APPENDIX D -

APRIL 2020 MONTHLY REPORT

CITY OF CAMARILLO

DEPARTMENT OF COMMUNITY DEVELOPMENT

MONTHLY REPORT

APRIL 2020

The City of Camarillo Monthly Report is a publication of the Department of Community Development. The report describes development activity relating to residential, commercial, industrial and institutional/public land uses. The Monthly Report is available on the City's website—

www.cityofcamarillo.org.

Inside:

City of Camarillo

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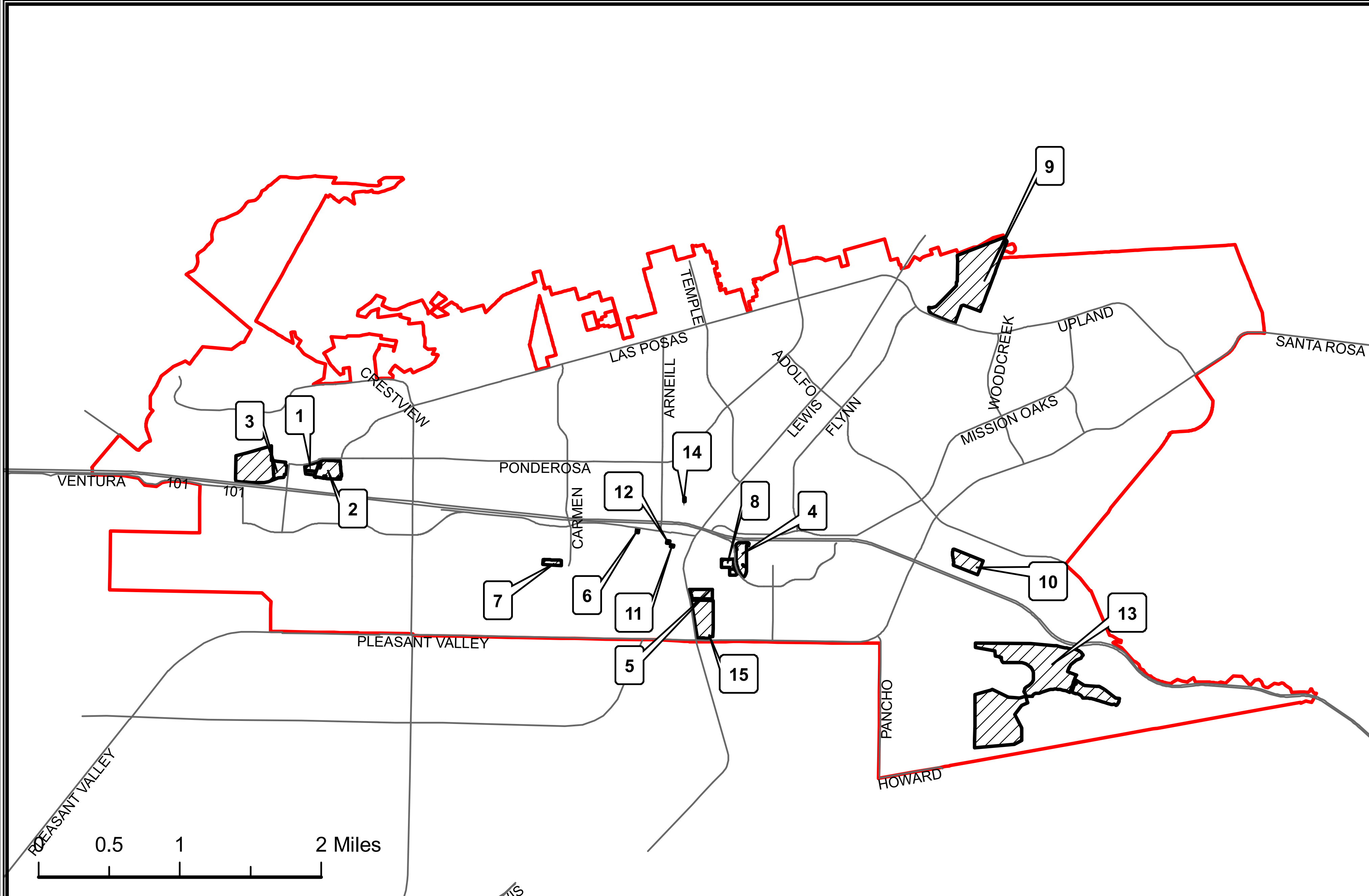


Updated on 5/14/2020

Department of Community Development

City of Camarillo

City of Camarillo
Residential Projects

RESIDENTIAL PROJECTS

MAP ID	CASE	DEVELOPER	LOCATION	APN / ACREAGE	DESCRIPTION	UNITS BUILT	TOTAL UNITS	STATUS	PLANNER	APPROVAL DATE	EXPIRATION DATE
1	CUP-350	Fore Property Jonathan Cornelius 1004 Santa Barbara St Santa Barbara, CA 93101 (805) 456-8344	Southwest corner of Ponderosa Dr and Camino Tierra Santa (Springville)	157-0-020-195 3.94 acres	Mixed use rental	50	50	Completed	J. Lee	10/4/2014	n/a
2	TT-5903 RPD-177	KB Home Mariposa Benjamin O'Neal 25152 Springfield Ct, Ste 180 Valencia, CA 91355 (661) 219-6910	South side of Ponderosa Dr between Camino Tierra Santa and Earl Joseph Dr (Springville)	Lot 1 of TT-5671 10.71 acres	Condominiums	130	130	Completed	J. Lee	7/10/2013	n/a
3	RPD-195 / TT-5671M(3)	Ran Rancho Dennis Hardgrave 211 Village Commons Bl, Ste 15 Camarillo, CA 93012 (805) 484-8303	Northwest corner of US 101 and Springville Dr (Springville)	157-0-020-210 / 185 22.87 acres	Single family	0	158	Pending (GPA)	J. Lee	n/a	n/a
4	CUP-307M(2)	Hiji Investment Co Dennis Hardgrave 211 Village Commons Bl, Ste 15 Camarillo, CA 93012 (805) 484-8303	Between Village at the Park Dr and Westpark Ct (Village at the Park)	157-0-020-195 3.21 acres	Mixed use rental	0	10	Pending	J. Lee	n/a	n/a
5	RPD-188	Aldersgate Inv, LLC Park West Townhomes Matt Mansi 300 E. Esplanade Dr. Ste 1550 Oxnard, CA 93036 (805) 988-4114	350 Lewis Rd, northeast of Lewis Rd and Mike Loza Dr (Village Gateway Townhomes)	229-0-070-210 7.8 acres	Townhomes (includes 9 moderate income units)	58	87	Under Construction	J. Novi	11/7/2014	n/a
6	CUP-330	Aldersgate Inv, LLC Cedar Oak Jordan Marshall 300 E. Esplanade Dr, Ste 1550 Oxnard, CA 93036 (805) 988-4114	2024 Ventura Blvd between Cedar Dr and Oak St	162-0-104-010, 162-0-135-050 & -060 0.59 acres	Mixed-Use rentals (1 low and 22 moderate income units)	23	23	Completed	D. Moe	11/5/2013	n/a

RESIDENTIAL PROJECTS

MAP ID	CASE	DEVELOPER	LOCATION	APN / ACREAGE	DESCRIPTION	UNITS BUILT	TOTAL UNITS	STATUS	PLANNER	APPROVAL DATE	EXPIRATION DATE
7	LD-537 RPD-199	Jim Sandefer 5450 Ralston St Ventura, CA 93003 (805) 207-4894	Southerly terminus of Barcelona St	162-0-200-015 3 acres	4 single family lots	0	4	Pending	J. Novi	n/a	n/a
8	RPD-189M(2)	Hiji Investment Co Dennis Hardgrave 211 Village Commons Bl, Ste 15 Camarillo, CA 93012 (805) 484-8303	West of Village at the Park Dr between Petit St and Westpark Ct (Village at the Park)	229-0-320-085, 095, 105 4.63 acres	Rental units	0	96	Approved	J. Novi	9/19/2017	9/19/2020
9	TT-5976 RPD-198	Shea Homes Ken Melvin 2 Ada, Ste 200 Irvine, CA 92618 (805) 270-9634	Northeast corner of Somis and Upland Roads	163-0-017-275 and -185 83.1 acres	281 Senior Single-family, Cluster, and Townhome units	0	281	Grading	J. Novi	2/6/2018	TT-5976 Recorded RPD-198 n/a
10	RPD-201	Camino Ruiz, LLC and ZDI, Inc 16509 Saticoy St Van Nuys, CA 91406 (310) 392-7899	Southeast corner of Camino Ruiz and Verdugo Way	160-0-093-195 13.79 acres	Rental apartments, mix of studio, one- and two-bedroom units	0	378	Pending (GPA)	J. Novi	n/a	n/a
11	RPD-202	Lustra Development, Inc Rick Town 99 South Glenn St Camarillo, CA 93010 (818) 661-8931	Southeast corner of Glenn Dr and Chapel Dr	162-0-160-400 162-0-160-180 .34 acres	Rental town homes (1 low income)	0	8	Approved	J. Novi	7/2/2019	7/2/2020
12	CUP-391	Lustra Development, Inc Rick Town 99 South Glenn St Camarillo, CA 93010 (818) 661-8931	99 South Glenn Dr	162-0-154-110 162-0-154-120 .24 acres	Mixed use, 12 apartments, (2 very low)	0	12	Approved	J. Novi	7/16/2019	7/16/2020

RESIDENTIAL PROJECTS

MAP ID	CASE	DEVELOPER	LOCATION	APN / ACREAGE	DESCRIPTION	UNITS BUILT	TOTAL UNITS	STATUS	PLANNER	APPROVAL DATE	EXPIRATION DATE
13	RPD-204 / TT-6016	NUWI Camarillo, LLC Jason Han 1733 Ocean Ave, Ste 350 Santa Monica, CA 90401 (310) 864-2427	791 Camarillo Spring Rd	234-0-040-595 30 acres	248 Senior for-sale unts	0	248	Pending (GPA)	J. Lee	n/a	n/a
14	LD-544 / RPD-203	Habitat for Humanity Darcy Taylor 1850 Eastman Ave Oxnard, CA 93030 (805) 485-6065 x105	2521 Barry St	162-0-014-120 8,012 s.f.	2 low-income units	0	2	Under Construction	O. Buck	11/20/2018	n/a
15	TT-5969 / RPD-196	Camarillo Village Homes, LLC Gerald J. Marcil 43D Malaga Cove Plaza Palos Verdes Estates, CA 90274 (310) 791-2000	Northeast corner of Pleasant Valley and Lewis Roads	229-0-070-240 19.88 acres	285 for sale Townhomes (includes 29 moderate income units)	0	285	Approved	J. Novi	9/20/2016	9/20/2020
15	CUP-369	Camarillo Village Homes, LLC Gerald J. Marcil 43D Malaga Cove Plaza Palos Verdes Estates, CA 90274 (310) 791-2000	Northeast corner of Pleasant Valley and Lewis Roads	229-0-070-240 3.44 acres	24 mixed-use apartments (including 3 low income)	0	24	Approved	J. Novi	9/20/2016	9/20/2020

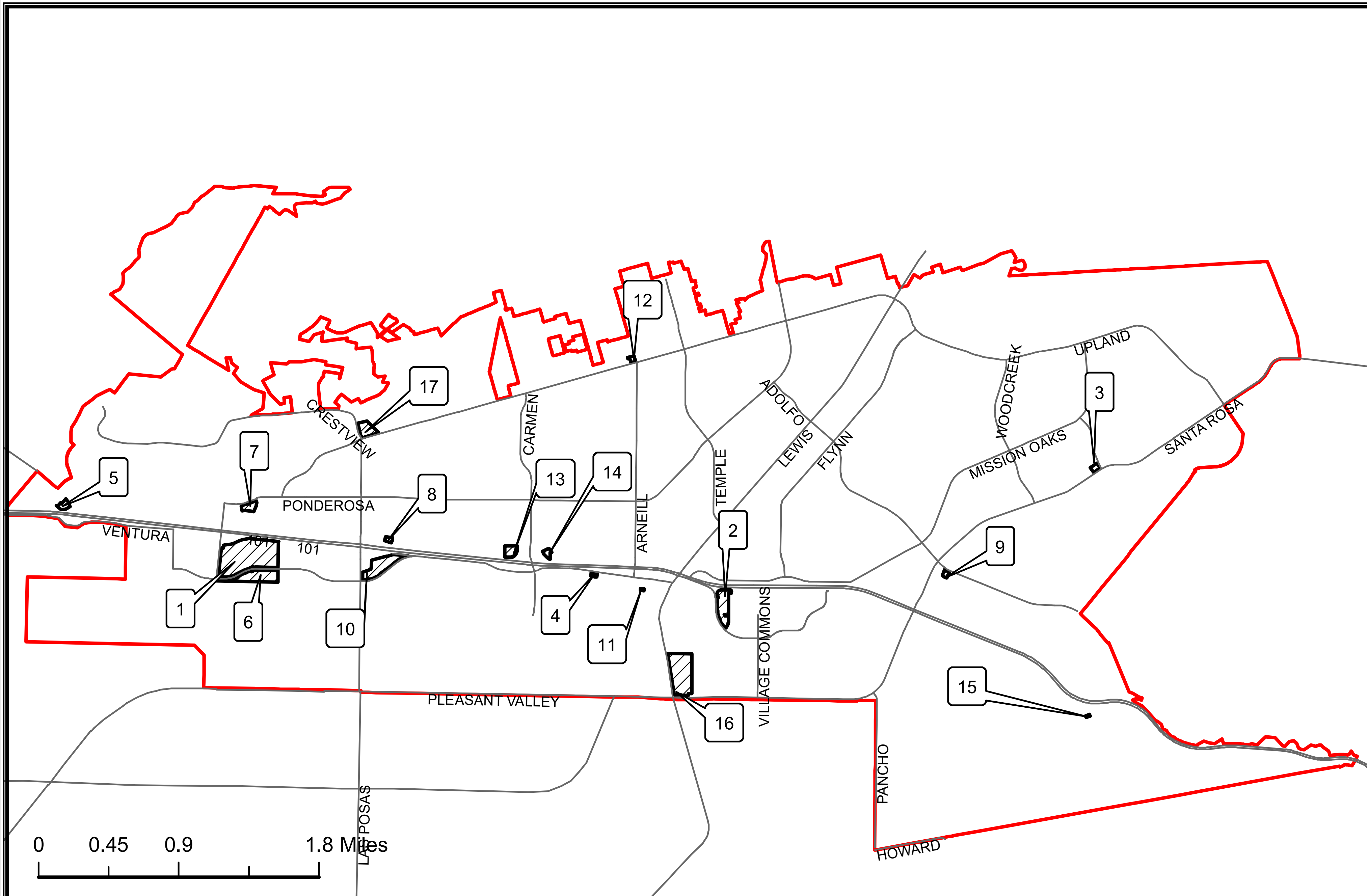
RESIDENTIAL PROJECTS

MAP ID	GPA	DEVELOPER	UNITS	LOCATION	DESCRIPTION
3	2014-1	Rancho Associates	158	Springville Specific Plan	Public to Medium Density Residential
10	2017-1	Camino Ruiz LLC & ZDI Inc	378	5153 Camino Ruiz	Industrial to High Density Residential
13	2017-2	New Urban West, Inc	248	791 Camarillo Springs Rd	Re-designate 30 acres from the current Quasi-Public land use designation to Low-Medium Density Residential (10 dwelling units per acre maximum)

RESIDENTIAL ACTIVITY SUMMARY			
DWELLING UNIT PERMITS ISSUED IN APRIL	12	DWELLING UNIT PERMITS ISSUED IN 2020	16
DWELLING UNITS DEMOLISHED IN APRIL	0	DWELLING UNITS DEMOLISHED IN 2020	0
DWELLING UNITS FINALED IN APRIL	0	DWELLING UNITS FINALED IN 2020	10
TOTAL ESTIMATED DWELLING UNITS (APRIL 30, 2020)			27,371

RESIDENTIAL PROJECTS

PROJECT STATUS	UNITS	PROJECTS
PENDING (Excludes GPAs)	14	2
APPROVED/NOT BUILT	116	3
GRADING	281	1
UNDER CONSTRUCTION	89	2
TOTAL	**500**	**8**



Updated on 3/24/2020

Department of
Community Development

City of Camarillo

City of Camarillo
Commercial Projects

COMMERCIAL PROJECTS

MAP ID	CASE	DEVELOPER	LOCATION	APN	DESCRIPTION	BLDG SF	ACRES	STATUS	PLANNER	APPROVAL DATE	EXPIRATION DATE
1	CPD-226M(3)	Amara Shopping Center Springville Camarillo Owner Jessica Ramirez 201 S. Figueroa St, Ste 300 Los Angeles, CA 90012 (310) 652-1177	Northeast corner of W. Ventura Blvd and Springville Dr	230-0-020-230/240, 230-0-010-470/480	Commercial center	491,776	44.84	Approved	J. Vacca / J.Lee	4/19/2016	4/19/2021
2	CPD-236	Hiji Inv Co/TFR Inv Co Dennis Hardgrave 211 Village Commons Bl, Ste 15 Camarillo, CA 93012 (805) 484-9303	Between Village at the Park Dr and Westpark Ct (Village at the Park)	219-0-150-125/315	Commercial mixed-use center	42,630	10.02	Approved	J. Lee	9/15/2009	9/15/2020
2	CPD-236M(1)	Hiji Inv Co/TFR Inv Co Dennis Hardgrave 211 Village Commons Bl, Ste 15 Camarillo, CA 93012 (805) 484-9303	Between Village at the Park Dr and Westpark Ct (Village at the Park)	219-0-150-125 / 315	2 Commerical Pads	8,000	1.54	Pending	J. Lee	n/a	n/a
3	CPD-232M(2)	Carol D'Egido 17401 Gresham St Northridge, CA 91325 (310) 821-2725	Northwest corner of Santa Rosa Rd and Oak Canyon Rd	171-0-250-325	2 office/retail buildings	8,828	1.26	Approved	J. Lee	6/14/2016	6/14/2020
4	CUP-330	Aldersgate Inv. LLC Cedar Oak Jordan Marshall 300 E. Esplanade Dr, Ste 1550 Oxnard, CA 93036 (805) 988-4114	2024 Ventura Blvd between Cedar and Oak Streets (Old Town)	162-0-104-010, 162-0-135-050/060	Mixed use	6,100	0.58	Under Construction	D. Moe	11/5/2013	n/a
5	CPD-77M(5)	Fairfield Inn and Suites Jennifer Schamberger Plantation Bay Hotels, LLC 9271 Research Dr Irvine, CA 92618 (949) 336-8085	4444 Central Ave	148-0-012-085	Hotel conversion / renovation / minor addition	1,175	1.9	Under Construction	J. Vacca/ J. Novi	1/20/2016	n/a
6	CUP-334	City of Camarillo 601 Carmen Dr Camarillo, CA 93010 (805) 388-5360	South of W. Ventura Blvd East of Springville Dr	230-0-020-220, 230-0-010-460	Bowling alley and 2-sheet ice rink	108,481	11.68	Pending	D. Moe	n/a	n/a

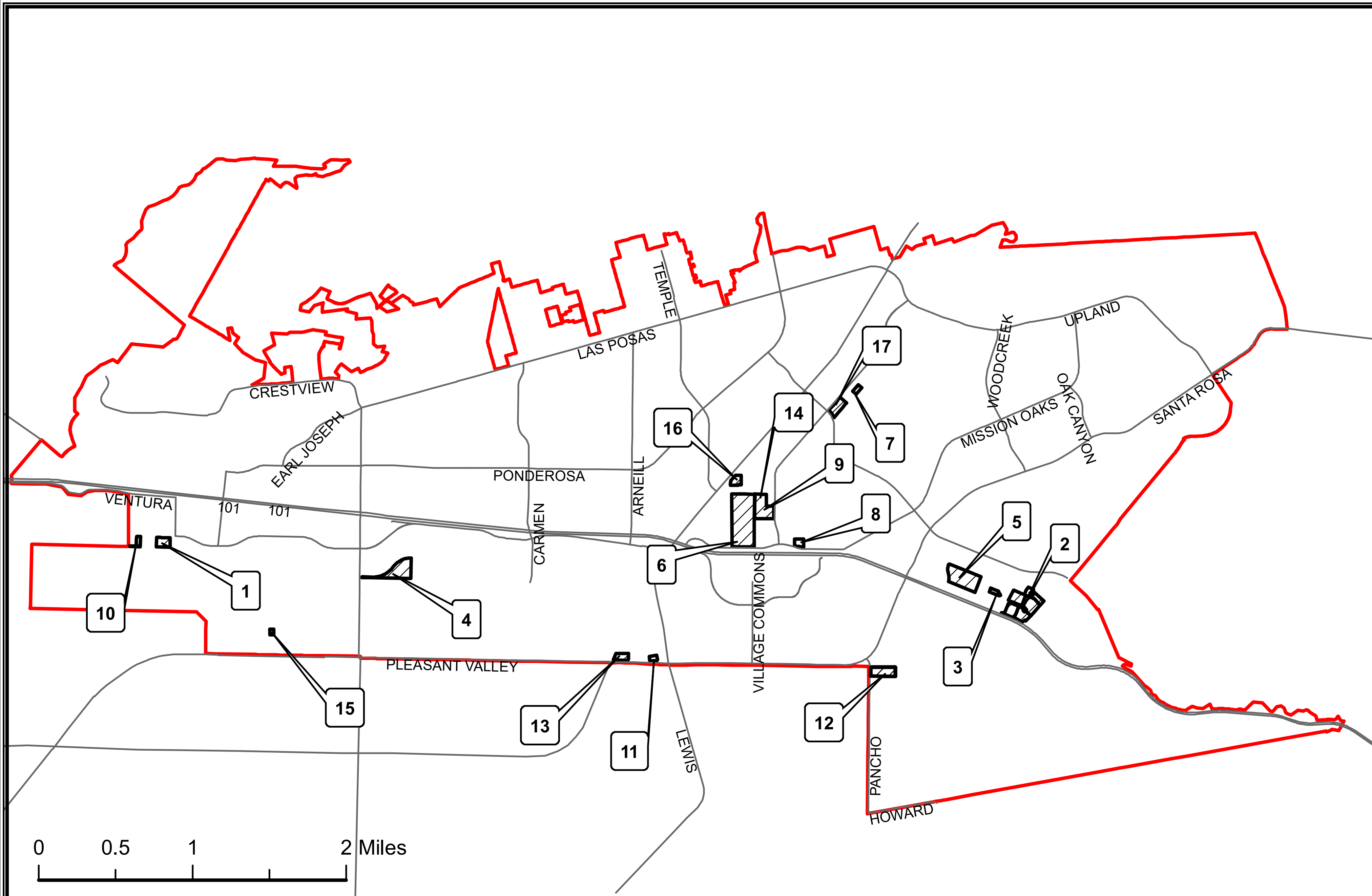
COMMERCIAL PROJECTS

MAP ID	CASE	DEVELOPER	LOCATION	APN	DESCRIPTION	BLDG SF	ACRES	STATUS	PLANNER	APPROVAL DATE	EXPIRATION DATE
7	CUP-350	Fore Property Company Jonathan Cornelius 1004 Santa Barbara St Santa Barbara, CA 93101 (805) 456-8344	Southwest corner of Ponderosa Dr and Camino Tierra Santa (Springville)	157-0-020-195	Mixed Use	6,000	3.94	Completed	J. Lee	10/7/2014	n/a
8	CPD-245	Alism Camarillo, LLC Sam Siam 21241 Ventura Blvd, Ste 181 Woodland Hills, CA 91364 (805) 807-6611	301 E. Daily Dr	164-0-132-095	Automated Carwash	5,000	0.88	Under Construction	O. Buck	1/16/2018	n/a
9	CPD-99M(4)/ CUP-381	Mohammad Rad Raad Enterprises LP 4676 Adolfo Rd Camarillo, CA 93012 (562) 434-2835	4676 Adolfo Rd	160-0-201-075	Convert auto repair facility to a convenience store	3,000	0.83	Completed	O. Buck	7/18/2017	n/a
10	CUP-384 / CPD-246	Mr. T.M. Mian Mian Development 831 Corte La Cienega Camarillo, CA 93010 (496) 688-9740	Northeast corner of Las Posas Rd and Ventura Blvd	229-0-010-630, -110, -590, -610, -090, -100, -140, -150	Hotel and Conference Center	192,194	14	Under Construction	J. Lee	12/13/2017	n/a
11	CUP-391	Lustra Development, Inc Rick Town 99 South Glenn St Camarillo, CA 93010 (818) 661-8931	99 South Glenn Dr	162-0-154-110 162-0-154-120	Mixed use, 12 apartments, 2 retail spaces	1,400	0.16	Approved	J. Novi	7/16/2019	7/16/2020
12	CUP-392	Reliant Land Services Stella Smith 1745 W Orangewood Ave Orange, CA 92868 (714) 685-0123	2275 Las Posas Rd	151-0-060-205	New stealth roof-mounted wirelss facility	0	0.62	Pending	J. Novi	n/a	n/a
13	CPD-5M(27)	Brixmor Holdings 1 SPE, LLC Kyle Godat 1525 Faraday Ave, Ste 350 Carlsbad, CA 92008 (858) 202-1115	323 Carmen Dr	165-0-381-135	New drive-thru building	8,300	1.18	Pending	J. Novi	n/a	n/a

COMMERCIAL PROJECTS

MAP ID	CASE	DEVELOPER	LOCATION	APN	DESCRIPTION	BLDG SF	ACRES	STATUS	PLANNER	APPROVAL DATE	EXPIRATION DATE
14	CPD-2M(3)	Motel 6 Richard Gabaldon 6930 Destiny Dr Rocklin, CA 95677 (916) 303-4036	1641 Daily Dr	165-0-250-020	Façade remodel	10,000	1.37	Approved	J. Novi	5/14/2019	5/14/2020
15	CUP-371M(1)	Village Greens Market Patrick E. Panzarezlo 795 Camarillo Springs Rd, Ste F Camarillo, CA 93012 (818) 310-8589	795 Camarillo Springs Rd, Ste F	234-0-220-105	Modification to conditions of approval	1,250	0.91	Pending	J. Novi	n/a	n/a
16	CUP-369	Camarillo Village Homes, LLC Gerald J. Marcil 43D Malaga Cove Plaza Palos Verdes Estates, CA 90274 (310) 791-2000	Northeast corner of Pleasant Valley and Lewis Roads	229-0-070-240	24 mixed-use apartments (including 3 low income)	0	24	Approved	J. Novi	9/20/2016	9/20/2020
17	CUP-402	Reliant Land Service Stella Smith 1745 W Orangewood Ave Orange, CA 92868 (714) 685-0123	25 Las Posas Rd	158-0-081-285	New stealth wireless facility in a tower	n/a	5.44	Pending	S. Dominguez	n/a	n/a

PROJECT STATUS	ACRES	BUILDING S.F.	PROJECTS
PENDING	21.37	126,031	6
APPROVED/NOT BUILT	57.65	554,634	5
GRADING	0.00	0	0
UNDER CONSTRUCTION	17.36	204,469	4
TOTAL	**96.38**	**885,134**	**16**



Updated on 4/7/2020

Department of
Community Development

City of Camarillo

City of Camarillo
Industrial Projects

INDUSTRIAL PROJECTS

MAP ID	CASE	DEVELOPER	LOCATION	APN	DESCRIPTION	BLDG SF	ACRES	STATUS	PLANNER	APPROVAL DATE	EXPIRATION DATE
1	IPD-385M(1)	Zephyr Dev Company Robert Goetsch 617 North Catalina St Burbank, CA 91505 (818) 433-7907	South side of Verdulera St, 175' west of W. Ventura Blvd	130-0-160-095	Modify architecture and add 6,633 sq ft	54,559	3.50	Under Construction	J. Lee	6/5/2018	n/a
2	IPD-390	PEGH Inv LLC, Trilliad Dev Inc Valerie Draeger 4812 Lakeview Canyon Rd Westlake Village, CA 91361 (818) 991-7033	Northeast corner of Camino Carillo and Camino Ruiz	160-0-111-065/075/085	2 multi-tenant industrial	68,200	4.21	Approved	J. Novi	5/15/2012	5/15/2020
2	IPD-391	PEGH Inv LLC, Trilliad Dev Inc Valerie Draeger 4812 Lakeview Canyon Rd Westlake Village, CA 91361 (818) 991-7033	Southeast corner of Camino Carillo and Camino Ruiz	160-0-111-115/125/135	2 multi-tenant buildings	70,615	4.61	Approved	J. Novi	5/15/2012	5/15/2020
2	IPD-392	PEGH Inv LLC, Trilliad Dev Inc Valerie Draeger 4812 Lakeview Canyon Rd Westlake Village, CA 91361 (818) 991-7033	Southeasterly terminus of Camino Carillo west of Conejo Creek	160-0-111-105/115	2-unit building	56,450	3.93	Approved	J. Novi	5/15/2012	5/15/2020
2	IPD-393	PEGH Inv LLC, Trilliad Dev Inc Valerie Draeger 4812 Lakeview Canyon Rd Westlake Village, CA 91361 (818) 991-7033	Southerly terminus of Camino Carillo west of Conejo Creek	160-0-111-095/105	2-unit building	88,185	4.79	Approved	J. Novi	5/15/2012	5/15/2020
2	IPD-394	PEGH Inv LLC, Trilliad Dev Inc Valerie Draeger 4812 Lakeview Canyon Rd Westlake Village, CA 91361 (818) 991-7033	Southerly terminus of Balboa Circle, west of Conejo Creek	160-0-111-335	Single tenant industrial	20,832	1.86	Approved	J. Novi	9/6/2011	9/6/2020
2	IPD-395	PEGH Inv LLC, Trilliad Dev Inc Valerie Draeger 4812 Lakeview Canyon Rd Westlake Village, CA 91361 (818) 991-7033	West side of Balboa Circle at the end of the cul-de-sac	160-111-310/320	Multi-tenant	23,602	1.29	Approved	J. Novi	9/6/2011	9/6/2020

INDUSTRIAL PROJECTS

MAP ID	CASE	DEVELOPER	LOCATION	APN	DESCRIPTION	BLDG SF	ACRES	STATUS	PLANNER	APPROVAL DATE	EXPIRATION DATE
3	IPD-396	PEGH Inv LLC, Trilliad Dev Inc Valerie Draeger 4812 Lakeview Canyon Rd Westlake Village, CA 91361 (818) 991-7033	West side of Camino Carillo, approximately 230' south of Verdugo Way	160-0-093-265	Single tenant industrial	14,430	1.12	Approved	J. Novi	9/6/2011	9/6/2020
3	TT-5979	PEGH Inv LLC, Trilliad Dev Inc Valerie Draeger 4812 Lakeview Canyon Rd Westlake Village, CA 91361 (818) 991-7033	Terminus of Camino Carillo, west of Conejo Creek	160-0-111-065, 075, 085, 095, 105, 115, 125, 135	Tentative Tract Map for Lots 4-7	n/a	21.43	Approved	J. Novi	2/14/2018	Recorded 4/29/19
4	IPD-398 T-5890	Hiji Investment Co Dennis Hardgrave 211 Village Commons Bl, Ste 15 Camarillo, CA 93012 (805) 484-8303	South side of Camarillo Center Dr, between Las Posas Rd and Factory Stores Dr	229-0-010-660/400/430	4 Industrial condo buildings	129,016	10.78	Approved	J. Novi	9/14/2011 - TRACT & 8/2/2011 - IPD	9/14/2020 - TRACT & IPD
5	LD-539	Camino Ruiz, LLC Lark Christensen ZDI, Inc 16509 Saticoy St Van Nuys, CA 91406 (310) 392-7899	5151, 5153, 5155 Camino Ruiz	160-0-093-195	Land Division	n/a	19.98	Approved	J. Novi	5/15/2018	Recorded 2/6/19
6	IPD-53M(9)	Bruce Herbkersman Rexford Industrial Realty, Inc 11620 Wilshire Blvd, Ste 1000 Los Angeles, CA 90025 (310) 966-3812 x112	3233 E. Mission Oaks Blvd	160-0-010-730	Modify industrial building	4,800	31.89	Under Construction	J. Novi	9/19/2017	n/a
6	IPD-53M(11)	Bruce Herbkersman Rexford Industrial Realty, Inc 11620 Wilshire Blvd, Ste 1000 Los Angeles, CA 90025 (310) 966-3812 x112	3233 E. Mission Oaks Blvd	160-0-010-730	Demo 52,500 sf office bldg. Construct 111,500 multi-tenant bldg. & add 52,026 to ex bldg	163,526	31.89	Pending	J. Novi	n/a	n/a
7	CUP-387	Jerry Ambrose Verizon Wireless 3905 State Street, Ste 7-188 Santa Barbara, CA 93105 (805) 637-7407	4053 Calle Tesoro	160-0-042-025	New Wireless Facility	n/a	n/a	Pending	J. Novi	n/a	n/a

INDUSTRIAL PROJECTS

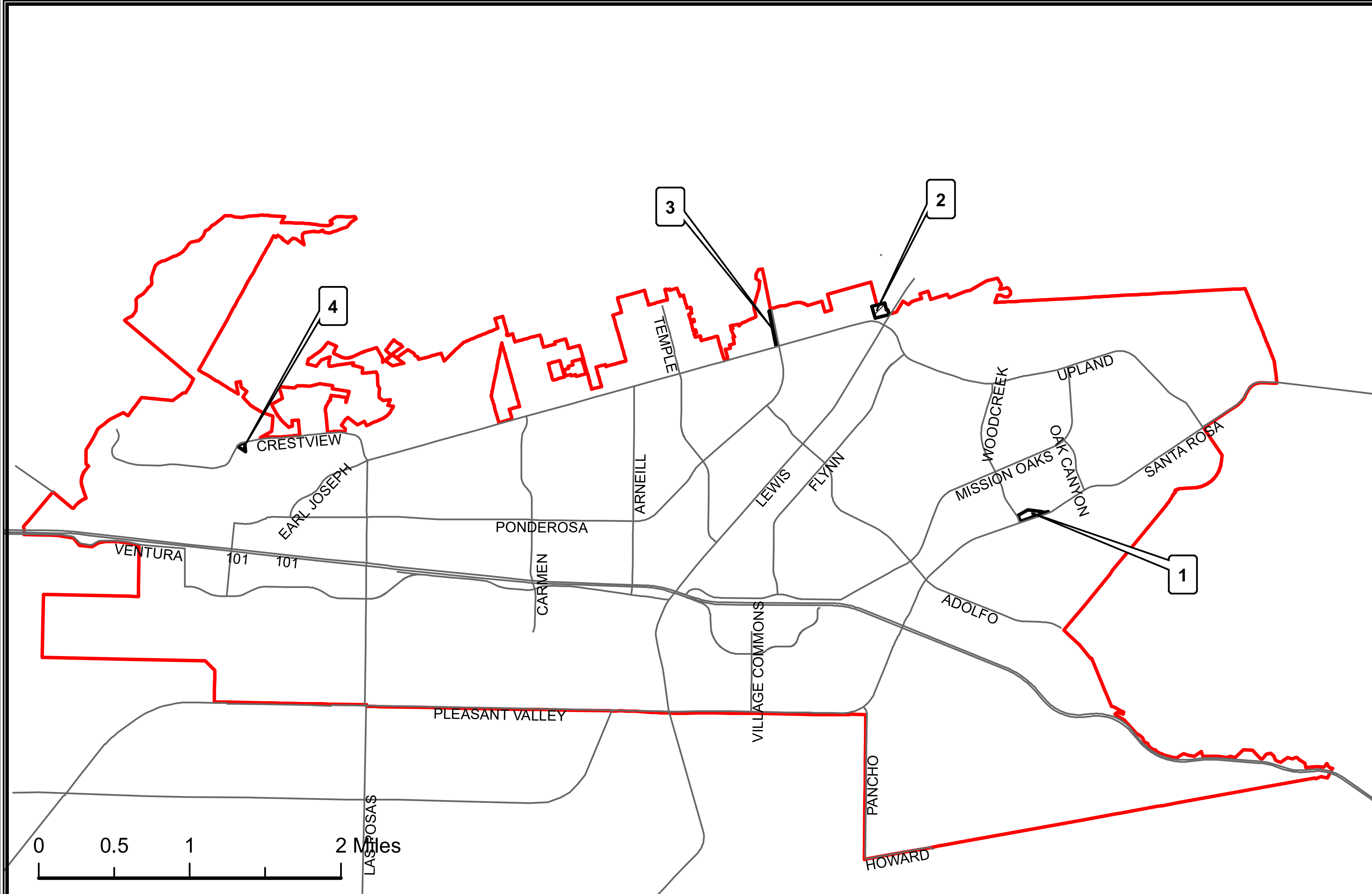
MAP ID	CASE	DEVELOPER	LOCATION	APN	DESCRIPTION	BLDG SF	ACRES	STATUS	PLANNER	APPROVAL DATE	EXPIRATION DATE
8	CUP-364M(1)	Roger Smith Institution Ale Company 3841 Mission Oaks Blvd Camarillo, CA 93012 (805) 482-3777	3841 Mission Oaks Blvd, Ste. B	160-0-340-58	Expansion of existing brewery	24,102	1.9	Under Construction	J. Novi	3/20/2018	n/a
9	LD-545	Robert F. Goetsch 617 North Catalina St Burbank, CA 91505 (805) 648-1234 ext 18	201 Flynn Rd	160-0-140-145, 155, & 135	Subdivide parcel into two parcels	n/a	11.16	Approved	J. Novi	11/12/2019	11/12/2021
10	IPD-403	RGM Architects Rick Moraga 350 N. Lantana St, Ste 22 Camarillo, CA 93012 (805) 482-1836	950 W. Verdulera St	230-0-131-035	New Industrial Building	17,506	1.19	Pending	J. Novi	n/a	n/a
11	IPD-5M(1)	Sidney Isagholian 7250 Coldwater Canyon Rd North Hollywood, CA 91605 (818) 765-5448	575 Dawson Dr	229-0-051-075	Adding new elevator	21,360	1.12	Pending	J. Novi	n/a	n/a
12	IPD-23M(25) TT-6015	EFT Enterprises LTD John Mueller 1451-D North Rice Ave Oxnard, CA 93030 (805) 983-7411	4530 Adohr Ln	234-0-161-015	Façade renovations and 8 new condo units	67,867	3.34	Approved	J. Novi	5/14/2019	IPD-23M(25) - n/a TT-6015 - 6/12/21
13	CUP-397	Paw Works Krystine Degrande 2255 Pleasant Valley Rd, Unit K Camarillo, CA 93010 (805) 799-3937	2255 Pleasant Valley Rd, Unit K	229-0-040-060	Dog and cat rescue center	3,600	2.51	Approved	S. Dominguez	1/21/2020	1/21/2021

INDUSTRIAL PROJECTS

MAP ID	CASE	DEVELOPER	LOCATION	APN	DESCRIPTION	BLDG SF	ACRES	STATUS	PLANNER	APPROVAL DATE	EXPIRATION DATE
14	IPD-405	Zephyr Development Robert Goetsch 617 N. Catalina St Burbank, CA 91505 (818) 433-7907	South side of Calle Tecate west of Flynn Rd	160-0-140-145, -185, -135	New Industrial Building	161,228	3.92	Pending	J. Novi	n/a	n/a
15	IPD-404	Silverstrand Grid Rafik Albert 2 Park Plaza, Ste 1120 Irvine, CA 92614 (949) 794-1182	375 Willis Ave	230-0-030-024	Energy storage facility	n/a	0.04	Approved	S. Dominguez	5/5/2020	5/5/2021
16	CUP-404	Damily, LLC Samuel B. Thomas 3201 Corte Malpaso, Ste 310 Camarillo, CA 93012 (805) 910-9134	3201 Corte Malpaso, Unit 310	160-0-220-555	Wine production facility	1,787	2.44	Pending	S. Dominguez	n/a	n/a
17	CUP-401	Nabor Wines Dusty Nabor 1330 Flynn Rd, Unit E Camarillo, CA 93012 (818) 917-3716	1330 Flynn Rd, Unit E	160-0-041-225	Winery	2,236	4.29	Approved	S. Dominguez	2/18/2020	2/18/2021

INDUSTRIAL ACTIVITY SUMMARY

PROJECT STATUS	ACRES	BUILDING S.F	# OF PROJECTS
PENDING (includes Modifications)	40.56	365,407	6
APPROVED/NOT BUILT	95.34	545,033	15
GRADING	0.00	0	0
UNDER CONSTRUCTION	37.29	83,461	3
TOTAL	**173.19**	**993,901**	**24**



Updated on 3/24/2020

Department of
Community Development

City of Camarillo

City of Camarillo
Institutional / Public Projects

INSTITUTIONAL / PUBLIC PROJECTS

MAP ID	CASE	DEVELOPER	LOCATION	APN	DESCRIPTION	BLDG SF	ACRES	STATUS	PLANNER	APPROVAL DATE	EXPIRATION DATE
1	CUP-312	St. Demetrios Greek Church Keith Valle PO Box 1970 Camarillo, CA 93010 (805) 377-3919	5575 Santa Rosa Rd	171-0-250-655	Church (total of 31,240 sf in 3 phases)	9,058	4.07	Under Construction	J. Lee	10/19/2010	n/a
2	CUP-394	City of Camarillo Lucie McGovern 601 Carmen Dr Camarillo, CA 93010 (805) 388-5360	Northwest of the intersection of Las Posas and Lewis Rd	156-0-180-285	North Pleasant Valley Groundwater Treatment Facility	6,541	4.7	Under Construction	J. Lee	11/20/2018	n/a
3	CUP-379	Pleasant Valley Mutual Water Co Jerry Doran 1863 Las Posas Rd Camarillo CA 93010 (805) 482-5061	2411 Ponderosa Dr	153-0-180-555	Desalter	1,600	1.64	Approved	O. Buck	11/20/2018	11/20/2020
4	CUP-403	Crestview Mutual Water Co. Robert Eranio 328 Valley Vista Dr Camarillo, CA 93010 (805) 732-0495	Crestview Estates/Las Posas Hills on Crestview Ave	152-0-380-185	Well Pump and Pump House	1,022	1.009	Pending	S. Dominguez	n/a	n/a

GENERAL PLAN AMENDMENTS (GPAS)

MAP ID	GPA	DEVELOPER	ACRES	LOCATION	STATUS	DESCRIPTION
2	2017-4	City of Camarillo	4.7	Northwest of the intersection of Las Posas and Lewis Roads	Approved	GPA 2017-4 - change the Land Use Element designation from Agriculture to Quasi-Public. A-113 - amend the City's Sphere of Influence boundary line, annex the 4.7-acre sight and adjacent 3.06-acre chruch property into the City limits, and reorganization of jurisdictional boudaries. CZ-324 - prezone the annexation area to the City's Rural Exclusive (RE) Zone.

INSTITUTIONAL ACTIVITY SUMMARY			
PROJECT STATUS	**ACRES**	**BUILDING S.F.**	**PROJECTS**
PENDING	1.01	1,022	1
APPROVED/NOT BUILT	1.64	1,600	1
GRADING	0.00	0	0
UNDER CONSTRUCTION	8.77	15,599	2
TOTAL	**11.42**	**18,221**	**4**

APPENDIX E -
AIR QUALITY AND
GREENHOUSE GAS EMISSIONS
ANALYSIS DATA

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page …

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Camarillo Springs - Existing Golf Course Custom Report

Table of Contents

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Camarillo Springs - Existing Golf Course
Lead Agency	City of Camarillo
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	22.4
Location	34.20342220826326, -118.99179389161921
County	Ventura
City	Camarillo
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3539
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Golf Course	18.0	Hole	182	0.00	7,927,920	7,927,920	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Waste	S-1/S-2	Implement Waste Reduction Plan

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.67	2.98	25.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	1.29	7,651	7,652	0.48	0.26	27.1	7,768
Mit.	7.67	2.98	25.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	0.43	7,651	7,651	0.40	0.26	27.1	7,765
% Reduced	—	—	—	—	—	—	—	—	—	—	67%	—	< 0.5%	18%	—	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.62	3.33	25.0	0.06	0.04	1.98	2.03	0.04	0.35	0.39	1.29	7,446	7,448	0.51	0.27	0.70	7,543
Mit.	7.62	3.33	25.0	0.06	0.04	1.98	2.03	0.04	0.35	0.39	0.43	7,446	7,447	0.42	0.27	0.70	7,540
% Reduced	—	—	—	—	—	—	—	—	—	—	67%	—	< 0.5%	17%	—	—	< 0.5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.60	3.27	24.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	1.29	7,478	7,480	0.50	0.27	11.7	7,584
Mit.	7.60	3.27	24.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	0.43	7,478	7,479	0.41	0.27	11.7	7,581
% Reduced	—	—	—	—	—	—	—	—	—	—	67%	—	< 0.5%	17%	—	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.39	0.60	4.50	0.01	0.01	0.36	0.37	0.01	0.06	0.07	0.21	1,238	1,238	0.08	0.04	1.94	1,256
Mit.	1.39	0.60	4.50	0.01	0.01	0.36	0.37	0.01	0.06	0.07	0.07	1,238	1,238	0.07	0.04	1.94	1,255
% Reduced	—	—	—	—	—	—	—	—	—	—	67%	—	< 0.5%	17%	—	—	< 0.5%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.95	2.98	25.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,889	5,889	0.25	0.24	27.1	5,995
Area	4.72	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Waste	—	—	—	—	—	—	—	—	—	—	1.29	0.00	1.29	0.13	0.00	—	4.52
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	7.67	2.98	25.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	1.29	7,651	7,652	0.48	0.26	27.1	7,768
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.90	3.33	25.0	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,685	5,685	0.27	0.26	0.70	5,770
Area	4.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Waste	—	—	—	—	—	—	—	—	—	—	1.29	0.00	1.29	0.13	0.00	—	4.52
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	7.62	3.33	25.0	0.06	0.04	1.98	2.03	0.04	0.35	0.39	1.29	7,446	7,448	0.51	0.27	0.70	7,543

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.88	3.27	24.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,717	5,717	0.26	0.26	11.7	5,812
Area	4.72	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Waste	—	—	—	—	—	—	—	—	—	—	1.29	0.00	1.29	0.13	0.00	—	4.52
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	7.60	3.27	24.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	1.29	7,478	7,480	0.50	0.27	11.7	7,584
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.53	0.60	4.50	0.01	0.01	0.36	0.37	0.01	0.06	0.07	—	946	946	0.04	0.04	1.94	962
Area	0.86	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	0.00	292	292	0.02	< 0.005	—	293
Waste	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.75
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	1.39	0.60	4.50	0.01	0.01	0.36	0.37	0.01	0.06	0.07	0.21	1,238	1,238	0.08	0.04	1.94	1,256

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.95	2.98	25.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,889	5,889	0.25	0.24	27.1	5,995
Area	4.72	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768

Waste	—	—	—	—	—	—	—	—	—	—	0.43	0.00	0.43	0.04	0.00	—	1.49
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	7.67	2.98	25.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	0.43	7,651	7,651	0.40	0.26	27.1	7,765
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.90	3.33	25.0	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,685	5,685	0.27	0.26	0.70	5,770
Area	4.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Waste	—	—	—	—	—	—	—	—	—	—	0.43	0.00	0.43	0.04	0.00	—	1.49
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	7.62	3.33	25.0	0.06	0.04	1.98	2.03	0.04	0.35	0.39	0.43	7,446	7,447	0.42	0.27	0.70	7,540
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.88	3.27	24.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,717	5,717	0.26	0.26	11.7	5,812
Area	4.72	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Waste	—	—	—	—	—	—	—	—	—	—	0.43	0.00	0.43	0.04	0.00	—	1.49
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	7.60	3.27	24.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	0.43	7,478	7,479	0.41	0.27	11.7	7,581
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.53	0.60	4.50	0.01	0.01	0.36	0.37	0.01	0.06	0.07	—	946	946	0.04	0.04	1.94	962
Area	0.86	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	0.00	292	292	0.02	< 0.005	—	293
Waste	—	—	—	—	—	—	—	—	—	—	0.07	0.00	0.07	0.01	0.00	—	0.25
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Total	1.39	0.60	4.50	0.01	0.01	0.36	0.37	0.01	0.06	0.07	0.07	1,238	1,238	0.07	0.04	1.94	1,255

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	2.95	2.98	25.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,889	5,889	0.25	0.24	27.1	5,995
Total	2.95	2.98	25.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,889	5,889	0.25	0.24	27.1	5,995
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	2.90	3.33	25.0	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,685	5,685	0.27	0.26	0.70	5,770
Total	2.90	3.33	25.0	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,685	5,685	0.27	0.26	0.70	5,770
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	0.53	0.60	4.50	0.01	0.01	0.36	0.37	0.01	0.06	0.07	—	946	946	0.04	0.04	1.94	962
Total	0.53	0.60	4.50	0.01	0.01	0.36	0.37	0.01	0.06	0.07	—	946	946	0.04	0.04	1.94	962

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	2.95	2.98	25.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,889	5,889	0.25	0.24	27.1	5,995
Total	2.95	2.98	25.7	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,889	5,889	0.25	0.24	27.1	5,995
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	2.90	3.33	25.0	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,685	5,685	0.27	0.26	0.70	5,770
Total	2.90	3.33	25.0	0.06	0.04	1.98	2.03	0.04	0.35	0.39	—	5,685	5,685	0.27	0.26	0.70	5,770
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	0.53	0.60	4.50	0.01	0.01	0.36	0.37	0.01	0.06	0.07	—	946	946	0.04	0.04	1.94	962
Total	0.53	0.60	4.50	0.01	0.01	0.36	0.37	0.01	0.06	0.07	—	946	946	0.04	0.04	1.94	962

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	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
Total	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

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	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

Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	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
Total	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

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	4.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	4.72	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	4.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	0.86	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	4.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	4.72	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	4.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	0.86	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768

Total	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Total	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	292	292	0.02	< 0.005	—	293
Total	—	—	—	—	—	—	—	—	—	—	0.00	292	292	0.02	< 0.005	—	293

4.4.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Total	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Total	—	—	—	—	—	—	—	—	—	—	0.00	1,762	1,762	0.11	0.01	—	1,768
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	292	292	0.02	< 0.005	—	293
Total	—	—	—	—	—	—	—	—	—	—	0.00	292	292	0.02	< 0.005	—	293

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	1.29	0.00	1.29	0.13	0.00	—	4.52
Total	—	—	—	—	—	—	—	—	—	—	1.29	0.00	1.29	0.13	0.00	—	4.52
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	1.29	0.00	1.29	0.13	0.00	—	4.52
Total	—	—	—	—	—	—	—	—	—	—	1.29	0.00	1.29	0.13	0.00	—	4.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.75
Total	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.75

4.5.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	0.43	0.00	0.43	0.04	0.00	—	1.49
Total	—	—	—	—	—	—	—	—	—	—	0.43	0.00	0.43	0.04	0.00	—	1.49

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	0.43	0.00	0.43	0.04	0.00	—	1.49
Total	—	—	—	—	—	—	—	—	—	—	0.43	0.00	0.43	0.04	0.00	—	1.49
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	0.07	0.00	0.07	0.01	0.00	—	0.25
Total	—	—	—	—	—	—	—	—	—	—	0.07	0.00	0.07	0.01	0.00	—	0.25

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequeste red	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Golf Course	547	547	547	199,597	7,170	7,170	7,170	2,617,093

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Golf Course	547	547	547	199,597	7,170	7,170	7,170	2,617,093

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	14,460	4,820	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Golf Course	0.00	532	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Golf Course	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Golf Course	0.00	227,752,410

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Golf Course	0.00	227,752,410

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Golf Course	2.40	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Golf Course	0.79	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Golf Course	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Golf Course	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Golf Course	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Golf Course	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	The project site is located within the City of Camarillo, which is a suburban area.
Land Use	Chances reflect actual property conditions.
Operations: Vehicle Data	Default trip rates changed to reflect project traffic report.

Camarillo Springs - Proposed Project Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Camarillo Springs - Proposed Project
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	22.4
Location	34.20357537557015, -118.99179373146454
County	Ventura
City	Camarillo
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3539
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Asphalt Surfaces	9.75	Acre	9.75	0.00	—	—	—	—
City Park	7.60	Acre	7.60	0.00	7.60	7.60	—	—
Golf Course	12.0	Hole	141	0.00	6,159,384	6,159,384	—	—

Retirement Community	248	Dwelling Unit	23.5	248,000	40,000	—	496	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-12	Sweep Paved Roads
Waste	S-1/S-2	Implement Waste Reduction Plan

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	17.2	168	141	0.34	6.77	13.1	19.8	6.23	3.60	9.83	—	37,329	37,329	1.52	0.33	13.9	37,469
Mit.	6.55	162	190	0.34	6.35	13.1	19.4	5.66	3.60	9.26	—	37,329	37,329	1.52	0.33	13.9	37,469
% Reduced	62%	4%	-35%	—	6%	—	2%	9%	—	6%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	17.2	169	141	0.34	6.77	13.1	19.8	6.23	3.60	9.83	—	37,286	37,286	1.52	0.33	0.36	37,422

Mit.	6.52	162	190	0.34	6.35	13.1	19.4	5.66	3.60	9.26	—	37,286	37,286	1.52	0.33	0.36	37,422
% Reduced	62%	4%	-35%	—	6%	—	2%	9%	—	6%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.95	68.0	57.1	0.14	2.73	5.03	7.76	2.51	1.39	3.90	—	15,101	15,101	0.62	0.21	3.93	15,157
Mit.	2.89	65.7	77.0	0.14	2.58	5.03	7.62	2.30	1.39	3.69	—	15,101	15,101	0.62	0.21	3.93	15,157
% Reduced	58%	3%	-35%	—	5%	—	2%	8%	—	5%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.27	12.4	10.4	0.02	0.50	0.92	1.42	0.46	0.25	0.71	—	2,500	2,500	0.10	0.04	0.65	2,509
Mit.	0.53	12.0	14.1	0.02	0.47	0.92	1.39	0.42	0.25	0.67	—	2,500	2,500	0.10	0.04	0.65	2,509
% Reduced	58%	3%	-35%	—	5%	—	2%	8%	—	5%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	17.2	168	141	0.34	6.77	13.1	19.8	6.23	3.60	9.83	—	37,329	37,329	1.52	0.33	4.12	37,469
2025	5.80	27.0	42.8	0.09	0.96	3.03	3.98	0.88	0.72	1.60	—	12,873	12,873	0.52	0.30	13.9	12,990
2026	5.68	25.3	41.8	0.09	0.86	3.03	3.89	0.79	0.72	1.51	—	12,810	12,810	0.42	0.29	12.6	12,920
2027	5.61	24.1	41.0	0.09	0.80	3.03	3.83	0.73	0.72	1.45	—	12,743	12,743	0.42	0.29	11.4	12,852
2028	5.51	22.6	40.1	0.09	0.72	3.03	3.75	0.66	0.72	1.38	—	12,678	12,678	0.42	0.29	10.3	12,784
2029	5.42	21.2	39.2	0.09	0.66	3.03	3.69	0.61	0.72	1.33	—	12,612	12,612	0.42	0.29	9.20	12,717

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	17.2	169	141	0.34	6.77	13.1	19.8	6.23	3.60	9.83	—	37,286	37,286	1.52	0.33	0.11	37,422
2025	5.79	27.2	41.5	0.09	0.96	3.03	3.98	0.88	0.72	1.60	—	12,746	12,746	0.53	0.30	0.36	12,850
2026	5.67	25.5	40.6	0.09	0.86	3.03	3.89	0.79	0.72	1.51	—	12,686	12,686	0.43	0.30	0.33	12,786
2027	5.60	24.3	39.8	0.09	0.80	3.03	3.83	0.73	0.72	1.45	—	12,622	12,622	0.43	0.30	0.30	12,721
2028	5.50	22.7	39.1	0.09	0.72	3.03	3.75	0.66	0.72	1.38	—	12,559	12,559	0.43	0.29	0.27	12,657
2029	5.32	21.5	38.2	0.09	0.66	3.03	3.69	0.61	0.72	1.33	—	12,495	12,495	0.42	0.29	0.24	12,593
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	6.95	68.0	57.1	0.14	2.73	5.03	7.76	2.51	1.39	3.90	—	15,101	15,101	0.62	0.13	0.75	15,157
2025	3.90	18.2	27.8	0.06	0.65	1.96	2.61	0.59	0.47	1.06	—	8,447	8,447	0.35	0.20	3.93	8,519
2026	4.05	18.2	29.0	0.07	0.62	2.13	2.75	0.56	0.51	1.07	—	9,075	9,075	0.30	0.21	3.89	9,150
2027	4.00	17.3	28.5	0.07	0.57	2.13	2.70	0.52	0.51	1.03	—	9,029	9,029	0.30	0.21	3.51	9,103
2028	3.94	16.3	28.0	0.07	0.52	2.14	2.65	0.47	0.51	0.98	—	9,009	9,009	0.30	0.21	3.17	9,081
2029	3.27	13.2	23.6	0.06	0.41	1.84	2.25	0.38	0.44	0.81	—	7,714	7,714	0.26	0.18	2.45	7,775
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.27	12.4	10.4	0.02	0.50	0.92	1.42	0.46	0.25	0.71	—	2,500	2,500	0.10	0.02	0.12	2,509
2025	0.71	3.33	5.07	0.01	0.12	0.36	0.48	0.11	0.08	0.19	—	1,398	1,398	0.06	0.03	0.65	1,410
2026	0.74	3.32	5.30	0.01	0.11	0.39	0.50	0.10	0.09	0.20	—	1,502	1,502	0.05	0.04	0.64	1,515
2027	0.73	3.17	5.20	0.01	0.10	0.39	0.49	0.10	0.09	0.19	—	1,495	1,495	0.05	0.04	0.58	1,507
2028	0.72	2.97	5.11	0.01	0.09	0.39	0.48	0.09	0.09	0.18	—	1,491	1,491	0.05	0.03	0.52	1,503
2029	0.60	2.40	4.30	0.01	0.07	0.34	0.41	0.07	0.08	0.15	—	1,277	1,277	0.04	0.03	0.41	1,287

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	6.55	162	190	0.34	6.35	13.1	19.4	5.66	3.60	9.26	—	37,329	37,329	1.52	0.33	4.12	37,469
2025	4.11	44.7	62.5	0.09	1.71	3.03	4.74	1.53	0.72	2.25	—	12,873	12,873	0.52	0.30	13.9	12,990
2026	4.06	44.5	61.6	0.09	1.70	3.03	4.73	1.52	0.72	2.24	—	12,810	12,810	0.42	0.29	12.6	12,920
2027	4.02	44.4	60.8	0.09	1.70	3.03	4.73	1.52	0.72	2.24	—	12,743	12,743	0.42	0.29	11.4	12,852
2028	3.99	44.3	60.0	0.09	1.69	3.03	4.72	1.51	0.72	2.23	—	12,678	12,678	0.42	0.29	10.3	12,784
2029	3.96	44.1	59.3	0.09	1.69	3.03	4.71	1.51	0.72	2.23	—	12,612	12,612	0.42	0.29	9.20	12,717
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	6.52	162	190	0.34	6.35	13.1	19.4	5.66	3.60	9.26	—	37,286	37,286	1.52	0.33	0.11	37,422
2025	4.09	44.9	61.3	0.09	1.71	3.03	4.74	1.53	0.72	2.25	—	12,746	12,746	0.53	0.30	0.36	12,850
2026	4.05	44.8	60.4	0.09	1.70	3.03	4.73	1.52	0.72	2.24	—	12,686	12,686	0.43	0.30	0.33	12,786
2027	4.01	44.6	59.6	0.09	1.70	3.03	4.73	1.52	0.72	2.24	—	12,622	12,622	0.43	0.30	0.30	12,721
2028	3.98	44.4	59.0	0.09	1.69	3.03	4.72	1.51	0.72	2.23	—	12,559	12,559	0.43	0.29	0.27	12,657
2029	3.86	44.3	58.3	0.09	1.69	3.03	4.71	1.51	0.72	2.23	—	12,495	12,495	0.42	0.29	0.24	12,593
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.65	65.7	77.0	0.14	2.58	5.03	7.62	2.30	1.39	3.69	—	15,101	15,101	0.62	0.13	0.75	15,157
2025	2.76	29.9	40.7	0.06	1.14	1.96	3.10	1.02	0.47	1.49	—	8,447	8,447	0.35	0.20	3.93	8,519
2026	2.89	32.0	43.1	0.07	1.22	2.13	3.35	1.09	0.51	1.59	—	9,075	9,075	0.30	0.21	3.89	9,150
2027	2.86	31.8	42.6	0.07	1.21	2.13	3.35	1.08	0.51	1.59	—	9,029	9,029	0.30	0.21	3.51	9,103
2028	2.85	31.8	42.3	0.07	1.21	2.14	3.35	1.08	0.51	1.59	—	9,009	9,009	0.30	0.21	3.17	9,081
2029	2.37	27.3	36.0	0.06	1.04	1.84	2.88	0.93	0.44	1.37	—	7,714	7,714	0.26	0.18	2.45	7,775
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.48	12.0	14.1	0.02	0.47	0.92	1.39	0.42	0.25	0.67	—	2,500	2,500	0.10	0.02	0.12	2,509
2025	0.50	5.45	7.43	0.01	0.21	0.36	0.57	0.19	0.08	0.27	—	1,398	1,398	0.06	0.03	0.65	1,410

2026	0.53	5.83	7.87	0.01	0.22	0.39	0.61	0.20	0.09	0.29	—	1,502	1,502	0.05	0.04	0.64	1,515
2027	0.52	5.81	7.78	0.01	0.22	0.39	0.61	0.20	0.09	0.29	—	1,495	1,495	0.05	0.04	0.58	1,507
2028	0.52	5.80	7.71	0.01	0.22	0.39	0.61	0.20	0.09	0.29	—	1,491	1,491	0.05	0.03	0.52	1,503
2029	0.43	4.98	6.56	0.01	0.19	0.34	0.53	0.17	0.08	0.25	—	1,277	1,277	0.04	0.03	0.41	1,287

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	17.5	6.39	66.0	0.15	0.18	5.51	5.69	0.18	0.97	1.15	263	18,535	18,798	27.2	0.63	38.8	19,705
Mit.	17.5	6.39	66.0	0.15	0.18	5.51	5.69	0.18	0.97	1.15	99.0	18,535	18,634	10.8	0.63	38.8	19,130
% Reduced	—	—	—	—	—	—	—	—	—	—	62%	—	1%	60%	—	—	3%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	16.2	6.85	50.8	0.14	0.18	5.51	5.69	0.17	0.97	1.14	263	18,011	18,274	27.2	0.67	4.07	19,159
Mit.	16.2	6.85	50.8	0.14	0.18	5.51	5.69	0.17	0.97	1.14	99.0	18,011	18,110	10.8	0.67	4.07	18,584
% Reduced	—	—	—	—	—	—	—	—	—	—	62%	—	1%	60%	—	—	3%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	16.7	6.80	57.0	0.14	0.18	5.51	5.69	0.18	0.97	1.15	263	18,106	18,369	27.2	0.66	18.5	19,265
Mit.	16.7	6.80	57.0	0.14	0.18	5.51	5.69	0.18	0.97	1.15	99.0	18,106	18,205	10.8	0.66	18.5	18,690
% Reduced	—	—	—	—	—	—	—	—	—	—	62%	—	1%	60%	—	—	3%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	3.05	1.24	10.4	0.03	0.03	1.01	1.04	0.03	0.18	0.21	43.6	2,998	3,041	4.51	0.11	3.07	3,189
Mit.	3.05	1.24	10.4	0.03	0.03	1.01	1.04	0.03	0.18	0.21	16.4	2,998	3,014	1.79	0.11	3.07	3,094
% Reduced	—	—	—	—	—	—	—	—	—	—	62%	—	1%	60%	—	—	3%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.66	5.12	51.4	0.14	0.09	5.51	5.59	0.08	0.97	1.05	—	14,170	14,170	0.53	0.56	35.7	14,386
Area	10.7	0.13	14.1	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	0.00	37.6	37.6	< 0.005	< 0.005	—	37.8
Energy	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	2,861	2,861	0.22	0.01	—	2,870
Water	—	—	—	—	—	—	—	—	—	—	18.0	1,467	1,485	1.94	0.05	—	1,550
Waste	—	—	—	—	—	—	—	—	—	—	245	0.00	245	24.5	0.00	—	858
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	17.5	6.39	66.0	0.15	0.18	5.51	5.69	0.18	0.97	1.15	263	18,535	18,798	27.2	0.63	38.8	19,705
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.60	5.71	50.3	0.13	0.09	5.51	5.59	0.08	0.97	1.05	—	13,684	13,684	0.57	0.60	0.92	13,878
Area	9.52	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
Energy	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	2,861	2,861	0.22	0.01	—	2,870
Water	—	—	—	—	—	—	—	—	—	—	18.0	1,467	1,485	1.94	0.05	—	1,550
Waste	—	—	—	—	—	—	—	—	—	—	245	0.00	245	24.5	0.00	—	858
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	16.2	6.85	50.8	0.14	0.18	5.51	5.69	0.17	0.97	1.14	263	18,011	18,274	27.2	0.67	4.07	19,159

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.54	5.60	49.6	0.14	0.09	5.51	5.59	0.08	0.97	1.05	—	13,760	13,760	0.56	0.59	15.4	13,965
Area	10.1	0.06	6.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18.6	18.6	< 0.005	< 0.005	—	18.6
Energy	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	2,861	2,861	0.22	0.01	—	2,870
Water	—	—	—	—	—	—	—	—	—	—	18.0	1,467	1,485	1.94	0.05	—	1,550
Waste	—	—	—	—	—	—	—	—	—	—	245	0.00	245	24.5	0.00	—	858
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	16.7	6.80	57.0	0.14	0.18	5.51	5.69	0.18	0.97	1.15	263	18,106	18,369	27.2	0.66	18.5	19,265
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.19	1.02	9.05	0.02	0.02	1.01	1.02	0.01	0.18	0.19	—	2,278	2,278	0.09	0.10	2.55	2,312
Area	1.85	0.01	1.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.07	3.07	< 0.005	< 0.005	—	3.08
Energy	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	474	474	0.04	< 0.005	—	475
Water	—	—	—	—	—	—	—	—	—	—	2.98	243	246	0.32	0.01	—	257
Waste	—	—	—	—	—	—	—	—	—	—	40.6	0.00	40.6	4.06	0.00	—	142
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	3.05	1.24	10.4	0.03	0.03	1.01	1.04	0.03	0.18	0.21	43.6	2,998	3,041	4.51	0.11	3.07	3,189

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.66	5.12	51.4	0.14	0.09	5.51	5.59	0.08	0.97	1.05	—	14,170	14,170	0.53	0.56	35.7	14,386
Area	10.7	0.13	14.1	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	0.00	37.6	37.6	< 0.005	< 0.005	—	37.8
Energy	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	2,861	2,861	0.22	0.01	—	2,870
Water	—	—	—	—	—	—	—	—	—	—	18.0	1,467	1,485	1.94	0.05	—	1,550

Waste	—	—	—	—	—	—	—	—	—	—	81.0	0.00	81.0	8.09	0.00	—	283
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	17.5	6.39	66.0	0.15	0.18	5.51	5.69	0.18	0.97	1.15	99.0	18,535	18,634	10.8	0.63	38.8	19,130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.60	5.71	50.3	0.13	0.09	5.51	5.59	0.08	0.97	1.05	—	13,684	13,684	0.57	0.60	0.92	13,878
Area	9.52	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
Energy	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	2,861	2,861	0.22	0.01	—	2,870
Water	—	—	—	—	—	—	—	—	—	—	18.0	1,467	1,485	1.94	0.05	—	1,550
Waste	—	—	—	—	—	—	—	—	—	—	81.0	0.00	81.0	8.09	0.00	—	283
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	16.2	6.85	50.8	0.14	0.18	5.51	5.69	0.17	0.97	1.14	99.0	18,011	18,110	10.8	0.67	4.07	18,584
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.54	5.60	49.6	0.14	0.09	5.51	5.59	0.08	0.97	1.05	—	13,760	13,760	0.56	0.59	15.4	13,965
Area	10.1	0.06	6.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	18.6	18.6	< 0.005	< 0.005	—	18.6
Energy	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	2,861	2,861	0.22	0.01	—	2,870
Water	—	—	—	—	—	—	—	—	—	—	18.0	1,467	1,485	1.94	0.05	—	1,550
Waste	—	—	—	—	—	—	—	—	—	—	81.0	0.00	81.0	8.09	0.00	—	283
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	16.7	6.80	57.0	0.14	0.18	5.51	5.69	0.18	0.97	1.15	99.0	18,106	18,205	10.8	0.66	18.5	18,690
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.19	1.02	9.05	0.02	0.02	1.01	1.02	0.01	0.18	0.19	—	2,278	2,278	0.09	0.10	2.55	2,312
Area	1.85	0.01	1.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.07	3.07	< 0.005	< 0.005	—	3.08
Energy	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	474	474	0.04	< 0.005	—	475
Water	—	—	—	—	—	—	—	—	—	—	2.98	243	246	0.32	0.01	—	257
Waste	—	—	—	—	—	—	—	—	—	—	13.4	0.00	13.4	1.34	0.00	—	46.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52

Total	3.05	1.24	10.4	0.03	0.03	1.01	1.04	0.03	0.18	0.21	16.4	2,998	3,014	1.79	0.11	3.07	3,094

3. Construction Emissions Details

3.1. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	16.9	168	137	0.34	6.77	—	6.77	6.23	—	6.23	—	36,374	36,374	1.48	0.30	—	36,498
Dust From Material Movement	—	—	—	—	—	12.1	12.1	—	3.39	3.39	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	16.9	168	137	0.34	6.77	—	6.77	6.23	—	6.23	—	36,374	36,374	1.48	0.30	—	36,498
Dust From Material Movement	—	—	—	—	—	12.1	12.1	—	3.39	3.39	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	6.49	64.5	52.4	0.13	2.60	—	2.60	2.39	—	2.39	—	13,952	13,952	0.57	0.11	—	13,999
Dust From Material Movement	—	—	—	—	—	4.66	4.66	—	1.30	1.30	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	11.8	9.56	0.02	0.47	—	0.47	0.44	—	0.44	—	2,310	2,310	0.09	0.02	—	2,318
Dust From Material Movement	—	—	—	—	—	0.85	0.85	—	0.24	0.24	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.34	4.72	0.00	0.00	0.91	0.91	0.00	0.21	0.21	—	955	955	0.04	0.03	4.12	970
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.41	4.27	0.00	0.00	0.91	0.91	0.00	0.21	0.21	—	912	912	0.05	0.03	0.11	924
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.15	1.64	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	353	353	0.02	0.01	0.68	358

Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.30	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.4	58.4	< 0.005	< 0.005	0.11	59.2
Vendor	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
Hauling	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

3.2. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.21	162	186	0.34	6.35	—	6.35	5.66	—	5.66	—	36,374	36,374	1.48	0.30	—	36,498
Dust From Material Movement	—	—	—	—	—	12.1	12.1	—	3.39	3.39	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.21	162	186	0.34	6.35	—	6.35	5.66	—	5.66	—	36,374	36,374	1.48	0.30	—	36,498
Dust From Material Movement	—	—	—	—	—	12.1	12.1	—	3.39	3.39	—	—	—	—	—	—	—

Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.38	62.0	71.2	0.13	2.43	—	2.43	2.17	—	2.17	—	13,952	13,952	0.57	0.11	—	13,999
Dust From Material Movement	—	—	—	—	—	4.66	4.66	—	1.30	1.30	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	11.3	13.0	0.02	0.44	—	0.44	0.40	—	0.40	—	2,310	2,310	0.09	0.02	—	2,318
Dust From Material Movement	—	—	—	—	—	0.85	0.85	—	0.24	0.24	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.34	4.72	0.00	0.00	0.91	0.91	0.00	0.21	0.21	—	955	955	0.04	0.03	4.12	970
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.41	4.27	0.00	0.00	0.91	0.91	0.00	0.21	0.21	—	912	912	0.05	0.03	0.11	924
Vendor	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

Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.15	1.64	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	353	353	0.02	0.01	0.68	358
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.03	0.30	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58.4	58.4	< 0.005	< 0.005	0.11	59.2
Vendor	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
Hauling	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

3.3. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.36	24.1	27.8	0.08	0.92	—	0.92	0.84	—	0.84	—	9,058	9,058	0.37	0.07	—	9,089
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.36	24.1	27.8	0.08	0.92	—	0.92	0.84	—	0.84	—	9,058	9,058	0.37	0.07	—	9,089
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.20	15.8	18.2	0.06	0.60	—	0.60	0.55	—	0.55	—	5,920	5,920	0.24	0.05	—	5,941
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	2.88	3.32	0.01	0.11	—	0.11	0.10	—	0.10	—	980	980	0.04	0.01	—	984
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.76	0.79	11.2	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,387	2,387	0.11	0.09	9.63	2,426
Vendor	0.02	1.02	0.32	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	817	817	0.02	0.12	2.31	857
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.95	10.2	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,281	2,281	0.12	0.09	0.25	2,311
Vendor	0.02	1.06	0.33	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	818	818	0.02	0.12	0.06	855
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.48	0.62	6.66	0.00	0.00	1.50	1.50	0.00	0.35	0.35	—	1,502	1,502	0.07	0.06	2.72	1,524
Vendor	0.02	0.69	0.21	< 0.005	0.01	0.15	0.15	0.01	0.04	0.05	—	534	534	0.01	0.08	0.65	559
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.11	1.21	0.00	0.00	0.27	0.27	0.00	0.06	0.06	—	249	249	0.01	0.01	0.45	252
Vendor	< 0.005	0.13	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	88.4	88.4	< 0.005	0.01	0.11	92.6
Hauling	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

3.4. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.67	41.8	47.6	0.08	1.67	—	1.67	1.49	—	1.49	—	9,058	9,058	0.37	0.07	—	9,089
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.67	41.8	47.6	0.08	1.67	—	1.67	1.49	—	1.49	—	9,058	9,058	0.37	0.07	—	9,089
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.09	27.4	31.1	0.06	1.09	—	1.09	0.98	—	0.98	—	5,920	5,920	0.24	0.05	—	5,941
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	4.99	5.68	0.01	0.20	—	0.20	0.18	—	0.18	—	980	980	0.04	0.01	—	984
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.76	0.79	11.2	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,387	2,387	0.11	0.09	9.63	2,426
Vendor	0.02	1.02	0.32	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	817	817	0.02	0.12	2.31	857
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.95	10.2	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,281	2,281	0.12	0.09	0.25	2,311
Vendor	0.02	1.06	0.33	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	818	818	0.02	0.12	0.06	855
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.48	0.62	6.66	0.00	0.00	1.50	1.50	0.00	0.35	0.35	—	1,502	1,502	0.07	0.06	2.72	1,524
Vendor	0.02	0.69	0.21	< 0.005	0.01	0.15	0.15	0.01	0.04	0.05	—	534	534	0.01	0.08	0.65	559
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.11	1.21	0.00	0.00	0.27	0.27	0.00	0.06	0.06	—	249	249	0.01	0.01	0.45	252
Vendor	< 0.005	0.13	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	88.4	88.4	< 0.005	0.01	0.11	92.6
Hauling	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

3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.29	22.6	27.8	0.08	0.83	—	0.83	0.76	—	0.76	—	9,065	9,065	0.37	0.07	—	9,096
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.29	22.6	27.8	0.08	0.83	—	0.83	0.76	—	0.76	—	9,065	9,065	0.37	0.07	—	9,096
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.35	16.1	19.9	0.06	0.59	—	0.59	0.54	—	0.54	—	6,475	6,475	0.26	0.05	—	6,497
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	2.95	3.63	0.01	0.11	—	0.11	0.10	—	0.10	—	1,072	1,072	0.04	0.01	—	1,076
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.72	0.70	10.5	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,340	2,340	0.03	0.08	8.78	2,375
Vendor	0.02	0.97	0.30	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	803	803	0.01	0.12	2.09	841
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.72	0.87	9.48	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,236	2,236	0.04	0.09	0.23	2,264

Vendor	0.02	1.01	0.31	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	804	804	0.01	0.12	0.05	839
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.51	0.62	6.78	0.00	0.00	1.64	1.64	0.00	0.38	0.38	—	1,609	1,609	0.03	0.06	2.71	1,631
Vendor	0.02	0.72	0.22	< 0.005	0.01	0.16	0.17	< 0.005	0.04	0.05	—	574	574	0.01	0.08	0.65	600
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.11	1.24	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	266	266	< 0.005	0.01	0.45	270
Vendor	< 0.005	0.13	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.0	95.0	< 0.005	0.01	0.11	99.3
Hauling	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

3.6. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.67	41.8	47.6	0.08	1.67	—	1.67	1.49	—	1.49	—	9,065	9,065	0.37	0.07	—	9,096
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.67	41.8	47.6	0.08	1.67	—	1.67	1.49	—	1.49	—	9,065	9,065	0.37	0.07	—	9,096
Onsite truck	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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.19	29.9	34.0	0.06	1.19	—	1.19	1.07	—	1.07	—	6,475	6,475	0.26	0.05	—	6,497
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	5.45	6.20	0.01	0.22	—	0.22	0.19	—	0.19	—	1,072	1,072	0.04	0.01	—	1,076
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.72	0.70	10.5	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,340	2,340	0.03	0.08	8.78	2,375
Vendor	0.02	0.97	0.30	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	803	803	0.01	0.12	2.09	841
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.72	0.87	9.48	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,236	2,236	0.04	0.09	0.23	2,264
Vendor	0.02	1.01	0.31	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	804	804	0.01	0.12	0.05	839
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.51	0.62	6.78	0.00	0.00	1.64	1.64	0.00	0.38	0.38	—	1,609	1,609	0.03	0.06	2.71	1,631
Vendor	0.02	0.72	0.22	< 0.005	0.01	0.16	0.17	< 0.005	0.04	0.05	—	574	574	0.01	0.08	0.65	600
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.11	1.24	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	266	266	< 0.005	0.01	0.45	270

Vendor	< 0.005	0.13	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	95.0	95.0	< 0.005	0.01	0.11	99.3
Hauling	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

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.25	21.5	27.8	0.08	0.77	—	0.77	0.71	—	0.71	—	9,063	9,063	0.37	0.07	—	9,094
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.25	21.5	27.8	0.08	0.77	—	0.77	0.71	—	0.71	—	9,063	9,063	0.37	0.07	—	9,094
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.32	15.4	19.8	0.06	0.55	—	0.55	0.50	—	0.50	—	6,473	6,473	0.26	0.05	—	6,495
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	2.81	3.62	0.01	0.10	—	0.10	0.09	—	0.09	—	1,072	1,072	0.04	0.01	—	1,075
Onsite truck	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

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.70	0.70	9.81	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,299	2,299	0.03	0.08	7.97	2,333
Vendor	0.02	0.92	0.29	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	788	788	0.01	0.12	1.83	825
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.70	0.79	8.85	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,198	2,198	0.04	0.09	0.21	2,225
Vendor	0.02	0.96	0.30	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	788	788	0.01	0.12	0.05	823
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.56	6.34	0.00	0.00	1.64	1.64	0.00	0.38	0.38	—	1,581	1,581	0.03	0.06	2.45	1,603
Vendor	0.01	0.68	0.21	< 0.005	0.01	0.16	0.17	< 0.005	0.04	0.05	—	563	563	0.01	0.08	0.57	589
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.10	1.16	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	262	262	< 0.005	0.01	0.41	265
Vendor	< 0.005	0.12	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	93.2	93.2	< 0.005	0.01	0.09	97.4
Hauling	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

3.8. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.67	41.8	47.6	0.08	1.67	—	1.67	1.49	—	1.49	—	9,063	9,063	0.37	0.07	—	9,094
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.67	41.8	47.6	0.08	1.67	—	1.67	1.49	—	1.49	—	9,063	9,063	0.37	0.07	—	9,094
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.19	29.9	34.0	0.06	1.19	—	1.19	1.07	—	1.07	—	6,473	6,473	0.26	0.05	—	6,495
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	5.45	6.20	0.01	0.22	—	0.22	0.19	—	0.19	—	1,072	1,072	0.04	0.01	—	1,075
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.70	0.70	9.81	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,299	2,299	0.03	0.08	7.97	2,333
Vendor	0.02	0.92	0.29	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	788	788	0.01	0.12	1.83	825
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.70	0.79	8.85	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,198	2,198	0.04	0.09	0.21	2,225

Vendor	0.02	0.96	0.30	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	788	788	0.01	0.12	0.05	823
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.56	6.34	0.00	0.00	1.64	1.64	0.00	0.38	0.38	—	1,581	1,581	0.03	0.06	2.45	1,603
Vendor	0.01	0.68	0.21	< 0.005	0.01	0.16	0.17	< 0.005	0.04	0.05	—	563	563	0.01	0.08	0.57	589
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.10	1.16	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	262	262	< 0.005	0.01	0.41	265
Vendor	< 0.005	0.12	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	93.2	93.2	< 0.005	0.01	0.09	97.4
Hauling	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

3.9. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.19	20.1	27.7	0.09	0.70	—	0.70	0.64	—	0.64	—	9,067	9,067	0.37	0.07	—	9,098
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.19	20.1	27.7	0.09	0.70	—	0.70	0.64	—	0.64	—	9,067	9,067	0.37	0.07	—	9,098
Onsite truck	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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.28	14.4	19.8	0.06	0.50	—	0.50	0.46	—	0.46	—	6,494	6,494	0.26	0.05	—	6,516
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	2.63	3.62	0.01	0.09	—	0.09	0.08	—	0.08	—	1,075	1,075	0.04	0.01	—	1,079
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.68	0.62	9.22	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,258	2,258	0.03	0.08	7.20	2,291
Vendor	0.02	0.88	0.28	0.01	0.01	0.23	0.23	0.01	0.06	0.07	—	769	769	0.01	0.11	1.63	804
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.67	0.71	8.31	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,158	2,158	0.04	0.09	0.19	2,185
Vendor	0.02	0.91	0.29	0.01	0.01	0.23	0.23	0.01	0.06	0.07	—	769	769	0.01	0.11	0.04	803
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.48	0.50	5.98	0.00	0.00	1.65	1.65	0.00	0.39	0.39	—	1,557	1,557	0.02	0.06	2.22	1,578
Vendor	0.01	0.65	0.21	< 0.005	< 0.005	0.16	0.16	< 0.005	0.04	0.05	—	551	551	0.01	0.08	0.50	575
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	1.09	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	258	258	< 0.005	0.01	0.37	261

Vendor	< 0.005	0.12	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	91.2	91.2	< 0.005	0.01	0.08	95.2
Hauling	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

3.10. Building Construction (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.67	41.8	47.6	0.09	1.67	—	1.67	1.49	—	1.49	—	9,067	9,067	0.37	0.07	—	9,098
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.67	41.8	47.6	0.09	1.67	—	1.67	1.49	—	1.49	—	9,067	9,067	0.37	0.07	—	9,098
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.19	30.0	34.1	0.06	1.20	—	1.20	1.07	—	1.07	—	6,494	6,494	0.26	0.05	—	6,516
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	5.47	6.22	0.01	0.22	—	0.22	0.20	—	0.20	—	1,075	1,075	0.04	0.01	—	1,079
Onsite truck	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

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.68	0.62	9.22	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,258	2,258	0.03	0.08	7.20	2,291
Vendor	0.02	0.88	0.28	0.01	0.01	0.23	0.23	0.01	0.06	0.07	—	769	769	0.01	0.11	1.63	804
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.67	0.71	8.31	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,158	2,158	0.04	0.09	0.19	2,185
Vendor	0.02	0.91	0.29	0.01	0.01	0.23	0.23	0.01	0.06	0.07	—	769	769	0.01	0.11	0.04	803
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.48	0.50	5.98	0.00	0.00	1.65	1.65	0.00	0.39	0.39	—	1,557	1,557	0.02	0.06	2.22	1,578
Vendor	0.01	0.65	0.21	< 0.005	< 0.005	0.16	0.16	< 0.005	0.04	0.05	—	551	551	0.01	0.08	0.50	575
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	1.09	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	258	258	< 0.005	0.01	0.37	261
Vendor	< 0.005	0.12	0.04	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	91.2	91.2	< 0.005	0.01	0.08	95.2
Hauling	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

3.11. Building Construction (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.13	18.9	27.5	0.09	0.64	—	0.64	0.59	—	0.59	—	9,069	9,069	0.37	0.07	—	9,100
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.13	18.9	27.5	0.09	0.64	—	0.64	0.59	—	0.59	—	9,069	9,069	0.37	0.07	—	9,100
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.93	11.7	16.9	0.05	0.40	—	0.40	0.37	—	0.37	—	5,590	5,590	0.23	0.05	—	5,609
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	2.13	3.09	0.01	0.07	—	0.07	0.07	—	0.07	—	926	926	0.04	0.01	—	929
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.66	0.54	8.64	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,218	2,218	0.03	0.08	6.47	2,251
Vendor	0.02	0.83	0.27	0.01	0.01	0.23	0.23	0.01	0.06	0.07	—	748	748	0.01	0.11	1.44	783
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.58	0.71	7.77	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,121	2,121	0.03	0.09	0.17	2,148

Vendor	0.02	0.86	0.28	0.01	0.01	0.23	0.23	0.01	0.06	0.07	—	748	748	0.01	0.11	0.04	782
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.35	0.39	4.82	0.00	0.00	1.42	1.42	0.00	0.33	0.33	—	1,317	1,317	0.02	0.05	1.72	1,334
Vendor	0.01	0.53	0.17	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	461	461	0.01	0.07	0.38	482
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.88	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	218	218	< 0.005	0.01	0.28	221
Vendor	< 0.005	0.10	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	76.3	76.3	< 0.005	0.01	0.06	79.8
Hauling	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

3.12. Building Construction (2029) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.67	41.8	47.6	0.09	1.67	—	1.67	1.49	—	1.49	—	9,069	9,069	0.37	0.07	—	9,100
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.67	41.8	47.6	0.09	1.67	—	1.67	1.49	—	1.49	—	9,069	9,069	0.37	0.07	—	9,100
Onsite truck	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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	25.8	29.3	0.05	1.03	—	1.03	0.92	—	0.92	—	5,590	5,590	0.23	0.05	—	5,609
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	4.71	5.35	0.01	0.19	—	0.19	0.17	—	0.17	—	926	926	0.04	0.01	—	929
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.66	0.54	8.64	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,218	2,218	0.03	0.08	6.47	2,251
Vendor	0.02	0.83	0.27	0.01	0.01	0.23	0.23	0.01	0.06	0.07	—	748	748	0.01	0.11	1.44	783
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.58	0.71	7.77	0.00	0.00	2.33	2.33	0.00	0.55	0.55	—	2,121	2,121	0.03	0.09	0.17	2,148
Vendor	0.02	0.86	0.28	0.01	0.01	0.23	0.23	0.01	0.06	0.07	—	748	748	0.01	0.11	0.04	782
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.35	0.39	4.82	0.00	0.00	1.42	1.42	0.00	0.33	0.33	—	1,317	1,317	0.02	0.05	1.72	1,334
Vendor	0.01	0.53	0.17	< 0.005	< 0.005	0.14	0.14	< 0.005	0.04	0.04	—	461	461	0.01	0.07	0.38	482
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.88	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	218	218	< 0.005	0.01	0.28	221

Vendor	< 0.005	0.10	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	76.3	76.3	< 0.005	0.01	0.06	79.8
Hauling	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

3.13. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	1.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.45	0.60	< 0.005	0.02	—	0.02	0.02	—	0.02	—	91.1	91.1	< 0.005	< 0.005	—	91.4
Paving	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.1	15.1	< 0.005	< 0.005	—	15.1
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.6	11.6	< 0.005	< 0.005	0.02	11.8
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.93	1.93	< 0.005	< 0.005	< 0.005	1.95
Vendor	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
Hauling	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

3.14. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.32	8.62	10.6	0.01	0.39	—	0.39	0.36	—	0.36	—	1,511	1,511	0.06	0.01	—	1,517
Paving	1.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.52	0.64	< 0.005	0.02	—	0.02	0.02	—	0.02	—	91.1	91.1	< 0.005	< 0.005	—	91.4
Paving	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.1	15.1	< 0.005	< 0.005	—	15.1
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.6	11.6	< 0.005	< 0.005	0.02	11.8
Vendor	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

Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.93	1.93	< 0.005	< 0.005	< 0.005	1.95
Vendor	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
Hauling	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

3.15. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.58	0.75	< 0.005	0.02	—	0.02	0.02	—	0.02	—	87.3	87.3	< 0.005	< 0.005	—	87.6
Architectural Coatings	0.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.11	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.4	14.4	< 0.005	< 0.005	—	14.5
Architectural Coatings	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.16	2.24	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	477	477	0.02	0.02	1.93	485
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.19	2.04	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	456	456	0.02	0.02	0.05	462
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.12	1.33	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	300	300	0.01	0.01	0.54	305
Vendor	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

Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.24	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	49.7	49.7	< 0.005	< 0.005	0.09	50.5
Vendor	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
Hauling	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

3.16. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.58	0.75	< 0.005	0.02	—	0.02	0.02	—	0.02	—	87.3	87.3	< 0.005	< 0.005	—	87.6
Architectural Coatings	0.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.11	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.4	14.4	< 0.005	< 0.005	—	14.5
Architectural Coatings	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.16	2.24	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	477	477	0.02	0.02	1.93	485
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.19	2.04	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	456	456	0.02	0.02	0.05	462
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.12	1.33	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	300	300	0.01	0.01	0.54	305
Vendor	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

Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.24	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	49.7	49.7	< 0.005	< 0.005	0.09	50.5
Vendor	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
Hauling	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

3.17. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.09	0.61	0.81	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	0.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.14	2.10	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	468	468	0.01	0.02	1.76	475
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.17	1.90	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	447	447	0.01	0.02	0.05	453
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.12	1.36	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	322	322	0.01	0.01	0.54	326
Vendor	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

Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	53.3	53.3	< 0.005	< 0.005	0.09	54.0
Vendor	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
Hauling	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

3.18. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.09	0.61	0.81	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	0.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.14	2.10	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	468	468	0.01	0.02	1.76	475
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.17	1.90	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	447	447	0.01	0.02	0.05	453
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.12	1.36	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	322	322	0.01	0.01	0.54	326
Vendor	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

Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	53.3	53.3	< 0.005	< 0.005	0.09	54.0
Vendor	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
Hauling	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

3.19. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.59	0.80	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	0.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.14	1.96	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	460	460	0.01	0.02	1.59	467
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.16	1.77	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	440	440	0.01	0.02	0.04	445
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.11	1.27	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	316	316	0.01	0.01	0.49	321
Vendor	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

Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	52.4	52.4	< 0.005	< 0.005	0.08	53.1
Vendor	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
Hauling	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

3.20. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.59	0.80	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	0.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.14	1.96	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	460	460	0.01	0.02	1.59	467
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.16	1.77	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	440	440	0.01	0.02	0.04	445
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.11	1.27	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	316	316	0.01	0.01	0.49	321
Vendor	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

Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	52.4	52.4	< 0.005	< 0.005	0.08	53.1
Vendor	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
Hauling	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

3.21. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.58	0.80	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.6	95.6	< 0.005	< 0.005	—	96.0
Architectural Coatings	0.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.12	1.84	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	452	452	0.01	0.02	1.44	458
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.14	1.66	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	432	432	0.01	0.02	0.04	437
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	1.20	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	311	311	< 0.005	0.01	0.44	316
Vendor	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

Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	51.6	51.6	< 0.005	< 0.005	0.07	52.2
Vendor	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
Hauling	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

3.22. Architectural Coating (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.58	0.80	< 0.005	0.01	—	0.01	0.01	—	0.01	—	95.6	95.6	< 0.005	< 0.005	—	96.0
Architectural Coatings	0.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.12	1.84	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	452	452	0.01	0.02	1.44	458
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.14	1.66	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	432	432	0.01	0.02	0.04	437
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	1.20	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	311	311	< 0.005	0.01	0.44	316
Vendor	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

Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	51.6	51.6	< 0.005	< 0.005	0.07	52.2
Vendor	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
Hauling	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

3.23. Architectural Coating (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.79	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.79	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.49	0.69	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.3	82.3	< 0.005	< 0.005	—	82.6
Architectural Coatings	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.6	13.6	< 0.005	< 0.005	—	13.7
Architectural Coatings	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	1.73	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	444	444	0.01	0.02	1.29	450
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.14	1.55	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	424	424	0.01	0.02	0.03	430
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.96	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	263	263	< 0.005	0.01	0.34	267
Vendor	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

Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.18	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.6	43.6	< 0.005	< 0.005	0.06	44.2
Vendor	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
Hauling	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

3.24. Architectural Coating (2029) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.79	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.79	1.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.49	0.69	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.3	82.3	< 0.005	< 0.005	—	82.6
Architectural Coatings	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.6	13.6	< 0.005	< 0.005	—	13.7
Architectural Coatings	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	1.73	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	444	444	0.01	0.02	1.29	450
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.14	1.55	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	424	424	0.01	0.02	0.03	430
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.08	0.96	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	263	263	< 0.005	0.01	0.34	267
Vendor	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

Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.18	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.6	43.6	< 0.005	< 0.005	0.06	44.2
Vendor	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
Hauling	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

3.25. Trenching (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04	10.3	9.05	0.02	0.40	—	0.40	0.37	—	0.37	—	2,326	2,326	0.09	0.02	—	2,334
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04	10.3	9.05	0.02	0.40	—	0.40	0.37	—	0.37	—	2,326	2,326	0.09	0.02	—	2,334
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	3.37	2.98	0.01	0.13	—	0.13	0.12	—	0.12	—	765	765	0.03	0.01	—	767
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.62	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	127	127	0.01	< 0.005	—	127
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	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
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.46	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	97.8	97.8	< 0.005	< 0.005	0.01	99.0
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.4	32.4	< 0.005	< 0.005	0.06	32.8
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.36	5.36	< 0.005	< 0.005	0.01	5.44
Vendor	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
Hauling	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

3.26. Trenching (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	10.9	12.3	0.02	0.45	—	0.45	0.40	—	0.40	—	2,326	2,326	0.09	0.02	—	2,334
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	10.9	12.3	0.02	0.45	—	0.45	0.40	—	0.40	—	2,326	2,326	0.09	0.02	—	2,334
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	3.59	4.05	0.01	0.15	—	0.15	0.13	—	0.13	—	765	765	0.03	0.01	—	767
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.66	0.74	< 0.005	0.03	—	0.03	0.02	—	0.02	—	127	127	0.01	< 0.005	—	127
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	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
Hauling	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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.46	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	97.8	97.8	< 0.005	< 0.005	0.01	99.0
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.4	32.4	< 0.005	< 0.005	0.06	32.8
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.36	5.36	< 0.005	< 0.005	0.01	5.44
Vendor	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
Hauling	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

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	1.47	1.23	12.5	0.03	0.02	1.37	1.39	0.02	0.24	0.26	—	3,522	3,522	0.13	0.14	8.89	3,574
Golf Course	1.41	1.18	12.0	0.03	0.02	1.32	1.34	0.02	0.23	0.25	—	3,378	3,378	0.12	0.13	8.53	3,429

Retirement	3.79	2.70	27.0	0.07	0.04	2.82	2.86	0.04	0.50	0.54	—	7,270	7,270	0.29	0.30	18.2	7,384
Other Asphalt Surfaces	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
Total	6.66	5.12	51.4	0.14	0.09	5.51	5.59	0.08	0.97	1.05	—	14,170	14,170	0.53	0.56	35.7	14,386
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	1.45	1.37	12.1	0.03	0.02	1.37	1.39	0.02	0.24	0.26	—	3,400	3,400	0.13	0.14	0.23	3,447
Golf Course	1.39	1.32	11.6	0.03	0.02	1.32	1.34	0.02	0.23	0.25	—	3,262	3,262	0.13	0.14	0.22	3,307
Retirement Community	3.75	3.02	26.6	0.07	0.04	2.82	2.86	0.04	0.50	0.54	—	7,022	7,022	0.31	0.32	0.47	7,124
Other Asphalt Surfaces	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
Total	6.60	5.71	50.3	0.13	0.09	5.51	5.59	0.08	0.97	1.05	—	13,684	13,684	0.57	0.60	0.92	13,878
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.26	0.25	2.18	0.01	< 0.005	0.25	0.25	< 0.005	0.04	0.05	—	566	566	0.02	0.02	0.64	574
Golf Course	0.25	0.24	2.09	0.01	< 0.005	0.24	0.24	< 0.005	0.04	0.05	—	543	543	0.02	0.02	0.61	551
Retirement Community	0.68	0.54	4.78	0.01	0.01	0.51	0.52	0.01	0.09	0.10	—	1,169	1,169	0.05	0.05	1.30	1,187
Other Asphalt Surfaces	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
Total	1.19	1.02	9.05	0.02	0.02	1.01	1.02	0.01	0.18	0.19	—	2,278	2,278	0.09	0.10	2.55	2,312

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	1.47	1.23	12.5	0.03	0.02	1.37	1.39	0.02	0.24	0.26	—	3,522	3,522	0.13	0.14	8.89	3,574
Golf Course	1.41	1.18	12.0	0.03	0.02	1.32	1.34	0.02	0.23	0.25	—	3,378	3,378	0.12	0.13	8.53	3,429
Retirement Community	3.79	2.70	27.0	0.07	0.04	2.82	2.86	0.04	0.50	0.54	—	7,270	7,270	0.29	0.30	18.2	7,384
Other Asphalt Surfaces	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
Total	6.66	5.12	51.4	0.14	0.09	5.51	5.59	0.08	0.97	1.05	—	14,170	14,170	0.53	0.56	35.7	14,386
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	1.45	1.37	12.1	0.03	0.02	1.37	1.39	0.02	0.24	0.26	—	3,400	3,400	0.13	0.14	0.23	3,447
Golf Course	1.39	1.32	11.6	0.03	0.02	1.32	1.34	0.02	0.23	0.25	—	3,262	3,262	0.13	0.14	0.22	3,307
Retirement Community	3.75	3.02	26.6	0.07	0.04	2.82	2.86	0.04	0.50	0.54	—	7,022	7,022	0.31	0.32	0.47	7,124
Other Asphalt Surfaces	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
Total	6.60	5.71	50.3	0.13	0.09	5.51	5.59	0.08	0.97	1.05	—	13,684	13,684	0.57	0.60	0.92	13,878
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.26	0.25	2.18	0.01	< 0.005	0.25	0.25	< 0.005	0.04	0.05	—	566	566	0.02	0.02	0.64	574

Golf Course	0.25	0.24	2.09	0.01	< 0.005	0.24	0.24	< 0.005	0.04	0.05	—	543	543	0.02	0.02	0.61	551
Retirement Community	0.68	0.54	4.78	0.01	0.01	0.51	0.52	0.01	0.09	0.10	—	1,169	1,169	0.05	0.05	1.30	1,187
Other Asphalt Surfaces	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
Total	1.19	1.02	9.05	0.02	0.02	1.01	1.02	0.01	0.18	0.19	—	2,278	2,278	0.09	0.10	2.55	2,312

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	1,416	1,416	0.09	0.01	—	1,422
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,416	1,416	0.09	0.01	—	1,422
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	1,416	1,416	0.09	0.01	—	1,422
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,416	1,416	0.09	0.01	—	1,422
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	234	234	0.01	< 0.005	—	235
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	234	234	0.01	< 0.005	—	235

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Retirement Community	—	—	—	—	—	—	—	—	—	—	—	1,416	1,416	0.09	0.01	—	1,422
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,416	1,416	0.09	0.01	—	1,422
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	1,416	1,416	0.09	0.01	—	1,422
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,416	1,416	0.09	0.01	—	1,422
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Golf Course	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	234	234	0.01	< 0.005	—	235
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	234	234	0.01	< 0.005	—	235

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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
Golf Course	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
Retirement Community	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,444	1,444	0.13	< 0.005	—	1,448
Other Asphalt Surfaces	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
Total	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,444	1,444	0.13	< 0.005	—	1,448
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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
Golf Course	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
Retirement Community	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,444	1,444	0.13	< 0.005	—	1,448
Other Asphalt Surfaces	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
Total	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,444	1,444	0.13	< 0.005	—	1,448
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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

Golf Course	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
Retirement Community	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	239	239	0.02	< 0.005	—	240
Other Asphalt Surfaces	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
Total	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	239	239	0.02	< 0.005	—	240

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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
Golf Course	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
Retirement Community	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,444	1,444	0.13	< 0.005	—	1,448
Other Asphalt Surfaces	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
Total	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,444	1,444	0.13	< 0.005	—	1,448
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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
Golf Course	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

Retireme Community	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,444	1,444	0.13	< 0.005	—	1,448
Other Asphalt Surfaces	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
Total	0.07	1.14	0.48	0.01	0.09	—	0.09	0.09	—	0.09	—	1,444	1,444	0.13	< 0.005	—	1,448
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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
Golf Course	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
Retirement Community	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	239	239	0.02	< 0.005	—	240
Other Asphalt Surfaces	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
Total	0.01	0.21	0.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	239	239	0.02	< 0.005	—	240

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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
Consumer Products	9.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.22	0.13	14.1	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	—	37.6	37.6	< 0.005	< 0.005	—	37.8
Total	10.7	0.13	14.1	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	0.00	37.6	37.6	< 0.005	< 0.005	—	37.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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
Consumer Products	9.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	9.52	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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
Consumer Products	1.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.11	0.01	1.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.07	3.07	< 0.005	< 0.005	—	3.08
Total	1.85	0.01	1.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.07	3.07	< 0.005	< 0.005	—	3.08

4.3.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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
Consumer Products	9.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.22	0.13	14.1	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	—	37.6	37.6	< 0.005	< 0.005	—	37.8
Total	10.7	0.13	14.1	< 0.005	< 0.005	—	< 0.005	0.01	—	0.01	0.00	37.6	37.6	< 0.005	< 0.005	—	37.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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
Consumer Products	9.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	9.52	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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
Consumer Products	1.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.11	0.01	1.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.07	3.07	< 0.005	< 0.005	—	3.08
Total	1.85	0.01	1.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.07	3.07	< 0.005	< 0.005	—	3.08

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	1,369	1,369	0.08	0.01	—	1,374
Retirement Community	—	—	—	—	—	—	—	—	—	—	18.0	98.2	116	1.85	0.04	—	176
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	18.0	1,467	1,485	1.94	0.05	—	1,550
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	1,369	1,369	0.08	0.01	—	1,374

Retirement Community	—	—	—	—	—	—	—	—	—	—	18.0	98.2	116	1.85	0.04	—	176
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	18.0	1,467	1,485	1.94	0.05	—	1,550
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	227	227	0.01	< 0.005	—	227
Retirement Community	—	—	—	—	—	—	—	—	—	—	2.98	16.3	19.2	0.31	0.01	—	29.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	2.98	243	246	0.32	0.01	—	257

4.4.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	1,369	1,369	0.08	0.01	—	1,374
Retirement Community	—	—	—	—	—	—	—	—	—	—	18.0	98.2	116	1.85	0.04	—	176

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	18.0	1,467	1,485	1.94	0.05	—	1,550
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	1,369	1,369	0.08	0.01	—	1,374
Retirement Community	—	—	—	—	—	—	—	—	—	—	18.0	98.2	116	1.85	0.04	—	176
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	18.0	1,467	1,485	1.94	0.05	—	1,550
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Golf Course	—	—	—	—	—	—	—	—	—	—	0.00	227	227	0.01	< 0.005	—	227
Retirement Community	—	—	—	—	—	—	—	—	—	—	2.98	16.3	19.2	0.31	0.01	—	29.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	2.98	243	246	0.32	0.01	—	257

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.35	0.00	0.35	0.04	0.00	—	1.23
Golf Course	—	—	—	—	—	—	—	—	—	—	0.86	0.00	0.86	0.09	0.00	—	3.01
Retirement Community	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	245	0.00	245	24.5	0.00	—	858
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.35	0.00	0.35	0.04	0.00	—	1.23
Golf Course	—	—	—	—	—	—	—	—	—	—	0.86	0.00	0.86	0.09	0.00	—	3.01
Retirement Community	—	—	—	—	—	—	—	—	—	—	244	0.00	244	24.4	0.00	—	854
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	245	0.00	245	24.5	0.00	—	858
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.20

Golf Course	—	—	—	—	—	—	—	—	—	—	0.14	0.00	0.14	0.01	0.00	—	0.50
Retirement Community	—	—	—	—	—	—	—	—	—	—	40.4	0.00	40.4	4.04	0.00	—	141
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	40.6	0.00	40.6	4.06	0.00	—	142

4.5.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.41
Golf Course	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.99
Retirement Community	—	—	—	—	—	—	—	—	—	—	80.5	0.00	80.5	8.05	0.00	—	282
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	81.0	0.00	81.0	8.09	0.00	—	283
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.12	0.00	0.12	0.01	0.00	—	0.41
Golf Course	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.99

Retirement Community	—	—	—	—	—	—	—	—	—	—	80.5	0.00	80.5	8.05	0.00	—	282
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	81.0	0.00	81.0	8.09	0.00	—	283
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	0.02	0.00	0.02	< 0.005	0.00	—	0.07
Golf Course	—	—	—	—	—	—	—	—	—	—	0.05	0.00	0.05	< 0.005	0.00	—	0.16
Retirement Community	—	—	—	—	—	—	—	—	—	—	13.3	0.00	13.3	1.33	0.00	—	46.7
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	13.4	0.00	13.4	1.34	0.00	—	46.9

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.15	3.15
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Golf Course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	0.52

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Grading	Grading	1/2/2024	7/15/2024	5.00	140	—
Building Construction	Building Construction	2/1/2025	11/11/2029	5.00	1,245	—
Paving	Paving	1/2/2025	1/31/2025	5.00	22.0	—
Architectural Coatings	Architectural Coating	2/1/2025	11/11/2029	5.00	1,245	—
Infrastructure	Trenching	7/16/2024	12/30/2024	5.00	120	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	7.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	2.00	8.00	148	0.41
Grading	Scrapers	Diesel	Average	16.0	8.00	423	0.48
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coatings	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Building Construction	Off-Highway Trucks	Diesel	Average	5.00	8.00	376	0.38
Infrastructure	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Infrastructure	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Infrastructure	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Rubber Tired Dozers	Diesel	Tier 3	2.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	7.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 3	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 3	2.00	8.00	148	0.41
Grading	Scrapers	Diesel	Tier 3	16.0	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 3	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 3	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 3	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36

Paving	Rollers	Diesel	Tier 3	2.00	8.00	36.0	0.38
Architectural Coatings	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Building Construction	Off-Highway Trucks	Diesel	Tier 3	5.00	8.00	376	0.38
Infrastructure	Excavators	Diesel	Tier 3	1.00	8.00	36.0	0.38
Infrastructure	Scrapers	Diesel	Tier 3	1.00	8.00	423	0.48
Infrastructure	Tractors/Loaders/Backhoes	Diesel	Tier 3	1.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	70.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	179	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	26.5	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coatings	—	—	—	—

Architectural Coatings	Worker	35.7	18.5	LDA,LDT1,LDT2
Architectural Coatings	Vendor	—	10.2	HHDT,MHDT
Architectural Coatings	Hauling	0.00	20.0	HHDT
Architectural Coatings	Onsite truck	—	—	HHDT
Infrastructure	—	—	—	—
Infrastructure	Worker	7.50	18.5	LDA,LDT1,LDT2
Infrastructure	Vendor	—	10.2	HHDT,MHDT
Infrastructure	Hauling	0.00	20.0	HHDT
Infrastructure	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	70.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	179	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	26.5	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coatings	—	—	—	—
Architectural Coatings	Worker	35.7	18.5	LDA,LDT1,LDT2
Architectural Coatings	Vendor	—	10.2	HHDT,MHDT
Architectural Coatings	Hauling	0.00	20.0	HHDT
Architectural Coatings	Onsite truck	—	—	HHDT
Infrastructure	—	—	—	—
Infrastructure	Worker	7.50	18.5	LDA,LDT1,LDT2
Infrastructure	Vendor	—	10.2	HHDT,MHDT
Infrastructure	Hauling	0.00	20.0	HHDT
Infrastructure	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coatings	502,200	167,400	14,460	4,820	25,483

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	—	—	2,520	0.00	—
Paving	0.00	0.00	0.00	0.00	9.75

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Asphalt Surfaces	9.75	100%
City Park	0.00	0%
Golf Course	0.00	0%
Retirement Community	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005
2028	0.00	532	0.03	< 0.005
2029	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
City Park	380	380	380	138,700	4,983	4,983	4,983	1,818,622

Golf Course	365	365	365	133,064	4,780	4,780	4,780	1,744,728
Retirement Community	1,059	1,059	1,059	386,520	10,223	10,223	10,223	3,731,435
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
City Park	380	380	380	138,700	4,983	4,983	4,983	1,818,622
Golf Course	365	365	365	133,064	4,780	4,780	4,780	1,744,728
Retirement Community	1,059	1,059	1,059	386,520	10,223	10,223	10,223	3,731,435
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Retirement Community	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	248
Conventional Wood Stoves	0
Catalytic Wood Stoves	0

Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Retirement Community	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	248
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
502200	167,400	14,460	4,820	25,483

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
City Park	0.00	532	0.0330	0.0040	0.00
Golf Course	0.00	532	0.0330	0.0040	0.00
Retirement Community	971,756	532	0.0330	0.0040	4,506,605
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
City Park	0.00	532	0.0330	0.0040	0.00
Golf Course	0.00	532	0.0330	0.0040	0.00
Retirement Community	971,756	532	0.0330	0.0040	4,506,605
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
City Park	0.00	218
Golf Course	0.00	176,946,103
Retirement Community	9,400,049	632,014
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
City Park	0.00	218
Golf Course	0.00	176,946,103
Retirement Community	9,400,049	632,014
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
City Park	0.65	0.00
Golf Course	1.60	0.00
Retirement Community	226	0.00
Other Asphalt Surfaces	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
City Park	0.22	0.00
Golf Course	0.53	0.00

Retirement Community	74.7	0.00
Other Asphalt Surfaces	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Golf Course	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Golf Course	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Retirement Community	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Retirement Community	Household refrigerators and/or freezers	R-134a	1,430	0.22	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Golf Course	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Golf Course	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Retirement Community	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Retirement Community	Household refrigerators and/or freezers	R-134a	1,430	0.22	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	The project site is within the City of Camarillo, which is a suburban area.
Land Use	Default lot acreages and square footages changed to reflect proposed project.
Construction: Construction Phases	Default construction dates changed to reflect proposed construction schedule.
Construction: Off-Road Equipment	Default equipment for grading phase changed to reflect the proposed grading equipment.
Operations: Vehicle Data	Default trip rates changed to reflect project traffic report.

APPENDIX F -
CONSTRUCTION-BASED
HEALTH RISK ASSESSMENT

Camarillo Springs

Construction-Based Health Risk Assessment Report
City of Camarillo, CA

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Date: 6/29/2020

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Table of Contents

List of Tables

List of Figures

I. Introduction and Setting

A. Purpose and Objectives

This study was performed to address the possibility of cancer risk from construction-related diesel air emissions. The project is proposed age-restricted (55+) community and involves the reconfiguration of the existing golf course, as such, would not be a source of operational toxic air contaminants (TACs).

The objectives of the study include:

- discussion of cancer risk thresholds of significance
- analysis of the cancer risk from construction diesel emissions
- recommendations for mitigation measures

The City of Camarillo is the lead agency in accordance with the California Environmental Quality Act authorizing legislation. Although this health risk assessment is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with terms unique to air quality/health risk, a definition of terms has been provided in Appendix A.

B. Project Location

The proposed project is located at 791 Camarillo Springs Road, within the City of Camarillo, California. A vicinity map showing the project location is provided on Figure 1.

C. Project Description

The Camarillo Springs Project provides for the development of 23.51 acres of active senior residential homes, a 7.6-acre Community Park which would include a dog park, passive recreation area, walking trails and open space corridors, ~141 acres of reconfigured 12-hole golf course. The project will also revitalize the Clubhouse and grounds. Figure 2 illustrates the site plan.

D. Sensitive Receptors in Project Vicinity

Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the Ventura County Air Pollution Control District (VCAPCD) defines a sensitive receptor as a land use where such people are likely to reside or spend a substantial amount of time include residences, schools, playgrounds, day care centers, job sites, retirement homes, convalescent homes, and hospitals.

Several sensitive land use areas are present surrounding the project site, including; existing residential dwelling units to the south and to the east of the project site.

E. Executive Summary of Findings

The analysis shows that without any mitigation beyond the use of construction equipment with Tier 3 engines already called for in the Air Quality analysis, infant receptors (0-2 years) closest to project boundary (construction footprint) would experience the highest levels of construction-related diesel emissions, resulting in a cancer risk of 23.26 in a million; however, with incorporation of mitigation measure, MM – 1, that requires construction equipment have Tier 3 engines with diesel oxidation catalysts and level 3 diesel particulate filters that meet the latest CARB best available control technology, none of the nearby, sensitive receptors would be exposed to elevated cancer risk from construction-related diesel emissions in excess of 10 in a million.

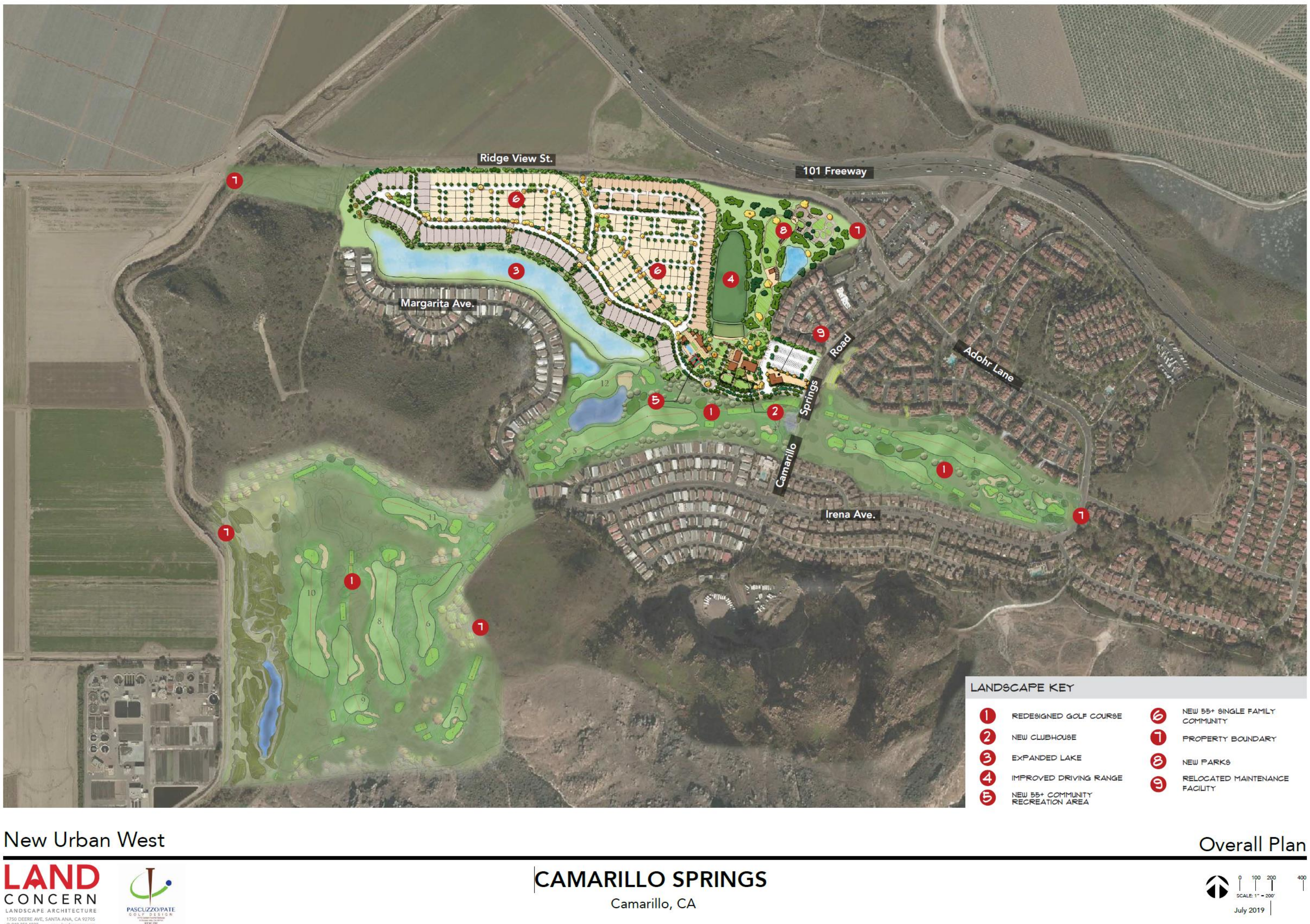
As the project's construction-related cancer risk can be mitigated down to less than 10 in a million with implementation of MM - 1, it is concluded that the closest receptors will not be impacted by construction-related TAC emissions. Impacts are less than significant with mitigation.

The construction health risk impacts for non-cancer related impacts are less than 1.0; therefore, they are also considered to be less significant.

Figure 1

Project Location Map

Figure 2
Site Plan



II. Pollutants

Pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). A summary of federal and state ambient air quality standards is provided in the Regulatory Framework section. As this analysis does not analyze the impact from criteria pollutants, rather it focuses on the health risk from diesel particulate matter (DPM) emissions. DPM is considered a toxic air contaminant.

1. Toxic Air Contaminants

A toxic air contaminant (TAC) is defined as an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. To address health risks associated with TAC emissions, the ARB has adopted an aggressive risk reduction plan to achieve reductions in health risks associated with TAC emissions (ARB 2000). TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. For those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts are not expected to occur. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the State and federal governments have set ambient air quality standards. The majority of the estimated health risk from TACs can be attributed to a relatively few compounds, the most important being PM from diesel-fueled engines and DPM. In addition to DPM, benzene and 1,3-butadiene are also significant contributors to overall ambient public health risk in California.

The majority of DPM is small enough to be inhaled into the lungs. Most inhaled particles are subsequently exhaled, but some deposit on the lung surface. Although particles the size of DPM can deposit throughout the lung, the largest fraction deposits in the deepest regions of the lungs where the lung is most susceptible to injury.

In 1998, the California Air Resources Board (CARB) identified DPM as a toxic air contaminant based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. In 2012, additional studies on the cancer-causing potential of diesel exhaust published since CARB's determination led the International Agency for Research on Cancer (IARC, a division of the World Health Organization) to list diesel engine exhaust as "carcinogenic to humans". This determination is based primarily on evidence from occupational studies that show a link between exposure to DPM and lung cancer induction, as well as death from lung cancer.

Both VCAPCD and ARB have monitoring networks in Ventura County that measure ambient concentrations of certain TACs that are associated with important health-related effects, and are present in appreciable concentrations in the SCAB. The VCAPCD uses this information to determine health risks for a particular area. The ARB publishes annual Statewide, air basin, and location-specific summaries of the concentration levels of several TACs and their resulting cancer risks[1]. The most recent summary is the ARB Air Quality Almanac for 2013. The Almanac presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. These TACs are: acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene. DPM is not directly measured but is indirectly estimated based on fine particulate matter measurements and special studies on the chemical speciation of ambient fine particulate data along with receptor modeling techniques. ARB estimates that 78 percent of the known statewide cancer risks are from these top 10 outdoor air toxics in addition to DPM.

Diesel engines emit a complex mixture of pollutants, including very small carbon particles, or "soot" coated with numerous organic compounds, known as diesel particulate matter (DPM). Diesel exhaust also contains more than 40 cancer-causing substances, most of which are readily adsorbed onto the soot particles. In 1998, California identified DPM as a toxic air contaminant (TAC) based on its potential to cause cancer. Other agencies, such as the National Toxicology Program, the U.S. Environmental Protection Agency and the National Institute of Occupational Safety and Health, concluded that exposure to diesel exhaust likely causes cancer. The most recent assessment (2012) came from the World Health Organization’s International Agency for Research on Cancer (IARC). IARC’s extensive literature review led to the conclusion that diesel engine exhaust is “carcinogenic to humans,” thereby substantiating and further strengthening California’s earlier TAC determination.

Diesel engine emissions are believed to be responsible for about 70% of California's estimated known cancer risk attributable to toxic air contaminants. Also, DPM comprises about 8% of outdoor fine particulate matter (PM2.5), which is a known health hazard. As a significant fraction of PM2.5, DPM contributes to numerous health impacts that have been attributed to particulate matter exposure, including increased hospital admissions, particularly for heart disease, but also for respiratory illnesses, and even premature death. ARB estimates that DPM contributes to approximately 1,400 (95% confidence interval: 1,100-1,800) premature deaths from cardiovascular disease annually in California. Additionally, exposure to diesel exhaust may contribute to the onset of new allergies; a clinical study of human subjects has shown that diesel exhaust particles, in combination with potential allergens, may actually be able to produce new allergies that did not exist previously.

Several factors exacerbate the health risks of diesel PM exposure:

- Diesel PM is often emitted close to people so high exposures occur
- Diesel PM is in a size range that readily deposits in the lung
- Diesel PM contains compounds known to damage DNA and cause cancer

Additionally, diesel PM pollution can affect the environment:

- Diesel PM causes visibility reduction
- Diesel black carbon (soot) is a potent contributor to global warming

[1] Cancer risk is expressed as a probability of an individual out of a population of one million contracting cancer via a continuous exposure to TACs over a 30-year lifetime.

2. Asbestos

Asbestos is listed as a TAC by the ARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in mineral formations and crushing or breaking these rocks, through construction or other means, can release asbestiform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. The nearest likely locations of naturally occurring asbestos, as identified in the General Location Guide for Ultramafic Rocks in California prepared by the California Division of Mines and Geology, is located in Santa Barbara County. The nearest historic asbestos mine to the project site, as identified in the Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California, prepared by U.S. Geological Survey, is located at Asbestos Mountain within the San Jacinto Mountain range and approximately 150 miles east of the project site. Due to these distances to the nearest natural occurrences of asbestos, neither the project site nor any fill material imported to the site is likely to contain asbestos.

III. Air Quality Management

A. Regulatory Setting

The proposed project is addressed through the efforts of various international, federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality are discussed below.

1. Federal - United States Environmental Protection Agency

The United States Environmental Protection Agency (EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The National Ambient Air Quality Standards (NAAQS) pollutants were identified using medical evidence.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The State Implementation Plan (SIP) must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the State Implementation Plan (SIP).

2. State – California Air Resources Board and California Air Pollution Control Officers Association (CAPCOA).

The California Air Resources Board (CARB), which is a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the State Implementation Plan (SIP). In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is known as DPM. More than 90% of DPM is less than 1 μm in diameter (about 1/70th the diameter of a human hair), and thus is a subset of particulate matter less than 2.5 microns in diameter (PM2.5). Most PM2.5 derives from combustion, such as use of gasoline and diesel fuels by motor vehicles, burning of natural gas to generate electricity, and wood burning. PM2.5 is the size of ambient particulate matter air pollution most associated with adverse health effects of the air pollutants that have ambient air quality standards. These health effects include cardiovascular and respiratory hospitalizations, and premature death. As a California statewide average, DPM comprises about 8% of PM2.5 in outdoor air, although DPM levels vary regionally due to the non-uniform distribution of sources throughout the state.

DPM is typically composed of carbon particles ("soot", also called black carbon, or BC) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including volatile organic compounds and oxides of nitrogen (NOx). NOx emissions from diesel engines are important because they can undergo chemical reactions in the atmosphere leading to formation of PM2.5 and ozone.

Most major sources of diesel emissions, such as ships, trains, and trucks operate in and around ports, rail yards, and heavily traveled roadways. These areas are often located near highly populated areas. Because of this, elevated DPM levels are mainly an urban problem, with large numbers of people exposed to higher DPM concentrations, resulting in greater health consequences compared to rural areas. A large fraction of personal exposure to DPM occurs during travel on roadways. Although Californians spend a relatively small proportion of their time in enclosed vehicles (about 7% for adults and teenagers, and 4% for children under 12), 30 to 55% of total daily DPM exposure typically occurs during the time people spend in motor vehicles.

As stated on page 2 of the California Air Pollution Control Officers Association (CAPCOA) *Health Risk Assessments for Proposed Land Use Projects* guidance document, "the guidance does not include how risk assessments for construction projects should be addressed in CEQA. As this is intended to be a 'living document', the risks near construction projects are expected to be included at a later time as the toxic emissions from construction activities are better quantified. State risk assessment policy is likely to change to reflect current science, and therefore this document will need modification as this occurs." (2009)

3. <u>State – Office of Environmental Health Hazard Assessment (OEHHA)</u>

According to OEHHA, local air pollution control districts sometimes use the risk assessment guidelines for the Hot Spots program in permitting decisions for short-term projects such as construction or waste site remediation. Frequently, the issue of how to address cancer risks from short-term projects arises.

Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime. There are some studies indicating that dose rate changes the potency of a given dose of a carcinogenic chemical. In others words, a dose delivered over a short time period may have a different potency than the same dose delivered over a lifetime. The OEHHA's evaluation of the impact of early-in-life exposure has reduced some of the uncertainty in evaluating the cancer risk to the general population for shorter-term exposures, as it helps account for susceptibility to carcinogens by age at exposure.

4. <u>Regional</u>

The VCAPCD is the agency principally responsible for comprehensive air pollution control in Ventura County. To that end, as a regional agency, the VCAPCD works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments and cooperates actively with all federal and state agencies. VCAPCD defines a "sensitive receptor" as a land use where such people are likely to reside or spend a substantial amount of time include residences, schools, playgrounds, day care centers, job sites, retirement homes, convalescent homes, and hospitals.

Ventura County Air Pollution Control District

The Project is located within the VCAPCD and is, therefore, subject to the rules and regulations of the VCAPCD. The VCAPCD has not established its own set of ambient air quality standards, and relies on the standards established by the ARB and the USEPA. The VCAPCD has, however, established health risk significance thresholds that it recommends to lead agencies in determining the health risk significance of new sources of air emissions under the California Environmental Quality Act.

In this regard, the VCAPCD has published a number of significance thresholds that apply to new projects operated within the VCAPCD. If the lead agency finds that a proposed project has the potential to exceed these health risk significance thresholds, the project would be considered to have a significant impact. These thresholds have been defined by VCAPCD based on scientific data the VCAPCD has obtained and factual data within the federal and State Clean Air Acts. The City of Camarillo has not adopted its own set of significance thresholds. However, since the project is located within the VCAPCD, the VCAPCD thresholds have been adopted for this project. The VCAPCD has defined thresholds for health risk in terms of cancer risk and non-cancer hazard.

From the perspective of this analysis, the emissions were evaluated in terms of impacts on air quality from the construction of the project. VCAPCD does not require any construction-based health risk assessments or have any recommendations on how to conduct a construction HRA for CEQA purposes at this time. In the absence of VCAPCD guidance, OEHHA recommendations for short-term projects can be followed. The VCAPCD Health Risk Significance Threshold is discussed below.

B. Thresholds

In addition to the thresholds established for criteria pollutants, the VCAPCD has also defined health risk thresholds. These thresholds are represented as a cancer risk and a non-cancer hazard to the public from exposures to TACs. Cancer risk represents the probability (in terms of risk per million individuals) that an individual would contract cancer resulting from exposure to TACs continuously over a lifetime exposure period of 30 years for sensitive receptors. Thus, an individual located in an area with a cancer risk of one would experience a one chance out of a population of one million of contracting cancer over a 30-year time period, assuming that individual lives in that area continuously for the entire 30-year time period.

TACs can also cause chronic (long-term) and acute (short-term) related non-cancer illnesses such as reproductive effects, respiratory effects, eye sensitivity, immune effects, kidney effects, blood effects, central nervous system effects, birth defects, or other adverse environmental effects. Risk characterization for non-cancer health hazards from TACs is expressed as a hazard index (HI). The HI is a ratio of the predicted concentration of the project’s emissions to a concentration considered acceptable to public health professionals, termed the Reference Exposure Level (REL). The VCAPCD has established the following health risk thresholds.

- Lifetime probability of contracting cancer is greater than 10 in 1 million at the nearest sensitive receptor or off-site worker; and
- Ground-level concentrations of non-carcinogenic toxic air pollutants would result in a Hazard Index of 1.0 or greater.

IV. Construction Diesel Emissions Health Risk Assessment

The project is a residential project and will not be a source of operational toxic air contaminants. However, as the project is large, the City of Camarillo requested that a construction-based health risk assessment be conducted. Therefore, for informational and public disclosure purposes, a construction-based health risk assessment following the latest OEHHA guidance has been performed.

A health risk assessment requires the completion and interaction of four general steps:

1. Quantify project-generated TAC emissions.
2. Identify nearby ground-level receptor locations that may be affected by the emissions (including any special sensitive receptor locations such as residences, schools, hospitals, convalescent homes, and daycare centers).
3. Perform air dispersion modeling analyses to estimate ambient pollutant concentrations at each receptor location using project TAC emissions and representative meteorological data to define the transport and dispersion of those emissions in the atmosphere.
4. Characterize and compare the calculated health risks with the applicable health risk significance thresholds.

A. Construction Health Risk Assessment Assumptions

The U.S. Environmental Protection Agency (USEPA) AMS/EPA Regulatory Model (AERMOD) model, the air dispersion modeling method approved by the California Air Resources Board (CARB) for such assessments (USEPA 2006) was used to estimate concentrations of diesel particulate matter (DPM) from the construction of the project. The DPM construction emissions were estimated from Annual CalEEMod emissions from the air quality and greenhouse gas analysis for the project, and amount to weighted averages of 0.272615 tons per year of DPM (as PM_{10} exhaust) for 2021, 0.114189 tons for years 2022-2023, and 0.09603 tons per year of DPM for years 2024-2026 (see Table 1). The emissions were represented in the model as an area source equal to the size of the project's construction area (approximately 180 acres). An emission release height of 3.66 meters was also assumed, to account for the average emissions height from all pieces of construction equipment. Receptor locations where construction impacts were calculated focused on the residential receptors located adjacent to the project site. Meteorological data used in the model is from the closest monitoring station, the El Rio monitoring station, approximately 8.8 miles northwest of the project site.

Table 1: Construction-Based Emissions Factors[1]

Year	tons/yr of DPM	Duration
2021	0.272615385	1 yr exposure
2022-2023	0.114189423	2 year exposure
2024-2026	0.09603	3 year exposure

[1] Source: CalEEMod Annual Construction Emissions for the Camarillo Springs GPA 2017-2 DEIR, 4-5-2020.

B. Receptor Network

The assessment requires that a network of receptors be specified where the impacts can be computed at the various locations surrounding the project. Discrete receptors were mainly located at residential locations close to the project boundary with a receptor located at the Camarillo Springs mobile home park community pool. Discrete receptors are identified as orange triangles and numbered 1 through 14. In addition, the identified sensitive receptors locations were supplemented by the specification of a modeling grid that extended around the proposed project to identify other potential locations of impact. See Figure 3 for details.

C. Dispersion Modeling

The next step in the assessment process utilizes the emissions inventory along with a mathematical air dispersion model and representative meteorological data to calculate impacts at the various receptor locations. The dispersion model used in this assessment is described below.

1. Model Selection

The assessment of air quality and health risk impacts from pollutant emissions from this project applied the USEPA AERMOD Model, which is the air dispersion model accepted by the SCAQMD for performing air quality impact analyses. AERMOD predicts pollutant concentrations from point, area, volume, line, and flare sources with variable emissions in terrain from flat to complex with the inclusion of building downwash effects from buildings on pollutant dispersion (as applicable). It captures the essential atmospheric physical processes and provides reasonable estimates over a wide range of meteorological conditions and modeling scenarios, as shown in Table 2:

Table 2: General Modeling Assumptions – AERMOD Model

Feature	Option Selected
Terrain processing	AERMAP-generated NED GEOTIFF 30 m
Regulatory dispersion options	Default
Land use	Urban
Coordinate system	UTM Zone 11 North
Building downwash	Included in calculations (as applicable)
Receptor height	0 meters above ground per SCAQMD AERMOD guidance
Meteorological data	VCAPCD El Rio Meteorological Data

2. Meteorological Data

Meteorological data from the VCAPCD El Rio station was selected for this modeling application. The meteorological input files were processed using AERMET program from Lakes Environmental. They are developed based on the three years data sets covering 1/1/2015 to 12/31/2017 (Figure 4 shows a Wind Rose for El Rio).

D. Estimation of Health Risks

Health risks from diesel particulate matter are twofold. First, diesel particulate matter is a carcinogen according to the State of California. Second, long-term chronic exposure to diesel particulate matter can cause health effects to the respiratory system. Each of these health risks is discussed below. As VCAPCD do not have their own formula for health risk calculations, to be conservative, South Coast Air Quality Management District (SCAQMD), formulae (based on the most-recent Office of Environmental Health Hazard Assessment guidance) were used as detailed below.

Figure 3

AERMOD Model Source and Receptor Placement

Legend

= Area Source Boundary

= Representative Discrete Receptors

= Cartesian Receptors

SCALE: 1:10,000

0 0.3 km

1. Cancer Risks

According to the *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, released by the Office of Environmental Health Hazard Assessment (OEHHA) in February 2015 and formally adopted in March 2015, the residential inhalation dose for long-term cancer risk assessment should be calculated using the following formula:

[Dose-air (mg/(Kg-day)]*Cancer Potency*[1x10^{-6}] = Potential Cancer Risk

Where:
Cancer Potency Factor = 1.1
Dose-inh = (C¬air * DBR * A * EF * ED *ASF*FAH* 10-6) / AT

Where:
DBR [Daily breathing rate (L/kg body weight – day)] = 261 for adults, 572 for children, and 1,090 for infants, and 361 for 3rd trimester per SCAQMD Permit Application Package "M" Table 9.1 guidance.
A [Inhalation absorption factor] = 1
EF [Exposure frequency (days/year)] = 350
ED [Exposure duration (years)] = 30 for adults (for an individual who is an adult at opening year), 14 for children (from 2-16 years), 14 for adults (from 16-30 years), 2 for infants, and 1 for 3rd Trimester
ASF [Age sensitivity factor) = 10 for 3rd trimester to 2 years of age, 3 for 2 to 16 years of age, and 1 for 16 to 30 years of age
FAH [Fraction of time spent at home] = 1 for 3rd trimester to 2 years of age, 1 for 2 to 16 years of age, and 0.73 for 16 to 30 years of age
10^6 [Micrograms to milligrams conversion]
AT [Average time period over which exposure is averaged in days] = 25,550

As the project was to be constructed from 2021 to 2026 (less than five years total), only the impacts to the most sensitive groups, 3rd trimester, infants (0-2 years) and children were evaluated and the exposure frequency and duration were adjusted to correspond to the number of construction days/construction time as necessary (see Tables 3 through 6 for calculation details). The model run result for the most impacted group is shown below on Figure 5 (for infants 0-2 years). Complete model run results for all groups analyzed are available in Appendix B. Tables 3, 4 and 6 provide a summary of the unmitigated calculated construction diesel emission concentrations at the nearest fetus (3rd trimester), infant (0-2 years), and child (2+ years) receptors respectively. Table 3 shows that 3rd trimester exposure will not result in a cancer risk in excess of 10 in a million.

<Table 3, next page>

Table 3: Carcinogenic Risks and Non-Carcinogenic Hazards 3rd Trimester Exposure Scenario (0.25 Years) 2021

Receptor ID (a)	Maximum Concentration (ug/m3) (b)	(mg/m3) (c)	Weight Fraction (d)	Contaminant (e)	Carcinogenic Hazards CPF (mg/kg/day) (f)	RISK (per million) (g)	Noncarcinogenic Hazards REL (ug/m3) (h)	RfD (mg/kg/day) (i)	Index (j)
1	0.23793	2.4E-04	1.00E+00	DPM	1.1E+00	2.40	5.0E+00	1.4E-03	0.0476
2	0.2413	2.4E-04	1.00E+00	DPM	1.1E+00	2.44	5.0E+00	1.4E-03	0.0483
3	0.04578	4.6E-05	1.00E+00	DPM	1.1E+00	0.46	5.0E+00	1.4E-03	0.0092
4	0.32275	3.2E-04	1.00E+00	DPM	1.1E+00	3.26	5.0E+00	1.4E-03	0.0646
5	0.06247	6.2E-05	1.00E+00	DPM	1.1E+00	0.63	5.0E+00	1.4E-03	0.0125
pool_6	0.21106	2.1E-04	1.00E+00	DPM	1.1E+00	2.13	5.0E+00	1.4E-03	0.0422
7	0.31159	3.1E-04	1.00E+00	DPM	1.1E+00	3.15	5.0E+00	1.4E-03	0.0623
8	0.22745	2.3E-04	1.00E+00	DPM	1.1E+00	2.30	5.0E+00	1.4E-03	0.0455
9	0.04213	4.2E-05	1.00E+00	DPM	1.1E+00	0.43	5.0E+00	1.4E-03	0.0084
10	0.26034	2.6E-04	1.00E+00	DPM	1.1E+00	2.63	5.0E+00	1.4E-03	0.0521
11	0.06248	6.2E-05	1.00E+00	DPM	1.1E+00	0.63	5.0E+00	1.4E-03	0.0125
12	0.01618	1.6E-05	1.00E+00	DPM	1.1E+00	0.16	5.0E+00	1.4E-03	0.0032
13	0.00864	8.6E-06	1.00E+00	DPM	1.1E+00	0.09	5.0E+00	1.4E-03	0.0017
14	0.03059	3.1E-05	1.00E+00	DPM	1.1E+00	0.31	5.0E+00	1.4E-03	0.0061

Note: Exposure factors used to calculate TAC intake for Short-term Exposure

Exposure Frequency (days/year)	260	(# of construction days in 2021)
Exposure Duration (years)	0.25	
Daily Breathing Rate	361	
Age Sensitivity Factor	10	
Fraction of Time At Home (FAH)	1	
Averaging Time $_{(cancer)}$ (days)	25550	
Averaging Time $_{(non\text{-}cancer)}$ (days)	91.25	

E= 10^X, i.e. E-02 = 10^{-2}

However, Table 4 shows that infant receptors (0-2 years) closest to the project boundary, next to the footprint where construction (including grading, infrastructure, building construction, paving and architectural coating) will occur, would experience the highest levels of construction-related diesel emissions, resulting in a maximum cancer risk of 23.26 in a million. The air quality study for the project already shows that construction equipment on-site will be required to have Tier 3 engines; however as emissions of diesel particulate matter from construction equipment will still cause an exceedance of the 10 in a million TAC threshold, additional mitigation is required. Table 5 shows that with incorporation of mitigation (MM – 1) which require all construction equipment to have Tier 3 or better engines with diesel oxidation catalysts, level 3 diesel particulate filters that reduce particulate matter by at least 85 percent and meet the latest CARB best available control technology; the cancer risk to infants will have decreased at all receptor locations to less than 10 in a million. Table 6 shows that the exposure to children 2+ years for the remaining duration of construction will not result in a cancer risk in excess of 10 in a million.

<Table 4, 5 and 6, next pages>

Table 4. Carcinogenic Risks and Non-Carcinogenic Hazards Infant Exposure Scenario (2 Year) 2022-2023

Receptor ID (a)	Maximum Concentration (ug/m3) (b)	Maximum Concentration (mg/m3) (c)	Weight Fraction (d)	Contaminant (e)	Carcinogenic Hazards CPF (mg/kg/day) (f)	Carcinogenic Hazards RISK (per million) (g)	Noncarcinogenic Hazards REL (ug/m3) (h)	Noncarcinogenic Hazards RfD (mg/kg/day) (i)	Noncarcinogenic Hazards Index (j)
1	0.0996	1.0E-04	1.00E+00	DPM	1.1E+00	**17.13**	5.0E+00	1.4E-03	0.0199
2	0.10107	1.0E-04	1.00E+00	DPM	1.1E+00	**17.39**	5.0E+00	1.4E-03	0.0202
3	0.01918	1.9E-05	1.00E+00	DPM	1.1E+00	3.30	5.0E+00	1.4E-03	0.0038
4	0.13519	1.4E-04	1.00E+00	DPM	1.1E+00	**23.26**	5.0E+00	1.4E-03	0.0270
5	0.0216	2.2E-05	1.00E+00	DPM	1.1E+00	3.72	5.0E+00	1.4E-03	0.0043
pool_6	0.0884	8.8E-05	1.00E+00	DPM	1.1E+00	**15.21**	5.0E+00	1.4E-03	0.0177
7	0.13051	1.3E-04	1.00E+00	DPM	1.1E+00	**22.45**	5.0E+00	1.4E-03	0.0261
8	0.09527	9.5E-05	1.00E+00	DPM	1.1E+00	**16.39**	5.0E+00	1.4E-03	0.0191
9	0.01764	1.8E-05	1.00E+00	DPM	1.1E+00	3.03	5.0E+00	1.4E-03	0.0035
10	0.10905	1.1E-04	1.00E+00	DPM	1.1E+00	**18.76**	5.0E+00	1.4E-03	0.0218
11	0.02617	2.6E-05	1.00E+00	DPM	1.1E+00	4.50	5.0E+00	1.4E-03	0.0052
12	0.00677	6.8E-06	1.00E+00	DPM	1.1E+00	1.16	5.0E+00	1.4E-03	0.0014
13	0.00362	3.6E-06	1.00E+00	DPM	1.1E+00	0.62	5.0E+00	1.4E-03	0.0007
14	0.01281	1.3E-05	1.00E+00	DPM	1.1E+00	2.20	5.0E+00	1.4E-03	0.0026

Note: Exposure factors used to calculate TAC intake for Short-term Exposure

Exposure Frequency (days/year)	260	(construction days/year)
Exposure Duration (years)	1.41	(total construction time in 2022 and 2023)
Daily Breathing Rate	1090	
Age Sensitivity Factor	10	
Fraction of Time At Home (FAH)	1	
Averaging Time $_{(cancer)}$ (days)	25550	
Averaging Time $_{(non\text{-}cancer)}$ (days)	514.65	

E= 10^X, i.e. E-02 = 10^{-2}

Table 5. Mitigated Carcinogenic Risks and Non-Carcinogenic Hazards Infant Exposure Scenario (2 Year) 2022-2023

Receptor ID (a)	Maximum Concentration (ug/m3) (b)	Maximum Concentration (mg/m3) (c)	Weight Fraction (d)	Contaminant (e)	Carcinogenic Hazards: CPF (mg/kg/day) (f)	Carcinogenic Hazards: RISK (per million) (g)	Noncarcinogenic Hazards: REL (ug/m3) (h)	Noncarcinogenic Hazards: RfD (mg/kg/day) (i)	Noncarcinogenic Hazards: Index (j)
1	0.01494	1.5E-05	1.00E+00	DPM	1.1E+00	2.57	5.0E+00	1.4E-03	0.0030
2	0.01516	1.5E-05	1.00E+00	DPM	1.1E+00	2.61	5.0E+00	1.4E-03	0.0030
3	0.00288	2.9E-06	1.00E+00	DPM	1.1E+00	0.49	5.0E+00	1.4E-03	0.0006
4	0.02028	2.0E-05	1.00E+00	DPM	1.1E+00	3.49	5.0E+00	1.4E-03	0.0041
5	0.00324	3.2E-06	1.00E+00	DPM	1.1E+00	0.56	5.0E+00	1.4E-03	0.0006
pool_6	0.01326	1.3E-05	1.00E+00	DPM	1.1E+00	2.28	5.0E+00	1.4E-03	0.0027
7	0.01958	2.0E-05	1.00E+00	DPM	1.1E+00	3.37	5.0E+00	1.4E-03	0.0039
8	0.01429	1.4E-05	1.00E+00	DPM	1.1E+00	2.46	5.0E+00	1.4E-03	0.0029
9	0.00265	2.6E-06	1.00E+00	DPM	1.1E+00	0.46	5.0E+00	1.4E-03	0.0005
10	0.01636	1.6E-05	1.00E+00	DPM	1.1E+00	2.81	5.0E+00	1.4E-03	0.0033
11	0.00393	3.9E-06	1.00E+00	DPM	1.1E+00	0.68	5.0E+00	1.4E-03	0.0008
12	0.00102	1.0E-06	1.00E+00	DPM	1.1E+00	0.17	5.0E+00	1.4E-03	0.0002
13	0.00054	5.4E-07	1.00E+00	DPM	1.1E+00	0.09	5.0E+00	1.4E-03	0.0001
14	0.00192	1.9E-06	1.00E+00	DPM	1.1E+00	0.33	5.0E+00	1.4E-03	0.0004

Note: Exposure factors used to calculate TAC intake for Short-term Exposure

Exposure Frequency (days/year)	260	(construction days/year)
Exposure Duration (years)	1.41	(total construction time in 2022 and 2023)
Daily Breathing Rate	1090	
Age Sensitivity Factor	10	
Fraction of Time At Home (FAH)	1	
Averaging Time $_{(cancer)}$ (days)	25550	
Averaging Time $_{(non\text{-}cancer)}$ (days)	514.65	

E= 10^X, i.e. E-02 = 10^{-2}

Table 6: Carcinogenic Risks and Non-Carcinogenic Hazards Child Exposure Scenario 2024-2026

Receptor	Maximum Concentration		Weight		Carcinogenic Hazards		Noncarcinogenic Hazards		
					CPF		REL	RfD	
ID	(ug/m3)	(mg/m3)	Fraction	Contaminant	(mg/kg/day)	RISK (per million)	(ug/m3)	(mg/kg/day)	Index
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	0.08381	8.4E-05	1.00E+00	DPM	1.1E+00	3.22	5.0E+00	1.4E-03	0.0168
2	0.085	8.5E-05	1.00E+00	DPM	1.1E+00	3.27	5.0E+00	1.4E-03	0.0170
3	0.01613	1.6E-05	1.00E+00	DPM	1.1E+00	0.62	5.0E+00	1.4E-03	0.0032
4	0.11369	1.1E-04	1.00E+00	DPM	1.1E+00	4.37	5.0E+00	1.4E-03	0.0227
5	0.022	2.2E-05	1.00E+00	DPM	1.1E+00	0.85	5.0E+00	1.4E-03	0.0044
pool_6	0.07435	7.4E-05	1.00E+00	DPM	1.1E+00	2.86	5.0E+00	1.4E-03	0.0149
7	0.10976	1.1E-04	1.00E+00	DPM	1.1E+00	4.22	5.0E+00	1.4E-03	0.0220
8	0.08012	8.0E-05	1.00E+00	DPM	1.1E+00	3.08	5.0E+00	1.4E-03	0.0160
9	0.01484	1.5E-05	1.00E+00	DPM	1.1E+00	0.57	5.0E+00	1.4E-03	0.0030
10	0.09171	9.2E-05	1.00E+00	DPM	1.1E+00	3.52	5.0E+00	1.4E-03	0.0183
11	0.02201	2.2E-05	1.00E+00	DPM	1.1E+00	0.85	5.0E+00	1.4E-03	0.0044
12	0.0057	5.7E-06	1.00E+00	DPM	1.1E+00	0.22	5.0E+00	1.4E-03	0.0011
13	0.00304	3.0E-06	1.00E+00	DPM	1.1E+00	0.12	5.0E+00	1.4E-03	0.0006
14	0.01078	1.1E-05	1.00E+00	DPM	1.1E+00	0.41	5.0E+00	1.4E-03	0.0022

Note:	Exposure factors used to calculate TAC intake		
	Exposure Frequency (days/year)	260	(construction days/year)
	Exposure Duration (years)	2	(total construction time 2024 through 2026)
	Daily Breathing Rate	572	
	Age Sensitivity Factor	3	
	Fraction of Time At Home (FAH)	1	
	Averaging Time $_{(cancer)}$ (days)	25550	
	Averaging Time $_{(non\text{-}cancer)}$ (days)	730	
	E= 10^X, i.e. E-02 = 10^{-2}		

Furthermore, as children 2+ years would not be exposed to construction-related cancer risk from DPM emissions in excess of 10 in a million, it is reasonable to assume that neither adults nor off-site workers would be exposed to construction-related cancer risk from DPM emissions in excess of 10 in a million.

Therefore, as cancer risk levels can be mitigated down to levels less than 10 in a one million during construction, it is concluded that with incorporation of mitigation measure MM – 1, no sensitive receptors will be significantly impacted by construction-related TAC.

2. Non-Cancer Risks

The relationship for non-cancer health effects is given by the equation:

HIDPM = CDPM/RELDPM

Where,
HIDPM = Hazard Index; an expression of the potential for non-cancer health effects.
CDPM = Annual average diesel particulate matter concentration in µg/m3.

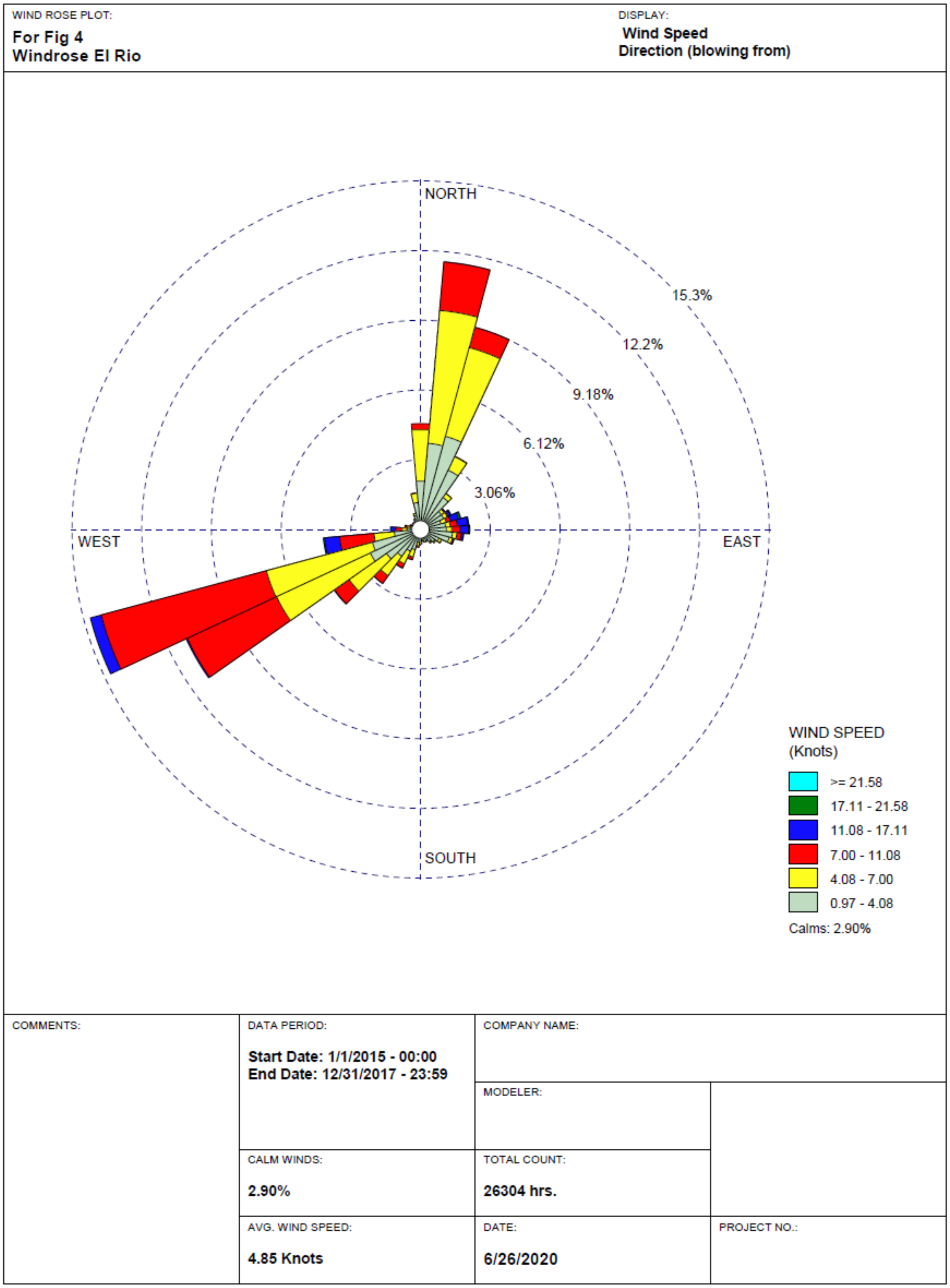
RELDPM = Reference Exposure Level (REL) for diesel particulate matter; the diesel particulate matter concentration at which no adverse health effects are anticipated.

The non-carcinogenic hazards to residential 3rd trimester, infant, and child receptors are also detailed in Tables 3 through 6 column (j). The RELDPM is 5 µg/m3. The Office of Environmental Health Hazard Assessment as protective for the respiratory system has established this concentration. Using the maximum DPM concentration for infant exposure, the resulting Hazard Index is

HIDPM = 0.41479/5 = 0.08296

The criterion for significance is a Hazard Index increase of 1.0 or greater. Therefore, the proposed project would have a less than significant impact due to the non-cancer risk from diesel emissions from the construction equipment.

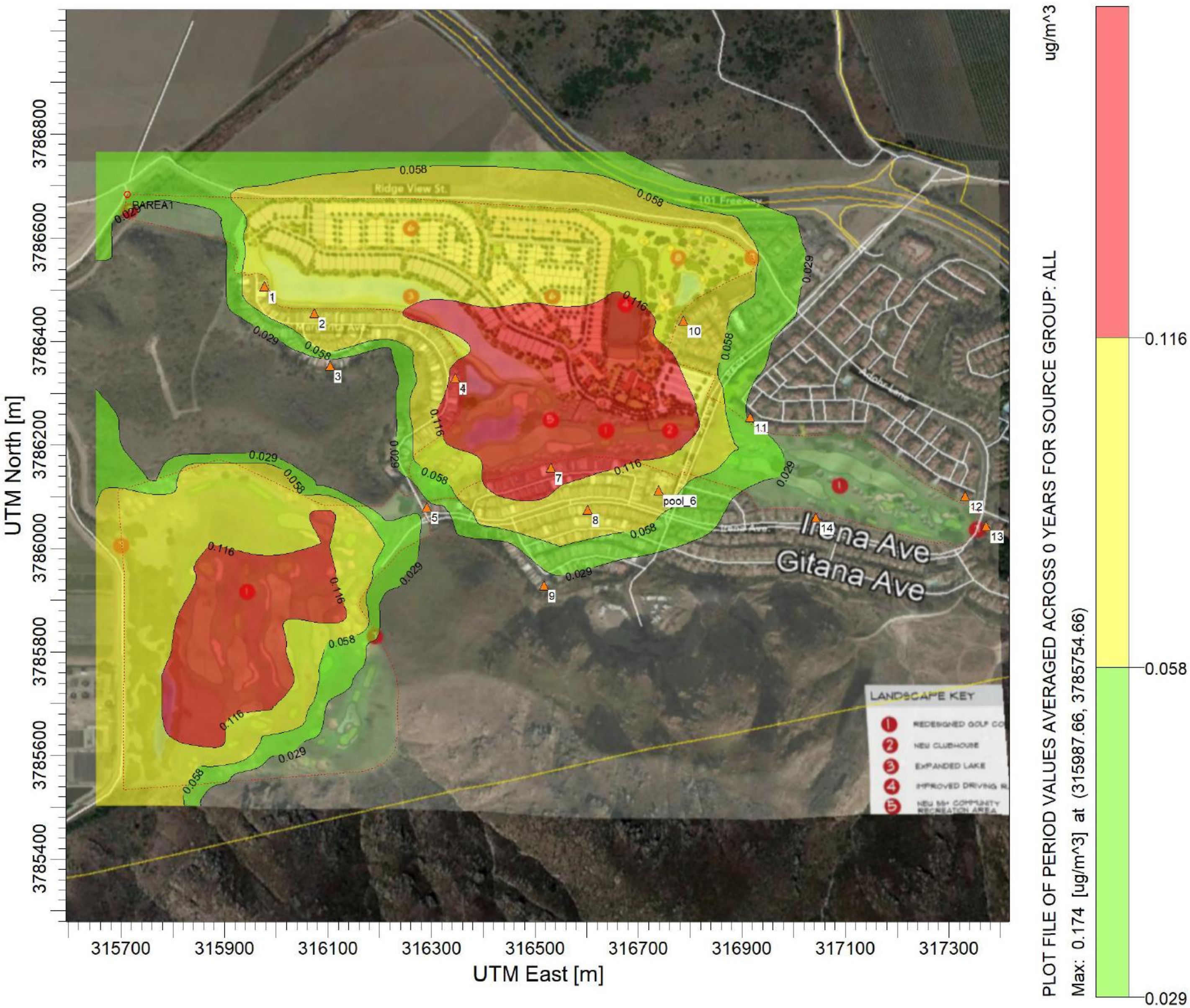
Figure 4. Wind Rose – El Rio



WRPLOT View - Lakes Environmental Software

Figure 5

Unmitigated Annual DPM Emissions – Infants 2022 - 2023



<u>Legend</u>

Cancer Risk to Infants

Red = 20 in a million
Yellow = 10 in a million
Green = 5 in a million

SCALE: 1:12,000

0 0.3 km

V. Mitigation Measures

MM – 1: Require all construction equipment to have low emission Tier 3 or better engines with diesel oxidation catalysts, level 3 diesel particulate filters that reduce particulate matter by at least 85 percent and meet the latest CARB best available control technology.

VI. References

California Air Pollution Control Officers Association
2009 Health Risk Assessments for Proposed Land Use Projects

California Air Resources Board
2008 Resolution 08-43

2008 Airborne Toxic Control Measure for in-use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, Section 2477 of Division 3, Chapter 9, Title 13, California Code of Regulations

2008 ARB Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk – Frequently Asked Questions

Governor's Office of Planning and Research
2008 CEQA and Climate: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review

2009 CEQA Guideline Sections to be Added or Amended

Office of Environmental Health Hazard Assessment
2015 Air Toxics Hot Spots Program Risk Assessment Guidelines

U.S. Geological Survey
2011 Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California

Ventura County Air Pollution Control District

2003 Ventura County Air Quality Assessment Guidelines. October

Appendices

Appendix A – Glossary of Terms

Appendix B – AERMOD Model Printouts

APPENDIX A

Glossary of Terms

AQMP	Air Quality Management Plan
BACT	Best Available Control Technologies
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	Diesel particulate matter
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse gas
GWP	Global warming potential
HIDPM	Hazard Index Diesel Particulate Matter
HFCs	Hydrofluorocarbons
IPCC	International Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LST	Localized Significant Thresholds
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
O_3	Ozone
OPR	Governor's Office of Planning and Research
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SCAB	South Coast Air Basin

SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF	Square Feet
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SOx	Sulfur Oxides
T6	Heavy Duty Trucks from EMFAC 2007 classifications
T7	Heavy-Heavy Duty Trucks from EMFAC 2007 classifications
TAC	Toxic air contaminants
VOC	Volatile organic compounds

APPENDIX B

AERMOD Model Printouts

Camarillo Construction HRA calcs

Construction start date 1/4/2021 5 days per week
Construction end date 10/31/2026

	Overlap?					# of days	year	tons/yr
Grading		140	days	53.85%		140	2021	0.4798
Infrastructure		120	days	46.15%		120		0.0309
					total for 2021	260		
paving		15	days	5.77%		15	2022	0.00426
Building construction	Yes	245		94.23%		245		0.1092
architectural coating	Yes	245		94.23%		245		0.01
					total for 2022	260		
Building Construction	Yes	260	days	100.00%		260	2023	0.1066
Architectural coating	Yes	260	days	100.00%		260		0.00921
					total for 2023	260		
Building Construction	Yes	260	days	100.00%		260	2024	0.0993
Architectural coating	Yes	260	days	100.00%		260		0.00798
					total for 2024	260		
Building Construction	Yes	260	days	100.00%		260	2025	0.092
Architectural coating	Yes	260	days	100.00%		260		0.00672
					total for 2025	260		
Building Construction	Yes	217	days	100.00%		217	2026	0.0765
Architectural coating	Yes	217	days	100.00%		217		0.00559
					total for 2026	217		

		# of days	% of constructior	tons/yr	tons/yr	
	2021	140	53.85%	0.4798	0.258354	
		120	46.15%	0.0309	0.014262	
2021 total days		**260**			**0.272615**	**weighted average for 2021**
	2022	15	5.77%	0.00426	0.000246	
		245	94.23%	0.1192	0.112323	
2022 total days		**260**			**0.112569**	**weighted average for 2022**
	2023	260	100.00%	0.11581	**0.11581**	**Average for 2023**
	2024	260	100.00%	0.10728	**0.10728**	**Average for 2024**
	2025	260	100.00%	0.09872	**0.09872**	**Average for 2025**
	2026	217	100.00%	0.08209	**0.08209**	**Average for 2026**

	year	tons/yr of DPM	
DPM emissions factors	2021	0.272615385	1 yr exposure
	2022-2023	0.114189423	2 year exposure (infants)
	2024-2026	0.09603	3 year exposure (children)

Camarillo - Annual Average Emissions 2021

Estimate of Annual Construction DPM Emissions (as PM10 exhaust)

Total Annual PM10 Exhaust Emissions During Construction as estimated in the CalEEMod model (weighted average).	0.272615385	tons/year
Average Emissions	0.007849276	grams/sec
Total size of the emission source from AERMOD (~180 acres)	720141.3	meters squared
Average area source emission	1.08996E-08	grams/m2-sec

Cancer Risk from DPM for 3rd Trimester Scenario (0.25 years)

DPM Concentration at boundary of closest receptor	0.31159	ug/m3 from Aermod dispersion model	
Cancer Potency Factor (CPF)	1.1	(mg/kg/day)^-1	
Daily Breathing Rate *DBR)	361	(l/kg of body weight-day)	
Exposure Duration (ED)	0.25	years	
Exposure Frequency (EF)	260	days	construction days in 2021
Age Sensitivity Factor (ASF)	10		
Fraction of Time at Home (FAH)	1		

Cancer Risk = DPM Concentration x CPF x DBR x ED x EF x ASF x FAH / 25550

<u>**3rd Trimester 2015 OEHHA**</u> CR 3.147790718 in one million

Chronic Non-cancer Hazard Index from DPM

Reference Exposure Level (REL) for DPM: 5 ug/m3

Chronic Non-cancer HI = Annual DPM/REL = 0.062318

Camarillo - Annual Average Emissions 2022-2023

Estimate of Annual Construction DPM Emissions (as PM10 exhaust)

Total Annual PM10 Exhaust Emissions During Construction as estimated in the CalEEMod model (weighted average).	0.114189423	tons/year
Average Emissions	0.003287798	grams/sec
Total size of the emission source from AERMOD (~180 acres)	720141.3	meters squared
Average area source emission	4.56549E-09	grams/m2-sec

Cancer Risk from DPM for Infants (0-2 year exposure 2022-2023)

DPM Concentration at boundary of closest receptor	0.13051	ug/m3 from Aermod dispersion model	
Cancer Potency Factor (CPF)	1.1	(mg/kg/day)^-1	
Daily Breathing Rate *DBR)	1090	(l/kg of body weight-day)	
Exposure Duration (ED)	1.41	years	(total construction time in 2022 and 2023)
Exposure Frequency (EF)	260	days	(construction days/year)
Age Sensitivity Factor (ASF)	10		
Fraction of Time Spent at Home (FAH)	1		

<u>Infant 2015 OEHHA</u> Cancer Risk = DPM Concentration x CPF x DBR x ED x EF x ASF x FAH / 25550

CR 22.45249089 in one million

Chronic Non-cancer Hazard Index from DPM

Reference Exposure Level (REL) for DPM:		5	ug/m3
Chronic Non-cancer HI =	Annual DPM/REL =	0.026102	

Camarillo - Annual Average Emissions 2024-2026

Estimate of Annual Construction DPM Emissions (as PM10 exhaust)

Total Annual PM10 Exhaust Emissions During Construction as estmated in the CalEEMod model.	0.09603	tons/year
Average Emissions	0.002764943	grams/sec
Total size of the emission source from AERMOD (~180 acres)	720141.3	meters squared
Average area source emission	3.83945E-09	grams/m2-sec

Cancer Risk from DPM

DPM Concentration at boundary of closest receptor	0.11369	ug/m3 from Aermod dispersion model	
Cancer Potency Factor (CPF)	1.1	(mg/kg/day)^-1	
Daily Breathing Rate *DBR)	572	(l/kg of body weight-day)	
Exposure Duration (ED)	2	years	(total construction time 2024 through 2026)
Exposure Frequency (EF)	260	days	
Age Sensitivity Factor (ASF)	3		

<u>Child 2015 OEHHA</u> Cancer Risk = DPM Concentration x CPF x DBR x ED x EF x ASF / 25550

CR 4.367618273 in one million

Chronic Non-cancer Hazard Index from DPM

Reference Exposure Level (REL) for DPM: 5 ug/m3

Chronic Non-cancer HI = Annual DPM/REL = 0.022738

Camarillo Springs - Proposed Project
Ventura County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	9.50	Acre	9.50	0.00	0
City Park	7.60	Acre	7.60	0.00	0
Golf Course	12.00	Hole	141.40	0.00	0
Retirement Community	248.00	Dwelling Unit	23.51	248,000.00	496

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.6 **Precipitation Freq (Days)** 31

Climate Zone 8 **Operational Year** 2027

Utility Company Southern California Edison

CO2 Intensity (lb/MWhr) 702.44 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Default lot acreages and square footages changed to reflect proposed project.

Construction Phase - Default constrction dates changed to reflect proposed construction schedule.

Off-road Equipment - Grading Phase - Default unit amount changed to reflect proposed grading equipment.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Vehicle Trips - Default trip rates changed to be consistent with project traffic report.

Water And Wastewater - Default residential water use values changed to reflect project water supply study.

Construction Off-road Equipment Mitigation - Tier 3 standards recommended for grading phase equipment.

Area Mitigation -

Water Mitigation -

Waste Mitigation - Assumes 67 percent solid waste diversion for Camarillo.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	17.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	220.00	1,245.00

tblConstructionPhase	NumDays	3,100.00	1,245.00
tblConstructionPhase	NumDays	310.00	140.00
tblConstructionPhase	NumDays	220.00	15.00
tblGrading	AcresOfGrading	2,380.00	775.00
tblLandUse	LandUseSquareFeet	413,820.00	0.00
tblLandUse	LandUseSquareFeet	331,056.00	0.00
tblLandUse	LotAcreage	83.77	141.40
tblLandUse	LotAcreage	49.60	23.51
tblLandUse	Population	759.00	496.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	16.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	7.00
tblVehicleTrips	ST_TR	22.75	50.00
tblVehicleTrips	ST_TR	40.63	30.38
tblVehicleTrips	ST_TR	2.03	4.27
tblVehicleTrips	SU_TR	16.74	50.00
tblVehicleTrips	SU_TR	39.53	30.38
tblVehicleTrips	SU_TR	1.95	4.27

tblVehicleTrips	WD_TR	1.89	50.00
tblVehicleTrips	WD_TR	35.74	30.38
tblVehicleTrips	WD_TR	2.40	4.27
tblWater	IndoorWaterUseRate	16,158,198.35	41,820,240.00
tblWater	OutdoorWaterUseRate	10,186,690.27	1,697,250.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	1.6724	18.1761	12.1561	0.0275	1.3009	0.7352	2.0361	0.5203	0.6764	1.1967	0.0000	2,412.5118	2,412.5118	0.7686	0.0000	2,431.7275
2022	0.5979	2.5256	3.0205	6.5500e-003	0.2353	0.1156	0.3509	0.0630	0.1093	0.1723	0.0000	581.9611	581.9611	0.0852	0.0000	584.0915
2023	0.5853	2.3351	3.0133	6.6700e-003	0.2487	0.1020	0.3507	0.0666	0.0965	0.1631	0.0000	592.1837	592.1837	0.0835	0.0000	594.2702
2024	0.5703	2.2113	2.9827	6.6400e-003	0.2507	0.0901	0.3408	0.0671	0.0852	0.1524	0.0000	590.1945	590.1945	0.0831	0.0000	592.2725
2025	0.5489	2.0583	2.9193	6.5400e-003	0.2497	0.0773	0.3270	0.0669	0.0731	0.1400	0.0000	580.7175	580.7175	0.0819	0.0000	582.7658
2026	0.4532	1.7053	2.3979	5.3800e-003	0.2076	0.0643	0.2719	0.0556	0.0608	0.1164	0.0000	477.5169	477.5169	0.0678	0.0000	479.2123
Maximum	**1.6724**	**18.1761**	**12.1561**	**0.0275**	**1.3009**	**0.7352**	**2.0361**	**0.5203**	**0.6764**	**1.1967**	**0.0000**	**2,412.5118**	**2,412.5118**	**0.7686**	**0.0000**	**2,431.7275**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.7830	12.6418	13.8659	0.0275	0.5359	0.5110	1.0469	0.2105	0.5056	0.7161	0.0000	2,412.5090	2,412.5090	0.7686	0.0000	2,431.7247
2022	0.5693	2.5444	3.0540	6.5500e-003	0.2353	0.1257	0.3610	0.0630	0.1217	0.1847	0.0000	581.9607	581.9607	0.0852	0.0000	584.0911
2023	0.5596	2.4030	3.0511	6.6700e-003	0.2487	0.1176	0.3663	0.0666	0.1142	0.1808	0.0000	592.1833	592.1833	0.0835	0.0000	594.2698
2024	0.5469	2.3097	3.0193	6.6400e-003	0.2507	0.1091	0.3597	0.0671	0.1060	0.1731	0.0000	590.1941	590.1941	0.0831	0.0000	592.2721
2025	0.5297	2.1951	2.9578	6.5400e-003	0.2497	0.1004	0.3501	0.0669	0.0977	0.1646	0.0000	580.7171	580.7171	0.0819	0.0000	582.7654
2026	0.4372	1.8191	2.4299	5.3800e-003	0.2076	0.0835	0.2911	0.0556	0.0812	0.1368	0.0000	477.5166	477.5166	0.0678	0.0000	479.2120
Maximum	**0.7830**	**12.6418**	**13.8659**	**0.0275**	**0.5359**	**0.5110**	**1.0469**	**0.2105**	**0.5056**	**0.7161**	**0.0000**	**2,412.5090**	**2,412.5090**	**0.7686**	**0.0000**	**2,431.7247**

	ROG	NOx	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	**22.64**	**17.57**	**-7.13**	**0.00**	**30.69**	**11.59**	**24.53**	**36.90**	**6.81**	**19.82**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-4-2021**	**4-3-2021**	8.6699	5.8343
2	**4-4-2021**	**7-3-2021**	8.7641	5.8971
3	**7-4-2021**	**10-3-2021**	1.6967	1.1732
4	**10-4-2021**	**1-3-2022**	0.5189	0.3873
5	**1-4-2022**	**4-3-2022**	0.7076	0.7056

6	**4-4-2022**	**7-3-2022**	0.7981	0.7956
7	**7-4-2022**	**10-3-2022**	0.8071	0.8045
8	**10-4-2022**	**1-3-2023**	0.8098	0.8076
9	**1-4-2023**	**4-3-2023**	0.7244	0.7348
10	**4-4-2023**	**7-3-2023**	0.7280	0.7385
11	**7-4-2023**	**10-3-2023**	0.7361	0.7468
12	**10-4-2023**	**1-3-2024**	0.7394	0.7503
13	**1-4-2024**	**4-3-2024**	0.6923	0.7109
14	**4-4-2024**	**7-3-2024**	0.6881	0.7067
15	**7-4-2024**	**10-3-2024**	0.6958	0.7146
16	**10-4-2024**	**1-3-2025**	0.6987	0.7179
17	**1-4-2025**	**4-3-2025**	0.6443	0.6732
18	**4-4-2025**	**7-3-2025**	0.6475	0.6767
19	**7-4-2025**	**10-3-2025**	0.6547	0.6843
20	**10-4-2025**	**1-3-2026**	0.6587	0.6882
21	**1-4-2026**	**4-3-2026**	0.6415	0.6705
22	**4-4-2026**	**7-3-2026**	0.6448	0.6741
23	**7-4-2026**	**9-30-2026**	0.6307	0.6593
		Highest	8.7641	5.8971

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1499	0.0212	1.8400	1.0000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	3.0085	3.0085	2.8800e-003	0.0000	3.0805
Energy	0.0171	0.1458	0.0621	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	512.6608	512.6608	0.0174	6.0300e-003	514.8942
Mobile	0.3068	1.2077	3.6753	0.0150	1.6622	0.0114	1.6736	0.4445	0.0106	0.4551	0.0000	1,384.7318	1,384.7318	0.0508	0.0000	1,386.0011
Waste						0.0000	0.0000		0.0000	0.0000	23.6139	0.0000	23.6139	1.3955	0.0000	58.5025
Water						0.0000	0.0000		0.0000	0.0000	13.2676	564.8959	578.1635	1.3860	0.0370	623.8409
Total	**1.4738**	**1.3747**	**5.5773**	**0.0160**	**1.6622**	**0.0334**	**1.6956**	**0.4445**	**0.0326**	**0.4771**	**36.8816**	**2,465.2969**	**2,502.1785**	**2.8527**	**0.0430**	**2,586.3193**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1499	0.0212	1.8400	1.0000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	3.0085	3.0085	2.8800e-003	0.0000	3.0805
Energy	0.0171	0.1458	0.0621	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	512.6608	512.6608	0.0174	6.0300e-003	514.8942
Mobile	0.3068	1.2077	3.6753	0.0150	1.6622	0.0114	1.6736	0.4445	0.0106	0.4551	0.0000	1,384.7318	1,384.7318	0.0508	0.0000	1,386.0011
Waste						0.0000	0.0000		0.0000	0.0000	7.7926	0.0000	7.7926	0.4605	0.0000	19.3058
Water						0.0000	0.0000		0.0000	0.0000	10.6141	530.1954	540.8095	1.1121	0.0303	577.6314
Total	**1.4738**	**1.3747**	**5.5773**	**0.0160**	**1.6622**	**0.0334**	**1.6956**	**0.4445**	**0.0326**	**0.4771**	**18.4067**	**2,430.5964**	**2,449.0031**	**1.6437**	**0.0363**	**2,500.9132**

	ROG	NOx	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**	**50.09**	**1.41**	**2.13**	**42.38**	**15.64**	**3.30**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/4/2021	7/16/2021	5	140	Grading
2	Infrastructure	Trenching	7/19/2021	12/31/2021	5	120	Infrastructure Improvements
3	Paving	Paving	1/3/2022	1/21/2022	5	15	Street Improvements
4	Building Construction	Building Construction	1/24/2022	10/30/2026	5	1245	
5	Architectural Coating	Architectural Coating	1/24/2022	10/30/2026	5	1245	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 775

Acres of Paving: 9.5

Residential Indoor: 502,200; Residential Outdoor: 167,400; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	2	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Scrapers	16	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	7	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Off-Highway Trucks	5	8.00	402	0.38
Infrastructure	Excavators	1	8.00	158	0.38
Infrastructure	Scrapers	1	8.00	367	0.48
Infrastructure	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
Grading	33	83.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	179.00	27.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	36.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Infrastructure	3	8.00					20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2540	0.0000	1.2540	0.5078	0.0000	0.5078	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5708	17.2744	11.2560	0.0256		0.6968	0.6968		0.6411	0.6411	0.0000	2,249.512 9	2,249.512 9	0.7275	0.0000	2,267.701 4
Total	**1.5708**	**17.2744**	**11.2560**	**0.0256**	**1.2540**	**0.6968**	**1.9509**	**0.5078**	**0.6411**	**1.1489**	**0.0000**	**2,249.512 9**	**2,249.512 9**	**0.7275**	**0.0000**	**2,267.701 4**

3.2 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0201	0.0130	0.1431	4.3000e-004	0.0469	3.3000e-004	0.0472	0.0124	3.0000e-004	0.0128	0.0000	38.9309	38.9309	9.9000e-004	0.0000	38.9555
Total	**0.0201**	**0.0130**	**0.1431**	**4.3000e-004**	**0.0469**	**3.3000e-004**	**0.0472**	**0.0124**	**3.0000e-004**	**0.0128**	**0.0000**	**38.9309**	**38.9309**	**9.9000e-004**	**0.0000**	**38.9555**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4891	0.0000	0.4891	0.1980	0.0000	0.1980	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.7277	11.9422	12.8573	0.0256		0.4798	0.4798		0.4744	0.4744	0.0000	2,249.510 2	2,249.510 2	0.7275	0.0000	2,267.698 7
Total	**0.7277**	**11.9422**	**12.8573**	**0.0256**	**0.4891**	**0.4798**	**0.9688**	**0.1980**	**0.4744**	**0.6724**	**0.0000**	**2,249.510 2**	**2,249.510 2**	**0.7275**	**0.0000**	**2,267.698 7**

3.2 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0201	0.0130	0.1431	4.3000e-004	0.0469	3.3000e-004	0.0472	0.0124	3.0000e-004	0.0128	0.0000	38.9309	38.9309	9.9000e-004	0.0000	38.9555
Total	**0.0201**	**0.0130**	**0.1431**	**4.3000e-004**	**0.0469**	**3.3000e-004**	**0.0472**	**0.0124**	**3.0000e-004**	**0.0128**	**0.0000**	**38.9309**	**38.9309**	**9.9000e-004**	**0.0000**	**38.9555**

3.3 Infrastructure - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0811	0.8885	0.7547	1.4100e-003		0.0381	0.0381		0.0350	0.0350	0.0000	123.9736	123.9736	0.0401	0.0000	124.9759
Total	**0.0811**	**0.8885**	**0.7547**	**1.4100e-003**		**0.0381**	**0.0381**		**0.0350**	**0.0350**	**0.0000**	**123.9736**	**123.9736**	**0.0401**	**0.0000**	**124.9759**

3.3 Infrastructure - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	1.4000e-004	2.2300e-003	0.0000	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0945	0.0945	1.0000e-005	0.0000	0.0947
Total	**4.4000e-004**	**1.4000e-004**	**2.2300e-003**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0945**	**0.0945**	**1.0000e-005**	**0.0000**	**0.0947**

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	0.0347	0.6864	0.8633	1.4100e-003		0.0309	0.0309		0.0309	0.0309	0.0000	123.9734	123.9734	0.0401	0.0000	124.9758
Total	**0.0347**	**0.6864**	**0.8633**	**1.4100e-003**		**0.0309**	**0.0309**		**0.0309**	**0.0309**	**0.0000**	**123.9734**	**123.9734**	**0.0401**	**0.0000**	**124.9758**

3.3 Infrastructure - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	1.4000e-004	2.2300e-003	0.0000	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0945	0.0945	1.0000e-005	0.0000	0.0947
Total	**4.4000e-004**	**1.4000e-004**	**2.2300e-003**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0945**	**0.0945**	**1.0000e-005**	**0.0000**	**0.0947**

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2700e-003	0.0834	0.1094	1.7000e-004		4.2600e-003	4.2600e-003		3.9200e-003	3.9200e-003	0.0000	15.0207	15.0207	4.8600e-003	0.0000	15.1421
Paving	0.0125					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0207**	**0.0834**	**0.1094**	**1.7000e-004**		**4.2600e-003**	**4.2600e-003**		**3.9200e-003**	**3.9200e-003**	**0.0000**	**15.0207**	**15.0207**	**4.8600e-003**	**0.0000**	**15.1421**

3.4 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.3000e-004	2.5600e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.7261	0.7261	2.0000e-005	0.0000	0.7266
Total	**3.7000e-004**	**2.3000e-004**	**2.5600e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.1000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.7261**	**0.7261**	**2.0000e-005**	**0.0000**	**0.7266**

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	8.2700e-003	0.0834	0.1094	1.7000e-004		4.2600e-003	4.2600e-003		3.9200e-003	3.9200e-003	0.0000	15.0207	15.0207	4.8600e-003	0.0000	15.1421
Paving	0.0125					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0207**	**0.0834**	**0.1094**	**1.7000e-004**		**4.2600e-003**	**4.2600e-003**		**3.9200e-003**	**3.9200e-003**	**0.0000**	**15.0207**	**15.0207**	**4.8600e-003**	**0.0000**	**15.1421**

3.4 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.3000e-004	2.5600e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.7261	0.7261	2.0000e-005	0.0000	0.7266
Total	**3.7000e-004**	**2.3000e-004**	**2.5600e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.1000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.7261**	**0.7261**	**2.0000e-005**	**0.0000**	**0.7266**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2090	1.9129	2.0045	3.3000e-003		0.0991	0.0991		0.0932	0.0932	0.0000	283.8634	283.8634	0.0680	0.0000	285.5636
Total	**0.2090**	**1.9129**	**2.0045**	**3.3000e-003**		**0.0991**	**0.0991**		**0.0932**	**0.0932**	**0.0000**	**283.8634**	**283.8634**	**0.0680**	**0.0000**	**285.5636**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8700e-003	0.3032	0.0824	8.3000e-004	0.0220	7.9000e-004	0.0228	6.3500e-003	7.5000e-004	7.1000e-003	0.0000	81.0791	81.0791	6.2600e-003	0.0000	81.2357
Worker	0.0714	0.0443	0.4992	1.5700e-003	0.1768	1.2200e-003	0.1780	0.0470	1.1200e-003	0.0481	0.0000	141.5303	141.5303	3.3600e-003	0.0000	141.6143
Total	**0.0802**	**0.3475**	**0.5815**	**2.4000e-003**	**0.1988**	**2.0100e-003**	**0.2008**	**0.0533**	**1.8700e-003**	**0.0552**	**0.0000**	**222.6093**	**222.6093**	**9.6200e-003**	**0.0000**	**222.8499**

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	0.1805	1.9318	2.0380	3.3000e-003		0.1092	0.1092		0.1057	0.1057	0.0000	283.8631	283.8631	0.0680	0.0000	285.5632
Total	**0.1805**	**1.9318**	**2.0380**	**3.3000e-003**		**0.1092**	**0.1092**		**0.1057**	**0.1057**	**0.0000**	**283.8631**	**283.8631**	**0.0680**	**0.0000**	**285.5632**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8700e-003	0.3032	0.0824	8.3000e-004	0.0220	7.9000e-004	0.0228	6.3500e-003	7.5000e-004	7.1000e-003	0.0000	81.0791	81.0791	6.2600e-003	0.0000	81.2357
Worker	0.0714	0.0443	0.4992	1.5700e-003	0.1768	1.2200e-003	0.1780	0.0470	1.1200e-003	0.0481	0.0000	141.5303	141.5303	3.3600e-003	0.0000	141.6143
Total	**0.0802**	**0.3475**	**0.5815**	**2.4000e-003**	**0.1988**	**2.0100e-003**	**0.2008**	**0.0533**	**1.8700e-003**	**0.0552**	**0.0000**	**222.6093**	**222.6093**	**9.6200e-003**	**0.0000**	**222.8499**

3.5 Building Construction - 2023

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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3462**	**301.3462**	**0.0717**	**0.0000**	**303.1383**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9800e-003	0.2447	0.0791	8.6000e-004	0.0234	3.2000e-004	0.0237	6.7400e-003	3.0000e-004	7.0400e-003	0.0000	84.1514	84.1514	5.9300e-003	0.0000	84.2997
Worker	0.0713	0.0425	0.4887	1.6000e-003	0.1876	1.2600e-003	0.1889	0.0498	1.1600e-003	0.0510	0.0000	144.4438	144.4438	3.2100e-003	0.0000	144.5240
Total	**0.0783**	**0.2872**	**0.5678**	**2.4600e-003**	**0.2110**	**1.5800e-003**	**0.2126**	**0.0566**	**1.4600e-003**	**0.0580**	**0.0000**	**228.5951**	**228.5951**	**9.1400e-003**	**0.0000**	**228.8237**

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	0.1787	1.9379	2.1495	3.5000e-003		0.1066	0.1066		0.1033	0.1033	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	**0.1787**	**1.9379**	**2.1495**	**3.5000e-003**		**0.1066**	**0.1066**		**0.1033**	**0.1033**	**0.0000**	**301.3458**	**301.3458**	**0.0717**	**0.0000**	**303.1380**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9800e-003	0.2447	0.0791	8.6000e-004	0.0234	3.2000e-004	0.0237	6.7400e-003	3.0000e-004	7.0400e-003	0.0000	84.1514	84.1514	5.9300e-003	0.0000	84.2997
Worker	0.0713	0.0425	0.4887	1.6000e-003	0.1876	1.2600e-003	0.1889	0.0498	1.1600e-003	0.0510	0.0000	144.4438	144.4438	3.2100e-003	0.0000	144.5240
Total	**0.0783**	**0.2872**	**0.5678**	**2.4600e-003**	**0.2110**	**1.5800e-003**	**0.2126**	**0.0566**	**1.4600e-003**	**0.0580**	**0.0000**	**228.5951**	**228.5951**	**9.1400e-003**	**0.0000**	**228.8237**

3.5 Building Construction - 2024

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	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.8100e-003	0.2438	0.0777	8.6000e-004	0.0236	3.1000e-004	0.0239	6.7900e-003	3.0000e-004	7.0900e-003	0.0000	84.3822	84.3822	5.8700e-003	0.0000	84.5290
Worker	0.0680	0.0389	0.4579	1.5500e-003	0.1891	1.2500e-003	0.1903	0.0502	1.1500e-003	0.0514	0.0000	140.4046	140.4046	2.9500e-003	0.0000	140.4783
Total	**0.0748**	**0.2827**	**0.5356**	**2.4100e-003**	**0.2126**	**1.5600e-003**	**0.2142**	**0.0570**	**1.4500e-003**	**0.0585**	**0.0000**	**224.7867**	**224.7867**	**8.8200e-003**	**0.0000**	**225.0073**

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	0.1694	1.8595	2.1545	3.5300e-003		0.0993	0.0993		0.0963	0.0963	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.1694**	**1.8595**	**2.1545**	**3.5300e-003**		**0.0993**	**0.0993**		**0.0963**	**0.0963**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.8100e-003	0.2438	0.0777	8.6000e-004	0.0236	3.1000e-004	0.0239	6.7900e-003	3.0000e-004	7.0900e-003	0.0000	84.3822	84.3822	5.8700e-003	0.0000	84.5290
Worker	0.0680	0.0389	0.4579	1.5500e-003	0.1891	1.2500e-003	0.1903	0.0502	1.1500e-003	0.0514	0.0000	140.4046	140.4046	2.9500e-003	0.0000	140.4783
Total	**0.0748**	**0.2827**	**0.5356**	**2.4100e-003**	**0.2126**	**1.5600e-003**	**0.2142**	**0.0570**	**1.4500e-003**	**0.0585**	**0.0000**	**224.7867**	**224.7867**	**8.8200e-003**	**0.0000**	**225.0073**

3.5 Building Construction - 2025

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	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.5500e-003	0.2390	0.0758	8.5000e-004	0.0235	3.0000e-004	0.0238	6.7700e-003	2.9000e-004	7.0600e-003	0.0000	83.5372	83.5372	5.7600e-003	0.0000	83.6812
Worker	0.0644	0.0354	0.4233	1.4800e-003	0.1884	1.2300e-003	0.1896	0.0500	1.1300e-003	0.0512	0.0000	134.2129	134.2129	2.6700e-003	0.0000	134.2797
Total	**0.0709**	**0.2744**	**0.4991**	**2.3300e-003**	**0.2118**	**1.5300e-003**	**0.2134**	**0.0568**	**1.4200e-003**	**0.0582**	**0.0000**	**217.7501**	**217.7501**	**8.4300e-003**	**0.0000**	**217.9609**

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	0.1592	1.7641	2.1376	3.5200e-003		0.0920	0.0920		0.0894	0.0894	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1592**	**1.7641**	**2.1376**	**3.5200e-003**		**0.0920**	**0.0920**		**0.0894**	**0.0894**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.5500e-003	0.2390	0.0758	8.5000e-004	0.0235	3.0000e-004	0.0238	6.7700e-003	2.9000e-004	7.0600e-003	0.0000	83.5372	83.5372	5.7600e-003	0.0000	83.6812
Worker	0.0644	0.0354	0.4233	1.4800e-003	0.1884	1.2300e-003	0.1896	0.0500	1.1300e-003	0.0512	0.0000	134.2129	134.2129	2.6700e-003	0.0000	134.2797
Total	**0.0709**	**0.2744**	**0.4991**	**2.3300e-003**	**0.2118**	**1.5300e-003**	**0.2134**	**0.0568**	**1.4200e-003**	**0.0582**	**0.0000**	**217.7501**	**217.7501**	**8.4300e-003**	**0.0000**	**217.9609**

3.5 Building Construction - 2026

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	0.1484	1.3530	1.7452	2.9300e-003		0.0572	0.0572		0.0538	0.0538	0.0000	251.6326	251.6326	0.0592	0.0000	253.1114
Total	**0.1484**	**1.3530**	**1.7452**	**2.9300e-003**		**0.0572**	**0.0572**		**0.0538**	**0.0538**	**0.0000**	**251.6326**	**251.6326**	**0.0592**	**0.0000**	**253.1114**

3.5 Building Construction - 2026

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	5.2800e-003	0.1957	0.0621	7.0000e-004	0.0195	2.4000e-004	0.0198	5.6300e-003	2.3000e-004	5.8600e-003	0.0000	69.0490	69.0490	4.7200e-003	0.0000	69.1669
Worker	0.0510	0.0270	0.3283	1.1900e-003	0.1566	9.9000e-004	0.1576	0.0416	9.1000e-004	0.0425	0.0000	107.5103	107.5103	2.0300e-003	0.0000	107.5611
Total	**0.0563**	**0.2227**	**0.3904**	**1.8900e-003**	**0.1761**	**1.2300e-003**	**0.1774**	**0.0472**	**1.1400e-003**	**0.0484**	**0.0000**	**176.5593**	**176.5593**	**6.7500e-003**	**0.0000**	**176.7280**

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	0.1324	1.4667	1.7772	2.9300e-003		0.0765	0.0765		0.0743	0.0743	0.0000	251.6323	251.6323	0.0592	0.0000	253.1111
Total	**0.1324**	**1.4667**	**1.7772**	**2.9300e-003**		**0.0765**	**0.0765**		**0.0743**	**0.0743**	**0.0000**	**251.6323**	**251.6323**	**0.0592**	**0.0000**	**253.1111**

3.5 Building Construction - 2026

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	5.2800e-003	0.1957	0.0621	7.0000e-004	0.0195	2.4000e-004	0.0198	5.6300e-003	2.3000e-004	5.8600e-003	0.0000	69.0490	69.0490	4.7200e-003	0.0000	69.1669
Worker	0.0510	0.0270	0.3283	1.1900e-003	0.1566	9.9000e-004	0.1576	0.0416	9.1000e-004	0.0425	0.0000	107.5103	107.5103	2.0300e-003	0.0000	107.5611
Total	**0.0563**	**0.2227**	**0.3904**	**1.8900e-003**	**0.1761**	**1.2300e-003**	**0.1774**	**0.0472**	**1.1400e-003**	**0.0484**	**0.0000**	**176.5593**	**176.5593**	**6.7500e-003**	**0.0000**	**176.7280**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2481					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0251	0.1725	0.2222	3.6000e-004		0.0100	0.0100		0.0100	0.0100	0.0000	31.2774	31.2774	2.0400e-003	0.0000	31.3283
Total	**0.2732**	**0.1725**	**0.2222**	**3.6000e-004**		**0.0100**	**0.0100**		**0.0100**	**0.0100**	**0.0000**	**31.2774**	**31.2774**	**2.0400e-003**	**0.0000**	**31.3283**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0144	8.9100e-003	0.1004	3.1000e-004	0.0356	2.4000e-004	0.0358	9.4500e-003	2.3000e-004	9.6700e-003	0.0000	28.4642	28.4642	6.8000e-004	0.0000	28.4811
Total	**0.0144**	**8.9100e-003**	**0.1004**	**3.1000e-004**	**0.0356**	**2.4000e-004**	**0.0358**	**9.4500e-003**	**2.3000e-004**	**9.6700e-003**	**0.0000**	**28.4642**	**28.4642**	**6.8000e-004**	**0.0000**	**28.4811**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2481					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0251	0.1725	0.2222	3.6000e-004		0.0100	0.0100		0.0100	0.0100	0.0000	31.2773	31.2773	2.0400e-003	0.0000	31.3282
Total	**0.2732**	**0.1725**	**0.2222**	**3.6000e-004**		**0.0100**	**0.0100**		**0.0100**	**0.0100**	**0.0000**	**31.2773**	**31.2773**	**2.0400e-003**	**0.0000**	**31.3282**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0144	8.9100e-003	0.1004	3.1000e-004	0.0356	2.4000e-004	0.0358	9.4500e-003	2.3000e-004	9.6700e-003	0.0000	28.4642	28.4642	6.8000e-004	0.0000	28.4811
Total	**0.0144**	**8.9100e-003**	**0.1004**	**3.1000e-004**	**0.0356**	**2.4000e-004**	**0.0358**	**9.4500e-003**	**2.3000e-004**	**9.6700e-003**	**0.0000**	**28.4642**	**28.4642**	**6.8000e-004**	**0.0000**	**28.4811**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2633					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0249	0.1694	0.2355	3.9000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	33.1923	33.1923	1.9900e-003	0.0000	33.2419
Total	**0.2882**	**0.1694**	**0.2355**	**3.9000e-004**		**9.2100e-003**	**9.2100e-003**		**9.2100e-003**	**9.2100e-003**	**0.0000**	**33.1923**	**33.1923**	**1.9900e-003**	**0.0000**	**33.2419**

3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0143	8.5400e-003	0.0983	3.2000e-004	0.0377	2.5000e-004	0.0380	0.0100	2.3000e-004	0.0103	0.0000	29.0501	29.0501	6.5000e-004	0.0000	29.0663
Total	**0.0143**	**8.5400e-003**	**0.0983**	**3.2000e-004**	**0.0377**	**2.5000e-004**	**0.0380**	**0.0100**	**2.3000e-004**	**0.0103**	**0.0000**	**29.0501**	**29.0501**	**6.5000e-004**	**0.0000**	**29.0663**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2633					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0249	0.1694	0.2354	3.9000e-004		9.2100e-003	9.2100e-003		9.2100e-003	9.2100e-003	0.0000	33.1923	33.1923	1.9900e-003	0.0000	33.2419
Total	**0.2882**	**0.1694**	**0.2354**	**3.9000e-004**		**9.2100e-003**	**9.2100e-003**		**9.2100e-003**	**9.2100e-003**	**0.0000**	**33.1923**	**33.1923**	**1.9900e-003**	**0.0000**	**33.2419**

3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0143	8.5400e-003	0.0983	3.2000e-004	0.0377	2.5000e-004	0.0380	0.0100	2.3000e-004	0.0103	0.0000	29.0501	29.0501	6.5000e-004	0.0000	29.0663
Total	**0.0143**	**8.5400e-003**	**0.0983**	**3.2000e-004**	**0.0377**	**2.5000e-004**	**0.0380**	**0.0100**	**2.3000e-004**	**0.0103**	**0.0000**	**29.0501**	**29.0501**	**6.5000e-004**	**0.0000**	**29.0663**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2653					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947
Total	**0.2890**	**0.1597**	**0.2371**	**3.9000e-004**		**7.9800e-003**	**7.9800e-003**		**7.9800e-003**	**7.9800e-003**	**0.0000**	**33.4476**	**33.4476**	**1.8800e-003**	**0.0000**	**33.4947**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0137	7.8200e-003	0.0921	3.1000e-004	0.0380	2.5000e-004	0.0383	0.0101	2.3000e-004	0.0103	0.0000	28.2378	28.2378	5.9000e-004	0.0000	28.2526
Total	**0.0137**	**7.8200e-003**	**0.0921**	**3.1000e-004**	**0.0380**	**2.5000e-004**	**0.0383**	**0.0101**	**2.3000e-004**	**0.0103**	**0.0000**	**28.2378**	**28.2378**	**5.9000e-004**	**0.0000**	**28.2526**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2653					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0237	0.1597	0.2371	3.9000e-004		7.9800e-003	7.9800e-003		7.9800e-003	7.9800e-003	0.0000	33.4476	33.4476	1.8800e-003	0.0000	33.4947
Total	**0.2890**	**0.1597**	**0.2371**	**3.9000e-004**		**7.9800e-003**	**7.9800e-003**		**7.9800e-003**	**7.9800e-003**	**0.0000**	**33.4476**	**33.4476**	**1.8800e-003**	**0.0000**	**33.4947**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0137	7.8200e-003	0.0921	3.1000e-004	0.0380	2.5000e-004	0.0383	0.0101	2.3000e-004	0.0103	0.0000	28.2378	28.2378	5.9000e-004	0.0000	28.2526
Total	**0.0137**	**7.8200e-003**	**0.0921**	**3.1000e-004**	**0.0380**	**2.5000e-004**	**0.0383**	**0.0101**	**2.3000e-004**	**0.0103**	**0.0000**	**28.2378**	**28.2378**	**5.9000e-004**	**0.0000**	**28.2526**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2643					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3200	33.3200	1.8200e-003	0.0000	33.3654
Total	**0.2866**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3200**	**33.3200**	**1.8200e-003**	**0.0000**	**33.3654**

3.6 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0129	7.1100e-003	0.0851	3.0000e-004	0.0379	2.5000e-004	0.0381	0.0101	2.3000e-004	0.0103	0.0000	26.9925	26.9925	5.4000e-004	0.0000	27.0060
Total	**0.0129**	**7.1100e-003**	**0.0851**	**3.0000e-004**	**0.0379**	**2.5000e-004**	**0.0381**	**0.0101**	**2.3000e-004**	**0.0103**	**0.0000**	**26.9925**	**26.9925**	**5.4000e-004**	**0.0000**	**27.0060**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2643					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0223	0.1495	0.2361	3.9000e-004		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	33.3199	33.3199	1.8200e-003	0.0000	33.3654
Total	**0.2866**	**0.1495**	**0.2361**	**3.9000e-004**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**33.3199**	**33.3199**	**1.8200e-003**	**0.0000**	**33.3654**

3.6 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0129	7.1100e-003	0.0851	3.0000e-004	0.0379	2.5000e-004	0.0381	0.0101	2.3000e-004	0.0103	0.0000	26.9925	26.9925	5.4000e-004	0.0000	27.0060
Total	**0.0129**	**7.1100e-003**	**0.0851**	**3.0000e-004**	**0.0379**	**2.5000e-004**	**0.0381**	**0.0101**	**2.3000e-004**	**0.0103**	**0.0000**	**26.9925**	**26.9925**	**5.4000e-004**	**0.0000**	**27.0060**

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2198					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0185	0.1243	0.1963	3.2000e-004		5.5900e-003	5.5900e-003		5.5900e-003	5.5900e-003	0.0000	27.7028	27.7028	1.5100e-003	0.0000	27.7406
Total	**0.2383**	**0.1243**	**0.1963**	**3.2000e-004**		**5.5900e-003**	**5.5900e-003**		**5.5900e-003**	**5.5900e-003**	**0.0000**	**27.7028**	**27.7028**	**1.5100e-003**	**0.0000**	**27.7406**

3.6 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0103	5.4300e-003	0.0660	2.4000e-004	0.0315	2.0000e-004	0.0317	8.3700e-003	1.8000e-004	8.5500e-003	0.0000	21.6222	21.6222	4.1000e-004	0.0000	21.6324
Total	**0.0103**	**5.4300e-003**	**0.0660**	**2.4000e-004**	**0.0315**	**2.0000e-004**	**0.0317**	**8.3700e-003**	**1.8000e-004**	**8.5500e-003**	**0.0000**	**21.6222**	**21.6222**	**4.1000e-004**	**0.0000**	**21.6324**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2198					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0185	0.1243	0.1963	3.2000e-004		5.5900e-003	5.5900e-003		5.5900e-003	5.5900e-003	0.0000	27.7028	27.7028	1.5100e-003	0.0000	27.7406
Total	**0.2383**	**0.1243**	**0.1963**	**3.2000e-004**		**5.5900e-003**	**5.5900e-003**		**5.5900e-003**	**5.5900e-003**	**0.0000**	**27.7028**	**27.7028**	**1.5100e-003**	**0.0000**	**27.7406**

3.6 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0103	5.4300e-003	0.0660	2.4000e-004	0.0315	2.0000e-004	0.0317	8.3700e-003	1.8000e-004	8.5500e-003	0.0000	21.6222	21.6222	4.1000e-004	0.0000	21.6324
Total	**0.0103**	**5.4300e-003**	**0.0660**	**2.4000e-004**	**0.0315**	**2.0000e-004**	**0.0317**	**8.3700e-003**	**1.8000e-004**	**8.5500e-003**	**0.0000**	**21.6222**	**21.6222**	**4.1000e-004**	**0.0000**	**21.6324**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3068	1.2077	3.6753	0.0150	1.6622	0.0114	1.6736	0.4445	0.0106	0.4551	0.0000	1,384.7318	1,384.7318	0.0508	0.0000	1,386.0011
Unmitigated	0.3068	1.2077	3.6753	0.0150	1.6622	0.0114	1.6736	0.4445	0.0106	0.4551	0.0000	1,384.7318	1,384.7318	0.0508	0.0000	1,386.0011

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	380.00	380.00	380.00	811,244	811,244
Golf Course	364.56	364.56	364.56	658,862	658,862
Other Asphalt Surfaces	0.00	0.00	0.00		
Retirement Community	1,058.96	1,058.96	1058.96	2,925,983	2,925,983
Total	1,803.52	1,803.52	1,803.52	4,396,089	4,396,089

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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Golf Course	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Retirement Community	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073
Golf Course	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073
Other Asphalt Surfaces	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073
Retirement Community	0.606220	0.039388	0.187721	0.099847	0.014851	0.005755	0.020359	0.018389	0.001198	0.001075	0.003720	0.000404	0.001073

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	343.7975	343.7975	0.0142	2.9400e-003	345.0275
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	343.7975	343.7975	0.0142	2.9400e-003	345.0275
NaturalGas Mitigated	0.0171	0.1458	0.0621	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	168.8633	168.8633	3.2400e-003	3.1000e-003	169.8668
NaturalGas Unmitigated	0.0171	0.1458	0.0621	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	168.8633	168.8633	3.2400e-003	3.1000e-003	169.8668

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					
City Park	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
Golf Course	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	3.16438e +006	0.0171	0.1458	0.0621	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	168.8633	168.8633	3.2400e-003	3.1000e-003	169.8668
Total		**0.0171**	**0.1458**	**0.0621**	**9.3000e-004**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**168.8633**	**168.8633**	**3.2400e-003**	**3.1000e-003**	**169.8668**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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
Golf Course	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	3.16438e +006	0.0171	0.1458	0.0621	9.3000e-004		0.0118	0.0118		0.0118	0.0118	0.0000	168.8633	168.8633	3.2400e-003	3.1000e-003	169.8668
Total		**0.0171**	**0.1458**	**0.0621**	**9.3000e-004**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**168.8633**	**168.8633**	**3.2400e-003**	**3.1000e-003**	**169.8668**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	1.07902e +006	343.7975	0.0142	2.9400e-003	345.0275
Total		**343.7975**	**0.0142**	**2.9400e-003**	**345.0275**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Golf Course	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	1.07902e +006	343.7975	0.0142	2.9400e-003	345.0275
Total		**343.7975**	**0.0142**	**2.9400e-003**	**345.0275**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1499	0.0212	1.8400	1.0000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	3.0085	3.0085	2.8800e-003	0.0000	3.0805
Unmitigated	1.1499	0.0212	1.8400	1.0000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	3.0085	3.0085	2.8800e-003	0.0000	3.0805

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1261					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9686					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0553	0.0212	1.8400	1.0000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	3.0085	3.0085	2.8800e-003	0.0000	3.0805
Total	**1.1499**	**0.0212**	**1.8400**	**1.0000e-004**		**0.0102**	**0.0102**		**0.0102**	**0.0102**	**0.0000**	**3.0085**	**3.0085**	**2.8800e-003**	**0.0000**	**3.0805**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1261					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9686					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0553	0.0212	1.8400	1.0000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	3.0085	3.0085	2.8800e-003	0.0000	3.0805
Total	**1.1499**	**0.0212**	**1.8400**	**1.0000e-004**		**0.0102**	**0.0102**		**0.0102**	**0.0102**	**0.0000**	**3.0085**	**3.0085**	**2.8800e-003**	**0.0000**	**3.0805**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	540.8095	1.1121	0.0303	577.6314
Unmitigated	578.1635	1.3860	0.0370	623.8409

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 9.05526	32.0546	1.3200e-003	2.7000e-004	32.1692
Golf Course	0 / 99.8142	353.3307	0.0146	3.0200e-003	354.5948
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	41.8202 / 1.69725	192.7782	1.3701	0.0337	237.0769
Total		**578.1635**	**1.3860**	**0.0370**	**623.8409**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 9.05526	32.0546	1.3200e-003	2.7000e-004	32.1692
Golf Course	0 / 99.8142	353.3307	0.0146	3.0200e-003	354.5948
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	33.4562 / 1.69725	155.4242	1.0962	0.0270	190.8674
Total		**540.8095**	**1.1121**	**0.0303**	**577.6314**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.7926	0.4605	0.0000	19.3058
Unmitigated	23.6139	1.3955	0.0000	58.5025

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.65	0.1319	7.8000e-003	0.0000	0.3269
Golf Course	1.6	0.3248	0.0192	0.0000	0.8046
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	114.08	23.1572	1.3686	0.0000	57.3710
Total		**23.6139**	**1.3955**	**0.0000**	**58.5025**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.2145	0.0435	2.5700e-003	0.0000	0.1079
Golf Course	0.528	0.1072	6.3300e-003	0.0000	0.2655
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	37.6464	7.6419	0.4516	0.0000	18.9324
Total		**7.7926**	**0.4605**	**0.0000**	**19.3058**

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

```
** Lakes Environmental AERMOD MPI
**
****************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.9.0
** Lakes Environmental Software Inc.
** Date: 6/25/2020
** File: C:\Lakes\AERMOD View\Camarillo Construction HRA Year 2021\Camarillo Construction HRA Year 2021.ADI
**
****************************************
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**
****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\Camarillo Construction HRA Year 2021\Camarillo
   TITLETWO Camarillo Construction DPM Year 2021
   MODELOPT DFAULT CONC
   AVERTIME PERIOD
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "Camarillo Construction HRA Year 2021.err"
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   315711.985  3786684.686       33.160
** DESCRSRC Area of disturbance
** Source Parameters **
   SRCPARAM PAREA1        1.09E-08     3.660       139
   AREAVERT PAREA1       315711.985 3786684.686 315986.889 3786676.601
   AREAVERT PAREA1       316266.645 3786676.601 316366.904 3786668.515
   AREAVERT PAREA1       316607.850 3786653.961 316651.511 3786644.259
   AREAVERT PAREA1       316724.280 3786631.322 316780.878 3786623.237
   AREAVERT PAREA1       316826.157 3786620.003 316881.138 3786597.363
   AREAVERT PAREA1       316918.331 3786568.256 316926.416 3786547.234
   AREAVERT PAREA1       316916.713 3786534.297 316894.074 3786526.212
   AREAVERT PAREA1       316858.498 3786508.424 316814.837 3786484.167
   AREAVERT PAREA1       316787.124 3786462.483 316774.926 3786439.522
   AREAVERT PAREA1       316752.683 3786365.617 316850.266 3786334.764
   AREAVERT PAREA1       316831.610 3786295.300 316856.006 3786284.537
```

AREAVERT	PAREA1	316937.086	3786227.136	316967.222	3786220.678
AREAVERT	PAREA1	317026.776	3786217.808	317071.262	3786220.678
AREAVERT	PAREA1	317083.460	3786227.136	317107.138	3786213.503
AREAVERT	PAREA1	317129.381	3786213.503	317163.105	3786191.977
AREAVERT	PAREA1	317246.337	3786130.270	317308.044	3786095.829
AREAVERT	PAREA1	317358.270	3786072.151	317354.683	3786049.908
AREAVERT	PAREA1	317348.225	3786031.253	317331.722	3786010.444
AREAVERT	PAREA1	317315.937	3786001.834	317297.048	3786013.396
AREAVERT	PAREA1	317279.940	3786010.285	317250.909	3786014.951
AREAVERT	PAREA1	317058.060	3786067.311	317040.952	3786069.903
AREAVERT	PAREA1	317010.885	3786077.160	316969.930	3786077.160
AREAVERT	PAREA1	316930.531	3786076.124	316915.497	3786101.526
AREAVERT	PAREA1	316890.613	3786117.078	316849.140	3786128.483
AREAVERT	PAREA1	316783.302	3786149.220	316779.154	3786139.370
AREAVERT	PAREA1	316751.678	3786148.701	316720.574	3786159.070
AREAVERT	PAREA1	316693.098	3786167.364	316657.846	3786174.622
AREAVERT	PAREA1	316629.852	3786176.696	316602.376	3786177.732
AREAVERT	PAREA1	316556.237	3786172.030	316505.951	3786159.588
AREAVERT	PAREA1	316461.886	3786145.072	316439.594	3786138.333
AREAVERT	PAREA1	316421.968	3786133.667	316401.232	3786133.149
AREAVERT	PAREA1	316380.495	3786125.373	316358.722	3786113.968
AREAVERT	PAREA1	316348.354	3786097.379	316329.691	3786097.897
AREAVERT	PAREA1	316295.476	3786092.713	316284.071	3786088.047
AREAVERT	PAREA1	316275.776	3786082.863	316295.476	3786048.648
AREAVERT	PAREA1	316299.623	3786025.838	316280.960	3786018.580
AREAVERT	PAREA1	316239.487	3785996.288	316215.640	3785967.257
AREAVERT	PAREA1	316190.238	3785943.929	316167.946	3785910.232
AREAVERT	PAREA1	316162.244	3785898.308	316160.170	3785889.495
AREAVERT	PAREA1	316167.946	3785873.943	316185.054	3785851.651
AREAVERT	PAREA1	316204.235	3785815.362	316219.269	3785786.331
AREAVERT	PAREA1	316231.711	3785754.708	316234.822	3785727.232
AREAVERT	PAREA1	316233.785	3785687.833	316234.822	3785642.731
AREAVERT	PAREA1	316228.082	3785606.442	316206.827	3785583.114
AREAVERT	PAREA1	316169.502	3785569.117	316128.029	3785566.525
AREAVERT	PAREA1	315705.004	3785533.346	315705.523	3785951.705
AREAVERT	PAREA1	315693.599	3786111.894	315886.967	3786171.511
AREAVERT	PAREA1	315920.145	3786164.254	316090.185	3786084.418
AREAVERT	PAREA1	316202.680	3786081.308	316234.303	3786116.560
AREAVERT	PAREA1	316250.892	3786101.007	316273.184	3786110.857
AREAVERT	PAREA1	316259.187	3786139.370	316255.558	3786149.220
AREAVERT	PAREA1	316262.816	3786171.511	316270.074	3786183.953
AREAVERT	PAREA1	316290.292	3786198.987	316329.173	3786224.908
AREAVERT	PAREA1	316343.688	3786247.200	316354.575	3786260.160
AREAVERT	PAREA1	316359.759	3786299.041	316359.759	3786327.035
AREAVERT	PAREA1	316354.056	3786359.695	316337.986	3786393.392
AREAVERT	PAREA1	316315.175	3786421.386	316288.736	3786438.494
AREAVERT	PAREA1	316270.592	3786449.380	316248.300	3786456.638
AREAVERT	PAREA1	316218.751	3786462.341	316161.725	3786462.859
AREAVERT	PAREA1	316104.700	3786463.377	316063.227	3786463.377
AREAVERT	PAREA1	316030.049	3786464.414	316011.904	3786467.525
AREAVERT	PAREA1	316003.091	3786469.080	315992.205	3786479.448

```
   AREAVERT PAREA1       315985.465 3786504.850 315981.836 3786521.440
   AREAVERT PAREA1       315974.579 3786530.771 315956.953 3786531.289
   AREAVERT PAREA1       315950.213 3786529.734 315939.845 3786529.216
   AREAVERT PAREA1       315939.845 3786533.363 315920.664 3786532.326
   AREAVERT PAREA1       315918.590 3786544.768 315921.182 3786550.989
   AREAVERT PAREA1       315925.848 3786559.284 315923.774 3786576.391
   AREAVERT PAREA1       315917.035 3786586.760 315899.927 3786596.091
   AREAVERT PAREA1       315702.412 3786639.638
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED "Camarillo Construction HRA Year 2021.rou"
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE "E:\New MET data\Elrio 2015-2017.SFC"
   PROFFILE "E:\New MET data\Elrio 2015-2017.PFL"
   SURFDATA 93110 2015
   UAIRDATA 93214 2015
   SITEDATA 56436 2015
   PROFBASE 40.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE PERIOD ALL "Camarillo Construction HRA Year 2021.AD\PE00GALL.PLT" 31
   SUMMFILE "Camarillo Construction HRA Year 2021.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
```

```
A Total of            2 Warning Message(s)
A Total of            0 Informational Message(s)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     134       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used           0.50
MX W403     134       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data

***********************************
*** SETUP Finishes Successfully ***
***********************************


*** AERMOD - VERSION  19191 ***   *** C:\Lakes\AERMOD View\Camarillo Construction HRA Year 2021\Camarillo  ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Camarillo Construction DPM Year 2021                                 ***        18:02:22
                                                                                                                      PAGE   1
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Model Is Setup For Calculation of Average CONCentration Values.

  --  DEPOSITION LOGIC  --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
**Model Uses NO WET DEPLETION.  WETDPLT  =  F

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

**Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of:  DPM

**Model Calculates PERIOD Averages Only
```

```
**This Run Includes:      1 Source(s);       1 Source Group(s); and     455 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:      0 VOLUME source(s)
                and:      1 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 RLINE/RLINEXT source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with      0 line(s)


**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date:  18081

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    40.00 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =      3.6 MB of RAM.

**Input Runstream File:          aermod.inp
**Output Print File:             aermod.out

**Detailed Error/Message File:   Camarillo Construction HRA Year 2021.err
**File for Summary of Results:   Camarillo Construction HRA Year 2021.sum
```


*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	LOCATION OF AREA Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

```
PAREA1           0   0.10900E-07  315712.0 3786684.7    33.2     3.66     139         0.00     NO

*** AERMOD - VERSION  19191 ***   *** C:\Lakes\AERMOD View\Camarillo Construction HRA Year 2021\Camarillo  ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Camarillo Construction DPM Year 2021                                 ***        18:02:22
                                                                                                                      PAGE   3
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data


                                           *** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID                                             SOURCE IDs
-----------                                             ----------


 ALL        PAREA1      ,

*** AERMOD - VERSION  19191 ***   *** C:\Lakes\AERMOD View\Camarillo Construction HRA Year 2021\Camarillo  ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Camarillo Construction DPM Year 2021                                 ***        18:02:22
                                                                                                                      PAGE   4
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

                                        *** GRIDDED RECEPTOR NETWORK SUMMARY ***

                                  *** NETWORK ID: UCART1   ;  NETWORK TYPE: GRIDCART ***

                                          *** X-COORDINATES OF GRID ***
                                                   (METERS)

      315651.6,  315763.6,  315875.6,  315987.7,  316099.7,  316211.7,  316323.8,  316435.8,  316547.8,  316659.8,
      316771.9,  316883.9,  316995.9,  317108.0,  317220.0,  317332.0,  317444.0,  317556.1,  317668.1,  317780.1,
      317892.2,

                                          *** Y-COORDINATES OF GRID ***
                                                   (METERS)

     3785502.1, 3785565.2, 3785628.4, 3785691.5, 3785754.7, 3785817.8, 3785880.9, 3785944.1, 3786007.2, 3786070.4,
     3786133.5, 3786196.6, 3786259.8, 3786322.9, 3786386.1, 3786449.2, 3786512.3, 3786575.5, 3786638.6, 3786701.8,
     3786764.9,

*** AERMOD - VERSION  19191 ***   *** C:\Lakes\AERMOD View\Camarillo Construction HRA Year 2021\Camarillo  ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Camarillo Construction DPM Year 2021                                 ***        18:02:22
                                                                                                                      PAGE   5
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

                                  *** NETWORK ID: UCART1   ;  NETWORK TYPE: GRIDCART ***

                                              * ELEVATION HEIGHTS IN METERS *

   Y-COORD  |                                                 X-COORD (METERS)
   (METERS) |     315651.57    315763.60    315875.63    315987.66    316099.69    316211.72    316323.75    316435.78    316547.81
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

3786764.90	34.40	33.90	33.80	33.70	33.40	33.60	33.70	34.00	34.90
3786701.76	33.60	32.70	34.80	33.50	34.00	33.90	33.60	33.80	33.80
3786638.62	33.60	49.70	44.20	35.00	33.50	33.80	32.90	33.70	33.40
3786575.48	33.40	57.70	60.10	35.40	33.50	33.70	33.80	33.90	33.80
3786512.34	51.30	68.00	65.20	35.60	33.50	33.30	33.60	33.60	32.60
3786449.20	50.50	81.70	69.00	39.10	35.30	35.80	35.50	33.30	33.80
3786386.06	43.40	75.40	70.70	55.30	38.70	45.50	38.40	34.30	33.80
3786322.92	41.60	71.10	81.80	71.60	57.50	60.60	38.20	33.60	33.90
3786259.78	34.10	71.40	75.60	67.20	84.10	57.90	36.90	33.80	34.40
3786196.64	32.10	62.40	52.70	49.30	79.60	53.70	38.20	33.70	34.80
3786133.50	32.10	43.30	35.60	35.30	58.30	65.60	42.80	37.00	35.60
3786070.36	32.00	33.60	32.80	32.00	37.60	54.90	51.50	38.50	36.50
3786007.22	32.30	33.50	32.90	31.20	33.20	42.00	68.80	50.20	40.10
3785944.08	32.30	30.50	32.70	33.70	34.60	44.90	77.70	75.50	45.30
3785880.94	32.20	31.10	32.80	32.50	37.40	57.00	84.90	82.60	61.10
3785817.80	32.10	30.50	32.90	33.70	42.00	59.60	93.50	94.70	100.50
3785754.66	32.80	31.30	32.80	36.00	44.80	57.20	96.20	121.80	120.80
3785691.52	32.60	31.00	32.60	38.40	50.00	60.50	102.60	145.60	134.90
3785628.38	31.90	30.40	33.50	44.00	55.80	70.80	95.40	163.00	167.70
3785565.24	31.60	31.10	44.60	67.60	72.60	81.70	95.20	163.90	201.20
3785502.10	31.80	35.70	61.90	112.40	108.80	105.10	124.50	153.10	234.60

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 316659.84	316771.87	316883.90	316995.93	317107.96	317219.99	317332.02	317444.05	317556.08
3786764.90	40.10	52.60	53.80	52.60	64.80	58.00	51.60	51.10	52.10
3786701.76	35.30	40.30	44.20	46.60	51.20	57.60	61.90	61.30	63.30
3786638.62	34.10	34.70	37.10	41.00	46.00	50.60	64.80	72.50	84.90
3786575.48	34.20	34.30	36.10	40.40	43.00	49.10	55.40	77.00	89.40
3786512.34	35.20	35.30	37.50	40.00	43.30	48.70	56.10	73.20	92.40
3786449.20	35.10	35.80	38.30	40.30	44.40	50.00	70.60	77.70	91.80
3786386.06	36.30	36.60	39.20	44.30	44.70	50.80	79.40	79.40	85.70
3786322.92	36.20	37.20	40.90	45.60	46.60	50.20	74.50	75.20	78.00
3786259.78	34.90	36.90	40.00	46.60	47.00	49.50	57.70	64.80	86.20
3786196.64	35.50	37.50	38.40	42.10	43.10	49.60	53.00	61.50	94.80
3786133.50	36.10	38.70	40.70	41.40	44.20	45.60	53.10	68.70	98.60
3786070.36	37.50	39.60	42.00	43.70	47.00	47.80	50.20	66.50	85.40
3786007.22	41.50	42.00	44.20	46.20	49.10	52.40	54.10	55.20	65.90
3785944.08	50.20	55.20	51.80	51.00	52.90	56.80	56.80	58.80	58.50
3785880.94	62.60	65.40	92.00	84.40	65.40	69.40	69.20	61.00	60.60

3785817.80 |	77.10	76.30	127.80	123.10	84.90	82.90	84.20	72.80	65.10
3785754.66 |	121.70	119.90	168.10	149.00	98.90	99.90	97.90	84.30	79.80
3785691.52 |	147.00	158.80	199.20	175.80	121.60	122.10	112.60	111.70	88.20
3785628.38 |	173.50	185.60	210.40	200.40	157.20	137.90	127.90	140.80	113.30
3785565.24 |	208.70	217.60	233.50	222.30	190.00	155.80	142.70	172.30	149.10
3785502.10 |	252.90	256.30	266.00	245.20	195.80	180.10	165.40	212.70	187.90

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 317668.11	317780.14	317892.17
3786764.90	54.00	56.70	59.20
3786701.76	58.00	59.20	62.50
3786638.62	68.00	70.50	78.10
3786575.48	78.90	88.10	94.20
3786512.34	95.00	111.00	107.80
3786449.20	109.30	133.90	115.70
3786386.06	107.70	131.60	130.30
3786322.92	100.00	111.80	133.30
3786259.78	94.90	107.80	116.90
3786196.64	89.50	89.50	109.60
3786133.50	85.80	80.40	96.60
3786070.36	77.50	77.70	89.60
3786007.22	69.00	75.20	89.90
3785944.08	65.40	72.00	87.80
3785880.94	61.20	69.80	90.10
3785817.80	65.30	68.80	94.60
3785754.66	85.60	69.50	101.20
3785691.52	111.30	89.30	101.00
3785628.38	130.90	118.30	116.10
3785565.24	142.60	131.40	138.00
3785502.10	178.70	158.30	159.00

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	315651.57	315763.60	315875.63	315987.66	316099.69	316211.72	316323.75	316435.78	316547.81
3786764.90	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786701.76	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786638.62	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786575.48	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786512.34	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786449.20	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786386.06	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786322.92	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786259.78	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786196.64	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786133.50	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786070.36	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786007.22	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785944.08	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785880.94	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785817.80	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785754.66	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785691.52	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785628.38	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785565.24	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785502.10	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	316659.84	316771.87	316883.90	316995.93	317107.96	317219.99	317332.02	317444.05	317556.08
3786764.90	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786701.76	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786638.62	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786575.48	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786512.34	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786449.20	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786386.06	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786322.92	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786259.78	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786196.64	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786133.50	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786070.36	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30

3786007.22 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785944.08 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785880.94 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785817.80 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785754.66 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785691.52 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785628.38 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785565.24 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785502.10 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 317668.11	317780.14	317892.17
3786764.90	548.30	548.30	548.30
3786701.76	548.30	548.30	548.30
3786638.62	548.30	548.30	548.30
3786575.48	548.30	548.30	548.30
3786512.34	548.30	548.30	548.30
3786449.20	548.30	548.30	548.30
3786386.06	548.30	548.30	548.30
3786322.92	548.30	548.30	548.30
3786259.78	548.30	548.30	548.30
3786196.64	548.30	548.30	548.30
3786133.50	548.30	548.30	548.30
3786070.36	548.30	548.30	548.30
3786007.22	548.30	548.30	548.30
3785944.08	548.30	548.30	548.30
3785880.94	548.30	548.30	548.30
3785817.80	548.30	548.30	548.30
3785754.66	548.30	548.30	548.30
3785691.52	548.30	548.30	548.30
3785628.38	548.30	548.30	548.30
3785565.24	548.30	548.30	548.30
3785502.10	548.30	548.30	548.30

*** DISCRETE CARTESIAN RECEPTORS ***

(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
( 315977.2, 3786506.5,      36.0,     548.3,       0.0);        ( 316073.9, 3786455.6,      35.4,     548.3,       0.0);
( 316103.8, 3786353.9,      46.4,     548.3,       0.0);        ( 316345.7, 3786329.8,      35.8,     548.3,       0.0);
( 316291.1, 3786080.1,      49.4,     548.3,       0.0);        ( 316738.8, 3786112.9,      38.0,     548.3,       0.0);
( 316531.2, 3786156.1,      35.4,     548.3,       0.0);        ( 316601.9, 3786075.5,      37.0,     548.3,       0.0);
( 316517.2, 3785929.1,      49.4,     548.3,       0.0);        ( 316787.0, 3786440.5,      36.8,     548.3,       0.0);
( 316915.7, 3786253.6,      42.4,     548.3,       0.0);        ( 317331.3, 3786101.4,      51.6,     548.3,       0.0);
( 317372.0, 3786043.9,      54.4,     548.3,       0.0);        ( 317043.4, 3786060.1,      45.3,     548.3,       0.0);
```


*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54,   3.09,   5.14,   8.23, 10.80,

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

```
Surface file:   E:\New MET data\Elrio 2015-2017.SFC                                              Met Version:  18081
Profile file:   E:\New MET data\Elrio 2015-2017.PFL
Surface format: FREE
Profile format: FREE
Surface station no.:    93110                 Upper air station no.:    93214
               Name: UNKNOWN                                 Name: UNKNOWN
               Year:   2015                                  Year:   2015
```

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
15	01	01	1	01	-37.2	0.321	-9.000	-9.000	-999.	437.	80.7	0.14	0.88	1.00	3.90	16.	10.0	275.6	10.0
15	01	01	1	02	-44.7	0.386	-9.000	-9.000	-999.	575.	116.3	0.14	0.88	1.00	4.50	13.	10.0	275.5	10.0
15	01	01	1	03	-53.1	0.458	-9.000	-9.000	-999.	744.	163.7	0.14	0.88	1.00	5.20	15.	10.0	275.1	10.0
15	01	01	1	04	-56.6	0.489	-9.000	-9.000	-999.	819.	186.2	0.14	0.88	1.00	5.50	17.	10.0	275.2	10.0
15	01	01	1	05	-52.0	0.448	-9.000	-9.000	-999.	722.	156.2	0.14	0.88	1.00	5.10	21.	10.0	274.8	10.0
15	01	01	1	06	-54.4	0.468	-9.000	-9.000	-999.	769.	170.6	0.14	0.88	1.00	5.30	12.	10.0	274.6	10.0
15	01	01	1	07	-46.1	0.396	-9.000	-9.000	-999.	603.	122.3	0.14	0.88	1.00	4.60	11.	10.0	274.9	10.0
15	01	01	1	08	-39.5	0.392	-9.000	-9.000	-999.	588.	137.9	0.14	0.88	0.58	4.50	6.	10.0	275.2	10.0
15	01	01	1	09	16.2	0.525	0.278	0.008	48.	913.	-809.4	0.14	0.88	0.34	5.50	14.	10.0	276.4	10.0
15	01	01	1	10	61.9	0.414	0.508	0.008	77.	650.	-103.9	0.14	0.88	0.25	4.10	9.	10.0	279.4	10.0
15	01	01	1	11	94.7	0.405	1.189	0.008	644.	619.	-63.6	0.14	0.88	0.22	3.90	15.	10.0	282.9	10.0
15	01	01	1	12	112.0	0.193	1.401	0.009	890.	247.	-5.8	0.14	0.88	0.21	1.40	2.	10.0	286.1	10.0
15	01	01	1	13	112.3	0.201	1.415	0.008	915.	217.	-6.6	0.18	0.88	0.21	1.40	239.	10.0	287.2	10.0
15	01	01	1	14	96.0	0.207	1.354	0.007	936.	226.	-8.3	0.22	0.88	0.22	1.40	199.	10.0	287.6	10.0
15	01	01	1	15	63.8	0.280	1.187	0.007	949.	355.	-31.1	0.18	0.88	0.25	2.40	225.	10.0	287.4	10.0
15	01	01	1	16	18.5	0.280	0.786	0.007	953.	357.	-108.2	0.22	0.88	0.34	2.50	203.	10.0	286.9	10.0
15	01	01	1	17	-9.5	0.108	-9.000	-9.000	-999.	116.	11.8	0.20	0.88	0.58	2.10	245.	10.0	285.6	10.0
15	01	01	1	18	-1.1	0.035	-9.000	-9.000	-999.	27.	3.6	0.19	0.88	1.00	0.70	277.	10.0	284.0	10.0
15	01	01	1	19	-6.7	0.086	-9.000	-9.000	-999.	61.	8.7	0.20	0.88	1.00	1.70	33.	10.0	281.0	10.0
15	01	01	1	20	-6.8	0.085	-9.000	-9.000	-999.	60.	8.2	0.14	0.88	1.00	1.80	19.	10.0	278.8	10.0
15	01	01	1	21	-21.0	0.182	-9.000	-9.000	-999.	187.	26.2	0.14	0.88	1.00	2.80	19.	10.0	278.1	10.0
15	01	01	1	22	-29.1	0.252	-9.000	-9.000	-999.	304.	50.1	0.14	0.88	1.00	3.30	12.	10.0	277.9	10.0
15	01	01	1	23	-22.8	0.198	-9.000	-9.000	-999.	213.	30.9	0.14	0.88	1.00	2.90	11.	10.0	277.5	10.0
15	01	01	1	24	-31.8	0.276	-9.000	-9.000	-999.	349.	60.0	0.14	0.88	1.00	3.50	13.	10.0	277.5	10.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
15	01	01	01	10.0	1	16.	3.90	275.7	11.2	-99.00	0.75

F indicates top of profile (=1) or below (=0)

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS) 315651.57	315763.60	315875.63	315987.66	316099.69	316211.72	316323.75	316435.78	316547.81

3786764.90	0.07295	0.08282	0.09515	0.10522	0.11311	0.11935	0.12273	0.12290	0.12118
3786701.76	0.08501	0.10100	0.12962	0.13886	0.15180	0.15999	0.16214	0.15923	0.15247
3786638.62	0.09137	0.01805	0.04375	0.18685	0.18951	0.20251	0.19763	0.20303	0.19592
3786575.48	0.09362	0.00825	0.00869	0.22545	0.21852	0.23359	0.23822	0.23859	0.23261
3786512.34	0.01171	0.00420	0.00626	0.23300	0.23391	0.24820	0.25712	0.26346	0.24385
3786449.20	0.01329	0.00261	0.00513	0.14594	0.24228	0.27253	0.30269	0.28340	0.28913
3786386.06	0.04135	0.00292	0.00479	0.01653	0.16917	0.05365	0.22651	0.31187	0.31211
3786322.92	0.05699	0.00340	0.00367	0.00711	0.01657	0.01545	0.23773	0.32528	0.33138
3786259.78	0.11097	0.00352	0.00468	0.00943	0.00756	0.01997	0.31461	0.34449	0.34496
3786196.64	0.11398	0.00634	0.02015	0.03647	0.01009	0.02918	0.26946	0.34373	0.33283
3786133.50	0.12793	0.06216	0.26149	0.25508	0.02413	0.01865	0.12911	0.35933	0.28623
3786070.36	0.14088	0.21684	0.24969	0.23978	0.30288	0.03873	0.05341	0.22144	0.24068
3786007.22	0.15795	0.24845	0.27861	0.25131	0.28195	0.13567	0.02055	0.04681	0.14292
3785944.08	0.17207	0.22800	0.29294	0.31251	0.31330	0.09125	0.01469	0.01341	0.06500
3785880.94	0.18254	0.24904	0.31163	0.30517	0.39288	0.03507	0.01251	0.01086	0.01791
3785817.80	0.19011	0.25495	0.32622	0.33978	0.13642	0.03221	0.01090	0.00837	0.00621
3785754.66	0.20534	0.27028	0.32928	0.41479	0.09654	0.03543	0.00976	0.00557	0.00428
3785691.52	0.20448	0.26964	0.32360	0.28608	0.06050	0.02978	0.00766	0.00368	0.00306
3785628.38	0.19402	0.26113	0.33187	0.10679	0.04029	0.01923	0.00574	0.00247	0.00199
3785565.24	0.18421	0.25426	0.09521	0.02126	0.01606	0.00832	0.00421	0.00203	0.00143
3785502.10	0.17630	0.26746	0.02269	0.00702	0.00659	0.00437	0.00274	0.00197	0.00113

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS) 316659.84	316771.87	316883.90	316995.93	317107.96	317219.99	317332.02	317444.05	317556.08
3786764.90	0.07729	0.01834	0.01748	0.01917	0.01006	0.01280	0.01792	0.01728	0.01486
3786701.76	0.14775	0.08504	0.04868	0.03613	0.02243	0.01352	0.00989	0.00922	0.00775
3786638.62	0.18632	0.16811	0.14541	0.07286	0.03583	0.02087	0.00865	0.00609	0.00421
3786575.48	0.22073	0.19673	0.19267	0.07720	0.04714	0.02280	0.01314	0.00536	0.00389
3786512.34	0.27565	0.24455	0.17780	0.07529	0.04409	0.02291	0.01229	0.00578	0.00371
3786449.20	0.29609	0.26994	0.12517	0.07232	0.03808	0.01996	0.00680	0.00515	0.00370
3786386.06	0.38351	0.26313	0.11221	0.04322	0.03569	0.01828	0.00562	0.00501	0.00396
3786322.92	0.38871	0.31619	0.08572	0.03637	0.02846	0.01920	0.00646	0.00550	0.00439
3786259.78	0.32375	0.38140	0.09921	0.03309	0.02869	0.02158	0.01139	0.00713	0.00363
3786196.64	0.31407	0.29472	0.14568	0.05725	0.04655	0.02293	0.01444	0.00761	0.00297
3786133.50	0.25929	0.15844	0.07804	0.06134	0.03927	0.02961	0.01432	0.00563	0.00227
3786070.36	0.20701	0.12027	0.05982	0.03921	0.02542	0.02136	0.01616	0.00418	0.00174

3786007.22 |	0.10040	0.07372	0.04102	0.02776	0.01883	0.01191	0.00743	0.00409	0.00199
3785944.08 |	0.03178	0.01681	0.01709	0.01621	0.01253	0.00790	0.00452	0.00253	0.00234
3785880.94 |	0.01333	0.00870	0.00374	0.00369	0.00545	0.00385	0.00207	0.00190	0.00175
3785817.80 |	0.00691	0.00517	0.00228	0.00210	0.00277	0.00232	0.00120	0.00102	0.00122
3785754.66 |	0.00325	0.00247	0.00150	0.00150	0.00198	0.00155	0.00087	0.00071	0.00068
3785691.52 |	0.00219	0.00159	0.00113	0.00113	0.00140	0.00108	0.00069	0.00051	0.00054
3785628.38 |	0.00157	0.00120	0.00096	0.00090	0.00097	0.00084	0.00057	0.00043	0.00041
3785565.24 |	0.00116	0.00095	0.00080	0.00076	0.00074	0.00067	0.00048	0.00037	0.00035
3785502.10 |	0.00091	0.00078	0.00068	0.00065	0.00066	0.00054	0.00041	0.00032	0.00030

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS) 317668.11	317780.14	317892.17
3786764.90	0.01208	0.00946	0.00764
3786701.76	0.00921	0.00800	0.00630
3786638.62	0.00581	0.00491	0.00365
3786575.48	0.00420	0.00323	0.00269
3786512.34	0.00323	0.00252	0.00228
3786449.20	0.00281	0.00216	0.00205
3786386.06	0.00275	0.00205	0.00175
3786322.92	0.00275	0.00208	0.00152
3786259.78	0.00261	0.00184	0.00140
3786196.64	0.00233	0.00178	0.00118
3786133.50	0.00185	0.00160	0.00104
3786070.36	0.00157	0.00133	0.00094
3786007.22	0.00157	0.00116	0.00078
3785944.08	0.00149	0.00108	0.00069
3785880.94	0.00158	0.00100	0.00058
3785817.80	0.00112	0.00091	0.00049
3785754.66	0.00057	0.00080	0.00041
3785691.52	0.00042	0.00046	0.00038
3785628.38	0.00036	0.00035	0.00033
3785565.24	0.00032	0.00031	0.00029
3785502.10	0.00028	0.00028	0.00026

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
315977.16	3786506.51	0.23793	316073.87	3786455.61	0.24130
316103.82	3786353.86	0.04578	316345.71	3786329.82	0.32276
316291.15	3786080.08	0.06247	316738.76	3786112.89	0.21106
316531.24	3786156.06	0.31159	316601.88	3786075.50	0.22745
316517.23	3785929.15	0.04213	316786.97	3786440.53	0.26034
316915.70	3786253.62	0.06248	317331.26	3786101.43	0.01618
317372.02	3786043.88	0.00864	317043.41	3786060.07	0.03059

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE SUMMARY OF MAXIMUM PERIOD (26304 HRS) RESULTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.41479	AT (315987.66, 3785754.66, 36.00, 548.30, 0.00)	GC	UCART1
	2ND HIGHEST VALUE IS	0.39288	AT (316099.69, 3785880.94, 37.40, 548.30, 0.00)	GC	UCART1
	3RD HIGHEST VALUE IS	0.38871	AT (316659.84, 3786322.92, 36.20, 548.30, 0.00)	GC	UCART1
	4TH HIGHEST VALUE IS	0.38351	AT (316659.84, 3786386.06, 36.30, 548.30, 0.00)	GC	UCART1
	5TH HIGHEST VALUE IS	0.38140	AT (316771.87, 3786259.78, 36.90, 548.30, 0.00)	GC	UCART1
	6TH HIGHEST VALUE IS	0.35933	AT (316435.78, 3786133.50, 37.00, 548.30, 0.00)	GC	UCART1
	7TH HIGHEST VALUE IS	0.34496	AT (316547.81, 3786259.78, 34.40, 548.30, 0.00)	GC	UCART1
	8TH HIGHEST VALUE IS	0.34449	AT (316435.78, 3786259.78, 33.80, 548.30, 0.00)	GC	UCART1
	9TH HIGHEST VALUE IS	0.34373	AT (316435.78, 3786196.64, 33.70, 548.30, 0.00)	GC	UCART1
	10TH HIGHEST VALUE IS	0.33978	AT (315987.66, 3785817.80, 33.70, 548.30, 0.00)	GC	UCART1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

```
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of          213 Informational Message(s)

A Total of        26304 Hours Were Processed

A Total of            0 Calm Hours Identified

A Total of          213 Missing Hours Identified (  0.81 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     134       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used           0.50
MX W403     134       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data

   ************************************
   *** AERMOD Finishes Successfully ***
   ************************************
```

```
** Lakes Environmental AERMOD MPI
**
****************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.9.0
** Lakes Environmental Software Inc.
** Date: 6/25/2020
** File: C:\Lakes\AERMOD View\Camarillo Construction HRA Years 2022-2023\Camarillo Construction HRA Years 2022-2023.ADI
**
****************************************
**
**
****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE Camarillo Construction DPM
   TITLETWO Infant Exposure Years 2022-2023
   MODELOPT DFAULT CONC
   AVERTIME PERIOD
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "Camarillo Construction HRA Years 2022-2023.err"
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   315711.985  3786684.686       33.160
** DESCRSRC Area of disturbance
** Source Parameters **
   SRCPARAM PAREA1       4.5655E-09     3.660       139
   AREAVERT PAREA1       315711.985 3786684.686 315986.889 3786676.601
   AREAVERT PAREA1       316266.645 3786676.601 316366.904 3786668.515
   AREAVERT PAREA1       316607.850 3786653.961 316651.511 3786644.259
   AREAVERT PAREA1       316724.280 3786631.322 316780.878 3786623.237
   AREAVERT PAREA1       316826.157 3786620.003 316881.138 3786597.363
   AREAVERT PAREA1       316918.331 3786568.256 316926.416 3786547.234
   AREAVERT PAREA1       316916.713 3786534.297 316894.074 3786526.212
   AREAVERT PAREA1       316858.498 3786508.424 316814.837 3786484.167
   AREAVERT PAREA1       316787.124 3786462.483 316774.926 3786439.522
   AREAVERT PAREA1       316752.683 3786365.617 316850.266 3786334.764
   AREAVERT PAREA1       316831.610 3786295.300 316856.006 3786284.537
```

AREAVERT	PAREA1	316937.086	3786227.136	316967.222	3786220.678
AREAVERT	PAREA1	317026.776	3786217.808	317071.262	3786220.678
AREAVERT	PAREA1	317083.460	3786227.136	317107.138	3786213.503
AREAVERT	PAREA1	317129.381	3786213.503	317163.105	3786191.977
AREAVERT	PAREA1	317246.337	3786130.270	317308.044	3786095.829
AREAVERT	PAREA1	317358.270	3786072.151	317354.683	3786049.908
AREAVERT	PAREA1	317348.225	3786031.253	317331.722	3786010.444
AREAVERT	PAREA1	317315.937	3786001.834	317297.048	3786013.396
AREAVERT	PAREA1	317279.940	3786010.285	317250.909	3786014.951
AREAVERT	PAREA1	317058.060	3786067.311	317040.952	3786069.903
AREAVERT	PAREA1	317010.885	3786077.160	316969.930	3786077.160
AREAVERT	PAREA1	316930.531	3786076.124	316915.497	3786101.526
AREAVERT	PAREA1	316890.613	3786117.078	316849.140	3786128.483
AREAVERT	PAREA1	316783.302	3786149.220	316779.154	3786139.370
AREAVERT	PAREA1	316751.678	3786148.701	316720.574	3786159.070
AREAVERT	PAREA1	316693.098	3786167.364	316657.846	3786174.622
AREAVERT	PAREA1	316629.852	3786176.696	316602.376	3786177.732
AREAVERT	PAREA1	316556.237	3786172.030	316505.951	3786159.588
AREAVERT	PAREA1	316461.886	3786145.072	316439.594	3786138.333
AREAVERT	PAREA1	316421.968	3786133.667	316401.232	3786133.149
AREAVERT	PAREA1	316380.495	3786125.373	316358.722	3786113.968
AREAVERT	PAREA1	316348.354	3786097.379	316329.691	3786097.897
AREAVERT	PAREA1	316295.476	3786092.713	316284.071	3786088.047
AREAVERT	PAREA1	316275.776	3786082.863	316295.476	3786048.648
AREAVERT	PAREA1	316299.623	3786025.838	316280.960	3786018.580
AREAVERT	PAREA1	316239.487	3785996.288	316215.640	3785967.257
AREAVERT	PAREA1	316190.238	3785943.929	316167.946	3785910.232
AREAVERT	PAREA1	316162.244	3785898.308	316160.170	3785889.495
AREAVERT	PAREA1	316167.946	3785873.943	316185.054	3785851.651
AREAVERT	PAREA1	316204.235	3785815.362	316219.269	3785786.331
AREAVERT	PAREA1	316231.711	3785754.708	316234.822	3785727.232
AREAVERT	PAREA1	316233.785	3785687.833	316234.822	3785642.731
AREAVERT	PAREA1	316228.082	3785606.442	316206.827	3785583.114
AREAVERT	PAREA1	316169.502	3785569.117	316128.029	3785566.525
AREAVERT	PAREA1	315705.004	3785533.346	315705.523	3785951.705
AREAVERT	PAREA1	315693.599	3786111.894	315886.967	3786171.511
AREAVERT	PAREA1	315920.145	3786164.254	316090.185	3786084.418
AREAVERT	PAREA1	316202.680	3786081.308	316234.303	3786116.560
AREAVERT	PAREA1	316250.892	3786101.007	316273.184	3786110.857
AREAVERT	PAREA1	316259.187	3786139.370	316255.558	3786149.220
AREAVERT	PAREA1	316262.816	3786171.511	316270.074	3786183.953
AREAVERT	PAREA1	316290.292	3786198.987	316329.173	3786224.908
AREAVERT	PAREA1	316343.688	3786247.200	316354.575	3786260.160
AREAVERT	PAREA1	316359.759	3786299.041	316359.759	3786327.035
AREAVERT	PAREA1	316354.056	3786359.695	316337.986	3786393.392
AREAVERT	PAREA1	316315.175	3786421.386	316288.736	3786438.494
AREAVERT	PAREA1	316270.592	3786449.380	316248.300	3786456.638
AREAVERT	PAREA1	316218.751	3786462.341	316161.725	3786462.859
AREAVERT	PAREA1	316104.700	3786463.377	316063.227	3786463.377
AREAVERT	PAREA1	316030.049	3786464.414	316011.904	3786467.525
AREAVERT	PAREA1	316003.091	3786469.080	315992.205	3786479.448

```
   AREAVERT PAREA1       315985.465 3786504.850 315981.836 3786521.440
   AREAVERT PAREA1       315974.579 3786530.771 315956.953 3786531.289
   AREAVERT PAREA1       315950.213 3786529.734 315939.845 3786529.216
   AREAVERT PAREA1       315939.845 3786533.363 315920.664 3786532.326
   AREAVERT PAREA1       315918.590 3786544.768 315921.182 3786550.989
   AREAVERT PAREA1       315925.848 3786559.284 315923.774 3786576.391
   AREAVERT PAREA1       315917.035 3786586.760 315899.927 3786596.091
   AREAVERT PAREA1       315702.412 3786639.638
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED "Camarillo Construction HRA Years 2022-2023.rou"
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE "E:\New MET data\Elrio 2015-2017.SFC"
   PROFFILE "E:\New MET data\Elrio 2015-2017.PFL"
   SURFDATA 93110 2015
   UAIRDATA 93214 2015
   SITEDATA 56436 2015
   PROFBASE 40.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE PERIOD ALL "CAMARILLO CONSTRUCTION HRA YEARS 2022-2023.AD\PE00GALL.PLT" 31
   SUMMFILE "Camarillo Construction HRA Years 2022-2023.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
```

```
A Total of            2 Warning Message(s)
A Total of            0 Informational Message(s)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     134       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used           0.50
MX W403     134       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data

***********************************
*** SETUP Finishes Successfully ***
***********************************
```

```
*** AERMOD - VERSION  19191 ***   *** Camarillo Construction DPM                                         ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Infant Exposure Years 2022-2023                                    ***        18:33:10
                                                                                                                    PAGE   1
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

                                           ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Model Is Setup For Calculation of Average CONCentration Values.

  --  DEPOSITION LOGIC  --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
**Model Uses NO WET DEPLETION.  WETDPLT  =  F

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

**Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of:  DPM

**Model Calculates PERIOD Averages Only
```

**This Run Includes: 1 Source(s); 1 Source Group(s); and 455 Receptor(s)

with: 0 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 0 VOLUME source(s)
and: 1 AREA type source(s)
and: 0 LINE source(s)
and: 0 RLINE/RLINEXT source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with 0 line(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 18081

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 40.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File: aermod.inp
**Output Print File: aermod.out

**Detailed Error/Message File: Camarillo Construction HRA Years 2022-2023.err
**File for Summary of Results: Camarillo Construction HRA Years 2022-2023.sum

