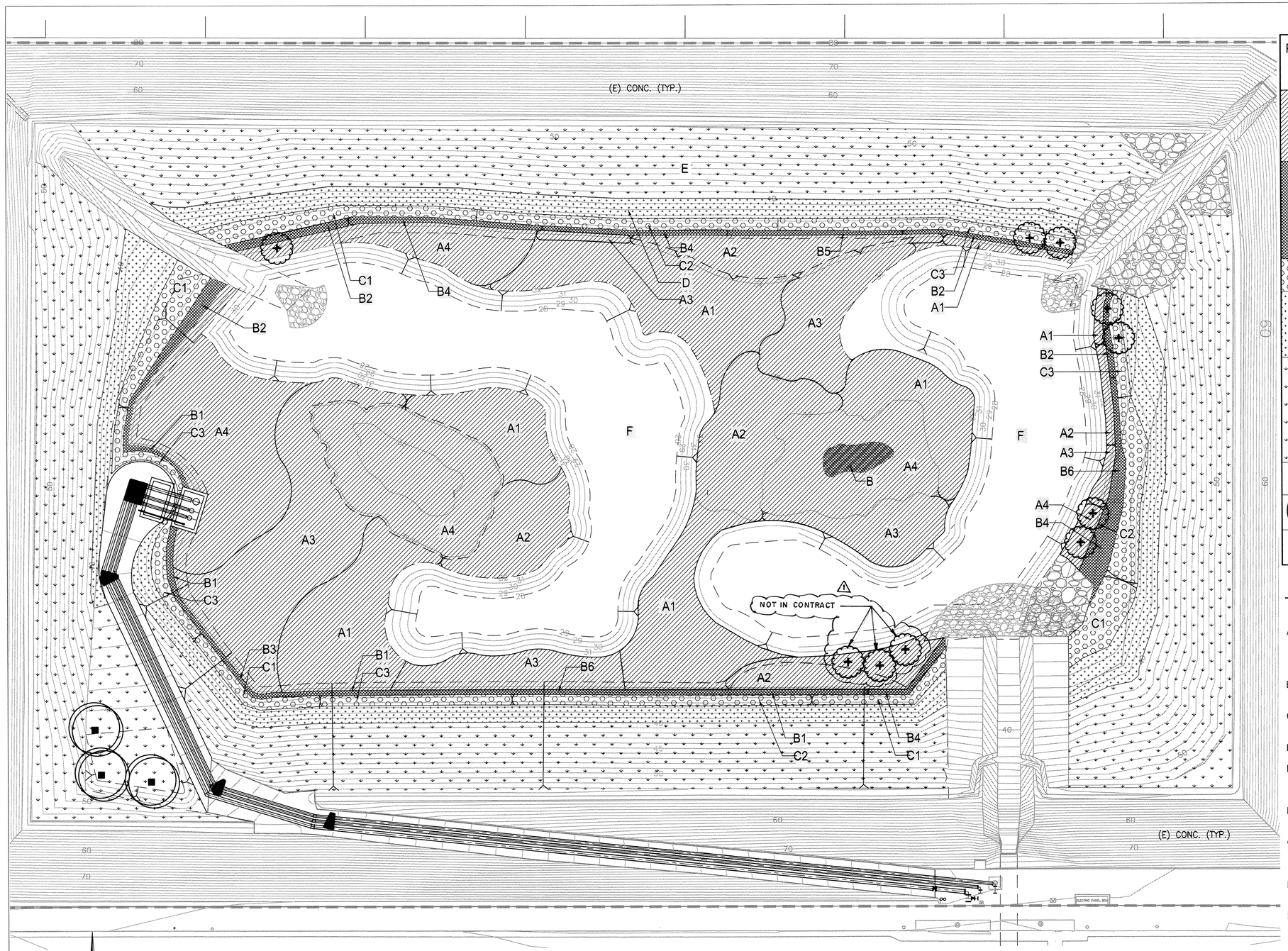

PLANT LEGEND

SYMBOL	KEY	ELEVATION	PERENNIAL WATER DEPTH	BOTANICAL NAME	SIZE (HTxSPR)
	A	32.0 – 33.5	INUNDATED 0.5 – 1.5'	A1–SCIRPUS ACUTUS VAR. OCCIDENTALIS A2–SCIRPUS AMERICANUS A3–SCIRPUS CALIFORNICUS A4–SCIRPUS MARITIMUS TYPHA DOMIGNESIS (CATTAIL) HYDROSEED IN ALL 'A' AREAS	LINERS @ 18" O.C.
	B	33.5 – 34.5	SLOPE 0 – 1.5'	B1–CAREX PRAEGRACILIS B2–JUNCUS ARCTICUS VAR. BALTICUS (OR) JUNCUS ARCTICUS VAR. MEXICANUS (OR) JUNCUS BUFONIUS (OR) JUNCUS RUGULOSUS (OR) JUNCUS XIPHOIDES B3–SCIRPUS ACUTUS VAR. OCCIDENTALIS B4–SCIRPUS AMERICANUS B5–SCIRPUS CALIFORNICUS B6–SCIRPUS MARITIMUS	LINERS @ 24" O.C.
	C	34.5 – 36.5	0 – SEASONAL INUNDATION	C1–ANEMOPSIS CALIFORNICA C2–DISTICHILIS SPICATA C3–PLUCHEA ODORATA	ROSEPOT @ 24" O.C.
	D	36.5 – 40.0	(LOW SLOPE) SEASONAL INUNDATION	CRESSA TRUXILLENSIS – 0.5#/A. DISTICHLIS SPICATA – 2#/A. FRANKENIA SALINA – 2#/A. LEPTOCHLOA UNINERVIA – 4#/A. MALVELLA LEPROSA – 0.5#/A. PLANTAGO INSULARIS – 20#/A.	HYDROSEED
	E	40+	(UPPER SLOPE) SEASONAL INUNDATION	AMBROSIA PSILOSTACHA – 2.5#/A. ANTRIPLEX LENTIFORMIS – 2.0#/A. ATRIPLEX CONFERTIFOLIA – 2.0#/A. BACCHARIS EMORYI – 0.3#/A. HEMIZONIA FASCICULATA – 2.0#/A. ISOCOMA MENZIESII – 1.5#/A. ISOMERIS ARBOREA – 1.5#/A. HELIOTROPUM CURASSAVICUM – 1.0#/A. LASTHENIA CALIFORNICA – 2.0#/A. PLANTAGO INSULARIS – 20.0#/A.	HYDROSEED
	F	–	INUNDATION ZONE YEAR–ROUND	NO VEGETATION	
■	–	–	–	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL
+	–	–	–	SALIX LASIOLEPIS "ARROYO WILLOW"	5 GAL

PLANTING NOTES:

A. TREE LOCATIONS MAY BE ADJUSTED TO AVOID CONFLICTS WITH UNDERGROUND UTILITIES. CONSULT WITH LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO ADJUSTMENT OF TREE LOCATIONS, ESPECIALLY THOSE ARRANGED ON A SPECIFIED MODULE OR IN A GRID PATTERN.

B. NURSERY STAKES ARE TO BE REMOVED AFTER PLANTING TREES AND STAKING OR GUYING AS SHOWN ON PLANS.

C. CONTRACTOR IS RESPONSIBLE FOR PRUNING TREES AS DIRECTED BY LANDSCAPE ARCHITECT. NO PRUNING IS TO BE DONE UNLESS DIRECTED.

D. SEE DETAIL FOR PLACEMENT OF SHRUBS IN IRREGULARLY SHAPED PLANTING AREAS.

E. WHERE GROUNDCOVER IS SHOWN ON PLANS: GROUNDCOVER PLANTING CONTINUES UNDER SHRUBS & TREES AT SPECIFIED SPACING. DO NOT PLANT GROUNDCOVER IN SHRUB/TREE WATERING BASINS.

F. ALL SLOPES 2:1 OR GREATER ARE TO BE STABILIZED WITH JUTE MESH PRIOR TO PLANTING. DO NOT INSTALL JUTE MESH ON SEEDED SLOPES. SEE SPECIFICATIONS.

G. REFER TO CIVIL ENGINEER'S DRAWINGS FOR CLEAR AND GRUB REQUIREMENTS FOR ALL NEW PLANTING AREAS. PLANTING AREAS SHALL RECEIVE A GROW AND KILL PROCESS AS REQUIRED TO REMOVE EXISTING AND IMPORT PLANTS AND SEEDS.

H. PLANT SOURCES MAY BE TREE OF LIFE NURSERY (949.728.0685); EL NATIVO GROWERS (626.969.8449)

I. ALL SEED MIXES SHALL BE BULK RATES PER ACRE.

PLANTING PLAN - AMIE BASIN : L-6

SCALE: 1" = 20'

20 10 0 20 60

REV.	DATE	DESCRIPTION	BY	CHECKED
1	1/16/14	EXCLUDED FROM CONTRACT	VP	JCD

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 2423 Signature 10/31/14 Renewal Date 4/17/2013 Seal STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.

DESIGNED: B.M.

LANDSCAPE ARCHITECT: CALVIN R. ABE

DIVISION ENGINEER: JOHN DETTLE

APPROVED:

TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226

5/28/13
DATE
EXP. 06/30/13

SCALE: AS SHOWN SHEET 79 OF 111

PLAN NO. SD - 500

AHBE
LANDSCAPE ARCHITECTS
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PREPARED BY:
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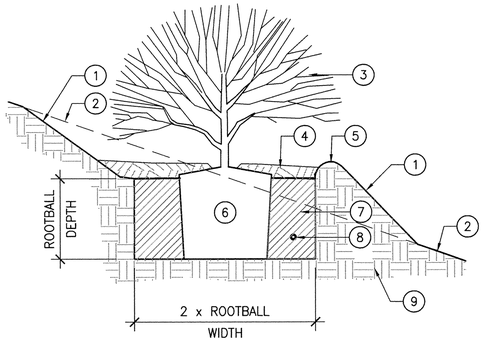
www.cwecorp.com

DRAWING NAME: F:\syr\2011\111015\DWG\111015-AMIE BASIN-L6.dwg
PLOT DATE: May 14, 2013 – 4:17pm PLOTTED BY: aaron



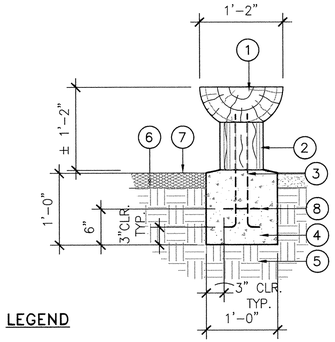
LEGEND

1. FINISH GRADE–SLOPE NOT TO EXCEED 1–1/2 : 1
2. EXISTING GRADE. SLOPE VARIES.
3. SHRUB.
4. MULCH. SEE SPECIFICATIONS.
5. 3" HT WATERING BASIN.
6. ROOTBALL. SET TOP OF ROOTBALL 2" ABOVE FINISH GRADE.
7. AMENDED BACKFILL. SEE NATIVE SHURB/TREE PLANTING DETAIL.
8. FERTILIZER TABLET. SEE SPECIFICATIONS.
9. SITE SOIL.

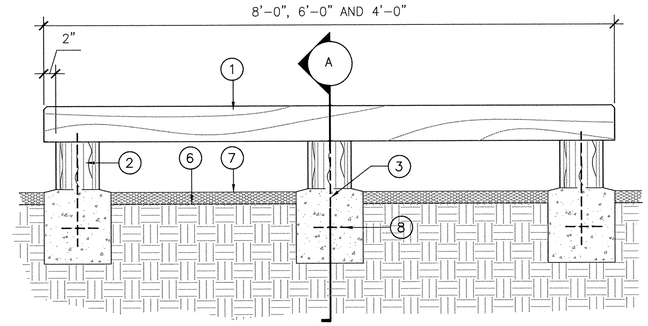
7 SHRUB PLANTING - ON SLOPE

SCALE: N.T.S.

02900 SHRUB – ON SLOPE.dwg



SECTION A



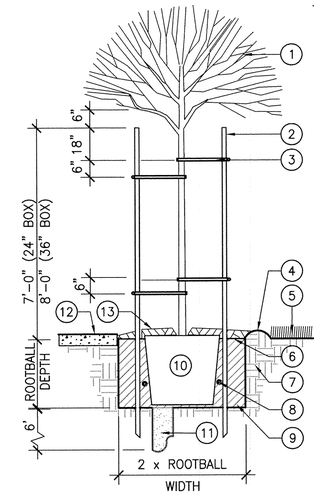
ELEVATION

LEGEND

1. LOG
2. LOG BASE
3. 3/ 8" S.S. THREADED ROD W/ NUT; CTR. SINK & PLUG
4. FOOTING
5. COMP. SUBGRADE
6. FIN. GRADE
7. MULCH.
8. #3 CIRCULAR TIE @ EA.

5 RUSTIC LOG BENCH

SCALE: 1" = 1'-0"



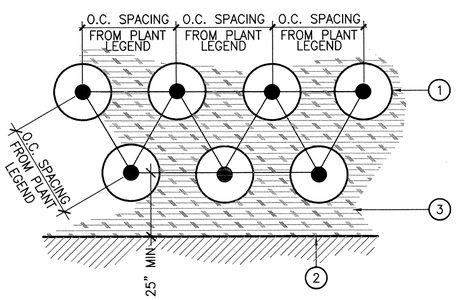
LEGEND

1. TREE–STREET TREES TO HAVE 7' CLEAR TRUNK.
2. LODGEPOLE PINE STAKE. 24" BOX TREES: 2" X 10'. 36" BOX TREES: 3" X 12'. DO NOT DRIVE STAKE THROUGH ROOTBALL. CUT OFF TOP SECTION DAMAGED BY HAMMERING. TOP OF STAKE IS 6" CLEAR OF LOWEST TREE BRANCHES.
3. FLEXIBLE VINYL TREE TIE, 4/TREE.
4. 4" HT. WATERING BASIN. REMOVE AT END OF MAINT. PERIOD.
5. ADJACENT PLANTING.
6. FINISH GRADE.
7. SITE SOIL.
8. PLANT FERTILIZER TABLET. SEE SPECIFICATIONS.
9. AMENDED BACKFILL. SEE NATIVE SHRUB/TREE PLANTING DETAIL.
10. ROOTBALL. PLANT SO TOP OF ROOTBALL IS 2" ABOVE FINISH GRADE.
11. DRAINAGE SUMP: 12" DIA. X 72" DEEP. FILL W/ COARSE SAND. SEE SPECIFICATIONS.
12. ADJACENT PAVEMENT.
13. MULCH. SEE SPECIFICATIONS.

1 TREE PLANTING - DOUBLE STAKE

SCALE: N.T.S.

02900 TREE – DOUBLE STAKE.dwg



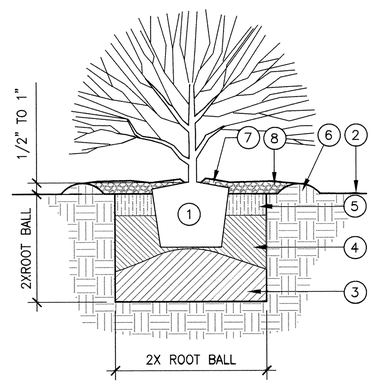
LEGEND

1. SHRUB/GROUNDCOVER – TRIANGULATED ROWS.
2. HARDSCAPE ELEMENT: CURB, WALK, ETC.
3. MULCH PER SPECIFICATIONS.

8 SHRUB/GROUNDCOVER SPACING

SCALE: N.T.S.

02900 SHRUB–GC SPACING.dwg



NOTES

A. PRIOR TO ANY BACKFILLING, FILL PLANTING HOLE WITH WATER AND ALLOW TO PERCOLATE (DRAIN) INTO SUBSOIL.
B. AFTER PLANTING, WATER THOROUGHLY, FILL BASIN WITH WATER AND SPRINKLING AROUND TO SETTLE BACKFILL, MULCH AND BERM.
C. ALLOW TO SOAK IN AND REPEAT.

LEGEND

1. ROOT BALL.
2. FINISH GRADE.
3. HALF–FILL THE HOLE WITH BACKFILL MATERIAL(SEE BELOW), MOISTEN AND MOUND SLIGHTLY.
4. PLACE PLANT ON MOUND. WITH WATER FLOWING SLOWLY FROM A HOSE INTO THE HOLE, BACKFILL TO 2/3 THE HEIGHT OF THE ROOT BALL; MOISTENING AND SETTLING ALL AROUND.
5. FILL REMAINING PORTION SURROUNDING THE TOP OF ROOT BALL WITH BACKFILL. TOP OF ROOTBALL TO BE 1" HIGHER THAN FG.
6. 3" HGT WATERING BASIN.
7. COVER ROOTBALL WITH 1" LAYER ORGANIC MULCH. KEEP 6" CLEAR OF TRUNK OR STEM.
8. 3" MULCH LAYER INSIDE BASIN AREA.

SOIL AMENDMENT

A. WHERE CUT OR NATIVE TOP SOIL IS PRESENT IN PLANTING AREAS, NO SOIL AMENDMENT SHALL BE USED. THE NATIVE SOIL SHOULD BE SOFT AND FRIABLE. ELIMINATE LARGE ROCKS AND CLODS.
B. BACKFILL MIX WHERE SOIL HAS BEEN IMPORTED: BLEND 1/3 COMPOSTED OR NITROLIZED FOREST HUMUS TO 2/3 SITE SOIL,
C. FERTILIZER:
   - SLOW RELEASE FERTILIZER TABS SHALL BE INCORPORATED WITH THE BACKFILL. TABS SHALL NOT TOUCH THE ROOT BALL.
   - A POST PLANT FERTILIZER, APPLICATION RATE SHALL BE LOWER THAN THOSE USED FOR GENERAL LANDSCAPE ORNAMENTALS.

6 SHRUB/TREE PLANTING - NATIVE

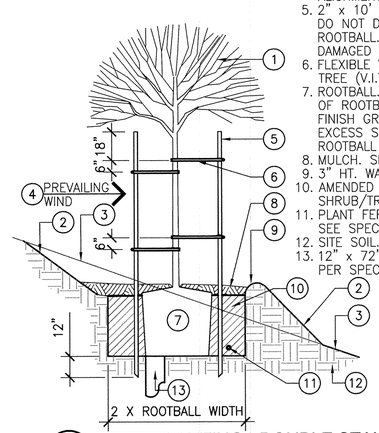
SCALE: N.T.S

02900 SHRUB – NATIVE.dwg

SCALE:
1" = 20' (HOR.)
1" = 4' (VER.)

LEGEND

1. TREE.
2. FINISH GRADE @ TREE– SLOPE NOT TO EXCEED 1.5:1.
3. EXISTING GRADE. SLOPE VARIES.
4. STAKES TO BE PLACED IN ALIGNMENT WITH PREVAILING WIND.
5. 2" x 10' LODGEPOLE PINE STAKE. DO NOT DRIVE STAKE THROUGH ROOTBALL. CUT OFF TOP SECTION DAMAGED BY HAMMERING.
6. FLEXIBLE VINYL TREE TIE, 4 PER TREE (V.I.T. OR APPROVED EQUAL).
7. ROOTBALL. PLANT SO TOP OF ROOTBALL IS 2" ABOVE FINISH GRADE. DO NOT ALLOW EXCESS SOIL TO COVER TOP OF ROOTBALL OR EXPOSE SIDES.
8. MULCH. SEE SPECIFICATIONS.
9. 3" HT. WATERING BASIN.
10. AMENDED BACKFILL. SEE NATIVE SHRUB/TREE PLANTING DETAIL.
11. PLANT FERTILIZER TABLET. SEE SPECIFICATIONS.
12. SITE SOIL.
13. 12" x 72" SANDFILLED SUMP, PER SPECS.



NOTE:
FOR OTHER STAKING CONFIGURATIONS, REFER TO OTHER DETAILS.

2 TREE PLANTING - DOUBLE STAKE ON SLOPE

SCALE: NTS

02900 TREE – SLOPE.dwg

PLANTING DETAILS : L-7

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 4231 Signature 10/31/14 Renewal Date 4/17/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
5/28/13
TOUFIC J. SEMAAN — DATE
ACTING CITY ENGINEER
R.C.E. NO. 59226 EXP. 06/30/13

SCALE: AS SHOWN | SHEET 80 OF 111
PLAN NO. SD - 500

AHBE
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www.cwecorp.com

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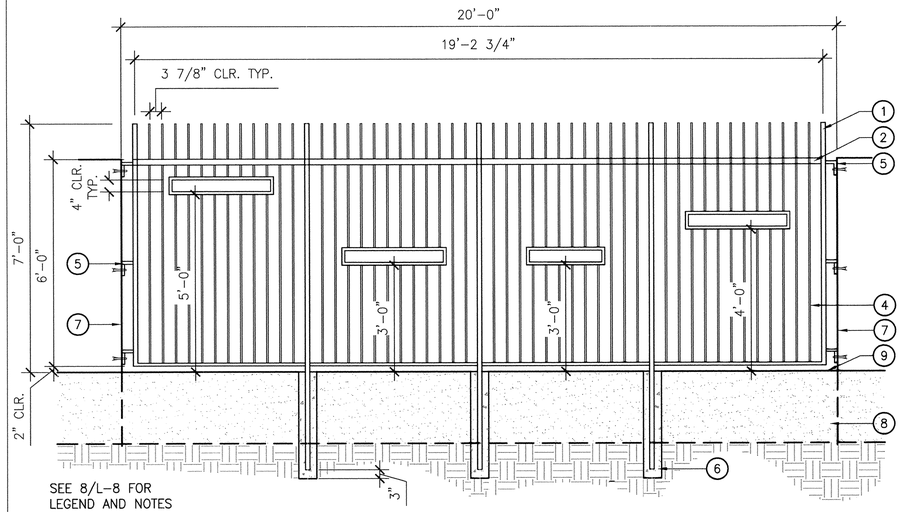
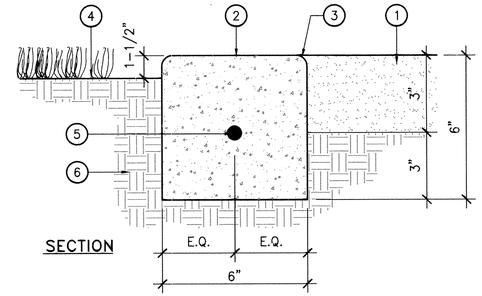
PLOT DATE: May 14, 2013 – 4:18pm PLOTTED BY: aaron



7 SOUTH METAL VIEWING FENCE

SCALE: 1/2" = 1'-0"

.dwg



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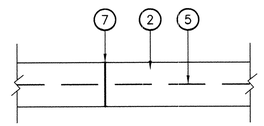


PLAN

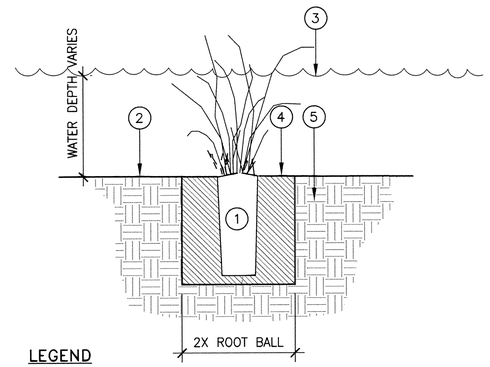
LEGEND

1. MULCH
2. CONCRETE, SMOOTH TROWEL FINISH.
3. 1/4" RADIUS TOOLED EDGE.
4. FINISH GRADE IN PLANTING AREA.
5. #3 REBAR, CONTINUOUS.
6. COMPACTED SUBGRADE (90%).
7. SCORE JOINT @ 10' O.C., TYPICAL

5 CONCRETE HEADER

SCALE: N.T.S.

02830-01 Concrete Mowstrip.dwg



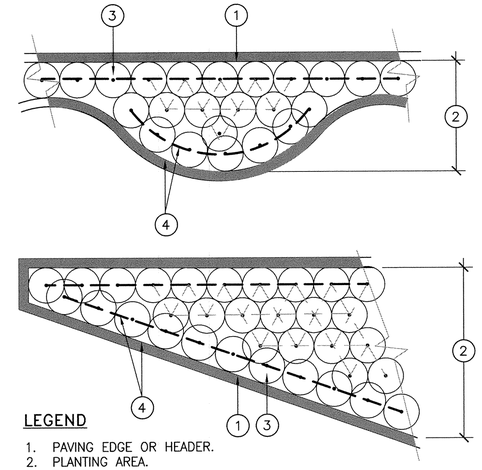
LEGEND

1. ROOT BALL.
2. FINISH GRADE.
3. WATER LEVEL.
4. FILL THE HOLE WITH SITE SOIL
5. SITE SOIL.

3 LINER PLANTING-SUBMERGED

SCALE: N.T.S.

02900 LINER PLANTING SUBMERGED.dwg



LEGEND

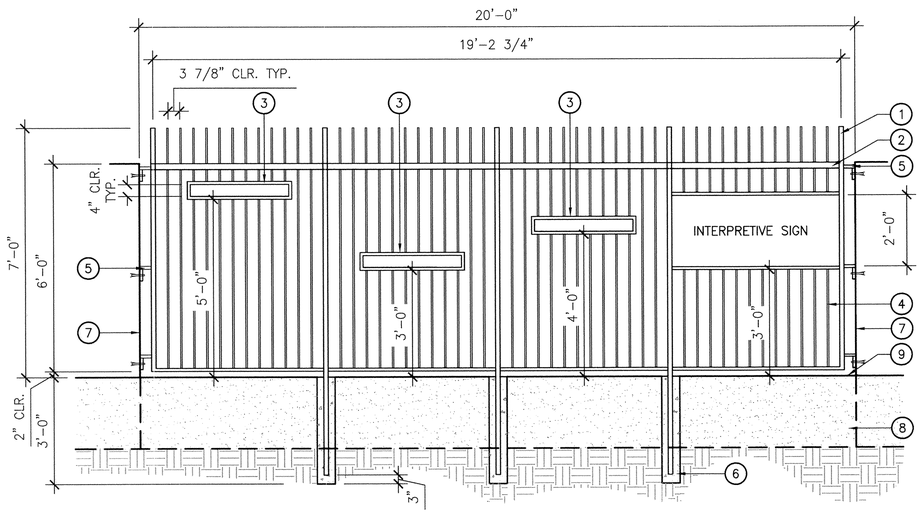
1. PAVING EDGE OR HEADER.
2. PLANTING AREA.
3. PLANT.
4. OUTER ROW OF PLANTS FOLLOWS EDGE OF PAVING OR HEADER.

NOTE: PLANT @ SPACING SHOWN ON PLAN AND SPACING DETAIL.

1 PLANT LAYOUT @ IRREGULAR AREAS

SCALE: N.T.S.

02900 SHRUB – IRREGULAR LAYOUT.dwg



8 NORTH METAL VIEWING FENCE

SCALE: 1/2" = 1'-0"

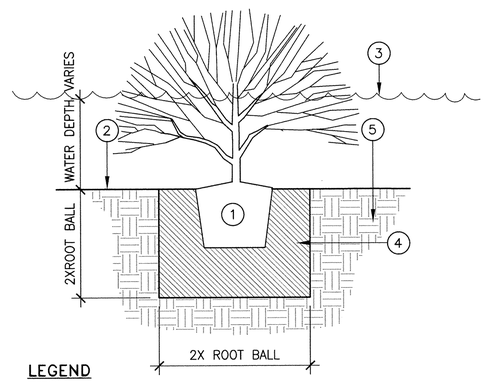
.dwg

LEGEND

1. 1-1/2" SQ. T.S. POST W/ FLUSH CAP.
2. 1 X 2 T.S. RAIL.
3. 1 X 4 T.S. VIEWING BOX.
4. 1/2" SQ. VERTICAL. (SOLID)(CNTR. IN TOP RAIL.
5. 1" X 2" X 2" ANGLE W/ ½" Ø X 4" GALV. BOLT IN EXP. SHLD.
6. CORE DRILL EXIST. FTG. 6" Ø BACKFILL W/ 'POROCK' 36" DEPTH.
7. EXISTING CMU WALL.
8. EXISTING FOOTING
9. F.S.

NOTES:

1. REMOVE EXISTING CREEPING FIG VINE FROM CMU WALL. BURN ROOTS. 10' PER SIDE. PAINT WALL WHERE VINE REMOVED.
2. SUBMIT SHOP DRAWINGS.



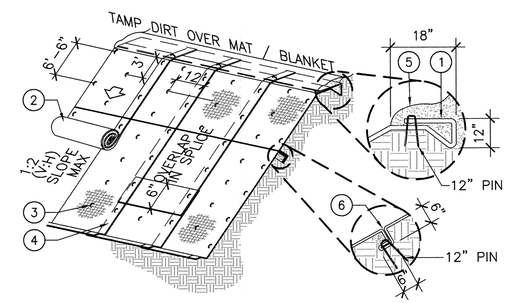
LEGEND

1. ROOT BALL.
2. FINISH GRADE.
3. WATER LEVEL.
4. FILL THE HOLE WITH SITE SOIL.
5. SITE SOIL.

4 SHURB PLANTING-SUBMERGED

SCALE: N.T.S.

02900 SHRUB PLANTING-SUBMERGED.dwg



LEGEND

1. KEY TRENCH AT TOP OF SLOPE AS SHOWN. ATTACH W/ 12" PINS.
2. SLOPE STABLIZER FABRIC.
3. PIN TO SLOPE W/ 6" PINS. SPACE AS SHOWN ON PLAN.
4. OVERLAP JOINT 2" TO 3" (TYP).
5. BERMED SOIL.
6. CHECK SLOT TO BE SPACED EVERY 6' ON VERT. SURFACE.

