact those areas shall include open space or conservation restrictions or easements over ESHA, ESHA buffer, or parkland buffer in order to protect resources.	The proposed site improvements have been designed in a manner that would avoid impacts to ESHA. No impact to ESHA would occur and current protection measures would remain.

Table 3 Compliance with the City of Solana Beach LCP/LUP	
LCP/LUP Provisions and Policies	
Policy 3.32: For development in locations known, or determined by environmental review, to potentially have breeding or nesting sensitive birds species, two weeks prior to any scheduled development, a qualified biological monitor shall conduct a preconstruction survey of the site and within 500 feet of the project site. Sensitive bird species are those species designated "threatened" or "endangered" by state or federal agencies, California Species of Special Concern, California Fully Protected Species, raptors, and large wading birds. In addition, surveys must be conducted every two weeks for sensitive nesting birds during the breeding season. If nesting sensitive birds are detected at any time during the breeding season, the California Department of Fish and Wildlife shall be notified and an appropriate disturbance set-back will be determined and imposed until the young-of-the-year are no longer reliant upon the nest. The set-back or buffer shall be no less than 100 feet.	The proposed site improvements would not occur in an area known to have breeding or nesting sensitive bird species. In the event that breeding or nesting birds are present, direct impacts can be avoided through implementation of pre-construction surveys described in mitigation measure BIO-1 described in Section 4.4a above. Implementation of mitigation measure BIO-1 would reduce impacts to a level less than significant.
Policy 3.33: The City should coordinate with the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service, National Marine Fisheries Service, and other resource management agencies, as applicable, in the review of development applications in order to ensure that impacts to ESHA and marine resources, including rare, threatened, or endangered species, are avoided and minimized.	The proposed site improvements would not impact ESHA or any rare, threatened, or endangered species. No impact would occur. In the event that breeding or nesting birds are present, direct impacts can be avoided through implementation of pre-construction surveys described in mitigation measure BIO-1 described in Section 4.4a above. Implementation of mitigation measure BIO-1 would reduce impacts to a level less than significant.
Policy 3.51: New development shall be sited and designed to preserve oak, sycamore, alder, willow, toyon, or other native trees that are not otherwise protected as ESHA. Removal of native trees shall be prohibited except where no other feasible alternative exists. Structures, including roads or driveways, shall be sited to prevent any encroachment into the root zone and to provide an adequate buffer outside of the root zone of individual native trees in order to allow for future growth.	The project site does not possess any native trees. No impact would occur.
Policy 3.52: New development on sites containing native trees shall include a tree protection plan.	The project site does not possess any native trees. No impact would occur.

Table 3 Compliance with the City of Solana Beach LCP/LUP	
LCP/LUP Provisions and Policies	
Policy 3.53: Where the removal of native trees cannot be avoided through the implementation of project alternatives or where development encroachments into the protected zone of native trees result in the loss or worsened health of the trees, mitigation measures shall include, at a minimum, the planting of replacement trees on-site, if suitable area exists on the project site, at a ratio of 1:1 for every tree removed. Where onsite mitigation is not feasible, off-site mitigation shall be provided through planting replacement trees or by providing an in-lieu fee based on the type, size and age of the tree(s) removed. The number of replacement trees allowed to be planted within the very high fire hazard severity zone will be approved by the Fire Marshal. Proper spacing of tree trunks and canopies will be maintained in accordance with the Fire Code for trees in this zone. Any new or replacement tree planted in this zone shall be fire resistive and on the Planning and Fire Department approved planting list.	The project site does not possess any native trees. No impact would occur.

6.3 Sensitive Plant Species

As shown in Figure 6, no sensitive plant species are located within the impact footprint of the proposed site improvements. Therefore, the project would not result in any impacts to sensitive plant species.

6.4 Sensitive Wildlife Species

No impacts are anticipated to occur to sensitive wildlife species as the San Diego woodrat nest is outside of the proposed impact area. The proposed site improvements would not occur in an area known to have breeding or nesting sensitive bird species. However, Section 3503 of the California Fish and Game Code 3503 states that no direct impacts should occur to any nesting birds or their eggs, chicks, or nests during the typical bird breeding season of February 1 to September 15. Therefore, there is a potential for the project to have direct impacts on nesting bird or raptor species from the removal of trees and other vegetation within the project boundary. In the event that nesting birds or raptors are present, direct impacts to these species would be considered significant. Implementation of pre-construction surveys described in Chapter 7.0 Mitigation below would reduce these impacts to a level less than significant.

6.5 Wildlife Movement Corridor

The proposed site improvements are relatively minor and would be located adjacent to existing facilities. Consequently, the project would not introduce a new barrier within an undeveloped portion of the project site that would block wildlife movement.

6.6 CEQA Significance Guidelines

An evaluation of the significance of the impacts from the proposed site improvements with regards to the California Environmental Quality Act (CEQA) guidelines is provided in Table 4.

Table 4
CEQA Significance Guidelines

CEQA Guideline	
Issue	**Explanation**
a. Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	No substantial adverse effects to any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS would occur from the proposed site improvements. The proposed site improvements would not occur in an area known to have breeding or nesting sensitive bird species. However, there is a potential for the project to have direct impacts on nesting bird or raptor species from the removal of trees and other vegetation within the project boundary. In the event that nesting birds or raptors are present, direct impacts to these species would be considered significant. Implementation of pre-construction surveys described in Chapter 7.0 Mitigation below would reduce these impacts to a level less than significant.
b. Have a substantial adverse effect on any riparian habitat or other community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?	As shown in Table 2 and Figure 6, direct impacts associated with the project would be limited to disturbed habitat, native plantings, ornamental plantings, and developed land. None of these vegetation communities qualify as sensitive riparian habitats. Therefore, no impact would occur.
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	As shown in Table 2 and Figure 6, direct impacts associated with the project would be limited to disturbed habitat, native plantings, ornamental plantings, and developed land. None of these vegetation communities qualify as wetlands. Therefore, no impact would occur.

Table 4 CEQA Significance Guidelines	
CEQA Guideline	
Issue	**Explanation**
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	The proposed site improvements are relatively minor and would be located adjacent to existing facilities. Consequently, the project would not introduce a new barrier within an undeveloped portion of the project site that would block wildlife movement. Therefore, the project would not interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, and impacts would be less than significant.
e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?	The proposed site improvements are in compliance with the CCA provisions and land use provisions/policies contained in the City LCP/LUP. A summary of these provisions and policies along with a statement on how the project is in compliance with the LCP/LUP is provided in in Table 3). LCP/LUP policies 3.51 through 3.53 pertain to the preservation of native trees. As presented in Table 3, the project development footprint does not possess any native trees and would not conflict with LCP/LUP policies 3.51 through 3.53. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources, and impacts would be less than significant.
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	**California Coastal Act** The CCA defines Environmentally Sensitive Habitat Areas (ESHAs) as: ". . . any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." The southern maritime chaparral that occurs on the site is considered ESHA as the vegetation community type is a rare habitat in southern California and it also supports three sensitive plant species. The California Coastal Commission and Local Coastal Program have oversight of ESHA. The City's ESHA maps show ESHA on the proposed project site and adjacent to the site to the north. The current vegetation and ESHA mapping of the UUFSD site differs slightly from the ESHA map contained in the City's

Table 4 CEQA Significance Guidelines	
CEQA Guideline	
Issue	**Explanation**
	LCP/LUP (City of Solana Beach 2014) in that no coastal sage scrub was mapped on site. The previously mapped areas of coastal sage scrub have now been included within southern maritime chaparral due to a reevaluation of species composition within these areas. Proposed site improvements would not result in any impacts on ESHA. Furthermore, proposed site improvements would comply with the CCA provisions and land use provisions/policies contained in the City's LCP/LUP. A summary of these provisions and policies along with a statement on how the project is in compliance with the LCP/LUP is provided in Table 3. Therefore, impacts would be less than significant. **Multiple Habitat Conservation Program** The NCMHCP is a comprehensive conservation planning program developed to designate a multiple jurisdiction ecosystem preserve in northwestern San Diego County (SANDAG 2003). The regional preserve system would protect populations of sensitive plant and wildlife species and their habitats, while accommodating continued development in the north county region. The City does not have its own approved Habitat Conservation Plan (HCP)/Subarea Plan and is not located within a focused planning area proposed for conservation as part of the NCMHCP. Therefore, the project would not be subject to the NCMHCP's policies and regulations for the region. Furthermore, the City has not adopted an HCP, natural community conservation plan or other local, regional or state habitat conservation plan to protect sensitive species or habitat. Therefore, the proposed project would not conflict with the provisions of an adopted HCP, natural community conservation plan or other approved local, regional or state HCP, and impacts would be less than significant.

7.0 Mitigation

Mitigation is required for all project impacts that are considered significant under the California Environmental Quality Act. Impacts to sensitive biological resources should be avoided to the maximum extent feasible and minimized prior to proposing mitigation whenever possible. Mitigation is intended to reduce the impacts to below a level of significance.

Avoidance of significant impacts to nesting birds is required under the California Fish and Game Code 3503). To conform to the California Fish and Game Code, no direct impacts should occur to any nesting birds or their eggs, chicks, or nests during the typical bird breeding season of February 1 to September 15. To avoid impacts to nesting bird species, the project applicant shall retain a qualified biologist with experience in the identification of nesting bird species to conduct a survey for active bird nesting within and immediately surrounding the work area no more than 72 hours prior to the commencement of any construction activity within 500 feet of the impact footprint during the bird breeding season from February 1 through September 15. This survey would cover all trees and shrubs within 500 feet of the impact footprint. If an active bird is found, the qualified biologist shall (1) flag the location of the nest, (2) establish an appropriate buffer zone based on the type of bird species identified, and (3) map the locations of the nest and the buffer zone on the project site plans. The nest and buffer area shall be avoided until the qualified biologist certifies that the nest is vacated and the juveniles have fledged, or the nest is otherwise no longer active. The qualified biologist shall identify the nest and buffer area in the field with flagging, stakes, or construction fencing as appropriate to ensure avoidance and protection.

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ATTACHMENTS

ATTACHMENT 1

Plant Species Observed

Attachment 1 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
LYCOPODS			
SELAGINELLACEAE	**SPIKE-MOSS FAMILY**		
Selaginella cinerascens A.A. Eaton	ashy spike-moss	SMC	N
GYMNOSPERMS			
PINACEAE	**PINE FAMILY**		
Pinus sp.	pine	ORN	I
Pinus radiata D. Don	Monterey pine	ORN	I
Pinus torreyana Parry ex Carrière ssp. *torreyana*	Torrey pine	NP	N
ANGIOSPERMS: MONOCOTS			
AGAVACEAE	**AGAVE FAMILY**		
Agave americana L.	American century plant	ORN	I
Yucca schidigera Ortgies	Mojave yucca	SMC	N
ARECACEAE	**PALM FAMILY**		
Phoenix dactylifera L.	date palm	ORN	I
ANGIOSPERMS: DICOTS			
AIZOACEAE	**FIG-MARIGOLD FAMILY**		
Carpobrotus edulis (L.) N.E. Br.	freeway iceplant	DH, DIST	I
ANACARDIACEAE	**SUMAC OR CASHEW FAMILY**		
Malosma laurina Nutt. ex Abrams	laurel sumac	SMC	N
Rhus integrifolia (Nutt.) Benth. & Hook. f. ex Rothr.	lemonade berry	SMC	N
Rhus ovata S. Watson	sugar bush	SMC	N
Schinus terebinthifolius Raddi	Brazilian pepper tree	ORN, DH	I
APOCYNACEAE	**DOGBANE FAMILY**		
Carissa macrocarpa (Eckl.) A.DC.	Natal plum	ORN, DH	I
ASTERACEAE	**SUNFLOWER FAMILY**		
Artemisia californica Less.	California sagebrush	SMC	N
Ambrosia psilostachya DC.	western ragweed	SMC	N
Bahiopsis [=*Viguiera*] *laciniata* (A. Gray) E.E. Schilling & Panero	San Diego viguiera, San Diego County viguiera	NP	N
Deinandra [=*Hemizonia*] *fasciculata* (DC.) Greene	fascicled tarweed, golden tarplant	SMC, DH	N

Attachment 1 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
Encelia californica Nutt.	California encelia	NP	N
CACTACEAE	**CACTUS FAMILY**		
Opuntia littoralis (Engelm.) Cockerell.	coast prickly-pear, shore cactus	SMC	N
CHENOPODIACEAE	**GOOSEFOOT FAMILY**		
Atriplex lentiformis (Torr.) S. Watson	big saltbush	NP	N
CRASSULACEAE	**STONECROP FAMILY**		
Crassula ovata (Mill.) Druce	jade plant	ORN	I
Dudleya pulverulenta (Nutt.) Britton & Rose	chalk lettuce, chalk dudleya	SMC	N
ERICACEAE	**HEATH FAMILY**		
Arctostaphylos glandulosa Eastw. ssp. *glandulosa*	Eastwood manzanita	SMC, NP	N
Xylococcus bicolor Nutt.	mission manzanita	SMC	N
FABACEAE (LEGUMINOSAE)	**LEGUME FAMILY**		
Acacia sp.	acacia	ORN	I
Acmispon glaber (Vogel) Brouillet [=*Lotus scoparius*]	deerweed, California broom	SMC, DH	N
FAGACEAE	**OAK FAMILY**		
Quercus agrifolia Née	coast live oak, encina	NP	N
Quercus dumosa Nutt.	Nuttall's scrub oak	SMC	N
LAMIACEAE	**MINT FAMILY**		
Salvia mellifera Greene	black sage	SMC	N
MYRTACEAE	**MYRTLE FAMILY**		
Eucalyptus sp.	gum tree	ORN	I
NYCTAGINACEAE	**FOUR O'CLOCK FAMILY**		
Bougainvillea sp.	Bouganvillea	ORN	I
PLUMBAGINACEAE	**LEADWORT FAMILY**		
Plumbago auriculata Lam.	Plumbago	ORN	I
POLYGONACEAE	**BUCKWHEAT FAMILY**		
Eriogonum fasciculatum Benth. var. *fasciculatum*	coast California buckwheat	SMC	N
RHAMNACEAE	**BUCKTHORN FAMILY**		
Ceanothus verrucosus Nutt.	wart-stemmed ceanothus	SMC	N
ROSACEAE	**ROSE FAMILY**		
Adenostoma fasciculatum Hook. & Arn.	chamise, greasewood	SMC	N

Attachment 1 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
Heteromeles arbutifolia (Lindl.) M. Roem.	toyon, Christmas berry	SMC, NP	N
Pyracantha coccinea M. Roem.	firethorn, scarlet firethorn	ORN	I
RUTACEAE	**RUE FAMILY**		
Cneoridium dumosum (Nutt. ex Torr. & A. Gray) Baill.	Bushrue	SMC	N
SOLANACEAE	**NIGHTSHADE FAMILY**		
Nicotiana glauca Graham	tree tobacco	DH, DIST	I

Notes: Scientific and common names were primarily derived from the Jepson Online Interchange (University of California 2018). In instances where common names were not provided in this resource, common names were obtained from Rebman and Simpson (2006). Additional common names were obtained from the USDA maintained database (USDA 2013) or the Sunset Western Garden Book (Brenzel 2001) for ornamental/horticultural plants.

HABITATS

SMC = Southern maritime chaparral
DH = Disturbed Habitat
ORN = Ornamental Plantings
DIST = Disturbed Land
NP = Native Plantings

ORIGIN

N = Native to locality
I = Introduced species from outside locality

ATTACHMENT 2

Wildlife Species Observed

Attachment 2 Wildlife Species Observed				
Scientific Name	Common Name	Occupied Habitat	On-site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
INVERTEBRATES (Nomenclature for butterflies from San Diego Natural History Museum 2002)				
PIERIDAE	**WHITES & SULPHURS**			
Colias harfordii	Harford's sulphur	ORN, DH		O
REPTILES (Nomenclature from Crother, et.al. 2008)				
ANGUIDAE	**ALLIGATOR LIZARDS**			
Elgaria multicarinata webbii	San Diego alligator lizard	SMC		O
BIRDS (Nomenclature from American Ornithologists' Union 2015 and Unitt 2004)				
COLUMBIDAE	**PIGEONS & DOVES**			
Zenaida macroura marginella	mourning dove	SMC, ORN	C / Y	O
TROCHILIDAE	**HUMMINGBIRDS**			
Calypte anna	Anna's hummingbird	SMC, ORN	F / Y	O
TYRANNIDAE	**TYRANT FLYCATCHERS**			
Sayornis nigricans semiatra	black phoebe	SMC, ORN	F / Y	O
CORVIDAE	**CROWS, JAYS, & MAGPIES**			
Corvus brachyrhynchos hesperis	American crow	SMC, ORN, DH	C / Y	O
AEGITHALIDAE	**BUSHTIT**			
Psaltriparus minimus melanurus	bushtit	SMC, ORN	C / Y	O
MIMIDAE	**MOCKINGBIRDS & THRASHERS**			
Mimus polyglottos polyglottos	northern mockingbird	ORN	C / Y	O
EMBERIZIDAE	**EMBERIZIDS**			
Melospiza melodia	song sparrow	SMC, ORN, DH	C / Y	O
FRINGILLIDAE	**FINCHES**			
Haemorhous [=*Carpodacus*] *mexicanus frontalis*	house finch	ORN, DH	C / Y	O
PASSERIDAE	**OLD WORLD SPARROWS**			
Passer domesticus	house sparrow (I)	ORN, DH	C / Y	O

Attachment 2 Wildlife Species Observed				
Scientific Name	Common Name	Occupied Habitat	On-site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
ESTRILDIDAE	**WEAVER-FINCHES**			
Lonchura punctulata	scaly-breasted munia [=nutmeg manikin] (I)	ORN	U / Y	O
MAMMALS (Nomenclature from Baker et al. 2003)				
LEPORIDAE	**RABBITS & HARES**			
Sylvilagus bachmani	brush rabbit	SMC		O
MURIDAE	**MICE & RATS**			
Neotoma lepida intermedia	San Diego desert woodrat	SMC		D
CANIDAE	**CANIDS**			
Canis latrans	coyote	SMC		O

(I) = Introduced species

HABITATS
SMC = Southern Maritime Chaparral
DH = Disturbed Habitat
ORN = Ornamental Plantings

ABUNDANCE (birds only; based on Garrett and Dunn 1981)
C = Common to abundant; almost always encountered in proper habitat, usually in moderate to large numbers
F = Fairly common; usually encountered in proper habitat, generally not in large numbers
U = Uncommon; occurs in small numbers or only locally

SEASONALITY (birds only)
Y = Year-round resident; probable breeder on-site or in vicinity

EVIDENCE OF OCCURRENCE
D = Den site
O = Observed

ATTACHMENT 3

Sensitive Plant Species Observed or with the Potential for Occurrence

Attachment 3 Sensitive Plant Species Observed or with the Potential for Occurrence						
Species' *Scientific Name* Common Name	State/Federal Status	CNPS Rank	North County MHCP	Habitat/Preference/Requirements/ Blooming Period	Observed?	Basis for Determination of Occurrence Potential
LYCOPODS						
SELAGINELLACEAE SPIKE-MOSS FAMILY						
Selaginella cinerascens ashy spike-moss	–/–	4.1	–	Perennial rhizomatous herb; chaparral, coastal scrub; elevation 65–2,100 feet.	Yes	Observed in one small patch within southern maritime chaparral.
FERNS						
PINACEAE PINE FAMILY						
Pinus torreyana ssp. *torreyana* Torrey pine (native pop.)	–/–	1B.2		Evergreen tree; closed-cone coniferous forest, chaparral; sandstone; elevation 250–525 feet. San Diego County endemic. There are approximately 7,000 native trees, most in Torrey Pines State Reserve, others on private property. This species is widely planted as an ornamental in the region.	Yes	Observed several planted individuals which are typically not considered sensitive.
ANGIOSPERMS: DICOTS						
APIACEAE CARROT FAMILY						
Eryngium aristulatum var. *parishii* San Diego button-celery	CE/FE	1B.1	NE	Biennial/perennial herb; vernal pools, mesic areas of coastal sage scrub and grasslands, blooms April–June; elevation less than 2,000 feet. Known from San Diego and Riverside counties. Additional populations occur in Baja California, Mexico.	No	Low potential for occurrence. Site lacks suitable soils and habitat.

