

<i>POLLUTANTS</i>	<i>BIORETENTION</i>
<i>SEDIMENT</i>	<i>HIGH</i>
<i>NUTRIENTS</i>	<i>HIGH</i>
<i>TRASH</i>	<i>HIGH</i>
<i>METALS</i>	<i>HIGH</i>
<i>BACTERIA</i>	<i>MEDIUM</i>
<i>OIL AND GREASE</i>	<i>HIGH</i>
<i>ORGANICS</i>	<i>HIGH</i>
<i>OXYGEN DEMANDING</i>	<i>HIGH</i>

PROJECT NAME: SAN MARCOS HIGHLANDS
PROJECT LOCATION: N LAS POSAS ROAD, SAN MARCOS, CA 92069
SOIL TYPE: D (BASED ON SAN DIEGO COUNTY SOIL MAP HYDROLOGY MANUAL,
PERCENTAGE OF IMPERVIOUS AREA ON A SINGLE PAD: 60% (MAXIMUM)
TOTAL AREA: 212.14 ACRES
ESTIMATED TOTAL DISTURBED AREA: 50.86 ACRES

DMA NAME	AREA
PHASE 1 SLOPE AREA	268,210 SF
PARK LOT A	11,970 SF
PARK LOT B	3,425 SF

FLOW DIRECTION
EXIST STORMDRAIN PIPE (PRIVATE)

TREATED BY BIO-RETENTION STRIP (SEE SHEET 19)

TREATED BY BIO-RETENTION POND (SEE SHEET 19)

