Sports Fields
At 555 Maple Avenue

City of Torrance, Los Angeles County, California

Landscape Plans

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

S H E E T I N D E X :

LANDSCAPE PLAN DESCRIPTION

X	Title Sheet
C-1	Fence & Wall Layout
C-2	Construction Layout
D-3	Details
D-4	Details
D-5	Details
I-1	Irrigation Plan
I-2	Irrigation Plan
I-3	Irrigation Legend And Notes
I-4	Irrigation Calculations
I-5	Irrigation Details
I-6	Irrigation Details
P-1	Planting Layout
P-2	Planting Layout

CIVIL ENGINEERING PLAN DESCRIPTION

C-DM1	Demolition Plan
C-PG1	Precise Grading Plan
C-PG2	Precise Grading Plan
C-AD1	Area Drain Plan
C-AD2	Area Drain Plan
C-EC1	Erosion Control Plan
C-D1	Details
C-D2	Details
C-D3	Details
C-D4	Details
C-D5	Details

LIGHTING PLAN DESCRIPTION

1	Notes & Legends
2	Electrical Plan
3	Details
4	Details

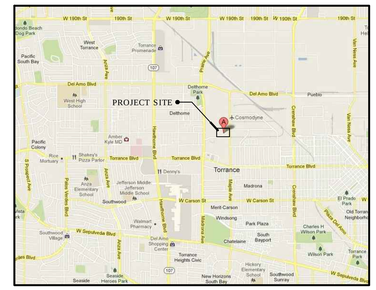
STRUCTURAL ENGINEERING DESCRIPTION

S-1	Details
S-2	Details
SGN	Notes

REVISION NO.	REVISION DESCRIPTION	APPROVAL SIGNATURE	DATE
1			
2			
3			
4			
5			

Know what's below. Call before you dig.

V I C I N I T Y M A P



L O C A T I O N M A P

G E N E R A L N O T E S

LANDSCAPE :

1. Landscape architect shall locate and tag all trees 24" box in size and larger. Contractors are to use Pacific Coast Nursery Contact: Steve Adams (951)689-1777 for standardized bidding. These material prices are for bidding prices only and shall be used by all landscape contractors so bid numbers are equal. Landscape architect will submit a list of trees and nursery locations to the contractor who is awarded the bid. If the contractor's bid is less than the standard material cost and the actual tagged tree material cost is per the standard prices, the contractor shall be responsible for the additional material costs. If the tagged tree material prices are more than the standard nursery costs, the contract numbers will be adjusted accordingly.

2. Contractor is to spot all plant material and have the Landscape Architect approve the spotting prior to excavation of any plant pit. Allow 48 hours lead time. Any tree, shrub or vine that is planted without approval of the Landscape Architect may be moved at the contractor's expense.
   Contact: Philip Stevens (949) 333-6310

3. Remove stakes from all espaliers and vines and attach to walls, posts, etc. with Landscape Architects approved method.

4. Prior to planting installation, contractor shall have soil tested and send results to Landscape Architect. Refer to planting plan for soil preparation bid information.

5. Contractor to contact Landscape Architect for final observation when installation is complete, and for a final maintenance observation at the end of the maintenance period.
   Contact: Philip Stevens (949) 333-6310

HARDSCAPE

1. Contractor to review construction plans and grading plans thoroughly prior to beginning work.

2. Contractor to contact Landscape Architect prior to start of construction for pre-job meeting. Allow 48 hours lead time.
   Contact: Philip Stevens (949) 333-6310

3. Contractor to contact Landscape Architect to review hardscape forming prior to pouring. Allow 48 hour lead time.
   Contact: Philip Stevens (949) 333-6310

4. Contractor shall not make field changes to plans unless authorized by the Landscape Architect. Unauthorized changes shall be corrected to conform to the plans at no additional cost to the Owner, or Landscape Architect.

5. Contractor shall verify location of all underground utilities and services prior to any digging. Contractor assumes full responsibility for all damage caused by failure to do so.

6. Contractor to pull all necessary building permits needed to complete the job.

C O N S U L T A N T S :

CIVIL ENGINEER
URBAN RESOURCES
23 MAUCHLY, SUITE 110
IRVINE, CA 92618
(949) 727-9095 CONTACT: JAY RUBY

GEOTECHNICAL ENGINEER
PETRA GEOTECHNICAL, INC.
25050 AVENUE KEARNEY, SUITE 110A
SANTA CLARITA, CA 91355
(661) 255-5790 CONTACT: TED WOLFE

STRUCTURAL ENGINEER
ESI / FME, INC.
1800 EAST 16TH STREET, UNIT B
SANTA ANA, CA 92701
(714) 835-2800 CONTACT: RAMON WONG

LANDSCAPE ARCHITECT
LAND CONCERN, LTD
1750 E. DEERE AVE.
SANTA ANA, CA 92705
(949) 250-4822 CONTACT: PHILIP STEVENS

IRRIGATION CONSULTANT
WATER CONCERN, LTD
29829 SANTA MARGARITA PKWY, STE. 200
RANCHO SANTA MARGARITA, CA 92688
(949) 635-0474 CONTACT: STEVE HOHL

LIGHTING CONSULTANT
VISUAL CONCEPTS
7297 RONSON ROAD, STE. C
SAN DIEGO, CA 92111
(858) 278-4503 CONTACT: KENNY PEREZ

UTILITIES CONSULTANT
KOSER CONSULTING, LLC
31805 TEMECULA PARKWAY, #737
TEMECULA, CA 92592
(951) 514-5220 CONTACT: JOHN KOSER

AGRONOMIST
SOIL AND PLANT LABORATORY
4741 EAST HUNTER AVE. SUITE A
ANAHEIM, CA 92807
(714) 282-8777 CONTACT: JASON GIHRING

BID ALTERNATIVE SCHEDULE

SYM.	LOCATION	DESCRIPTION
1	CORNER OF CIVIC CENTER DRIVE AND MAPLE AVENUE	INSTALL PLANTING/IRRIGATION TO MATCH ADJACENT SLOPE IN LIEU OF STAIRS, WALLS, GATE & PAVING
2	CORNER OF CIVIC CENTER DRIVE AND MAPLE AVENUE	INSTALL 24" BOX CORNER ACCENT TREE IN LIEU OF 36" BOX.
3	CIVIC CENTER DRIVE	INSTALL GRASSES FROM LINERS IN LIEU OF 1 GALLON
4		

TOR009

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(310) 781-7559

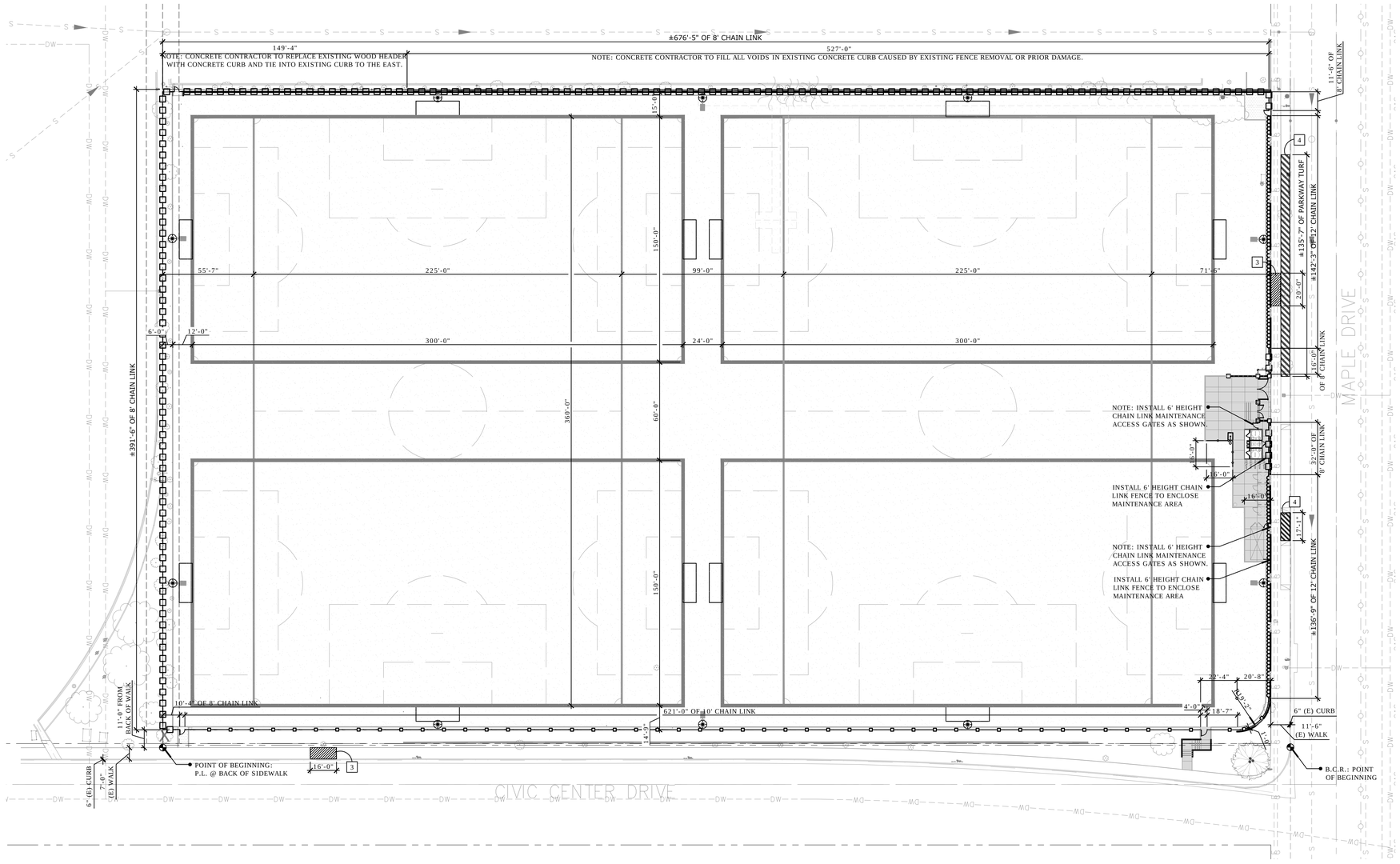
TITLE SHEET

LAND CONCERN
Landscape Architecture
1750 East Deere Avenue
Santa Ana, CA 92705
949.250.4822

project manager: P. Stevens
approved by: M. Imlay
drawn by: Staff
date: 08/15/13
scale: N.A.