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	LOCATION OF AREA Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

```
PAREA1           0   0.45655E-08  315712.0 3786684.7    33.2     3.66     139         0.00     NO

*** AERMOD - VERSION  19191 ***   *** Camarillo Construction DPM                                         ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Infant Exposure Years 2022-2023                                    ***        18:33:10
                                                                                                                    PAGE   3
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data


                                            *** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID                                             SOURCE IDs
-----------                                             ----------


 ALL        PAREA1      ,

*** AERMOD - VERSION  19191 ***   *** Camarillo Construction DPM                                         ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Infant Exposure Years 2022-2023                                    ***        18:33:10
                                                                                                                    PAGE   4
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

                                         *** GRIDDED RECEPTOR NETWORK SUMMARY ***

                                    *** NETWORK ID: UCART1   ;  NETWORK TYPE: GRIDCART ***

                                           *** X-COORDINATES OF GRID ***
                                                     (METERS)

      315651.6,  315763.6,  315875.6,  315987.7,  316099.7,  316211.7,  316323.8,  316435.8,  316547.8,  316659.8,
      316771.9,  316883.9,  316995.9,  317108.0,  317220.0,  317332.0,  317444.0,  317556.1,  317668.1,  317780.1,
      317892.2,

                                           *** Y-COORDINATES OF GRID ***
                                                     (METERS)

     3785502.1, 3785565.2, 3785628.4, 3785691.5, 3785754.7, 3785817.8, 3785880.9, 3785944.1, 3786007.2, 3786070.4,
     3786133.5, 3786196.6, 3786259.8, 3786322.9, 3786386.1, 3786449.2, 3786512.3, 3786575.5, 3786638.6, 3786701.8,
     3786764.9,

*** AERMOD - VERSION  19191 ***   *** Camarillo Construction DPM                                         ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Infant Exposure Years 2022-2023                                    ***        18:33:10
                                                                                                                    PAGE   5
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

                                    *** NETWORK ID: UCART1   ;  NETWORK TYPE: GRIDCART ***

                                                * ELEVATION HEIGHTS IN METERS *

   Y-COORD  |                                                  X-COORD (METERS)
   (METERS) |     315651.57    315763.60    315875.63    315987.66    316099.69    316211.72    316323.75    316435.78    316547.81
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

3786764.90 |	34.40	33.90	33.80	33.70	33.40	33.60	33.70	34.00	34.90
3786701.76 |	33.60	32.70	34.80	33.50	34.00	33.90	33.60	33.80	33.80
3786638.62 |	33.60	49.70	44.20	35.00	33.50	33.80	32.90	33.70	33.40
3786575.48 |	33.40	57.70	60.10	35.40	33.50	33.70	33.80	33.90	33.80
3786512.34 |	51.30	68.00	65.20	35.60	33.50	33.30	33.60	33.60	32.60
3786449.20 |	50.50	81.70	69.00	39.10	35.30	35.80	35.50	33.30	33.80
3786386.06 |	43.40	75.40	70.70	55.30	38.70	45.50	38.40	34.30	33.80
3786322.92 |	41.60	71.10	81.80	71.60	57.50	60.60	38.20	33.60	33.90
3786259.78 |	34.10	71.40	75.60	67.20	84.10	57.90	36.90	33.80	34.40
3786196.64 |	32.10	62.40	52.70	49.30	79.60	53.70	38.20	33.70	34.80
3786133.50 |	32.10	43.30	35.60	35.30	58.30	65.60	42.80	37.00	35.60
3786070.36 |	32.00	33.60	32.80	32.00	37.60	54.90	51.50	38.50	36.50
3786007.22 |	32.30	33.50	32.90	31.20	33.20	42.00	68.80	50.20	40.10
3785944.08 |	32.30	30.50	32.70	33.70	34.60	44.90	77.70	75.50	45.30
3785880.94 |	32.20	31.10	32.80	32.50	37.40	57.00	84.90	82.60	61.10
3785817.80 |	32.10	30.50	32.90	33.70	42.00	59.60	93.50	94.70	100.50
3785754.66 |	32.80	31.30	32.80	36.00	44.80	57.20	96.20	121.80	120.80
3785691.52 |	32.60	31.00	32.60	38.40	50.00	60.50	102.60	145.60	134.90
3785628.38 |	31.90	30.40	33.50	44.00	55.80	70.80	95.40	163.00	167.70
3785565.24 |	31.60	31.10	44.60	67.60	72.60	81.70	95.20	163.90	201.20
3785502.10 |	31.80	35.70	61.90	112.40	108.80	105.10	124.50	153.10	234.60

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 316659.84	316771.87	316883.90	316995.93	317107.96	317219.99	317332.02	317444.05	317556.08
3786764.90	40.10	52.60	53.80	52.60	64.80	58.00	51.60	51.10	52.10
3786701.76	35.30	40.30	44.20	46.60	51.20	57.60	61.90	61.30	63.30
3786638.62	34.10	34.70	37.10	41.00	46.00	50.60	64.80	72.50	84.90
3786575.48	34.20	34.30	36.10	40.40	43.00	49.10	55.40	77.00	89.40
3786512.34	35.20	35.30	37.50	40.00	43.30	48.70	56.10	73.20	92.40
3786449.20	35.10	35.80	38.30	40.30	44.40	50.00	70.60	77.70	91.80
3786386.06	36.30	36.60	39.20	44.30	44.70	50.80	79.40	79.40	85.70
3786322.92	36.20	37.20	40.90	45.60	46.60	50.20	74.50	75.20	78.00
3786259.78	34.90	36.90	40.00	46.60	47.00	49.50	57.70	64.80	86.20
3786196.64	35.50	37.50	38.40	42.10	43.10	49.60	53.00	61.50	94.80
3786133.50	36.10	38.70	40.70	41.40	44.20	45.60	53.10	68.70	98.60
3786070.36	37.50	39.60	42.00	43.70	47.00	47.80	50.20	66.50	85.40
3786007.22	41.50	42.00	44.20	46.20	49.10	52.40	54.10	55.20	65.90
3785944.08	50.20	55.20	51.80	51.00	52.90	56.80	56.80	58.80	58.50
3785880.94	62.60	65.40	92.00	84.40	65.40	69.40	69.20	61.00	60.60

3785817.80 |	77.10	76.30	127.80	123.10	84.90	82.90	84.20	72.80	65.10
3785754.66 |	121.70	119.90	168.10	149.00	98.90	99.90	97.90	84.30	79.80
3785691.52 |	147.00	158.80	199.20	175.80	121.60	122.10	112.60	111.70	88.20
3785628.38 |	173.50	185.60	210.40	200.40	157.20	137.90	127.90	140.80	113.30
3785565.24 |	208.70	217.60	233.50	222.30	190.00	155.80	142.70	172.30	149.10
3785502.10 |	252.90	256.30	266.00	245.20	195.80	180.10	165.40	212.70	187.90

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS) |	X-COORD (METERS) 317668.11	317780.14	317892.17
3786764.90 |	54.00	56.70	59.20
3786701.76 |	58.00	59.20	62.50
3786638.62 |	68.00	70.50	78.10
3786575.48 |	78.90	88.10	94.20
3786512.34 |	95.00	111.00	107.80
3786449.20 |	109.30	133.90	115.70
3786386.06 |	107.70	131.60	130.30
3786322.92 |	100.00	111.80	133.30
3786259.78 |	94.90	107.80	116.90
3786196.64 |	89.50	89.50	109.60
3786133.50 |	85.80	80.40	96.60
3786070.36 |	77.50	77.70	89.60
3786007.22 |	69.00	75.20	89.90
3785944.08 |	65.40	72.00	87.80
3785880.94 |	61.20	69.80	90.10
3785817.80 |	65.30	68.80	94.60
3785754.66 |	85.60	69.50	101.20
3785691.52 |	111.30	89.30	101.00
3785628.38 |	130.90	118.30	116.10
3785565.24 |	142.60	131.40	138.00
3785502.10 |	178.70	158.30	159.00

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	315651.57	315763.60	315875.63	315987.66	316099.69	316211.72	316323.75	316435.78	316547.81
3786764.90	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786701.76	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786638.62	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786575.48	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786512.34	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786449.20	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786386.06	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786322.92	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786259.78	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786196.64	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786133.50	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786070.36	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786007.22	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785944.08	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785880.94	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785817.80	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785754.66	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785691.52	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785628.38	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785565.24	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785502.10	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	316659.84	316771.87	316883.90	316995.93	317107.96	317219.99	317332.02	317444.05	317556.08
3786764.90	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786701.76	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786638.62	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786575.48	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786512.34	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786449.20	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786386.06	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786322.92	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786259.78	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786196.64	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786133.50	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786070.36	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30

3786007.22 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785944.08 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785880.94 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785817.80 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785754.66 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785691.52 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785628.38 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785565.24 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785502.10 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 317668.11	317780.14	317892.17
3786764.90	548.30	548.30	548.30
3786701.76	548.30	548.30	548.30
3786638.62	548.30	548.30	548.30
3786575.48	548.30	548.30	548.30
3786512.34	548.30	548.30	548.30
3786449.20	548.30	548.30	548.30
3786386.06	548.30	548.30	548.30
3786322.92	548.30	548.30	548.30
3786259.78	548.30	548.30	548.30
3786196.64	548.30	548.30	548.30
3786133.50	548.30	548.30	548.30
3786070.36	548.30	548.30	548.30
3786007.22	548.30	548.30	548.30
3785944.08	548.30	548.30	548.30
3785880.94	548.30	548.30	548.30
3785817.80	548.30	548.30	548.30
3785754.66	548.30	548.30	548.30
3785691.52	548.30	548.30	548.30
3785628.38	548.30	548.30	548.30
3785565.24	548.30	548.30	548.30
3785502.10	548.30	548.30	548.30

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** DISCRETE CARTESIAN RECEPTORS ***

(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
( 315977.2, 3786506.5,      36.0,     548.3,       0.0);        ( 316073.9, 3786455.6,      35.4,     548.3,       0.0);
( 316103.8, 3786353.9,      46.4,     548.3,       0.0);        ( 316345.7, 3786329.8,      35.8,     548.3,       0.0);
( 316291.1, 3786080.1,      49.4,     548.3,       0.0);        ( 316738.8, 3786112.9,      38.0,     548.3,       0.0);
( 316531.2, 3786156.1,      35.4,     548.3,       0.0);        ( 316601.9, 3786075.5,      37.0,     548.3,       0.0);
( 316517.2, 3785929.1,      49.4,     548.3,       0.0);        ( 316787.0, 3786440.5,      36.8,     548.3,       0.0);
( 316915.7, 3786253.6,      42.4,     548.3,       0.0);        ( 317331.3, 3786101.4,      51.6,     548.3,       0.0);
( 317372.0, 3786043.9,      54.4,     548.3,       0.0);        ( 317043.4, 3786060.1,      45.3,     548.3,       0.0);
```


*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54,   3.09,   5.14,   8.23, 10.80,

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

```
Surface file:   E:\New MET data\Elrio 2015-2017.SFC                                                  Met Version:  18081
Profile file:   E:\New MET data\Elrio 2015-2017.PFL
Surface format: FREE
Profile format: FREE
Surface station no.:    93110                 Upper air station no.:    93214
               Name: UNKNOWN                                 Name: UNKNOWN
               Year:   2015                                  Year:   2015
```

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
15	01	01	1	01	-37.2	0.321	-9.000	-9.000	-999.	437.	80.7	0.14	0.88	1.00	3.90	16.	10.0	275.6	10.0
15	01	01	1	02	-44.7	0.386	-9.000	-9.000	-999.	575.	116.3	0.14	0.88	1.00	4.50	13.	10.0	275.5	10.0
15	01	01	1	03	-53.1	0.458	-9.000	-9.000	-999.	744.	163.7	0.14	0.88	1.00	5.20	15.	10.0	275.1	10.0
15	01	01	1	04	-56.6	0.489	-9.000	-9.000	-999.	819.	186.2	0.14	0.88	1.00	5.50	17.	10.0	275.2	10.0
15	01	01	1	05	-52.0	0.448	-9.000	-9.000	-999.	722.	156.2	0.14	0.88	1.00	5.10	21.	10.0	274.8	10.0
15	01	01	1	06	-54.4	0.468	-9.000	-9.000	-999.	769.	170.6	0.14	0.88	1.00	5.30	12.	10.0	274.6	10.0
15	01	01	1	07	-46.1	0.396	-9.000	-9.000	-999.	603.	122.3	0.14	0.88	1.00	4.60	11.	10.0	274.9	10.0
15	01	01	1	08	-39.5	0.392	-9.000	-9.000	-999.	588.	137.9	0.14	0.88	0.58	4.50	6.	10.0	275.2	10.0
15	01	01	1	09	16.2	0.525	0.278	0.008	48.	913.	-809.4	0.14	0.88	0.34	5.50	14.	10.0	276.4	10.0
15	01	01	1	10	61.9	0.414	0.508	0.008	77.	650.	-103.9	0.14	0.88	0.25	4.10	9.	10.0	279.4	10.0
15	01	01	1	11	94.7	0.405	1.189	0.008	644.	619.	-63.6	0.14	0.88	0.22	3.90	15.	10.0	282.9	10.0
15	01	01	1	12	112.0	0.193	1.401	0.009	890.	247.	-5.8	0.14	0.88	0.21	1.40	2.	10.0	286.1	10.0
15	01	01	1	13	112.3	0.201	1.415	0.008	915.	217.	-6.6	0.18	0.88	0.21	1.40	239.	10.0	287.2	10.0
15	01	01	1	14	96.0	0.207	1.354	0.007	936.	226.	-8.3	0.22	0.88	0.22	1.40	199.	10.0	287.6	10.0
15	01	01	1	15	63.8	0.280	1.187	0.007	949.	355.	-31.1	0.18	0.88	0.25	2.40	225.	10.0	287.4	10.0
15	01	01	1	16	18.5	0.280	0.786	0.007	953.	357.	-108.2	0.22	0.88	0.34	2.50	203.	10.0	286.9	10.0
15	01	01	1	17	-9.5	0.108	-9.000	-9.000	-999.	116.	11.8	0.20	0.88	0.58	2.10	245.	10.0	285.6	10.0
15	01	01	1	18	-1.1	0.035	-9.000	-9.000	-999.	27.	3.6	0.19	0.88	1.00	0.70	277.	10.0	284.0	10.0
15	01	01	1	19	-6.7	0.086	-9.000	-9.000	-999.	61.	8.7	0.20	0.88	1.00	1.70	33.	10.0	281.0	10.0
15	01	01	1	20	-6.8	0.085	-9.000	-9.000	-999.	60.	8.2	0.14	0.88	1.00	1.80	19.	10.0	278.8	10.0
15	01	01	1	21	-21.0	0.182	-9.000	-9.000	-999.	187.	26.2	0.14	0.88	1.00	2.80	19.	10.0	278.1	10.0
15	01	01	1	22	-29.1	0.252	-9.000	-9.000	-999.	304.	50.1	0.14	0.88	1.00	3.30	12.	10.0	277.9	10.0
15	01	01	1	23	-22.8	0.198	-9.000	-9.000	-999.	213.	30.9	0.14	0.88	1.00	2.90	11.	10.0	277.5	10.0
15	01	01	1	24	-31.8	0.276	-9.000	-9.000	-999.	349.	60.0	0.14	0.88	1.00	3.50	13.	10.0	277.5	10.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
15	01	01	01	10.0	1	16.	3.90	275.7	11.2	-99.00	0.75

F indicates top of profile (=1) or below (=0)

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)								
	315651.57	315763.60	315875.63	315987.66	316099.69	316211.72	316323.75	316435.78	316547.81

3786764.90 |	0.03056	0.03469	0.03985	0.04407	0.04738	0.04999	0.05140	0.05148	0.05076
3786701.76 |	0.03560	0.04230	0.05429	0.05816	0.06358	0.06701	0.06791	0.06669	0.06386
3786638.62 |	0.03827	0.00756	0.01833	0.07826	0.07938	0.08482	0.08278	0.08504	0.08206
3786575.48 |	0.03921	0.00346	0.00364	0.09443	0.09153	0.09784	0.09978	0.09993	0.09743
3786512.34 |	0.00490	0.00176	0.00262	0.09759	0.09798	0.10396	0.10770	0.11035	0.10214
3786449.20 |	0.00557	0.00109	0.00215	0.06113	0.10148	0.11415	0.12678	0.11870	0.12110
3786386.06 |	0.01732	0.00122	0.00201	0.00692	0.07086	0.02247	0.09488	0.13063	0.13073
3786322.92 |	0.02387	0.00142	0.00154	0.00298	0.00694	0.00647	0.09957	0.13625	0.13880
3786259.78 |	0.04648	0.00147	0.00196	0.00395	0.00317	0.00836	0.13177	0.14429	0.14449
3786196.64 |	0.04774	0.00266	0.00844	0.01528	0.00423	0.01222	0.11286	0.14397	0.13941
3786133.50 |	0.05358	0.02603	0.10952	0.10684	0.01010	0.00781	0.05408	0.15051	0.11989
3786070.36 |	0.05901	0.09082	0.10458	0.10043	0.12686	0.01622	0.02237	0.09275	0.10081
3786007.22 |	0.06616	0.10406	0.11670	0.10526	0.11809	0.05682	0.00861	0.01961	0.05986
3785944.08 |	0.07207	0.09550	0.12270	0.13089	0.13123	0.03822	0.00615	0.00562	0.02723
3785880.94 |	0.07646	0.10431	0.13053	0.12782	0.16456	0.01469	0.00524	0.00455	0.00750
3785817.80 |	0.07963	0.10679	0.13664	0.14232	0.05714	0.01349	0.00456	0.00351	0.00260
3785754.66 |	0.08601	0.11321	0.13792	0.17374	0.04044	0.01484	0.00409	0.00233	0.00179
3785691.52 |	0.08565	0.11294	0.13554	0.11983	0.02534	0.01247	0.00321	0.00154	0.00128
3785628.38 |	0.08127	0.10937	0.13900	0.04473	0.01688	0.00805	0.00240	0.00104	0.00083
3785565.24 |	0.07716	0.10650	0.03988	0.00890	0.00673	0.00348	0.00176	0.00085	0.00060
3785502.10 |	0.07384	0.11203	0.00950	0.00294	0.00276	0.00183	0.00115	0.00082	0.00047

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS) |	X-COORD (METERS) 316659.84	316771.87	316883.90	316995.93	317107.96	317219.99	317332.02	317444.05	317556.08
3786764.90 |	0.03237	0.00768	0.00732	0.00803	0.00421	0.00536	0.00751	0.00724	0.00623
3786701.76 |	0.06188	0.03562	0.02039	0.01513	0.00940	0.00566	0.00414	0.00386	0.00324
3786638.62 |	0.07804	0.07041	0.06090	0.03052	0.01501	0.00874	0.00362	0.00255	0.00176
3786575.48 |	0.09245	0.08240	0.08070	0.03234	0.01974	0.00955	0.00550	0.00224	0.00163
3786512.34 |	0.11546	0.10243	0.07447	0.03153	0.01847	0.00959	0.00515	0.00242	0.00155
3786449.20 |	0.12402	0.11306	0.05243	0.03029	0.01595	0.00836	0.00285	0.00216	0.00155
3786386.06 |	0.16063	0.11021	0.04700	0.01810	0.01495	0.00766	0.00235	0.00210	0.00166
3786322.92 |	0.16281	0.13244	0.03591	0.01523	0.01192	0.00804	0.00271	0.00230	0.00184
3786259.78 |	0.13560	0.15975	0.04155	0.01386	0.01202	0.00904	0.00477	0.00298	0.00152
3786196.64 |	0.13155	0.12344	0.06102	0.02398	0.01950	0.00960	0.00605	0.00319	0.00125
3786133.50 |	0.10860	0.06636	0.03269	0.02569	0.01645	0.01240	0.00600	0.00236	0.00095
3786070.36 |	0.08671	0.05037	0.02506	0.01642	0.01065	0.00895	0.00677	0.00175	0.00073

3786007.22	0.04205	0.03088	0.01718	0.01163	0.00789	0.00499	0.00311	0.00171	0.00083
3785944.08	0.01331	0.00704	0.00716	0.00679	0.00525	0.00331	0.00189	0.00106	0.00098
3785880.94	0.00558	0.00365	0.00157	0.00155	0.00228	0.00161	0.00087	0.00079	0.00073
3785817.80	0.00289	0.00217	0.00096	0.00088	0.00116	0.00097	0.00050	0.00043	0.00051
3785754.66	0.00136	0.00104	0.00063	0.00063	0.00083	0.00065	0.00037	0.00030	0.00028
3785691.52	0.00092	0.00066	0.00047	0.00047	0.00059	0.00045	0.00029	0.00021	0.00023
3785628.38	0.00066	0.00050	0.00040	0.00038	0.00041	0.00035	0.00024	0.00018	0.00017
3785565.24	0.00049	0.00040	0.00034	0.00032	0.00031	0.00028	0.00020	0.00015	0.00014
3785502.10	0.00038	0.00033	0.00029	0.00027	0.00028	0.00023	0.00017	0.00013	0.00013

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS) 317668.11	317780.14	317892.17
3786764.90	0.00506	0.00396	0.00320
3786701.76	0.00386	0.00335	0.00264
3786638.62	0.00244	0.00206	0.00153
3786575.48	0.00176	0.00135	0.00112
3786512.34	0.00135	0.00106	0.00095
3786449.20	0.00118	0.00090	0.00086
3786386.06	0.00115	0.00086	0.00073
3786322.92	0.00115	0.00087	0.00064
3786259.78	0.00109	0.00077	0.00059
3786196.64	0.00098	0.00075	0.00049
3786133.50	0.00077	0.00067	0.00044
3786070.36	0.00066	0.00056	0.00039
3786007.22	0.00066	0.00048	0.00033
3785944.08	0.00063	0.00045	0.00029
3785880.94	0.00066	0.00042	0.00024
3785817.80	0.00047	0.00038	0.00020
3785754.66	0.00024	0.00033	0.00017
3785691.52	0.00017	0.00019	0.00016
3785628.38	0.00015	0.00015	0.00014
3785565.24	0.00014	0.00013	0.00012
3785502.10	0.00012	0.00012	0.00011

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
315977.16	3786506.51	0.09966	316073.87	3786455.61	0.10107
316103.82	3786353.86	0.01918	316345.71	3786329.82	0.13519
316291.15	3786080.08	0.02616	316738.76	3786112.89	0.08840
316531.24	3786156.06	0.13051	316601.88	3786075.50	0.09527
316517.23	3785929.15	0.01764	316786.97	3786440.53	0.10905
316915.70	3786253.62	0.02617	317331.26	3786101.43	0.00677
317372.02	3786043.88	0.00362	317043.41	3786060.07	0.01281

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE SUMMARY OF MAXIMUM PERIOD (26304 HRS) RESULTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.17374	AT (	315987.66,	3785754.66,	36.00,	548.30,	0.00)	GC	UCART1
	2ND HIGHEST VALUE IS	0.16456	AT (	316099.69,	3785880.94,	37.40,	548.30,	0.00)	GC	UCART1
	3RD HIGHEST VALUE IS	0.16281	AT (	316659.84,	3786322.92,	36.20,	548.30,	0.00)	GC	UCART1
	4TH HIGHEST VALUE IS	0.16063	AT (	316659.84,	3786386.06,	36.30,	548.30,	0.00)	GC	UCART1
	5TH HIGHEST VALUE IS	0.15975	AT (	316771.87,	3786259.78,	36.90,	548.30,	0.00)	GC	UCART1
	6TH HIGHEST VALUE IS	0.15051	AT (	316435.78,	3786133.50,	37.00,	548.30,	0.00)	GC	UCART1
	7TH HIGHEST VALUE IS	0.14449	AT (	316547.81,	3786259.78,	34.40,	548.30,	0.00)	GC	UCART1
	8TH HIGHEST VALUE IS	0.14429	AT (	316435.78,	3786259.78,	33.80,	548.30,	0.00)	GC	UCART1
	9TH HIGHEST VALUE IS	0.14397	AT (	316435.78,	3786196.64,	33.70,	548.30,	0.00)	GC	UCART1
	10TH HIGHEST VALUE IS	0.14232	AT (	315987.66,	3785817.80,	33.70,	548.30,	0.00)	GC	UCART1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

```
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of           0 Fatal Error Message(s)
A Total of           2 Warning Message(s)
A Total of         213 Informational Message(s)

A Total of       26304 Hours Were Processed

A Total of           0 Calm Hours Identified

A Total of         213 Missing Hours Identified (  0.81 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     134       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used           0.50
MX W403     134       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data

   ************************************
   *** AERMOD Finishes Successfully ***
   ************************************
```

```
** Lakes Environmental AERMOD MPI
**
****************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.9.0
** Lakes Environmental Software Inc.
** Date: 6/25/2020
** File: C:\Lakes\AERMOD View\Camarillo Construction HRA Years 2024-2026\Camarillo Construction HRA Years 2024-2026.ADI
**
****************************************
**
**
****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE Camarillo Construction DPM
   TITLETWO Child Exposure Years 2024-2026
   MODELOPT DFAULT CONC
   AVERTIME PERIOD
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "Camarillo Construction HRA Years 2024-2026.err"
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   315711.985  3786684.686       33.160
** DESCRSRC Area of disturbance
** Source Parameters **
   SRCPARAM PAREA1       3.8395E-09     3.660       139
   AREAVERT PAREA1       315711.985 3786684.686 315986.889 3786676.601
   AREAVERT PAREA1       316266.645 3786676.601 316366.904 3786668.515
   AREAVERT PAREA1       316607.850 3786653.961 316651.511 3786644.259
   AREAVERT PAREA1       316724.280 3786631.322 316780.878 3786623.237
   AREAVERT PAREA1       316826.157 3786620.003 316881.138 3786597.363
   AREAVERT PAREA1       316918.331 3786568.256 316926.416 3786547.234
   AREAVERT PAREA1       316916.713 3786534.297 316894.074 3786526.212
   AREAVERT PAREA1       316858.498 3786508.424 316814.837 3786484.167
   AREAVERT PAREA1       316787.124 3786462.483 316774.926 3786439.522
   AREAVERT PAREA1       316752.683 3786365.617 316850.266 3786334.764
   AREAVERT PAREA1       316831.610 3786295.300 316856.006 3786284.537
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AREAVERT PAREA1       316937.086 3786227.136 316967.222 3786220.678
AREAVERT PAREA1       317026.776 3786217.808 317071.262 3786220.678
AREAVERT PAREA1       317083.460 3786227.136 317107.138 3786213.503
AREAVERT PAREA1       317129.381 3786213.503 317163.105 3786191.977
AREAVERT PAREA1       317246.337 3786130.270 317308.044 3786095.829
AREAVERT PAREA1       317358.270 3786072.151 317354.683 3786049.908
AREAVERT PAREA1       317348.225 3786031.253 317331.722 3786010.444
AREAVERT PAREA1       317315.937 3786001.834 317297.048 3786013.396
AREAVERT PAREA1       317279.940 3786010.285 317250.909 3786014.951
AREAVERT PAREA1       317058.060 3786067.311 317040.952 3786069.903
AREAVERT PAREA1       317010.885 3786077.160 316969.930 3786077.160
AREAVERT PAREA1       316930.531 3786076.124 316915.497 3786101.526
AREAVERT PAREA1       316890.613 3786117.078 316849.140 3786128.483
AREAVERT PAREA1       316783.302 3786149.220 316779.154 3786139.370
AREAVERT PAREA1       316751.678 3786148.701 316720.574 3786159.070
AREAVERT PAREA1       316693.098 3786167.364 316657.846 3786174.622
AREAVERT PAREA1       316629.852 3786176.696 316602.376 3786177.732
AREAVERT PAREA1       316556.237 3786172.030 316505.951 3786159.588
AREAVERT PAREA1       316461.886 3786145.072 316439.594 3786138.333
AREAVERT PAREA1       316421.968 3786133.667 316401.232 3786133.149
AREAVERT PAREA1       316380.495 3786125.373 316358.722 3786113.968
AREAVERT PAREA1       316348.354 3786097.379 316329.691 3786097.897
AREAVERT PAREA1       316295.476 3786092.713 316284.071 3786088.047
AREAVERT PAREA1       316275.776 3786082.863 316295.476 3786048.648
AREAVERT PAREA1       316299.623 3786025.838 316280.960 3786018.580
AREAVERT PAREA1       316239.487 3785996.288 316215.640 3785967.257
AREAVERT PAREA1       316190.238 3785943.929 316167.946 3785910.232
AREAVERT PAREA1       316162.244 3785898.308 316160.170 3785889.495
AREAVERT PAREA1       316167.946 3785873.943 316185.054 3785851.651
AREAVERT PAREA1       316204.235 3785815.362 316219.269 3785786.331
AREAVERT PAREA1       316231.711 3785754.708 316234.822 3785727.232
AREAVERT PAREA1       316233.785 3785687.833 316234.822 3785642.731
AREAVERT PAREA1       316228.082 3785606.442 316206.827 3785583.114
AREAVERT PAREA1       316169.502 3785569.117 316128.029 3785566.525
AREAVERT PAREA1       315705.004 3785533.346 315705.523 3785951.705
AREAVERT PAREA1       315693.599 3786111.894 315886.967 3786171.511
AREAVERT PAREA1       315920.145 3786164.254 316090.185 3786084.418
AREAVERT PAREA1       316202.680 3786081.308 316234.303 3786116.560
AREAVERT PAREA1       316250.892 3786101.007 316273.184 3786110.857
AREAVERT PAREA1       316259.187 3786139.370 316255.558 3786149.220
AREAVERT PAREA1       316262.816 3786171.511 316270.074 3786183.953
AREAVERT PAREA1       316290.292 3786198.987 316329.173 3786224.908
AREAVERT PAREA1       316343.688 3786247.200 316354.575 3786260.160
AREAVERT PAREA1       316359.759 3786299.041 316359.759 3786327.035
AREAVERT PAREA1       316354.056 3786359.695 316337.986 3786393.392
AREAVERT PAREA1       316315.175 3786421.386 316288.736 3786438.494
AREAVERT PAREA1       316270.592 3786449.380 316248.300 3786456.638
AREAVERT PAREA1       316218.751 3786462.341 316161.725 3786462.859
AREAVERT PAREA1       316104.700 3786463.377 316063.227 3786463.377
AREAVERT PAREA1       316030.049 3786464.414 316011.904 3786467.525
AREAVERT PAREA1       316003.091 3786469.080 315992.205 3786479.448
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   AREAVERT PAREA1       315985.465 3786504.850 315981.836 3786521.440
   AREAVERT PAREA1       315974.579 3786530.771 315956.953 3786531.289
   AREAVERT PAREA1       315950.213 3786529.734 315939.845 3786529.216
   AREAVERT PAREA1       315939.845 3786533.363 315920.664 3786532.326
   AREAVERT PAREA1       315918.590 3786544.768 315921.182 3786550.989
   AREAVERT PAREA1       315925.848 3786559.284 315923.774 3786576.391
   AREAVERT PAREA1       315917.035 3786586.760 315899.927 3786596.091
   AREAVERT PAREA1       315702.412 3786639.638
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED "Camarillo Construction HRA Years 2024-2026.rou"
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE "E:\New MET data\Elrio 2015-2017.SFC"
   PROFFILE "E:\New MET data\Elrio 2015-2017.PFL"
   SURFDATA 93110 2015
   UAIRDATA 93214 2015
   SITEDATA 56436 2015
   PROFBASE 40.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE PERIOD ALL "CAMARILLO CONSTRUCTION HRA YEARS 2024-2026.AD\PE00GALL.PLT" 31
   SUMMFILE "Camarillo Construction HRA Years 2024-2026.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
```

```
A Total of            2 Warning Message(s)
A Total of            0 Informational Message(s)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186     134       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used           0.50
MX W403     134       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data

***********************************
*** SETUP Finishes Successfully ***
***********************************


*** AERMOD - VERSION  19191 ***   *** Camarillo Construction DPM                                           ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Child Exposure Years 2024-2026                                       ***        19:10:24
                                                                                                                      PAGE   1
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Model Is Setup For Calculation of Average CONCentration Values.

  --  DEPOSITION LOGIC  --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
**Model Uses NO WET DEPLETION.  WETDPLT  =  F

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

**Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of:  DPM

**Model Calculates PERIOD Averages Only
```

```
**This Run Includes:      1 Source(s);       1 Source Group(s); and     455 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:      0 VOLUME source(s)
                and:      1 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 RLINE/RLINEXT source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with      0 line(s)


**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date:  18081

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =    40.00 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =      3.6 MB of RAM.

**Input Runstream File:          aermod.inp
**Output Print File:             aermod.out

**Detailed Error/Message File:   Camarillo Construction HRA Years 2024-2026.err
**File for Summary of Results:   Camarillo Construction HRA Years 2024-2026.sum
```


*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	LOCATION OF AREA Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

```
PAREA1           0   0.38395E-08  315712.0 3786684.7    33.2     3.66     139         0.00     NO

*** AERMOD - VERSION  19191 ***   *** Camarillo Construction DPM                                        ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Child Exposure Years 2024-2026                                    ***        19:10:24
                                                                                                                   PAGE   3
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

                                          *** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID                                             SOURCE IDs
-----------                                             ----------

 ALL        PAREA1      ,

*** AERMOD - VERSION  19191 ***   *** Camarillo Construction DPM                                        ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Child Exposure Years 2024-2026                                    ***        19:10:24
                                                                                                                   PAGE   4
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

                                         *** GRIDDED RECEPTOR NETWORK SUMMARY ***

                                    *** NETWORK ID: UCART1   ;  NETWORK TYPE: GRIDCART ***

                                          *** X-COORDINATES OF GRID ***
                                                    (METERS)

      315651.6,  315763.6,  315875.6,  315987.7,  316099.7,  316211.7,  316323.8,  316435.8,  316547.8,  316659.8,
      316771.9,  316883.9,  316995.9,  317108.0,  317220.0,  317332.0,  317444.0,  317556.1,  317668.1,  317780.1,
      317892.2,

                                          *** Y-COORDINATES OF GRID ***
                                                    (METERS)

     3785502.1, 3785565.2, 3785628.4, 3785691.5, 3785754.7, 3785817.8, 3785880.9, 3785944.1, 3786007.2, 3786070.4,
     3786133.5, 3786196.6, 3786259.8, 3786322.9, 3786386.1, 3786449.2, 3786512.3, 3786575.5, 3786638.6, 3786701.8,
     3786764.9,

*** AERMOD - VERSION  19191 ***   *** Camarillo Construction DPM                                        ***        06/25/20
*** AERMET - VERSION  18081 ***   *** Child Exposure Years 2024-2026                                    ***        19:10:24
                                                                                                                   PAGE   5
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  SigA Data

                                    *** NETWORK ID: UCART1   ;  NETWORK TYPE: GRIDCART ***

                                                * ELEVATION HEIGHTS IN METERS *

   Y-COORD  |                                         X-COORD (METERS)
   (METERS) |     315651.57    315763.60    315875.63    315987.66    316099.69    316211.72    316323.75    316435.78    316547.81
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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3786764.90 |	34.40	33.90	33.80	33.70	33.40	33.60	33.70	34.00	34.90
3786701.76 |	33.60	32.70	34.80	33.50	34.00	33.90	33.60	33.80	33.80
3786638.62 |	33.60	49.70	44.20	35.00	33.50	33.80	32.90	33.70	33.40
3786575.48 |	33.40	57.70	60.10	35.40	33.50	33.70	33.80	33.90	33.80
3786512.34 |	51.30	68.00	65.20	35.60	33.50	33.30	33.60	33.60	32.60
3786449.20 |	50.50	81.70	69.00	39.10	35.30	35.80	35.50	33.30	33.80
3786386.06 |	43.40	75.40	70.70	55.30	38.70	45.50	38.40	34.30	33.80
3786322.92 |	41.60	71.10	81.80	71.60	57.50	60.60	38.20	33.60	33.90
3786259.78 |	34.10	71.40	75.60	67.20	84.10	57.90	36.90	33.80	34.40
3786196.64 |	32.10	62.40	52.70	49.30	79.60	53.70	38.20	33.70	34.80
3786133.50 |	32.10	43.30	35.60	35.30	58.30	65.60	42.80	37.00	35.60
3786070.36 |	32.00	33.60	32.80	32.00	37.60	54.90	51.50	38.50	36.50
3786007.22 |	32.30	33.50	32.90	31.20	33.20	42.00	68.80	50.20	40.10
3785944.08 |	32.30	30.50	32.70	33.70	34.60	44.90	77.70	75.50	45.30
3785880.94 |	32.20	31.10	32.80	32.50	37.40	57.00	84.90	82.60	61.10
3785817.80 |	32.10	30.50	32.90	33.70	42.00	59.60	93.50	94.70	100.50
3785754.66 |	32.80	31.30	32.80	36.00	44.80	57.20	96.20	121.80	120.80
3785691.52 |	32.60	31.00	32.60	38.40	50.00	60.50	102.60	145.60	134.90
3785628.38 |	31.90	30.40	33.50	44.00	55.80	70.80	95.40	163.00	167.70
3785565.24 |	31.60	31.10	44.60	67.60	72.60	81.70	95.20	163.90	201.20
3785502.10 |	31.80	35.70	61.90	112.40	108.80	105.10	124.50	153.10	234.60

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD | (METERS) |	X-COORD (METERS) 316659.84	316771.87	316883.90	316995.93	317107.96	317219.99	317332.02	317444.05	317556.08
3786764.90 |	40.10	52.60	53.80	52.60	64.80	58.00	51.60	51.10	52.10
3786701.76 |	35.30	40.30	44.20	46.60	51.20	57.60	61.90	61.30	63.30
3786638.62 |	34.10	34.70	37.10	41.00	46.00	50.60	64.80	72.50	84.90
3786575.48 |	34.20	34.30	36.10	40.40	43.00	49.10	55.40	77.00	89.40
3786512.34 |	35.20	35.30	37.50	40.00	43.30	48.70	56.10	73.20	92.40
3786449.20 |	35.10	35.80	38.30	40.30	44.40	50.00	70.60	77.70	91.80
3786386.06 |	36.30	36.60	39.20	44.30	44.70	50.80	79.40	79.40	85.70
3786322.92 |	36.20	37.20	40.90	45.60	46.60	50.20	74.50	75.20	78.00
3786259.78 |	34.90	36.90	40.00	46.60	47.00	49.50	57.70	64.80	86.20
3786196.64 |	35.50	37.50	38.40	42.10	43.10	49.60	53.00	61.50	94.80
3786133.50 |	36.10	38.70	40.70	41.40	44.20	45.60	53.10	68.70	98.60
3786070.36 |	37.50	39.60	42.00	43.70	47.00	47.80	50.20	66.50	85.40
3786007.22 |	41.50	42.00	44.20	46.20	49.10	52.40	54.10	55.20	65.90
3785944.08 |	50.20	55.20	51.80	51.00	52.90	56.80	56.80	58.80	58.50
3785880.94 |	62.60	65.40	92.00	84.40	65.40	69.40	69.20	61.00	60.60

3785817.80	77.10	76.30	127.80	123.10	84.90	82.90	84.20	72.80	65.10
3785754.66	121.70	119.90	168.10	149.00	98.90	99.90	97.90	84.30	79.80
3785691.52	147.00	158.80	199.20	175.80	121.60	122.10	112.60	111.70	88.20
3785628.38	173.50	185.60	210.40	200.40	157.20	137.90	127.90	140.80	113.30
3785565.24	208.70	217.60	233.50	222.30	190.00	155.80	142.70	172.30	149.10
3785502.10	252.90	256.30	266.00	245.20	195.80	180.10	165.40	212.70	187.90

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 317668.11	317780.14	317892.17
3786764.90	54.00	56.70	59.20
3786701.76	58.00	59.20	62.50
3786638.62	68.00	70.50	78.10
3786575.48	78.90	88.10	94.20
3786512.34	95.00	111.00	107.80
3786449.20	109.30	133.90	115.70
3786386.06	107.70	131.60	130.30
3786322.92	100.00	111.80	133.30
3786259.78	94.90	107.80	116.90
3786196.64	89.50	89.50	109.60
3786133.50	85.80	80.40	96.60
3786070.36	77.50	77.70	89.60
3786007.22	69.00	75.20	89.90
3785944.08	65.40	72.00	87.80
3785880.94	61.20	69.80	90.10
3785817.80	65.30	68.80	94.60
3785754.66	85.60	69.50	101.20
3785691.52	111.30	89.30	101.00
3785628.38	130.90	118.30	116.10
3785565.24	142.60	131.40	138.00
3785502.10	178.70	158.30	159.00

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	315651.57	315763.60	315875.63	315987.66	316099.69	316211.72	316323.75	316435.78	316547.81
3786764.90	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786701.76	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786638.62	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786575.48	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786512.34	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786449.20	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786386.06	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786322.92	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786259.78	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786196.64	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786133.50	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786070.36	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786007.22	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785944.08	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785880.94	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785817.80	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785754.66	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785691.52	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785628.38	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785565.24	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785502.10	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	316659.84	316771.87	316883.90	316995.93	317107.96	317219.99	317332.02	317444.05	317556.08
3786764.90	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786701.76	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786638.62	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786575.48	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786512.34	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786449.20	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786386.06	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786322.92	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786259.78	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786196.64	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786133.50	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3786070.36	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30

3786007.22 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785944.08 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785880.94 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785817.80 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785754.66 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785691.52 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785628.38 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785565.24 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30
3785502.10 |	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30	548.30

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD | (METERS) |	X-COORD (METERS) 317668.11	317780.14	317892.17
3786764.90 |	548.30	548.30	548.30
3786701.76 |	548.30	548.30	548.30
3786638.62 |	548.30	548.30	548.30
3786575.48 |	548.30	548.30	548.30
3786512.34 |	548.30	548.30	548.30
3786449.20 |	548.30	548.30	548.30
3786386.06 |	548.30	548.30	548.30
3786322.92 |	548.30	548.30	548.30
3786259.78 |	548.30	548.30	548.30
3786196.64 |	548.30	548.30	548.30
3786133.50 |	548.30	548.30	548.30
3786070.36 |	548.30	548.30	548.30
3786007.22 |	548.30	548.30	548.30
3785944.08 |	548.30	548.30	548.30
3785880.94 |	548.30	548.30	548.30
3785817.80 |	548.30	548.30	548.30
3785754.66 |	548.30	548.30	548.30
3785691.52 |	548.30	548.30	548.30
3785628.38 |	548.30	548.30	548.30
3785565.24 |	548.30	548.30	548.30
3785502.10 |	548.30	548.30	548.30

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** DISCRETE CARTESIAN RECEPTORS ***

```
                                    (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                    (METERS)

    ( 315977.2, 3786506.5,     36.0,    548.3,      0.0);       ( 316073.9, 3786455.6,     35.4,    548.3,      0.0);
    ( 316103.8, 3786353.9,     46.4,    548.3,      0.0);       ( 316345.7, 3786329.8,     35.8,    548.3,      0.0);
    ( 316291.1, 3786080.1,     49.4,    548.3,      0.0);       ( 316738.8, 3786112.9,     38.0,    548.3,      0.0);
    ( 316531.2, 3786156.1,     35.4,    548.3,      0.0);       ( 316601.9, 3786075.5,     37.0,    548.3,      0.0);
    ( 316517.2, 3785929.1,     49.4,    548.3,      0.0);       ( 316787.0, 3786440.5,     36.8,    548.3,      0.0);
    ( 316915.7, 3786253.6,     42.4,    548.3,      0.0);       ( 317331.3, 3786101.4,     51.6,    548.3,      0.0);
    ( 317372.0, 3786043.9,     54.4,    548.3,      0.0);       ( 317043.4, 3786060.1,     45.3,    548.3,      0.0);
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                                     *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
                                                          (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1

               NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.


                              *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                       (METERS/SEC)

                                            1.54,   3.09,   5.14,   8.23,  10.80,
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                                 *** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

  Surface file:   E:\New MET data\Elrio 2015-2017.SFC                                               Met Version:  18081
  Profile file:   E:\New MET data\Elrio 2015-2017.PFL
  Surface format: FREE
  Profile format: FREE
  Surface station no.:    93110                Upper air station no.:    93214
                Name: UNKNOWN                                   Name: UNKNOWN
                Year:   2015                                    Year:   2015
```

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
15	01	01	1	01	-37.2	0.321	-9.000	-9.000	-999.	437.	80.7	0.14	0.88	1.00	3.90	16.	10.0	275.6	10.0
15	01	01	1	02	-44.7	0.386	-9.000	-9.000	-999.	575.	116.3	0.14	0.88	1.00	4.50	13.	10.0	275.5	10.0
15	01	01	1	03	-53.1	0.458	-9.000	-9.000	-999.	744.	163.7	0.14	0.88	1.00	5.20	15.	10.0	275.1	10.0
15	01	01	1	04	-56.6	0.489	-9.000	-9.000	-999.	819.	186.2	0.14	0.88	1.00	5.50	17.	10.0	275.2	10.0
15	01	01	1	05	-52.0	0.448	-9.000	-9.000	-999.	722.	156.2	0.14	0.88	1.00	5.10	21.	10.0	274.8	10.0
15	01	01	1	06	-54.4	0.468	-9.000	-9.000	-999.	769.	170.6	0.14	0.88	1.00	5.30	12.	10.0	274.6	10.0
15	01	01	1	07	-46.1	0.396	-9.000	-9.000	-999.	603.	122.3	0.14	0.88	1.00	4.60	11.	10.0	274.9	10.0
15	01	01	1	08	-39.5	0.392	-9.000	-9.000	-999.	588.	137.9	0.14	0.88	0.58	4.50	6.	10.0	275.2	10.0
15	01	01	1	09	16.2	0.525	0.278	0.008	48.	913.	-809.4	0.14	0.88	0.34	5.50	14.	10.0	276.4	10.0
15	01	01	1	10	61.9	0.414	0.508	0.008	77.	650.	-103.9	0.14	0.88	0.25	4.10	9.	10.0	279.4	10.0
15	01	01	1	11	94.7	0.405	1.189	0.008	644.	619.	-63.6	0.14	0.88	0.22	3.90	15.	10.0	282.9	10.0
15	01	01	1	12	112.0	0.193	1.401	0.009	890.	247.	-5.8	0.14	0.88	0.21	1.40	2.	10.0	286.1	10.0
15	01	01	1	13	112.3	0.201	1.415	0.008	915.	217.	-6.6	0.18	0.88	0.21	1.40	239.	10.0	287.2	10.0
15	01	01	1	14	96.0	0.207	1.354	0.007	936.	226.	-8.3	0.22	0.88	0.22	1.40	199.	10.0	287.6	10.0
15	01	01	1	15	63.8	0.280	1.187	0.007	949.	355.	-31.1	0.18	0.88	0.25	2.40	225.	10.0	287.4	10.0
15	01	01	1	16	18.5	0.280	0.786	0.007	953.	357.	-108.2	0.22	0.88	0.34	2.50	203.	10.0	286.9	10.0
15	01	01	1	17	-9.5	0.108	-9.000	-9.000	-999.	116.	11.8	0.20	0.88	0.58	2.10	245.	10.0	285.6	10.0
15	01	01	1	18	-1.1	0.035	-9.000	-9.000	-999.	27.	3.6	0.19	0.88	1.00	0.70	277.	10.0	284.0	10.0
15	01	01	1	19	-6.7	0.086	-9.000	-9.000	-999.	61.	8.7	0.20	0.88	1.00	1.70	33.	10.0	281.0	10.0
15	01	01	1	20	-6.8	0.085	-9.000	-9.000	-999.	60.	8.2	0.14	0.88	1.00	1.80	19.	10.0	278.8	10.0
15	01	01	1	21	-21.0	0.182	-9.000	-9.000	-999.	187.	26.2	0.14	0.88	1.00	2.80	19.	10.0	278.1	10.0
15	01	01	1	22	-29.1	0.252	-9.000	-9.000	-999.	304.	50.1	0.14	0.88	1.00	3.30	12.	10.0	277.9	10.0
15	01	01	1	23	-22.8	0.198	-9.000	-9.000	-999.	213.	30.9	0.14	0.88	1.00	2.90	11.	10.0	277.5	10.0
15	01	01	1	24	-31.8	0.276	-9.000	-9.000	-999.	349.	60.0	0.14	0.88	1.00	3.50	13.	10.0	277.5	10.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
15	01	01	01	10.0	1	16.	3.90	275.7	11.2	-99.00	0.75

F indicates top of profile (=1) or below (=0)

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS) 315651.57	315763.60	315875.63	315987.66	316099.69	316211.72	316323.75	316435.78	316547.81

3786764.90 |	0.02570	0.02917	0.03352	0.03706	0.03984	0.04204	0.04323	0.04329	0.04269
3786701.76 |	0.02994	0.03558	0.04566	0.04891	0.05347	0.05636	0.05711	0.05609	0.05371
3786638.62 |	0.03219	0.00636	0.01541	0.06582	0.06675	0.07133	0.06961	0.07152	0.06901
3786575.48 |	0.03298	0.00291	0.00306	0.07941	0.07697	0.08228	0.08391	0.08404	0.08194
3786512.34 |	0.00412	0.00148	0.00220	0.08207	0.08240	0.08743	0.09057	0.09280	0.08590
3786449.20 |	0.00468	0.00092	0.00181	0.05141	0.08534	0.09600	0.10662	0.09983	0.10185
3786386.06 |	0.01457	0.00103	0.00169	0.00582	0.05959	0.01890	0.07979	0.10986	0.10994
3786322.92 |	0.02008	0.00120	0.00129	0.00250	0.00584	0.00544	0.08374	0.11458	0.11673
3786259.78 |	0.03909	0.00124	0.00165	0.00332	0.00266	0.00703	0.11082	0.12135	0.12151
3786196.64 |	0.04015	0.00223	0.00710	0.01285	0.00355	0.01028	0.09492	0.12108	0.11724
3786133.50 |	0.04506	0.02189	0.09211	0.08985	0.00850	0.00657	0.04548	0.12657	0.10082
3786070.36 |	0.04962	0.07638	0.08795	0.08446	0.10669	0.01364	0.01881	0.07800	0.08478
3786007.22 |	0.05564	0.08751	0.09814	0.08852	0.09931	0.04779	0.00724	0.01649	0.05034
3785944.08 |	0.06061	0.08031	0.10319	0.11008	0.11036	0.03214	0.00517	0.00473	0.02290
3785880.94 |	0.06430	0.08773	0.10977	0.10750	0.13839	0.01235	0.00441	0.00383	0.00631
3785817.80 |	0.06697	0.08981	0.11491	0.11969	0.04805	0.01134	0.00384	0.00295	0.00219
3785754.66 |	0.07233	0.09521	0.11599	0.14611	0.03401	0.01248	0.00344	0.00196	0.00151
3785691.52 |	0.07203	0.09498	0.11399	0.10077	0.02131	0.01049	0.00270	0.00129	0.00108
3785628.38 |	0.06834	0.09198	0.11690	0.03762	0.01419	0.00677	0.00202	0.00087	0.00070
3785565.24 |	0.06489	0.08956	0.03354	0.00749	0.00566	0.00293	0.00148	0.00072	0.00051
3785502.10 |	0.06210	0.09421	0.00799	0.00247	0.00232	0.00154	0.00096	0.00069	0.00040

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS) |	X-COORD (METERS) 316659.84	316771.87	316883.90	316995.93	317107.96	317219.99	317332.02	317444.05	317556.08
3786764.90 |	0.02722	0.00646	0.00616	0.00675	0.00354	0.00451	0.00631	0.00609	0.00524
3786701.76 |	0.05204	0.02995	0.01715	0.01273	0.00790	0.00476	0.00348	0.00325	0.00273
3786638.62 |	0.06563	0.05922	0.05122	0.02566	0.01262	0.00735	0.00305	0.00215	0.00148
3786575.48 |	0.07775	0.06930	0.06787	0.02719	0.01660	0.00803	0.00463	0.00189	0.00137
3786512.34 |	0.09710	0.08614	0.06263	0.02652	0.01553	0.00807	0.00433	0.00203	0.00131
3786449.20 |	0.10430	0.09508	0.04409	0.02547	0.01341	0.00703	0.00240	0.00181	0.00130
3786386.06 |	0.13509	0.09269	0.03952	0.01523	0.01257	0.00644	0.00198	0.00177	0.00140
3786322.92 |	0.13692	0.11138	0.03020	0.01281	0.01003	0.00676	0.00228	0.00194	0.00155
3786259.78 |	0.11404	0.13435	0.03495	0.01166	0.01011	0.00760	0.00401	0.00251	0.00128
3786196.64 |	0.11063	0.10381	0.05132	0.02016	0.01640	0.00808	0.00508	0.00268	0.00105
3786133.50 |	0.09133	0.05581	0.02749	0.02161	0.01383	0.01043	0.00504	0.00198	0.00080
3786070.36 |	0.07292	0.04236	0.02107	0.01381	0.00896	0.00752	0.00569	0.00147	0.00061

3786007.22 |	0.03536	0.02597	0.01445	0.00978	0.00663	0.00420	0.00262	0.00144	0.00070
3785944.08 |	0.01119	0.00592	0.00602	0.00571	0.00441	0.00278	0.00159	0.00089	0.00083
3785880.94 |	0.00470	0.00307	0.00132	0.00130	0.00192	0.00136	0.00073	0.00067	0.00062
3785817.80 |	0.00243	0.00182	0.00080	0.00074	0.00098	0.00082	0.00042	0.00036	0.00043
3785754.66 |	0.00114	0.00087	0.00053	0.00053	0.00070	0.00054	0.00031	0.00025	0.00024
3785691.52 |	0.00077	0.00056	0.00040	0.00040	0.00049	0.00038	0.00024	0.00018	0.00019
3785628.38 |	0.00055	0.00042	0.00034	0.00032	0.00034	0.00030	0.00020	0.00015	0.00015
3785565.24 |	0.00041	0.00033	0.00028	0.00027	0.00026	0.00024	0.00017	0.00013	0.00012
3785502.10 |	0.00032	0.00027	0.00024	0.00023	0.00023	0.00019	0.00014	0.00011	0.00011

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS) 317668.11	317780.14	317892.17
3786764.90	0.00425	0.00333	0.00269
3786701.76	0.00325	0.00282	0.00222
3786638.62	0.00205	0.00173	0.00128
3786575.48	0.00148	0.00114	0.00095
3786512.34	0.00114	0.00089	0.00080
3786449.20	0.00099	0.00076	0.00072
3786386.06	0.00097	0.00072	0.00061
3786322.92	0.00097	0.00073	0.00054
3786259.78	0.00092	0.00065	0.00049
3786196.64	0.00082	0.00063	0.00041
3786133.50	0.00065	0.00056	0.00037
3786070.36	0.00055	0.00047	0.00033
3786007.22	0.00055	0.00041	0.00028
3785944.08	0.00053	0.00038	0.00024
3785880.94	0.00056	0.00035	0.00021
3785817.80	0.00039	0.00032	0.00017
3785754.66	0.00020	0.00028	0.00014
3785691.52	0.00015	0.00016	0.00013
3785628.38	0.00013	0.00012	0.00012
3785565.24	0.00011	0.00011	0.00010
3785502.10	0.00010	0.00010	0.00009

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
315977.16	3786506.51	0.08381	316073.87	3786455.61	0.08500
316103.82	3786353.86	0.01613	316345.71	3786329.82	0.11369
316291.15	3786080.08	0.02200	316738.76	3786112.89	0.07435
316531.24	3786156.06	0.10976	316601.88	3786075.50	0.08012
316517.23	3785929.15	0.01484	316786.97	3786440.53	0.09171
316915.70	3786253.62	0.02201	317331.26	3786101.43	0.00570
317372.02	3786043.88	0.00304	317043.41	3786060.07	0.01078

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** THE SUMMARY OF MAXIMUM PERIOD (26304 HRS) RESULTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.14611 AT	(315987.66, 3785754.66, 36.00, 548.30, 0.00)	GC	UCART1
	2ND HIGHEST VALUE IS	0.13839 AT	(316099.69, 3785880.94, 37.40, 548.30, 0.00)	GC	UCART1
	3RD HIGHEST VALUE IS	0.13692 AT	(316659.84, 3786322.92, 36.20, 548.30, 0.00)	GC	UCART1
	4TH HIGHEST VALUE IS	0.13509 AT	(316659.84, 3786386.06, 36.30, 548.30, 0.00)	GC	UCART1
	5TH HIGHEST VALUE IS	0.13435 AT	(316771.87, 3786259.78, 36.90, 548.30, 0.00)	GC	UCART1
	6TH HIGHEST VALUE IS	0.12657 AT	(316435.78, 3786133.50, 37.00, 548.30, 0.00)	GC	UCART1
	7TH HIGHEST VALUE IS	0.12151 AT	(316547.81, 3786259.78, 34.40, 548.30, 0.00)	GC	UCART1
	8TH HIGHEST VALUE IS	0.12135 AT	(316435.78, 3786259.78, 33.80, 548.30, 0.00)	GC	UCART1
	9TH HIGHEST VALUE IS	0.12108 AT	(316435.78, 3786196.64, 33.70, 548.30, 0.00)	GC	UCART1
	10TH HIGHEST VALUE IS	0.11969 AT	(315987.66, 3785817.80, 33.70, 548.30, 0.00)	GC	UCART1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV RURAL SigA Data

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   2 Warning Message(s)
A Total of   213 Informational Message(s)

A Total of   26304 Hours Were Processed

A Total of   0 Calm Hours Identified

A Total of   213 Missing Hours Identified (0.81 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

********   WARNING MESSAGES   ********