Attachment 3 Sensitive Plant Species Observed or with the Potential for Occurrence						
Species' *Scientific Name* Common Name	State/Federal Status	CNPS Rank	North County MHCP	Habitat/Preference/Requirements/ Blooming Period	Observed?	Basis for Determination of Occurrence Potential
ASTERACEAE SUNFLOWER FAMILY						
Ambrosia pumila San Diego ambrosia	–/FE	1B.1	NE, MHCP	Perennial herb (rhizomatous); chaparral, coastal sage scrub, valley and foothill grasslands, creek beds, vernal pools, often in disturbed areas; blooms May–September; elevation less than 1,400 feet. Many occurrences extirpated in San Diego County.	No	Low potential for occurrence. Site lacks suitable habitat.
Baccharis vanessae Encinitas baccharis [=Encinitas coyote brush]	CE/FT	1B.1	NE, MHCP	Perennial deciduous shrub; chaparral; maritime; sandstone; blooms August–November; elevation less than 2,500 feet. San Diego County endemic. Known from fewer than 20 occurrences. Extirpated from Encinitas area.	No	Low potential for occurrence as this shrub species would have easily been observed if present.
Bahiopsis [=*Viguiera*] *laciniata* San Diego viguiera [=San Diego County viguiera]	–/–	4.3	–	Perennial shrub; chaparral, coastal sage scrub; blooms February–June; elevation less than 2,500 feet.	Yes	A few individuals observed planted in native garden areas. Not considered sensitive when planted as such.
Centromadia [=*Hemizonia*] *parryi* ssp. *australis* southern tarplant	–/–	1B.1	_	Annual herb; margins of marshes and swamps, valley and foothill grasslands, vernal pools; blooms May–November; elevation less than 1,600 feet.	No	Low potential for occurrence. Site lacks suitable habitat.
Chaenactis glabriuscula var. *orcuttiana* Orcutt's pincushion	–/–	1B.1	_	Annual herb; coastal bluff scrub, sandy, coastal dunes; blooms January–August; elevation less than 350 feet.	No	Low potential for occurrence. Site lacks suitable habitat.
Corethrogyne [=*Lessingia*] *filaginifolia* var. *linifolia* Del Mar Mesa sand aster	–/–	1B.1	MHCP	Perennial herb; coastal bluff scrub, openings in southern maritime chaparral and coastal sage scrub; sandy soil; blooms May–September; elevation less than 500 feet. San Diego County endemic.	No	Low potential for occurrence as this species would have easily been observed if present.

Attachment 3 Sensitive Plant Species Observed or with the Potential for Occurrence						
Species' *Scientific Name* Common Name	State/Federal Status	CNPS Rank	North County MHCP	Habitat/Preference/Requirements/ Blooming Period	Observed?	Basis for Determination of Occurrence Potential
Hazardia orcuttii Orcutt's hazardia	CT/–	1B.1	MHCP	Perennial evergreen shrub; chaparral, coastal sage scrub; blooms August–October; elevation 280 feet. Known in California from only five occurrences all of which are in San Diego County. Additional populations occur in Baja California, Mexico.	No	Low potential for occurrence as this shrub species would have easily been observed if present.
Heterotheca sessiliflora ssp. *sessiliflora* beach goldenaster	–/–	1B.1	_	Perennial herb; chaparral (coastal), coastal dunes, coastal scrub; blooms March–December; elevation less than 4,000 feet. Known in California from 12 occurrences presumed to be extant in San Diego County. Additional populations occur in Baja California, Mexico.	No	Low potential for occurrence. Site lacks suitable habitat.
Isocoma menziesii var. *decumbens* decumbent goldenbush	–/–	1B.2	–	Perennial shrub; chaparral, coastal sage scrub; sandy soils, often in disturbed areas; blooms April–November; elevation less than 500 feet.	No	Low potential for occurrence as this shrub species would have easily been observed if present.
Iva hayesiana San Diego marsh-elder	–/–	2B.2	_	Perennial herb; marshes and swamps, playas, riparian areas; blooms April–September; elevation below 1,700 feet.	No	Low potential for occurrence. Site lacks suitable habitat.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	–/–	1B.1	_	Annual herb; coastal salt marsh, vernal pools, playas; blooms February–June; elevation less than 4,000 feet.	No	Low potential for occurrence. Site lacks suitable habitat.
Leptosyne [=*Coreopsis*] *maritima* sea-dahlia	–/–	2B.2	_	Perennial herb; coastal bluff scrub, coastal sage scrub; blooms March–May; elevation less than 500 feet.	No	Low potential for occurrence as this perennial herb species would have easily been observed if present.

Attachment 3 Sensitive Plant Species Observed or with the Potential for Occurrence						
Species' *Scientific Name* Common Name	State/Federal Status	CNPS Rank	North County MHCP	Habitat/Preference/Requirements/ Blooming Period	Observed?	Basis for Determination of Occurrence Potential
BRASSICACEAE **MUSTARD FAMILY**						
Erysimum ammophilum sand-loving wallflower [=coast wallflower]	–/–	1B.2	MHCP	Perennial herb; maritime chaparral, coastal dunes, coastal sage scrub; sandy openings; blooms February–June; elevation 0–200 feet. California endemic. Known from San Diego, Santa Barbara, San Mateo, Monterey, and Santa Cruz counties as well as Santa Rosa Island.	No	Low potential for occurrence. Site lacks suitable soils and habitat.
CACTACEAE **CACTUS FAMILY**						
Ferocactus viridescens San Diego barrel cactus	–/–	2B.1	MHCP	Perennial stem succulent; chaparral, coastal sage scrub, valley and foothill grasslands, vernal pools; blooms May–June; elevation less than 1,500 feet.	No	Low potential for occurrence as this cactus species would have easily been observed if present.
CRASSULACEAE **STONECROP FAMILY**						
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	–/–	1B.1	–	Perennial herb; coastal sage scrub, coastal bluff scrub, chaparral, grasslands; blooms April–June; elevation less than 1,500 feet.	No	Low potential for occurrence. Site lacks suitable habitat.
Dudleya variegata variegated dudleya	–/–	1B.2	NE	Perennial herb; openings in chaparral, coastal sage scrub, grasslands, vernal pools; blooms May–June; elevation less than 1,900 feet.	No	Low potential for occurrence. Site lacks suitable habitat.
ERICACEAE **HEATH FAMILY**						
Arctostaphylos glandulosa ssp. *crassifolia* Del Mar manzanita	–/FE	1B.1	MHCP	Perennial evergreen shrub; southern maritime chaparral; sandy soil; blooms December–April; elevation less than 1,200 feet.	No	Low potential for occurrence as this shrub species would have easily been observed if present.

Attachment 3 Sensitive Plant Species Observed or with the Potential for Occurrence						
Species' *Scientific Name* Common Name	State/Federal Status	CNPS Rank	North County MHCP	Habitat/Preference/Requirements/ Blooming Period	Observed?	Basis for Determination of Occurrence Potential
Comarostaphylis diversifolia ssp. *diversifolia* summer holly	–/–	1B.2	MHCP	Perennial evergreen shrub; chaparral; blooms April–June; elevation 100–2,600 feet.	No	Low potential for occurrence as this shrub species would have easily been observed if present.
FABACEAE **LEGUME FAMILY**						
Acmispon prostratus [=*Lotus nuttallianus*] Nuttall's lotus	–/–	1B.1	MHCP	Annual herb; coastal dunes, coastal sage scrub; sandy substrate; blooms March–June; elevation less than 50 feet.	No	Low potential for occurrence. Site lacks suitable soils and habitat.
FAGACEAE **OAK FAMILY**						
Quercus dumosa Nuttall's scrub oak	–/–	1B.1	MHCP	Perennial evergreen shrub; closed-cone coniferous forest, coastal chaparral, coastal sage scrub; sandy and clay loam soils; blooms February–March; elevation less than 1,300 feet.	Yes	Observed. One individual in southern maritime chaparral.
LAMIACEAE **MINT FAMILY**						
Acanthomintha ilicifolia San Diego thornmint	CE/FT	1B.1	NE, MHCP	Annual herb; chaparral, coastal sage scrub, and grasslands; friable or broken clay soils; blooms April–June; elevation less than 3,200 feet.	No	Low potential for occurrence. Site lacks suitable soils and habitat.
POLEMONIACEAE **PHLOX FAMILY**						
Navarretia fossalis spreading navarretia [=prostrate navarretia]	–/FT	1B.1	NE, MHCP	Annual herb; vernal pools, marshes and swamps, chenopod scrub; blooms April–June; elevation 100–4,300 feet.	No	Low potential for occurrence. Site lacks suitable soils and habitat.

Attachment 3 Sensitive Plant Species Observed or with the Potential for Occurrence						
Species' *Scientific Name* Common Name	State/Federal Status	CNPS Rank	North County MHCP	Habitat/Preference/Requirements/ Blooming Period	Observed?	Basis for Determination of Occurrence Potential
POLYGONACEAE BUCKWHEAT FAMILY						
Chorizanthe orcuttiana Orcutt's spineflower	CE/FE	1B.1	MHCP	Annual herb; maritime chaparral, closed-cone coniferous forest, coastal sage scrub; sandy openings; blooms March–May; elevation less than 400 feet. San Diego County endemic. Known from fewer than 20 occurrences.	No	Low potential for occurrence. Site lacks suitable soils and habitat.
Chorizanthe polygonoides var. *longispina* long-spined spineflower	–/–	1B.2	_	Annual herb; clay soils; openings in chaparral, coastal sage scrub, near vernal pools and montane meadows, April–July; elevation 100–5,000 feet.	No	Low potential for occurrence. Site lacks suitable soils and habitat.
Nemacaulis denudata var. *denudata* coast woolly-heads	–/–	1B.2	_	Annual herb; coastal dunes; blooms April–September; elevation less than 330 feet.	No	Low potential for occurrence. Site lacks suitable soils and habitat.
RANUNCULACEAE BUTTERCUP FAMILY						
Myosurus minimus little mousetail	–/–	3.1	MHCP	Annual herb; vernal pools, perennial grasslands; blooms March–June; elevation 70–2,100 feet.	No	Low potential for occurrence. Site lacks suitable soils and habitat.
RHAMNACEAE BUCKTHORN FAMILY						
Ceanothus verrucosus wart-stemmed ceanothus	–/–	2B.2	MHCP	Perennial evergreen shrub; chaparral; blooms December–April; elevation less than 1,300 feet.	Yes	Observed in several locations across the property in the southern maritime chaparral habitat.
POACEAE GRASS FAMILY						
Orcuttia californica California Orcutt grass	CE/FE	1B.1	NE, MHCP	Annual herb; vernal pools; blooms April–August; elevation 50–2,200 feet.	No	Low potential for occurrence. Site lacks suitable soils and habitat.

Attachment 3 Sensitive Plant Species Observed or with the Potential for Occurrence						
Species' *Scientific Name* Common Name	State/Federal Status	CNPS Rank	North County MHCP	Habitat/Preference/Requirements/ Blooming Period	Observed?	Basis for Determination of Occurrence Potential
THEMIDACEAE BRODIAEA FAMILY						
Bloomeria [=*Muilla*] *clevelandii* San Diego goldenstar	–/–	1B.1		Perennial herb (bulbiferous); chaparral, coastal sage scrub, valley and foothill grassland, vernal pools; clay soils; blooms May; elevation 170–1,500 feet.	No	Low potential for occurrence. Site lacks suitable soils and habitat.
Brodiaea filifolia thread-leaved brodiaea [=thread-leaf brodiaea]	CE/FT	1B.1		Perennial herb (bulbiferous); cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools; often clay soils; blooms March–June; elevation less than 43,800 feet. California endemic. Known from San Diego, Riverside, Orange, Los Angeles, and San Bernardino counties.	No	Low potential for occurrence. Site lacks suitable soils and habitat.

FEDERAL CANDIDATES AND LISTED PLANTS
FE = Federally listed endangered
FT = Federally listed threatened
FC = Federal candidate for listing as endangered or threatened

STATE LISTED PLANTS
CE = State listed endangered
CR = State listed rare
CT = State listed threatened

CALIFORNIA NATIVE PLANT SOCIETY (CNPS): CALIFORNIA RARE PLANT RANKS (CRPR)
1A = Species presumed extinct.
1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
2A = Plants presumed extirpated in California, but more common elsewhere.
2B = Species rare, threatened, or endangered in California but more common elsewhere. These species are eligible for state listing.
3 = Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.
4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.
.1 = Species seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat).
.2 = Species fairly threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat).
.3 = Species not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known).
CBR = Considered but rejected

NORTH COUNTY MHCP
NE = Narrow endemic
MHCP = Multiple Habitat Conservation Plan covered species

ATTACHMENT 4

Sensitive Wildlife Species Occurring or with the Potential to Occur

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur					
Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site?	Basis for Determination of Occurrence Potential
REPTILES (Nomenclature from Crother et al. 2008)					
IGUANIDAE **IGUANID LIZARDS**					
Coast horned lizard *Phrynosoma blainvillii* [= *P. coronatum* coastal population]	CSC	Chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage.	No	Low	Site lacks suitable soils.
TEIIDAE **WHIPTAIL LIZARDS**					
Belding's orange-throated whiptail *Aspidoscelis hyperythra beldingi*	CSC, MHCP	Chaparral, coastal sage scrub with coarse sandy soils and scattered brush.	No	Low	Species easily identified. Not observed.
COLUBRIDAE **COLUBRID SNAKES**					
California glossy snake *Arizona elegans occidentalis*	CSC	Scrub and grassland habitats, often with loose or sandy soils.	No	Low	Site lacks habitat with suitable soils.
BIRDS (Nomenclature from American Ornithologists' Union 2015 and Unitt 2004)					
ACCIPITRIDAE **HAWKS, KITES, & EAGLES**					
Cooper's hawk (nesting) *Accipiter cooperii*	WL, MHCP	Mature forest, open woodlands, wood edges, river groves. Parks and residential areas.	No	Moderate	This hawk species could use mature trees on-site for nesting.
VIREONIDAE **VIREOS**					
Least Bell's vireo (nesting) *Vireo bellii pusillus*	FE, CE MHCP	Willow riparian woodlands. Summer resident.	No	Low	Site lacks suitable willow riparian woodland habitat.
SYLVIIDAE **GNATCATCHERS**					
Coastal California gnatcatcher *Polioptila californica californica*	FT, CSC, MHCP	Coastal sage scrub, maritime succulent scrub. Resident.	No	Low	Species easily detected, but not observed.

Attachment 4 Sensitive Wildlife Species Occurring or with the Potential to Occur					
Species' Common Name/ Scientific Name	Listing Status	Habitat Preference/ Requirements	Detected On-Site?	Potential to Occur On-Site?	Basis for Determination of Occurrence Potential
EMBERIZIDAE EMBERIZIDS					
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	WL, MHCP	Coastal sage scrub, chaparral, grassland. Resident.	No	Low	Species easily detected, but not observed.
Bell's sage sparrow *Artemisiospiza* [=*Amphispiza*] *belli belli*	WL, MHCP	Chaparral, coastal sage scrub. Localized resident.	No	Low	Species easily detected, but not observed.
MAMMALS					
MURIDAE OLD WORLD MICE & RATS (I)					
San Diego desert woodrat *Neotoma lepida intermedia*	CSC	Coastal sage scrub and chaparral.	Yes	High	One nest of this species was observed in the southern maritime chaparral habitat.

STATUS CODES
Listed/Proposed
FT = Listed as threatened by the federal government

Other
CSC = California Department of Fish and Wildlife species of special concern
WL = California Department of Fish and Wildlife watch list species
MHCP = Multiple Habitat Conservation Program covered species

APPENDIX C

Geological Reconnaissance
GEOCON Incorporated, Inc., May 21, 2018

GEOLOGIC RECONNAISSANCE

UNITARIAN UNIVERSALIST FELLOWSHIP PROPERTY
1036 SOLANA DRIVE
SOLANA BEACH, CALIFORNIA

GEOCON
INCORPORATED

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

DOMUSSTUDIO ARCHITECTURE
SAN DIEGO, CALIFORNIA

MAY 21, 2018
PROJECT NO. G2282-42-01

Project No. G2282-42-01
May 21, 2018

domusstudio architecture
2800 Third Avenue
San Diego, California 92103

Attention: Ms. Jessica Schwartz

Subject: GEOLOGIC RECONNAISSANCE
UNITARIAN UNIVERSALIST FELLOWSHIP PROPERTY
1036 SOLANA DRIVE
SOLANA BEACH, CALIFORNIA

Dear Ms. Schwartz:

In accordance with your request and authorization of our Proposal No. LG-18191, dated May 17, 2018, we have prepared this geologic reconnaissance report for the property located at 1036 Solana Drive in Solana Beach, California. The accompanying report describes the general site soil and geologic conditions and an evaluation of geologic hazards based on a desktop study and limited site reconnaissance. The accompanying report presents the results of findings of our study.