S H E E T
X of 13

City of Torrance: 555 Maple Sports Field



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4		

PAVING SCHEDULE

SYM.	DESCRIP./MATERIAL	COLOR / FINISH	MANUF.	AVAIL.	NOTES
1A	Concrete Walkway Paving	Natural Grey	-----	-----	See Note 1A below
1B	Concrete Driveway Paving	Natural Grey	-----	-----	See Note 1B below
2	Decomposed Granite (D.G.) Paving	California Gold	-----	T.B.M.	See Note 2 below
3	Pour New Concrete Sidewalk Per Root Damage	Natural Grey	-----	-----	See Civil Plans.
4	Parkway Turf	SYNLawn BL05	SYNLawn	Astroturf	
5	Synthetic Sports Turf	3D 60 Extreme	Astroturf	Astroturf	See Detail F, Sheet D-4

Supplier List:
T.B.M. - Thompsons Building Materials - Contact Tina Berkaw @ (714) 637-7373
Astroturf - Contact Jennifer Young @ (760) 529-9809

Paving Notes:
(1A) Concrete Walkway Paving: Concrete to receive a consistent finish throughout paving area. Finish is to be: **broom finish with broom direction to be perpendicular to flow of traffic** . Scorelines to be sawcut per plan. *See Paving details I, J, K, L, sheet D-3.*
(1B) Concrete Driveway Paving: 6" thick with #4 bars each way at 18" O.C. Concrete to receive a consistent finish throughout paving area. Finish is to be: **broom finish with broom direction to be perpendicular to flow of traffic**. Scorelines to be sawcut per plan. *See Paving details I, J, K, L, sheet 3.*

(2) D.G. Paving: D.G. to be pre-stabilized. *See Paving detail H, Sheet D-3.*

FENCE & WALL LEGEND

SYM.	DESCRIPTION / MATERIAL
	12' Height Chain Link. See Detail A, Sheet D-4.
	10' Height Chain Link. See Detail A, Sheet D-4.
	8' Height Chain Link. See Detail A, Sheet D-4.
	6' Height Chain Link. See Detail A, Sheet D-4.
	Masonry Wall. See Detail A, Sheet D-5.
RETAIN.	Variable Height Masonry Retaining Wall. See Structural Detail A, S-2
	Pedestrian Gate - Chain Link. See Detail B, Sheet D-4.
	Vehicular Gate - Chain Link. See Detail C, Sheet D-4.
	Pilaster - Split Face Block. See Detail D, Sheet D-4.

Note:
- Coordinate installation with flatwork as shown on C-2 .
- Reinforce and grout per Structural Engineer's details and calculations. Contractor responsible for quantities.

0' 10' 20' 30' 60'
Scale: 1"=30'-0"

TOR009

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

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Landscape Plans

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FENCE & WALL LAYOUT

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager: P. Stevens
approved by: M. Imlay
drawn by: P. Stevens
date: 08/15/13
scale: 1" = 30'-0"

SHEET C-1 of 13

City of Torrance: 555 Maple Sports Field

CONSTRUCTION NOTES

The contractor must familiarize himself with the irrigation, grading and planting on all adjacent properties including street improvements. Any damage to or adjustments required including replacing or relocating irrigation lines, heads, valves, or any utility that occurs on adjacent parcels and in the R.O.W. area due to the grading and construction of this project is the sole responsibility of the contractor and shall be performed at no additional cost to the owner. The owner's rep. must review any required modifications to these areas prior to commencing work. The contractor must notify the owner's authorized rep. of these conditions or any discrepancies prior to commencing work. Typ. entire site. All improvment/repairs must meet the 555 Maple Sports Field and Torrance irrigation standards.

Contractor to verify with Landscape Architect all materials, colors, and finishes prior to construction.

Contractor to verify all utility locations. Contractor shall inform Superintendent and Landscape Architect if any field modifications are necessary.

The contractor shall layout and field verify all dimensions of driveway, planters, walks, slopes, and related work prior to construction. Any discrepancies shall be brought to the attention of the owner's authorized rep.

Written dimensions shall take precedence over scale.

All measurements are to face of wall, curb or other fixed site improvement, unless otherwise noted. Dimensions to centerlines as indicated.

Where dimensions are called as "equal", all associated items shall be spaced equally, measured to their centerlines.

All trees, boxed or otherwise, shall be planted prior to any hardscape where conflicts between tree box size and planting area occur. All tree locations and all field adjustments shall be made by the Landscape Architect.

All irrigation sleeves shall be installed prior to hardscape. Refer to irrigation plans.

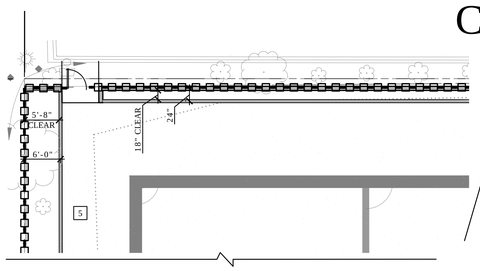
All angles to be 90 degrees or 45 degrees unless otherwise noted.

All joints in curbs must align w/ joints in the adjacent paving. Review in the field w/ the landscape architect prior to construction.

All scorelines, sawcuts, and expansion joints to occur as shown on plans. All unlabeled construction joints to be score lines.

Paving sub-base and reinforcement to be verified with structural and geotechnical soils engineer.

All construction shall conform to all local City and County codes.



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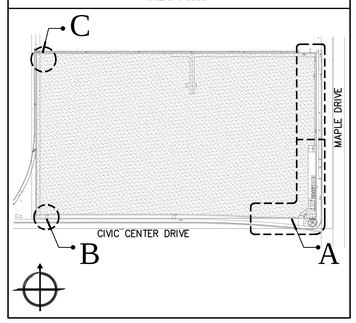
KEY MAP



AMENITY SCHEDULE

SYM.	DESCRIPTION	MODEL #	MANUF.	COLOR/FINISH	SIZE	AVAIL.	NOTES
N.1	Prefabricated Restroom	Sierra Wet - Double	ES	See detail G, Sheet D-4	19' X 10'	ES	Allow 60 business days lead time for delivery. See Note below.
N.2	Storage Container	----	----	----	8' X 20'	----	----
N.3	Field Template Sign *Detail N, sheet 3*	----	----	Black Frame	42" x 42"	----	----
N.4	Bike Loop Rack *Detail M, sheet 3*	100102b	LSI	Green - Tender Tuff Coated	5'-4" long	CST REC	Allow 5 wks. Lead time for delivery
N.5	Litter Receptacle	FG8632-92GRA	Rubbermaid	Gray	32 Gallon	Home Depot	----
N.6	Portable Restroom	----	----	----	8' x 8'	----	Title 24 Compliant
N.7	Park Signage	----	Torrance	Per Parks Dept. Standards	TBD	----	Non-bid item
N.8	Park Rules Sign *Detail O, sheet 3*	----	Torrance	Per Parks Dept. Standards	TBD	----	Non-bid item
N.9	Removeable Bollard	QR-9B-R	Q.Crete	Sand Color: Sandstone Texture: Std. Gloss Sealer	8" X 30"	Q.Crete	Allow 5 wks. Lead time for delivery

Supplier list:
CST REC - Coast Recreation - Tim Hodges @ (949) 553-8065 (Representing Landscape Structures Inc. (LSI))
ES - Easi-Set (Structure Cast) - Larry Turpin @ (661) 833-4490
Q. Crete - QuickCrete - Brian Gotz @ (714) 309-6564.

Amenity note: The General Contractor is responsible for ordering and installing all amenities.
Prefabricated Restroom: See Civil Engineer's plans for sewer and potable water P.O.C.

DIMENSION LEGEND

- Point of reference
- (A) Radius = 2'-0"
- (B) Radius = 2'-6"
- (C) Radius = 3'-0"
- (D) Radius = 4'-0"
- (E) Radius = 5'-0"

BID ALTERNATIVE SCHEDULE

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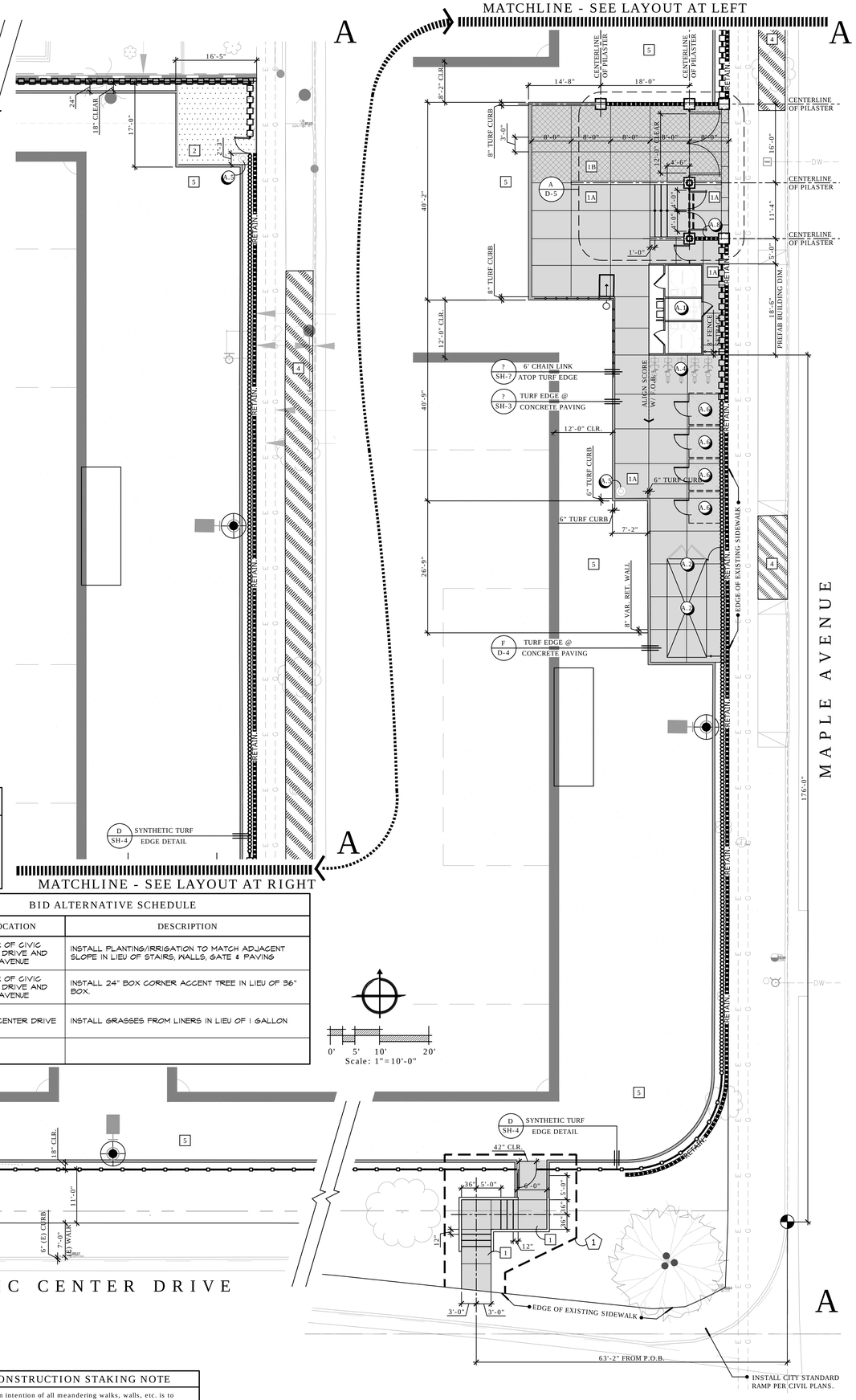

CONSTRUCTION LEGEND

A/C	Asphaltic Concrete
B.C.R.	Beginning Curve Radius
B.O.C.	Back of Curb
C.J.	Cold Joint
C.L.	Center Line
CLEAR.	Clearance
CONC.	Concrete
CONT.	Continuous
DIA.	Diameter
D.G.	Decomposed Granite
EA.	Each
E.C.R.	End Curve Radius
E.J.	Expansion Joint
EQ.	Equal
EXIST.	Existing
F.O.B.	Face of Building
F.O.C.	Face of Curb
F.G.	Finish Grade
F.S.	Finish Surface
GALV.	Galvanized
H.B.	Header Board
MAX.	Maximum
M.C.R.	Middle Curve Radius
MIN.	Minimum
NAT.	Natural
N.I.C.	Not In Contract
N.T.S.	Not To Scale
O.C.	On Center
P.A.	Planting Area
P.I.P.	Poured In Place
P.L.	Property Line
R.	Radius
S.D.	Slot Drain
SHT.	Sheet
S.L.	Score Line
SQ.	Square
STD.	Standard
T.F.	Top of footing
T.W.	Top of wall
TYP.	Typical

CONCRETE FORMING/SCORELINE NOTE

Scoreline pattern shown for finished design.