```
ME W186     134       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used           0.50
MX W403     134       PFLCNV: Turbulence data is being used w/o ADJ_U* option       SigA Data
```

****
*** AERMOD Finishes Successfully ***
****

APPENDIX K -
ENERGY DEMAND CALCULATIONS

Construction Phase Fuel Consumption

CADENCE ENVIRONMENTAL CONSULTANTS

Project Name: Camarillo Springs GPA 2017-2

Construction Equipment Fuel Consumption

Construction Phase	Days	Equipment	Amount	Usage Hours	Horsepower	Load Factor	HP-Hours/Day	Total Fuel Consumption (gal. diesel fuel)
Grading	150	Excavators	1	8.0	158	0.38	480.3	3,602
Grading	150	Graders	2	8.0	187	0.41	1,226.7	9,200
Grading	150	Rubber Tired Dozers	2	8.0	247	0.40	1,580.8	11,856
Grading	150	Scrapers	16	8.0	367	0.48	22,548.5	169,114
Grading	150	Tractors/Loaders/Backhoes	7	8.0	97	0.37	2,009.8	15,074
Grading	150	Off-Highway Trucks	5	8.0	402	0.38	6,110.4	45,828
Building Construction	1,245	Cranes	1	7.0	231	0.29	468.9	29,191
Building Construction	1,245	Forklifts	3	8.0	89	0.20	427.2	26,593
Building Construction	1,245	Generator Sets	1	8.0	84	0.74	497.3	30,956
Building Construction	1,245	Tractors/Loaders/Backhoes	3	7.0	97	0.37	753.7	46,917
Building Construction	1,245	Welders	1	8.0	46	0.45	165.6	10,309
Paving	22	Pavers	2	8.0	130	0.42	873.6	961
Paving	22	Paving Equipment	2	8.0	132	0.36	760.3	836
Paving	22	Rollers	2	8.0	80	0.38	486.4	535
Architectural Coating	1,245	Air Compressors	1	6.0	78	0.48	224.6	13,984
Infrastructure	120	Excavators	1	8.0	158	0.38	480.3	2,882
Infrastructure	120	Scrapers	1	8.0	367	0.48	1,409.3	8,456
Infrastructure	120	Tractors/Loaders/Backhoes	1	8.0	97	0.37	287.1	1,723
							Total Construction Fuel Demand	428,016
Total fuel consumption based on a fuel usage rate of 0.05 gallon of diesel fuel per horsepower-hour based on SCAQMD CEQA Air Quality Handbook Table A9-3E.								
Source of construction equipment data: CalEEMod sheets prepared for the project.								

Ventura County 2024 Aggregated Vehicle Fuel Consumption

Vehicle Class	Fuel	Daily VMT	Daily Fuel Consumption (1000 gallons)	Miles/gallon	Percent of Vehicle Class VMT	Range Average (miles/gallon)
Light Duty Vehicles						
LDA	Gas	9,541,980	316	30.23	91.60%	29.8
LDA	Diesel	33,438	1	42.47	0.32%	
LDT1	Gas	841,042	34	24.93	8.07%	
LDT1	Diesel	243	0	24.07	0.00%	
Heavy Duty Vehicles						
LHDT1	Gas	365,714	26.89	13.60	8.79%	18.0
LHDT1	Diesel	310,831	14.95	20.79	7.47%	
LHDT2	Gas	58,546	4.89	11.98	1.41%	
LHDT2	Diesel	127,667	7.36	17.35	3.07%	
MDV	Gas	2,894,840	146.72	19.73	69.61%	
MDV	Diesel	53,631	2.26	23.71	1.29%	
HHDT	Gas	66	0.02	0.00	0.00%	
HHDT	Diesel	347,397	57.49	6.04	8.35%	
Source of VMT and fuel consumption data: EMFAC 2021 sheets.						

Construction Worker and Vendor Fuel Consumption

Construction Phase	Days	Daily Trips	Trip Length	Miles/Day	Total Miles	Vehicle Class	Average Vehicle Fuel Economy (mpg)	Total Fuel Consumption (gallons)
Construction Worker Trips								
Grading	150	70	18.5	1,295	194,250	Light Duty Mix	29.8	6,509
Building Construction	1,245	179	18.5	3,312	4,122,818	Light Duty Mix	29.8	138,149
Paving	15	15	18.5	278	4,163	Light Duty Mix	29.8	139
Architectural Coating	1,245	38	18.5	694	863,719	Light Duty Mix	29.8	28,942
Infrastructure	120	8	18.5	139	16,650	Light Duty Mix	29.8	558
							Total Construction Worker Fuel Demand	174,298
Vendor Trips								
Building Construction	1,245	27	10.2	270	336,524	Heavy Duty Mix	18.0	18,701
							Total Construction Fuel Demand	192,998
Source of trip and trip length data: CalEEMod sheets prepared for the project.								

EMFAC2021-EI-2007Class-Ventura-2024-Annual-20230329142835

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: County

Region: Ventura

Calendar Year: 2024

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Consumption	Fuel Consumption
Ventura	2024	HHDT	Aggregate	Aggregate	Gasoline	1.4873469425818300	66.0368830896036	66.0368830896036	0	29.75883762717720	0	0.016190416234834400
Ventura	2024	HHDT	Aggregate	Aggregate	Diesel	3037.935358728810	347397.3690393760	347397.3690393760	0	41719.3424167461	0	57.492589359945100
Ventura	2024	HHDT	Aggregate	Aggregate	Electricity	9.884191325260810	1017.5134620136600	0	1017.5134620136600	124.93118303317300	1807.4709829254200	0
Ventura	2024	HHDT	Aggregate	Aggregate	Natural Gas	159.35390529207900	10214.893133789700	10214.893133789700	0	901.4914801156480	0	1.648793230406670
Ventura	2024	LDA	Aggregate	Aggregate	Gasoline	238542.3950406910	9541980.20952744	9541980.20952744	0	1102859.9450438300	0	315.6195060408810
Ventura	2024	LDA	Aggregate	Aggregate	Diesel	1091.6737837895600	33438.443577352500	33438.443577352500	0	4589.337125025920	0	0.7873282847517550
Ventura	2024	LDA	Aggregate	Aggregate	Electricity	11914.65973167720	601045.9180170960	0	601045.9180170960	59483.59082254890	232053.33137378800	0
Ventura	2024	LDA	Aggregate	Aggregate	Plug-in Hybrid	6365.693896833060	310656.3471129790	153425.23856100600	157231.10855197300	26322.14426432460	47488.481020144200	4.992402594126470
Ventura	2024	LDT1	Aggregate	Aggregate	Gasoline	24363.607222664900	841042.4619401320	841042.4619401320	0	105175.6414599340	0	33.74264043612620
Ventura	2024	LDT1	Aggregate	Aggregate	Diesel	17.389548049843000	243.48149222181500	243.48149222181500	0	49.775343342421300	0	0.010114645000421800
Ventura	2024	LDT1	Aggregate	Aggregate	Electricity	49.079415189172400	2089.530252631490	0	2089.530252631490	230.0352939243550	806.7311358325530	0
Ventura	2024	LDT1	Aggregate	Aggregate	Plug-in Hybrid	26.548918520651300	1443.3176718415200	643.95181865059	799.3658531909330	109.77977808672900	241.43231258120300	0.021012985890904500
Ventura	2024	LDT2	Aggregate	Aggregate	Gasoline	108604.36570315600	4486372.808143050	4486372.808143050	0	505263.78531352900	0	183.7863405107260
Ventura	2024	LDT2	Aggregate	Aggregate	Diesel	500.3780478885290	21599.62160406280	21599.62160406280	0	2375.933805263760	0	0.6795531327053790
Ventura	2024	LDT2	Aggregate	Aggregate	Electricity	588.7937800521050	22920.314506372600	0	22920.314506372600	3012.1258987343200	8849.133115961750	0
Ventura	2024	LDT2	Aggregate	Aggregate	Plug-in Hybrid	778.6683860170350	40668.70380668730	18945.642127810200	21723.061678877000	3219.7937762929600	6561.012077936080	0.6203346414753970
Ventura	2024	LHDT1	Aggregate	Aggregate	Gasoline	9357.751410570960	365714.1032044150	365714.1032044150	0	139416.55296790600	0	26.891059531684200
Ventura	2024	LHDT1	Aggregate	Aggregate	Diesel	7877.747478231020	310830.545939386	310830.545939386	0	99092.15306981860	0	14.953957626006500
Ventura	2024	LHDT1	Aggregate	Aggregate	Electricity	28.670956165809000	2298.648684530880	0	2298.648684530880	400.5151009571750	1295.2519240935200	0
Ventura	2024	LHDT2	Aggregate	Aggregate	Gasoline	1558.1676765324000	58546.41833941360	58546.41833941360	0	23214.376710494700	0	4.8874973018109600
Ventura	2024	LHDT2	Aggregate	Aggregate	Diesel	3143.4557710676700	127666.92421663100	127666.92421663100	0	39540.71913267130	0	7.358080717032150
Ventura	2024	LHDT2	Aggregate	Aggregate	Electricity	7.420940024170670	563.7099853520850	0	563.7099853520850	98.23076756367480	317.7375782135950	0
Ventura	2024	MCY	Aggregate	Aggregate	Gasoline	14736.579698998000	87390.53013755410	87390.53013755410	0	29473.159397995900	0	2.125804625939300
Ventura	2024	MDV	Aggregate	Aggregate	Gasoline	78669.8168105391	2894840.1737016200	2894840.1737016200	0	358186.10527124600	0	146.72203270601700
Ventura	2024	MDV	Aggregate	Aggregate	Diesel	1405.5948446876500	53631.16098563100	53631.16098563100	0	6515.7620044087700	0	2.2621581610742800
Ventura	2024	MDV	Aggregate	Aggregate	Electricity	640.4656773804730	24940.81540789180	0	24940.81540789180	3276.892599010750	9629.213224962600	0
Ventura	2024	MDV	Aggregate	Aggregate	Plug-in Hybrid	518.1281215657990	24983.474570985400	12010.246250325400	12973.228320660100	2142.4597827494500	3918.3016169603400	0.3988850254025360
Ventura	2024	MH	Aggregate	Aggregate	Gasoline	3023.3621532632600	27442.590515692200	27442.590515692200	0	302.4571498124560	0	5.545803869747330
Ventura	2024	MH	Aggregate	Aggregate	Diesel	1150.4700893338800	11135.073621148	11135.073621148	0	115.0470089333880	0	1.0825720154474300
Ventura	2024	MHDT	Aggregate	Aggregate	Gasoline	685.1511570476840	33706.554786562500	33706.554786562500	0	13708.504350210100	0	6.365614883790560
Ventura	2024	MHDT	Aggregate	Aggregate	Diesel	6094.016556440060	255351.9550492350	255351.9550492350	0	72911.11314734770	0	28.263963194930100
Ventura	2024	MHDT	Aggregate	Aggregate	Electricity	17.07232837225600	886.659821991281	0	886.659821991281	220.04306043359600	925.4834803949640	0
Ventura	2024	OBUS	Aggregate	Aggregate	Gasoline	242.61558744092600	9481.812047607970	9481.812047607970	0	4854.252673518050	0	1.842393663793010
Ventura	2024	OBUS	Aggregate	Aggregate	Diesel	117.21968952558100	7496.471278802390	7496.471278802390	0	1193.7182777791000	0	0.8967073510078350
Ventura	2024	OBUS	Aggregate	Aggregate	Electricity	0.4402069005495920	32.46628859678800	0	32.46628859678800	8.807659666196240	34.097820988723600	0
Ventura	2024	OBUS	Aggregate	Aggregate	Natural Gas	1.3725908774415300	77.3019668250617	77.3019668250617	0	12.216058809229600	0	0.008230673835165710
Ventura	2024	SBUS	Aggregate	Aggregate	Gasoline	118.90919907180000	5125.159207592640	5125.159207592640	0	475.6367962872010	0	0.5734377668356700
Ventura	2024	SBUS	Aggregate	Aggregate	Diesel	379.31529077107000	8710.46603087774	8710.46603087774	0	5492.485410365100	0	1.1405406911135700
Ventura	2024	SBUS	Aggregate	Aggregate	Electricity	1.2019092408016600	31.795940221821600	0	31.795940221821600	14.87368840835760	36.76568836064010	0
Ventura	2024	SBUS	Aggregate	Aggregate	Natural Gas	10.884368509626000	265.7794598141800	265.7794598141800	0	157.60565601938500	0	0.06306292320460190
Ventura	2024	UBUS	Aggregate	Aggregate	Gasoline	36.91752756663700	3201.536103469680	3201.536103469680	0	147.67011026654800	0	0.6436052096746350
Ventura	2024	UBUS	Aggregate	Aggregate	Diesel	36.88596757285930	6523.0036541456500	6523.0036541456500	0	147.54387029143700	0	1.041587512425480
Ventura	2024	UBUS	Aggregate	Aggregate	Electricity	0.1537264059155480	14.848109661121700	0	14.848109661121700	0.6149056236621920	30.00642820541900	0
Ventura	2024	UBUS	Aggregate	Aggregate	Natural Gas	122.25049085536000	12619.636094355400	12619.636094355400	0	489.0019634214390	0	2.8298421820347000

APPENDIX N -
MASTER DRAINAGE PLAN AND FLOODPLAIN ANALYSIS

Camarillo Springs Golf Course

Master Drainage Plan and Floodplain Analysis

April 2022
(Revised December 2021)
(Revised June 2021)
(Revised September 2020)
(Revised March 2020)
(Revised February 2020)

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Table of Contents

Tables

Figures

Appendices

F. Additional Exhibits

1 Introduction

This Master Drainage Plan (MDP) documents the regional and local hydrology and floodplain hydraulics for the proposed Camarillo Springs Golf Course project. The proposed project is designed to preserve the amount of existing floodplain storage on Conejo Creek, to maintain or reduce Base Flood Elevations through the study area, and to remove more than 150 existing residences from the current FEMA floodplain.

This study includes analysis and comparison of existing conditions (current) and proposed conditions (with project) floodplain storage during the 100-year storm event, floodplain mapping, and river hydraulics of Conejo Creek.

The proposed project drainage system is analyzed with an XPSWMM hydraulic routing model. The existing conditions and proposed conditions Conejo Creek floodplain hydraulics are analyzed with HEC-RAS two dimensional models.

1.1 Project Description

The existing Camarillo Springs Golf Course is located in the City of Camarillo, CA in southeastern Ventura County at the base of the Santa Susana Mountains (Figure 1), in the Camarillo Springs Creek watershed, tributary to Conejo Creek.

The proposed project includes approximately 32 acres of residential development on the existing north golf course property, neighborhood parks, walking trails, and open space. The project flood protection system will consist of elevating the proposed 32-acre development area to be a flood protection barrier along the northern boundary of the site. The project area, including over 150 existing residences, will be protected from the Conejo Creek floodplain. The proposed design incorporates a drainage system that will divide the flow from the upper Camarillo springs watershed so that some of the flow will be conveyed through a large bypass culvert directly to Conejo Creek, and some of the flow will be diverted to the interior lake for storage.

The proposed conditions design preserves the amount of existing conditions Conejo Creek floodplain storage through a combination of increasing the Conejo Creek overbank floodplain storage on the south golf course area, and storing Camarillo Springs Creek flow before it can add to the Conejo Creek floodplain volume.

1.2 FEMA Flood Mapping

The current floodplain mapping for the project area is shown on FIRM Panels 06111C0934E and 06111C0953E. The FIRM panels are included in *Appendix A*.

The proposed project revises the floodplain adjacent Conejo Creek, and also within the Camarillo Springs project area, where the floodplain will be removed from more than 150 existing residences, as shown on Figure 3. A Conditional Letter of Map Revision (CLOMR) application, Case No. 19-09-1295R is pending final approval FEMA. The technical aspects of the project (hydrology and hydraulics) have all been approved. The remaining items are environmental documentation and property notifications.

1.3 Previous Studies

There have been numerous studies performed within the Calleguas and Conejo Creek Watersheds in regards to hydrology, hydraulics, sediment transport that have useful baseline information related to the current floodplain/watershed conditions for the Camarillo Springs Golf Course area. The following list includes recent published studies in the area related to Hydrology and Hydraulics.

Calleguas Creek Watershed Feasibility Study (USACE, 2003)

The feasibility study was a complete regional watershed analysis of the Calleguas Creek basin and existing facilities, focusing on determining peak discharges and hydrographs for Calleguas Creek tributaries as well as sediment transport for environmental impacts.

Calleguas Creek Watershed Hydrology Study using VCRat (VCWPD, 2003)

VCWPD developed a complete regional watershed model of the Calleguas Creek system, including Conejo Creek and Revolon Slough, using the Ventura County Modified Rational Method (VCRat).

Calleguas Creek Watershed Management Plan (2004)

The Watershed Management Plan was a collaborative effort between local government and community agencies to create a cooperative strategy for resource management and protection.

Preliminary Ventura County Flood Insurance Study (Nolte Associates Inc., 2015)

In 2004, Nolte Associates Inc. competed a draft publication of the Ventura County Flood Insurance Study (FIS) for the Federal Emergency Management Agency (FEMA). The publication went through an initial public review process, then became effective in January 2010. It went through additional review/revisions before becoming most recently effective in January 2015.

Calleguas Creek Letter of Map Revision (PACE, 2015)

In 2014, PACE completed a Letter of Map Revision (LOMR) based on a previous Conditional Letter of Map Revision for portions of Calleguas Creek near the 101 Freeway crossing. The LOMR, which FEMA approved in 2015, included a comprehensive hydraulic analysis of the creek and overbank areas.

2 Hydrology

The Camarillo Springs Golf Course project is located within the local Camarillo Springs Creek watershed, tributary to Conejo Creek regional watershed, which is part of the larger Calleguas Creek regional watershed (Figure 4). Hydrology for the MDP analysis is obtained from previous regional studies of Conejo Creek for mainstem flows and project specific analyses for lateral inflows.

2.1 Conejo Creek Mainstem Hydrology

There have been multiple hydrologic studies of Conejo Creek using various approaches to hydrologic parameters. The studies and the results were reviewed and compared to select the results used in the present MDP analysis. The hydrograph from the approved 2015 Conejo Creek LOMR was used for the mainstem flow in the present study. The results are summarized in *Table 2-1*.

2.1.1 US Army Corps of Engineers

In February 2003, The United States Army Corps of Engineers, in cooperation with VCWPD, prepared a comprehensive study of Calleguas Creek, which included its tributaries – notably Conejo Creek. The study, entitled "*Calleguas Creek Watershed Feasibility Study*," provided rainfall-runoff models for estimating peak flowrates and hydrographs at key locations, including just upstream of the proposed project development at the Highway 101 crossing of Conejo Creek. The study used HEC-HMS modeling with extensive land use, precipitation, streamflow, and soil data.

2.1.2 Ventura County Watershed Protection District Study

In March 2003, a Countywide study, initiated by Federal Emergency Management Agency (FEMA) and in cooperation with the USACOE, was prepared by VCWPD entitled "*Calleguas Creek Watershed Hydrology Study*." The study included VCRat (Modified Rational Method) peak flowrates and hydrographs for the entire Calleguas Creek Basin.

2.1.3 FEMA Flood Insurance Study (FIS)

The effective Flood Insurance Study, dated April 2018, shows peak flowrates for Conejo Creek which are lower than those obtained from the USACOE and VCPWD Countywide studies. *Table 2-1* provides a basis of comparison between the effective FIS flow rates and the various study flowrates.

2.1.4 FEMA Conejo Creek Model

A FEMA HEC-RAS model of Conejo Creek through Camarillo springs, uses flowrates from the 2003 VCWPD study, adjusted with aerial reduction factors from curves generated by VCWPD. That model was the FEMA effective hydraulic model prior to a 2015 LOMR.

2.1.5 Conejo Creek 2015 LOMR

The hydraulic model of Conejo Creek in the project area was updated as part of an approved 2015 LOMR. For that LOMR, the VCRat 100-year Conejo Creek hydrologic model was revised, following guidance from VCWPD staff, to include volume scaling (hydrograph fattening). The model for that LOMR became the FEMA effective model for the study reach of Conejo Creek. The hydrology used in that model is the primary source for the hydrology used in the present MDP.

Table 2-1 100-Year Flowrates

	US ACOE	VCWPD	FEMA FIS	FEMA Conejo Creek Model	Current Effective FEMA (VCRat)
100-year Peak Flowrate	22,500 cfs	22,987 cfs	22,000 cfs	23,070 cfs	23,097 cfs*

**used for present study*

2.2 Lateral Inflow Hydrology

In existing conditions, lateral inflow hydrographs to Conejo Creek are obtained from the FEMA effective model. The hydrographs are provided in *Appendix B*. In proposed conditions, all the hydrographs are unchanged from the existing conditions, except for the hydrograph from the watershed encompassing the Camarillo Springs Creek. The proposed conditions hydrograph from this watershed was modified to account for lake storage added in proposed conditions. The process for obtaining the adjusted lateral inflow hydrograph for proposed conditions is described in Section 2.2.1.

2.2.1 Approved County Hydrology

Hydrographs for the local lateral inflows to Conejo Creek are obtained from the FEMA effective HEC-RAS (one dimensional) model. The hydrographs include flows from Camarillo Springs Creek, the East Camarillo Drain, the Oak Grove Channel, and Upland Road Drain.

The proposed conditions inflow to Conejo Creek, at Ridge View Street, is scaled by the ratio of original runoff volume minus lake storage, divided by the original runoff volume. The lake storage volume is calculated by analyzing the proposed conditions flood protection design using XPSWMM hydraulic routing software. *Appendix B* has the adjusted hydrograph at Ridge View Street that was used for the proposed condition model.

2.3 Design Hydrology for Interior Project Hydraulics

During third party review on behalf of the city, it was requested that PACE utilize a modified hydrology approach for project design. The requested approach uses legacy parameters from the Ventura County Hydrology Manual, with hydrograph volumes adjusted to the latest county parameters. The approach results in runoff volumes that are in line with the latest NOAA Atlas 14 rainfall values, but peak flowrates that are conservatively high. This method was used for all hydrographs used in the interior hydraulic modelling and design for the proposed project. Downstream hydraulic control at Conejo Creek is from the 2015 LOMR.

2.3.1.1 VCRat Hydrographs for Onsite Hydraulics

As shown in Figure 5, there are three main areas that drain near the project area to Conejo Creek:

- Watershed A (Upper): the area tributary to the bypass culvert
- Watershed B (Tributary): the area directly tributary to the lake (South Adjacent Lower Camarillo Springs Creek Watershed and South Project Development)
- Watershed C (North): the area that drains to the north/east of the lake and project (East Adjacent Lower Camarillo Springs Creek Watershed and East Project Development)

PACE performed hydrologic modelling in VCRat of these areas for use in the floodplain analysis. Both existing and proposed hydrographs were developed. Supporting analysis and files are included in *Appendix* C. Only hydrographs from Watersheds A and B flow through the golf course area and to the bypass culvert and lake. The hydrographs for these two watersheds, along with onsite hydrographs from the proposed development, were entered into a 1D XPSWMM Model to obtain the volume entering the lake.

Hydrographs for Watershed C, which flows to the east and north of the project development and will be conveyed to Conejo Creek by means of overland flow or conveyance infrastructure to be put in by others, still is connected to Conejo Creek and is therefore still encompassed in the adjusted lateral inflow hydrograph. The hydrograph from Watershed A, which flows through the bypass culvert from the West Basin, also still flows directly to Conejo Creek and is therefore also still encompassed in the adjusted lateral inflow hydrograph. Floodplain storage volume removal in the lake and basins changed the original lateral inflow hydrograph to produce the adjusted lateral inflow hydrograph. Peak flowrates and volumes are noted on Figure 6.

As noted, hydrographs were developed for onsite watersheds using VCRat, the Ventura County Rational Method Software Program. Hydrographs were using the Legacy methodology for all onsite subareas, as shown in the Hydrologic Workmap in *Appendix C*. Times of Concentration calculations were performed through the Tc Tool within the VCRat 2.64 program, and directly entered into VCRat models for each subarea.

The Upper Camarillo Springs Watershed (Watershed A) incorporates routing and combined subareas, as does a portion of the North Watershed (Watershed C). Hydrographs were developed for various input locations around the project site, for use in the XPSWMM modeling.

2.3.1.2 Local Sediment Production

To accommodate potential sediment and debris, calculations were prepared to quantify the volume of debris that could be generated from the Upper Camarillo Springs Watershed (WS-A). The proposed design includes multiple debris basins upstream of the bypass culvert inlet, and a trash rack to stop floating debris from entering the culvert. The volume of the basins is reserved for trapped debris, and thus is not included in the flood volume storage analysis. The debris calculation is provided to quantify the amount of storage that will be provided for debris capture upstream of the bypass culvert.

The potential debris production on the upstream watershed was calculated following the methodology described in the 2005 and 2019 Draft Ventura County Debris and Detention Basin Design reports. The report has calculations for debris production using a regression equation from a 1978 USGS publication, Erosion and Sediment Yields in the Transverse Ranges. The calculation relates debris production on a watershed to five significant parameters.

$$Log\ (S_y) = 1.244 + 0.828\ Log(A) + 1.382\ Log(ER) + 0.375\ Log(SF) + \ 0.251\ Log(FF) + 0.840\ Log(K)$$

A is the watershed area in mi^2.

ER is the elongation ratio, defined as the ratio of the diameter of a circle with the same area as the watershed to the length of the main channel of the watershed.

SF is the acres of slope failure per square mile of watershed. This value is established using a slope failure map GIS layer from the California Department of Conservation.

FF is the fire factor, is a parameter related to the recovery of vegetative cover and the time elapsed following a fire that denudes the watershed. The value of FF ranges from 88, six months after a burn, to 20, 4.5 years after a burn, to 1, 7.5 years after a burn. The parameter is used to quantify the likelihood that the design debris producing event occurs immediately following a complete watershed burn.

K is the precipitation factor, defined as the 10-day precipitation multiplied by the 24-hour precipitation squared. These values are obtained from the NOAA Atlas 14 data set for the location of the Camarillo Springs watershed.

To provide an envelope of possible values to the calculation, three different conditions were analyzed – six months after burn (FF = 88), 4.5 years after burn (FF = 20), and 7.5 years after burn (FF = 1). The sediment production was calculated for current conditions with no recent burn, and the statistically uncertain conditions presented in the 1978 USGS publication. The calculations are shown in *Appendix C*.

Note that the calculated values represent a statistical worse case situation for the quantity of debris that could possibly be produced on the watershed. The calculation does not reflect the ability of the upper watershed to transport the debris to the upper watershed outlet. The calculation does not account for intermediate storage and entrapment of any of that debris at local depressions and features within the watershed.

3 Camarillo Springs Creek Hydraulic Analysis

The proposed project is designed to create flood protection for the existing residences, and new development. A design performance requirement is that the proposed design must preserve the amount of existing Conejo Creek floodplain storage. The proposed project will occupy overbank area where there is approximately 389 ac-ft of existing Conejo Creek floodplain storage (Figure 15). The proposed project provides compensatory storage consisting of 70 ac-ft of storage in the interior lake and East Basin, and increases the floodplain storage on the south golf course area by 325 ac-ft (Figure 16).

The existing conditions floodplain storage on the north golf course area and the south golf course area results from Conejo Creek overbank flow, and so the storage may be analyzed and calculated from the existing conditions Conejo Creek floodplain hydraulic models. The proposed conditions floodplain storage on the south golf course area also results from Conejo Creek overbank flow, and may be analyzed and calculated from the proposed conditions Conejo Creek floodplain hydraulic models. The proposed conditions floodplain storage on the project lake results from Camarillo Springs Creek flow that is stored before it can combine with Conejo Creek flow, so the proposed conditions lake storage is not provided by the Conejo Creek floodplain hydraulic models. The proposed conditions interior floodplain and lake storage must be analyzed with a hydraulic routing model of the Camarillo Springs Creek and the proposed drainage system. The analysis was done with a 1D XPSWMM hydraulic routing model.

3.1 XPSWMM Hydraulic Analysis

The Camarillo Springs Creek flow diversion, bypass culvert hydraulics, and lake storage hydraulics, are evaluated with an XPSWMM dynamic hydraulic routing model. The present study used XPSWMM version 2017.1 for the analysis.

3.1.1 Hydrologic Data

The hydrograph into the East Basin and the hydrograph into the Lake were obtained from proposed condition VCRat output files, as described in Section 2 and provided in *Appendix C*.

3.1.2 Boundary Conditions

The large bypass culverts and the lake drainage culvert drain to Conejo Creek. A stage time table, representing the time varying water surface elevation in Conejo Creek during the design storm, was extracted from the Conejo Creek hydraulic models. The stage time table was applied as the downstream boundary condition for the outlets to Conejo Creek.

3.1.3 Drainage System Inlet and Debris Basins and Lake Storage

The East Basin provides 8.0 ac-ft of debris storage, and has a footprint of 3.1 ac. The West Basin, which is the inlet to the Bypass Culvert, has a footprint of 0.7 ac.

The lake provides 56 ac-ft of floodplain storage as surcharge between elevation 108.0 ft and 112.0 ft, and has a footprint of 19 ac. Certain key dimensions and geometric data in the model are summarized in Table 3-1.

Table 3-1 Input Values for XPSWMM Model

Parameter	Road Inlet Weir	Secondary Overflow to North	Golf Cart Tunnel at Cam. Spr Rd (10'x7')	Proposed Additional Culverts at Cam Spr Rd (5.5' Dia)	Proposed Main RCB Culvert (12.5'x6.5')	Proposed Secondary RCB Culverts (12.5'x6.5')
Description of Purpose in Model	Flow over Camarillo Springs Road	Overflow Weir from West Basin to Driving Range	Flow from East Basin to West Basin	Flow from East Basin to West Basin	Flow from West Basin to Conejo Creek	Flow from West Basin to Conejo Creek
Length	160'	100'	60'	60'	3,400'	2,990'
Crest or Inverts	127'	125.0'	118.6' / 117.8'	118.6' / 117.8'	118.5' / 107.9'	118.5' / 107.9'
Loss or Discharge Coef's	3.0	3.0	0.2 / 0.44	0.2 / 0.44	0.2 / 0.44	0.2 / 0.44
Manning's n	-	-	0.015	0.015	0.015	0.015

Culverts and pipes incorporated friction losses, entrance losses, and exit losses. Exit loss coefficients were calculated using the Borda-Carnot equation. Using a ratio of upstream to downstream area of one-third, the exit loss coefficient becomes 0.44. Entrance loss coefficients for box culverts follow conventional published values of 0.20 corresponding to slightly rounded entrances. Entrance loss for pipes were developed using the FHWA entrance type codes. Interior conduit Manning's roughness values were chosen as 0.015 corresponding to concrete surfaces.

3.1.4 Model Configuration

The model layout is shown on Figure 17.

There are two inflow hydrographs. Flow from the 842 acres of the upper Camarillo Springs Creek watershed is introduced at the East Basin. Flow from hillsides and residential area adjacent to the lake are introduced directly to the lake/golf course area.

Basins and the lake are represented as storage nodes. The bypass culverts, lake drainage culvert, golf car tunnel, and additional culverts below Camarillo Springs Road are represented as culverts. The flow path over Camarillo Springs Road is represented as a weir. The flow from the basin secondary overflow weir is also represented as an open channel.

The general design flow mechanism is that upper Camarillo springs Watershed runoff flows into the East Basin, through the golf cart tunnel and proposed additional culverts below the road, then into the West Basin where the flow enters the bypass culverts. The stored surcharge on the lake flows through the lake drainage culvert to Conejo Creek after the Conejo Creek peak subsides. For storms greater than 100yr, a secondary overflow spillway from the West Basin is utilized to direct higher flows north toward the driving range. The secondary overflow spillway is also used in the case of a blockage occurring in the bypass culverts.

The XPSWMM model is included in *Appendix E*.

3.2 Drainage System and Lake Storage Model Results

During the 100-year design storm, with coincident peaks in Conejo Creek, and in Camarillo springs Creek, the 19-acre lake provides 56 ac-ft of Conejo Creek floodplain storage by surcharging and storing Camarillo Springs Creek flow volume before it can add to the Conejo Creek floodplain volume. During the storm, the lake surcharges to a maximum of 112.0 ft.

4 Conejo Creek Hydraulic Analysis

The Conejo Creek Floodplain hydraulics were analyzed with HEC-RAS two dimensional modelling.

4.1 Hydraulic Analysis – HEC-RAS 2D

The HEC-RAS two dimensional modelling follows guidelines from the HEC-RAS Two Dimensional Modeling User's Manual (v5.0) and the HEC-RAS Supplemental User's Manual (v5.0.4).

4.1.1 Modelled Configurations

The Conejo Creek floodplain hydraulics were modelled in two configurations: the existing conditions (no project) and the proposed conditions (with project). The 2D models are included in Appendix E.

The only differences between the existing conditions models and the proposed conditions model are the proposed grading and geometric changes along the north golf course area, the proposed grading and geometric changes along the south golf course area, and the proposed conditions lateral inflow hydrograph from Camarillo Springs Creek modified to reflect revised proposed hydrology, and the proposed drainage system and lake storage.

4.1.2 Topographic Data

The topographic data consist of digital LiDAR topographic mapping data was flown by the County of Ventura in July 2013. The topographic data was used to generate existing conditions models. The topographic data was merged with proposed conditions grading files to generate proposed conditions models. TIF files containing elevation data were developed for use in the HEC-RAS two dimensional models.

4.1.3 Model Extents

The HEC-RAS two dimensional model domain extends from just upstream of the confluence of Conejo Creek and Calleguas Creek to approximately 4,250 ft upstream of US Hwy 101. Approximately 18,800 ft of Conejo Creek is modelled in the 6.7 sq mi 2D flow area (Figure 7).

4.1.4 Inflow Hydrographs

Inflow hydrographs for the models were obtained from the FEMA effective model, and from project specific hydrologic modelling described in Section 2. The proposed conditions inflow hydrograph from Camarillo Springs Creek was modified to reflect the proposed drainage and storage system, using the XPSWMM modelling described in Section 3.

4.1.5 Land Use/Manning's Roughness

Land use data was obtained from the U.S. Geological Survey National Land Cover Database (2011). The land use information was used to define Manning's roughness in the overbanks of the model. Manning's n values associated with each land use were obtained from the HEC-RAS 2D Modeling User Manual (US Army Corps of Engineers, 2016) and Open Channel Hydraulics (Ven Te Chow, 1959). *Table 4-1* provides a list of Manning's roughness values used in the 2D model.

Table 4-1 Manning's Roughness Values per Land Use

Land Cover Definition	Manning's n
Open water	0.035
Developed, Open Space	0.040
Developed, Low Intensity	0.080
Developed, Medium Intensity	0.065
Developed, High Intensity	0.120
Barren Land	0.025

Land Cover Definition	Manning's n
Deciduous Forest	0.100
Mixed Forest	0.100
Shrub/Scrub	0.070
Grassland/Herbaceous	0.025
Pasture/Hay	0.030
Cultivated Crops	0.035
Woody Wetlands	0.065
Emergent Herbaceous Wetlands	0.065

Manning's roughness values in the channel were calibrated so the existing condition model's water surface elevations matched the effective FEMA BFEs. Manning's n values vary horizontally along the channel and range from 0.035 to 0.08.

4.1.6 Boundary Conditions

The main Conejo Creek channel inflow hydrograph is specified as the upstream boundary condition. The downstream boundary condition is a normal depth condition. Flow hydrographs are also specified as internal boundary conditions to define lateral inflows to the channel.

4.1.7 Model Parameters

The computational settings are summarized in *Table 4-2*.

Table 4-2 Computation Settings for HEC-RAS 2D Models

Computation	Setting
Computation Interval	3 seconds
Simulation Time	26 hours
Overbank Grid Cell Size	50 ft by 50 ft
Channel Grid Cell Size	15 ft by 15 ft
Number of Grid Cells	Approx. 88,000

4.2 Modelling Results

The existing conditions and the proposed conditions flow depths, flow velocities, depth differentials, and velocity differentials are presented in Figure 8 – Figure 14. The exhibits show the calculated changes to the Conejo Creek depth and velocity that would result from the proposed project.

Flow Depth Analysis Results

The existing and proposed conditions flow depth exhibits depict the deepest flow depth that occurs for each HEC-RAS 2D element at any time in the design storm analysis. The flow depth exhibits also show the greatest extents of the surface water during the design storm. As can be seen by comparing the flood depth exhibits for the existing and proposed conditions, Figure 8 and Figure 9, the peak flow depths do not change significantly outside of the project boundary on the properties upstream or downstream of the project, or on the properties west of the project. Any changes to the floodplain extents are not detectable at the FEMA map scale.

Comparing the existing and proposed conditions flow depth exhibits, changes to the flow depths and extents can be seen within the Camarillo Springs project site. The changes within the north golf course area reflect onsite project grading and fill, and also the onsite floodplain storage of flow generated on the local watershed. The exhibits also show the reduction in the peak WSEL within the main project area, and removal of the 100-year floodplain from more than 150 residential homes along the southern edge of the golf course. The comparison also shows the increase in overbank floodplain storage depth on the south golf course area.

Flow Depth Impacts

The flow depth differential exhibit, Figure 10, shows the flow depth changes, calculated as the proposed conditions depth minus existing conditions depth. The figure shows the significant depth increases, by design, on the project property on the south golf course area. Only very slight increases in the modelled flow depth occur anywhere in the Conejo Creek channel, or on adjacent overbank areas through the entire study reach. Absolute flow depth increases of less than 0.1 ft, are shown in the Conejo Creek channel and on all offsite overbank areas throughout the entire project study area. There are several observations that indicate that these are not substantial impacts.

- These slight differences from the models are on the same order of magnitude as the hydraulic model convergence tolerance, and so are at the low limit of the model ability to reliably calculate.
- The small differences are calculated using a hypothetical large storm event that is very rare.
- The differences are not sustained, and would only occur during a short time.
- In actual field conditions, these changes are not measurable in elevation.
- These changes also do not cause any change to mapped floodplain extents.

These slight depth changes, are essentially calculated artifacts, but are not changes that would be visible or measurable. These changes are not significant impacts to the Conejo Creek floodplain, or to surrounding properties.

Flow Velocity Analysis Results

The existing and proposed conditions flow velocity fields are shown on Figure 11, and Figure 12. The exhibits depict the grid averaged velocity field in Conejo Creek at the peak of the hydrographs. Comparison of the flow velocity exhibits for the existing and proposed conditions reveal that there are minor changes to the velocity outside of the project property, with some larger velocity changes within the project property, on the south golf course storage area. The exhibits also show the north part of the project area, including more than 150 existing homes, with no velocity in proposed conditions.

The HEC-RAS 2D modelling reveals velocity components in two dimensions. Small changes to the velocity field reflect circulation, and lateral flow on the main Conejo Creek channel and overbank floodplain. These small differences represent various local flow velocity directions, not generally in the downstream direction. These differences do not cumulatively represent overall channel flow velocity, in the downstream direction, that would be calculated with HEC-RAS one dimensional modelling typically used for design and FEMA floodplain mapping.

Flow Velocity Impacts

The flow velocity differential, Figure 13, shows the flow field localized velocity changes, calculated as the proposed conditions flow velocity minus the existing conditions velocity. The figure shows that there are minor increases to the velocity offsite areas. Absolute velocity increases are less than 0.5 ft/sec everywhere, except for a few isolated spots. Most of the area shows no increase in velocity.

The impacts of any calculated changes in velocity are examined by considering if the flow could cause erosion. The National Engineering Handbook recommends allowable sustained velocity design values of 2 ft/sec to 10 ft/sec. For the study reach, a peak velocity of 4 ft/sec was used, as recommended by the County for a threshold of significance. This threshold value is used to calculate possible velocity impacts of significance, as shown in the flow velocity differential exhibit in Figure 14. The impacts threshold is chosen as the condition where the velocity in existing conditions is below 4 ft/sec, but the velocity in proposed conditions is above 4 ft/sec. It can be seen from Figure 14 that the project does not impact offsite areas by creating new areas of erosive conditions.

There are only a few scattered cells that are shown with the impacts condition, but they are all surrounded by large areas of no color. Isolated spots indicate localized, transient model peaks. Such areas do not indicate velocity differences that could be expected and measured in field conditions.

The velocity field results are from two dimensional modelling. This should be kept in mind when considering and comparing point by point values with small differences, as shown in Figure 11 – Figure 14. The changes are calculated by localized values which may be in any direction streamwise or laterally. These changes can represent variation in lateral flow or circulation, but do not cumulatively represent an increase in downstream flow velocity, and would not be calculated as a velocity change using a HEC-RAS one dimensional model generally used for design and FEMA mapping. These small changes can also arise from dynamic modelling oscillation. Such oscillations will generally be different, point by point, in different models, and will then show up as a small calculated difference through much of the flow field. Note that the area with a small increase in velocity extends well upstream of US Hwy 101 for some distance, where no project impacts to velocity can realistically occur.

There are several observations that indicate that the velocity field differences are not substantial impacts.

- The absolute velocity differences are generally less than 0.5 ft/sec.
- At least part of the calculated differences are caused by localized circulation, lateral flow, and dynamic model oscillations.
- The differences are not sustained and would only occur for a short time.
- The differences do not cause new areas to be in a possible erosive condition.
- The slight differences are calculated using a hypothetical large storm that is very rare.

These slight velocity field differences, are not changes that would be visible or measurable. These differences are transient conditions calculated during a hypothetical large, rare, storm event. These changes are not significant impacts to the Conejo Creek floodplain, or to surrounding properties.

5 Final Design Considerations

The proposed project design has been analyzed and developed to an advanced level so that many hydrologic, hydraulic, design, and operational details are known. The hydraulic performance, and floodplain conditions are understood in advance of final design. During final design, many additional details will be established for the construction drawings, and for the project operations and maintenance. Some larger project components are specifically discussed.

5.1 Bypass Culverts and Inlet Debris Basins

The bypass culverts have been sized and designed to convey the flow from the upper Camarillo Springs watershed, to Conejo Creek. Precise outlet details and outfall erosion protection will be established during final design, as part of the construction documents.

The inlet and debris basins have been sized to capture the largest possible volume of debris that could be generated on the upper Camarillo Springs watershed. The exact grading and configuration of the basins, and debris deposition profile, will be refined at the final design stage to ensure that the basins meet County design standards for debris basins.

5.2 Lake Storage and Lake Outlet

The lake feature within the north area has been sized and designed to provide storage for tributary flows from the surrounding adjacent areas, before they reach Conejo Creek. Flows entering the lake are comprised of runoff from the adjacent lower Camarillo Springs watershed and residential areas to the south of the property, and runoff from the southerly half of the new proposed development.

The lake has been designed to provide storage for the flows during large storm events above what is the normal operating water surface elevation of the lake feature. A lake outlet will then release the flood storage after the storm has passed. It has been designed for gravity drainage to Conejo Creek. Exhibit 1 in *Appendix D* shows the lake grading and proposed lake outlet. Exhibit 1 in *Appendix* D also shows two possible locations/boundaries for the lake outlet energy dissipation feature. The precise grading and outlet configuration, which will be established during final design, will allow the storage volume to drain within the time required by The Ventura County Watershed Protection District.

5.3 South Golf Course Area Storage

The south golf course storage area is shown in Figure 16, and with grading in Exhibit 2 in *Appendix D*. The area provides some Conejo Creek floodplain storage in existing conditions. Project grading and design increase the overbank storage in that area in proposed conditions. The area is designed to provide storage for larger flow events, but is graded to drain passively back to the Conejo Creek channel. The precise grading for the inlet and outlet configuration, which will be established during final design, will allow the storage volume to drain within the time required by The Ventura County Watershed Protection District.

Engineered bank protection, which may be buried, will provide integrity to the inflow and outflow between the main Conejo Creek channel, and the golf course storage area and protect against erosion. A drainage easement over the storage and conveyance areas may be established to ensure that the storage volume is maintained. Maintenance activities on the storage area will be under the jurisdiction of a public entity.

6 Additional Design Considerations

Per request of the City of Camarillo, the proposed project design has also been analyzed with more stringent standards and added safety features, as well as in a series of potential “extraordinary events”. The additional flood safety measures and extraordinary events are specifically discussed below.

6.1 Higher Standard

- Legacy Rainfall: The proposed drainage system was analyzed and designed to the Ventura County “Legacy” Design Storm. The Legacy Design Storm was the County’s design storm before the current 2017 Ventura County Hydrology Manual updated rainfall curves and data to be in accordance with National Oceanic and Atmospheric Administration (NOAA) rainfall and gage data. The Legacy Design Storm was based on theoretical data, higher rainfall totals, and overly conservative runoff coefficients, resulting in design flows approximately double those in the current County Design Storm. The proposed drainage system has been designed to the Legacy Design Storm (pre-2017), not the current County Design Storm (post-2017). Among other added design features, the design based on the Legacy Design Storm has three bypass culverts, when only one was necessary using the current County Design Storm.

6.2 Additional Flood Safety Measures

- West Basin Emergency Spillway: Instead of diverting flows from the Upper Camarillo Springs Wash Watershed into both the bypass culvert and the Lake area, the West Basin diverts the Upper Camarillo Springs Wash flows into the three bypass culverts, away from the Lake and the residents along the south edge of the golf course property. As an additional safety measure, an emergency spillway was added from the West Basin to the north to release any excess flows in the event of a blockage of all three bypass culverts.
- West Basin Breach Resistant Structure: The western and southerly bank of the West Basin will have a breach resistant soil cement core design, preventing the basin from failing and allowing flows into the lake.
- Lake Drainage Emergency Spillway: The onsite Lake captures storm event flows from the adjacent hillsides, not the main Upper Camarillo Springs Wash. The storm event flows from the adjacent hillsides fill up the Lake area to an elevation of 112’, as compared to the 118’ elevation of Conejo Creek flooding in existing conditions. Once the storm has passed through, the overflow drains from the Lake out to Conejo Creek through a 48-inch diameter drainage pipe. For redundancy, another 48-inch diameter drainage pipe was added to the design. This second pipe can function as an emergency spillway, in the event of a blockage of the main 48-inch drainage pipe. Each pipe has a tide flex flap gate to prevent larger debris from getting trapped. Figure 18 shows the drainage outlet and emergency spillway configuration.
- Lake Drainage Pipe Flap Gates: Both 48-inch diameter drainage pipes also have manually activated gate valves. With this additional safety feature, if debris should be trapped, Conejo Creek floodwaters can be isolated from the Lake by closing the gate valves. The valves are only to be used in an emergency condition. Once the flood level in Conejo Creek has receded, the gate valves can be opened and the Lake will drain by gravity down to the non-storm water surface elevation (below 108’). At that point, what was blocking the overflow pipe and flap gate from sealing completely can be seen and repaired.

6.3 Extraordinary Event Analysis

In an effort to thoroughly examine the function of the proposed system, a series of extraordinary events were analyzed. The extraordinary events are hypothetical situations contrived to test the extreme limits of the drainage system performance. The extraordinary events are far more unlikely than County or Federal design events, and result in conditions that are far more taxing on the drainage system than County or

Federal design events. The intent is to explore the performance of the drainage system beyond that required by County or Federal design. Table 6-1 lists the analyzed extraordinary events. Models are included in *Appendix E*, with exhibits showing results and comparisons provided in *Appendix F*.

Table 6-1 Extraordinary Event Analysis List

#	Scenario
1	Proposed System w/ Four Day Storm
2	Proposed System with Blockage of Pipes at Camarillo Springs Road
3	Proposed System with Blockage of Three Bypass Culverts
4	Proposed System with Blockage of North RCP Drain
5	Proposed System with Blockage of Lake Drainage Pipe

- The Ventura County Hydrology Manual describes how a Four-Day Storm can be developed from the 100-year Storm Data. A four-day storm was calculated for each of the sub-watersheds, and modeled in XPSWMM 2D. The results of the model indicate the proposed drainage system is able to accommodate the four-day storm, which is essentially three smaller storms before a full 100-year storm arrives on the fourth day. The lake elevation in this scenario reaches a maximum elevation of 113.1 ft. This elevation is less than the current existing conditions flood elevation of 118 ft. Figure F and Figure L in *Appendix F* show the results of the four-day storm analysis and a comparison to existing.

- Scenario 2 takes the full proposed drainage system and assumes the four proposed 66” pipes and existing golf cart tunnel are all blocked at Camarillo Springs Road. The same scenario was also run in existing, with the existing golf cart tunnel blocked at Camarillo Springs Road. The results show the Lake in the proposed conditions reaches an elevation of 112.8 ft. This elevation is less than the current existing conditions flood elevation of 118 ft. Figure G and Figure M in *Appendix F* show the results of the extraordinary event scenario #2 blockage analysis and a comparison to existing.

- Scenario 3 takes the full proposed drainage system and blocks the three proposed bypass culverts. The results of this scenario were compared to existing conditions. The Lake in the proposed conditions reaches an elevation of 112.6 ft. This elevation is less than the current existing conditions flood elevation of 118 ft. Figure H and Figure N in *Appendix F* show the results of the extraordinary event scenario #3 blockage analysis and a comparison to existing.

- Scenario 4 takes the full proposed drainage system and blocks the drainage pipe running along the north edge of the property. The results of Scenario 4 were compared to existing conditions. The Lake in the proposed conditions reaches an elevation of 112.0 ft. This elevation is less than the current existing conditions flood elevation of 118 ft. Figure I and Figure O in *Appendix F* show the results of the extraordinary event scenario #4 blockage analysis and a comparison to existing.

- Scenario 5 takes the full proposed drainage system and blocks the drainage pipe running along the north edge of the property. The results of Scenario 4 were compared to existing conditions. The Lake in the proposed conditions reaches an elevation of 112.0 ft. This elevation is less than the current existing conditions flood elevation of 118 ft. Figure J and Figure P in *Appendix F* show the results of the extraordinary event scenario #5 blockage analysis and a comparison to existing.

The analysis shows that even in the extraordinary event conditions, the proposed drainage system provides better community flood protection than the existing conditions. Differential exhibits are included in *Appendix F*, which show floodplain extents and magnitude during the analyzed events.

7 Conclusions

The proposed Camarillo Springs project hydraulics have been analyzed, incorporating proposed conditions hydrology, using an XPSWMM hydraulic routing model. The Conejo Creek floodplain hydraulics have been analyzed, in existing conditions and in proposed conditions, using a HEC-RAS 2D dynamic floodplain model. The study shows that the proposed project development will be protected from the FEMA 100-year floodplain, and more than 150 existing primary residences will be removed from the current FEMA floodplain. The study also shows that the proposed project preserves the amount of existing Conejo Creek floodplain volume.

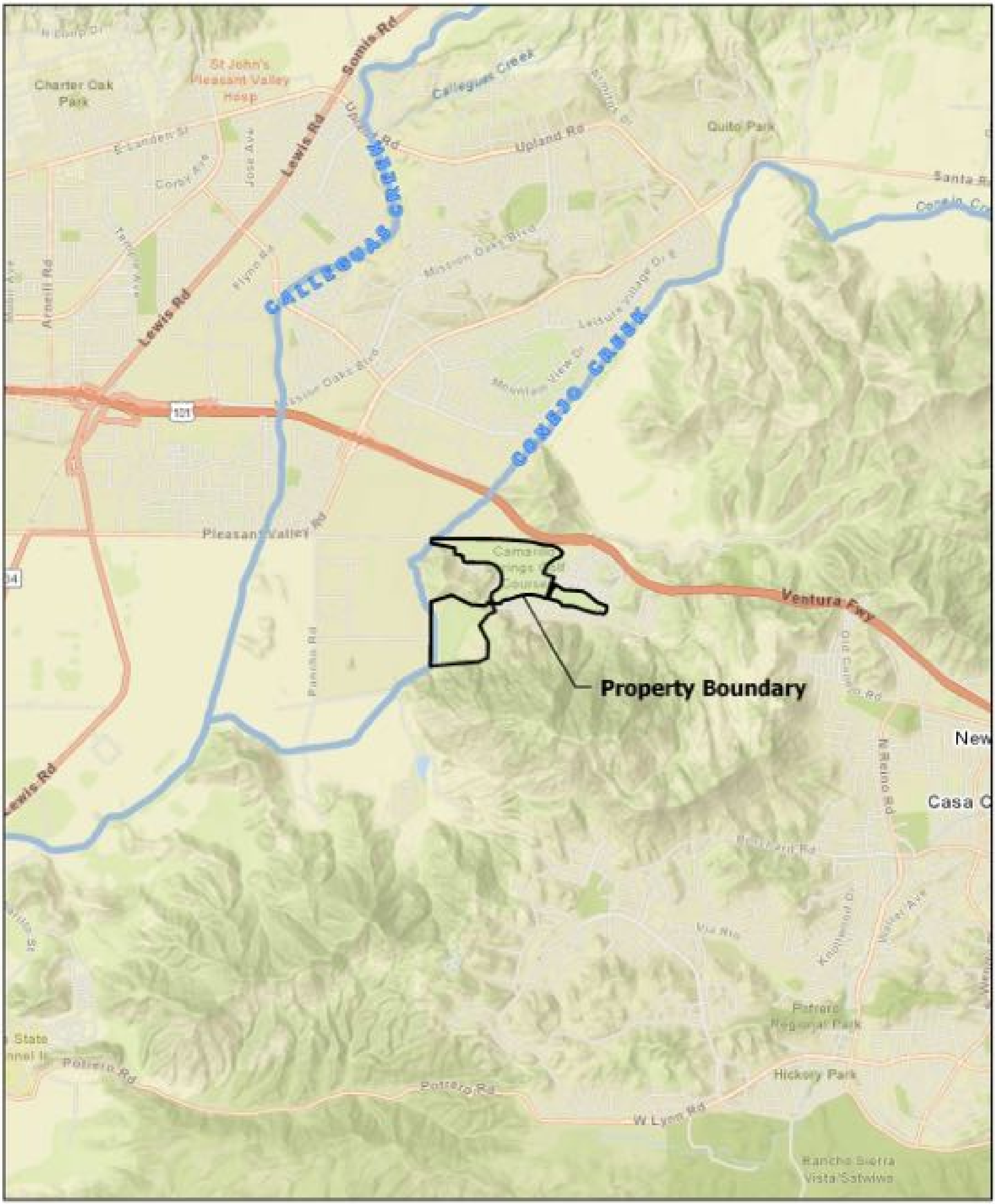
7.1 Hydraulic Analysis and Floodplain Mapping Summary

- Currently, the Camarillo Springs Golf Course north area is located within a 100-year FEMA floodplain resulting from combined Camarillo Springs Creek flow and Conejo Creek overbank flow.
- Currently, there are 89 existing residential structures located within the 100-year FEMA floodplain to the southwest of the golf course (generally near Margarita Avenue), and 65 existing residential structures located within the 100-year FEMA floodplain to the south of the golf course (generally near Irena Avenue). This is a total of 154 homes.
- The project development includes a flood barrier that will remove 132 entire lots and 22 residential structures from the 100-year Conejo Creek FEMA floodplain.
- The HEC-RAS 2D model results indicate that outside of the project property, extremely small differences in depth between existing conditions and proposed conditions are on the order of precision of the model and are not detectable at the FEMA map scale.
- No design alterations or mitigation measures are necessary for the extremely small depth variations.
- The HEC-RAS 2D model results indicate that outside of the project property, small variations in velocity are present, however, the variations do not result in erosive velocities on significant or contiguous area.
- No design alterations or mitigation measures are necessary for such small isolated transient patches.
- The project as proposed has been designed to achieve a condition of less than significant impacts to floodplain area, depth, velocity, and erosive conditions.
- The additional design considerations, added flood safety measures, and extraordinary event analyses indicate the proposed drainage system is designed to a higher standard than the County or Federal level, and can accommodate extenuating extreme circumstances and unlikely events.

7.2 Conejo Creek Floodplain Storage

- Floodplain storage consists of Conejo Creek flow from upstream of project, and from Camarillo Springs Creek flow added to Conejo Creek flow.
- In proposed conditions, part of Conejo Creek floodplain storage consists of Camarillo Springs Creek flow, which is captured and stored before it merges with Conejo Creek
- In proposed conditions, part of Conejo Creek floodplain storage consists of additional overbank storage on south golf course area, greater than in existing conditions, created by project grading.
- In proposed conditions, the lake floodplain storage will drain within the time specified by VCWPD design standards.
- In proposed conditions, the south golf course area floodplain storage is above adjacent Conejo Creek flowline, and will drain within the time specified by VCWPD design standards.
- Overbank area between Conejo Creek and south golf course storage will incorporate design features to maintain flow corridor and ensure overbank storage.

A complete overview of the proposed drainage system and grading of the north golf course area, including the west basin and east basin, and the south golf course area are provided in *Appendix D*.



CAMARILLO SPRINGS

VICINITY MAP

Figure 1

PACE Advanced Water Engineering

0 2,000 4,000 8,000 Feet

Date: 10/31/2018

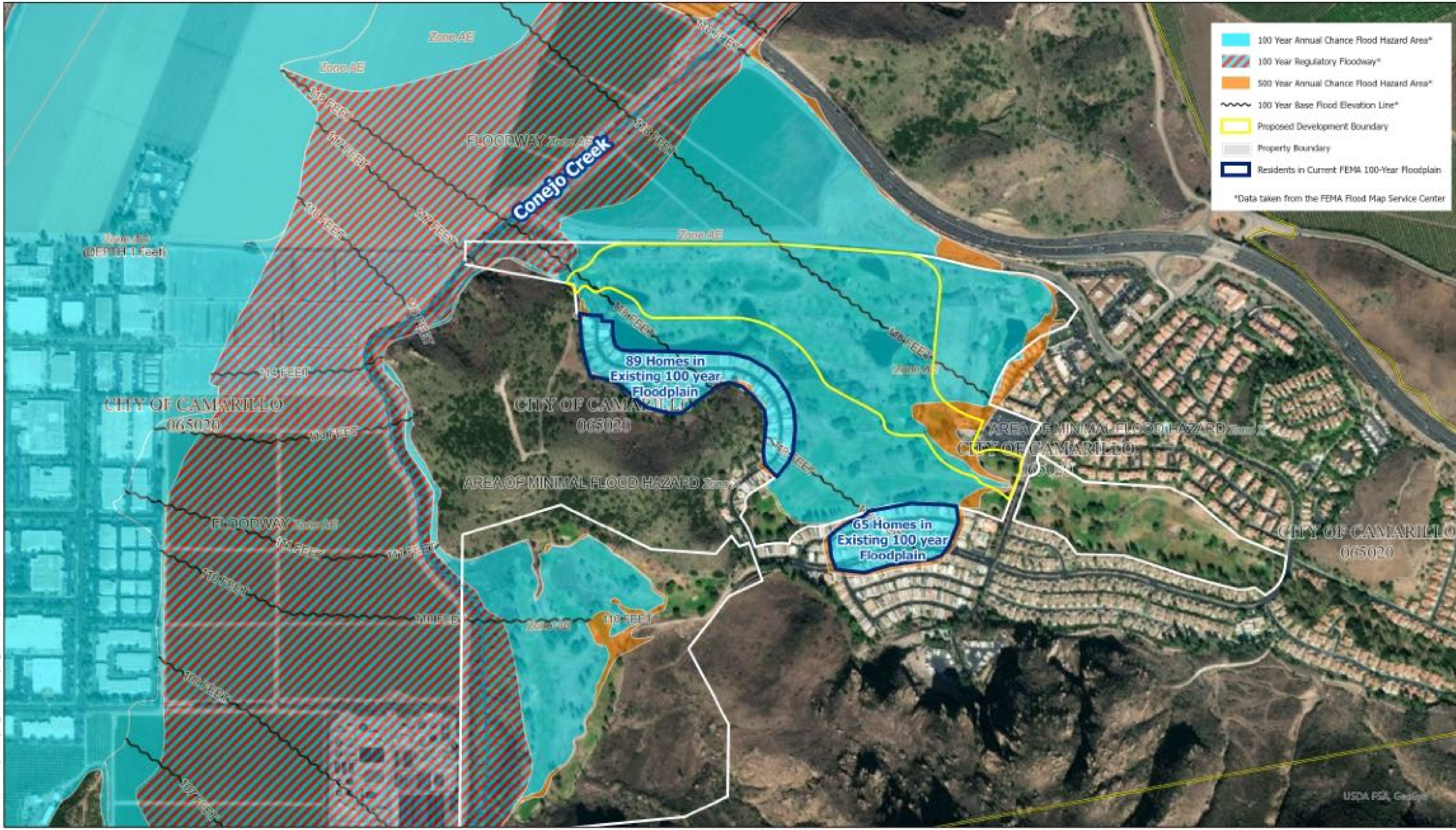
Job Number: 8306

Camarillo Springs | Overall

Landscape Concept Plan

burton

Figure 2



CAMARILLO SPRINGS

EFFECTIVE FEMA FLOODPLAIN

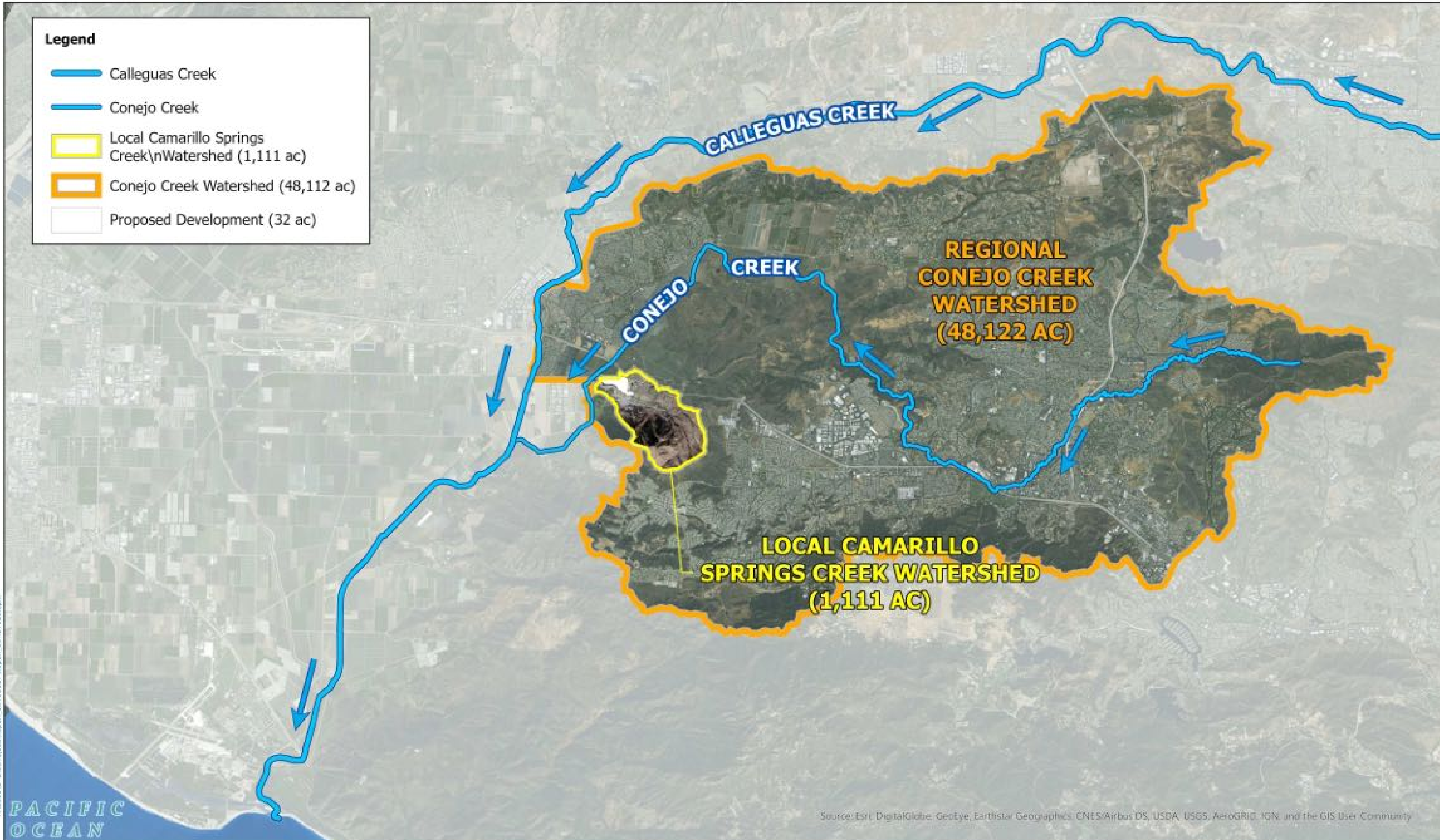
PACE

0 300 600 1,200 Feet

Date: 8/26/2020

Job Number: 8306

Figure 3



CAMARILLO SPRINGS

REGIONAL & LOCAL WATERSHED HYDROLOGY MAP

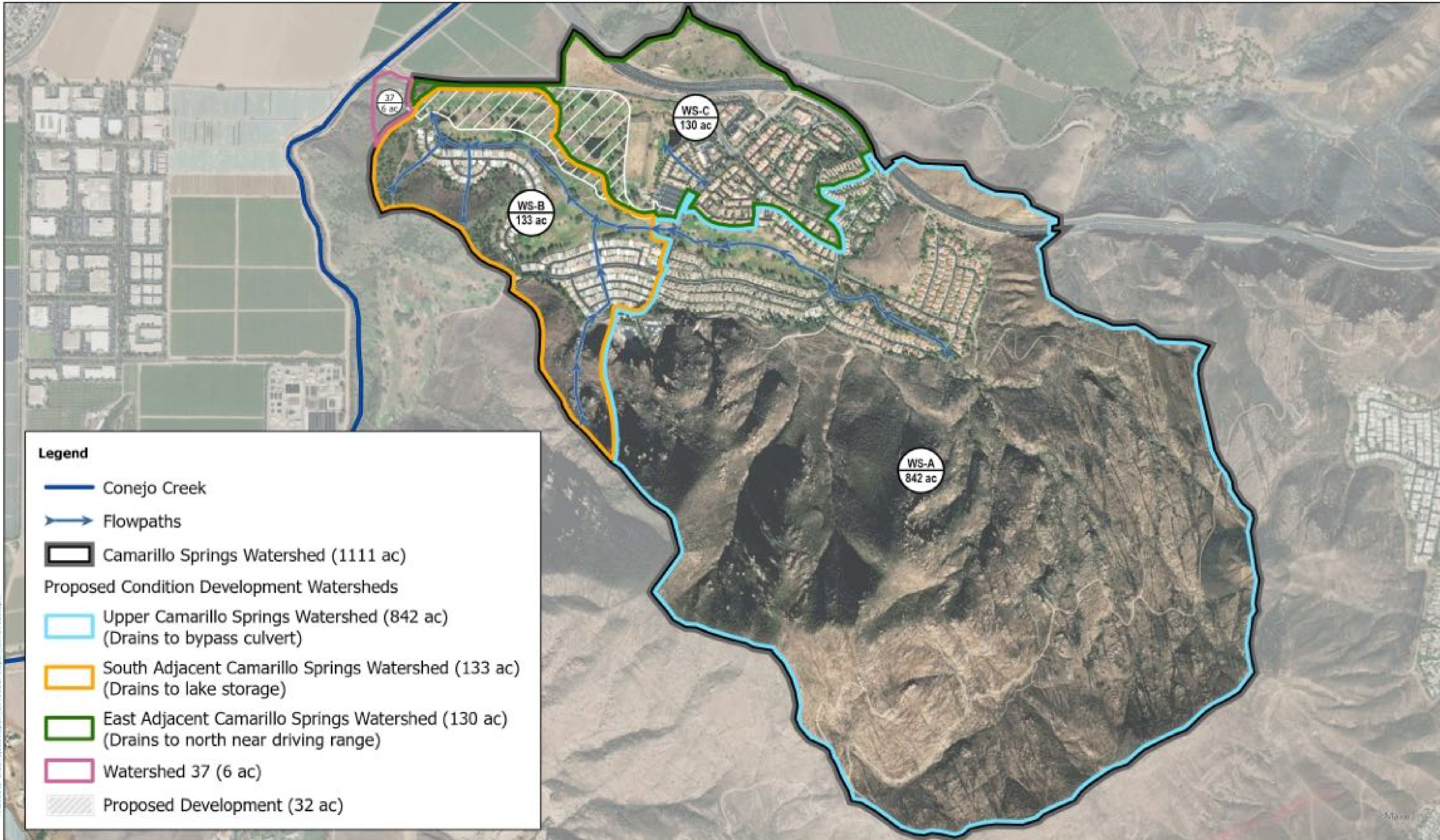
Figure 4

PACE Advanced Water Engineering

0 0.75 1.5 3 Miles

Date: 12/21/2021

Job Number: 8306



CAMARILLO SPRINGS

PROPOSED CONDITION DRAINAGE MAP

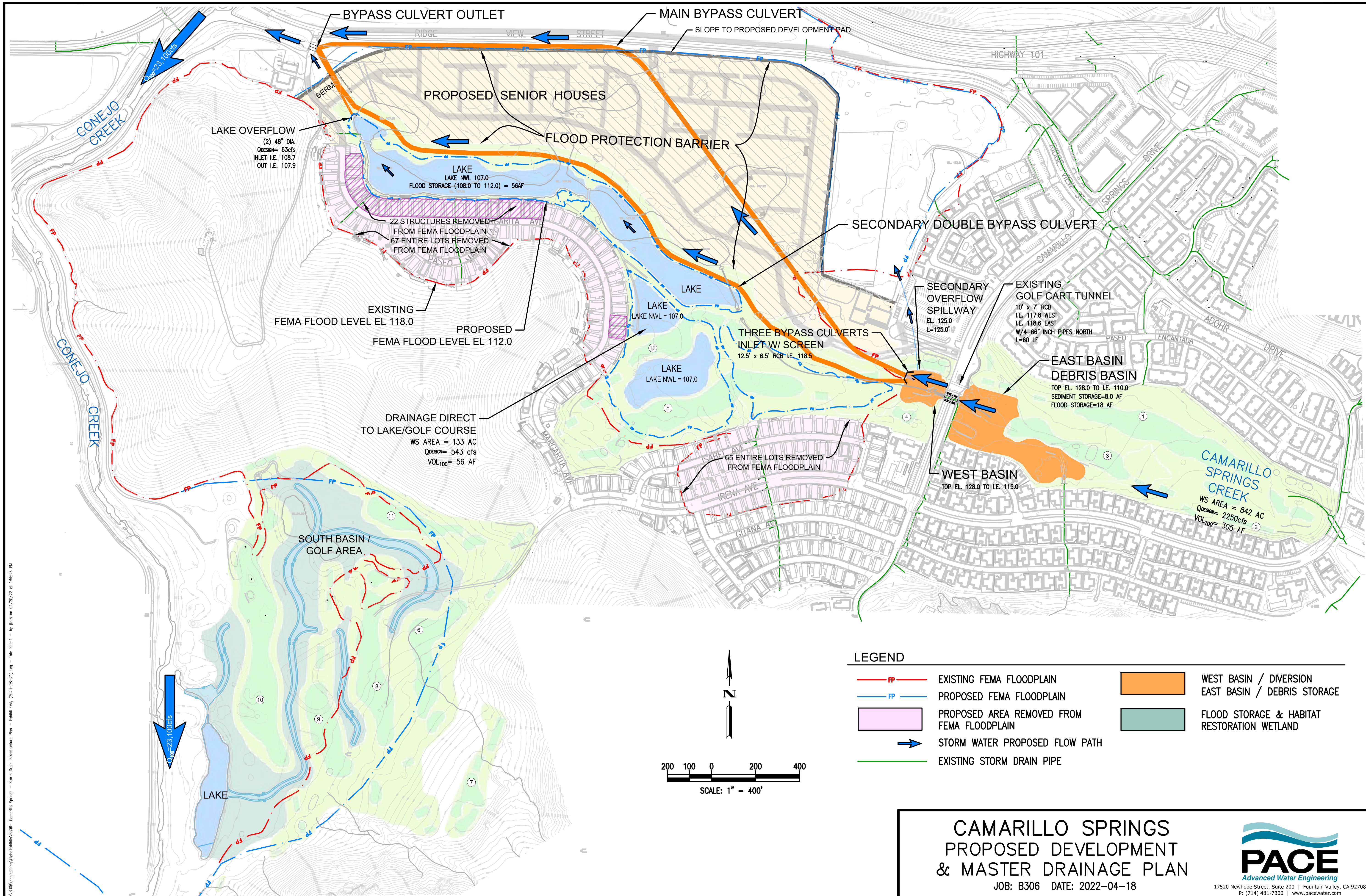
PACE

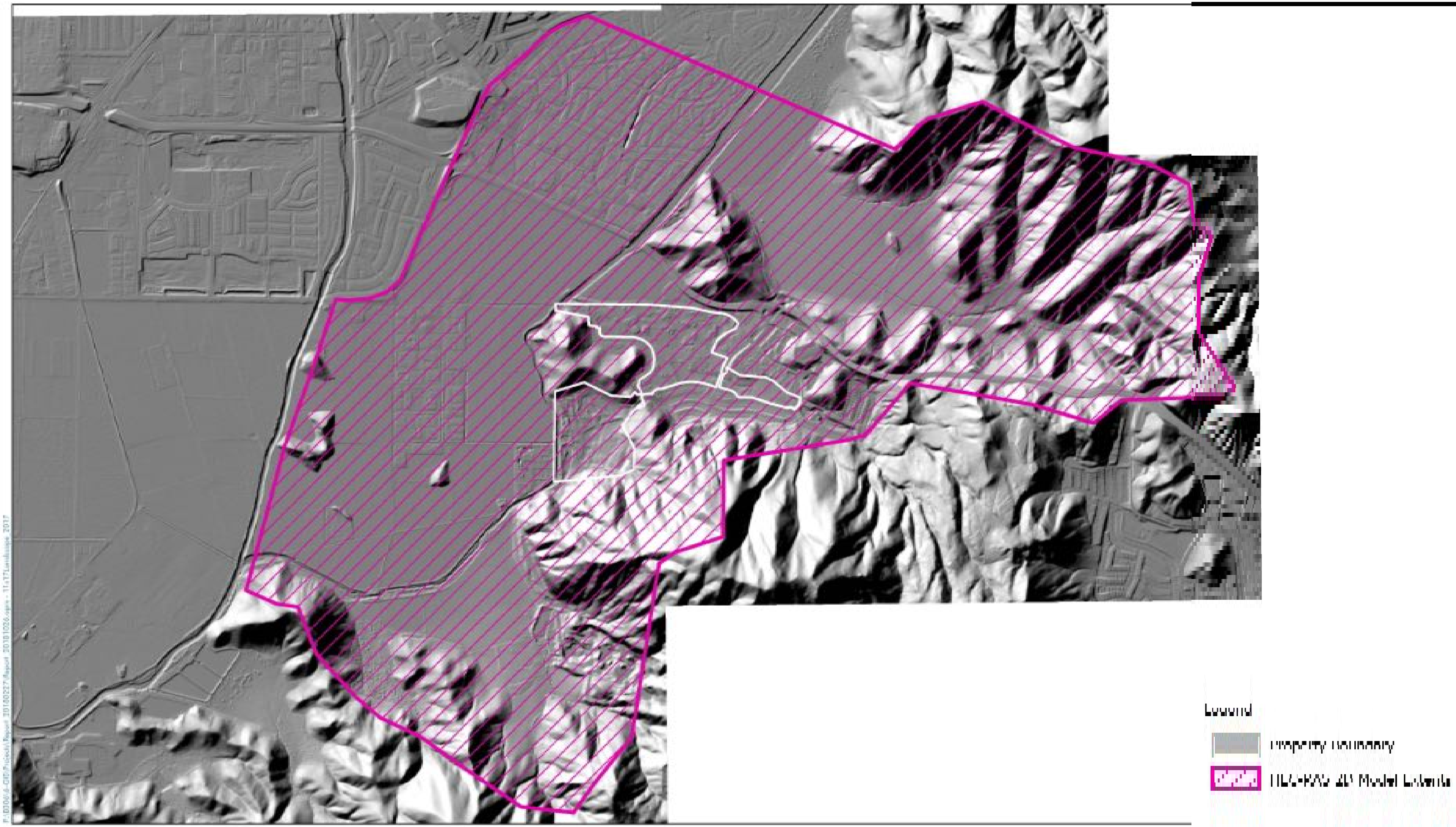
0 500 1,000 2,000 Feet

Date: 12/21/2021

Job Number: B306

Figure 5


BYPASS CULVERT OUTLET
MAIN BYPASS CULVERT
SLOPE TO PROPOSED DEVELOPMENT PAD
RIDGE VIEW STREET
HIGHWAY 101
Q_{100}=23,100cfs
CONEJO CREEK
BERM
PROPOSED SENIOR HOUSES
FLOOD PROTECTION BARRIER
LAKE OVERFLOW
(2) 48" DIA.
QDESIGN= 63cfs
INLET I.E. 108.7
OUT I.E. 107.9
LAKE
LAKE NWL 107.0
FLOOD STORAGE (108.0 TO 112.0) = 56AF
22 STRUCTURES REMOVED
FROM FEMA FLOODPLAIN
67 ENTIRE LOTS REMOVED
FROM FEMA FLOODPLAIN
SECONDARY DOUBLE BYPASS CULVERT
EXISTING
FEMA FLOOD LEVEL EL 118.0
PROPOSED
FEMA FLOOD LEVEL EL 112.0
LAKE
LAKE
LAKE NWL = 107.0
LAKE
LAKE NWL = 107.0
SECONDARY
OVERFLOW
SPILLWAY
EL. 125.0
L=125.0'
EXISTING
GOLF CART TUNNEL
10' x 7' RCB
I.E. 117.8 WEST
I.E. 118.6 EAST
W/4-66" INCH PIPES NORTH
L=60 LF
THREE BYPASS CULVERTS
INLET W/ SCREEN
12.5' x 6.5' RCB I.E. 118.5
EAST BASIN
DEBRIS BASIN
TOP EL. 128.0 TO I.E. 110.0
SEDIMENT STORAGE=8.0 AF
FLOOD STORAGE=18 AF
DRAINAGE DIRECT
TO LAKE/GOLF COURSE
WS AREA = 133 AC
QDESIGN= 543 cfs
VOL_{100}= 56 AF
65 ENTIRE LOTS REMOVED
FROM FEMA FLOODPLAIN
WEST BASIN
TOP EL. 128.0 TO I.E. 115.0
CAMARILLO SPRINGS CREEK
WS AREA = 842 AC
QDESIGN= 2250cfs
VOL_{100}= 305 AF
SOUTH BASIN /
GOLF AREA
LAKE
Q_{100}=23,100cfs
N
200 100 0 200 400
SCALE: 1" = 400'
LEGEND
EXISTING FEMA FLOODPLAIN
PROPOSED FEMA FLOODPLAIN
PROPOSED AREA REMOVED FROM FEMA FLOODPLAIN
STORM WATER PROPOSED FLOW PATH
EXISTING STORM DRAIN PIPE
WEST BASIN / DIVERSION
EAST BASIN / DEBRIS STORAGE
FLOOD STORAGE & HABITAT RESTORATION WETLAND
CAMARILLO SPRINGS
PROPOSED DEVELOPMENT
& MASTER DRAINAGE PLAN
JOB: B306 DATE: 2022-04-18
PACE
Advanced Water Engineering
17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P: (714) 481-7300 | www.pacewater.com



CAMARILLO SPRINGS

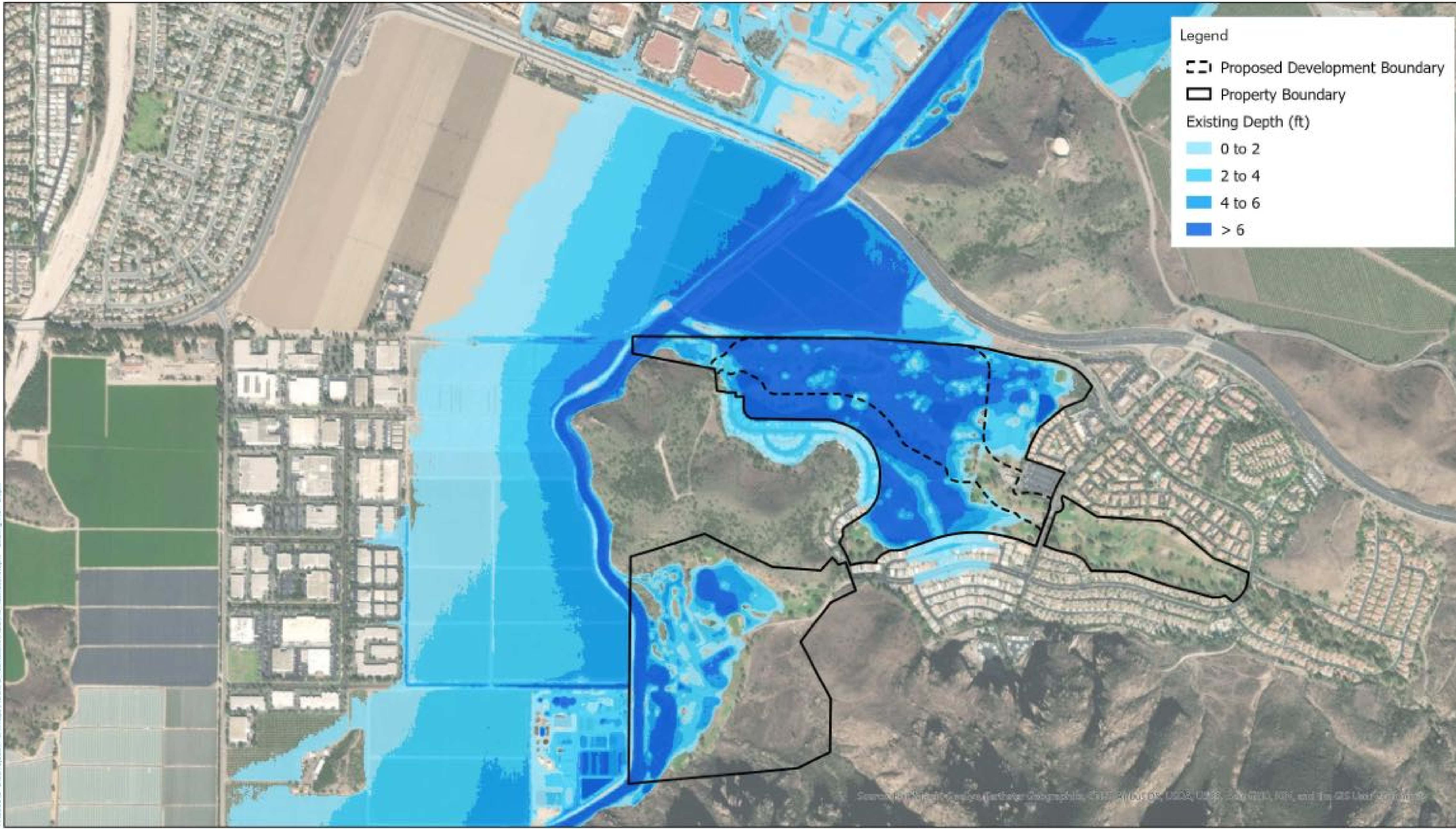
HEC-RAS 2D MODEL EXTENTS

Figure 7

0 1,000 2,000 4,000 Feet

Date: 10/29/2018

Job Number: 8306



HEC-RAS 2D

EXISTING CONDITIONS PEAK FLOW DEPTH (100-YEAR)

CAMARILLO SPRINGS

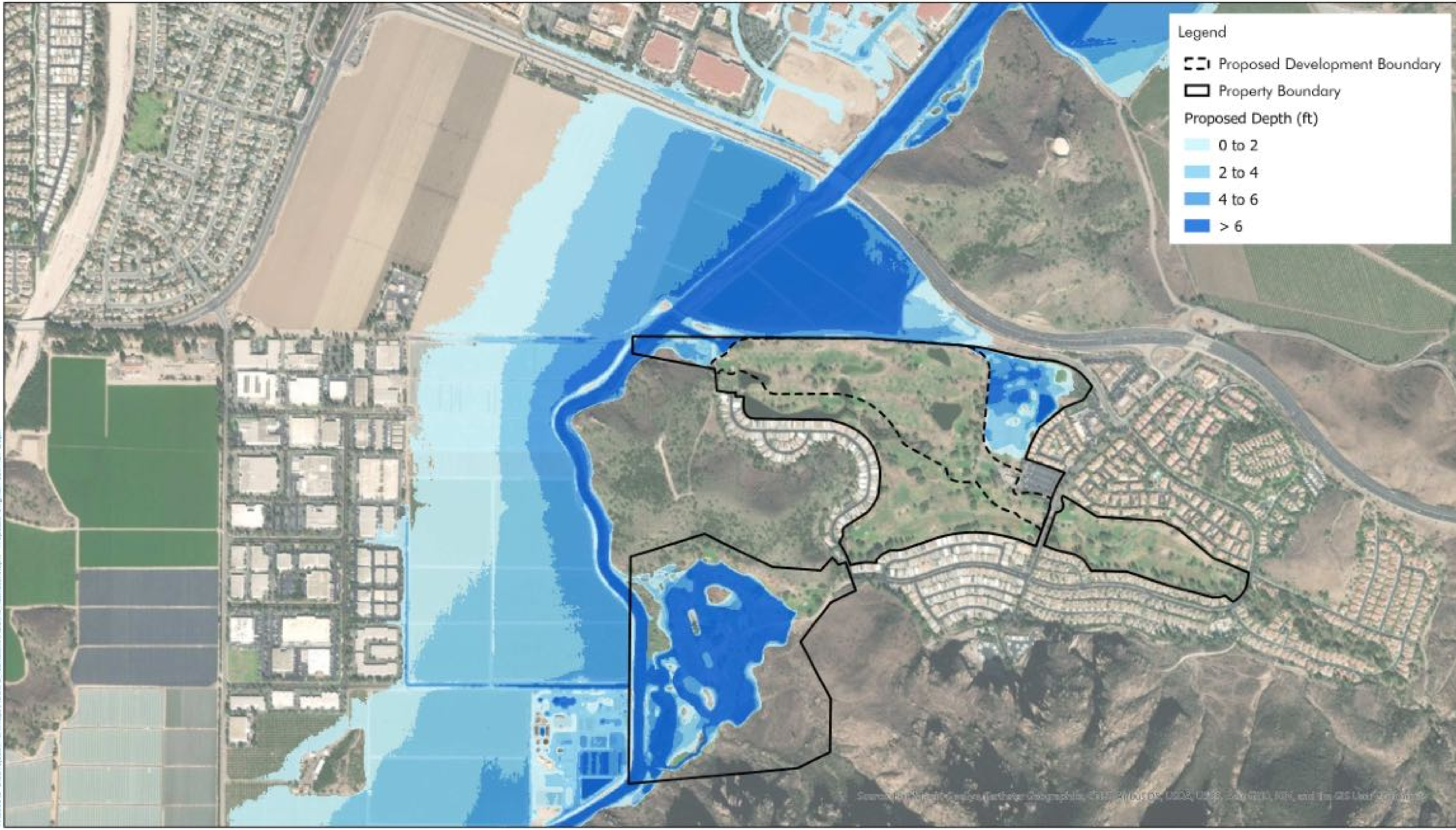
PACE

0 400 800 1,600 Feet

Date: 7/16/2020

Job Number: 8306

Figure 8



CAMARILLO SPRINGS

HEC-RAS 2D
PROPOSED CONDITIONS PEAK FLOW DEPTH (100-YEAR)

PACE
Advanced Water Engineering

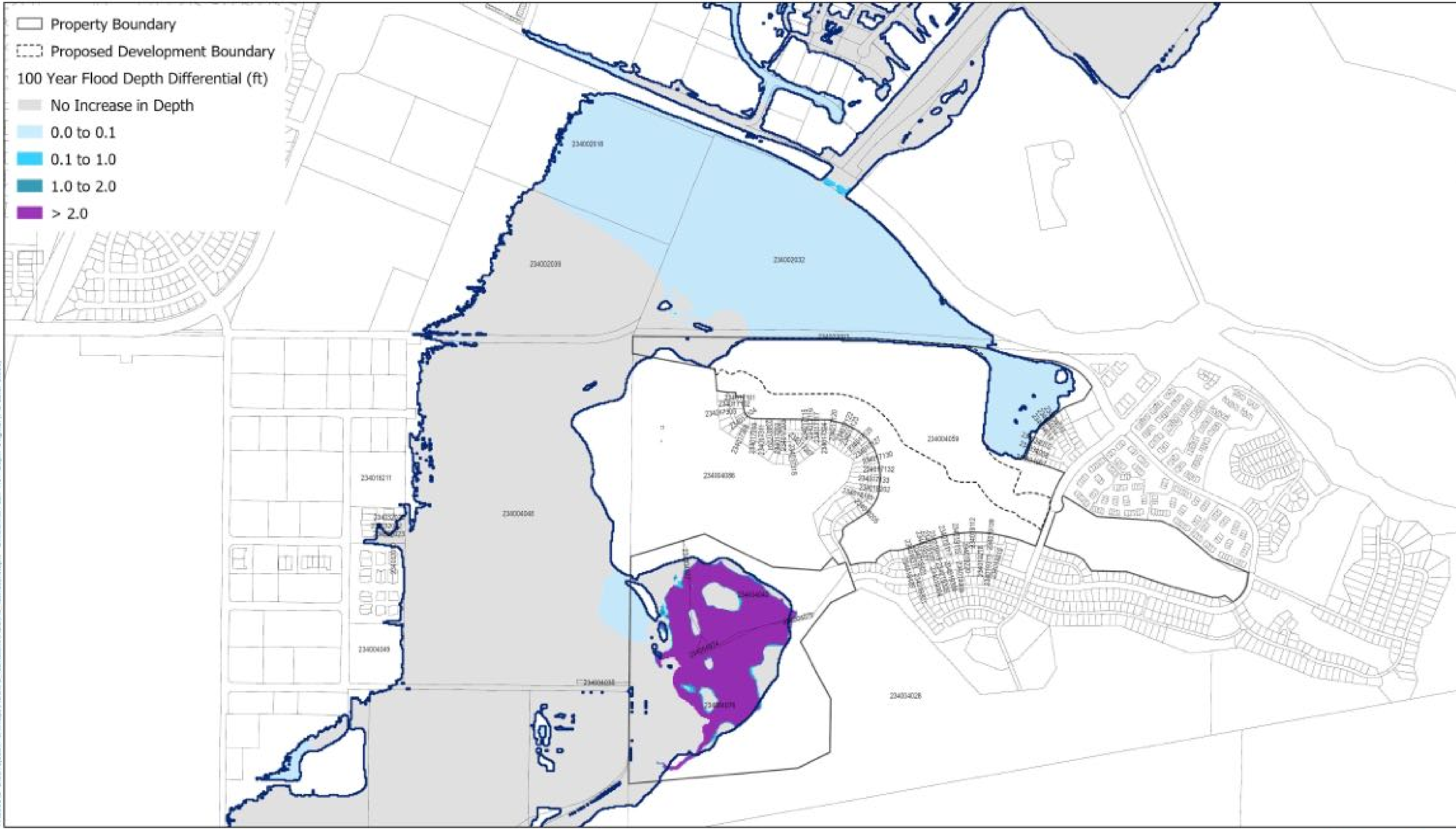
N

0 400 800 1,600 Feet

Date: 7/16/2020

Job Number: 8306

Figure 9



CAMARILLO SPRINGS

HEC-RAS 2D
FLOW DEPTH DIFFERENTIAL (100-YEAR)

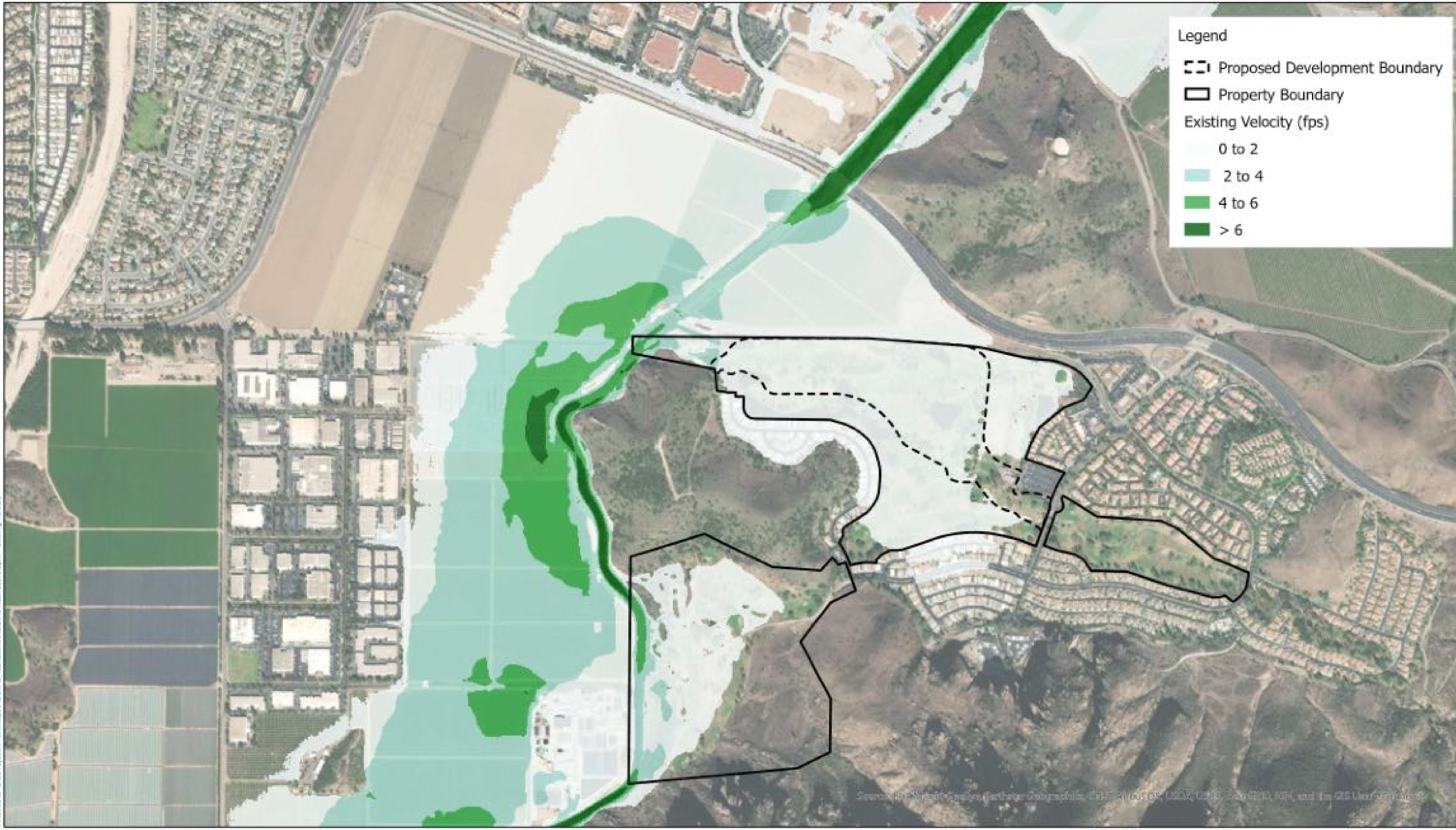
PACE

0 400 800 1,600 Feet

Date: 7/16/2020

Job Number: 8306

Figure 10



CAMARILLO SPRINGS

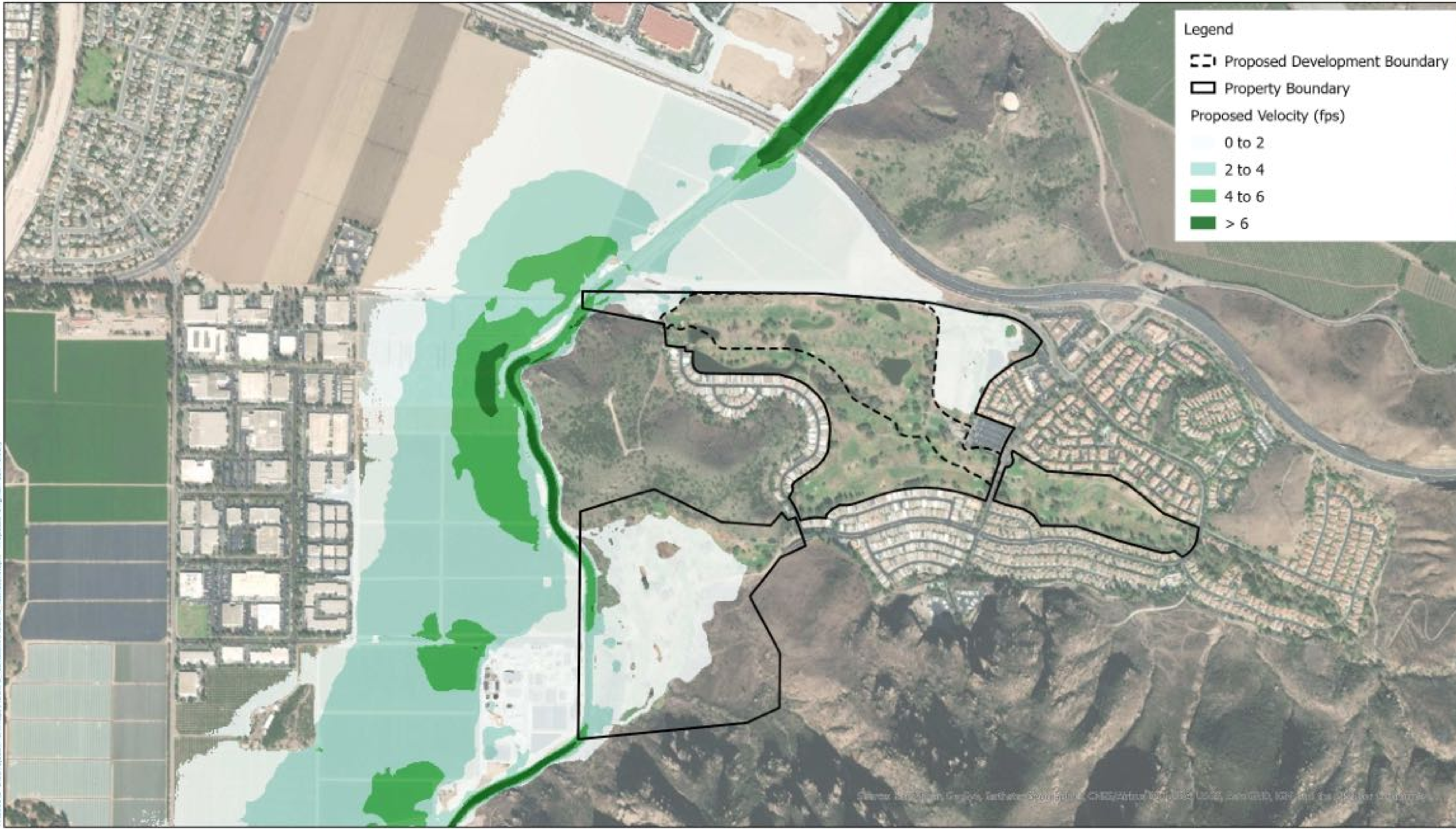
HEC-RAS 2D
EXISTING CONDITIONS PEAK VELOCITY (100-YEAR)

0 400 800 1,600 Feet

Date: 7/16/2020

Job Number: 8306

Figure 11



CAMARILLO SPRINGS

HEC-RAS 2D
PROPOSED CONDITIONS PEAK VELOCITY (100-YEAR)

PACE

0 400 800 1,600 Feet

Date: 7/16/2020

Job Number: 8306

Figure 12

HEC-RAS 2D

PEAK VELOCITY DIFFERENTIAL (100-YEAR)

CAMARILLO SPRINGS

0 400 800 1,600 Feet

Date: 7/16/2020

Job Number: 8306

Figure 13

CAMARILLO SPRINGS

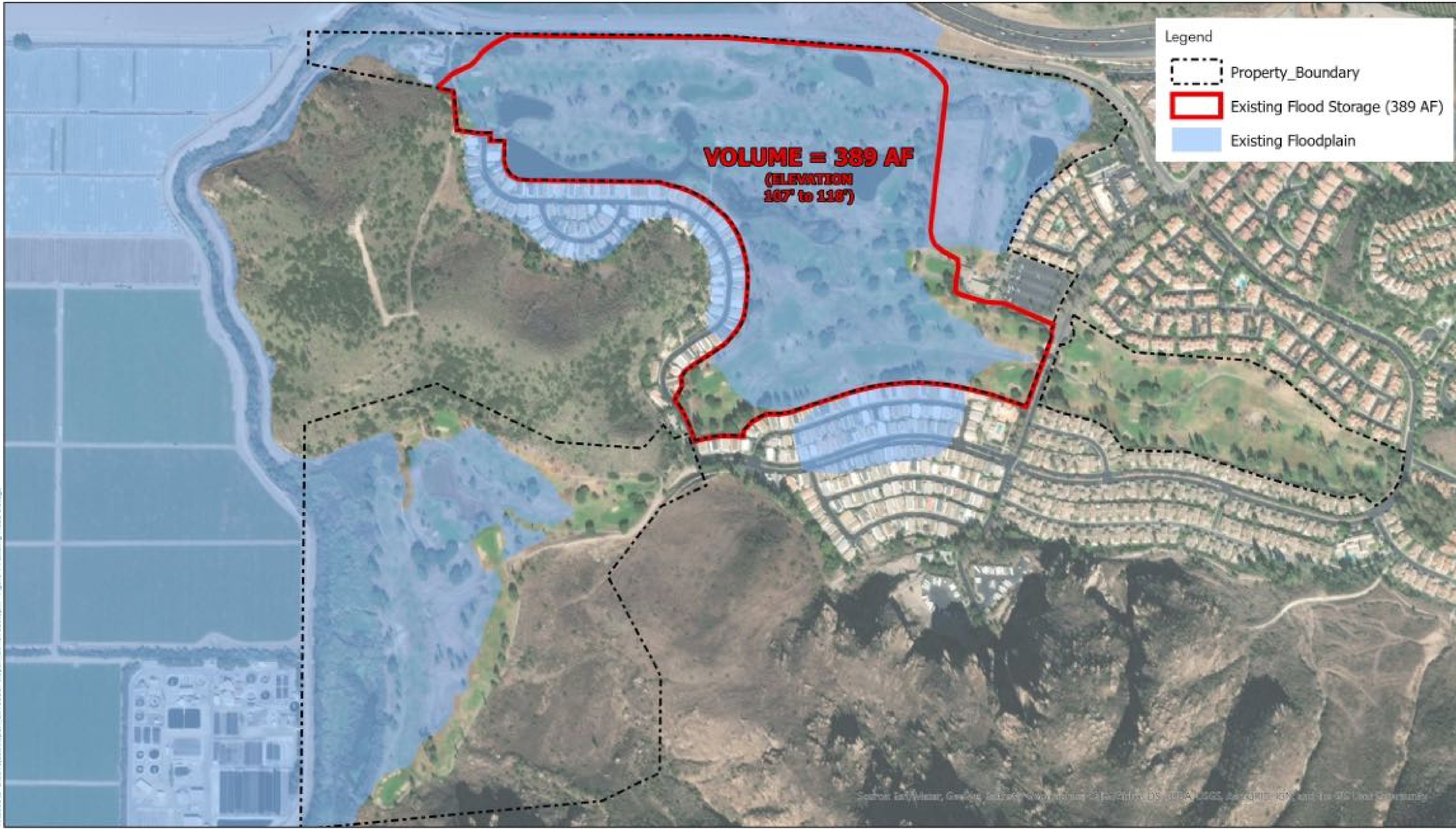
HEC-RAS 2D
PEAK VELOCITY DIFFERENTIAL - 4 FPS THRESHOLD (100-YEAR)

0 400 800 1,600 Feet

Date: 7/16/2020

Job Number: 8306

Figure 14

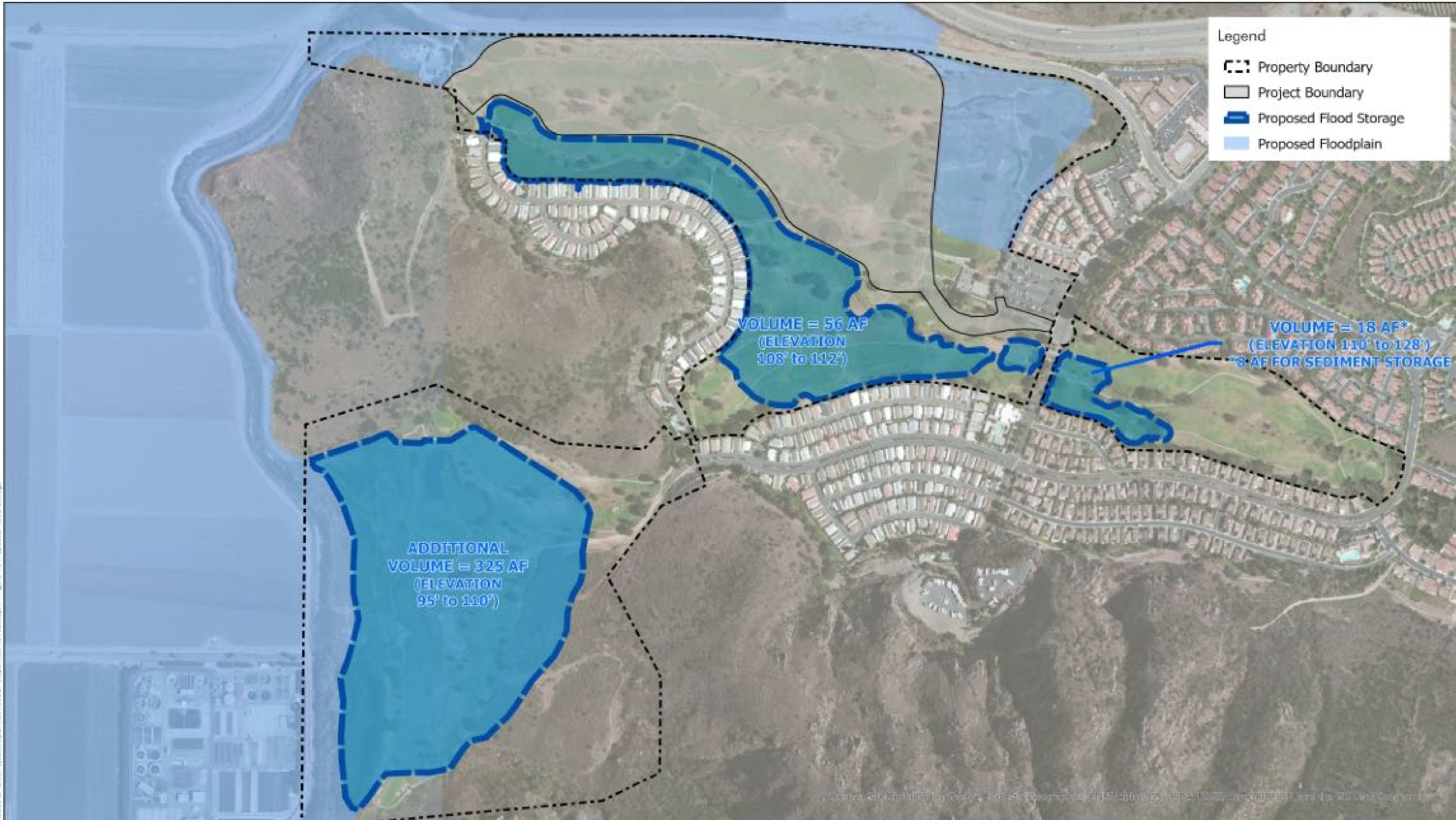


CAMARILLO SPRINGS

EXISTING
FLOOD STORAGE (100-YEAR)

Figure 15

PACE
0 225 450 900 Feet
Date: 7/16/2020
Job Number: 8306



CAMARILLO SPRINGS

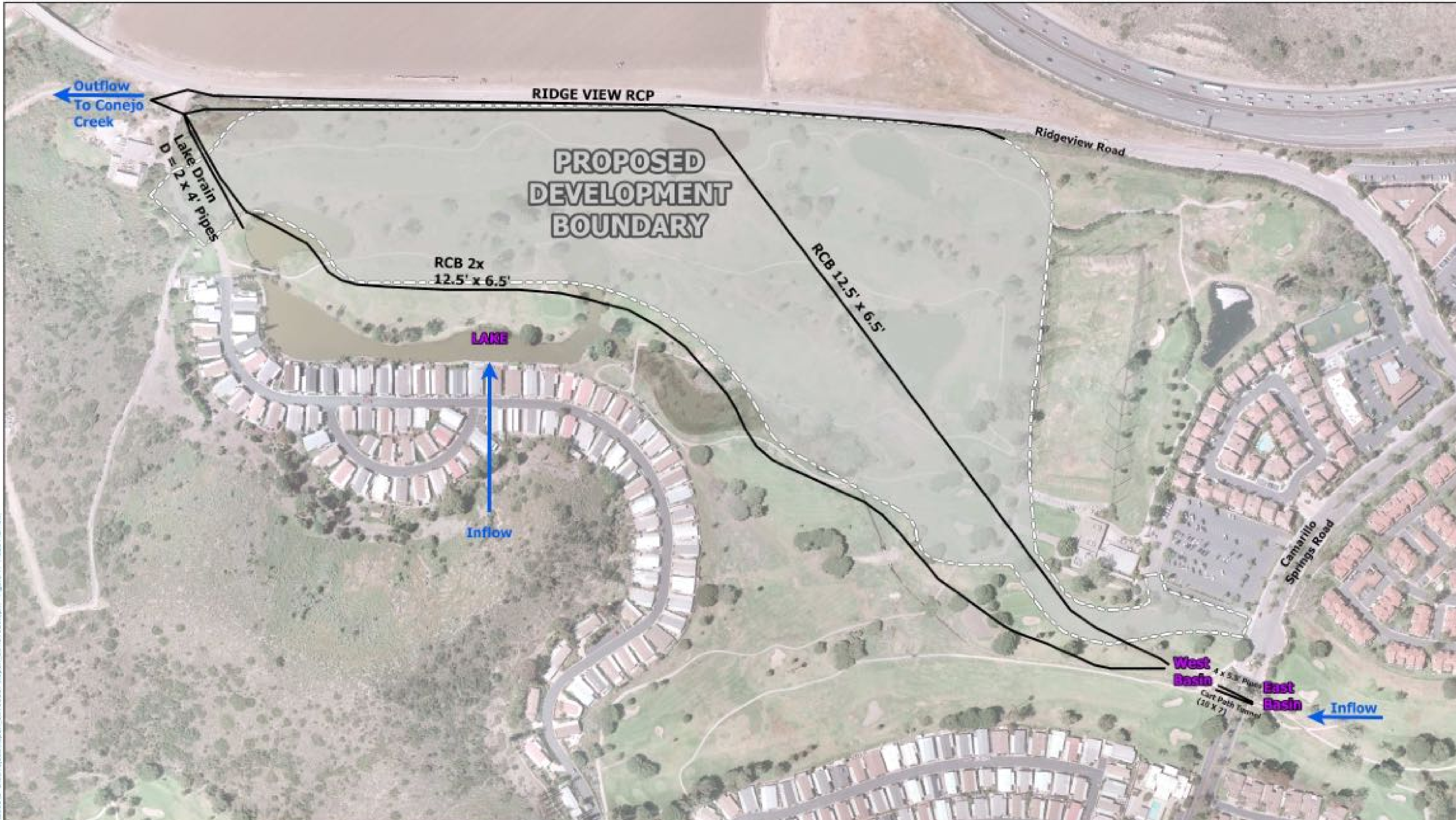
PROPOSED DRAINAGE SYSTEM (100 YEAR)

Figure 16

0 225 450 900 Feet

Date: 12/24/2021

Job Number: 8306



CAMARILLO SPRINGS

XPSWMM
NODE NETWORK

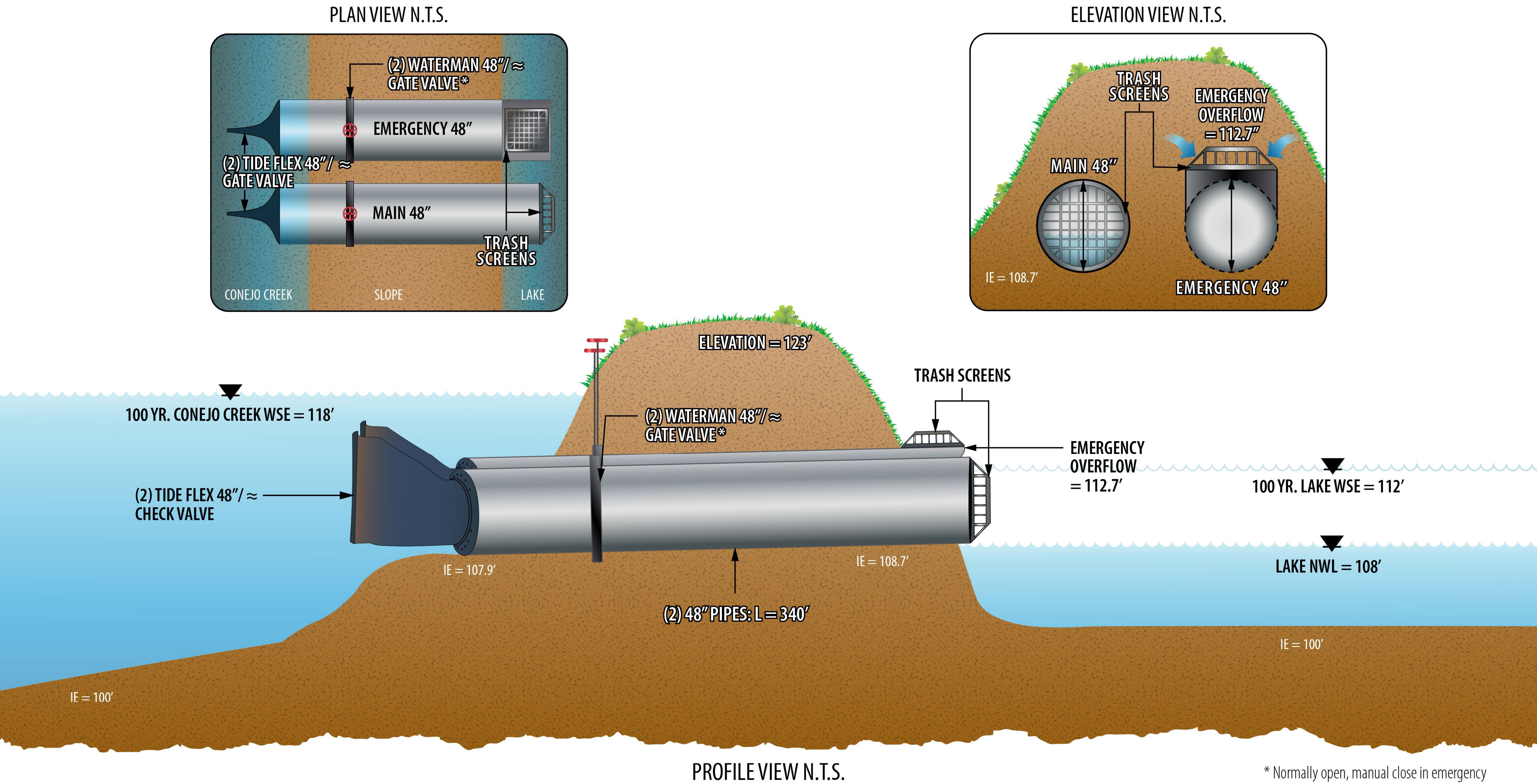
Figure 17

PACE

0 125 250 500 Feet

Date: 12/21/2021

Job Number: 8306



Camarillo Springs - Main Lake Drainage Pipe and Emergency Spillway Configuration

Figure 18

Appendix A -
FEMA Documents

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1994 or later.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a **Listing of Communities** table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

Provisionally Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To maintain accreditation, the levee owner or community is required to submit the data and documentation necessary to comply with Section 65.10 of the NFIP regulations by December 1, 2009. If the community or owner does not provide the necessary data and documentation or if the data and documentation provided indicate the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

~~ 513 ~~~	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

(A)——(A)	Cross section line
(23)- - - -(23)	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
76N	1000-meter Universal Transverse Mercator grid values, zone 11
600000 FT	5000-foot grid ticks: California State Plane coordinate system, zone V (FIPSZONE 0405), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
January 20, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0934E

FIRM
FLOOD INSURANCE RATE MAP

VENTURA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 934 OF 1275

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CAMARILLO, CITY OF	065020	0934	E
VENTURA COUNTY	060413	0934	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06111C0934E

EFFECTIVE DATE
JANUARY 20, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

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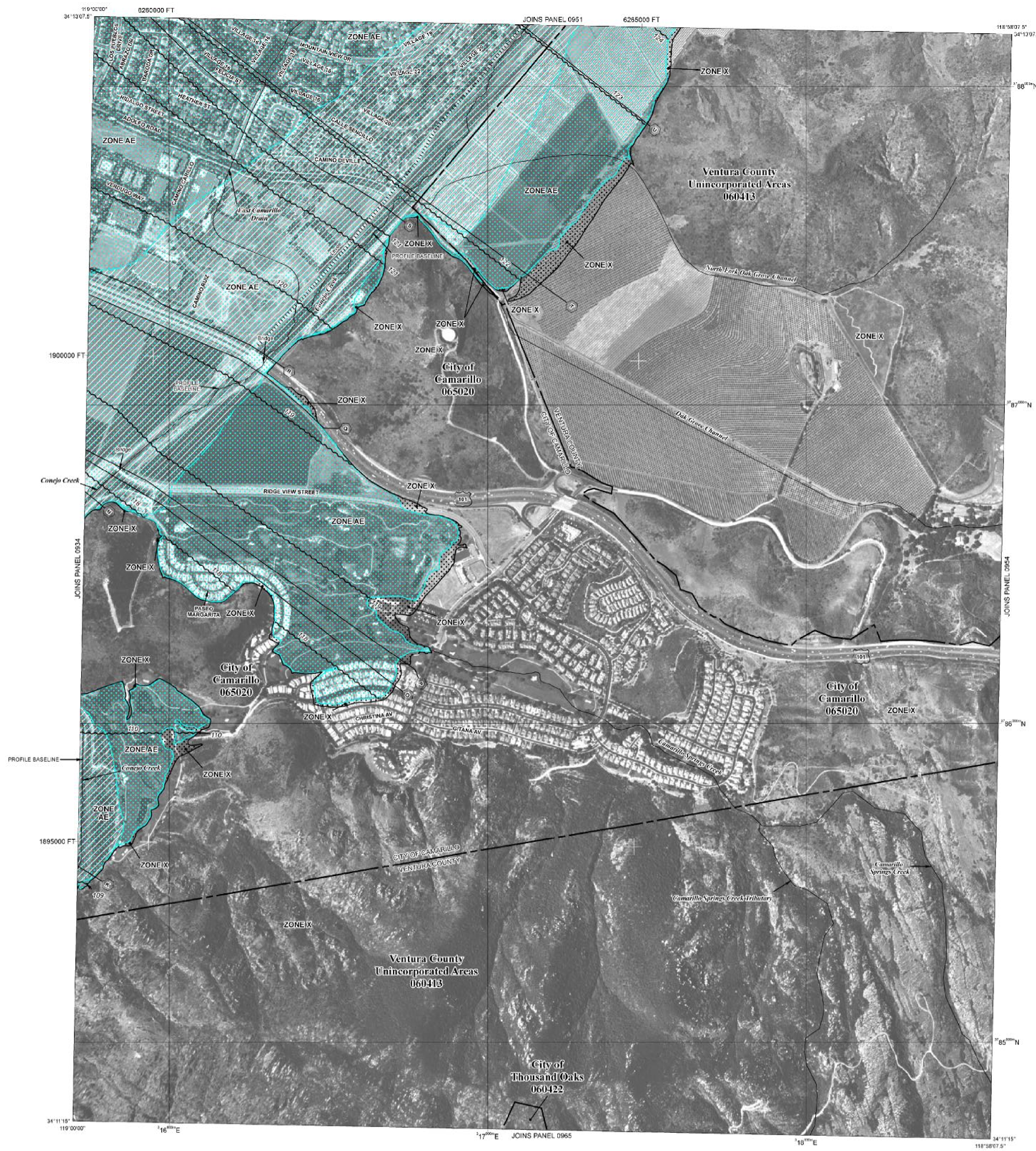

LEGEND

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FLOODWAY AREAS IN ZONE AE

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OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

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1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

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(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

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(23)- - - - -(23)	Transect line
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$^{24}76^{000m}$N	1000-meter Universal Transverse Mercator grid values, zone 11
600000 FT	5000-foot grid ticks: California State Plane coordinate system, zone V (FIPSZONE 0405), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
January 20, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0953E

FIRM

FLOOD INSURANCE RATE MAP

VENTURA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 953 OF 1275

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CAMARILLO, CITY OF	065020	0953	E
THOUSAND OAKS, CITY OF	060422	0953	E
VENTURA COUNTY	060413	0953	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06111C0953E

EFFECTIVE DATE
JANUARY 20, 2010

Federal Emergency Management Agency

Appendix B -

Hydrology - Regional

HYDROGRAPH FATTENED AT 3683B

INCOMING HYDROGRAPH	PEAK (cfs):	37495.52	VOLUME (acre-ft):	13405.31
HYDROGRAPH ADJUSTMENT FACTOR:		0.61600		
ADJUSTED HYDROGRAPH	PEAK (cfs):	23097.24	VOLUME (acre-ft):	8257.67
RUNOFF FACTOR(in):	4.66			
FATTENED HYDROGRAPH	PEAK (cfs):	23097.24	VOLUME (acre-ft):	17032.43

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
0	0.00	0.00	0.00	100	1614.46	994.51	1346.94
200	1632.31	1005.50	1831.99	300	1795.54	1106.05	2093.54
400	2189.91	1348.98	2542.26	500	2645.33	1629.52	3100.22
600	3043.99	1875.10	3739.27	700	3496.84	2154.05	4592.82
800	4023.43	2478.43	5799.75	900	4770.62	2938.70	7685.07
1000	6247.01	3848.16	10951.79	1050	7548.17	4649.67	13417.62
1100	9475.45	5836.87	16538.21	1110	9956.18	6133.00	17225.43
1120	10514.16	6476.72	17931.38	1130	11242.03	6925.09	18661.11
1131	11322.08	6974.40	18734.32	1132	11402.16	7023.73	18807.31
1133	11484.29	7074.32	18880.38	1134	11568.99	7126.50	18953.58
1135	11655.33	7179.68	19026.74	1136	11742.00	7233.07	19099.67
1137	11833.04	7289.15	19172.94	1138	11925.39	7346.04	19246.07
1139	12019.79	7404.19	19319.13	1140	12118.12	7464.76	19392.37
1141	12223.11	7529.44	19466.18	1142	12334.15	7597.83	19540.37
1143	12448.78	7668.45	19614.56	1144	12566.36	7740.88	19688.65
1145	12689.10	7816.49	19762.90	1146	12815.64	7894.43	19837.06
1147	12944.18	7973.61	19910.87	1148	13077.94	8056.01	19984.73
1149	13230.09	8149.74	20060.22	1150	13385.91	8245.72	20135.41
1151	13532.94	8336.29	20208.74	1152	13731.11	8458.36	20287.37
1153	13918.67	8573.90	20363.76	1154	14112.27	8693.16	20439.86
1155	14328.46	8826.33	20517.50	1156	14556.09	8966.55	20595.24
1157	14791.44	9111.52	20672.62	1158	15040.21	9264.77	20750.20
1159	15293.22	9420.62	20826.91	1160	15568.88	9590.43	20904.59
1161	15894.68	9791.12	20985.70	1162	16223.10	9993.43	21065.43
1163	16592.01	10220.68	21147.21	1164	16996.25	10469.69	21230.40
1165	17422.63	10732.34	21313.50	1166	17875.46	11011.29	21396.80
1167	18330.21	11291.41	21478.01	1168	18774.40	11565.03	21556.13
1169	19194.88	11824.05	21630.16	1170	19578.21	12060.17	21699.22
1171	19934.58	12279.70	21764.31	1172	20256.96	12478.29	21825.09
1173	20535.87	12650.10	21881.11	1174	20776.90	12798.57	21933.03
1175	20987.79	12928.48	21981.61	1176	21175.18	13043.91	22027.44
1177	21346.28	13149.31	22071.16	1178	21507.62	13248.70	22113.26
1179	21665.10	13345.70	22154.13	1180	21824.60	13443.95	22194.14
1181	21990.48	13546.13	22233.52	1182	22160.29	13650.74	22272.11
1183	22333.53	13757.46	22309.85	1184	22511.04	13866.80	22346.76
1185	22692.70	13978.70	22382.81	1186	22877.23	14092.37	22417.94
1187	23063.38	14207.04	22452.08	1188	23249.78	14321.86	22485.13
1189	23436.01	14436.58	22517.13	1190	23622.77	14551.62	22548.10
1191	23812.19	14668.31	22578.09	1192	24007.28	14788.49	22607.26

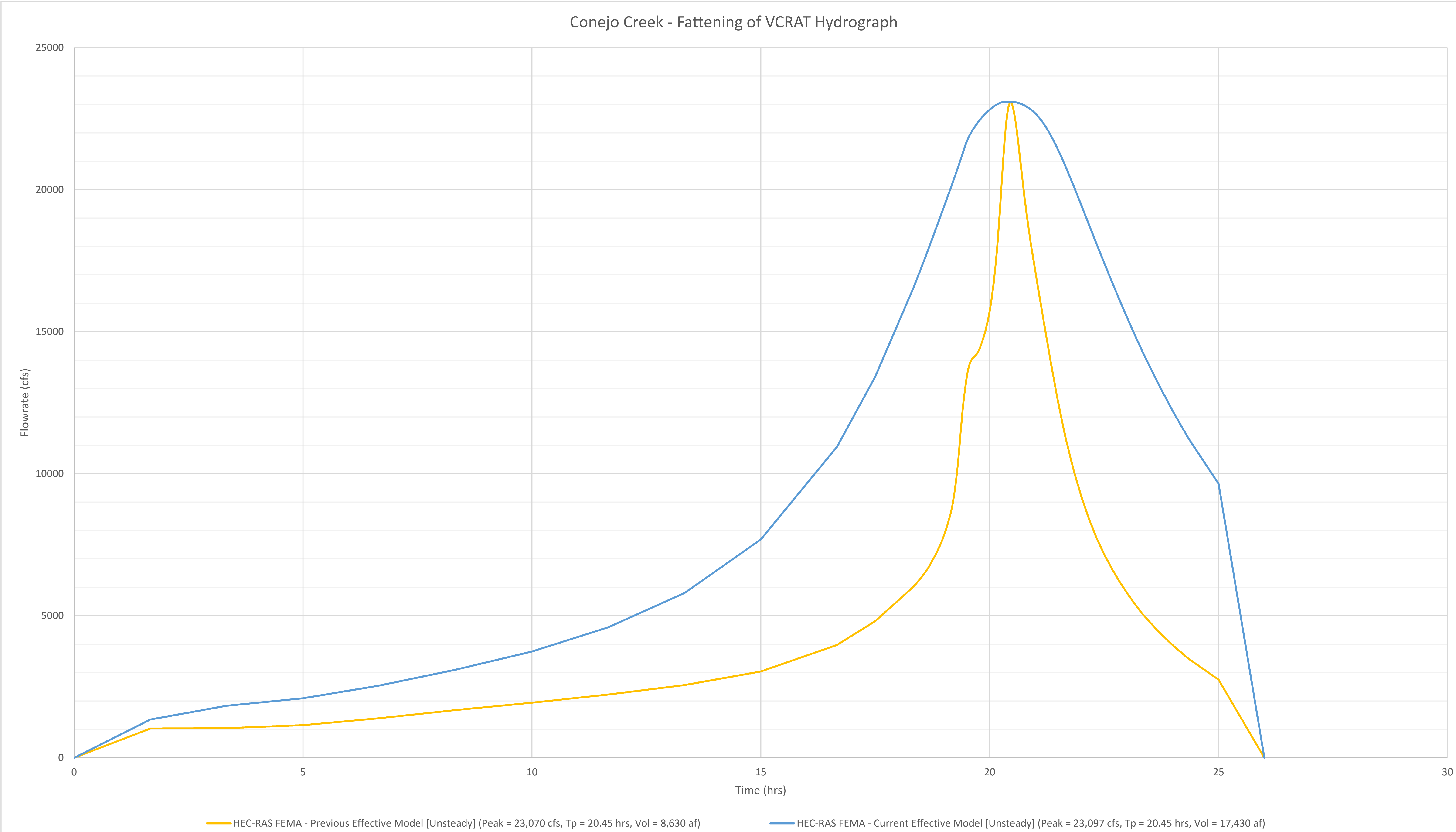
TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
1193	24213.70	14915.64	22635.75	1194	24431.66	15049.90	22663.51
1195	24661.25	15191.33	22690.58	1196	24905.91	15342.04	22716.93
1197	25167.95	15503.46	22742.64	1198	25448.53	15676.29	22767.65
1199	25748.52	15861.09	22791.97	1200	26070.02	16059.13	22815.58
1201	26415.68	16272.06	22838.46	1202	26791.44	16503.52	22860.74
1203	27189.19	16748.54	22882.12	1204	27608.24	17006.68	22902.55
1205	28054.01	17281.27	22922.15	1206	28533.34	17576.54	22940.96
1207	29053.89	17897.19	22959.04	1208	29621.24	18246.68	22976.43
1209	30218.84	18614.80	22992.79	1210	30848.04	19002.39	23008.14
1211	31512.08	19411.44	23022.49	1212	32208.01	19840.13	23035.80
1213	32910.90	20273.11	23047.78	1214	33600.77	20698.07	23058.33
1215	34269.39	21109.95	23067.46	1216	34905.75	21501.94	23075.20
1217	35482.81	21857.41	23081.48	1218	35991.13	22170.54	23086.42
1219	36427.30	22439.22	23090.23	1220	36790.24	22662.79	23093.01
1221	37079.57	22841.01	23094.96	1222	37293.50	22972.80	23096.22
1223	37431.52	23057.82	23096.93	1224	37495.52	23097.24	23097.24
1225	37490.59	23094.20	23097.20	1226	37421.86	23051.86	23096.85
1227	37295.20	22973.84	23096.13	1228	37118.28	22864.86	23095.00
1229	36897.02	22728.57	23093.37	1230	36637.50	22568.70	23091.23
1231	36341.78	22386.54	23088.44	1232	36015.32	22185.44	23084.99
1233	35663.14	21968.50	23080.86	1234	35291.41	21739.51	23075.98
1235	34907.02	21502.72	23070.36	1236	34515.71	21261.68	23063.99
1237	34123.85	21020.29	23056.89	1238	33732.67	20779.33	23049.04
1239	33340.84	20537.96	23040.39	1240	32950.31	20297.39	23030.91
1241	32562.25	20058.35	23020.58	1242	32181.64	19823.89	23009.45
1243	31812.44	19596.46	22997.59	1244	31454.16	19375.76	22984.99
1245	31111.75	19164.84	22971.73	1246	30778.13	18959.33	22957.68
1247	30454.58	18760.02	22942.88	1248	30140.15	18566.33	22927.31
1249	29834.28	18377.92	22910.97	1250	29537.85	18195.32	22893.85
1251	29249.11	18017.45	22875.94	1252	28968.55	17844.62	22857.28
1253	28697.19	17677.47	22837.86	1254	28426.78	17510.90	22817.50
1255	28157.83	17345.22	22796.14	1256	27888.55	17179.35	22773.75
1257	27619.22	17013.44	22750.31	1258	27349.81	16847.48	22725.80
1259	27081.08	16681.95	22700.25	1260	26813.12	16516.88	22673.62
1261	26548.40	16353.81	22646.02	1262	26287.00	16192.79	22617.45
1263	26027.26	16032.79	22587.84	1264	25766.42	15872.12	22557.06
1265	25503.78	15710.33	22525.05	1266	25240.37	15548.07	22491.87
1267	24977.29	15386.01	22457.53	1268	24715.20	15224.56	22422.10
1269	24454.79	15064.15	22385.55	1270	24196.81	14905.24	22347.99
1271	23944.35	14749.72	22309.57	1272	23694.05	14595.53	22270.12
1273	23441.04	14439.68	22229.35	1274	23186.19	14282.69	22187.30
1275	22930.93	14125.45	22144.04	1276	22676.22	13968.55	22099.62
1277	22422.67	13812.37	22054.12	1278	22172.03	13657.97	22007.62
1279	21925.32	13506.00	21960.25	1280	21687.41	13359.45	21912.39
1281	21452.18	13214.54	21863.61	1282	21214.97	13068.42	21813.56
1283	20977.15	12921.92	21762.33	1284	20740.32	12776.04	21710.10
1285	20505.73	12631.53	21656.94	1286	20274.59	12489.14	21602.97
1287	20047.58	12349.31	21548.28	1288	19824.61	12211.96	21492.90
1289	19610.92	12080.33	21437.35	1290	19399.01	11949.79	21380.96

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
1291	19188.51	11820.12	21323.73	1292	18978.91	11691.01	21265.60
1293	18769.70	11562.13	21206.56	1294	18562.52	11434.51	21146.75
1295	18357.86	11308.44	21086.27	1296	18156.89	11184.64	21025.26
1297	17960.11	11063.43	20963.80	1298	17768.70	10945.52	20902.04
1299	17580.69	10829.71	20839.83	1300	17398.60	10717.54	20777.47
1310	15718.41	9682.54	20130.19	1320	14307.60	8813.48	19458.51
1330	13104.32	8072.26	18775.46	1340	12076.26	7438.98	18093.70
1350	11208.62	6904.51	17425.64	1360	10432.23	6426.26	16768.30
1370	9739.88	5999.77	16127.91	1380	9100.72	5606.04	15502.75
1390	8505.97	5239.68	14894.50	1400	7968.77	4908.76	14310.06
1420	7038.20	4335.53	13214.97	1440	6215.97	3829.04	12201.44
1460	5483.20	3377.65	11267.33	1500	4290.77	2643.11	9643.13

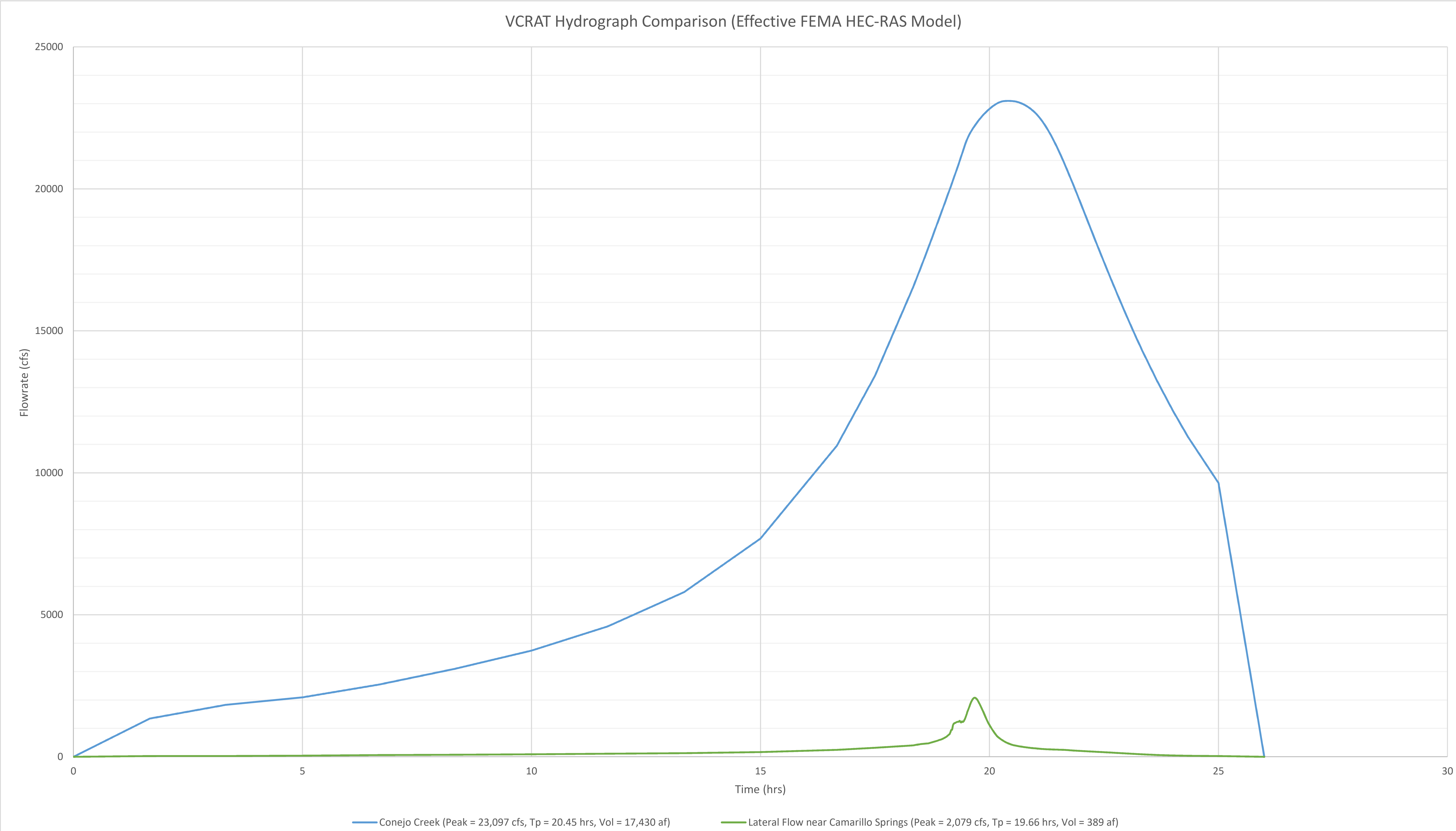
HYDROGRAPH FATTENED AT 3705D

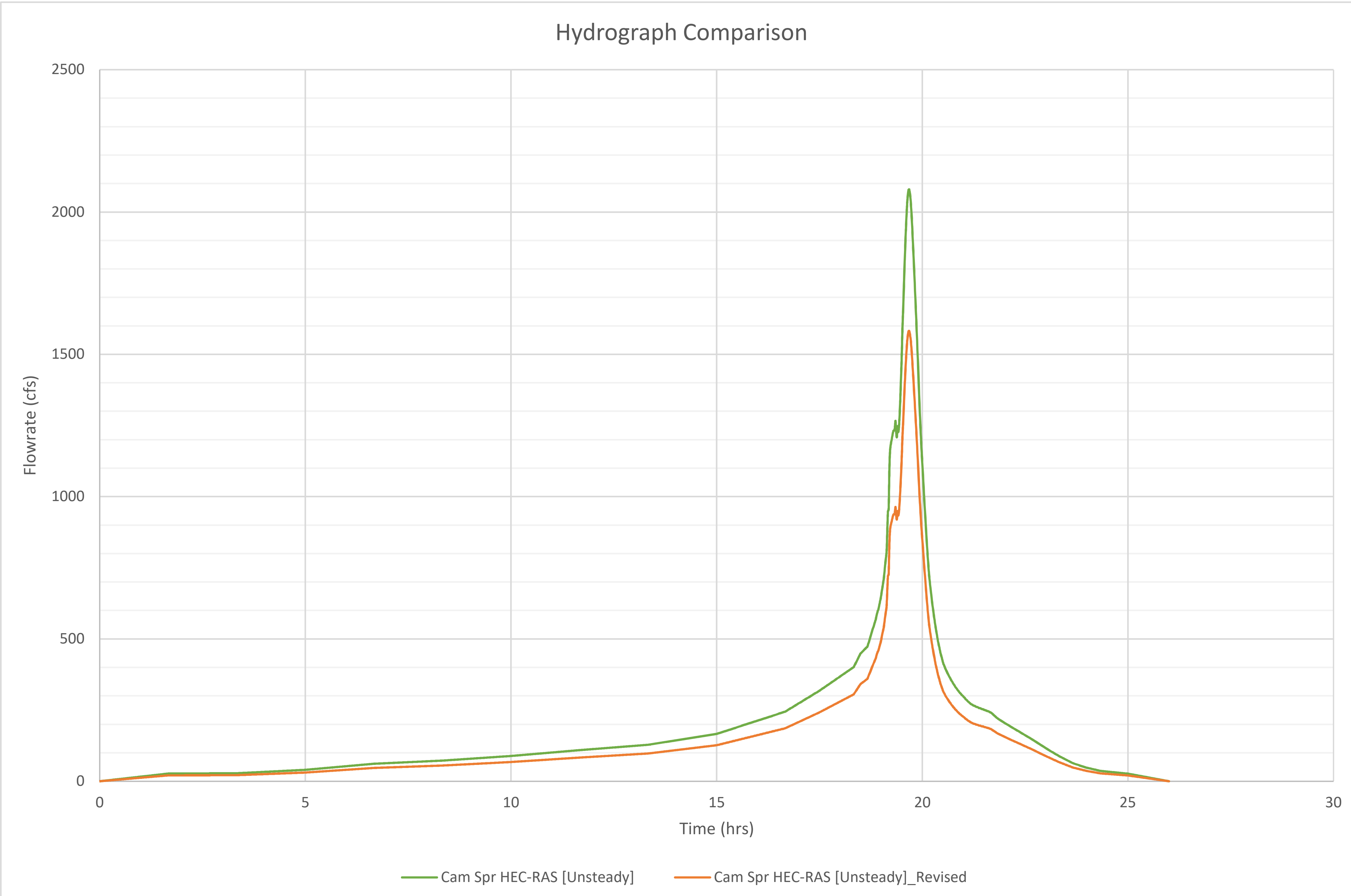
INCOMING HYDROGRAPH PEAK (cfs): 2858.36	VOLUME (acre-ft): 273.02
HYDROGRAPH ADJUSTMENT FACTOR: 0.94000	
ADJUSTED HYDROGRAPH PEAK (cfs): 2686.86	VOLUME (acre-ft): 256.64
RUNOFF FACTOR(in): 2.40	
FATTENED HYDROGRAPH PEAK (cfs): 2686.86	VOLUME (acre-ft): 242.21

TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)	TIME (min)	PRE-ADJ (cfs)	PRE-FAT (cfs)	FATTENED (cfs)
0	0.00	0.00	0.00	100	3.33	3.13	2.86
200	3.46	3.25	2.61	300	15.57	14.64	13.86
400	31.08	29.22	28.25	500	36.76	34.56	33.33
600	53.56	50.35	48.73	700	66.33	62.35	60.11
800	82.17	77.24	73.95	900	117.09	110.06	104.77
1000	187.55	176.30	166.47	1050	274.67	258.19	243.68
1100	342.73	322.17	298.00	1110	385.49	362.36	335.38
1120	461.77	434.06	404.10	1130	558.16	524.67	491.39
1131	569.20	535.05	501.43	1132	580.80	545.95	511.98
1133	593.92	558.29	523.99	1134	608.76	572.24	537.63
1135	625.22	587.70	552.81	1136	642.31	603.77	568.59
1137	661.89	622.18	586.75	1138	681.83	640.92	605.24
1139	702.23	660.10	624.18	1140	722.24	678.91	642.73
1141	742.79	698.22	661.80	1142	763.25	717.46	680.79
1143	784.43	737.36	700.45	1144	806.81	758.40	721.26
1145	831.97	782.05	744.74	1146	859.12	807.58	770.13
1147	890.01	836.61	799.09	1148	926.34	870.76	833.29
1149	975.81	917.27	880.10	1150	1031.96	970.04	933.34
1151	1089.09	1023.75	987.55	1152	1182.26	1111.33	1076.41
1153	1284.17	1207.12	1173.73	1154	1414.90	1330.01	1298.81



Conejo Creek - Fattening of VCRAT Hydrograph
25000
20000
15000
10000
5000
0
Flowrate (cfs)
0
5
10
15
20
25
30
Time (hrs)
HEC-RAS FEMA - Previous Effective Model [Unsteady] (Peak = 23,070 cfs, Tp = 20.45 hrs, Vol = 8,630 af)
HEC-RAS FEMA - Current Effective Model [Unsteady] (Peak = 23,097 cfs, Tp = 20.45 hrs, Vol = 17,430 af)


VCRAT Hydrograph Comparison (Effective FEMA HEC-RAS Model)
Flowrate (cfs)
25000
20000
15000
10000
5000
0
0
5
10
15
20
25
30
Time (hrs)
Conejo Creek (Peak = 23,097 cfs, Tp = 20.45 hrs, Vol = 17,430 af)
Lateral Flow near Camarillo Springs (Peak = 2,079 cfs, Tp = 19.66 hrs, Vol = 389 af)


Hydrograph Comparison
Flowrate (cfs)
2500
2000
1500
1000
500
0
0
5
10
15
20
25
30
Time (hrs)
Cam Spr HEC-RAS [Unsteady]
Cam Spr HEC-RAS [Unsteady]_Revised

Appendix C -

Hydrology - Local

WS18 Design 100yr	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	2.61
3.33	2.86
5.00	4.57
6.67	4.58
8.33	5.42
10.00	6.25
11.67	7.11
13.33	7.99
15.00	10.02
16.67	13.59
17.50	17.99
18.33	20.15
18.50	29.18
18.67	26.48
18.83	37.86
18.85	37.90
18.87	37.93
18.88	39.15
18.90	40.75
18.92	41.96
18.93	41.22
18.95	43.21
18.97	44.82
18.98	46.42
19.00	47.24
19.02	49.22
19.03	51.14
19.05	54.94
19.07	56.48
19.08	61.43
19.10	66.43
19.12	71.04
19.13	74.15
19.15	97.12
19.17	120.05
19.18	116.64
19.20	162.04
19.22	181.48
19.23	181.48
19.25	178.05
19.27	154.01
19.28	128.81
19.30	128.79
19.32	76.42
19.33	50.97
19.35	42.82
19.37	38.09
19.38	34.59
19.40	34.54
19.42	31.43
19.43	29.86
19.45	26.75
19.47	26.32
19.48	27.80
19.50	25.08

WS19 Design 100yr	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	0.68
3.33	0.75
5.00	1.19
6.67	1.19
8.33	1.41
10.00	1.63
11.67	1.85
13.33	2.08
15.00	2.61
16.67	3.54
17.50	4.69
18.33	5.25
18.50	7.61
18.67	6.91
18.83	9.88
18.85	9.89
18.87	9.90
18.88	10.34
18.90	10.93
18.92	11.37
18.93	11.09
18.95	11.82
18.97	11.97
18.98	11.98
19.00	12.28
19.02	13.82
19.03	14.25
19.05	14.81
19.07	15.51
19.08	17.20
19.10	18.33
19.12	19.60
19.13	20.88
19.15	29.15
19.17	36.30
19.18	33.93
19.20	50.58
19.22	57.72
19.23	50.58
19.25	42.19
19.27	42.88
19.28	24.11
19.30	14.60
19.32	12.09
19.33	11.07
19.35	9.78
19.37	8.92
19.38	8.35
19.40	8.75
19.42	7.48
19.43	7.33
19.45	6.89
19.47	6.74
19.48	6.45
19.50	6.02

WS20 Design 100yr	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	0.69
3.33	0.78
5.00	0.89
6.67	0.91
8.33	0.97
10.00	1.05
11.67	1.14
13.33	1.35
15.00	2.04
16.67	3.34
17.50	4.89
18.33	6.22
18.50	8.91
18.67	8.46
18.83	11.92
18.85	11.97
18.87	12.02
18.88	12.48
18.90	13.09
18.92	13.56
18.93	13.34
18.95	14.08
18.97	14.28
18.98	14.34
19.00	14.67
19.02	16.23
19.03	16.70
19.05	17.30
19.07	18.04
19.08	19.70
19.10	20.83
19.12	22.09
19.13	23.35
19.15	31.46
19.17	38.57
19.18	36.25
19.20	52.83
19.22	59.88
19.23	52.83
19.25	44.47
19.27	45.15
19.28	26.53
19.30	17.37
19.32	14.87
19.33	13.84
19.35	12.54
19.37	11.61
19.38	10.96
19.40	11.33
19.42	9.96
19.43	9.75
19.45	9.26
19.47	9.05
19.48	8.71
19.50	8.24

WS21 Design 100yr	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	0.25
3.33	0.29
5.00	0.77
6.67	0.78
8.33	1.02
10.00	1.27
11.67	1.54
13.33	1.83
15.00	2.48
16.67	3.68
17.50	5.12
18.33	6.15
18.50	8.81
18.67	8.22
18.83	11.60
18.85	11.63
18.87	11.66
18.88	12.15
18.90	12.80
18.92	13.29
18.93	13.02
18.95	13.82
18.97	14.01
18.98	14.05
19.00	14.39
19.02	16.05
19.03	16.52
19.05	17.14
19.07	17.90
19.08	19.71
19.10	20.93
19.12	22.30
19.13	23.67
19.15	32.40
19.17	39.93
19.18	37.46
19.20	54.95
19.22	62.44
19.23	54.96
19.25	46.13
19.27	46.85
19.28	27.10
19.30	17.07
19.32	14.40
19.33	13.30
19.35	11.90
19.37	10.96
19.38	10.33
19.40	10.73
19.42	9.35
19.43	9.16
19.45	8.67
19.47	8.49
19.48	8.15
19.50	7.66

WS18 Design 100yr	
Time (hrs)	Flow (cfs)
19.52	22.35
19.53	23.07
19.55	22.27
19.57	22.61
19.58	21.80
19.60	19.08
19.62	20.19
19.63	19.00
19.65	18.58
19.67	18.54
19.68	18.12
19.70	18.09
19.72	17.67
19.73	18.02
19.75	18.38
19.77	17.96
19.78	17.93
19.80	17.90
19.82	17.87
19.83	17.84
19.85	17.81
19.87	17.40
19.88	17.76
19.90	17.73
19.92	17.70
19.93	17.29
19.95	17.65
19.97	17.63
19.98	17.61
20.00	17.58
20.02	16.79
20.03	16.38
20.05	15.97
20.07	15.56
20.08	14.77
20.10	14.36
20.12	13.96
20.13	13.94
20.15	13.92
20.17	13.90
20.18	13.49
20.20	13.86
20.22	14.22
20.23	13.82
20.25	13.80
20.27	13.78
20.28	14.15
20.30	14.14
20.32	13.73
20.33	13.72
20.35	14.09
20.37	14.07
20.38	13.67
20.40	13.65
20.42	14.02
20.43	14.01

WS19 Design 100yr	
Time (hrs)	Flow (cfs)
19.52	6.00
19.53	6.13
19.55	5.84
19.57	4.99
19.58	5.54
19.60	5.25
19.62	4.96
19.63	4.81
19.65	4.66
19.67	4.65
19.68	4.64
19.70	4.77
19.72	4.76
19.73	4.75
19.75	4.74
19.77	4.60
19.78	4.59
19.80	4.72
19.82	4.71
19.83	4.57
19.85	4.70
19.87	4.55
19.88	4.54
19.90	4.54
19.92	4.67
19.93	4.52
19.95	4.66
19.97	4.65
19.98	4.50
20.00	4.50
20.02	4.35
20.03	4.20
20.05	3.92
20.07	3.91
20.08	3.62
20.10	3.62
20.12	3.61
20.13	3.61
20.15	3.60
20.17	3.60
20.18	3.59
20.20	3.59
20.22	3.72
20.23	3.58
20.25	3.57
20.27	3.71
20.28	3.70
20.30	3.56
20.32	3.55
20.33	3.69
20.35	3.69
20.37	3.54
20.38	3.54
20.40	3.68
20.42	3.67
20.43	3.53

WS20 Design 100yr	
Time (hrs)	Flow (cfs)
19.52	8.18
19.53	8.26
19.55	7.93
19.57	7.03
19.58	7.54
19.60	7.21
19.62	6.87
19.63	6.68
19.65	6.49
19.67	6.45
19.68	6.40
19.70	6.50
19.72	6.45
19.73	6.41
19.75	6.36
19.77	6.18
19.78	6.14
19.80	6.24
19.82	6.20
19.83	6.02
19.85	6.13
19.87	5.95
19.88	5.91
19.90	5.88
19.92	5.98
19.93	5.81
19.95	5.92
19.97	5.88
19.98	5.71
20.00	5.68
20.02	5.50
20.03	5.33
20.05	5.01
20.07	4.98
20.08	4.67
20.10	4.64
20.12	4.61
20.13	4.58
20.15	4.56
20.17	4.53
20.18	4.50
20.20	4.48
20.22	4.60
20.23	4.43
20.25	4.40
20.27	4.52
20.28	4.50
20.30	4.33
20.32	4.31
20.33	4.43
20.35	4.41
20.37	4.25
20.38	4.23
20.40	4.35
20.42	4.33
20.43	4.16

WS21 Design 100yr	
Time (hrs)	Flow (cfs)
19.52	7.62
19.53	7.74
19.55	7.40
19.57	6.47
19.58	7.03
19.60	6.70
19.62	6.37
19.63	6.18
19.65	6.00
19.67	5.97
19.68	5.94
19.70	6.06
19.72	6.03
19.73	6.00
19.75	5.97
19.77	5.80
19.78	5.77
19.80	5.89
19.82	5.87
19.83	5.69
19.85	5.82
19.87	5.64
19.88	5.62
19.90	5.59
19.92	5.72
19.93	5.55
19.95	5.68
19.97	5.66
19.98	5.48
20.00	5.46
20.02	5.29
20.03	5.12
20.05	4.80
20.07	4.78
20.08	4.46
20.10	4.44
20.12	4.42
20.13	4.40
20.15	4.38
20.17	4.37
20.18	4.35
20.20	4.33
20.22	4.47
20.23	4.30
20.25	4.28
20.27	4.42
20.28	4.41
20.30	4.24
20.32	4.22
20.33	4.36
20.35	4.35
20.37	4.18
20.38	4.17
20.40	4.31
20.42	4.29
20.43	4.13

WS18 Design 100yr	
Time (hrs)	Flow (cfs)
20.45	13.61
20.47	13.59
20.48	13.97
20.50	13.95
20.52	13.55
20.53	13.54
20.55	13.53
20.57	13.51
20.58	13.50
20.60	13.10
20.62	13.09
20.63	13.46
20.65	13.06
20.67	13.05
20.68	13.43
20.70	13.03
20.72	13.02
20.73	13.39
20.75	12.99
20.77	12.98
20.78	13.36
20.80	12.96
20.82	12.95
20.83	13.33
20.85	12.93
20.87	12.92
20.88	13.30
20.90	12.90
20.92	12.89
20.93	13.27
20.95	12.87
20.97	12.87
20.98	13.24
21.00	12.85
21.02	12.84
21.03	12.44
21.05	11.66
21.07	11.65
21.08	11.64
21.10	10.86
21.12	10.46
21.13	10.45
21.15	10.83
21.17	10.83
21.18	10.43
21.20	10.42
21.22	10.80
21.23	10.80
21.25	10.40
21.27	10.39
21.28	10.77
21.30	10.77
21.32	10.37
21.33	10.37
21.35	10.75
21.37	10.74

WS19 Design 100yr	
Time (hrs)	Flow (cfs)
20.45	3.52
20.47	3.66
20.48	3.66
20.50	3.51
20.52	3.51
20.53	3.65
20.55	3.50
20.57	3.36
20.58	3.49
20.60	3.49
20.62	3.35
20.63	3.49
20.65	3.48
20.67	3.34
20.68	3.48
20.70	3.47
20.72	3.33
20.73	3.47
20.75	3.46
20.77	3.32
20.78	3.46
20.80	3.46
20.82	3.31
20.83	3.45
20.85	3.45
20.87	3.30
20.88	3.44
20.90	3.44
20.92	3.30
20.93	3.44
20.95	3.43
20.97	3.29
20.98	3.43
21.00	3.43
21.02	3.28
21.03	3.14
21.05	3.00
21.07	2.85
21.08	2.85
21.10	2.71
21.12	2.70
21.13	2.84
21.15	2.84
21.17	2.70
21.18	2.70
21.20	2.83
21.22	2.83
21.23	2.69
21.25	2.69
21.27	2.83
21.28	2.83
21.30	2.68
21.32	2.68
21.33	2.82
21.35	2.82
21.37	2.68

WS20 Design 100yr	
Time (hrs)	Flow (cfs)
20.45	4.14
20.47	4.27
20.48	4.25
20.50	4.09
20.52	4.07
20.53	4.20
20.55	4.03
20.57	3.87
20.58	4.00
20.60	3.98
20.62	3.82
20.63	3.95
20.65	3.93
20.67	3.77
20.68	3.90
20.70	3.88
20.72	3.72
20.73	3.85
20.75	3.84
20.77	3.68
20.78	3.81
20.80	3.80
20.82	3.64
20.83	3.77
20.85	3.75
20.87	3.59
20.88	3.73
20.90	3.71
20.92	3.56
20.93	3.69
20.95	3.68
20.97	3.52
20.98	3.65
21.00	3.64
21.02	3.48
21.03	3.32
21.05	3.17
21.07	3.01
21.08	3.00
21.10	2.84
21.12	2.83
21.13	2.96
21.15	2.95
21.17	2.80
21.18	2.79
21.20	2.92
21.22	2.91
21.23	2.76
21.25	2.75
21.27	2.88
21.28	2.87
21.30	2.72
21.32	2.71
21.33	2.84
21.35	2.84
21.37	2.68

WS21 Design 100yr	
Time (hrs)	Flow (cfs)
20.45	4.11
20.47	4.25
20.48	4.24
20.50	4.08
20.52	4.06
20.53	4.20
20.55	4.04
20.57	3.88
20.58	4.02
20.60	4.01
20.62	3.84
20.63	3.98
20.65	3.97
20.67	3.81
20.68	3.95
20.70	3.94
20.72	3.78
20.73	3.92
20.75	3.91
20.77	3.75
20.78	3.89
20.80	3.89
20.82	3.72
20.83	3.87
20.85	3.86
20.87	3.70
20.88	3.84
20.90	3.83
20.92	3.67
20.93	3.82
20.95	3.81
20.97	3.65
20.98	3.79
21.00	3.78
21.02	3.62
21.03	3.46
21.05	3.30
21.07	3.14
21.08	3.13
21.10	2.97
21.12	2.97
21.13	3.11
21.15	3.10
21.17	2.94
21.18	2.94
21.20	3.08
21.22	3.08
21.23	2.92
21.25	2.91
21.27	3.06
21.28	3.05
21.30	2.89
21.32	2.89
21.33	3.03
21.35	3.03
21.37	2.87

WS18 Design 100yr	
Time (hrs)	Flow (cfs)
21.38	10.34
21.40	10.34
21.42	10.72
21.43	10.71
21.45	10.32
21.47	10.31
21.48	10.69
21.50	10.69
21.52	10.29
21.53	10.29
21.55	10.28
21.57	10.67
21.58	10.27
21.60	10.27
21.62	10.65
21.63	10.64
21.65	10.25
21.67	10.63
21.83	6.85
22.00	7.08
22.17	7.04
22.33	6.73
22.50	3.26
22.67	3.17
22.83	3.20
23.00	3.17
23.17	3.09
23.33	3.13
23.67	2.25
24.00	2.22
24.33	0.32
25.00	0.27

WS19 Design 100yr	
Time (hrs)	Flow (cfs)
21.38	2.67
21.40	2.81
21.42	2.81
21.43	2.67
21.45	2.67
21.47	2.81
21.48	2.81
21.50	2.66
21.52	2.66
21.53	2.80
21.55	2.66
21.57	2.66
21.58	2.65
21.60	2.80
21.62	2.79
21.63	2.79
21.65	2.65
21.67	2.79
21.83	1.78
22.00	1.84
22.17	1.83
22.33	1.75
22.50	0.85
22.67	0.82
22.83	0.83
23.00	0.82
23.17	0.80
23.33	0.81
23.67	0.58
24.00	0.58
24.33	0.08
25.00	0.07

WS20 Design 100yr	
Time (hrs)	Flow (cfs)
21.38	2.67
21.40	2.81
21.42	2.80
21.43	2.64
21.45	2.64
21.47	2.77
21.48	2.77
21.50	2.61
21.52	2.60
21.53	2.74
21.55	2.59
21.57	2.58
21.58	2.57
21.60	2.71
21.62	2.70
21.63	2.70
21.65	2.54
21.67	2.68
21.83	1.86
22.00	1.81
22.17	1.75
22.33	1.69
22.50	1.42
22.67	1.37
22.83	1.35
23.00	1.31
23.17	1.26
23.33	1.25
23.67	0.99
24.00	0.94
24.33	0.43
25.00	0.36

WS21 Design 100yr	
Time (hrs)	Flow (cfs)
21.38	2.86
21.40	3.01
21.42	3.00
21.43	2.85
21.45	2.84
21.47	2.99
21.48	2.98
21.50	2.82
21.52	2.82
21.53	2.97
21.55	2.81
21.57	2.80
21.58	2.80
21.60	2.95
21.62	2.94
21.63	2.94
21.65	2.78
21.67	2.93
21.83	1.81
22.00	1.84
22.17	1.81
22.33	1.70
22.50	0.72
22.67	0.69
22.83	0.67
23.00	0.65
23.17	0.62
23.33	0.61
23.67	0.50
24.00	0.47
24.33	0.28
25.00	0.24

WS22 Design 100yr	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	0.08
3.33	0.09
5.00	0.20
6.67	0.20
8.33	0.26
10.00	0.32
11.67	0.38
13.33	0.45
15.00	0.61
16.67	0.89
17.50	1.23
18.33	1.48
18.50	2.11
18.67	1.97
18.83	2.77
18.85	2.78
18.87	2.79
18.88	2.90
18.90	3.06
18.92	3.17
18.93	3.11
18.95	3.30
18.97	3.34
18.98	3.35
19.00	3.43
19.02	3.83
19.03	3.94
19.05	4.09
19.07	4.27
19.08	4.70
19.10	4.99
19.12	5.32
19.13	5.65
19.15	7.73
19.17	9.53
19.18	8.94
19.20	13.11
19.22	14.89
19.23	13.11
19.25	11.00
19.27	11.17
19.28	6.47
19.30	4.07
19.32	3.44
19.33	3.17
19.35	2.84
19.37	2.62
19.38	2.47
19.40	2.56
19.42	2.23
19.43	2.19
19.45	2.07
19.47	2.03
19.48	1.95
19.50	1.83

WS23 Design 100yr	
Time (hrs)	Flow (cfs)
0.00	0.70
1.67	0.76
3.33	0.87
5.00	0.87
6.67	0.91
8.33	0.96
10.00	1.01
11.67	1.15
13.33	1.80
15.00	2.91
16.67	4.29
17.50	4.79
18.33	7.86
18.50	6.80
18.67	10.74
18.83	10.74
18.85	10.74
18.87	11.19
18.88	11.80
18.90	12.26
18.92	11.96
18.93	12.72
18.95	13.33
18.97	13.48
18.98	13.63
19.00	14.54
19.02	16.04
19.03	16.49
19.05	17.24
19.07	19.18
19.08	20.96
19.10	22.14
19.12	23.48
19.13	32.56
19.15	41.71
19.17	39.07
19.18	57.69
19.20	65.63
19.22	65.63
19.23	56.29
19.25	46.38
19.27	46.69
19.28	25.71
19.30	15.44
19.32	13.02
19.33	11.19
19.35	9.79
19.37	8.82
19.38	9.15
19.40	8.02
19.42	7.06
19.43	6.57
19.45	6.41
19.47	7.06
19.48	5.03
19.50	5.49

WS24 Design 100yr	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	1.77
3.33	1.92
5.00	2.20
6.67	2.20
8.33	2.32
10.00	2.43
11.67	2.55
13.33	2.72
15.00	3.24
16.67	4.13
17.50	5.25
18.33	5.66
18.50	6.94
18.67	7.67
18.83	8.93
18.85	9.09
18.87	9.26
18.88	9.54
18.90	9.87
18.92	10.15
18.93	10.24
18.95	10.59
18.97	10.91
18.98	11.22
19.00	11.42
19.02	11.77
19.03	12.08
19.05	12.39
19.07	12.75
19.08	13.41
19.10	14.07
19.12	14.73
19.13	15.38
19.15	18.01
19.17	20.62
19.18	20.62
19.20	25.79
19.22	28.28
19.23	28.83
19.25	29.23
19.27	29.23
19.28	29.15
19.30	28.99
19.32	28.75
19.33	28.44
19.35	27.97
19.37	27.50
19.38	27.00
19.40	26.41
19.42	25.43
19.43	24.58
19.45	23.64
19.47	20.81
19.48	18.20
19.50	17.77

WS25 Design 100yr	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	3.71
3.33	4.04
5.00	4.61
6.67	4.61
8.33	4.86
10.00	5.11
11.67	5.35
13.33	5.60
15.00	6.18
16.67	7.17
17.50	8.40
18.33	8.85
18.50	12.03
18.67	10.96
18.83	14.97
18.85	14.97
18.87	14.97
18.88	15.46
18.90	16.11
18.92	16.60
18.93	16.27
18.95	17.08
18.97	17.73
18.98	17.90
19.00	18.06
19.02	19.03
19.03	20.66
19.05	21.15
19.07	21.96
19.08	24.05
19.10	25.96
19.12	27.24
19.13	28.68
19.15	38.25
19.17	47.71
19.18	44.98
19.20	64.05
19.22	72.22
19.23	72.22
19.25	62.60
19.27	52.51
19.28	52.83
19.30	31.07
19.32	20.01
19.33	17.41
19.35	15.46
19.37	13.99
19.38	13.01
19.40	13.34
19.42	12.20
19.43	11.22
19.45	10.73
19.47	10.56
19.48	11.22
19.50	9.09

WS22 Design 100yr		WS23 Design 100yr		WS24 Design 100yr		WS25 Design 100yr	
Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
19.52	1.82	19.52	5.34	19.52	12.32	19.52	9.58
19.53	1.85	19.53	5.34	19.53	9.40	19.53	9.41
19.55	1.77	19.55	5.18	19.55	8.44	19.55	9.41
19.57	1.55	19.57	4.11	19.57	7.87	19.57	9.25
19.58	1.68	19.58	4.72	19.58	7.39	19.58	8.24
19.60	1.60	19.60	4.26	19.60	7.03	19.60	8.79
19.62	1.52	19.62	3.95	19.62	6.71	19.62	8.37
19.63	1.48	19.63	3.95	19.63	6.44	19.63	8.10
19.65	1.44	19.65	3.80	19.65	6.12	19.65	8.10
19.67	1.43	19.67	3.80	19.67	6.01	19.67	7.96
19.68	1.42	19.68	3.80	19.68	5.89	19.68	7.96
19.70	1.45	19.70	3.80	19.70	5.77	19.70	7.96
19.72	1.44	19.72	3.95	19.72	5.38	19.72	7.96
19.73	1.44	19.73	3.95	19.73	5.42	19.73	8.10
19.75	1.43	19.75	3.80	19.75	5.34	19.75	8.10
19.77	1.39	19.77	3.80	19.77	5.30	19.77	7.96
19.78	1.38	19.78	3.80	19.78	5.22	19.78	7.96
19.80	1.41	19.80	3.95	19.80	4.95	19.80	7.96
19.82	1.41	19.82	3.80	19.82	5.10	19.82	8.10
19.83	1.36	19.83	3.80	19.83	4.99	19.83	7.96
19.85	1.39	19.85	3.80	19.85	4.95	19.85	7.96
19.87	1.35	19.87	3.80	19.87	4.91	19.87	7.96
19.88	1.35	19.88	3.80	19.88	4.87	19.88	7.96
19.90	1.34	19.90	3.80	19.90	4.87	19.90	7.96
19.92	1.37	19.92	3.80	19.92	4.87	19.92	7.96
19.93	1.33	19.93	3.80	19.93	4.87	19.93	7.96
19.95	1.36	19.95	3.95	19.95	4.91	19.95	7.96
19.97	1.36	19.97	3.80	19.97	4.91	19.97	8.10
19.98	1.32	19.98	3.80	19.98	4.87	19.98	7.96
20.00	1.31	20.00	3.49	20.00	4.87	20.00	7.96
20.02	1.27	20.02	3.49	20.02	4.79	20.02	7.69
20.03	1.23	20.03	3.19	20.03	4.79	20.03	7.69
20.05	1.15	20.05	3.03	20.05	4.71	20.05	7.41
20.07	1.15	20.07	2.88	20.07	4.67	20.07	7.28
20.08	1.07	20.08	2.57	20.08	4.63	20.08	7.14
20.10	1.07	20.10	2.72	20.10	4.55	20.10	6.86
20.12	1.06	20.12	2.57	20.12	4.52	20.12	7.00
20.13	1.06	20.13	2.72	20.13	4.44	20.13	6.86
20.15	1.06	20.15	2.57	20.15	4.44	20.15	7.00
20.17	1.05	20.17	2.57	20.17	4.36	20.17	6.86
20.18	1.05	20.18	2.72	20.18	4.32	20.18	6.86
20.20	1.04	20.20	2.72	20.20	4.28	20.20	7.00
20.22	1.08	20.22	2.72	20.22	4.24	20.22	7.00
20.23	1.04	20.23	2.57	20.23	4.16	20.23	7.00
20.25	1.03	20.25	2.72	20.25	4.12	20.25	6.86
20.27	1.06	20.27	2.88	20.27	4.08	20.27	7.00
20.28	1.06	20.28	2.72	20.28	4.04	20.28	7.14
20.30	1.02	20.30	2.57	20.30	4.00	20.30	7.00
20.32	1.02	20.32	2.72	20.32	3.93	20.32	6.86
20.33	1.05	20.33	2.88	20.33	3.97	20.33	7.00
20.35	1.05	20.35	2.72	20.35	3.97	20.35	7.14
20.37	1.01	20.37	2.57	20.37	3.97	20.37	7.00
20.38	1.00	20.38	2.72	20.38	3.93	20.38	6.86
20.40	1.04	20.40	2.88	20.40	3.97	20.40	7.00
20.42	1.03	20.42	2.72	20.42	4.00	20.42	7.14
20.43	1.00	20.43	2.57	20.43	3.97	20.43	7.00

WS22 Design 100yr	
Time (hrs)	Flow (cfs)
20.45	0.99
20.47	1.03
20.48	1.02
20.50	0.98
20.52	0.98
20.53	1.01
20.55	0.98
20.57	0.94
20.58	0.97
20.60	0.97
20.62	0.93
20.63	0.96
20.65	0.96
20.67	0.92
20.68	0.95
20.70	0.95
20.72	0.91
20.73	0.95
20.75	0.95
20.77	0.91
20.78	0.94
20.80	0.94
20.82	0.90
20.83	0.93
20.85	0.93
20.87	0.89
20.88	0.93
20.90	0.93
20.92	0.89
20.93	0.92
20.95	0.92
20.97	0.88
20.98	0.92
21.00	0.92
21.02	0.88
21.03	0.84
21.05	0.80
21.07	0.76
21.08	0.76
21.10	0.72
21.12	0.72
21.13	0.76
21.15	0.75
21.17	0.72
21.18	0.71
21.20	0.75
21.22	0.75
21.23	0.71
21.25	0.71
21.27	0.74
21.28	0.74
21.30	0.70
21.32	0.70
21.33	0.74
21.35	0.74
21.37	0.70

WS23 Design 100yr	
Time (hrs)	Flow (cfs)
20.45	2.72
20.47	2.88
20.48	2.72
20.50	2.57
20.52	2.72
20.53	2.72
20.55	2.57
20.57	2.57
20.58	2.57
20.60	2.57
20.62	2.57
20.63	2.57
20.65	2.57
20.67	2.57
20.68	2.57
20.70	2.57
20.72	2.57
20.73	2.57
20.75	2.57
20.77	2.57
20.78	2.57
20.80	2.57
20.82	2.57
20.83	2.57
20.85	2.57
20.87	2.57
20.88	2.57
20.90	2.57
20.92	2.57
20.93	2.57
20.95	2.57
20.97	2.57
20.98	2.57
21.00	2.57
21.02	2.26
21.03	2.11
21.05	2.11
21.07	1.96
21.08	1.80
21.10	1.65
21.12	1.80
21.13	1.96
21.15	1.80
21.17	1.65
21.18	1.80
21.20	1.96
21.22	1.80
21.23	1.65
21.25	1.80
21.27	1.96
21.28	1.80
21.30	1.65
21.32	1.80
21.33	1.96
21.35	1.80
21.37	1.65

WS24 Design 100yr	
Time (hrs)	Flow (cfs)
20.45	3.97
20.47	3.97
20.48	4.00
20.50	4.00
20.52	3.97
20.53	3.97
20.55	3.97
20.57	3.97
20.58	3.97
20.60	3.93
20.62	3.93
20.63	3.97
20.65	3.93
20.67	3.89
20.68	3.93
20.70	3.93
20.72	3.89
20.73	3.89
20.75	3.89
20.77	3.89
20.78	3.89
20.80	3.85
20.82	3.85
20.83	3.89
20.85	3.85
20.87	3.85
20.88	3.89
20.90	3.85
20.92	3.85
20.93	3.89
20.95	3.85
20.97	3.85
20.98	3.89
21.00	3.85
21.02	3.85
21.03	3.81
21.05	3.73
21.07	3.73
21.08	3.73
21.10	3.65
21.12	3.61
21.13	3.61
21.15	3.57
21.17	3.53
21.18	3.49
21.20	3.46
21.22	3.46
21.23	3.42
21.25	3.34
21.27	3.34
21.28	3.34
21.30	3.26
21.32	3.22
21.33	3.22
21.35	3.26
21.37	3.26

WS25 Design 100yr	
Time (hrs)	Flow (cfs)
20.45	6.86
20.47	7.00
20.48	7.14
20.50	7.00
20.52	6.86
20.53	7.00
20.55	7.00
20.57	6.86
20.58	6.86
20.60	6.86
20.62	6.86
20.63	6.86
20.65	6.86
20.67	6.86
20.68	6.86
20.70	6.86
20.72	6.86
20.73	6.86
20.75	6.86
20.77	6.86
20.78	6.86
20.80	6.86
20.82	6.86
20.83	6.86
20.85	6.86
20.87	6.86
20.88	6.86
20.90	6.86
20.92	6.86
20.93	6.86
20.95	6.86
20.97	6.86
20.98	6.86
21.00	6.86
21.02	6.86
21.03	6.59
21.05	6.45
21.07	6.45
21.08	6.31
21.10	6.18
21.12	6.04
21.13	6.18
21.15	6.31
21.17	6.18
21.18	6.04
21.20	6.18
21.22	6.31
21.23	6.18
21.25	6.04
21.27	6.18
21.28	6.31
21.30	6.18
21.32	6.04
21.33	6.18
21.35	6.31
21.37	6.18

WS22 Design 100yr	
Time (hrs)	Flow (cfs)
21.38	0.70
21.40	0.73
21.42	0.73
21.43	0.69
21.45	0.69
21.47	0.73
21.48	0.73
21.50	0.69
21.52	0.69
21.53	0.72
21.55	0.68
21.57	0.68
21.58	0.68
21.60	0.72
21.62	0.72
21.63	0.71
21.65	0.68
21.67	0.71
21.83	0.45
22.00	0.45
22.17	0.45
22.33	0.42
22.50	0.19
22.67	0.18
22.83	0.18
23.00	0.17
23.17	0.16
23.33	0.16
23.67	0.13
24.00	0.12
24.33	0.07
25.00	0.06

WS23 Design 100yr	
Time (hrs)	Flow (cfs)
21.38	1.80
21.40	1.96
21.42	1.80
21.43	1.65
21.45	1.80
21.47	1.96
21.48	1.80
21.50	1.65
21.52	1.80
21.53	1.80
21.55	1.80
21.57	1.65
21.58	1.80
21.60	1.96
21.62	1.80
21.63	1.80
21.65	1.80
21.67	0.96
21.83	0.98
22.00	0.98
22.17	0.96
22.33	0.73
22.50	0.71
22.67	0.73
22.83	0.73
23.00	0.71
23.17	0.73
23.33	0.50
23.67	0.50
24.00	0.00
24.33	0.00
25.00	0.00

WS24 Design 100yr	
Time (hrs)	Flow (cfs)
21.38	3.22
21.40	3.22
21.42	3.26
21.43	3.26
21.45	3.22
21.47	3.22
21.48	3.26
21.50	3.26
21.52	3.22
21.53	3.22
21.55	3.22
21.57	3.26
21.58	3.22
21.60	3.22
21.62	3.26
21.63	3.26
21.65	3.22
21.67	3.22
21.83	2.75
22.00	2.46
22.17	2.47
22.33	2.45
22.50	2.12
22.67	1.83
22.83	1.83
23.00	1.85
23.17	1.83
23.33	1.83
23.67	1.28
24.00	1.28
24.33	0.00
25.00	0.00

WS25 Design 100yr	
Time (hrs)	Flow (cfs)
21.38	6.04
21.40	6.18
21.42	6.31
21.43	6.18
21.45	6.04
21.47	6.18
21.48	6.31
21.50	6.18
21.52	6.04
21.53	6.18
21.55	6.18
21.57	6.18
21.58	6.04
21.60	6.18
21.62	6.31
21.63	6.18
21.65	6.18
21.67	6.18
21.83	5.11
22.00	5.19
22.17	5.19
22.33	5.11
22.50	3.87
22.67	3.79
22.83	3.87
23.00	3.87
23.17	3.79
23.33	3.87
23.67	2.68
24.00	2.68
24.33	0.00
25.00	0.00

WS34 Design 100yr		WS35 Design 100yr		WS36 Design 100yr		WS37 Design 100yr	
Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.67	1.03	1.67	0.10	1.67	0.02	1.67	0.01
3.33	1.11	3.33	0.25	3.33	0.04	3.33	0.02
5.00	1.62	5.00	0.30	5.00	0.05	5.00	0.23
6.67	1.61	6.67	0.38	6.67	0.06	6.67	0.24
8.33	1.85	8.33	0.48	8.33	0.08	8.33	0.35
10.00	2.08	10.00	0.64	10.00	0.10	10.00	0.47
11.67	2.31	11.67	0.89	11.67	0.14	11.67	0.59
13.33	2.51	13.33	1.32	13.33	0.21	13.33	0.73
15.00	3.00	15.00	2.15	15.00	0.34	15.00	1.03
16.67	3.79	16.67	4.09	16.67	0.72	16.67	1.59
17.50	4.80	17.50	6.18	17.50	1.35	17.50	2.26