NOTES:

A. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
B. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
C. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

2 SLOPE STABLIZATON

SCALE: NTS

02370-01 SLOPE STABILIZATION.dwg

PLANTING DETAILS - : L-8

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 2432 Renewal Date 10/31/14 Exp. 5/14/2013 STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
5/28/13
TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226
DATE
EXP. 06/30/13

SCALE: AS SHOWN
SHEET 81 OF 111
PLAN NO. SD - 500

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FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

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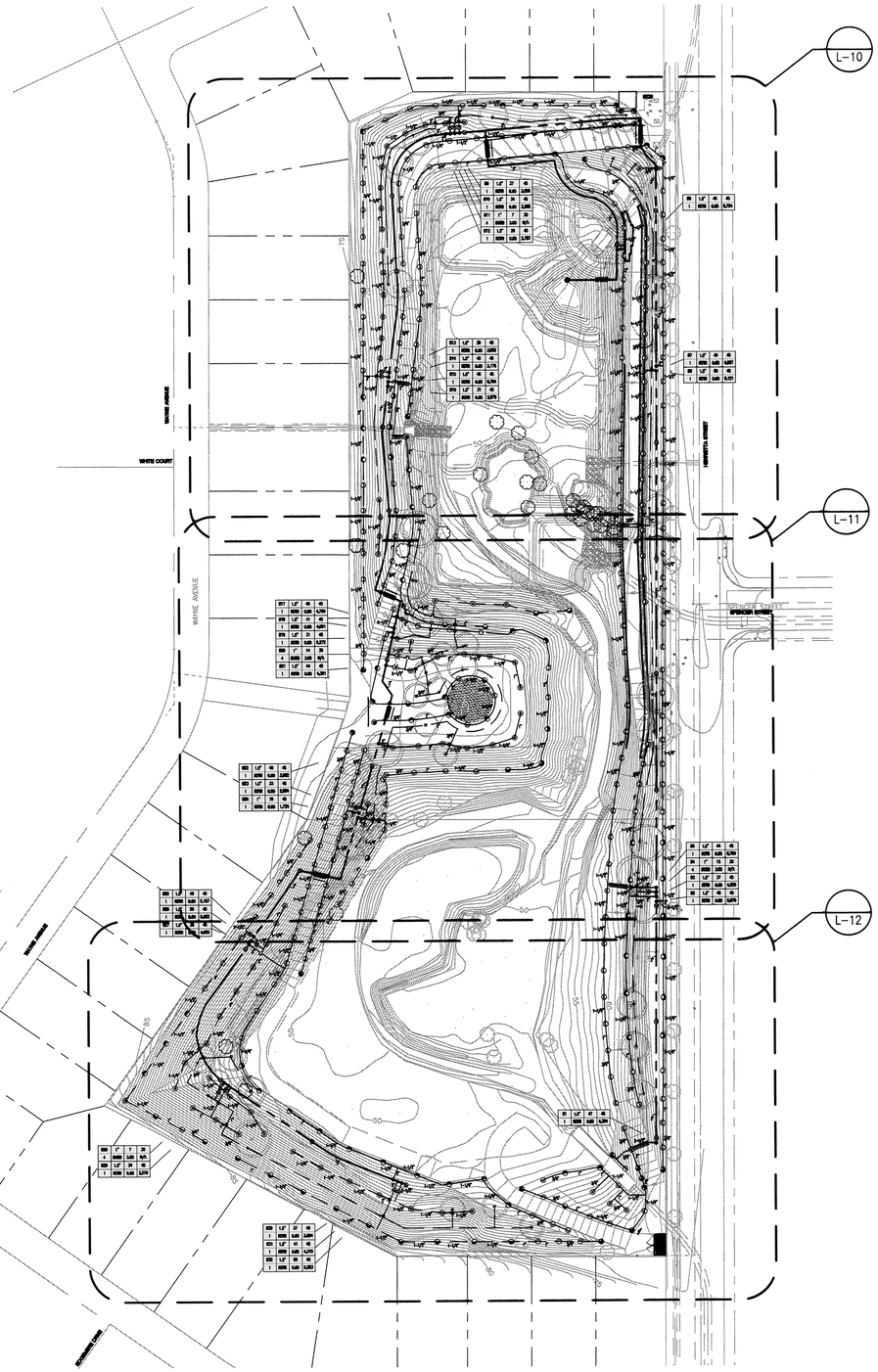
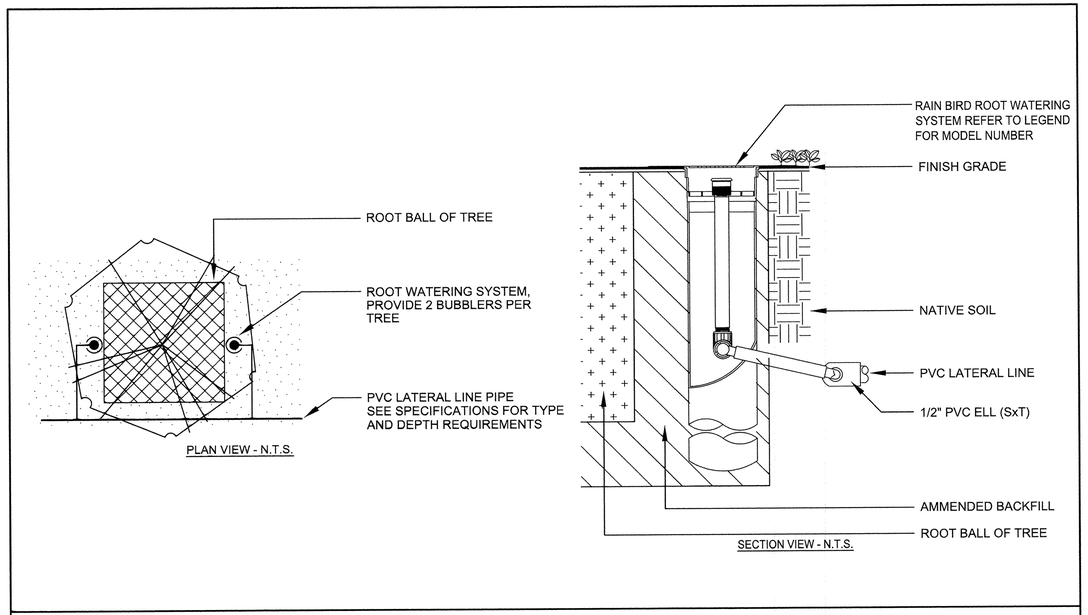
PLOT DATE: May 14, 2013 – 4:20pm PLOTTED BY: aaron





(16) ROOT ZONE WATERING SYSTEM

WATER PRESSURE LOSS CALCULATIONS

WATER METER NUMBER	POC #2	WATER METER SIZE (Inches)	
HYDRAULIC GRADE LINE (FT)		WATER METER ELEVATION (FT)	
ELEVATION DIFFERENCE (FT)		STATIC PRESSURE (PSI)	0.0
REMOTE CONTROL VALVE #	B24	REMOTE CONTROL VALVE SIZE (In.)	1.50
R.C.V. DEMAND (GPM)	50	TOTAL DEMAND (GPM)	50
HIGHEST HEAD SERVED (FT)	85	STATIC PRESSURE AT HIGHEST HEAD	

sweeney + associates IRRIGATION DESIGN AND CONSULTING

PRESSURE LOSS CALCULATION IS PROVIDED FOR THIS PROJECT BY SWEENEY & ASSOCIATES, INC. UNAUTHORIZED USE BY ANY OTHER PERSON, COMPANY OR PROJECT IS FORBIDDEN WITHOUT WRITTEN PERMISSION.

SIZE (Inches)	DESCRIPTION	FLOW	#	LOSS	
N/A	SERVICE LINE (60 FT OF TYPE K COPPER)	N/A	1	0.00	PSI
N/A	WATER METER (XXXX TYPE)	N/A	2	0.00	PSI
2.00	BASKET STRAINER	50	3	0.50	PSI
N/A	FILTRATION (WYE FILTER)	N/A	4	0.00	PSI
N/A	PRESSURE REGULATOR (WILKINS 500HLR)	N/A	5	0.00	PSI
N/A	BFD ASSEMBLY PIPING (BRASS W/ 4 ELLS)	50	6	0.00	PSI
2.00	MASTER CONTROL VALVE	50	7	0.82	PSI
1.50	FLOW SENSOR	50	8	1.00	PSI
3.00	ISOLATION VALVES (BALL TYPE)	50	9	2.00	PSI
3.00	1400 FEET OF MAINLINE: CL. 315 PVC	50	10	4.06	PSI
N/A	X,XXX FEET OF MAINLINE: CL. 315 PVC	N/A	11	0.00	PSI
N/A	X,XXX FEET OF MAINLINE: CL. 315 PVC	N/A	12	0.00	PSI
3.00	4 - 90 DEGREE ELBOWS	50	13	0.20	PSI
1.50	REMOTE CONTROL VALVE ASSEMBLY	50	14	2.10	PSI
10%	LATERAL LINE LOSSES	50	15	4.50	PSI
20%	FITTING LOSS (IN ADDITION TO ELBOWS SHOWN)	N/A	16	0.81	PSI
35.00	ELEVATION CHANGE (P.O.C. TO HIGHEST HEAD)	N/A	17	15.16	PSI
TOTAL SYSTEM PRESSURE LOSS (SUM OF #1 THRU #17)			18	31.1	PSI
PRESSURE REQUIRED AT HEAD (OPERATING PRESSURE)			19	45.0	PSI
TOTAL PRESSURE REQUIRED (SUM OF #18 AND #19)			20	76.1	PSI
STATIC WATER PRESSURE (FROM ABOVE)			21	0.0	PSI
RESIDUAL PRESSURE (SUBTRACT #20 FROM #21)			22	-76.1	PSI
SET PRV OR MCV AT (#20 PLUS 10 PSI)			23	N/A	PSI
PRESSURE BOOST, IF REQUIRED (SET TO ACHIEVE 20 PSI RESIDUAL)			24	96.1	PSI

LANDSCAPE IRRIGATION WATER ANALYSIS

PROJECT: Henrietta Basin
City Of Torrance, CA
Poc #2

ETo: = 50.1

HA = 122,044
SLA = 0
LA = 122,044

MAXIMUM APPLIED WATER ALLOWANCE:
TOTAL MAWA=(Eto)(0.62){(0.7 x LA) + (0.3 x SLA)} **2,653,652 Gal./Yr**

TOTAL ESTIMATED APPLIED WATER USED:
TOTAL EAWU=(Eto x 0.62) x {(HA x PF)/IE) + SLA)} **1,895,465 Gal./Yr**

ESTIMATED APPLIED WATER USED:
EAWU= (ETo)(0.62) x {(HA x PF)} / IE

HYDROZONE #1: (Mixed water use Shrub Area irrigated with Rotors)
50.1 x 0.62 x 122,044 x 0.4 / 0.8 = **1,895,465 Gal./Yr**

MAXIMUM APPLIED WATER ALLOWANCE: **2,653,652 Gal./Yr**

TOTAL ESTIMATED APPLIED WATER USE: **1,895,465 Gal./Yr**

SCALE: 1" = 60'

20 10 0 20 60

I HAVE COMPLIED WITH THE CRITERIA OF THE IRRIGATION GUIDELINES AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

IRRIGATION PLAN - HENRIETTA BASIN : L-9

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 4212 10/31/14 4/17/2013 STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

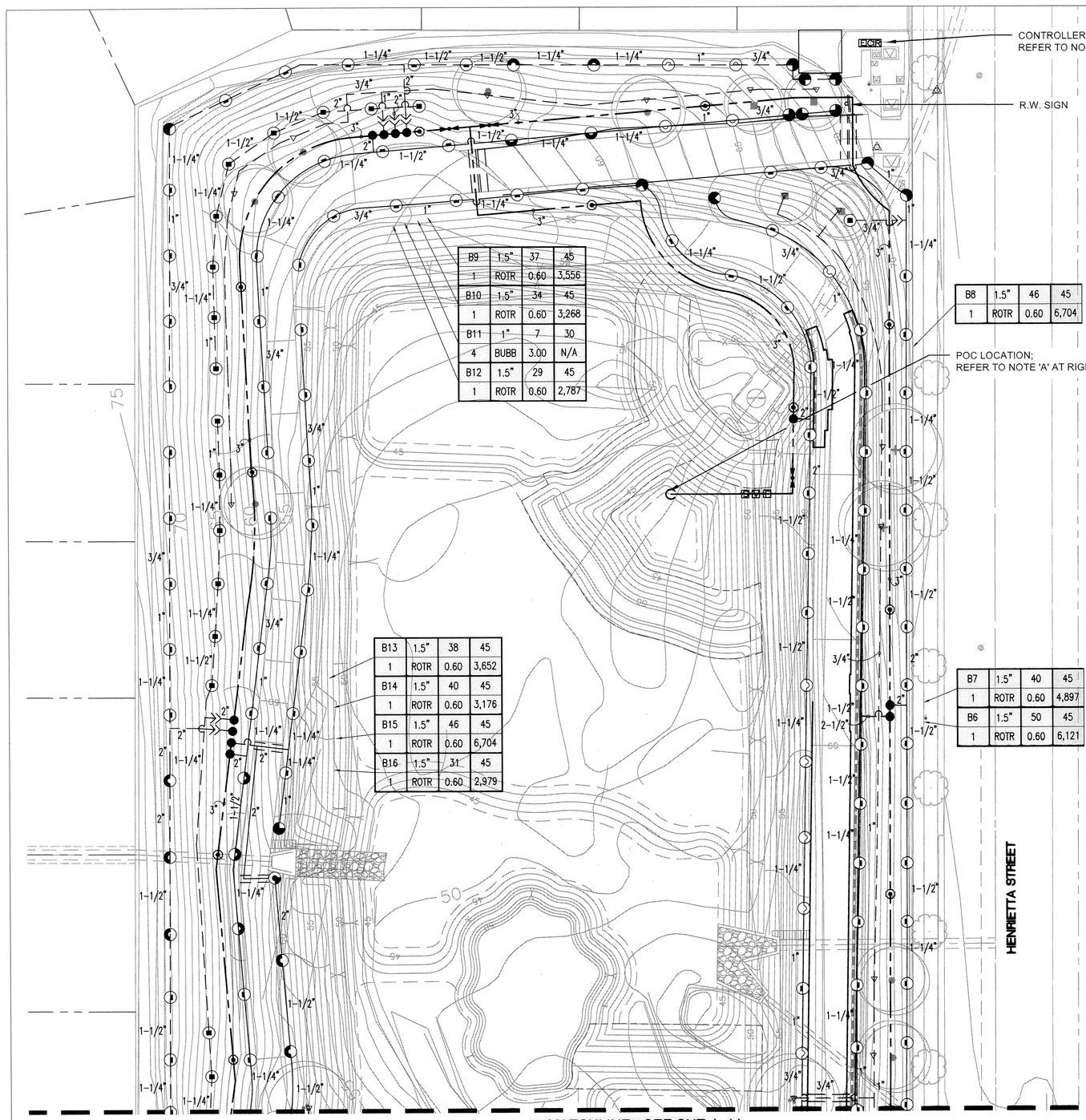
APPROVED:
TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226
5/28/13 DATE
EXP. 06/30/13

SCALE: AS SHOWN | SHEET 82 OF 111
PLAN NO. SD - 500

sweeney + associates
IRRIGATION DESIGN AND CONSULTING
321 Rampart Street, Suite 209
Orange, Ca 92868
e: info@sweeneyassoc.com | t: (714) 938-0456
w: www.sweeneyassoc.com | f: (714) 938-0456

PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: F:\pr\2011\111015\CAD\Irrigation\Irrigation\111015-IRRIGATION PLAN-L-9.dwg
PLOT DATE: Sep 14, 2012 - 4:22pm PLOTTED BY: aaron



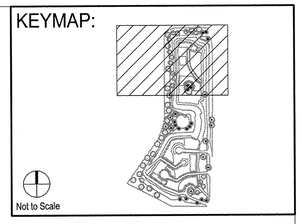
B9	1.5"	37	45
1	ROTR	0.60	3,556
B10	1.5"	34	45
1	ROTR	0.60	3,268
B11	1"	7	30
4	BUBB	3.00	N/A
B12	1.5"	29	45
1	ROTR	0.60	2,787

B8	1.5"	46	45
1	ROTR	0.60	6,704

B13	1.5"	38	45
1	ROTR	0.60	3,652
B14	1.5"	40	45
1	ROTR	0.60	3,176
B15	1.5"	46	45
1	ROTR	0.60	6,704
B16	1.5"	31	45
1	ROTR	0.60	2,979

B7	1.5"	40	45
1	ROTR	0.60	4,897
B6	1.5"	50	45
1	ROTR	0.60	6,121

KEYMAP:



NOTE A:
POINT OF CONNECTION SHALL BE DOWNSTREAM OF PUMP BY OTHERS. VERIFY THE ACTUAL LOCATION, SIZE AND WATER PRESSURE IN THE FIELD PRIOR TO STARTING WORK. IF ANY OF THE POC INFORMATION SHOWN ON THESE DRAWING IS FOUND TO BE DIFFERENT THAN THE ACTUAL POC INFORMATION GATHERED IN THE FIELD, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT AND IRRIGATION CONSULTANT. SHOULD THE CONTRACTOR FAIL TO VERIFY THE POC INFORMATION ANY CHANGES REQUIRED BY LOW PRESSURE OR VOLUME SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

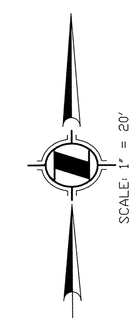
STATIC WATER PRESSURE	00 PSI
DESIGN WATER PRESSURE	64 PSI
MAXIMUM SYSTEM DEMAND	50 GPM
PRESSURE BOOST REQUIRED	84 PSI

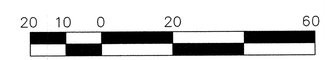
NOTE B:
CONTROLLER SHALL BE A RAIN MASTER J.D.G.T. 48 STATION RMEXXEGi EAGLE CONTROLLER INSTALLED IN A STAINLESS STEEL ENCLOSURE (SEE LEGEND FOR TYPE). FINAL LOCATION OF CONTROLLER AND ELECTRICAL POC SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.

NOTE C:
MAINLINE AND RELATED EQUIPMENT SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL MAINLINE AND RELATED EQUIPMENT LOCATION TO BE WITHIN PLANTERS AND A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.

NOTE D:
CONTRACTOR SHALL ADJUST ALL HEADS AS REQUIRED TO ACCOMMODATE ANY VERTICAL OBSTRUCTIONS THAT MAY OCCUR, INCLUDING BUT NOT LIMITED TO LIGHT POLES, FIRE HYDRANTS, ETC. VERIFY ALL HEAD LAYOUT WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.

NOTE E:
BUBBLERS AND LATERAL LINES ARE SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL LOCATION TO BE WITHIN PLANTER. BUBBLERS SHALL BE ALIGNED WITH TREES AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. CONFIRM ALL LAYOUT IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.





I HAVE COMPLIED WITH THE CRITERIA OF THE IRRIGATION GUIDELINES AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

IRRIGATION PLAN - HENRIETTA BASIN : L-10

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 2013 10/31/14 Expiration Date 5/14/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
TOUFIC J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 EXP. 06/30/13

SCALE: AS SHOWN | SHEET 83 OF 111
PLAN NO. SD - 500

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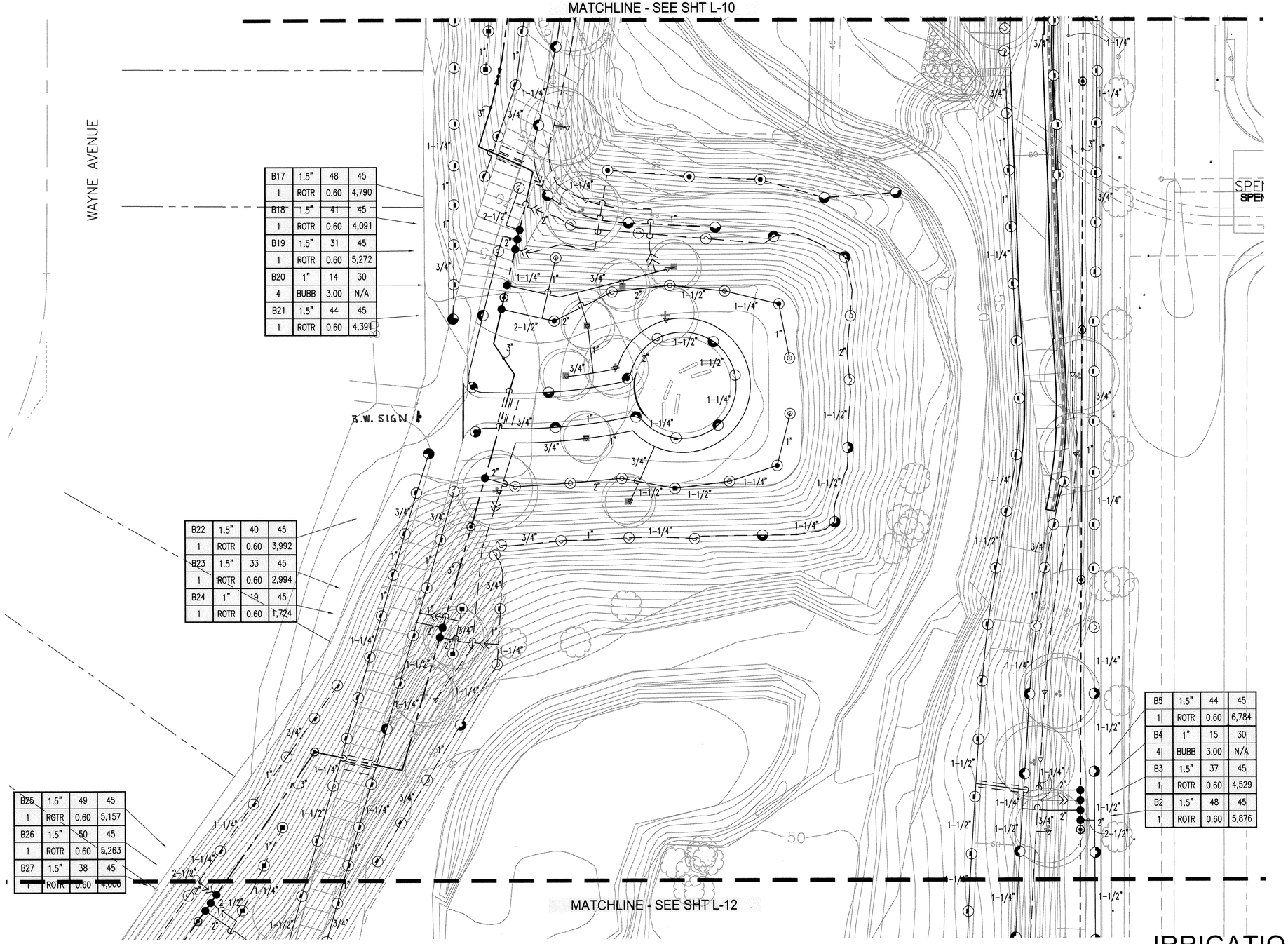
321 Rampart Street, Suite 209
Orange, Ca 92868
e: info@sweeneyassoc.com t: (714) 938-0456
w: www.sweeneyassoc.com f: (714) 938-0456

PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: Z:\cp\2011\111015\2ND\Incorrig\Irrigation\111015-IRRIGATION PLAN-L-10.dwg
PLOT DATE: May 16, 2013 - 3:07pm PLOTTED BY: aaron

MATCHLINE - SEE SHT L-10



B17	1.5"	48	45
1	ROTR	0.60	4,790
B18	1.5"	41	45
1	ROTR	0.60	4,091
B19	1.5"	31	45
1	ROTR	0.60	5,272
B20	1"	14	30
4	BUBB	3.00	N/A
B21	1.5"	44	45
1	ROTR	0.60	4,391

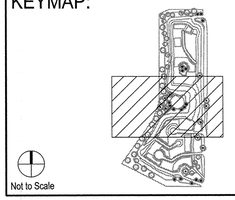
B22	1.5"	40	45
1	ROTR	0.60	3,992
B23	1.5"	33	45
1	ROTR	0.60	2,994
B24	1"	19	45
1	ROTR	0.60	1,724

B25	1.5"	49	45
1	ROTR	0.60	5,157
B26	1.5"	50	45
1	ROTR	0.60	5,263
B27	1.5"	38	45
1	ROTR	0.60	4,000

B5	1.5"	44	45
1	ROTR	0.60	6,784
B4	1"	15	30
4	BUBB	3.00	N/A
B3	1.5"	37	45
1	ROTR	0.60	4,529
B2	1.5"	48	45
1	ROTR	0.60	5,876

MATCHLINE - SEE SHT L-12

KEYMAP:



NOTE A:
MAINLINE AND RELATED IRRIGATION EQUIPMENT SHOWN WITHIN PAVING FOR CLARITY ONLY. ACTUAL LOCATION OF MAINLINE AND RELATED IRRIGATION EQUIPMENT TO BE WITHIN PLANTER AND A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.

NOTE B:
CONTRACTOR SHALL ADJUST ALL HEADS AS REQUIRED TO ACCOMMODATE ANY VERTICAL OBSTRUCTIONS THAT MAY OCCUR, INCLUDING BUT NOT LIMITED TO LIGHT POLES, FIRE HYDRANTS, ETC. VERIFY ALL HEAD LAYOUT WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.

NOTE C:
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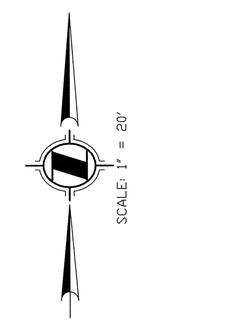
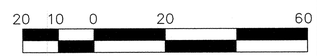
I HAVE COMPLIED WITH THE CRITERIA OF THE IRRIGATION GUIDELINES AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN





IRRIGATION PLAN - HENRIETTA BASIN : L-11

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 4027 Signature 10/31/14 Renewal Date 5/14/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED: 5/28/13
TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226 EXP. 06/30/13
DATE

SCALE: AS SHOWN | SHEET 84 OF 111
PLAN NO. SD - 500

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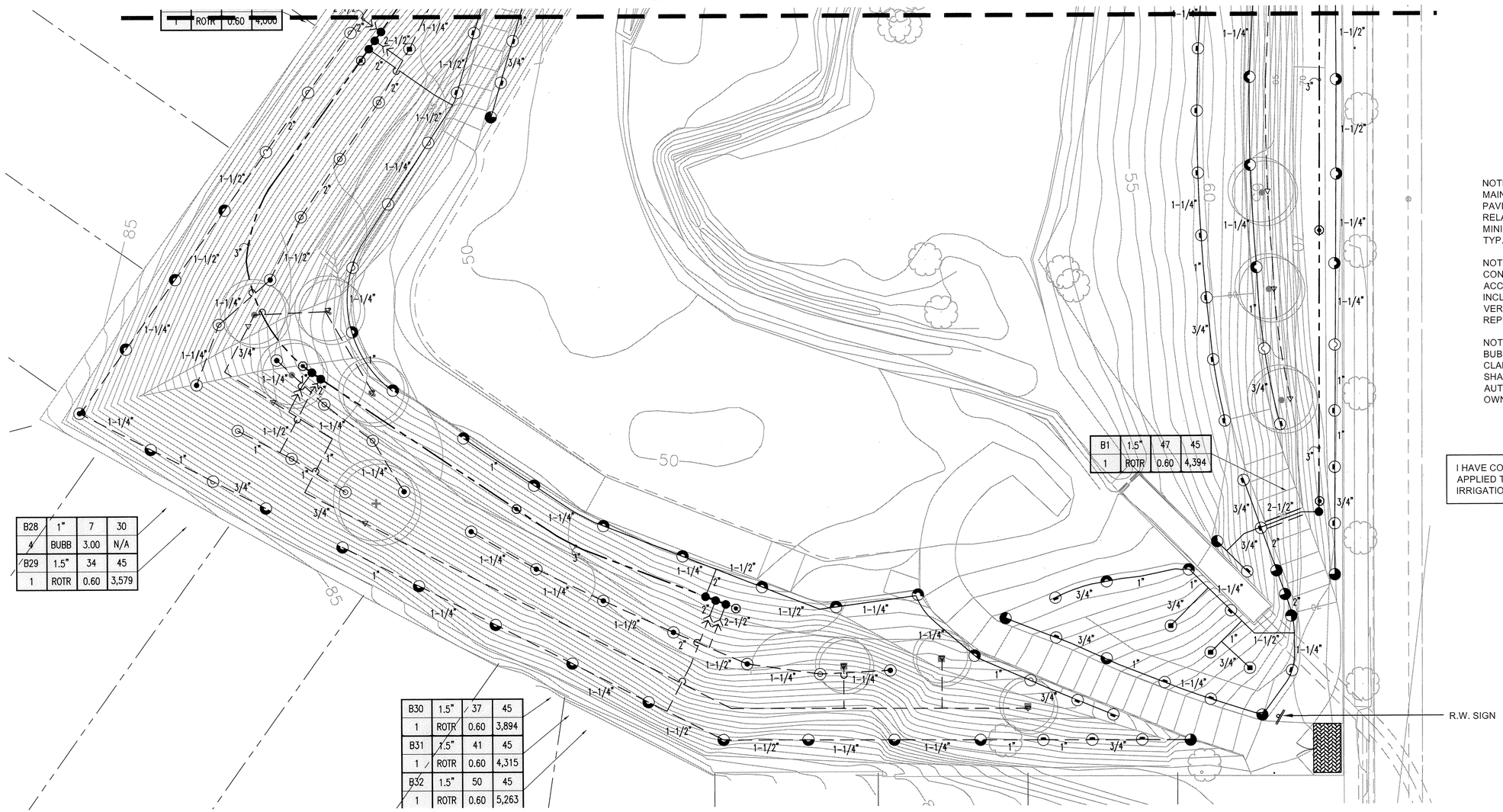
IRRIGATION DESIGN AND CONSULTING
321 Rampart Street, Suite 209
Orange, Ca 92868
e: info@sweeneyassoc.com t: (714) 938-0456
w: www.sweeneyassoc.com f: (714) 938-0456

PREPARED BY:
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: F:\jar\3011\111015\CAD\Incomba\Irrigation\111015-IRRIGATION PLAN-L-11.dwg
PLOT DATE: May 16, 2013 - 2:46pm PLOTTED BY: earon



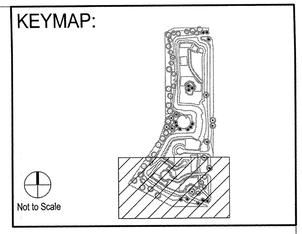
1	ROTR	0.60	4,006

B1	1.5"	47	45
1	ROTR	0.60	4,394

B28	1"	7	30
4	BUBB	3.00	N/A
B29	1.5"	34	45
1	ROTR	0.60	3,579

B30	1.5"	37	45
1	ROTR	0.60	3,894
B31	1.5"	41	45
1	ROTR	0.60	4,315
B32	1.5"	50	45
1	ROTR	0.60	5,263

KEYMAP:



NOTE A:
MAINLINE AND RELATED IRRIGATION EQUIPMENT SHOWN WITHIN PAVING FOR CLARITY ONLY. ACTUAL LOCATION OF MAINLINE AND RELATED IRRIGATION EQUIPMENT TO BE WITHIN PLANTER AND A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.

NOTE B:
CONTRACTOR SHALL ADJUST ALL HEADS AS REQUIRED TO ACCOMMODATE ANY VERTICAL OBSTRUCTIONS THAT MAY OCCUR, INCLUDING BUT NOT LIMITED TO LIGHT POLES, FIRE HYDRANTS, ETC. VERIFY ALL HEAD LAYOUT WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.

NOTE C:
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I HAVE COMPLIED WITH THE CRITERIA OF THE IRRIGATION GUIDELINES AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

SCALE: 1" = 20'

20 10 0 20 60

IRRIGATION PLAN - HENRIETTA BASIN : L-12

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 2412 10/31/14 Date 5/14/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
TOUFIC J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

SCALE: AS SHOWN | SHEET 85 OF 111
PLAN NO. SD - 500

PREPARED BY:
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FULLERTON, CA 92831
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DRAWING NAME: Z:\Cyn\12011\11101\CAD\Irrwndp\Irrigation\11101S-IRRIGATION PLAN-L-12.dwg
PLOT DATE: May 16, 2013 - 3:13pm PLOTTED BY: cenon

PLANTING NOTES:

A. TREE LOCATIONS MAY BE ADJUSTED TO AVOID CONFLICTS WITH UNDERGROUND UTILITIES. CONSULT WITH LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO ADJUSTMENT OF TREE LOCATIONS, ESPECIALLY THOSE ARRANGED ON A SPECIFIED MODULE OR IN A GRID PATTERN.

B. NURSERY STAKES ARE TO BE REMOVED AFTER PLANTING TREES AND STAKING OR GUYING AS SHOWN ON PLANS.

C. CONTRACTOR IS RESPONSIBLE FOR PRUNING TREES AS DIRECTED BY LANDSCAPE ARCHITECT. NO PRUNING IS TO BE DONE UNLESS DIRECTED.