Trowel release joints may be required initially in some locations as necessary to reduce potential cracking. Trowel joints need to follow scoreline pattern, as shown on the plan, and be finished with a sawcut to match adjacent scoreline sawcuts.

Landscape Architect to review all forming before concrete is poured and scoreline "Snap lines" before concrete is cut. Allow 24 hours lead time.

CONCRETE SAMPLE NOTE

General Contractor shall provide on-site 3' x 3' sample flatwork panels for each concrete color / finish combination specified in the paving notes. Sample panels to be approved by Landscape Architect and owner prior to the start of construction.

CONSTRUCTION STAKING NOTE

The design intention of all meandering walks, walls, etc. is to maintain continuous smooth radii on all segments. If any staking dimension(s) creates a deviation to the constant radius, contact the Landscape Architect immediately.

TOR009

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

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Landscape Plans

Tract #

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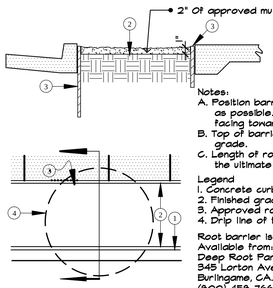
CONSTRUCTION LAYOUT

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager: P. Stevens
approved by: M. Imlay
drawn by: P. Stevens
date: 08/15/13
scale: 1" = 10'-0"

SHEET C-2 of 13

City of Torrance: 555 Maple Sports Field

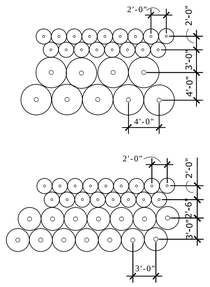


Notes:
A. Position barrier as close to curb or sidewalk as possible. Raised root protectors shall be facing towards the tree.
B. Top of barrier shall be 1" above finished grade.
C. Length of root barrier shall be equal to the ultimate dripline of the particular tree.

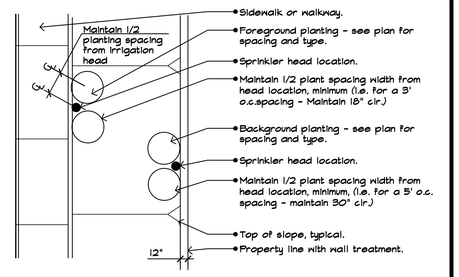
Legend
1. Concrete curb.
2. Finished grade.
3. Approved root control barrier.
4. Drip line of tree.

Root barrier is to be 18" linear barrier
Available from:
Deep Root Partners, L.P.
345 Lorton Ave., Suite 103
Burlingame, CA. 94010
(800) 458-7668

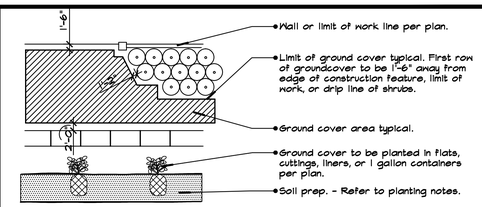
d LINEAR ROOT BARRIER
SCALE: 3/4" = 1'-0"



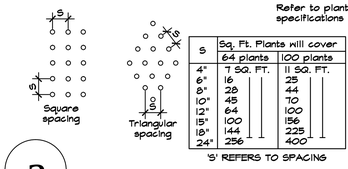
c SHRUB TRIANGULAR SPACING DETAIL
SCALE: 1/8" = 1'-0"



b SHRUB SPACING BY IRRIGATION HEADS
SCALE: 1/8" = 1'-0"



Refer to planting notes for additional specifications



S	Sq. Ft. Plants will cover	
	64 plants	100 plants
4"	7 SQ. FT.	11 SQ. FT.
6"	16	25
8"	28	44
10"	45	70
12"	64	100
15"	100	156
18"	144	225
24"	256	400

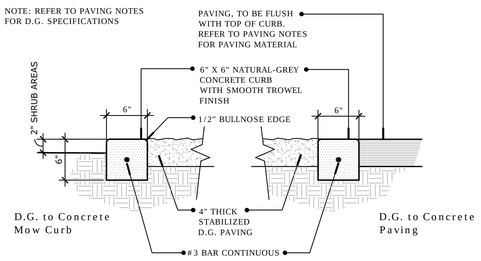
'S' REFERS TO SPACING

Ground cover shall be planted in the planting areas 1'-6" from the edge of monstrip or sidewalk to 1'-6" from the drip line of the first row of shrubs in a shrub mass only and 1'-6" to the existing wall or limit of work line.

a GROUND COVER
SCALE: 1/16" = 1'-0"

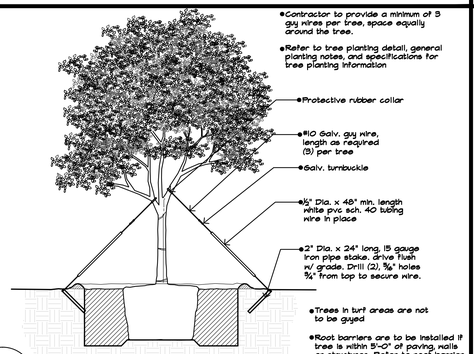
NOTE: PROVIDE SCORE JOINTS @ MAX. 5'-0" SPACING AND AT ALL ANGLE POINTS OF CONCRETE HEADER

NOTE: REFER TO PAVING NOTES FOR D.G. SPECIFICATIONS

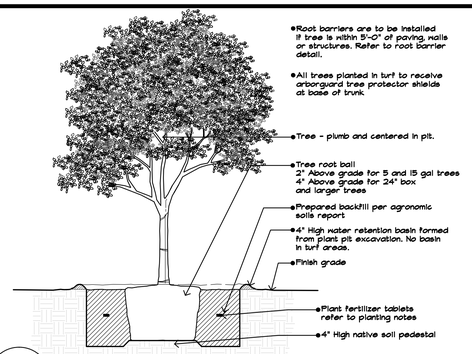


PRESATURATE AND COMPACT SUBGRADE PER GEOTECH. SOILS ENG.'S RECOMMENDATIONS.

h D.G. PAVING/EDGING
SCALE: 1 1/2"" = 1'-0"

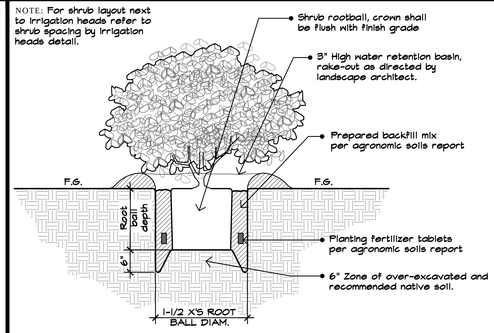


g TREE GUYING
SCALE: 1/4" = 1'-0"

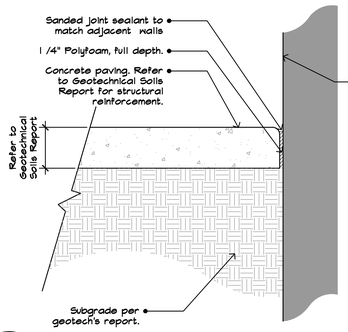


f TREE PLANTING
SCALE: 1/4" = 1'-0"

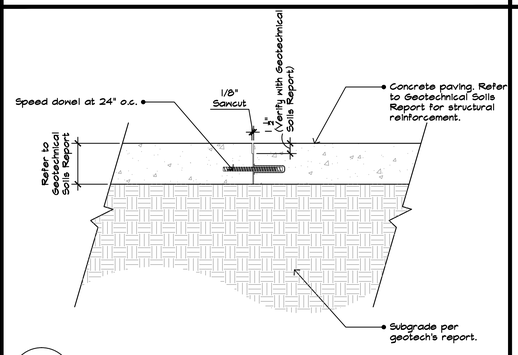
NOTE: For shrub layout next to irrigation heads refer to shrub spacing by irrigation heads detail.



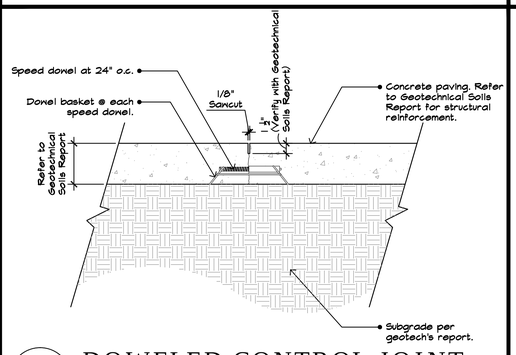
e SHRUB PLANTING
SCALE: 1" = 1'-0"



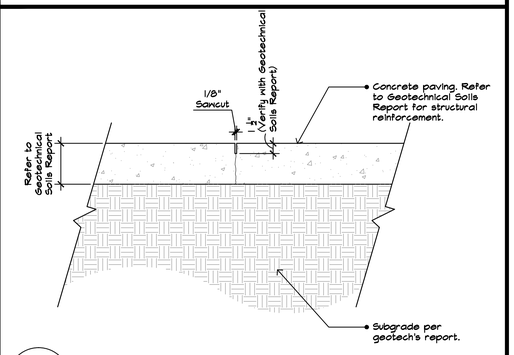
l ISOLATION JOINT
SCALE: 1 1/2"" = 1'-0"