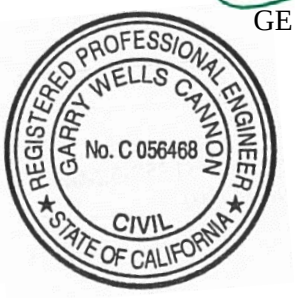
Should you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED

Garry W. Cannon
CEG 2201
RCE 56468

Rodney C. Mikesell
GE 2533



GWC:RCM:dmc

(2) Addressee

TABLE OF CONTENTS

GEOLOGIC RECONNAISSANCE

1. PURPOSE AND SCOPE

This report presents the results of a geologic reconnaissance for the property located at 1036 Solana Drive in Solana Beach, California (see Vicinity Map, Figure 1). The purpose of this study was to review readily available documents and maps to aid in evaluating the geologic conditions and the geologic/geotechnical hazards that may affect the property.

The scope of our study consisted of reviewing in-house maps and reports and performing a site visit to observe the current site conditions

The conclusions presented herein are based on a review of the data on properties adjacent to this study and our experience with similar soil and geologic conditions in the surrounding area.

2. SITE AND PROJECT DESCRIPTION

The church campus area is approximately 6.42 acres and consists of a chapel, an amphitheater, administration building, maintenance buildings, at-grade parking lots, retaining walls, and open vegetated areas. The property ranges in elevation from approximately 240 feet above mean sea level (MSL) to approximately 185 feet MSL and drains to the southwest.

We reviewed the project preliminary plan titled *Unitarian Universalist Fellowship 1036 Solana Drive, Solana Beach, CA 92075*, dated March 6, 2018 by Domus Studio Architecture. The proposed development will consist of: improvements to the existing amphitheater; replacing the existing A/V shack with a small building including A/V booth, restrooms, and dressing rooms; updating existing public access pathways to meet ADA guidelines; new parking lots including additional parking spaces and hammerhead turn-around, and pervious pavement; a new addition to the existing administrative office building; several retaining walls, some up to 15-feet tall.

3. SOIL AND GEOLOGIC CONDITIONS

Based on our site visit and review of Kennedy and Tan (2008), we expect that the site is generally underlain by the Tertiary age Torrey formation with limited areas of artificial fill apparently associated with the current site development. We have not reviewed any reports or maps associated with the current site development and therefore do not have an opinion regarding the suitability of the artificial fill for the support of planned new improvements. A geotechnical report will be necessary in order to provide an evaluation of the artificial fill.

The Torrey formation is described in Kennedy and Tan (2008) and Kennedy (1975) as "…white to light brown, medium to coarse grained, subangular…moderately indurated…massive and broadly

cross-bedded." The Torrey formation soils are suitable for support of structural loads. Excavations in this unit will likely require moderate to heavy effort using conventional heavy-duty equipment. A geologic map of the site is provided as Figure 2.

4. GROUNDWATER

We do not expect groundwater to significantly affect the future development of the property; however, it is not uncommon for groundwater or seepage conditions to develop where none previously existed due to the permeability characteristics of the geologic units encountered on site. During the rainy season, seepage conditions may develop that would require special consideration during grading operations. Groundwater elevations are dependent on seasonal precipitation, irrigation and land use, among other factors, and vary as a result. Proper surface drainage will be critical to future performance of the property.

5. GEOLOGIC HAZARDS

5.1 Ground Rupture

The USGS (2016) shows that there are no mapped Quaternary faults crossing or trending toward the property. The site is not located within a currently established Alquist-Priolo Earthquake Fault Zone. No active faults are known to exist at the site. The nearest active fault, the Rose Canyon Fault Zone, lies approximately 3.5 miles west of the site. The risk associated with ground rupture hazard is low

5.2 Seismicity

We performed a deterministic seismic hazard analysis using Risk Engineering (2015). Six known active faults were located within a search radius of 50 miles from the property. We used the 2008 USGS fault database, which provides several models and combinations of fault data, to evaluate the fault information. Based on this database, the Newport-Inglewood/Rose Canyon and Rose Canyon Fault Zones, located approximately 2 miles west of the site, are the nearest known active faults and are the dominant source of potential ground motion. Earthquakes that might occur on the Newport-Inglewood/Rose Canyon and Rose Canyon Fault Zones or other faults within the southern California and northern Baja California area are potential generators of significant ground motion at the site. The estimated maximum earthquake magnitude and peak ground acceleration for the Newport-Inglewood/Rose Canyon Fault are 7.5 and 0.52g, respectively. The table below lists the estimated maximum earthquake magnitude and peak ground acceleration for the most dominant faults in relation to the site. We calculated peak ground acceleration (PGA) using Boore and Atkinson (2008), Campbell and Bozorgnia (2008), and Chiou and Youngs (2008) acceleration-attenuation relationships.

TABLE 5.2.1
DETERMINISTIC SPECTRA SITE PARAMETERS

Fault Name	Distance from Site (miles)	Maximum Earthquake Magnitude (Mw)	Peak Ground Acceleration		
			Boore-Atkinson 2008 (g)	Campbell-Bozorgnia 2008 (g)	Chiou-Youngs 2008 (g)
Newport-Inglewood/Rose Canyon	3.4	7.5	0.38	0.40	0.47
Rose Canyon	3.4	6.9	0.33	0.39	0.41
Coronado Bank	17.7	7.4	0.17	0.13	0.15
Palos Verdes/Coronado Bank	17.7	7.7	0.19	0.14	0.18
Elsinore	27.9	7.85	0.15	0.11	0.13
Earthquake Valley	40.8	6.8	0.06	0.05	0.04
Palos Verdes	43.2	7.3	0.08	0.06	0.06
San Joaquin Hills	46.9	7.1	0.06	0.07	0.05

In the event of a major earthquake on the referenced faults or other significant faults in the southern California and northern Baja California area, the site could be subjected to moderate to severe ground shaking. With respect to this hazard, the site is considered comparable to others in the general vicinity.

We performed a probabilistic seismic hazard analysis for the site using Risk Engineering (2015). The computer program assumes that the occurrence rate of earthquakes on each mapped Quaternary fault is proportional to the fault slip rate. The program accounts for earthquake magnitude as a function of fault rupture length, and site acceleration estimates are made using the earthquake magnitude and distance from the site to the rupture zone. The program also accounts for uncertainty in each of following: (1) earthquake magnitude, (2) rupture length for a given magnitude, (3) location of the rupture zone, (4) maximum possible magnitude of a given earthquake, and (5) acceleration at the site from a given earthquake along each fault. By calculating the expected accelerations from considered earthquake sources, the program calculates the total average annual expected number of occurrences of site acceleration greater than a specified value. We used acceleration-attenuation relationships suggested by Boore-Atkinson (2008), Campbell-Bozorgnia (2008), and Chiou-Youngs (2008) in the analysis. Table 5.2.2 presents the site-specific probabilistic seismic hazard parameters including acceleration-attenuation relationships and the probability of exceedence.

TABLE 5.2.2
PROBABILISTIC SEISMIC HAZARD PARAMETERS

Probability of Exceedence	Peak Ground Acceleration		
	Boore-Atkinson, 2008 (g)	Campbell-Bozorgnia, 2008 (g)	Chiou-Youngs, 2008 (g)
2% in a 50 Year Period	0.47	0.55	0.57
5% in a 50 Year Period	0.32	0.36	0.37
10% in a 50 Year Period	0.23	0.25	0.24

While listing peak accelerations is useful for comparison of potential effects of fault activity in a region, other considerations are important in seismic design, including frequency and duration of motion and soil conditions underlying the site. Seismic design of the structures should be evaluated in accordance with the California Building Code (CBC) guidelines.

5.3 Liquefaction

The risk associated with seismically induced soil liquefaction hazard is low.

5.4 Landslides

No evidence of landsliding was observed during our site visit or in our review of historic, stereoscopic aerial photographs (USDA, 1953) or published geologic maps (Kennedy, 1975; Kennedy and Tan. 2008). The risk associated with ground movement hazard due to landsliding is low.

5.5 Seiches and Tsunamis

The elevation at the site is greater than approximately 190 feet MSL and 1.33 miles from the ocean. There are no lakes or reservoirs are located near the site. The risk associated with inundation hazard due to tsunamis or seiches are low.

5.6 Flooding

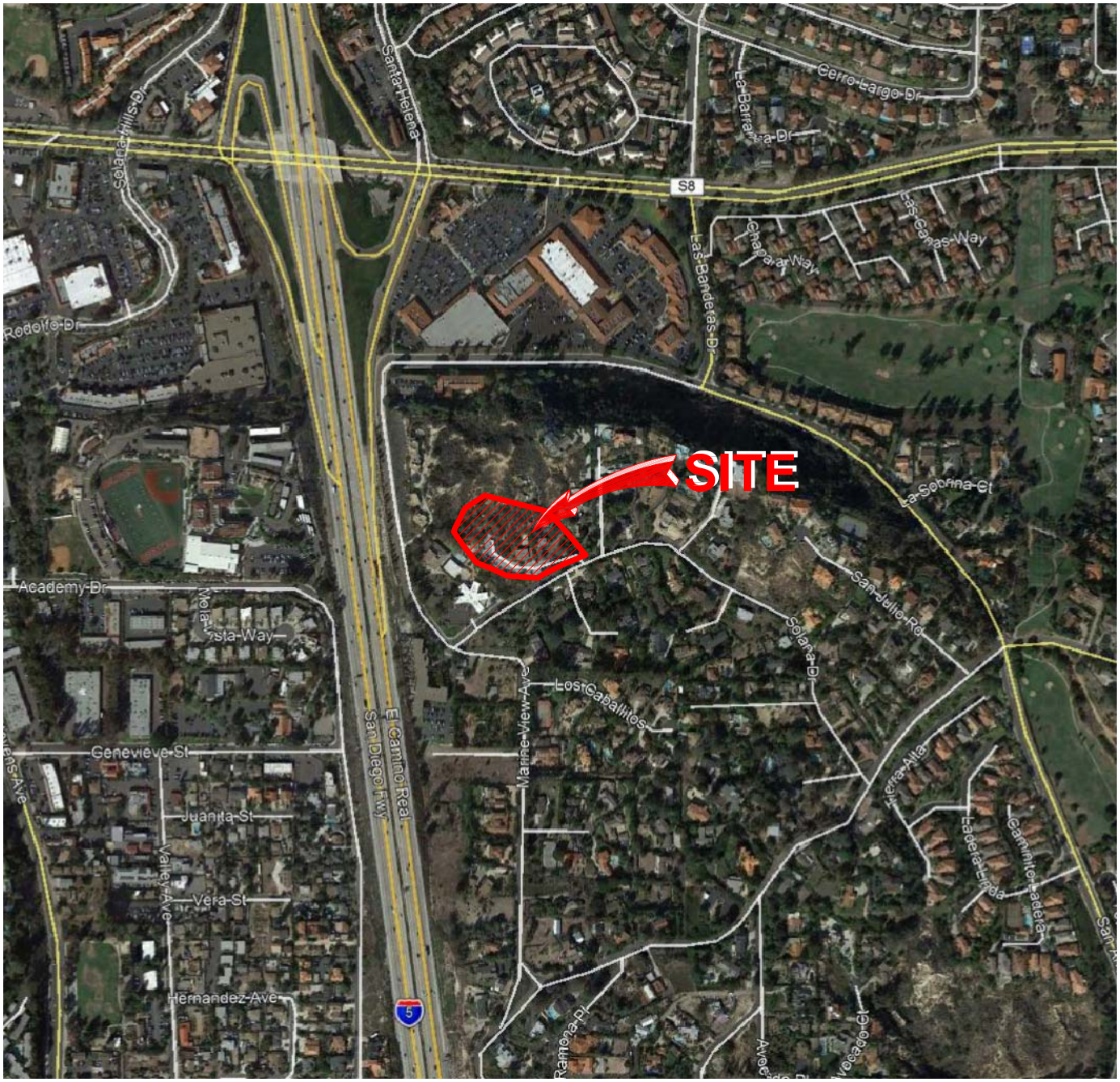
The site is as an “Area of Minimal Flood Hazard”, Zone X (FEMA, 2012). The risk of inundation due to flooding is low.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 It is our opinion that there is low risk for adverse soil or geologic conditions or geologic hazards, including fault rupture, existing at the site that would preclude future development; however, a geotechnical study should be performed.

6.2 We expect the site is generally underlain by Torrey Formation with minor amounts of topsoil, colluvium, artificial fill, etc. A geotechnical field study will be required to determine the nature and suitability of the site subsurface soils for support of planned improvements.

6.3 We expect that groundwater is deep enough below the existing ground surface to not pose an adverse condition to site development; however, it is not uncommon for groundwater or seepage conditions to develop where none previously existed due to the permeability characteristics of the geologic units on site. During the rainy season, seepage conditions may develop that would require special consideration.



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N

NO SCALE

VICINITY MAP

GEOCON INCORPORATED
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858 558-6900 - FAX 858 558-6159

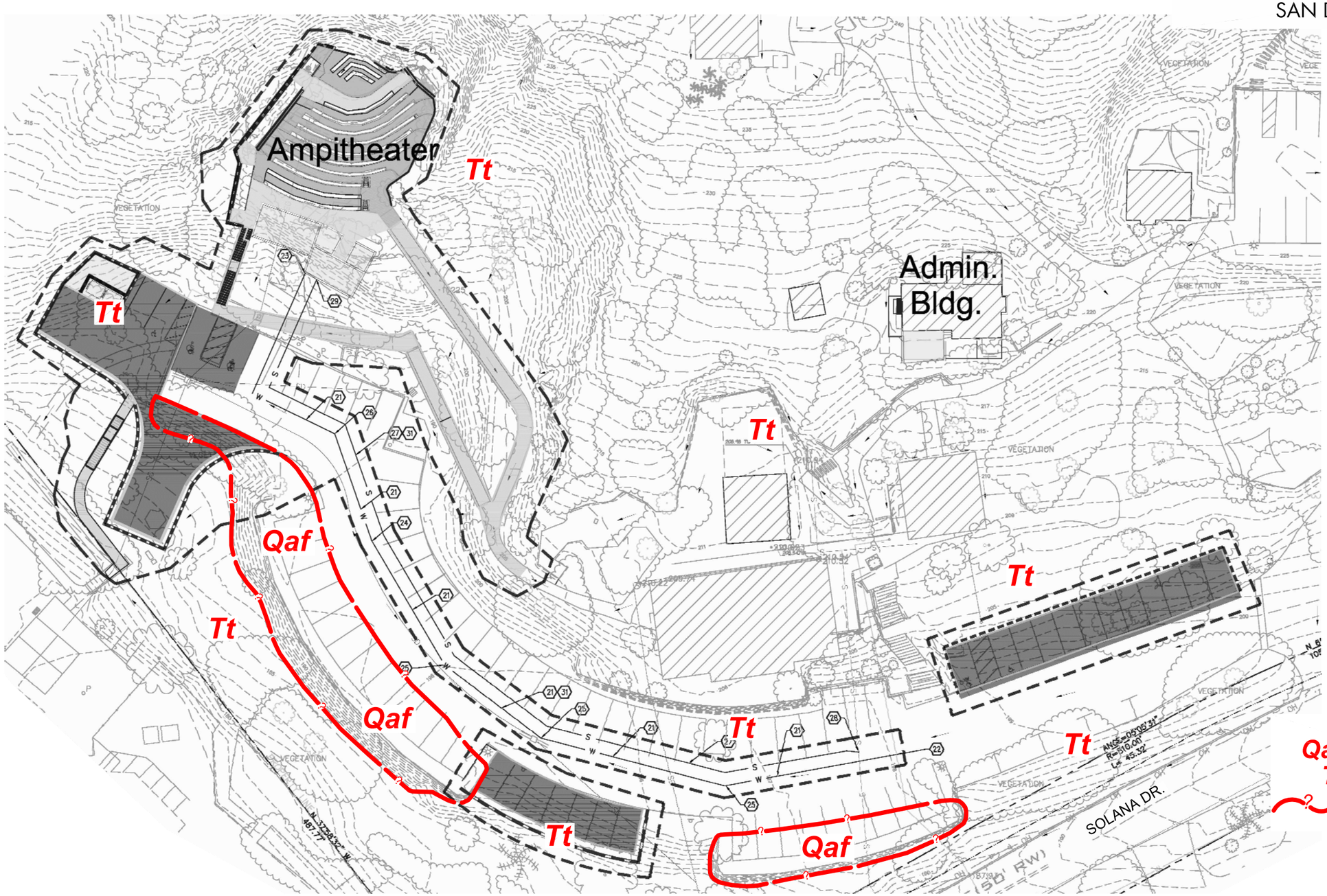
GC / RA		DSK/GTYPD

UNITARIAN UNIVERSALIST FELLOWSHIP RECON
SAN DIEGO, CALIFORNIA

DATE 05 - 21 - 2018	PROJECT NO. G2282 - 42 - 01	FIG. 1

Plotted:05/21/2018 1:50PM | By:RUBEN AGUILAR | File Location:Y:\PROJECTS\G2282-42-01 Unitarian Universalist Fellowship Recon\DETAILS\G2282-42-01 VicinityMap.dwg

UNITARIAN UNIVERSALIST FELLOWSHIP RECON
SAN DIEGO, CALIFORNIA



0' 40' 80'
SCALE 1"= 40' (On 11x17)

GEOCON LEGEND

Qaf .....ARTIFICIAL FILL

Tt .....TORREY FORMATION

?~? .....APPROX. LOCATION OF GEOLOGIC CONTACT (Queried Where Uncertain)

GEOCON INCORPORATED
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS
6960 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121 - 2974
PHONE 858 558-6900 - FAX 858 558-6159

PROJECT NO. G2282 - 42 - 01
FIGURE 2
DATE 05 - 21 - 2018

GEOLOGIC MAP

Plotted:05/21/2018 1:59PM | By:RUBEN AGUILAR | File Location:Y:\PROJECTS\G2282-42-01 Unitarian Universalist Fellowship Recon\SHEETS\G2282-42-01 GeoMap.dwg

LIST OF REFERENCES

FEMA (2012), *Flood Insurance Rate Map, San Diego County, California and Incorporated Areas Panel 1807G,* effective May 16, 2012;

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Kennedy, M. P., and Tan, S. S. (2008), *Geologic Map of the San Diego 30' x 60' Quadrangle, California*, USGS Regional Geologic Map Series, 1:100,000 Scale, Map No. 3;

Risk Engineering (2011), *EZ-FRISK (version 7.62),* software package used to perform site-specific earthquake hazard analyses. Accessed May 15, 2018;

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USGS (2016), *Quaternary Fault and Fold Database of the United States:* U.S. Geological Survey website, http://earthquakes,usgs.gov/hazards/qfaults, accessed May 15, 2018.