D. SEE DETAIL FOR PLACEMENT OF SHRUBS IN IRREGULARLY SHAPED PLANTING AREAS.

E. WHERE GROUNDCOVER IS SHOWN ON PLANS: GROUNDCOVER PLANTING CONTINUES UNDER SHRUBS & TREES AT SPECIFIED SPACING. DO NOT PLANT GROUNDCOVER IN SHRUB/TREE WATERING BASINS.

F. ALL SLOPES 2:1 OR GREATER ARE TO BE STABILIZED WITH JUTE MESH PRIOR TO PLANTING. DO NOT INSTALL JUTE MESH ON SEEDED SLOPES. SEE SPECIFICATIONS.

G. REFER TO CIVIL ENGINEER'S DRAWINGS FOR CLEAR AND GRUB REQUIREMENTS FOR ALL NEW PLANTING AREAS. PLANTING AREAS SHALL RECEIVE A GROW AND KILL PROCESS AS REQUIRED TO REMOVE EXISTING AND IMPORT PLANTS AND SEEDS.

H. PLANT SOURCES MAY BE TREE OF LIFE NURSERY (949.728.0685); EL NATIVO GROWERS (626.969.8449)

I. ALL SEED MIXES SHALL BE BULK RATES PER ACRE.

TREE LEGEND:

SYMBOL	BOTANICAL NAME "COMMON NAME"	SIZE (HTxSPR)	REMARKS	DETAIL REFER.
■	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL	STANDARD	1/L-7 2/L-7
+	QUERCUS AGRIFOLIA "COAST LIVE OAK"	15 GAL	STANDARD	1/L-7 2/L-7
✤	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL	MULTI-TRUNK	2/L-7 5/L-7
●	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL	STANDARD	1/L-7 2/L-7

SHRUB, VINE, & GROUNDCOVER LEGEND:

SYMBOL	KEY	PLANTING ZONE	ELEVATION	PERENNIAL WATER DEPTH	SIZE
	A	A1-ELEOCHARIS PALUSTRIS A2-JUNCUS ACUTUS A3-NOT USED. A4-RORRIPA NASTURTIUM AQUATICUM A5-SCIRPUS ACUTUS VAR. OCCIDENTALIS A6-SCIRPUS AMERICANUS A7-SCIRPUS CALIFORNICUS A8-SCIRPUS MARITIMUS	(PAD/SLOPE) 46.5' – 49.5'	0 – 3'	LINERS @ 18" O.C.
	B	B1-ANEMOPSIS CALIFORNICA B2-BIDENS LAEVIS B3-CAREX PRAEGRACILIS B4-CYPERUS ERAGROSTIS B5-CYPERUS ODORATUS B6-ELEOCHARIS PALUSTRIS B7-JUNCUS ARCTICUS VAR. BALTICUS B8-JUNCUS ARCTICUS VAR. MEXICANUS B9-JUNCUS BUFONIUS B10-JUNCUS XIPHOIDES B11-MIMULUS GUTTATUS B12-LEYMUS TRITICOIDES	(ON SLOPE) 49.5' – 52.0'	0 SEASONAL INUNDATION	LINERS @ 24" O.C.
	C	C1-AMBROSIA PSILOSTACHYA C2-ARTEMISIA DOUGLANSIA C3-CYPERUS ODORATUS C4-ELEOCHARIS PARISHII C5-NOT USED. C6-LEYMUS TRITICOIDES C7-MUHLENBERGIA RIGENS (36" O.C.) C8-OENETHERA ELATA SSP. HIRSUTISSIMIA C9-ROSA CALIFORNICA (36" O.C.) C10-SAMBUCUS MEXICANA (10' O.C.) UNDERPLANT W/ C8	52.0' – 65.0'	(LOW SLOPE) SEASONAL INUNDATION	1 GAL. @ 24" O.C. UNLESS OTHERWISE NOTED.
	D	ATRIPLEX LENTIFORMIS – 1.5#/A. BACCHARIS PILULARIS – 0.3#/A. CAMISSONIA BISTORTA – 1.0#/A. ELYMUS GLAUCUS – 2.0#/A. ENCELIA CALIFORNICA – 2.5#/A. ERIOGONUM FASCICULATUM – 6.0#/A. ESCHSCHOLZIA CALIFORNICA – 4#/A. ISOCOMA MENZIESII – 2.0#/A. ISOMERIS ARBOREA – 1.5#/A. LASTHENIA CALIFORNIA – 1.5#/A. LEYMUS (ELYMUS) CONDENSATUS – 1.5#/A LOTUS SCOPARIUS – 6.0#/A. LUPINUS ALBIFRONS – 2.0#/A. PLANTAGO INSULARIS – 20#/A. SALVIA APIANA – 1.0#/A. SALVIA LEUCOPHYLLA – 1.5#/A. SALVIA MELLIFERA – 1.0#/A.	65' – 76.5'	(UPPER SLOPE) INFREQUENTLY INUNDATED	HYDROSEED
	E	E1-ARCTOSTAPHYLOS 'EMERALD CARPET' E2-BACCHARIS 'TWIN PEAKS #2' E3-CAREX PANSA E4-CAREX TUMULICOLA E5-CEANOTHUS 'YANKEE POINT' E6-CASTILLEJA EXSERTA-1.0#/A. ESCHSCHOLZIA CALIFORNICA-4#/A. NASSELLA CERNUA-2.5#/A. PLANTAGO INSULARIS-20#/A. LASTHENIA CALIFORNICA-2.0#/A. LUPINUS BICOLOR-6.0#/A. – HYDROSEED ALL EXPOSED SOIL	65'+ PLATEAU	(PLATEAU – OUTDOOR CLASSROOM) NO INUNDATION	1 GAL @ 36" O.C. + HYDROSEED ALL BARE SOIL
	F	INUNDATED ZONE YEAR-ROUND NO VEGETATION	BELOW 46.5	–	
	MULCH	MULCH TO BE INSTALLED BY CONTRACTOR, PROVIDED BY OWNER.	–	–	

PLANTING LEGEND AND NOTES - HENRIETTA BASIN : L-13

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 3023 Expires 10/31/14 Renewal Date 5/17/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

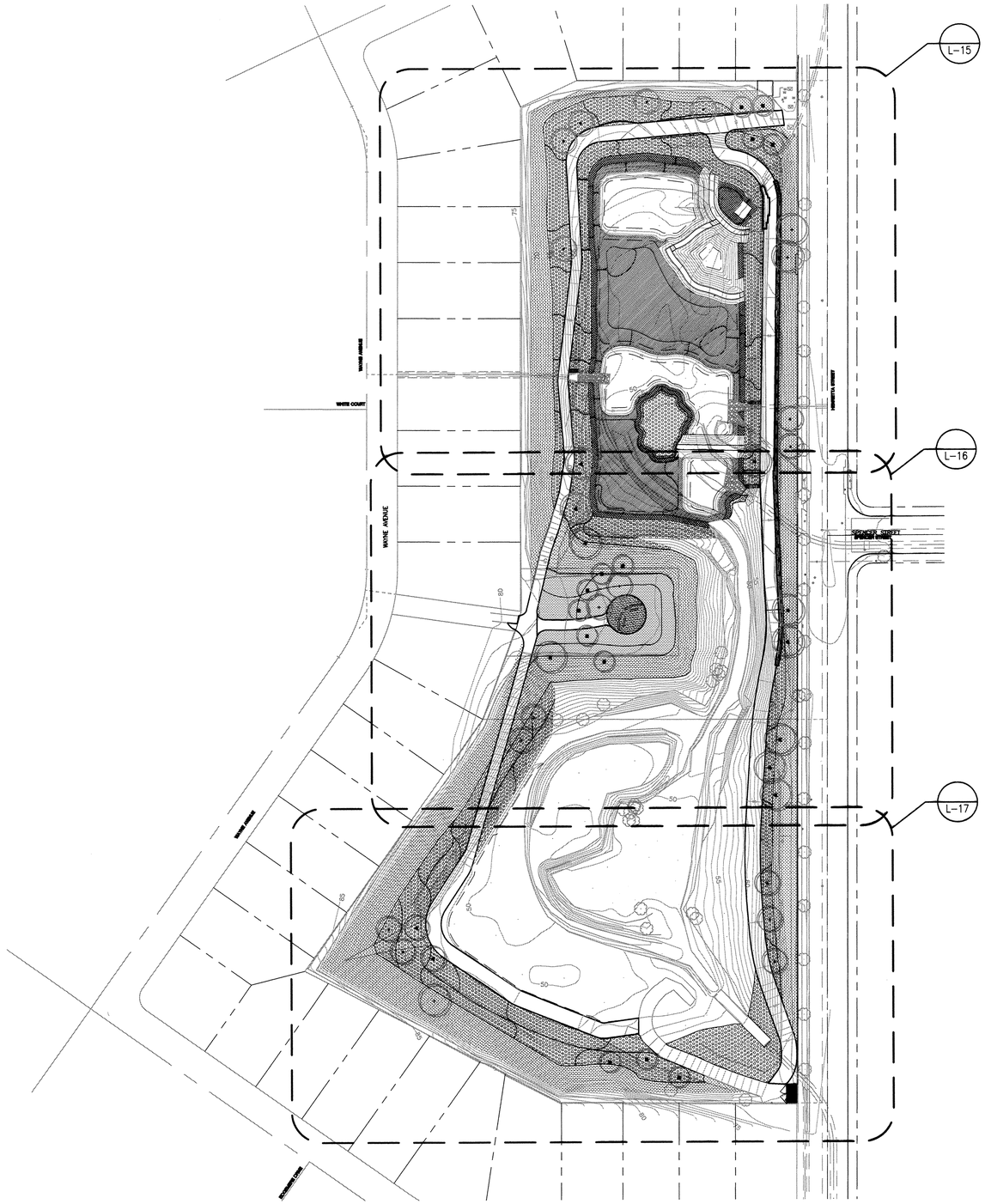
APPROVED:
TOUFIC J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

SCALE: AS SHOWN | SHEET 86 OF 111
PLAN NO. SD - 500

AHBE
LANDSCAPE ARCHITECTS
8729 WASHINGTON BOULEVARD
CULVER CITY, CALIFORNIA 90232
T: 310.838.0448 F: 310.204.2664

PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: F:\pr\3011\111013\CAD\111013-HENRIETTA BASIN-L13.dwg
PLOT DATE: May 14, 2013 – 4:39pm PLOTTED BY: aaron



SHRUB, VINE, & GROUNDCOVER LEGEND:

SEE SHEET L-13 FOR COMPLETE LEGEND.

SYMBOL	KEY	PLANTING ZONE
	A	A1–ELEOCHARIS PALUSTRIS A2–JUNCUS ACUTUS A3–NOT USED. A4–RORRIPA NASTURTIUM AQUATICUM A5–SCIRPUS ACUTUS VAR. OCCIDENTALIS A6–SCIRPUS AMERICANUS A7–SCIRPUS CALIFORNICUS A8–SCIRPUS MARITIMUS
	B	B1–ANEMOPSIS CALIFORNICA B2–BIDENS LAEVIS B3–CAREX PRAEGRACILIS B4–CYPERUS ERAGROSTIS B5–CYPERUS ODORATUS B6–ELEOCHARIS PALUSTRIS B7–JUNCUS ARCTICUS VAR. BALTICUS B8–JUNCUS ARCTICUS VAR. MEXICANUS B9–JUNCUS BUFONIUS B10–JUNCUS XIPHOIDES B11–MIMULUS GUTTATUS B12–LEYMUS TRITICOIDES
	C	C1–AMBROSIA PSILOSTACHYA C2–ARTEMISIA DOUGLANSIA C3–CYPERUS ODORATUS C4–ELEOCHARIS PARISHII C5–NOT USED. C6–LEYMUS TRITICOIDES C7–MUHLENBERGIA RIGENS (36" O.C.) C8–OENETHERA ELATA SSP. HIRSUTISSIMIA C9–ROSA CALIFORNICA (36" O.C.) C10–SAMBUCUS MEXICANA (10' O.C.) UNDERPLANT W/ C8
	D	ATRIPLEX LENTIFORMIS – 1.5#/A. BACCHARIS PILULARIS – 0.3#/A. CAMISSONIA BISTORTA – 1.0#/A. ELYMUS GLAUCUS – 2.0#/A. ENCELIA CALIFORNICA – 2.5#/A. ERIOGONUM FASCICULATUM – 6.0#/A. ESCHSCHOLZIA CALIFORNICA – 4#/A. ISOCOMA MENZIESII – 2.0#/A. ISOMERIS ARBOREA – 1.5#/A. LASTHENIA CALIFORNIA – 1.5#/A. LEYMUS (ELYMUS) CONDENSATUS – 1.5#/A LOTUS SCOPARIUS – 6.0#/A. LUPINUS ALBIFRONS – 2.0#/A. PLANTAGO INSULARIS – 20#/A. SALVIA APIANA – 1.0#/A. SALVIA LEUCOPHYLLA – 1.5#/A. SALVIA MELLIFERA – 1.0#/A.
	E	E1–ARCTOSTAPHYLOS 'EMERALD CARPET' E2–BACCHARIS 'TWIN PEAKS #2' E3–CAREX PANSA E4–CAREX TUMULICOLA E5–CEANOTHUS 'YANKEE POINT' E6–CASTILLEJA EXSERTA–1.0#/A. ESCHSCHOLZIA CALIFORNICA–4#/A. NASSELLA CERNUA–2.5#/A. PLANTAGO INSULARIS–20#/A. LASTHENIA CALIFORNICA–2.0#/A. LUPINUS BICOLOR–6.0#/A. – HYDROSEED ALL EXPOSED SOIL
	F	INUNDATED ZONE YEAR–ROUND NO VEGETATION
	MULCH	MULCH TO BE INSTALLED BY CONTRACTOR, PROVIDED BY OWNER.

TREE LEGEND:

SEE SHEET L-13 FOR COMPLETE LEGEND.

SYMBOL	BOTANICAL NAME "COMMON NAME"	SIZE (HTxSPR)
■	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL
+	QUERCUS AGRIFOLIA "COAST LIVE OAK"	15 GAL
♣	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL
●	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL

SCALE: 1" = 60'

20 10 0 20 60

PLANTING PLAN - HENRIETTA BASIN : L-14

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 3012 Exp. 10/31/14 Renewal Date 4/17/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.

DESIGNED: B.M.

LANDSCAPE ARCHITECT: CALVIN R. ABE

DIVISION ENGINEER: JOHN DETTLE

APPROVED:

5/28/13

TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226

DATE

EXP. 06/30/13

SCALE: AS SHOWN | SHEET 87 OF 111

PLAN NO. SD - 500

AHBE
LANDSCAPE ARCHITECTS
8729 WASHINGTON BOULEVARD
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T: 310.838.0448 F: 310.204.2664

PREPARED BY:
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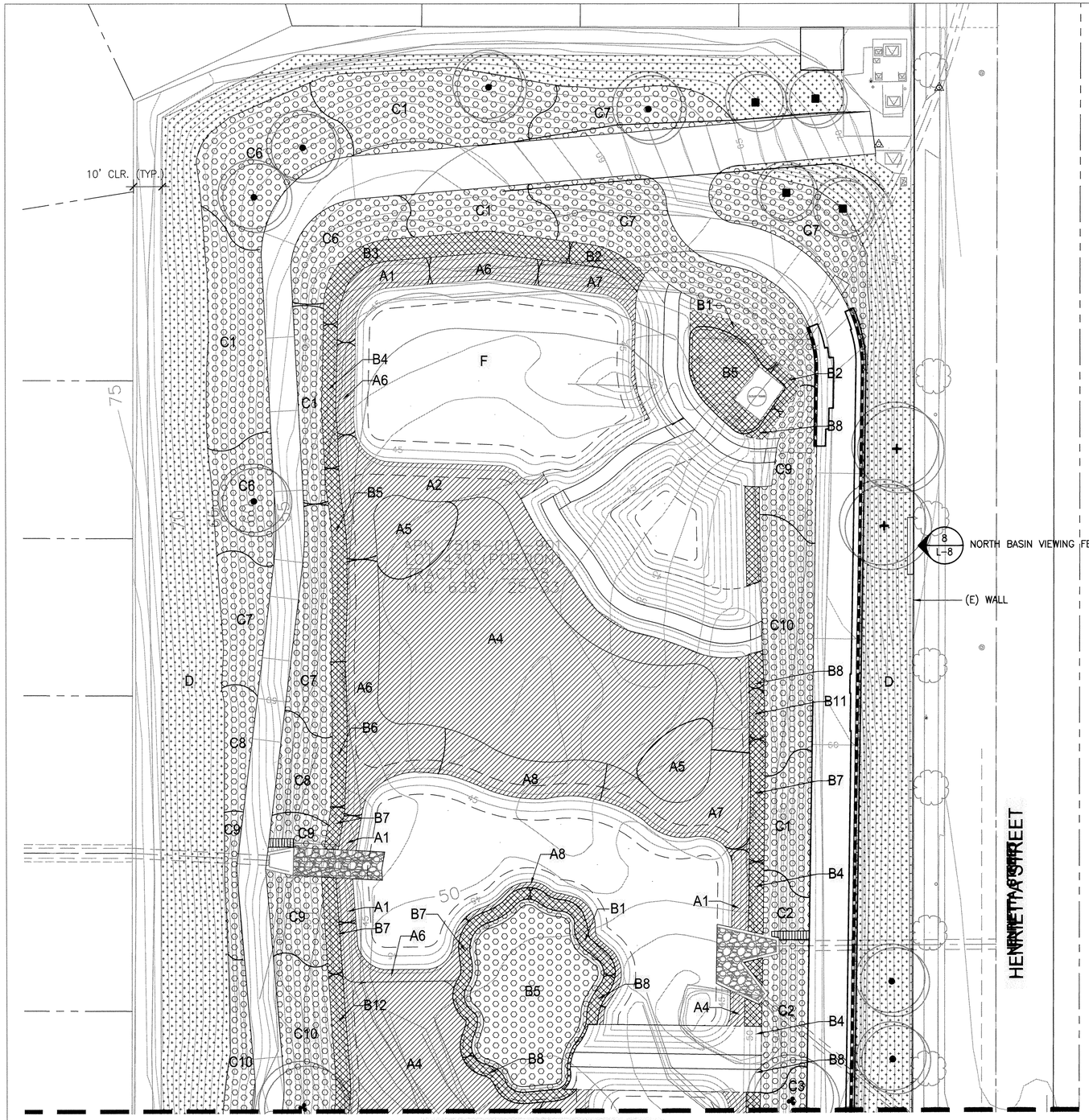
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: F:\syf\2011\111015\CAD\111015-HENRIETTA BASIN-L14.dwg
PLOT DATE: May 14, 2013 – 4:41pm PLOTTED BY: aaron



SHRUB, VINE, & GROUNDCOVER LEGEND:

SEE SHEET L-13 FOR COMPLETE LEGEND.

SYMBOL	KEY	PLANTING ZONE
	A	A1–ELEOCHARIS PALUSTRIS A2–JUNCUS ACUTUS A3–NOT USED. A4–RORRIPA NASTURTIUM AQUATICUM A5–SCIRPUS ACUTUS VAR. OCCIDENTALIS A6–SCIRPUS AMERICANUS A7–SCIRPUS CALIFORNICUS A8–SCIRPUS MARITIMUS
	B	B1–ANEMOPSIS CALIFORNICA B2–BIDENS LAEVIS B3–CAREX PRAEGRACILIS B4–CYPERUS ERAGROSTIS B5–CYPERUS ODORATUS B6–ELEOCHARIS PALUSTRIS B7–JUNCUS ARCTICUS VAR. BALTICUS B8–JUNCUS ARCTICUS VAR. MEXICANUS B9–JUNCUS BUFONIUS B10–JUNCUS XIPHOIDES B11–MIMULUS GUTTATUS B12–LEYMUS TRITICOIDES
	C	C1–AMBROSIA PSILOSTACHYA C2–ARTEMISIA DOUGLANSIA C3–CYPERUS ODORATUS C4–ELEOCHARIS PARISHII C5–NOT USED. C6–LEYMUS TRITICOIDES C7–MUHLENBERGIA RIGENS (36" O.C.) C8–OENETHERA ELATA SSP. HIRSUTISSIMIA C9–ROSA CALIFORNICA (36" O.C.) C10–SAMBUCUS MEXICANA (10' O.C.) UNDERPLANT W/ C8
	D	ATRIPLEX LENTIFORMIS – 1.5#/A. BACCHARIS PILULARIS – 0.3#/A. CAMISSONIA BISTORTA – 1.0#/A. ELYMUS GLAUCUS – 2.0#/A. ENCELIA CALIFORNICA – 2.5#/A. ERIOGONUM FASCICULATUM – 6.0#/A. ESCHSCHOLZIA CALIFORNICA – 4#/A. ISOCOMA MENZIESII – 2.0#/A. ISOMERIS ARBOREA – 1.5#/A. LASTHENIA CALIFORNIA – 1.5#/A. LEYMUS (ELYMUS) CONDENSATUS – 1.5#/A LOTUS SCOPARIUS – 6.0#/A. LUPINUS ALBIFRONS – 2.0#/A. PLANTAGO INSULARIS – 20#/A. SALVIA APIANA – 1.0#/A. SALVIA LEUCOPHYLLA – 1.5#/A. SALVIA MELLIFERA – 1.0#/A.
	E	E1–ARCTOSTAPHYLOS 'EMERALD CARPET' E2–BACCHARIS 'TWIN PEAKS #2' E3–CAREX PANSA E4–CAREX TUMULICOLA E5–CEANOTHUS 'YANKEE POINT' E6–CASTILLEJA EXSERTA–1.0#/A. ESCHSCHOLZIA CALIFORNICA–4#/A. NASSELLA CERNUA–2.5#/A. PLANTAGO INSULARIS–20#/A. LASTHENIA CALIFORNICA–2.0#/A. LUPINUS BICOLOR–6.0#/A. – HYDROSEED ALL EXPOSED SOIL
	F	INUNDATED ZONE YEAR–ROUND NO VEGETATION
	MULCH	MULCH TO BE INSTALLED BY CONTRACTOR, PROVIDED BY OWNER.

KEYMAP:

Not to Scale

TREE LEGEND:

SEE SHEET L-13 FOR COMPLETE LEGEND.

SYMBOL	BOTANICAL NAME "COMMON NAME"	SIZE (HTxSPR)
■	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL
+	QUERCUS AGRIFOLIA "COAST LIVE OAK"	15 GAL
✤	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL
●	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL

SCALE: 1" = 20'

20 10 0 20 60

PLANTING PLAN - HENRIETTA BASIN : L-15

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 2014 10/31/14 Renewal Date 5/14/2013 Date STATE OF CALIFORNIA

DRAWN: A.D.

DESIGNED: B.M.

LANDSCAPE ARCHITECT: CALVIN R. ABE

DIVISION ENGINEER: JOHN DETTLE

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED:

TOUFIC J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 EXP. 06/30/13

SCALE: AS SHOWN | SHEET 88 OF 111

PLAN NO. SD - 500

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AHBE LANDSCAPE ARCHITECTS
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PREPARED BY:
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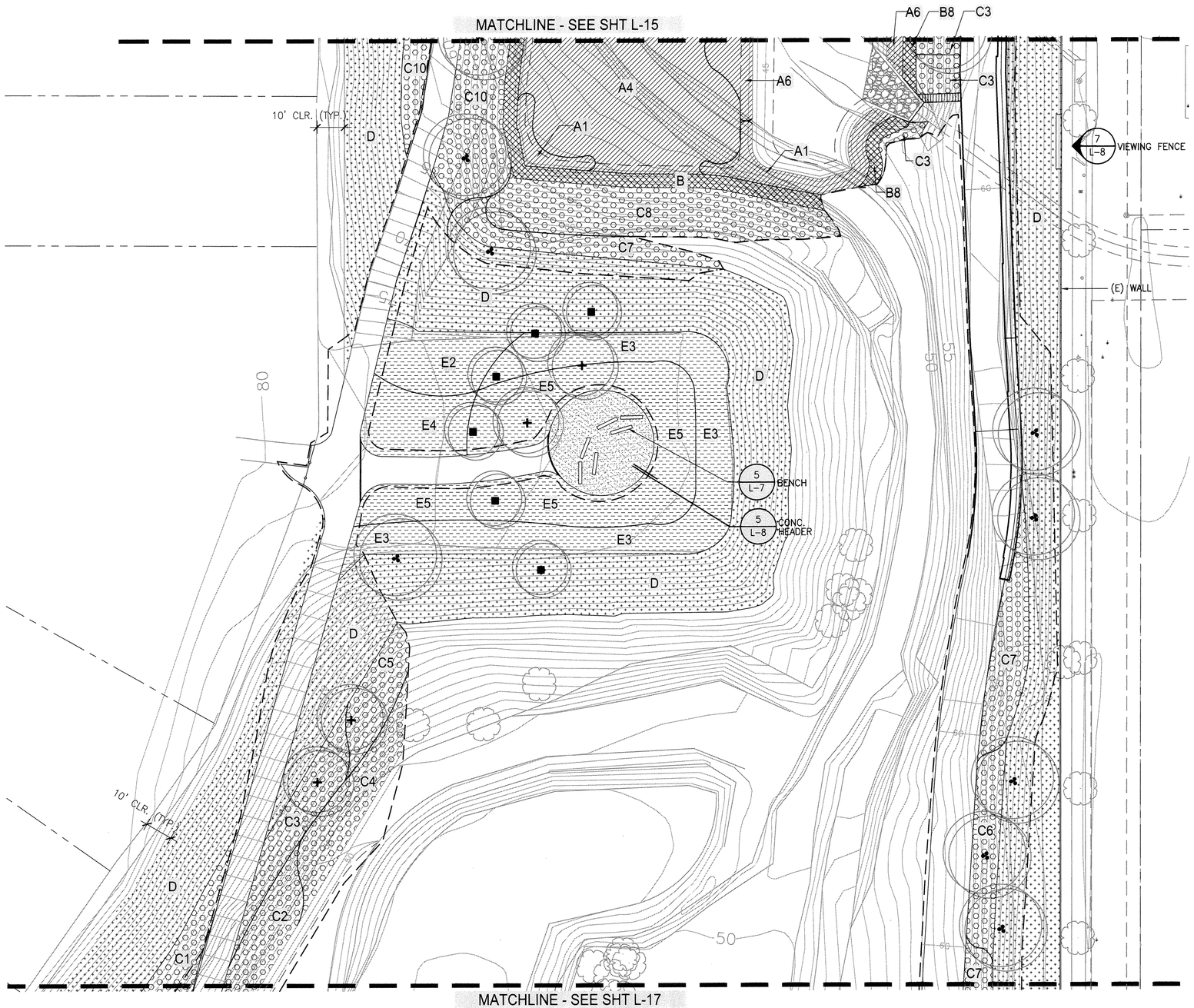
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: E:\pr\2011\111010\CAD\111010-HENRIETTA BASIN-L15.dwg
PLOT DATE: May 16, 2013 – 3:14pm PLOTTED BY: steven



SHRUB, VINE, & GROUNDCOVER LEGEND:

SEE SHEET L-13 FOR COMPLETE LEGEND.

SYMBOL	KEY	PLANTING ZONE
	A	A1–ELEOCHARIS PALUSTRIS A2–JUNCUS ACUTUS A3–NOT USED. A4–RORRIPA NASTURTIUM AQUATICUM A5–SCIRPUS ACUTUS VAR. OCCIDENTALIS A6–SCIRPUS AMERICANUS A7–SCIRPUS CALIFORNICUS A8–SCIRPUS MARITIMUS
	B	B1–ANEMOPSIS CALIFORNICA B2–BIDENS LAEVIS B3–CAREX PRAEGRACILIS B4–CYPERUS ERAGROSTIS B5–CYPERUS ODORATUS B6–ELEOCHARIS PALUSTRIS B7–JUNCUS ARCTICUS VAR. BALTICUS B8–JUNCUS ARCTICUS VAR. MEXICANUS B9–JUNCUS BUFONIUS B10–JUNCUS XIPHOIDES B11–MIMULUS GUTTATUS B12–LEYMUS TRITICOIDES
	C	C1–AMBROSIA PSILOSTACHYA C2–ARTEMISIA DOUGLANSIA C3–CYPERUS ODORATUS C4–ELEOCHARIS PARISHII C5–NOT USED. C6–LEYMUS TRITICOIDES C7–MUHLENBERGIA RIGENS (36" O.C.) C8–OENETHERA ELATA SSP. HIRSUTISSIMIA C9–ROSA CALIFORNICA (36" O.C.) C10–SAMBUCUS MEXICANA (10' O.C.) UNDERPLANT W/ C8
	D	ATRIPLEX LENTIFORMIS – 1.5#/A. BACCHARIS PILULARIS – 0.3#/A. CAMISSONIA BISTORTA – 1.0#/A. ELYMUS GLAUCUS – 2.0#/A. ENCELIA CALIFORNICA – 2.5#/A. ERIOGONUM FASCICULATUM – 6.0#/A. ESCHSCHOLZIA CALIFORNICA – 4#/A. ISOCOMA MENZIESII – 2.0#/A. ISOMERIS ARBOREA – 1.5#/A. LASTHENIA CALIFORNIA – 1.5#/A. LEYMUS (ELYMUS) CONDENSATUS – 1.5#/A LOTUS SCOPARIUS – 6.0#/A. LUPINUS ALBIFRONS – 2.0#/A. PLANTAGO INSULARIS – 20#/A. SALVIA APIANA – 1.0#/A. SALVIA LEUCOPHYLLA – 1.5#/A. SALVIA MELLIFERA – 1.0#/A.
	E	E1–ARCTOSTAPHYLOS 'EMERALD CARPET' E2–BACCHARIS 'TWIN PEAKS #2' E3–CAREX PANSA E4–CAREX TUMULICOLA E5–CEANOTHUS 'YANKEE POINT' E6–CASTILLEJA EXSERTA–1.0#/A. ESCHSCHOLZIA CALIFORNICA–4#/A. NASSELLA CERNUA–2.5#/A. PLANTAGO INSULARIS–20#/A. LASTHENIA CALIFORNICA–2.0#/A. LUPINUS BICOLOR–6.0#/A. } HYDROSEED ALL EXPOSED SOIL
	F	INUNDATED ZONE YEAR–ROUND NO VEGETATION
	MULCH	MULCH TO BE INSTALLED BY CONTRACTOR, PROVIDED BY OWNER.

KEYMAP:

Not to Scale

TREE LEGEND:

SEE SHEET L-13 FOR COMPLETE LEGEND.

SYMBOL	BOTANICAL NAME "COMMON NAME"	SIZE (HTxSPR)
■	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL
+	QUERCUS AGRIFOLIA "COAST LIVE OAK"	15 GAL
✤	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL
●	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL

SCALE: 1" = 20'

20 10 0 20 60

PLANTING PLAN - HENRIETTA BASIN : L-16

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 2433 Signature 10/31/14 Renewal Date 4/17/2013 Exp. STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.

DESIGNED: B.M.