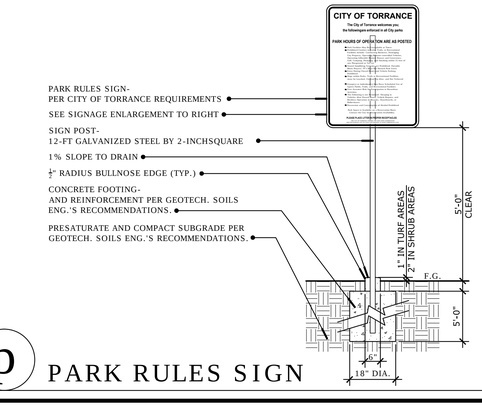
k CONSTRUCTION JOINT
SCALE: 1 1/2"" = 1'-0"

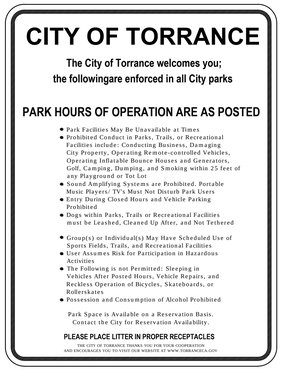


j DOWELED CONTROL JOINT WITH DOWEL BASKET
SCALE: 1 1/2"" = 1'-0"



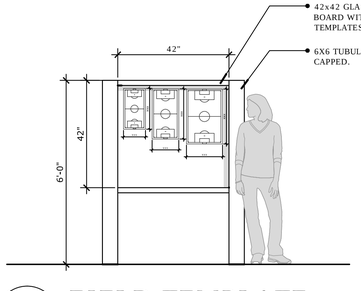
i CONTROL JOINT
SCALE: 1 1/2"" = 1'-0"





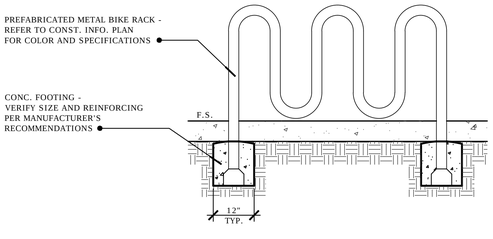
SIGNAGE ENLARGMENT 3/8" =1'-0"

p PARK RULES SIGN
SCALE: 1/2" = 1'-0"
SignParkRules(24).dwg



n FIELD TEMPLATE SIGN BOARD
SCALE: X" = 1'-0"
Filename.dwg

NOTE: BIKE RACK TO BE ORDERED BY CONTRACTOR. CONTRACTOR TO ASSEMBLE AND SECURE BIKE RACK PER MANUFACTURER'S RECOMMENDATIONS.



m BIKE RACK
SCALE: 3/4" = 1'-0"
BIKE RACK(1).dwg

TOR009

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Landscape Plans

Tract #

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7539

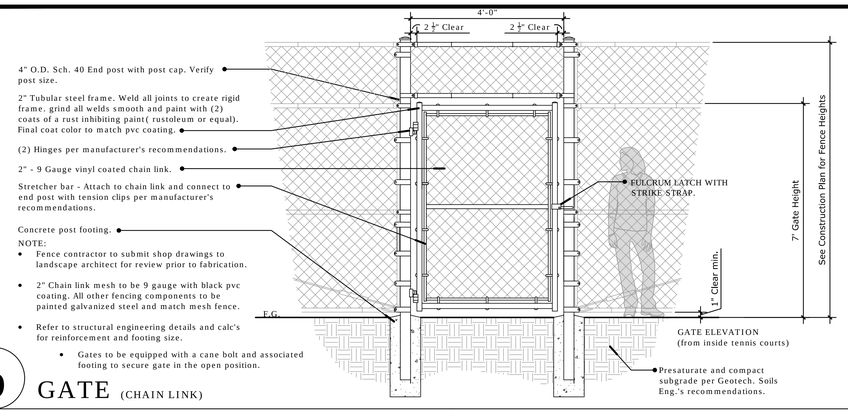
DETAILS

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager: P. Stevens
approved by: M. Imlay
drawn by: P. Stevens
date: 08/15/13
scale: As Shown

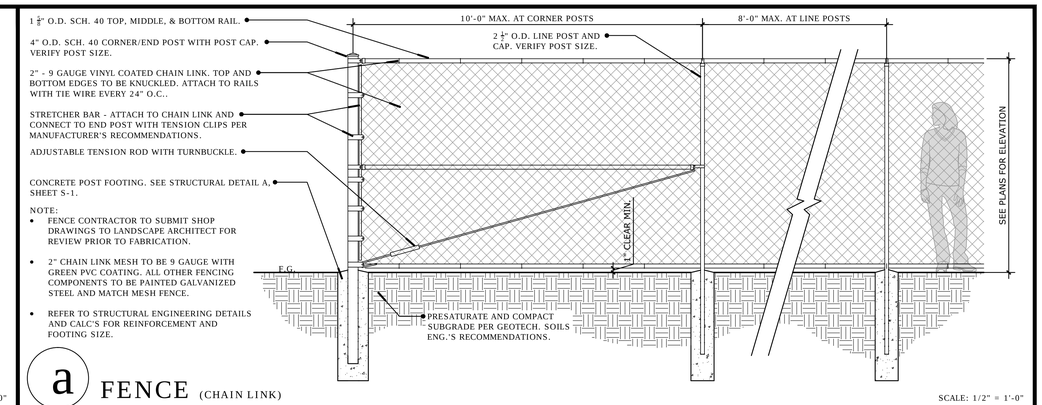
SHEET D-3 of 13

City of Torrance: 555 Maple Sports Field



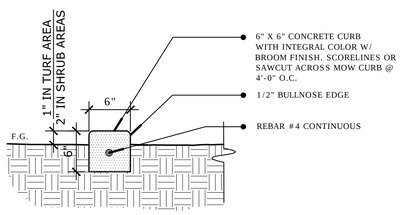
b GATE (CHAIN LINK)

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



a FENCE (CHAIN LINK)

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



e CONCRETE HEADER

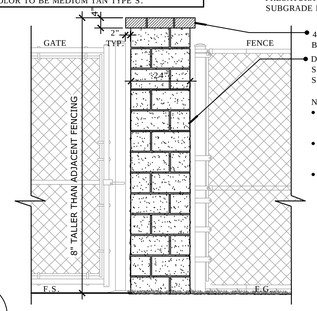
SCALE: 1 -1/2" = 1'-0"

filename.dwg

PILASTER AND WALL SPECS.
8" SPLIT-FACE ORCO BLOCK - COLOR TO BE "WHEAT."
8" PRECISION ORCO BLOCK - COLOR TO BE "WHEAT."
4" CAP: PRECISION BLOCK- COLOR TO BE "WHEAT."
MORTAR: COLOR TO BE MEDIUM TAN TYPE S.

CONCRETE FOOTING - SIZE AND REINFORCEMENT PER STRUCTURAL ENGINEER'S PLANS

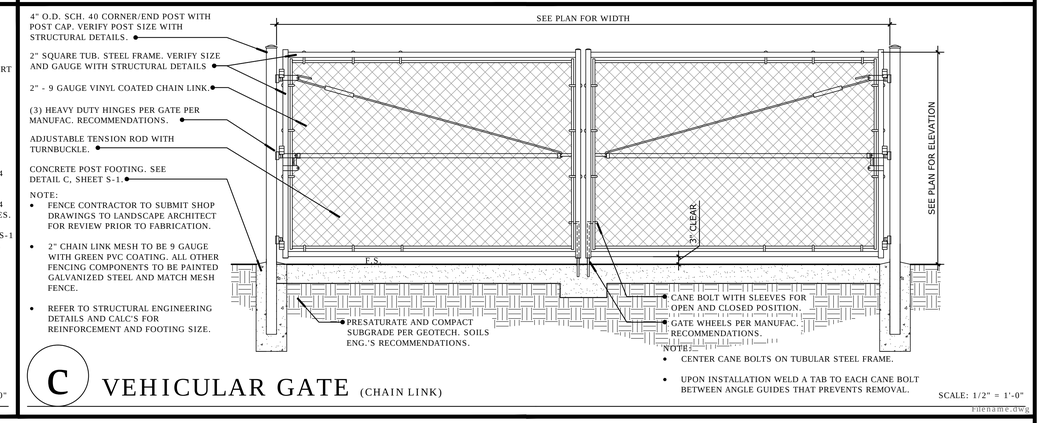
PRESATURATE AND COMPACT SUBGRADE PER GEOTECHNICAL REPORT



NOTE:
- SEE DETAIL A, SHEET 4 FOR FENCE DETAILS.
- SEE DETAIL B, SHEET 4 FOR PEDESTRIAN GATES.
- SEE DETAIL D, SHEET S-1 FOR FOR STRUCTURAL ENGINEER'S DETAIL.

d PILASTER (SPLIT FACE BLOCK)

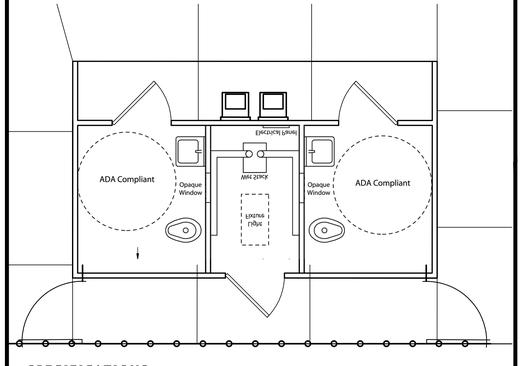
SCALE: 1/2" = 1'-0"



c VEHICULAR GATE (CHAIN LINK)

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

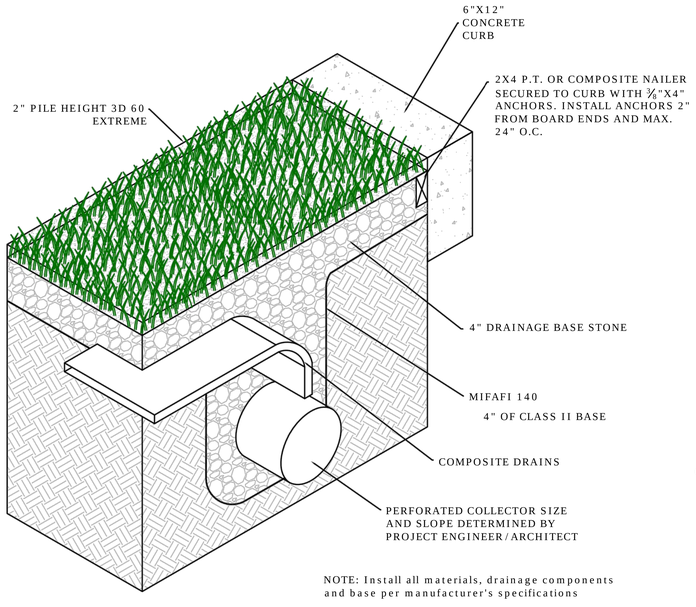
filename.dwg



SPECIFICATIONS
- WOOD SIDING:
- ROOF TYPE:
- RESTROOM FIXTURES: *STAINLESS STEEL*
- DRINKING FOUNTAIN: *STAINLESS STEEL AND ADA ACCESSIBLE.*
- FOUNDATION: *RESTROOM IS CONSTRUCTED WITH INTEGRAL POST-TENSIONED SLAB. CONTRACTOR TO OVER EXCAVATE AND INSTALL 8" OF CLASS II BASE AND COMPACT PER THE GEOTECHNICAL REPORTS RECOMMENDATIONS.*