APPENDIX D

Greenhouse Gas CalEEMod Emission Calculation Output RECON Environmental, Inc., August 28, 2019

8452 UUFSD Improvements

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	1.23	1000sqft	0.57	1,227.00	0
Parking Lot	7.19	1000sqft	0.17	7,194.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2021
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Limits of work = 0.74 acres
sf = proposed building change

Construction Phase - Founders Hall - estiamted 3 montsh
Admin Building - estimated 3 months
Amphitheather, Booth, Parking - estimated 6 months

Grading - 0.74 limits of work

8452 UUFSD Improvements - San Diego County APCD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	65.00
tblConstructionPhase	NumDays	100.00	65.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	100.00	112.00
tblConstructionPhase	PhaseEndDate	5/19/2020	3/31/2020
tblConstructionPhase	PhaseEndDate	10/6/2020	6/30/2020
tblConstructionPhase	PhaseStartDate	5/20/2020	4/1/2020
tblGrading	AcresOfGrading	2.50	0.74
tblLandUse	LotAcreage	0.03	0.57

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					
2020	0.1151	1.1650	0.9795	1.5700e-003	9.7000e-003	0.0675	0.0772	3.6000e-003	0.0622	0.0658	0.0000	138.2454	138.2454	0.0419	0.0000	139.2926
Maximum	**0.1151**	**1.1650**	**0.9795**	**1.5700e-003**	**9.7000e-003**	**0.0675**	**0.0772**	**3.6000e-003**	**0.0622**	**0.0658**	**0.0000**	**138.2454**	**138.2454**	**0.0419**	**0.0000**	**139.2926**

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					
2020	0.1151	1.1650	0.9795	1.5700e-003	9.7000e-003	0.0675	0.0772	3.6000e-003	0.0622	0.0658	0.0000	138.2452	138.2452	0.0419	0.0000	139.2925
Maximum	**0.1151**	**1.1650**	**0.9795**	**1.5700e-003**	**9.7000e-003**	**0.0675**	**0.0772**	**3.6000e-003**	**0.0622**	**0.0658**	**0.0000**	**138.2452**	**138.2452**	**0.0419**	**0.0000**	**139.2925**

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

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2020	3-31-2020	0.3204	0.3204
2	4-1-2020	6-30-2020	0.3203	0.3203
3	7-1-2020	9-30-2020	0.3168	0.3168
		Highest	0.3204	0.3204

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	6.9400e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Energy	8.0000e-005	7.0000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	4.9121	4.9121	1.8000e-004	5.0000e-005	4.9310
Mobile	4.2200e-003	0.0175	0.0441	1.4000e-004	0.0114	1.2000e-004	0.0116	3.0600e-003	1.1000e-004	3.1700e-003	0.0000	12.6580	12.6580	7.2000e-004	0.0000	12.6760
Waste						0.0000	0.0000		0.0000	0.0000	1.4230	0.0000	1.4230	0.0841	0.0000	3.5253
Water						0.0000	0.0000		0.0000	0.0000	0.0122	0.3823	0.3945	1.2700e-003	3.0000e-005	0.4361
Total	**0.0112**	**0.0182**	**0.0447**	**1.4000e-004**	**0.0114**	**1.7000e-004**	**0.0116**	**3.0600e-003**	**1.6000e-004**	**3.2200e-003**	**1.4352**	**17.9525**	**19.3877**	**0.0863**	**8.0000e-005**	**21.5685**

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	6.9400e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Energy	8.0000e-005	7.0000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	4.9121	4.9121	1.8000e-004	5.0000e-005	4.9310
Mobile	4.2200e-003	0.0175	0.0441	1.4000e-004	0.0114	1.2000e-004	0.0116	3.0600e-003	1.1000e-004	3.1700e-003	0.0000	12.6580	12.6580	7.2000e-004	0.0000	12.6760
Waste						0.0000	0.0000		0.0000	0.0000	1.4230	0.0000	1.4230	0.0841	0.0000	3.5253
Water						0.0000	0.0000		0.0000	0.0000	0.0122	0.3823	0.3945	1.2700e-003	3.0000e-005	0.4361
Total	**0.0112**	**0.0182**	**0.0447**	**1.4000e-004**	**0.0114**	**1.7000e-004**	**0.0116**	**3.0600e-003**	**1.6000e-004**	**3.2200e-003**	**1.4352**	**17.9525**	**19.3877**	**0.0863**	**8.0000e-005**	**21.5685**

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

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Founders Hall	Building Construction	1/1/2020	3/31/2020	5	65	
2	Admin Building	Building Construction	4/1/2020	6/30/2020	5	65	
3	Amp, Booth, Parking Site Prep	Site Preparation	7/1/2020	7/7/2020	5	5	
4	Amp, Booth, Parking Grading	Grading	7/8/2020	7/21/2020	5	10	
5	Amp, Booth Building Construction	Building Construction	7/22/2020	12/24/2020	5	112	
6	Parking Paving	Paving	12/25/2020	12/31/2020	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.17

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Founders Hall	Cranes	1	4.00	231	0.29
Founders Hall	Forklifts	2	6.00	89	0.20
Founders Hall	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Admin Building	Cranes	1	4.00	231	0.29
Admin Building	Forklifts	2	6.00	89	0.20
Admin Building	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Parking Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Amp, Booth, Parking Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Amp, Booth Building Construction	Cranes	1	4.00	231	0.29
Amp, Booth Building Construction	Forklifts	2	6.00	89	0.20
Amp, Booth, Parking Site Prep	Graders	1	8.00	187	0.41
Parking Paving	Pavers	1	7.00	130	0.42
Parking Paving	Rollers	1	7.00	80	0.38
Amp, Booth, Parking Grading	Rubber Tired Dozers	1	1.00	247	0.40
Amp, Booth Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Amp, Booth, Parking Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Parking Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Amp, Booth, Parking Site Prep	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Founders Hall	5	4.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Admin Building	5	4.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Amp, Booth Building Construction	5	4.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Amp, Booth, Parking Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Parking Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Amp, Booth, Parking Site Prep	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Founders Hall - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0280	0.2877	0.2401	3.7000e-004		0.0170	0.0170		0.0156	0.0156	0.0000	32.5197	32.5197	0.0105	0.0000	32.7826
Total	**0.0280**	**0.2877**	**0.2401**	**3.7000e-004**		**0.0170**	**0.0170**		**0.0156**	**0.0156**	**0.0000**	**32.5197**	**32.5197**	**0.0105**	**0.0000**	**32.7826**

3.2 Founders Hall - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-004	3.7000e-003	9.8000e-004	1.0000e-005	2.2000e-004	2.0000e-005	2.3000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.8576	0.8576	7.0000e-005	0.0000	0.8592
Worker	4.8000e-004	3.5000e-004	3.4800e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9423	0.9423	3.0000e-005	0.0000	0.9431
Total	**6.0000e-004**	**4.0500e-003**	**4.4600e-003**	**2.0000e-005**	**1.2600e-003**	**3.0000e-005**	**1.2800e-003**	**3.4000e-004**	**3.0000e-005**	**3.6000e-004**	**0.0000**	**1.7999**	**1.7999**	**1.0000e-004**	**0.0000**	**1.8022**

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	0.0280	0.2877	0.2401	3.7000e-004		0.0170	0.0170		0.0156	0.0156	0.0000	32.5196	32.5196	0.0105	0.0000	32.7826
Total	**0.0280**	**0.2877**	**0.2401**	**3.7000e-004**		**0.0170**	**0.0170**		**0.0156**	**0.0156**	**0.0000**	**32.5196**	**32.5196**	**0.0105**	**0.0000**	**32.7826**

3.2 Founders Hall - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-004	3.7000e-003	9.8000e-004	1.0000e-005	2.2000e-004	2.0000e-005	2.3000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.8576	0.8576	7.0000e-005	0.0000	0.8592
Worker	4.8000e-004	3.5000e-004	3.4800e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9423	0.9423	3.0000e-005	0.0000	0.9431
Total	**6.0000e-004**	**4.0500e-003**	**4.4600e-003**	**2.0000e-005**	**1.2600e-003**	**3.0000e-005**	**1.2800e-003**	**3.4000e-004**	**3.0000e-005**	**3.6000e-004**	**0.0000**	**1.7999**	**1.7999**	**1.0000e-004**	**0.0000**	**1.8022**

3.3 Admin Building - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0280	0.2877	0.2401	3.7000e-004		0.0170	0.0170		0.0156	0.0156	0.0000	32.5197	32.5197	0.0105	0.0000	32.7826
Total	**0.0280**	**0.2877**	**0.2401**	**3.7000e-004**		**0.0170**	**0.0170**		**0.0156**	**0.0156**	**0.0000**	**32.5197**	**32.5197**	**0.0105**	**0.0000**	**32.7826**

3.3 Admin Building - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-004	3.7000e-003	9.8000e-004	1.0000e-005	2.2000e-004	2.0000e-005	2.3000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.8576	0.8576	7.0000e-005	0.0000	0.8592
Worker	4.8000e-004	3.5000e-004	3.4800e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9423	0.9423	3.0000e-005	0.0000	0.9431
Total	**6.0000e-004**	**4.0500e-003**	**4.4600e-003**	**2.0000e-005**	**1.2600e-003**	**3.0000e-005**	**1.2800e-003**	**3.4000e-004**	**3.0000e-005**	**3.6000e-004**	**0.0000**	**1.7999**	**1.7999**	**1.0000e-004**	**0.0000**	**1.8022**

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	0.0280	0.2877	0.2401	3.7000e-004		0.0170	0.0170		0.0156	0.0156	0.0000	32.5196	32.5196	0.0105	0.0000	32.7826
Total	**0.0280**	**0.2877**	**0.2401**	**3.7000e-004**		**0.0170**	**0.0170**		**0.0156**	**0.0156**	**0.0000**	**32.5196**	**32.5196**	**0.0105**	**0.0000**	**32.7826**

3.3 Admin Building - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-004	3.7000e-003	9.8000e-004	1.0000e-005	2.2000e-004	2.0000e-005	2.3000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.8576	0.8576	7.0000e-005	0.0000	0.8592
Worker	4.8000e-004	3.5000e-004	3.4800e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.9423	0.9423	3.0000e-005	0.0000	0.9431
Total	**6.0000e-004**	**4.0500e-003**	**4.4600e-003**	**2.0000e-005**	**1.2600e-003**	**3.0000e-005**	**1.2800e-003**	**3.4000e-004**	**3.0000e-005**	**3.6000e-004**	**0.0000**	**1.7999**	**1.7999**	**1.0000e-004**	**0.0000**	**1.8022**

3.4 Amp, Booth, Parking Site Prep - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.9000e-004	0.0000	3.9000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0211	0.0102	2.0000e-005		8.4000e-004	8.4000e-004		7.7000e-004	7.7000e-004	0.0000	2.1398	2.1398	6.9000e-004	0.0000	2.1571
Total	**1.7100e-003**	**0.0211**	**0.0102**	**2.0000e-005**	**3.9000e-004**	**8.4000e-004**	**1.2300e-003**	**4.0000e-005**	**7.7000e-004**	**8.1000e-004**	**0.0000**	**2.1398**	**2.1398**	**6.9000e-004**	**0.0000**	**2.1571**

3.4 Amp, Booth, Parking Site Prep - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.3000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0906	0.0906	0.0000	0.0000	0.0907
Total	**5.0000e-005**	**3.0000e-005**	**3.3000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0906**	**0.0906**	**0.0000**	**0.0000**	**0.0907**

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					3.9000e-004	0.0000	3.9000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0211	0.0102	2.0000e-005		8.4000e-004	8.4000e-004		7.7000e-004	7.7000e-004	0.0000	2.1398	2.1398	6.9000e-004	0.0000	2.1571
Total	**1.7100e-003**	**0.0211**	**0.0102**	**2.0000e-005**	**3.9000e-004**	**8.4000e-004**	**1.2300e-003**	**4.0000e-005**	**7.7000e-004**	**8.1000e-004**	**0.0000**	**2.1398**	**2.1398**	**6.9000e-004**	**0.0000**	**2.1571**

3.4 Amp, Booth, Parking Site Prep - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.3000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0906	0.0906	0.0000	0.0000	0.0907
Total	**5.0000e-005**	**3.0000e-005**	**3.3000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0906**	**0.0906**	**0.0000**	**0.0000**	**0.0907**

3.5 Amp, Booth, Parking Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.7600e-003	0.0000	3.7600e-003	2.0700e-003	0.0000	2.0700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	**4.3400e-003**	**0.0394**	**0.0381**	**6.0000e-005**	**3.7600e-003**	**2.3400e-003**	**6.1000e-003**	**2.0700e-003**	**2.2300e-003**	**4.3000e-003**	**0.0000**	**5.2038**	**5.2038**	**9.8000e-004**	**0.0000**	**5.2284**

3.5 Amp, Booth, Parking Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.4000e-004	1.3400e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3624	0.3624	1.0000e-005	0.0000	0.3627
Total	**1.8000e-004**	**1.4000e-004**	**1.3400e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3624**	**0.3624**	**1.0000e-005**	**0.0000**	**0.3627**

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					3.7600e-003	0.0000	3.7600e-003	2.0700e-003	0.0000	2.0700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	**4.3400e-003**	**0.0394**	**0.0381**	**6.0000e-005**	**3.7600e-003**	**2.3400e-003**	**6.1000e-003**	**2.0700e-003**	**2.2300e-003**	**4.3000e-003**	**0.0000**	**5.2038**	**5.2038**	**9.8000e-004**	**0.0000**	**5.2284**

3.5 Amp, Booth, Parking Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.4000e-004	1.3400e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3624	0.3624	1.0000e-005	0.0000	0.3627
Total	**1.8000e-004**	**1.4000e-004**	**1.3400e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3624**	**0.3624**	**1.0000e-005**	**0.0000**	**0.3627**

3.6 Amp, Booth Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0483	0.4957	0.4137	6.4000e-004		0.0293	0.0293		0.0269	0.0269	0.0000	56.0339	56.0339	0.0181	0.0000	56.4869
Total	**0.0483**	**0.4957**	**0.4137**	**6.4000e-004**		**0.0293**	**0.0293**		**0.0269**	**0.0269**	**0.0000**	**56.0339**	**56.0339**	**0.0181**	**0.0000**	**56.4869**

3.6 Amp, Booth Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	6.3800e-003	1.7000e-003	2.0000e-005	3.7000e-004	3.0000e-005	4.0000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	1.4776	1.4776	1.1000e-004	0.0000	1.4805
Worker	8.3000e-004	6.1000e-004	5.9900e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8100e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6237	1.6237	5.0000e-005	0.0000	1.6249
Total	**1.0400e-003**	**6.9900e-003**	**7.6900e-003**	**4.0000e-005**	**2.1700e-003**	**4.0000e-005**	**2.2100e-003**	**5.9000e-004**	**4.0000e-005**	**6.3000e-004**	**0.0000**	**3.1013**	**3.1013**	**1.6000e-004**	**0.0000**	**3.1054**

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	0.0483	0.4957	0.4137	6.4000e-004		0.0293	0.0293		0.0269	0.0269	0.0000	56.0338	56.0338	0.0181	0.0000	56.4869
Total	**0.0483**	**0.4957**	**0.4137**	**6.4000e-004**		**0.0293**	**0.0293**		**0.0269**	**0.0269**	**0.0000**	**56.0338**	**56.0338**	**0.0181**	**0.0000**	**56.4869**

3.6 Amp, Booth Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	6.3800e-003	1.7000e-003	2.0000e-005	3.7000e-004	3.0000e-005	4.0000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	1.4776	1.4776	1.1000e-004	0.0000	1.4805
Worker	8.3000e-004	6.1000e-004	5.9900e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8100e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6237	1.6237	5.0000e-005	0.0000	1.6249
Total	**1.0400e-003**	**6.9900e-003**	**7.6900e-003**	**4.0000e-005**	**2.1700e-003**	**4.0000e-005**	**2.2100e-003**	**5.9000e-004**	**4.0000e-005**	**6.3000e-004**	**0.0000**	**3.1013**	**3.1013**	**1.6000e-004**	**0.0000**	**3.1054**

3.7 Parking Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	2.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.1500e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.7 Parking Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.2000e-004	1.2000e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3262	0.3262	1.0000e-005	0.0000	0.3264
Total	**1.7000e-004**	**1.2000e-004**	**1.2000e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3262**	**0.3262**	**1.0000e-005**	**0.0000**	**0.3264**

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	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	2.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.1500e-003**	**0.0181**	**0.0178**	**3.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**2.3482**	**2.3482**	**6.8000e-004**	**0.0000**	**2.3653**

3.7 Parking Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.2000e-004	1.2000e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3262	0.3262	1.0000e-005	0.0000	0.3264
Total	**1.7000e-004**	**1.2000e-004**	**1.2000e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3262**	**0.3262**	**1.0000e-005**	**0.0000**	**0.3264**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.2200e-003	0.0175	0.0441	1.4000e-004	0.0114	1.2000e-004	0.0116	3.0600e-003	1.1000e-004	3.1700e-003	0.0000	12.6580	12.6580	7.2000e-004	0.0000	12.6760
Unmitigated	4.2200e-003	0.0175	0.0441	1.4000e-004	0.0114	1.2000e-004	0.0116	3.0600e-003	1.1000e-004	3.1700e-003	0.0000	12.6580	12.6580	7.2000e-004	0.0000	12.6760

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Place of Worship	11.18	12.72	44.95	30,348	30,348
Total	11.18	12.72	44.95	30,348	30,348

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193
Place of Worship	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.1551	4.1551	1.7000e-004	3.0000e-005	4.1696
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.1551	4.1551	1.7000e-004	3.0000e-005	4.1696
NaturalGas Mitigated	8.0000e-005	7.0000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7569	0.7569	1.0000e-005	1.0000e-005	0.7614
NaturalGas Unmitigated	8.0000e-005	7.0000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7569	0.7569	1.0000e-005	1.0000e-005	0.7614