LANDSCAPE ARCHITECT: CALVIN R. ABE

DIVISION ENGINEER: JOHN DETTLE

APPROVED:

5/28/13

TOUFIC J. SEMAAN — DATE
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

SCALE: AS SHOWN | SHEET 89 OF 111

PLAN NO. SD - 500

AHBE
LANDSCAPE ARCHITECTS
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CULVER CITY, CALIFORNIA 90232
T: 310.838.0448 F: 310.204.2664

PREPARED BY:
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1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
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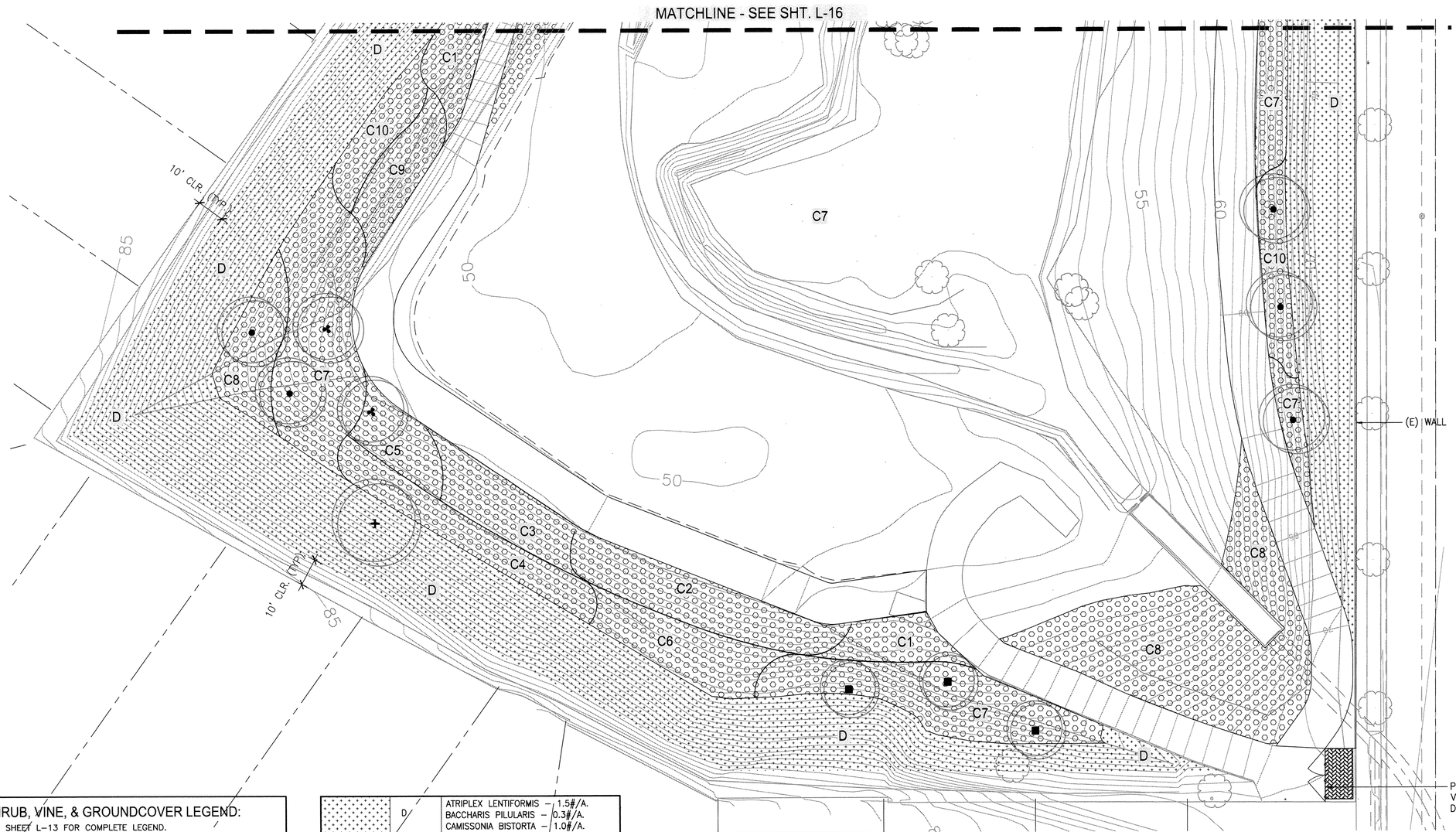
DRAWING NAME: P:\wr7\2011\111015\CAD\111015-HENRETTA BASIN-L16.dwg
PLOT DATE: May 14, 2013 – 4:57pm PLOTTED BY: varun



KEYMAP:

Not to Scale

TREE LEGEND:

SEE SHEET L-13 FOR COMPLETE LEGEND.

SYMBOL	BOTANICAL NAME "COMMON NAME"	SIZE (HTxSPR)
■	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL
+	QUERCUS AGRIFOLIA "COAST LIVE OAK"	15 GAL
✤	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL
●	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL

SHRUB, VINE, & GROUNDCOVER LEGEND:

SEE SHEET L-13 FOR COMPLETE LEGEND.

SYMBOL	KEY	PLANTING ZONE
	A	A1–ELEOCHARIS PALUSTRIS A2–JUNCUS ACUTUS A3–NOT USED. A4–RORRIPA NASTURTIUM AQUATICUM A5–SCIRPUS ACUTUS VAR. OCCIDENTALIS A6–SCIRPUS AMERICANUS A7–SCIRPUS CALIFORNICUS A8–SCIRPUS MARITIMUS
	B	B1–ANEMOPSIS CALIFORNICA B2–BIDENS LAEVIS B3–CAREX PRAEGRACILIS B4–CYPERUS ERAGROSTIS B5–CYPERUS ODORATUS B6–ELEOCHARIS PALUSTRIS B7–JUNCUS ARCTICUS VAR. BALTICUS B8–JUNCUS ARCTICUS VAR. MEXICANUS B9–JUNCUS BUFONIUS B10–JUNCUS XIPHOIDES B11–MIMULUS GUTTATUS B12–LEYMUS TRITICOIDES
	C	C1–AMBROSIA PSILOSTACHYA C2–ARTEMISIA DOUGLANSIA C3–CYPERUS ODORATUS C4–ELEOCHARIS PARISHII C5–NOT USED. C6–LEYMUS TRITICOIDES C7–MUHLENBERGIA RIGENS (36" O.C.) C8–OENETHERA ELATA SSP. HIRSUTISSIMIA C9–ROSA CALIFORNICA (36" O.C.) C10–SAMBUCUS MEXICANA (10' O.C.) UNDERPLANT W/ C8
	D	ATRIPLEX LENTIFORMIS – 1.5#/A. BACCHARIS PILULARIS – 0.3#/A. CAMISSONIA BISTORTA – 1.0#/A. ELYMUS GLAUCUS – 2.0#/A. ENCELIA CALIFORNICA – 2.5#/A. ERIOGONUM FASCICULATUM – 6.0#/A. ESCHSCHOLZIA CALIFORNICA – 4#/A. ISOCOMA MENZIESII – 2.0#/A. ISOMERIS ARBOREA – 1.5#/A. LASTHENIA CALIFORNIA – 1.5#/A. LEYMUS (ELYMUS) CONDENSATUS – 1.5# LOTUS SCOPARIUS – 6.0#/A. LUPINUS ALBIFRONS – 2.0#/A. PLANTAGO INSULARIS – 20#/A. SALVIA APIANA – 1.0#/A. SALVIA LEUCOPHYLLA – 1.5#/A. SALVIA MELLIFERA – 1.0#/A.
	E	E1–ARCTOSTAPHYLOS 'EMERALD CARPET' E2–BACCHARIS 'TWIN PEAKS #2' E3–CAREX PANSA E4–CAREX TUMULICOLA E5–CEANOTHUS 'YANKEE POINT' E6–CASTILLEJA EXSERTA–1.0#/A. ESCHSCHOLZIA CALIFORNICA–4#/A. NASSELLA CERNUA–2.5#/A. PLANTAGO INSULARIS–20#/A. LASTHENIA CALIFORNICA–2.0#/A. LUPINUS BICOLOR–6.0#/A.

HYDROSEED ALL EXPOSED SOIL

	F	INUNDATED ZONE YEAR–ROUND NO VEGETATION
	MULCH	MULCH TO BE INSTALLED BY CONTRACTOR, PROVIDED BY OWNER.

SCALE: 1" = 20'

10 0 20 60

PLANTING PLAN - HENRIETTA BASIN : L-17

AHBE
LANDSCAPE ARCHITECTS
8729 WASHINGTON BOULEVARD
CULVER CITY, CALIFORNIA 90232
T: 310.838.0448 F: 310.204.2664

PREPARED BY:
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FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 2423 Signature 10/31/14 Renewal Date 4/17/2013 Date STATE OF CALIFORNIA

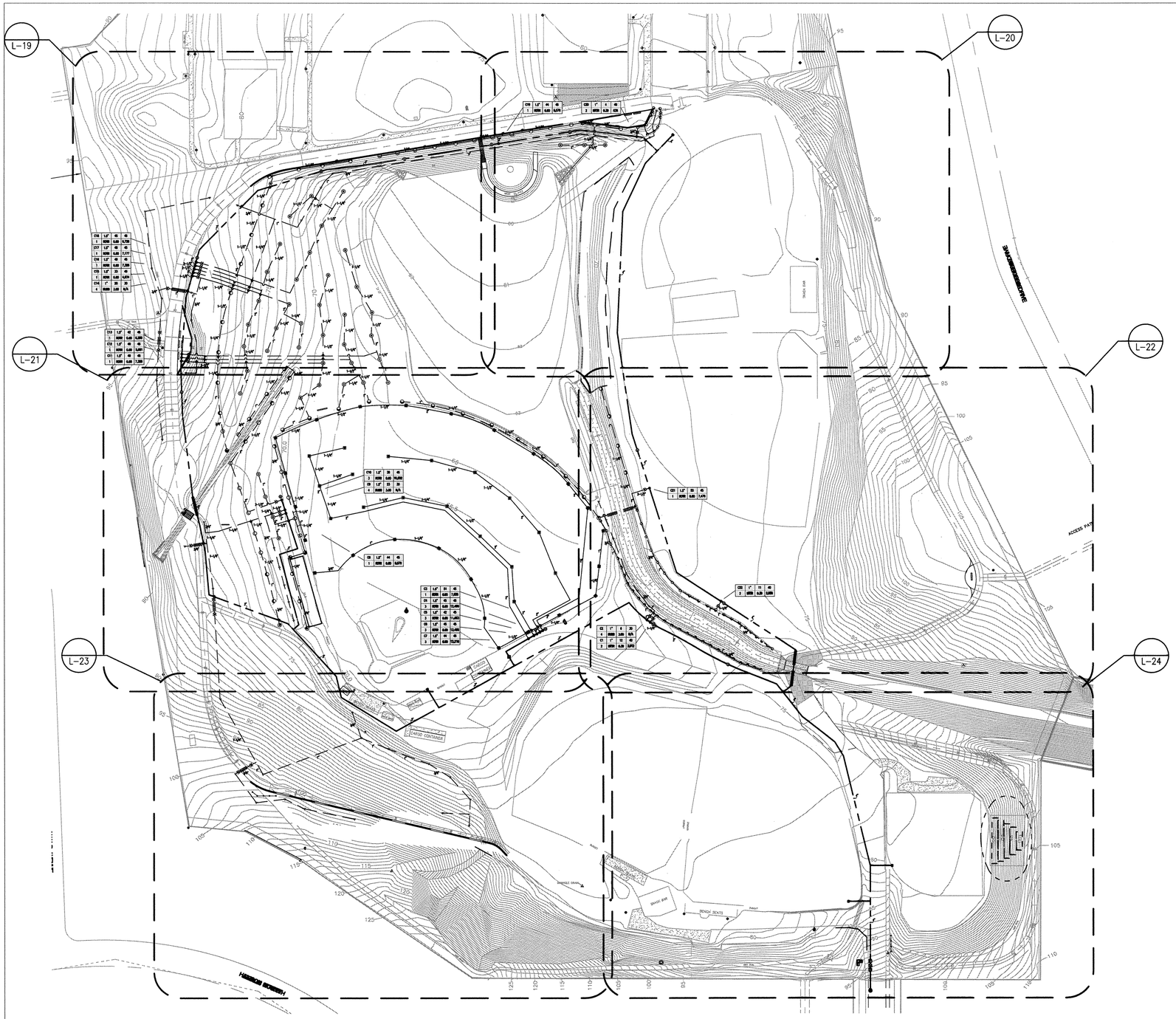
CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
TOUFIC J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 EXP. 06/30/13

SCALE: AS SHOWN | SHEET 90 OF 111
PLAN NO. SD - 500

DRAWING NAME: F:\wr7\2011\111013\CAD\111013-HENRIETTA BASIN-L17.dwg
PLOT DATE: May 14, 2013 – 5:00pm PLOTTED BY: aaron



WATER PRESSURE LOSS CALCULATIONS

WATER METER NUMBER	POC #3	WATER METER SIZE (Inches)	
HYDRAULIC GRADE LINE (FT)		WATER METER ELEVATION (FT)	
ELEVATION DIFFERENCE (FT)		STATIC PRESSURE (PSI)	0.0
REMOTE CONTROL VALVE #	C17	REMOTE CONTROL VALVE SIZE (In.)	1.50
R.C.V. DEMAND (GPM)	48	TOTAL DEMAND (GPM)	48
HIGHEST HEAD SERVED (FT)	81	STATIC PRESSURE AT HIGHEST HEAD	

sweeney + associates IRRIGATION DESIGN AND CONSULTING

PRESSURE LOSS CALCULATION IS PROVIDED FOR THIS PROJECT BY SWEENEY & ASSOCIATES, INC. UNAUTHORIZED USE BY ANY OTHER PERSON, COMPANY OR PROJECT IS FORBIDDEN WITHOUT WRITTEN PERMISSION.

SIZE (Inches)	DESCRIPTION	FLOW	#	LOSS	
N/A	SERVICE LINE (50 FT OF TYPE K COPPER)	N/A	1	0.00	PSI
N/A	WATER METER (XXXX TYPE)	N/A	2	0.00	PSI
2.00	BASKET STRAINER	48	3	0.50	PSI
N/A	FILTRATION (WYE FILTER)	N/A	4	0.00	PSI
N/A	PRESSURE REGULATOR (WILKINS 500HLR)	N/A	5	0.00	PSI
N/A	BFD ASSEMBLY PIPING (BRASS W/ 4 ELLS)	48	6	0.00	PSI
2.00	MASTER CONTROL VALVE	48	7	0.76	PSI
1.50	FLOW SENSOR	48	8	1.00	PSI
3.00	ISOLATION VALVES (BALL TYPE)	48	9	2.00	PSI
3.00	1525/1650 FEET OF LOOPED MAINLINE: CL. 315 PVC	48	10	4.28	PSI
N/A	XXXX FEET OF MAINLINE: CL. 315 PVC	N/A	11	0.00	PSI
N/A	XXXX FEET OF MAINLINE: CL. 315 PVC	N/A	12	0.00	PSI
3.00	6 - 90 DEGREE ELBOWS	48	13	0.28	PSI
1.50	REMOTE CONTROL VALVE ASSEMBLY	48	14	1.94	PSI
10%	LATERAL LINE LOSSES	48	15	4.50	PSI
20%	FITTING LOSS (IN ADDITION TO ELBOWS SHOWN)	N/A	16	0.86	PSI
-14.00	ELEVATION CHANGE (P.O.C. TO HIGHEST HEAD)	N/A	17	-6.06	PSI
TOTAL SYSTEM PRESSURE LOSS (SUM OF #1 THRU #17)			18	10.0	PSI
PRESSURE REQUIRED AT HEAD (OPERATING PRESSURE)			19	45.0	PSI
TOTAL PRESSURE REQUIRED (SUM OF #18 AND #19)			20	55.0	PSI
STATIC WATER PRESSURE (FROM ABOVE)			21	0.0	PSI
RESIDUAL PRESSURE (SUBTRACT #20 FROM #21)			22	-55.0	PSI
SET PRV OR MCV AT (#20 PLUS 10 PSI)			23	N/A	PSI
PRESSURE BOOST, IF REQUIRED (SET TO ACHIEVE 20 PSI RESIDUAL)			24	75.0	PSI

LANDSCAPE IRRIGATION WATER ANALYSIS

PROJECT: Entradero Basin
City Of Torrance, CA
Poc #3

ETo: = 50.1

HA = 80,844
SLA = 59,701
LA = 140,545

MAXIMUM APPLIED WATER ALLOWANCE:
TOTAL MAWA=(Eto)(0.62)[(0.7 x LA) + (0.3 x SLA)] **3,612,256 Gal./Yr**

TOTAL ESTIMATED APPLIED WATER USED:
TOTAL EAWU=(Eto x 0.62) x [(HA x PF)/IE) + SLA)] **3,110,021 Gal./Yr**

ESTIMATED APPLIED WATER USED:
EAWU= (ETo)(0.62) x $\frac{[(HA \times PF)]}{IE}$

HYDROZONE #1: (Special Landscape Turf Area with Rotors)
$\frac{50.1 \times 0.62 \times 59{,}701 \times 0.8}{0.8}$ = **1,854,432 Gal./Yr**

HYDROZONE #2: (Mixed water use Shrub Area irrigated with Rotors)
$\frac{50.1 \times 0.62 \times 74{,}310 \times 0.4}{0.8}$ = **1,154,109 Gal./Yr**

HYDROZONE #3: (Mixed water use Shrub Area irrigated with MP Rotators)
$\frac{50.1 \times 0.62 \times 6{,}534 \times 0.4}{0.8}$ = **101,480 Gal./Yr**

MAXIMUM APPLIED WATER ALLOWANCE: **3,612,256 Gal./Yr**

TOTAL ESTIMATED APPLIED WATER USE: **3,110,021 Gal./Yr**

SCALE: 1" = 60'

20 10 0 20 60

I HAVE COMPLIED WITH THE CRITERIA OF THE IRRIGATION GUIDELINES AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

IRRIGATION - ENTRADERO BASIN : L-18

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIQ J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 2613 Expires 10/31/14 Renewal Date 5/14/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
5/28/13
TOUFIQ J. SEMAAN DATE
ACTING CITY ENGINEER
R.C.E. NO. 59226 EXP. 06/30/13

SCALE: AS SHOWN | SHEET 91 OF 111
PLAN NO. SD - 500

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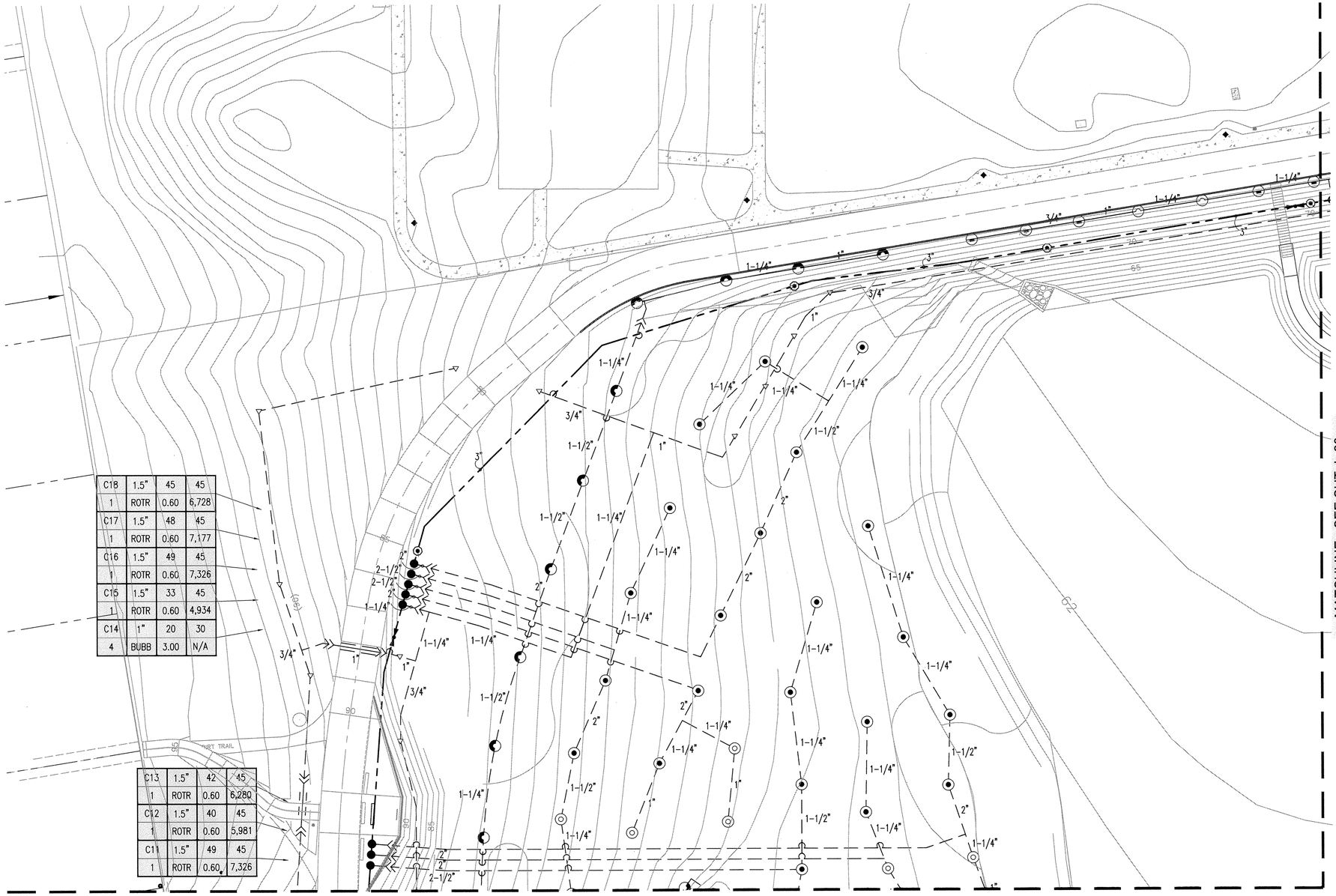
Orange, Ca 92868
e: info@sweeneyassoc.com | t: (714) 938-0456
w: www.sweeneyassoc.com | f: (714) 938-0456

PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

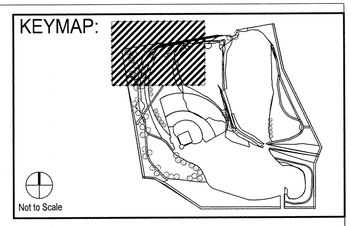
DRAWING NAME: P:\grf\2011\111015\DAD\mooning\irrigation\111015-IRRIGATION PLAN-L18.dwg
PLOT DATE: May 16, 2013 - 3:18pm PLOTTED BY: aaron



C18	1.5"	45	45
1	ROTR	0.60	6,728
C17	1.5"	48	45
1	ROTR	0.60	7,177
C16	1.5"	49	45
1	ROTR	0.60	7,326
C15	1.5"	33	45
1	ROTR	0.60	4,934
C14	1"	20	30
4	BUBB	3.00	N/A

C13	1.5"	42	45
1	ROTR	0.60	6,280
C12	1.5"	40	45
1	ROTR	0.60	5,981
C11	1.5"	49	45
1	ROTR	0.60	7,326

KEYMAP:



NOTE A:
MAINLINE AND RELATED EQUIPMENT SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL MAINLINE AND RELATED EQUIPMENT LOCATION TO BE WITHIN PLANTERS AND A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.

NOTE B:
CONTRACTOR SHALL ADJUST ALL HEADS AS REQUIRED TO ACCOMMODATE ANY VERTICAL OBSTRUCTIONS THAT MAY OCCUR, INCLUDING BUT NOT LIMITED TO LIGHT POLES, FIRE HYDRANTS, ETC. VERIFY ALL HEAD LAYOUT WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.

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SCALE: 1" = 20'

20 10 0 20 60

IRRIGATION PLAN - ENTRADERO BASIN : L-19

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321 Rampart Street, Suite 209
Orange, Ca 92868
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I HAVE COMPLIED WITH THE CRITERIA OF THE IRRIGATION GUIDELINES AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

PREPARED BY:

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FULLERTON, CA 92831
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REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 2499 10/31/14 Renewal Date 5/15/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226
DATE 5/28/13
EXP. 06/30/13

SCALE: AS SHOWN | SHEET 92 OF 111
PLAN NO. SD - 500

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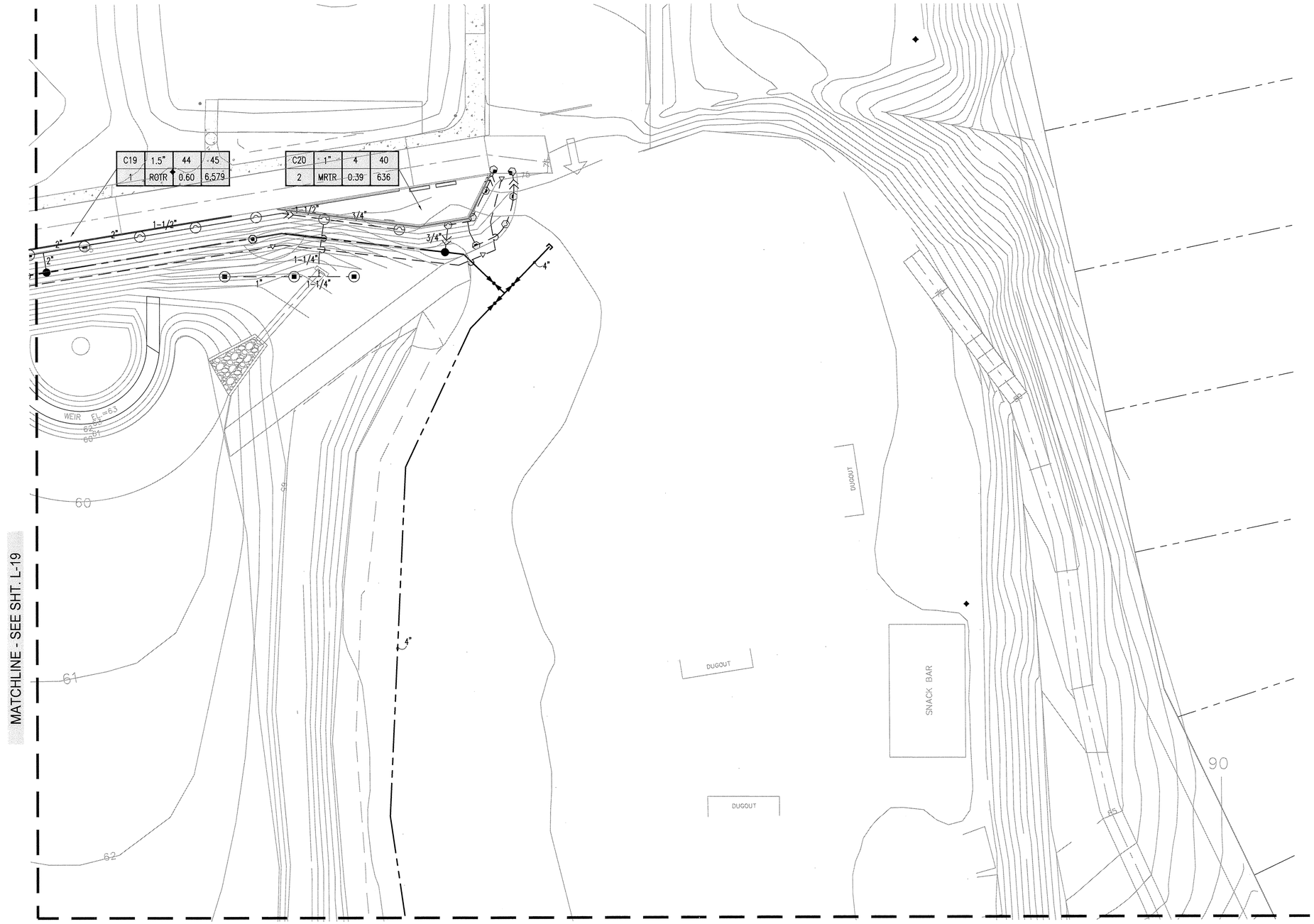
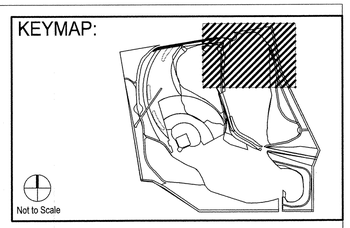
DRAWING NAME: Z:\cyr\2011\111015\CAD\Incoming\Irrigation\111015-IRRIGATION PLAN-L19.dwg
PLOT DATE: May 16, 2013 - 3:15pm PLOTTED BY: eserv





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SCALE: 1" = 20'

20 10 0 20 60

IRRIGATION PLAN - ENTRADERO BASIN : L-20

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www.cwecorp.com

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIQ J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 4745 Signature 10/31/14 Renewal Date 5/15/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

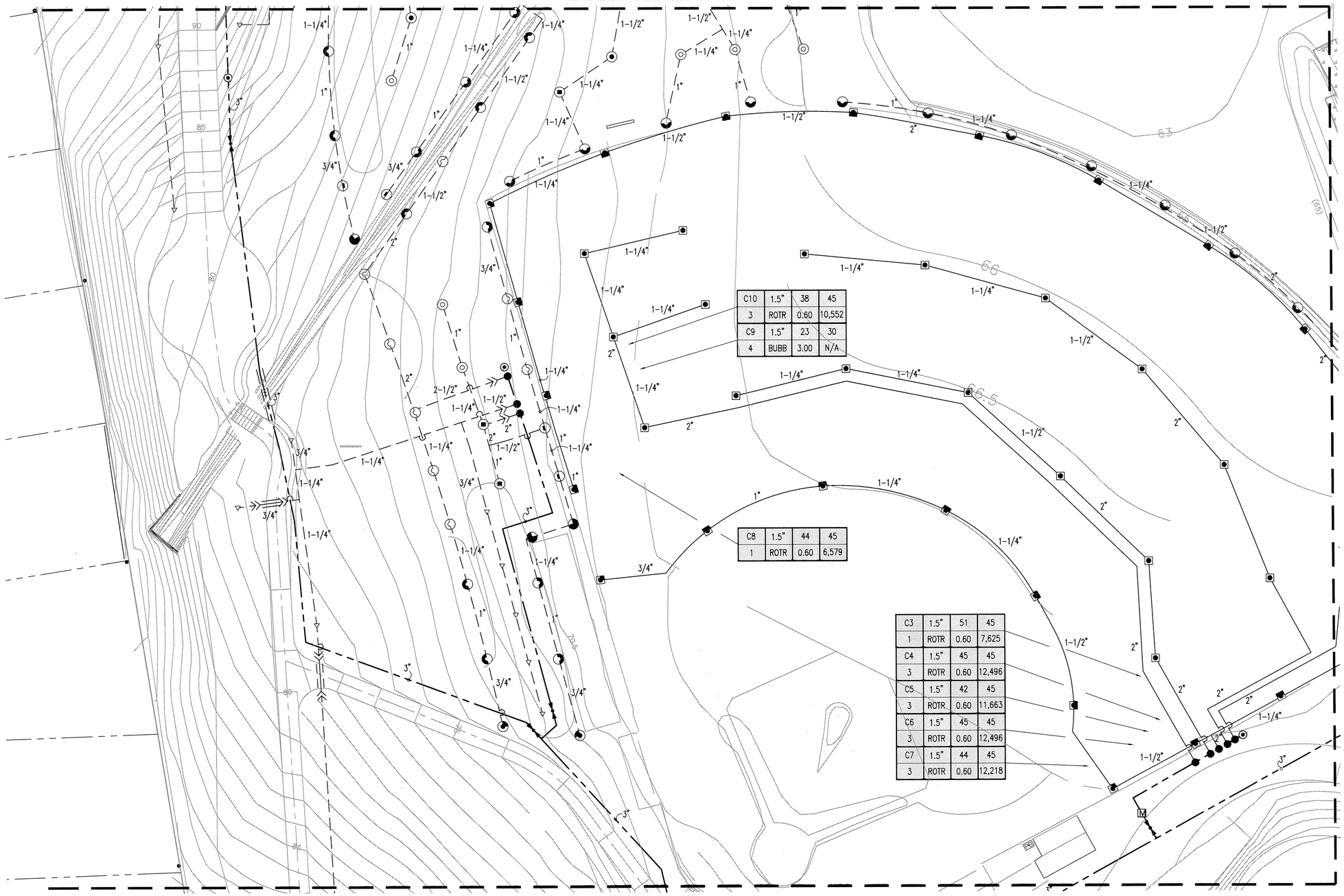
DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
TOUFIQ J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 EXP. 06/30/13