SELF TREATING AREAS

IMPERVIOUS AREAS ————

PERVIOUS AREAS ————

LOCATION OF FILTER INSERT BIOCLEAN ENVIRONMENTAL

BMP	CITY BMP ID NO.	LATITUDE	LONGITUDE	APN	BMP TYPE*	TRIBUTARY AREA (AC)	REQ SIZE	ACTUAL SIZE	MANUFACTURER	MANUFACTURER'S PHONE NUMBER	PERMIT COMPLIANCE MET
A1	TBD	33.1746239°	-117.1859211°	184-241-05-00	BIORETENTION (TC-32)	0.083	105 SF	5.5'x19.5' (107.25 SF)	N/A	N/A	YES
A2	TBD	33.1745221°	-117.1862182°	184-241-05-00	BIORETENTION (TC-32)	0.066	100 SF	5.5'x19' (104.5 SF)	N/A	N/A	YES
A3	TBD	33.1744817°	-117.1859126°	184-241-05-00	BIORETENTION (TC-32)	0.061	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A4	TBD	33.1744110°	-117.1860920°	184-241-05-00	BIORETENTION (TC-32)	0.062	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A5	TBD	33.1743445°	-117.1859053°	184-241-05-00	BIORETENTION (TC-32)	0.053	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A6	TBD	33.1742712°	-117.1860536°	184-241-05-00	BIORETENTION (TC-32)	0.063	135 SF	5.5'x25' (137.5 SF)	N/A	N/A	YES
A7	TBD	33.1741328°	-117.1858940°	184-241-05-00	BIORETENTION (TC-32)	0.054	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A8	TBD	33.1739943°	-117.1860388°	184-241-05-00	BIORETENTION (TC-32)	0.076	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A9	TBD	33.1738610°	-117.1858795°	184-241-05-00	BIORETENTION (TC-32)	0.068	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A10	TBD	33.1736918°	-117.1860226°	184-241-05-00	BIORETENTION (TC-32)	0.074	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A11	TBD	33.1736633°	-117.1858690°	184-241-05-00	BIORETENTION (TC-32)	0.055	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A12	TBD	33.1734611°	-117.1860103°	184-241-05-00	BIORETENTION (TC-32)	0.066	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A13	TBD	33.1734504°	-117.1858576°	184-241-05-00	BIORETENTION (TC-32)	0.057	135 SF	5.5'x25' (137.5 SF)	N/A	N/A	YES
A14	TBD	33.1731865°	-117.1859951°	184-241-05-00	BIORETENTION (TC-32)	0.073	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A15	TBD	33.1732899°	-117.1858491°	184-241-05-00	BIORETENTION (TC-32)	0.037	65 SF	5.5'x12' (66 SF)	N/A	N/A	YES
A16	TBD	33.1729794°	-117.1858948°	184-241-05-00	BIORETENTION (TC-32)	0.054	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A17	TBD	33.1730228°	-117.1858345°	184-241-05-00	BIORETENTION (TC-32)	0.073	135 SF	5.5'x25' (137.5 SF)	N/A	N/A	YES
A18	TBD	33.1727038°	-117.1859699°	184-241-05-00	BIORETENTION (TC-32)	0.074	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A19	TBD	33.1725319°	-117.1858086°	184-241-05-00	BIORETENTION (TC-32)	0.166	275 SF	5.5'x50' (275 SF)	N/A	N/A	YES
A20	TBD	33.1723733°	-117.1859425°	184-241-05-00	BIORETENTION (TC-32)	0.096	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A21	TBD	33.1722014°	-117.1857400°	184-241-05-00	BIORETENTION (TC-32)	0.085	150 SF	5.5'x27.5' (151.25 SF)	N/A	N/A	YES
A22	TBD	33.1720356°	-117.1858120°	184-241-05-00	BIORETENTION (TC-32)	0.099	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A23	TBD	33.1720160°	-117.1856127°	184-241-05-00	BIORETENTION (TC-32)	0.096	115 SF	5.5'x21' (115.5 SF)	N/A	N/A	YES
A24	TBD	33.1716028°	-117.1851944°	184-241-05-00	BIORETENTION (TC-32)	0.210	345 SF	5.5'x63.5' (349.25 SF)	N/A	N/A	YES
A25	TBD	33.1718940°	-117.1854701°	184-241-05-00	BIORETENTION (TC-32)	0.062	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
A26	TBD	33.1716950°	-117.1850801°	184-241-05-00	BIORETENTION (TC-32)	0.209	145 SF	5.5'x27.25' (149.88 SF)	N/A	N/A	YES
B1	TBD	33.1723522°	-117.1844684°	184-241-05-00	BIORETENTION (TC-32)	0.073	125 SF	5.5'x23.5' (129.25 SF)	N/A	N/A	YES
B2	TBD	33.1736228°	-117.1845976°	184-241-05-00	BIORETENTION (TC-32)	0.072	130 SF	5.5'x24' (132 SF)	N/A	N/A	YES
B3	TBD	33.1733882°	-117.1846846°	184-241-05-00	BIORETENTION (TC-32)	0.068	120 SF	5.5'x22.5' (123.75 SF)	N/A	N/A	

SAN MARCOS STORMWATER
PROGRAM MANAGER

By: ERICA RYAN, SW PROGRAM MANAGER

DATE: _____

SAN MARCOS FIRE DEPARTMENT	
By: _____	Fire Marshal
Date: _____	

VALLECITOS WATER DISTRICT	
FOR GRADING PERMIT ONLY	
By: _____	_____
KENNETH J. GERDES	DATE
R.C.E. 39307	EXP: 12/13

ENGINEER OF WORK	
By: _____	Date: _____
Name: <i>ROBERT D. DENTINO</i>	
Drawn By	R.C.E.: <i>45629</i> exp: <i>12-31-14</i>

[illegible]