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					
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
Place of Worship	14184.1	8.0000e-005	7.0000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7569	0.7569	1.0000e-005	1.0000e-005	0.7614
Total		**8.0000e-005**	**7.0000e-004**	**5.8000e-004**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.7569**	**0.7569**	**1.0000e-005**	**1.0000e-005**	**0.7614**

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					
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
Place of Worship	14184.1	8.0000e-005	7.0000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7569	0.7569	1.0000e-005	1.0000e-005	0.7614
Total		**8.0000e-005**	**7.0000e-004**	**5.8000e-004**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.7569**	**0.7569**	**1.0000e-005**	**1.0000e-005**	**0.7614**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	2517.9	0.8229	3.0000e-005	1.0000e-005	0.8257
Place of Worship	10196.4	3.3323	1.3000e-004	3.0000e-005	3.3439
Total		**4.1551**	**1.6000e-004**	**4.0000e-005**	**4.1696**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	2517.9	0.8229	3.0000e-005	1.0000e-005	0.8257
Place of Worship	10196.4	3.3323	1.3000e-004	3.0000e-005	3.3439
Total		**4.1551**	**1.6000e-004**	**4.0000e-005**	**4.1696**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.9400e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Unmitigated	6.9400e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

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	1.6700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.2600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Total	**6.9400e-003**	**0.0000**	**8.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**0.0000**	**1.6000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.6700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.2600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Total	**6.9400e-003**	**0.0000**	**8.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.5000e-004**	**1.5000e-004**	**0.0000**	**0.0000**	**1.6000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.3945	1.2700e-003	3.0000e-005	0.4361
Unmitigated	0.3945	1.2700e-003	3.0000e-005	0.4361

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.0384854 / 0.0601951	0.3945	1.2700e-003	3.0000e-005	0.4361
Total		**0.3945**	**1.2700e-003**	**3.0000e-005**	**0.4361**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.0384854 / 0.0601951	0.3945	1.2700e-003	3.0000e-005	0.4361
Total		**0.3945**	**1.2700e-003**	**3.0000e-005**	**0.4361**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.4230	0.0841	0.0000	3.5253
Unmitigated	1.4230	0.0841	0.0000	3.5253

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	7.01	1.4230	0.0841	0.0000	3.5253
Total		**1.4230**	**0.0841**	**0.0000**	**3.5253**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	7.01	1.4230	0.0841	0.0000	3.5253
Total		**1.4230**	**0.0841**	**0.0000**	**3.5253**

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

APPENDIX E

Preliminary Hydrology Report
BergerABAM, June 27, 2018

Preliminary Hydrology Report

Site Improvements
Unitarian Universalist Fellowship of San Dieguito
1036 Solana Drive
Solana Beach, California 92075

27 June 2018

Prepared by

BergerABAM
10525 Vista Sorrento Parkway, Suite 350
San Diego, California, 92121-2745
858-500-4500

A15.0126.00

June 25, 2018

David Pfeifer, AIA
Principal Architect
domusstudio Architecture
2150 West Washington Street, Suite 303
San Diego, California 92110

Subject: PRELIMINARY HYDROLOGY REPORT
SITE IMPROVEMENTS
UNITARIAN UNIVERSALIST FELLOWSHIP OF SAN DIEGUITO
1036 SOLANA DRIVE
SOLANA BEACH, CALIFORNA 92075

BergerABAM is pleased to present our report describing the hydrology study performed for the subject project. The project will consist of site improvements to the existing Unitarian Universalist Fellowship of San Diego campus located in Solana Beach, California. The purpose of our work is to evaluate and provide conclusions regarding the existing and proposed hydrological conditions at the site. Based on our study, we consider the project feasible from a hydrology standpoint provided that the proposed storm water Best Management Practices (BMP) features are included to improve water quality and reduce the runoff volume and rate relative to existing conditions. The hydrology study and report were performed in general accordance with the County of San Diego Flood Control District guidelines and current industry standard.

Should you have any questions regarding our report, please call our office at (858) 500-4500.

Respectfully submitted,

Michael Magee, PE
Civil Project Manager

VAU:MM

Hydrology Calculations
Table of Contents

APPENDICES

1.0 INTRODUCTION

1.1 Project Description

The project will consist of site improvements including:

- Replacement / expansion of amphitheater AV room
- New amphitheater restrooms
- New trash storage area
- New retaining walls
- New Portland Cement Concrete (PCC) accessibility pathways
- Replacement of existing asphalt concrete (AC) parking lot pavements
- New permeable pavement parking areas with storage layers

In general, the only improvements that will increase the total developed area of the site are the new amphitheater restrooms, trash storage area, retaining walls, and new permeable paver parking areas. The remaining improvements are not anticipated to increase the developed footprint of the site. Additionally, the proposed permeable pavement parking areas, as a Best Management Practice (BMP) design feature, are anticipated to mitigate effects to the existing hydrologic condition.

According to the San Diego County BMP Design Manual, permeable pavements reduce runoff volumes and rates and can provide pollutant control via infiltration, filtration, sorption, sedimentation, and biodegradation processes. When integrated as a site design BMP, the subsurface layers are designed to provide storage of storm water runoff so that outflow rates can be controlled via infiltration into subgrade soils.

1.2 Project Site Information

The project site currently exists as a religious campus with associated improvements and is located approximately 500-feet east of Interstate 5 within the city of Solana Beach, California. The site generally slopes from the northern most property limit to the southwest property limit. Site elevations range between approximately 220 and 190-feet above mean sea level (MSL) with a maximum slope of approximately 25.7 percent and an average slope of approximately 6.0 percent. We understand that no project specific geotechnical investigation has been performed at this time. Table 1 below presents pertinent project site information.

TABLE 1 – Project Site Information	
Project Address	1036 Solana Drive, Solana Beach, California 92075
Assessor Parcel Number (APN)	298-361-08-00
Latitude	32°59'29.27"N
Longitude	117°15'11.90"W
Hydrologic Area	0.68 acres (29620 square feet)
Mapped Geologic Setting [1]	• Very old paralic deposits (Qvop) - middle to early Pleistocene age
Mapped Hydrologic Soil Group[2]	• Loamy alluvial land-Huerhuero complex (LvF3) – Type D Soil • Carlsbad gravelly loamy sand (CbD) – Type B Soil
Groundwater	Undetermined
Flood Hazard[3]	Zone X – Area of 0.2% annual chance flood; 1% annual chance flood with average depth less than 1-foot, or with drainage areas less than 1-square mile.

1. United States Geologic Survey (USGS) National Geologic Map Database
2. Natural Resources Conservation Service (NRCS) Web Soil Survey
3. FEMA National Flood Insurance Program

Based on Regional Water Quality Control Board information accessed via the GeoTracker online application, the depth to groundwater is unknown. However, groundwater is anticipated to be at a depth that would not affect proposed storm water BMP facilities or construction operations. Additionally, no groundwater contamination is documented in the vicinity of the project site.

1.3 Existing Drainage Conditions

Currently, the 0.68 acre site consists of 73- percent pervious / 27-percent impervious area. The general direction of storm water flow and existing hydrologic conditions are presented on the Existing Drainage Plan in Appendix A.

Stormwater runoff from the site is directed to the onsite polyvinyl chloride (PVC) storm drain system via one of five storm drain inlets. Existing PVC storm drain pipes range between 4- and 12-inches in diameter. From the site, storm water flows are conveyed to a 30-inch, County of San Diego, reinforced concrete pipe (RCP) located at Marine View Avenue approximately 415-feet west of the site (DWG No. CG-1688). Ultimately, storm water flows are received by the San Dieguito Lagoon approximately 4,700-feet southwest of the site.

1.4 Proposed Drainage Conditions

The planned improvements for the 0.68-acre site include a total of 6,068 square feet of pervious area (permeable parking lot pavers) and 1,803 square feet of impervious area

(amphitheater restroom and trash storage area). The planned improvements would change the existing hydrologic condition to 68-percent pervious / 32-percent impervious area. Although the project incorporates more pervious area than impervious at a ratio of almost 3-to-1, the pervious area is generally constructed on previously undeveloped area. The general direction of storm water flow and proposed hydrologic conditions are presented on the Proposed Drainage Plan in Appendix A.

The existing onsite stormwater system will continue to collect and convey storm water flows. Additionally, the permeable pavements are integrated as a BMP feature for improvement of storm water quality and volume-flow discharge control.

2.0 HYDROLOGY

The existing and proposed hydrologic conditions were considered as a single drainage management area (DMA) basin for each respective area of planned improvements, i.e. amphitheater area improvements, southwest parking lot improvements, southeast parking lot improvements. Neither the planned replacement / expansion of amphitheater AV room nor the replacement of existing asphalt concrete (AC) parking lot pavements were considered in this hydrology study as they do not modify the existing site hydrology, i.e. net zero change to total developed area at the site.

Storm water runoff for both the existing and proposed site conditions are calculated to evaluate the impact to the existing hydrologic regime in general accordance with the County of San Diego Flood Control District guidelines. BergerABAM had already possessed topographic information for the site obtained during the original site development plans dated 1996.

2.1 Methodology - Rational Method

The Rational Method (RM) is a mathematical formula used to evaluate the maximum runoff rate from a given rainfall. The RM is used for analyzing drainage areas up to 1 square mile (640 acres) in area to calculate conservative flows and can be applied using any design storm frequency. The 10-, 50-, and 100-year storm events were analyzed for this study in general accordance with Section 3 of the San Diego County Hydrology Manual.

2.1.1 Rational Method Equation

The RM is a function of the drainage area (A), runoff coefficient (C), and rainfall intensity (I) for a duration equal to the time of concentration (Tc), which is the approximate time required for water to flow from the most remote point of the basin to the location being analyzed. The peak rate of runoff was determined using the following equation:

$Q = CIA$	
Where:	Q = Peak Discharge (cfs) C = Runoff Coefficient I = Rainfall Intensity (inches per hour) A = Drainage Area (acres)

2.1.2 Runoff Coefficient

The runoff coefficients are based on land use and soil type. When undetermined, Soil Type D was adopted as a conservative measure. The Soil Hydrologic Group Map obtained from the USDA Web Soil Survey is presented in Appendix A. Table 2 presents the runoff coefficients were been adopted for our analysis.

TABLE 2 – Runoff Coefficients, C	
Undeveloped (Soil Type B)	0.25
Undeveloped (Soil Type D)	0.35
Developed (impervious)	0.87
Permeable Pavement (self-retaining)	0.10

2.1.3 Time of Concentration

The Time of Concentration is the approximate time required for runoff to flow from the most remote part of the drainage area to the design point. Time of Concentration was calculated using the following equation:

$T_C = \left[\frac{1.8 * (1.1 - C) * \sqrt{D}}{\sqrt[3]{S}} \right]$	
Where:	D = Watercourse Distance (ft) C = Runoff Coefficient (unitless) S = Slope of the Basin (%)

The calculations for the Time of Concentration use a minimum value of 5 minutes.

2.1.4 Rainfall Intensity

The rainfall intensity (I) is the rainfall in inches per hour (in/hr) for a duration equal to the Time of Concentration for a selected storm frequency. The rainfall intensity was calculated using the following equation:

I = 7.44*P6*D-0.645	
Where:	I = Intensity (in/hr) P6 = 6-hour precipitation (in) D = Duration (min)

3.0 RESULTS AND CONCLUSIONS

Based on the results of our hydrology study, the proposed improvements will maintain the existing drainage pattern and existing onsite storm water system is anticipated to support the proposed improvements within capacity. Additionally, the proposed permeable pavements as a site design BMP feature are anticipated to improve the storm water quality and reduce runoff volume and flow relative to the existing hydrological condition. In summary, the net volume and rate of storm water runoff from the proposed site is less than the existing site.

The hydrologic calculations are presented in Appendix B. Additionally, the storm water peak flow results are summarized in Table 3 below:

TABLE 3 – Peak Flow Results

Drainage Management Area (DMA)		Q_{10} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)
Existing	E1	1.19	1.54	1.89
	E2	0.11	0.15	0.18
	E3	0.11	0.14	0.18
Total		**1.42**	**1.83**	**2.25**
Proposed	P1	1.20	1.55	1.90
	P2*	0.00	0.00	0.00
	P3*	0.00	0.00	0.00
Total		**1.27**	**1.64**	**2.01**

*BMP self-retaining area, net zero storm water discharge.

Based on review of readily available documents as a preliminary screening, it is anticipated that neither geotechnical nor groundwater impacts would preclude storm water infiltration at the project site. However, a geotechnical investigation that includes an infiltration feasibility study should be performed for the project to assess the site specific infiltration rates in accordance with Appendix C of the San Diego County BMP Design Manual.

4.0 REFERENCES

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Kennedy, M.P. and Tan, S.S. (2008), *Geologic Map of the San Diego 30' x 60' Quadrangle*, California, California Geological Survey.

"National Geologic Map Database." (n.d.). *MapView,* United States Geologic Survey (USGS), <https://ngmdb.usgs.gov/mapview/> (Jun. 25, 2018).

"National Flood Insurance Program (NFIP)." (n.d.). *FEMA Flood Map Service Center*, Federal Emergency Management Agency (FEMA), <https://msc.fema.gov/portal/> (Jun. 21, 2018).

"San Diego County BMP Design Manual." (2016). County of San Diego, San Diego, CA.

San Diego County Hydrology Manual. (2003). County of San Diego Department of Public Works.

"Web Soil Survey." (n.d.). Natural Resources Conservation Service (NRCS), United States Department of Agriculture, <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx> (Jun. 27, 2018).

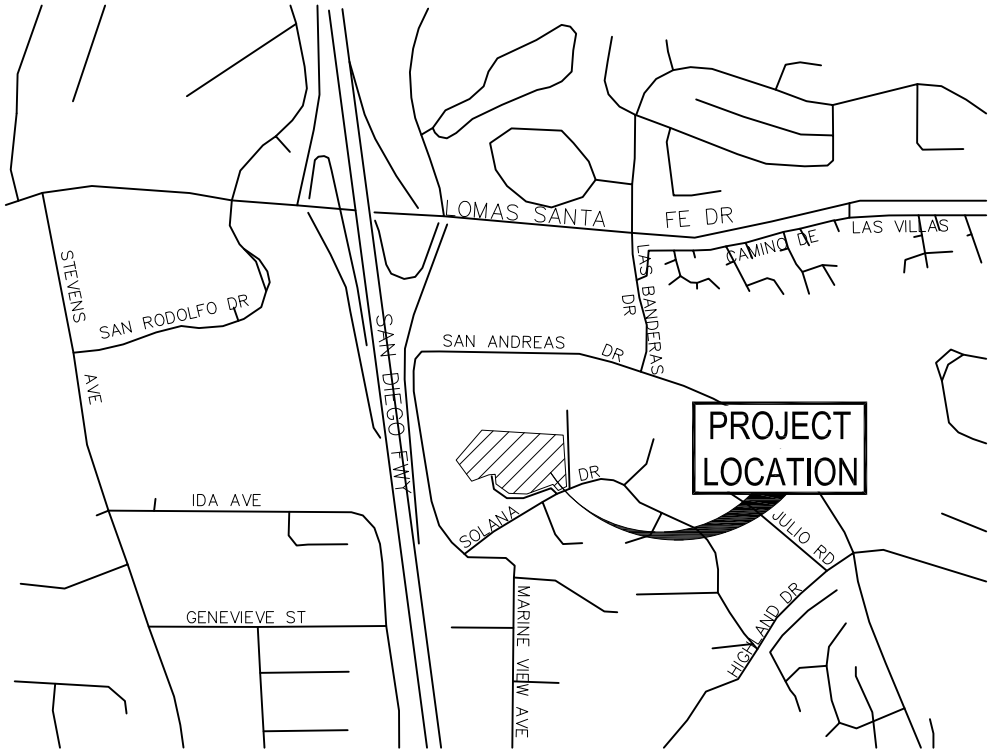
Preliminary Hydrology Report
Site Improvements
Unitarian Universalist Fellowship of San Dieguito
1036 Solana Drive
Solana Beach, California

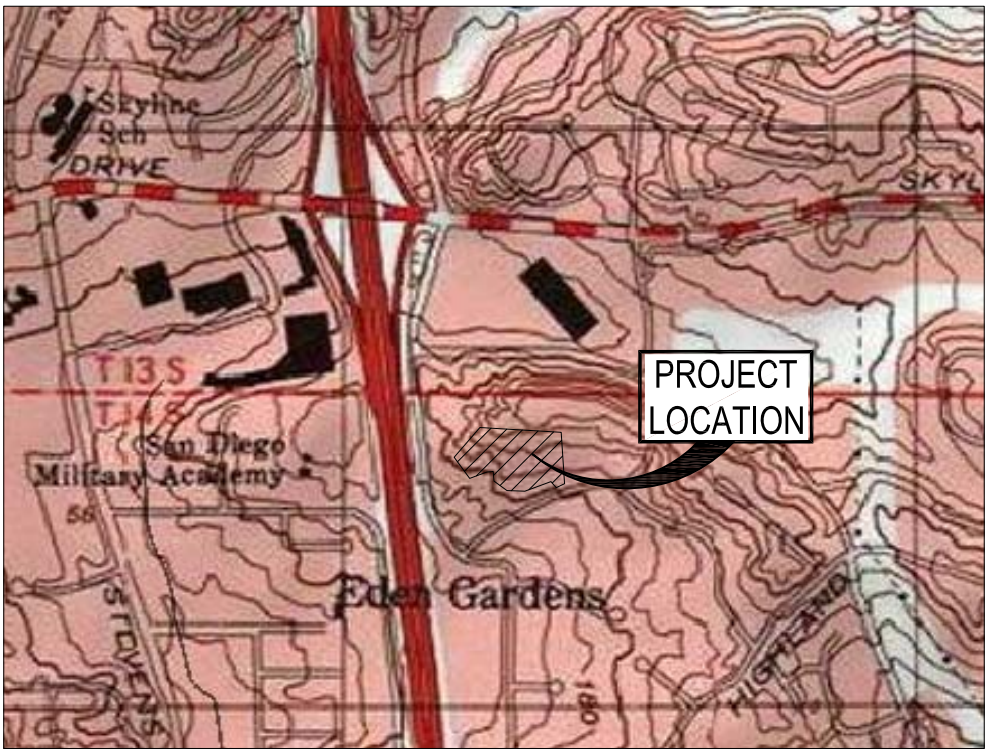
Appendix A

Vicinity Map
Existing Drainage Conditions Map
Proposed Drainage Conditions Map
Hydrologic Soil Group Map
10-year, 6-hour Isopluvial Map
10-year, 24-hour Isopluvial Map
50-year, 6-hour Isopluvial Map
50-year, 24-hour Isopluvial Map
100-year, 6-hour Isopluvial Map
100-year, 24-hour Isopluvial Map