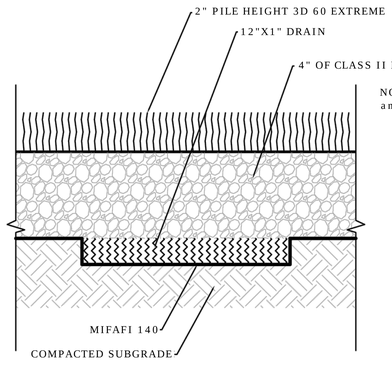
g PRECAST RESTROOM

SCALE: NTS



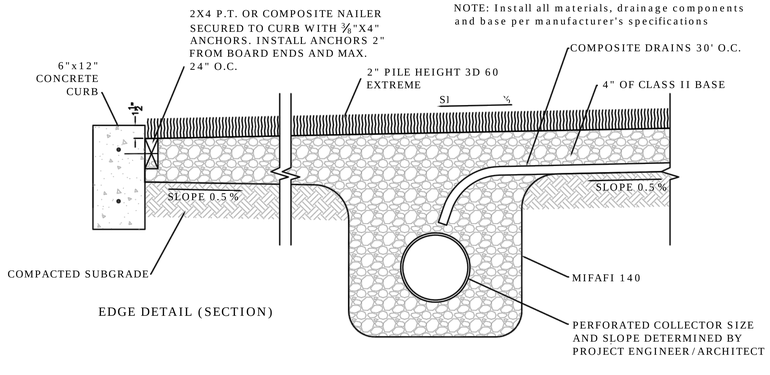
NOTE: Install all materials, drainage components and base per manufacturer's specifications

EDGE DETAIL (ISOMETRIC VIEW)



NOTE: Install all materials, drainage components and base per manufacturer's specifications

COMPOSITE DRAIN DETAIL



NOTE: Install all materials, drainage components and base per manufacturer's specifications

EDGE DETAIL (SECTION)

f SYNTHETIC TURF

SCALE: NTS

TOR009

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Landscape Plans

Tract #

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

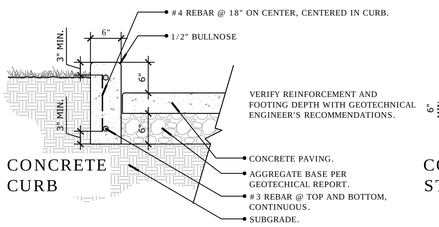
DETAILS

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

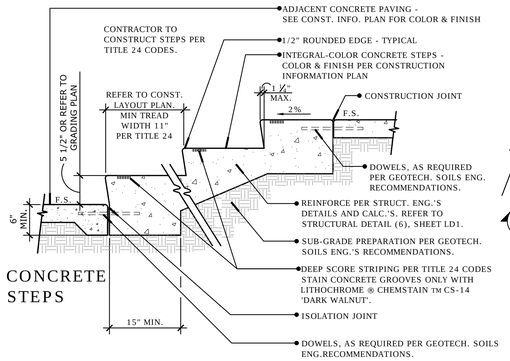
project manager: P. Stevens
approved by: M. Imlay
drawn by: P.Stevens
date: 08/15/13
scale: As Shown

SHEET D-4 of 13

City of Torrance: 555 Maple Sports Field

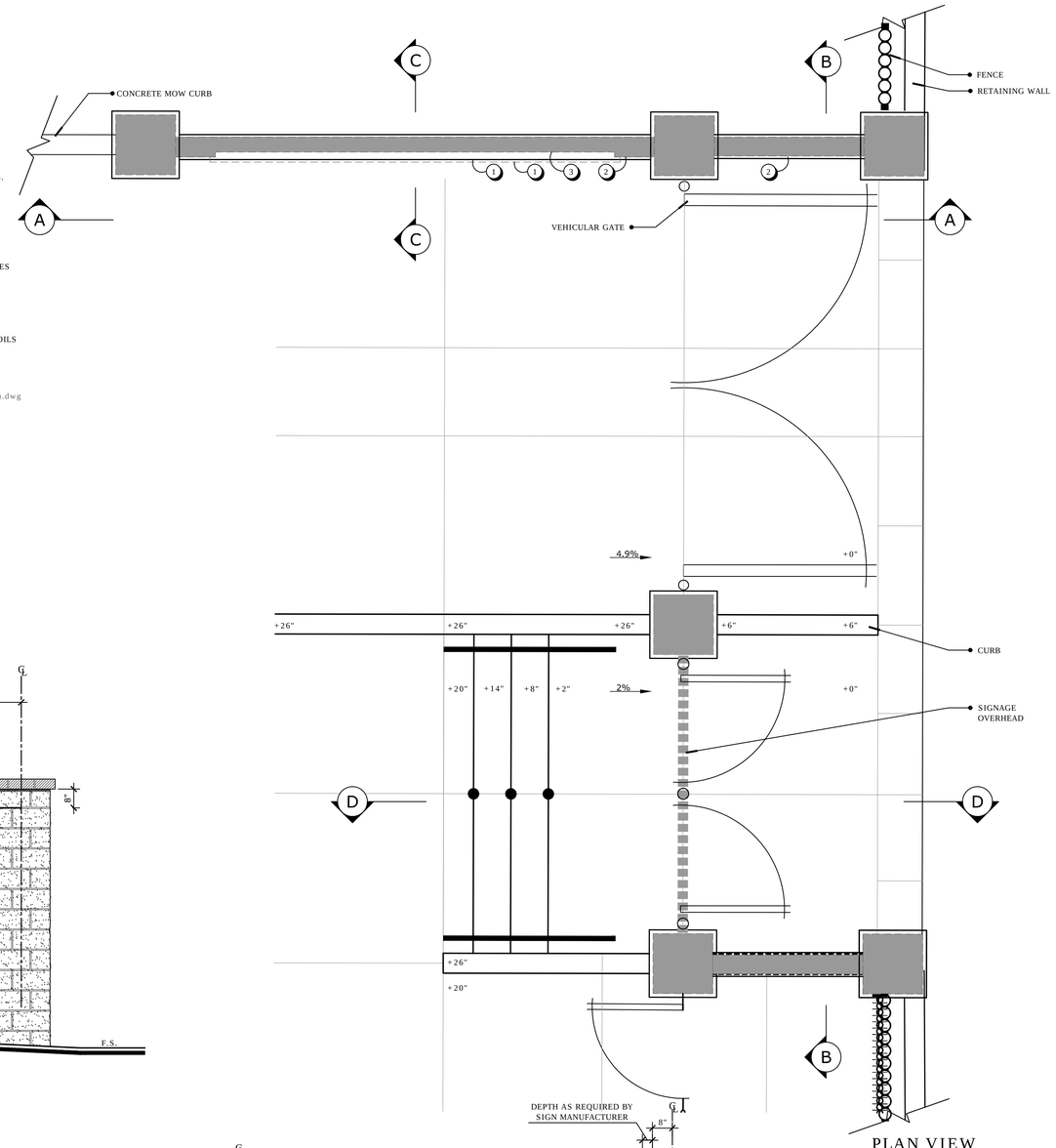


CONCRETE CURB



CONCRETE STEPS

StepsConcStriped(12).dwg



PLAN VIEW

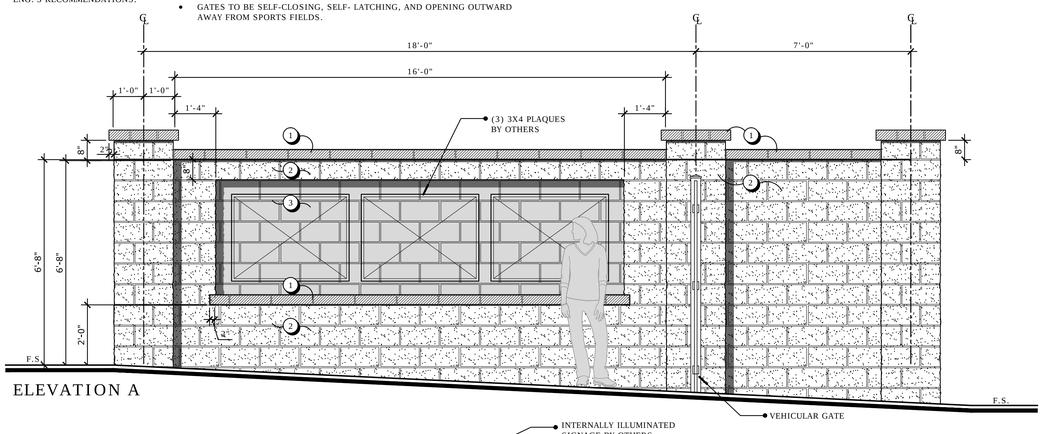
BLOCK SPECS
8" SPLIT-FACE ORCO BLOCK - COLOR TO BE "WHEAT." 8" PRECISION ORCO BLOCK - COLOR TO BE "WHEAT." 4" CAP: PRECISION BLOCK- COLOR TO BE "WHEAT." MORTAR: COLOR TO BE MEDIUM TAN TYPE S. NOTE: CUT PRECISION CAP TO FIT LAYOUT AS SHOWN

1. 4" WIDE PRECISON BLOCK CAP
2. 8" WIDE SPLIT FACE BLOCK WALL
3. 6" WIDE SPLIT FACE ONE SIDE BLOCK WALL

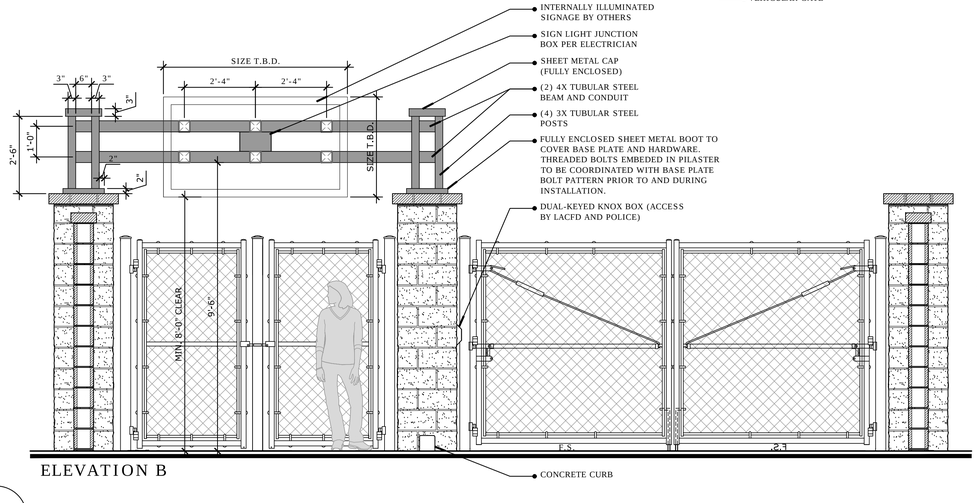
CONCRETE FOOTING - SIZE AND REINFORCEMENT PER STRUCT. ENG.'S DETAILS AND CALC.'S.