SCALE: AS SHOWN | SHEET 93 OF 111
PLAN NO. SD - 500

DRAWING NAME: F:\wp\2011\111015\DWG\Incoming\Irrigation\111015-IRRIGATION PLAN-L20.dwg
PLOT DATE: May 16, 2013 - 3:18pm PLOTTED BY: sween

MATCHLINE - SEE SHT. L-19

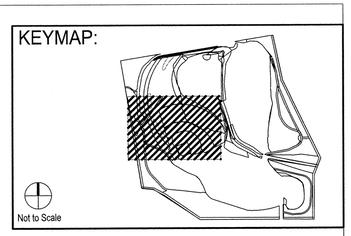


C10	1.5"	38	45
3	ROTR	0.60	10,552
C9	1.5"	23	30
4	BUBB	3.00	N/A

C8	1.5"	44	45
1	ROTR	0.60	6,579

C3	1.5"	51	45
1	ROTR	0.60	7,625
C4	1.5"	45	45
3	ROTR	0.60	12,496
C5	1.5"	42	45
3	ROTR	0.60	11,663
C6	1.5"	45	45
3	ROTR	0.60	12,496
C7	1.5"	44	45
3	ROTR	0.60	12,218

KEYMAP:



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SCALE: 1" = 20'

20 10 0 20 60

IRRIGATION PLAN - ENTRADERO BASIN : L-21

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REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIQ J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 2632 Renewal Date 10/31/14 Issued Date 5/15/2013 Expires STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

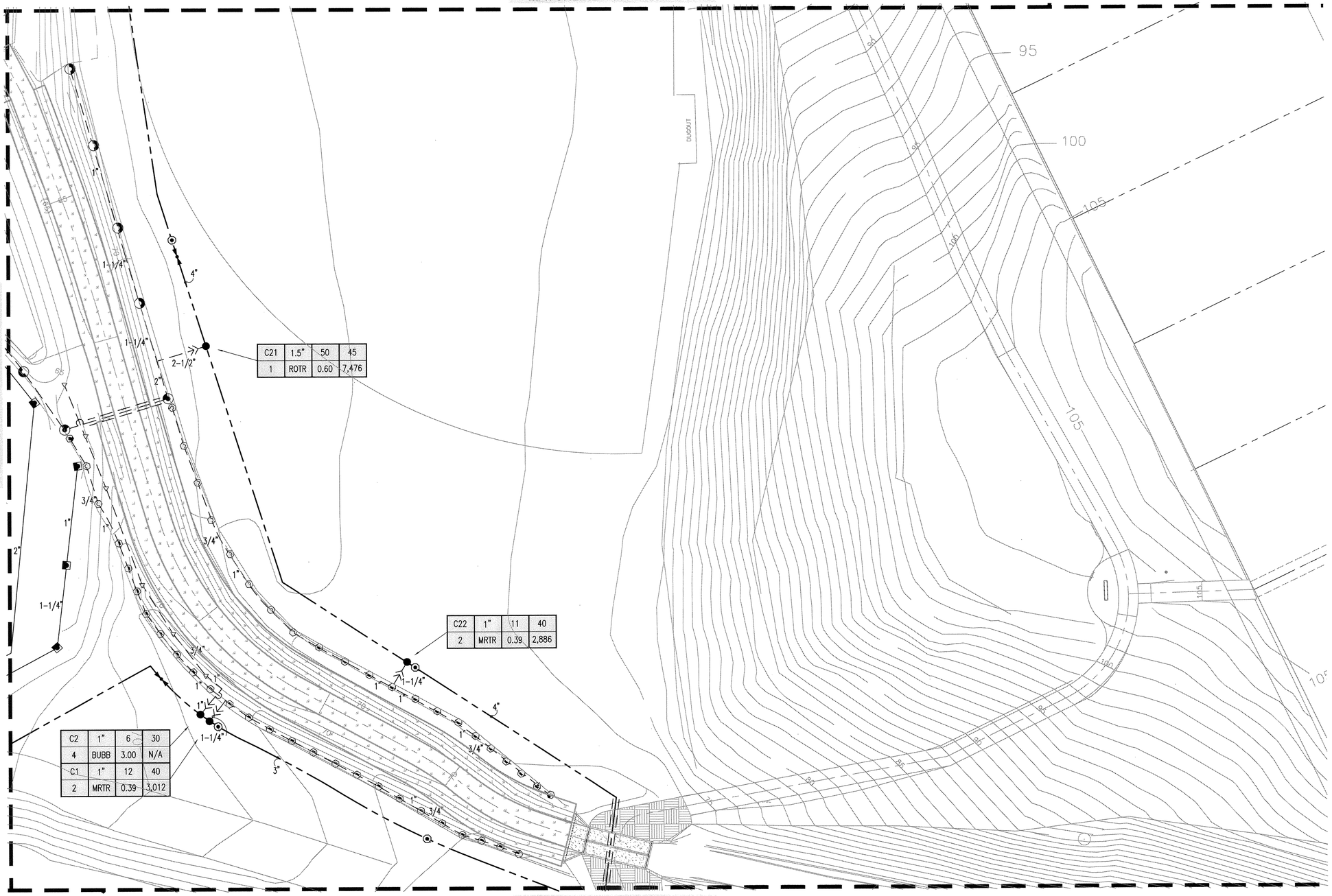
DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
5/28/13
TOUFIQ J. SEMAAN — DATE
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

SCALE: AS SHOWN | SHEET 94 OF 111
PLAN NO. SD - 500

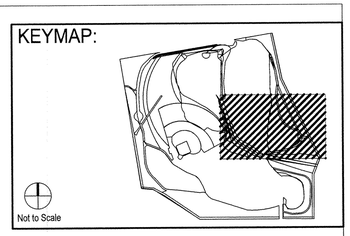
DRAWING NAME: F:\pw\12013\111013\CAD\Incorrig\Irrigation\111013-IRRIGATION PLAN-L21.dwg
PLOT DATE: May 16, 2013 – 3:18pm PLOTTED BY: aaron

MATCHLINE - SEE SHT. L-20



MATCHLINE - SEE SHT. L-24

KEYMAP:



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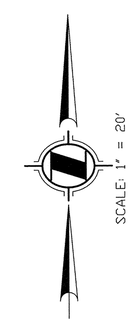

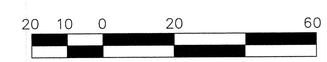

IRRIGATION PLAN - ENTRADERO BASIN : L-22

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REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 3124 Signature 10/31/14 Renewal Date 5/15/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

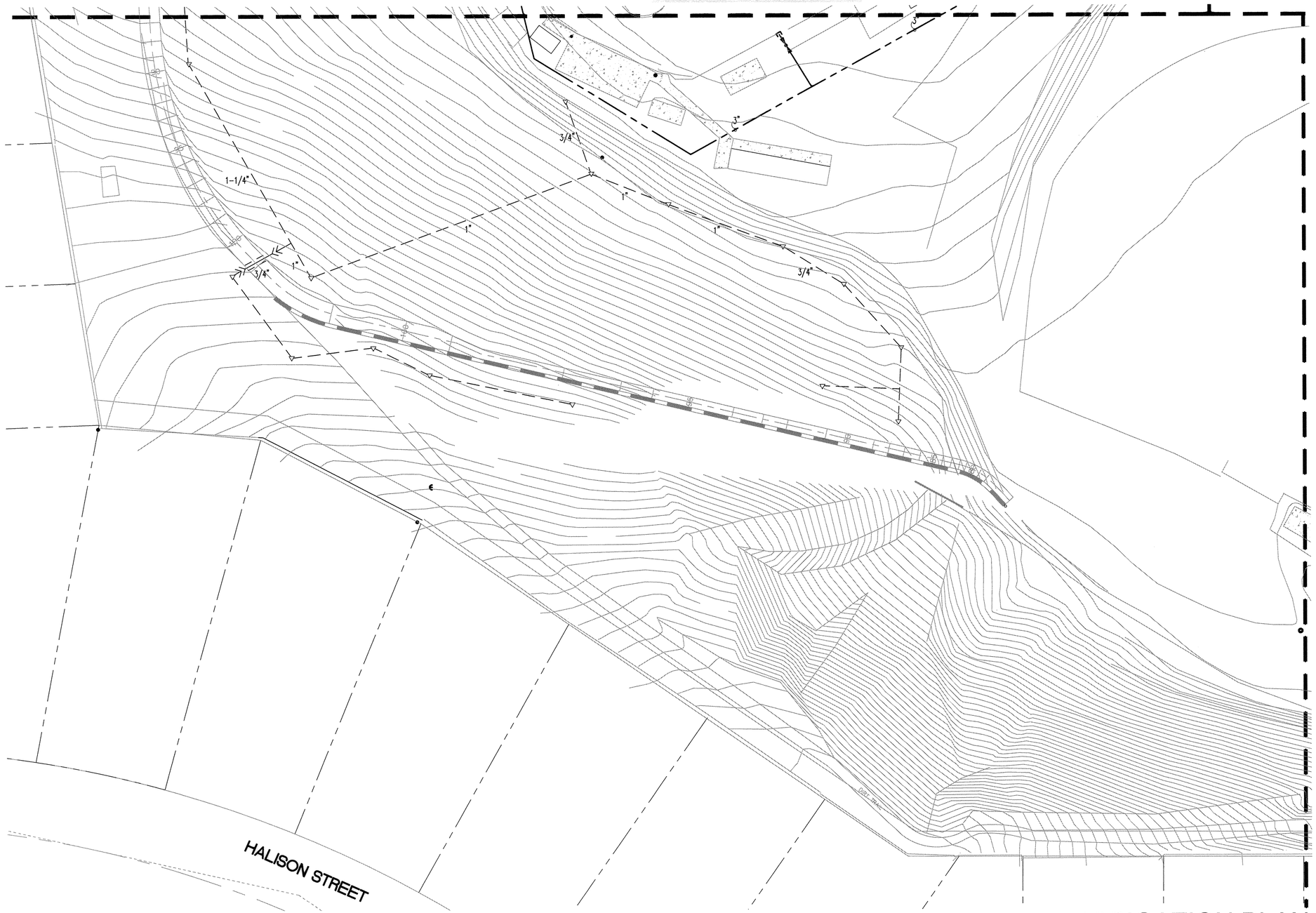
DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226
5/28/13 DATE
EXP. 06/30/13

SCALE: AS SHOWN | SHEET 95 OF 111
PLAN NO. SD - 500

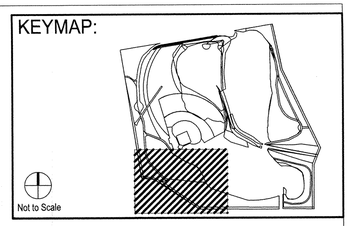
DRAWING NAME: F:\Jobs\2011\111015\CAD\Incomplete\Irrigation\111015-IRRIGATION PLAN-L22.dwg
PLOT DATE: May 16, 2013 - 3:19pm PLOTTED BY: aaron

MATCHLINE - SEE SHEET L-21



MATCHLINE - SEE SHEET L-24

KEYMAP:



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SCALE: 1" = 20'

20 10 0 20 60

IRRIGATION PLAN - ENTRADERO BASIN : L-23

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REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 2422 Signature 10/31/14 Renewal Date 5/14/2013 Date STATE OF CALIFORNIA

DRAWN: A.D.

DESIGNED: B.M.

LANDSCAPE ARCHITECT: CALVIN R. ABE

DIVISION ENGINEER: JOHN DETTLE

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED:

5/28/13
TOUFIC J. SEMAAN — DATE
ACTING CITY ENGINEER
R.C.E. NO. 59226 EXP. 06/30/13

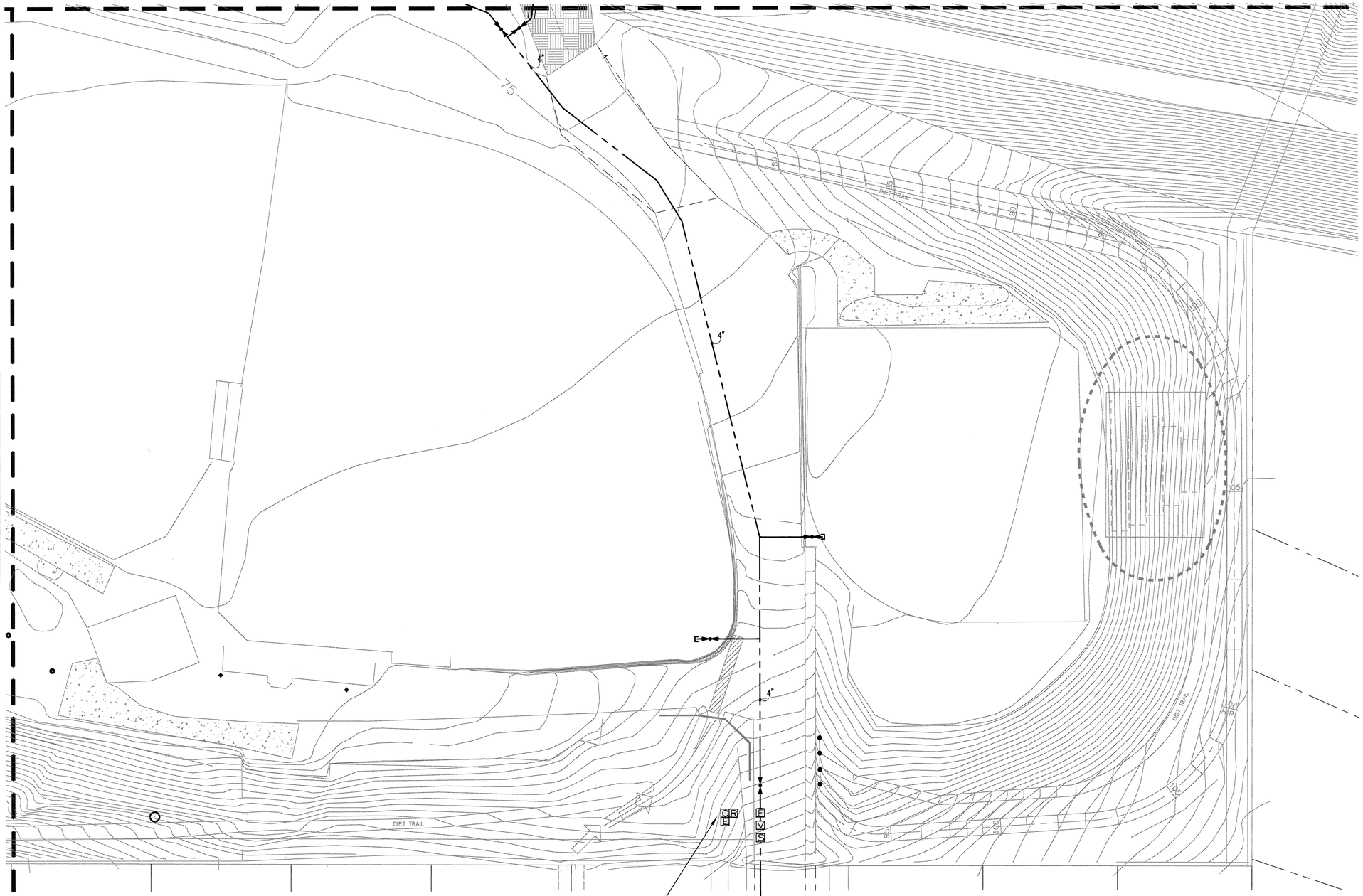
SCALE: AS SHOWN | SHEET 96 OF 111

PLAN NO. SD - 500

DRAWING NAME: F:\wp\2011\111015\DWG\Incoming\Irrigation\111015-IRRIGATION PLAN-L23.dwg
PLOT DATE: May 18, 2013 - 3:21pm PLOTTED BY: aaron

MATCHLINE - SEE SHEET L-22

MATCHLINE - SEE SHEET L-23



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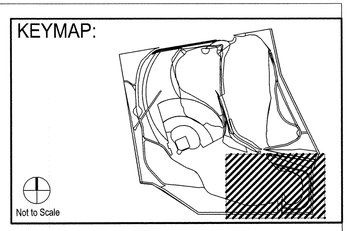

NOTE A:
POINT OF CONNECTION SHALL BE A CONNECTION TO MAINLINE STUB-OUT AT THE PARKWAY ON HALISON ST. VERIFY THE ACTUAL LOCATION, SIZE AND WATER PRESSURE IN THE FIELD PRIOR TO STARTING WORK. IF ANY OF THE POC INFORMATION SHOWN ON THESE DRAWING IS FOUND TO BE DIFFERENT THAN THE ACTUAL POC INFORMATION GATHERED IN THE FIELD, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT AND IRRIGATION CONSULTANT. SHOULD THE CONTRACTOR FAIL TO VERIFY THE POC INFORMATION ANY CHANGES REQUIRED BY LOW PRESSURE OR VOLUME SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REPAIR ANY PAVING RELATED TO THIS CONNECTION.

	61 PSI
MIN. REQ. STATIC WATER PRESSURE	55 PSI
DESIGN WATER PRESSURE	50 GPM
MAXIMUM SYSTEM DEMAND	06 PSI
RESIDUAL WATER PRESSURE	

NOTE B:
CONTROLLER SHALL BE A RAIN MASTER J.D.G.T. 48 STATION EAGLE I CONTROLLER INSTALLED IN A STAINLESS STEEL ENCLOSURE (SEE LEGEND FOR TYPE). FINAL LOCATION OF CONTROLLER AND ELECTRICAL POC SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.

NOTE C:
MAINLINE AND RELATED EQUIPMENT SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL MAINLINE AND RELATED EQUIPMENT LOCATION TO BE WITHIN PLANTERS AND A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.

NOTE D:
CONTRACTOR SHALL ADJUST ALL HEADS AS REQUIRED TO ACCOMMODATE ANY VERTICAL OBSTRUCTIONS THAT MAY OCCUR, INCLUDING BUT NOT LIMITED TO LIGHT POLES, FIRE HYDRANTS, ETC. VERIFY ALL HEAD LAYOUT WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.

NOTE E:
BUBBLERS AND LATERAL LINES ARE SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL LOCATION TO BE WITHIN PLANTER. BUBBLERS SHALL BE ALIGNED WITH TREES AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. CONFIRM ALL LAYOUT IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.

SCALE: 1" = 20'

20 10 0 20 60

IRRIGATION PLAN- ENTRADERO BASIN : L-24

sweeney + associates
IRRIGATION DESIGN AND CONSULTING
321 Rampart Street, Suite 209
Orange, Ca 92868
e: info@sweeneyassoc.com | t: (714) 938-0456
w: www.sweeneyassoc.com | f: (714) 938-0456

I HAVE COMPLIED WITH THE CRITERIA OF THE IRRIGATION GUIDELINES AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

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PREPARED BY:

CWE
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 4128 Signature 10/31/14 Renewal Date 5/16/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.

DESIGNED: B.M.

LANDSCAPE ARCHITECT: CALVIN R. ABE

DIVISION ENGINEER: JOHN DETTLE

APPROVED:

TOUFIC J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

SCALE: AS SHOWN | SHEET 97 OF 111

PLAN NO. SD - 500

Drawing name: F:\cwc\2011\111013\CAD\Irrigation\111013-IRRIGATION PLAN-L24.dwg
PLOT DATE: May 16, 2013 - 2:36pm PLOTTED BY: earun

PLANTING NOTES:

A. TREE LOCATIONS MAY BE ADJUSTED TO AVOID CONFLICTS WITH UNDERGROUND UTILITIES. CONSULT WITH LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO ADJUSTMENT OF TREE LOCATIONS, ESPECIALLY THOSE ARRANGED ON A SPECIFIED MODULE OR IN A GRID PATTERN.

B. NURSERY STAKES ARE TO BE REMOVED AFTER PLANTING TREES AND STAKING OR GUYING AS SHOWN ON PLANS.

C. TREES PLANTED IN TURF AREAS ARE TO HAVE TRUNKS PROTECTED WITH PERFORATED POLYETHYLENE TREE TRUNK PROTECTORS (ARBOR-GARD+ OR EQUAL).

D. CONTRACTOR IS RESPONSIBLE FOR PRUNING TREES AS DIRECTED BY LANDSCAPE ARCHITECT. NO PRUNING IS TO BE DONE UNLESS DIRECTED.

E. SEE DETAIL FOR PLACEMENT OF SHRUBS IN IRREGULARLY SHAPED PLANTING AREAS.

F. WHERE GROUNDCOVER IS SHOWN ON PLANS: GROUNDCOVER PLANTING CONTINUES UNDER SHRUBS & TREES AT SPECIFIED SPACING. DO NOT PLANT GROUNDCOVER IN SHRUB/TREE WATERING BASINS.

G. ALL SLOPES 2:1 OR GREATER ARE TO BE STABILIZED WITH JUTE MESH PRIOR TO PLANTING. DO NOT INSTALL JUTE MESH ON SEEDED SLOPES. SEE SPECIFICATIONS.

H. REFER TO CIVIL ENGINEER'S DRAWINGS FOR CLEAR AND GRUB REQUIREMENTS FOR ALL NEW PLANTING AREAS. PLANTING AREAS SHALL RECEIVE A GROW AND KILL PROCESS AS REQUIRED TO REMOVE EXISTING AND IMPORT PLANTS AND SEEDS.

I. PLANT SOURCES MAY BE TREE OF LIFE NURSERY (949.728.0685); EL NATIVO GROWERS (626.969.8449)

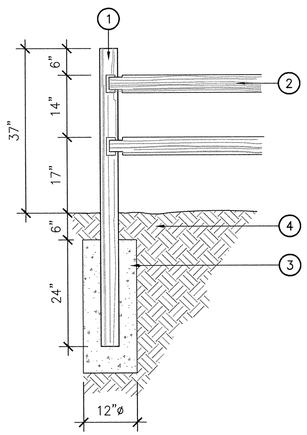
J. ALL SEED MIXES SHALL BE BULK RATES PER ACRES.

TREE LEGEND:

SYMBOL	BOTANICAL NAME "COMMON NAME"	SIZE (HTxSPR)	REMARKS	DETAIL REFER.
■	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL.	–	1/L-7 2/L-7
+	QUERCUS AGRIFOLIA "COAST LIVE OAK"	15 GAL.	–	1/L-7 2/L-7
♣	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.	MULTI-TRUNK	2/L-7 5/L-7
●	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.	STANDARD	1/L-7 2/L-7

SHRUB, VINE, & GROUNDCOVER LEGEND:

SYMBOL	KEY	BOTANICAL NAME	–	SIZE
	C1– C2–	LEYMUS CONDENSATUS MUHLENBERGIA RIGENS NASSELLA PULCHRA (HYDROSEED AS UNDERSTORY)	GRASS	LINERS @ 24" O.C.
	C5– C6– C7– C8–	AMBROSIA PSILOSTACHYA ASCLEPIAS FACICULARIS ELYMUS GLAUCUS ISOCOMA MENZIESII – HYDROSEED ALL EXPOSED SOIL W/ LASTHENIA CALIFORNICA, MALVELLA LEPROSA, NASSELLA PULCHRA	LOW GROUND COVER	LINERS @ 24" O.C.
	G	TURF: HYBRID BERMUDA "BULL'S EYE"	HYBRID TURF	BIG ROLL
	H	ATRIPLEX LENTIFORMIS – 1.5#/A. BACCHARIS PILULARIS – 0.3#/A. CAMISSONIA BISTORTA – 1.0#/A. CASTILLEJA EXSERTA – 1.0#/A. ELYMUS GLAUCUS – 2.0#/A. ENCELIA CALIFORNICA – 2.5#/A. ERIOGONUM FASCICULATUM – 6.0#/A. HEMIZONIA FASCICULATA – 1.5#/A. ISOCOMA MENZIESII – 2.0#/A. ISOMERIS ARBOREA – 1.5#/A. LEYMUS (ELYMUS) CONDENSATUS–1.5#/A LASTHENIA CALIFORNICA – 2.0#/A LOTUS SCOPARIUS – 6#/A. LUPINUS ALBIFRONS – 2.0#/A. PLANTAGO INSULARIS – 20#/A. SALVIA APIANA – 1.0#/A. SALVIA LEUCOPHYLLA – 1.5#/A. SALVIA MELLIFERA – 1.0#/A.	UPPER SLOPE INFREQUENTLY INUNDATED	HYDROSEED
	I	'BASIC EROSION CONTROL MIX' BY S&S SEEDS – 40#/A.	–	HYDROSEED
	J	AMBROSIA PSILOSTACHYA – 3.0#/A. EUTHAMIA OCCIDENTALIS – 1.0#/A. FRANKENSIA SALINA – 2.0#/A. HELIOTOPIUM CURASSAVICUM – 2.0#/A. HORDEUM DEPRESSUM OR BRACYANTHERUM – 6.0#/A. LASTHENIA CALIFORNICA – 2.0#/A. LEYMUS TRITICOIDES – 5.0#/A.	–	HYDROSEED
	MULCH	MULCH TO BE INSTALLED BY CONTRACTOR, PROVIDED BY OWNER.	–	–



LEGEND

1. POST @ 8' O.C.
2. 2 RAIL WESTERN CEDAR SPLIT RAIL FENCE.
3. CONCRETE FOOTING.
4. COMPACTED GRADE.

1 SPLIT RAIL FENCE
SCALE: 3/4" = 1'-0"

xxxxxx.dwg

PLANTING LEGEND AND NOTES - ENTRADERO BASIN : L-25

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 2414 Renewal Date 10/31/14 Expiration Date 5/14/2013 STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226
DATE 5/28/13
EXP. 06/30/13

SCALE: AS SHOWN | SHEET 98 OF 111
PLAN NO. SD - 500

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LANDSCAPE ARCHITECTS
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PREPARED BY:
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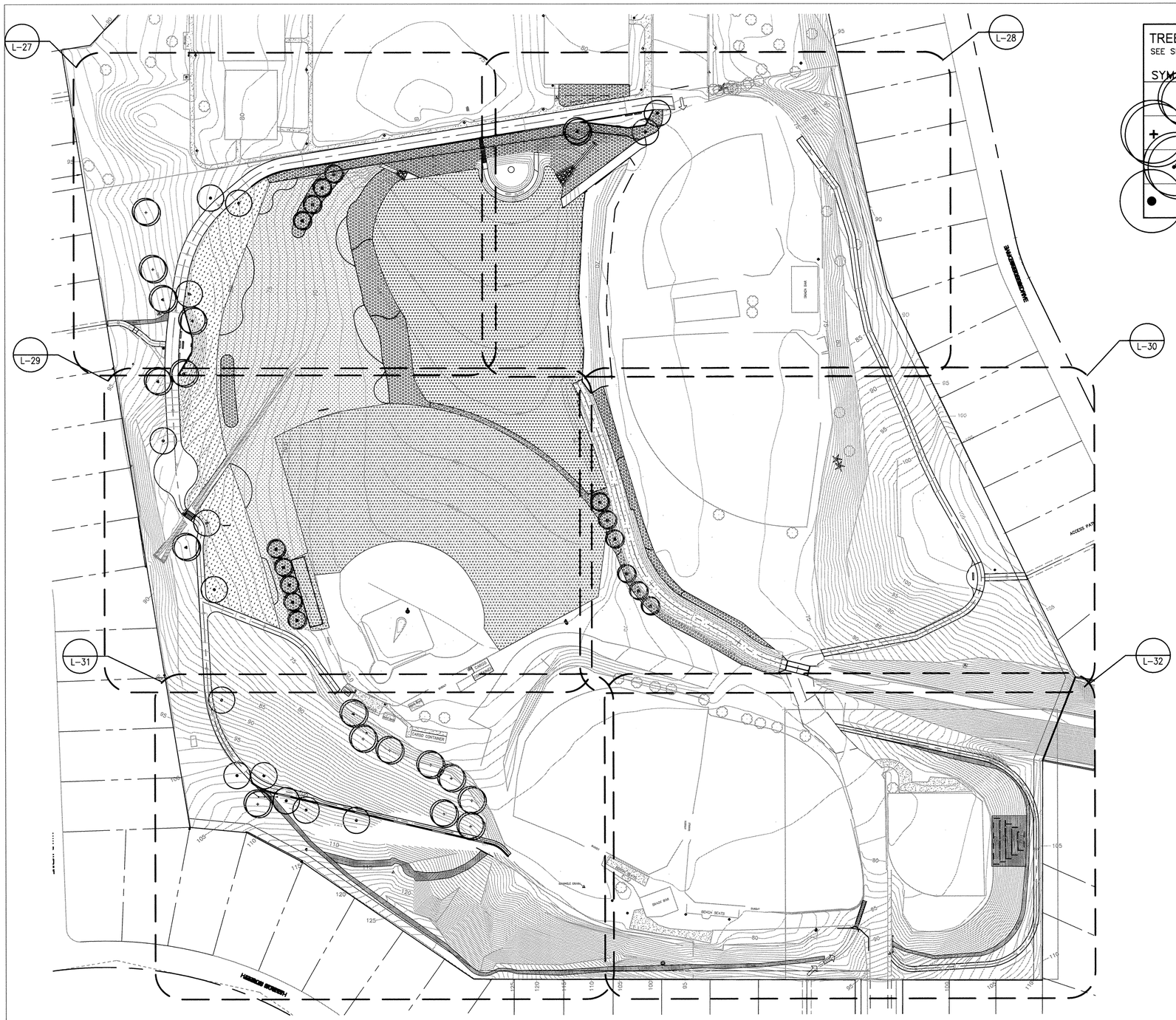
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: F:\Cwe\2011\111018\CAD\111015-ENTRADERO BASIN-L25.dwg
PLOT DATE: May 16, 2013 - 3:22pm PLOTTED BY: warren



TREE LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

SYMBOL	BOTANICAL NAME "COMMON NAME"	SIZE (HTxSPR)
■	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL.
+	QUERCUS AGRIFOLIA "COAST LIVE OAK"	15 GAL.
✤	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.
●	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.