Appendix B

Hydrologic Calculations





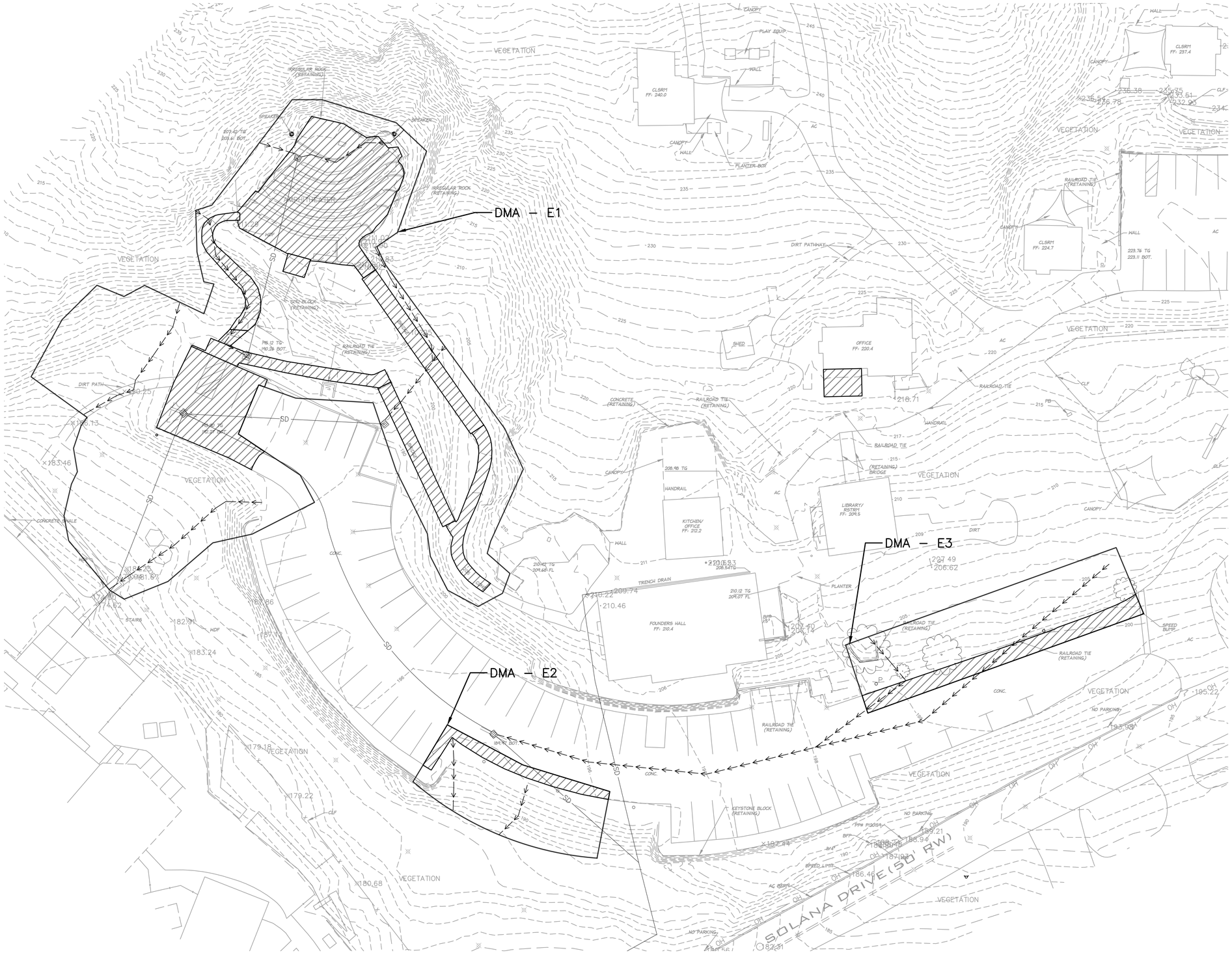
NTS

BergerABAM
10525 Vista Sorrento Parkway, Suite 350
San Diego, CA 92121
(858) 500-4500 FAX: (858) 500-4501

VICINITY MAP

UNITARIAN UNIVERSALIST FELLOWSHIP
OF SAN DIEGUITO
1036 SOLANA DRIVE
DEL MAR, CA 92014

SG		PLOT NO: 1	DATE: MARCH, 2015	PROJECT NUMBER: A15.0126	FIG 1



LEGEND

- DRAINAGE MANAGEMENT AREA (DMA)
- IMPERVIOUS PAVEMENT / STRUCTURE
- PERVIOUS PAVEMENT / STRUCTURE
- STORMWATER FLOW DIRECTION
- STORM DRAIN INLET
- STORM DRAIN LINE
- 4" SDR 35 PVC PERFORATED PIPE

100 YR STORM FLOW RATE			
LOCATION	DRAINAGE AREA (AC)	Q IN(CFS)	Q OUT(CFS)
E1	0.53	1.89	1.89
E2	0.06	0.18	0.18
E3	0.09	0.18	0.18

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 INCH = 20 FT

COASTAL COMMISSION PERMIT NO. _____

BergerABAM
10525 Vista Sorrento Parkway, Suite 350
San Diego, CA 92121
(858) 500-4500 Fax: (858) 500-4501

CUP ONLY: NOT FOR CONSTRUCTION

ENGINEER OF WORK
Drawn By
By: _____ Date: ____

CITY APPROVED CHANGES	APP'D	DATE

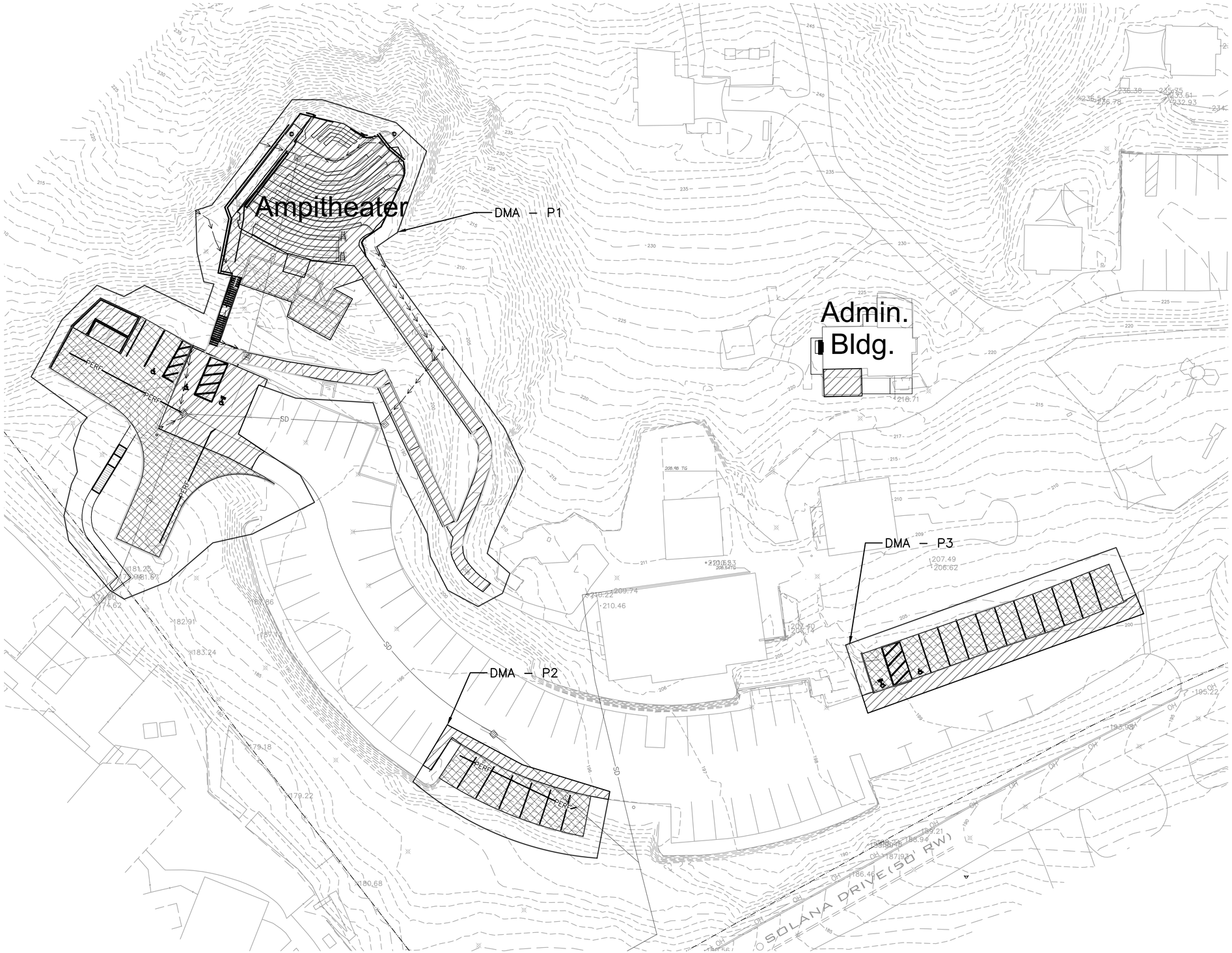
RECOMMENDED FOR APPROVAL
By: _____ Date: _____
By: _____ Date: _____

APPROVED FOR CONSTRUCTION
By: _____ Date: _____
Mohammad Sammak, City Engineer
R.C.E.: 37146 Exp: 6/30/16

BENCH MARK
DESCRIPTION: A 2.5" BRASS DISC STAMED "LS 7322"
LOCATION: IN FRONT OF THE SOLANA BEACH LIBRARY ON STEVENS AVE.
ELEV.: 110.41' DATUM: NAVD 88

CITY OF SOLANA BEACH ENGINEERING DEPARTMENT
EXISTING DRAINAGE PLAN
UNITARIAN UNIVERSALIST FELLOWSHIP OF SAN DIEGUITO
OWNER OR NAME OF PROJECT

DRAWING NO. C-4.1
Sheet of



LEGEND

- DRAINAGE MANAGEMENT AREA (DMA)
- IMPERVIOUS PAVEMENT / STRUCTURE
- PERVIOUS PAVEMENT / STRUCTURE
- STORMWATER FLOW DIRECTION
- STORM DRAIN INLET
- STORM DRAIN LINE
- 4" SDR 35 PVC PERFORATED PIPE

100 YR STORM FLOW RATE			
LOCATION	DRAINAGE AREA (AC)	Q IN(CFS)	Q OUT(CFS)
P1	0.53	1.90	1.90
P2*	0.06	0.11	0
P3*	0.09	0.11	0

* BMP SELF-RETAINING AREA, NET ZERO STORM WATER DISCHARGE

UNIT PAVER STORAGE VOLUME				
LOCATION	AREA (SF)	GRAVEL DEPT (IN)	STORAGE VOLUME (CF)	*V(100) (CF)
P1	2900	8	773	767
P2	1050	8	280	72
P3	1900	8	507	118

* V(100) 100 YEAR STORM WATER REQUIRED VOLUME

UNDERGROUND STORMWATER STORAGE SYSTEM NOTE:

IN ANTICIPATING POOR INFILTRATION RATE, UNIT PAVER LOCATION P1 AND P2 WILL PROVIDE 4" SDR35 PVC PERFORATED PIPE TO DISCHARGE STORMWATER TO EXISTING DRAINAGE SYSTEM; P3 WILL INFILTRATE TO THE GROUND.

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 INCH = 20 FT

COASTAL COMMISSION PERMIT NO. _____

BergerABAM
10525 Vista Sorrento Parkway, Suite 350
San Diego, CA 92121
(858) 500-4500 Fax: (858) 500-4501

CUP ONLY: NOT FOR CONSTRUCTION

ENGINEER OF WORK
Drawn By
By: _____ Date: ____

CITY APPROVED CHANGES | APP'D | DATE

RECOMMENDED FOR APPROVAL
By: _____ Date: _____
By: _____ Date: _____

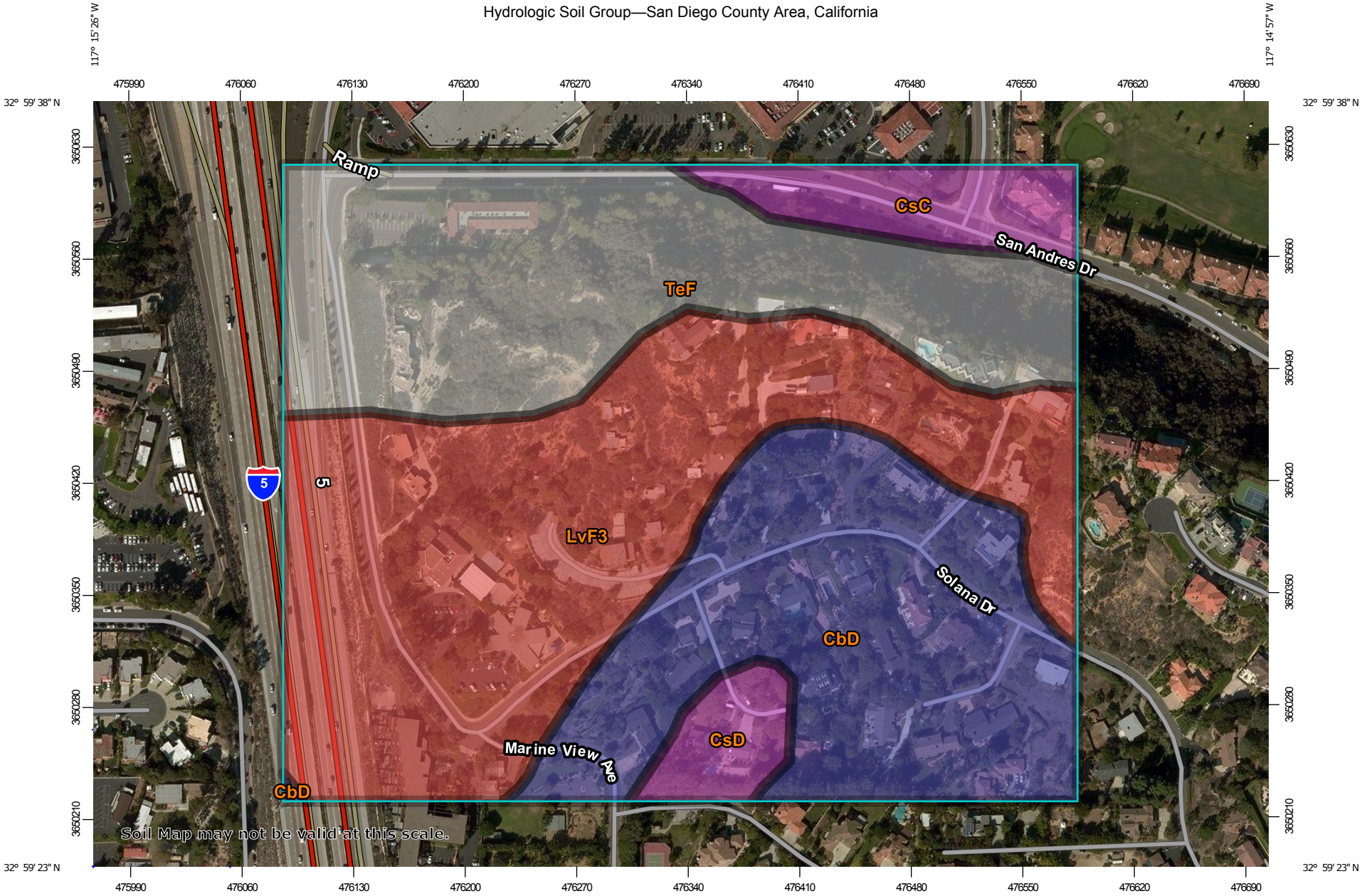
APPROVED FOR CONSTRUCTION
By: _____ Date: _____
Mohammad Sammak, City Engineer
R.C.E.: 37146 Exp: 6/30/16

BENCH MARK
DESCRIPTION: A 2.5" BRASS DISC STAMED "LS 7322"
LOCATION: IN FRONT OF THE SOLANA BEACH LIBRARY ON STEVENS AVE.
ELEV.: 110.41' DATUM: NAVD 88

CITY OF SOLANA BEACH ENGINEERING DEPARTMENT
PROPOSED DRAINAGE PLAN
UNITARIAN UNIVERSALIST FELLOWSHIP OF SAN DIEGUITO
OWNER OR NAME OF PROJECT

DRAWING NO. C-4.2
Sheet of

Hydrologic Soil Group—San Diego County Area, California



Map Scale: 1:3,370 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 12, Sep 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 3, 2014—Nov 22, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CbD	Carlsbad gravelly loamy sand, 9 to 15 percent slopes	B	12.9	26.2%
CsC	Corralitos loamy sand, 5 to 9 percent slopes	A	2.6	5.3%
CsD	Corralitos loamy sand, 9 to 15 percent slopes	A	1.5	3.0%
LvF3	Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes, severely eroded	D	18.7	38.1%
TeF	Terrace escarpments		13.5	27.5%
Totals for Area of Interest			**49.2**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