RECOMMENDED FOR APPROVAL

By: _____
PETER KUEY, PRINCIPAL CIVIL ENGINEER

R.C.E.: 44034 exp.: 06-30-2013

Date: _____

APPROVED FOR CONSTRUCTION

By: MICHAEL D. EDWARDS, CITY ENGINEER

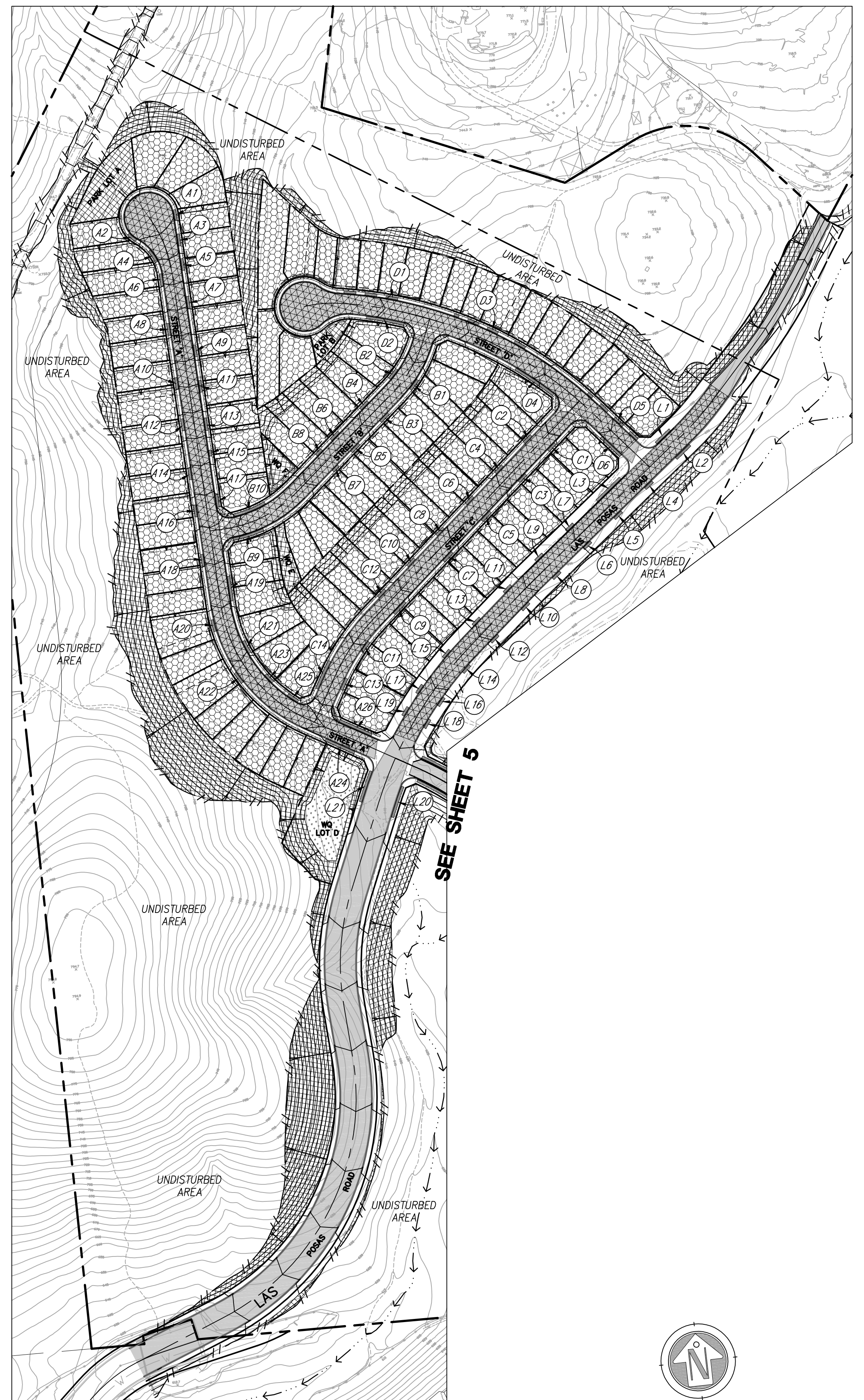
R.C.E.: 32977 exp.: 06-30-2014

Date:

	BENCH MARK

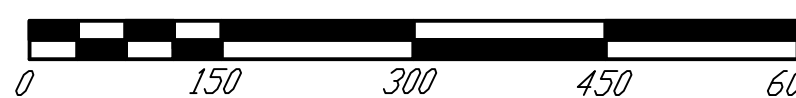
CITY OF SAN MARCOS ENGINEERING DIVISION WATER QUALITY IMPROVEMENT PLAN TREATMENT CONTROL SHEET FOR: XX-00-00 (00X) SAN MARCOS HIGHLANDS
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City Drawing No.
GP—
Sheet 4 of 7
V.W.D.



SCALE 1": 150

DRAINAGE MANAGEMENT AREAS



SUSMP MITIGATION SUMMARY

BMP	CITY BMP ID NO.	LATITUDE	LONGITUDE	APN	BMP TYPE*	TRIBUTARY AREA (AC)	REQ SIZE	ACTUAL SIZE	MANUFACTURER	MANUFACTURER'S PHONE NUMBER	PERMIT COMPLIANCE MET
A27	TBD	33.1712447°	-117.1842431°	184-241-06-00	BIORETENTION (TC-32)	0.039	1600 SF	5.5'x623.25' (1687 SF)	N/A	N/A	YES
A28	TBD	33.1711165°	-117.1843278°	184-241-06-00	BIORETENTION (TC-32)	0.037	1500 SF	5.5'x299.46' (1598 SF)	N/A	N/A	YES
E5	TBD	33.1699600°	-117.1830795°	184-241-08-00	BIORETENTION (TC-32)	0.080	145 SF	5.5'x27' (148.5 SF)	N/A	N/A	YES
E6	TBD	33.1700135°	-117.1832175°	184-241-08-00	BIORETENTION (TC-32)	0.068	145 SF	5.5'x27' (148.5 SF)	N/A	N/A	YES
E7	TBD	33.1696954°	-117.1832244°	184-241-08-00	BIORETENTION (TC-32)	0.091	145 SF	5.5'x27' (148.5 SF)	N/A	N/A	YES
E8	TBD	33.1697489°	-117.1833625°	184-241-08-00	BIORETENTION (TC-32)	0.080	145 SF	5.5'x27' (148.5 SF)	N/A	N/A	YES
E9	TBD	33.1694418°	-117.1833652°	184-241-08-00	BIORETENTION (TC-32)	0.082	145 SF	5.5'x27' (148.5 SF)	N/A	N/A	YES
E10	TBD	33.1694970°	-117.1835023°	184-241-08-00	BIORETENTION (TC-32)	0.078	145 SF	5.5'x27' (148.5 SF)	N/A	N/A	YES
E11	TBD	33.1691963°	-117.1834920°	184-241-08-00	BIORETENTION (TC-32)	0.079	145 SF	5.54'x27.75' (154.5 SF)	N/A	N/A	YES
E12	TBD	33.1692421°	-117.1836341°	184-241-08-00	BIORETENTION (TC-32)	0.085	145 SF	5.5'x27.75' (152.7 SF)	N/A	N/A	YES
E17	TBD	33.1692386°	-117.1819820°	184-241-15-00	BIORETENTION (TC-32)	0.077	145 SF	5.5'x27' (148.5 SF)	N/A	N/A	YES
E18	TBD	33.1692617°	-117.1821438°	184-241-15-00	BIORETENTION (TC-32)	0.080	145 SF	5.5'x27' (148.5 SF)	N/A	N/A	YES
E19	TBD	33.1695119°	-117.1818720°	184-241-15-00	BIORETENTION (TC-32)	0.074	145 SF	5.5'x27' (148.5 SF)	N/A	N/A	YES
E20	TBD	33.1695453°	-117.1820194°	184-241-15-00	BIORETENTION (TC-32)	0.071	145 SF	5.5'x27' (148.5 SF)	N/A	N/A	YES
WO G	TBD	33.1699156°	-117.1842494°	184-241-08-00	BIORETENTION (TC-32)	0.407	17000 SF	17,736.56 SF	N/A	N/A	YES
WO H	TBD	33.1684707°	-117.1837590°	184-241-08-00	BIORETENTION (TC-32)	0.031	1300 SF	1,346.84 SF	N/A	N/A	YES
WO J	TBD	33.1690165°	-117.1834661°	184-241-08-00	BIORETENTION (TC-32)	0.021	800 SF	896.10 SF	N/A	N/A	YES
WO K	TBD	33.1700148°	-117.1815941°	184-241-15-00	BIORETENTION (TC-32)	0.068	2900 SF	2,941.42 SF	N/A	N/A	YES
WO C	TBD	33.1702598°	-117.1830634°	184-241-06-00	BIORETENTION (TC-32)	0.015	600 SF	661.45 SF	N/A	N/A	YES