18.33	4.76	18.33	10.31	18.33	2.03	18.33	2.73
18.50	7.34	18.50	12.23	18.50	2.44	18.50	3.97
18.67	6.21	18.67	13.11	18.67	2.79	18.67	3.70
18.83	9.45	18.83	18.03	18.83	3.30	18.83	5.26
18.85	9.43	18.85	18.20	18.85	3.34	18.85	5.28
18.87	9.40	18.87	18.39	18.87	3.39	18.87	5.29
18.88	9.89	18.88	18.82	18.88	3.45	18.88	5.52
18.90	10.55	18.90	19.33	18.90	3.52	18.90	5.82
18.92	11.05	18.92	19.76	18.92	3.58	18.92	6.05
18.93	10.67	18.93	19.79	18.93	3.62	18.93	5.92
18.95	11.51	18.95	20.39	18.95	3.70	18.95	6.29
18.97	11.65	18.97	20.90	18.97	3.78	18.97	6.38
18.98	11.62	18.98	21.41	18.98	3.85	18.98	6.40
19.00	11.93	19.00	21.98	19.00	3.92	19.00	6.56
19.02	13.77	19.02	22.62	19.02	4.02	19.02	7.32
19.03	14.24	19.03	23.10	19.03	4.11	19.03	7.54
19.05	14.88	19.05	23.65	19.05	4.20	19.05	7.83
19.07	15.69	19.07	24.62	19.07	4.29	19.07	8.18
19.08	17.71	19.08	25.59	19.08	4.41	19.08	9.02
19.10	19.05	19.10	26.56	19.10	4.52	19.10	9.58
19.12	20.56	19.12	27.52	19.12	4.63	19.12	10.22
19.13	22.08	19.13	28.39	19.13	4.74	19.13	10.85
19.15	32.22	19.15	31.82	19.15	5.11	19.15	14.89
19.17	40.99	19.17	35.25	19.17	5.45	19.17	18.38
19.18	38.03	19.18	34.89	19.18	5.46	19.18	17.24
19.20	58.57	19.20	42.14	19.20	6.12	19.20	25.33
19.22	67.38	19.22	44.93	19.22	6.46	19.22	28.80
19.23	58.57	19.23	44.93	19.23	6.54	19.23	25.34
19.25	48.22	19.25	44.45	19.25	6.58	19.25	21.25
19.27	49.10	19.27	43.78	19.27	6.60	19.27	21.58
19.28	26.01	19.28	40.12	19.28	6.60	19.28	12.44
19.30	14.35	19.30	36.16	19.30	6.58	19.30	7.80
19.32	11.31	19.32	36.00	19.32	6.56	19.32	6.56
19.33	10.13	19.33	28.33	19.33	6.57	19.33	6.05
19.35	8.59	19.35	23.65	19.35	6.53	19.35	5.40
19.37	7.60	19.37	21.91	19.37	6.49	19.37	4.97
19.38	6.95	19.38	20.75	19.38	6.45	19.38	4.68
19.40	7.50	19.40	20.24	19.40	6.43	19.40	4.86
19.42	6.00	19.42	19.04	19.42	6.34	19.42	4.22
19.43	5.86	19.43	18.32	19.43	6.27	19.43	4.14
19.45	5.38	19.45	17.50	19.45	6.19	19.45	3.91

WS34 Design 100yr	
Time (hrs)	Flow (cfs)
19.47	5.25
19.48	4.94
19.50	4.46
19.52	4.49
19.53	4.69
19.55	4.38
19.57	3.39
19.58	4.10
19.60	3.79
19.62	3.48
19.63	3.33
19.65	3.19
19.67	3.22
19.68	3.24
19.70	3.44
19.72	3.46
19.73	3.49
19.75	3.51
19.77	3.36
19.78	3.39
19.80	3.58
19.82	3.60
19.83	3.45
19.85	3.64
19.87	3.49
19.88	3.51
19.90	3.53
19.92	3.72
19.93	3.57
19.95	3.76
19.97	3.78
19.98	3.63
20.00	3.64
20.02	3.49
20.03	3.34
20.05	3.02
20.07	3.03
20.08	2.71
20.10	2.73
20.12	2.74
20.13	2.76
20.15	2.77
20.17	2.79
20.18	2.80
20.20	2.81
20.22	3.00
20.23	2.84
20.25	2.85
20.27	3.03
20.28	3.05
20.30	2.89
20.32	2.90
20.33	3.08

WS35 Design 100yr	
Time (hrs)	Flow (cfs)
19.47	17.24
19.48	17.02
19.50	16.80
19.52	16.58
19.53	16.37
19.55	16.16
19.57	15.95
19.58	15.75
19.60	15.55
19.62	15.36
19.63	15.17
19.65	14.98
19.67	14.80
19.68	14.62
19.70	14.44
19.72	14.26
19.73	14.09
19.75	13.92
19.77	13.76
19.78	13.59
19.80	13.43
19.82	13.27
19.83	13.12
19.85	12.97
19.87	12.82
19.88	12.67
19.90	12.53
19.92	12.38
19.93	12.24
19.95	12.11
19.97	11.97
19.98	11.84
20.00	11.71
20.02	11.58
20.03	11.45
20.05	11.32
20.07	11.20
20.08	11.08
20.10	10.96
20.12	10.85
20.13	10.73
20.15	10.62
20.17	10.51
20.18	10.40
20.20	10.29
20.22	10.18
20.23	10.08
20.25	9.97
20.27	9.87
20.28	9.77
20.30	9.67
20.32	9.58
20.33	9.48

WS36 Design 100yr	
Time (hrs)	Flow (cfs)
19.47	6.11
19.48	6.01
19.50	5.86
19.52	5.74
19.53	5.61
19.55	5.20
19.57	4.79
19.58	4.73
19.60	3.89
19.62	3.40
19.63	3.22
19.65	3.10
19.67	2.99
19.68	2.91
19.70	2.84
19.72	2.77
19.73	2.70
19.75	2.65
19.77	2.60
19.78	2.56
19.80	2.47
19.82	2.46
19.83	2.41
19.85	2.39
19.87	2.35
19.88	2.28
19.90	2.28
19.92	2.25
19.93	2.21
19.95	2.19
19.97	2.16
19.98	2.14
20.00	2.12
20.02	2.09
20.03	2.07
20.05	2.04
20.07	2.01
20.08	1.98
20.10	1.94
20.12	1.93
20.13	1.89
20.15	1.87
20.17	1.84
20.18	1.81
20.20	1.79
20.22	1.76
20.23	1.74
20.25	1.71
20.27	1.69
20.28	1.67
20.30	1.64
20.32	1.61
20.33	1.59

WS37 Design 100yr	
Time (hrs)	Flow (cfs)
19.47	3.82
19.48	3.67
19.50	3.44
19.52	3.42
19.53	3.47
19.55	3.32
19.57	2.89
19.58	3.15
19.60	2.99
19.62	2.84
19.63	2.76
19.65	2.67
19.67	2.66
19.68	2.64
19.70	2.70
19.72	2.68
19.73	2.67
19.75	2.66
19.77	2.57
19.78	2.56
19.80	2.62
19.82	2.61
19.83	2.52
19.85	2.58
19.87	2.50
19.88	2.49
19.90	2.48
19.92	2.54
19.93	2.46
19.95	2.52
19.97	2.51
19.98	2.43
20.00	2.42
20.02	2.34
20.03	2.26
20.05	2.11
20.07	2.10
20.08	1.95
20.10	1.94
20.12	1.93
20.13	1.93
20.15	1.92
20.17	1.91
20.18	1.90
20.20	1.89
20.22	1.96
20.23	1.88
20.25	1.87
20.27	1.93
20.28	1.93
20.30	1.85
20.32	1.84
20.33	1.91

WS34 Design 100yr	
Time (hrs)	Flow (cfs)
20.35	3.10
20.37	2.94
20.38	2.95
20.40	3.13
20.42	3.14
20.43	2.98
20.45	2.99
20.47	3.17
20.48	3.18
20.50	3.02
20.52	3.03
20.53	3.21
20.55	3.05
20.57	2.90
20.58	3.07
20.60	3.08
20.62	2.92
20.63	3.10
20.65	3.11
20.67	2.95
20.68	3.13
20.70	3.13
20.72	2.97
20.73	3.15
20.75	3.16
20.77	3.00
20.78	3.17
20.80	3.18
20.82	3.02
20.83	3.20
20.85	3.20
20.87	3.04
20.88	3.22
20.90	3.22
20.92	3.06
20.93	3.24
20.95	3.24
20.97	3.08
20.98	3.26
21.00	3.26
21.02	3.10
21.03	2.94
21.05	2.78
21.07	2.62
21.08	2.62
21.10	2.46
21.12	2.47
21.13	2.64
21.15	2.65
21.17	2.49
21.18	2.49
21.20	2.66
21.22	2.67

WS35 Design 100yr	
Time (hrs)	Flow (cfs)
20.35	9.39
20.37	9.29
20.38	9.20
20.40	9.11
20.42	9.02
20.43	8.94
20.45	8.85
20.47	8.76
20.48	8.68
20.50	8.60
20.52	8.52
20.53	8.44
20.55	8.36
20.57	8.28
20.58	8.20
20.60	8.13
20.62	8.05
20.63	7.98
20.65	7.91
20.67	7.84
20.68	7.76
20.70	7.69
20.72	7.63
20.73	7.56
20.75	7.49
20.77	7.43
20.78	7.36
20.80	7.30
20.82	7.23
20.83	7.17
20.85	7.11
20.87	7.05
20.88	6.99
20.90	6.93
20.92	6.87
20.93	6.81
20.95	6.76
20.97	6.70
20.98	6.64
21.00	6.59
21.02	6.54
21.03	6.48
21.05	6.43
21.07	6.38
21.08	6.33
21.10	6.28
21.12	6.23
21.13	6.18
21.15	6.13
21.17	6.08
21.18	6.03
21.20	5.98
21.22	5.94

WS36 Design 100yr	
Time (hrs)	Flow (cfs)
20.35	1.57
20.37	1.54
20.38	1.52
20.40	1.49
20.42	1.49
20.43	1.47
20.45	1.45
20.47	1.44
20.48	1.43
20.50	1.42
20.52	1.40
20.53	1.39
20.55	1.37
20.57	1.36
20.58	1.36
20.60	1.34
20.62	1.32
20.63	1.31
20.65	1.30
20.67	1.28
20.68	1.27
20.70	1.26
20.72	1.25
20.73	1.24
20.75	1.22
20.77	1.21
20.78	1.20
20.80	1.19
20.82	1.17
20.83	1.17
20.85	1.16
20.87	1.14
20.88	1.13
20.90	1.12
20.92	1.11
20.93	1.10
20.95	1.09
20.97	1.08
20.98	1.07
21.00	1.06
21.02	1.05
21.03	1.05
21.05	1.04
21.07	1.03
21.08	1.02
21.10	1.01
21.12	1.00
21.13	1.00
21.15	0.99
21.17	0.98
21.18	0.97
21.20	0.97
21.22	0.96

WS37 Design 100yr	
Time (hrs)	Flow (cfs)
20.35	1.90
20.37	1.82
20.38	1.82
20.40	1.88
20.42	1.87
20.43	1.80
20.45	1.79
20.47	1.86
20.48	1.85
20.50	1.77
20.52	1.77
20.53	1.83
20.55	1.76
20.57	1.68
20.58	1.75
20.60	1.74
20.62	1.67
20.63	1.73
20.65	1.73
20.67	1.65
20.68	1.72
20.70	1.71
20.72	1.64
20.73	1.70
20.75	1.70
20.77	1.62
20.78	1.69
20.80	1.68
20.82	1.61
20.83	1.68
20.85	1.67
20.87	1.60
20.88	1.66
20.90	1.66
20.92	1.58
20.93	1.65
20.95	1.65
20.97	1.57
20.98	1.64
21.00	1.64
21.02	1.56
21.03	1.49
21.05	1.41
21.07	1.34
21.08	1.34
21.10	1.26
21.12	1.26
21.13	1.33
21.15	1.32
21.17	1.25
21.18	1.24
21.20	1.31
21.22	1.31

WS34 Design 100yr	
Time (hrs)	Flow (cfs)
21.23	2.51
21.25	2.51
21.27	2.69
21.28	2.69
21.30	2.53
21.32	2.53
21.33	2.71
21.35	2.71
21.37	2.55
21.38	2.55
21.40	2.72
21.42	2.73
21.43	2.57
21.45	2.57
21.47	2.74
21.48	2.75
21.50	2.58
21.52	2.59
21.53	2.76
21.55	2.60
21.57	2.60
21.58	2.61
21.60	2.78
21.62	2.78
21.63	2.78
21.65	2.62
21.67	2.79
21.83	1.66
22.00	1.78
22.17	1.81
22.33	1.75
22.50	0.70
22.67	0.70
22.83	0.75
23.00	0.76
23.17	0.76
23.33	0.80
23.67	0.49
24.00	0.51
24.33	0.00
25.00	0.00

WS35 Design 100yr	
Time (hrs)	Flow (cfs)
21.23	5.89
21.25	5.85
21.27	5.80
21.28	5.76
21.30	5.71
21.32	5.67
21.33	5.63
21.35	5.58
21.37	5.54
21.38	5.50
21.40	5.46
21.42	5.42
21.43	5.38
21.45	5.34
21.47	5.30
21.48	5.26
21.50	5.22
21.52	5.19
21.53	5.15
21.55	5.11
21.57	5.08
21.58	5.04
21.60	5.00
21.62	4.97
21.63	4.93
21.65	4.90
21.67	4.87
21.83	4.54
22.00	4.26
22.17	3.99
22.33	3.76
22.50	3.54
22.67	3.35
22.83	3.17
23.00	3.00
23.17	2.85
23.33	2.71
23.67	2.47
24.00	2.25
24.33	2.07
25.00	1.77

WS36 Design 100yr	
Time (hrs)	Flow (cfs)
21.23	0.95
21.25	0.94
21.27	0.94
21.28	0.93
21.30	0.92
21.32	0.91
21.33	0.91
21.35	0.90
21.37	0.89
21.38	0.89
21.40	0.88
21.42	0.87
21.43	0.87
21.45	0.86
21.47	0.86
21.48	0.85
21.50	0.84
21.52	0.84
21.53	0.83
21.55	0.82
21.57	0.82
21.58	0.81
21.60	0.81
21.62	0.80
21.63	0.80
21.65	0.79
21.67	0.78
21.83	0.73
22.00	0.69
22.17	0.64
22.33	0.61
22.50	0.57
22.67	0.54
22.83	0.51
23.00	0.48
23.17	0.46
23.33	0.44
23.67	0.40
24.00	0.36
24.33	0.33
25.00	0.28

WS37 Design 100yr	
Time (hrs)	Flow (cfs)
21.23	1.24
21.25	1.23
21.27	1.30
21.28	1.30
21.30	1.22
21.32	1.22
21.33	1.29
21.35	1.29
21.37	1.21
21.38	1.21
21.40	1.28
21.42	1.27
21.43	1.20
21.45	1.20
21.47	1.27
21.48	1.26
21.50	1.19
21.52	1.19
21.53	1.26
21.55	1.18
21.57	1.18
21.58	1.18
21.60	1.25
21.62	1.25
21.63	1.24
21.65	1.17
21.67	1.24
21.83	0.72
22.00	0.74
22.17	0.72
22.33	0.67
22.50	0.23
22.67	0.21
22.83	0.20
23.00	0.19
23.17	0.18
23.33	0.17
23.67	0.16
24.00	0.14
24.33	0.13
25.00	0.11

WSNorth Design 100yr		WS31 Design 100yr		WS32 Design 100yr		WS33 Design 100yr	
Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.67	7.25	1.67	0.32	1.67	0.01	1.67	0.11
3.33	7.77	3.33	0.36	3.33	0.03	3.33	0.17
5.00	10.18	5.00	0.41	5.00	0.03	5.00	0.21
6.67	10.23	6.67	0.41	6.67	0.04	6.67	0.24
8.33	11.21	8.33	0.43	8.33	0.05	8.33	0.29
10.00	12.33	10.00	0.45	10.00	0.07	10.00	0.36
11.67	13.23	11.67	0.48	11.67	0.09	11.67	0.48
13.33	14.22	13.33	0.52	13.33	0.14	13.33	0.67
15.00	16.61	15.00	0.65	15.00	0.23	15.00	1.04
16.67	20.59	16.67	0.88	16.67	0.44	16.67	1.91
17.50	25.47	17.50	1.16	17.50	0.68	17.50	2.87
18.33	24.65	18.33	1.31	18.33	1.17	18.33	4.77
18.50	36.13	18.50	1.89	18.50	1.53	18.50	5.69
18.67	33.90	18.67	1.72	18.67	1.53	18.67	6.11
18.83	45.54	18.83	2.46	18.83	2.80	18.83	9.40
18.85	48.29	18.85	2.47	18.85	2.82	18.85	9.70
18.87	48.74	18.87	2.47	18.87	2.85	18.87	9.79
18.88	49.83	18.88	2.57	18.88	3.01	18.88	10.03
18.90	51.39	18.90	2.71	18.90	3.21	18.90	10.33
18.92	53.57	18.92	2.82	18.92	3.37	18.92	10.57
18.93	54.59	18.93	2.75	18.93	3.31	18.93	10.56
18.95	55.73	18.95	2.92	18.95	3.56	18.95	10.90
18.97	57.60	18.97	2.96	18.97	3.63	18.97	11.20
18.98	59.07	18.98	2.96	18.98	3.66	18.98	11.49
19.00	60.91	19.00	3.03	19.00	3.77	19.00	11.83
19.02	64.20	19.02	3.41	19.02	4.25	19.02	12.37
19.03	67.99	19.03	3.51	19.03	4.40	19.03	12.83
19.05	71.37	19.05	3.65	19.05	4.59	19.05	13.29
19.07	75.37	19.07	3.82	19.07	4.80	19.07	13.65
19.08	81.53	19.08	4.22	19.08	5.25	19.08	14.33
19.10	89.01	19.10	4.48	19.10	5.55	19.10	15.02
19.12	96.60	19.12	4.78	19.12	5.89	19.12	15.84
19.13	104.65	19.13	5.08	19.13	6.22	19.13	16.39
19.15	125.85	19.15	7.07	19.15	8.15	19.15	18.86
19.17	162.15	19.17	8.80	19.17	9.94	19.17	21.13
19.18	183.37	19.18	8.23	19.18	9.39	19.18	21.02
19.20	223.99	19.20	12.28	19.20	13.33	19.20	25.77
19.22	276.76	19.22	14.02	19.22	14.96	19.22	27.95
19.23	297.94	19.23	12.28	19.23	13.33	19.23	28.28
19.25	296.39	19.25	10.24	19.25	11.35	19.25	28.24
19.27	279.39	19.27	10.41	19.27	11.50	19.27	27.80
19.28	242.54	19.28	5.85	19.28	6.99	19.28	27.25
19.30	190.39	19.30	3.60	19.30	4.68	19.30	26.62
19.32	147.65	19.32	3.00	19.32	3.93	19.32	25.94
19.33	115.68	19.33	2.76	19.33	3.59	19.33	23.30
19.35	83.02	19.35	2.45	19.35	3.17	19.35	20.61
19.37	57.76	19.37	2.24	19.37	2.81	19.37	20.42
19.38	47.01	19.38	2.09	19.38	2.55	19.38	15.12
19.40	41.85	19.40	2.20	19.40	2.68	19.40	12.09
19.42	38.28	19.42	1.88	19.42	2.15	19.42	10.78
19.43	34.51	19.43	1.84	19.43	2.10	19.43	9.88
19.45	31.71	19.45	1.73	19.45	2.07	19.45	9.02

WSNorth Design 100yr		WS31 Design 100yr		WS32 Design 100yr		WS33 Design 100yr	
Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
19.47	28.92	19.47	1.69	19.47	2.04	19.47	8.47
19.48	27.39	19.48	1.62	19.48	2.00	19.48	8.36
19.50	25.88	19.50	1.52	19.50	1.97	19.50	7.91
19.52	24.52	19.52	1.51	19.52	1.94	19.52	7.79
19.53	23.49	19.53	1.54	19.53	1.92	19.53	7.69
19.55	21.82	19.55	1.47	19.55	1.89	19.55	7.58
19.57	20.61	19.57	1.26	19.57	1.86	19.57	7.48
19.58	20.14	19.58	1.40	19.58	1.83	19.58	7.37
19.60	19.79	19.60	1.33	19.60	1.81	19.60	7.28
19.62	18.67	19.62	1.25	19.62	1.78	19.62	7.18
19.63	17.16	19.63	1.22	19.63	1.75	19.63	7.08
19.65	16.60	19.65	1.18	19.65	1.73	19.65	6.99
19.67	16.23	19.67	1.18	19.67	1.71	19.67	6.89
19.68	15.81	19.68	1.18	19.68	1.68	19.68	6.81
19.70	15.86	19.70	1.21	19.70	1.66	19.70	6.72
19.72	15.89	19.72	1.20	19.72	1.64	19.72	6.63
19.73	15.94	19.73	1.20	19.73	1.61	19.73	6.55
19.75	16.17	19.75	1.20	19.75	1.59	19.75	6.47
19.77	16.34	19.77	1.16	19.77	1.57	19.77	6.39
19.78	16.51	19.78	1.16	19.78	1.55	19.78	6.31
19.80	16.73	19.80	1.19	19.80	1.53	19.80	6.23
19.82	16.94	19.82	1.19	19.82	1.51	19.82	6.16
19.83	16.98	19.83	1.15	19.83	1.49	19.83	6.08
19.85	17.09	19.85	1.18	19.85	1.47	19.85	6.01
19.87	17.23	19.87	1.15	19.87	1.45	19.87	5.94
19.88	17.20	19.88	1.15	19.88	1.43	19.88	5.87
19.90	17.30	19.90	1.14	19.90	1.41	19.90	5.80
19.92	17.62	19.92	1.18	19.92	1.40	19.92	5.73
19.93	17.78	19.93	1.14	19.93	1.38	19.93	5.66
19.95	17.85	19.95	1.17	19.95	1.36	19.95	5.60
19.97	18.10	19.97	1.17	19.97	1.35	19.97	5.54
19.98	18.21	19.98	1.13	19.98	1.33	19.98	5.47
20.00	18.27	20.00	1.13	20.00	1.31	20.00	5.41
20.02	18.16	20.02	1.10	20.02	1.30	20.02	5.35
20.03	17.72	20.03	1.06	20.03	1.28	20.03	5.29
20.05	16.98	20.05	0.99	20.05	1.27	20.05	5.23
20.07	16.24	20.07	0.99	20.07	1.25	20.07	5.17
20.08	15.59	20.08	0.92	20.08	1.24	20.08	5.11
20.10	14.80	20.10	0.92	20.10	1.22	20.10	5.05
20.12	14.24	20.12	0.91	20.12	1.21	20.12	5.00
20.13	13.86	20.13	0.91	20.13	1.19	20.13	4.94
20.15	13.63	20.15	0.91	20.15	1.18	20.15	4.89
20.17	13.62	20.17	0.91	20.17	1.17	20.17	4.83
20.18	13.62	20.18	0.91	20.18	1.15	20.18	4.78
20.20	13.69	20.20	0.91	20.20	1.14	20.20	4.73
20.22	13.93	20.22	0.94	20.22	1.13	20.22	4.68
20.23	14.15	20.23	0.90	20.23	1.11	20.23	4.63
20.25	14.25	20.25	0.90	20.25	1.10	20.25	4.58
20.27	14.40	20.27	0.94	20.27	1.09	20.27	4.54
20.28	14.65	20.28	0.93	20.28	1.08	20.28	4.49
20.30	14.73	20.30	0.90	20.30	1.07	20.30	4.44
20.32	14.76	20.32	0.90	20.32	1.05	20.32	4.40
20.33	14.97	20.33	0.93	20.33	1.04	20.33	4.35

WSNorth Design 100yr	
Time (hrs)	Flow (cfs)
20.35	15.13
20.37	15.11
20.38	15.12
20.40	15.32
20.42	15.47
20.43	15.44
20.45	15.46
20.47	15.64
20.48	15.79
20.50	15.76
20.52	15.77
20.53	15.95
20.55	15.91
20.57	15.62
20.58	15.65
20.60	15.79
20.62	15.62
20.63	15.55
20.65	15.70
20.67	15.70
20.68	15.73
20.70	15.89
20.72	15.89
20.73	15.92
20.75	16.07
20.77	16.07
20.78	16.09
20.80	16.25
20.82	16.24
20.83	16.26
20.85	16.41
20.87	16.41
20.88	16.43
20.90	16.57
20.92	16.57
20.93	16.58
20.95	16.73
20.97	16.72
20.98	16.73
21.00	16.87
21.02	16.86
21.03	16.52
21.05	15.99
21.07	15.43
21.08	14.89
21.10	14.43
21.12	13.99
21.13	13.65
21.15	13.54
21.17	13.44
21.18	13.40
21.20	13.55
21.22	13.65

WS31 Design 100yr	
Time (hrs)	Flow (cfs)
20.35	0.93
20.37	0.89
20.38	0.89
20.40	0.92
20.42	0.92
20.43	0.89
20.45	0.89
20.47	0.92
20.48	0.92
20.50	0.88
20.52	0.88
20.53	0.92
20.55	0.88
20.57	0.85
20.58	0.88
20.60	0.88
20.62	0.84
20.63	0.88
20.65	0.87
20.67	0.84
20.68	0.87
20.70	0.87
20.72	0.84
20.73	0.87
20.75	0.87
20.77	0.83
20.78	0.87
20.80	0.87
20.82	0.83
20.83	0.86
20.85	0.86
20.87	0.83
20.88	0.86
20.90	0.86
20.92	0.83
20.93	0.86
20.95	0.86
20.97	0.82
20.98	0.86
21.00	0.86
21.02	0.82
21.03	0.79
21.05	0.75
21.07	0.72
21.08	0.72
21.10	0.68
21.12	0.68
21.13	0.71
21.15	0.71
21.17	0.68
21.18	0.68
21.20	0.71
21.22	0.71

WS32 Design 100yr	
Time (hrs)	Flow (cfs)
20.35	1.03
20.37	1.02
20.38	1.01
20.40	1.00
20.42	0.99
20.43	0.98
20.45	0.97
20.47	0.96
20.48	0.95
20.50	0.94
20.52	0.93
20.53	0.92
20.55	0.91
20.57	0.90
20.58	0.89
20.60	0.88
20.62	0.88
20.63	0.87
20.65	0.86
20.67	0.85
20.68	0.84
20.70	0.84
20.72	0.83
20.73	0.82
20.75	0.81
20.77	0.80
20.78	0.80
20.80	0.79
20.82	0.78
20.83	0.78
20.85	0.77
20.87	0.76
20.88	0.75
20.90	0.75
20.92	0.74
20.93	0.73
20.95	0.73
20.97	0.72
20.98	0.72
21.00	0.71
21.02	0.70
21.03	0.70
21.05	0.69
21.07	0.69
21.08	0.68
21.10	0.67
21.12	0.67
21.13	0.66
21.15	0.66
21.17	0.65
21.18	0.65
21.20	0.64
21.22	0.64

WS33 Design 100yr	
Time (hrs)	Flow (cfs)
20.35	4.31
20.37	4.27
20.38	4.23
20.40	4.18
20.42	4.14
20.43	4.10
20.45	4.06
20.47	4.02
20.48	3.99
20.50	3.95
20.52	3.91
20.53	3.87
20.55	3.84
20.57	3.80
20.58	3.77
20.60	3.73
20.62	3.70
20.63	3.66
20.65	3.63
20.67	3.59
20.68	3.56
20.70	3.53
20.72	3.50
20.73	3.47
20.75	3.44
20.77	3.41
20.78	3.38
20.80	3.35
20.82	3.32
20.83	3.29
20.85	3.26
20.87	3.24
20.88	3.21
20.90	3.18
20.92	3.16
20.93	3.13
20.95	3.10
20.97	3.08
20.98	3.05
21.00	3.03
21.02	3.00
21.03	2.98
21.05	2.95
21.07	2.93
21.08	2.91
21.10	2.88
21.12	2.86
21.13	2.83
21.15	2.81
21.17	2.79
21.18	2.77
21.20	2.74
21.22	2.72

WSNorth Design 100yr	
Time (hrs)	Flow (cfs)
21.23	13.59
21.25	13.56
21.27	13.71
21.28	13.81
21.30	13.74
21.32	13.72
21.33	13.86
21.35	13.96
21.37	13.89
21.38	13.86
21.40	14.00
21.42	14.10
21.43	14.03
21.45	14.00
21.47	14.14
21.48	14.24
21.50	14.16
21.52	14.13
21.53	14.27
21.55	14.20
21.57	14.06
21.58	14.10
21.60	14.28
21.62	14.46
21.63	14.49
21.65	14.51
21.67	14.60
21.83	10.30
22.00	9.26
22.17	10.34
22.33	9.61
22.50	6.26
22.67	4.60
22.83	5.21
23.00	5.11
23.17	5.31
23.33	5.35
23.67	5.34
24.00	5.52
24.33	5.67
25.00	5.92

WS31 Design 100yr	
Time (hrs)	Flow (cfs)
21.23	0.68
21.25	0.68
21.27	0.71
21.28	0.71
21.30	0.67
21.32	0.67
21.33	0.71
21.35	0.71
21.37	0.67
21.38	0.67
21.40	0.71
21.42	0.71
21.43	0.67
21.45	0.67
21.47	0.70
21.48	0.70
21.50	0.67
21.52	0.67
21.53	0.70
21.55	0.67
21.57	0.67
21.58	0.67
21.60	0.70
21.62	0.70
21.63	0.70
21.65	0.66
21.67	0.70
21.83	0.50
22.00	0.50
22.17	0.50
22.33	0.49
22.50	0.38
22.67	0.37
22.83	0.38
23.00	0.37
23.17	0.36
23.33	0.37
23.67	0.26
24.00	0.26
24.33	0.03
25.00	0.02

WS32 Design 100yr	
Time (hrs)	Flow (cfs)
21.23	0.63
21.25	0.63
21.27	0.62
21.28	0.62
21.30	0.61
21.32	0.61
21.33	0.60
21.35	0.60
21.37	0.59
21.38	0.59
21.40	0.58
21.42	0.58
21.43	0.57
21.45	0.57
21.47	0.57
21.48	0.56
21.50	0.56
21.52	0.55
21.53	0.55
21.55	0.54
21.57	0.54
21.58	0.54
21.60	0.53
21.62	0.53
21.63	0.52
21.65	0.52
21.67	0.52
21.83	0.48
22.00	0.45
22.17	0.42
22.33	0.40
22.50	0.37
22.67	0.35
22.83	0.33
23.00	0.32
23.17	0.30
23.33	0.28
23.67	0.26
24.00	0.24
24.33	0.22
25.00	0.18

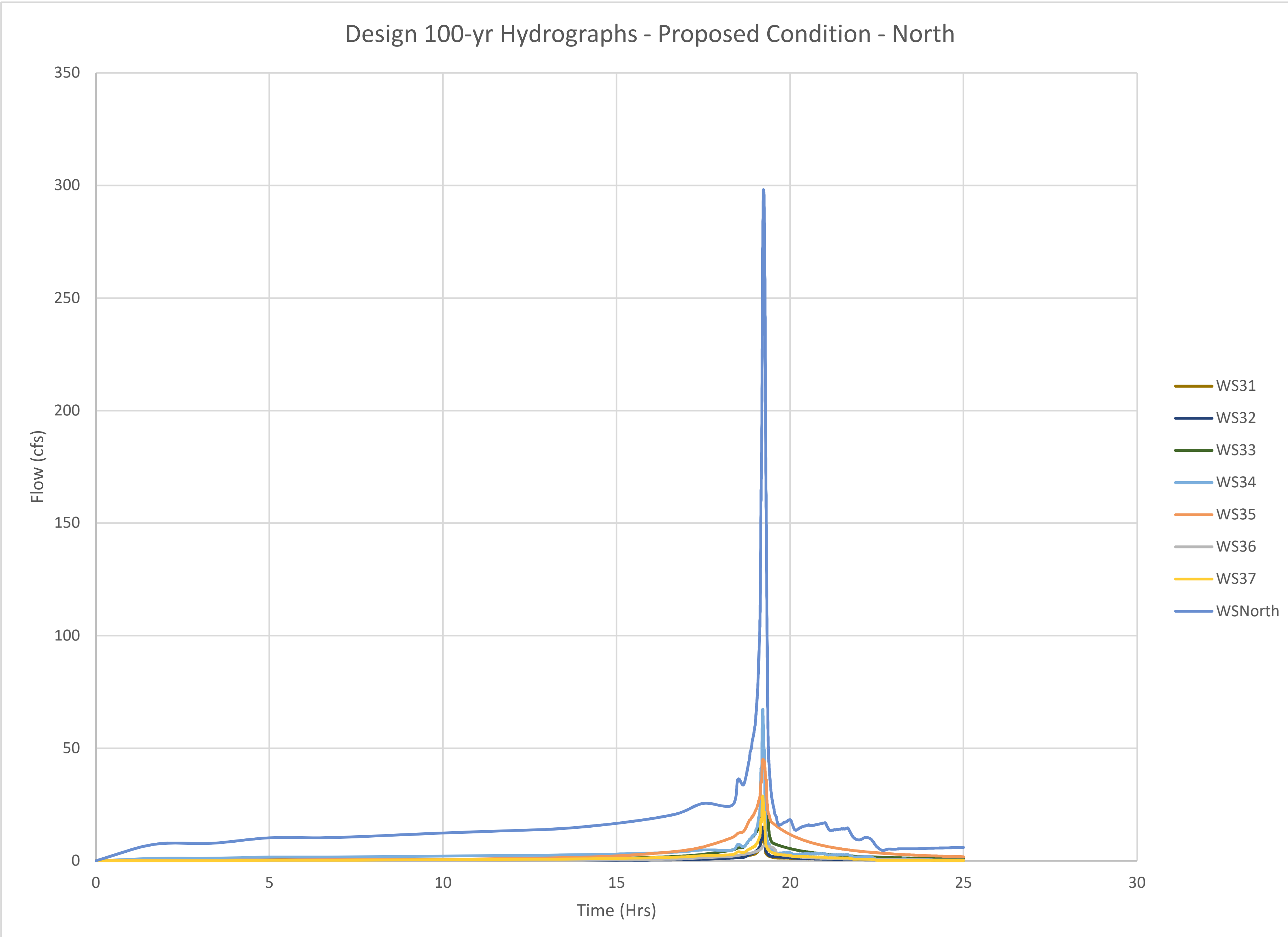
WS33 Design 100yr	
Time (hrs)	Flow (cfs)
21.23	2.70
21.25	2.68
21.27	2.66
21.28	2.64
21.30	2.62
21.32	2.60
21.33	2.58
21.35	2.56
21.37	2.55
21.38	2.53
21.40	2.51
21.42	2.49
21.43	2.47
21.45	2.45
21.47	2.44
21.48	2.42
21.50	2.40
21.52	2.39
21.53	2.37
21.55	2.35
21.57	2.34
21.58	2.32
21.60	2.30
21.62	2.29
21.63	2.27
21.65	2.26
21.67	2.24
21.83	2.08
22.00	1.95
22.17	1.84
22.33	1.73
22.50	1.62
22.67	1.53
22.83	1.45
23.00	1.38
23.17	1.31
23.33	1.25
23.67	1.12
24.00	1.03
24.33	0.90
25.00	0.77

Upper Design 100yr	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	16.31
3.33	18.69
5.00	40.75
6.67	51.01
8.33	59.67
10.00	79.65
11.67	93.76
13.33	113.94
15.00	150.30
16.67	223.70
17.50	302.72
18.33	377.34
18.50	450.05
18.67	501.42
18.83	606.76
18.85	620.86
18.87	634.02
18.88	648.72
18.90	663.08
18.92	677.74
18.93	690.08
18.95	710.76
18.97	727.07
18.98	743.53
19.00	762.75
19.02	788.10
19.03	808.97
19.05	834.74
19.07	862.75
19.08	898.65
19.10	935.83
19.12	980.07
19.13	1029.17
19.15	1130.61
19.17	1248.49
19.18	1349.43
19.20	1591.95
19.22	1796.75
19.23	1992.46
19.25	2147.69
19.27	2249.58
19.28	2211.64
19.30	2180.12
19.32	2098.63
19.33	1995.05
19.35	1878.23
19.37	1754.30
19.38	1646.67
19.40	1560.70
19.42	1469.74
19.43	1383.38
19.45	1289.39

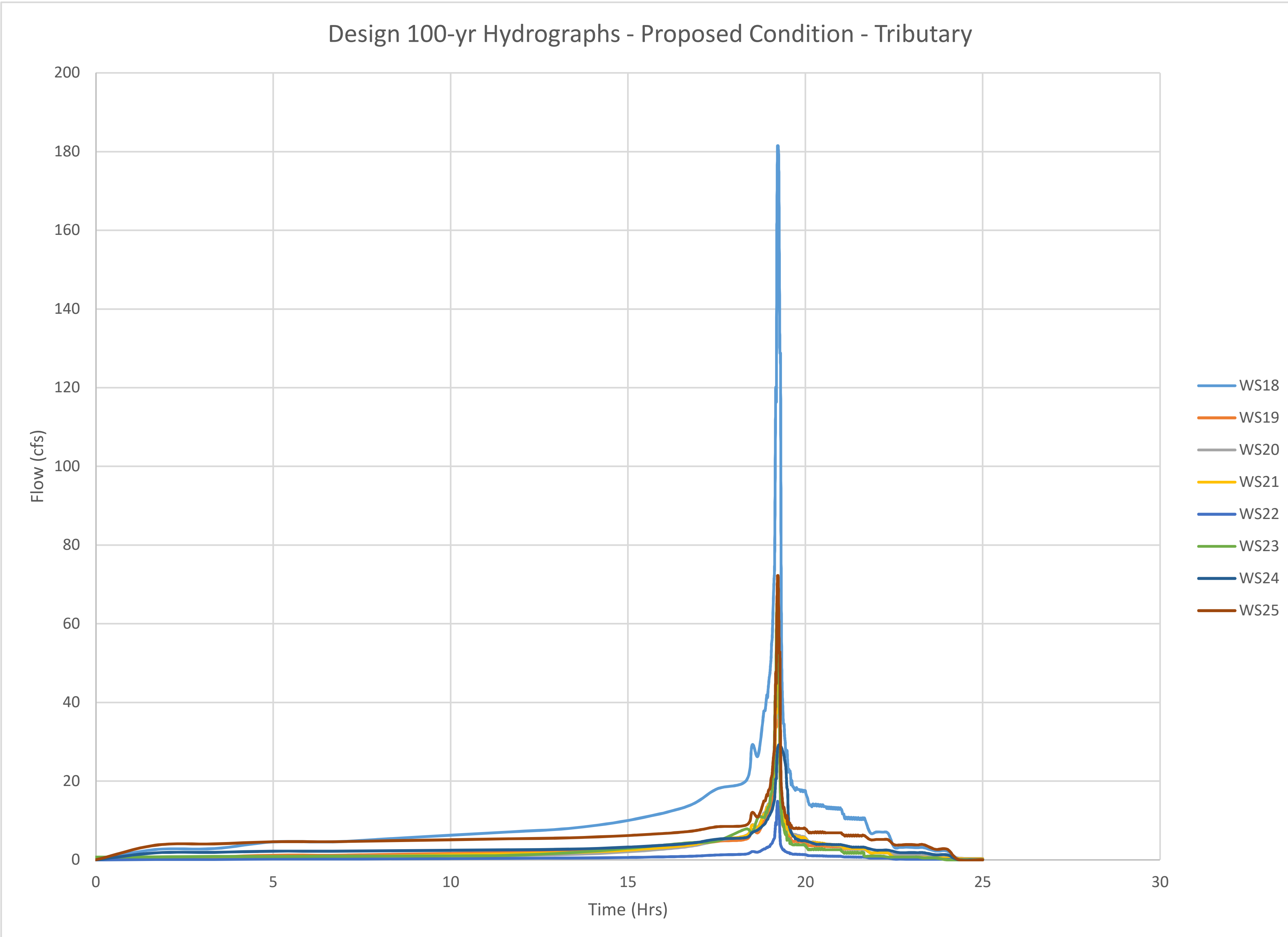
Upper Design 100yr	
Time (hrs)	Flow (cfs)
19.47	1193.14
19.48	1097.23
19.50	1003.86
19.52	922.88
19.53	851.54
19.55	785.56
19.57	727.47
19.58	683.21
19.60	640.52
19.62	606.48
19.63	576.07
19.65	548.15
19.67	523.87
19.68	502.54
19.70	485.49
19.72	469.65
19.73	456.32
19.75	444.40
19.77	432.64
19.78	423.24
19.80	415.15
19.82	406.74
19.83	398.72
19.85	392.93
19.87	385.89
19.88	380.39
19.90	375.09
19.92	370.72
19.93	365.45
19.95	362.73
19.97	359.39
19.98	355.70
20.00	353.32
20.02	349.93
20.03	346.73
20.05	342.55
20.07	339.06
20.08	333.41
20.10	329.00
20.12	324.44
20.13	319.75
20.15	315.24
20.17	311.19
20.18	307.38
20.20	304.54
20.22	302.48
20.23	298.75
20.25	296.39
20.27	294.87
20.28	292.49
20.30	289.02
20.32	286.28
20.33	284.50

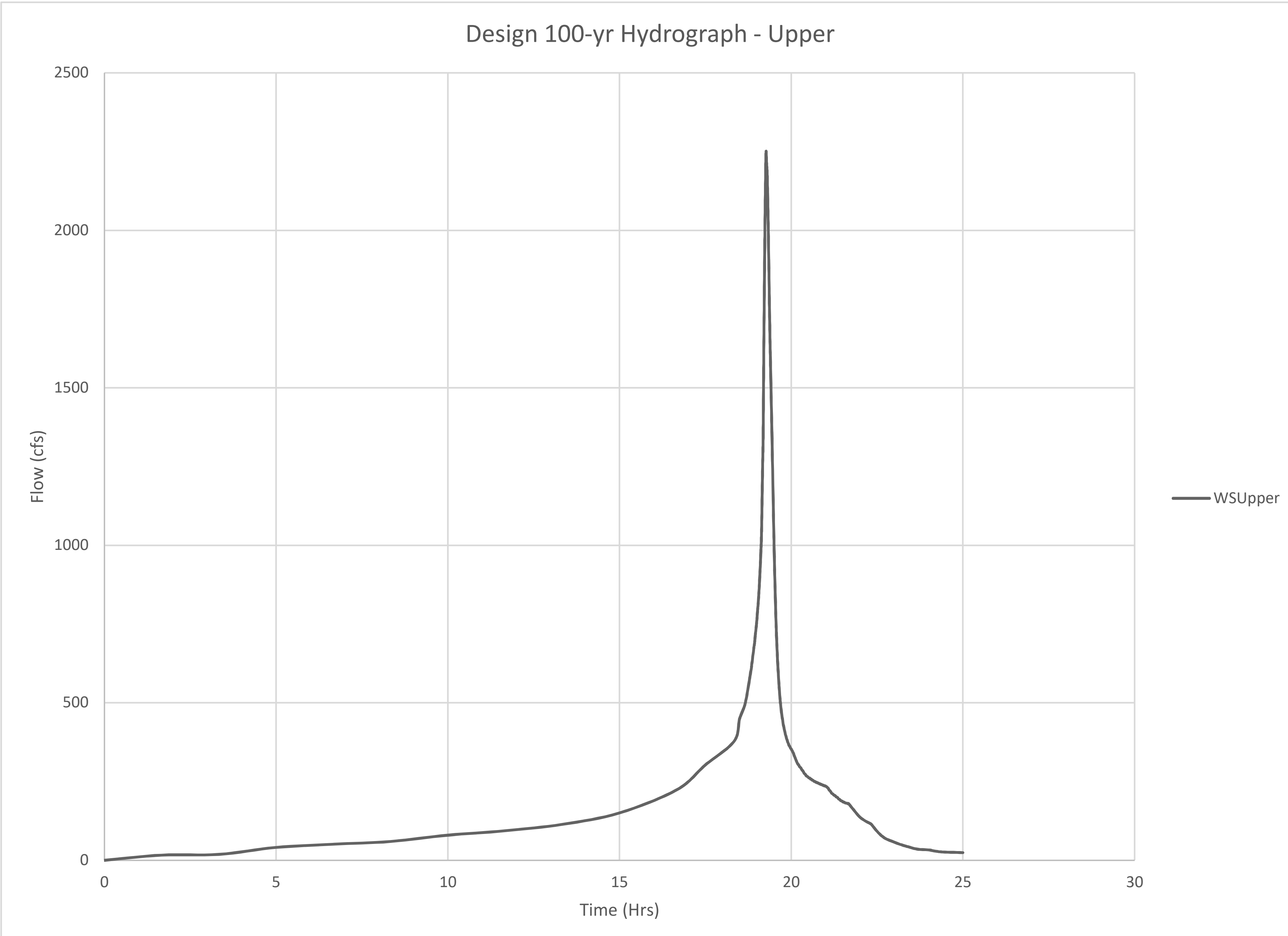
Upper Design 100yr	
Time (hrs)	Flow (cfs)
20.35	281.90
20.37	278.32
20.38	275.57
20.40	274.01
20.42	271.89
20.43	268.95
20.45	266.96
20.47	266.25
20.48	265.00
20.50	262.83
20.52	261.49
20.53	261.28
20.55	259.52
20.57	257.71
20.58	257.37
20.60	255.92
20.62	253.98
20.63	253.83
20.65	252.40
20.67	250.51
20.68	250.54
20.70	249.38
20.72	247.75
20.73	247.94
20.75	246.90
20.77	245.32
20.78	245.54
20.80	244.50
20.82	242.90
20.83	243.10
20.85	242.05
20.87	240.45
20.88	240.67
20.90	239.66
20.92	238.12
20.93	238.43
20.95	237.51
20.97	236.06
20.98	236.45
21.00	235.62
21.02	234.24
21.03	232.84
21.05	231.13
21.07	229.43
21.08	227.71
21.10	224.28
21.12	221.69
21.13	220.07
21.15	217.77
21.17	214.46
21.18	212.18
21.20	211.37
21.22	210.13

Upper Design 100yr	
Time (hrs)	Flow (cfs)
21.23	207.87
21.25	206.35
21.27	205.97
21.28	204.88
21.30	202.57
21.32	200.85
21.33	200.23
21.35	198.88
21.37	196.32
21.38	194.44
21.40	193.80
21.42	192.57
21.43	190.24
21.45	188.68
21.47	188.43
21.48	187.63
21.50	185.72
21.52	184.56
21.53	184.70
21.55	183.32
21.57	182.67
21.58	181.67
21.60	181.67
21.62	181.28
21.63	180.73
21.65	179.44
21.67	180.33
21.83	158.10
22.00	136.76
22.17	124.28
22.33	113.89
22.50	92.07
22.67	74.65
22.83	64.72
23.00	57.61
23.17	50.59
23.33	45.16
23.67	35.38
24.00	32.96
24.33	26.95
25.00	24.33



Design 100-yr Hydrographs - Proposed Condition - North
Flow (cfs)
Time (Hrs)
0
50
100
150
200
250
300
350
0
5
10
15
20
25
30
WS31
WS32
WS33
WS34
WS35
WS36
WS37
WSNorth


Design 100-yr Hydrographs - Proposed Condition - Tributary
Flow (cfs)
200
180
160
140
120
100
80
60
40
20
0
0
5
10
15
20
25
30
Time (Hrs)
WS18
WS19
WS20
WS21
WS22
WS23
WS24
WS25


Design 100-yr Hydrograph - Upper
2500
2000
1500
1000
500
0
Flow (cfs)
0
5
10
15
20
25
30
Time (Hrs)
WSUpper

WS23_Ex	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	0.05
3.33	0.07
5.00	0.09
6.67	0.09
8.33	0.11
10.00	0.13
11.67	0.16
13.33	0.33
15.00	1.07
16.67	2.41
17.50	4.04
18.33	5.07
18.50	8.26
18.67	7.42
18.83	11.54
18.85	11.56
18.87	11.59
18.88	12.06
18.90	12.68
18.92	13.15
18.93	12.89
18.95	13.66
18.97	14.28
18.98	14.46
19.00	14.64
19.02	15.54
19.03	17.02
19.05	17.49
19.07	18.24
19.08	20.13
19.10	21.86
19.12	23.02
19.13	24.33
19.15	33.05
19.17	41.85
19.18	39.34
19.20	57.22
19.22	64.83
19.23	64.83
19.25	55.87
19.27	46.33
19.28	46.61
19.30	26.47
19.32	16.64
19.33	14.28
19.35	12.49
19.37	11.10
19.38	10.12
19.40	10.40
19.42	9.27
19.43	8.29

WS24_Ex	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	0.07
3.33	0.12
5.00	0.15
6.67	0.18
8.33	0.21
10.00	0.27
11.67	0.36
13.33	0.61
15.00	1.42
16.67	2.95
17.50	4.70
18.33	6.43
18.50	7.95
18.67	9.06
18.83	10.66
18.85	10.86
18.87	11.05
18.88	11.35
18.90	11.67
18.92	11.96
18.93	12.09
18.95	12.43
18.97	12.73
18.98	13.04
19.00	13.25
19.02	13.58
19.03	13.88
19.05	14.18
19.07	14.51
19.08	15.07
19.10	15.61
19.12	16.15
19.13	16.69
19.15	18.62
19.17	20.52
19.18	20.56
19.20	24.25
19.22	26.03
19.23	26.42
19.25	26.70
19.27	26.70
19.28	26.65
19.30	26.53
19.32	26.36
19.33	26.14
19.35	25.80
19.37	25.46
19.38	25.08
19.40	24.65
19.42	23.92
19.43	23.28

WS25_Ex	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	0.05
3.33	0.12
5.00	0.15
6.67	0.18
8.33	0.23
10.00	0.31
11.67	0.43
13.33	0.64
15.00	1.05
16.67	2.01
17.50	3.06
18.33	5.19
18.50	7.92
18.67	9.44
18.83	12.39
18.85	12.74
18.87	13.08
18.88	13.61
18.90	14.19
18.92	14.71
18.93	14.93
18.95	15.55
18.97	15.88
18.98	16.21
19.00	16.60
19.02	17.22
19.03	17.77
19.05	18.33
19.07	18.94
19.08	19.99
19.10	21.03
19.12	22.07
19.13	23.10
19.15	26.54
19.17	29.75
19.18	29.62
19.20	35.98
19.22	39.36
19.23	39.94
19.25	40.14
19.27	40.19
19.28	40.04
19.30	39.61
19.32	39.17
19.33	38.82
19.35	38.17
19.37	37.13
19.38	36.10
19.40	35.36
19.42	34.12
19.43	30.53

WS35_Ex	
Time (hrs)	Flow (cfs)
0.00	0.00
1.67	0.01
3.33	0.04
5.00	0.04
6.67	0.05
8.33	0.07
10.00	0.09
11.67	0.13
13.33	0.33
15.00	1.17
16.67	2.70
17.50	4.54
18.33	5.73
18.50	8.71
18.67	8.56
18.83	12.23
18.85	12.61
18.87	12.98
18.88	13.25
18.90	13.61
18.92	13.89
18.93	13.76
18.95	14.20
18.97	14.56
18.98	14.92
19.00	15.35
19.02	16.12
19.03	16.80
19.05	17.47
19.07	18.21
19.08	19.35
19.10	20.41
19.12	21.54
19.13	23.05
19.15	27.94
19.17	33.03
19.18	32.73
19.20	43.28
19.22	48.08
19.23	48.81
19.25	48.81
19.27	48.48
19.28	47.26
19.30	45.87
19.32	44.40
19.33	43.09
19.35	37.20
19.37	31.43
19.38	31.09
19.40	20.59
19.42	14.53
19.43	12.70

WS23_Ex	
Time (hrs)	Flow (cfs)
19.45	7.79
19.47	7.60
19.48	8.19
19.50	6.19
19.52	6.60
19.53	6.42
19.55	6.39
19.57	6.21
19.58	5.14
19.60	5.70
19.62	5.23
19.63	4.90
19.65	4.87
19.67	4.69
19.68	4.67
19.70	4.64
19.72	4.61
19.73	4.74
19.75	4.71
19.77	4.54
19.78	4.52
19.80	4.49
19.82	4.62
19.83	4.45
19.85	4.43
19.87	4.41
19.88	4.39
19.90	4.36
19.92	4.34
19.93	4.33
19.95	4.31
19.97	4.44
19.98	4.27
20.00	4.25
20.02	3.93
20.03	3.91
20.05	3.60
20.07	3.43
20.08	3.26
20.10	2.94
20.12	3.08
20.13	2.91
20.15	3.05
20.17	2.88
20.18	2.87
20.20	3.00
20.22	2.99
20.23	2.97
20.25	2.81
20.27	2.95
20.28	3.08
20.30	2.92

WS24_Ex	
Time (hrs)	Flow (cfs)
19.45	22.57
19.47	20.46
19.48	18.51
19.50	18.16
19.52	14.04
19.53	11.76
19.55	10.93
19.57	10.42
19.58	9.96
19.60	9.60
19.62	9.29
19.63	9.00
19.65	8.68
19.67	8.52
19.68	8.36
19.70	8.20
19.72	7.82
19.73	7.79
19.75	7.66
19.77	7.57
19.78	7.44
19.80	7.16
19.82	7.22
19.83	7.07
19.85	6.98
19.87	6.89
19.88	6.80
19.90	6.74
19.92	6.69
19.93	6.64
19.95	6.62
19.97	6.57
19.98	6.48
20.00	6.43
20.02	6.32
20.03	6.27
20.05	6.16
20.07	6.08
20.08	6.00
20.10	5.89
20.12	5.81
20.13	5.70
20.15	5.66
20.17	5.55
20.18	5.47
20.20	5.40
20.22	5.32
20.23	5.21
20.25	5.14
20.27	5.07
20.28	5.00
20.30	4.92

WS25_Ex	
Time (hrs)	Flow (cfs)
19.45	26.78
19.47	26.47
19.48	19.18
19.50	14.61
19.52	13.22
19.53	12.28
19.55	11.46
19.57	10.87
19.58	10.34
19.60	9.86
19.62	9.19
19.63	8.83
19.65	8.53
19.67	8.23
19.68	7.95
19.70	7.84
19.72	7.74
19.73	7.63
19.75	7.53
19.77	7.43
19.78	7.34
19.80	7.24
19.82	7.15
19.83	7.06
19.85	6.97
19.87	6.88
19.88	6.79
19.90	6.71
19.92	6.62
19.93	6.54
19.95	6.46
19.97	6.38
19.98	6.31
20.00	6.23
20.02	6.16
20.03	6.08
20.05	6.01
20.07	5.94
20.08	5.87
20.10	5.80
20.12	5.74
20.13	5.67
20.15	5.61
20.17	5.54
20.18	5.48
20.20	5.42
20.22	5.36
20.23	5.30
20.25	5.24
20.27	5.19
20.28	5.13
20.30	5.08

WS35_Ex	
Time (hrs)	Flow (cfs)
19.45	11.37
19.47	10.48
19.48	10.26
19.50	9.28
19.52	8.90
19.53	8.27
19.55	7.98
19.57	7.78
19.58	7.50
19.60	6.73
19.62	6.69
19.63	6.41
19.65	6.37
19.67	6.18
19.68	5.57
19.70	5.86
19.72	5.58
19.73	5.47
19.75	5.44
19.77	5.25
19.78	5.22
19.80	5.19
19.82	5.24
19.83	5.21
19.85	5.19
19.87	5.08
19.88	5.05
19.90	5.03
19.92	5.08
19.93	4.98
19.95	4.95
19.97	5.01
19.98	4.91
20.00	4.88
20.02	4.70
20.03	4.67
20.05	4.49
20.07	4.47
20.08	4.28
20.10	4.09
20.12	3.99
20.13	3.88
20.15	3.78
20.17	3.59
20.18	3.49
20.20	3.39
20.22	3.45
20.23	3.35
20.25	3.34
20.27	3.32
20.28	3.39
20.30	3.37

WS23_Ex	
Time (hrs)	Flow (cfs)
20.32	2.76
20.33	2.89
20.35	3.03
20.37	2.87
20.38	2.71
20.40	2.84
20.42	2.98
20.43	2.82
20.45	2.66
20.47	2.80
20.48	2.94
20.50	2.78
20.52	2.62
20.53	2.76
20.55	2.75
20.57	2.59
20.58	2.58
20.60	2.57
20.62	2.56
20.63	2.55
20.65	2.54
20.67	2.53
20.68	2.52
20.70	2.51
20.72	2.50
20.73	2.49
20.75	2.48
20.77	2.48
20.78	2.47
20.80	2.46
20.82	2.45
20.83	2.44
20.85	2.44
20.87	2.43
20.88	2.42
20.90	2.41
20.92	2.41
20.93	2.40
20.95	2.39
20.97	2.38
20.98	2.38
21.00	2.37
21.02	2.36
21.03	2.05
21.05	1.89
21.07	1.89
21.08	1.73
21.10	1.57
21.12	1.41
21.13	1.56
21.15	1.70
21.17	1.55

WS24_Ex	
Time (hrs)	Flow (cfs)
20.32	4.82
20.33	4.82
20.35	4.78
20.37	4.75
20.38	4.68
20.40	4.68
20.42	4.68
20.43	4.61
20.45	4.58
20.47	4.55
20.48	4.55
20.50	4.52
20.52	4.45
20.53	4.42
20.55	4.39
20.57	4.36
20.58	4.33
20.60	4.27
20.62	4.24
20.63	4.25
20.65	4.19
20.67	4.13
20.68	4.13
20.70	4.11
20.72	4.05
20.73	4.02
20.75	4.00
20.77	3.97
20.78	3.95
20.80	3.89
20.82	3.87
20.83	3.88
20.85	3.82
20.87	3.80
20.88	3.81
20.90	3.75
20.92	3.73
20.93	3.75
20.95	3.69
20.97	3.67
20.98	3.68
21.00	3.63
21.02	3.61
21.03	3.55
21.05	3.46
21.07	3.44
21.08	3.42
21.10	3.33
21.12	3.28
21.13	3.26
21.15	3.20
21.17	3.15

WS25_Ex	
Time (hrs)	Flow (cfs)
20.32	5.02
20.33	4.97
20.35	4.91
20.37	4.86
20.38	4.81
20.40	4.76
20.42	4.71
20.43	4.66
20.45	4.62
20.47	4.57
20.48	4.52
20.50	4.48
20.52	4.43
20.53	4.39
20.55	4.35
20.57	4.30
20.58	4.26
20.60	4.22
20.62	4.18
20.63	4.14
20.65	4.10
20.67	4.06
20.68	4.02
20.70	3.98
20.72	3.94
20.73	3.91
20.75	3.87
20.77	3.84
20.78	3.80
20.80	3.77
20.82	3.73
20.83	3.70
20.85	3.66
20.87	3.63
20.88	3.60
20.90	3.57
20.92	3.54
20.93	3.50
20.95	3.47
20.97	3.44
20.98	3.41
21.00	3.38
21.02	3.36
21.03	3.33
21.05	3.30
21.07	3.27
21.08	3.24
21.10	3.22
21.12	3.19
21.13	3.16
21.15	3.14
21.17	3.11

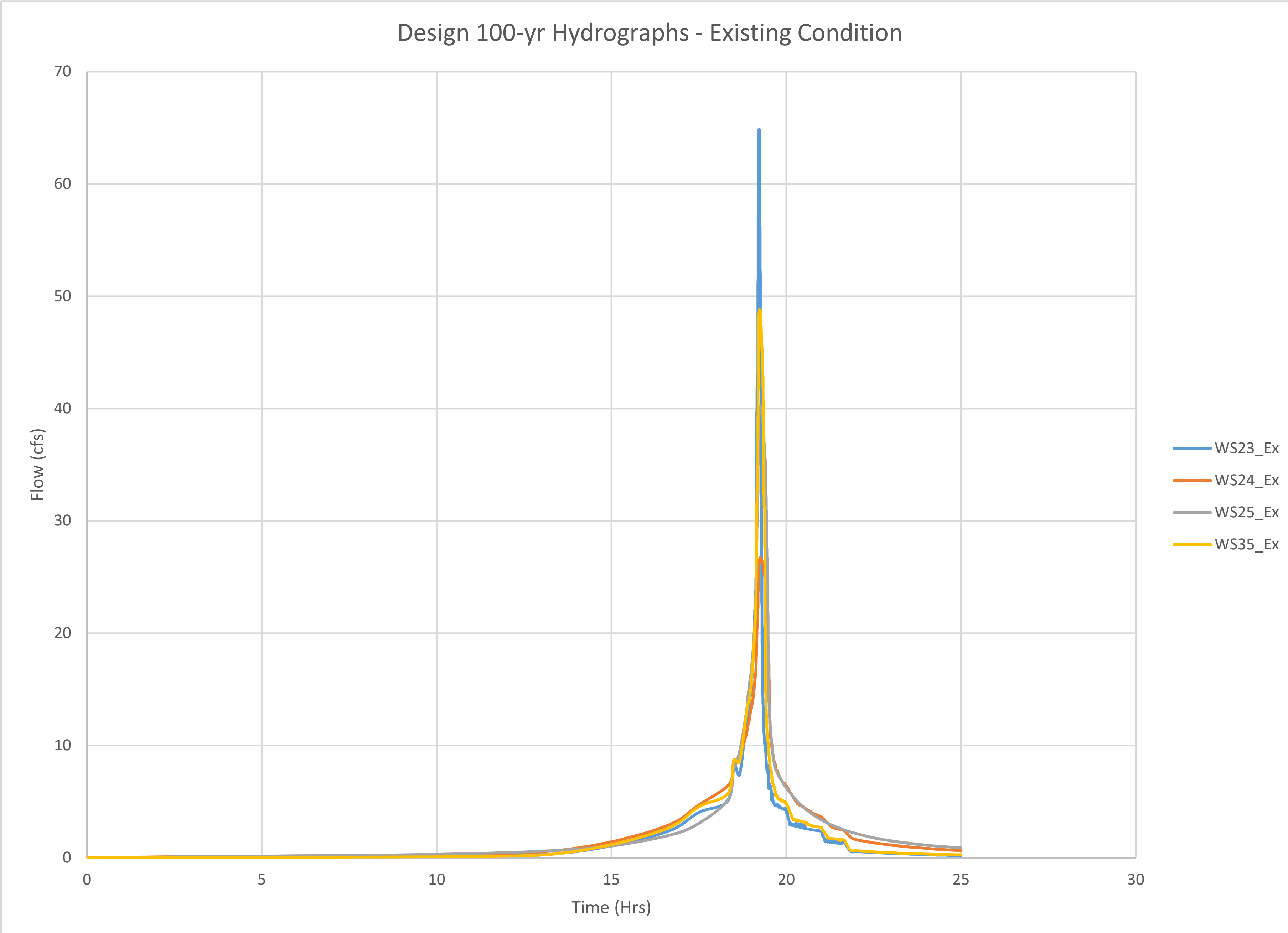
WS35_Ex	
Time (hrs)	Flow (cfs)
20.32	3.27
20.33	3.34
20.35	3.32
20.37	3.31
20.38	3.29
20.40	3.28
20.42	3.26
20.43	3.25
20.45	3.23
20.47	3.22
20.48	3.20
20.50	3.19
20.52	3.18
20.53	3.17
20.55	3.07
20.57	3.06
20.58	3.13
20.60	3.03
20.62	2.93
20.63	3.01
20.65	2.99
20.67	2.90
20.68	2.89
20.70	2.88
20.72	2.87
20.73	2.85
20.75	2.84
20.77	2.83
20.78	2.82
20.80	2.81
20.82	2.80
20.83	2.79
20.85	2.78
20.87	2.77
20.88	2.76
20.90	2.75
20.92	2.74
20.93	2.74
20.95	2.73
20.97	2.72
20.98	2.71
21.00	2.70
21.02	2.69
21.03	2.51
21.05	2.42
21.07	2.41
21.08	2.32
21.10	2.23
21.12	2.13
21.13	2.04
21.15	2.03
21.17	1.94

WS23_Ex	
Time (hrs)	Flow (cfs)
21.18	1.39
21.20	1.53
21.22	1.68
21.23	1.52
21.25	1.36
21.27	1.51
21.28	1.66
21.30	1.50
21.32	1.34
21.33	1.49
21.35	1.64
21.37	1.48
21.38	1.32
21.40	1.47
21.42	1.62
21.43	1.46
21.45	1.30
21.47	1.45
21.48	1.60
21.50	1.44
21.52	1.28
21.53	1.43
21.55	1.43
21.57	1.42
21.58	1.26
21.60	1.41
21.62	1.56
21.63	1.40
21.65	1.40
21.67	1.40
21.83	0.59
22.00	0.55
22.17	0.52
22.33	0.49
22.50	0.45
22.67	0.43
22.83	0.41
23.00	0.39
23.17	0.37
23.33	0.36
23.67	0.31
24.00	0.29
24.33	0.24
25.00	0.20

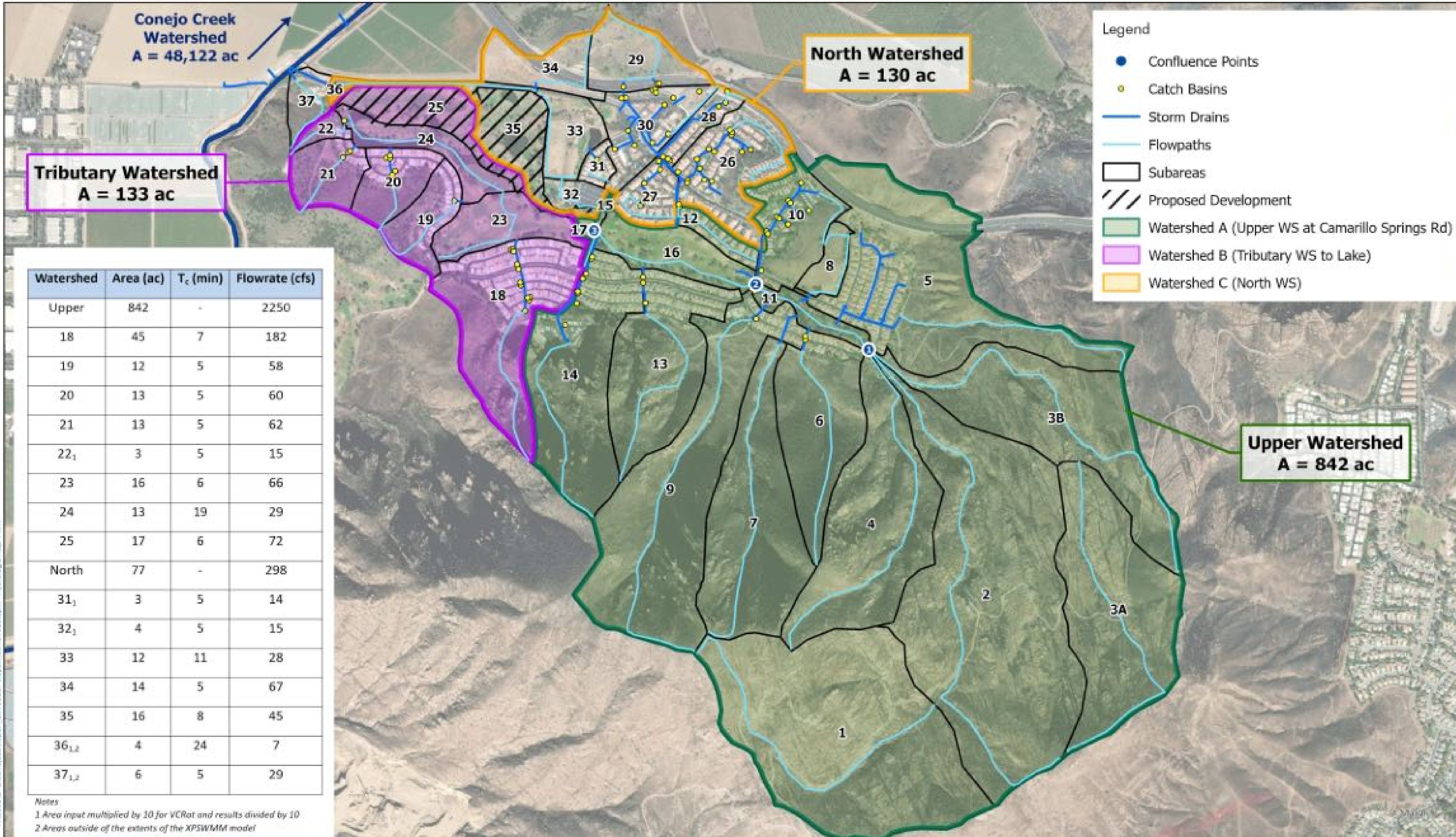
WS24_Ex	
Time (hrs)	Flow (cfs)
21.18	3.10
21.20	3.04
21.22	3.02
21.23	2.97
21.25	2.88
21.27	2.86
21.28	2.85
21.30	2.76
21.32	2.71
21.33	2.69
21.35	2.71
21.37	2.69
21.38	2.64
21.40	2.63
21.42	2.65
21.43	2.63
21.45	2.58
21.47	2.57
21.48	2.59
21.50	2.58
21.52	2.53
21.53	2.51
21.55	2.50
21.57	2.52
21.58	2.47
21.60	2.46
21.62	2.48
21.63	2.47
21.65	2.42
21.67	2.41
21.83	1.84
22.00	1.61
22.17	1.51
22.33	1.42
22.50	1.33
22.67	1.26
22.83	1.19
23.00	1.13
23.17	1.07
23.33	1.02
23.67	0.92
24.00	0.84
24.33	0.75
25.00	0.64

WS25_Ex	
Time (hrs)	Flow (cfs)
21.18	3.09
21.20	3.06
21.22	3.04
21.23	3.01
21.25	2.99
21.27	2.96
21.28	2.94
21.30	2.92
21.32	2.89
21.33	2.87
21.35	2.85
21.37	2.83
21.38	2.80
21.40	2.78
21.42	2.76
21.43	2.74
21.45	2.72
21.47	2.70
21.48	2.68
21.50	2.66
21.52	2.64
21.53	2.62
21.55	2.60
21.57	2.58
21.58	2.56
21.60	2.54
21.62	2.52
21.63	2.50
21.65	2.49
21.67	2.47
21.83	2.30
22.00	2.15
22.17	2.01
22.33	1.89
22.50	1.78
22.67	1.68
22.83	1.59
23.00	1.50
23.17	1.43
23.33	1.36
23.67	1.23
24.00	1.12
24.33	1.03
25.00	0.88

WS35_Ex	
Time (hrs)	Flow (cfs)
21.18	1.76
21.20	1.76
21.22	1.75
21.23	1.74
21.25	1.73
21.27	1.73
21.28	1.72
21.30	1.71
21.32	1.71
21.33	1.70
21.35	1.69
21.37	1.69
21.38	1.68
21.40	1.67
21.42	1.67
21.43	1.66
21.45	1.65
21.47	1.65
21.48	1.64
21.50	1.64
21.52	1.63
21.53	1.63
21.55	1.53
21.57	1.61
21.58	1.61
21.60	1.60
21.62	1.60
21.63	1.59
21.65	1.59
21.67	1.58
21.83	0.68
22.00	0.63
22.17	0.59
22.33	0.56
22.50	0.52
22.67	0.49
22.83	0.47
23.00	0.44
23.17	0.42
23.33	0.40
23.67	0.36
24.00	0.33
24.33	0.30
25.00	0.26



Design 100-yr Hydrographs - Existing Condition
Flow (cfs)
Time (Hrs)
0
10
20
30
40
50
60
70
0
5
10
15
20
25
30
WS23_Ex
WS24_Ex
WS25_Ex
WS35_Ex



Watershed	Area (ac)	T_c (min)	Flowrate (cfs)
Upper	842	-	2250
18	45	7	182
19	12	5	58
20	13	5	60
21	13	5	62
22_1	3	5	15
23	16	6	66
24	13	19	29
25	17	6	72
North	77	-	298
31_1	3	5	14
32_1	4	5	15
33	12	11	28
34	14	5	67
35	16	8	45
$36_{1,2}$	4	24	7
$37_{1,2}$	6	5	29

Notes
1 Area input multiplied by 10 for VCRat and results divided by 10
2 Areas outside of the extents of the XPSWMM model

CAMARILLO SPRINGS

HYDROLOGIC MAP

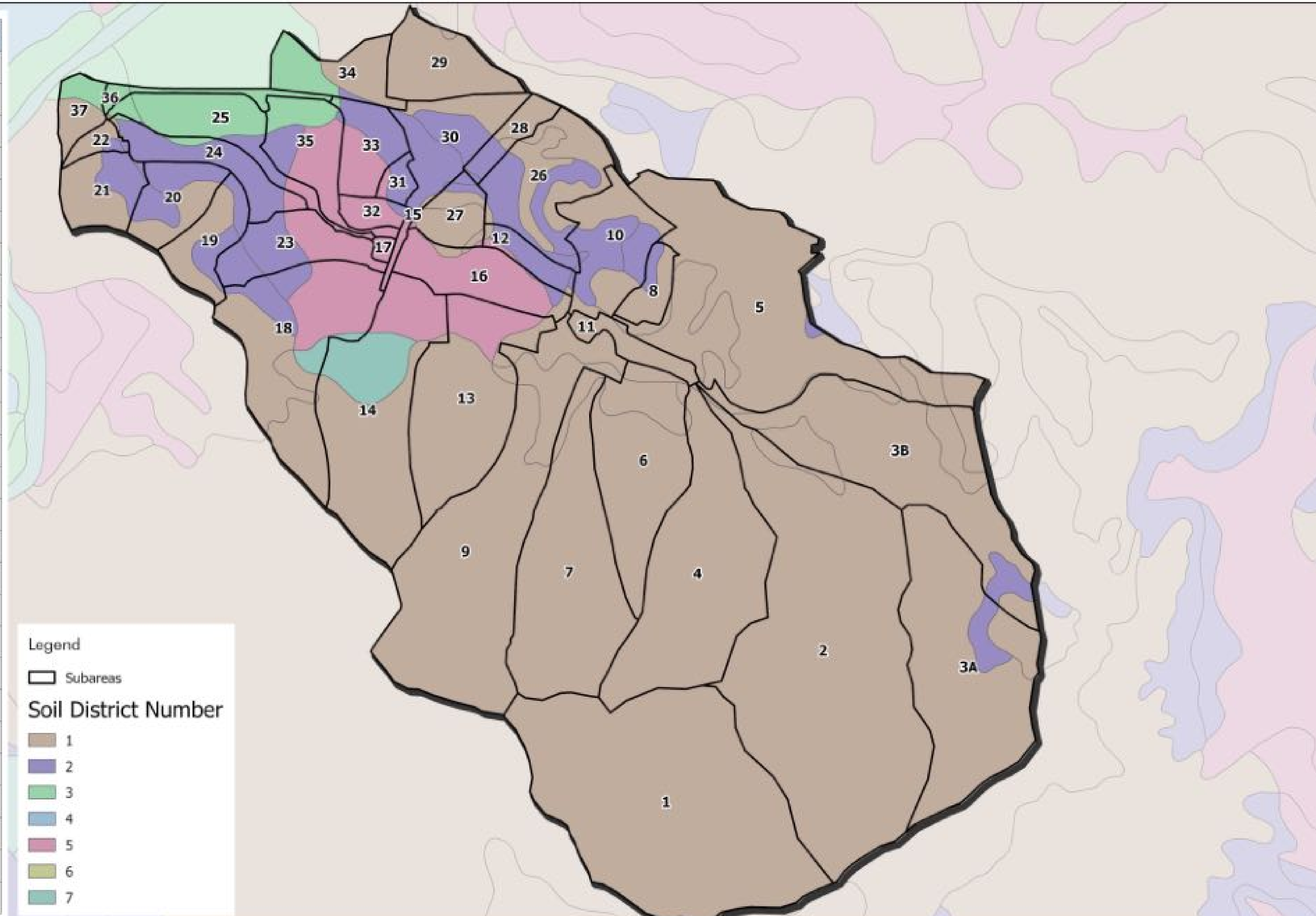
0 500 1,000 2,000 Feet

Date: 12/21/2021

Job Number: 8306

Figure C-1

Watershed	Area (acres)	Soil Type
1	113	1
2	139	1
3A	63	1
3B	61	1
4	61	1
5	62	1
6	37	1
7	55	1
8	6	1
9	81	1
10	21	1
11	7	1
12	6	2
13	31	1
14	53	1
15, 16, 17	20	5
18	46	5
19	12	1
20	13	2
21	13	1
22	3	1
23	16	2
24	13	2
25	17	4
26	27	1
27	8	1
28	6	1



CAMARILLO SPRINGS

SOIL WORKMAP

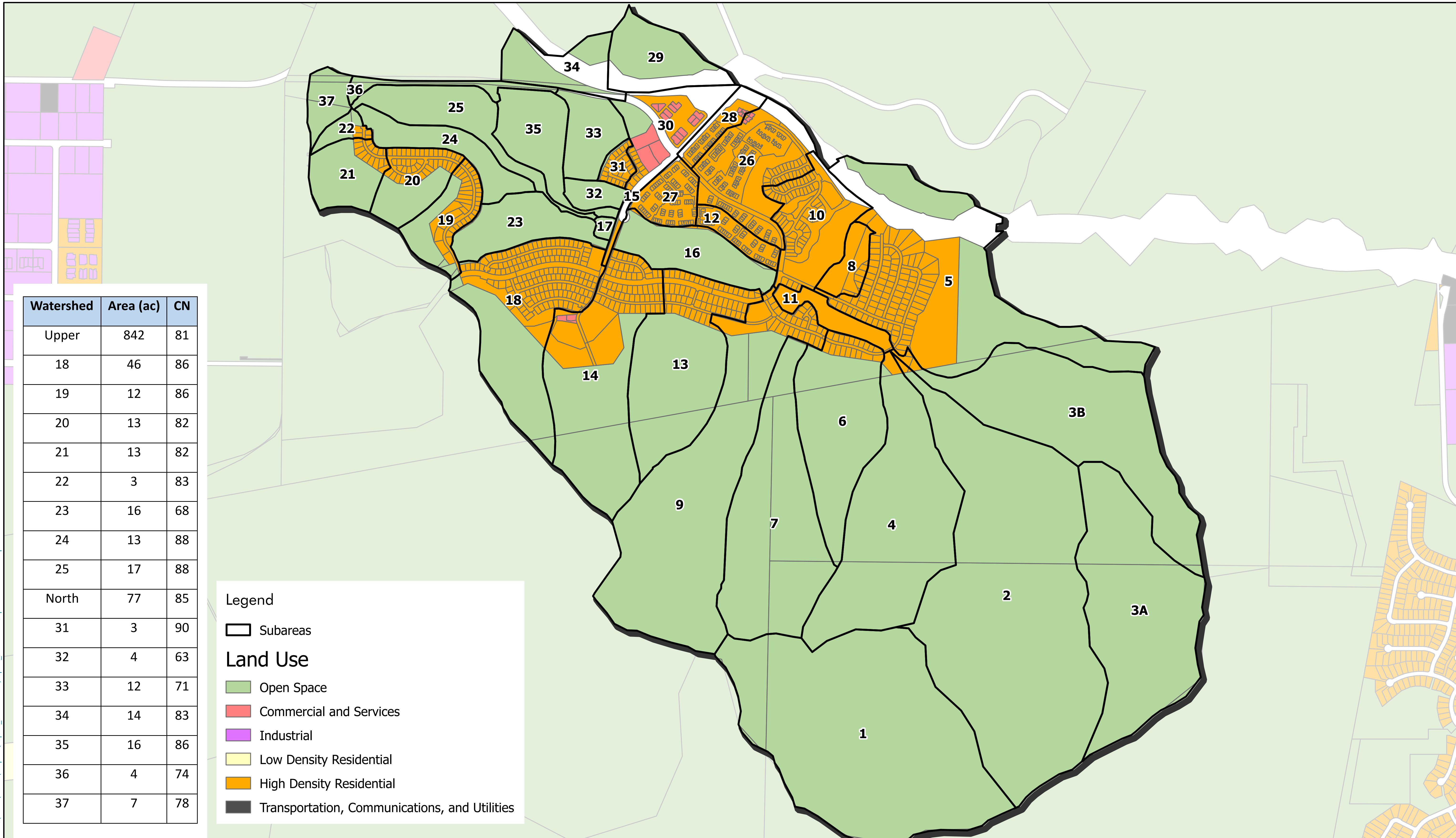
FIGURE C-2

PACE

0 500 1,000 2,000 Feet

Date: 12/21/2021

Job Number: 8306



Watershed	Area (ac)	CN
Upper	842	81
18	46	86
19	12	86
20	13	82
21	13	82
22	3	83
23	16	68
24	13	88
25	17	88
North	77	85
31	3	90
32	4	63
33	12	71
34	14	83
35	16	86
36	4	74
37	7	78

P:\B306\6-GIS\Projects\Report_20180227\Report_20181026.aprx - Land Use Map

CAMARILLO SPRINGS

LAND USE WORKMAP

Figure C-3

PACE

0 500 1,000 2,000 Feet

Date: 12/24/2021

Job Number: B306

Debris Calculations - Camarillo Springs Creek East Basin

Follows Ventura County Debris/Sediment Manual Equation

(Scott-Williams USGS 1978)

A ⇒ Watershed Area w/ Debris Potential

$$A = (792\ ac) \times \left(\frac{1\ mi^2}{640\ ac}\right) = 1.2375$$

ER ⇒ Elongation Ratio

Find diameter, D, of a circle with Area, A

$$\frac{\pi D^2}{4} = A \Rightarrow D = \sqrt{\frac{4A}{\pi}} = \sqrt{\frac{4 \times (842\ ac) \times (43560\ ft^2/ac)}{\pi}}$$

D = 6,833.69 ft   L = longest flowpath = 11,973 ft

$$ER = \frac{D}{L} = \frac{6{,}833}{11{,}973} = 0.5707$$

FF ⇒ Fire Factor

Fire Factor is an adhoc parameter. Three configurations are analyzed.

FF = 1 (Existing Condition, assumes no burn)

FF = 20 (Partially Burned Condition, 4.3 yrs after fire)

FF = 88 (Burned Condition, 6 mo after fire)

DRAWN	CHKD	TITLE
JR	AR	East Basin Debris Calculations
DATE 12/23/2021		JOB NO.

PACE
17520 Newhope Street • Suite 200 • Fountain Valley, California 92708 • tel: 714.481.7300 • fax: 714.481.7299

SF ⇒ Slope Failures

Slope failures is the area of slope failures, in acres, per watershed area, in square miles.

The area of slope failures was measured on a GIS Map Layer from the CA Dept of Conservation. There is no slope factor on the Watershed, so SF = 1.

K ⇒ Precipitation Factor

$$K = (P_{24hr}) \times (P_{10\,DAY})^2$$

Rainfall amounts are from NOAA Atlas 14 Data for Camarillo Springs Watershed Location

$P_{24} = 6.52$ inches $\qquad P_{10d} = 14.6$ inches

$$K = (6.52) \times (14.6)^2 = 1{,}389.8$$

Calculating Debris Produced

$$Sy = 17.54 * (A)^{0.828} * (ER)^{1.382} * (FF)^{0.251} * (SF)^{0.375} * (K)^{0.84}$$

$\boxed{\text{Existing, FF=1}}$

$$Sy = 17.54 * (792)^{0.828} * (0.5707)^{1.382} * (1)^{0.251} * (1)^{0.375} * (1389.8)^{0.84}$$

$Sy = 2.6$ ac-ft

$\boxed{\text{Statistically Burned, FF = 20}}$

$$Sy = 17.54 * (792)^{0.828} * (0.5707)^{1.382} * (20)^{0.251} * (1)^{0.375} * (1389.8)^{0.84}$$

$Sy = 5.6$ ac-ft

$\boxed{\text{Burned Condition, FF = 88}}$

$$Sy = 17.54 * (792)^{0.828} * (0.5707)^{1.382} * (88)^{0.251} * (1)^{0.375} * (1389.8)^{0.84}$$

$Sy = 8.0$ ac-ft ✓

PACE	DRAWN: JR	CHKD: AR	TITLE: East Basin Debris Calculations
	DATE: 12/23/2021		JOB NO.

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Appendix D -
Project Site Information

PASCUZZO - PROPOSED EAST BASIN (2019-12-12)	
ELEVATION	PROPOSED VOLUME* (af)
128 (3.2 ac)	31.5
125 (2.7 ac)	22.7
120 (1.9 ac)	11.2
115 (1.2 ac)	3.6
110 (0.51 ac)	0.0

*NOTE: SUBTRACT SEDIMENT VOLUME

SEDIMENT VOLUME TABLE	
ELEVATION	PROPOSED SEDIMENT VOLUME (af)
118 @ 0% slope (1.59 ac)	7.7
118.5 @ 0% slope (1.68 ac)	8.5
118.5 @ 0.5% slope (2.11 ac)	13.1
118 @ 1% slope	8.0

8.1 af REQUIRED

CAMARILLO SPRINGS
PLAN & PROFILE OF NORTH GOLF COURSE AREA w/ WEST AND EAST BASINS
JOB: B306 DATE: 04-18-2022

PACE
Advanced Water Engineering
17520 Newhope Street, Suite 200 | Fountain Valley, CA 92708
P: (714) 481-7300 | www.pacewater.com

PASCUZZO - PROPOSED STORAGE SOUTH IN EXISTING GOLF AREA (2019-12-08)			
ELEVATION	EXISTING VOLUME (AF)	PROPOSED VOLUME (AF)	ADDITIONAL STORAGE (AF)
110 (37.70 ac)	130	458	328
105 (31.64 ac)	47	282	235
100 (23.40 ac)	19	135	116
95 (18.56 ac)	4	30	26
94 (15.75ac)	0	13	13

Appendix E -

Hydraulic Models

-

SEPARATE

Appendix F -

Additional Exhibits

Overall Watershed	Watershed Inflow Location	Drainage Area (ac)	Peak Flowrate (cfs)	Volume (af)
Upper	Upper	842	2250	305
Lake	18	46	181	19
Lake	19	12	58	5
Lake	20	13	60	5
Lake	21	13	62	5
Lake*	22	3.1	15	1
Lake	23_ex	16	65	3
Lake	24_ex	13	27	4
Lake	25_ex	19	36	4
North	North	77	298	31
North*	31	3	14	1
North*	32	4	15	1
North	33	12	28	3
North	34	14	67	6
North	35_ex	18	49	4

*Subarea multiplied by 10 for program input, results divided by 10

CAMARILLO SPRINGS

XP SWMM MODEL INFLOW LOCATIONS - EXISTING

PACE Advanced Water Engineering

0 150 300 600 Feet

Date: 12/24/2021

Job Number: 8306

Figure A

Overall Watershed	Watershed Inflow Location	Drainage Area (ac)	Peak Flowrate (cfs)	Volume (af)
Upper	Upper	826	2250	305
Lake	18	46	181	19
Lake	19	12	58	5
Lake	20	13	60	5
Lake	21	13	62	5
Lake*	22	3	15	1
Lake	23	16	66	4
Lake	24	13	29	6
Lake	25	17	72	12
North	North	77	298	31
North*	31	3	14	1
North*	32	4	15	1
North	33	12	28	3
North	34	14	67	6
North	35	16	45	7

*Subarea multiplied by 10 for program input, results divided by 10

CAMARILLO SPRINGS

XP SWMM MODEL INFLOW LOCATIONS - PROPOSED

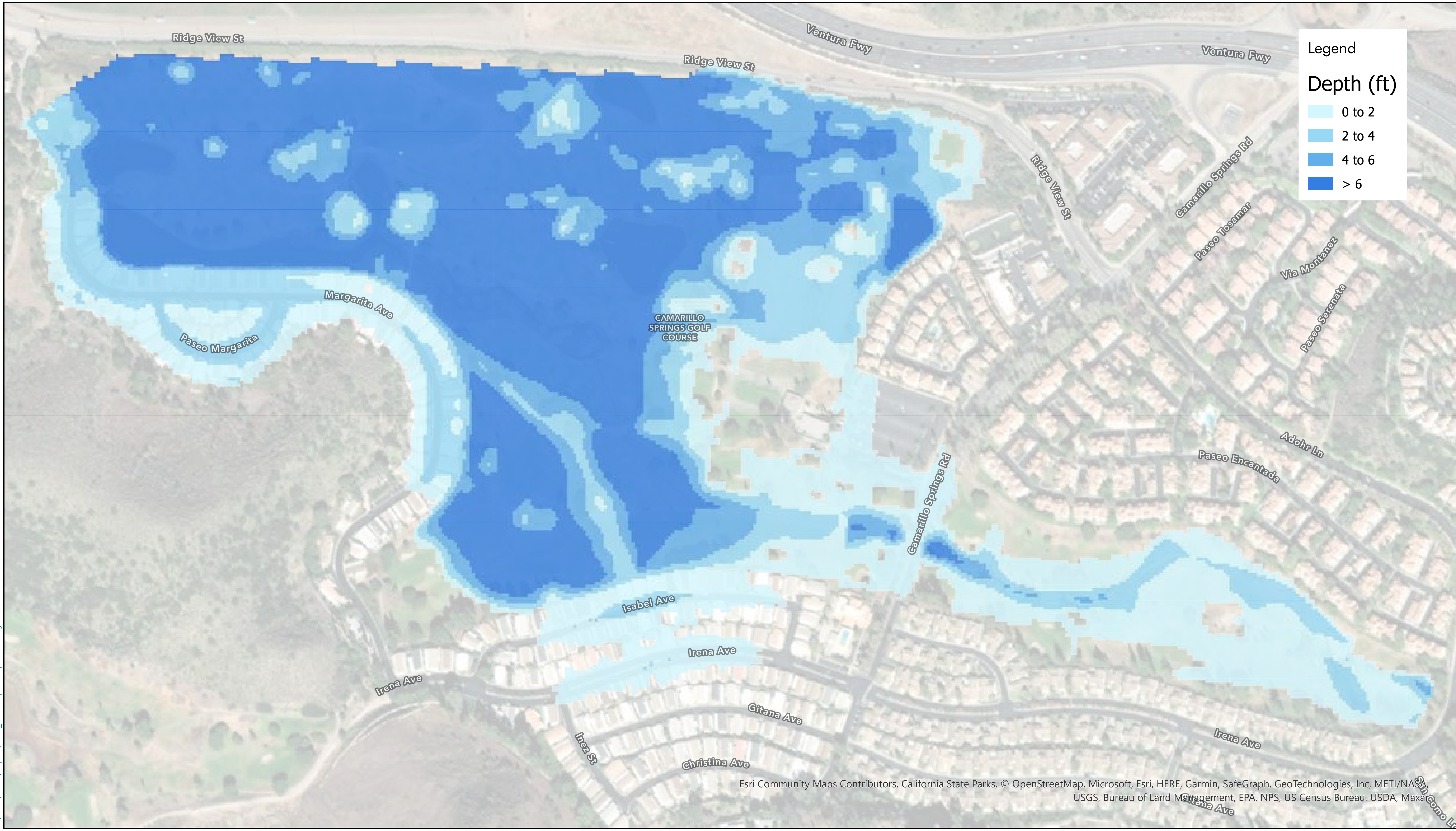
PACE

0 150 300 600 Feet

Date: 12/24/2021

Job Number: 8306

Figure B



P:\B306\6-GIS\Projects\XP2D_Results.aprx - Depth - Existing

CAMARILLO SPRINGS

DEPTH
EXISTING

Figure C

PACE

0 150 300 600
Feet

Date:
4/19/2022

Job Number:
B306

P:\B306\6-GIS\Projects\XP2D_Results.aprx - Depth - Scenario 2A

CAMARILLO SPRINGS

EXISTING DEPTH
SCENARIO #2 (CAMARILLO SPRINGS RD BLOCKED)

0 150 300 600 Feet

Date: 4/19/2022

Job Number: B306

Figure D

CAMARILLO SPRINGS

DEPTH
FULL SYSTEM PROPOSED

PACE
0 150 300 600 Feet
Date: 4/19/2022
Job Number: B306

Figure E

P:\B306\6-GIS\Projects\XP2D_Results.aprx - Depth - Proposed 4 Day Storm

CAMARILLO SPRINGS

DEPTH
FULL SYSTEM PROPOSED (4 DAY STORM)

PACE Advanced Water Engineering

0 150 300 600 Feet

Date: 4/19/2022

Job Number: B306

Figure F

CAMARILLO SPRINGS

PROPOSED DEPTH
SCENARIO #2 (CAMARILLO SPRINGS RD BLOCKED)

Figure G

PACE Advanced Water Engineering

0 150 300 600 Feet

Date: 4/19/2022

Job Number: B306

P:\B306\6-GIS\Projects\XP2D_Results.aprx - Depth - Scenario 3A

CAMARILLO SPRINGS

PROPOSED DEPTH
SCENARIO #3 (BYPASS CULVERTS BLOCKED)

PACE Advanced Water Engineering

0 150 300 600 Feet

Date: 4/19/2022

Job Number: B306

Figure H

P:\B306\6-GIS\Projects\XP2D_Results.aprx - Depth - Scenario 4A

CAMARILLO SPRINGS

PROPOSED DEPTH
SCENARIO #4 (RIDGE VIEW BLOCKED)

Figure I

PACE Advanced Water Engineering

0 150 300 600 Feet

Date: 4/19/2022

Job Number: B306

P:\B306\6-GIS\Projects\XP2D_Results.aprx - Depth - Scenario 5A

CAMARILLO SPRINGS

PROPOSED DEPTH
SCENARIO #5 (LAKE DRAINS BLOCKED)

0 150 300 600 Feet

Date: 4/19/2022

Job Number: B306

Figure J

P:\B306\6-GIS\Projects\XP2D_Results.aprx - Depth Differential - Proposed vs Existing

CAMARILLO SPRINGS

DEPTH DIFFERENTIAL
PROPOSED – EXISTING

PACE

0 150 300 600 Feet

Date: 4/19/2022

Job Number: B306

Figure K

P:\B306\6-GIS\Projects\XP2D_Results.aprx - Depth Differential - Proposed 4 Day Storm vs Existing

CAMARILLO SPRINGS

DEPTH DIFFERENTIAL
PROPOSED (4 DAY STORM) – EXISTING

Figure L

PACE

0 150 300 600 Feet

Date: 4/19/2022

Job Number: B306

P:\B306\6-GIS\Projects\XP2D_Results.aprx - Depth Differential - Scenario 2B vs Scenario 2A

CAMARILLO SPRINGS

DEPTH DIFFERENTIAL
PROPOSED SCENARIO #2 – EXISTING SCENARIO #2 (CAMARILLO SPRINGS ROAD BLOCKED)

Figure M

PACE Advanced Water Engineering

Date: 4/19/2022

Job Number: B306

CAMARILLO SPRINGS

DEPTH DIFFERENTIAL
PROPOSED FAILURE SCENARIO #3 (BYPASS CULVERTS BLOCKED) – EXISTING NO PROJECT

PACE

0 150 300 600 Feet

Date: 4/19/2022

Job Number: B306

Figure N

P:\B306\6-GIS\Projects\XP2D_Results.aprx - Depth Differential - Scenario 4A vs Existing

CAMARILLO SPRINGS

DEPTH DIFFERENTIAL
PROPOSED FAILURE SCENARIO #4 (RIDGE VIEW RCP BLOCKED) – EXISTING NO PROJECT

Figure O

0 150 300 600 Feet

Date: 4/19/2022

Job Number: B306

P:\B306\6-GIS\Projects\XP2D_Results.aprx - Depth Differential - Scenario 5A vs Existing

CAMARILLO SPRINGS

DEPTH DIFFERENTIAL
PROPOSED FAILURE SCENARIO #5 (LAKE DRAINS BLOCKED) – EXISTING NO PROJECT

PACE

0 150 300 600 Feet

Date: 4/19/2022

Job Number: B306

Figure P

APPENDIX O -
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

VENTURA COUNTYWIDE STORMWATER QUALITY PROGRAM
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN (PCSMP)
FOR
Camarillo Springs TTM 6016 (SW #0034)
PARCEL #: 234-004-0-59

Project Name: Camarillo Springs TTM 6016 (SW #0034)

Preparation/Revision Date: **Approved 3/5/2019 (Revised 06/2020)**

Prepared for:

Name of Owner/Developer:	NUWI
Stress Address:	1733 Ocean Ave, Suite #350
City, State, Zip Code:	Santa Monica, CA 90401
Telephone:	310-394-3379

Prepared by:

Name and Title of Preparer:	Daniel Lopez (Associate Engineer)
Company Name:	Encompass Consultant Group, Inc.
Stress Address:	333 N. Lantana St. #287
City, State, Zip Code:	Camarillo, CA 93010
Telephone:	805-586-2979

I hereby certify that the information provided in this Application is correct.

Application Prepared by: Daniel Lopez / Encompass Consultant Group, Inc.
Print Name and Firm

Signed
Signature of Project Engineer in the Firm Named Above

Title Associate Engineer, Encompass Consultant Group, Inc.
Affix Professional registration stamp of the person named above with signature and expiration date

Project Name: Camarillo Springs TTM 6016 (SW #0034)

STEP 1: DETERMINE PROJECT APPLICABILITY

Instructions:
For *new development projects,* *answer yes, no, or NA to questions (1) - (10) below.*
For *redevelopment projects* *, answer yes, no, or NA to questions (11) - (13) below.*

NEW DEVELOPMENT PROJECTS	
Does the new development project fall within categories (1) - (10) below?	
Project Type and/or Characteristics	**Y/N/NA**
1) Development projects equal to 1 acre or greater of disturbed area that adds more than 10,000 square feet of impervious surface area **→go to Step 2**	Y
2) Industrial parks with 10,000 square feet or more of total altered surface area **→go to Step 2**	N/A
3) Commercial strip malls with 10,000 square feet or more of impervious surface area **→go to Step 2**	N/A
4) Retail gasoline outlets with 5,000 square feet or more of total altered surface area **→go to Step 2**	N/A
5) Restaurants (Standard Industrial Classification (SIC) of 5812) with 5,000 square feet or more of total altered surface area **→go to Step 2**	N/A
6) Parking lots with 5,000 square feet or more of impervious surface area, or with 25 or more parking spaces **→go to Step 2**	N/A
7) Streets, roads, highways, and freeway construction of 10,000 square feet or more of impervious surface area **→ go to Roadway Projects**	N
8) Automotive service facilities (Standard Industrial Classification (SIC) of 5013, 5014, 5511, 5541, 7532-7534 and 7536-7539) of 5,000 square feet or more of total altered surface area **→go to Step 2**	N/A
9) Projects located in or directly adjacent to, or discharging directly to an Environmentally Sensitive Area (ESA), where the development will: a. Discharge stormwater runoff that is likely to impact a sensitive biological species or habitat; and b. Create 2,500 square feet or more of impervious surface area **→go to Step 2**	N/A
10) Single-family hillside homes (see Section 2 of the TGM for specific requirements) **→go to SF Hillside**	N/A

Project Name: Camarillo Springs TTM 6016 (SW #0034)

PROJECT APPLICABILITY, CONT.

REDEVELOPMENT PROJECTS	
For redevelopment projects that fall within categories (1) through (9) above, and that conduct land-disturbing activities that result in the creation, or addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site, answer questions 11-13 below.Existing single-family dwelling and accessory structures are exempt from redevelopment projects unless such projects create, add, or replace 10,000 square feet of impervious surface area.	
Project Type and/or Characteristics	**Y/N/NA**
11) Projects where redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to the post development stormwater quality control requirements of Board Order 00-108, these projects must mitigate the entire redevelopment project area **→go to Step 2**	N/A
12) Projects where redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was subject to the post development stormwater quality control requirements of Board Order 00-108, the project must mitigate only the altered portion of the redevelopment project area and not the entire project area **→go to Step 2**	N/A
13) Projects where redevelopment results in an alteration of less than fifty percent of impervious surfaces of a previously existing development these projects must mitigate only the altered portion of the redevelopment project area and not the entire project area **→go to Step 2**	N/A

Project Name: Camarillo Springs TTM 6016 (SW #0034)

STEP 2: ASSESS SITE CONDITIONS

Provide an assessment of the project site using the following tables

New Development Project General Characteristics

General Project Characteristics	Area (acres)
Total Project Site Area	182.00
Total Disturbed Area	182.00
Total Existing (Pre-Project) Impervious Area	6.37
Post-Project Impervious Area [1]	27.84
Area of Green Roof (ET-1) [1]	0.00
Area Draining to Hydrologic Source Controls (ET-2) [1]	0.00
Revised Post-Project Impervious Area	27.84
Project Imperviousness (%)	15.30%

Redevelopment Project General Characteristics

General Project Characteristics	Area (acres)
Total Project Site Area	
Total Altered Area [6]	
Total Existing (Pre-Project) Impervious Area	
Was existing (pre-project) impervious area subject to post-development stormwater quality control requirements? [2]	
Amount of Existing Impervious Area Altered [3]	
Amount of Impervious Area Added	
% Alteration of Existing Impervious Area [4]	N/A
Post-Project Impervious Area (Impervious Area to be Mitigated) [1], [4]	0.00
Area of Green Roof (ET-1) [1]	
Area Draining to Hydrologic Source Controls (ET-2) [1]	
Revised Post-Project Impervious Area	0.00
Project Imperviousness (%) [5]	

Project Name: Camarillo Springs TTM 6016 (SW #0034)

Project Description

Briefly describe project:
The project is a 182-acre residential and golf course development. There will be a pond to include storage for stormwater as a detention basin. The housing will include 1/8 acre lots. The development will include housing, neighborhood parks, walking trails, open space, a pond and a maintenance area. The residential component of the development is 34.8 acres, while the remaining acreage will be an active golf course.
Describe current and proposed zoning and land use designation:
The current site is a golf course.
Describe topography of project area. Identify low and high points and the location of steep slopes (provide a range of grades):
The topography is relatively flat. It is the valley that is surrounded by mountains. The project area is currently mapped as a flood hazard.
Describe the site's soil types (A, B, C, D) and geological conditions
The soil has a mixture of soil types B, C and D with shallow ground water. *Attach soil type information*

Project Name: Camarillo Springs TTM 6016 (SW #0034)

Project Description, cont'd

Describe the site's groundwater conditions (e.g. depth to seasonal high groundwater):
The site has high groundwater which makes infiltration options not feasible. Refer to Geolabs infeasibility analysis dated October 19, 2018.

Is there offsite drainage on the site? If so, identify the location(s) and source(s) of offsite drainage and the volume of water running onto the site:
The water coming onto the site will either go into the proposed pond or into an 10'x6' box culvert which conveys the water out of the site. The 10'x6' box and overall flood control is being designed by PACE Engineering. Flows from tributary areas in the mountain ranges surrounding the project will drain toward the 10'x6' box culvert that discharges into Conejo Creek. If the box becomes inundated flows are diverted to an onsite pond for additional storage. The flood waters will not come onto the surface of the project as the pads are elevated above the high-water elevation.
Describe any existing utilities within the project area that would limit the possible locations of certain BMPs:
There are no known existing utilities limiting BMPs.
Describe any environmentally sensitive areas (e.g. riparian areas, wetlands) within the project area:
There are no enviroenmentally sensitive area within the project area.

Geotechnical considerations:	
Does the site contain any of the following characteristics:	**Y/N/NA**
Collapsible Soil	N
Expansion Soil	Y
Potential for seismically-inducted soil liquefaction	N
Additional considerations:	
The groundwater within the project area is high and does not allow for significant infiltration. *Attach relevant geotechnical information*	

Project Name: Camarillo Springs TTM 6016 (SW #0034)

STEP 2: POLLUTANTS OF CONCERN

Pollutants of Concern (See Section 3.3 of TGM)

Activity / Potential Land Uses	**Potential Pollutant***								
	Sediment	**Nutrients**	**Metals**	**Pesticides**	**Oxygen Demanding Substances**	**Toxic Organics**	**Oil & Grease**	**Bacteria**	**Trash and Debris**
Home Subdivisions	X	X			X			X	X
Parking Lots	X		X		X	X			X
Residential Use	X		X				X		
Other [fill in if necessary]									

*Denote potential pollutant with "x"

Receiving Waterbody Listings (see Section 3.3. of TGM)

Receiving Waterbody (watershed indicated in parentheses)	**Constituent Group [7]**	**Distance to Project (ft)**
Calleguas Creek watershed above Potrero Rd (Calleguas Creek)	Bacteria, Salts, Trash, Metals, Nutrients, Pesticides, PCBs, Sediment	1000.00
Other [fill in if necessary]		

[1] Applicant should enter post-project impervious cover prior to accounting for green roof and hydrologic source control (HSC) credits. Volume reduction provided by green roofs and HSCs are accounted for implicitly in the sizing calcuations for BMPs by assuming the roof area covered by a green roof or the area draining to a HSC is pervious rather than impervious when caluclating the runoff coefficient for the site. Green roofs and HSCs are not required to be considered for all project locations and types. In order to obtain credit, Green Roofs and HSCs must be designed as specified in the TGM. Additional detail on Green Roofs (ET-1) and HSCs (ET-2) can be found in Section 6 of the TGM.

[2] Land-disturbing activity that results in the creation or addition or replacement of less than 5,000 square feet of impervious surface area on an already developed site, or that results in a decrease in impervious area which was subject to the post development stormwater quality control requirements of Board Order 00-108, is not subject to mitigation unless so directed by the local permitting agency

[3] Redevelopment does not include routine maintenance activities that are conducted to maintain the original line and grade, hydraulic capacity, or original purpose of the facility or emergency redevelopment activity required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways, that does not disturb additional area and maintains the original grade and alignment, is considered a routine maintenance activity. Agencies' flood control, drainage, and wet utilities projects that maintain original line and grade or hydraulic capacity are considered routine maintenance. Redevelopment also does not include the repaving of existing roads to maintain original line and grade.

[4] "% Alteration of Existing Impervious Area" determines the 50% threshold which is key in determining portion of site that must comply with post-construction requirements - see Step 1 redevelopment categories for more detail. The amount of "Post Project Impervious Area" that must adhere to post-construction requirements is dependant on 50% threshold

[5] "Project Imperviousness" is calculated using the "Total Project Area" except when redevelopment projects that must mitigate only the altered portion of the redevelopment project area. In this case, the "Total Disturbed Area" is used to calculate "Project Imperviousness"

[6] For the purposes of this calculation, Total Altered Area shall mean any area that is altered as a result of land disturbance, such as clearing, grading, grubbing, and excavation. This excludes areas used exclusively for temporary stockpiling.

[7] If a waterbody is listed for "toxicity" and the cause and/or contribution to toxicity is known, then the consituent group known to contribute to toxicity are listed here (in lieu of listing "toxicity")

Project Name: Camarillo Springs TTM 6016 (SW #0034)

STEP 3: APPLY SITE DESIGN PRINCIPLES AND TECHNIQUES

Provide a brief description of site design principles and techniques included within the proposed project site.

Site Design Measures [1]	Included? Y/N/NA	Brief Description of the Site Design Measure
Site Planning	Y	The site was planned to include housing, a pond, and a portion of the golf course at the earliest stages of design. The pond is necessary for storage as a detention basin and for flood control.
Protect and Restore Natural Areas	Y	148 acres of the 182 acre project area will remain as golf course use and protected natural areas. The groundwater is high and there is no appicable place for infiltration.
Minimize Land Disturbance	Y	The area of development was minimized through site design.
Minimize Impervious Cover	Y	The site will have a retention pond and a portion of the golf course will remain open.
Apply LID at Various Scales	Y	The site will incorporate catch basin connector pipe screens and low irrigation landscaping.
Implement Integrated Water Resource Management Practices	Y	Low flow irrigation and plumbing will be used for the development.

[1] Refer to Section 4.2 - 4.7 of the TGM for applicable Design Criteria.

Project Name: Camarillo Springs TTM 6016 (SW #0034)

STEP 4: APPLY SOURCE CONTROL MEASURES

Provide a brief description of the source control measures included in the proposed project site.

Site-Specific Source Control Measures[1]	Included? Y/N/NA	Brief Description of the Source Control Measure
S-1: Storm Drain Message and Signage	Y	There will be storm drain signage for all curb inlets.
S-2: Outdoor Material Storage Area Design	Y	There will be a maintenance area on the south east side of the project site where material may be stored outside. This area will drain to a nearby vegetated swale for stormwater treatment.
S-3: Outdoor Trash Storage and Waste Handling Area Design	Y	Trash enclosures will be included for golf clubhouse. The trash enclosures will have an impervious base and a cover. Grading for the trash enclosure areas will not have water drain through the area.
S-4: Outdoor Loading/Unloading Dock Area Design	Y	There is one loading area for the golf clubhouse. The loading area will be covered 3 feet beyond the loading dock and graded to not allow stormwater from surrounding areas to run-on. There will be no storm drain connections.
S-5: Outdoor Repair/Maintenance Bay Design	N	There are no outdoor repair/maintenance bay areas.
S-6: Outdoor Vehicle /Equipment/ Accessory Washing Area Design	Y	There is one vehicle washing area for the golf clubhouse. The wash area will be covered and not allow water in or out of the washing area. The water from washing will ahave a drain that connects to the sewer.
S-7: Fueling Area Design	N	There are no fueling areas.
S-8: Proof of Control Measure Maintenance	Y	Maintenance of the swale and contech treatment will be written into the HOA agreement and the HOA will be responsible for the maintenance of the treatment facility.

[1] Refer to Fact Sheets in Section 5 of the TGM for detailed information and design criteria

Project Name: Camarillo Springs TTM 6016 (SW #0034)

STEP 5: APPLY BMPS TO REDUCE EIA TO <=5%

New development and redevelopment projects (Categories 1-6, 8, and 9) must reduce EIA to <=5%

Step 5a: Calculate Allowable EIA

EIA is defined as impervious area that is hydrologically connected via sheet flow over a hardened conveyance or impervious surface without any intervening medium to mitigate flow volume.

The allowable "EIA" for a project is calculated as:

$$EIA_{allowable} = (A_{project})*(\%_{allowable}) \qquad \text{Equation 2-1}$$

Where:

$EIA_{allowable}$ = The maximum impervious area from which runoff can be treated and discharged offsite (and not retained onsite) [acres]

$A_{project}$ = The total project area [acres] [1]

$\%_{allowable}$ = 5 percent

Input:		Units
$A_{project}$ [1]	182.00	Acres
$\%_{allowable}$	5.00%	Percent
$EIA_{allowable}$	**9.10**	Acres

Step 5b: Calculate Impervious Area to be Retained

The impervious area from which runoff must be retained onsite is the total impervious area minus the EIA allowable, which should be calculated as follows:

$$A_{retain} = TIA - EIA_{allowable} = (IMP*A_{project}) - EIA_{allowable} \qquad \text{Equation 2-2}$$

Where:

A_{retain} = the drainage area from which runoff must be retained [acres]

TIA = total impervious area [acres]

IMP = imperviousness of project area (%)

Input:		Units
Imperviousness	15.30%	
$A_{project}$ [1]	182.00	Acres
$EIA_{allowable}$	9.10	Acres
A_{retain}	**18.74**	Acres

Project Name: Camarillo Springs TTM 6016 (SW #0034)

BMPS TO REDUCE EIA TO <=5%, CONT.

Step 5c: Calculate the Volume to be Retained (SQDV)

The runoff volume that is to be retained onsite should be calculated using Equation 2-3 below:

$$V_{retain} = C*(0.75/12)*A_{retain} \quad \text{Equation 2-3}$$

Where:

V_{retain} = The stormwater quality design volume (SQDV) that must be retained onsite [ac-ft]

C = runoff coefficient (equals 0.95 for impervious surfaces)

Input:		**Units**
C	0.95	
A_{retain}	18.74	Acres
V_{retain}	1.113	ac-ft
	362,573.0	gallons
	48,468.7	cu.ft.

Continue to Step 5d

Project Name: Camarillo Springs TTM 6016 (SW #0034)

STEP 5d: SELECT RETENTION BMPs

Select and size Retention BMPs to meet the 5% EIA Requirement. Retention BMPs include INF1-6, RWH-1, and ET 1 and 2. See TGM, Section 6 for more information.

Retention BMPs	Included? Y/N	Drainage Area Retained (acres) [2]	Drainage Area Runoff Coefficient	Volume Retained (SQDV) (ac-ft) [1],[2]	If not applicable, state brief reason
Infiltration BMPs					
INF-1: Infiltration Basin			0.95		
INF-2: Infiltration Trench			0.95		
INF-3: Bioretention			0.95		
INF-4: Drywell			0.95		
INF-5: Permeable Pavement			0.95		
INF-6: Proprietary Infiltration			0.95		
INF-7: Bioinfiltration			0.95		
Rainwater Harvesting BMPs					
RWH-1: Rainwater Harvesting			2		
			TOTAL Volume Retained	0.000	ac-ft
				0.0	gallons
				0.0	cu.ft.
			REMAINING Volume to meet 5% EIA requirement	1.1	ac-ft
				362,573	gallons
				48,469	cu.ft.

[1] SQDV Methodology #3 used here.

[2] If a Retention BMP is used more than once on a site (i.e., 2 Infiltration Trenches implemented on one site) then drainage area and volume retained shown here should be additive. A separate BMP sizing worksheet (see Appendix E of the TGM) should be submitted for each BMP.

ADDITIONAL INSTRUCTIONS: Retention BMPs must be used onsite to the maximum extent practicable. If the remaining volume to meet 5% EIA cannot be met, then project applicants must demonstrate technical infeasibilty. Consult Section 3.2 of the 2011 TGM for infeasability criteria. A technical infeasability site-specific analysis must be submitted. Projects that cannot prove technical infeasibility must reduce EIA to <=5% using Retention BMPs.

If onsite Retention BMPs cannot feasibly be used to meet the 5% EIA Requirement, move onto Step 5e; if 5%EIA Requirement is met go to Step 7

	Y/N/NA
A completed copy of the applicable "BMP Sizing Worksheet(s)" for the project's Retention BMPs from Appendix E of the TGM is included as an attachment. BMPs must be sized to meet the SQDV or SQDF (See Section 2 Step 7 of the TGM).	N/A

Project Name: Camarillo Springs TTM 6016 (SW #0034)

STEP 5e: SELECT AND SIZE BIOFILTRATION BMPS TO REDUCE EIA TO <=5%

New development and redevelopment projects that demonstrate technical infeasibility (see Section 3.2 of TGM) for reducing EIA to <= 5% using Retention BMPs are eligible to use Biofiltration BMPs to achieve the 5% EIA Requirement.

	Y/N
Is it technically infeasible for Retention BMPs to meet the 5% EIA Requirement?	Y
If yes, volume-based biofiltration BMPs shall be sized to treat 1.5 times the volume not retained using Retention BMPs.	

ADDITIONAL INSTRUCTIONS: Submit Technical Infeasabillity documentation.

The onsite biofiltered volume ($V_{biofilter}$), should be calculated as follows:

$$V_{biofilter} = (V_{retain} - V_{achieved}) * 1.5 \qquad \text{Equation 2-4}$$

Where:

$V_{biofilter}$ = the volume that must be captured and treated in a Biofiltration BMP [ac-ft]

V_{retain} = the stormwater quality design volume (SQDV) that must be retained [ac-ft]

$V_{achieved}$ = the volume retained onsite using Retention BMPs [ac-ft]

Input		**Units**
$V_{achieved}$	0.000	ac-ft
V_{retain}	1.113	ac-ft
$V_{biofilter}$	**1.67**	ac-ft
	543,860	gallons
	72,703	cu.ft.

BIOFILTRATION BMPs, CONT.

Biofiltration BMPs	Included? Y/N	Drainage Area Biofiltered (acres) [3]	Drainage Area Runoff Coefficient	Volume Biofiltered (1.5xSQDV) (ac-ft) [2],[3]	If not applicable, state brief reason
BIO-1: Bioretention with Underdrain	Y	0.14	0.95	0.012	
BIO-2: Planter Box			0.95		
BIO-3: Vegetated Swale [1]	Y	10.90	0.95	0.971	
BIO-4: Vegetated Filter Strip [1]			0.95		
BIO-5: Proprietary Biotreatment [1]		23.40	0.95	2.084	
			TOTAL Volume Biofiltered	3.07	ac-ft
				999,494.2	gallons
				133,612.1	cu.ft
			REMAINING Volume to be addressed by Alternative Compliance	0.00	ac-ft
				0.0	gallons
				0.0	cu.ft

[1] BIO-3 and BIO-4 are flow-based and should be calculated using SQDF for sizing (see Table 2-1 of the TGM for the applicable design criteria for sizing). The SQDV is shown here for 5% EIA Requirement compliance purposes only.
[2] SQDV Methodology #3 used here.
[3] If a Biofiltration BMP is used more than once on a site (e.g., 2 Planter Boxes implemented on one site) then drainage area and volume biofiltered shown here be additive. A separate BMP sizing worksheet (see Appendix E of the TGM) should be submitted for each BMP.

If onsite Retention BMPs and/or Biofiltration BMPs cannot feasibly be used to meet the 5% EIA standard, move onto Step 6, otherwise, skip Step 6.

	Y/N/NA
A completed a copy of the applicable "BMP Sizing Worksheet(s)" for the project's Biofiltration BMPs from Appendix E of the TGM is included as an attachment.. BMPs must be sized to meet the 1.5 times SQDV or SQDF (see Section 2, Step 7 of the TGM) requirement. Guidance on flow based design for 150% sizing provided in Table 2-1 of the TGM.	Y

Project Name: Camarillo Springs TTM 6016 (SW #0034)

STEP 7: APPLY TREATMENT CONTRL MEASURES

► *Stormwater runoff from EIA and developed pervious surfaces must be mitigated using Retention BMPs, Biofiltration BMPs, or Treatment Control Measures (See Chapter 6 of TGM).*
► *Treatment Control Measures should be selected per the BMP selection process outlined in Section 3.3 of the TGM.*
► *BMPs must be sized to meet the SQDV or SQDF. See Section 2, Step 7 of the for guidance on calculating the SQDV and SQDF.*

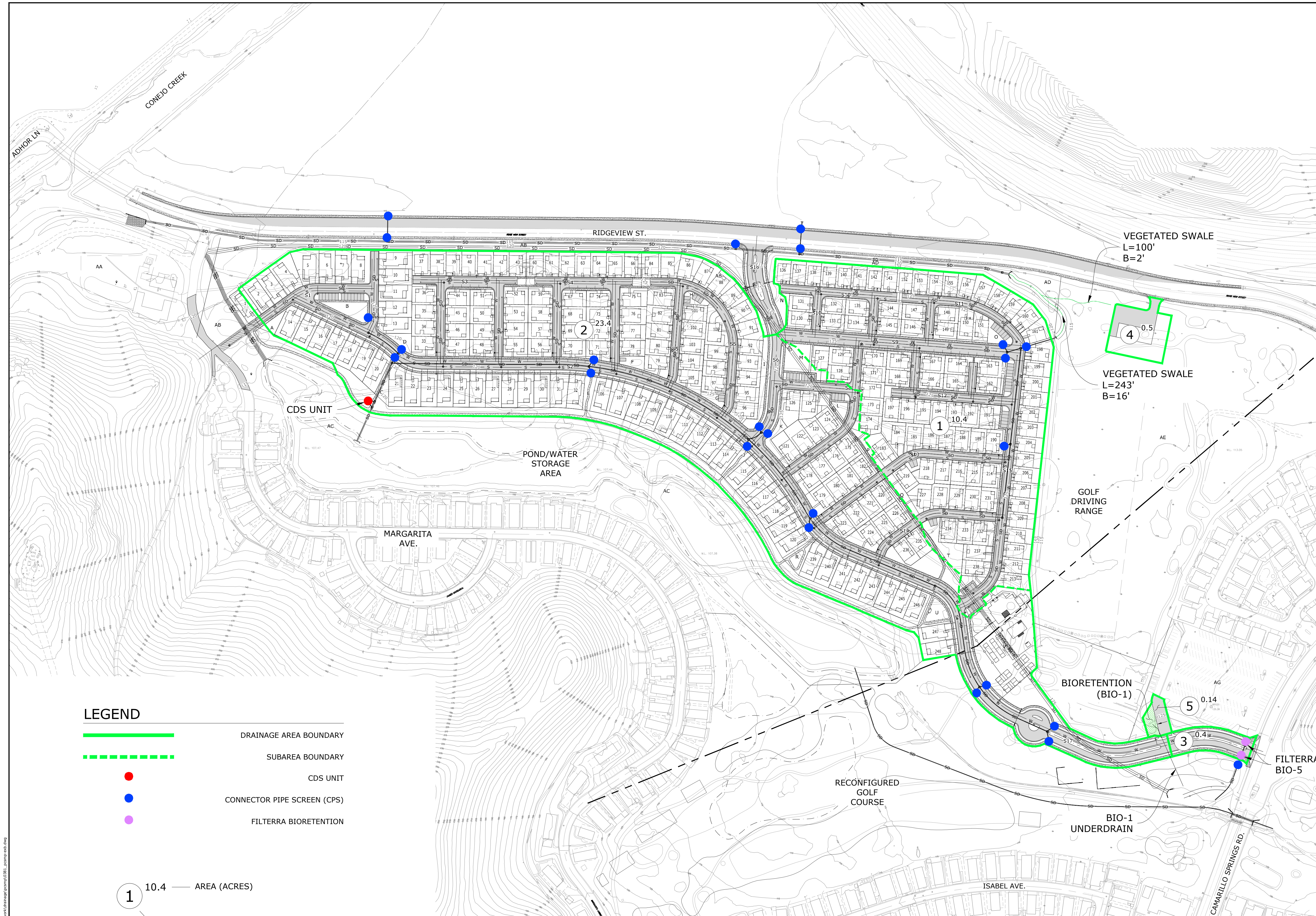
	Y/N
Completed copy of the applicable "BMP Sizing Worksheet(s)" for the project's stormwater BMP(s) from Appendix E of the Technical Guidance Manual is included.	Y

Project Name: Camarillo Springs TTM 6016 (SW #0034)

ADDITIONAL REQUIRED SUBMITTALS

Submit $2,000 fee deposit, and 1 original & 1 copy of PCSMP as well as two electronic copies on 2 CD's with the Excel spreadsheet along with the following submittals to City of Camarillo Public Works Dept.:

Yes	**Site map** that includes: o Property boundary o Major roadways or landmarks o Scale and north arrow o Drainage areas o Surrounding land uses o Presence of Environmentally Sensitive Areas o Open space preservation areas o Impervious areas o Natural hydrologic features o Location of discharge(s) o Existing and planned utilities o Topography (including steep slopes) o Key activities such as outdoor material storage, parking, food preparation, etc. o Potential pollutant areas (e.g., fueling island) o Location of nearby (within 2,000 ft of development project) bus or train station(s) o Location and type of source control measures o Location and type of stormwater BMPs
Yes	**BMP Sizing Worksheet(s) (see Appendix E of TGM); design specifiations and details must also be provided for Green Roofs and Hydrologic Source Controls (ET-1 & 2)**
Yes	Stormwater Treatment Device Access and Maintenance Agreement (Use City of Camarillo Template available at www.cityofcamarillo.org in forms)
Yes	Maintenance Plan (Use City of Camarillo Template available for download at www.cityofcamarillo.org in "forms")
Yes	Technical Infeasibility Analysis – if Retention BMPs cannot be used, the applicant must submit a site-specific analysis showing technical infeasibility as described in Section 3.2 of the TGM. Technical infeasibility may include some (or all) of the components submitted with soil, groundwater and/or geotechnical reports. Technical infeasibility must also account for Rainwater Harvesting. Rainwater Harvesting is not required to be used if the available demands do not meet the volume required for 80% capture using a 72-hour drawndown time (See RWH-1 in Section 6 of the TGM for more detail).
Yes	**Soil Type Information** (may include site specific analyses, available geologic or geotechnical reports and/ or the Ventura Hydrology Manual Soil Map zoomed into site level)
Yes	**Groundwater Information** (may include available groundwater data, site specific redoximorphic analytical/groundwater monitoring results, or known groundwater impacts such as contaminated sites registered with the State Water Board)
Yes	**Geotechnical Reports** (may include site specific analyses with information on collapsible soils, expansive soil, liquefaction, or groundwater mounding analysis)
	Rainwater Harvesting - Include calculations and justification for rainwater harvesting demand. Section 3.2 for guidance of the TGM.



REVISIONS			
MARK	DATE	DESCRIPTION	BY

REVIEWED BY:

DATE

DATE

ECG
Encompass Consultant Group
333 N. LANTANA ST, SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM

GLEN H. PACE DATE: 05/2020
PROJECT ENGINEER
R.C.E. 61468

TENTATIVE TRACT NO. 6016
CAMARILLO SPRINGS GOLF COURSE
DRAINAGE AREA MAP (DEVELOPED CONDITION)
CAMARILLO, CA

SCALE: HORIZ. 1" = 80' VERT.

WORK ORDER
DRAWN BY: TJS/DL
CHECKED BY: GHP

SHEET NO. 1 OF 1

Sizing Worksheet

AREA 1 - SWALE

Designer: DANIEL LOPEZ

Project Proponent: NUWI

Date: 10/16/2019

Project: CAMARILLO SPRINGS TTM 6016

Location: CAMARILLO, CA

Type of Vegetation: (describe)	TBD
Outflow Collection: (Check type used or describe "Other")	____ Grated Inlet ____ Infiltration Trench ____ Underdrain Used X Other HEADWALL AND UNDERGROUND DRAINAGE SYSTEM

Step 1: Determine water quality design flow

1-1. Enter Project area (acres), $A_{project}$ A_{desing}=(Project Total Area)-(Pervious Area)-(5%EIA)=10.4-3.63-0.34	A_{design} = 6.43 acres
1-2. Enter impervious fraction, *Imp* (e.g. 60% = 0.60)	Imp = 1.0
1-3. Determine pervious runoff coefficient using Table E-1, C_p	C_p = N/A
1-4. Calculate runoff coefficient, $C = 0.95*imp + C_p\,(1\text{-}imp)$ C=0.95 for impervious areas.	C = 0.95
1-5. Enter design rainfall intensity (in/hr), *i*	i = 0.2 in/hr
1-6. Calculate water quality design flow (cfs), $SQDF = CiA$ =0.95*.2*6.43	SQDF = 1.22 cfs

-1.5*SQDF (SINCE NO RETENTION)	=1.83 CFS
-REMAINING SQDF (PER STEP 7 OF THE TGM, SEE ATTACHMENT)	=0.14 CFS
-TOTAL SQDF TO BE TREATED	**=1.97 CFS**

Step 2: Calculate swale bottom width	
2-1. Enter water quality design flow (cfs), *SQDF*	SQDF = 1.97 cfs
2-2. Enter Manning's roughness coefficient for shallow flow conditions, $n_{wq} = 0.2$	n_{wq} = 0.2
2-3. Calculate design flow depth (ft), *y*	y = 0.33 ft
2-4. Enter longitudinal slope (ft/ft) (along direction of flow), *s*	s = 0.019 ft/ft
2-5. Calculate bottom width of swale (ft), $b = (SQDF*n_{wq})/(1.49y^{1.67}s^{0.5})$	(12.22' min.) b = 16' design ft b=16' to convey Q50 runoff
2-6. If *b* is between 2 and 10 feet, go to Step 3	
2-7. If b is less than 2 ft, assume b = 2 ft and recalculate flow depth, $y = ((SQDF*n_{wq})/(2.98\ s^{0.5}))^{0.6}$	y = N/A ft
2-8. If b is greater than 10 ft, one of the following design adjustments must be made (recalculate variables as necessary): • Increase the longitudinal slope to a maximum of 0.06 ft/ft. • Increase the design flow depth to a maximum of 4 in (0.33 ft). • Place a divider lengthwise along the swale bottom (Figure 3-1) at least three-quarters of the swale length (beginning at the inlet). Swale width can be increased to an absolute maximum of 16 feet if a divider is provided.	
Step 3: Determine design flow velocity	
3-1. Enter side slope length per unit height (H:V) (e.g. 3 if side slopes are 3H :1V), *Z*	Z = 4
3-2. Enter bottom width of swale (ft), *b*	b = 16 ft
3-3. Enter design flow depth (ft), *y*	y = 0.33 ft

3-4. Calculate the cross-sectional area of flow at design depth (ft²), $A_{wq} = by + Zy^2$	A_{wq} = 5.72 ft²
3-5. Calculate design flow velocity (ft/s), $V_{wq} = SQDF/\ A_{wq}$	V_{wq} = 0.34 ft/s
3-6. If the design flow velocity exceeds 1 ft/s, go back to Step 2 and change one or more of the design parameters to reduce the design flow velocity. If design flow velocity is less than 1 ft/s, proceed to Step 4.	
Step 4: Calculate swale length	
4-1. Enter hydraulic residence time (minutes, minimum 7 min), t_{hr}	t_{hr} = 7 min
4-2. Calculate swale length (ft), $L = 60t_{hr}V_{wq}$	L = (143' min.) ft 243' provided
Step 4: Calculate swale length	
4-3. If L is too long for the site, proceed to Step 5 to adjust the swale layout If L is greater than 100 ft and will fit within the constraints of the site, skip to Step 6 If L is less than 100 ft, increase the length to a minimum of 100 ft, leaving the bottom width unchanged, and skip to Step 6	
Step 5: Adjust swale layout to fit within site constraints :N/A, There is space in the site to fit the swale	
5-1. Enter the bottom width calculated in Step 2 (ft), $b_i = b$	b_i = ft
5-2. Enter design flow depth (ft), y	y = ft
5-3. Enter the swale side slope ratio (H:V), Z	Z = ft:ft
5-4. Enter the additional top width above the side slope for the design water depth (ft), $b_{slope} = 2Zy$	b_{slope} = ft
5-5. Enter the initial length calculated in Step 4 (ft), $Li = L$	L_i = ft

5-6. Calculate the top area at the design treatment depth (ft²), $A_{top} = (b_i + b_{slope}) \times L_i$	A_{top} = 3366.4 ft²
5-7. Choose a reduced swale length based on site constraints (ft), L_f	L_f = ft
5-8. Calculate the increased bottom width (ft), $b_f = (A_{top}/L_f) - b_{slope}$	b_f = ft
5-9. Recalculate the cross-sectional area of flow at design depth (ft2), $A_{wq,f} = b_f y + Zy^2$	$A_{wq,f}$ = ft²
5-10. Recalculate design flow velocity (ft/s), $V_{wq} = SQDF/A_{wq}$ Revise design as necessary if design flow velocity exceeds 1 ft/s.	V_{wq} = ft/s
5-11. Recalculate the hydraulic residence time (min), $t_{hr} = L_f/(60V_{wq})$ Ensure that t_{hr} is greater or equal to 10 minutes.	t_{hr} = min
5-12. When V_{wq} and t_{hr} are recalculated to meet requirements, proceed to Step 6.	
Step 6: Provide conveyance capacity for flows higher than SQDF (if swale is on-line)	
6-1. If the swale already includes a high-flow bypass to convey flows higher than the water quality design flow rate, skip this step and verify that all parameters meet design requirements to complete sizing	
6-2. If swale does not include a high-flow bypass, determine that the swale can convey flood control design storm peak flows. Calculate the capital peak flow velocity per Ventura County requirements (ft/s), V_p	V_p = 2.96 ft/s

6-3. If V_p > 3.0 feet per second, return to Step 2 and increase the bottom width or flatten the longitudinal slope as necessary to reduce the flood control design storm peak flow velocity to 3.0 feet per second or less. If the longitudinal slope is flattened, the swale bottom width must be recalculated (Step 2) and must meet all design criteria.	

Area 1 Swale - Remaining SQDF Calculation (Step 7 of the TGM -Method #1)

SQDF =CIA$_{rem.}$

=0.17*0.2*3.97

=0.14 cfs

Where:

SQDF = Flow in cubic feet per second (cfs)

C =0.17= runoff coefficient = 0.95*imp+Cp*(1-imp)

Where:

imp = 0.086 = impervious fraction of watershed [(Impervious Area)/(Ar$_{em}$)]

Cp = 0.1 = pervious runoff coefficient, per TGM table below (soil type is 2)

Table 2-3: Ventura Soil Type Pervious Runoff Coefficients

Ventura Soil Type (Soil Number)	C_p value
1	0.15
2	0.10
3	0.10
4	0.05
5	0.05
6	0
7	0

I = 0.2 in/hr = average rainfall intensity (0.2 in/hr for method #1)

Ar$_{em.}$ = 3.97 ac. = tributary drainage area (acres) = (Total Subarea acreage) - (95% of impervious area)

AREA 1 - SWALE
Q50 Conveyance Calculation

Worksheet for Trapezoidal Channel - 1

Project Description	
Friction Method	Manning Formula
Solve For	Discharge

Input Data	
Roughness Coefficient	0.040
Channel Slope	0.019 ft/ft
Normal Depth	5.9 in
Left Side Slope	4.000 H:V
Right Side Slope	4.000 H:V
Bottom Width	16.00 ft

Results	
Discharge	$\boxed{26.00 \text{ cfs}}$
Flow Area	8.8 ft²
Wetted Perimeter	20.0 ft
Hydraulic Radius	5.3 in
Top Width	19.92 ft
Critical Depth	5.0 in
Critical Slope	0.032 ft/ft
Velocity	$\boxed{2.96 \text{ ft/s}}$
Velocity Head	0.14 ft
Specific Energy	0.63 ft
Froude Number	0.785
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	(N/A) ft/s
Upstream Velocity	(N/A) ft/s
Normal Depth	5.9 in
Critical Depth	5.0 in
Channel Slope	0.019 ft/ft
Critical Slope	0.032 ft/ft

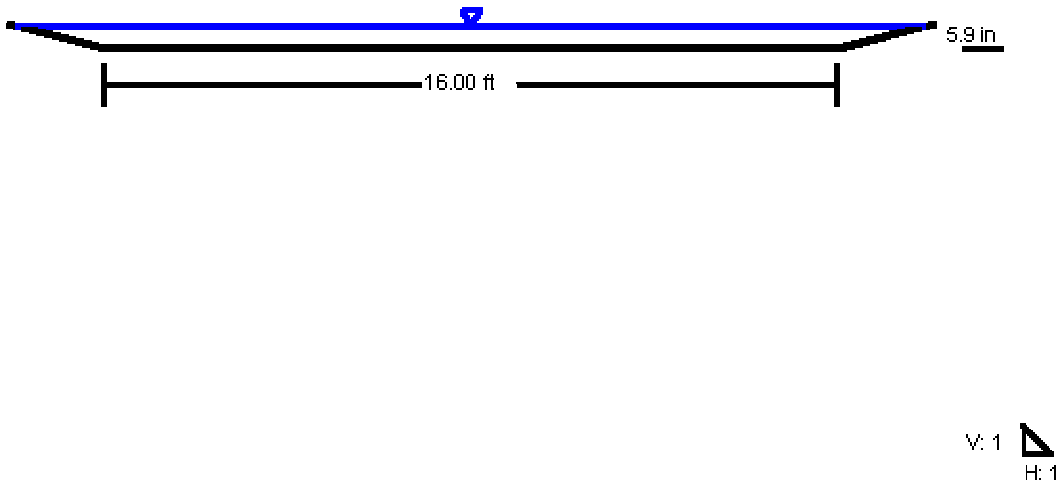
Cross Section for Trapezoidal Channel - 1

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.040
Channel Slope	0.019 ft/ft
Normal Depth	5.9 in
Left Side Slope	4.000 H:V
Right Side Slope	4.000 H:V
Bottom Width	16.00 ft
Discharge	26.00 cfs



Sizing Worksheet **AREA 2 - CDS**

Designer: DANIEL LOPEZ

Project Proponent: NUWI

Date: 10/16/2019

Project: CAMARILLO SPRINGS TTM 6016

Location: CAMARILLO, CA

Step 1: Determine water quality design flow

1-1. Enter Project area (acres), $A_{project}$ A_{desing}=(Project Total Area)-(Pervious Area)-(5%EIA)=23-9.33-0.68	A_{design} = 12.99 acres
1-2. Enter impervious fraction, Imp (e.g. 60% = 0.60)	Imp = 1.0
1-3. Determine pervious runoff coefficient using Table E-1, C_p	C_p = N/A
1-4. Calculate runoff coefficient, $C = 0.95*imp + C_p(1\text{-}imp)$ C=0.95 for impervious areas.	C = 0.95
1-5. Enter design rainfall intensity (in/hr), i	i = 0.2 in/hr
1-6. Calculate water quality design flow (cfs), $SQDF= CiA=0.95*0.2*12.99$	SQDF = 2.47 cfs

-1.5*SQDF (SINCE NO RETENTION) =3.71 CFS
-REMAINING SQDF (PER STEP 7 OF THE TGM, SEE ATTACHMENT) =0.32 CFS
-TOTAL SQDF TO BE TREATED =4.03 CFS

Area 2 CDS - Remaining SQDF Calculation (Step 7 of the TGM -Method #1)

SQDF =$CIA_{rem.}$

=0.16*0.2*10.01

=0.32 cfs

Where:

SQDF = Flow in cubic feet per second (cfs)

C =0.16= runoff coefficient = 0.95*0.071+0.1*(1-0.071) =0.95*imp+Cp*(1-imp)

Where:

imp = 0.068 = impervious fraction of watershed [(Impervious Area)/(Ar_{em})]

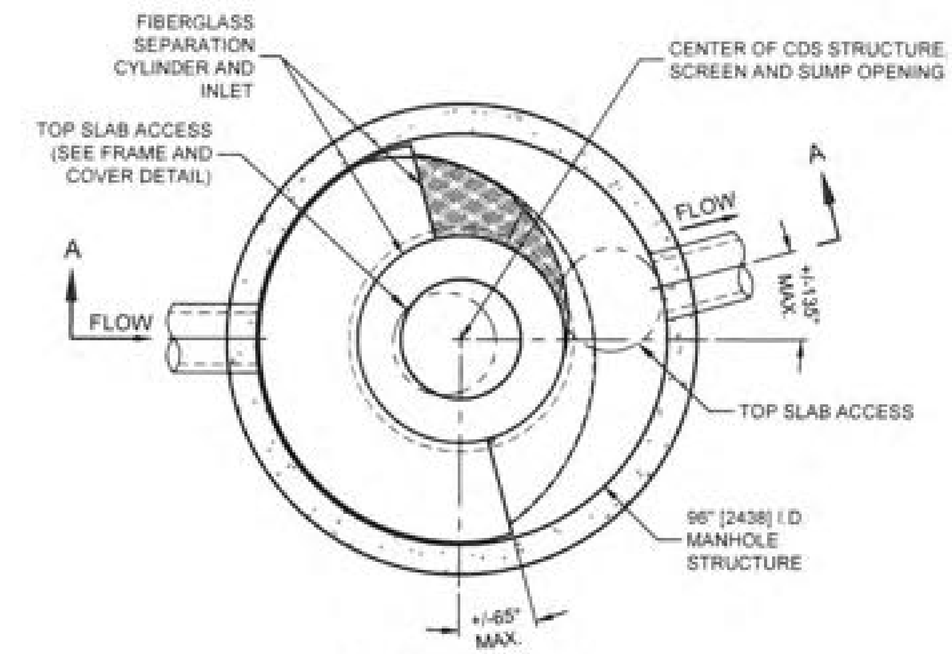
Cp = 0.1 = pervious runoff coefficient, per TGM table below (soil type is 2)

Table 2-3: Ventura Soil Type Pervious Runoff Coefficients

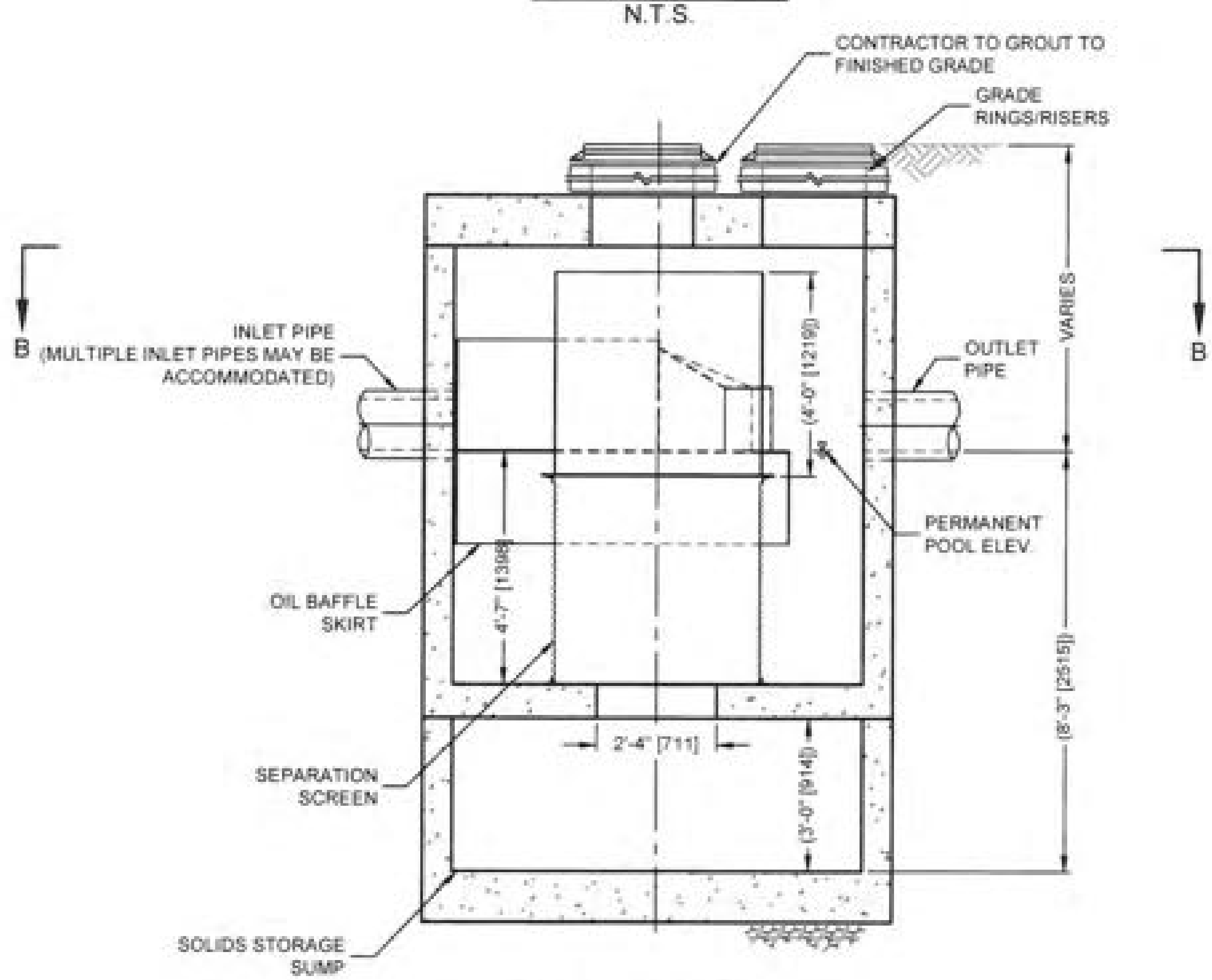
Ventura Soil Type (Soil Number)	C_p value
1	0.15
2	0.10
3	0.10
4	0.05
5	0.05
6	0
7	0

I = 0.2 in/hr = average rainfall intensity (0.2 in/hr for method #1)

$Ar_{em.}$ = 10.01 ac =tributary drainage area (acres) = (Total Subarea acreage) - (95% of impervious area)



PLAN VIEW B-B
N.T.S.



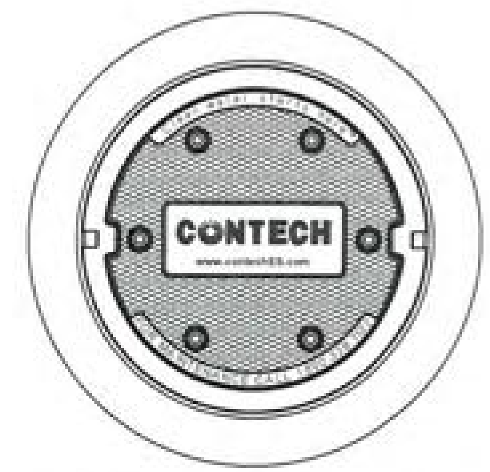
ELEVATION A-A
N.T.S.

CDS4040-8-C DESIGN NOTES

CDS4040-8-C RATED TREATMENT CAPACITY IS 6.0 CFS [169.9 L/s], OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 30.0 CFS [850 L/s]. IF THE SITE CONDITIONS EXCEED 30.0 CFS [850 L/s], AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD CDS4040-8-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS OR L/s)			5.05
PEAK FLOW RATE (CFS OR L/s)			OFFLINE
RETURN PERIOD OF PEAK FLOW (YRS)			OFFLINE
SCREEN APERTURE (2400 OR 4700)			4700
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*
NOTES/SPECIAL REQUIREMENTS:			

* PER ENGINEER OF RECORD

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH®
ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CDS4040-8-C
OFFLINE CDS
CAMARILLO SPRINGS
614161-010

AREA 3 - Filterra

BIO-5: Proprietary Biotreatment

TGM BMP Sizing:

Treatment of 150% SQDF:

Runoff produced from a rainfall event equal to at least 0.2 inches per hour intensity:

- Q_{SQDF} = C x I x A = 0.95 x 0.35 in/hr x (0.29 ac) = <u>0.10 cfs</u> [Equation 2-15]
  - o C = 0.95
  - o I =

Table 2-1: Flow-Based Biofiltration BMP Design Intensity for 150% Sizing

Time of Concentration, minutes	Design Intensity for 150% Sizing, in/hr
30	0.24
20	0.25
15	0.28
10	0.31
5	0.35

  - o A = 0.3 ac (Impervious) - 0.015 ac ($EIA_{allowable}$) = 0.29 ac

Treatment of $EIA_{allowable}$ and Pervious Area (TGM Step 7):

Runoff produced from a rainfall event equal to at least 0.2 inches per hour intensity:

- Q_{STEP-7} = C x I x A = 0.13 x 0.20 in/hr x (0.115 ac) = <u>0.003 cfs</u> [Equation 2-15]
  - o C = 0.95 * imp + Cp (1-imp) [Equation 2-13]
    - = 0.95 * 0.13+ 0.10 (1-0.13) = <u>0.21</u>
    - Imp = 0.015 / 0.115 ac = 0.13
  - o I = average rainfall intensity (inches/hour) for a duration equal to the time of concentration of the watershed [equal to 0.2 in/hr for method (1)]
  - o A = 0.015 ac ($EIA_{allowable}$) + 0.1 ac (Developed Pervious) = 0.115 ac

TOTAL SQDF = 0.10 cfs + 0.003 cfs **= 0.103 cfs** (for two Filterras)

<u>TOTAL SQDF per Filterra = (0.103 cfs)/2 = 0.052 cfs</u>

Proposed Proprietary Biotreatment: Filterra Bioretention Systems (Contech Model FT0404).

- o Sizing includes sizing of $EIA_{allowable}$ and Pervious Area
- o Treatment capacity for 4' x 4' Filterra Box with 175in/hr media: 0.065cfs > 0.0cfs (0.0505 cfs for 150% SQDF + 0.0087 cfs for TGM Step 7) required above.

<u>Note</u>:

Filterra manufacturer responsible for planting of the system's vegetation and placement of pretreatment mulch layer using mulch certified for use in Filterra systems. Manufacturer also responsible for delivering device with protection in place to resist intrusion of construction related sediment and is responsible for removal of the protection.

AREA 3 - Filterra

Filterra (FT0404) Sizing By Media Infiltration Rates[1]

Media Infiltration Rate	175 in/hr	140 in/hr	100 in/hr
Design Treatment Flowrate[2]	0.052 cfs	0.052 cfs	0.052 cfs
Required Filterra Area	12.84 ft^2	16.05 ft^2	22.47 ft^2

[1]Sizing spreadsheet provided by Contech

[2]Design treatment flowrate per PCSMP attachment, *BIO-5: Proprietary Biotreatment*

<u>Calculations</u>

Filterra Infiltration Rate = 175 (in/hr)

Filterra Flow per Square Foot = 0.00405 (ft^3/sec/ft^2)

Filterra Surface Area, Filterra Surface Area = 0.052ft^3/sec ÷ 0.00405ft^3/sec/ft^2

= 12.84 ft^2

Filterra (FT0404) Surface Area = 16ft^2 (4' x 4') > 12.84ft^2

Sizing Worksheet

AREA 4 - SWALE

Designer: DANIEL LOPEZ

Project Proponent: NUWI

Date: 02/13/2020

Project: CAMARILLO SPRINGS TTM 6016

Location: CAMARILLO, CA

Type of Vegetation: (describe)	TBD
Outflow Collection: (Check type used or describe "Other")	____ Grated Inlet ____ Infiltration Trench ____ Underdrain Used X Other Vegetated Swale

Step 1: Determine water quality design flow	
1-1. Enter Project area (acres), $A_{project}$ A_{desing}=(Project Total Area)-(Pervious Area)-(5%EIA)=0.52-0.25-0.01	A_{design} = 0.26 acres
1-2. Enter impervious fraction, *Imp* (e.g. 60% = 0.60)	Imp = 1.0
1-3. Determine pervious runoff coefficient using Table E-1, C_p	C_p = N/A
1-4. Calculate runoff coefficient, $C = 0.95*imp + C_p\,(1\text{-}imp)$,C=0.95 for impervious areas.	C = 0.95
1-5. Enter design rainfall intensity (in/hr), *i*	i = 0.2 in/hr
1-6. Calculate water quality design flow (cfs), $SQDF = CiA$ =0.95*0.2*0.26	SQDF = 0.05 cfs

-1.5*SQDF (SINCE NO RETENTION)	=0.08 CFS
-REMAINING SQDF (PER STEP 7 OF THE TGM, SEE ATTACHMENT)	=0.01 CFS
-TOTAL SQDF TO BE TREATED	**=0.09 CFS**

Step 2: Calculate swale bottom width	
2-1. Enter water quality design flow (cfs), *SQDF*	SQDF = 0.09 cfs
2-2. Enter Manning's roughness coefficient for shallow flow conditions, $n_{wq} = 0.2$	n_{wq} = 0.2
2-3. Calculate design flow depth (ft), *y*	y = 0.33 ft
2-4. Enter longitudinal slope (ft/ft) (along direction of flow), *s*	s = 0.02 ft/ft
2-5. Calculate bottom width of swale (ft), $b = (SQDF^*n_{wq})/(1.49y^{1.67}s^{0.5})$	(1' min.) b = 2' design ft Swale conveys Q50 flows
2-6. If *b* is between 2 and 10 feet, go to Step 3	
2-7. If b is less than 2 ft, assume b = 2 ft and recalculate flow depth, $y = ((SQDF^*n_{wq})/(2.98\ s^{0.5}))^{0.6}$	y = N/A ft
2-8. If b is greater than 10 ft, one of the following design adjustments must be made (recalculate variables as necessary): • Increase the longitudinal slope to a maximum of 0.06 ft/ft. • Increase the design flow depth to a maximum of 4 in (0.33 ft). • Place a divider lengthwise along the swale bottom (Figure 3-1) at least three-quarters of the swale length (beginning at the inlet). Swale width can be increased to an absolute maximum of 16 feet if a divider is provided.	
Step 3: Determine design flow velocity	
3-1. Enter side slope length per unit height (H:V) (e.g. 3 if side slopes are 3H :1V), *Z*	Z = 4
3-2. Enter bottom width of swale (ft), *b*	b = 2 ft
3-3. Enter design flow depth (ft), *y*	y = 0.33 ft

3-4. Calculate the cross-sectional area of flow at design depth (ft²), $A_{wq} = by + Zy^2$	A_{wq} = 1.1 ft²
3-5. Calculate design flow velocity (ft/s), $V_{wq} = SQDF/A_{wq}$	V_{wq} = 0.08 ft/s
3-6. If the design flow velocity exceeds 1 ft/s, go back to Step 2 and change one or more of the design parameters to reduce the design flow velocity. If design flow velocity is less than 1 ft/s, proceed to Step 4.	
Step 4: Calculate swale length	
4-1. Enter hydraulic residence time (minutes, minimum 7 min), t_{hr}	t_{hr} = 7 min
4-2. Calculate swale length (ft), $L = 60t_{hr}V_{wq}$	L = (34' min.) ft 100' designed
Step 4: Calculate swale length	
4-3. If L is too long for the site, proceed to Step 5 to adjust the swale layout If L is greater than 100 ft and will fit within the constraints of the site, skip to Step 6 If L is less than 100 ft, increase the length to a minimum of 100 ft, leaving the bottom width unchanged, and skip to Step 6	
Step 5: Adjust swale layout to fit within site constraints	:N/A, There is space in the site to fit the swale
5-1. Enter the bottom width calculated in Step 2 (ft), $b_i = b$	b_i = ft
5-2. Enter design flow depth (ft), y	y = ft
5-3. Enter the swale side slope ratio (H:V), Z	Z = ft:ft
5-4. Enter the additional top width above the side slope for the design water depth (ft), $b_{slope} = 2Zy$	b_{slope} = ft
5-5. Enter the initial length calculated in Step 4 (ft), $Li = L$	L_i = ft

5-6. Calculate the top area at the design treatment depth (ft²), $A_{top} = (b_i + b_{slope}) \times L_i$	A_{top} = 3366.4 ft²
5-7. Choose a reduced swale length based on site constraints (ft), L_f	L_f = ft
5-8. Calculate the increased bottom width (ft), $b_f = (A_{top}/L_f) - b_{slope}$	b_f = ft
5-9. Recalculate the cross-sectional area of flow at design depth (ft2), $A_{wq,f} = b_f y + Zy^2$	$A_{wq,f}$ = ft²
5-10. Recalculate design flow velocity (ft/s), $V_{wq} = SQDF / A_{wq}$ Revise design as necessary if design flow velocity exceeds 1 ft/s.	V_{wq} = ft/s
5-11. Recalculate the hydraulic residence time (min), $t_{hr} = L_f/(60V_{wq})$ Ensure that t_{hr} is greater or equal to 10 minutes.	t_{hr} = min
5-12. When V_{wq} and t_{hr} are recalculated to meet requirements, proceed to Step 6.	
Step 6: Provide conveyance capacity for flows higher than SQDF (if swale is on-line)	
6-1. If the swale already includes a high-flow bypass to convey flows higher than the water quality design flow rate, skip this step and verify that all parameters meet design requirements to complete sizing	
6-2. If swale does not include a high-flow bypass, determine that the swale can convey flood control design storm peak flows. Calculate the capital peak flow velocity per Ventura County requirements (ft/s), V_p	Swale conveys Q50 flows of V_p = 1.99 ft/s

6-3. If V_p > 3.0 feet per second, return to Step 2 and increase the bottom width or flatten the longitudinal slope as necessary to reduce the flood control design storm peak flow velocity to 3.0 feet per second or less. If the longitudinal slope is flattened, the swale bottom width must be recalculated (Step 2) and must meet all design criteria.	

Area 4 Swale - Remaining SQDF Calculation (Step 7 of the TGM -Method #1)

SQDF =CIA$_{rem.}$

=0.13*0.2*0.26

=0.01 cfs

Where:

SQDF = Flow in cubic feet per second (cfs)

C =0.13= runoff coefficient = 0.95*0.04+0.1*(1-0.04) =0.95*imp+Cp*(1-imp)

Where:

imp = 0.04 = impervious fraction of watershed [(Impervious Area)/(Ar$_{em}$)]

Cp = 0.1 = pervious runoff coefficient, per TGM table below (soil type is 2)

Table 2-3: Ventura Soil Type Pervious Runoff Coefficients

Ventura Soil Type (Soil Number)	C_p value
1	0.15
2	0.10
3	0.10
4	0.05
5	0.05
6	0
7	0

I = 0.2 in/hr = average rainfall intensity (0.2 in/hr for method #1)

Ar$_{em.}$ = 0.26 ac =tributary drainage area (acres) = (Total Subarea acreage) - (95% of impervious area)

AREA 4 - SWALE
Q50 Conveyance Calculation

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.040
Channel Slope	0.020 ft/ft
Normal Depth	4.0 in
Left Side Slope	4.000 H:V
Right Side Slope	4.000 H:V
Bottom Width	2.00 ft

Results

Discharge	2.22 cfs
Flow Area	1.1 ft^2
Wetted Perimeter	4.7 ft
Hydraulic Radius	2.8 in
Top Width	4.67 ft
Critical Depth	3.3 in
Critical Slope	0.040 ft/ft
Velocity	1.99 ft/s
Velocity Head	0.06 ft
Specific Energy	0.40 ft
Froude Number	0.721
Flow Type	Subcritical

GVF Input Data

Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data

Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	(N/A) ft/s
Upstream Velocity	(N/A) ft/s
Normal Depth	4.0 in
Critical Depth	3.3 in
Channel Slope	0.020 ft/ft
Critical Slope	0.040 ft/ft

AREA 4 - SWALE
Q50 Conveyance Calculation

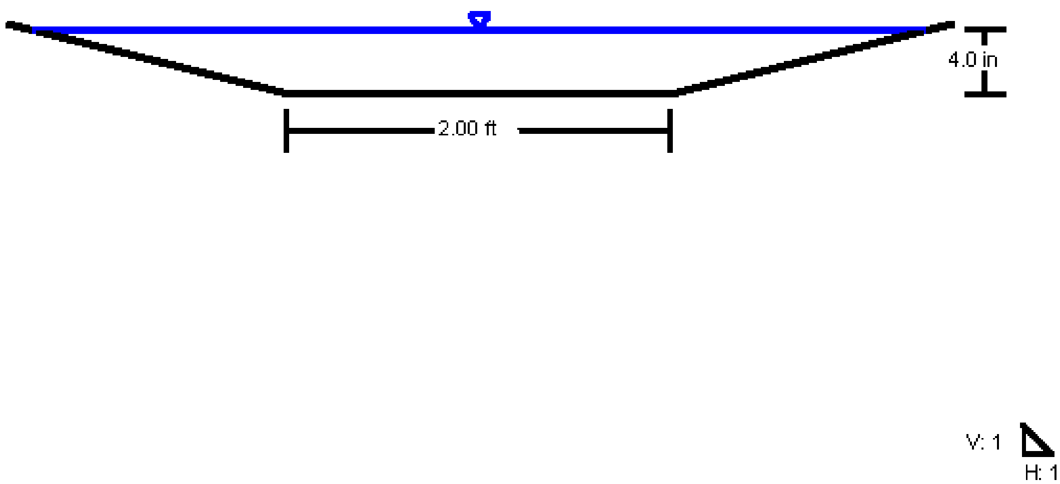
Cross Section for Trapezoidal Channel - 1

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.040
Channel Slope	0.020 ft/ft
Normal Depth	4.0 in
Left Side Slope	4.000 H:V
Right Side Slope	4.000 H:V
Bottom Width	2.00 ft
Discharge	2.22 cfs



Sizing Worksheet **AREA 5 - BIORETENTION**

Designer: DANIEL LOPEZ Project Proponent: NUWI Date: 06/2020 Project: CAMARILLO SPRINGS TTM 6016 Location: CAMARILLO, CA	
Type of Vegetation: TBD	
Outflow Collection: DOWNSTREAM CATCH BASIN	
Step 1: Determine water quality design volume	
1-1. Enter Project area (acres), $A_{project}$	$A_{project}$ = 0.14 acres
1-2. Enter the maximum allowable percent of the Project area that may be effective impervious area (refer to permit), ranges from 5-30%, $\%_{allowable}$	$\%_{allowable}$ 5 %
1-3. Determine the maximum allowed effective impervious area (ac), $EIA_{allowable} = (A_{project})*(\%_{allowable})$	$EIA_{allowable}$= 0.007 acres
1-4. Enter Project impervious fraction, *Imp* (e.g. 60% = 0.60)	Imp= 0.62
1-5. Determine the Project Total Impervious area (acres), $TIA=A_{project}*Imp$	TIA= 0.087 acres
1-6. Determine the total area from which runoff must be retained (acres), $A_{retain}=TIA-EIA_{allowable}$	A_{retain} = 0.08 acres
1-7. Determine pervious runoff coefficient using Table E-1, C_p	C_p = N/A
1-8. Calculate runoff coefficient, $C = 0.95*imp + C_p (1-imp)$	C = 0.95
1-9. Enter design rainfall depth of the storm (in), P_i	P_i = 0.75 in
1-10. Calculate rainfall depth (ft), $P = P_i/12$	P = 0.0625 ft
1-11. Calculate water quality design volume (ft^3),	SQDV= 207 ft^3

-1.5*SQDV = 311 cu. ft.
-Remaining SQDV (TGM Step 7) = 63 cu. ft.

$SQDV = 43560 \bullet C^{*}P^{*}A_{retain}$	SQDV Total = **374 cu. ft.**
Step 2: Determine the design percolation rate	
2-1. Enter the design saturated hydraulic conductivity of the amended filter media (2.5 in/hr recommended rate), K_{design}	K_{design} = 2.5 in/hr
Step 3: Calculate Bioretention/Planter Box surface area	
3-1. Enter water quality design volume (ft^3), *SQDV*	SQDV = 374 ft^3
3-2. Enter design saturated hydraulic conductivity (in/hr), K_{design}	K_{design} = 2.5 in/hr
3-3. Enter ponding depth (max 1.5 ft for Bioretention, 1 ft for Planter Box) above area, d_p	d_p = 1 ft
3-4. Calculate the drawdown time for the ponded water to filter through media (hours), $t_{ponding} = (d_p/K_{design}) \times 12$	$t_{ponding}$= 4.8 hrs
3-5. Enter the storm duration for routing calculations (use 3 hours unless there is rationale for an alternative), $T_{routing}$	$T_{routing}$ = 3 hrs
3-6. Calculate depth of water (ft) filtered by using the following two equations: $d_{filtered,1} = (K_{design} \times T_{routing})/12$ $d_{filteret,2} = d_p /2$	$d_{filtered,1}$ = 0.625 ft $d_{filtered,2}$ = 0.5 ft
3.7 Enter the resultant depth (ft) (the lesser of the two calculated above), $d_{filtered}$	$d_{filtered}$ = 0.5 ft
3-8. Calculate the infiltrating surface area as follows (ft^2): $A_{req} = SQDV/(d_p + d_{filtered})$	A_{req} = 250 ft^2

Step 4: Calculate Bioretention Area Total Footprint	
4-1. Calculate total footprint required by including a buffer for side slopes and freeboard (ft^2) [A_{req} is measured at the as the filter bottom area (toe of side slopes)], A_{tot}	A_{tot} = 770 ft^2 Note: 4:1 side slopes and 6" freeboard
Step 5: Calculate Underdrain System Capacity	
To calculate the underdrain system capacity, continue through steps 5-1 to 5-7.	
Step 5: Calculate Underdrain System Capacity	
5-1. Calculated filtered flow rate to be conveyed by the longitudinal drain pipe, $Q_f = K_{design}\, A_{req}/43{,}200$	Q_f = 0.014 cfs
5-2. Enter minimum slope for energy gradient, S_e	S_e = 0.005
5-3. Enter Hazen-Williams coefficient for plastic, C_{HW}	C_{HW} = 150
5-4. Enter pipe diameter (min 6 inches), D	D = 6 in
5-5. Calculate pipe hydraulic radius (ft), $R_h = D/48$	R_h = 0.125 ft
5-6. Calculate velocity at the outlet of the pipe (ft/s), $V_p = 1.318 C_{HW} R_h^{0.63} S_e^{0.54}$	V_p = 3.05 ft/s
5-7. Calculate pipe capacity (cfs), $Q_{cap} = 0.25\pi(D/12)^2 V_p$	Q_{cap} = 0.6 cfs

Remaining SQDV (Step 7 of the TGM):

SQDV = C*(0.75/12) * 43560*Atreat (Equation 2-15)

= (0.23) * (0.75/12) * 43560 * 0.067 acres

=42 cu. ft.

=1.5*42 cu. ft. **= 63 cu.ft.**

Where:

- SQDV = the stormwater quality design volume runoff (cu. ft.)
- Atreat = drainage area in acres (5% allowed EIA and developed pervious area)
  = **0.067 AC**
- 0.75 = depth (in) [based on sizing method (3)]
- C = Runoff coefficient per
  = 0.95*imp + Cp (1-imp)
  = 0.95*0.10 + 0.15 (1-0.10)
  = 0.23
  - Imp = (5%EIA)/(5%EIA+Pervious Area)
    - 5%EIA = 0.007 acres
    - Perv. Area = 0.06 acres

    Imp = (0.007)/(0.007+0.06)
    = **0.10**
  - Cp = pervious runoff coefficient, based on soil type. Use <u>0.15</u> for soil no. 1.

NOTE: The SQDV generated form the pervious area and 5% EIA will be treated together with the SQDV generated from the impervious area in a BIO-1 bmp (shown in the site map). The total SQDV is shown in the BIO-1 sizing worksheet.

RECORDED AT THE REQUEST OF
AND WHEN RECORDED MAIL TO:

City Clerk
City of Camarillo
601 Carmen Drive
Camarillo, California 93010

Recorded for the benefit of City of Camarillo.
No fee required (Government Code §27383)

Covenant and Deed Restriction

Assessor Parcel No(s): 234-0-040-595

STORMWATER TREATMENT DEVICE ACCESS AND MAINTENANCE AGREEMENT FOR PROJECT NO. ____________________

OWNER: New Urban West, Inc.

PROPERTY ADDRESS: 791 Camarillo Springs Road

THIS AGREEMENT is made and entered into this ____ day of _______, _____, by and between ____________________ ("Owner") and the City of Camarillo, a general law city and municipal corporation ("City").

1. **RECITALS**. This Agreement is entered into with reference to the following:

A. Owner owns real property ("Property") in City's jurisdiction, more specifically described in attached Exhibit "A" and shown on the map in Exhibit "B", each of which is incorporated by this reference.

B. At the time of initial approval of development project known as Camarillo Springs Tentative Tract 6016 on the Property, City required the project to employ on-site control measures to minimize pollutants in urban runoff.

C. Owner intends to install the following device(s) (1) Contech CDS 4040-8-C, (2) Bio-3, (24) Catch Basin Connector Pipe Screens, (2) Filterra Bio-5, (1) Bio-1 ("Device") as the on-site control measure(s) to minimize pollutants in urban runoff (as shown in the attached Exhibit "C", which is incorporated by this reference, and on the Stormwater Pollution Control or Prevention Plan No. __________.

D. The Device must be installed in accordance with approved plans and specifications shown on City Drawings Nos. C-__________________ through C-__________________ on file with City Engineer, and incorporated by this reference.

E. The Device, installed on private property and draining only private property, is a private facility and all maintenance or replacement of the Device is the sole responsibility of Owner in accordance with the terms of this Agreement.

F. Owner is aware that periodic and continuous maintenance, including, without limitation, filter material replacement and sediment removal, is required to assure peak performance of the Device, and that such maintenance activity will require compliance with all local, state, or federal laws and regulations, including those pertaining to confined space and waste disposal methods in effect at the time such maintenance occurs.

2. **ACCESS**. Owner grants a license to City's designee for complete access, of any duration, to the Device and its immediate vicinity at any time, upon reasonable notice, or in the event of emergency, as determined by City's Director of Public Works ("Director"), no advance notice, for the purpose of inspection, sampling, testing of the Device, and, in case of emergency, to undertake all necessary repairs or other preventative measures at Owner's expense as provided below. City will make every effort at all times to minimize and avoid interference with Owner's use of the Property.

3. **MAINTENANCE.** Owner will use its best efforts to diligently maintain the Device in a manner assuring peak performance at all times. Refer to the Stormwater Pollution Control/Prevention Plan for further maintenance instructions and the attached Exhibit "C". All reasonable precautions will be exercised by Owner and Owner's representative or contractor in the removal and extraction of material(s) from the Device and the ultimate disposal of the material(s) in a manner consistent with all relevant laws and regulations in effect at the time. In October of each year, Owner will provide City with documentation identifying the date of inspection, type and quantity of material(s) removed and disposal destination, and other maintenance performed.