SHRUB, VINE, & GROUNDCOVER LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

SYMBOL	KEY	BOTANICAL NAME
	C1– C2–	LEYMUS CONDENSATUS MUHLENBERGIA RIGENS NASSELLA PULCHRA (HYDROSEED AS UNDERSTORY)
	C5– C6– C7– C8–	AMBROSIA PSILOSTACHYA ASCLEPIAS FACICULARIS ELYMUS GLAUCUS ISOCOMA MENZIESII — HYDROSEED ALL EXPOSED SOIL W/ LASTHENIA CALIFORNICA, MALVELLA LEPROSA, NASSELLA PULCHRA
	G	TURF: HYBRID BERMUDA "BULL'S EYE"
	H	ATRIPLEX LENTIFORMIS – 1.5#/A. BACCHARIS PILULARIS – 0.3#/A. CAMISSONIA BISTORTA – 1.0#/A. CASTILLEJA EXSERTA – 1.0#/A. ELYMUS GLAUCUS – 2.0#/A. ENCELIA CALIFORNICA – 2.5#/A. ERIOGONUM FASCICULATUM – 6.0#/A. HEMIZONIA FASCICULATA – 1.5#/A. ISOCOMA MENZIESII – 2.0#/A. ISOMERIS ARBOREA – 1.5#/A. LEYMUS (ELYMUS) CONDENSATUS–1.5#/A LASTHENIA CALIFORNICA – 2.0#/A LOTUS SCOPARIUS – 6#/A. LUPINUS ALBIFRONS – 2.0#/A. PLANTAGO INSULARIS – 20#/A. SALVIA APIANA – 1.0#/A. SALVIA LEUCOPHYLLA – 1.5#/A. SALVIA MELLIFERA – 1.0#/A.
	I	'BASIC EROSION CONTROL MIX' BY S&S SEEDS – 40#/A.
	J	AMBROSIA PSILOSTACHYA – 3.0#/A. EUTHAMIA OCCIDENTALIS – 1.0#/A. FRANKENSIA SALINA – 2.0#/A. HELIOTOPIUM CURASSAVICUM – 2.0#/A. HORDEUM DEPRESSUM OR BRACYANTHERUM – 6.0#/A. LASTHENIA CALIFORNICA – 2.0#/A. LEYMUS TRITICOIDES – 5.0#/A.
	MULCH	MULCH TO BE INSTALLED BY CONTRACTOR, PROVIDED BY OWNER.

SCALE: 1" = 60'

20 10 0 20 60

PLANTING PLAN - ENTRADERO BASIN : L-26

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER — TOUFIQ J. SEMAAN — No. 59226 — Exp. 06/30/13 — CIVIL — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — CALVIN R. ABE — No. 4923 — Expiration Date 10/31/14 — Date Signed 5/14/2013 — STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.

DESIGNED: B.M.

LANDSCAPE ARCHITECT: CALVIN R. ABE

DIVISION ENGINEER: JOHN DETTLE

APPROVED:

TOUFIQ J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

SCALE: AS SHOWN | SHEET 99 OF 111

PLAN NO. SD - 500

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PREPARED BY:
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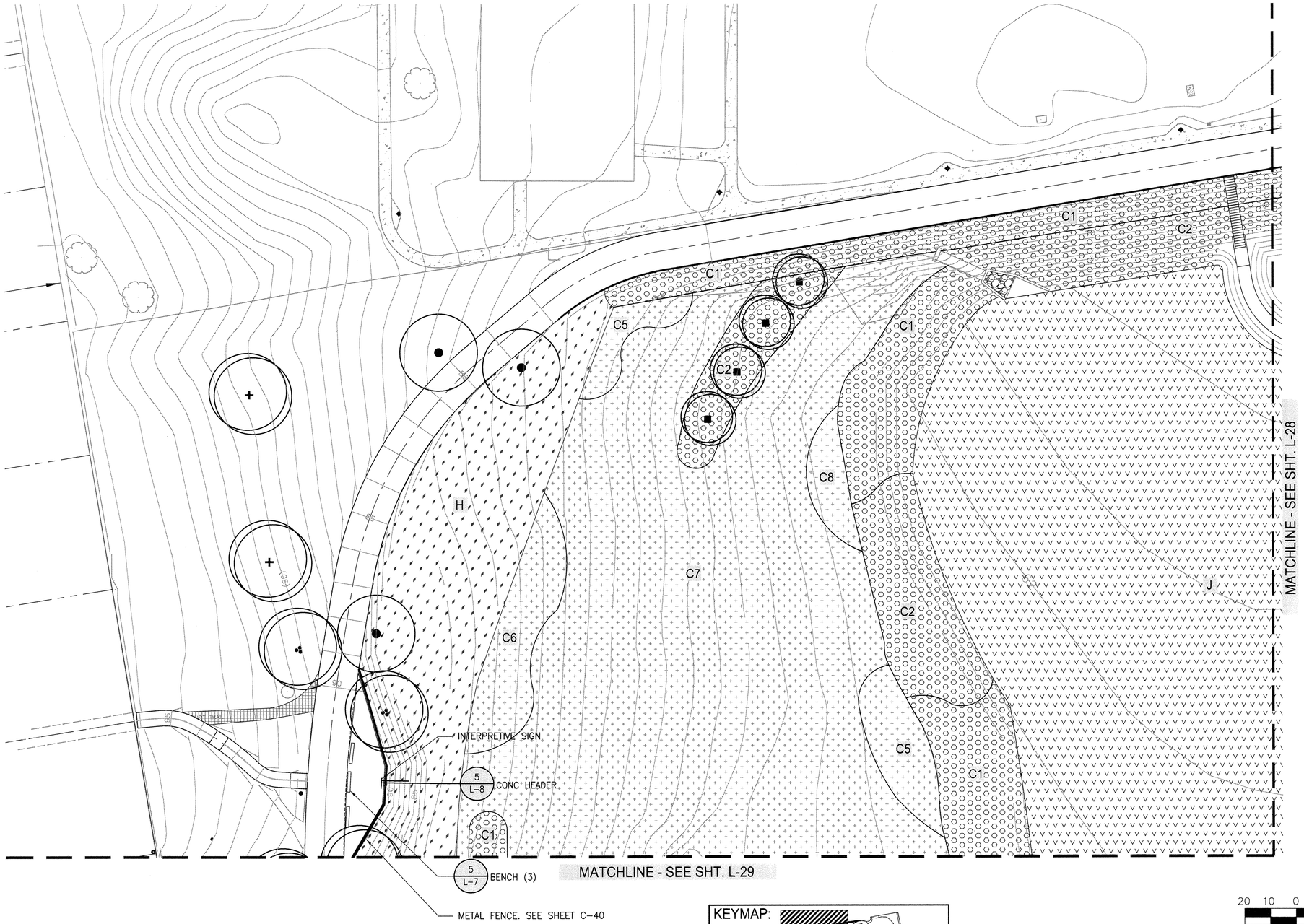
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: F:\ayr\2011\111015\CAD\111015-ENTRADERO BASIN-L26.dwg
PLOT DATE: May 16, 2013 – 3:24pm PLOTTED BY: aaron



TREE LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

SYMBOL	BOTANICAL NAME "COMMON NAME"	SIZE (HTxSPR)
■	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL.
+	QUERCUS AGRIFOLIA "COAST LIVE OAK"	15 GAL.
♣	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.
●	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.

SHRUB, VINE, & GROUNDCOVER LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

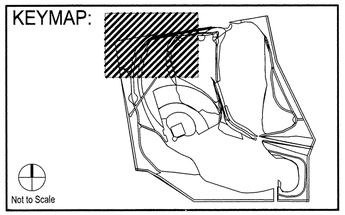
SYMBOL	KEY	BOTANICAL NAME
	C1– C2–	LEYMUS CONDENSATUS MUHLENBERGIA RIGENS NASSELLA PULCHRA (HYDROSEED AS UNDERSTORY)
	C5– C6– C7– C8–	AMBROSIA PSILOSTACHYA ASCLEPIAS FACICULARIS ELYMUS GLAUCUS ISOCOMA MENZIESII — HYDROSEED ALL EXPOSED SOIL W/ LASTHENIA CALIFORNICA, MALVELLA LEPROSA, NASSELLA PULCHRA
	G	TURF: HYBRID BERMUDA "BULL'S EYE"
	H	ATRIPLEX LENTIFORMIS – 1.5#/A. BACCHARIS PILULARIS – 0.3#/A. CAMISSONIA BISTORTA – 1.0#/A. CASTILLEJA EXSERTA – 1.0#/A. ELYMUS GLAUCUS – 2.0#/A. ENCELIA CALIFORNICA – 2.5#/A. ERIOGONUM FASCICULATUM – 6.0#/A. HEMIZONIA FASCICULATA – 1.5#/A. ISOCOMA MENZIESII – 2.0#/A. ISOMERIS ARBOREA – 1.5#/A. LEYMUS (ELYMUS) CONDENSATUS–1.5#/A LASTHENIA CALIFORNICA – 2.0#/A LOTUS SCOPARIUS – 6#/A. LUPINUS ALBIFRONS – 2.0#/A. PLANTAGO INSULARIS – 20#/A. SALVIA APIANA – 1.0#/A. SALVIA LEUCOPHYLLA – 1.5#/A. SALVIA MELLIFERA – 1.0#/A.
	I	'BASIC EROSION CONTROL MIX' BY S&S SEEDS – 40#/A.
	J	AMBROSIA PSILOSTACHYA – 3.0#/A. EUTHAMIA OCCIDENTALIS – 1.0#/A. FRANKENSIA SALINA – 2.0#/A. HELIOTOPIUM CURASSAVICUM – 2.0#/A. HORDEUM DEPRESSUM OR BRACYANTHERUM – 6.0#/A. LASTHENIA CALIFORNICA – 2.0#/A. LEYMUS TRITICOIDES – 5.0#/A.
	MULCH	MULCH TO BE INSTALLED BY CONTRACTOR, PROVIDED BY OWNER.

SCALE: 1" = 20'

20 10 0 20 60

PLANTING PLAN - ENTRADERO BASIN : L-27

KEYMAP:



REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 2613 10/31/14 Expiration Date 5/16/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.

DESIGNED: B.M.

LANDSCAPE ARCHITECT: CALVIN R. ABE

DIVISION ENGINEER: JOHN DETTLE

APPROVED:

TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226

5/28/13
DATE
EXP. 06/30/13

SCALE: AS SHOWN | SHEET 100 OF 111

PLAN NO. SD - 500

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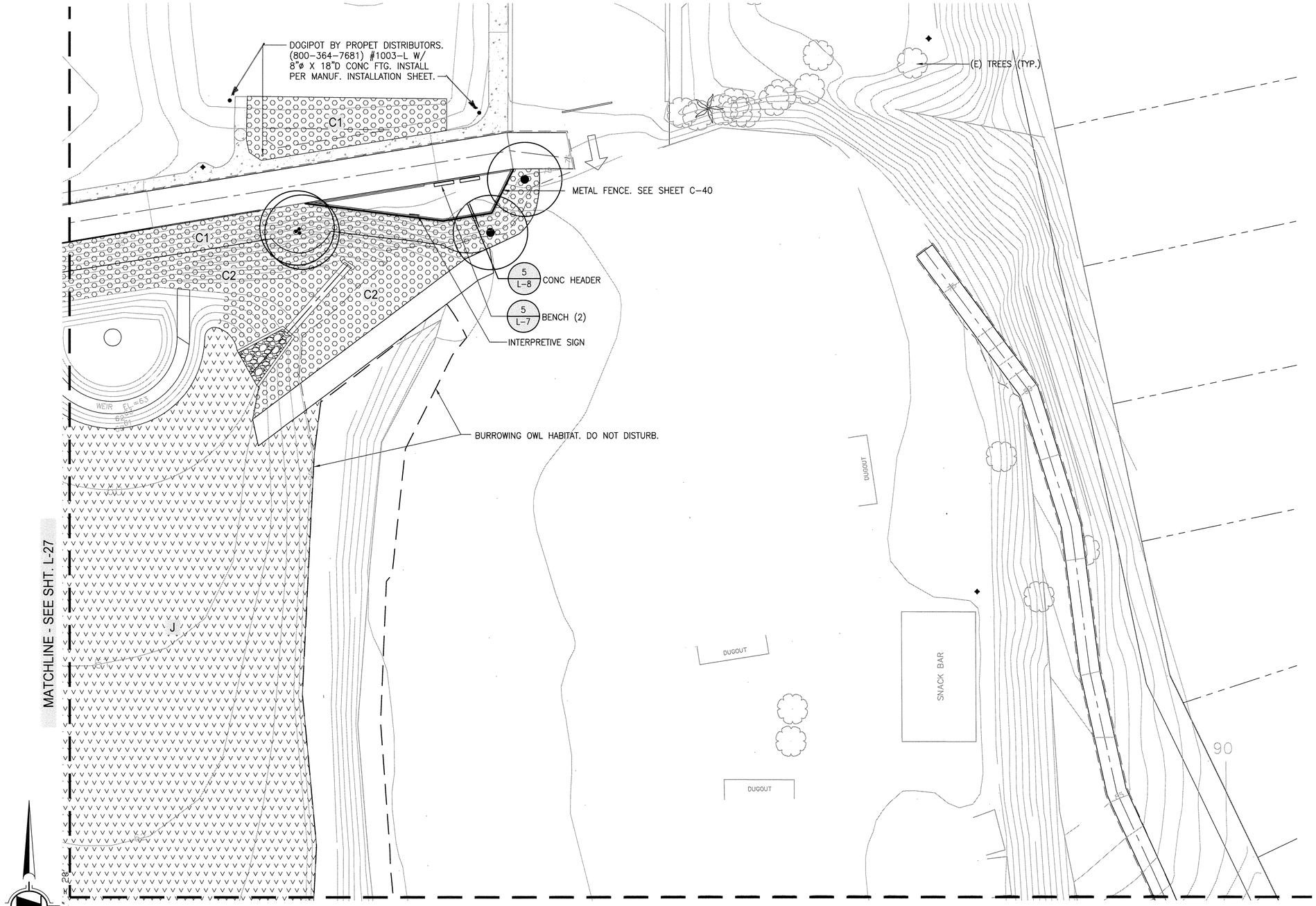
DRAWING NAME: P:\pr\12011\11101\DAR\111015-ENTRADERO BASIN-L27.dwg
PLOT DATE: May 16, 2013 – 2:26pm PLOTTED BY: aaron



TREE LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

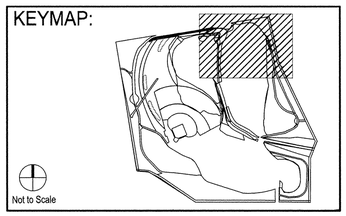
SYMBOL	BOTANICAL NAME "COMMON NAME"	SIZE (HTxSPR)
■	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL.
+	QUERCUS AGRIFOLIA "COAST LIVE OAK"	15 GAL.
⁂	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.
●	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.

SHRUB, VINE, & GROUNDCOVER LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

SYMBOL	KEY	BOTANICAL NAME
	C1- C2-	LEYMUS CONDENSATUS MUHLENBERGIA RIGENS NASSELLA PULCHRA (HYDROSEED AS UNDERSTORY)
	C5- C6- C7- C8-	AMBROSIA PSILOSTACHYA ASCLEPIAS FACICULARIS ELYMUS GLAUCUS ISOCOMA MENZIESII — HYDROSEED ALL EXPOSED SOIL W/ LASTHENIA CALIFORNICA, MALVELLA LEPROSA, NASSELLA PULCHRA
	G	TURF: HYBRID BERMUDA "BULL'S EYE"
	H	ATRIPLEX LENTIFORMIS – 1.5#/A. BACCHARIS PILULARIS – 0.3#/A. CAMISSONIA BISTORTA – 1.0#/A. CASTILLEJA EXSERTA – 1.0#/A. ELYMUS GLAUCUS – 2.0#/A. ENCELIA CALIFORNICA – 2.5#/A. ERIOGONUM FASCICULATUM – 6.0#/A. HEMIZONIA FASCICULATA – 1.5#/A. ISOCOMA MENZIESII – 2.0#/A. ISOMERIS ARBOREA – 1.5#/A. LEYMUS (ELYMUS) CONDENSATUS–1.5#/A LASTHENIA CALIFORNICA – 2.0#/A LOTUS SCOPARIUS – 6#/A. LUPINUS ALBIFRONS – 2.0#/A. PLANTAGO INSULARIS – 20#/A. SALVIA APIANA – 1.0#/A. SALVIA LEUCOPHYLLA – 1.5#/A. SALVIA MELLIFERA – 1.0#/A.
	I	'BASIC EROSION CONTROL MIX' BY S&S SEEDS – 40#/A.
	J	AMBROSIA PSILOSTACHYA – 3.0#/A. EUTHAMIA OCCIDENTALIS – 1.0#/A. FRANKENSIA SALINA – 2.0#/A. HELIOTOPIUM CURASSAVICUM – 2.0#/A. HORDEUM DEPRESSUM OR BRACYANTHERUM – 6.0#/A. LASTHENIA CALIFORNICA – 2.0#/A. LEYMUS TRITICOIDES – 5.0#/A.
	MULCH	MULCH TO BE INSTALLED BY CONTRACTOR, PROVIDED BY OWNER.

KEYMAP:



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PLANTING PLAN - ENTRADERO BASIN : L-28

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 2513 10/31/14 5/16/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

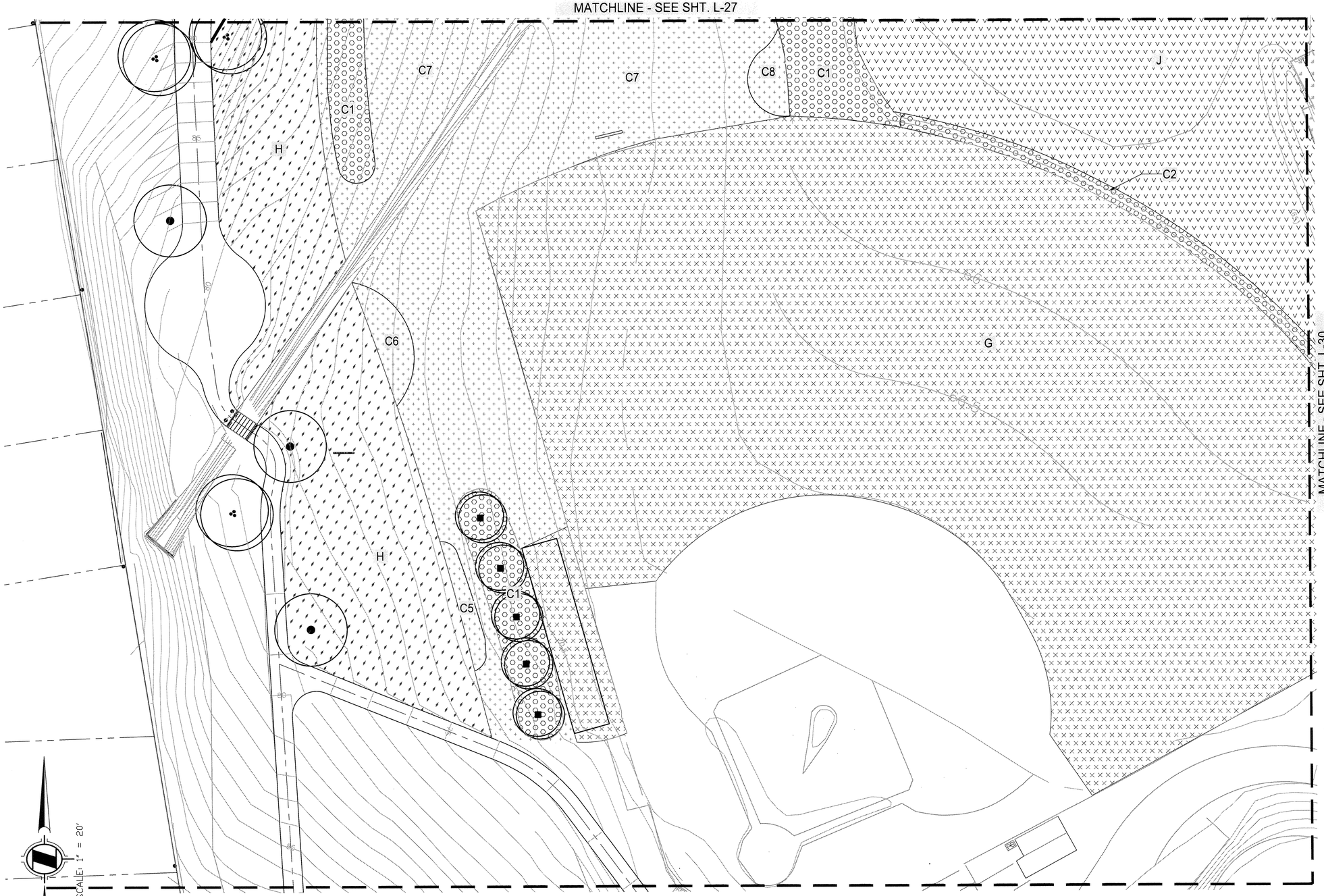
APPROVED:
TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226 EXP. 06/30/13
5/28/13 DATE

SCALE: AS SHOWN | SHEET 101 OF 111
PLAN NO. SD - 500

AHBE
LANDSCAPE ARCHITECTS
8729 WASHINGTON BOULEVARD
CULVER CITY, CALIFORNIA 90232
T: 310.838.0448 F: 310.204.2664

PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: P:\cwi\30011\111013\CAD\111015-ENTRADERO BASIN-L28.dwg
PLOT DATE: May 16, 2013 – 2:04pm PLOTTED BY: aaron



TREE LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

SYMBOL	BOTANICAL NAME "COMMON NAME"	SIZE (HTxSPR)
■	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL.
+	QUERCUS AGRIFOLIA "COAST LIVE OAK"	15 GAL.
♣	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.
●	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.

SHRUB, VINE, & GROUNDCOVER LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

SYMBOL	KEY	BOTANICAL NAME
	C1– C2–	LEYMUS CONDENSATUS MUHLENBERGIA RIGENS NASSELLA PULCHRA (HYDROSEED AS UNDERSTORY)
	C5– C6– C7– C8–	AMBROSIA PSILOSTACHYA ASCLEPIAS FACICULARIS ELYMUS GLAUCUS ISOCOMA MENZIESII — HYDROSEED ALL EXPOSED SOIL W/ LASTHENIA CALIFORNICA, MALVELLA LEPROSA, NASSELLA PULCHRA
	G	TURF: HYBRID BERMUDA "BULL'S EYE"
	H	ATRIPLEX LENTIFORMIS – 1.5#/A. BACCHARIS PILULARIS – 0.3#/A. CAMISSONIA BISTORTA – 1.0#/A. CASTILLEJA EXSERTA – 1.0#/A. ELYMUS GLAUCUS – 2.0#/A. ENCELIA CALIFORNICA – 2.5#/A. ERIOGONUM FASCICULATUM – 6.0#/A. HEMIZONIA FASCICULATA – 1.5#/A. ISOCOMA MENZIESII – 2.0#/A. ISOMERIS ARBOREA – 1.5#/A. LEYMUS (ELYMUS) CONDENSATUS–1.5#/A LASTHENIA CALIFORNICA – 2.0#/A LOTUS SCOPARIUS – 6#/A. LUPINUS ALBIFRONS – 2.0#/A. PLANTAGO INSULARIS – 20#/A. SALVIA APIANA – 1.0#/A. SALVIA LEUCOPHYLLA – 1.5#/A. SALVIA MELLIFERA – 1.0#/A.
	I	'BASIC EROSION CONTROL MIX' BY S&S SEEDS – 40#/A.
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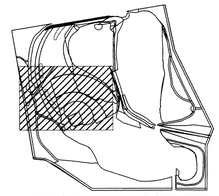
	MULCH	MULCH TO BE INSTALLED BY CONTRACTOR, PROVIDED BY OWNER.

10 0 20 60

KEYMAP:



Not to Scale

Call Before You Dig
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PLANTING PLAN - ENTRADERO BASIN : L-29

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE No. 3030 Signature 10/31/14 Renewal Date 5/14/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.

DESIGNED: B.M.

LANDSCAPE ARCHITECT: CALVIN R. ABE

DIVISION ENGINEER: JOHN DETTLE

APPROVED:

5/28/13

TOUFIC J. SEMAAN — DATE
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

SCALE: AS SHOWN | SHEET 102 OF 111

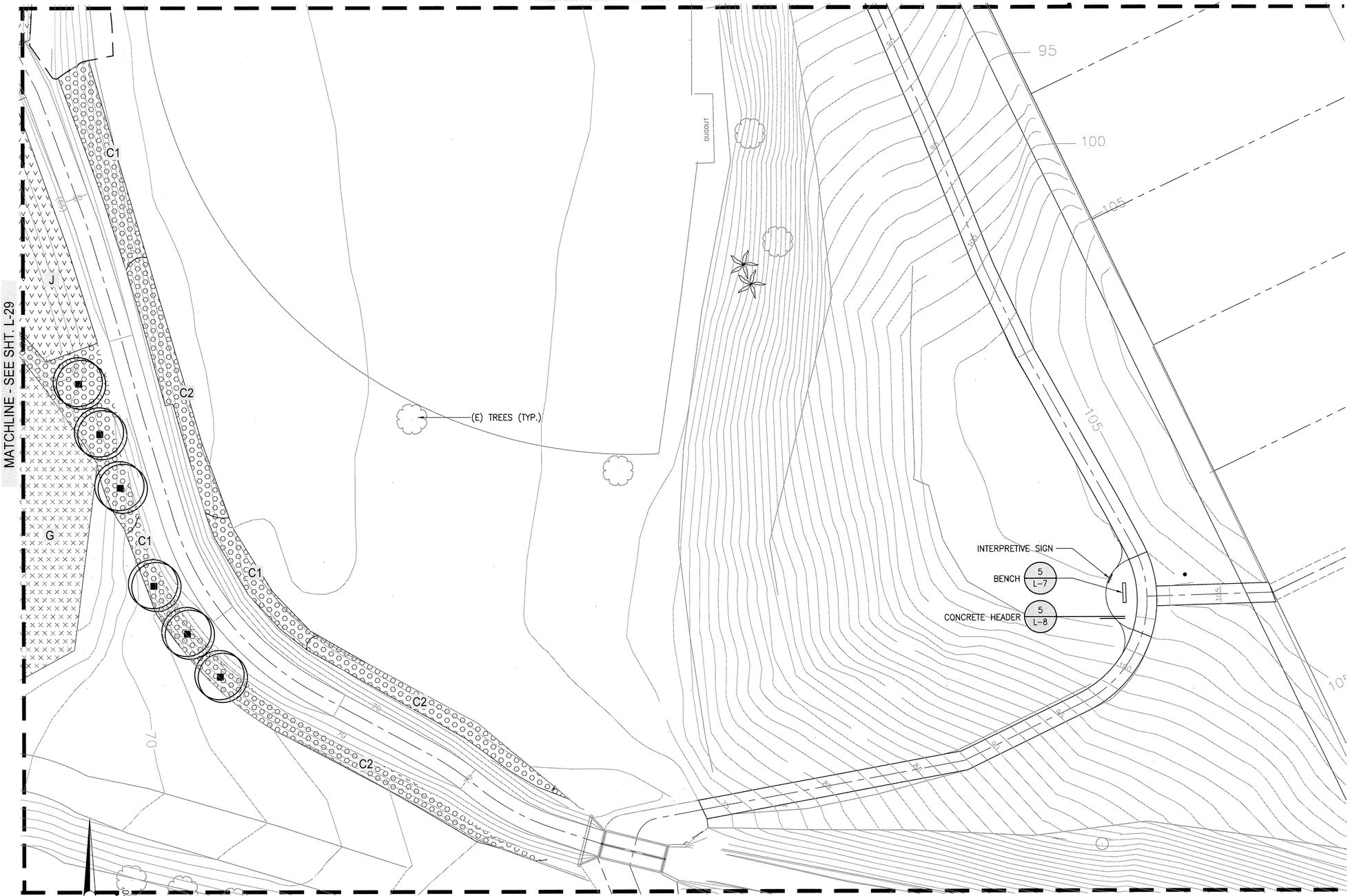
PLAN NO. SD - 500

AHBE
LANDSCAPE ARCHITECTS
8729 WASHINGTON BOULEVARD
CULVER CITY, CALIFORNIA 90232
T: 310.838.0448 F: 310.204.2664

PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: F:\pw\2011\111015\CAD\111015-ENTRADERO BASIN-L29.dwg
PLOT DATE: May 16, 2013 – 3:25pm PLOTTED BY: ewren

MATCHLINE - SEE SHT. L-28



MATCHLINE - SEE SHT. L-32

TREE LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

SYMBOL	BOTANICAL NAME "COMMON NAME"	SIZE (HTxSPR)
■	POPULOUS FREMONTII "WESTERN COTTONWOOD"	15 GAL.
+	QUERCUS AGRIFOLIA "COAST LIVE OAK"	15 GAL.
✤	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.
●	PLATANUS RACEMOSA "CALIFORNIA SYCAMORE"	15 GAL.

SHRUB, VINE, & GROUNDCOVER LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

SYMBOL	KEY	BOTANICAL NAME
	C1– C2–	LEYMUS CONDENSATUS MUHLENBERGIA RIGENS NASSELLA PULCHRA (HYDROSEED AS UNDERSTORY)
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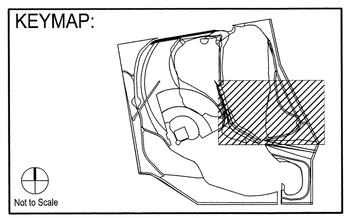
SCALE: 1" = 20'

20 10 0 20 60

KEYMAP:



PLANTING PLAN - ENTRADERO BASIN : L-30

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REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 4192 Signature 10/31/14 Renewal Date 5/14/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

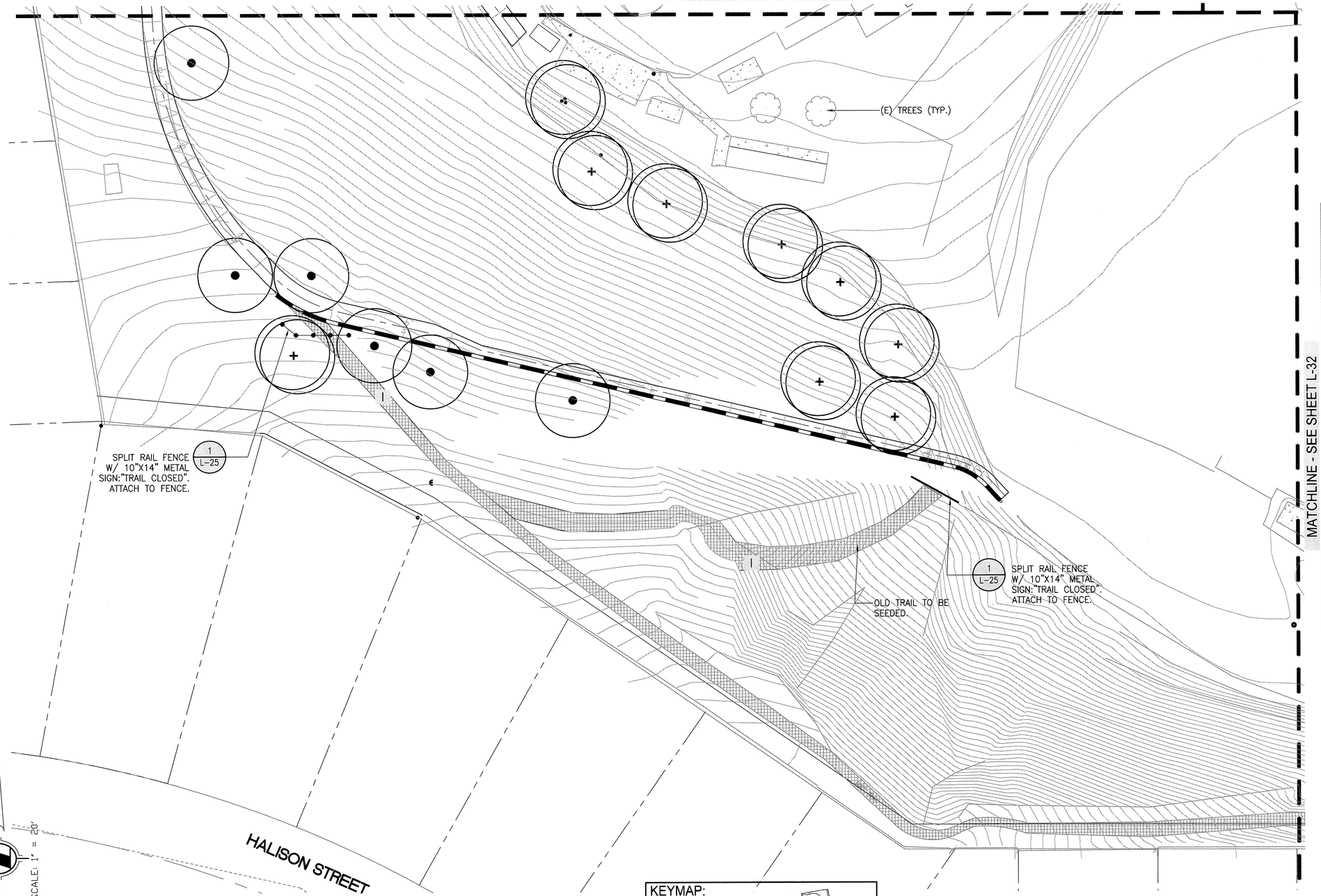
DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
TOUFIC J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 EXP. 06/30/13

SCALE: AS SHOWN | SHEET 103 OF 111
PLAN NO. SD - 500

DRAWING NAME: F:\wr\2011\111018\CAD\111015-ENTRADERO BASIN-L30.dwg
PLOT DATE: May 16, 2013 – 3:27pm PLOTTED BY: carlen

MATCHLINE - SEE SHEET L-29



MATCHLINE - SEE SHEET L-32

TREE LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

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SEE SHEET L-25 FOR COMPLETE LEGEND.