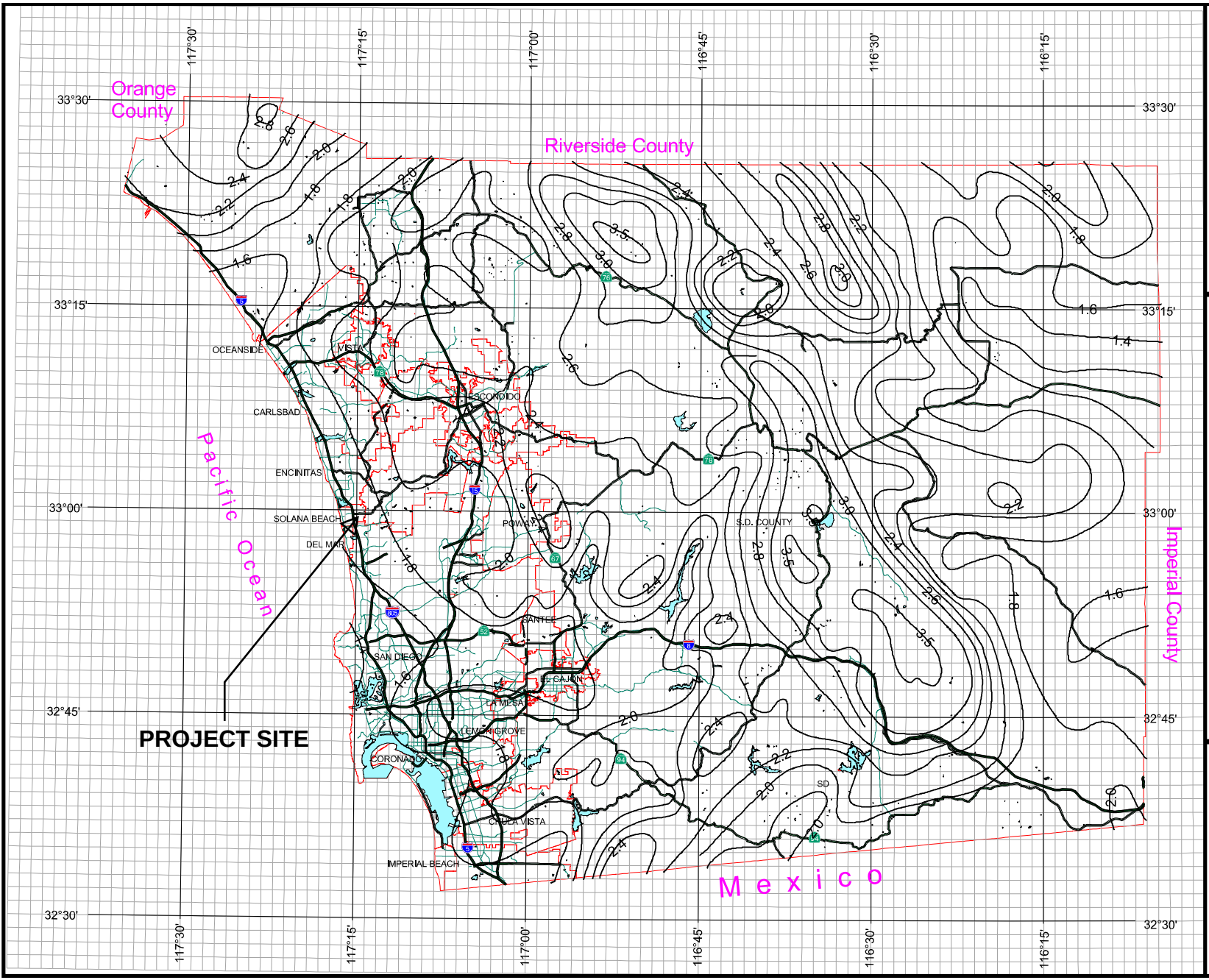
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

County of San Diego Hydrology Manual

Rainfall Isopluvials



10 Year Rainfall Event - 6 Hours

Isopluvial (inches)

P6 = 1.7

DPW GIS
Department of Public Works
Geographic Information Services

SanGIS
We Have San Diego Covered!

N
W E
S

3 0 3 Miles

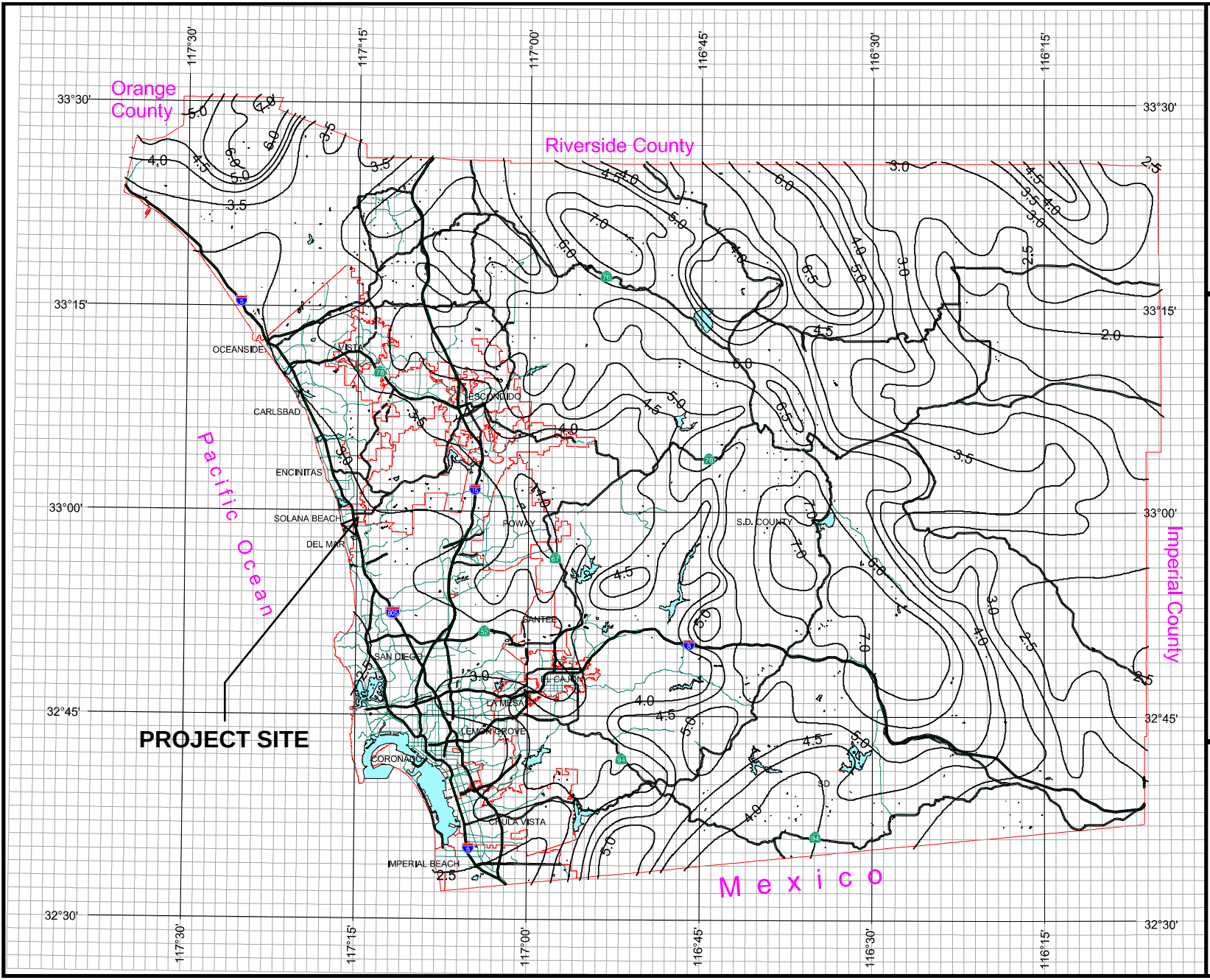
County of San Diego Hydrology Manual

Rainfall Isopluvials

10 Year Rainfall Event - 24 Hours

Isopluvial (inches)

P24 = 2.8



DPW GIS — Department of Public Works, Geographic Information Services

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N W E S

3 0 3 Miles

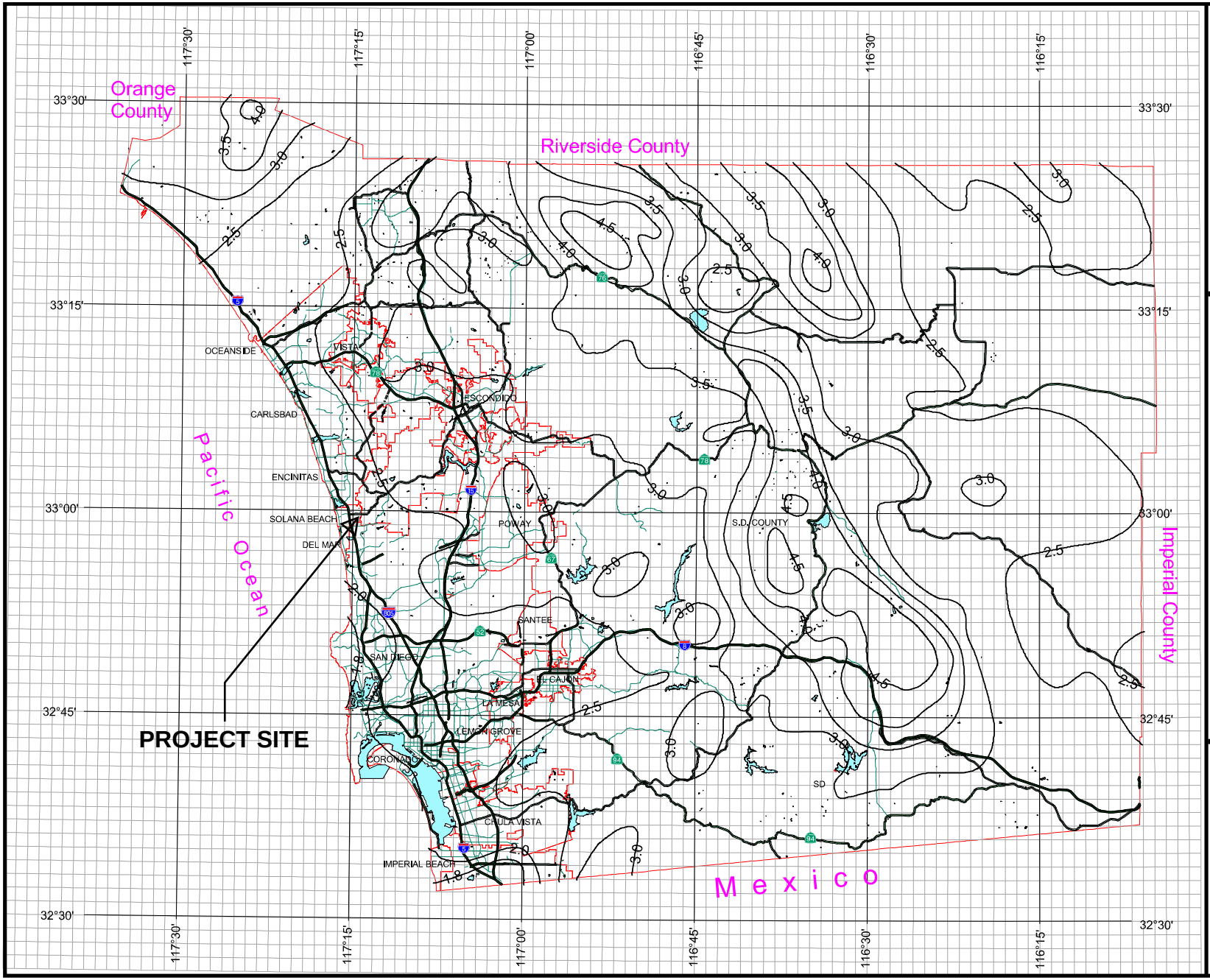
County of San Diego Hydrology Manual

Rainfall Isopluvials

50 Year Rainfall Event - 6 Hours

Isopluvial (inches)

P6 = 2.2



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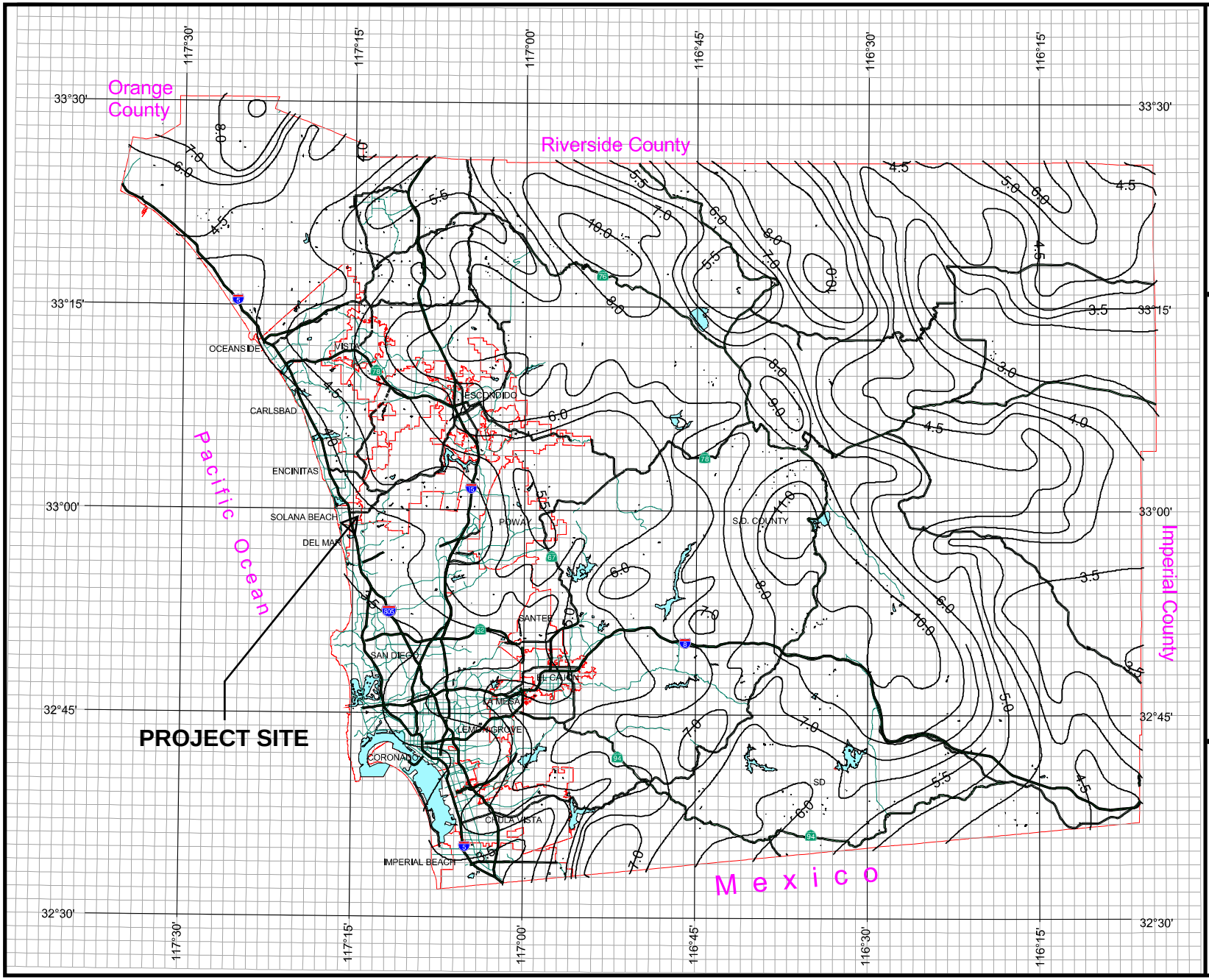
County of San Diego Hydrology Manual

Rainfall Isopluvials



50 Year Rainfall Event - 24 Hours

Isopluvial (inches)

P24 = 4.0

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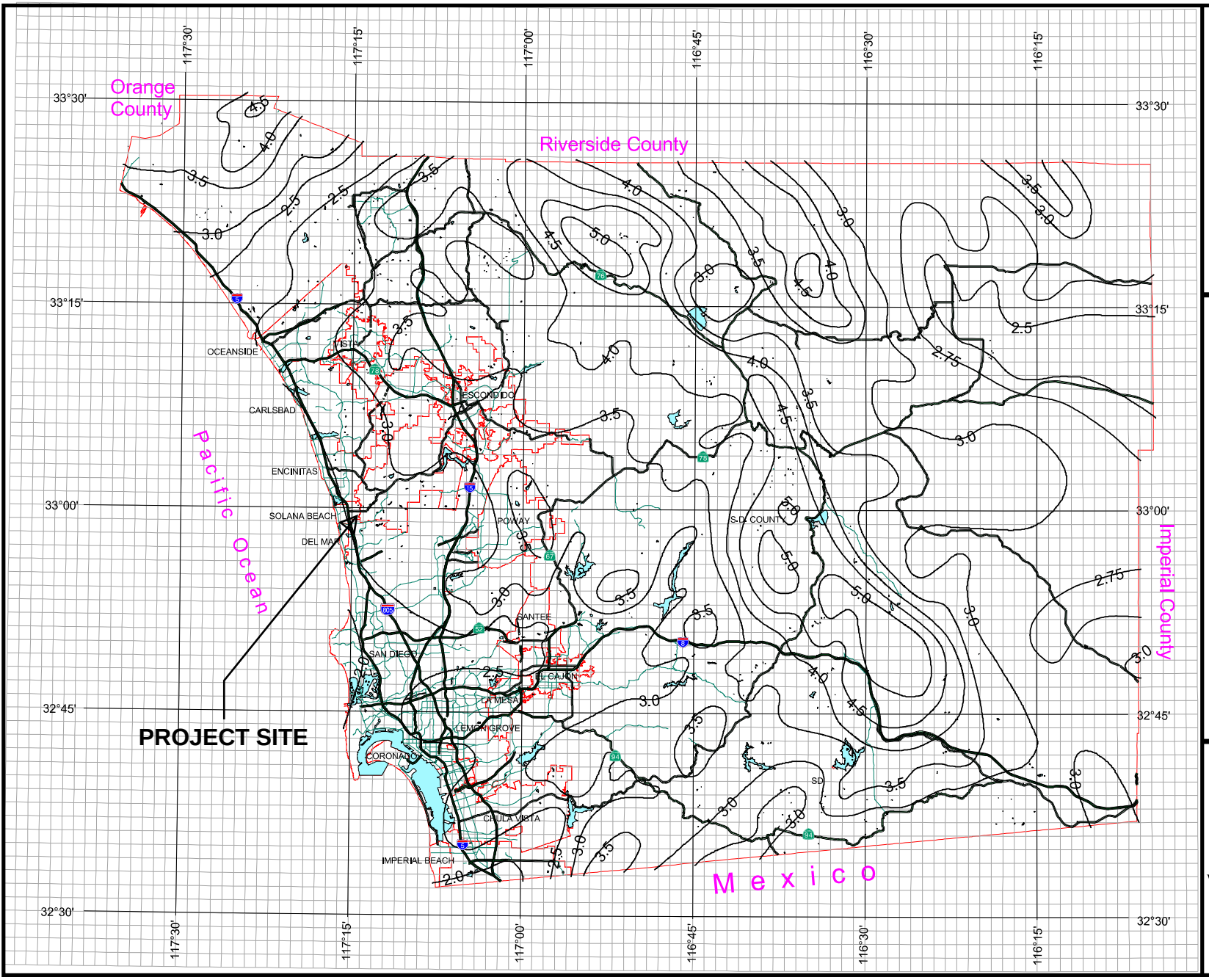