4. **DEFAULT.** Should Owner, or its successors or assigns, fail to accomplish the necessary maintenance contemplated by this Agreement within ten (10) days after being given written notice by City, City is authorized to take any maintenance action needed and charge the entire cost and expense to Owner or Owner's successors or assigns, including administrative costs, attorneys' fees and interest at the maximum rate authorized by law from the date of notice of any expenses incurred by City until paid in full.

5. **SECURITY.** City may require Owner to post security in form and for a time period satisfactory to City to guarantee the performance of this Agreement. Should Owner fail to perform the obligations under this Agreement, City may, in the case of a cash bond, act for Owner using the proceeds from it, or in the case of a surety bond, require the surety to perform the obligations of the Agreement. As an additional remedy, Director may cause the withdrawal of any previous stormwater related approval with respect to the property on which a Device has been installed until such time as Owner repays to City its reasonable costs.

6. **RECORDATION**. This Agreement will be recorded in the Ventura County Recorder's Office at Owner's expense and will constitute notice to all successors and assigns of title to the Property of Owner's obligations, and also a lien in such amount as will fully reimburse City, including interest, subject to foreclosure in event of default in payment.

7. **ENFORCEMENT.** In the event City initiates legal action occasioned by any default or action of Owner, or its successors or assigns, then Owner and its successors or assigns agree to pay all costs incurred by City in enforcing the terms of this Agreement, including reasonable attorney's fees and costs, and that the same may become a lien against the Property.

8. **RUNS WITH PROPERTY.** The burdens and benefits in this Agreement constitute covenants that run with the Property and constitute a lien upon the Property.

9. **SUCCESSORS.** This Agreement is binding upon the heirs, successors, executors, administrators and assigns of the parties. The term "Owner" includes not only the present Owner, but also its heirs, successors, executors, administrators, and assigns. Owner will notify any successor to title of all or part of the Property about the existence of this Agreement. Owner will provide this notice before such successor obtains an interest in all or part of the Property. Owner will provide a copy of such notice to City at the same time such notice is provided to the successor.

10. **TIME IS OF ESSENCE**. Time is of essence in the performance of this Agreement.

11. **NOTICES.** Any notice to a party required or called for in this Agreement will be served in person, or by deposit in the U.S. Mail, first-class postage prepaid, to the address set forth below. Notice will be deemed effective upon receipt, or 72 hours after deposit in the U.S. Mail, whichever is earlier. A party may change a notice address only by providing written notice to the other party.

IF TO CITY:

Public Works Department - Stormwater Program
601 Carmen Drive
Camarillo, California 93010

IF TO OWNER:

Chameleon Springs, LLC
PO Box 11480
Beverly Hills, CA 90213
Telephone # 310-556-1001

IN WITNESS THEREOF, the parties hereto have affixed their signatures as of the date first written above.

CITY OF CAMARILLO:

____
City Manager

ATTEST:

____
City Clerk

APPROVED AS TO FORM BY:
Don Davis, Assistant City Attorney
November 15, 2006

OWNER:

(If a legal entity such as a corporation, partnership, limited liability company, or trust, please print the entity's name and name and title of signer above signature line and then sign. If individual, please print name of signer above signature line.)

Ronald Richards
____

____

____

____

NOTARIES ON FOLLOWING PAGE

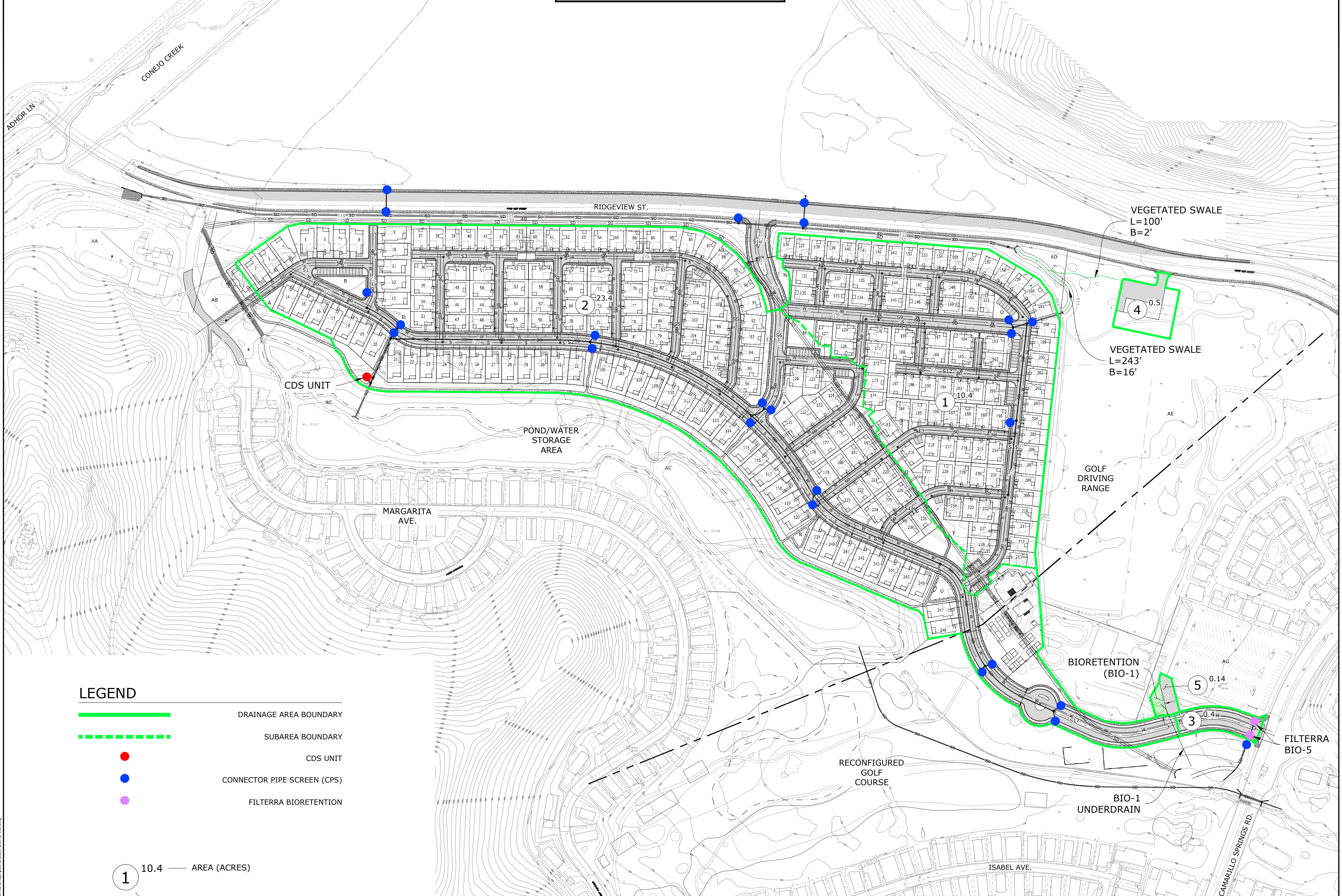
c: Public Works Department (2)
Public Works Stormwater
City GIS Dept.
Owner

EXHIBIT A
(Legal Description)

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF CAMARILLO, IN THE COUNTY OF VENTURA, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:
PARCEL 1, IN THE CITY OF CAMARILLO, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS SHOWN ON THAT CERTAIN MAP FILED IN BOOK 32, PAGE 20 OF PARCEL MAPS, IN THE OFFICE OF THE VENTURA COUNTY RECORDER.

APN: 234-0-040-595

Exhibit B



LEGEND

DRAINAGE AREA BOUNDARY

SUBAREA BOUNDARY

CDS UNIT

CONNECTOR PIPE SCREEN (CPS)

FILTERRA BIORETENTION

1 10.4 — AREA (ACRES)

WATERSHED/TRIBUTARY DESIGNATION

REVISIONS			
MARK	DATE	DESCRIPTION	BY

REVIEWED BY:

DATE

DATE

Encompass Consultant Group
333 N. LANTANA ST, SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM

GLEN H. PACE DATE: 05/2020
PROJECT ENGINEER
R.C.E. 61468

TENTATIVE TRACT NO. 6016
CAMARILLO SPRINGS GOLF COURSE
DRAINAGE AREA MAP (DEVELOPED CONDITION)
CAMARILLO, CA

SCALE: HORIZ. 1" = 80' VERT.

WORK ORDER
DRAWN BY: TJS/DL
CHECKED BY: GHP

SHEET NO. 1 OF 1

EXHIBIT C
Minimum Maintenance Requirements For Post-Construction Treatment Devices

Maintenance logs will be required by the City of Camarillo in October of each year for all post-construction devices listed below. At a minimum, the maintenance log should include documentation identifying the device, its location, date of inspection, inspector's name and signature, type and quantity of material(s) removed, disposal destination, and other maintenance performed. The California Stormwater BMP Handbooks referred to below can be obtained at www.cabmphandbooks.com and the Ventura County Technical Guidance Manual for Stormwater Quality Control Measures (TGM) can be obtained at www.vcstormwater.org. . If device does not apply, write N/A.

Treatment Device	Minimum Maintenance Requirements/Schedule
Onsite trash enclosures constructed with solid roof that protects against stormwater entering refuse bins.	Inspect yearly prior to October 1 for leaks. Remove solids, stains and/or residue from floor and walls of trash enclosure with dry methods when possible. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer (check with local Sanitation Department before discharging to sewer). Do not hose down area to a storm drain. Refer also to Calif. Stormwater Municipal BMP Handbook – SC-34.
Onsite storm drains & catch basins	All onsite catch basins to be inspected and cleaned at least twice a year. Once immediately prior to October 1 and once in January. Additional cleanings may be required if more than 40% full.
Parking lots & sidewalks	Sidewalks and parking lots to be swept regularly to prevent accumulation of litter and debris. Litter, debris and any cleaning agents will be trapped and collected and disposed of properly to prevent entry into storm drain system. Refer also to Calif. Stormwater Municipal BMP Handbook – SC-43 & SC-71.
TCM-1 Detention Basin *See Ventura County Technical Guidance Manual (5/29/15) for further maint. guidelines* N/A	Inspect basin semiannually, after each significant storm, or more frequently, if needed. Check/correct as required: differential settlement, cracking; erosion, leakage or tree growth on embankment; the condition of the riprap in the inlet, outlet and pilot channels; sediment accumulation in the basin; and the vigor and density of the grass turf on the basin side slopes and floor. Remove litter and debris from banks and basin bottom as required. Repair erosion to banks and bottom as required. Remove sediment when accumulation reaches 25% of original design depth, or if resuspension is observed. Clean in early Spring so vegetation damaged during cleaning has time to reestablish. Inspect outlet for clogging a minimum of twice a year, before and after the rainy season, after large storms, and more frequently if needed. Correct observed problems as necessary. Clean fore bay frequently to reduce frequency of main basin cleaning. Control mosquitoes, as necessary.
BIO-3, 4 Biofilters (Swales Grass Strip Filters) (2 PROPOSED SWALES) *See Ventura County Technical Guidance Manual (5/29/15) for further maint. guidelines*	Check annually for signs of erosion, vegetation loss, and channelization of the flow. The grass should be mowed when it reaches a height of 6 inches. Allowing the grass to grow taller may cause it to thin and become less effective. The clippings should be removed.

Treatment Device	Minimum Maintenance Requirements/Schedule
Media Filter, Clarifier, Wet Vault, Vortex Separator, Hydrodynamic Systems Device Name: CDS Model#: 4040-8-C Mfr.(Name & Address): ____________________ ____________________	Follow manufacturer's recommended maintenance specifications. Inspect unit twice during first wet season of operation, setting the cleaning frequency accordingly. Annually inspect for floating debris, sediment buildup, and accumulated petroleum products. Remove accumulated sediment in vault after construction in the drainage area is complete. Recommended frequency of cleaning ranges from one to two years – confirm with manufacturer. Maintenance consists of removal of accumulated material with an educator truck. It may be necessary to remove and dispose of the floatables separately due to the presence of petroleum product. Control mosquitoes, as necessary. Annual maintenance is typical. Refer also to Calif. Stormwater Municipal BMP Handbook – MP-50 & MP-51.
Drain Insert N/A Mfr.(Name & Address): ____________________ Model: ____________	Follow manufacturer's recommended maintenance specifications. At the beginning of the wet season and after significant storms, inspect for proper functioning and remove sediment buildup. After construction, verify that stormwater enters the unit and does not leak around the perimeter. Refer also to Calif. Stormwater Municipal BMP Handbook – MP-52.
Drain Insert – **Connector Pipe Screen (CPS)** **MODEL**: **StormTek ST-3G** (removable half-moon CPS) Mfr.: Advanced Solutions 714-457-3283 www.stormtekCPS.com **Or** **MODEL: Flexstorm CPS (24)** (removable half-moon) Mfr: ADS/Flexstorm 805-904-9923; 866-287-8655 www.ads-pipe.com	Follow manufacturer's recommended maintenance specifications. Inspect quarterly and before and after significant rain events. Clean device and catch basin if 25% or more full of trash and debris. CPS screen may need to be pressured washed; block outlet pipe and vacuum wastewater; do not allow wastewater to exit outlet pipe. May require use of industrial vacuum or vactor truck. Dispose of debris properly.
INF-5 Permeable Pavement *See Ventura County Technical Guidance Manual (5/29/15) for further maint. guidelines* N/A	1. Regularly Inspect pavement or pavers for pools of standing water after rain events, this could indicate clogging. 2. Actively (3-4 times per year) vacuum sweep the pavement to reduce the risk of clogging by frequently removing fine sediments before they can clog the pavement and subsurface layers. 3. Inspect for vegetation growth on pavement and remove when present. 4. Inspect for missing sand/gravel in spaces between pavers and replace as needed. 5. Activities that lead to ruts or depressions on the surface should be prevented or the integrity of the pavement should be restored by patching or repaving. 6. Spot clogging of porous concrete may be remedied by drilling 0.5 inch holes every few feet in the concrete. 7. Interlocking pavers that are damaged should be replaced. 8. Maintain landscaped areas and reseed bare areas.

Treatment Device	Minimum Maintenance Requirements/Schedule
INF-3 or BIO-1 Bioretention with or without Underdrain *See Ventura County Technical Guidance Manual (5/29/15) for further maint. guidelines* **(1 PROPOSED BIO-1)**	1. Repair small eroded areas 2. Remove trash and debris and rake surface soils 3. Remove accumulated fine sediments, dead leaves, and trash 4. Remove weeds and prune back excess plant growth. Replace dead plants. 5. Remove sediment and debris accumulation near inlet and outlet structures. 6. Periodically observe function under wet weather conditions 7. Replace or add mulch as needed to maintain a 2-3" depth at least once every two years. 8. If sediment is deposited in the bioretention area, immediately determine the source within the contributing area, stabilize, and remove excess surface deposits. 9. Via observation well inspect underdrain for standing water/proper dewatering.
INF-1, 2 Infiltration Basin or Trench *See Ventura County Technical Guidance Manual (5/29/15) for further maint. guidelines.* N/A	1. Remove trash, debris, and sediment at inlet and outlets 2. Wet weather inspection to ensure drain time. Basin or trench should drain within 72 hours of storm. If clogging occurs refer to VC TGM for further guidance. 3. Remove weeds 4. Inspect for mosquito breeding 5. Remove sediment when 6 inches has accumulated and replace vegetation that was removed during sediment removal process. 6. Regularly inspect pretreatment sediment removal device for nec. maint.
INF-6 Proprietary Infiltration Basin or Trench Model: ____________ N/A Mfr.: ____________ Phone: ____________	*Follow manufacturer guidelines.* *Minimum Maintenance:* 1. Remove trash, debris, and sediment at inlet and outlets 2. Wet weather inspection to ensure drain time. Basin or trench should drain within 72 hours of storm. 3. Inspect for mosquito breeding 4. Regularly inspect pretreatment sediment removal device for necessary maintenance
Other Device: **Filterra Bio - 5 (2 units)** **Contech Model FT0404** **Contech Engineered Solutions LLC** **9025 Centre Pointe Dr.,** **Suite 400** **West Chester, OH 45069** **Phone: 1-800-338-1122**	**1. Inspection of Filterra and surrounding area.** **2. Removal of tree grate and erosion control stones.** **3. Removal of debris, trash and mulch.** **4. Mulch replacement.** **5. Clean area around Filterrra.** **6. Complete paperwork and record plant height and width.** **See Manufacturer Maintenance Instructions for further maintenance requirements.**

1/10/2018 ver.

Stormwater Treatment/Mitigation Device Operations & Maintenance Plan

Address: 791 Camarillo Springs Road, Camarillo CA 93012
APN: 234-0-040-595

Project No.: ____________________

Date: 06/2020

Prepared for:

New Urban West, Inc.
1733 Ocean Avenue, Suite 260
Santa Monica, CA 90401
925-708-3638

Prepared by:

Name: Daniel Lopez, PE

Company: Encompass Consultant Group, Inc.

Mailing Address: 333 N. Lantana St. #287 Camarillo, CA 93010

Phone No.: 805-586-2979

STORMWATER TREATMENT OPERATIONS & MAINTENANCE PLAN

791 Camarillo Springs Road, Camarillo CA 93012
APN: 234-0-040-595

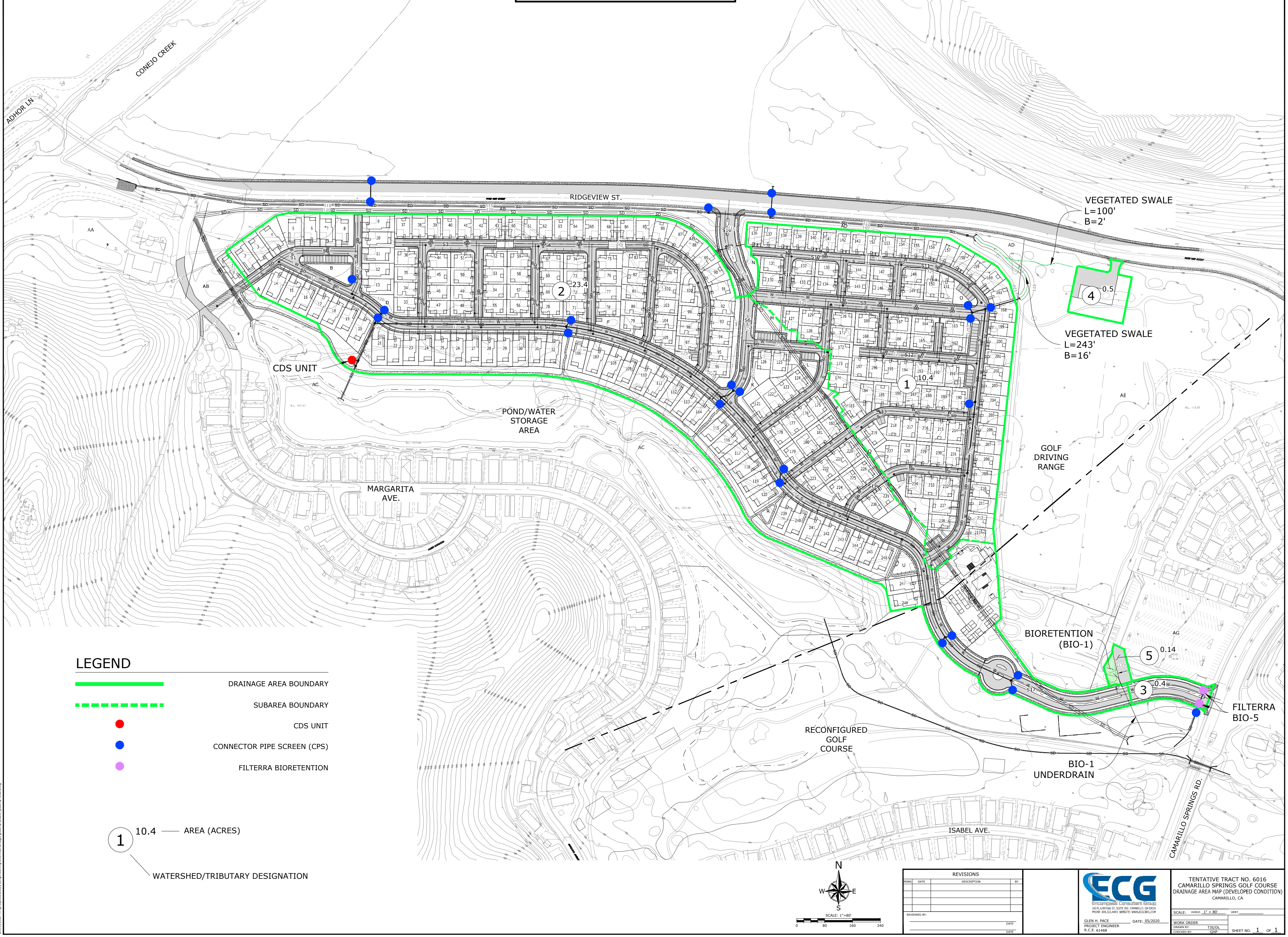
Project Address & No.

INTRODUCTION

This Stomwater Treatment Operations and Maintenance Plan (O&M) has been prepared for the developments located at the above address in Camarillo, California.

This O&M has been prepared in conformance with the guidelines set forth in Appendix I (*Maintenance Plan Guidelines & Checklists)* of the *Technical Guidance Manual for Storm Water Quality Control Measures.*

Site Map



CONEJO CREEK
ADHOR LN
RIDGEVIEW ST.
VEGETATED SWALE
L=100'
B=2'
VEGETATED SWALE
L=243'
B=16'
CDS UNIT
POND/WATER
STORAGE
AREA
MARGARITA
AVE.
GOLF
DRIVING
RANGE
BIORETENTION
(BIO-1)
FILTERRA
BIO-5
BIO-1
UNDERDRAIN
RECONFIGURED
GOLF
COURSE
ISABEL AVE.
CAMARILLO SPRINGS RD.
2 23.4
1 10.4
4 0.5
5 0.14
3 0.4
LEGEND
DRAINAGE AREA BOUNDARY
SUBAREA BOUNDARY
CDS UNIT
CONNECTOR PIPE SCREEN (CPS)
FILTERRA BIORETENTION
1 10.4 AREA (ACRES)
WATERSHED/TRIBUTARY DESIGNATION
SCALE: 1"=80'
0 80 160 240
REVISIONS
MARK DATE DESCRIPTION BY
REVIEWED BY:
DATE
DATE
ECG
Encompass Consultant Group
333 N. LANTANA ST, SUITE 287, CAMARILLO, CA 93010
PHONE: 805.322.4443 WEBSITE: WWW.ECGCIVIL.COM
GLEN H. PACE DATE: 05/2020
PROJECT ENGINEER
R.C.E. 61468
TENTATIVE TRACT NO. 6016
CAMARILLO SPRINGS GOLF COURSE
DRAINAGE AREA MAP (DEVELOPED CONDITION)
CAMARILLO, CA
SCALE: HORIZ. 1" = 80' VERT.
WORK ORDER
DRAWN BY: TJS/DL
CHECKED BY: GHP
SHEET NO. 1 OF 1

2. Baseline Descriptions

The proposed development known as Camarillo Springs is to be located within the existing Camarillo Springs golf course in the City of Camarillo. The site is approximately 35.3 acres, and is currently and active Golf Course. Improvements will include grading and infrastructure to support residential condominiums.

2.1 O&M Implementation Responsibility

Table 2-1 O&M Implementation Responsibility

Company	Contact and Telephone Number	Responsibility
New Urban West	Jonathan P. Frankel 925-708-3638	Owner's Agent

2.2 Financing Mechanism

Owner will be responsible for financing of operation, inspection, routine maintenance and upkeep of stormwater control measures.

2.3 Permanent Stormwater Control Measures

This facility is equipped with the following permanent stormwater control measures.

- Bio-3 Vegetated Swale
- CDS Unit
- Catch Basin Inserts, ADS Flexstorm CPS unit
- Bio-5 Filterra Bioretention
- Bio-1 Bioretention w/ underdrain

2.4 Inspection and Maintenance Procedures

BIO-3 Vegetated Swale (2)

a. **Maintenance and Cleaning Activities:**

Swales must be vegetated in order to provide adequate treatment of runoff via filtration. In general, vegetated swale maintenance requirements are typical landscape care procedures; at a minimum the following activities must occur to properly maintain the proposed vegetated swale areas:

I. Inspect vegetated swales for erosion or damage to vegetation after every storm greater than 0.75 inches for on-line swales and at least twice annually for off-line swales, preferably at the end of the wet season to schedule summer maintenance and in the fall to ensure readiness for winter. Additional inspection after periods of heavy runoff is recommended. Each swale should be checked for debris and litter and areas of sediment accumulation (see Appendix I for a vegetated swale inspection and maintenance checklist).

II. Swale inlets (curb cuts or pipes) should maintain a calm flow of water entering the swale. Remove sediment as needed at the inlet, if vegetation growth is inhibited in greater than 10% of the swale or if the sediment is blocking even distribution and entry of the water. Following sediment removal activities, replanting and/or reseeding of vegetation may be required for reestablishment.

III. Flow spreaders should provide even dispersion of flows across the swale. Sediments and debris should be removed from the flow spreader if blocking flows. Splash pads should be repaired if needed to prevent erosion. Spreader level should be checked and releveled if necessary.

IV. Side slopes should be maintained to prevent erosion that introduces sediment into the swale. Slopes should be stabilized and planted using appropriate erosion control measures when native soil is exposed or erosion channels are formed.

V. Swales should drain within 48 hours of the end of a storm. Till the swale if compaction or clogging occurs and revegetate. If a perforated underdrain pipe is present, it should be cleaned if necessary.

VI. Vegetation should be healthy and dense enough to provide filtering, while protecting underlying soils from erosion:

   a. Mulch should be replenished as needed to ensure survival of vegetation.

   b. Vegetation, large shrubs or trees that interfere with landscape swale operation should be pruned.

   c. Fallen leaves and debris from deciduous plant foliage should be removed.

   d. Grassy swales should be mowed to 4 to 6 inches height. Grass clippings should be removed.

   e. Invasive vegetation, such as Alligatorweed (*Alternanthera philoxeroides*), Halogeton (*Halogeton glomeratus*), Spotted Knapweed (*Centaurea maculosa*), Giant Reed (*Arundo donax*), Castor Bean (*Ricinus communis*), Perennial Pepperweed (*Lepidium latifolium*), and Yellow Starthistle (*Centaurea solstitalis*) should be removed and replaced with non-invasive species. Invasive species should never contribute more than 10% of the vegetated area. For more information on invasive weeds, including biology and control of listed weeds, look at the encycloweedia located at the California Department of Food and Agriculture website or the California Invasive Plant Council website at www.cal-ipc.org.

f. Dead vegetation should be removed if greater than 10% of area coverage or when swale function is impaired. Vegetation should be replaced and established before the wet season to maintain cover density and control erosion where soils are exposed.

VII. Check dams (if present) should control and distribute flow across the swale. Causes for altered water flow and/or channelization should be identified and obstructions cleared. Check dams and swale should be repaired if damaged.

VIII. The vegetated swale should be well maintained. Trash and debris, sediment, visual contamination (e.g., oils), noxious or nuisance weeds, should all be removed.

The following Inspection and Maintenance Log should be completed during each inspection.

Vegetated Swale Inspection and Maintenance Checklist

Date: ______________________ Work Order #________________

Type of Inspection: □ post-storm □ annual □ routine □ post-wet season □ pre- wet season

Facility: ______________________ Inspector(s): ________________

Defect	Conditions When Maintenance Is Needed	Inspection Result (0, 1, or 2)†	Date Maintenance Performed	Comments or Action(s) Taken to Resolve Issue
Appearance	Untidy			
Trash and Debris Accumulation	Trash and debris accumulated on surface			
Vegetation	When the grass becomes excessively tall (greater than 10-inches); when nuisance weeds and other vegetation start to take over.			
Excessive Shading	Vegetation growth is poor because sunlight does not reach swale. Evaluate vegetation suitability.			
Poor Vegetation Coverage	When vegetation is sparse or bare or eroded patches occur in more than 10% of the bottom. Evaluate vegetation suitability.			
Sediment Accumulation	Sediment depth exceeds 2 inches or covers more than 10% of design area.			
Standing Water	When water stands in the swale between storms and does not drain freely			

Maintenance and Inspection Procedures for Additional BMPs:

An authorized representative from New Urban West, Inc. is responsible for inspections, maintenance and cleanup of illicit discharges from the facility. Inspections shall be performed as shown below and retain proof of inspection for at least three years.

Pollution Source	Frequency	Maintenance/Inspection
Landscape Maintenance	As needed	<u>Procedure</u>: Landscape maintenance contractor will maintain all landscape areas. A careful handling and disposal activities for herbicide and pesticide/fertilizer (if use) will be performed on site. <u>Inspection</u>: Observe and log on inspection list as necessary.
Catch Basin Signage	Quarterly	<u>Procedure:</u> Make sure placard is properly/securely installed. Replace as needed. <u>Inspection</u>: Observe and log on inspection list as necessary.

Flow Spreader or check dams	Flow spreader or check dams uneven or clogged so that flows are not uniformly distributed through entire swale width			
Constant Baseflow	When small quantities of water continually flow through the sale even when it has been dry for weeks and an eroded muddy channel has formed in the swale bottom.			
Inlet/outlet	Inlet/outlet areas clogged with sediment and or debris.			
Erosion/scouring	Eroded or scoured swale bottom due to flow channelization or higher flows. Eroded or rilled side slopes. Eroded or undercut inlet/outlet structres.			

Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#.
Enter 2 if maintenance was performed same day.

3. Flexstorm (24)

Follow manufacturer's recommended maintenance specifications. Inspect quarterly and before and after significant rain events. Clean device and catch basin if 25% or more full of trash and debris. CPS screen may need to be pressured washed; block outlet pipe and vacuum wastewater; do not allow wastewater to exit outlet pipe. May require use of industrial vacuum or vactor truck. Dispose of debris.

4. Contech CDS Hydrodynamic Separator (1)

See attached Manufacturer's Maintenance Manual

5. Bio-5 Filterra Bioretention (2)

It has been found that in regions which receive between 30-50 inches of annual rainfall, (2) two visits are generally required; regions with less rainfall often only require (1) one visit per annum. Varying land uses can affect maintenance frequency. Follow manufacture's recommended maintenance specifications. The Filterra Owner's Manual can be found in the attachments.

6. Bio-1 Bioretention with Underdrain (1)

Bioretention areas require annual plant, soil, and mulch layer maintenance to ensure optimum infiltration, storage, and pollutant removal capabilities. In general, bioretention maintenance requirements are typical landscape care procedures and include: watering, erosion control, occasional pruning and removal of dead plant material, mulch replacement, and analyzing soil for fertility and pollutant levels.

Maintenance and Inspection Procedures for Additional BMPs:

An authorized representative from New Urban West, Inc. is responsible for inspections, maintenance and cleanup of illicit discharges from the facility. Inspections shall be performed as shown below and retain proof of inspection for at least three years.

Pollution Source	Frequency	Maintenance/Inspection
Landscape Maintenance	As needed	Procedure: Landscape maintenance contractor will maintain all landscape areas. A careful handling and disposal activities for herbicide and pesticide/fertilizer (if use) will be performed on site. Inspection: Observe and log on inspection list as necessary.
Catch Basin Signage	Quarterly	Procedure: Make sure placard is properly/securely installed. Replace as needed. Inspection: Observe and log on inspection list as necessary.

Catch Basin Maintenance	3 to 4 times per year, prior to start of rainy season and after all rain events.	<u>Procedure:</u> Remove sediment and trash from all catch basins as needed. <u>Inspection</u>: Inspect at least 3 to 4 times per year, prior to start of rainy season and after rain events. Log all observations on inspection form. May required confined space certification and use of vacuum truck.
Streets	Monthly and before the start of the rainy season (October) or as needed	<u>Procedure:</u> Street surfaces will be swept and residue will be removed with absorbents/cleaners. <u>Inspection</u>: Observed and log on inspection list; inspect street areas for evidence of residues or potential illicit discharges.
Covered Trash Enclosure	Daily	<u>Procedure:</u> No debris shall be washed to storm drain. Enclosures shall remain closed and no trash shall be allowed to overflow. <u>Inspection:</u> Inspection shall be done daily but a thorough observation shall be logged monthly. If there is excessive loading to enclosures/trash receptacles, more frequent trash pickups shall be scheduled.

5. Housekeeping Procedures

Good housekeeping practices will be followed at the site. House keeping control contamination of storm water runoff includes:

- Maintaining the site in a clean an orderly manner to minimize the potential for materials to impact stormwater.
- Avoid over watering landscape
- Storing hazardous materials in leek proof containers in designated indoor storage areas.
- If hazardous materials are stored outside, storing them in a manner to minimize contact with stormwater.
- Properly containing and disposing of sweepings and sediments.
- Promptly cleaning up spills and removing contaminated materials.
- Handling materials to minimize the potential for release.
- Sweep paved areas periodically to remove excess dust and dirt.

6. Spill Plan

If there has been a release of hazardous material, follow the notification procedures presented below.

A. On-Site Spills

Immediately contact the O&M coordinator.

If the O&M Coordinator is unavailable, immediately notify the following agencies. If the O&M Coordinator is available, he should make these notifications.

Local Emergency Response	911
Ventura County Spill Hotline	(805) 320-6244
City of Camarillo	(805) 388-5338
State Office of Emergency Services (OES)	(800) 852-7550
Ventura County Environmental Health Department	(805) 654-2813 (during business hours 911 (After hours)
State Regional Water Quality Control Board	(213) 576-6600

If waste oil is spilled, contact the Department of Toxic Substance Control (DTSC)
(800) 260-3972 (during business hours)
(800) 852-7550 (after hours)

B. Spills Running Off-Site

- Follow sequence action noted above.
- Notify the National Response Center at (800) 424-8802

C. Spills Threaten Navigable Waters

- Follow sequence action noted above
- Notify United States Coast Guard at (562) 980-4444

D. Information to Include in Oral Notification

When reporting to government agencies is required, notification should be made as soon as possible. Below are possible questions that the agency may ask.

Document all reports to regulatory agencies. Ask the name and position of person you have contacted and note the agency and the time of your call. Write this information down. Follow the steps below:

- Give the facility name, address and phone number as well as your name and position.
- Date and time of the spill:
  - Time or estimated time spill began.
  - Duration of spill or if it is continuing.
  - Location of spill
- Spill information:
  - Materials spilled.
  - Volume or estimated volume spilled.
  - Has spill entered storm drain or navigable waters? If so, how much?
  - The source of the discharge.
  - A description of all affected media (water and/or soil).
  - The cause of discharge.
  - Damages or injuries caused by the discharge.
- Response Measure taken:
  - For containment.
  - For clean up
  - Has the source been stopped?
  - Will an evacuation be required?
  - Name of individual and organization who have been contacted.
- Weather:
  - Raining?
  - Air Temperature?
  - Wind speed direction

Do not wait until all information is known to contact agencies
Do not hang up until all questions are answered.

E. Spill Response

The following spill response procedures provide guidelines for use by those on duty to respond to releases. They are not meant to supplant the use of common sense and good judgment during emergencies. Do not contact any spilled material unless wearing proper personal protective equipment per the MSDS.

1. Notify Home Owners Association/Owner as soon as it is safe to do so.
   - If the spill involves fire, the supervisor will call 911 immediately.
   - The supervisor will notify the Plan Coordinator and take charge until the Plan Coordinator or Alternate Plan Coordinator arrives.
   - The Plan Coordinator or Alternate Plan Coordinator will take charge of the situation on arrival.

2. Evacuate the site immediately.

3. Aid any persons that have been injured or contaminated or are in danger of being injured or contaminated. Do not put yourself in danger trying to save someone else. If someone is contaminated with material, avoid contacting that person. Do not attempt to move anyone who may have a back injury.

4. Stop flow it is safe to do so. Stop the source of the spill and contain the material that has already been spilled. Do this only if it can be accomplished safely without endangering life or property. Minimizing the amount of material spilled reduces the potential for discharge and the amount of clean up necessary.

5. Alert others in the area to stay clear.

6. Eliminate ignition sources in the area.

7. Contain Spill if it has or is about to enter storm drains. Place absorbent material into position to contain spill. Care should be used to prevent the spill from leaving the site or entering sewers or storm drains.

8. Clean up spilled material with absorbent materials, dikes, etc. Contact contractors (see below) for assistance if necessary.

F. O&M Coordinator Responsibilities

- In charge of overall incident response.
- Calling emergency numbers
- Notify people in the area and advising them to stay away from the spill.

- ➢ Coordinate with outside emergency response and providing technical information.
- ➢ Reporting emergency incidents to appropriate agencies.
- ➢ Authorizing non-emergency cleanup measures.
- ➢ Ensuring compliance with applicable federal, state and local rules and regulations.

G. Response Equipment – External Response Equipment

Property owner may be contacted to provide the following spill response equipment:

- ➢ Bins and equipment for used absorbent removal.
- ➢ Vacuum truck to collect and remove material.

H. Spill Response, Containment, and Cleanup Materials

Cleanup Material/Equipment	Location	Response Time
Spill kits and/or absorbent material	Onsite	Immediate
Brooms	Onsite	Immediate

Contractor	Location	Response Time
		Less than 1 hour

I. Spill Cleanup Procedure

Materials generated during spill response activities must be disposed of in accordance with applicable federal, state and local regulations.

There may be various types of waste generated during response activities. Below is a list of common materials and disposal requirement.

- ➢ Free product: if there is a large amount of this material, a vacuum truck should be contracted to collect and haul it to a licensed treatment, storage, and disposal facility for recycling or disposal. Small spills may be cleaned up using absorbent material.

- Soiled ragas, brooms, and absorbent material should be drummed up and sent to a licensed treatment, storage, and disposal facility for disposal.

J. Sampling Plan

During a spill it may be possible for contaminated material to enter the storm drain system. If contaminated material enters the storm drain system, it may be prudent to take samples to document the amount of material released.

If sampling is performed, samples should be taken at the storm drain inlet where contaminated material is entering.

The samples must be sent to a State Certified laboratory for analysis. The following procedures will be used for taking the samples:

- Collect samples in sampling containers. Ensure that the sample is free of excess debris (leaves, paper fragments, etc.). Fill the container to the top.
- The closed sample container may be sealed with custody tape, which can be obtained from the test laboratory with the sample bottles. Do not seal the bottles with other types of tapes (scotch, duct, cellophane, etc.) as organic material from the tape may contaminate the sample.
- Label samples with the following information:

Company Name	Date Sampled
Time Sampled	Collection Point
Sampled Description	Preservative
Analysis Required	Special Requirements

- The laboratory should be instructed to analyze for the constituents that may have been discharged. In the event of oil spill, the sample should be analyzed for "Oil & Grease".
- Complete a chain of custody form recording pertinent information including the information listed above and the signature of the person taking the sample. The test laboratory will provide the chain of custody forms.
- If possible, chill the samples to 4°C (40°F) until the samples are delivered to the laboratory. Do not freeze samples
- Send the samples to a State Certified laboratory, or call the laboratory to have the sample picked up. A State Certified Laboratory may be selected from the list of Certified laboratories found at the following link:

  http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx

7. Facility Changes

A complete review of this O&M Plan will occur prior to any facility changes which could significantly affect the character or quantity of pollutants discharging into the stormwater control measures.

This O&M will be amended:

- When there is a change in operations which may significantly affect the character or quantity of pollutants discharging into the on-site storm drain system; or
- When deemed necessary by the Owner.

Minor administrative changes to the O&M (changes in names, phone numbers, etc.) may be made by the O&M Coordinator.

Amendments to the O&M will be noted in the following Amendment log.

Amendment Log

Storm Water Treatment Operations and Maintenance Plan

Amendment No.	Date	Brief Description of Amendment	Prepared by

8. Training

The following personnel will be trained in the requirements of this O&M:

Title	Responsibilities
O&M Coordinator	O&M Implementation. Verification and documentation that O&M training is performed (See training forms attached)
Designated Employees	Inspection and maintenance of catch basins, catch basin signage, bio-retention facilities, stormwater outlets, drain inlet inserts and trash enclosures

Employee Training

Purpose: To ensure that affected employees are aware of the Storm Water Treatment Operations and Maintenance Plan and its requirements.

Applicability: This training is required for personnel responsible for implementing the O&M.

Review the following items during the training to ensure that employees are aware of O&M requirements:

Review the housekeeping procedures presented in Section VI.

______

Review the maintenance procedures presented in Sections VI and X

______

Review the inspection procedures presented in Sections VI and X

______

Review the spill response, and notification, and clean up procedures in Section VII

______

Alert personnel that they should follow safety practices when maintaining devices (Sections VI and X) and cleaning spills (Section VII)

______

Ask if employees have questions about the O&M or their responsibilities.

______

Complete the Training Verification Form (next page). Maintain completed training forms on file for five years.

______

Employee Training Verification Form

I hereby certify that I have conducted Storm water Treatment Operations and Maintenance Plan Training with the undersigned employees.

Instructor's Name (Please Print)	Signature	Date

I hereby certify that I have received Storm Water Treatment Device Maintenance O&M Training.
I am familiar with the O&M and my responsibilities.

Employee Name	Signature	Date

9. REVISIONS OF POLLUTION MITIGATION MEASURES

If future correction or modification of past stormwater management control measures or procedures is required, the owner shall obtain approval from the City of Camarillo, Land Development Engineering Division prior to commencing any work. Corrective measures or modifications shall not cause discharges to bypass or otherwise impede existing stormwater control measures.

If corrective measures or modifications need to be made to the stormwater control measures or procedures, approval must be obtained from the City of Camarillo, Land Development Engineering Division prior to commencing any work.

Any corrective measures or modifications shall not cause stormwater discharges to bypass or otherwise impede existing stormwater control measures.

Minor administrative changes to the O&M (changes in names, phone numbers, etc.) do not need to be submitted to the City.

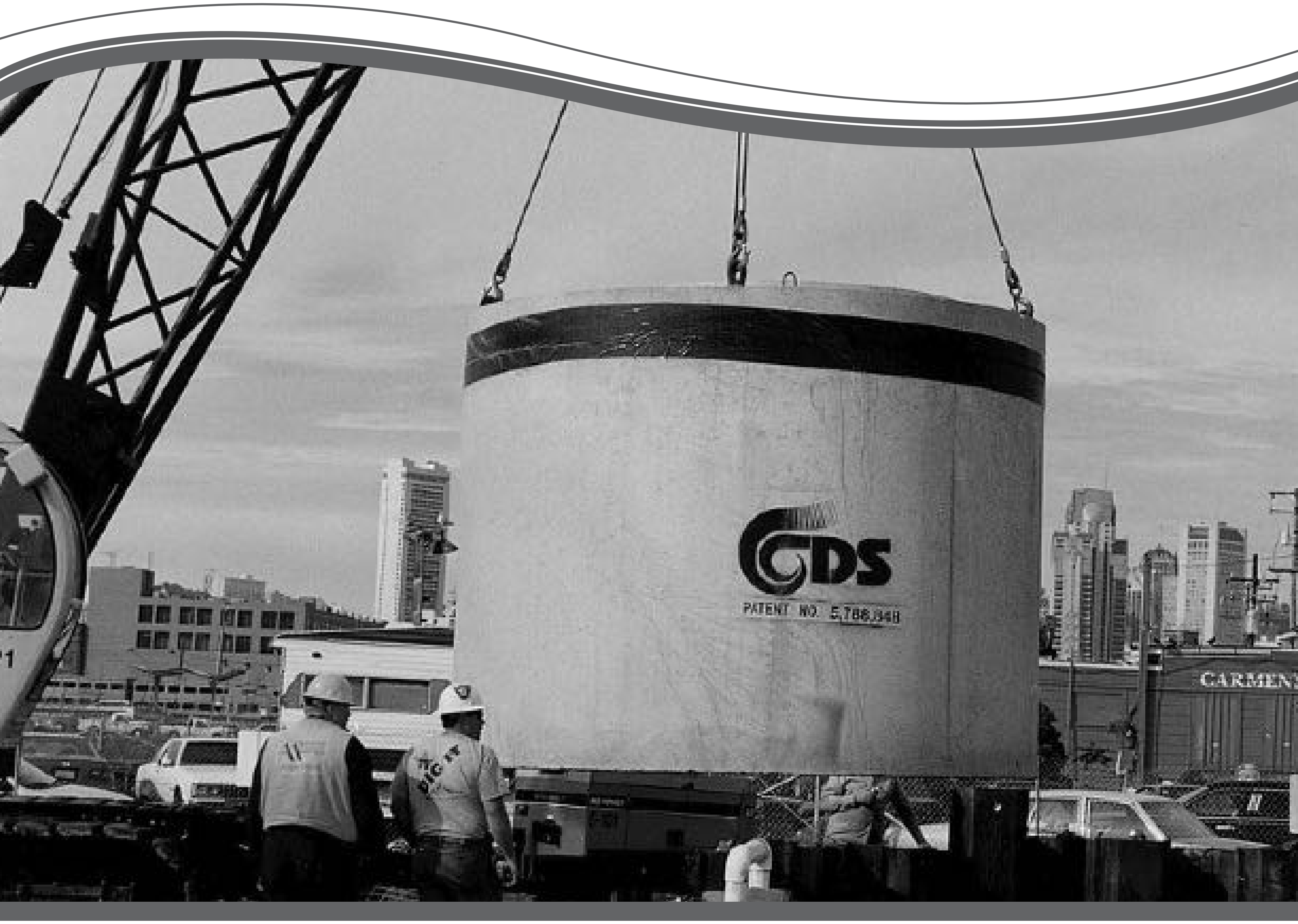
10. MONITORING & REPORTING PROGRAM

The governing stormwater agency may require a Monitoring & Reporting Program to assure the stormwater management control measures approved for the site are performing according to design. If required by local permitting agency, the Maintenance Plan shall include performance testing and reporting protocols.

Contech CDS Hydrodynamic Separator Maintenance Manual

CONTECH
ENGINEERED SOLUTIONS

CDS Guide
Operation, Design, Performance and Maintenance



CDS®

Using patented continuous deflective separation technology, the CDS system screens, separates and traps debris, sediment, and oil and grease from stormwater runoff. The indirect screening capability of the system allows for 100% removal of floatables and neutrally buoyant material without blinding. Flow and screening controls physically separate captured solids, and minimize the re-suspension and release of previously trapped pollutants. Inline units can treat up to 6 cfs, and internally bypass flows in excess of 50 cfs (1416 L/s). Available precast or cast-in-place, offline units can treat flows from 1 to 300 cfs (28.3 to 8495 L/s). The pollutant removal capacity of the CDS system has been proven in lab and field testing.

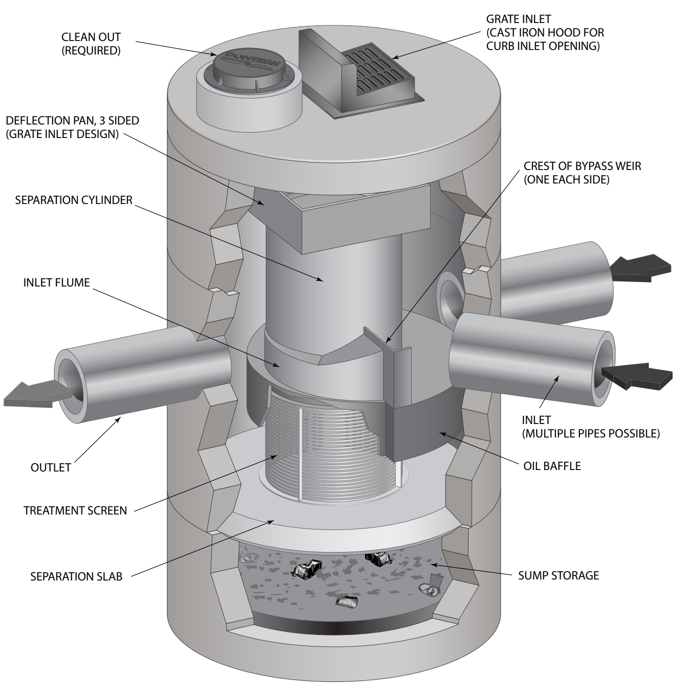
Operation Overview

Stormwater enters the diversion chamber where the diversion weir guides the flow into the unit's separation chamber and pollutants are removed from the flow. All flows up to the system's treatment design capacity enter the separation chamber and are treated.

Swirl concentration and screen deflection force floatables and solids to the center of the separation chamber where 100% of floatables and neutrally buoyant debris larger than the screen apertures are trapped.

Stormwater then moves through the separation screen, under the oil baffle and exits the system. The separation screen remains clog free due to continuous deflection.

During the flow events exceeding the treatment design capacity, the diversion weir bypasses excessive flows around the separation chamber, so captured pollutants are retained in the separation cylinder.



Design Basics

There are three primary methods of sizing a CDS system. The Water Quality Flow Rate Method determines which model size provides the desired removal efficiency at a given flow rate for a defined particle size. The Rational Rainfall Method™ or the and Probabilistic Method is used when a specific removal efficiency of the net annual sediment load is required.

Typically in the Unites States, CDS systems are designed to achieve an 80% annual solids load reduction based on lab generated performance curves for a gradation with an average particle size (d50) of 125 microns (μm). For some regulatory environments, CDS systems can also be designed to achieve an 80% annual solids load reduction based on an average particle size (d50) of 75 microns (μm) or 50 microns (μm).

Water Quality Flow Rate Method

In some cases, regulations require that a specific treatment rate, often referred to as the water quality design flow (WQQ), be treated. This WQQ represents the peak flow rate from either an event with a specific recurrence interval, e.g. the six-month storm, or a water quality depth, e.g. 1/2-inch (13 mm) of rainfall.

The CDS is designed to treat all flows up to the WQQ. At influent rates higher than the WQQ, the diversion weir will direct most flow exceeding the WQQ around the separation chamber. This allows removal efficiency to remain relatively constant in the separation chamber and eliminates the risk of washout during bypass flows regardless of influent flow rates.

Treatment flow rates are defined as the rate at which the CDS will remove a specific gradation of sediment at a specific removal efficiency. Therefore the treatment flow rate is variable, based on the gradation and removal efficiency specified by the design engineer.

Rational Rainfall Method™

Differences in local climate, topography and scale make every site hydraulically unique. It is important to take these factors into consideration when estimating the long-term performance of any stormwater treatment system. The Rational Rainfall Method combines site-specific information with laboratory generated performance data, and local historical precipitation records to estimate removal efficiencies as accurately as possible.

Short duration rain gauge records from across the United States and Canada were analyzed to determine the percent of the total annual rainfall that fell at a range of intensities. US stations' depths were totaled every 15 minutes, or hourly, and recorded in 0.01-inch increments. Depths were recorded hourly with 1-mm resolution at Canadian stations. One trend was consistent at all sites; the vast majority of precipitation fell at low intensities and high intensity storms contributed relatively little to the total annual depth.

These intensities, along with the total drainage area and runoff coefficient for each specific site, are translated into flow rates using the Rational Rainfall Method. Since most sites are relatively small and highly impervious, the Rational Rainfall Method is appropriate. Based on the runoff flow rates calculated for each intensity, operating rates within a proposed CDS system are determined. Performance efficiency curve determined from full scale laboratory tests on defined sediment PSDs is applied to calculate solids removal efficiency. The relative removal efficiency at each operating rate is added to produce a net annual pollutant removal efficiency estimate.

Probabilistic Rational Method

The Probabilistic Rational Method is a sizing program Contech developed to estimate a net annual sediment load reduction for a particular CDS model based on site size, site runoff coefficient, regional rainfall intensity distribution, and anticipated pollutant characteristics.

The Probabilistic Method is an extension of the Rational Method used to estimate peak discharge rates generated by storm events of varying statistical return frequencies (e.g. 2-year storm event). Under the Rational Method, an adjustment factor is used to adjust the runoff coefficient estimated for the 10-year event, correlating a known hydrologic parameter with the target storm event. The rainfall intensities vary depending on the return frequency of the storm event under consideration. In general, these two frequency dependent parameters (rainfall intensity and runoff coefficient) increase as the return frequency increases while the drainage area remains constant.

These intensities, along with the total drainage area and runoff coefficient for each specific site, are translated into flow rates using the Rational Method. Since most sites are relatively small and highly impervious, the Rational Method is appropriate. Based on the runoff flow rates calculated for each intensity, operating rates within a proposed CDS are determined. Performance efficiency curve on defined sediment PSDs is applied to calculate solids removal efficiency. The relative removal efficiency at each operating rate is added to produce a net annual pollutant removal efficiency estimate.

Treatment Flow Rate

The inlet throat area is sized to ensure that the WQQ passes through the separation chamber at a water surface elevation equal to the crest of the diversion weir. The diversion weir bypasses excessive flows around the separation chamber, thus preventing re-suspension or re-entrainment of previously captured particles.

Hydraulic Capacity

The hydraulic capacity of a CDS system is determined by the length and height of the diversion weir and by the maximum allowable head in the system. Typical configurations allow hydraulic capacities of up to ten times the treatment flow rate. The crest of the diversion weir may be lowered and the inlet throat may be widened to increase the capacity of the system at a given water surface elevation. The unit is designed to meet project specific hydraulic requirements.

Performance

Full-Scale Laboratory Test Results

A full-scale CDS system (Model CDS2020-5B) was tested at the facility of University of Florida, Gainesville, FL. This CDS unit was evaluated under controlled laboratory conditions of influent flow rate and addition of sediment.

Two different gradations of silica sand material (UF Sediment & OK-110) were used in the CDS performance evaluation. The particle size distributions (PSDs) of the test materials were analyzed using standard method "Gradation ASTM D-422 "Standard Test Method for Particle-Size Analysis of Soils" by a certified laboratory.

UF Sediment is a mixture of three different products produced by the U.S. Silica Company: "Sil-Co-Sil 106", "#1 DRY" and "20/40 Oil Frac". Particle size distribution analysis shows that the UF Sediment has a very fine gradation (d50 = 20 to 30 μm) covering a wide size range (Coefficient of Uniformity, C averaged at 10.6). In comparison with the hypothetical TSS gradation specified in the NJDEP (New Jersey Department of Environmental Protection) and NJCAT (New Jersey Corporation for Advanced Technology) protocol for lab testing, the UF Sediment covers a similar range of particle size but with a finer d50 (d50 for NJDEP is approximately 50 μm) (NJDEP, 2003).

The OK-110 silica sand is a commercial product of U.S. Silica Sand. The particle size distribution analysis of this material, also included in Figure 1, shows that 99.9% of the OK-110 sand is finer than 250 microns, with a mean particle size (d50) of 106 microns. The PSDs for the test material are shown in Figure 1.

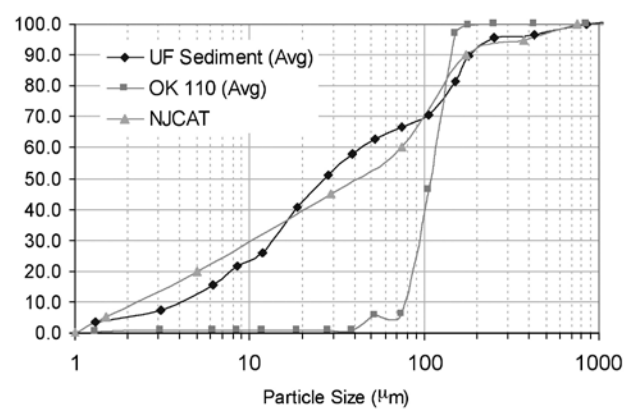


Figure 1. Particle size distributions

Tests were conducted to quantify the performance of a specific CDS unit (1.1 cfs (31.3-L/s) design capacity) at various flow rates, ranging from 1% up to 125% of the treatment design capacity of the unit, using the 2400 micron screen. All tests were conducted with controlled influent concentrations of approximately 200 mg/L. Effluent samples were taken at equal time intervals across the entire duration of each test run. These samples were then processed with a Dekaport Cone sample splitter to obtain representative sub-samples for Suspended Sediment Concentration (SSC) testing using ASTM D3977-97 "Standard Test Methods for Determining Sediment Concentration in Water Samples", and particle size distribution analysis.

Results and Modeling

Based on the data from the University of Florida, a performance model was developed for the CDS system. A regression analysis was used to develop a fitting curve representative of the scattered data points at various design flow rates. This model, which demonstrated good agreement with the laboratory data, can then be used to predict CDS system performance with respect to SSC removal for any particle size gradation, assuming the particles are inorganic sandy-silt. Figure 2 shows CDS predictive performance for two typical particle size gradations (NJCAT gradation and OK-110 sand) as a function of operating rate.

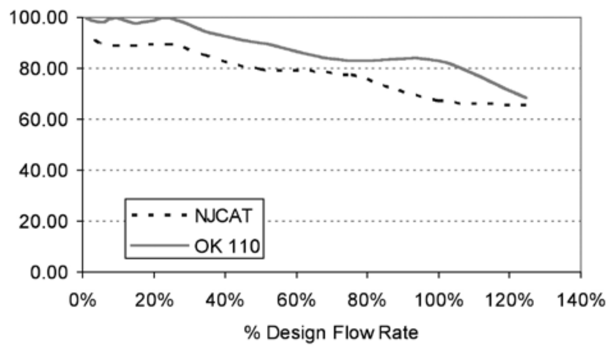


Figure 2. CDS stormwater treatment predictive performance for various particle gradations as a function of operating rate.

Many regulatory jurisdictions set a performance standard for hydrodynamic devices by stating that the devices shall be capable of achieving an 80% removal efficiency for particles having a mean particle size (d50) of 125 microns (e.g. Washington State Department of Ecology — WASDOE - 2008). The model can be used to calculate the expected performance of such a PSD (shown in Figure 3). The model indicates (Figure 4) that the CDS system with 2400 micron screen achieves approximately 80% removal at the design (100%) flow rate, for this particle size distribution (d50 = 125 μm).

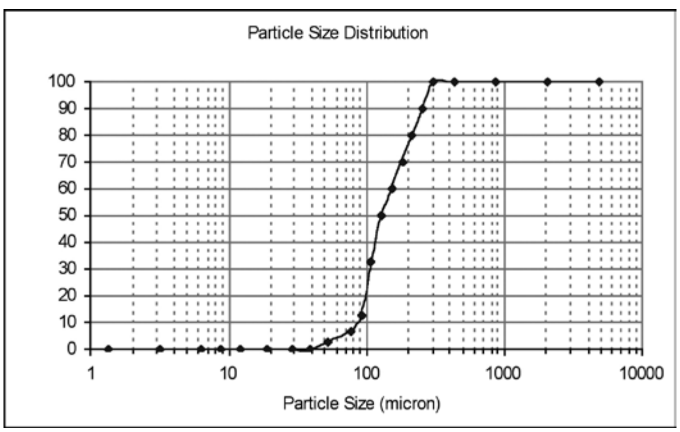


Figure 3. WASDOE PSD

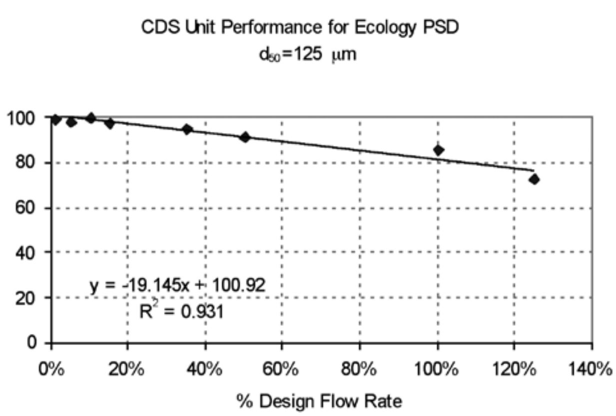


Figure 4. Modeled performance for WASDOE PSD.

Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (e.g. spring and fall) however more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment washdown areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

The visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified

during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided.

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allows both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine weather the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

Cleaning

Cleaning of a CDS systems should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. The screen should be cleaned to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal.

CDS Model	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y³	m³
CDS1515	3	0.9	3.0	0.9	0.5	0.4
CDS2015	4	1.2	3.0	0.9	0.9	0.7
CDS2015	5	1.5	3.0	0.9	1.3	1.0
CDS2020	5	1.5	3.5	1.1	1.3	1.0
CDS2025	5	1.5	4.0	1.2	1.3	1.0
CDS3020	6	1.8	4.0	1.2	2.1	1.6
CDS3025	6	1.8	4.0	1.2	2.1	1.6
CDS3030	6	1.8	4.6	1.4	2.1	1.6
CDS3035	6	1.8	5.0	1.5	2.1	1.6
CDS4030	8	2.4	4.6	1.4	5.6	4.3
CDS4040	8	2.4	5.7	1.7	5.6	4.3
CDS4045	8	2.4	6.2	1.9	5.6	4.3
CDS5640	10	3.0	6.3	1.9	8.7	6.7
CDS5653	10	3.0	7.7	2.3	8.7	6.7
CDS5668	10	3.0	9.3	2.8	8.7	6.7
CDS5678	10	3.0	10.3	3.1	8.7	6.7

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities

Note: To avoid underestimating the volume of sediment in the chamber, carefully lower the measuring device to the top of the sediment pile. Finer silty particles at the top of the pile may be more difficult to feel with a measuring stick. These finer particles typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile.

CDS Inspection & Maintenance Log

CDS Model: ______________________ Location: ______________________

Date	Water depth to sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the values listed in table 1 the system should be cleaned out. **Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile**.

2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

SUPPORT

- Drawings and specifications are available at www.ContechES.com.
- Site-specific design support is available from our engineers.

CONTECH® ENGINEERED SOLUTIONS
800-338-1122
www.ContechES.com

cds_manual 3/17 PDF

ADS FLEXSTORM CONNECTOR PIPE SCREEN (CPS) MAINTENANCE MANUAL

ADS – FLEXSTORM CONNECTOR PIPE SCREEN (CPS) MAINTENANCE GUIDELINES

FLEXSTORM suggests that its Connector Pipe Screens (CPS) be maintained per this modified set of conditions from the LA County CPS Standards. FLEXSTORM advises that catch basins be cleaned out at least 2 times per year and/or if debris has filled above a 40% level inside of the catch basin. Sites with large amounts of foliage, high sediment loads, or smaller CPS devices might need to be cleaned more frequently.

Maintenance Conditions and Maintenance Standards: The Following are deficiencies in maintenance conditions and their corresponding maintenance standards which shall apply to the Connector Pipe Screen. The cleanout of each CB shall meet the maintenance standards listed as follows:

	Description of Maintenance Actions
1	Clear trash and debris located immediately in front of curb opening or side opening of CB, and on top or between metal grates of grated CB.
2	Remove Vegetation growing across and/or blocking the basin opening.
3	Remove all Trash and debris and vegetation from inside the Catch Basin.
4	Remove Trash and debris in the connector pipe opening, upstream or downstream.
5	Knock off/Remove all Debris that covers the perforated openings of the connector pipe screen
6	Ensure there is no Standing Water inside of catch basin (indicates the device is not properly draining)

Trash and debris shall include, but is not limited to, mud, vegetation, and garbage.

Upon completion of a cleanout operation at a CB and before leaving it, the Contractor shall sweep the top surface of the CB and the area 2 feet around the CB, and shall remove any trash and debris resulting from the cleanout operations. No debris is to be left at a CB for future pick-up.

Method of Removal: All trash and debris required to be removed from the CBs shall be removed in a manner to be determined by the Contractor. This can be done by hand or with a truck mounted vacuum. If entering the catch basin ensure that local confined space entry procedures are followed. The Contractor shall not allow any trash or debris to enter the connector pipe or main line as a result of the cleanout operations.

Debris Disposal: All trash and debris removed under this Contract shall become the property of the Contractor and shall be legally disposed of away from the CB sites. The Contractor is responsible for proper disposal of the trash and debris, including obtaining approvals from all jurisdictional agencies, as applicable. The contractor shall be responsible for contacting and coordinating with local Animal Care and Control for pickup and disposal of dead animals. However, the Contractor shall be responsible for removing any dead animal from inside a CB.

Filterra Owner's Manual

filterra®

Bioretention Systems

CONTECH®
ENGINEERED SOLUTIONS

Table of Contents

Enclosed

Local Area Filterra Plant List

Introduction

Thank you for your purchase of the Filterra® Bioretention System. Filterra is a specially engineered stormwater treatment system incorporating high performance biofiltration media to remove pollutants from stormwater runoff. The system's biota (vegetation and soil microorganisms) then further breakdown and absorb captured pollutants. All components of the system work together to provide a sustainable long-term solution for treating stormwater runoff.

The Filterra system has been delivered to you with protection in place to resist intrusion of construction related sediment which can contaminate the biofiltration media and result in inadequate system performance. These protection devices are intended as a best practice and cannot fully prevent contamination. It is the purchaser's responsibility to provide adequate measures to prevent construction related runoff from entering the Filterra system.

Included with your purchase is Activation of the Filterra system by the manufacturer as well as a 1-year warranty from delivery of the system and 1-year of routine maintenance (mulch replacement, debris removal, and pruning of vegetation) up to twice during the first year after activation.

Design and Installation

Each project presents different scopes for the use of Filterra systems. Information and help may be provided to the design engineer during the planning process. Correct Filterra box sizing (by rainfall region) is essential to predict pollutant removal rates for a given area. The engineer shall submit calculations for approval by the local jurisdiction. The contractor is responsible for the correct installation of Filterra units as shown in approved plans. A comprehensive installation manual is available at www.ContechES.com.

Activation Overview

Activation of the Filterra system is a procedure completed by the manufacturer to place the system into working condition. This involves the following items:

- Removal of construction runoff protection devices
- Planting of the system's vegetation
- Placement of pretreatment mulch layer using mulch certified for use in Filterra systems.

Activation MUST be provided by the manufacturer to ensure proper site conditions are met for Activation, proper installation of the vegetation, and use of pretreatment mulch certified for use in Filterra systems.

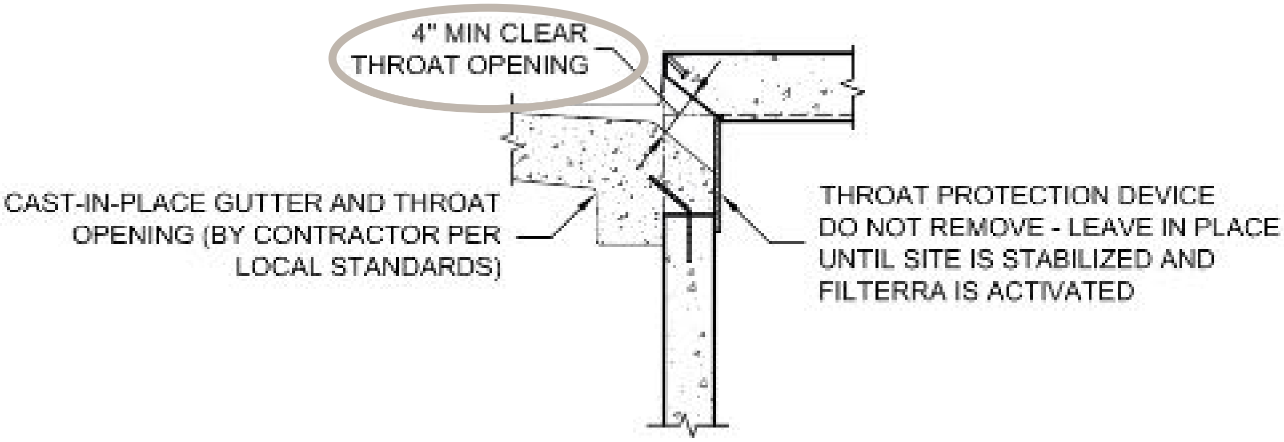
Minimum Requirements

The minimum requirements for Filterra Activation are as follows:

1. The site landscaping must be fully stabilized, i.e. full landscaping installed and some grass cover (not just straw and seed) is required to reduce sediment transport. Construction debris and materials should be removed from surrounding area.

2. Final paving must be completed. Final paving ensures that paving materials will not enter and contaminate the Filterra system during the paving process, and that the plant will receive runoff from the drainage area, assisting with plant survival for the Filterra system.

3. Filterra throat opening should be at least 4″ in order to ensure adequate capacity for inflow and debris.



An Activation Checklist is included on page 12 to ensure proper conditions are met for Contech to perform the Activation services. A charge of $500.00 will be invoiced for each Activation visit requested by Customer where Contech determines that the site does not meet the conditions required for Activation.

Filterra Plant Selection Overview

A Plant List has been enclosed with this packet highlighting recommended plants for Filterra systems in your area. Keep in mind that plants are subject to availability due to seasonality and required minimum size for the Filterra system. Plants installed in the Filterra system are container plants (max 15 gallon) from nursery stock and will be immature in height and spread at Activation.

It is the responsibility of the owner to provide adequate irrigation when necessary to the plant of the Filterra system.

The "Planting Requirements for Filterra Systems" document is included as an appendix and discusses proper selection and care of the plants within Filterra systems.

Warranty Overview

Refer to the Contech Engineered Solutions LLC Stormwater Treatment System LIMITED WARRANTY for further information. The following conditions may void the Filterra system's warranty and waive the manufacturer provided Activation and Maintenance services:

- Unauthorized activation or performance of any of the items listed in the activation overview
- Any tampering, modifications or damage to the Filterra system or runoff protection devices
- Removal of any Filterra system components
- Failure to prevent construction related runoff from entering the Filterra system
- Failure to properly store and protect any Filterra components (including media and underdrain stone) that may be shipped separately from the vault

Routine Maintenance Guidelines

With proper routine maintenance, the biofiltration media within the Filterra system should last as long as traditional bioretention media. Routine maintenance is included by the manufacturer on all Filterra systems for the first year after activation. This includes a maximum of 2 visits to remove debris, replace pretreatment mulch, and prune the vegetation. More information is provided in the Operations and Maintenance Guidelines. Some Filterra systems also contain pretreatment or outlet bays. Depending on site pollutant loading, these bays may require periodic removal of debris, however this is not included in the first year of maintenance, and would likely not be required within the first year of operation.

These services, as well as routine maintenance outside of the included first year, can be provided by certified maintenance providers listed on the Contech website. Training can also be provided to other stormwater maintenance or landscape providers.

Why Maintain?

All stormwater treatment systems require maintenance for effective operation. This necessity is often incorporated in your property's permitting process as a legally binding BMP maintenance agreement. Other reasons to maintain are:

- Avoiding legal challenges from your jurisdiction's maintenance enforcement program.
- Prolonging the expected lifespan of your Filterra media.
- Avoiding more costly media replacement.
- Helping reduce pollutant loads leaving your property.

Simple maintenance of the Filterra is required to continue effective pollutant removal from stormwater runoff before discharge into downstream waters. This procedure will also extend the longevity of the living biofilter system. The unit will recycle and accumulate pollutants within the biomass, but is also subjected to other materials entering the inlet. This may include trash, silt and leaves etc. which will be contained above the mulch layer. Too much silt may inhibit the Filterra's flow rate, which is the reason for site stabilization before activation. Regular replacement of the mulch stops accumulation of such sediment.

When to Maintain?

Contech includes a 1-year maintenance plan with each system purchase. Annual included maintenance consists of a maximum of two (2) scheduled visits. Additional maintenance may be necessary depending on sediment and trash loading (by Owner or at additional cost). The start of the maintenance plan begins when the system is activated.

Maintenance visits are scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands while the fall visit helps the system by removing excessive leaf litter.

It has been found that in regions which receive between 30-50 inches of annual rainfall, (2) two visits are generally required; regions with less rainfall often only require (1) one visit per annum. Varying land uses can affect maintenance frequency; e.g. some fast food restaurants require more frequent trash removal. Contributing drainage areas which are subject to new development wherein the recommended erosion and sediment control measures have not been implemented may require additional maintenance visits.

Some sites may be subjected to extreme sediment or trash loads, requiring more frequent maintenance visits. This is the reason for detailed notes of maintenance actions per unit, helping the Supplier and Owner predict future maintenance frequencies, reflecting individual site conditions.

Owners must promptly notify the (maintenance) Supplier of any damage to the plant(s), which constitute(s) an integral part of the bioretention technology. Owners should also advise other landscape or maintenance contractors to leave all maintenance to the Supplier (i.e. no pruning or fertilizing) during the first year.

Exclusion of Services

Clean up due to major contamination such as oils, chemicals, toxic spills, etc. will result in additional costs and are not covered under the Supplier maintenance contract. Should a major contamination event occur the Owner must block off the outlet pipe of the Filterra (where the cleaned runoff drains to, such as drop inlet) and block off the throat of the Filterra. The Supplier should be informed immediately.

Maintenance Visit Summary

Each maintenance visit consists of the following simple tasks (detailed instructions below).

1. Inspection of Filterra and surrounding area
2. Removal of tree grate and erosion control stones
3. Removal of debris, trash and mulch
4. Mulch replacement
5. Plant health evaluation and pruning or replacement as necessary
6. Clean area around Filterra
7. Complete paperwork

Maintenance Tools, Safety Equipment and Supplies

Ideal tools include: camera, bucket, shovel, broom, pruners, hoe/rake, and tape measure. Appropriate Personal Protective Equipment (PPE) should be used in accordance with local or company procedures. This may include impervious gloves where the type of trash is unknown, high visibility clothing and barricades when working in close proximity to traffic and also safety hats and shoes. A T-Bar or crowbar should be used for moving the tree grates (up to 170 lbs ea.). Most visits require minor trash removal and a full replacement of mulch. See below for actual number of bagged mulch that is required in each media bay size. Mulch should be a double shredded, hardwood variety. Some visits may require additional Filterra engineered soil media available from the Supplier.

Box Length	Box Width	Filter Surface Area (ft^2)	Volume at 3” (ft^3)	# of 2 ft^3 Mulch Bags
4	4	4	4	2
6	4	6	6	3
8	4	8	8	4
6	6	9	9	5
8	6	12	12	6
10	6	15	15	8
12	6	18	18	9
13	7	23	23	12

Maintenance Visit Procedure

Keep sufficient documentation of maintenance actions to predict location specific maintenance frequencies and needs. An example Maintenance Report is included in this manual.

1. Inspection of Filterra and surrounding area

- Record individual unit before maintenance with photograph (numbered). Record on Maintenance Report (see example in this document) the following:

Record on Maintenance Report the following:

Standing Water	yes | no
Damage to Box Structure	yes | no
Damage to Grate	yes | no
Is Bypass Clear	yes | no

If yes answered to any of these observations, record with close-up photograph (numbered).

2. Removal of tree grate and erosion control stones

- Remove cast iron grates for access into Filterra box.
- Dig out silt (if any) and mulch and remove trash & foreign items.

3. Removal of debris, trash and mulch

Record on Maintenance Report the following:

Silt/Clay	yes | no
Cups/ Bags	yes | no
Leaves	yes | no
Buckets Removed	________

- After removal of mulch and debris, measure distance from the top of the Filterra engineered media soil to the top of the top slab. Compare the measured distance to the distance shown on the approved Contract Drawings for the system. Add Filterra media (not top soil or other) to bring media up as needed to distance indicated on drawings.

Record on Maintenance Report the following:

Distance to Top of Top Slab (inches)	________
Inches of Media Added	________

4. Mulch replacement

- Add double shredded mulch evenly across the entire unit to a depth of 3”.
- Refer to Filterra Mulch Specifications for information on acceptable sources.
- Ensure correct repositioning of erosion control stones by the Filterra inlet to allow for entry of trash during a storm event.
- Replace Filterra grates correctly using appropriate lifting or moving tools, taking care not to damage the plant.

5. Plant health evaluation and pruning or replacement as necessary

- Examine the plant’s health and replace if necessary.
- Prune as necessary to encourage growth in the correct directions

Record on Maintenance Report the following:

Height above Grate	____________________ (ft)
Width at Widest Point	____________________ (ft)
Health	healthy | unhealthy
Damage to Plant	yes | no
Plant Replaced	yes | no

6. Clean area around Filterra

- Clean area around unit and remove all refuse to be disposed of appropriately.

7. Complete paperwork

- Deliver Maintenance Report and photographs to appropriate location (normally Contech during maintenance contract period).
- Some jurisdictions may require submission of maintenance reports in accordance with approvals. It is the responsibility of the Owner to comply with local regulations.

Maintenance Checklist

Drainage System Failure	Problem	Conditions to Check	Condition that Should Exist	Actions
Inlet	Excessive sediment or trash accumulation.	Accumulated sediments or trash impair free flow of water into Filterra.	Inlet should be free of obstructions allowing free distributed flow of water into Filterra.	Sediments and/or trash should be removed.
Mulch Cover	Trash and floatable debris accumulation.	Excessive trash and/or debris accumulation.	Minimal trash or other debris on mulch cover.	Trash and debris should be removed and mulch cover raked level. Ensure bark nugget mulch is not used.
Mulch Cover	"Ponding" of water on mulch cover.	"Ponding" in unit could be indicative of clogging due to excessive fine sediment accumulation or spill of petroleum oils.	Stormwater should drain freely and evenly through mulch cover.	Recommend contact manufacturer and replace mulch as a minimum.
Vegetation	Plants not growing or in poor condition.	Soil/mulch too wet, evidence of spill. Incorrect plant selection. Pest infestation. Vandalism to plants.	Plants should be healthy and pest free.	Contact manufacturer for advice.
Vegetation	Plant growth excessive.	Plants should be appropriate to the species and location of Filterra.		Trim/prune plants in accordance with typical landscaping and safety needs.
Structure	Structure has visible cracks.	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through the cracks.		Vault should be repaired.

Maintenance is ideally to be performed twice annually.

Filterra Inspection & Maintenance Log

Filterra System Size/Model:____________________ **Location:** ______________________________

Date	Mulch & Debris Removed	Depth of Mulch Added	Mulch Brand	Height of Vegetation Above Grate	Vegetation Species	Issues with System	Comments
1/1/17	*5 – 5 gal Buckets*	*3"*	*Lowe's Premium Brown Mulch*	*4'*	*Galaxy Magnolia*	*- Standing water in downstream structure*	*- Removed blockage in downstream structure*

Appendix 1 – Filterra® Activation Checklist

CONTECH ENGINEERED SOLUTIONS

Project Name:______________________________ Company:______________________________

Site Contact Name: ______________________________ Site Contact Phone/Email: ____________________

Site Owner/End User Name:____________________ Site Owner/End User Phone/Email: ____________________

Preferred Activation Date: ______________________________(provide 2 weeks minimum from date this form is submitted)

Site Designation	System Size	Final Pavement / Top Coat Complete	Landscaping Complete / Grass Emerging	Construction materials / Piles / Debris Removed	Throat Opening Measures 4" Min. Height	Plant Species Requested
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	

Attach additional sheets as necessary.

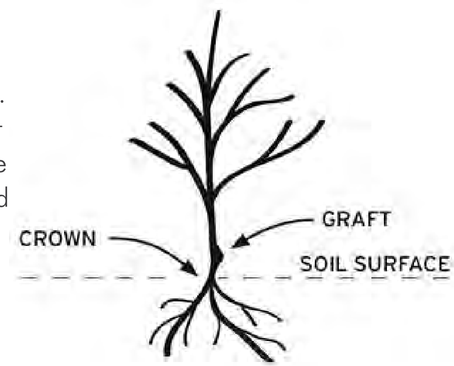
NOTE: A charge of $500.00 will be invoiced for each Activation visit requested by Customer where Contech determines that the site does not meet the conditions required for Activation. ONLY Contech authorized representatives can perform Activation of Filterra systems; unauthorized Activations will void the system warranty and waive manufacturer supplied Activation and 1st Year Maintenance.

______________________________ ______________________________

Signature Date

Appendix 2 – Planting Requirements for Filterra® Systems

Plant Material Selection



- Select plant(s) as specified in the engineering plans and specifications.
- Select plant(s) with full root development but not to the point where root bound.
- Use local nursery container plants only. Ball and burlapped plants are not permitted.
- For precast Filterra systems with a tree grate, plant(s) must not have scaffold limbs at least 14 inches from the crown due to spacing between the top of the mulch and the tree grate. Lower branches can be pruned away provided there are sufficient scaffold branches for tree or shrub development.
- For precast Filterra systems with a tree grate, at the time of installation, it is required that plant(s) must be at least 6″ above the tree grate opening at installation for all Filterra configurations. This DOES NOT apply to Full Grate Cover designs.
- Plant(s) shall not have a mature height greater than 25 feet.
- For standard 21″ media depth, a 7 – 15 gallon container size shall be used. Media less than 21″ (Filterra boxes only) will require smaller container plants.
- For precast Filterra systems, plant(s) should have a single trunk at installation, and pruning may be necessary at activation and maintenance for some of the faster growing species, or species known to produce basal sprouts.

Plant Installation

- During transport protect the plant leaves from wind and excessive jostling.
- Prior to removing the plant(s) from the container, ensure the soil moisture is sufficient to maintain the integrity of the root ball. If needed, pre-wet the container plant.
- Cut away any roots which are growing out of the container drain holes. Plants with excessive root growth from the drain holes should be rejected.
- Plant(s) should be carefully removed from the pot by gently pounding on the sides of the container with the fist to loosen root ball. Then carefully slide out. Do not lift plant(s) by trunk as this can break roots and cause soil to fall off. Extract the root ball in a horizontal position and support it to prevent it from breaking apart. Alternatively the pot can be cut away to minimize root ball disturbance.
- Remove any excess soil from above the root flare after removing plant(s) from container.
- Excavate a hole with a diameter 4″ greater than the root ball, gently place the plant(s).
- If plant(s) have any circling roots from being pot bound, gently tease them loose without breaking them.
- If root ball has a root mat on the bottom, it should be shaved off with a knife just above the mat line.
- Plant the tree/shrub/grass with the top of the root ball 1″ above surrounding media to allow for settling.
- All plants should have the main stem centered in the tree grate (where applicable) upon completion of installation.
- With all trees/shrubs, remove dead, diseased, crossed/rubbing, sharply crotched branches or branches growing excessively long or in wrong direction compared to majority of branches.
- To prevent transplant shock (especially if planting takes place in the hot season), it may be necessary to prune some of the foliage to compensate for reduced root uptake capacity. This is accomplished by pruning away some of the smaller secondary branches or a main scaffold branch if there are too many. Too much foliage relative to the root ball can dehydrate and damage the plant.
- Plant staking may be required.

Mulch Installation

- Only mulch that has been meeting Contech Engineered Solutions' mulch specifications can be used in the Filterra system.
- Mulch must be applied to a depth of 3" evenly over the surface of the media.

Irrigation Requirements

- Each Filterra system must receive adequate irrigation to ensure survival of the living system during periods of drier weather.
- Irrigation sources include rainfall runoff from downspouts and/or gutter flow, applied water through the tree grate or in some cases from an irrigation system with emitters installed during construction.
- At Activation: Apply about one (cool climates) to two (warm climates) gallons of water per inch of trunk diameter over the root ball.
- During Establishment: In common with all plants, each Filterra plant will require more frequent watering during the establishment period. One inch of applied water per week for the first three months is recommended for cooler climates (2 to 3 inches for warmer climates). If the system is receiving rainfall runoff from the drainage area, then irrigation may not be needed. Inspection of the soil moisture content can be evaluated by gently brushing aside the mulch layer and feeling the soil. Be sure to replace the mulch when the assessment is complete. Irrigate as needed**.
- Established Plants: Established plants have fully developed root systems and can access the entire water column in the media. Therefore irrigation is less frequent but requires more applied water when performed. For a mature system assume 3.5 inches of available water within the media matrix. Irrigation demand can be estimated as 1" of irrigation demand per week. Therefore if dry periods exceed 3 weeks, irrigation may be required. It is also important to recognize that plants which are exposed to windy areas and reflected heat from paved surfaces may need more frequent irrigation. Long term care should develop a history which is more site specific.

** Five gallons per square yard approximates 1 inch of water Therefore for a 6' by 6' Filterra approximately 20-60 gallons of water is needed. To ensure even distribution of water it needs to be evenly sprinkled over the entire surface of the filter bed, with special attention to make sure the root ball is completely wetted. NOTE: if needed, measure the time it takes to fill a five gallon bucket to estimate the applied water flow rate then calculate the time needed to irrigate the Filterra. For example, if the flow rate of the sprinkler is 5 gallons/minute then it would take 12 minutes to irrigate a 6' by 6' filter.

Notes

filterra®
Bioretention Systems

CONTECH®
ENGINEERED SOLUTIONS

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PDF 1/18

I.10 Proprietary Device Inspection and Maintenance Checklist

Date: ______________________ Work Order # ________________

Type of Inspection: □ post-storm □ annual □ routine □ post-wet season □ pre-wet season

Facility: _____________________ Inspector(s): _________________

Defect	Conditions When Maintenance Is Needed	Inspection Result (0,1, or 2) †	Date Maintenance Performed	Comments or Action(s) taken to resolve issue
Refer to the manufacturer's instructions for maintenance/inspection requirements, below are generic guidelines to supplement manufacturer's recommendations.				
Underground Vault				
Sediment Accumulation on Media	Sediment depth exceeds 0.25-inches.			
Sediment Accumulation in Vault	Sediment depth exceeds 6-inches in first chamber.			
Trash/Debris Accumulation	Trash and debris accumulated on compost filter bed.			
Sediment in Drain Pipes or Cleanouts	When drain pipes, clean-outs, become full with sediment and/or debris.			
Damaged Pipes	Any part of the pipes that are crushed or damaged due to corrosion and/or settlement.			
Access Cover Damaged/Not Working	Cover cannot be opened; one person cannot open the cover using normal lifting pressure, corrosion/deformation of cover.			
Vault Structure Includes Cracks in Wall, Bottom, Damage to	Cracks wider than 1/2-inch or evidence of soil particles entering the structure through the cracks, or maintenance/inspection personnel determine that the vault is not structurally sound.			

Defect	Conditions When Maintenance Is Needed	Inspection Result (0,1, or 2) †	Date Maintenance Performed	Comments or Action(s) taken to resolve issue
Frame and/or Top Slab	Cracks wider than 1/2-inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks.			
Baffles	Baffles corroding, cracking warping, and/or showing signs of failure as determined by maintenance/inspection person.			
Access Ladder Damaged	Ladder is corroded or deteriorated, not functioning properly, not securely attached to structure wall, missing rungs, cracks, or misaligned.			
Below Ground Cartridge Type				
Filter Media	Drawdown of water through the media takes longer than 1 hour and/or overflow occurs frequently.			
Short Circuiting	Flows do not properly enter filter cartridges.			

†Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

3) Above the design treatment elevation, a typical lawn mix or landscape plants can be used provided they do not shade the swale vegetation.

4) Irrigation is required if the seed is planted in the spring or summer. Use of a permanent irrigation system may help provide maximal water quality performance. Drought-tolerant grasses should be specified to minimize irrigation requirements.

5) Vegetative cover should be at least 4 inches in height, ideally 6 inches. Swale water depth should ideally be 2/3 of the height of the shortest plant species.

6) Locate the swale in an area without excessive shade to avoid poor vegetative growth. For moderately shaded areas, shade tolerant plants should be used.

7) Locate the swale away from large trees that may drop excessive leaves or needles, which may smother the grass or impede the flow through the swale. Landscape planter beds should be designed and located so that soil does not erode from the beds and enter a nearby swale.

Maintenance Access

1) Access to the swale inlet and outlet should be safely provided, with ample room for maintenance and operational activities.

Operations and Maintenance

1) Inspect vegetated swales for erosion or damage to vegetation after every storm greater than 0.75 inches for on-line swales and at least twice annually for off-line swales, preferably at the end of the wet season to schedule summer maintenance and in the fall to ensure readiness for winter. Additional inspection after periods of heavy runoff is recommended. Each swale should be checked for debris and litter and areas of sediment accumulation (see Appendix I for a vegetated swale inspection and maintenance checklist).

2) Swale inlets (curb cuts or pipes) should maintain a calm flow of water entering the swale. Remove sediment as needed at the inlet, if vegetation growth is inhibited in greater than 10% of the swale or if the sediment is blocking even distribution and entry of the water. Following sediment removal activities, replanting and/or reseeding of vegetation may be required for reestablishment.

3) Flow spreaders should provide even dispersion of flows across the swale. Sediments and debris should be removed from the flow spreader if blocking flows. Splash pads should be repaired if needed to prevent erosion. Spreader level should be checked and releveled if necessary.

4) Side slopes should be maintained to prevent erosion that introduces sediment into the swale. Slopes should be stabilized and planted using appropriate erosion control measures when native soil is exposed, or erosion channels are formed.

5) Swales should drain within 48 hours of the end of a storm. Till the swale if compaction or clogging occurs and revegetate. If a perforated underdrain pipe is present, it should be cleaned if necessary.

6) Vegetation should be healthy and dense enough to provide filtering, while protecting underlying soils from erosion:

   - Mulch should be replenished as needed to ensure survival of vegetation.

   - Vegetation, large shrubs or trees that interfere with landscape swale operation should be pruned.

   - Fallen leaves and debris from deciduous plant foliage should be removed.

   - Grassy swales should be mowed to 4 to 6 inches height. Grass clippings should be removed.

   - Invasive vegetation, such as Alligatorweed (*Alternanthera philoxeroides*), Halogeton (*Halogeton glomeratus*), Spotted Knapweed (*Centaurea maculosa*), Giant Reed (*Arundo donax*), Castor Bean (*Ricinus communis*), Perennial Pepperweed (*Lepidium latifolium*), and Yellow Starthistle (*Centaurea solstitalis*) should be removed and replaced with non-invasive species. Invasive species should never contribute more than 10% of the vegetated area. For more information on invasive weeds, including biology and control of listed weeds, look at the encycloweedia located at the California Department of Food and Agriculture website or the California Invasive Plant Council website at www.cal-ipc.org.

   - Dead vegetation should be removed if greater than 10% of area coverage or when swale function is impaired. Vegetation should be replaced and established before the wet season to maintain cover density and control erosion where soils are exposed.

7) Check dams (if present) should control and distribute flow across the swale. Causes for altered water flow and/or channelization should be identified and obstructions cleared. Check dams and swale should be repaired if damaged.

8) The vegetated swale should be well maintained. Trash and debris, sediment, visual contamination (e.g., oils), noxious or nuisance weeds, should all be removed.

I.2 Vegetated Swale Inspection and Maintenance Checklist

Date: ________________________ Work Order # ________________

Type of Inspection: □ post-storm □ annual □ routine □ post-wet season □ pre-wet season

Facility: ______________________ Inspector(s): ________________

Defect	Conditions When Maintenance Is Needed	Inspection Result (0, 1, or 2)†	Date Maintenance Performed	Comments or Action(s) Taken to Resolve Issue
Appearance	Untidy			
Trash and Debris Accumulation	Trash and debris accumulated in the swale.			
Vegetation	When the grass becomes excessively tall (greater than 10-inches); when nuisance weeds and other vegetation start to take over.			
Excessive Shading	Vegetation growth is poor because sunlight does not reach swale. Evaluate vegetation suitability.			
Poor Vegetation Coverage	When vegetation is sparse, or bare or eroded patches occur in more than 10% of the swale bottom. Evaluate vegetation suitability.			
Sediment Accumulation	Sediment depth exceeds 2 inches or covers more than 10% of design area.			
Standing Water	When water stands in the swale between storms and does not drain freely.			
Flow spreader or Check Dams	Flow spreader or check dams uneven or clogged so that flows are not uniformly distributed through entire swale width.			

Defect	Conditions When Maintenance Is Needed	Inspection Result (0, 1, or 2)†	Date Maintenance Performed	Comments or Action(s) Taken to Resolve Issue
Constant Baseflow	When small quantities of water continually flow through the swale, even when it has been dry for weeks and an eroded, muddy channel has formed in the swale bottom.			
Inlet/Outlet	Inlet/outlet areas clogged with sediment and/or debris.			
Erosion/ Scouring	Eroded or scoured swale bottom due to flow channelization, or higher flows. Eroded or rilled side slopes.			
	Eroded or undercut inlet/outlet structures			

†Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.

Plants

Plant materials should be tolerant of summer drought, ponding fluctuations, and saturated soil conditions for 48 to 96 hours.

It is recommended that a minimum of three types of tree, shrubs, and/or herbaceous groundcover species be incorporated to protect against facility failure due to disease and insect infestations of a single species.

Native plant species and/or hardy cultivars that are not invasive and do not require chemical inputs should be used to the maximum extent practicable.

Operations and Maintenance

Bioretention areas require annual plant, soil, and mulch layer maintenance to ensure optimum infiltration, storage, and pollutant removal capabilities. In general, bioretention maintenance requirements are typical landscape care procedures and include:

1) Watering: Plants should be selected to be drought-tolerant and not require watering after establishment (2 to 3 years). Watering may be required during prolonged dry periods after plants are established.

2) Erosion control: Inspect flow entrances, ponding area, and surface overflow areas periodically, and replace soil, plant material, and/or mulch layer in areas if erosion has occurred (see Appendix I for a bioretention inspection and maintenance checklist). Properly designed facilities with appropriate flow velocities should not have erosion problems except perhaps in extreme events. If erosion problems occur, the following should be reassessed: (1) flow velocities and gradients within the cell, and (2) flow dissipation and erosion protection strategies in the pretreatment area and flow entrance. If sediment is deposited in the bioretention area, immediately determine the source within the contributing area, stabilize, and remove excess surface deposits.

3) Plant material: Depending on aesthetic requirements, occasional pruning and removing of dead plant material may be necessary. Replace all dead plants and if specific plants have a high mortality rate, assess the cause and, if necessary, replace with more appropriate species. Periodic weeding is necessary until plants are established. The weeding schedule should become less frequent if the appropriate plant species and planting density have been used and, as a result, undesirable plants have been excluded.

4) Nutrient and pesticides: The soil mix and plants are selected for optimum fertility, plant establishment, and growth. Nutrient and pesticide inputs should not be required and may degrade the pollutant processing capability of the bioretention area, as well as contribute pollutant loads to receiving waters. By design, bioretention facilities are located in areas where phosphorous and nitrogen levels are often elevated, and these should not be limiting nutrients. If in question, have soil analyzed for fertility.

5) Mulch: Replace mulch annually in bioretention facilities where high trash, sediment load, and heavy metal deposition is likely (e.g., heavy metal contributing areas include industrial and auto dealer/repair parking lots and roads). In residential lots or other areas where metal deposition is not a concern, replace or add mulch as needed to maintain a 2 to 3-inch depth at least once every two years.

6) Soil: Soil mixes for bioretention facilities are designed to maintain long-term fertility and pollutant processing capability. Replacing mulch in bioretention facilities where high trash, sediment load, and heavy metal deposition are likely providing an additional level of protection for prolonged performance. Estimates from metal attenuation research suggest that metal accumulation should not present an environmental concern for at least 20 years in bioretention systems. However, the saturated hydraulic conductivity should be assessed at least annually to ensure that the design water quality event is being treated. If in question, have soil analyzed for fertility and pollutant levels.

I.1 Bioretention/Planter Box Inspection and Maintenance Checklist

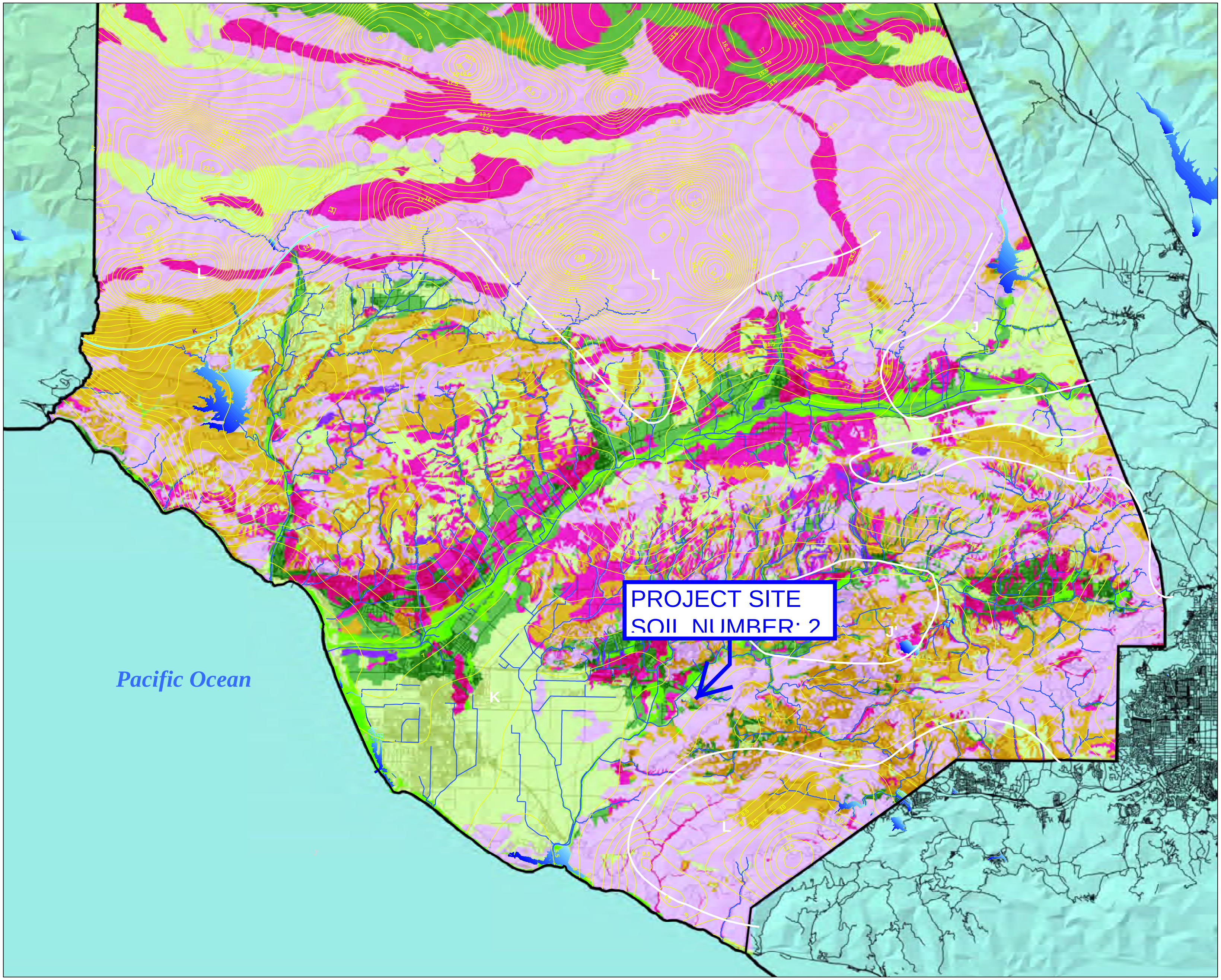
Date: ______________________ Work Order # ___________

Type of Inspection: □ post-storm □ annual □ routine □ post-wet season □ pre-wet season

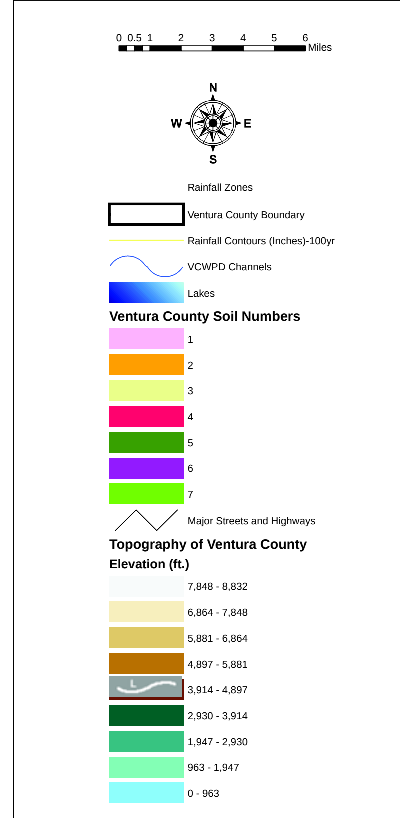
Facility: _____________________ Inspector(s): _________________

Defect	Conditions When Maintenance Is Needed	Inspection Result (0, 1, or 2)†	Date Maintenance Performed	Comments or Action(s) Taken to Resolve Issue
Appearance	Untidy			
Trash and Debris Accumulation	Trash, plant litter and dead leaves accumulated on surface.			
Vegetation	Unhealthy plants and appearance.			
Irrigation	Functioning incorrectly (if applicable).			
Inlet	Inlet pipe blocked or impeded.			
Splash Blocks	Blocks or pads correctly positioned to prevent erosion.			
Overflow	Overflow pipe blocked or broken.			
Filter media	Infiltration design rate is met (e.g., drains 36-48 hours after moderate - large storm event).			

†Maintenance: Enter 0 if satisfactory, 1 if maintenance is needed and include WO#. Enter 2 if maintenance was performed same day.



100-Year, 1-Day Rainfall Contours for Ventura County



GEOLABS-WESTLAKE VILLAGE
Foundation and Soils Engineering, Geology

a dba of
R & R Services
Corporation

31119 Via Colinas, Suite 502 • Westlake Village, CA 91362
Voice: (818) 889-2562 (805) 495-2197
Fax: (818) 889-2995 (805) 379-2603

October 19, 2018
W.O. 9359

New Urban West, Inc.
1733 Ocean Avenue, Suite 260
Santa Monica, California 90401

Attention: Johnathan Frankel

SUBJECT: Feasibility of On-Site Stormwater Infiltration
Unnamed Tentative Tract, Camarillo Springs,
City of Camarillo, California

Mr. Frankel,

In accordance with your request we have prepared this letter-report regarding the contemplated storm water infiltration for the proposed residential development of a portion of the golf course at Camarillo Springs. In short, we believe infiltration within the residential development is *not* feasible. The basis for our belief is discussed below.

Near surface soils at the site consist primarily of clay-rich mixtures that contain variable amounts of silt and subordinate sand. Over the years, these soils have been observed in numerous borings and trenches. Water has been observed flowing from small sand stringers that occur sporadically within the soil, while the intervening clayey soil shows no sign of seepage, attesting to its low permeability even when in a poorly compacted state. When compacted, as they will be for the residential development, such soils have very slow infiltration rates; infiltration rates below the threshold for stormwater infiltration systems.

Ground water occurs at shallow depths throughout the development area; too shallow to allow stormwater infiltration systems. Piezometers set at 10 to 20 feet below the surface show pressure heads that place the piezometric surface 2 – 3 feet below the surface.

This geotechnical report has been prepared in accordance with generally accepted engineering practices at this time and location. No other express or implied warranty regarding to the professional opinions provided under the terms of our agreement and included in this report is made.