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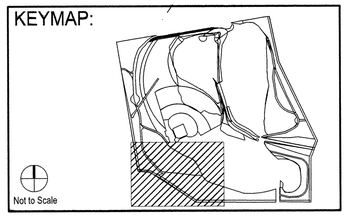

PLANTING PLAN - ENTRADERO BASIN : L-31

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PREPARED BY:
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FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 4011 10/31/14 Renewal Date 5/15/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.
DESIGNED: B.M.
LANDSCAPE ARCHITECT: CALVIN R. ABE
DIVISION ENGINEER: JOHN DETTLE

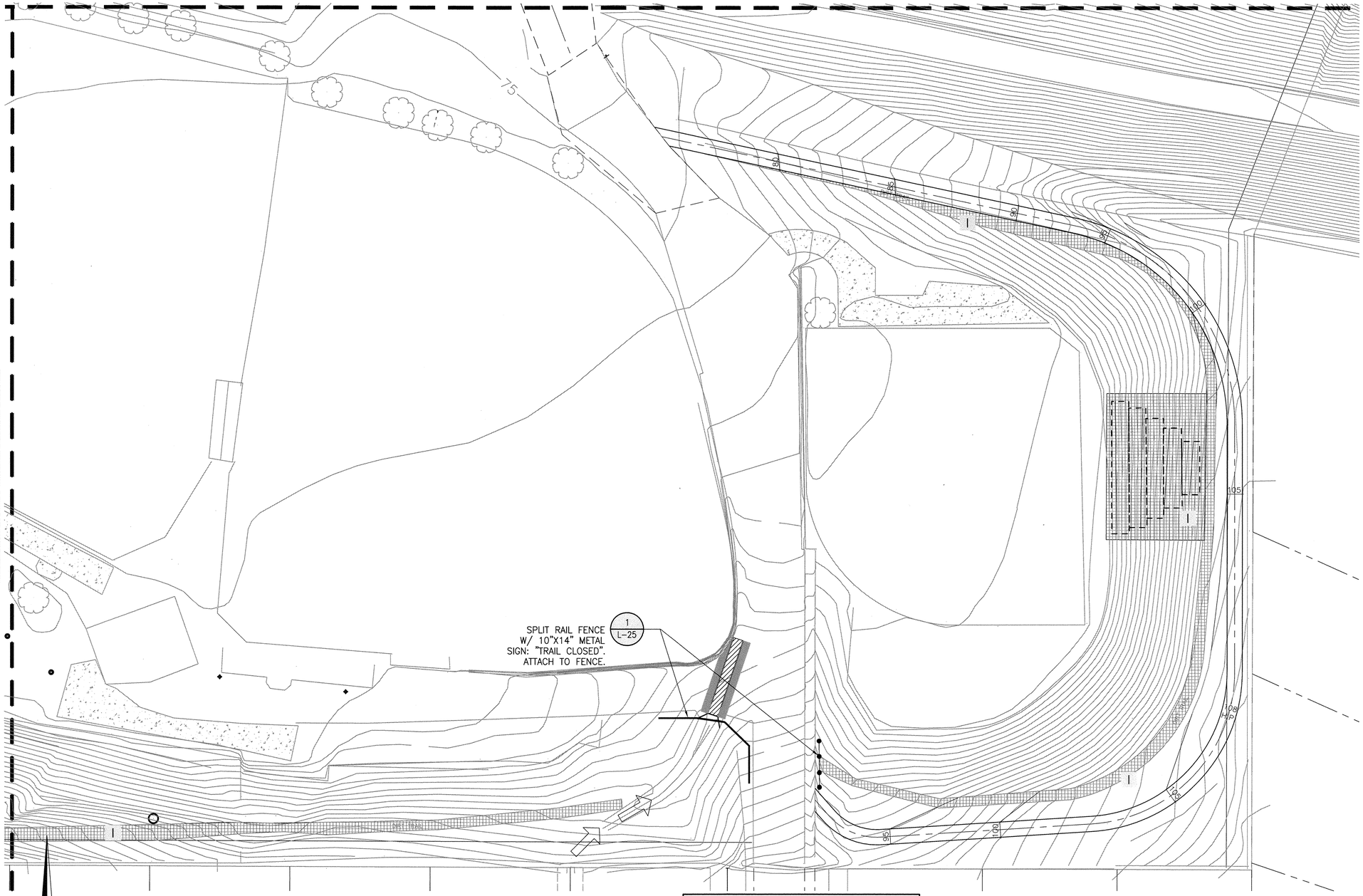
APPROVED:
TOUFIC J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

SCALE: AS SHOWN | SHEET 104 OF 111
PLAN NO. SD - 500

DRAWING NAME: F:\art\2011\111013\CAD\111013-ENTRADERO BASIN-L31.dwg
PLOT DATE: May 16, 2013 – 3:08pm PLOTTED BY: aaron

MATCHLINE - SEE SHEET L-30

MATCHLINE - SEE SHEET L-31



TREE LEGEND:

SEE SHEET L-25 FOR COMPLETE LEGEND.

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SCALE: 1" = 20'

20 10 0 20 60

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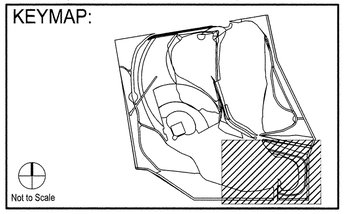
KEYMAP:



PLANTING PLAN- ENTRADERO BASIN : L-32

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER TOUFIC J. SEMAAN No. 59226 Exp. 06/30/13 CIVIL STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT CALVIN R. ABE NO. 4831 Expiration 10/31/14 Date Signed 5/14/2013 Date STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: A.D.

DESIGNED: B.M.

LANDSCAPE ARCHITECT: CALVIN R. ABE

DIVISION ENGINEER: JOHN DETTLE

APPROVED:

5/28/13
TOUFIC J. SEMAAN — DATE
ACTING CITY ENGINEER
R.C.E. NO. 59226 EXP. 06/30/13

SCALE: AS SHOWN | SHEET 105 OF 111

PLAN NO. SD - 500

AHBE
LANDSCAPE ARCHITECTS
8729 WASHINGTON BOULEVARD
CULVER CITY, CALIFORNIA 90232
T: 310.838.0448 F: 310.204.2664

PREPARED BY:
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1561 E. ORANGETHORPE AVE., SUITE 240
FULLERTON, CA 92831
(714) 385-2600 OFFICE (714) 385-2605 FAX
www.cwecorp.com

DRAWING NAME: F:\Cwf\2011\111019\CAD\111015-ENTRADERO BASIN-L32.dwg
PLOT DATE: May 16, 2013 - 3:26pm PLOTTED BY: doron

SYMBOLS AND ABBREVIATIONS

- RECYCLED WATER BOUNDARY AREA
- PROPERTY LINE
- NEW POTABLE WATER LINE
- NEW RECYCLED WATER IRRIGATION LATERAL
- RECYCLED WATER LINE PER LANDSCAPE PLANS
- AREAS IRRIGATED WITH POTABLE WATER
- AREAS IRRIGATED WITH RECYCLED WATER
- METER
- REDUCED PRESSURE PRINCIPLE DEVICE BACKFLOW PREVENTER
- DRINKING FOUNTAIN
- ELECTRIC CONTROL VALVE
- QUICK COUPLING VALVE
- HOSE BIB
- GATE VALVE
- SERVICE CONNECTION
- PRESSURE REDUCING VALVE (PRV)
- STATION IRRIGATION CONTROLLERS – ELECTRIC (A,B,C...)
- CAP
- RECYCLED WATER SIGN
- BLOW–OFF

CWSC	CALIFORNIA WATER SERVICE COMPANY
D.I.	DUCTILE IRON
DPH	DEPARTMENT OF PUBLIC HEALTH SERVICES
EXIST.	EXISTING
F.H.	FIRE HYDRANT
FLG	FLANGED
IRR	IRRIGATION
MIN.	MINIMUM
N.I.C.	NOT IN CONTRACT
PE	PLAIN END
PO	PUSH–ON
PW	POTABLE WATER
RPPD	REDUCED PRESSURE PRINCIPLE DEVICE BACKFLOW PREVENTER
RW	RECYCLED WATER
TMWD	TORRANCE MUNICIPAL WATER DEPARTMENT

SHEET INDEX

SHEET	DESCRIPTION
RW–1	GENERAL INFORMATION
RW–2	SITE PLAN 1
RW–3	SITE PLAN 2
RW–4	RW DETAIL SHEET 1
RW–5	RW DETAIL SHEET 2
RW–6	DPH RECYCLED WATER GUIDELINES

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION LATEST EDITION AND SUPPLEMENTS THERETO, AS WRITTEN AND PROMULGATED BY PUBLIC WORKS STANDARDS INC., THE CITY OF TORRANCE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION, WBMWD STANDARD SPECIFICATIONS FOR PIPELINE CONSTRUCTION AND THE RECYCLED WATER URBAN IRRIGATION USER'S MANUAL, LATEST EDITIONS.
2. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED AT LEAST TWELVE INCHES (12") ABOVE GRADE, READILY ACCESSIBLE FOR FIELD TEST AND MAINTENANCE, AND AS CLOSE TO THE POTABLE WATER METER AS PRACTICAL.
3. DRINKING FOUNTAINS LOCATED IN RECYCLED WATER USE AREAS SHALL BE PROTECTED FROM RECYCLED WATER SPRAY BY A COMBINATION OF SELECTIVE LOCATION OF SUCH EQUIPMENT AND BY APPROPRIATE IRRIGATION SYSTEM DESIGN AND/OR MODIFICATION.
4. QUICK COUPLERS AND ELECTRICAL CONTROLLERS SHALL BE IDENTIFIED WITH THE PROPER TAGS AND LABELS. QUICK COUPLERS SHALL BE INSTALLED IN BOXES.
5. EXISTING UNDERGROUND UTILITIES ARE SHOWN PER AVAILABLE RECORDS. THE CONTRACTOR IS REQUIRED TO VERIFY AND DOCUMENT ON AS–BUILT DRAWINGS THE ACTUAL LOCATION AND ELEVATIONS IN THE FIELD OF ALL UTILITIES AND ALL POINTS OF CONNECTION. THE FIELD VERIFICATION (POTHOLING) SHALL BE COMPLETED PRIOR TO THE COMMENCEMENT OF ANY MODIFICATIONS TO THE IRRIGATION SYSTEM.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY DEPTH AND PROTECT ALL STRUCTURES, INCLUDING SUBSTRUCTURES, SHOWN ON THE PLANS. THE CONTRACTOR SHALL BEAR THE ENTIRE COST OF REPAIRING OR REPLACING ANY OF SAID STRUCTURES DAMAGED BY HIM/HER DURING PROSECUTION OF THE WORK. ALL REPAIRS AND REPLACEMENTS SHALL BE DONE IN THE PRESENCE OF THE INSPECTOR.
7. ALL LOCATIONS SHOWN ON THE PLAN FOR UTILITY LINES HAVE BEEN TAKEN FROM AVAILABLE RECORDS AND THEIR COMPLETENESS OR CORRECTNESS ARE IN NO WAY GUARANTEED.
8. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1–800–227–2600 AND ALL PUBLIC UTILITY COMPANIES AND OWNERS OF ALL PRIVATE FACILITIES AT LEAST TWO (2) WORKING DAYS IN ADVANCE OF PERFORMING ANY WORK WITHIN SAID AREA.
9. RECYCLED WATER SIGNS SHALL BE INSTALLED AT LOCATIONS AGREEABLE TO THE PARK SUPERVISOR AND DHS. SIGNS MAY BE MOUNTED ON POLES, ATTACHED TO EXISTING FENCES, BUILDINGS, OR EXISTING POLE MOUNTED SIGNS.
10. ALL CONCRETE SHALL BE 560–C–3250 UNLESS OTHERWISE SPECIFIED.
11. PRIOR TO DELIVERING RECYCLED WATER TO THE SITE, A SUCCESSFUL CROSS CONNECTION AND COVERAGE TEST WILL BE REQUIRED. THE FOLLOWING AGENCIES MAY BE PARTICIPATING IN THE TESTS: WBMWD, COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH SERVICES, STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES, AND A REPRESENTATIVE FROM WEST BASIN MWD. CONTRACTOR WILL BE REQUIRED TO SEQUENCE THEIR WORK TO ALLOW FOR THE CROSS CONNECTION AND COVERAGE TESTS PRIOR TO PERFORMING THE DISCONNECTION OF THE POTABLE WATER AND CONNECTION OF THE RECYCLED WATER TO THE EXISTING IRRIGATION SYSTEM.
12. CONTRACTOR SHALL REPAIR ANY BROKEN IRRIGATION LINES RESULTING FROM CONSTRUCTION ACTIVITIES. ALL GRASS AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH SOD TO THE SATISFACTION OF THE OWNER.
13. PIPE TRENCHING AND BEDDING FOR THE RECYCLED WATER SERVICE SHALL BE PER WBMWD STD. DWG. RW15 & RW17.
14. THE CONTRACTOR SHALL POTHOLE AT ALL CONNECTION POINTS TO VERIFY HORIZONTAL AND VERTICAL LOCATION AND CONNECTION REQUIREMENTS PRIOR TO THE START OF CONSTRUCTION.
15. CONTRACTOR SHALL REPLACE ANY QUICK COUPLER VALVES ON THE RECYCLED WATER IRRIGATION SYSTEM PER DETAIL 8 ON SHEET L–4.
16. CONTRACTOR SHALL INSTALL RECYCLED WATER IDENTIFICATION TAGS, CHRISTY MODEL ID–MAX–P2–RC006, OR SIMILAR, ON ALL EXISTING IRRIGATION VALVE BOXES FOUND ON THE RECYCLED WATER SYSTEM.
17. CONTRACTOR SHALL INSTALL POTABLE WATER IDENTIFICATION TAGS ON ALL NEW AND EXISTING POTABLE WATER VALVES AND OUTLETS AS DIRECTED BY INSPECTOR.
18. CONTRACTOR SHALL PAINT PURPLE (PANTONE 512) AND LABEL AT A 3 FOOT INTERVAL ALL EXPOSED IRRIGATION PIPING. PIPING SHALL BE LABELED WITH THE WORDS "CAUTION: RECYCLED WATER – DO NOT DRINK" IN BLACK TO IDENTIFY THEM AS RECYCLED WATER PER LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH REQUIREMENTS. LETTERING HEIGHT SHALL BE A MINIMUM OF 3–INCHES IN HEIGHT.
19. QUICK COUPLING VALVES TO BE INSTALLED ON AN IRRIGATION SYSTEM SERVED RECYCLED WATER SHALL BE OF BRASS CONSTRUCTION WITH A PERMANENTLY ATTACHED PURPLE RUBBER OR VINYL COVER WITH THE WORDS "RECYCLED WATER" IMPRINTED ON THE COVER. THE VALVE SHALL BE NELSON 42 WITH A 40K KEY (ACME THREAD) OR APPROVED EQUAL.

CONTACTS

OWNER:	TORRANCE PARKS AND RECREATION ROBERT CARSON, PARK SERVICES MANAGER (310) 781–6901	WEST BASIN MUNICIPAL WATER DISTRICT:	JOE WALTERS, PROJECT MANAGER (310) 660–6208
WATER PURVEYOR:	CITY OF TORRANCE, WATER DEPARTMENT JOHN DETTLE (310) 618–3059	COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH SERVICES (DPH):	JOHN FURUTA (213) 305–1101

SCALE: 1" = 80'

GENERAL INFORMATION - ENTRADERO BASIN : RW-1

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER KRAIG J. ERICKSON No. C73895 EXP. 6-30-13 STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: R.A.Y.
DESIGNED: K.E.
PROJECT ENGINEER: KRAIG ERICKSON
DIVISION ENGINEER: JOHN DETTLE

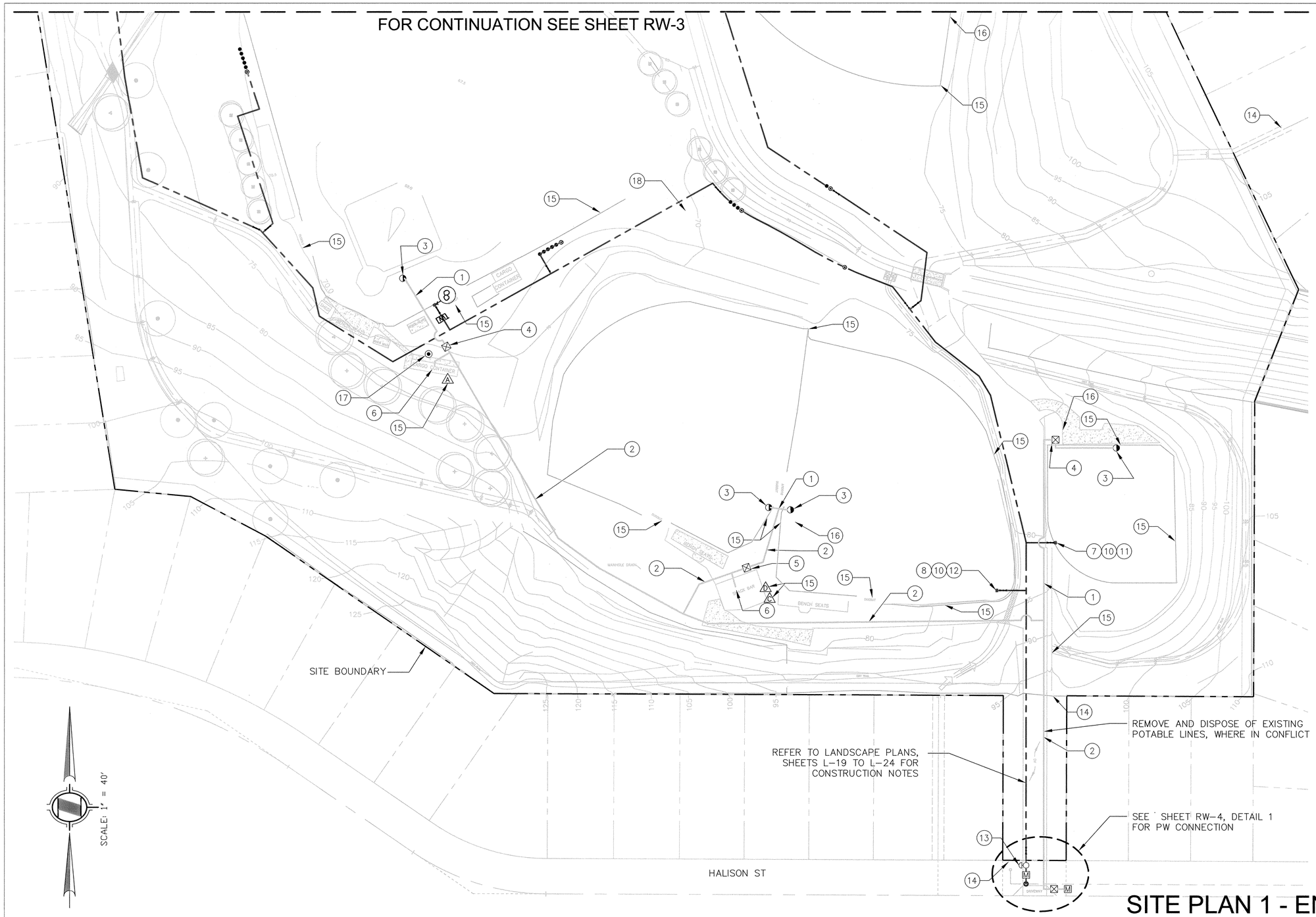
APPROVED: 5/28/13
TOUFIC AL-SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226
DATE EXP. 06/30/13

SCALE: AS SHOWN | SHEET 106 OF 111
PLAN NO. RW–1

PREPARED BY:
RMC Water and Environment
15510 ROCKFIELD BLVD, SUITE 200
IRVINE, CA 92618
(949) 420-5300 OFFICE (949) 420-5301 FAX
www.rmcwater.com

Call Before You Dig
1-800-227-2600

DRAWING NAME: P:\0132 – West Basin\0132-008 RW Customer Development\B. Project Work\1. Cust Gen\Entradero Park\CAD\BMC-RW1.dwg
PLOT DATE: May 08, 2013 – 2:59pm PLOTTED BY: byoung



CONSTRUCTION NOTES:

1. FURNISH AND INSTALL 1-INCH COPPER POTABLE WATER LINE. SEE SHEET RW-5, DETAIL 2 FOR PIPE INSTALLATION DETAIL.
2. FURNISH AND INSTALL 2-INCH COPPER POTABLE WATER LINE. SEE SHEET RW-5, DETAIL 2 FOR PIPE INSTALLATION DETAIL.
3. FURNISH AND INSTALL POTABLE QUICK COUPLER, SEE SHEET RW-5, DETAIL 1. QUICK COUPLER SHALL BE 3 FEET MIN. CLEAR FROM BASE LINE OUTSIDE THE FIELD OF PLAY.
4. FURNISH AND INSTALL 1-INCH REDUCED PRESSURE BACKFLOW ASSEMBLY. SEE SHEET RW-5, DETAIL 3.
5. FURNISH AND INSTALL 2-INCH REDUCED PRESSURE BACKFLOW ASSEMBLY. SEE SHEET RW-4, DETAIL 3.
6. CONNECT EXISTING POTABLE SERVICE AS NEEDED.
7. FURNISH AND INSTALL 1-INCH SUB-METER. SEE SHEET RW-5, DETAIL 4.
8. FURNISH AND INSTALL 2-INCH SUB-METER. SEE SHEET RW-5, DETAIL 4.
9. FURNISH AND INSTALL 3-INCH SUB-METER. SEE SHEET RW-5, DETAIL 4.
10. CONNECT TO EXISTING IRRIGATION MAIN.
11. FURNISH AND INSTALL 1-INCH PVC RECYCLED WATER PIPE.
12. FURNISH AND INSTALL 2-INCH PVC RECYCLED WATER PIPE.
13. FURNISH AND INSTALL 4-INCH PRESSURE REDUCING VALVE ASSEMBLY. SEE SHEET RW-4, DETAIL 5.
14. FURNISH AND INSTALL RECYCLED WATER USE IDENTIFICATION SIGN, 12-INCH BY 18-INCH, CHRISTY MODEL ID-SIGN-3.5, OR SIMILAR. INSTALL ON EXIST. FENCE OR POLE.
15. FURNISH AND INSTALL RECYCLED WATER USE IDENTIFICATION SIGN, 4-INCH BY 8-INCH, CHRISTY MODEL ID-SIGN-4x8, OR SIMILAR, AT ACCESS POINT TO IRR AREA. INSTALL ON EXIST. FENCE OR POLE.
16. REMOVE AND CAP EXIST. QUICK COUPLER OR HOSE BIB. SEE SHEET RW-4, DETAIL 4.
17. FURNISH AND INSTALL HOSE BIB WITH BRASS VACUUM BREAKER ON POTABLE WATER SYSTEM. REMOVE ANY EXIST. HOSE BIBS ON IRR SYSTEM. FURNISH AND INSTALL BLUE POTABLE WATER IDENTIFICATION TAG, CHRISTY ID-MAX-B2-PW015 OR EQUIVALENT.
18. REMOVE AND DISPOSE OF EXIST. METER VAULT.

SHEET NOTES:

EXIST. IRR VALVES AND PIPING ARE NOT SHOWN.

SITE PLAN 1 - ENTRADERO BASIN : RW-2

REV.	DATE	DESCRIPTION	BY	CHECKED

PREPARED BY:

RMC Water and Environment
15510 ROCKFIELD BLVD, SUITE 200
IRVINE, CA 92618
(949) 420-5300 OFFICE (949) 420-5301 FAX
www.rmcwater.com

REGISTERED PROFESSIONAL ENGINEER KRAIG J. ERICKSON No. C73895 EXP. 6-30-13 STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: R.A.Y.
DESIGNED: K.E.
PROJECT ENGINEER: KRAIG ERICKSON
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
TOUFIC J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

SCALE: AS SHOWN | SHEET 107 OF 111
PLAN NO. RW-2

Call Before You Dig
1-800-227-2600

DRAWING NAME: P:\0132 — West Basin\0132-006 RW Customer Development\B. Project Work\1. Cust Dev\Entradero Park\CAD\RMC-RW2.dwg
PLOT DATE: May 15, 2013 — 2:10pm PLOTTED BY: tyoung

FOR CONTINUATION SEE SHEET RW-2

SCALE: 1" = 40'

40 20 0 40 120

CONSTRUCTION NOTES:

1. FURNISH AND INSTALL 1–INCH COPPER POTABLE WATER LINE. SEE SHEET RW–5, DETAIL 2 FOR PIPE INSTALLATION DETAIL.
2. FURNISH AND INSTALL 2–INCH COPPER POTABLE WATER LINE. SEE SHEET RW–5, DETAIL 2 FOR PIPE INSTALLATION DETAIL.
3. FURNISH AND INSTALL POTABLE QUICK COUPLER, SEE SHEET RW–5, DETAIL 1. QUICK COUPLER SHALL BE 3 FEET MIN. CLEAR FROM BASE LINE OUTSIDE THE FIELD OF PLAY.
4. FURNISH AND INSTALL 1–INCH REDUCED PRESSURE BACKFLOW ASSEMBLY. SEE SHEET RW–5, DETAIL 3.
5. FURNISH AND INSTALL 2–INCH REDUCED PRESSURE BACKFLOW ASSEMBLY. SEE SHEET RW–4, DETAIL 3.
6. CONNECT EXISTING POTABLE SERVICE AS NEEDED.
7. FURNISH AND INSTALL 1–INCH SUB–METER. SEE SHEET RW–5, DETAIL 4.
8. FURNISH AND INSTALL 2–INCH SUB–METER. SEE SHEET RW–5, DETAIL 4.
9. FURNISH AND INSTALL 3–INCH SUB–METER. SEE SHEET RW–5, DETAIL 4.
10. CONNECT TO EXISTING IRRIGATION MAIN.
11. FURNISH AND INSTALL 1–INCH PVC RECYCLED WATER PIPE.
12. FURNISH AND INSTALL 2–INCH PVC RECYCLED WATER PIPE.
13. FURNISH AND INSTALL 4–INCH PRESSURE REDUCING VALVE ASSEMBLY. SEE SHEET RW–4, DETAIL 5.
14. FURNISH AND INSTALL RECYCLED WATER USE IDENTIFICATION SIGN, 12–INCH BY 18–INCH, CHRISTY MODEL ID–SIGN–3.5, OR SIMILAR. INSTALL ON EXIST. FENCE OR POLE.
15. FURNISH AND INSTALL RECYCLED WATER USE IDENTIFICATION SIGN, 4–INCH BY 8–INCH, CHRISTY MODEL ID–SIGN–4x8, OR SIMILAR, AT ACCESS POINT TO IRR AREA. INSTALL ON EXIST. FENCE OR POLE.
16. REMOVE AND CAP EXIST. QUICK COUPLER OR HOSE BIB. SEE SHEET RW–4, DETAIL 4.
17. FURNISH AND INSTALL HOSE BIB WITH BRASS VACUUM BREAKER ON POTABLE WATER SYSTEM. REMOVE ANY EXIST. HOSE BIBS ON IRR SYSTEM. FURNISH AND INSTALL BLUE POTABLE WATER IDENTIFICATION TAG, CHRISTY ID–MAX–B2–PW015 OR EQUIVALENT.
18. REMOVE AND DISPOSE OF EXIST. METER VAULT. CONNECT NEW 3–INCH PIPE TO EXIST. RESTORE SITE CONDITIONS. REMOVE INTERFERING PORTIONS OF EXIST. PIPE TO SOUTH AS REQUIRED.
19. FURNISH AND INSTALL 2–INCH POTABLE SUB–METER PER TMWD STANDARD DETAIL NO. T 704. FURNISH AND INSTALL BLUE POTABLE WATER IDENTIFICATION TAG, CHRISTY ID–MAX–B2–PW015 OR EQUIVALENT.
20. REMOVE AND CAP EXIST. 2–INCH SUB–METER.

SHEET NOTES:

EXIST. IRR VALVES AND PIPING ARE NOT SHOWN.