PRESATURATE AND COMPACT SUBGRADE PER GEOTECH. SOILS ENG.'S RECOMMENDATIONS.

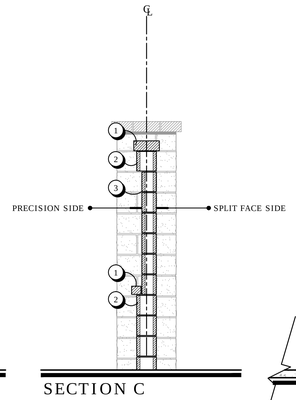
NOTE:
- ALL FENCING MEMBERS TO BE TUBULAR STEEL STOCK W/ ALL CONNECTIONS WELDED & GROUND SMOOTH. ALL FENCING MEMBERS TO BE PRIMED & PAINTED W/ TWO (2) COATS OF RUST INHIBITING PAINT (RUSTOLEUM OR EQUAL) FOLLOWING FINAL ASSEMBLY. PAINT COLOR TO BE: DARK BRONZE
- FENCE CONTRACTOR TO COORDINATE W/ MASONRY, ELECTRICAL, & FENCING CONTRACTORS PRIOR TO CONSTRUCTION.
- GATES TO BE SELF-CLOSING, SELF- LATCHING, AND OPENING OUTWARD AWAY FROM SPORTS FIELDS.



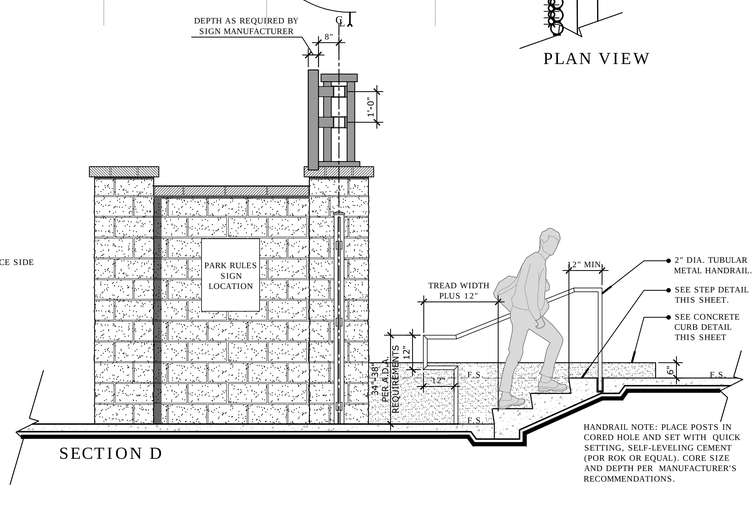
ELEVATION A



ELEVATION B



SECTION C



SECTION D

HANDRAIL NOTE: PLACE POSTS IN CORED HOLE AND SET WITH QUICK SETTING, SELF-LEVELING CEMENT (POR ROK OR EQUAL). CORE SIZE AND DEPTH PER MANUFACTURER'S RECOMMENDATIONS.

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

a ENTRY WALLS AND SIGNAGE

TOR009

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Landscape Plans

Tract #

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

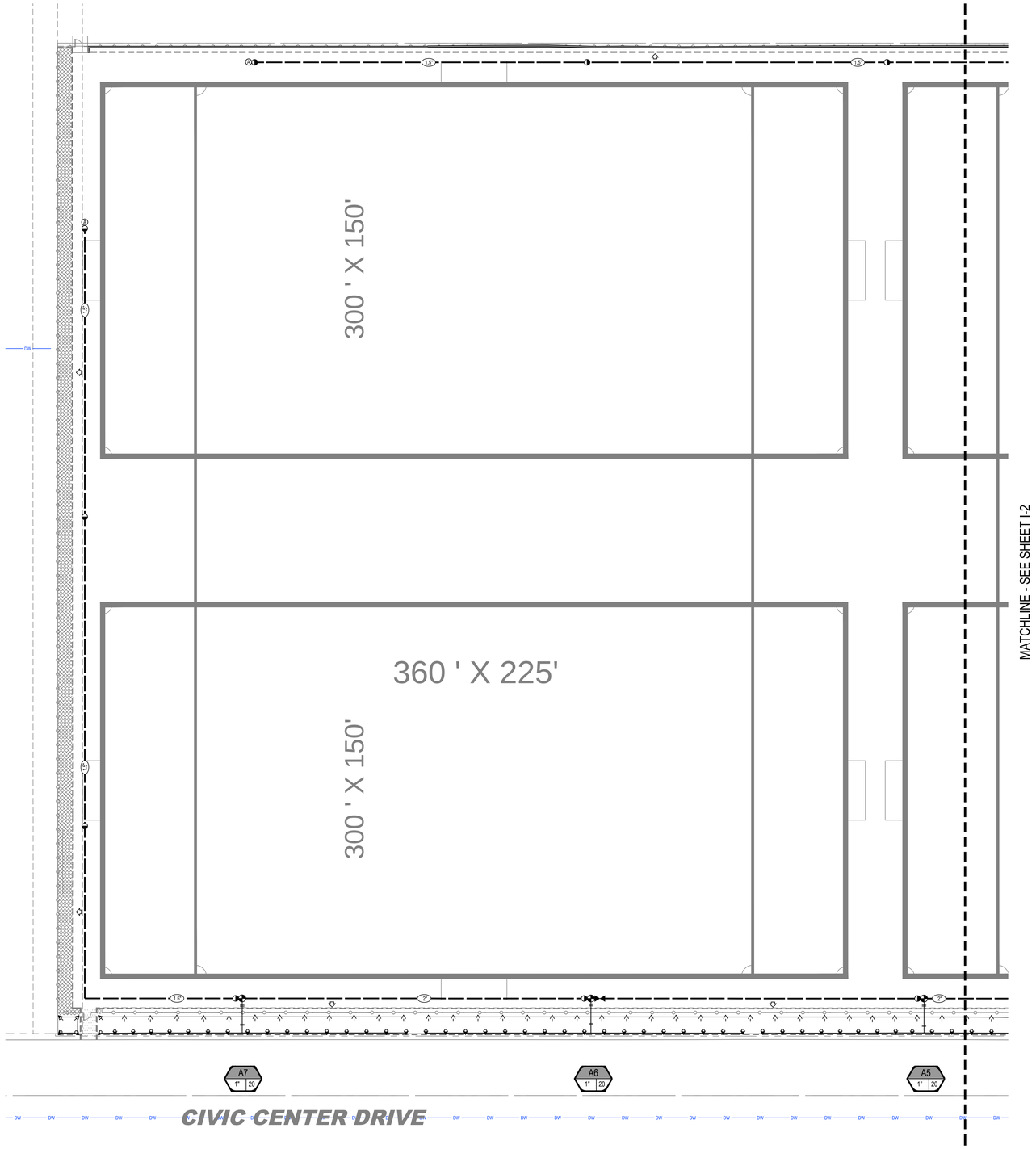
DETAILS

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager:	P. Stevens
approved by:	M. Imlay
drawn by:	P.Stevens
date:	08/15/13
scale:	As Shown

SHEET D-5 of 13

City of Torrance: 555 Maple Sports Field



LATERAL PIPE SIZING LEGEND

NO 1/2" PIPE PERMITTED

- 3/4" MINIMUM
- 1"
- 1-1/4"
- 1-1/2"
- 2"
- 2-1/2"
- 3"

SLEEVE SIZING LEGEND

REFER TO IRRIGATION LEGEND FOR SLEEVE MATERIAL. REFER TO DETAIL FOR BURIAL REQUIREMENTS

A	(2) 2"	H	(2) 4"
B	(3) 2"	I	(3) 4"
C	(4) 2"	J	(4) 4"
D	(2) 3"	K	(5) 4"
E	(3) 3"	L	(1) 6" + (2) 4"
F	(4) 3"	M	(1) 6" + (3) 4"
		N	(1) 6" + (4) 4"

G — GALVANIZED SLEEVE - TO BE MINIMUM 2X DIAMETER OF PIPE OVER TERRACE DRAIN

SLEEVING NOTES

- IRRIGATION PIPE AND LOW VOLTAGE CONTROL VALVE WIRE SHALL BE SLEEVED UNDER PAVING.
- SLEEVES TO BE MINIMUM TWICE THE DIAMETER OF THE PIPE SLEEVED.
- PRESSURE MAINLINE SLEEVES SHALL BE ACCOMPANIED WITH A MINIMUM 2" WIRE SLEEVE.
- SLEEVES TO EXTEND MINIMUM 12" BEYOND PAVING.
- PROTECT ALL SLEEVE ENDS TO PROHIBIT SOIL FROM ENTERING THE SLEEVE.
- IRRIGATION CONTRACTOR TO COORDINATE SLEEVING WITH THE HARDSCAPE CONTRACTOR PRIOR TO INSTALLATION OF ANY HARDSCAPE.
- REFER TO LEGEND FOR SLEEVE SPECIFICATION AND PLAN FOR SLEEVE SIZE MATRIX

EQUIPMENT LOCATION NOTES

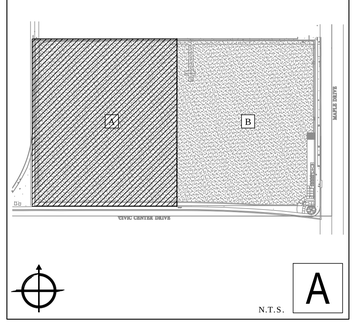
ALL PIPING, ABOVE GROUND EQUIPMENT, AND ANY VALVE BOXES SHALL BE LOCATED IN PLANTING AREAS. NO IRRIGATION EQUIPMENT SHALL BE LOCATED IN HARDSCAPE OR IN TURF AREAS WITHOUT PERMISSION FROM THE IRRIGATION CONSULTANT. GROUP ALL VALVE BOXES AND LOCATE IN SHRUB AREAS ONLY. CONTRACTOR WILL BE RESPONSIBLE TO RE-LOCATE VALVE BOXES INSTALLED IN TURF AREAS AT NO COST TO THE OWNER.

EXTRA WIRE NOTE

TWO (2) CONTINUOUS, EXTRA WIRES SHALL BE PROVIDED FOR EACH MAINLINE DIRECTION. ALL EXTRA WIRES SHALL BE LOOPED IN EACH VALVE BOX WITH 24" COIL. TERMINATE IN THE LAST VALVE BOX. BUNDLE ALL EXTRA WIRES IN CONTROLLER. ALL EXTRA WIRE SHALL BE ORANGE IN COLOR.

0 10 20 40

KEY MAP



DIGALERT

DIAL 811

AT LEAST TWO DAYS BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

EQUIPMENT IN SYNTHETIC TURF NOTE

INSTALL ALL IRRIGATION EQUIPMENT IN SHRUB / MULCH PLANTING AREAS. CONTRACTOR WILL BE RESPONSIBLE TO RE-LOCATE MAINLINE, VALVES, QUICK COUPLERS AND ALL OTHER EQUIPMENT INSTALLED IN SYNTHETIC TURF AREAS AT NO COST TO THE CITY.