Thank you for this opportunity to be of service. Please do not hesitate to call if you have any questions regarding this report.

Respectfully submitted,
GEOLABS-WESTLAKE VILLAGE

Ronald Z. Shmerling
C.E.G. 1047
R.C.E. 35444

XC: (2) Addressee
(1) Jensen Design & Civil, Attention: Kinsey Hensley
(3) City of Camarillo, c/o Jensen Design & Civil

APPENDIX P -
FEMA CONDITIONAL LETTER OF MAP REVISION

Camarillo Springs Golf Course

FEMA Conditional Letter of Map Revision (CLOMR)

April 2019

Prepared For:

NUWI Camarillo LLC
1733 Ocean Avenue, Suite 350
Santa Monica, CA 90401
310-394-3379

REGISTERED PROFESSIONAL ENGINEER
MARK EDWARD KREBS
No. 049292
Exp. 9/30/20
CIVIL
STATE OF CALIFORNIA

Prepared By:

PACE
Advanced Water Engineering

Pacific Advanced Civil Engineering, Inc.
17520 Newhope Street, Suite 200
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ANDREW RONNAU
No. 72851
EXP: 6/30/20
CIVIL
STATE OF CALIFORNIA

Contact Persons:
Mark E. Krebs, PE
Jenny M. Robinet, PE, CFM
Andrew Ronnau, PE, Ph.D

PACE JN #B306

Table of Contents

Tables

Figures

Appendices

Additional Enclosures

1 Introduction

The following report documents a Conditional Letter of Map Revision (CLOMR) application for the Camarillo Springs Golf Course project, in Camarillo, CA.

1.1 Project Description

The existing Camarillo Springs Golf Course is located in the City of Camarillo, CA in southeastern Ventura County (*Figure 1*). The project site is south of Ridge View Street, about 1,000 feet east of Conejo Creek. The proposed project improvements will consist of an approximately 32-acre of residential development, revised gold course area, parks, and open space within the current Golf Course property boundary. The project flood protection improvements include elevating 32-acres of development area, and constructing a drainage system for flows developed on the local tributary watershed. The proposed improvements will provide new residential area, create new neighborhood recreation facilities, and remove more than 150 existing residential structures from the effective floodplain.

1.2 Limits of Study and Effective FEMA Flood Hazards

The present study is for the reach of Conejo Creek from approximately 1,300 feet upstream of Howard Road, to just downstream of the Highway 101 Bridge. The downstream study limit corresponds to FEMA effective model cross section number 48073, and the upstream study limit corresponds to FEMA effective model cross section number 54749.

The project property is on FIRM Panels 06111C0934E and 06111C0953E, each with an effective date of January 20, 2010. The floodplain boundaries in the area have since been revised by two Letters of Map Revision (LOMR). The effective floodplain boundary data in digital format (DFIRM) was obtained and used to create the effective mapping of the area shown in *Figure 2*.

The flood hazard from Conejo Creek is shown mapped as Zone AE with floodway. Complete FIRM panels showing the published FIRM mapping are included in *Appendix A*, but these do not include the Letters of Map Change approved after the published date of the panels.

2 CLOMR HEC-RAS Modeling

2.1 HEC-RAS Models

A complete set of HEC-RAS models are presented for the CLOMR application, including duplicate effective, corrected effective, and proposed conditions models. The corrected effective, and proposed conditions models are based on the effective models, which were obtained as part of a FEMA backup data library request.

2.1.1 Effective FEMA Hydraulic Models

Downstream Portion of Study Reach, XS 48073 to XS 51231
The effective mapping for the downstream portion of the study reach, from XS 48073 to XS 51231, was developed with a steady state HEC-RAS model using VCRat peak flowrates from a VCWPD Watershed Hydrology Study of Calleguas Creek, which includes Conejo Creek. This model was originally used to develop 10-yr, 50-yr, 100-yr and 500-yr water surface elevations for the entire study reach, however the results for the upstream portion of the study reach have been superseded by the models from a 2015 LOMR.

Upstream Portion of Study Reach, XS 51491 to XS 54749
The effective modelling for the upstream portion of the study reach consists of an unsteady HEC-RAS model for the 100-yr event mapping and floodway analysis, and a steady state HEC-RAS model for the 500-yr event mapping. These models are part of a Letter of Map Revision (Case No. 10-09-2501P), approved by FEMA in 2011, and reissued in 2015 as part of Case No. 15-09-1145P.

The BFE information from the models were verified against the BFEs listed in the Ventura County FIS study and on the effective FIRM panels.

2.1.2 Corrected Effective / Existing Condition Model

A single corrected effective HEC-RAS geometry for the entire study reach was created using the stream centerline, cross section numbering, and cross section alignments from the two effective models. The cross sections were revised using updated topographic data. The roughness values, boundary conditions, and flowrates are unchanged.

The 100-yr event and the floodway were analyzed using an unsteady model, and the 500-yr event was analyzed using a steady state model. Both models use the same geometry. The hydrographs for unsteady model and the flowrates for the steady state modelling are exactly the same as in the effective models. The two corrected effective models are provided in the *Additional Enclosures* folder.

2.1.3 Proposed Condition Model

The proposed conditions HEC-RAS geometry model was created from the corrected effective geometry by modifying certain cross sections to reflect the proposed grading. As with the corrected effective modelling, the 100-yr event was analyzed using an unsteady model, and the 500-yr event was analyzed using a steady state model. A Topographic Workmap is shown on *Figure 3*. The two proposed condition models are provided in the *Additional Enclosures* folder.

2.2 HEC-RAS Model Input

The input parameters for the model follow the guidelines of the HEC-RAS Modeling User's Manual (v5.0) and the HEC-RAS Supplemental User's Manual (v5.0.4). The input variables were adjusted to match the conditions of the project area.

2.2.1 *Topographic Data*

The topographic data was provided by the County of Ventura and covers the entire reach of Conejo Creek from the creek's confluence with Calleguas Creek upstream to near the Upland Road Drain. The digital LiDAR topographic mapping data was flown by the County of Ventura in July 2013, and is high resolution LiDAR with a 10-ft x 10-ft grid resolution. The vertical accuracy was 9.25 cm. The digital topographic data, used to generate a TIF (Tagged Image File) which stores raster information, was applied as the terrain for computations in the HEC-RAS Model. Two terrains, existing condition (unchanged) and proposed condition (with proposed grading) were used in the models. The proposed grading was supplemented with local topography flown in May 2018 for grading and contour development.

2.2.2 *Model Extents*

The model of Conejo Creek extends from approximately 4,250 ft upstream of Highway 101 downstream to a point just upstream of the junction between Conejo Creek and Calleguas Creek. Approximately 18,800 ft of Conejo Creek is modelled. The study limits for the present CLOMR are from just downstream of the Highway 101 Bridge to a point approximately 1,300 feet upstream of the Howard Road crossing.

2.2.3 *Manning's Roughness*

The roughness values in the corrected effective and proposed conditions models are the same as in the effective models.

2.2.4 *Boundary Conditions*

The downstream boundary condition in the corrected effective and proposed conditions models is the same as in the effective model from the downstream portion of the project reach.

The upstream boundary condition in the unsteady corrected effective and proposed conditions models, for 100yr event analysis, is the same inflow hydrograph in the unsteady effective model from the upstream portion of the project reach.

No upstream boundary condition is necessary for the steady state corrected effective and proposed conditions models because the subcritical flow regime is used.

2.2.5 *Flowrates/Inflow Hydrographs*

The flowrates for the steady state modelling are the same as in the corrected effective model. The hydrograph inputs for the unsteady 100-yr modeling are the same as in the corrected effective model, except for one of the lateral inflow hydrographs which comes from the Camarillo Springs Creek watershed at XS 53187. That lateral inflow hydrograph is reduced, in proposed conditions, to reflect the proposed conditions interior lake storage by scaling the ordinates so that the new volume has been reduced by 90 ac-ft.

3 HEC-RAS Model Results

3.1 Conejo Creek Model Results, Base Flood (100-yr) Event

The water surface elevation results from the models are shown in *Table 3-1*. Included in the table are the effective base flood elevations (BFE), the calculated water surface elevations for the duplicate effective, corrected effective/existing, and proposed models, and proposed new base flood elevations for the study reach. The water surface elevation results from the models show that there are minimal changes to flow depth on the main property area, and decreases observed near the south area where floodplain overbank storage is increased.

Table 3-1 Calculated Water Surface Elevations

Section	Effective BFE	Duplicate Effective	Corrected Effective / Existing	Proposed	New BFE
54800			Highway 101		
54749	XS Q = 118.0	118.0	117.2	117.8	XS Q = 117.8
54668		118.1	117.5	117.9	
54330		118.0	117.4	117.3	
53914		118.0	117.4	117.8	
53451		118.0	117.4	117.7	
53187		118.0	117.3	117.5	
53057	XS P = 118.0	118.0	117.3	117.4	XS Q = 117.4
53000			Ridge View Street		
52939	XS O = 117.9	117.9	117.3	117.3	XS O = 117.3
52809		117.5	117.1	117.2	
52620	XS N = 117.1	117.2	116.8	116.8	XS N = 116.8
52377		116.7	116.1	116.2	
52059		116.1	115.3	115.4	
51699		113.9	113.5	113.5	
51593		113.5	112.6	112.6	
51491	XS M = 113.6	113.6	112.9	113.0	XS M = 113.0
51231		113.1	112.5	112.5	
50917		112.5	111.8	111.7	
50597		112.0	111.3	111.2	
50305		111.2	110.7	110.1	
50231		111.0	110.6	109.9	
50143	XS L = 110.8	110.8	110.6	109.7	XS L = 109.7
49815		110.5	110.2	109.3	
49746		110.0	110.1	109.4	
49667		110.0	110.0	109.4	
49405		109.9	109.7	109.4	
49043		109.7	109.4	109.3	
48736		109.6	109.3	109.3	
48408	XS K = 109.3	109.3	109.1	109.2	XS K = 109.2
48258		109.3	109.0	109.0	
48073		109.2	108.9	108.9	

The HEC-RAS results show that FEMA base flood elevations do not increase. Revised floodplain boundaries are shown on the Floodplain Comparison Map, *Figure 4*. New base flood elevations are provided in *Table 3-1* and on the Annotated FIRM in *Figure 5*.

3.2 Conejo Creek Model Results, Floodway

The floodway for Conejo Creek was determined using the unsteady 100-yr corrected effective model. Floodway results are provided in *Table 3-2*. Both the effective floodway and the revised floodway are shown on the Floodplain Comparison Map, *Figure 4*, and on the Annotated FIRM, *Figure 8.*

Table 3-2 Floodway Elevation Results

Section	Corrected Effective / Existing	Floodway	Difference
54800	Highway 101		
54749	117.2	118.1	0.3
54668	117.5	118.5	1.0
54330	117.4	118.4	1.0
53914	117.4	118.2	0.8
53451	117.4	118.0	0.6
53187	117.3	117.9	0.6
53057	117.3	117.7	0.4
53000	Ridge View Street		
52939	117.3	117.7	0.4
52809	117.1	117.5	0.4
52620	116.7	117.1	0.4
52377	116.1	116.6	0.5
52059	115.3	115.7	0.4
51699	113.5	114.1	0.6
51593	112.6	112.8	0.2
51491	112.9	113.3	0.4
51231	112.5	112.8	0.3
50917	111.8	112.1	0.3
50597	111.3	111.6	0.3
50305	110.7	111.0	0.3
50231	110.6	110.9	0.3
50143	110.6	110.8	0.2
49815	110.2	110.5	0.3
49746	110.1	110.4	0.3
49667	110.0	110.3	0.3
49405	109.7	110.1	0.4
49043	109.4	109.8	0.4
48736	109.3	109.7	0.4
48408	109.1	109.5	0.4
48258	109.0	109.4	0.4
48073	108.9	109.3	0.4

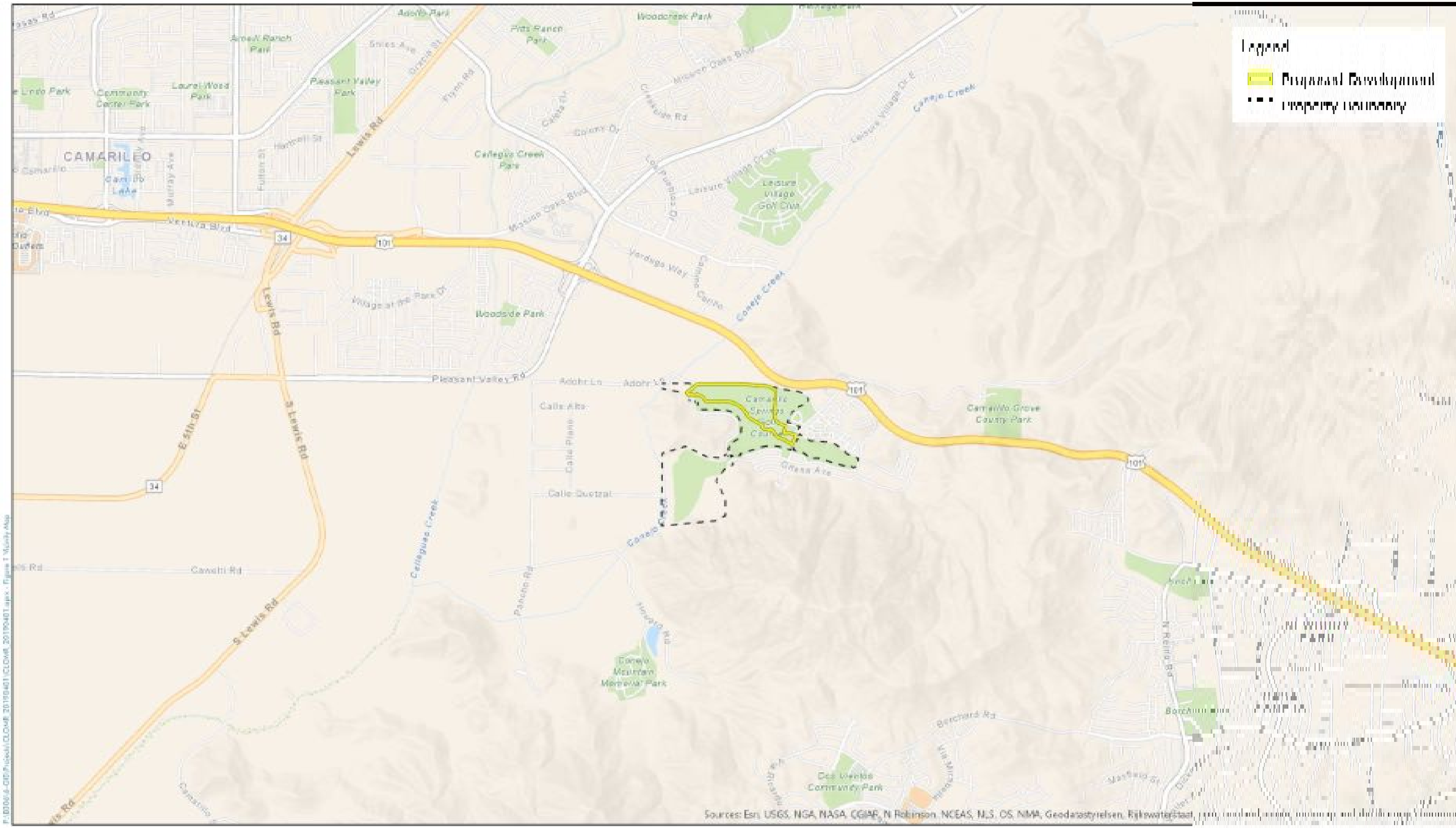
4 Floodplain Mapping and CLOMR Application FORMS

The proposed revised Conejo Creek floodplain and floodway boundaries are shown on the Floodplain Comparison Map, *Figure 4*.

Note that ponded water from Calleguas Creek to the west abuts the Conejo Creek Zone AE floodplain, and is shown on the FIRM panels as a broad area of Zone AO. The limits of the Conejo Creek Zone AE on the effective mapping are shown on the overbank where the Conejo Creek flow is one foot deep, thus matching the Zone AO area between Conejo Creek and Calleguas Creek at one foot of depth. This Zone AO was retained on the proposed revised floodplain mapping.

The proposed revised floodplain mapping is shown on the Annotated FIRM, *Figure 5*.

A complete set of FEMA MT forms are included in *Appendix A*.



CAMARILLO SPRINGS

VICINITY MAP

Figure 1

PACE

0 1,250 2,500 5,000 Feet

Date: 4/1/2019

Job Number: 8306

CAMARILLO SPRINGS

EFFECTIVE FIRM

Figure 2

PACE

0 400 800 1,600 Feet

Date: 2/11/2020

Job Number: 5305

P:\B306\6-GIS\Projects\CLOMR_20190401\CLOMR_20190401.aprx - Figure 3 Topographic Workmap

CAMARILLO SPRINGS

TOPOGRAPHIC WORKMAP

PACE Advanced Water Engineering

0 400 800 1,600 Feet

Date: 1/13/2020

Job Number: B306

Figure 3

P:\B306\6-GIS\Projects\CLOMR_20190401\CLOMR_20190401.aprx - Figure 4 Floodplain Comparison Map

CAMARILLO SPRINGS

FLOODPLAIN COMPARISON MAP

Figure 4

PACE Advanced Water Engineering

0 400 800 1,600 Feet

Date: 2/11/2020 | Vertical Datum: NAVD88 | Job Number: B306

P:\B306\6-GIS\Projects\CLOMR_20190401\CLOMR_20190401.aprx - Figure 5 Annotated FIRM

CAMARILLO SPRINGS

ANNOTATED FIRM

0 400 800 1,600 Feet

Date: 2/11/2020

Job Number: B306

Figure 5

APPENDICES

APPENDICES

MT-2 Forms

PACE

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

OVERVIEW & CONCURRENCE FORM

O.M.B No. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington, VA 20958-3005, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

A. REQUESTED RESPONSE FROM DHS-FEMA

This request is for a (check one):

☒ CLOMR: A letter from DHS-FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72).

☐ LOMR: A letter from DHS-FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See 44 CFR Ch. 1, Parts 60, 65 & 72)

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Example: 480301 480287	City of Katy Harris County	TX TX	48473C 48201C	0005D 0220G	02/08/83 09/28/90
065020	City of Camarillo	CA	06111C	0934E	1/20/201
065020	City of Camarillo	CA	06111C	0953E	1/20/201

2. a. Flooding Source: Conejo Creek

   b. Types of Flooding: ☒ Riverine ☐ Coastal ☐ Shallow Flooding (e.g., Zones AO and AH) ☐ Alluvial fan ☐ Lakes ☐ Other (Attach Description)

3. Project Name/Identifier: Camarillo Springs Golf Course

4. FEMA zone designations affected: AE, X (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

5. Basis for Request and Type of Revision:

   a. The basis for this revision request is (check all that apply)

☒ Physical Change	☒ Improved Methodology/Data	☐ Regulatory Floodway Revision	☐ Base Map Changes
☐ Coastal Analysis	☒ Hydraulic Analysis	☐ Hydrologic Analysis	☐ Corrections
☐ Weir-Dam Changes	☐ Levee Certification	☐ Alluvial Fan Analysis	☐ Natural Changes
☒ New Topographic Data	☐ Other (Attach Description)		

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following structures (check all that apply)

Structures: ☐ Channelization ☐ Levee/Floodwall ☒ Bridge/Culvert

☐ Dam ☒ Fill ☐ Other (Attach Description)

6. ☒ Documentation of ESA compliance is submitted (required to initiate CLOMR review). Please refer to the instructions for more information.

C. REVIEW FEE

Has the review fee for the appropriate request category been included? ☒ Yes Fee amount: $7,250

☐ No, Attach Explanation

Please see the DHS-FEMA Web site at http://www.fema.gov/plan/prevent/fhm/frm_fees.shtm for Fee Amounts and Exemptions.

D. SIGNATURE

All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: Jonathan Frankel	Company: New Urban West, Inc.	
Mailing Address: 16935 W. Bernardo Dr., Ste 260 San Diego, Ca 92127	Daytime Telephone No.: 925-708-3638	Fax No.:
	E-Mail Address: jonathanf@newurbanwest.com	
Signature of Requester (required):	Date: 4/8/19	

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirements for when fill is placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. For Conditional LOMR requests, the applicant has documented Endangered Species Act (ESA) compliance to FEMA prior to FEMA's review of the Conditional LOMR application. For LOMR requests, I acknowledge that compliance with Sections 9 and 10 of the ESA has been achieved independently of FEMA's process. For actions authorized, funded, or being carried out by Federal or State agencies, documentation from the agency showing its compliance with Section 7(a)(2) of the ESA will be submitted. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Nattalia Tucker, P.E. Assist. Director of PW / City Engineer (Floodplain Administrator)	Community Name: City of Camarillo	
Mailing Address: 601 Carmen Drive Camarillo, CA 93012	Daytime Telephone No.: 805/388-5313	Fax No.:
	E-Mail Address: ttucker@cityofcamarillo.org	
Community Official's Signature (required):	Date: 4/15/19	

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Andrew Ronnau	License No.: 72851	Expiration Date: 06/30/2020
Company Name: Pacific Advanced Civil Engineering	Telephone No.: 714-481-7300	Fax No.: 714-481-7299
Signature:	Date: 03-28-19	E-Mail Address: aronnau@pacewater.com

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)	Required if ...
☒ Riverine Hydrology and Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
☒ Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
☐ Coastal Analysis Form (Form 4)	New or revised coastal elevations
☐ Coastal Structures Form (Form 5)	Addition/revision of coastal structure
☐ Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans

Seal (Optional)

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE HYDROLOGY & HYDRAULICS FORM

O.M.B No. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 3.5 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington VA 20958-3005, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a NFIP Flood Insurance Rate Maps (FIRM).

Flooding Source: Conejo Creek

Note: Fill out one form for each flooding source studied

A. HYDROLOGY

1. Reason for New Hydrologic Analysis (check all that apply)

☐ Not revised (skip to section B) ☐ No existing analysis ☐ Improved data
☐ Alternative methodology ☒ Proposed Conditions (CLOMR) ☒ Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

Location	Drainage Area (Sq. Mi.)	Effective/FIS (cfs)	Revised (cfs)
Section D/S of Adohr Lane	Tributary to Conejo	2,079 cfs, 390 af	1,582 cfs, 300 af

3. Methodology for New Hydrologic Analysis (check all that apply)

☐ Statistical Analysis of Gage Records ☐ Precipitation/Runoff Model → Specify Model: __________
☐ Regional Regression Equations ☒ Other (please attach description)

Please enclose all relevant models in digital format, maps, computations (including computation of parameters), and documentation to support the new analysis.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review.

5. Impacts of Sediment Transport on Hydrology

Is the hydrology for the revised flooding source(s) affected by sediment transport? ☐ Yes ☒ No

If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation..

B. HYDRAULICS

1. Reach to be Revised

	Description	Cross Section	Water-Surface Elevations (ft.) Effective	Proposed/Revised
Downstream Limit*	1,300 feet U/S of Howard Road Bridge	XS 48073	109.2	108.9
Upstream Limit*	D/S of Highway 101 Bridge	XS 54749	118.0	117.8

*Proposed/Revised elevations must tie-into the Effective elevations within 0.5 foot at the downstream and upstream limits of revision.

2. Hydraulic Method/Model Used: HEC-RAS 5.0.5

3. Pre-Submittal Review of Hydraulic Models*

DHS-FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS.

4.

Models Submitted	**Natural Run**		**Floodway Run**		**Datum**
Duplicate Effective Model*	File Name: FEMA Ventura FP	Plan Name: FloodplainAnalysis	File Name: FEMA Ventura FW	Plan Name: FloodwayAnalysis_Br	NAVD 88
Corrected Effective Model*	File Name: FEMA Conejo Creek	Plan Name: CorrectedEffective	File Name:	Plan Name:	NAVD 88
Existing or Pre-Project Conditions Model	File Name: FEMA Conejo Creek	Plan Name: CorrectedEffective	File Name: Encroachment Study	Plan Name: Encroachment	NAVD 88
Revised or Post-Project Conditions Model	File Name: FEMA Conejo Creeks	Plan Name: Proposed	File Name:	Plan Name:	NAVD 88
Other - (attach description)	File Name:	Plan Name:	File Name:	Plan Name:	

* For details, refer to the corresponding section of the instructions.

☒ Digital Models Submitted? (Required)

C. MAPPING REQUIREMENTS

A **certified topographic work map** must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

☒ Digital Mapping (GIS/CADD) Data Submitted (preferred)

Topographic Information: LiDAR

Source: Ventura County

Date: July 2013

Accuracy: 10' x 10' grid, 9.25 cm vertical accuracy

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach **a copy of the effective FIRM and/or FBFM**, at the same scale as the original, annotated to show the boundaries of the revised 1%-and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%-and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area on revision.

☒ Annotated FIRM and/or FBFM (Required)

D. COMMON REGULATORY REQUIREMENTS*

1. For LOMR/CLOMR requests, do Base Flood Elevations (BFEs) increase? ☐ Yes ☒ No

   a. For CLOMR requests, if either of the following is true, please submit **evidence of compliance with Section 65.12 of the NFIP regulations**:

   - The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot compared to pre-project conditions.
   - The proposed project encroaches upon a SFHA with or without BFEs established and would result in increases above 1.00 foot compared to pre-project conditions.

   b. Does this LOMR request cause increase in the BFE and/or SFHA compared with the effective BFEs and/or SFHA? ☐ Yes ☐ No

   If Yes, please attach **proof of property owner notification and acceptance (if available)**. Elements of and examples of property owner notifications can be found in the MT-2 Form 2 Instructions.

2. Does the request involve the placement or proposed placement of fill? ☒ Yes ☐ No

   If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(A)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.

3. For LOMR requests, is the regulatory floodway being revised? ☐ Yes ☐ No

   If Yes, attach **evidence of regulatory floodway revision notification**. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway. (Not required for revisions to approximate 1%-annual-chance floodplains [studied Zone A designation] unless a regulatory floodway is being established. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.)

4. For CLOMR requests, please submit documentation to FEMA and the community to show that you have complied with Sections 9 and 10 of the Endangered Species Act (ESA).

For actions authorized, funded, or being carried out by Federal or State agencies, please submit documentation from the agency showing its compliance with Section 7(a)(2) of the ESA. Please see the MT-2 instructions for more detail.

* Not inclusive of all applicable regulatory requirements. For details, see 44 CFR parts 60 and 65.

DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

RIVERINE STRUCTURES FORM

O.M.B. NO. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 7 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington, VA 20598-3005, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

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DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a NFIP Flood Insurance Rate Maps (FIRM).

Flooding Source: Conejo Creek

Note**:** Fill out one form for each flooding source studied.

A. GENERAL

Complete the appropriate section(s) for each Structure listed below:

Channelization..............complete Section B
Bridge/Culvert...............complete Section C
Dam..............................complete Section D
Levee/Floodwall............complete Section E
Sediment Transport........complete Section F (if required)

Description Of Modeled Structure

1. Name of Structure: Existing Highway 101

   Type (check one): ☐ Channelization ☒ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure: At Highway 101 Crossing of Conejo Creek

   Downstream Limit/Cross Section: XS 54749

   Upstream Limit/Cross Section: XS 54938

2. Name of Structure: Existing Adohr Lane Bridge (Ridge View St)

   Type (check one): ☐ Channelization ☒ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure: At Adhor Lane/Ridge View Street Crossing of Conejo Creek

   Downstream Limit/Cross Section: XS 52939

   Upstream Limit/Cross Section: XS 53057

3. Name of Structure: _____

   Type (check one) ☐ Channelization ☐ Bridge/Culvert ☐ Levee/Floodwall ☐ Dam

   Location of Structure: _____

   Downstream Limit/Cross Section: _____

   Upstream Limit/Cross Section: _____

NOTE: FOR MORE STRUCTURES, ATTACH ADDITIONAL PAGES AS NEEDED.

B. CHANNELIZATION

Flooding Source: _____

Name of Structure: _____

1. Hydraulic Considerations

The channel was designed to carry _____ (cfs) and/or the _____-year flood.
The design elevation in the channel is based on (check one):

☐ Subcritical flow ☐ Critical flow ☐ Supercritical flow ☐ Energy grade line

If there is the potential for a hydraulic jump at the following locations, check all that apply and attach an explanation of how the hydraulic jump is controlled without affecting the stability of the channel.

☐ Inlet to channel ☐ Outlet of channel ☐ At Drop Structures ☐ At Transitions

☐ Other locations (specify): _____

2. Channel Design Plans

Attach the plans of the channelization certified by a registered professional engineer, as described in the instructions.

3. Accessory Structures

The channelization includes (check one):

☐ Levees [Attach Section E (Levee/Floodwall)] ☐ Drop structures ☐ Superelevated sections

☐ Transitions in cross sectional geometry ☐ Debris basin/detention basin [Attach Section D (Dam/Basin)] ☐ Energy dissipator

☐ Weir ☐ Other (Describe):

4. Sediment Transport Considerations

Are the hydraulics of the channel affected by sediment transport? ☐ Yes ☐ No

If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation for why sediment transport was not considered.

C. BRIDGE/CULVERT

Flooding Source: Conejo Creek

Name of Structure: Ridge View Street Crossing

1. This revision reflects (check one):

☐ Bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☒ Revised analysis of bridge/culvert previously modeled in the FIS

2. Hydraulic model used to analyze the structure (e.g., HEC-2 with special bridge routine, WSPRO, HY8): HEC-RAS 5.0.5
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structures. Attach justification.

3. Attach plans of the structures certified by a registered professional engineer. The plan detail and information should include the following (check the information that has been provided):

☐ Dimensions (height, width, span, radius, length)

☐ Shape (culverts only)

☐ Material

☐ Beveling or Rounding

☐ Wing Wall Angle

☐ Skew Angle

☐ Distances Between Cross Sections

☐ Erosion Protection

☒ Low Chord Elevations – Upstream and Downstream

☒ Top of Road Elevations – Upstream and Downstream

☐ Structure Invert Elevations – Upstream and Downstream

☐ Stream Invert Elevations – Upstream and Downstream

☐ Cross-Section Locations

4. Sediment Transport Considerations

Are the hydraulics of the structure affected by sediment transport? ☐ Yes ☒ No

If Yes, then fill out Section F (Sediment Transport) of Form 3. If no, then attach an explanation.

B. CHANNELIZATION

Flooding Source: _____

Name of Structure: _____

1. Hydraulic Considerations

The channel was designed to carry _____ (cfs) and/or the _____-year flood.
The design elevation in the channel is based on (check one):

☐ Subcritical flow ☐ Critical flow ☐ Supercritical flow ☐ Energy grade line

If there is the potential for a hydraulic jump at the following locations, check all that apply and attach an explanation of how the hydraulic jump is controlled without affecting the stability of the channel.

☐ Inlet to channel ☐ Outlet of channel ☐ At Drop Structures ☐ At Transitions

☐ Other locations (specify): _____

2. Channel Design Plans

Attach the plans of the channelization certified by a registered professional engineer, as described in the instructions.

3. Accessory Structures

The channelization includes (check one):

☐ Levees [Attach Section E (Levee/Floodwall)] ☐ Drop structures ☐ Superelevated sections

☐ Transitions in cross sectional geometry ☐ Debris basin/detention basin [Attach Section D (Dam/Basin)] ☐ Energy dissipator

☐ Weir ☐ Other (Describe):

4. Sediment Transport Considerations

Are the hydraulics of the channel affected by sediment transport? ☐ Yes ☐ No

If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation for why sediment transport was not considered.

C. BRIDGE/CULVERT

Flooding Source: Conejo Creek

Name of Structure: Highway 101 Crossing

1. This revision reflects (check one):

☐ Bridge/culvert not modeled in the FIS

☐ Modified bridge/culvert previously modeled in the FIS

☒ Revised analysis of bridge/culvert previously modeled in the FIS

2. Hydraulic model used to analyze the structure (e.g., HEC-2 with special bridge routine, WSPRO, HY8): HEC-RAS 5.0.5
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structures. Attach justification.

3. Attach plans of the structures certified by a registered professional engineer. The plan detail and information should include the following (check the information that has been provided):

☒ Dimensions (height, width, span, radius, length)

☐ Shape (culverts only)

☐ Material

☐ Beveling or Rounding

☐ Wing Wall Angle

☐ Skew Angle

☐ Distances Between Cross Sections

☐ Erosion Protection

☒ Low Chord Elevations – Upstream and Downstream

☒ Top of Road Elevations – Upstream and Downstream

☐ Structure Invert Elevations – Upstream and Downstream

☐ Stream Invert Elevations – Upstream and Downstream

☐ Cross-Section Locations

4. Sediment Transport Considerations

Are the hydraulics of the structure affected by sediment transport? ☐ Yes ☒ No

If Yes, then fill out Section F (Sediment Transport) of Form 3. If no, then attach an explanation.

FIRM Panels

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1994 or later.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

Provisionally Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To maintain accreditation, the levee owner or community is required to submit the data and documentation necessary to comply with Section 65.10 of the NFIP regulations by December 1, 2009. If the community or owner does not provide the necessary data and documentation or if the data and documentation provided indicate the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
~~ 513 ~~~	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A —— A	Cross section line
23 - - - - 23	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
$^{42}76^{000m}$N	1000-meter Universal Transverse Mercator grid values, zone 11
600000 FT	5000-foot grid ticks: California State Plane coordinate system, zone V (FIPSZONE 0405), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
January 20, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0934E

FIRM
FLOOD INSURANCE RATE MAP

VENTURA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 934 OF 1275
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CAMARILLO, CITY OF	065020	0934	E
VENTURA COUNTY	060413	0934	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06111C0934E

EFFECTIVE DATE
JANUARY 20, 2010

Federal Emergency Management Agency

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To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1994 or later.

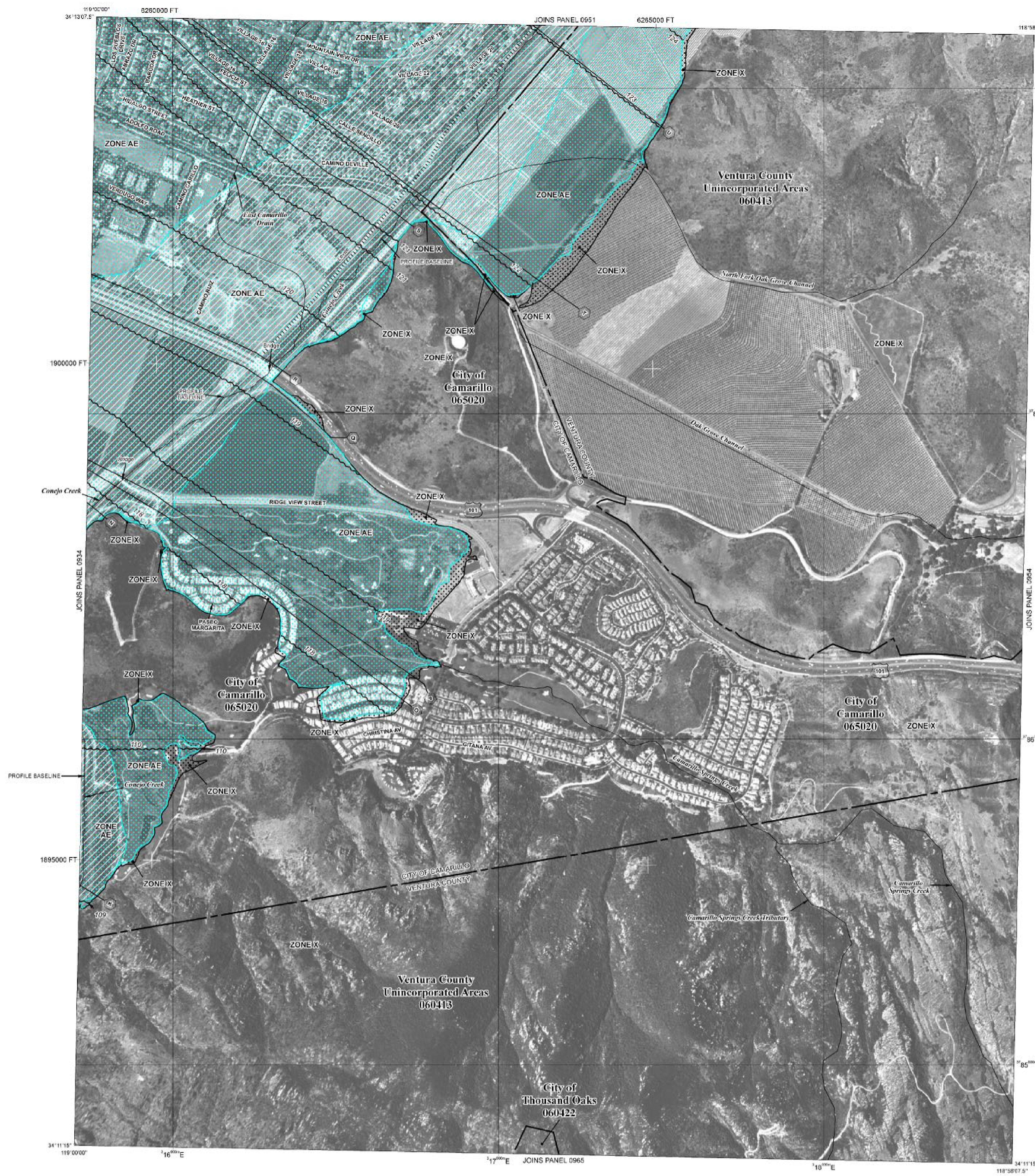
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

(A)———(A)	Cross section line
(23)- - - - -(23)	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
²⁴76⁰⁰⁰ᵐN	1000-meter Universal Transverse Mercator grid values, zone 11
600000 FT	5000-foot grid ticks: California State Plane coordinate system, zone V (FIPSZONE 0405), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
January 20, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0953E

FIRM

FLOOD INSURANCE RATE MAP

VENTURA COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 953 OF 1275

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CAMARILLO, CITY OF	065020	0953	E
THOUSAND OAKS, CITY OF	060422	0953	E
VENTURA COUNTY	060413	0953	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 06111C0953E

EFFECTIVE DATE JANUARY 20, 2010

Federal Emergency Management Agency

Duplicate Effective Model Results

Duplicate Effective (Unsteady 100yr): XS 54749 – XS 51491

HEC-RAS Plan: FP_Bridge River: Reach #1 Reach: Conejo Creek Cro Profile: Max WS

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	54749	Max WS	22595.31	102.00	118.04		118.10	0.000219	2.85	16011.72	3037.61	0.14
Conejo Creek Cro	54668	Max WS	22620.03	102.00	118.07		118.11	0.000159	2.53	19810.61	3905.82	0.12
Conejo Creek Cro	54330	Max WS	22595.16	102.00	118.04		118.06	0.000094	2.11	26960.86	4984.33	0.10
Conejo Creek Cro	53914	Max WS	22593.29	101.00	118.00		118.03	0.000085	2.24	27345.99	5055.66	0.11
Conejo Creek Cro	53451	Max WS	22590.86	101.00	117.98		118.00	0.000073	2.19	27326.76	4605.61	0.10
Conejo Creek Cro	53187	Max WS	22589.48	100.20	117.97		117.99	0.000082	2.31	27495.52	5385.86	0.10
Conejo Creek Cro	53057	Max WS	22797.82	100.00	117.96	112.30	117.98	0.000079	2.28	28132.62	5257.44	0.10
Conejo Creek Cro	53000		Bridge									
Conejo Creek Cro	52939	Max WS	22787.99	100.00	117.92		117.95	0.000115	2.39	25303.98	5339.95	0.11
Conejo Creek Cro	52809	Max WS	22778.38	100.00	117.54		117.82	0.000723	5.86	9696.21	2336.63	0.27
Conejo Creek Cro	52620	Max WS	22774.46	99.65	117.17		117.79	0.001319	7.96	6733.77	1786.14	0.37
Conejo Creek Cro	52377	Max WS	22774.25	99.68	116.74		117.48	0.001747	9.52	6338.65	1595.29	0.42
Conejo Creek Cro	52059	Max WS	22773.77	100.00	116.11		117.00	0.002195	9.97	5596.98	1425.03	0.46
Conejo Creek Cro	51699	Max WS	22770.74	99.45	113.92	114.86	116.18	0.005027	14.26	2576.74	733.26	0.69
Conejo Creek Cro	51593	Max WS	18540.85	99.45	113.50	112.95	114.82	0.003314	11.09	2842.61	966.18	0.55
Conejo Creek Cro	51491	Max WS	22771.65	99.45	113.55	113.00	114.72	0.003670	11.23	3477.25	1077.37	0.58

Duplicate Effective (Steady 10yr, 50yr, 500yr): XS 54749 – XS 51491

HEC-RAS Plan: FP-Steady_101 River: Reach #1 Reach: Conejo Creek Cro

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	54749	Existing 10yr	9563.00	102.00	114.95	107.45	115.19	0.000505	3.89	2459.33	2242.34	0.21
Conejo Creek Cro	54749	Existing 50yr	18298.00	102.00	117.40	109.70	117.95	0.000996	5.93	3115.52	2957.76	0.31
Conejo Creek Cro	54749	Existing 500yr	36481.00	102.00	120.29	113.44	120.36	0.000215	3.16	23321.43	3413.54	0.15
Conejo Creek Cro	54668	Existing 10yr	9563.00	102.00	115.02		115.07	0.000176	2.30	9078.23	3056.83	0.13
Conejo Creek Cro	54668	Existing 50yr	18298.00	102.00	117.64		117.67	0.000129	2.23	18159.13	3755.48	0.11
Conejo Creek Cro	54668	Existing 500yr	36481.00	102.00	120.29		120.34	0.000150	2.73	28994.04	4525.22	0.12
Conejo Creek Cro	54330	Existing 10yr	9563.00	102.00	114.98		115.01	0.000118	2.02	12645.87	4283.74	0.11
Conejo Creek Cro	54330	Existing 50yr	18298.00	102.00	117.61		117.63	0.000078	1.88	24846.10	4910.28	0.09
Conejo Creek Cro	54330	Existing 500yr	36481.00	102.00	120.26		120.29	0.000090	2.27	38454.53	5408.76	0.10
Conejo Creek Cro	53914	Existing 10yr	9563.00	101.00	114.94		114.97	0.000087	1.93	13199.76	3826.43	0.10
Conejo Creek Cro	53914	Existing 50yr	18298.00	101.00	117.58		117.60	0.000069	1.98	25214.27	4966.38	0.09
Conejo Creek Cro	53914	Existing 500yr	36481.00	101.00	120.23		120.25	0.000081	2.42	39115.25	5538.98	0.11
Conejo Creek Cro	53451	Existing 10yr	9563.00	101.00	114.92		114.94	0.000068	1.81	14432.21	3804.49	0.09
Conejo Creek Cro	53451	Existing 50yr	18298.00	101.00	117.56		117.58	0.000058	1.91	25425.96	4499.73	0.09
Conejo Creek Cro	53451	Existing 500yr	36481.00	101.00	120.20		120.23	0.000085	2.58	38534.38	5595.86	0.11
Conejo Creek Cro	53187	Existing 10yr	9563.00	100.20	114.91		114.94	0.000078	1.93	13631.50	3802.40	0.10
Conejo Creek Cro	53187	Existing 50yr	18298.00	100.20	117.55		117.57	0.000065	2.01	25325.72	5117.59	0.09
Conejo Creek Cro	53187	Existing 500yr	36481.00	100.20	120.19		120.22	0.000081	2.50	40034.19	5920.55	0.11
Conejo Creek Cro	53057	Existing 10yr	9560.00	100.00	114.90	106.69	114.92	0.000075	1.92	13995.64	4032.05	0.10
Conejo Creek Cro	53057	Existing 50yr	18292.00	100.00	117.54	111.75	117.56	0.000062	1.99	25980.93	5117.04	0.09
Conejo Creek Cro	53057	Existing 500yr	36469.00	100.00	120.18	113.43	120.20	0.000074	2.41	40413.98	5676.62	0.10
Conejo Creek Cro	53000		Bridge									
Conejo Creek Cro	52939	Existing 10yr	9560.00	100.00	114.86		114.89	0.000112	2.02	11616.70	3569.15	0.10
Conejo Creek Cro	52939	Existing 50yr	18292.00	100.00	117.51		117.54	0.000092	2.10	23199.34	5101.20	0.10
Conejo Creek Cro	52939	Existing 500yr	36469.00	100.00	120.15		120.18	0.000100	2.45	37775.11	5696.05	0.10
Conejo Creek Cro	52809	Existing 10yr	9560.00	100.00	114.35		114.68	0.000767	5.13	3635.84	1473.47	0.27
Conejo Creek Cro	52809	Existing 50yr	18292.00	100.00	117.13		117.36	0.000577	5.14	8764.78	2232.52	0.24
Conejo Creek Cro	52809	Existing 500yr	36469.00	100.00	119.75		119.98	0.000636	6.03	15369.49	2739.23	0.26
Conejo Creek Cro	52620	Existing 10yr	9560.00	99.65	113.97		114.48	0.001078	6.11	2472.91	923.45	0.32
Conejo Creek Cro	52620	Existing 50yr	18292.00	99.65	116.68		117.18	0.001057	6.97	5923.60	1613.11	0.33
Conejo Creek Cro	52620	Existing 500yr	36469.00	99.65	119.19		119.78	0.001300	8.62	10821.70	2211.35	0.37

HEC-RAS Plan: FP-Steady_101 River: Reach #1 Reach: Conejo Creek Cro (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	52377	Existing 10yr	9560.00	99.68	113.56		114.17	0.001377	7.28	2603.18	789.03	0.36
Conejo Creek Cro	52377	Existing 50yr	18292.00	99.68	116.19		116.84	0.001494	8.60	5490.30	1491.42	0.39
Conejo Creek Cro	52377	Existing 500yr	36469.00	99.68	118.61		119.35	0.001836	10.51	9757.32	2000.47	0.44
Conejo Creek Cro	52059	Existing 10yr	9560.00	100.00	113.12		113.74	0.001576	7.24	2445.74	703.40	0.38
Conejo Creek Cro	52059	Existing 50yr	18292.00	100.00	115.73		116.42	0.001695	8.61	5068.11	1327.91	0.40
Conejo Creek Cro	52059	Existing 500yr	36469.00	100.00	117.72		118.77	0.002690	11.84	8259.96	1891.59	0.52
Conejo Creek Cro	51699	Existing 10yr	9560.00	99.45	111.40	108.38	112.84	0.003285	10.01	1198.07	372.58	0.54
Conejo Creek Cro	51699	Existing 50yr	18292.00	99.45	113.45	113.44	115.31	0.004128	12.62	2256.24	650.95	0.62
Conejo Creek Cro	51699	Existing 500yr	36469.00	99.45	116.33	116.33	117.57	0.003084	12.49	5768.02	1676.45	0.56
Conejo Creek Cro	51593	Existing 10yr	9560.00	99.45	111.24	108.91	112.37	0.002963	9.18	1389.86	455.55	0.51
Conejo Creek Cro	51593	Existing 50yr	18292.00	99.45	112.88	112.59	114.67	0.004487	12.47	2301.09	725.74	0.64
Conejo Creek Cro	51593	Existing 500yr	36469.00	99.45	115.21	115.21	116.79	0.004187	13.58	4799.38	1267.73	0.63
Conejo Creek Cro	51491	Existing 10yr	9560.00	99.45	110.96	110.32	111.98	0.003344	9.07	1496.58	540.09	0.53
Conejo Creek Cro	51491	Existing 50yr	18292.00	99.45	112.76	111.97	113.99	0.003874	11.01	2708.78	869.13	0.59
Conejo Creek Cro	51491	Existing 500yr	36469.00	99.45	114.85	114.68	116.14	0.004044	12.65	5112.85	1386.09	0.62

Duplicate Effective (Steady 10yr, 50yr, 100yr, 500yr): XS 51258 – XS 48073

HEC-RAS Plan: Baseline v2   River: Reach #1   Reach: Conejo Creek Cro

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	51231	Existing 10yr	9560.00	97.00	111.20		111.58	0.001052	6.02	2620.71	832.00	0.31
Conejo Creek Cro	51231	Existing 50yr	18292.00	97.00	112.50		113.13	0.001758	8.36	3839.07	1094.33	0.41
Conejo Creek Cro	51231	Existing 100yr	22980.00	97.00	113.07		113.79	0.002017	9.21	4512.17	1268.07	0.44
Conejo Creek Cro	51231	Existing 500yr	36469.00	97.00	114.16		115.12	0.002683	11.19	6078.67	1576.13	0.52
Conejo Creek Cro	50917	Existing 10yr	9560.00	97.00	110.65		111.17	0.001471	7.04	2503.75	1156.22	0.36
Conejo Creek Cro	50917	Existing 50yr	18292.00	97.00	111.94		112.52	0.001843	8.45	4228.77	1502.46	0.41
Conejo Creek Cro	50917	Existing 100yr	22980.00	97.00	112.52		113.10	0.001909	8.85	5256.16	1813.34	0.42
Conejo Creek Cro	50917	Existing 500yr	36469.00	97.00	113.71		114.27	0.001827	9.16	7429.67	1848.16	0.42
Conejo Creek Cro	50597	Existing 10yr	9560.00	97.00	110.40		110.75	0.001057	5.83	2976.93	1329.05	0.31
Conejo Creek Cro	50597	Existing 50yr	18292.00	97.00	111.58		112.03	0.001461	7.32	4732.17	1644.47	0.37
Conejo Creek Cro	50597	Existing 100yr	22980.00	97.00	112.01		112.57	0.001839	8.41	5478.97	2022.78	0.41
Conejo Creek Cro	50597	Existing 500yr	36469.00	97.00	113.31		113.79	0.001570	8.29	8146.05	2076.89	0.39
Conejo Creek Cro	50305	Existing 10yr	9560.00	97.00	109.92		110.41	0.001418	6.69	2616.12	1326.76	0.36
Conejo Creek Cro	50305	Existing 50yr	18292.00	97.00	110.75		111.50	0.002436	9.21	3813.69	1544.60	0.47
Conejo Creek Cro	50305	Existing 100yr	22980.00	97.00	111.15		111.97	0.002720	9.95	4449.95	1637.09	0.50
Conejo Creek Cro	50305	Existing 500yr	36469.00	97.00	112.06	111.75	113.14	0.003698	12.16	6052.03	2100.12	0.59
Conejo Creek Cro	50231	Existing 10yr	9560.00	97.00	109.92		110.23	0.001033	5.76	3129.82	1410.65	0.30
Conejo Creek Cro	50231	Existing 50yr	18292.00	97.00	110.64		111.21	0.001972	8.30	4322.23	1788.67	0.42
Conejo Creek Cro	50231	Existing 100yr	22980.00	97.00	110.99		111.63	0.002281	9.10	4968.46	1917.80	0.46
Conejo Creek Cro	50231	Existing 500yr	36469.00	97.00	111.96		112.66	0.002601	10.21	6985.52	2274.18	0.49
Conejo Creek Cro	50143	Existing 10yr	9560.00	97.00	109.82		110.11	0.001044	5.63	3418.09	1784.67	0.30
Conejo Creek Cro	50143	Existing 50yr	18292.00	97.00	110.42		110.96	0.002129	8.34	4655.93	2232.19	0.44
Conejo Creek Cro	50143	Existing 100yr	22980.00	97.00	110.78		111.33	0.002256	8.77	5471.57	2300.97	0.45
Conejo Creek Cro	50143	Existing 500yr	36469.00	97.00	111.78		112.30	0.002182	9.11	7873.79	2492.54	0.45
Conejo Creek Cro	49815	Existing 10yr	9560.00	97.00	109.74	105.86	109.87	0.000553	4.14	4719.27	2567.62	0.22
Conejo Creek Cro	49815	Existing 50yr	18292.00	97.00	110.21	109.50	110.50	0.001202	6.28	5784.84	2630.30	0.33
Conejo Creek Cro	49815	Existing 100yr	22980.00	97.00	110.50	109.76	110.84	0.001427	6.96	6455.66	2692.62	0.36
Conejo Creek Cro	49815	Existing 500yr	36469.00	97.00	111.47	110.33	111.85	0.001572	7.70	8792.63	2898.48	0.38
Conejo Creek Cro	49746	Existing 10yr	9560.00	97.00	109.63	105.63	109.84	0.000763	4.83	4096.76	2948.89	0.26
Conejo Creek Cro	49746	Existing 50yr	18292.00	97.00	109.68	109.68	110.38	0.002627	8.98	4205.02	2952.65	0.48
Conejo Creek Cro	49746	Existing 100yr	22980.00	97.00	110.04	109.95	110.72	0.002713	9.33	5002.20	3006.77	0.49
Conejo Creek Cro	49746	Existing 500yr	36469.00	97.00	111.26	110.54	111.77	0.002038	8.67	7775.41	3087.66	0.44
Conejo Creek Cro	49667	Existing 10yr	9560.00	97.00	108.15	105.54	109.61	0.003908	9.89	1313.66	2539.29	0.58
Conejo Creek Cro	49667	Existing 50yr	18292.00	97.00	109.55	109.46	110.15	0.002328	8.39	4445.27	2815.86	0.46

HEC-RAS Plan: Baseline v2   River: Reach #1   Reach: Conejo Creek Cro (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	49667	Existing 100yr	22980.00	97.00	110.03	109.72	110.55	0.002124	8.26	5544.90	3132.42	0.44
Conejo Creek Cro	49667	Existing 500yr	36469.00	97.00	111.24	110.31	111.66	0.001690	7.89	8396.93	3259.12	0.40
Conejo Creek Cro	49405	Existing 10yr	9560.00	96.50	108.20	104.79	108.69	0.001752	6.45	2785.27	3016.57	0.38
Conejo Creek Cro	49405	Existing 50yr	18292.00	96.50	109.38	108.80	109.68	0.001339	6.14	5680.27	3054.12	0.34
Conejo Creek Cro	49405	Existing 100yr	22980.00	96.50	109.85	109.05	110.13	0.001276	6.18	6819.63	3068.89	0.34
Conejo Creek Cro	49405	Existing 500yr	36469.00	96.50	111.06	109.61	111.34	0.001114	6.22	9807.23	3168.83	0.32
Conejo Creek Cro	49043	Existing 10yr	9560.00	96.00	107.96	104.20	108.21	0.001066	5.19	3395.68	2219.43	0.30
Conejo Creek Cro	49043	Existing 50yr	18292.00	96.00	109.16	105.96	109.38	0.001040	5.56	6294.54	2890.84	0.30
Conejo Creek Cro	49043	Existing 100yr	22980.00	96.00	109.65	108.52	109.86	0.001001	5.62	7498.72	2919.09	0.30
Conejo Creek Cro	49043	Existing 500yr	36469.00	96.00	110.90	109.10	111.12	0.000892	5.70	10703.06	3034.49	0.29
Conejo Creek Cro	48736	Existing 10yr	9560.00	96.00	107.97	101.61	108.03	0.000278	2.72	5774.05	2417.52	0.15
Conejo Creek Cro	48736	Existing 50yr	18292.00	96.00	109.12	103.77	109.21	0.000373	3.39	8917.42	2978.77	0.18
Conejo Creek Cro	48736	Existing 100yr	22980.00	96.00	109.60	105.35	109.70	0.000398	3.60	10229.39	2983.88	0.19
Conejo Creek Cro	48736	Existing 500yr	36469.00	96.00	110.84	107.69	110.98	0.000423	3.98	13675.68	3024.62	0.20
Conejo Creek Cro	48408	Existing 10yr	9560.00	96.00	107.70		107.87	0.000619	4.21	3771.65	1611.47	0.23
Conejo Creek Cro	48408	Existing 50yr	18292.00	96.00	108.80		109.02	0.000861	5.31	6370.36	2638.92	0.28
Conejo Creek Cro	48408	Existing 100yr	22980.00	96.00	109.30		109.52	0.000846	5.42	7710.46	2664.66	0.28
Conejo Creek Cro	48408	Existing 500yr	36469.00	96.00	110.61		110.82	0.000782	5.60	11289.55	2872.60	0.27
Conejo Creek Cro	48258	Existing 10yr	9560.00	96.00	107.70	103.67	107.78	0.000322	3.03	5736.37	2179.80	0.17
Conejo Creek Cro	48258	Existing 50yr	18292.00	96.00	108.80	105.94	108.90	0.000445	3.82	8281.57	2418.56	0.20
Conejo Creek Cro	48258	Existing 100yr	22980.00	96.00	109.29	107.11	109.41	0.000479	4.08	9485.43	2478.07	0.21
Conejo Creek Cro	48258	Existing 500yr	36469.00	96.00	110.58	107.73	110.73	0.000530	4.60	12819.67	2708.09	0.23
Conejo Creek Cro	48073	Existing 10yr	9560.00	96.00	107.59		107.70	0.000593	3.94	4676.82	2092.80	0.22
Conejo Creek Cro	48073	Existing 50yr	18292.00	96.00	108.67		108.81	0.000714	4.64	6982.95	2209.99	0.25
Conejo Creek Cro	48073	Existing 100yr	22980.00	96.00	109.15		109.31	0.000747	4.89	8070.76	2280.04	0.26
Conejo Creek Cro	48073	Existing 500yr	36469.00	96.00	110.40		110.61	0.000934	5.87	11304.91	3093.24	0.29

Corrected Effective / Existing Model Results

Corrected Effective Existing (Unsteady 100yr): XS 54749 – XS 48073

HEC-RAS Plan: CorrectedEffective River: Reach #1 Reach: Conejo Creek Cro Profile: Max WS

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	54749	Max WS	21941.38	101.91	117.17		118.01	0.001674	7.33	3004.96	2930.14	0.39
Conejo Creek Cro	54668	Max WS	22022.35	101.91	117.48		117.53	0.000216	2.82	17198.81	3712.97	0.15
Conejo Creek Cro	54330	Max WS	22007.70	101.42	117.44		117.47	0.000112	2.04	24796.29	4860.15	0.10
Conejo Creek Cro	53914	Max WS	22006.42	101.11	117.40		117.43	0.000104	2.34	24827.09	4908.77	0.12
Conejo Creek Cro	53451	Max WS	22003.94	100.89	117.36		117.38	0.000082	2.09	25596.64	4462.54	0.10
Conejo Creek Cro	53187	Max WS	22002.11	100.37	117.34		117.36	0.000075	2.04	27212.01	5033.27	0.10
Conejo Creek Cro	53057	Max WS	22201.17	100.21	117.33	111.64	117.35	0.000079	2.13	27157.75	5074.13	0.10
Conejo Creek Cro	53000		Bridge									
Conejo Creek Cro	52939	Max WS	22198.78	99.94	117.29		117.32	0.000109	2.29	24427.91	4920.15	0.11
Conejo Creek Cro	52809	Max WS	22198.29	100.01	117.08		117.49	0.001036	6.76	7959.49	2155.65	0.32
Conejo Creek Cro	52620	Max WS	22196.22	99.72	116.72		117.29	0.001579	7.07	5900.54	1601.35	0.38
Conejo Creek Cro	52377	Max WS	22195.99	99.76	116.14		116.95	0.002282	9.13	5398.83	1434.14	0.46
Conejo Creek Cro	52059	Max WS	22195.51	99.65	115.34		116.31	0.002429	9.86	4864.19	1218.67	0.49
Conejo Creek Cro	51699	Max WS	22194.66	97.94	113.48	113.99	115.29	0.004203	12.92	2776.31	872.74	0.64
Conejo Creek Cro	51593	Max WS	22191.08	97.37	112.56	113.42	115.20	0.006010	15.16	2459.12	906.19	0.76
Conejo Creek Cro	51491	Max WS	22193.66	98.40	112.93		114.16	0.003941	11.11	3374.24	1182.84	0.60
Conejo Creek Cro	51231	Max WS	22192.67	98.04	112.45		113.17	0.002295	8.70	4204.20	1295.66	0.46
Conejo Creek Cro	50917	Max WS	22191.37	97.68	111.75		112.41	0.002658	8.79	4437.20	1615.22	0.49
Conejo Creek Cro	50597	Max WS	22188.12	97.30	111.28		111.68	0.001670	7.05	5571.31	1931.13	0.39
Conejo Creek Cro	50305	Max WS	22180.73	96.94	110.66		111.19	0.002132	8.34	5136.10	1970.98	0.44
Conejo Creek Cro	50231	Max WS	22180.65	96.28	110.61		111.00	0.001775	7.24	5636.44	2110.01	0.40
Conejo Creek Cro	50143	Max WS	22177.46	97.10	110.55		110.84	0.001483	6.58	6307.18	2242.44	0.36
Conejo Creek Cro	49815	Max WS	22170.32	95.59	110.17		110.38	0.000971	5.57	7170.56	2690.79	0.30
Conejo Creek Cro	49746	Max WS	22170.19	95.87	110.07		110.29	0.000959	5.58	7147.82	3042.65	0.30
Conejo Creek Cro	49667	Max WS	22166.57	96.05	109.96		110.19	0.000937	5.64	7197.48	3086.65	0.30
Conejo Creek Cro	49405	Max WS	22162.79	95.70	109.72		109.93	0.000991	5.37	7166.94	3044.97	0.30
Conejo Creek Cro	49043	Max WS	22158.89	95.37	109.44		109.60	0.000824	4.90	7975.06	2963.56	0.27
Conejo Creek Cro	48736	Max WS	22155.60	94.80	109.32		109.42	0.000363	3.16	10245.38	2988.91	0.18
Conejo Creek Cro	48408	Max WS	22153.05	94.38	109.14		109.28	0.000552	3.87	8647.46	2618.60	0.22
Conejo Creek Cro	48258	Max WS	22152.97	94.40	109.00		109.15	0.000633	4.43	8178.32	2430.25	0.24
Conejo Creek Cro	48073	Max WS	22152.76	94.49	108.87		109.02	0.000721	4.62	7985.10	2424.91	0.25

Corrected Effective Existing (Steady 10yr, 50yr, 500yr): XS 54749 – XS 48073

HEC-RAS Plan: CorEff_Steady River: Reach #1 Reach: Conejo Creek Cro

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	54749	Existing 10yr	9563.00	101.91	114.68	107.54	114.94	0.000600	4.09	2338.75	2166.20	0.23
Conejo Creek Cro	54749	Existing 50yr	18298.00	101.91	117.00	109.98	117.60	0.001229	6.21	2953.83	2893.24	0.34
Conejo Creek Cro	54749	Existing 500yr	36481.00	101.91	119.95	113.82	120.03	0.000257	3.35	22015.34	3415.02	0.16
Conejo Creek Cro	54668	Existing 10yr	9563.00	101.91	114.75		114.82	0.000240	2.58	8004.38	2936.31	0.15
Conejo Creek Cro	54668	Existing 50yr	18298.00	101.91	117.25		117.29	0.000170	2.47	16358.16	3670.93	0.13
Conejo Creek Cro	54668	Existing 500yr	36481.00	101.91	119.94		119.99	0.000179	2.90	27156.64	4310.84	0.14
Conejo Creek Cro	54330	Existing 10yr	9563.00	101.42	114.72		114.75	0.000129	1.85	12319.13	4071.56	0.11
Conejo Creek Cro	54330	Existing 50yr	18298.00	101.42	117.23		117.25	0.000088	1.78	23750.43	4822.58	0.09
Conejo Creek Cro	54330	Existing 500yr	36481.00	101.42	119.92		119.94	0.000093	2.11	37357.56	5196.33	0.10
Conejo Creek Cro	53914	Existing 10yr	9563.00	101.11	114.67		114.70	0.000098	1.94	12710.52	3890.59	0.11
Conejo Creek Cro	53914	Existing 50yr	18298.00	101.11	117.19		117.21	0.000077	1.99	23816.24	4852.38	0.10
Conejo Creek Cro	53914	Existing 500yr	36481.00	101.11	119.88		119.91	0.000089	2.44	37567.04	5406.77	0.11
Conejo Creek Cro	53451	Existing 10yr	9563.00	100.89	114.64		114.66	0.000070	1.64	14417.47	3740.37	0.09
Conejo Creek Cro	53451	Existing 50yr	18298.00	100.89	117.16		117.18	0.000062	1.80	24725.87	4407.31	0.09
Conejo Creek Cro	53451	Existing 500yr	36481.00	100.89	119.84		119.87	0.000081	2.34	37652.15	5202.53	0.11
Conejo Creek Cro	53187	Existing 10yr	9563.00	100.37	114.63		114.64	0.000058	1.55	15164.23	3739.55	0.08
Conejo Creek Cro	53187	Existing 50yr	18298.00	100.37	117.15		117.16	0.000057	1.76	26256.57	4966.72	0.09
Conejo Creek Cro	53187	Existing 500yr	36481.00	100.37	119.82		119.84	0.000073	2.26	40797.49	5745.71	0.10
Conejo Creek Cro	53057	Existing 10yr	9560.00	100.21	114.62	106.98	114.63	0.000067	1.69	14955.63	4063.40	0.09
Conejo Creek Cro	53057	Existing 50yr	18292.00	100.21	117.14	111.15	117.16	0.000058	1.81	26216.72	4948.87	0.09
Conejo Creek Cro	53057	Existing 500yr	36469.00	100.21	119.81	112.78	119.84	0.000070	2.25	40618.97	5685.31	0.10
Conejo Creek Cro	53000		Bridge									
Conejo Creek Cro	52939	Existing 10yr	9560.00	99.94	114.60		114.61	0.000071	1.61	13431.06	3276.08	0.08
Conejo Creek Cro	52939	Existing 50yr	18292.00	99.94	117.12		117.14	0.000080	1.95	23582.96	4837.02	0.09
Conejo Creek Cro	52939	Existing 500yr	36469.00	99.94	119.79		119.82	0.000095	2.38	38003.18	5653.10	0.10
Conejo Creek Cro	52809	Existing 10yr	9560.00	100.01	113.94		114.44	0.001161	6.02	2589.21	1174.40	0.33
Conejo Creek Cro	52809	Existing 50yr	18292.00	100.01	116.65		117.01	0.000889	6.14	7061.08	2029.47	0.30
Conejo Creek Cro	52809	Existing 500yr	36469.00	100.01	119.37		119.70	0.000858	6.83	13574.26	2635.66	0.30
Conejo Creek Cro	52620	Existing 10yr	9560.00	99.72	113.71		114.18	0.001572	5.64	2193.93	864.47	0.36
Conejo Creek Cro	52620	Existing 50yr	18292.00	99.72	116.33		116.80	0.001321	6.31	5285.56	1507.77	0.35
Conejo Creek Cro	52620	Existing 500yr	36469.00	99.72	118.92		119.47	0.001441	7.66	10120.67	2158.57	0.38

HEC-RAS Plan: CorEff_Steady River: Reach #1 Reach: Conejo Creek Cro (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	52377	Existing 10yr	9560.00	99.76	113.12		113.73	0.001960	6.99	2291.82	700.43	0.41
Conejo Creek Cro	52377	Existing 50yr	18292.00	99.76	115.71		116.38	0.001912	8.16	4810.37	1303.92	0.42
Conejo Creek Cro	52377	Existing 500yr	36469.00	99.76	118.21		118.99	0.002212	10.00	8890.78	1913.73	0.47
Conejo Creek Cro	52059	Existing 10yr	9560.00	99.65	112.59		113.19	0.001653	6.92	2362.16	702.18	0.39
Conejo Creek Cro	52059	Existing 50yr	18292.00	99.65	115.12		115.84	0.001804	8.40	4613.22	1152.65	0.42
Conejo Creek Cro	52059	Existing 500yr	36469.00	99.65	116.83		118.19	0.003351	12.47	7002.31	1623.87	0.58
Conejo Creek Cro	51699	Existing 10yr	9560.00	97.94	111.15	107.92	112.35	0.002827	9.27	1344.30	406.63	0.51
Conejo Creek Cro	51699	Existing 50yr	18292.00	97.94	113.66	112.99	114.93	0.002876	10.79	2952.90	1054.88	0.53
Conejo Creek Cro	51699	Existing 500yr	36469.00	97.94	115.50	115.50	116.86	0.003386	12.79	5364.33	1479.75	0.59
Conejo Creek Cro	51593	Existing 10yr	9560.00	97.37	110.82	107.58	112.00	0.002744	9.27	1387.61	463.36	0.50
Conejo Creek Cro	51593	Existing 50yr	18292.00	97.37	112.89	112.89	114.33	0.003331	11.48	2781.23	1018.81	0.57
Conejo Creek Cro	51593	Existing 500yr	36469.00	97.37	114.78	114.78	116.20	0.003618	13.12	5135.55	1358.26	0.60
Conejo Creek Cro	51491	Existing 10yr	9560.00	98.40	110.76		111.63	0.002949	8.25	1601.27	582.35	0.50
Conejo Creek Cro	51491	Existing 50yr	18292.00	98.40	112.42	111.77	113.53	0.003588	10.26	2843.36	953.62	0.57
Conejo Creek Cro	51491	Existing 500yr	36469.00	98.40	114.30		115.52	0.003947	12.05	5245.63	1484.91	0.61
Conejo Creek Cro	51231	Existing 10yr	9560.00	98.04	110.58		110.98	0.001357	5.91	2367.44	768.64	0.35
Conejo Creek Cro	51231	Existing 50yr	18292.00	98.04	112.08		112.70	0.002009	7.95	3749.04	1185.15	0.43
Conejo Creek Cro	51231	Existing 500yr	36469.00	98.04	113.65		114.55	0.002856	10.40	6033.91	1706.62	0.53
Conejo Creek Cro	50917	Existing 10yr	9560.00	97.68	109.89		110.43	0.002172	6.93	2053.60	786.37	0.43
Conejo Creek Cro	50917	Existing 50yr	18292.00	97.68	111.33		111.98	0.002591	8.44	3781.22	1477.28	0.48
Conejo Creek Cro	50917	Existing 500yr	36469.00	97.68	112.91		113.61	0.002703	9.54	6467.06	1854.94	0.50
Conejo Creek Cro	50597	Existing 10yr	9560.00	97.30	109.56		109.86	0.001241	5.37	2777.65	1141.25	0.33
Conejo Creek Cro	50597	Existing 50yr	18292.00	97.30	110.91		111.29	0.001600	6.73	4866.08	1902.39	0.38
Conejo Creek Cro	50597	Existing 500yr	36469.00	97.30	112.48		112.91	0.001654	7.56	7951.73	2075.14	0.39
Conejo Creek Cro	50305	Existing 10yr	9560.00	96.94	109.05		109.46	0.001528	6.35	2533.37	1155.85	0.37
Conejo Creek Cro	50305	Existing 50yr	18292.00	96.94	110.30		110.78	0.001936	7.77	4438.16	1848.80	0.42
Conejo Creek Cro	50305	Existing 500yr	36469.00	96.94	111.90		112.40	0.001956	8.58	7713.64	2165.98	0.43
Conejo Creek Cro	50231	Existing 10yr	9560.00	96.28	108.98		109.31	0.001469	5.87	2699.33	1306.48	0.35
Conejo Creek Cro	50231	Existing 50yr	18292.00	96.28	110.18		110.60	0.001915	7.31	4735.35	2029.04	0.41
Conejo Creek Cro	50231	Existing 500yr	36469.00	96.28	111.79		112.20	0.001793	7.82	8247.85	2404.45	0.41
Conejo Creek Cro	50143	Existing 10yr	9560.00	97.10	108.81		109.16	0.001781	6.35	2776.34	1503.24	0.39

HEC-RAS Plan: CorEff_Steady River: Reach #1 Reach: Conejo Creek Cro (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	50143	Existing 50yr	18292.00	97.10	110.07		110.39	0.001736	6.89	5225.86	2228.67	0.39
Conejo Creek Cro	50143	Existing 500yr	36469.00	97.10	111.69		112.01	0.001486	7.07	8979.23	2430.49	0.37
Conejo Creek Cro	49815	Existing 10yr	9560.00	95.59	108.45	107.37	108.68	0.001007	5.06	3538.26	1968.11	0.30
Conejo Creek Cro	49815	Existing 50yr	18292.00	95.59	109.69	108.15	109.92	0.001052	5.63	6075.56	2620.16	0.31
Conejo Creek Cro	49815	Existing 500yr	36469.00	95.59	111.33	109.63	111.59	0.001004	6.07	10016.02	2930.75	0.31
Conejo Creek Cro	49746	Existing 10yr	9560.00	95.87	108.38	105.16	108.61	0.000970	5.02	3564.59	2471.06	0.29
Conejo Creek Cro	49746	Existing 50yr	18292.00	95.87	109.63	108.08	109.85	0.001000	5.54	6150.54	2974.07	0.30
Conejo Creek Cro	49746	Existing 500yr	36469.00	95.87	111.27	109.54	111.53	0.000981	6.05	9998.60	3270.88	0.31
Conejo Creek Cro	49667	Existing 10yr	9560.00	96.05	108.29	104.80	108.53	0.000924	5.04	3582.10	2313.83	0.29
Conejo Creek Cro	49667	Existing 50yr	18292.00	96.05	109.56	108.34	109.78	0.000937	5.51	6284.81	3042.98	0.29
Conejo Creek Cro	49667	Existing 500yr	36469.00	96.05	111.21	109.48	111.47	0.000937	6.05	10089.07	3281.84	0.30
Conejo Creek Cro	49405	Existing 10yr	9560.00	95.70	107.98	107.03	108.25	0.001211	5.22	3337.47	2240.00	0.32
Conejo Creek Cro	49405	Existing 50yr	18292.00	95.70	109.31	107.90	109.52	0.001017	5.29	6222.29	2976.09	0.30
Conejo Creek Cro	49405	Existing 500yr	36469.00	95.70	110.97	109.20	111.21	0.000971	5.75	10060.47	3212.84	0.30
Conejo Creek Cro	49043	Existing 10yr	9560.00	95.37	107.71	104.52	107.86	0.000788	4.23	3810.44	2365.13	0.26
Conejo Creek Cro	49043	Existing 50yr	18292.00	95.37	109.00	107.18	109.17	0.000872	4.90	6879.42	2947.70	0.28
Conejo Creek Cro	49043	Existing 500yr	36469.00	95.37	110.69	108.70	110.88	0.000793	5.20	11186.58	3026.30	0.27
Conejo Creek Cro	48736	Existing 10yr	9560.00	94.80	107.64	100.90	107.71	0.000272	2.45	5779.59	2615.37	0.15
Conejo Creek Cro	48736	Existing 50yr	18292.00	94.80	108.89	102.84	108.98	0.000347	3.00	9074.30	2977.81	0.17
Conejo Creek Cro	48736	Existing 500yr	36469.00	94.80	110.55	105.93	110.69	0.000420	3.68	13682.59	3044.79	0.20
Conejo Creek Cro	48408	Existing 10yr	9560.00	94.38	107.49		107.59	0.000408	2.93	4659.39	2089.86	0.18
Conejo Creek Cro	48408	Existing 50yr	18292.00	94.38	108.71		108.84	0.000531	3.69	7549.46	2508.21	0.22
Conejo Creek Cro	48408	Existing 500yr	36469.00	94.38	110.34		110.52	0.000650	4.55	11911.23	2833.96	0.24
Conejo Creek Cro	48258	Existing 10yr	9560.00	94.40	107.40		107.51	0.000479	3.45	4539.41	2011.46	0.20
Conejo Creek Cro	48258	Existing 50yr	18292.00	94.40	108.61		108.75	0.000589	4.16	7245.41	2372.86	0.23
Conejo Creek Cro	48258	Existing 500yr	36469.00	94.40	110.21		110.41	0.000763	5.22	11395.23	2792.14	0.27
Conejo Creek Cro	48073	Existing 10yr	9560.00	94.49	107.32		107.43	0.000610	3.81	4482.59	2045.33	0.23
Conejo Creek Cro	48073	Existing 50yr	18292.00	94.49	108.52		108.65	0.000668	4.34	7159.07	2334.05	0.24
Conejo Creek Cro	48073	Existing 500yr	36469.00	94.49	110.11		110.30	0.000767	5.14	11072.91	2598.36	0.27

Proposed Model Results

Proposed (Unsteady 100yr): XS 54749 – XS 48073

HEC-RAS Plan: Proposed River: Reach #1 Reach: Conejo Creek Cro Profile: Max WS

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	54749	Max WS	22357.79	101.91	117.80		118.57	0.001435	7.05	3192.29	3033.54	0.37
Conejo Creek Cro	54668	Max WS	22389.34	101.91	117.88		117.94	0.000193	2.73	17525.59	3851.89	0.14
Conejo Creek Cro	54330	Max WS	22385.28	101.42	117.84		117.87	0.000158	2.47	20382.44	4565.21	0.12
Conejo Creek Cro	53914	Max WS	22359.25	101.11	117.77		117.82	0.000153	2.90	18502.32	3811.39	0.14
Conejo Creek Cro	53451	Max WS	22356.30	100.87	117.65		117.75	0.000230	3.60	14296.60	2688.79	0.17
Conejo Creek Cro	53187	Max WS	22352.96	100.39	117.52		117.71	0.000376	4.56	11088.70	3772.42	0.22
Conejo Creek Cro	53057	Max WS	22544.81	100.17	117.41	111.94	117.72	0.000540	5.57	9240.92	4319.96	0.27
Conejo Creek Cro	53000		Bridge									
Conejo Creek Cro	52939	Max WS	22544.81	99.97	117.34		117.53	0.000438	4.63	10693.86	4386.24	0.21
Conejo Creek Cro	52809	Max WS	22537.75	100.01	117.14		117.56	0.001036	6.79	8095.33	2188.44	0.32
Conejo Creek Cro	52620	Max WS	22537.18	99.72	116.78		117.35	0.001575	7.09	6000.30	1611.71	0.38
Conejo Creek Cro	52377	Max WS	22532.27	99.76	116.21		117.01	0.002284	9.17	5489.59	1465.53	0.47
Conejo Creek Cro	52059	Max WS	22531.62	99.65	115.39		116.37	0.002429	9.89	4935.81	1225.18	0.49
Conejo Creek Cro	51699	Max WS	22530.49	97.94	113.53	113.88	115.33	0.004177	12.92	2828.51	939.07	0.64
Conejo Creek Cro	51593	Max WS	22518.22	97.37	112.57	113.48	115.27	0.006156	15.35	2466.92	908.55	0.77
Conejo Creek Cro	51491	Max WS	22526.70	98.40	112.95		114.19	0.003981	11.18	3403.97	1186.51	0.60
Conejo Creek Cro	51231	Max WS	22526.42	98.04	112.46		113.21	0.002387	8.88	4217.70	1298.47	0.47
Conejo Creek Cro	50917	Max WS	22523.99	97.68	111.71		112.42	0.002845	9.07	4371.90	1607.80	0.51
Conejo Creek Cro	50597	Max WS	22523.02	97.30	111.17		111.63	0.001906	7.48	5364.00	1925.84	0.42
Conejo Creek Cro	50305	Max WS	22521.41	96.94	110.12		111.02	0.003527	10.37	4117.89	1720.84	0.57
Conejo Creek Cro	50231	Max WS	22511.45	96.28	109.90		110.75	0.003822	10.13	4195.38	1908.33	0.58
Conejo Creek Cro	50143	Max WS	22469.61	97.10	109.68		110.43	0.003968	10.13	4373.08	2122.51	0.59
Conejo Creek Cro	49815	Max WS	22431.84	95.58	109.29		109.53	0.000485	3.73	7779.55	2439.43	0.21
Conejo Creek Cro	49746	Max WS	22431.65	95.90	109.35		109.40	0.000088	1.62	14777.78	3086.35	0.09
Conejo Creek Cro	49667	Max WS	22431.59	96.04	109.35		109.38	0.000068	1.41	17193.53	3414.16	0.08
Conejo Creek Cro	49405	Max WS	22431.33	95.74	109.34		109.37	0.000047	1.16	19053.27	3419.51	0.06
Conejo Creek Cro	49043	Max WS	22430.74	95.35	109.33		109.35	0.000034	0.98	20479.53	3327.33	0.05
Conejo Creek Cro	48736	Max WS	22430.07	94.78	109.31		109.34	0.000041	1.02	19148.13	3272.12	0.06
Conejo Creek Cro	48408	Max WS	22428.99	94.38	109.17		109.31	0.000452	3.54	9063.49	2621.79	0.20
Conejo Creek Cro	48258	Max WS	22424.95	94.40	109.03		109.18	0.000635	4.44	8244.02	2437.98	0.24
Conejo Creek Cro	48073	Max WS	22424.71	94.49	108.90		109.04	0.000723	4.63	8048.93	2427.97	0.25

Proposed (Steady 10yr, 50yr, 500yr): XS 54749 – XS 48073

HEC-RAS Plan: Proposed_10_50_500 River: Reach #1 Reach: Conejo Creek Cro

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	54749	Existing 10yr	9563.00	101.91	114.97	107.54	115.22	0.000552	3.97	2409.40	2257.89	0.22
Conejo Creek Cro	54749	Existing 50yr	18298.00	101.91	117.35	109.98	117.91	0.001102	6.01	3057.92	2969.64	0.32
Conejo Creek Cro	54749	Existing 500yr	36481.00	101.91	120.34	113.82	120.41	0.000220	3.15	23370.89	3490.95	0.15
Conejo Creek Cro	54668	Existing 10yr	9563.00	101.91	115.04		115.10	0.000196	2.35	8880.12	3039.40	0.13
Conejo Creek Cro	54668	Existing 50yr	18298.00	101.91	117.59		117.62	0.000141	2.29	17613.88	3773.18	0.12
Conejo Creek Cro	54668	Existing 500yr	36481.00	101.91	120.34		120.38	0.000154	2.73	28884.57	4484.65	0.13
Conejo Creek Cro	54330	Existing 10yr	9563.00	101.42	114.99	108.03	115.03	0.000171	2.17	9971.09	3327.23	0.12
Conejo Creek Cro	54330	Existing 50yr	18298.00	101.42	117.55	112.74	117.58	0.000122	2.14	19261.70	3835.13	0.11
Conejo Creek Cro	54330	Existing 500yr	36481.00	101.42	120.29	114.00	120.33	0.000134	2.58	30413.82	4251.09	0.12
Conejo Creek Cro	53914	Existing 10yr	9563.00	101.11	114.92	107.83	114.97	0.000135	2.32	9783.83	2723.14	0.13
Conejo Creek Cro	53914	Existing 50yr	18298.00	101.11	117.49	112.31	117.53	0.000118	2.51	17572.72	3326.66	0.12
Conejo Creek Cro	53914	Existing 500yr	36481.00	101.11	120.21	113.95	120.27	0.000148	3.20	27340.61	3872.37	0.14
Conejo Creek Cro	53451	Existing 10yr	9563.00	100.87	114.82	107.52	114.89	0.000181	2.72	7528.80	2073.21	0.15
Conejo Creek Cro	53451	Existing 50yr	18298.00	100.87	117.39	111.85	117.46	0.000174	3.09	13586.68	2626.38	0.15
Conejo Creek Cro	53451	Existing 500yr	36481.00	100.87	120.08	114.04	120.18	0.000227	3.99	21589.63	3225.81	0.18
Conejo Creek Cro	53187	Existing 10yr	9563.00	100.39	114.70	107.40	114.83	0.000281	3.36	5361.32	1626.13	0.18
Conejo Creek Cro	53187	Existing 50yr	18298.00	100.39	117.25	111.04	117.39	0.000285	3.92	10446.53	2340.17	0.19
Conejo Creek Cro	53187	Existing 500yr	36481.00	100.39	119.92	114.52	120.10	0.000349	4.91	17574.79	2894.46	0.22
Conejo Creek Cro	53057	Existing 10yr	9560.00	100.17	114.58	106.98	114.77	0.000353	3.86	4282.43	1346.93	0.21
Conejo Creek Cro	53057	Existing 50yr	18292.00	100.17	117.09	110.30	117.32	0.000403	4.74	8550.11	2132.84	0.23
Conejo Creek Cro	53057	Existing 500yr	36469.00	100.17	119.75	115.14	120.02	0.000481	5.85	15306.43	2826.94	0.26
Conejo Creek Cro	53000		Bridge									
Conejo Creek Cro	52939	Existing 10yr	9560.00	99.97	114.53	107.16	114.63	0.000251	3.03	5478.47	1422.36	0.16
Conejo Creek Cro	52939	Existing 50yr	18292.00	99.97	117.00	108.93	117.14	0.000336	3.99	9924.71	2210.89	0.19
Conejo Creek Cro	52939	Existing 500yr	36469.00	99.97	119.62	112.07	119.81	0.000433	5.07	16596.61	2735.84	0.22
Conejo Creek Cro	52809	Existing 10yr	9560.00	100.01	113.94	108.57	114.44	0.001161	6.02	2588.66	1174.20	0.33
Conejo Creek Cro	52809	Existing 50yr	18292.00	100.01	116.65	111.79	117.01	0.000889	6.14	7061.08	2029.47	0.30
Conejo Creek Cro	52809	Existing 500yr	36469.00	100.01	119.37	116.53	119.70	0.000858	6.83	13574.26	2635.66	0.30
Conejo Creek Cro	52620	Existing 10yr	9560.00	99.72	113.71		114.18	0.001572	5.65	2193.46	864.41	0.36
Conejo Creek Cro	52620	Existing 50yr	18292.00	99.72	116.33		116.80	0.001321	6.31	5285.56	1507.77	0.35
Conejo Creek Cro	52620	Existing 500yr	36469.00	99.72	118.92		119.47	0.001441	7.66	10120.67	2158.57	0.38

HEC-RAS Plan: Proposed_10_50_500 River: Reach #1 Reach: Conejo Creek Cro (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	52377	Existing 10yr	9560.00	99.76	113.12		113.73	0.001961	6.99	2291.17	700.36	0.41
Conejo Creek Cro	52377	Existing 50yr	18292.00	99.76	115.71		116.38	0.001912	8.16	4810.37	1303.92	0.42
Conejo Creek Cro	52377	Existing 500yr	36469.00	99.76	118.21		118.99	0.002212	10.00	8890.78	1913.73	0.47
Conejo Creek Cro	52059	Existing 10yr	9560.00	99.65	112.59		113.19	0.001655	6.93	2361.17	702.14	0.39
Conejo Creek Cro	52059	Existing 50yr	18292.00	99.65	115.12		115.84	0.001804	8.40	4613.22	1152.65	0.42
Conejo Creek Cro	52059	Existing 500yr	36469.00	99.65	116.83		118.19	0.003351	12.47	7002.31	1623.87	0.58
Conejo Creek Cro	51699	Existing 10yr	9560.00	97.94	111.14	107.92	112.34	0.002839	9.28	1341.00	406.23	0.51
Conejo Creek Cro	51699	Existing 50yr	18292.00	97.94	113.66	112.99	114.93	0.002876	10.79	2952.90	1054.88	0.53
Conejo Creek Cro	51699	Existing 500yr	36469.00	97.94	115.50	115.50	116.86	0.003386	12.79	5364.33	1479.75	0.59
Conejo Creek Cro	51593	Existing 10yr	9560.00	97.37	110.81	107.58	112.00	0.002761	9.29	1382.36	462.09	0.50
Conejo Creek Cro	51593	Existing 50yr	18292.00	97.37	112.89	112.89	114.33	0.003331	11.48	2781.23	1018.81	0.57
Conejo Creek Cro	51593	Existing 500yr	36469.00	97.37	114.78	114.78	116.20	0.003618	13.12	5135.55	1358.26	0.60
Conejo Creek Cro	51491	Existing 10yr	9560.00	98.40	110.74		111.62	0.002982	8.29	1592.14	580.21	0.50
Conejo Creek Cro	51491	Existing 50yr	18292.00	98.40	112.42	111.77	113.53	0.003588	10.26	2843.57	953.65	0.57
Conejo Creek Cro	51491	Existing 500yr	36469.00	98.40	114.29		115.52	0.003971	12.08	5233.95	1484.79	0.61
Conejo Creek Cro	51231	Existing 10yr	9560.00	98.04	110.56		110.97	0.001377	5.94	2351.82	766.59	0.35
Conejo Creek Cro	51231	Existing 50yr	18292.00	98.04	112.08		112.70	0.002008	7.95	3749.50	1185.18	0.43
Conejo Creek Cro	51231	Existing 500yr	36469.00	98.04	113.62		114.55	0.002913	10.49	5988.35	1701.98	0.53
Conejo Creek Cro	50917	Existing 10yr	9560.00	97.68	109.84		110.41	0.002244	7.02	2018.60	772.75	0.43
Conejo Creek Cro	50917	Existing 50yr	18292.00	97.68	111.33		111.98	0.002608	8.46	3771.37	1476.51	0.48
Conejo Creek Cro	50917	Existing 500yr	36469.00	97.68	112.82		113.57	0.002908	9.84	6299.70	1847.76	0.52
Conejo Creek Cro	50597	Existing 10yr	9560.00	97.30	109.49		109.81	0.001330	5.53	2693.68	1085.38	0.34
Conejo Creek Cro	50597	Existing 50yr	18292.00	97.30	110.89		111.29	0.001622	6.77	4839.68	1898.07	0.38
Conejo Creek Cro	50597	Existing 500yr	36469.00	97.30	112.33		112.81	0.001854	7.93	7637.85	2055.22	0.42
Conejo Creek Cro	50305	Existing 10yr	9560.00	96.94	108.79		109.33	0.001961	7.06	2257.95	1026.52	0.41
Conejo Creek Cro	50305	Existing 50yr	18292.00	96.94	109.96		110.67	0.002718	9.01	3860.50	1689.32	0.50
Conejo Creek Cro	50305	Existing 500yr	36469.00	96.94	111.23		112.08	0.003397	10.89	6286.94	2055.77	0.57
Conejo Creek Cro	50231	Existing 10yr	9560.00	96.28	108.69		109.14	0.001956	6.62	2369.38	1063.65	0.40
Conejo Creek Cro	50231	Existing 50yr	18292.00	96.28	109.77	108.91	110.41	0.002877	8.70	3940.58	1812.99	0.50
Conejo Creek Cro	50231	Existing 500yr	36469.00	96.28	110.98		111.74	0.003480	10.38	6415.28	2157.53	0.56
Conejo Creek Cro	50143	Existing 10yr	9560.00	97.10	108.14	108.14	108.88	0.003579	8.52	1943.57	1095.03	0.54
Conejo Creek Cro	50143	Existing 50yr	18292.00	97.10	109.21	109.21	110.06	0.004361	10.26	3467.64	1805.79	0.61

HEC-RAS Plan: Proposed_10_50_500 River: Reach #1 Reach: Conejo Creek Cro (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Conejo Creek Cro	50143	Existing 500yr	36469.00	97.10	110.70		111.37	0.003445	10.13	6644.16	2272.94	0.56
Conejo Creek Cro	49815	Existing 10yr	9560.00	95.58	107.54		107.67	0.000222	2.21	4347.14	1511.24	0.14
Conejo Creek Cro	49815	Existing 50yr	18292.00	95.58	108.78		109.00	0.000428	3.38	6595.81	2185.14	0.19
Conejo Creek Cro	49815	Existing 500yr	36469.00	95.58	110.53		110.75	0.000767	5.07	11010.18	2798.60	0.27
Conejo Creek Cro	49746	Existing 10yr	9560.00	95.90	107.61		107.63	0.000034	0.88	10115.50	2167.42	0.05
Conejo Creek Cro	49746	Existing 50yr	18292.00	95.90	108.88		108.92	0.000072	1.41	13380.22	2918.29	0.08
Conejo Creek Cro	49746	Existing 500yr	36469.00	95.90	110.60		110.68	0.000134	2.15	18697.46	3223.34	0.11
Conejo Creek Cro	49667	Existing 10yr	9560.00	96.04	107.61		107.62	0.000027	0.79	11851.22	2532.00	0.05
Conejo Creek Cro	49667	Existing 50yr	18292.00	96.04	108.88		108.91	0.000056	1.24	15612.86	3288.16	0.07
Conejo Creek Cro	49667	Existing 500yr	36469.00	96.04	110.59		110.65	0.000102	1.87	21478.57	3471.92	0.10
Conejo Creek Cro	49405	Existing 10yr	9560.00	95.74	107.60		107.61	0.000018	0.63	13489.49	2762.26	0.04
Conejo Creek Cro	49405	Existing 50yr	18292.00	95.74	108.87		108.90	0.000038	1.02	17464.64	3412.04	0.06
Conejo Creek Cro	49405	Existing 500yr	36469.00	95.74	110.58		110.63	0.000075	1.59	23306.31	3454.73	0.08
Conejo Creek Cro	49043	Existing 10yr	9560.00	95.35	107.60		107.61	0.000011	0.50	14970.03	2858.76	0.03
Conejo Creek Cro	49043	Existing 50yr	18292.00	95.35	108.86		108.88	0.000026	0.85	18942.46	3310.07	0.05
Conejo Creek Cro	49043	Existing 500yr	36469.00	95.35	110.56		110.60	0.000057	1.39	24601.40	3385.51	0.07
Conejo Creek Cro	48736	Existing 10yr	9560.00	94.78	107.59		107.60	0.000014	0.54	13713.28	2894.65	0.03
Conejo Creek Cro	48736	Existing 50yr	18292.00	94.78	108.85		108.87	0.000032	0.88	17636.85	3249.55	0.05
Conejo Creek Cro	48736	Existing 500yr	36469.00	94.78	110.53		110.58	0.000068	1.43	23144.82	3319.07	0.08
Conejo Creek Cro	48408	Existing 10yr	9560.00	94.38	107.48		107.58	0.000284	2.48	4999.39	2083.38	0.15
Conejo Creek Cro	48408	Existing 50yr	18292.00	94.38	108.70		108.84	0.000422	3.31	7872.79	2504.92	0.19
Conejo Creek Cro	48408	Existing 500yr	36469.00	94.38	110.33		110.52	0.000567	4.28	12223.59	2828.83	0.23
Conejo Creek Cro	48258	Existing 10yr	9560.00	94.40	107.40		107.51	0.000479	3.45	4539.41	2011.46	0.20
Conejo Creek Cro	48258	Existing 50yr	18292.00	94.40	108.61		108.75	0.000589	4.16	7245.41	2372.86	0.23
Conejo Creek Cro	48258	Existing 500yr	36469.00	94.40	110.21		110.41	0.000763	5.22	11395.23	2792.14	0.27
Conejo Creek Cro	48073	Existing 10yr	9560.00	94.49	107.32		107.43	0.000610	3.81	4482.59	2045.33	0.23
Conejo Creek Cro	48073	Existing 50yr	18292.00	94.49	108.52		108.65	0.000668	4.34	7159.07	2334.05	0.24
Conejo Creek Cro	48073	Existing 500yr	36469.00	94.49	110.11		110.30	0.000767	5.14	11072.91	2598.36	0.27

APPENDIX Q -

POND 7 BACKFILL LETTER

PACE
Advanced Water Engineering

March 23, 2023

Joe Vacca
AICP, Director, Community Development
City of Camarillo
601 Carmen Drive
Camarillo, CA 93010
(805) 388-5362

Re: Camarillo Springs Proposed Development Project
No Change Necessary to Master Drainage Plan for Pond 7 Backfill Project # B306

Dear Mr. Vacca,

We have reviewed the Pond 7 backfill project as related to regional hydraulic modeling and the most recent Master Drainage Plan (MDP) Report, dated September 23, 2022. We have analyzed a revised configuration, with Pond 7 filled in, and it does not change the MDP results or conclusions. Thus, there is no need to revise the MDP.

The Pond 7 backfill project involves eliminating Pond 7 by redirecting the water source, draining it, and filling it in with soil. The current water source, a storm drain pipe conveying flows from the nearby HOA will be redirected to Pond 6 in the interim until the proposed project is built, at which time the connection between Pond 6 and Pond 7 will be severed and flows redirected to the proposed 48” storm drain along Ridge View Street, ultimately discharging into Conejo Creek.

The hydraulic modeling completed for the MDP is at a regional level. As such, the flows leaving the HOA were input as a point source for surface flow at the edge of the golf course property to determine overall 100-yr floodplain level impacts.

To assess any impact to the floodplain as a result of the Pond 7 backfill project, PACE modeled another version of the proposed conditions to analyze the scenario with Pond 7 backfilled. The results show no change to Water Surface Elevation or proposed condition floodplain extents, as supported by the two enclosed exhibits.

The first exhibit – Figure A – provides a comparison between the water depth results from the MDP model and the revised model to include the backfilled Pond 7. As shown, the depth of water in the area of the pond is the only change – it is now the depth of water associated with the water flowing across the backfilled pond, not the depth of water in the pond itself.

The second exhibit – Figure B – provides a comparison between the water surface elevation results from the MDP model and the revised model to include the backfilled Pond 7. As shown, the water surface elevation does not change between the two proposed conditions. The floodplain boundary is also shown to not change between the two proposed conditions.

Results from the revised modeling to include the backfilled Pond 7 indicate Pond 7 is not used for regional level storage or detention, and Conejo Creek is the primary source for the floodplain in this area.

This is supported by no change in water surface elevation and no change in floodplain extents between the two proposed condition models.

For these reasons, the Master Drainage Plan does not need to be revised. The proposed condition regional floodplain is unchanged with the addition of the Pond 7 backfill project.

Sincerely,

Andrew Ronnau, PhD, PE
Vice President – Stormwater Technical Director

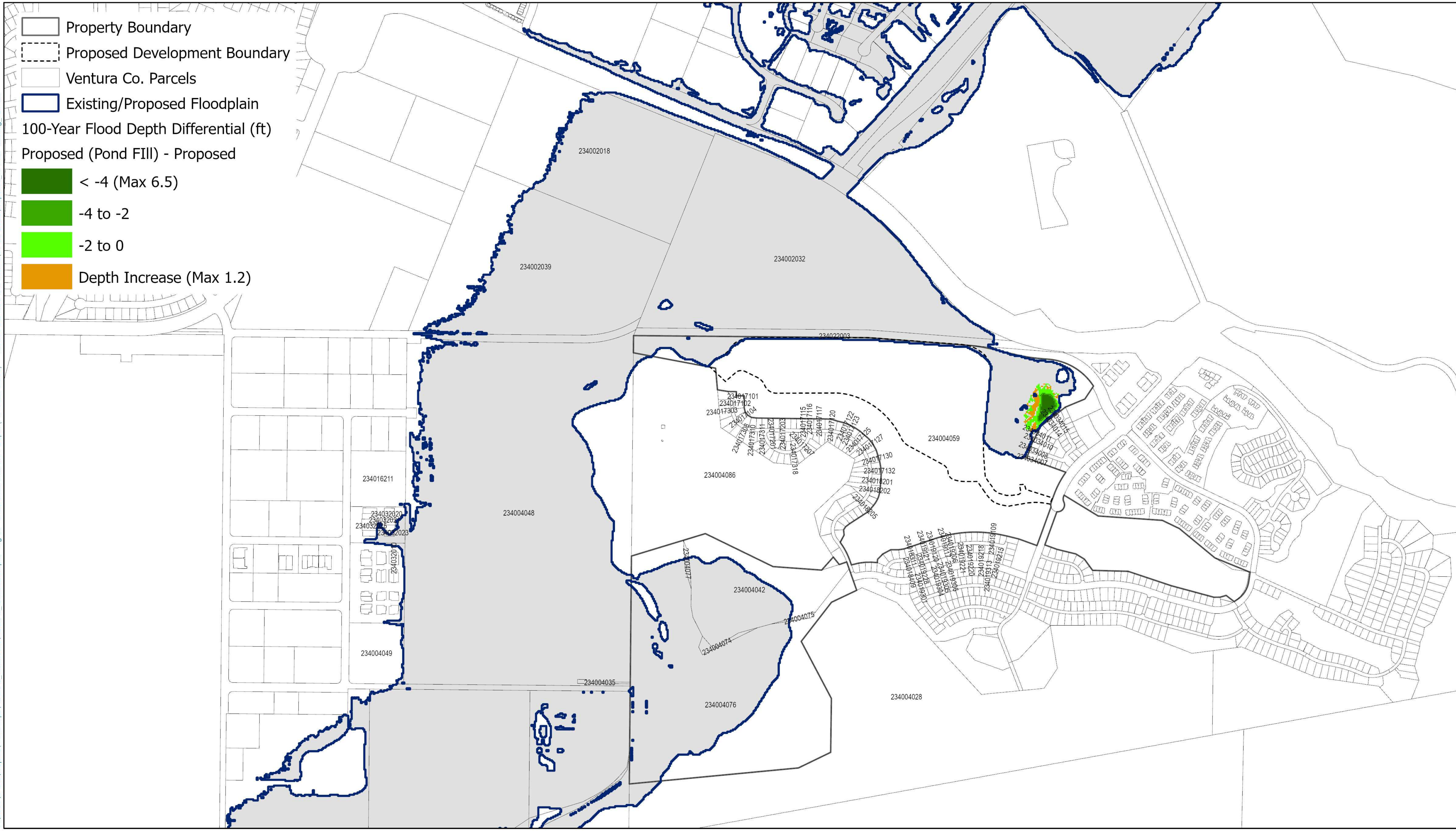
Jenny Robinet, PE
Project Manager

JR /cc

Cc:
Mark Krebs
Jonathan Frankel
Jason Han
Greg Musser

Enclosures:
Figure A – Water Depth Differential, Proposed w/ Filled Pond vs. Proposed
Figure B – Water Surface Elevation Differential, Proposed w/ Filled Pond vs. Proposed

P:\B306\4-Administrative\Letters\2023-03-23_JVacca_MDP Letter_signed.doc



P:\B306\6-GIS\Projects\Workmaps\HECRAS_TestResults\HECRAS_TestResults.aprx - Fig 10 - Differential Max Flow Depth (No Color 0.060) --- Model: GIS HEC-RAS Results\09-22-2022\Proposed_v2 Max_Existing_v2 Max

CAMARILLO SPRINGS

DEPTH DIFFERENTIAL
PROPOSED VS. PROPOSED W FILLED POND

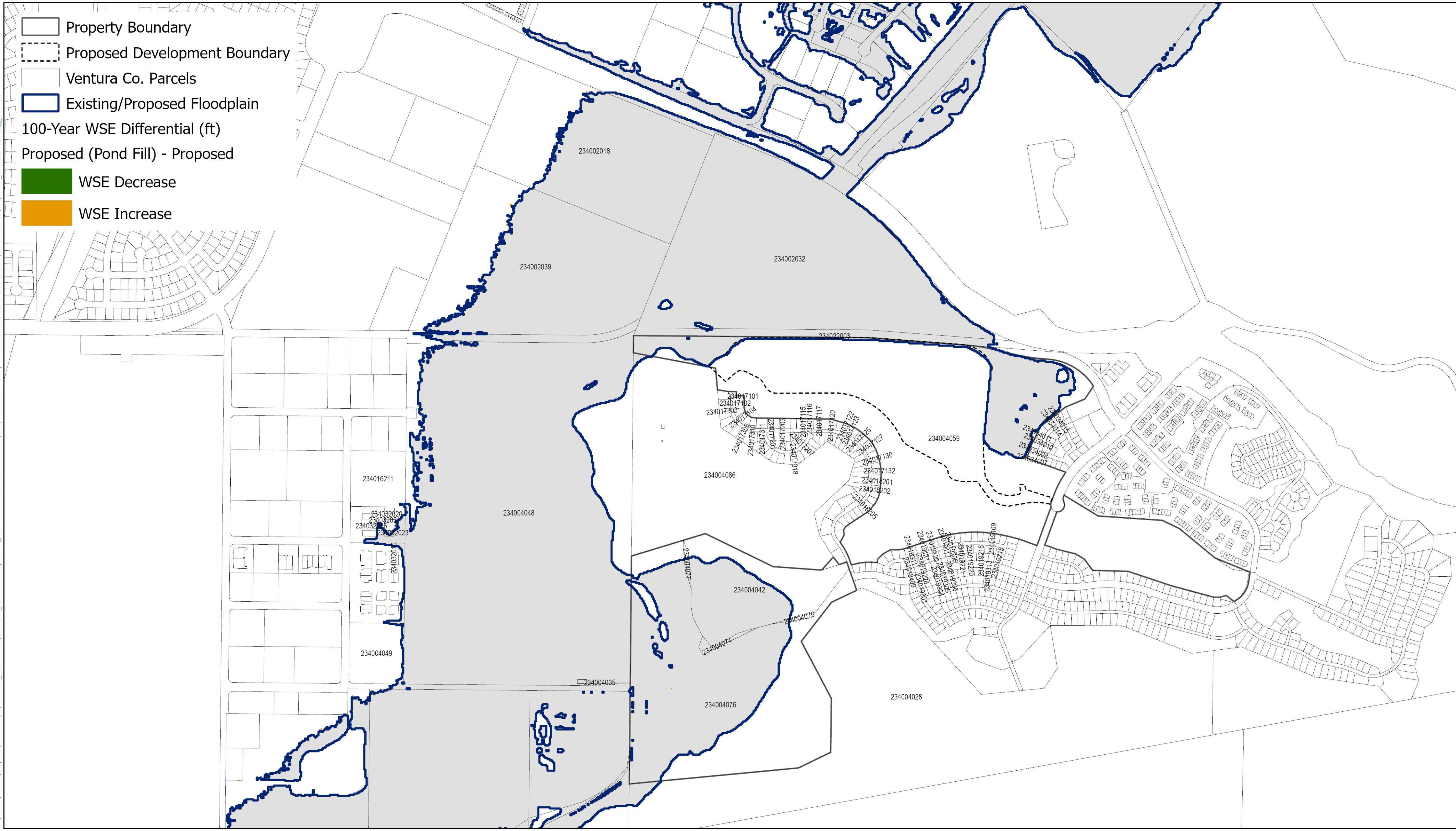
PACE Advanced Water Engineering

0 400 800 1,600 Feet

Date: 3/14/2023

Job Number: B306

Figure A



P:\B306\6-GIS\Projects\Workmaps\HECRAS_TestResults\HECRAS_TestResults.aprx - Fig 10 - Differential Max Flow Depth (No Color 0.060) --- Model: GIS HEC-RAS Results\09-22-2022\Proposed_v2 Max_Existing_v2 Max

CAMARILLO SPRINGS

WATER SURFACE ELEVATION DIFFERENTIAL PROPOSED VS. PROPOSED W FILLED POND

PACE Advanced Water Engineering

0 400 800 1,600 Feet

Date: 3/14/2023

Job Number: B306

Figure B

APPENDIX R -
KASRAIE CONSULTING LETTER

KASRAIE CONSULTING
3287 Island View Drive, Ventura, CA 93003
Phone: (805) 340-4744
Email: kasraie@kasraieconsulting.com | www.KasraieConsulting.com

October 14, 2022

TO: Michael Brown, President
Cadence Environmental Consultants
Camarillo, CA

FROM: Hassan Kasraie, PE
Rich Gleason, PE

SUBJECT: Camarillo Springs Golf Course New Urban West, Inc.
3rd Party Drainage Review – Final Observations

Submittal #4 references are provided at the end of this memo. The revised and updated Tentative Tract Map (TTM) dated August 17, 2022 has been received and reviewed as it relates to the 3rd Party Drainage Review.

EXECUTIVE SUMMARY

The purpose of this review is to provide final observations of the conceptual drainage system design, as well as review comments on Submittal #4.

In response to Kasraie Consulting's (KC) 3rd Party Reviews, NUWI/PACE have provided several submittals including Submittal #4 dated 4/21/2022 and the revised TTM by ECG dated 8/17/2022. The latest submittal includes a new Master Drainage Plan and Floodplain Analysis Report, responses to the previous technical comments, floodplain maps and computer models for the existing pre-project condition and the proposed post-project future condition.

Additionally, several special what-if scenarios and failure analyses were conducted to demonstrate the potential risks of flooding in the event that certain drainage facilities were to fail or get clogged during a major storm event.

As a result of the 3rd Party Review process, the initial hydrology for the project had to be corrected. The magnitude of the incoming 100-year peak flow at Camarillo Springs Road was nearly doubled from 1,151 cfs to 2,250 cfs, with an 18% increase in the 100-year flood hydrograph volume.

The increase in the incoming runoff and hydrology resulted in a significantly larger drainage system required for the proposed development. For example, NUWI/PACE have revised the drainage system to include four additional 66" pipe culverts at Camarillo Springs Road, a larger Single 12.5'x6.5' bypass box culvert, new Double 12.5'x6.5 box conduits bypassing the "Lake", and a breach-resistant floodwall or levee embankment which is proposed to completely separate the upstream runoff, preventing it from entering the "Lake".

The updated drainage plan results in a 100-year flood elevation of 112 ft. for existing homes adjacent to the "Lake", six (6) feet lower than the current FEMA BFE, elevation of 118 ft. As a result, some 154 parcels would be removed from the 100-year flood plain and no longer have the mandatory flood insurance requirement. However, if a parcel has even a small area at the 112 ft. elevation, lenders and insurance companies may still require flood insurance.

Note, as outlined in City staff's April 13, 2022 presentation to City Council, the changes to the drainage plan "will result in significant new information that under CEQA, require updates to the Draft EIR … FEMA and the Ventura County Watershed Protection District would also need to review the significant new information."

We are of the opinion that the proposed drainage system will function during a 100-year flood as intended if there are no drainage feature failures such as blocked pipes or culverts, a breach in the levee embankment or floodwall, or malfunctioning mechanical devices. However, the proposed development includes an artificial "Lake" fill embankment with new houses on top which are higher than the existing houses adjacent to the "Lake". This is not a standard design, therefore there are some inherent risks associated with the drainage design concept.

The artificial fill embankment will double as a dam embankment and a levee embankment, yet it is unclear if it will be designed and engineered as such. A "Lake" area is formed behind the proposed fill embankment located perpendicular to the current Camarillo Springs Creek center line through the golf course. At the same time, a levee embankment is being created parallel to the Conejo Creek center line with houses behind it.

The National Flood Insurance Program (NFIP) defines a levee in Title 44, Chapter 1, Section 59.1 of the Code of Federal Regulations (44 CFR 59.1) as "a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to reduce risk from temporary flooding." Therefore, as part of the required revised CLOMR to FEMA, the fill embankment should be included as a levee since it is being used to remove existing homes from the 100-year Special Flood Hazard Area (SFHA).

Because of its location and the proximity to Conejo Creek, the fill embankment creates a "levee condition" along Conejo Creek as there are many existing homes adjacent to the "Lake", which are several feet below the existing 100-year Base Flood Elevation (BFE) in Conejo Creek.

Due to the significant flood level differential between the Conejo Creek and the area adjacent to the "Lake", the development as proposed is unable to provide an unobstructed emergency overflow spillway in compliance with City requirements to allow stormwater to escape from the "Lake" under any rainfall conditions before it reaches the elevation of any existing and proposed homes.

Other residential development projects in the City, such as Pitts Ranch, have historically included an unobstructed emergency overflow spillway constructed lower than the adjacent home pad elevations, and higher than the downstream flood elevations in the receiving streams allowing stormwater to escape before it reaches the elevation of any homes. Emergency overflow spillways are typically designed to handle the unreduced incoming 100-year flood peak flows without the use of mechanical backflow prevention devices.

Instead of providing an unobstructed emergency spillway as prescribed above, the project is proposing a redundant 4 ft. diameter overflow pipe from the "Lake" with a weir opening on top set at the 112 ft. 100-year flood elevation of the "Lake." This proposed overflow pipe and weir is not designed for the unreduced incoming 100-year flood peak flow. The other main 4 ft.

diameter operating outlet pipe and this redundant overflow pipe both require mechanical backflow prevention devices at their outlets such as flap gates to prevent flood water from backflowing from Conejo Creek into the "Lake." Manually operated gate valves are being proposed as a backup prevention measure in the event the mechanical flap gates fail. These mechanical devices and the drainage pipes and culverts will require implementation of a maintenance plan to ensure their proper operation to prevent flooding in perpetuity. The proposed drainage plan does not meet the City's requirements of an unobstructed emergency overflow spillway as previously described.

In our opinion, the project does not meet the City's requirements due to the outlined issues described above. These include lack of an acceptable unobstructed emergency spillway; lack of a properly designed overflow system and drainage path; absence of information on whether the fill embankment between Conejo Creek and the "Lake" will be designed to the FEMA/USACE levee design standards, and reliance on mechanical flood protection devices that require intensive maintenance in perpetuity.

Meeting the City's requirements is technically infeasible by this project with the proposed fill embankment and drainage design concept.

This, combined with the significant historical events in Camarillo Springs including brush fires, intense rain storms and destructive mud and debris flows, may result in potential significant flooding risks to the existing and proposed development.

PROPOSED PROJECT BACKGROUND

New Urban West Inc. (NUWI) is proposing to redevelop the current Camarillo Springs Golf Course into an active adult lifestyle and golf community consisting of 200+ single family homes and amenities for those aged 55+. The site is currently located at the confluence of the local Camarillo Springs Creek Watershed (CSCW) with the regional Conejo Creek, which is a Ventura County Watershed Protection District (VCWPD) jurisdictional redline channel.

HISTORICAL NATURAL HAZARDS

Historically, this area has experienced numerous natural hazard events including fires, local (CSCW) and regional (Conejo Creek) flooding, hillside instability, and debris flow. In May 2013, the Springs Fire burned through and eliminated much of the vegetation along the eastern and southern sides of CSCW, increasing the likelihood of hillside instability. Heavy and intense rainfall events swept through the area in November and December of 2014 creating substantial public safety hazard events that resulted in significant residential and general infrastructure damage due to mud and debris flows. As a result, the City of Camarillo invested significant capital in the installation of numerous debris flow control systems.

Due to the recorded local drainage related issues and history of fire in the watershed, the City required NUWI and its consultants (PACE, ECG) use previously accepted runoff methodology estimates. The City also required multiple drainage infrastructure "failure" alternatives and mitigation strategies be evaluated that are in addition to the typical design standards required for most developments.

3RD PARTY REVIEW PROCESS

Several 3rd party conceptual drainage design reviews were completed by Kasraie Consulting (KC) to determine if the proposed conceptual design met City standards as well as requirements necessary due to the specific site conditions. The following provides dates of these reviews and a brief synopsis of key findings or requirements:

A. July 23, 2021 Submittal #1 Review Key Comments
   - Revise hydrology method and procedures.
   - FEMA may consider the Lake fill embankment a levee or creating a "Levee Condition".
   - Expand 2D flood modeling to include CSCW.
   - Map flood hazards due to historical fire/flood events & potential blockage or system failures.
   - Perform several what-if failure analyses.
   - Potential for Division of Safety of Dams (DSOD) jurisdiction.
   - Update debris production analysis.
   - Require Unobstructed Emergency Spillway & Flow Path.
B. August 12, 2021 (Draft 2009 Hydrology for CSCW)
   - As requested by the developer, KC provided Legacy Hydrology models from the City's Draft 2009 Master Plan of Drainage for reference.
C. October 11, 2021 Submittal #2 Review Key Comments
   - Update hydrology with recommended revisions.
   - Provide Tc Calculations.
   - Adjust and correct subarea boundaries.
   - Include hydrograph volume adjustment.
D. March 2, 2022 Submittal #3 Review Key Comments
   - Submittal #3 generally followed 3rd Party Review recommendations.
   - Developer updated hydrology using Legacy Methods as recommended by KC.
   - KC independently modeled and evaluated the existing and proposed drainage systems.
   - Based on our findings, the proposed drainage system will function as intended during the 100-year flood. However, certain corrections, design changes and recommendations are provided.
   - Discharges and velocities to the channel west of Margarita Avenue increase due to the added conveyance caused by the triple box culverts, the Ridge View Street storm drain, and the 2-48-inch "Lake" drain pipes.
   - With additional outlet erosion mitigation measures as well as the fact that peak flows on Conejo Creek will not be impacted, this increase is unlikely to have adverse effects in Conejo Creek.
   - Margarita Avenue culvert crossing needs to be redesigned to incorporate an energy dissipator structure that will include the outlets of the triple box culverts, 48-inch storm drain along Ridge View Street, and 2-48-inch "Lake" drain pipes.
   - Design calculations need to support a meaningful reduction in flow velocities leaving the energy dissipator from 9 fps to 3 fps. Please note basic rock riprap will not be adequate.
   - Lake outlet pipes will require mechanical flap gates to prevent backflow into the Lake from Conejo Creek. Operation & Maintenance Manual is required.
   - The "Lake" fill embankment needs an unobstructed emergency spillway and flow path per City requirements.

- VCWPD watercourse permit and/or concurrence is required due to the fill embankment, outlet works, and energy dissipator being within the Conejo Creek floodplain and floodway.
- The Lake will hold the 100-year 24-hour storm volume; however, a multi-day (4 day) flood analysis is required.
- A breach-resistant floodwall or levee is required to separate the West Basin from the Lake. A larger area will be inundated (up to elevation 119.3) if the floodwall/levee were to beach. Include a 100-year and 500-year breach analysis in the Master Plan report.
- Document each failure analysis and results in the Master Plan Report, and include the multi-day 100-year analysis.
- Provide a combined 500-year storm analysis for Conejo Creek and CSCW.

E. April 13, 2022 City Council Presentation by Hassan Kasraie
  - Video of City Council meeting is online at the City's Website.

F. October 14, 2022 3rd Party Drainage Review – Final Observations (this document)

SUBMITTAL #4 REVIEW COMMMENTS & FINAL OBSERVATIONS

In response to KC's 3/2/2022 technical comments, the applicant has adequately addressed review items (a), (c), (f), (i), (k), (l), and (n). The other technical comments were also responded to for our review, and we provide the following final observations:

Item (b) Hydrology

The percent impervious value for subarea WS35 was not revised.

Items (d) & (e) Downstream Energy Dissipator and Margarita Avenue Culvert Improvements

The overall conceptual drainage system outlet at Margarita Avenue is proposed to consist of three 12.5' wide x 6.5' high Reinforced Concrete Box (RCB) conduits, two "Lake" 48" Reinforced Concrete Pipes (RCP) with mechanical closure devices, as well as one 48" RCP along Ridge View Street that will all drain to an energy dissipator structure.

A complete energy dissipator and outlet structure design at Margarita Avenue was not provided.

Design calculations and analysis to support a reduction in flow velocities from 9 fps to 3 fps was not provided.

The April 2022 Master Drainage Plan and Floodplain Analysis (MDPFA) report indicates that this will be provided at final design, therefore a reduction in flow velocities cannot be verified at this time. Based on a 3/29/22 project meeting, PACE stated that the final design will not adversely impact the adjacent properties as required by California Drainage Law.

Item (g) Unobstructed Emergency Spillway

An unobstructed emergency spillway and flow path were not provided as required by the City.

A redundant 48" RCP outlet pipe and weir structure are proposed in addition to the single "Lake" 48" RCP operating outlet pipe. Preventing backflow from Conejo Creek through the "Lake" outlet is dependent on a mechanical system, such as the proposed mechanical Tideflex Duckbill Check Valves (TDCV) on the outlets of both 48-inch RCP pipes and the additional manual gate valve on each 48-inch RCP. NUWI and PACE acknowledge that an operations and maintenance plan is necessary for the mechanical system.

Item (h) VCWPD Concurrence

During the 3/29/22 meeting, City staff reiterated that the applicant must get concurrence from VCWPD on the new and updated drainage design concept before the EIR is recirculated. PACE agreed and indicated they would reach out to VCWPD.

As part of the EIR and FEMA Conditional Letter of Map Revision, the developer provided a submittal package to VCWPD addressing the regional impact of the initially proposed conceptual design on Conejo Creek.

Since the conceptual design has been updated and is proposed to include outlet structures and potential impacts to adjacent properties within the Special Flood Hazard Area (SFHA) of a jurisdictional channel, documentation verifying VCWPD permitting requirements and subsequent concurrence is required.

At the time of this review, such documentation or concurrence have not been provided.

Item (j) Separation Floodwall-Levee Embankment

The embankment or floodwall between the West Basin and the "Lake" is proposed to separate the upstream Camarillo Springs Creek flows and the local flows adjacent to the lake.

A full design of the embankment or floodwall, including soils or geotechnical engineering analysis, was not provided, therefore the separation cannot be verified at this time. PACE has indicated that this information will be provided at the time of final design.

Item (m) Additional Information or Data

iv. There was no Breach Analysis provided for the embankment between the "Lake" and the West Basin therefore breach resistance cannot be verified at this time. PACE has indicated that they will consult with a geotechnical engineer to ensure the separation floodwall and levee embankment will be designed to prevent breaching.

New Item (o) 1,000-year Flood Protection

PACE's April 21, 2022 cover letter states among other things:

"The Legacy rainfall represents volumes in excess of a 1,000-year storm event according to the latest county and NOAA data. Thus, the system is now designed to greater than 1,000-year event even though 100-year event protection is the published design standard accepted by the county and by FEMA."

In our opinion, the above statement is false. The drainage system is designed for a 100-year storm return period as the Rational Method only includes a runoff coefficient "C", 100-year rainfall intensity "I" in inches per hour, and the drainage area "A" in acres. There are no other rainfall depth or volume values included in the basic Q=CIA formula.

For reservoir routing and dynamic flood routing purposes, the hydrograph volume is adjusted with the SCS-based "fattening" method. As can be seen in PACE's hydrology calculations below, only a weighted-average 24-hour rainfall total of 6.5 inches is applied, not the theoretical K Zone total rain amount of 10.6 inches (B98). The total 100-year flood hydrograph is 304.55 acre-feet based on the Legacy Method.

In comparison, as shown below, the 2017 Hydrology Manual analysis performed by JDS yields a total volume of 258.07 acre-feet.

Even though, the peak 100-year flow nearly doubled (from 1,151 cfs to 2,250 cfs), the hydrograph volume only increased 18% (from 258.07 acre-feet to 304.55 acre-feet). Therefore, we disagree with PACE's assertion that they are providing 1,000-year level of flood protection.