* ALL DRAIN INLETS ARE TO BE FITTED WITH DRAIN INSERT FILTERS AND BE MARKED WITH CITY STANDARD INLET MARKERS ("NO DUMPING DRAINS TO WATERWAYS")

ANTICIPATED POLLUTANTS REMOVAL EFFICIENCY

POLLUTANTS	BIORETENTION
SEDIMENT	HIGH
NUTRIENTS	HIGH
TRASH	HIGH
METALS	HIGH
BACTERIA	MEDIUM
OIL AND GREASE	HIGH
ORGANICS	HIGH
OXYGEN DEMANDING	HIGH

SELF TREATING AREAS

DMA NAME	AREA
PHASE II SLOPE AREA	429,541 SF
UNDISTURBED AREA	211.28 ACRES

LEGEND

FLOW DIRECTION

EXIST STORMDRAIN PIPE (PRIVATE)

TREATED BY BIO-RETENTION STRIP

TREATED BY BIO-RETENTION POND

SELF TREATING AREAS

IMPERVIOUS AREAS

PERVIOUS AREAS

LOCATION OF FILTER INSERT BIOCLEAN ENVIRONMENTAL

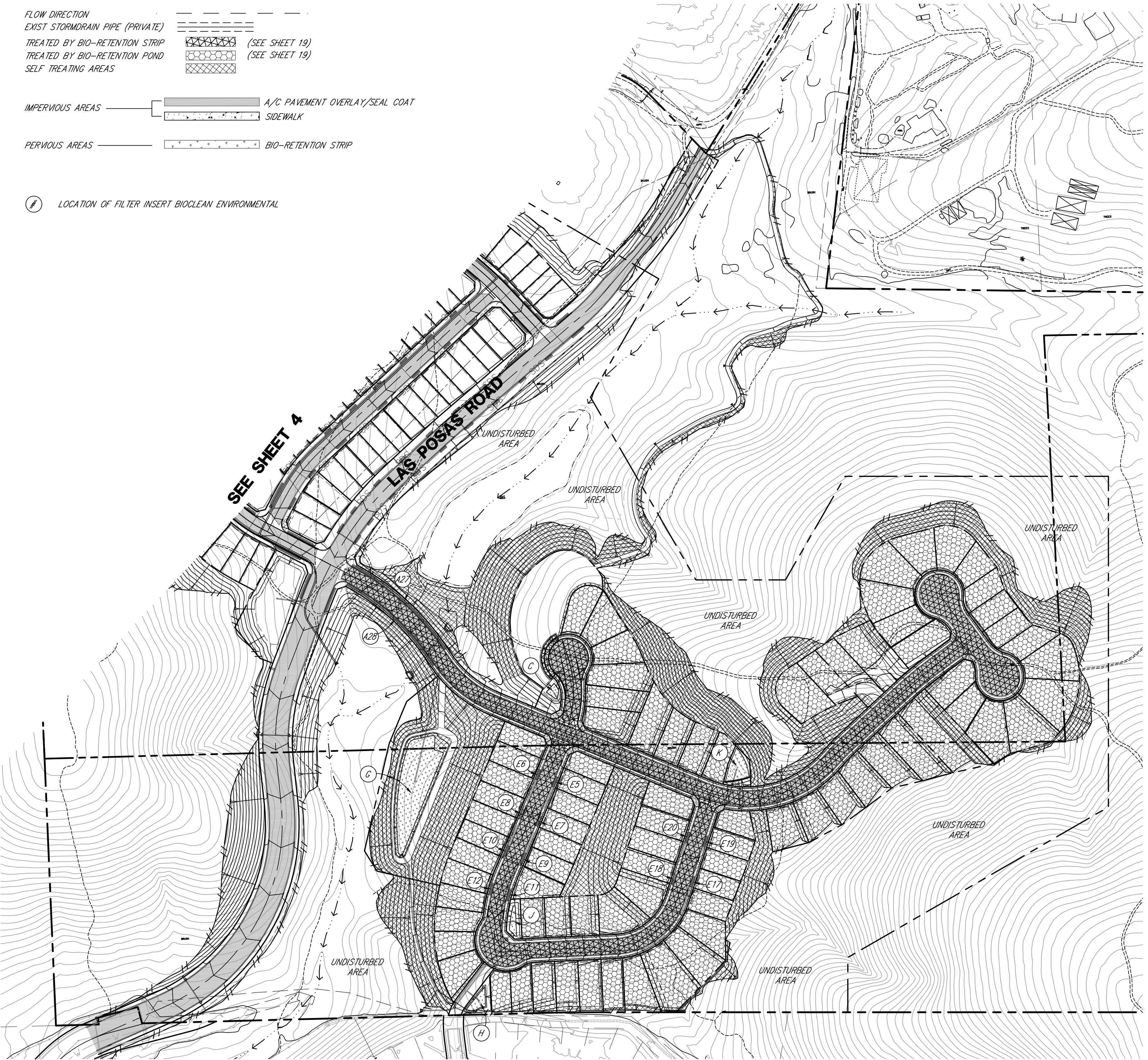
(SEE SHEET 19)

(SEE SHEET 19)

A/C PAVEMENT OVERLAY/SEAL COAT

SIDEWALK

BIO-RETENTION STRIP



SAN MARCOS STORMWATER PROGRAM MANAGER

By: ERICA RYAN, SW PROGRAM MANAGER