TOR009

LICENSED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — LICENSE NO. 1452 — MICHAEL THOMAS — SIGNATURE — DATE

REVISIONS

ADDENDUM 1 - 7/23/2013 (1)

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Landscape Plans

Tract #

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

IRRIGATION PLAN

WATER CONCERN, LTD.
Landscape Irrigation Consulting
29829 Santa Margarita Pkwy, Suite 200
Rancho Santa Margarita, CA 92688
(949) 635-0474 (949) 635-0475 FAX

project manager: Garry Collins

approved by: Garry Collins

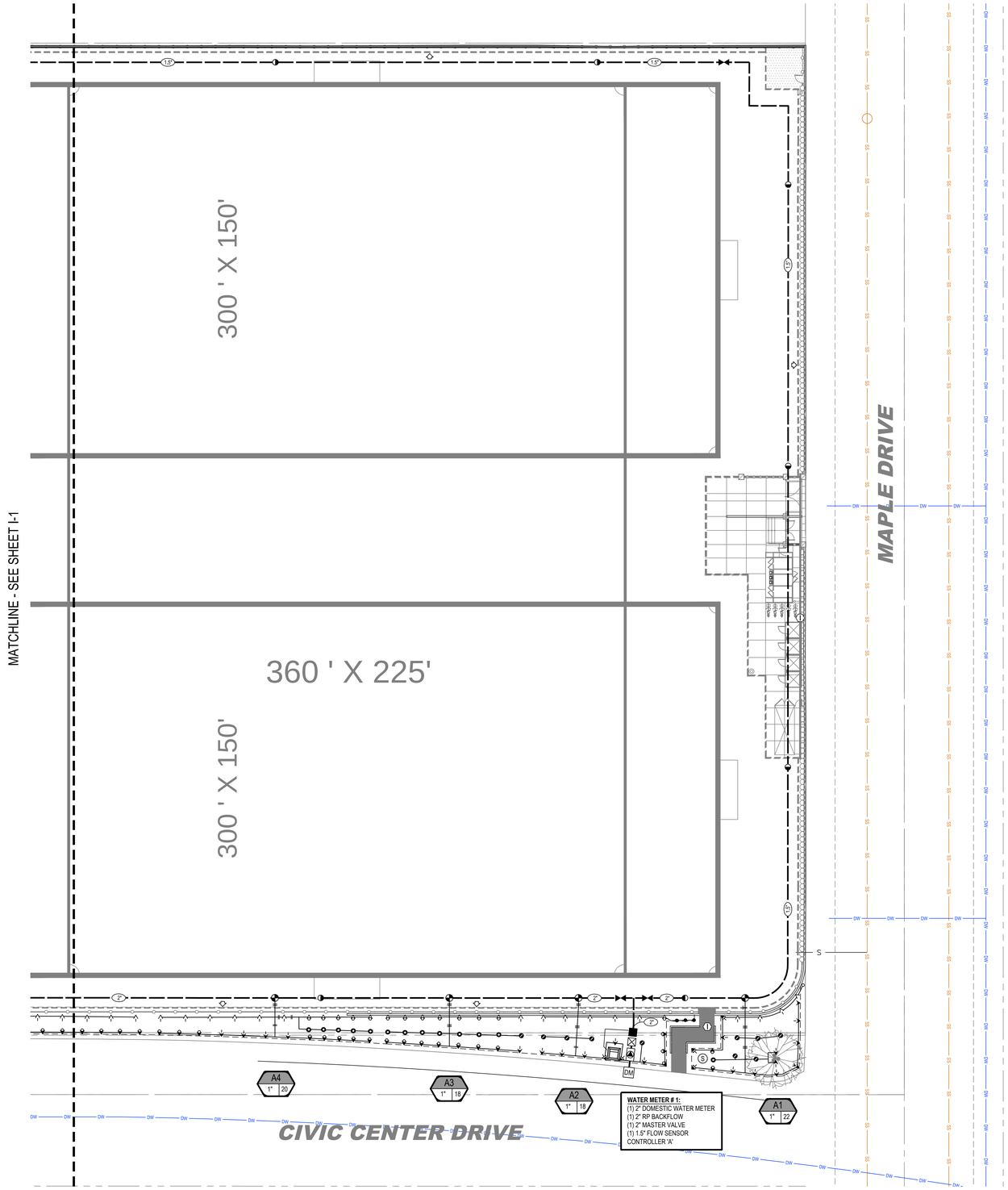
drawn by:

date: 06/05/13

scale: 1" = 20'-0"

SHEET I-1 of 13

City of Torrance: 555 Maple Sports Field



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EXTRA WIRE NOTE

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CONTROLLER NOTE

CONTRACTOR SHALL PURCHASE AND INSTALL RAIN MASTER EAGLE PLUS i-CENTRAL CONTROLLER IN A STAINLESS STEEL TOP MOUNT STRONGBOX ENCLOSURE WITH ATTACHED RAIN SENSOR, CST FLOW SENSOR, STICK ANTENNA, AND 2 YEAR SERVICE WARRANTY FOR EACH CONTROLLER AS NOTED BELOW:

CONTROLLER 'A' TOP MOUNT ASSEMBLY
JOHN DEERE GREENTECH SA6-RM2-16 / 2YR / RSE / GTFS-150P

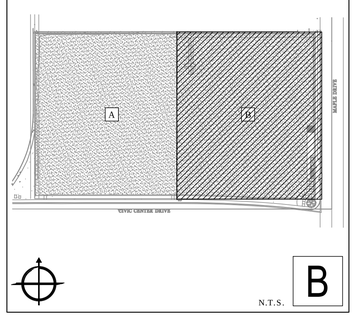
THE IRRIGATION CONTRACTOR SHALL MAKE FINAL ELECTRICAL CONNECTION TO CONTROLLER PER LOCAL ELECTRICAL CODE.

CONTACT RYAN GRIFFIN FOR ORDER INFORMATION (949) 455-7465

N

0 10 20 40

KEY MAP



EQUIPMENT IN SYNTHETIC TURF NOTE

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DIGALERT

DIAL 811

AT LEAST TWO DAYS BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

TOR009

REVISIONS

ADDENDUM 1 - 7/23/2013 1

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Landscape Plans

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project manager:
Garry Collins

approved by:
Garry Collins

drawn by:

date:
06/05/13

scale:
1" = 20'-0"

SHEET

I-2 of 13

City of Torrance: 555 Maple Sports Field

COUNTY OF LOS ANGELES DPH RECYCLED WATER NOTES

1. RECYCLED WASTEWATER SHALL MEET REQUIREMENTS SPECIFIED IN "WASTEWATER RECLAMATION CRITERIA": TITLE 22, DIVISION 4, CHAPTER 3, SECTION 60301 THROUGH 60355 OF THE CALIFORNIA CODE OF REGULATIONS AND REGULATIONS AND GUIDELINES OF THE REGULATORY AGENCIES.

2. RECYCLED WASTEWATER USE SHALL BE COMPATIBLE WITH STATE DEPARTMENT OF PUBLIC HEALTH AND REGIONAL WATER QUALITY CONTROL BOARD REQUIREMENTS.

3. PLANS AND SPECIFICATIONS FOR RECYCLED WASTEWATER DISTRIBUTION, USE AND OPERATIONAL PRACTICES SHALL BE SUBMITTED FOR REVIEW AND APPROVAL TO THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH PRIOR TO IMPLEMENTATION AND CONSTRUCTION.

4. PRIOR TO COMMENCING CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH TO ARRANGE FOR INSPECTION OF ALL ON-SITE RECYCLED AND POTABLE WATER WORK. NO EXCAVATION OR OPEN TRENCH MAY BE BACKFILLED WITHOUT FIRST SECURING HEALTH DEPARTMENT APPROVAL. IF ANY PIPING, RECYCLED OR POTABLE, IS INSTALLED PRIOR TO PLAN CHECK APPROVAL AND/OR INSPECTION, ALL OR ANY PORTION OF THE SYSTEM MAY BE REQUIRED TO BE EXPOSED AND CORRECTED AS NECESSARY.

5. A LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH APPROVED **TEMPORARY** WATER CONNECTION TO A POTABLE WATER SUPPLY, VIA A , APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICE, SHALL BE UTILIZED FOR THE PURPOSES OF FLUSHING, PRESSURE TESTING, CONSTRUCTION USES, INITIAL LANDSCAPE USE AND THE FINAL CROSS-CONNECTION TEST.

6. SEPARATION - IN ORDER TO MINIMIZE CONSTRUCTION ACCIDENTS RESULTING IN PIPELINE BREAKS, INFILTRATION OF WASTEWATER FROM LEAKING WASTEWATER LINES INTO DOMESTIC WATER LINES, OR ACCIDENTAL CROSS-CONNECTIONS BETWEEN RECYCLED WASTEWATER AND POTABLE WATER SYSTEMS, MAXIMUM ATTAINABLE SEPARATION OF RECYCLED WASTEWATER LINES AND POTABLE WATER LINES SHALL BE PRACTICED.
   A. PARALLEL CONSTRUCTION: THERE SHALL BE AT LEAST A TEN FOOT (10') SEPARATION, ALL DISTANCES MEASURED FROM PIPELINE OUTSIDE DIAMETER.
   B. CROSS-OVER CONSTRUCTION: AS PERPENDICULAR AS POSSIBLE; ONE FOOT (1') SEPARATION, WITH POTABLE ABOVE RECYCLED; FULL PIPE LENGTH CENTERED OVER CROSSING.
   C. ALTERNATE CROSS-OVER CONSTRUCTION (DISTANCE NOT MAINTAINED): EITHER THE POTABLE OR RECYCLED WATER LINES MAY BE SLEEVED WITH THE SAME CLASS PIPING FOR ONE FULL PIPE LENGTH (MINIMUM TEN FEET) CENTERED OVER THE CROSS-OVER.
   D. THE RECYCLED WASTEWATER SYSTEM SHALL BE CONSTRUCTED IN CONFORMANCE WITH POTABLE WATER SYSTEM CONSTRUCTION STANDARDS AND IN ACCORDANCE WITH ALL OTHER GOVERNING CODES, RULES AND REGULATIONS.
   E. UNUSED OR ABANDONED POTABLE WATER LINES ARE TO BE SEVERED AS CLOSE TO WATER MAINS AS PRACTICAL, CAPPED AND A TEN-FOOT SECTION OF ABANDONED LINE REMOVED AND CEMENTED UNDER HEALTH DEPARTMENT SUPERVISION.

   EXISTING ON-SITE PIPING - TO THE EXTENT FEASIBLE, MAXIMUM SEPARATION OF RECYCLED WASTEWATER AND POTABLE WATER LINES SHALL BE PRACTICED UPON SYSTEM ADDITION OR MODIFICATION.