```
34A :  Hydrograph at Camarillo Springs Rd
34A :  Clearing Hydrograph Bank:  E
34A   ---   ---    --   --    ---    ---      842    2250    1156    -------    ----  -------    ---
35A :  Fattening
35A   ---   ---    --   --    ---    ---      842    2250    1156    -------    ----  -------    ---
      *******************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):   2249.58        VOLUME (acre-ft):    259.47        *
      *      NO HYDROGRAPH ADJUSTMENT                                                          *
      *      RUNOFF FACTOR(in):   4.34      TOTAL RAIN(in):   6.50        SCS Curve: 81         *
      *      FATTENED HYDROGRAPH  PEAK (cfs):   2249.58        VOLUME (acre-ft):   304.55        *
      *******************************************************************************************
35A   ---   ---    --   --    ---    ---      842    2250    ----    -------    ----  -------    ---
36A   ---   ---    --   --    ---    ---      842    2250    1156    -------    ----  -------    ---
```

Revised "Legacy Method" VCRAT Hydrology by PACE 4/21/2022

```
29A :  Fattening
29A   ---   ---    --   --    ---    ---      811    1151    1159    -------    ----  -------    ---
      *******************************************************************************************
      *      INCOMING HYDROGRAPH  PEAK (cfs):   1151.09        VOLUME (acre-ft):     89.28        *
      *      NO HYDROGRAPH ADJUSTMENT                                                          *
      *      RUNOFF FACTOR(in):   3.82      TOTAL RAIN(in):   6.50        SCS Curve: 76         *
      *      FATTENED HYDROGRAPH  PEAK (cfs):   1151.09        VOLUME (acre-ft):   258.07        *
      *******************************************************************************************
29A   ---   ---    --   --    ---    ---      811    1151    ----    -------    ----  -------    ---
30A   ---   ---    --   --    ---    ---      811    1151    1159    -------    ----  -------    ---
```

Original "2017 Hydrology Manual" VCRAT Hydrology by JDS 10/31/2018

New Item (p) On-site Drainage Design based on "Legacy Hydrology Methods"

The ECG on-site drainage design hydrology was not updated to match the Legacy Method procedures. ECG's "Preliminary Drainage Study for Camarillo Springs Golf Course for Tentative Tract Map No. 6016" dated June 24, 2021 is partly based on the Legacy Method Time of Concentration methodology, and the hydrology is based on the 2017 Hydrology Manual methods.

To be consistent with the remainder of the project, the on-site hydrology must adopt the Legacy Methods as well.

New Item (q) Comments on Revised TTM

Manual gate valves are inadvertently shown on the Double 12.5x6.5 RCB conduits instead of the 4 ft. diameter "Lake" outlet pipes. The various 100-year inundation areas were not updated to be clearly shown on the TTM within the "Lake", West Basin, East Basin, including the Conejo Creek floodplain and floodway lines.

REFERENCES

The following data was provided as part of the latest drainage submittal:

SUBMITTAL #4 PACKAGE from NUWI/PACE 4/21/2022 & Revised TTM 8/17/2022:

REPORTS:

a. Master Drainage Plan and Floodplain Analysis
(2022-04-20_Master_Drainage_Rpt.pdf)
b. Response to Drainage Review Comments #3
Addressed to KC: *(2022-03-23_Kasraie Consulting Resp to Comments.pdf)*
c. Camarillo Springs Master Drainage Plan – Resubmittal/Cover Letter # B306
Addressed to City: *(2022-04-21_B306 Camarillo Springs MDP Resubmittal Cover Letter_v1.2.pdf)*

Appendices:

a. Appendix A: FEMA Effective FIRM Panels (2010)
b. Appendix B: Regional County Hydrology (used for RAS2D CLOMR Model)
c. Appendix C: Local Design Hydrology (existing and proposed VCRAT plots and tables used for input into XP-SWMM models, soils/flowpath/landuse plots, sedimentation calculations)
d. Appendix D: Detailed Exhibits (grading plots and overall system features)
e. Appendix E: Modeling Files
    - Time of Concentration (Tc) Files (used for internal, local hydrology)
    - VCRAT Hydrology Computer Model Files (used for internal, local hydrology)
    - HEC-RAS 2D (used for FEMA CLOMR)
    - XP-SWMM 1D Model (final proposed condition design model)
    - XP-SWMM 2D Models (existing, proposed, and extreme proposed condition models)

PRIOR REVIEWS OR REFERENCES:

a. Drainage Design Review by Kasraie Consulting 7/23/2021
b. Draft 2009 Master Plan of Drainage Hydrology – 100-year Storm by Kasraie Consulting 8/12/2021
c. Hydrology Review–Submittal #2 by Kasraie Consulting 10/11/2021
d. Camarillo Springs Golf Course New Urban West, Inc. 3rd Party Drainage Review – Submittal #3 3/2/2022

APPENDIX S -
PRELIMINARY DRAINAGE SYSTEM MAINTENANCE MANUAL

Maintenance Manual

Camarillo Springs Golf Course Project Drainage System

May 2023
(Revised February 2023)
(Revised October 2022)

Prepared For:

New Urban West, Inc
2001 Wilshire Blvd
Santa Monica, CA 90403

Prepared By:

Pacific Advanced Civil Engineering, Inc.
17520 Newhope Street, Suite 200
Fountain Valley, CA 92708
714-481-7300

Contact Person:

Andrew Ronnau, PhD, PE
Jenny Robinet, MS, PE

PACE JN B306

Table of Contents

Figures

Tables

Appendices

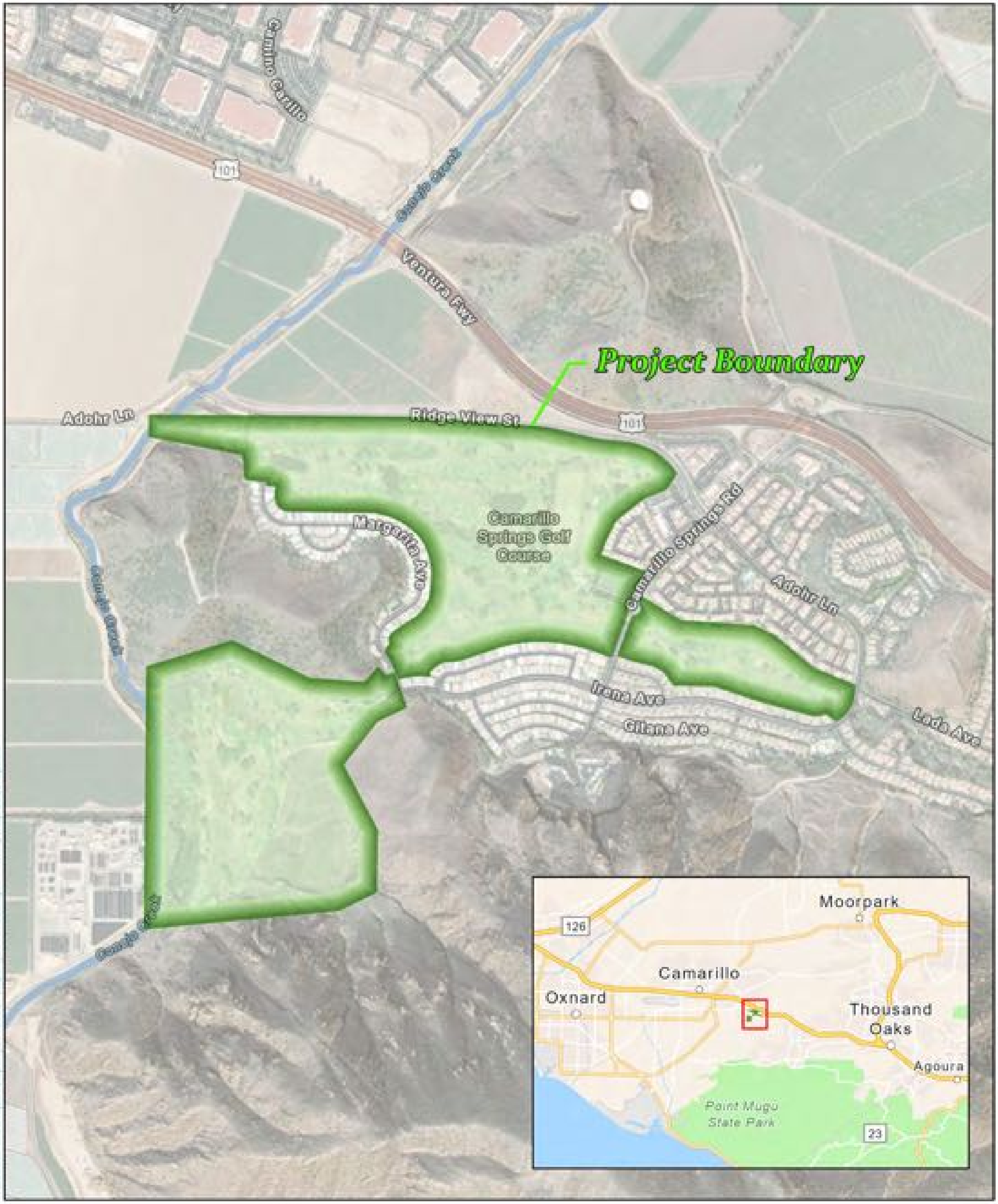
1 Introduction

The Camarillo Springs Golf Course Development Project is located in the City of Camarillo, California, where the Camarillo Springs Wash enters Conejo Creek (Figure 1). The project includes drainage system improvements to convey flows from the foothills of the Conejo Mountains to the southeast of the project site to Conejo Creek, which eventually enters Calleguas Creek before being conveyed down Calleguas Creek to the ocean.

This *Operation and Management Manual* (***Manual***) is to be used by the Camarillo Springs Homeowners Association or appropriate entity for the Operation and Maintenance of the Camarillo Springs Development Project drainage system, especially for the Debris Basin (East Basin) and Bypass Culverts. The *Manual* outlines the required maintenance activities and corresponding monitoring to ensure the effectiveness of the different facility components.

The purpose of this *Manual* is to describe for the Drainage System (1) the recommended inspection activities and schedules, (2) the routine operation (non-flood or post-flood conditions), (3) operation during flood conditions, and (4) maintenance activities and their related frequencies. Reference to maintenance items within this *Manual* pertain to facilities within the golf course property and maintained by the Camarillo Springs Homeowners Association or appropriate entity, unless otherwise indicated.

Also included in this manual is a cost estimate analysis, prepared by Madison Real Estate Consulting (Appendix A). The analysis is based on the frequency of inspections/maintenance, and the associated time and labor.



CAMARILLO SPRINGS

VICINITY MAP

FIGURE 1

PACE Advanced Water Engineering

0 500 1,000 2,000 Feet

Date: 10/11/2022

Job Number: 8306

2 Operation, Inspection, and Maintenance Components

This section describes the system components that require inspection and maintenance. Criteria are presented to establish when maintenance must be performed on each component. The inspection procedures and the schedule for such inspections are included.

The procedures outlined below are intended to aid the governing authority in determining that potentially adverse component conditions exist, which may then be documented, and addressed with appropriate corrective maintenance action.

For each component, typical maintenance activities are suggested, but a governing authority may make an assessment and decision upon the necessary action to restore the component to serviceability.

2.1 Camarillo Springs Road Culverts & Golf Cart Tunnel (Map Item 1)

The Camarillo Springs Road Culverts & Golf Cart Tunnel convey collected runoff from the East Basin (Map Item 2) to the West Basin (Map Item 3). There are four (4) culverts beneath the road, each 66” in diameter. The golf cart tunnel is a 10’x7’ box. All five flow conveyances are 60 feet in length.

2.1.1 <u>Operation</u>

The road culverts and golf cart tunnel are conveying the Camarillo Springs Wash flows which originate in the foothills of the Conejo Mountains, and accumulate in the East Basin. The flows are conveyed beneath Camarillo Springs Road to the West Basin.

2.1.2 <u>Inspection</u>

Inspect during the Spring and Fall. The culvert segments will be inspected thoroughly each fall, prior to the rainy season, to ensure that the structures re sound, and that there are no rocks, debris, or large foreign objects which may obstruct the flow, or cause damage to downstream components. Inspection points to consider are:

1. Inspect for spalling and exposed rebar, or large cracks in the concrete.
2. Inspect for accumulation of sediment, rocks, or large foreign objects.
3. Inspect for establishment of vegetation.

2.1.3 <u>Routine Maintenance</u>

Concrete structural elements are to be maintained in serviceable condition, and periodically cleaned as necessary, in advance of major storm events. Routine maintenance activities include:

1. Repair cracks or holes. Repair areas that are spalled, particularly if rebar becomes exposed.
2. Remove any debris and foreign objects.
3. Remove any significant establishment of vegetation that may impede flows.

2.2 East Basin Debris/Sediment Collection Area (Map Item 2)

The East Basin is designed to trap and hold a design sediment and debris load of 8 ac-ft. into the basin, with a 1% sloped accumulation of sediment.

2.2.1 <u>Operation</u>

The basin provides an area to capture the debris from the flows out of the upper Camarillo Springs Wash watershed. The basin is assumed to have a live bed operation in which debris may be accumulated over time, prior to removal operations, and still provide safe operation.

2.2.2 Inspection

The basin will be inspected thoroughly each fall, prior to the rainy season, and following significant storm events to verify that there is not an unacceptable accumulation of debris or sediment, and to verify that hydraulic conveyance is clear. Inspection points to consider are:

1. Inspect for unacceptable accumulation of debris and sediment, greater than 8 ac-ft.
2. Inspect for areas of erosion below elevation 115'
3. Inspect for unwanted vegetation.
4. Inspect for burrowing animals in the basin embankment

2.2.3 Routine Maintenance

The basin bottom is to be maintained as a settling area for incoming debris. Maintenance activities include:

1. Remove debris when accumulation has reached an unacceptable level.
2. Fill any scour below elevation 115'.
1. Remove unwanted vegetation and trash.
2. Remove burrowing animals and repair embankment surface.

2.3 West Basin Flow Splitter (Map Item 3)

The West Basin is designed to split the incoming flows from the Upper Camarillo Springs Wash watershed into the Main Bypass Culvert (Map Item 5) and the Double Bypass Culvert (Map Item 6).

2.3.1 Operation

The basin provides a retention area to redirect flows away from the residential areas and into the Bypass Culverts. The basin includes an emergency overflow spillway in the event of a significant storm event or system disruption.

2.3.2 Inspection

The basin will be inspected thoroughly each fall, prior to the rainy season, and following significant storm events to verify that there is not an unacceptable accumulation of debris, and to verify that hydraulic conveyance is clear. Inspection points to consider are:

1. Inspect for unacceptable accumulation of debris
2. Inspect for areas of erosion below elevation 115'
3. Inspect for unwanted vegetation.
4. Inspect for burrowing animals in the basin embankment

2.3.3 Routine Maintenance

Maintenance activities include:

1. Remove debris when accumulation has reached an unacceptable level.
2. Fill any scour below elevation 115'.
3. Remove unwanted vegetation and trash.
4. Remove burrowing animals and repair embankment surface.

2.4 Emergency Spillway (Map Item 4)

In the event of a significant storm or disruption to the drainage system components, a secondary overflow (emergency) spillway is provided along the north edge of the West Basin. Flows over the emergency spillway would be conveyed to the north section of the golf course, near the club facility, before being conveyed along the north edge of the project development to Conejo Creek.

2.4.1 Operation

The earthen embankment of the basin to the north forms the overflow crest of the secondary spillway.

2.4.2 Inspection

The spillway will be inspected each spring and fall, and also after significant storm events to verify that flows have not eroded the embankment surface and the spillway is clear for hydraulic conveyance. Inspection points to consider are:

1. Inspect for eroded areas and incisement caused by flows.
2. Inspect for vegetation.
3. Inspect for burrowing animals.

2.4.3 Routine Maintenance

Maintenance activities include:

1. Fill any rills and regrade to approximate contours shown on construction plans.
2. Fill any eroded or incised areas regrade to approximate contours shown on construction plans.
3. Remove vegetation and repair embankment.
4. Remove burrowing animals and repair embankment surface.

2.5 Main and Double Bypass Channels (Map Items 5 and 6)

Three Bypass Culverts convey Camarillo Springs Wash flows from the West Basin Splitter Basin to Conejo Creek. The Main Bypass Channel is aligned through the project development and is approximately 3,400 feet in length. The Double Bypass Culvert is aligned along the south edge of the development and is approximately 2,990 feet in length. All three bypass culverts are 12.5'x6.5' box culverts, and discharge to an energy dissipation structure before flow enter the existing tributary channel to Conejo Creek.

2.5.1 Operation

The bypass culverts convey flows from the West Basin (Map Item 3) to the Energy Dissipation Structure (Map Item 8).

2.5.2 Inspection

The concrete culverts will be inspected thoroughly each fall, prior to the rainy season, to ensure that the concrete structure is sound, and that there are no rocks, debris, or large foreign objects which may obstruct the flow, or cause damage to downstream system components. Inspection points to consider are:

1. Inspect for spalling and exposed rebar, or large cracks in the concrete.
2. Inspect for accumulation of sediment, rocks, or large foreign objects.
3. Inspect for establishment of vegetation.

2.5.3 Routine Maintenance

Concrete structural elements are to be maintained in serviceable condition, and periodically cleaned as necessary, in advance of major storm events. Routine maintenance activities include:

1. Repair cracks or holes. Repair areas that are spalled, particularly if rebar becomes exposed.
2. Remove any debris and foreign objects.
3. Remove any vegetation.
4. Ensure clear maintenance access through development (Main Bypass), and cleared vegetation for clear maintenance access along the slope of the south edge of the development (Double Bypass).

2.6 Overflow Lake Drainage Pipes (Map Item 7)

The onsite Overflow Lake, which collects flows from adjacent residential areas, a portion of the project development, and runoff from tributary foothills, has drainage pipes to release collected runoff to Conejo Creek after a storm event passes. The drainage pipes are both 48” in diameter, and approximately 330’ in length. The main drainage pipe conveys flows above normal water surface elevation of the normal operating golf course lake, while the secondary drainage pipe is set at an elevation above the 100-year flood condition of the lake to convey flows to Conejo Creek if the main drainage pipe is blocked.

2.6.1 Operation

The drainage pipes from the lake to the existing tributary channel to Conejo Creek consist of one main outlet drainage pipe and a secondary emergency drainage pipe. Both pipes have flap gates at the outlet to prevent Conejo Creek backflow, and manual gates in the event it is necessary to control flow.

2.6.2 Inspection

The drainage pipes will be inspected thoroughly each spring and fall to ensure that the pipes are sound, and that mechanical elements are in sound operational condition. Inspection points to consider are:

1. Inspect for spalling and exposed rebar, or large cracks in the concrete structure.
2. Inspect for foreign objects that could impede mechanical operation.
3. Inspect for debris or vegetation that would impede flows through the outlet gate.

2.6.3 Routine Maintenance

Mechanical elements are to be maintained and periodically cleaned as necessary, in advance of major storm events. Routine maintenance activities include:

1. Repair jammed or broken mechanical elements.
2. Remove any debris and foreign objects that would impede operation or prevent proper flow.
3. Remove any significant establishment of vegetation that may impede flows.

2.7 Energy Dissipation Apron (Map Item 8)

There is a rock riprap apron at the outlet of the Bypass Culverts (Map Items 5 and 6) to help dissipate the energy of the flow. The pad of large, loose rock blankets the outlet area.

2.7.1 Operation

The loose rock provides energy dissipation and scour protection by preventing development of any significant scour pocket where the Camarillo Springs Wash flow exits the Bypass Culverts and enters the existing tributary channel to Conejo Creek. The rock is loose to provide adaptive armoring should any scour pocket ever develop.

2.7.2 Inspection

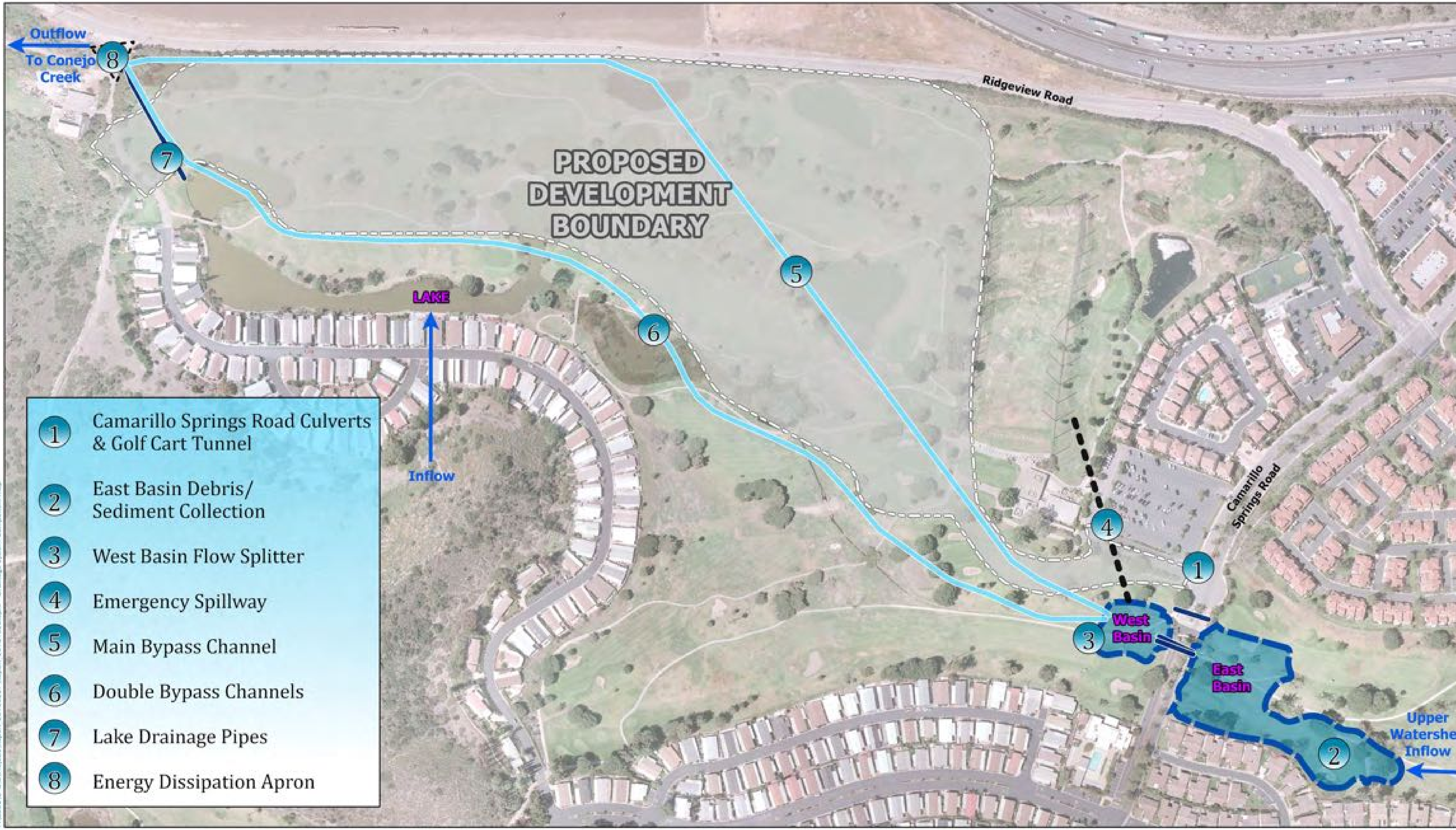
The loose rock apron should be observed after any very large event to note if any scour pocket has formed, indicated by a significant depression below the basin design invert, or by any signs of significant displacement or thrusting of any of the loose rocks. Inspection should also be performed following sediment removal operations. Inspection points to consider are:

1. Inspect for scour pocket.
2. Inspect for missing or displaced rocks.
3. Inspect for missing or loose chunks of grout.
4. Inspect for any sign of subgrade undermining.
5. Inspect for vegetation.

2.7.3 Routine Maintenance

The loose rock apron is to be maintained at a compact loose field of rock as shown on the construction drawings. Maintenance activities include:

3. Fill any scour pocket with new rock of same size and quality
4. Care must be taken to avoid damage to grouted rock during maintenance operations on energy dissipation apron.
5. Inspection and any necessary repair on the outlet of the Bypass Culverts (Map Item X) should be performed simultaneously with maintenance operations on energy dissipation apron.
6. Remove any vegetation before grout is cracked, or rocks are loosened or displaced.



CAMARILLO SPRINGS

DRAINAGE SYSTEM COMPONENT MAP

PACE

0 125 250 500 Feet

Date: 10/13/2022

Job Number: 8306

FIGURE 2

3 General Maintenance Activities

3.1 List of General Maintenance Activities

A standard maintenance program is described below for the Basin facility. The categories of maintenance activities are “routine” and “major.” *Table 5-2* indicates the types of activities that are typically performed on the different basin components. The facility may be maintained with some variations from the standard program as appropriate depending on the actual conditions. In some cases, measures will be taken to limit potential impacts on sensitive species from the standard maintenance activities or comply with the conditions of the environmental regulatory permits. These environmental management activities will include avoidance of the nesting seasons for special status avian species to the extent feasible. Primary maintenance activities include vegetation management / removal, debris, sediment removal, erosion control, roadway maintenance, floodwall repair, mosquito abatement/vector control and maintaining hydraulic conveyance for inlet/outlet facilities.

Table 1: Operation and Maintenance Activities and Frequency

	1 CSR Culverts	2 East Basin	3 West Basin	4 Emergency Spillway	5 & 6 Bypass Culverts	7 Lake Drainage Pipes	8 Energy Dissipation Structure	Frequency
Site Inspection	X	X	X	X	X	X	X	Biannually and After Storm Events
Trash/Debris Removal	X	X	X	NA	X	X	X	Quarterly and After Storm Events
Inlet/Outlet Inspection & Maintenance	X	X	X	NA	X	X	NA	Biannually and After Storm Events
Vegetation Removal	X	X	X	X	X	X	X	Seasonal
Minor Sediment Removal	X	X	X	X	X	X	X	Annual
Vector Control	X	X	X	NA	X	X	X	Seasonal
Erosion Control	NA	X	X	X	NA	NA	X	Seasonal
Nuisance / Standing Water	X	X	X	NA	X	X	X	Seasonal

	1 CSR Culverts	2 East Basin	3 West Basin	4 Emergency Spillway	5 & 6 Bypass Culverts	7 Lake Drainage Pipes	8 Energy Dissipation Structure	Frequency
Structural Modifications	X	NA	NA	NA	X	X	X	As needed; infrequent
Major Sediment Removal	NA	X	NA	NA	NA	NA	NA	1-5 years or longer

3.2 Routine Maintenance Activities

The various specific activities that are generally associated with the maintenance requirements are described below.

3.2.1 Facilities Inspection

The facility will be inspected on a regular, scheduled basis to ensure that it is operating properly, to record observations, and to initiate any actions that may be required, including those discussed below. While the frequency of site inspections may vary depending on the type of site conditions and season, it will typically be on a monthly basis. During the initial start-up period and during the wet season, more visits may be required to observe and make adjustments to equipment and control structures (flap gates, etc.) as necessary.

3.2.2 Schedule of Inspections

1. Fall Inspection

An inspection of all drainage facilities, including inlet and outlet structures, should be performed prior to November 1. The purpose of this inspection is to confirm the readiness of the facilities to accept storm runoff, or to identify deficiencies and perform or schedule maintenance to prepare the system for the storm season.

2. Post-Storm Inspections

Inspections should be performed of all drainage facilities, graded earth slopes, and inlet and outlet structures following significant storm flow. The purpose of these storm season inspections is to clear debris or obstructions from drainage flow paths and inlet/outlet structures which could possibly create flow diversions and blockages. In addition, these inspections will ensure that the system is ready for the next storm event and if additional maintenance is required to ensure preparation. These inspections should be performed after all major storm events defined as a 5-year event.

3. Spring Inspection

A post-storm season inspection of the facility, including inlet and outlet structures, bypass culverts, drainage pipes, etc. should be performed prior to May 1. All graded earth slopes should be inspected for erosion and instability. The results of inspections shall be documented, and maintenance and repair activities shall be scheduled and documented to show compliance with this manual.

3.2.3 Trash & Debris Removal

Litter may be picked up at any time during site visits for other purposes. Regular, scheduled trash/debris removal will be performed on a quarterly basis and/or after storm events that result in heavy trash accumulations.

Annual routine trash and debris removal from surface drainage facilities should be performed prior to October 1. Disposal of trash and debris shall be done in accordance with applicable laws and regulations.

Remove accumulated trash and debris twice a year (January and April) from the drainage components and inlet/outlet structures at the middle and end of the wet season and dispose of trash and debris properly.

3.2.4 Vegetation Removal

Vegetation growth on all facility components will be inspected twice annually, and removed as necessary. If vegetation is found to be clogging or otherwise affecting the operation of the facility, it will be manually or mechanically removed. Access will remain clear of vegetation and obstructions. Vegetation removal will generally be conducted outside of the avian nesting season to avoid impacts to nesting birds. All grass cuttings and other green waste must be removed. Vegetation must be trimmed at the beginning and end of wet season (twice a season, fall and early spring) in order to prevent establishment of woody vegetation, and for aesthetics and mosquito control.

3.2.5 Minor Sediment Operations

It is expected that every so often, there will be a minor amount of sediment deposition at points within the East Basin, primarily near the outlet. When such deposits have the potential to obstruct water flow, the deposits will be graded away from the water flow. Should major sediment removal be required, Section 3.3 provides a more detailed description.

3.2.6 Vegetation Control

Although the basins in the combined control system will be designed to prevent standing water to the extent feasible, any natural environment is susceptible to harmful insect invasion. Whether harmful to property, person, or wildlife, some insects will need to be managed. Management may include measures from taking no action to using natural predators to chemical spraying. Some methods that are more natural include intermittent flooding and drying, vegetation thinning, and installation of “swallow boxes” and “bat boxes” to attract more swallows and bats, both of which feed voraciously on mosquitoes.

While more natural methods will be the methods of choice, it may be necessary at times to use sprays. Any application of chemical or biological agents will be performed by certified pesticide applicators in accordance with manufacturer recommendations and applicable laws and regulations.

3.3 Major Maintenance Activities

Major operation and maintenance activities are summarized in below. All major maintenance activities will be recorded in maintenance logs.

3.3.1 Major Sediment Removal

Sediment accumulation in the basin floor will be monitored annually prior to the wet season. Sediments will be removed when minor sediment operations cannot keep either the peak sediment depth below 8 ac-ft of total accumulation.

Sediment removal will be scheduled based on the amount of accumulation and/or the character of the sediment. Although pollutant accumulation in basin sediments is not expected to meet hazardous waste levels, sediments will be tested for pollutant levels prior to removal. Sediment disposal will follow appropriate regulations in accordance with detected levels of pollutants.

Sediment removed shall be disposed of in accordance with current regulations. If sediment is found to be free of pollutants, the material could be used for fill dirt in other locations. Alternatively, after aerating to remove moisture, the material may be disposed of at a landfill.

Remove sediment from the entrance and outlet for the drainage components when the sediment level reaches the point that it impedes flow and normal hydraulic operation.

Remove accumulated sediment and regrade when the accumulated sediment volume exceeds 8 ac-ft of total accumulation.

3.3.2 Bypass Culverts

Maintenance to the bypass channel should be completed in the spring and fall, as necessary, to ensure the structure is fully functioning. The maintenance could include (1) removing sediment or debris deposits within the channel that may be blocking the flow path and (2) ensuring continued access. The minimum amount of maintenance is to ensure that (1) the culverts do not back up, (2) there is a positive drainage path to the basin, and (3) the culverts are accessible during the storm events.

3.3.3 Rodent Control

Rodent control activities shall be performed on an as-needed basis, but generally on a frequency of four times a year. Particular emphasis should be placed on rodent control within the basin embankments. Anticoagulant poisons will not be used because of impacts to coyotes, and bobcats.

3.4 General Non-Routine Maintenance and Repair Items

General non-routine maintenance and repair items are normally generated from periodic inspections. These maintenance and repair items will be prioritized for completion based on an assessment of risk to the continued safe performance of the drainage system. All maintenance and repair items shall be performed such that the drainage system performs as designed. The standards to which these repairs must adhere to are in accordance with minimum standards established by the design documents and applicable building codes in effect at the time of repair.

4 East Debris Basin Inspection and Maintenance Checklist

4.1 Inspection Checklist for Maintenance Items

Inspection and maintenance of the Camarillo Springs East Basin will be based upon the activities previously described and will specifically satisfy the required debris and sediment accumulation operations through scheduled routine maintenance and observation of triggers for additional maintenance to preserve the sediment storage capacity and flood control function within the basin.

Routine inspections will include checking for trash accumulation, debris or sediment, identifying structural degradation or the presence of erosion, unwanted vegetation growth, and inspecting for evidence of mosquito larvae in any standing water which has not drained from the basin. Scheduling frequency should incorporate pre-storm season inspections, post-storm event inspections and periodic (once every two-three months) dry season inspections.

Maintenance activities will include removing observed trash and debris, removing sediment from the basin outlet on an annual basis, removing sediment from the rest of the basin as needed based on inspection results. Erosion repair of the basin engineered slopes and embankment. Re-grading of holes in the ground or scoured areas will be conducted to reduce water ponding. Seepage or piping of flows through embankments should be prevented and controlled. Vegetation maintenance will include removal of large shrubs or trees, invasive vegetation, and/or significant areas of dead vegetation.

Table 2 Sediment & Debris Basin Inspection and Maintenance Checklist below is suggested to be used to as a guide in evaluating the potential work effort and costs for inspections (as needed), identify needed maintenance, and record maintenance that is conducted.

Table 2: Sediment & Debris Basin Inspection and Maintenance Checklist

Defect	Conditions When Maintenance Is Needed	Results Expected When Maintenance Is Performed
General		
Trash, Debris & Pollutants	• Trash and debris accumulated in basin. • Visual evidence of dumping. • Evidence of oil or gasoline.	Trash and foreign debris cleared from site and disposed of properly.
Rodent Holes	Any evidence of rodent holes, or any evidence of water piping through embankment or berm via rodent holes.	Remove rodents and repair damage.
Insects	Insects such as wasps and hornets interfere with maintenance activities or adjacent residents.	Relocate bees. Remove other insects.

Defect	Conditions When Maintenance Is Needed	Results Expected When Maintenance Is Performed
Tree/Brush Growth and Hazard Trees	• Vegetative growth in basin. • Large vegetation and tree growth on revetment • Vegetation blocking inlet and outlet structures of basin.	Remove all vegetation except grasses and repair facility components as necessary.
Outfall Structure	Debris or silt build-up obstructs outfall structure.	Remove debris and/or silt build-up and dispose of properly.
Side Slopes		
Erosion	• Eroded over 4" deep where cause of damage is still present or where there is potential for continued erosion. • Any erosion on a compacted embankment.	Cause of erosion is managed and corrected as necessary. Side slopes are restored to design specifications, as needed.
Storage Area		
Sediment	Accumulated sediment greater 8 ac-ft of total accumulation, or affects inletting or outletting condition of the facility.	Sediment cleaned out to designed basin shape and depth; sediment disposed of properly.

5 Maintenance Costs

5.1 Annual Cost for Drainage System Maintenance

The anticipated annual cost for the drainage system maintenance of the Camarillo Springs Golf Course Project is $23,591.67. This is calculated based on the inspection and maintenance items for the Camarillo Springs Road culverts, East Basin Debris/Sediment Collection Area, West Basin Flow Splitter, Emergency Spillway, Main and Double Bypass Channels, Overflow Lake Drainage Pipes, and Energy Dissipation Apron. See Appendix A for a further breakdown of the annual cost analysis, prepared by Madison Real Estate Consulting.

5.2 Maintenance Costs for New Golf Course

In response to a request from the City of Camarillo, maintenance costs for the future 12-hole golf course have been added as Appendix B in a report prepared by ProForma Advisors. As shown, the total operating expense, including maintenance of onsite flood control infrastructure, is anticipated to be $837,000 annually.

5.3 HOA Maintenance Costs for Future Improvements/HOA Facilities

In response to a request from the City of Camarillo, maintenance costs for future HOA improvements and facilities have been added as Appendix C in a report prepared by California Builder Services. This HOA budget was prepared in accordance with the requirements of the California Civil Code and includes, but is not limited to, costs associated with insurance, utilities, landscape maintenance, street maintenance, recreation center maintenance, and reserves. As shown, total monthly HOA assessments are anticipated to be $250 per unit.

5.4 Maintenance Costs for Golf Course Clubhouse

In response to a request from the City of Camarillo, maintenance costs for the Camarillo Springs Golf Course Clubhouse have been added as Appendix D in a report prepared by California Builder Services. As shown, the total operating expense is anticipated to be $169,540 annually.

Appendix A

Appendix A – Cost Analysis

Prepared by: Madison Real Estate Consulting

The anticipated annual cost for the drainage system maintenance of the Camarillo Springs Golf Course Project is $23,591.67. This is calculated based on the inspection and maintenance items for the Camarillo Springs Road culverts, East Basin Debris/Sediment Collection Area, West Basin Flow Splitter, Emergency Spillway, Main and Double Bypass Channels, Overflow Lake Drainage Pipes, and Energy Dissipation Apron. The cost for each of the maintenance items for these areas are based on a time allocation for a trained inspector, laborer, or technician to complete their work. The total time allocation is then multiplied by the current market rate for these specialists. Then the costs are multiplied by the number of occurrences per year based on this Maintenance Manual's recommendation. For the Site Inspection, Trash/Debris Removal, and Inlet/Outlet Inspection & Maintenance, the total cost was increased by an additional 33% to account for another projected inspection/maintenance to occur once every 3 years.

The following table shows a breakdown of the anticipated cost components.

Component / Inspection Maintenance Item	Camarillo Springs Rd Culverts	East Basin	West Basin	Emergency Spillway	Bypass Culverts	Lake Drainage Pipes	Energy Dissipation Structure	Frequency	Total Time for Line Item	Cost Per Hour	Cost Per Occurrence	Number of Occurrences	Total Cost Per Year	Breakdown of Cost
Site Inspection	X	X	X	X	X	X	X	Spring, Fall and After Significant Storm Events	11.50	$100	$1,150	4	$ 6,133.33	Trained inspector at $100/hr. Includes cost of additional inspection once every 3 years.
Time Per Item (in hours)	2.50	1.00	1.00	1.00	4.00	1.00	1.00							
Trash/Debris Removal	X	X	X	N/A	X	X	X	Quarterly and After Significant Storm Events	10.00	$75	$750	4	$ 4,000.00	Laborer at $75/hr. Includes cost of additional inspection once every 3 years.
Time Per Item (in hours)	4.00	1.00	1.00	N/A	1.00	2.00	1.00							
Inlet/Outlet Inspection & Maintenance	X	X	X	N/A	X	X	N/A	Biannually and After Significant Storm Events	2.50	$100	$250	4	$ 1,333.33	Trained inspector at $100/hr. Includes cost of additional inspection once every 3 years.
Time Per Item (in hours)	0.50	0.50	0.50	N/A	0.50	0.50	N/A							
Vegetation Removal	X	X	X	X	X	X	X	Seasonal	11.00	$75	$825	4	$ 3,300.00	Laborer at $75/hr.
Time Per Item (in hours)	2.00	1.00	1.00	2.00	2.00	2.00	1.00							
Minor Sediment Removal	X	X	X	X	X	X	X	Annual	7.00	$75	$525	1	$ 525.00	Laborer at $75/hr.
Time Per Item (in hours)	1.00	1.00	1.00	1.00	1.00	1.00	1.00							
Vector Control	X	X	X	N/A	X	X	X	Seasonal	3.00	$75	$225	4	$ 900.00	Specialist 1t $75/hr.
Time Per Item (in hours)	0.50	0.50	0.50	N/A	0.50	0.50	0.50							
Erosion Control	N/A	X	X	X	N/A	N/A	X	Seasonal	4.00	$75	$300	4	$ 1,200.00	Laborer at $75/hr.
Time Per Item (in hours)	N/A	1.00	1.00	1.00	N/A	N/A	1.00							
Nuisance / Standing Water	X	X	X	N/A	X	X	X	Seasonal	10.00	$75	$750	4	$ 3,000.00	Laborer at $75/hr.
Time Per Item (in hours)	2.00	2.00	1.00	N/A	2.00	2.00	1.00							
Structural Modifications	X	N/A	N/A	N/A	X	X	X	As needed; infrequent	16.00	$125	$2,000	1	$ 2,000.00	Assuming 1 per year. Trained technician at $125/hr.
Time Per Item (in hours)	4.00	N/A	N/A	N/A	4.00	4.00	4.00							
Major Sediment Removal	N/A	X	N/A	N/A	N/A	N/A	N/A	1-5 years or longer	8.00	$150	$1,200	1	$ 1,200.00	Trained technician at $150/hr.
Time Per Item (in hours)	N/A	8.00	N/A	N/A	N/A	N/A	N/A							
										TOTAL COST OF MAINTENANCE PER YEAR: $23,591.67				

Appendix B

To: Mr. Adam Browning (President, New Urban West)
From: G. Krekorian (Pro Forma Advisors LLC)
Date: February 7, 2023
Subject: Camarillo Springs Golf Course Maintenance Budget

The following memorandum presents a maintenance budget for a redeveloped public access golf course at Camarillo Springs, located in the City of Camarillo, Ventura County, California.

Background

The proposed plan to redevelop the existing 18-hole Camarillo Springs Golf Course involves some moderate density attached residential product integrated with an entirely new shorter golf course. After consideration of a series of golf course redevelopment options, the concept of developing a 12-hole regulation length golf course of approximately 4,200 yards from the back tees has both market support and superior economic potential.

The 12-hole golf course would be a par-48 layout with three par-3, six par-4 and three par-5 holes. The golf course would have four sets of tees, and incorporate several water features. Similar to other 12-hole golf course layouts across the country, the routing would have multi-hole loops. Specifically, the Camarillo Springs 12-hole golf course would contain two 3-hole loops and one 6-hole loop. A routing plan for the 12-hole regulation length golf course is presented in Figure 1.

The proposed Camarillo Springs 12-hole regulation length public access golf course would provide a unique recreational opportunity that does not presently exist in the marketplace. National market experience, while limited, suggests that the 12-hole concept will have broad market appeal. Also important, the 12-hole layout will conserve on irrigation water, and generally require less maintenance compared with 18-hole courses.

The proposed development plan would incorporate a state-of-the-art golf practice facility with 25-tee stations (both a natural turf tee line as well as artificial turf tees).

The fully remodeled clubhouse will include a golf pro shop, administrative offices, golfer bar/grill, meeting/special function rooms, restrooms, storage, circulation, and cart storage.

Figure 1: Camarillo Springs Golf Course

Golf Course Maintenance Expenses

A survey of 18-hole public access, regulation length golf course annual maintenance expenses was conducted as a basis for estimating the annual maintenance expenses for the proposed Camarillo Springs 12-hole regulation length course. The annual maintenance expenses for four mid- market public access 18-hole golf courses operating in Ventura County and four courses in Los Angeles County are presented in Exhibit 1. The courses include both municipal and daily fee operations. Due to the sensitivity of the data provided by the individual courses, the identity of each golf course is not disclosed.

The operating expenses include salaries and benefits, along with services and supplies. Specifically excluded are utility expenses (irrigation water and power), maintenance equipment expenses (lease expenses or reserves for replacement), and capital costs, as these components are highly variable and vary considerably from course to course. The expenses are expressed in 2023 dollars. In some instances, the reported annual maintenance expense data is two to four years old, thus requiring updating for inflationary increases. In those cases, payroll/benefit expenses have been updated to 2023 values by applying a 5 percent average annual rate of increase and other expenses increased at a 4 percent average annual rate.

Total annual maintenance expenses (excluding utilities and capital costs) range from $625,000 to $1.13 million, with an average of $745,600 for the eight golf courses surveyed. Payroll and benefits expenses range from $400,000 to $655,000 per year, averaging just under $500,000. Again, these values relate to 18-hole, mid-market public access courses.

Exhibit 1: Summary of Public Access Golf Course Maintenance Expenses (thousands of constant 2023 dollars)								
	Ventura County Public Access Courses				Los Angeles County Public Access Courses			
	A	B	C	D	E	F	G	H
Course Description								
# of Holes	18	18	18	18	18	18	18	18
PAR	72	70	72	71	71	72	72	72
Length (yards)	6500	6000	7000	6800	6600	6400	6800	6850
Annual Expense								
Payroll & Benefits	$655	$460	$400	$650	$515	$475	$460	$515
Services & Supplies	475	400	300		150	170	165	175
Utilities	---	---	---	---	---	---	---	---
Equipment Lease	---	---	---	---	---	---	---	---
Total	$1,130	$860	$700	$650	$665	$645	$625	$690

National data prepared by Terry Buchen, a highly respected golf course superintendent, and the Golf Course Superintendents Association of America (GCSAA) "2021 Maintenance Budget Survey illustrate the magnitude of annual 18-hole golf course maintenance expenses (excluding capital costs) by course type.

Exhibit 2: Annual 18-Hole Golf Course Maintenance Budget by Course Type			
Course Type	Payroll & Benefits	Other Expenses*	Total
Municipal	$349,839	$271,351	$621,190
Semi-Private	312,476	254,870	567,346
Private	630,104	453,543	1,083,647
Daily Fee	294,456	262,157	556,613
* Includes services and supplies, and utility expenses.			
Source: "How Much Does it Cost to Maintain a Golf Course," Josh Sens, December 16, 2021; and Pro Forma Advisors.			

As noted, the average annual cost of maintaining an 18-hole public access (municipal, semi-private, and daily fee) is substantially below that related to a private golf course, both in terms of payroll expenses and other maintenance expenses. Moreover, as the data relates to national golf course averages, where courses operate only seasonally, the average expenses are well below those which are operated year round.

Projected Camarillo Springs Maintenance Expenses

Annual maintenance expenses for the 12-hole, regulation length Camarillo Springs Golf Course are estimated based on the characteristics of the golf course and the experience of regional public access golf courses. In terms of the golf course grounds maintained, the golf course routing design for Camarillo Springs includes 70 acres of maintained fairways and rough area, which compares with about 100 to 110 acres typically observed for most contemporary Southern California public access golf courses. As well, Camarillo Springs would feature 12 greens and tee complexes, compared with the standard 18 greens and tee complexes at the surveyed golf courses.

Camarillo Springs also would be obligated to maintain the Camarillo Springs Golf Course Drainage System, with this obligation to be the responsibility of the GH Group, the prospective golf course owner/operator. The system includes drainage improvements to convey water flows from the foothills of the Conejo Mountains to the southeast region of the project site to Conejo Creek, which eventually enters Calleguas Creek before being conveyed down Calleguas Creek to the ocean. An evaluation of the system and preparation of an operating manual for maintaining the project has been prepared by Pace Advanced Civil Engineering (manual available under separate cover). Based on the manual, which outlines procedures necessary to properly maintain the system, Madison Real Estate Consulting prepared an annual budget for ongoing maintenance. The cost, expressed in 2023 dollars, is projected at just under $20,000 per year.

Other ongoing golf course maintenance expenses include utilities related to irrigation of the golf course, maintenance equipment lease expenses/replacement reserves, and capital improvement replacement reserves (annually funded sinking fund). Utility expenses will depend on the source of water (ground water, effluent, domestic water), which has not been finalized at this time. For budgeting purposes, the source of golf course irrigation water is assumed to be ground water, with annual electrical power expenses included based on average annual usage of 280 acre feet. It is assumed that maintenance equipment will be owned. An annual allowance of $50,000 for the periodic replacement of equipment items.

With respect to capital improvement replacement reserves, an annual contribution to a sinking fund of $75,000 is deemed reasonable and appropriate for Camarillo Springs 12-hole course. This reserve fund would be available for future periodic new amenities and capital improvement needs such as tee and bunker renovation, cart path repair, and irrigation system replacement/repair.

An annual maintenance budget summary for the Camarillo Springs Golf Course is presented in Exhibit 3. Importantly, the budget reflects a maintenance level related to upper-mid-market golf course conditioning which is anticipated for Camarillo Springs. As shown, annual operating expenses, expressed in constant 2023 dollars, is projected at $837,000

Exhibit 3: Projected Camarillo Springs Golf Course Annual Maintenance Budget

Component	Annual Expense*
Payroll & Benefits	$425,000
Services & Supplies	225,000
Utilities	42,000
Maintenance Equipment	50,000
Drainage System Maintenance	20,000
CIP Reserve (sinking fund)	75,000
Total	$837,000

* Expressed in constant 2023 dollars.

To: Mr. Adam Browning (President, New Urban West)
From: Gene Krekorian
Date: May 1, 2023
Subject: Camarillo Springs 12-Hole Golf Course

The following presents estimated golf course maintenance staffing levels and payroll costs for the proposed Camarillo Springs 12-hole golf course, along with a profile of the golf course rate structure.

Golf Course Maintenance Staffing

As currently planned, the golf course would be a par-48 layout, with a length of 4,200 yards from the regulation tees. Maintained golf course turf area is approximately 60 acres.

Exhibit 1: Camarillo Springs Golf Course Maintenance Staffing*		
Position	Number of Employees (FTE)	Annual Payroll & Benefits
Superintendent	1.0	$85,000
Mechanic	0.5	35,000
Foreman/Irrigation	1.0	55,000
Groundskeepers	5.0	175,000
Total	7.5	$350,000
Benefits (@22%)	---	75,000
Total	7.5	$425,000
* Values are expressed in constant 2023 dollars.		

The annual payroll/benefits are expressed in constant 2023 dollars.

Pro Forma Advisors LLC

Golf Course Rate Structure

The financial market support and economic study conducted by Pro Forma Advisors in October 2019 estimated the 12-hole golf course greens fees, excluding cart, as shown in Exhibit 2. Rates, expressed in 2023 dollars, also are shown in the exhibit based on public access greens fees increases observed throughout Southern California.

Exhibit 2: Camarillo Springs 12-Hole Golf Course Rate Structure				
	Greens Fees--2019		Greens Fees--2023	
	Weekday	Weekend	Weekday	Weekend
Regular	$25.00	$35.00	$30.00	$40.00
Senior	22.00	---	$25.00	---

The rates shown in the table relate to a 12-hole round. There would be modified rates available for other play categories ranging from 3-hole to 18-hole play. The average greens fees revenue per round is estimated at $24.00 per start in 2019, excluding cart, and $28.00 in 2023.

PACE
Advanced Water Engineering

Appendix C

General Information

This budget is a good faith estimate from plans prior to construction and/or completion (for new projects) or from combination of plans and/or site inspections (for existing projects). For existing projects, there may have been historical data as support for some line items, but changes to the project may make historical data not applicable or reliable. This budget was prepared for the purpose of obtaining a public report.

The association must adopt a budget in accordance with the California Civil Code. If that budget is less than 10% or greater than 20% from this budget, you should contact the Department of Real Estate. The association may increase or decrease its budget. It is typical for costs to increase as the project ages. The association should conduct a reserve study after its first year of operation to adjust the reserve funding plan for any changes which may have taken place during construction.

DRE FILE NUMBER (IF KNOWN)	MASTER DRE FILE #	S.I. ASSIGNED FILE (IF KNOWN)
NA	NA	NA

SUBDIVISION IDENTIFICATION AND LOCATION

NAME AND/OR TRACT NUMBER

Camarillo Springs

NAME TO BE USED IN ADVERTISING (IF DIFFERENT THAN NAME OR TRACT NUMBER)

Camarillo Springs

STREET ADDRESS (IF ANY)	CITY	COUNTY
Camarillo Springs Road off of Ridgeview Street	Camarillo	Ventura

MAIN ACCESS ROAD(S)	NEAREST TOWN/CITY	MILES/DIRECTION FROM TOWN/CITY
Camarillo Springs Road	NA	NA

- ☐ Condominium
- ☐ Condominium Conversion
- ☐ Stock Cooperative
- ☐ Stock Cooperative Conversion
- ☐ Limited Equity Housing Corporation
- ☑ Planned Development
- ☐ Planned Development Land Project
- ☐ Planned Development Mobile Home
- ☐ Community Apartment
- ☐ Out-of-State
- ☐ Undivided Interest
- ☐ Mixed Use

NUMBER OF LOTS/UNITS	PHASE #	TOTAL # IN PROJECT	PREVIOUS DRE FILE #	# OF ACRES
248	Blt out	Blt out	NA	182

BUDGET PREPARER

NAME	ATTENTION	TELEPHONE NUMBER
California Builder Services	Diondra Guevara	559-473-2690

ADDRESS	CITY	ZIP CODE
1446 Tollhouse Road, Suite 101	Clovis	93611

Certification

I declare under penalty of perjury that the representations and answers to questions in this document and all documents submitted as a part of the homeowners budget are true and complete to the best of my knowledge and belief.

SIGNATURE OF BUDGET PREPARER	DATE
⇨	April 26, 2023

IMPROVEMENTS WORKSHEET

❖ If this phase will have any line items shown on pages 3, 4, and 5 hereof exempted from payment of assessments under Regulation 2792.16(c), asterisk those items on page 3, 4, and 5 and list any partially deferred costs on a separate sheet showing calculations and attach. All exempted improvements must be covered by reasonable arrangements for completion. Include Planned Construction Statement (RE 611A) for review.

1	Number of buildings containing residential units ……......	248
2	Completion year for the residential units included n this phase ……………………………..…….................	Unknown
3	Completion year for the common area and facilities included in this phase ………………………...............….	Unknown
4	Type of residential building for this project (i.e., highrise, cluster, garden, etc.) ……………………….	Detached
5	Type of construction for these buildings (I.e., steel, concrete, wood frame, etc.) ……………………	Wood Frame
6	Type of roof (I.e., shake, etc.) ………………………......…..	NA
7	Type of paving used in the project ……………………….......	Concrete, Asphalt
8	Type of exterior wall for residential buildings ……………......	NA
9	Number of residential units per building …………………......	1
10	Number of floors per building ……………………………...	NA
11	Number of bedrooms per unit ……………………………..	NA
12	Square footage of units (list number and size of each unit type) ………………….	NA
13	Type of parking facilities and number of spaces (I.e., detached garage, tuck-under, subterranean, carport, open, etc.) ………………………………………...	Street parking

Complete 14 and 15 for Phased Condominium Projects Only

14 Have you submitted budgets for all phases to be completed within the next three calendar years and a built-out budget?……………………………………………………………….

☑ Yes ☐ No

15 If this condominium project involves phasing with a single lot, submit a budget for *each* phase plus a budget which will be used *if* future phases are not completed. (Commonly referred to as a *worst case budget.*)

NOTE: The square footages used in the preparation of this Budget are estimated, based on preliminary plans and may vary from actual footages of completed improvements. All footages are subject to normal construction variances; final completed footages may differ from the estimated footages used.

BUDGET NOTES

This Budget has been prepared for the Association's first year of operation and is valid for one year from the date of preparation noted on Page 1.

The Association is responsible to review actual operating expenses and reserve/replacement expenses, and to prepare a new budget on an annual basis.

Operating and Reserve costs will typically increase as the development improvements age, most likely at a rate above the published CPI.

The Budget has been prepared based on estimated expenses, including utility expenses (see utility worksheets), and discussed below at Items 201, 202, 203, 204 and 208.

Explanation of Budget Line Items

102. Corporate Franchise Tax: This line item refers to the annual filing that the HOA must make with the California Secretary of State.

103. Insurance: Insurance requirements are contained in the CC&Rs. The attached budget reflects estimated costs based on quotes received for similar projects.

104. Inspection Fees: This fee covers the inspections of the common area that are required of the Association.

201. Electricity: Electricity has been calculated considering the lighting and irrigation system for the project as set forth in the project description. Rates reflect the filed rates of the utility carrier as of the date this Budget was prepared.

202. Gas: Gas costs have been calculated considering the filed rates of the Gas provider for the development, based upon their filed rates as of the date this Budget was prepared.

203. Water: Water costs reflected in the attached budget are calculated in line with the filed rates of the utility carrier as of the date this budget was prepared.

207. Custodial: Custodial costs reflected in the attached Budget are based on estimated costs for this service in the local area and are in line with industry recommended minimums.

207a. Custodial Supplies. Supplies are calculated at 15% of the custodial costs shown in Item 207.

208. Landscape Maintenance: The landscape maintenance costs are based on costs for these services in the local area, and are in line with the local area actual costs for this type of development and landscape improvement plan.

208a. Landscape Supplies: Funds for repair and replacement of landscape supplies have been set aside at the rate of $.06 per square foot of landscape area annually.

209. Refuse Disposal: The refuse disposal costs are calculated in line with the rates of the Refuse carrier for the development at the date the budget was prepared.

211. Streets & Drives: The streets within the development are private. The cost allocated for monthly street cleaning is based on the industry standard of $63 per acre of street area, with a minimum cost of $125 per month, which should be adequate for this size and type of development. Actual costs will vary, depending upon the frequency of street cleaning for the Association.

215. Access Control: The cost included in the budget is for monthly/quarterly maintenance to ensure the gates and intercom continually function correctly. The monthly cost of the phone line for the intercom (if applicable) is included in this line item. Costs should be sufficient, and is in line with the industry minimum standard for this line item. Actual costs may very depending upon the frequency of maintenance required.

Explanation of Budget Line Items (continued)

216. Reserve Study: A Reserve Study is an evaluation made to gauge the amount of reserves being put aside for the HOA, for the long term repair and maintenance of common area components. The law requires that every HOA conduct a reserve study every three years, with annual updates, to make sure that the HOA is setting aside adequate reserve funds for the long term repair and maintenance of common area components.

217. Miscellaneous: The cost allocated for minor repairs is based upon $1 per lot, per month, in accordance with standard industry practice.

Common Area Inspections: Fees and costs associated with the state inspection of all common area within this project.

Pest Control: The amount allocated for pest control is for monthly maintenance and is based on industry standards for this type of development.

SB323 - Inspector of Elections: The amount allocated is to allow for a 3rd party to count all ballots during elections.

300. Reserves: There is an itemized Reserves Worksheet for this budget below. Costs reflected are based upon the industry standards for the life expectancy and estimates for long term repair and maintenance of common area amenities and facilities as outlined in the CCRs.

401. Management: The cost for management of the HOA is based upon an administration and compliance program. The program typically involves day-to-day communication and problem solving with the individual lot owners on Association issues, as well as collection of assessments, accounts payable for Association expenses, and coordination of financial reports for the Association and attendance at meetings.

402. Legal Services: The Association may require the legal counsel offered by an attorney from time to time, for a variety of reasons. The attached budget reflects the amount that should be sufficient, and is in line with the industry minimum standard for this line item.

403. Accounting: The accounting line item reflects the amounts required for the preparation and distribution of annual operating statement and balance sheet for the association. This line item reflects the DRE standard costs for this type of developement.

404. Education: The Board members and officers of the Association must be educated and informed of the various and complex rules and regulations governing homeowner associations. Since laws are continuously changing, and Board membership changes, education of the board membership is a continuous cost. The amount allocated to Education is based on the industry standard minimum amount for this size and type of development.

405. Miscellaneous, Office Expense: This line item has been budgeted for mailing, copying and distribution of association documents; the purchase and repair of supplies and equipment for conducting Association business. This amount reflects the minimum recommended amount for this line item.

501. Contingency. While the attached budget has been prepared with care to address the needs of the Association, it is impossible to predict every future expense. With that in mind, the attached Budget utilizes a contingency of 3% to the line items 100-400 of budget as described above, since the development common area is new construction. This is in accordance with standard industry practice.

Explanation of Budget Line Items (continued)

• *Facts used to complete the attached budget were based on information provided by the Subdivider, the project engineer, the City of Camarillo, County of Ventura, as well as the guidelines set forth in the Operating Cost Manual for Homeowner Associations.*

• NOTE: This budget was prepared utilizing a conceptual drawing only, no plans were provided. This budget is an estimate of the project built out.

• *Inevitably, some assumptions made will not materialize, and unanticipated events may occur subsequent to the date of this report which may cause actual operating costs to vary from those estimated in the attached budget. CBS accepts no liability or responsibility for analysis subsequent to the date of this report.*

• *The attached budget should be updated in accordance with changes to the management documents for the Association, but in any event should not be relied upon for a period longer than one year.*

• *The Reserve Schedule on Page 5 of the attached budget was prepared based on available information. Civil Code Section 5550 requires that Associations perform a Reserve Study every three years. It is CBS's recommendation that a formal Reserve Study be prepared after the first year of operation, to insure that the reserves estimated are in fact adequate. Contact our office for further information concerning Reserve Study requirements and recommendations.*

BUDGET SUMMARY

PHASE NUMBER	DATE OF BUDGET	DRE FILE NUMBER
Blt out	April 26, 2023	NA

NUMBER OF LOTS	TRACT NUMBER/NAME OF PROJECT
248	Camarillo Springs

			Per Unit Per Month	Total Monthly	Total Annual
100 FIXED COSTS	101	Property Taxes	0.00	0.00	0.00
	102	Corporation Franchise Taxes	0.03	7.44	89.28
	103	Insurance (NEED QUOTE)	1.35	334.80	4,017.60
	104	Local License & Inspection Fees	0.00	0.00	0.00
	105	Estimated Income Taxes	0.00	0.00	0.00
		100 - Sub Total	**$1.38**	**$342.24**	**$4,106.88**
200 OPERATING COSTS	201	Electricity (attach work sheet)	5.48	1,359.04	16,308.48
		Lighting: Leased	0.00	0.00	0.00
	202	Gas (attach work sheet)	0.00	0.00	0.00
	203	Water (attach work sheet)	12.33	3,057.84	36,694.08
	204	Storm Drain Filtered Inlets	4.79	1,187.92	14,255.04
	205	Cable TV/Master Antenna	0.00	0.00	0.00
	207	Custodial Area: 0 *Number of Restrooms:* 2	0.00	0.00	0.00
	207a	*Custodial Supplies*	0.00	0.00	0.00
	208	Landscape Area (See page 15)	62.45	15,487.60	185,851.20
	208a	Landscape Repairs/Supplies (See page 15)	7.19	1,783.12	21,397.44
	209	Refuse Disposal *Vendor Name:* EJ Harrison *Telephone Number:* 805-647-1414	0.00	0.00	0.00
	210	Elevators *Number:* *Type:*	0.00	0.00	0.00
	211	Private Streets, Driveways, Parking Areas *Area:* 441,456	2.58	639.84	7,678.08
	212	Heating & Air Conditioning Maintenance *Area:* 0	0.00	0.00	0.00
	213	Swimming Pool *Number:* 1 *Size:* 0 *Months Heated:* Spa *Number:* *Size:*	0.00	0.00	0.00
	213a	Swimming Pool Supplies	0.00	0.00	0.00
	214	Tennis Court *Number:* 2	0.00	0.00	0.00
	215	Access Control *Guard hours per day:* *Number of motorized gates:* 8 *Type:* Swinging *No. of Intercoms/Telephone Entry:* 2	4.13	1,024.24	12,290.88

			Per Unit Per Month	Total Monthly	Total Annual
200 OPERATING COSTS	216	Reserve Study	0.27	66.96	803.52
	217	Miscellaneous	0.00	0.00	0.00
		Minor Repairs	1.00	248.00	2,976.00
		Pest Control	0.00	0.00	0.00
		Inspector of Elections	0.26	64.48	773.76
		Common Area Inspections	0.09	22.32	267.84
		Backflow Inspections	0.17	42.16	505.92
		Clubhouse	56.97	14,128.56	169,542.72
	218	Fire Sprinklers/Alarms/Extinguishers	0.00	0.00	0.00
		Fire Suppression Phone Lines	0.00	0.00	0.00
		Annual Fire Inspections	0.00	0.00	0.00
		200 - Sub Total	**$157.71**	**$39,112.08**	**$469,344.96**
300 RESERVES		301 - 314 (attach reserve work sheet)	58.48	14,502.55	174,030.56
			0.00	0.00	0.00
		300 - Sub Total	**$58.48**	**$14,502.55**	**$174,030.56**
400 ADMINISTRATION	401	Management	15.00	3,720.00	44,640.00
	402	Legal Services	5.25	1,302.00	15,624.00
	403	Accounting	1.59	394.32	4,731.84
	404	Education	3.00	744.00	8,928.00
	405	Miscellaneous, office expense	6.00	1,488.00	17,856.00
			0.00	0.00	0.00
		400 - Sub Total	**$30.84**	**$7,648.32**	**$91,779.84**
		TOTAL (100-400)	**$248.41**	**$61,605.19**	**$739,262.24**
500 CONTINGENCY	501	New Construction 3%	7.46	1,850.08	22,200.96
	502	Conversion 5%	0.00	0.00	0.00
	503	Revenue Offsets (attach documentation)	0.00	0.00	0.00
			0.00	0.00	0.00
		Total Budget	**$255.87**	**$63,455.27**	**$761,463.20**

❖ DRE regulations allow the use of one variable assessments against units only if one unit will derive as much as 10 percent more than another unit in the value of common goods and services supplied by the association.

After determining the percent of benefit derived from services provided (page 14) by the association, an easy chart to follow would be:

Less than 10%…………..	equal assessments
from 10% to 20%………..	variable or equal
Over 20%………………..	variable assessments

The budget and management documents indicate (check appropriate box):

- [x] equal assessments
- [ ] variable assessments

❖ The inventory and quantities used in the preparation of this budget are normally derived from plans completed prior to construction and may vary slightly from actual field conditions. The calculated budget is a good faith estimate of the projected costs and should be deemed reliable for no more than one year. The Board of Directors should conduct an annual review of the Association's actual costs and revise the budget accordingly.

❶ *Depending upon the level of service selected by the Association, the amount shown may be insufficient to cover the cost and may be higher*

RESERVES WORKSHEET

DRE FILE NUMBER	TRACT NUMBER
NA	Camarillo Springs

Item	(1) ❶ Sq. Ft. or Number	(2) ❶ Unit Cost HOA Manual	(3) ❶ Replacement Cost	(4) ❶Remaining Life	Yearly Reserve Columns 1x2 or 3/4	Cost Per Unit Per Month
MECHANICAL EQUIPMENT						
Exterior Lights	8	15.00	0.00	0	148.80	0.05
Street Lights	40	150.00	0.00	0	6,011.52	2.02
Motorized Gates	8	570.00	0.00	0	4,583.04	1.54
EXTERIOR IMPROVEMENTS						
Streets & Drives: Asphalt Concrete	317,952	0.25	0.00	0	79,488.96	26.71
Concrete	101,813	0.06	0.00	0	6,130.56	2.06
Decomposed Granite	21,691	0.10	0.00	0	2,172.48	0.73
Sewer Lines	9,225	0.05	0.00	0	476.16	0.16
Storm Drain Lines	7,365	0.05	0.00	0	386.88	0.13
FENCES / WALLS						
Fences - Tubular Steel (paint/stain)	10,560	1.25	0.00	0	13,213.44	4.44
Fences - Tubular Steel (repair/replace)	880	3.75	0.00	0	3,303.36	1.11
Pedestrian Gates	6	300.00	0.00	0	1,815.36	0.61
MISCELLANEOUS						
Cluster Mailboxes	0	0.00	48,000	25	1,934.40	0.65
Backflow Preventer	0	0.00	6,000	20	327.36	0.11
Irrigation Controller	0	0.00	4,800	20	267.84	0.09
Shade Structure	5	0.00	37,500	10	3,779.52	1.27
Landscape Replacement	177,566	0.06	0.00	0	10,654.08	3.58
Tree Trimming	647	60.00	0.00	0	38,836.80	13.05
Reserve Contingency	0	0.00	0	0	500.00	0.17
❶ *Use either Columns 1 and 2 or 3 and 4, but not both for a particular item.*			***Total Reserve***		**$174,030.56**	**$58.48**

Note 1: ***For space purposes, we have included only the components most frequently found in common-interest subdivisions. Reserve items should not be limited to the list above, but be tailored to your particular project.***

Note 2: In accordance with Civil Code Section 5550(b)(1), only those items with a useful life of less than 30 years are included in the Reserves Worksheet above.

GENERAL PROJECT INVENTORY

- Complete schedules 1 through 6, then transfer the totals to Site Summary area.
- Frequently several buildings will be repeated in a subdivision. These may be combined on one line. Wherever additional space is required attach computations on a separate sheet.

SITE SUMMARY - TOTAL SUBDIVISION AREA

182 acres x 43,560 = 7,927,920 Total square feet.

1	Building(s) footprint	0	sq. ft.
2	Garages or carports	0	sq. ft.
3	Recreational facilities	0	sq. ft.
4	Paved Surfaces	441,456	sq. ft.
5	Restricted common areas	0	sq. ft.
6	Other(attach description)	0	sq. ft.
	Sub Total (1-6)	441,456	sq. ft.

Total Square Ft. (from above)	7,927,920	sq. ft.
Subtract Sub Total (1-6)	441,456	sq. ft.
Remainder = landscape area	357,211	sq. ft.

INDIVIDUAL SUMMARY SCHEDULES

1 Buildings Containing Units

Length	x	Width	=	Area of Each Bldg.	x	No. of Buildings	=	Total Area Square Feet
0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0

Total for Summary Item 1 above 0

2 Multiple Detached Garages and Carports

0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0

Total for Summary Item 2 above 0

3 Recreational Facilities — ***Total Area***

a. Recreational Room, Clubhouse, Lanai, or other
(length x width = total sq. ft.)

0 x 0 = 0 — 0 sq. ft.

b. Pools
Number: 0
Size: 0 — 0 sq. ft.

c. Spas
Number: 0
Size: 0 — 0 sq. ft.

d. Tennis Courts
Number: 0
Size: 0
Surface Type: NA — 0 sq. ft.

e. Other:
Number: 0
Size: 0
Surface Type: NA — 0 sq. ft.

Total for Summary Item 3 above 0 sq. ft.

4 Paved Areas (streets, parking, walkways, etc.)
(length x width = square foot area)

						Paving Material (concrete, asphalt, etc.)
various	x	various	=	317,952		Asphalt Street
various	x	various	=	86,960		Concrete Sidewalk
various	x	various	=	14,853		Stamped/Decorative Concrete
various	x	various	=	21,691		Decomposed Granite Trail

Total for Summary Item 4 above 441,456 sq. ft.

5 Restricted Common Areas Use (patio, etc.)
Describe and attach calculations
NA

Total for Summary Item 5 above 0 sq. ft.

6 Other - Describe and attach calculations
NA

Total for Summary Item 6 above 0 sq. ft.

ROOF RESERVE WORKSHEET

(See page 15)

Building ❶	Flat Roofed Area	Shingled Area	Cement/Spanish Tile or Wood Shake Area
NA	0	0	0
Totals	0	0	0
Modifications	NA	NA	NA
Grand Totals	0	0	0

Roof Pitch Table

Pitch	*Rise*	*Multiplier*
One eighth	3" in 12"	1.03
One Sixth	4" in 12"	1.06
Five 24ths	5" in 12"	1.08
One quarter	6" in 12"	1.12
One third	8" in 12"	1.2
One Half	12" in 12"	1.42
Five eighths	15" in 12"	1.6
Three quarters	18" in 12"	1.8

❶ Take areas of all buildings listed in Sections 1, 2, and 3a. Add 6% (a 1.06 multiplier) for each foot of roof overhanging. In addition, adjust for roof pitch based upon the table above. The table converts horizontal area to roof area

PAINTING WORKSHEET

EXTERIOR

Exterior painting area is determined by measuring the structure to find the perimeter (total distance around) and multiplying that by 10 for each story. Use a separate line for each story if the configuration of the building changes from story to story *(for wood siding see Item 301 in the Cost Manual)*

- Buildings (include garages, recreation buildings)

Type of Surface	Perimeter	x	10 ft.	x	No.of Stories	x	No. of Bldg. (if identical)	=	Total Area
NA	0	x	10 ft.	x	0	x	0	=	0

Total Building Area 0

- Walls

Linear Feet	x	Height	x	2❶	=	Total Area
0	x	0	x	2	=	0

Total wall paint area 0

Total exterior paint area 0

INTERIOR

Interior painting is determined by measuring the room perimeter and multiplying by 8' and adding ceiling area.

Room/Type Description		Walls Perimeter	x	8 ft.	=	Wall Area	+	Ceiling (Length x Width)	=	Total Area
NA	:	0	x	8 ft.	=	0	+	0	=	0

Total interior paint area 0

TOTAL EXTERIOR AND INTERIOR 0

FENCES

Fence requiring paint or stain *(see Item 312 in manual for wood and wrought iron)*
Compute separately using higher cost--put on separate line on page 5 of Reserve Worksheet.

Linear Feet	x	Height	x	2❶	=	Total Area	
880	x	6	x	2	=	10,560	*Tubular Steel Fence at entrances and trail connects*
0	x	0	x	2	=	0	

Total fence area 10,560

❶Always multiply by 2 to cover the area for both sides of the wall or fence. If the wall or fence will be painted or stained on one side only, adjust your calculation and make appropriate notation on the worksheet.

ELECTRICAL ENERGY CONSUMPTION WORKSHEET

A. Lights (see Note ❶)

(number of lights x average watt per light x average number hours in use per day x .03 = KWH per month)

1 Irrigation Timers & Systems

4 x 20 x 24 x 0.03 = 57.60

2 Interior Lights

0 x 0 x 0 x 0.03 = 0.00

3 Outdoor and walkway lights

8 x 25 x 12 x 0.03 = 72.00

4 Street Lights

40 x 150 x 12 x 0.03 = 2,160.00

B. Elevators *(number of cabs x number of floor stops per cab x 167 KWH = KWH per month)*

0 x 0 x 167 KWH = 0.00

C. Tennis Court Lights *(number of courts x 1000 KWH = KWH per month)*

0 x 1000 KWH = 0

D. Electric Heating

(0.25 KWH x sq. ft. heated = KWH per month for warm climates)

(0.65 KWH x sq. ft. heated = KWH per month for cold climates)

0.25 x 0 = 0

E. Hot Water Heating (320 KWH x number of 40 gallon tanks = KWH per month)

320 KWH x 0 = 0

F. Air Conditioning *(number of sq. ft. cooled x .34 KWH = KWH per month)*

0 x 0.34 KWH = 0

G. Electrical Motors *(see Notes ❷ and ❸)*

(horsepower x watts x hours of use per day x 0.03 x % of year in use = KWH per month)

Gate Motors Motor #1 6 x 750 x 8 x 0.03 x 100% = 1,080

H. Pool/Spa Heating

(Number of heaters x KWH rating x hours of daily use x 30 days = KWH per month)

0 x 0 x 0 x 30 days = 0

TOTAL KWH PER MONTH 3,370

I. Total Monthly Cost

(total KWH per month x rate per KWH = total cost)

-	3,369.60	x	$ 0.40	=	$	1,347.84
-	Monthly common meter charge				$	10.00
				Total Monthly Cost	$	1,357.84

Utility Company Name: Southern California Edison

Telephone Number: 800-655-4555

Notes

❶ Do not include leased lights. Instead use lease agreement with rate schedule with budget work sheet. Put monthly charge into Item 201 leased lights. Use a minimum of 10 hours per day average usage for exterior lighting.

❷ Motors are found in swimming pool pumping systems, circulating hot water systems, ventilation systems in subterranean garages, security gates, interior hallway, and interior stairwells and also in private water systems and fountains. (Hours of use for pool pumps - see Item 201 in the Cost Manual.)

❸ Normally 1,000 watts per horsepower should be used. Check plate on motor or manufacturer's specifications.
If wattage is not listed, it can be calculated by multiplying amps x volts.

GAS CONSUMPTION WORKSHEET

Therms

1 Water Heaters

(number of dwelling units on association meters + laundry rooms + outdoor showers + recreation rooms = number units x 20 Therms = Therms per month)

0 + 0 + 0 + 0 = 0 x 20 Therms = 0

2 Pool (see Note ❶)

(BTU rating x hours of daily use x .0003 x % of year in use = Therms)

Pool #1 0 x 0 x 0.0003 x 0% % = 0

3 Spa

(Number of spas (by size) x term range = Therms used)

0	*(8' diameter)*	*x*	*300 Therms*	=	0
0	*(10' diameter)*	*x*	*350 Therms*	=	0
0	*(12' diameter)*	*x*	*400 Therms*	=	0

4 Central Heating

(BTU rating x average hours of daily use x .0003 = Therms used)

0 x 0 x 0.0003 = 0

5 Other

(number of gas barbecues, fireplaces, etc.) x 5 = Therms

0 x 5 = 0

0

Total Therms = 0

(therms x rate = monthly charge)

0 x 4.35 = $ 0.00

Meter Charge $

Total Monthly Cost $ 0.00

Utility Company Name: Southern California Gas

Telephone Number: 877-238-0092

❶ The presumption is a recreation pool with heating equipment will be used all year or 100%. For very hot or cold climates where a heater will not or cannot be used all year, a 70% usage should suffice. Less than 70% usage will require a Special Note in the Subdivision Public Report.

WATER AND SEWER WORKSHEET

A. Domestic *(use only if units are billed through association)* **Water Cost**

(number of units [include rec. rooms] x rate/100 CF x 10 = Water Cost)

0 x 0 x 10 = $ 0.00

B. Irrigation (see Note ❶)

(landscape area x rate/100 cf. x .0033 = Water Cost)

356,211 x 2.59 x 0.0033 = $ 3,044.54

C. Sewers (see Note ❷)

(Charge per unit per month x number of units = Sewer Cost)

$ 0 x 0 = $ 0.00

or alternate calculation (% of A and B, etc.)

0 (A) x 0% % = $ 0.00

D. Meter Charge

Line Size: 1" (2", 3" etc.) Charge per month: $ 12.51

MONTHLY WATER COST: $ 3,057.05

Utility Company Name: Camrosa Water District

Telephone Number: 805-388-0226

Notes

❶ Average usage is four-acre feet of water per acre of landscaping per year. This formula is based on four-acre feet of usage. Some areas like the low desert will require 8 to 12-acre feet of water per acre of landscaping per year and the "B" figure should be adjusted accordingly. (Example: 4 x figure for B = 12-acre feet.)

❷ If some other method of billing is used for the sewage charge and/or this will not be a common expense, provide a letter from the sanitation district and or water company (whichever applicable) which so states.

PRORATION SCHEDULE WORKSHEET

Section I **Variable Assessment Computation**

A. Variable Cost Description — Monthly Cost

		Monthly Cost
1	Insurance	$ 0.00
2	Domestic Gas (if common)	$ 0.00
3	Domestic Water (if common)	$ 0.00
4	Reserves: Paint	$ 0.00
5	Reserves: Roof	$ 0.00
6	Hot Water Heater (if common)	$ 0.00
7	Other	$ 0.00
	Total Variable Cost	$ 0.00

B. Total livable square footage of all units from condominium plan: 0

C. Variable Factor (*variable monthly costs / square footage = variable factor)* 0.000
Multiply this factor by each unit size below in Section III

Section II **Equal Assessment Computation**

A.	Total Monthly Budget	$ 0.00
	Less Variable Costs	$ 0.00
	Total Monthly Equal Costs	$ 0.00
B.	Monthly Base Assessment:	$ 0.00

(total monthly cost / number of units = monthly base assessment)

Section III **Assessment Schedule**

	Unit Size	*x*	*Variable Factor*	*=*	*Variable Assessment*	*+*	*Base Assessment*	*=*	*Total Month Assessment*	*x*	*Unit Count*	*=*	*Total Mth. Budget**
A.	0	x	0.000	=	0.00	+	0.00	=	0.00	x	0	=	$0.00
B.	0	x	0.000	=	0.00	+	0.00	=	0	x	0	=	$0.00
C.	0	x	0.000	=	0.00	+	0.00	=	0	x	0	=	$0.00
D.	0	x	0.000	=	0.00	+	0.00	=	0	x	0	=	$0.00

VERIFICATION OF COMPUTATIONS

Total Monthly Budget (Section III) $0.00

Total Monthly Budget (Section IIA) $0.00

* Total Assessment x number of units of each type

Section IV **Variable Assessments**

Highest Assessment	-	*Lowest Assessment*	/	*Lowest Assessment*	=	*% Differential*
$0.00	-	$0.00	/	$0.00	=	0%

Supplemental Worksheet

LANDSCAPE

A. Complete chart and transfer "total landscape cost per year" to line #208 on page 3 (cumulative per phase).

Type	Percent	Area	Annual Cost per S.F.	Total Cost per type
Ground Cover		129,168	0.85	$109,793
Lawn		48,398	1.20	$58,078
Open space maintained		178,645	0.10	$17,865
Bioretention Basin		1,000	0.10	$100
Landscape Repair Supplies		356,211	0.06	$21,373
Other	100%			$0
Total	100%	357,211		
TOTAL LANDSCAPE COST PER YEAR				$207,208

ROOF

A. If there is only one type of roof, with a constant slope factor across all roof surfaces, the following chart may not need to be completed. When this chart is completed, transfer total to roof line item on page 5.

Building	Type of Roof	Width of overhang	Quantity *(incl. Overhang)*	x	Pitch Multiplier	=	Adjusted S.F.	x	Annual Cost per S.F	=	Total Annual Cost
0	NA	NA	0	x	0	=	0	x	0	=	0
0	NA	NA	0	x	0	=	0	x	0	=	0
TOTAL ROOF COST PER YEAR											0

B. If a mansard will be/is constructed please provide the measurements and type of material to be used

Appendix D

Appendix D

General Information

This budget is a good faith estimate from plans prior to construction and/or completion (for new projects) or from combination of plans and/or site inspections (for existing projects). For existing projects, there may have been historical data as support for some line items, but changes to the project may make historical data not applicable or reliable. This budget was prepared for the purpose of obtaining a public report.

The association must adopt a budget in accordance with the California Civil Code. If that budget is less than 10% or greater than 20% from this budget, you should contact the Department of Real Estate. The association may increase or decrease its budget. It is typical for costs to increase as the project ages. The association should conduct a reserve study after its first year of operation to adjust the reserve funding plan for any changes which may have taken place during construction.

DRE FILE NUMBER (IF KNOWN)	MASTER DRE FILE #	S.I. ASSIGNED FILE (IF KNOWN)
NA	NA	NA

SUBDIVISION IDENTIFICATION AND LOCATION

NAME AND/OR TRACT NUMBER

Camarillo Springs

NAME TO BE USED IN ADVERTISING (IF DIFFERENT THAN NAME OR TRACT NUMBER)

Camarillo Springs - **CLUBHOUSE BUDGET**

STREET ADDRESS (IF ANY)	CITY	COUNTY
Camarillo Springs Road off of Ridgeview Street	Camarillo	Ventura
MAIN ACCESS ROAD(S)	**NEAREST TOWN/CITY**	**MILES/DIRECTION FROM TOWN/CITY**
Camarillo Springs Road	NA	NA

- ☐ Condominium
- ☐ Condominium Conversion
- ☐ Stock Cooperative
- ☐ Stock Cooperative Conversion
- ☐ Limited Equity Housing Corporation
- ☑ Planned Development
- ☐ Planned Development Land Project
- ☐ Planned Development Mobile Home
- ☐ Community Apartment
- ☐ Out-of-State
- ☐ Undivided Interest
- ☐ Mixed Use

NUMBER OF LOTS/UNITS	PHASE #	TOTAL # IN PROJECT	PREVIOUS DRE FILE #	# OF ACRES
1	Blt out	Blt out	NA	1.34

BUDGET PREPARER

NAME	ATTENTION	TELEPHONE NUMBER
California Builder Services	Diondra Guevara	559-473-2690
ADDRESS	**CITY**	**ZIP CODE**
1446 Tollhouse Road, Suite 101	Clovis	93611

Certification

I declare under penalty of perjury that the representations and answers to questions in this document and all documents submitted as a part of the homeowners budget are true and complete to the best of my knowledge and belief.

SIGNATURE OF BUDGET PREPARER	DATE
⇨	April 26, 2023

IMPROVEMENTS WORKSHEET

❖ If this phase will have any line items shown on pages 3, 4, and 5 hereof exempted from payment of assessments under Regulation 2792.16(c), asterisk those items on page 3, 4, and 5 and list any partially deferred costs on a separate sheet showing calculations and attach. All exempted improvements must be covered by reasonable arrangements for completion. Include Planned Construction Statement (RE 611A) for review.

1	Number of buildings containing residential units …….......	1
2	Completion year for the residential units included n this phase ……………………………..……...................	Unknown
3	Completion year for the common area and facilities included in this phase ………………………...............….	Unknown
4	Type of residential building for this project (i.e., highrise, cluster, garden, etc.) ……………………….	Detached
5	Type of construction for these buildings (I.e., steel, concrete, wood frame, etc.) ……………………	Wood Frame
6	Type of roof (I.e., shake, etc.) ……………………….....…..	Flat
7	Type of paving used in the project …………………….......	Concrete, Asphalt
8	Type of exterior wall for residential buildings ……………......	NA
9	Number of residential units per building …………………......	1
10	Number of floors per building ……………………………....	NA
11	Number of bedrooms per unit ……………………………..	NA
12	Square footage of units (list number and size of each unit type) ………………….	NA
13	Type of parking facilities and number of spaces (I.e., detached garage, tuck-under, subterranean, carport, open, etc.) ………………………………………....	Street Parking

Complete 14 and 15 for Phased Condominium Projects Only

14 Have you submitted budgets for all phases to be completed within the next three calendar years and a built-out budget?…………………………………………………………………. ☑ Yes ☐ No

15 If this condominium project involves phasing with a single lot, submit a budget for *each* phase plus a budget which will be used *if* future phases are not completed. (Commonly referred to as a *worst case budget.*)

NOTE: The square footages used in the preparation of this Budget are estimated, based on preliminary plans and may vary from actual footages of completed improvements. All footages are subject to normal construction variances; final completed footages may differ from the estimated footages used.

BUDGET NOTES

This Budget has been prepared for the Association's first year of operation and is valid for one year from the date of preparation noted on Page 1.

The Association is responsible to review actual operating expenses and reserve/replacement expenses, and to prepare a new budget on an annual basis.

Operating and Reserve costs will typically increase as the development improvements age, most likely at a rate above the published CPI.

The Budget has been prepared based on estimated expenses, including utility expenses (see utility worksheets), and discussed below at Items 201, 202, 203, 204 and 208.

- *Facts used to complete the attached budget were based on information provided by the Subdivider, the project engineer, the City of Camarillo, County of Ventura, as well as the guidelines set forth in the Operating Cost Manual for Homeowner Associations.*

- ***NOTE: This budget was prepared utilizing a conceptual drawing only, no plans were provided. This budget is an estimate of the project built out.***

- *Inevitably, some assumptions made will not materialize, and unanticipated events may occur subsequent to the date of this report which may cause actual operating costs to vary from those estimated in the attached budget. CBS accepts no liability or responsibility for analysis subsequent to the date of this report.*

- *The attached budget should be updated in accordance with changes to the management documents for the Association, but in any event should not be relied upon for a period longer than one year.*

- *The Reserve Schedule on Page 5 of the attached budget was prepared based on available information. Civil Code Section 5550 requires that Associations perform a Reserve Study every three years. It is CBS's recommendation that a formal Reserve Study be prepared after the first year of operation, to insure that the reserves estimated are in fact adequate. Contact our office for further information concerning Reserve Study requirements and recommendations.*

BUDGET SUMMARY

PHASE NUMBER	DATE OF BUDGET	DRE FILE NUMBER
Blt out	April 26, 2023	NA
NUMBER OF LOTS	TRACT NUMBER/NAME OF PROJECT	
1	Camarillo Springs	

			Per Unit Per Month	Total Monthly	Total Annual
100 FIXED COSTS	101	Property Taxes	0.00	0.00	0.00
	102	Corporation Franchise Taxes	0.00	0.00	0.00
	103	Insurance (NEED QUOTE)	416.67	416.67	5,000.04
	104	Local License & Inspection Fees	25.00	25.00	300.00
	105	Estimated Income Taxes	0.00	0.00	0.00
		100 - Sub Total	**$441.67**	**$441.67**	**$5,300.04**
200 OPERATING COSTS	201	Electricity (attach work sheet)	2,921.97	2,921.97	35,063.64
		Lighting: Leased	0.00	0.00	0.00
	202	Gas (attach work sheet)	353.10	353.10	4,237.20
	203	Water (attach work sheet)	526.90	526.90	6,322.80
	204	Sewer/Septic Tanks/Storm Drains/ Water Retention Basins (include if not in 203)	129.15	129.15	1,549.80
	205	Cable TV/Master Antenna	200.00	200.00	2,400.00
	207	Custodial Area: 4,928 *Number of Restrooms:* 2	1,332.00	1,332.00	15,984.00
	207a	*Custodial Supplies*	199.80	199.80	2,397.60
	208	Landscape Area (See page 15)	1,977.98	1,977.98	23,735.76
	208a	Landscape Repairs/Supplies (See page 15)	114.29	114.29	1,371.48
	209	Refuse Disposal *Vendor Name:* EJ Harrison *Telephone Number:* 805-647-1414	560.00	560.00	6,720.00
	210	Elevators *Number:* *Type:*	0.00	0.00	0.00
	211	Private Streets, Driveways, Parking Areas *Area:* 19,838	0.00	0.00	0.00
	212	Heating & Air Conditioning Maintenance *Area:* 4,928	105.00	105.00	1,260.00
	213	Swimming Pool *Number:* 1 *Size:* 1,823 *Months Heated:* Spa *Number:* *Size:*	900.00	900.00	10,800.00
	213a	Swimming Pool Supplies	180.00	180.00	2,160.00
	214	Tennis Court *Number:* 2	180.00	180.00	2,160.00
	215	Access Control *Guard hours per day:* *Number of motorized gates:* 8 *Type:* Swinging *No. of Intercoms/Telephone Entry:* 2	0.00	0.00	0.00

			Per Unit Per Month	Total Monthly	Total Annual
200 OPERATING COSTS	216	Reserve Study	41.67	41.67	500.04
	217	Miscellaneous	0.00	0.00	0.00
		Minor Repairs	0.00	0.00	0.00
		Pest Control	75.00	75.00	900.00
		Inspector of Elections	0.00	0.00	0.00
		Common Area Inspections	20.84	20.84	250.08
		Backflow Inspections	10.42	10.42	125.04
		Other:	0.00	0.00	0.00
	218	Fire Sprinklers/Alarms/Extinguishers	0.00	0.00	0.00
		Fire Suppression Phone Lines	37.50	37.50	450.00
		Annual Fire Inspections	210.00	210.00	2,520.00
		200 - Sub Total	**$10,075.62**	**$10,075.62**	**$120,907.44**
300 RESERVES		301 - 314 (attach reserve work sheet)	3,199.74	3,199.74	38,396.84
			0.00	0.00	0.00
		300 - Sub Total	**$3,199.74**	**$3,199.74**	**$38,396.84**
400 ADMINISTRATION	401	Management	0.00	0.00	0.00
	402	Legal Services	0.00	0.00	0.00
	403	Accounting	0.00	0.00	0.00
	404	Education	0.00	0.00	0.00
	405	Miscellaneous, office expense	0.00	0.00	0.00
			0.00	0.00	0.00
		400 - Sub Total	**$0.00**	**$0.00**	**$0.00**
		TOTAL (100-400)	**$13,717.03**	**$13,717.03**	**$164,604.32**
500 CONTINGENCY	501	New Construction 3%	411.52	411.52	4,938.24
	502	Conversion 5%	0.00	0.00	0.00
	503	Revenue Offsets (attach documentation)	0.00	0.00	0.00
			0.00	0.00	0.00
		Total Budget	**$14,128.55**	**$14,128.55**	**$169,542.56**

❖ DRE regulations allow the use of one variable assessments against units only if one unit will derive as much as 10 percent more than another unit in the value of common goods and services supplied by the association.

After determining the percent of benefit derived from services provided (page 14) by the association, an easy chart to follow would be:

Less than 10%…………..	equal assessments
from 10% to 20%………..	variable or equal
Over 20%………………..	variable assessments

The budget and management documents indicate (check appropriate box):

☑ equal assessments

☐ variable assessments

❖ The inventory and quantities used in the preparation of this budget are normally derived from plans completed prior to construction and may vary slightly from actual field conditions. The calculated budget is a good faith estimate of the projected costs and should be deemed reliable for no more than one year. The Board of Directors should conduct an annual review of the Association's actual costs and revise the budget accordingly.

❶ *Depending upon the level of service selected by the Association, the amount shown may be insufficient to cover the cost and may be higher*

RESERVES WORKSHEET

DRE FILE NUMBER	TRACT NUMBER
NA	Camarillo Springs

Item	(1) ❶ Sq. Ft. or Number	(2) ❶ Unit Cost HOA Manual	(3) ❶ Replacement Cost	(4) ❶Remaining Life	Yearly Reserve Columns 1x2 or 3/4	Cost Per Unit Per Month
EXTERIOR BUILDING MAINTENANCE						
Paint: Exterior	6,800	0.31	0.00	0	2,108.04	175.67
Roof - Type: Flat	4,929	0.30	0.00	0	1,478.76	123.23
INTERIOR MAINTENANCE						
Paint: Interior	10,257	0.31	0.00	0	3,179.64	264.97
Furnishing/Equipment	0	0.00	100,000	10	10,000.08	833.34
Flooring: Vinyl	4,928	0.50	0.00	0	2,464.08	205.34
MECHANICAL EQUIPMENT						
Heating & Cooling	0	0.00	15,000	20	750.00	62.50
Water Heaters	0	0.00	1,800	10	180.00	15.00
Exterior Lights	2	15.00	0.00	0	30.00	2.50
Interior Lights	100	15.00	0.00	0	1,500.00	125.00
Fire Enunciator Panel	0	0.00	11,250	20	562.56	46.88
Fire Sprinkler Recertification	0	0.00	1,500	5	300.00	25.00
POOL / SPA						
Pool Re-plaster	1	1,000.00	0.00	0	1,000.08	83.34
Pool Heater	1	688.00	0.00	0	688.08	57.34
Pool Filter	1	220.00	0.00	0	220.08	18.34
Pool/Spa Pumps - No:	1	188.00	0.00	0	188.04	15.67
Handicap Lift	0	0.00	20,000	20	1,000.08	83.34
EXTERIOR IMPROVEMENTS						
Concrete	18,849	0.06	0.00	0	1,131.00	94.25
Bocce Court	989	1.50	0.00	0	1,483.56	123.63
FENCES / WALLS						
Fences - Tubular Steel (paint/stain)	3,972	1.25	0.00	0	4,965.00	413.75
Fences - Tubular Steel (repair/replace)	331	3.75	0.00	0	1,241.28	103.44
MISCELLANEOUS						
Backflow Preventer	0	0.00	1,500	20	75.00	6.25
Irrigation Controller	0	0.00	1,200	20	60.00	5.00
Landscape Replacement	27,429	0.05	0.00	0	1,371.48	114.29
Tree Trimming	32	60.00	0.00	0	1,920.00	160.00
Reserve Contingency	0	0.00	0	0	500.00	41.67
				Total Reserve	**$38,396.84**	**$3,199.74**

❶ *Use either Columns 1 and 2 or 3 and 4, but not both for a particular item.*

Note 1: ***For space purposes, we have included only the components most frequently found in common-interest subdivisions. Reserve items should not be limited to the list above, but be tailored to your particular project.***

Note 2: In accordance with Civil Code Section 5550(b)(1), only those items with a useful life of less than 30 years are included in the Reserves Worksheet above.

GENERAL PROJECT INVENTORY

- Complete schedules 1 through 6, then transfer the totals to Site Summary area.
- Frequently several buildings will be repeated in a subdivision. These may be combined on one line. Wherever additional space is required attach computations on a separate sheet.

SITE SUMMARY - TOTAL SUBDIVISION AREA

1.34 acres x 43,560 = 58,370 Total square feet.

1	Building(s) footprint	0	sq. ft.
2	Garages or carports	0	sq. ft.
3	Recreational facilities	11,339	sq. ft.
4	Paved Surfaces	19,838	sq. ft.
5	Restricted common areas	0	sq. ft.
6	Other(attach description)	0	sq. ft.
	Sub Total (1-6)	31,177	sq. ft.

Total Square Ft. (from above)	58,370	sq. ft.
Subtract Sub Total (1-6)	31,177	sq. ft.
Remainder = landscape area	27,429	sq. ft.

INDIVIDUAL SUMMARY SCHEDULES

1 Buildings Containing Units

Length	x	Width	=	Area of Each Bldg.	x	No. of Buildings	=	Total Area Square Feet
0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0

Total for Summary Item 1 above 0

2 Multiple Detached Garages and Carports

0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0
0	x	0	=	0	x	0	=	0

Total for Summary Item 2 above 0

3 Recreational Facilities — ***Total Area***

a. Recreational Room, Clubhouse, Lanai, or other
(length x width = total sq. ft.)

various x various = 0 — 4,928 sq. ft.

b. Pools
Number: 1
Size: 1,823 — 1,823 sq. ft.

c. Spas
Number: 0
Size: 0 — 0 sq. ft.

d. Tennis Courts
Number: 2
Size: 3,599
Surface Type: Concrete — 3,599 sq. ft.

e. Bocce Ball Court:
Number: 2
Size: 989
Surface Type: DG — 989 sq. ft.

Total for Summary Item 3 above 11,339 sq. ft.

4 Paved Areas (streets, parking, walkways, etc.)
(length x width = square foot area)

Length		Width		Area	Paving Material (concrete, asphalt, etc.)
Various	x	various	=	3,910	Concrete Sidewalk
Various	x	various	=	6,965	Stamped/Decorative Concrete
Various	x	various	=	4,375	Pool Deck
Various	x	various	=	3,599	Tennis Court
Various	x	various	=	989	Bocce Court

Total for Summary Item 4 above 19,838 sq. ft.

5 Restricted Common Areas Use (patio, etc.)
Describe and attach calculations
NA

Total for Summary Item 5 above 0 sq. ft.

6 Other - Describe and attach calculations
NA

Total for Summary Item 6 above 0 sq. ft.

ROOF RESERVE WORKSHEET

(See page 15)

Building ❶	Flat Roofed Area	Shingled Area	Cement/Spanish Tile or Wood Shake Area
Clubhouse	4,929	0	0
Totals	4,929	0	0
Modifications	NA	NA	NA
Grand Totals	4,929	0	0

Roof Pitch Table

Pitch	*Rise*	*Multiplier*
One eighth	3" in 12"	1.03
One Sixth	4" in 12"	1.06
Five 24ths	5" in 12"	1.08
One quarter	6" in 12"	1.12
One third	8" in 12"	1.2
One Half	12" in 12"	1.42
Five eighths	15" in 12"	1.6
Three quarters	18" in 12"	1.8

❶ Take areas of all buildings listed in Sections 1, 2, and 3a. Add 6% (a 1.06 multiplier) for each foot of roof overhanging. In addition, adjust for roof pitch based upon the table above. The table converts horizontal area to roof area

PAINTING WORKSHEET

EXTERIOR

Exterior painting area is determined by measuring the structure to find the perimeter (total distance around) and multiplying that by 10 for each story. Use a separate line for each story if the configuration of the building changes from story to story *(for wood siding see Item 301 in the Cost Manual)*

- Buildings (include garages, recreation buildings)

Type of Surface	Perimeter	x	10 ft.	x	No.of Stories	x	No. of Bldg. (if identical)	=	Total Area
Stucco	680	x	10 ft.	x	1	x	1	=	6,800

Total Building Area 6,800

- Walls

Linear Feet	x	Height	x	2❶	=	Total Area
0	x	0	x	2	=	0

Total wall paint area 0

Total exterior paint area 6,800

INTERIOR

Interior painting is determined by measuring the room perimeter and multiplying by 8' and adding ceiling area.

Room/Type Description		Walls Perimeter	x	8 ft.	=	Wall Area	+	Ceiling (Length x Width)	=	Total Area
Clubhouse	:	666	x	8 ft.	=	5,329	+	4,928	=	10,257

Total interior paint area 10,257

TOTAL EXTERIOR AND INTERIOR 17,057

FENCES

Fence requiring paint or stain *(see Item 312 in manual for wood and wrought iron)*
Compute separately using higher cost--put on separate line on page 5 of Reserve Worksheet.

Linear Feet	x	Height	x	2❶	=	Total Area	
331	x	6	x	2	=	3,972	*Tubular Steel Fence around pool*
0	x	0	x	2	=	0	

Total fence area 3,972

❶Always multiply by 2 to cover the area for both sides of the wall or fence. If the wall or fence will be painted or stained on one side only, adjust your calculation and make appropriate notation on the worksheet.

ELECTRICAL ENERGY CONSUMPTION WORKSHEET

A. Lights (see Note ❶)

(number of lights x average watt per light x average number hours in use per day x .03 = KWH per month)

1 Irrigation Timers & Systems

1 x 20 x 24 x 0.03 = 14.40

2 Interior Lights

100 x 65 x 12 x 0.03 = 2,340.00

3 Outdoor and walkway lights

2 x 25 x 12 x 0.03 = 18.00

4 Street Lights

0 x 0 x 0 x 0.03 = 0.00

B. Elevators *(number of cabs x number of floor stops per cab x 167 KWH = KWH per month)*

0 x 0 x 167 KWH = 0.00

C. Tennis Court Lights *(number of courts x 1000 KWH = KWH per month)*

2 x 1000 KWH = 2,000

D. Electric Heating

(0.25 KWH x sq. ft. heated = KWH per month for warm climates)

(0.65 KWH x sq. ft. heated = KWH per month for cold climates)

0.25 x 4,928 = 1,232

E. Hot Water Heating (320 KWH x number of 40 gallon tanks = KWH per month)

320 KWH x 0 = 0

F. Air Conditioning *(number of sq. ft. cooled x .34 KWH = KWH per month)*

4,928 x 0.34 KWH = 1,676

G. Electrical Motors *(see Notes ❷ and ❸)*

(horsepower x watts x hours of use per day x 0.03 x % of year in use = KWH per month)

Motor #1 0 x 0 x 0 x 0.03 x 0% = 0

H. Pool/Spa Heating

(Number of heaters x KWH rating x hours of daily use x 30 days = KWH per month)

0 x 0 x 0 x 30 days = 0

TOTAL KWH PER MONTH 7,280

I. Total Monthly Cost

(total KWH per month x rate per KWH = total cost)

-	7,279.92	x	$ 0.40	=	$ 2,911.97
-	Monthly common meter charge				$ 10.00
				Total Monthly Cost	$ 2,921.97

Utility Company Name: Southern California Edison

Telephone Number: 800-655-4555

Notes

❶ Do not include leased lights. Instead use lease agreement with rate schedule with budget work sheet. Put monthly charge into Item 201 leased lights. Use a minimum of 10 hours per day average usage for exterior lighting.

❷ Motors are found in swimming pool pumping systems, circulating hot water systems, ventilation systems in subterranean garages, security gates, interior hallway, and interior stairwells and also in private water systems and fountains. (Hours of use for pool pumps - see Item 201 in the Cost Manual.)

❸ Normally 1,000 watts per horsepower should be used. Check plate on motor or manufacturer's specifications.
If wattage is not listed, it can be calculated by multiplying amps x volts.

GAS CONSUMPTION WORKSHEET

1 Water Heaters **Therms**

(number of dwelling units on association meters + laundry rooms + outdoor showers + recreation rooms = number units x 20 Therms = Therms per month)

3 + 0 + 0 + 0 = 3 x 20 Therms = 60

2 Pool (see Note ❶)

(BTU rating x hours of daily use x .0003 x % of year in use = Therms)

Pool #1 250000 x 12 x 0.0003 x ____ % = 0

3 Spa

(Number of spas (by size) x term range = Therms used)

0	*(8' diameter)*	*x*	*300 Therms*	=	0
0	*(10' diameter)*	*x*	*350 Therms*	=	0
0	*(12' diameter)*	*x*	*400 Therms*	=	0

4 Central Heating

(BTU rating x average hours of daily use x .0003 = Therms used)

0 x 0 x 0.0003 = 0

5 Other

(number of gas barbecues, fireplaces, etc.) x 5 = Therms

4 x 5 = 20

0

Total Therms = 80

(therms x rate = monthly charge)

80 x 4.35 = $ 348.00

Meter Charge $ 5.10

Total Monthly Cost $ 353.10

Utility Company Name: Southern California Gas

Telephone Number: 877-238-0092

❶ The presumption is a recreation pool with heating equipment will be used all year or 100%. For very hot or cold climates where a heater will not or cannot be used all year, a 70% usage should suffice. Less than 70% usage will require a Special Note in the Subdivision Public Report.

WATER AND SEWER WORKSHEET

Water Cost

A. Domestic *(use only if units are billed through association)*
(number of units [include rec. rooms] x rate/100 CF x 10 = Water Cost)
3 x 4.45 x 10 = $ 133.50

B. Irrigation (see Note ❶)
(landscape area x rate/100 cf. x .0033 = Water Cost)
27,429 x 2.59 x 0.0033 = $ 234.44

C. Sewers (see Note ❷)
(Charge per unit per month x number of units = Sewer Cost)
$ 43.05 x 3 = $ 129.15

or alternate calculation (% of A and B, etc.)
0 (A) x 0% % = $ 0.00

D. Meter Charge

Line Size: 1" & 2" (2", 3" etc.) Charge per month: $ 158.96

MONTHLY WATER COST: $ 656.05

Utility Company Name: Camrosa Water District

Telephone Number: 805-388-0226

Notes

❶ Average usage is four-acre feet of water per acre of landscaping per year. This formula is based on four-acre feet of usage. Some areas like the low desert will require 8 to 12-acre feet of water per acre of landscaping per year and the "B" figure should be adjusted accordingly. (Example: 4 x figure for B = 12-acre feet.)

❷ If some other method of billing is used for the sewage charge and/or this will not be a common expense, provide a letter from the sanitation district and or water company (whichever applicable) which so states.

PRORATION SCHEDULE WORKSHEET

Section I **Variable Assessment Computation**

A. Variable Cost Description — Monthly Cost

	Variable Cost Description	Monthly Cost
1	Insurance	$ 0.00
2	Domestic Gas (if common)	$ 0.00
3	Domestic Water (if common)	$ 0.00
4	Reserves: Paint	$ 0.00
5	Reserves: Roof	$ 0.00
6	Hot Water Heater (if common)	$ 0.00
7	Other	$ 0.00
	Total Variable Cost	$ 0.00

B. Total livable square footage of all units from condominium plan: 0

C. Variable Factor (*variable monthly costs / square footage = variable factor)* 0.000
Multiply this factor by each unit size below in Section III

Section II **Equal Assessment Computation**

A.	Total Monthly Budget	$ 0.00
	Less Variable Costs	$ 0.00
	Total Monthly Equal Costs	$ 0.00
B.	Monthly Base Assessment:	$ 0.00

(total monthly cost / number of units = monthly base assessment)

Section III **Assessment Schedule**

	Unit Size	*x*	*Variable Factor*	*=*	*Variable Assessment*	*+*	*Base Assessment*	*=*	*Total Month Assessment*	*x*	*Unit Count*	*=*	*Total Mth. Budget**
A.	0	x	0.000	=	0.00	+	0.00	=	0.00	x	0	=	$0.00
B.	0	x	0.000	=	0.00	+	0.00	=	0	x	0	=	$0.00
C.	0	x	0.000	=	0.00	+	0.00	=	0	x	0	=	$0.00
D.	0	x	0.000	=	0.00	+	0.00	=	0	x	0	=	$0.00

VERIFICATION OF COMPUTATIONS

Total Monthly Budget (Section III) $0.00

Total Monthly Budget (Section IIA) $0.00

* Total Assessment x number of units of each type

Section IV **Variable Assessments**

Highest Assessment	-	*Lowest Assessment*	/	*Lowest Assessment*	=	*% Differential*
$0.00	-	$0.00	/	$0.00	=	0%

Supplemental Worksheet

LANDSCAPE

A. Complete chart and transfer "total landscape cost per year" to line #208 on page 3 (cumulative per phase).

Type	Percent	Area	Annual Cost per S.F.	Total Cost per type
Ground Cover		26,226	0.85	$22,292
Lawn		1,203	1.20	$1,444
Landscape Repair Supplies		27,429	0.05	$1,371
Other	100%			$0
Total	100%	27,429		
TOTAL LANDSCAPE COST PER YEAR				$25,107

ROOF

A. If there is only one type of roof, with a constant slope factor across all roof surfaces, the following chart may not need to be completed. When this chart is completed, transfer total to roof line item on page 5.

Building	Type of Roof	Width of overhang	Quantity *(incl. Overhang)*	x	Pitch Multiplier	=	Adjusted S.F.	x	Annual Cost per S.F	=	Total Annual Cost
NA	NA	0		x		=	0	x		=	0
NA	NA	0		x		=	0	x		=	0
TOTAL ROOF COST PER YEAR											0

B. If a mansard will be/is constructed please provide the measurements and type of material to be used

___

___

Appendix E

Appendix E

LEGEND

SYMBOL/LINETYPE	FEATURE	QUANTITY
— S — S —	EX. SEWER MAIN	
— S — 6" — S —	PROPOSED SEWER MAIN (6" DIA. PVC)	5,950 L.F.
— S — 8" — S —	PROPOSED SEWER MAIN (8" DIA. PVC)	3,275 L.F.
— SD — 66" — SD —	STORM DRAIN CULVERT (66" DIA. HDPE)	250 L.F.
— SD — 48" — SD — / — SD — 48" — SD —	DUAL STORM DRAIN PIPES (48" DIA. HDPE)	375 L.F.
— SD 12.5'Wx6.5'H SD —	STORM DRAIN BOX (12.5'W x 6.5'H)	3,425 L.F.
— SD 12.5'Wx6.5'H SD — / — SD 12.5'Wx6.5'H SD —	DUAL STORM DRAIN BOX (12.5'W x 6.5'H)	3,315 L.F.
●	FILTERRA BIORETENTION DEVICE	19
●	CONNECTOR PIPE SCREEN INSERT	12
— = => —	VEGETATED STORM WATER TREATMENT SWALE	240 L.F.
	BIORETENTION AREA	1,000 FT^2

GOLF COURSE MAINTENANCE

1. REDESIGNED GOLF COURSE
2. IMPROVED DRIVING RANGE
3. RELOCATED MAINTENANCE FACILITY
4. NEW CLUBHOUSE

HOA MAINTENANCE

5. EXPANDED LAKE
6. NEW PARKS
7. EVENT LAWN
8. TRAIL AREA (DECOMPOSED GRANITE) 21,691 FT^2

New Urban West

Overall Plan

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 DEERE AVE, SANTA ANA, CA 92705
O 949.250.4822 www.landconcern.com

PASCUZZO/PATE GOLF DESIGN

CAMARILLO SPRINGS

Camarillo, CA

0 100 200 400
SCALE: 1" = 200'

May 03, 2023

APPENDIX X -
UPDATED EMERGENCY EVACUATION ANALYSIS

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Richard L. Pool, P.E.
Scott A. Schell

March 8, 2023 23013L01

Michael Brown
Cadence Environmental Consultants
816 Sausalito Drive
Camarillo, CA 93010

UPDATED EMERGENCY EVACUATION ANALYSIS FOR THE CAMARILLO SPRINGS GOLF COURSE PROJECT, CITY OF CAMARILLO

Associated Transportation Engineers (ATE) has prepared the following updated emergency evacuation analysis for the Camarillo Springs Golf Course Project (the "Project") proposed in the City of Camarillo. The study reviews the number of residential units in the Camarillo Springs area and provides an analysis of the evacuation times for both existing conditions as well as conditions with the proposed project.

EMERGENCY EVACUATION

The Camarillo Springs area is an isolated community within the City of Camarillo. The City requested an evaluation of an emergency evacuation of the community assuming a major catastrophe (fire, flood, earthquake, etc.) in order to evaluate the time required for 100% evacuation of the community. It is noted that the following evacuation analysis is based on assumptions that may or may not represent real evacuation situations and is therefore not an operations plan for a real evacuation situation.

Access to the Camarillo Springs community is limited to two primary routes: 1) the US 101/Camarillo Springs Road interchange and 2) the Ridge View Street-Adohr Lane connection to Pancho Road (see Figure 3 – Existing Street Network). Emergency evacuation times were evaluated assuming four evacuation scenarios: 1) assuming that the connection to US 101 is blocked, 2) assuming that the Ridge View Street-Adohr Lane connection is blocked, and 3) assuming that both connections are open.

Traffic Generation

Evacuation traffic flows were forecast based on the population of the Camarillo Springs area on a typical weekday when the office and retail commercial uses in the community are most active (versus overnight periods and weekend periods when those uses are less active). The existing number of residential units and the non-residential square footages for the community were derived from the City of Camarillo staff. Table 1 summarizes the residential and non-residential uses in the community.

Table 1
Camarillo Springs Land Use Summary

Land Use Type	Quantity
Residential	967 DU
Non-Residential	
Business Center (Office)	73,390 SF
Commercial Center (Retail)	21,400 SF
Golf Course	18 Holes

The next step in the analysis converts the population within the community to the number of vehicles that would be active during the evacuation period. The analysis assumes that 50% of the community residents would be located outside of the community, receive notification of the disaster, return to their homes to gather valuables, pets, etc., and then evacuate the community. The analysis also assumes that 75% of the residential units would evacuate in 1 vehicle and 25% would evacuate in 2 vehicles. The number or vehicles evacuating the non-residential uses (commercial, office, and golf course) were calculated based on parking lot space counts and occupancies. Tables 2 and 3 summarize the number of inbound and outbound vehicles that are forecast for the 100% evacuation scenario under Existing conditions and Existing + Project conditions.

Table 2
Emergency Evacuation Traffic Generation - Existing Conditions

Use	DU / SF	Inbound Vehicles	Outbound Vehicles
Existing Residential	967 DU	484	1,209
Existing Business Center	73,390 SF	0	136
Existing Commercial Center	21,400 SF	0	35
Existing Golf Course	18 Holes	0	66
Totals		**484**	**1,446**

Table 3
Emergency Evacuation Traffic Generation - Existing + Project Conditions

Use	DU / SF	Inbound Vehicles	Outbound Vehicles
Existing Residential	967 DU	484	1,209
Existing Business Center	73,390 SF	0	136
Existing Commercial Center	21,400 SF	0	35
Existing Golf Course (a)	12 Holes	0	44
Proposed Project	248 DU	124	310
Totals		**608**	**1,734**

(a) 6 golf course holes removed for the Project scenario.

Emergency evacuation times for Existing conditions and Existing + Project conditions were evaluated assuming three evacuation scenarios listed below:

Scenario 1 – US 101 Access Blocked. This scenario assumes that access to/from US 101 is not available (no access to US 101 eastbound and westbound ramps). Evacuation would occur solely via the Ridge View Street-Adohr Lane connection to Pancho Road (which connects to Pleasant Valley Road to leave the area). The highest concentration of traffic, and therefore a potential bottleneck, would occur on the segment of Ridge View Street just west of the Project site. For Existing conditions, there would be 484 inbound vehicles (residents that are outside of the community and return home to gather valuables assuming that they would be allowed by emergency personnel) and 1,446 outbound vehicles. For Existing + Project conditions, the volumes would increase to 608 inbound vehicles and 1,734 outbound vehicles.

The analysis assumes that emergency evacuation due to a large disaster near or within the community would require immediate evacuation and would be facilitated by emergency personnel (e.g., police, fire, designated personnel). The evacuation scenario assumes that emergency personnel would be present to alert residents to evacuate and to direct traffic into/out of the community via the Ridge View Street-Adohr Lane route as well as at key intersections within the community (e.g. Ridge View Street-Adohr Lane/Pancho Road) to maximize flow rates. The analysis assumes a street network capacity that would accommodate 1,700 inbound + 1,700 outbound vehicles per hour. Based on this roadway capacity estimate, the Existing 484 inbound vehicles could reach their home in approximately 17 minutes and the 1,446 outbound vehicles could evacuate the community in approximately 51 minutes. With Existing + Project traffic, the inbound travel time would increase to 22 minutes and the outbound evacuation time would increase to 61 minutes. The Project's traffic additions would account for approximately 20% of the inbound traffic flows and 18% of the outbound traffic flows.

Scenario 2 – Ridge View Street-Adohr Lane Access Blocked. This scenario assumes that access to both sides of US 101 (northbound and southbound) would be available and access via the Ridge View Street-Adohr Lane connection to Pancho Road would be blocked. The highest concentration of traffic, and therefore a potential bottleneck, would occur on the segment of Camarillo Springs Road just south of the US 101 Eastbound Ramps, which contains 4 lanes. The analysis assumes a street network capacity that would accommodate 3,400 inbound + 3,400 outbound vehicles per hour. Based on this roadway capacity estimate, the Existing 484 inbound vehicles could reach their home in approximately 9 minutes and the 1,446 outbound vehicles could evacuate the community in approximately 26 minutes. With Existing + Project traffic, the inbound travel time would increase to 11 minutes and the outbound evacuation time would increase to 31 minutes. The Project's traffic additions would account for approximately 20% of the inbound traffic flows and 18% of the outbound traffic flows.

Scenario 3 – No Access Blocked. This scenario assumes that access to both sides of US 101 and Ridge View Street-Adohr Lane are open. Assuming that emergency personnel would be present to alert residents to evacuate and to direct traffic to evacuate via US 101 or Ridge View Street-Adohr Lane, the maximum flow rates would be 3,400 inbound + 3,400 outbound vehicles per hour on Camarillo Springs Road and 1,700 inbound + 1,700 outbound vehicles per hour on Ridge View Street-Adohr Lane. Based on this roadway capacity estimate, the Existing 484 inbound vehicles could reach their home in approximately 6 minutes and the 1,446 outbound vehicles could evacuate the community in approximately 17 minutes. With Existing + Project traffic, the inbound travel time would increase to 7 minutes and the outbound evacuation time would increase to 20 minutes. The Project's traffic additions would account for approximately 20% of the inbound traffic flows and 18% of the outbound traffic flows.

Table 4 summarizes the emergency evacuation times for the Existing population and Existing + Project population. The table also summarizes the net increase in evacuation times with the Project.

Table 4
Emergency Evacuation Times

Scenario	Existing Population		Existing + Project Population		Net Increase	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Scenario 1 US 101 Access Blocked	17 Min.	51 Min.	22 Min.	61 Min.	5 Min.	10 Min.
Scenario 2 Ridge View Street – Adohr Lane Access Blocked	9 Min.	26 Min.	11 Min.	31 Min.	2 Min.	5 Min.
Scenario 3 No Access Blocked	6 Min.	17 Min.	7 Min.	20 Min.	1 Min.	3 Min.

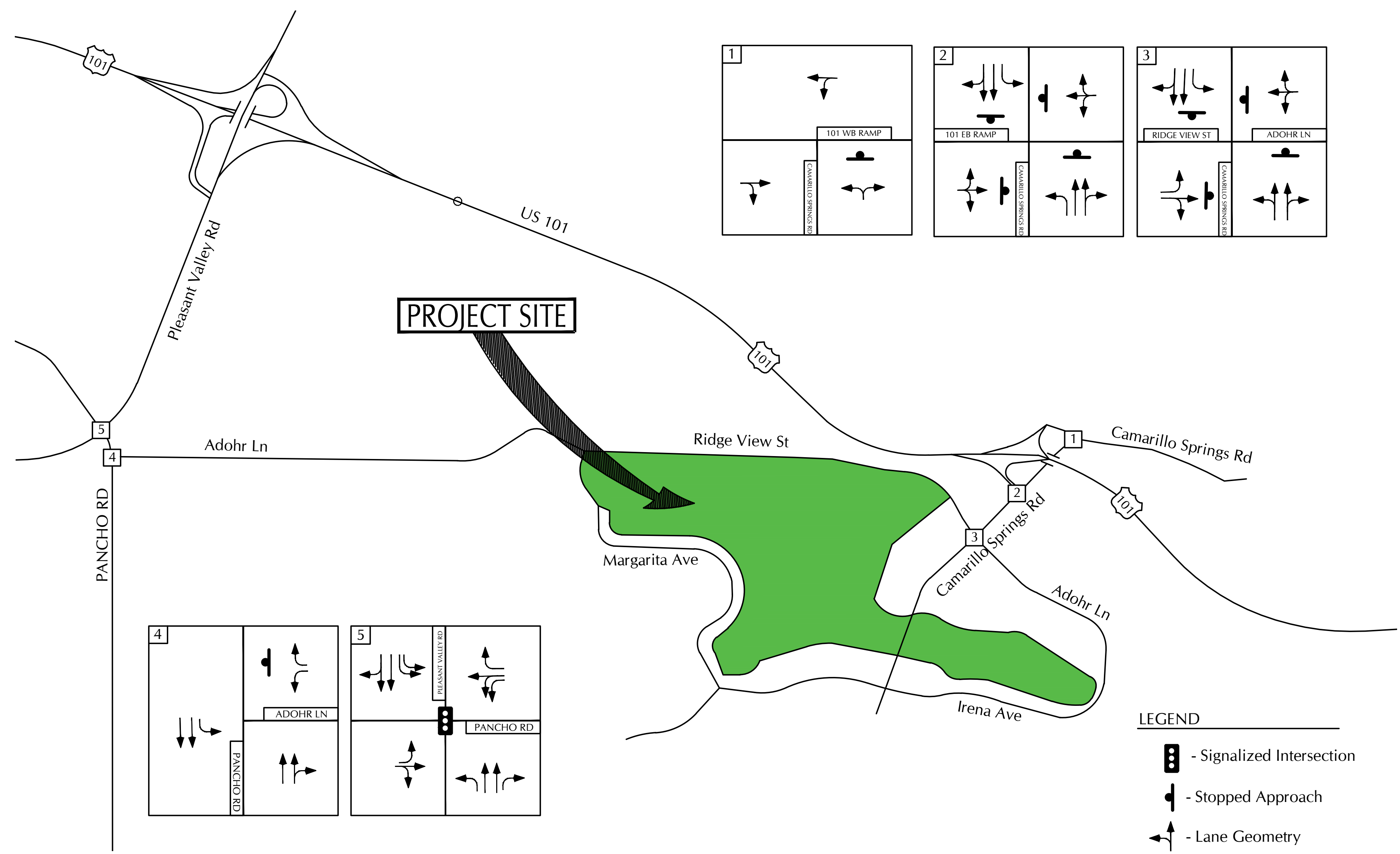
This concludes ATE's updated emergency evacuation analysis for the Camarillo Springs Golf Course Project.

Associated Transportation Engineers

Scott A. Schell
Principal Transportation Planner

SAS/GOM

Attachments



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EXISTING STREET NETWORK

FIGURE 3

CS - ATE#19048