County of San Diego Hydrology Manual

Rainfall Isopluvials

100 Year Rainfall Event - 6 Hours

Isopluvial (inches)

P6 = 2.7

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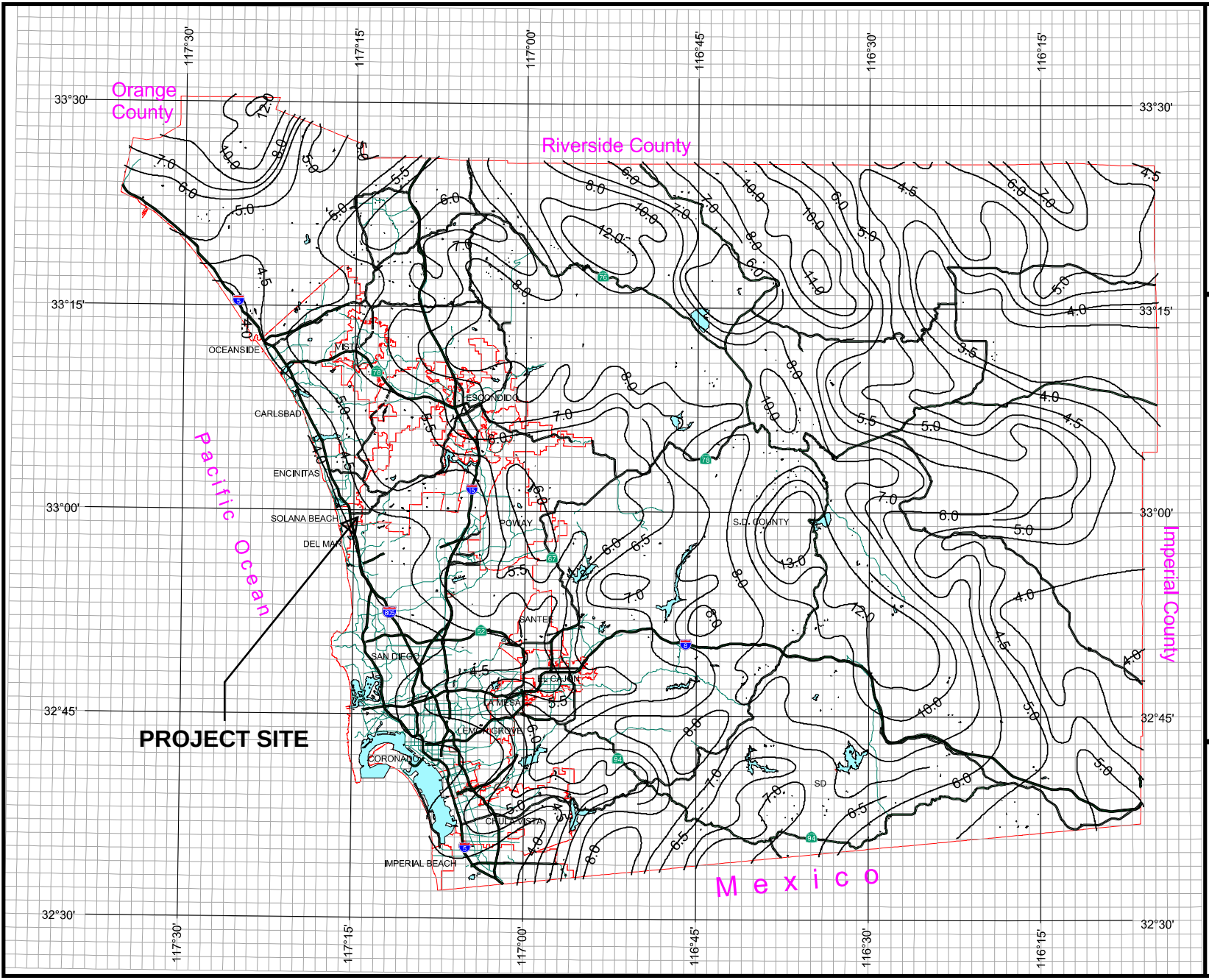
Rainfall Isopluvials

100 Year Rainfall Event - 24 Hours

Isopluvial (inches)

P24 = 4.4



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UNITARIAN UNIVERSALIST FELLOWSHIP OF SAN DIEGO
A15.0206.00
Existing Q10

Drainage Basin	Total Area (square feet)	Total Area (acres)	Pervious Area Type	$C_{,}p$	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Pervious Area Type	$C_{,}p$	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Impervious Area Type	$C_{,}i$	Impervious Area (square feet)	Impervious Area (acres)	Impervious Area (%)	Area Weighted Average Runoff Coefficient, C	Hydraulic Length (ft)	Change in Elevation (DH) (ft)	Slope of Basin	Time of Concentration, T_c (min.)	P_6	Intensity, I (in/hr)	Flow, Q (cfs)
E1	23,233	0.53	NCRS Soil D	0.35	16573	0.38	71	Permeable Pavement	0.10	0	0.00	0	Developed Impervious	0.87	6660	0.15	29	0.50	79	16.00	0.20	5.00	1.70	4.48	1.19
E2	2,545	0.06	NCRS Soil D	0.35	2111	0.05	83	Permeable Pavement	0.10	0	0.00	0	Developed Impervious	0.87	434	0.01	17	0.44	31	8.00	0.26	5.00	1.70	4.48	0.11
E3	3,840	0.09	NCRS Soil D	0.35	2929	0.07	76	Permeable Pavement	0.10	0	0.00	0	Developed Impervious	0.87	911	0.02	24	0.47	292	15.00	0.05	11.23	1.70	2.66	0.11
Area Total:	29,618	0.68			21613	0.50	73			0	0.00	0			8005	0.18	27	**0.47**						**Q total:**	**1.42**

APPLICABLE EQUATIONS:

Rain Fall Intensity (inches/hour):
$I = 7.44 * P_6 * T_C \text{^} -0.645$

Expected Runoff/Flow from Drainage Basin (cfs):
$Q = C * I * A$

P_6	1.70	in	**Time of Concentration:**
P_{24}	2.80	in	$T_C = (1.8*(1.1-C)*(L)^{0.5})/(S)^{0.33}$
P_6/P_{24}	61%	within the range of 45% and 65%	Minimum allowable T_C = 5.0 minutes
Adjusted P_6 (in)	**N/A**		

Soil Type: D

Proposed Q10

Drainage Basin	Total Area (square feet)	Total Area (acres)	Pervious Area Type	$C_{,}p$	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Pervious Area Type	$C_{,}p$	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Impervious Area Type	$C_{,}i$	Impervious Area (square feet)	Impervious Area (acres)	Impervious Area (%)	Area Weighted Average Runoff Coefficient, C	Hydraulic Length (ft)	Change in Elevation (DH) (ft)	Slope of Basin	Time of Concentration, T_c (min.)	P_6	Intensity, I (in/hr)	Flow, Q (cfs)
P1	23,233	0.53	NCRS Soil D	0.35	12106	0.28	52	Permeable Pavement	0.10	2967	0.07	0	Developed Impervious	0.87	8160	0.19	35	0.50	79	16.00	0.20	5.00	1.70	4.48	1.20
P2	2,545	0.06	NCRS Soil D	0.35	996	0.02	39	Permeable Pavement	0.10	1115	0.03	0	Developed Impervious	0.87	434	0.01	17	0.33	49	1.50	0.03	6.71	1.70	3.70	0.07
P3	3,840	0.09	NCRS Soil D	0.35	942	0.02	25	Permeable Pavement	0.10	1987	0.05	0	Developed Impervious	0.87	911	0.02	24	0.34	288	15.00	0.05	13.40	1.70	2.37	0.07
Area Total:	23,233	0.53			14044	0.32	60			6069	0.14	0			9505	0.22	41	**0.39**						**Q total:**	**1.34**

APPLICABLE EQUATIONS:

Rain Fall Intensity (inches/hour):
$I = 7.44 * P_6 * T_C \text{^} -0.645$

Expected Runoff/Flow from Drainage Basin (cfs):
$Q = C * I * A$

P_6	1.70	in	**Time of Concentration:**
P_{24}	2.80	in	$T_C = (1.8*(1.1-C)*(L)^{0.5})/(S)^{0.33}$
P_6/P_{24}	61%	within the range of 45% and 65%	Minimum allowable T_C = 5.0 minutes
Adjusted P_6 (in)	**N/A**		

Soil Type: D

UNITARIAN UNIVERSALIST FELLOWSHIP OF SAN DIEGO
A15.0206.00
Existing Q50

Drainage Basin	Total Area (square feet)	Total Area (acres)	Pervious Area Type	C_ip	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Pervious Area Type	C_ip	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Impervious Area Type	C_ii	Impervious Area (square feet)	Impervious Area (acres)	Impervious Area (%)	Area Weighted Average Runoff Coefficient, C	Hydraulic Length (ft)	Change in Elevation (DH) (ft)	Slope of Basin	Time of Concentration, T_c (min.)	P_6	Intensity, I (in/hr)	Flow, Q (cfs)
E1	23,233	0.53	NCRS Soil D	0.35	16573	0.38	71	Permeable Pavement	0.10	0	0.00	0	Developed Impervious	0.87	6660	0.15	29	0.50	79	16.00	0.20	5.00	2.20	5.80	1.54
E2	2,545	0.06	NCRS Soil D	0.35	2111	0.05	83	Permeable Pavement	0.10	0	0.00	0	Developed Impervious	0.87	434	0.01	17	0.44	31	8.00	0.26	5.00	2.20	5.80	0.15
E3	3,840	0.09	NCRS Soil D	0.35	2929	0.07	76	Permeable Pavement	0.10	0	0.00	0	Developed Impervious	0.87	911	0.02	24	0.47	292	15.00	0.05	11.23	2.20	3.44	0.14
Area Total:	29,618	0.68			21613	0.50	73			0	0.00	0			8005	0.18	27	**0.47**						**Q total:**	**1.83**

APPLICABLE EQUATIONS:

Rain Fall Intensity (inches/hour):
$I = 7.44 * P_6 * T_C \text{^-0.645}$

Expected Runoff/Flow from Drainage Basin (cfs):
$Q = C * I * A$

P_6	2.20	in	**Time of Concentration:**
P_{24}	4.00	in	$T_C = (1.8*(1.1-C)*(L)^{0.5})/(S)^{0.33}$
P_6/P_{24}	55%	within the range of 45% and 65%	Minimum allowable T_C = 5.0 minutes
Adjusted P_6 (in)	**N/A**		

Soil Type: D

Proposed Q50

Drainage Basin	Total Area (square feet)	Total Area (acres)	Pervious Area Type	C_ip	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Pervious Area Type	C_ip	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Impervious Area Type	C_ii	Impervious Area (square feet)	Impervious Area (acres)	Impervious Area (%)	Area Weighted Average Runoff Coefficient, C	Hydraulic Length (ft)	Change in Elevation (DH) (ft)	Slope of Basin	Time of Concentration, T_c (min.)	P_6	Intensity, I (in/hr)	Flow, Q (cfs)
P1	23,233	0.53	NCRS Soil D	0.35	12106	0.28	52	Permeable Pavement	0.10	2967	0.07	0	Developed Impervious	0.87	8160	0.19	35	0.50	79	16.00	0.20	5.00	2.20	5.80	1.55
P2	2,545	0.06	NCRS Soil D	0.35	996	0.02	39	Permeable Pavement	0.10	1115	0.03	0	Developed Impervious	0.87	434	0.01	17	0.33	49	1.50	0.03	6.71	2.20	4.79	0.09
P3	3,840	0.09	NCRS Soil D	0.35	942	0.02	25	Permeable Pavement	0.10	1987	0.05	0	Developed Impervious	0.87	911	0.02	24	0.34	288	15.00	0.05	13.40	2.20	3.07	0.09
Area Total:	23,233	0.53			14044	0.32	60			6069	0.14	0			9505	0.22	41	**0.39**						**Q total:**	**1.73**

APPLICABLE EQUATIONS:

Rain Fall Intensity (inches/hour):
$I = 7.44 * P_6 * T_C \text{^-0.645}$

Expected Runoff/Flow from Drainage Basin (cfs):
$Q = C * I * A$

P_6	2.20	in	**Time of Concentration:**
P_{24}	4.00	in	$T_C = (1.8*(1.1-C)*(L)^{0.5})/(S)^{0.33}$
P_6/P_{24}	55%	within the range of 45% and 65%	Minimum allowable T_C = 5.0 minutes
Adjusted P_6 (in)	**N/A**		

Soil Type: D

UNITARIAN UNIVERSALIST FELLOWSHIP OF SAN DIEGO
A15.0206.00
Existing Q100

Drainage Basin	Total Area (square feet)	Total Area (acres)	Pervious Area Type	$C_{,}p$	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Pervious Area Type	$C_{,}p$	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Impervious Area Type	$C_{,}i$	Impervious Area (square feet)	Impervious Area (acres)	Impervious Area (%)	Area Weighted Average Runoff Coefficient, C	Hydraulic Length (ft)	Change in Elevation (DH) (ft)	Slope of Basin	Time of Concentration, T_c (min.)	P_6	Intensity, I (in/hr)	Flow, Q (cfs)
E1	23,233	0.53	NCRS Soil D	0.35	16573	0.38	71	Permeable Pavement	0.10	0	0.00	0	Developed Impervious	0.87	6660	0.15	29	0.50	79	16.00	0.20	5.00	2.70	7.11	1.89
E2	2,545	0.06	NCRS Soil D	0.35	2111	0.05	83	Permeable Pavement	0.10	0	0.00	0	Developed Impervious	0.87	434	0.01	17	0.44	31	8.00	0.26	5.00	2.70	7.11	0.18
E3	3,840	0.09	NCRS Soil D	0.35	2929	0.07	76	Permeable Pavement	0.10	0	0.00	0	Developed Impervious	0.87	911	0.02	24	0.47	292	15.00	0.05	11.23	2.70	4.22	0.18
Area Total:	29,618	0.68			21613	0.50	73			0	0.00	0			8005	0.18	27	**0.47**						**Q total:**	**2.25**

APPLICABLE EQUATIONS:

Rain Fall Intensity (inches/hour):
$I = 7.44 * P_6 * T_C \text{^} -0.645$

Expected Runoff/Flow from Drainage Basin (cfs):
$Q = C * I * A$

P_6	2.70	in	**Time of Concentration:** $T_C = (1.8*(1.1-C)*(L)^{0.5})/(S)^{0.33}$
P_{24}	4.40	in	
P_6/P_{24}	61%	within the range of 45% and 65%	Minimum allowable T_C = 5.0 minutes
Adjusted P_6 (in)	**N/A**		

Soil Type: D

Proposed Q100

Drainage Basin	Total Area (square feet)	Total Area (acres)	Pervious Area Type	$C_{,}p$	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Pervious Area Type	$C_{,}p$	Pervious Area (square feet)	Pervious Area (acres)	Pervious Area (%)	Impervious Area Type	$C_{,}i$	Impervious Area (square feet)	Impervious Area (acres)	Impervious Area (%)	Area Weighted Average Runoff Coefficient, C	Hydraulic Length (ft)	Change in Elevation (DH) (ft)	Slope of Basin	Time of Concentration, T_c (min.)	P_6	Intensity, I (in/hr)	Flow, Q (cfs)
P1	23,233	0.53	NCRS Soil D	0.35	12106	0.28	52	Permeable Pavement	0.10	2967	0.07	0	Developed Impervious	0.87	8160	0.19	35	0.50	79	16.00	0.20	5.00	2.70	7.11	1.90
P2	2,545	0.06	NCRS Soil D	0.35	996	0.02	39	Permeable Pavement	0.10	1115	0.03	0	Developed Impervious	0.87	434	0.01	17	0.33	49	1.50	0.03	6.71	2.70	5.88	0.11
P3	3,840	0.09	NCRS Soil D	0.35	942	0.02	25	Permeable Pavement	0.10	1987	0.05	0	Developed Impervious	0.87	911	0.02	24	0.34	288	15.00	0.05	13.40	2.70	3.77	0.11
Area Total:	23,233	0.53			14044	0.32	60			6069	0.14	0			9505	0.22	41	**0.39**						**Q total:**	**2.13**

APPLICABLE EQUATIONS:

Rain Fall Intensity (inches/hour):
$I = 7.44 * P_6 * T_C \text{^} -0.645$

Expected Runoff/Flow from Drainage Basin (cfs):
$Q = C * I * A$

P_6	2.70	in	**Time of Concentration:** $T_C = (1.8*(1.1-C)*(L)^{0.5})/(S)^{0.33}$
P_{24}	4.40	in	
P_6/P_{24}	61%	within the range of 45% and 65%	Minimum allowable T_C = 5.0 minutes
Adjusted P_6 (in)	**N/A**		

Soil Type: D

APPENDIX F

SoundPLAN Construction Noise Output, RECON Environmental, Inc., August 29, 2019

Source name	Reference	Level Leq1 dB(A)	Corrections Cwall dB(A)	CI dB(A)	CT dB(A)
Construction	Lw/unit	114	-	-	-

No.	Coordinates X	Coordinates Y	Floor	Limit Height	Leq1	Level w/o NP Leq1	Level w NP Leq1	Difference Leq1	Conflict Leq1
	in meter			m	dB(A)	dB(A)	dB(A)	dB	dB
1	476171.49	3650439.00	1.Fl	60.680	75	60.3	0	-60.3	-
2	476179.43	3650416.36	1.Fl	60.130	75	64.3	0	-64.3	-
3	476198.71	3650384.13	1.Fl	55.000	-	70.1	0	-70.1	-
4	476216.45	3650366.64	1.Fl	54.540	-	70.6	0	-70.6	-
5	476243.45	3650340.97	1.Fl	54.980	-	67.4	0	-67.4	-
6	476258.01	3650325.52	1.Fl	54.900	-	66.2	0	-66.2	-
7	476270.86	3650304.35	1.Fl	53.220	75	63.3	0	-63.3	-
8	476298.04	3650319.78	1.Fl	55.060	75	65.0	0	-65.0	-
9	476334.08	3650339.87	1.Fl	58.550	75	67.0	0	-67.0	-
10	476361.90	3650354.83	1.Fl	60.190	75	67.0	0	-67.0	-
11	476395.14	3650366.82	1.Fl	61.190	75	60.8	0	-60.8	-
12	476399.27	3650410.49	1.Fl	67.400	75	59.1	0	-59.1	-