SITE PLAN 2 - ENTRADERO BASIN : RW-3

Call Before You Dig
1-800-227-2600

PREPARED BY:

RMC Water and Environment
15510 ROCKFIELD BLVD, SUITE 200
IRVINE, CA 92618
(949) 420-5300 OFFICE (949) 420-5301 FAX
www.rmcwater.com

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER KRAIG J. ERICKSON No. C73895 EXP. 6-30-13 STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

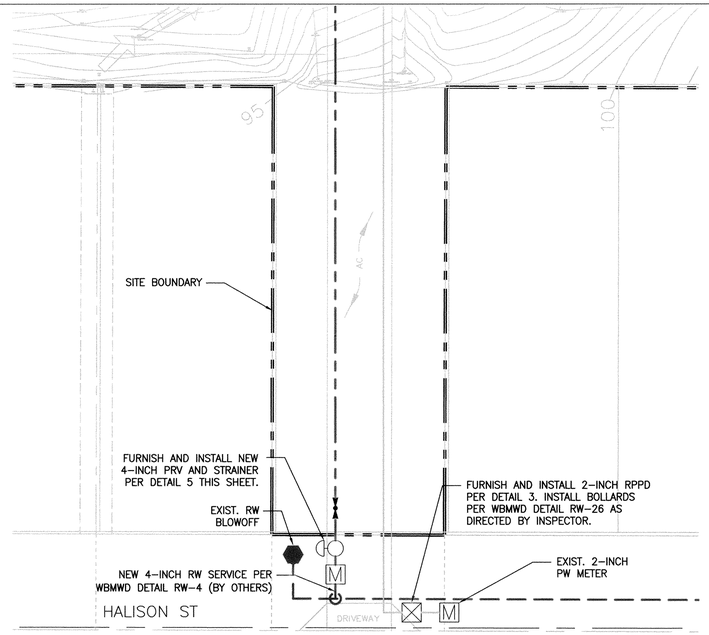
DRAWN: R.A.Y.
DESIGNED: K.E.
PROJECT ENGINEER: KRAIG ERICKSON
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226
DATE 5/28/13
EXP. 06/30/13

SCALE: AS SHOWN
SHEET 108 OF 111
PLAN NO. RW–3

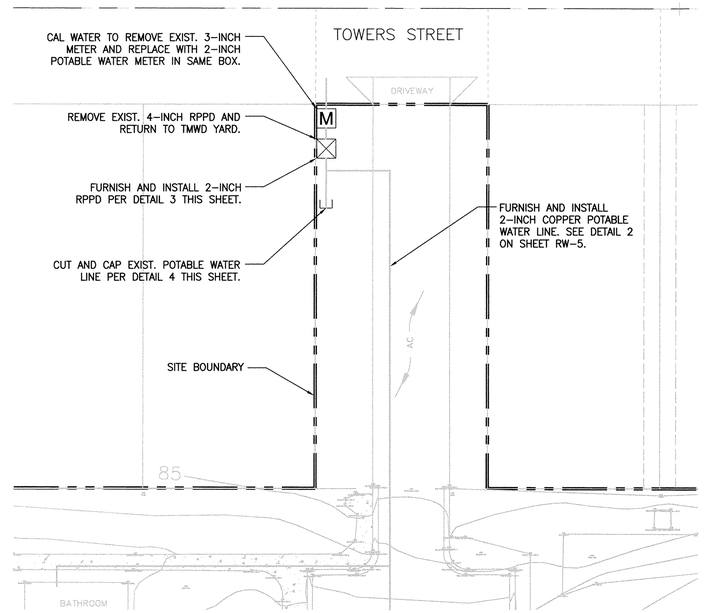
DRAWING NAME: P:\01132 – West Basin\01132–006 RW Customer Development\B. Project Work\1. Cust Dev\Entradero Park\CAD\RWC–RW3.dwg
PLOT DATE: May 15, 2013 – 2:16pm PLOTTED BY: byoung

Plotted by: byoung May 15, 2013 02:16 PM P:\01132 West Basin\01132-006 RW Customer Development\B. Project Work\1. Cust Dev\Entradero Park\CAD\RWC-RW3.dwg



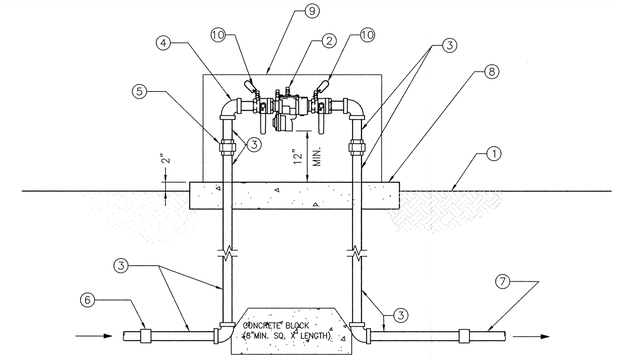
HALISON ST CONNECTION DETAIL (1/–)

N.T.S.



TOWERS ST CONNECTION DETAIL (2/–)

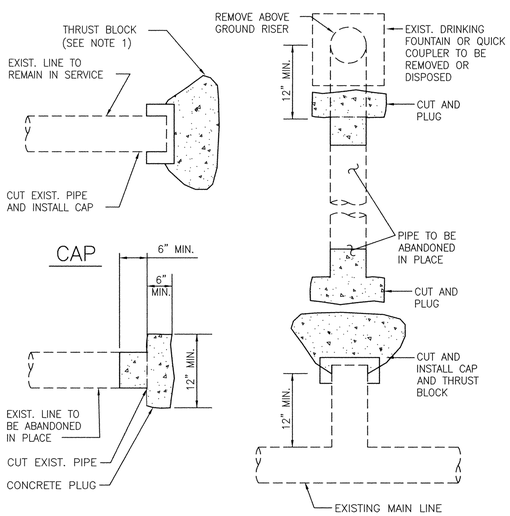
N.T.S.



1. CONTRACTOR SHALL REPLACE IN KIND EXISTING LANDSCAPING AND IRRIGATION DAMAGED DURING CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL REMOVE EXISTING CONCRETE SIDEWALK TO THE NEAREST CONTROL JOINT OR COLD PLANE JOINT AND REPLACE SIDEWALK IN-KIND PER CITY OF TORRANCE STD. PLAN NO. T102-2.
2. 2" RPPD BACKFLOW PREVENTER (WILKINS MODEL 375XLB OR EQUAL). PERMANENTLY MARK ABOVE GROUND RPPD BACKFLOW PIPING WITH POTABLE WATER IDENTIFICATION TAPE. LOCATE RPPD AS CLOSE AS POSSIBLE TO EXIST. PW METER.
3. 2" BRASS PIPE
4. 2" BRASS 90° ELBOW (TYP.)
5. 2" BRASS UNION (TYP.)
6. 2" COUPLING (TYP.)
7. NEW COPPER PIPE
8. 24"W X 40"L X 6"THK CONCRETE BASE (REINFORCED W/ W1.4 X W1.4 WELDED WIRE FABRIC)
9. CONSTRUCT PROTECTIVE ENCLOSURE, COLOR OF ENCLOSURE TO BE SELECTED BY CITY. CONTRACTOR SHALL LAYOUT PIPING SO IT WILL FIT WITHIN ENCLOSURE.
10. POTABLE WATER IDENTIFICATION TAG, CHRISTY MODEL ID-MAX-B2-PW015 OR EQUIVALENT

2" RPPD (3/–)

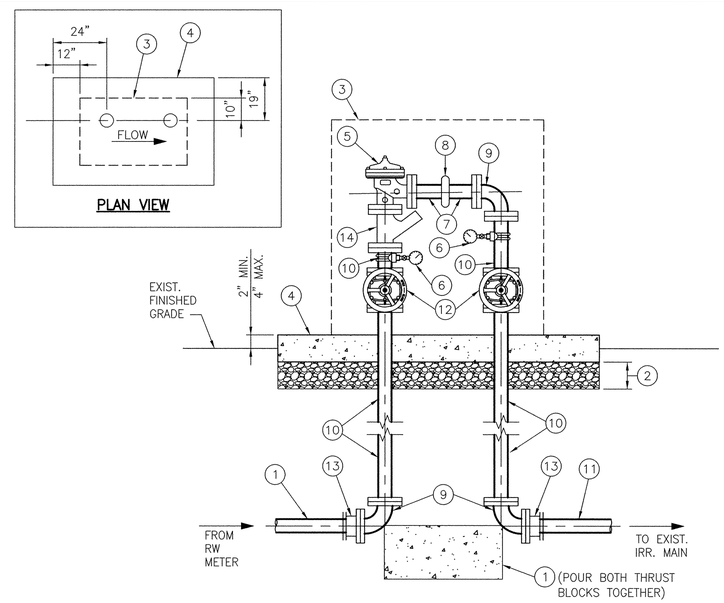
N.T.S.



NOTE:
THRUST BLOCK SHALL BE CONSTRUCTED PER WBMWD STD. DWG. NO. RW19.

CUT AND CAP/PLUG DETAIL (4/–)

N.T.S.



4" PRV ASSEMBLY (5/–)

N.T.S.

CONSTRUCTION NOTES:

1. CONSTRUCT THRUST BLOCK PER WBMWD STD. DWG. NO. RW19
2. CONSTRUCT 6" THICK LAYER OF ¾" AGGREGATE BASE MATERIAL
3. CONSTRUCT PROTECTIVE ENCLOSURE, COLOR OF ENCLOSURE TO BE SELECTED BY CITY. CONTRACTOR SHALL LAYOUT PIPING SO IT WILL FIT WITHIN ENCLOSURE.
4. CONSTRUCT 6" THICK CONCRETE PAD (72" LONG X 48" WIDE) REINFORCED WITH W1.4 X W1.4 WELDED WIRE FABRIC.
5. CONSTRUCT 4" PRV – (ANGLE) (FLG) (CLA-VAL 90-01 OR APPROVED EQUAL)
   PRV SET POINTS:
   DOWNSTREAM PRESSURE = 80PSI**
   **TO BE CONFIRMED BY CITY OF TORRANCE PARKS DEPARTMENT
6. CONSTRUCT 4" DOUBLE STRAP BRASS SERVICE SADDLE W/ 1" TAP (JAMES JONES J979 OR APPROVED EQUAL), 1" BRONZE BALL VALVE (JAMES JONES J-1931 OR APPROVED EQUAL), 1"X½" REDUCING BUSHING (S.S.), ½" BRASS SNUBBER FITTING (CAJON OR APPROVED EQUAL), 4½" DIA. PRESSURE GAUGE, LIQUID FILLED, ½" NPT CONNECTION, WITH RANGE 0-150 PSI (ASHCROFT DURAGAUGE TYPE 1279 OR APPROVED EQUAL)
7. CONSTRUCT 4" D.I. PIPE (CL53) (FLG X GE)
8. CONSTRUCT 4" VICTAULIC COUPLING (STYLE 31)
9. CONSTRUCT 4" D.I. 90° BEND (FLG)
10. CONSTRUCT 4" D.I. PIPE (CL53) (FLG)
11. CONSTRUCT 4" PURPLE PVC PIPE (CL315)
12. CONSTRUCT 4" RESILIENT WEDGE GATE VALVE (NRS) (FLG) WITH HANDWHEEL. INSTALL RW IDENTIFICATION TAGS, CHRISTY MODEL ID-MAX-P2-RC007 OR EQUIVALENT.
13. CONSTRUCT 4" FLANGED COUPLING ADAPTER (FL X PO) (ROMAC, FCA501 OR APPROVED EQUAL)
14. CONSTRUCT 4" BASKET STRAINER (FL X FL)

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PIPING LAYOUT IN ORDER TO FIT WITHIN PROPOSED PROTECTIVE ENCLOSURE. ANY DEVIATION FROM THE PIPING APPURTENANCES INDICATED SHALL REQUIRE THE CONTRACTOR TO VERIFY THE NEW APPURTENANCE WILL HAVE ADEQUATE CLEARANCE FROM THE ENCLOSURE.
2. ALL PIPING, VALVES AND FITTINGS SHALL BE PAINTED WITH AN ALKYD ENAMEL PAINT SYSTEM CONSISTING OF A 2 MIL PRIME COAT AND TWO (2) COATS OF 2 MILS EACH OF HIGH GLOSS ENAMEL. COLOR SHALL BE PURPLE (PANTONE 512) FOR RECYCLED WATER RISER, PIPING AND VALVES.

RW DETAIL SHEET 1 - ENTRADERO BASIN : RW-4

REV.	DATE	DESCRIPTION	BY	CHECKED

PREPARED BY:
RMC Water and Environment
15510 ROCKFIELD BLVD, SUITE 200
IRVINE, CA 92618
(949) 420-5300 OFFICE (949) 420-5301 FAX
www.rmcwater.com

REGISTERED PROFESSIONAL ENGINEER — CRAIG J. ERICKSON — No. C73895 — EXP. 6-30-13 — STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: R.A.Y.
DESIGNED: K.E.
PROJECT ENGINEER: KRAIG ERICKSON
DIVISION ENGINEER: JOHN DETTLE

APPROVED:
TOUFIC J. SEMAAN — DATE 5/28/13
ACTING CITY ENGINEER
R.C.E. NO. 59226 — EXP. 06/30/13

SCALE: AS SHOWN | SHEET 109 OF 111
PLAN NO. RW-4

Call Before You Dig
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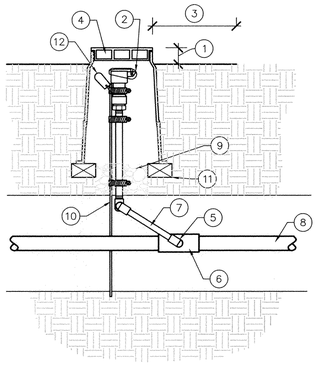
DRAWING NAME: P:\0132 – West Basin\0132-006 RW Customer Development\B. Project Work\1. Cust Dev\Entradero Park\CAD\WBC-RW4.dwg
PLOT DATE: May 15, 2013 – 2:59pm PLOTTED BY: tyoung
Plotted by: tyoung May 15, 2013 02:59 PM P:\0132 – West Basin\0132-006 RW Customer Development\B. Project Work\1. Cust Dev\Entradero Park\CAD\WBC-RW4.dwg

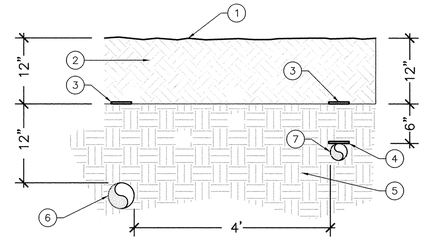


SECTION VIEW

1. SET TOP OF BOX ABOVE FINISH GRADE: 1/2" IN SEED, 1-1/2" IN SOD, 2-1/2" IN PLANTER
2. QUICK COUPLING VALVE WITH BLUE CAP – POTABLE INSTALLATION, WITH 1/2" REVERSE THREADS
3. SET VALVE BOX 12" FROM EDGE OF PLANTING AREA
4. 10" DIAMETER GREEN PLASTIC VALVE BOX WITH BOLT-DOWN LOCKING LID AND GASKET SEALED. ID LID AS POTABLE.
5. BRASS STREET ELL (TYP.)
6. TRANSITION FITTING WITH SS COLLAR
7. BRASS NIPPLE (TYP – LENGTH AS REQUIRED)
8. COPPER PRESSURE MAINLINE. SEE IRRIGATION DRAWINGS.
9. 3/4" CRUSHED ROCK, 3" MINIMUM DEPTH.
10. #8 (1" DIA.) X 30" REBAR; SECURE TO QUICK COUPLER VALVE WITH STAINLESS STEEL HOSE CLAMPS AND STAINLESS SCREWS (TYP. 3 PLCS.)
11. THREE (3) COMMON BRICKS. CENTER EACH UNDER EDGE OF VALVE BOX EQUIDISTANT FROM EACH OTHER.
12. POTABLE IDENTIFICATION TAG (BLUE), CHRISTY MODEL ID-MAX-B2-PW015 OR EQUIVALENT.

POTABLE QUICK COUPLER (1/–)

N.T.S.

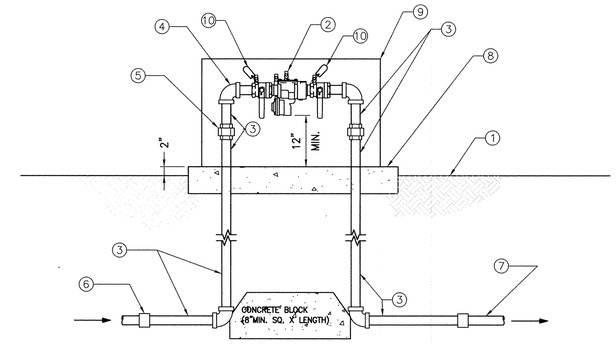


1. FINISH GRADE
2. TOPSOIL BACKFILL, NO PARTICLES GREATER THAN 1". COMPACT TO 90% R.D.
3. TRACER TAPE (TYP.)
4. ID TAPE AFFIXED DIRECTLY TO COPPER PIPE, EVERY 5-FEET
5. PREPARED SUBGRADE, COMPACTED TO 90% R.D. SEE SPECS.
6. RW PVC NON-PRESSURE LATERAL LINE PER IRRIGATION PLAN.
7. PW COPPER LINE PER IRRIGATION PLAN.

NOTE: FOR PIPE CROSSINGS, POTABLE TO BE ABOVE RECYCLED WITH A FULL STD PIPE LENGTH CENTERED OVER THE CROSSING, EXTENDING 10-FT TO EITHER SIDE, OR A PVC C900 SLEEVE SHALL BE USED, 2-INCHES IN DIAMETER GREATER THAN THE PIPE.

PIPE TRENCH SECTION (2/–)

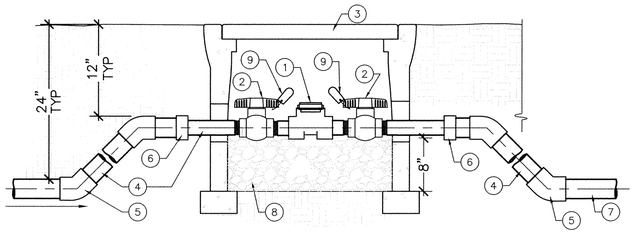
N.T.S.



1. CONTRACTOR SHALL REPLACE IN KIND EXISTING LANDSCAPING AND IRRIGATION DAMAGED DURING CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL REMOVE EXISTING CONCRETE SIDEWALK TO THE NEAREST CONTROL JOINT OR COLD PLANE JOINT AND REPLACE SIDEWALK IN-KIND PER CITY OF TORRANCE STD. PLAN NO. T102-2.
2. 1" RPPD BACKFLOW PREVENTER (WILKINS MODEL 375XLB OR EQUAL). PERMANENTLY MARK ABOVE GROUND RPPD BACKFLOW PIPING WITH POTABLE WATER IDENTIFICATION TAPE. LOCATE RPPD AS CLOSE AS POSSIBLE TO EXIST. PW METER.
3. 1" BRASS PIPE
4. 1" BRASS 90° ELBOW (TYP.)
5. 1" BRASS UNION (TYP.)
6. 1" COUPLING (TYP.)
7. NEW COPPER PIPE
8. 24"W X 40"L X 6"THK CONCRETE BASE (REINFORCED W/ W1.4 X W1.4 WELDED WIRE FABRIC)
9. CONSTRUCT PROTECTIVE ENCLOSURE, COLOR OF ENCLOSURE TO BE SELECTED BY CITY. CONTRACTOR SHALL LAYOUT PIPING SO THAT IT WILL FIT WITHIN ENCLOSURE.
10. POTABLE IDENTIFICATION TAG (BLUE), CHRISTY MODEL ID-MAX-B2-PW015 OR EQUIVALENT.

1" RPPD (3/–)

N.T.S.



1. SUBMETER: SIZE PER PLANS, METER TYPE TBD BY CITY.
2. PVC SCH 40 BALL VALVE.
3. CHRISTY B9 BOX CONC VALVE BOX WITH STEEL CHECKERED LID IN NON-TURF AREA, OR APPROVED EQ. TOP OF LID SHALL BE NON-SKID SURFACE, PERMANENTLY MARKED "SM" FOR SUBMETER AS REQ'D. HOLD DOWN BOLTS SHALL BE N99HDB.
4. SCH 80 PVC NIPPLE, TYP.
5. SCH.80 PVC ELL, 45°, TYP.
6. SCH.80 PVC REDUCE COUPLING IF REQUIRED
7. PVC MAINLINE
8. 6" – 8" OF PEA GRAVEL IN VALVE BOXES
9. PURPLE RW IDENTIFICATION TAG, CHRISTY MODEL ID-MAX-P2-RC007 OR EQUIVALENT.

1-INCH, 2-INCH, AND 3-INCH IRRIGATION SUBMETER (4/–)

N.T.S.

1A LESS THAN 1' BELOW POTABLE – NOT ALLOWED

1B GREATER THAN 1' BELOW POTABLE – NO SPECIAL CONSTRUCTION REQ'D

1. POTABLE WATER LINE
2. PRESSURIZED RECYCLED WATER LINE

2A LESS THAN 1' ABOVE POTABLE – NOT ALLOWED

2B GREATER THAN 1' ABOVE POTABLE – SEE NOTE (RIGHT)

NOTE: A FULL STANDARD PIPE LENGTH MUST BE CENTERED OVER THE CROSSING, OR THE RECYCLED PIPELINE MUST BE INSTALLED IN A PIPE SLEEVE WHICH EXTENDS A MINIMUM OF 10 FEET ON EITHER SIDE OF THE POTABLE WATER PIPING. THE PIPE SLEEVE SHALL BE PVC C900 AND 2 INCHES GREATER IN DIAMETER THAN THE RECYCLED PIPE.

VERTICAL SEPARATION AT PIPE CROSSINGS (5/–)

N.T.S.

RW DETAIL SHEET 2 - ENTRADERO BASIN : RW-5

REV.	DATE	DESCRIPTION	BY	CHECKED

REGISTERED PROFESSIONAL ENGINEER KRAIG J. ERICKSON No. C73895 EXP. 6-30-13 STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: R.A.Y.
DESIGNED: K.E.
PROJECT ENGINEER: KRAIG ERICKSON
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APPROVED:
TOUFIC J. SEMAAN
ACTING CITY ENGINEER
R.C.E. NO. 59226
DATE 5/28/13
EXP. 06/30/13

SCALE: AS SHOWN
SHEET 110 OF 111
PLAN NO. RW-5

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Plotted by: byoung May 15, 2013 03:15 PM P:\0132 West Basin\0132-006 RW Customer Development\B Project Work\1. Cust Dev\Entradero Park\CAD\WAC-RW05.dwg
DRAWING NAME: P:\0132 West Basin\0132-006 RW Customer Development\B Project Work\1. Cust Dev\Entradero Park\CAD\WAC-RW05.dwg
PLOT DATE: May 15, 2013 – 3:15pm PLOTTED BY: byoung

LOS ANGELES COUNTY ♦ DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL HEALTH

CROSS CONNECTIONS AND WATER POLLUTION CONTROL PROGRAM
5050 Commerce Drive, Baldwin Park, CA 91706-1423
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County of Los Angeles Public Health Environmental Health

GUIDELINES FOR PIPELINE CONSTRUCTION AND INSTALLATION - FOR THE SAFE USE OF RECYCLED / RECLAIMED WASTEWATER

PURPOSE: As a result of increasing availability of recycled / reclaimed wastewater and an increased need for the transmission and use thereof, the Department of Public Health – Environmental Health (the Department) has found it necessary to establish the following regulations for pipeline construction and installation as well as for the safe use of recycled / reclaimed wastewater. These regulations are intended to protect public health by ensuring the safety of our domestic potable water supplies.

BACKGROUND: A recent increase in the number of inquiries and interest displayed regarding the use of recycled / reclaimed water, in the ongoing efforts to conserve water, have necessitated the need to establish definitions, standards and regulation for the uniform review and approval of recycled / reclaimed wastewater. Recycled / reclaimed water may be used for surface irrigation of the following: food crops; parks and playgrounds; school yards; residential landscaping; and unrestricted access golf courses.

DEFINITIONS:

Gray Water means untreated wastewater that has not come into contact with toilet waste, kitchen sink waste, dishwasher waste or similarly contaminated sources. Gray water includes water from bathtubs, showers, bathroom wash basins, clothes-washers and laundry tubs.

Non-Potable Water means water which is unfit for human or animal consumption due to contaminants that exceed the current permissible Maximum Contaminant Level (MCL) in drinking water.

Potable Water means water which is fit for consumption by humans and other animals. The U.S. Environmental Protection Agency (EPA) identifies contaminants that may adversely affect public health and occur in drinking water with a frequency and at levels that pose a threat to public health. The EPA establishes (MCLs) for both biological and chemical contaminants permissible in drinking water. These MCLs become enforceable standards that determine the potability of water.

Recycled / Reclaimed Water means non-potable water that meets or as a result of treatment, meets federal requirements for its intended uses. The level of treatment and quality of the reclaimed / recycled water shall be approved by the Authority Having Jurisdiction. Reclaimed / recycled water systems shall have no connection to any potable water system, with or without mechanical backflow prevention devices.

Revised 09/22/09

RECYCLED / RECLAIMED WASTEWATER SYSTEMS SHALL BE CONSTRUCTED IN COMPLIANCE WITH APPLICABLE POTABLE WATER SYSTEM CONSTRUCTION STANDARDS AS WELL AS THOSE SPECIFIED IN "THE PURPLE BOOK", CALIFORNIA HEALTH LAWS RELATED TO RECYCLED WATER, (CALIFORNIA HEALTH AND SAFETY CODE, WATER CODE, TITLES 22 AND 17 OF THE CALIFORNIA CODE OF REGULATIONS) AND THE LOS ANGELES COUNTY CODE (LACC), TITLE 28 – PLUMBING, APPENDIX J.

PRELIMINARY REQUIREMENTS

- Plans and specifications for recycled / reclaimed wastewater distribution systems, as well as the use and operation of such systems shall be submitted to the Department for review and approval prior to construction or implementation.
- Prior to commencing construction, the Contractor shall contact the Department to schedule an inspection of the proposed on-site recycled / reclaimed and potable water work.
- No piping for potable or recycled / reclaimed water in conjunction with a specified project shall be installed prior to plan check approval and preliminary inspection.
- Upon completion of construction, no excavation or open trench may be backfilled without first securing the Department approval. Any areas backfilled without prior approval will be required to be exposed and corrected as necessary.
- Only a Department approved temporary water connection, to a potable water supply via a dedicated, approved, reduced-pressure-principle backflow prevention device shall be permitted to be utilized for the purpose of flushing, pressure testing, construction, landscape use or the final cross-connection testing.

SEPARATION REQUIREMENTS

The maximum attainable separation of recycled / reclaimed wastewater lines and potable water lines shall be enforced in order to minimize potential risks associated with pipeline breaks resulting in infiltration of wastewater from leaking wastewater lines into domestic water lines, or accidental cross-connections between recycled wastewater and potable water systems.

- Parallel Construction: A horizontal separation of at least ten feet (10') shall be required between pressurized, buried, recycled / reclaimed and potable water piping (all distance to be measured from pipeline outside diameter).
- Cross-Over Construction: Buried potable water pipes crossing over pressurized recycled / reclaimed water pipes shall be laid not less than twelve inches (12") above the reclaimed water pipes. Reclaimed water pipes laid in the same trench or crossing-over building sewer or drainage piping shall be installed in compliance with the LACC – Title 28, Plumbing, Sections 609.0 and 720.0.
- Unused or Abandoned Potable Water Lines: These lines are to be severed as close to water mains as practical, capped, and a ten foot (10') section of abandoned line removed and cemented under direct supervision by the Department.
- Existing On-site Piping: Maximum separation of recycled / reclaimed wastewater lines and potable water lines shall be maintained upon system additions or modification.

PIPELINE MATERIALS AND IDENTIFICATION

All recycled / reclaimed water pipe materials, valves and fittings shall conforms to the requirements of the LACC – Title 28, Plumbing, Sections 604.0, 605.0 and 606.0.

All recycled / reclaimed wastewater lines (pressure / non-pressure), valve boxes, hydrants and appurtenances shall be identified to clearly distinguish between recycled / reclaimed wastewater, non-potable and potable water systems (as specified in LACC – Title 28, Plumbing, Appendix J).

- Recycled / Reclaimed Wastewater: All buried, recycled, wastewater systems (pressure / non-pressure) shall utilize purple pipe with black uppercase lettering "CAUTION: RECYCLED WATER – DO NOT DRINK" printed on opposite sides of the pipe. For limited application, the use of continuous lettering on three inch (3") minimum width purple tape with one inch black or white contrasting uppercase lettering "CAUTION RECYCLED WATER – DO NOT DRINK" permanently affixed at intervals not to exceed five feet, atop all horizontal piping, laterals and mains. Identification tape shall extend to all valve boxes and / or vaults, exposed piping, hydrants and quick couplers. All valves, except fixture supply control valves shall be equipped with a locking feature. All mechanical equipment that is appurtenant to the recycled / reclaimed water system shall be painted purple.
- Potable Water: All potable water lines shall be installed in accordance with the Uniform Plumbing Code and all other applicable potable water system construction standards. All buried potable water lines shall be clearly identified by continuous lettering on three inch (3") minimum width blue tape with one inch (1") white lettering bearing the repeated wording "POTABLE WATER" permanently affixed at ten foot intervals atop all horizontal piping, laterals and mains. Identification tape shall extend to all valve boxes and / or vaults, exposed piping and hydrants. Identification tape is not necessary for extruded colored PVC with continuous wording "POTABLE WATER" printed in contrasting lettering on opposite sides of the pipe.
- Non-Potable Water: All non-potable irrigation / industrial water lines (pressure / non-pressure) shall be identified by continuous lettering on three inch (3") minimum width tape with one inch (1") contrasting lettering bearing the continuous uppercase lettering "NON-POTABLE WATER – DO NOT DRINK" permanently affixed at ten foot (10') intervals atop all horizontal piping, laterals and mains. Identification tape shall extend to all valve boxes and / or vaults, exposed piping, hydrants and quick couplers. Exposed piping, valve boxes, vaults, control valves, quick coupling valves, outlets and related appurtenances shall be color-coded and labeled / tagged to differentiate between recycled / reclaimed wastewater, potable water and non-potable water systems. Tags identifying recycled / reclaimed water shall have the appropriate identification on both sides (wording on one side and symbol on the opposite side).

THE SAFE USE OF RECYCLED / RECLAIMED WATER PROTECTS POTABLE WATER

- Deteriorated or inadequately-protected well water casings shall be repaired or replaced to protect aquifers against contamination from recycled / reclaimed wastewater systems.
- An On-Site Water Supervisor shall be appointed, having the responsibility of oversight for the protection of the potable water system (provided for under Title 17, Section 7586, and California Code of Regulations). The name and position of the On-Site Water Supervisor shall be reported to the water purveyor and to the Department. This position will be responsible for the installation, operation and maintenance of the recycled / reclaimed wastewater and potable water systems; authorization of any piping changes or additions to either the potable or recycled systems; prevention of potential hazards; implementation of the regulations; and coordination with the Cross-Connection Program of the water purveyor and of this Department.
- Hose bibbs shall not be permitted in any areas of public access to recycled / reclaimed wastewater systems, to prevent unauthorized use of recycled wastewater. Quick-couplers are permitted in lieu of hose-bibb outlets but shall only be connected to recycled / reclaimed wastewater lines. Hose bibs may be permitted in areas that are not accessible to the public, provided they are properly identified with permanently affixed tags, labels, or plates with uppercase lettering "RECYCLED WATER – DO NOT DRINK" in English.
- The use of recycled / reclaimed wastewater for irrigation purposes shall minimize exposure of the wastewater spray to drinking fountains and picnic tables through selective location of equipment and by appropriate irrigation system design. Additionally, the following measures should be taken: recycled wastewater spraying shall be done during hours of least public exposure; any area where recycled wastewater is released, used or impounded should be posted, informing the public that recycled water is being used; and irrigation practices utilizing recycled water shall be controlled to prevent surface runoff.

BACKFLOW PROTECTION

- There shall be no interconnection between a potable water system and a recycled / reclaimed water system within the user's premises.
- A dye or pressure test shall be utilized to confirm the physical separation of a recycled wastewater system and a potable water system. Testing shall be performed in conjunction with the Water Purveyor and this Department and conducted before the introduction of recycled wastewater.
- An approved backflow prevention device shall be installed at the potable water service connection.
- In a recycled / reclaimed wastewater distribution system, a backflow prevention device may be required at the recycled wastewater meter or at specific on-site locations where said use could degrade the quality of the recycled wastewater supply.

RW NOTES - ENTRADERO BASIN : RW-6

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