DATE: _____

SAN MARCOS FIRE DEPARTMENT		VALLECITOS WATER DISTRICT FOR GRADING PERMIT ONLY		ENGINEER OF WORK		CITY APPROVED CHANGES		RECOMMENDED FOR APPROVAL		APPROVED FOR CONSTRUCTION		BENCH MARK		CITY OF SAN MARCOS ENGINEERING DIVISION WATER QUALITY IMPROVEMENT PLAN TREATMENT CONTROL SHEET FOR: XX-00-00 (00X) SAN MARCOS HIGHLANDS		City Drawing No. GP- Sheet 5 of 7 V.W.D.	
By: _____ Fire Marshal		By: KENNETH J. GERDES R.C.E.: 39307 EXP: 12/13		By: _____ Date: _____ Name: ROBERT D. DENTINO R.C.E.: 45629 exp: 12-31-14		No. Description City VMD Date		By: PETER KUEY, PRINCIPAL CIVIL ENGINEER R.C.E.: 44034 exp: 06-30-2013		By: MICHAEL D. EDWARDS, CITY ENGINEER R.C.E.: 32977 exp: 06-30-2014							
Date: _____				Drawn By: _____				Date: _____		Date: _____						V.W.D. PROJECT NO.	

Q:\12\20252\TIA\TIA1\WQIP\120525wq05-WQIP Treatment controlling Mar-12-2013,13.36