7. IDENTIFICATION: ALL RECYCLED WASTEWATER LINES (PRESSURE/NON-PRESSURE), VALVE BOXES, HYDRANTS AND APPURTENANCES SHALL BE IDENTIFIED TO CLEARLY DISTINGUISH BETWEEN RECYCLED WASTEWATER, NON-POTABLE AND POTABLE WATER SYSTEMS.

   A. RECYCLED WASTEWATER - ALL BURIED RECYCLED WASTEWATER LINES (PRESSURE/NON-PRESSURE) SHALL BE PURPLE COLORED PIPE WITH CONTINUOUS WORDING "CAUTION RECYCLED WATER" 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 LETTERING BEARING THE CONTINUOUS WORDING "CAUTION RECYCLED WATER" PERMANENTLY AFFIXED AT FIVE FOOT 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.
   B. POTABLE WATER - ALL POTABLE WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE AND ALL BURIED POTABLE WATER LINES SHALL BE IDENTIFIED BY CONTINUOUS LETTERING ON OTHER GOVERNING CODES, RULES AND REGULATIONS. ALL THREE INCH (3") MINIMUM WIDTH BLUE TAPE WITH ONE INCH WHITE LETTERING BEARING THE CONTINUOUS 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.
   C. 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 CONTRASTING LETTERING BEARING THE CONTINUOUS WORDING "NON-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, HYDRANTS AND QUICK COUPLERS. NON-POTABLE WATER IS WATER SUPPLIED FROM THE POTABLE WATER SYSTEM THROUGH AN APPROPRIATE BACKFLOW PREVENTER.
   D. EXPOSED PIPING, VALVE BOXES, VAULTS, CONTROL VALVES, QUICK COUPLING VALVES, OUTLETS AND RELATED APPURTENANCES SHALL BE COLOR CODED AND LABELED OR TAGGED TO DIFFERENTIATE BETWEEN RECYCLED WASTEWATER, POTABLE WATER AND NON-POTABLE WATER SYSTEMS, I.E.,

   I. "CAUTION RECYCLED WATER DO NOT DRINK" IN BLACK OR WHITE CONTRASTING LETTERING ON A PURPLE BACKGROUND.
   II. "POTABLE WATER" IN WHITE LETTERING ON A BLUE OR GREEN BACKGROUND.
   III. "NON-POTABLE WATER - DO NOT DRINK" IN CONTRASTING LETTERING FROM THE BACKGROUND.

   TAGS SHALL BE IDENTIFIED WITH THE APPROPRIATE WORDING ON BOTH SIDES. TAGS IDENTIFYING RECYCLED WATER SHALL HAVE THE APPROPRIATE WORDING ON ONE SIDE AND SYMBOL ON THE OPPOSITE SIDE.

8. AQUIFERS SHALL BE PROTECTED AGAINST CONTAMINATION BY RECYCLED WASTEWATER VIA DETERIORATED OR INADEQUATELY PROTECTED WATERWELL CASINGS BY CORRECTING THESE PHYSICAL DEFICIENCIES. RECYCLED WASTEWATER SHALL NOT BE SPRAYED ON WELL PUMP INSTALLATIONS AND APPURTENANCES.

9. AN ON-SITE WATER SUPERVISOR HAVING THE RESPONSIBILITY FOR THE PROTECTION OF THE POTABLE WATER SYSTEM FROM CROSS-CONNECTIONS, SHALL BE APPOINTED AS PROVIDED FOR UNDER TITLE 17, SECTION 7586, CALIFORNIA CODE OF REGULATIONS. THE WATER SUPERVISOR SHALL BE RESPONSIBLE FOR INSTALLATION, OPERATION, AND MAINTENANCE OF THE RECYCLED WASTEWATER AND POTABLE WATER SYSTEMS, PREVENTION OF POTENTIAL HAZARDS, IMPLEMENTING THESE GUIDELINES AND COORDINATION WITH THE CROSS-CONNECTION CONTROL PROGRAM OF THE WATER PURVEYOR AND THIS DEPARTMENT. AUTHORIZATIONS FOR PIPING CHANGES OR ADDITIONS TO EITHER THE POTABLE OR RECYCLED WASTEWATER SYSTEMS SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE WATER SUPERVISOR. THE NAME AND POSITION OF THIS INDIVIDUAL SHALL BE REPORTED TO THE WATER PURVEYOR AND THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC HEALTH.

10. AS-BUILT PLANS SHALL BE PREPARED AND UPDATED AS NECESSARY BY THE USER SHOWING THE LOCATION OF RECYCLED WASTEWATER AND POTABLE WATER SYSTEM PIPING.

11. IN AREAS OF PUBLIC ACCESS TO RECYCLED WASTEWATER SYSTEMS, HOSE BIBS SHALL NOT BE PERMITTED IN ORDER TO PREVENT THE UNAUTHORIZED USE OF RECYCLED WASTEWATER. QUICK-COUPLERS ARE PERMISSIBLE IN LIEU OF HOSE BIBB OUTLETS AND SHALL ONLY BE CONNECTED TO RECYCLED WASTEWATER LINES. IN AREAS NOT ACCESSIBLE TO THE PUBLIC, HOSE BIBBS MAY BE PERMITTED PROVIDED THEY ARE PROPERLY IDENTIFIED WITH PERMANENTLY AFFIXED TAGS, LABELS, OR PLATES WITH THE WORDING "RECYCLED WATER - DO NOT DRINK" IN ENGLISH AND SYMBOL.

12. EXPOSURE OF DRINKING FOUNTAINS AND PICNIC TABLES TO DIRECT RECYCLED WASTEWATER SPRAY SHALL BE MINIMIZED BY A COMBINATION OF SELECTIVE LOCATION OF SUCH EQUIPMENT AND BY APPROPRIATE IRRIGATION SYSTEM DESIGN.

   A. RECYCLED WASTEWATER SPRAYING SHALL BE DONE IN HOURS OF LEAST PUBLIC EXPOSURE.
   B. AREAS WHERE RECYCLED WASTEWATER IS RELEASED, USED OR IMPOUNDED SHALL BE POSTED (E.G., RECYCLED WATER - DO NOT DRINK), TO INFORM THE PUBLIC THAT RECYCLED WATER IS BEING USED.
   C. IRRIGATION PRACTICE SHALL BE CONTROLLED TO PREVENT SURFACE RUNOFF OF RECYCLED WASTEWATER FROM LANDS OWNED OR CONTROLLED BY THE USER.

13. BACKFLOW PROTECTION

   A. THERE SHALL BE NO INTERCONNECTION BETWEEN THE POTABLE WATER SYSTEM AND THE RECYCLED WATER SYSTEM WITHIN THE USER'S PREMISES.
   B. A DYE OR PRESSURE TEST MUST BE UTILIZED TO CONFIRM THE PHYSICAL SEPARATION OF THE RECYCLED AND POTABLE WATER SYSTEMS. SAID TESTING SHALL BE PERFORMED IN CONJUNCTION WITH THE WATER PURVEYOR AND THIS DEPARTMENT AND CONDUCTED BEFORE THE INTRODUCTION OF RECYCLED WASTEWATER. (REFER TO ITEM # 5)
   C AN APPROVED BACKFLOW PREVENTION DEVICE SHALL BE INSTALLED AT THE POTABLE WATER SERVICE CONNECTION(S).
   D. IN ORDER TO MAINTAIN THE WATER QUALITY IN A RECYCLED WASTEWATER DISTRIBUTION SYSTEM A BACKFLOW PREVENTION DEVICE(S) 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.

RAINBIRD SPRAY LEGEND - RECYCLED WATER

SYMBOL	DESCRIPTION	MANUFACTURER PART NO.	NOZZLE	PATTERN	FLOW	RADIUS	PRES	PRECIP
SHRUB POP UP HEADS								
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	12F	FULL	2.60	12'	30	2.01
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	12H	HALF	1.30	12'	30	2.01
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	12T	THIRD	0.93	12'	30	2.01
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	12Q	QRTR	0.65	12'	30	2.01
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	10F	FULL	1.60	10'	30	1.75
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	10H	HALF	0.80	10'	30	1.75
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	10T	THIRD	0.50	10'	30	1.75
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	10Q	QRTR	0.40	10'	30	1.75
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	8F	FULL	1.00	8'	30	1.83
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	8H	HALF	0.50	8'	30	1.83
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	8T	THIRD	0.35	8'	30	1.83
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	8Q	QRTR	0.25	8'	30	1.83
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	5H	HALF	0.20	5'	30	1.83
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	5T	THIRD	0.15	5'	30	1.83
	SHRUB POP UP	RAINBIRD 1812 SAM PRS NP	5Q	QRTR	0.10	5'	30	1.83
	BUBBLER POP UP	RAINBIRD 1804 SAM PRS NP	15 CST PCS 020	--	0.20	--	30	--
	BUBBLER POP UP	RAINBIRD 1804 SAM PRS NP	15 CST PCS 030	--	0.30	--	30	--
SHRUB HEADS ON RISER								
	HEAD ON RISER	RAINBIRD PA8S PRS	12F	FULL	2.60	12'	30	2.01
	HEAD ON RISER	RAINBIRD PA8S PRS	12H	HALF	1.30	12'	30	2.01
	HEAD ON RISER	RAINBIRD PA8S PRS	12T	THIRD	0.93	12'	30	2.01
	HEAD ON RISER	RAINBIRD PA8S PRS	12Q	QRTR	0.65	12'	30	2.01
	HEAD ON RISER	RAINBIRD PA8S PRS	10F	FULL	1.60	10'	30	1.75
	HEAD ON RISER	RAINBIRD PA8S PRS	10H	HALF	0.80	10'	30	1.75
	HEAD ON RISER	RAINBIRD PA8S PRS	10T	THIRD	0.50	10'	30	1.75
	HEAD ON RISER	RAINBIRD PA8S PRS	10Q	QRTR	0.40	10'	30	1.75
	HEAD ON RISER	RAINBIRD PA8S PRS	8F	FULL	1.00	8'	30	1.83
	HEAD ON RISER	RAINBIRD PA8S PRS	8H	HALF	0.50	8'	30	1.83
	HEAD ON RISER	RAINBIRD PA8S PRS	8T	THIRD	0.35	8'	30	1.83
	HEAD ON RISER	RAINBIRD PA8S PRS	8Q	QRTR	0.25	8'	30	1.83
	HEAD ON RISER	RAINBIRD PA8S PRS	5H	HALF	0.20	5'	30	1.83
	HEAD ON RISER	RAINBIRD PA8S PRS	5T	THIRD	0.15	5'	30	1.83
	HEAD ON RISER	RAINBIRD PA8S PRS	5Q	QRTR	0.10	5'	30	1.83

NOTE: ALL POP UP IRRIGATION HEADS ARE SPECIFIED WITH PURPLE NON-POTABLE IDENTIFICATION CAPS.

GENERAL IRRIGATION NOTES

1. ALL MAIN LINE AND LATERAL LINE PIPING AND CONTROL WIRES UNDER PAVING SHALL BE INSTALLED IN SEPARATE SLEEVES. MAIN AND LATERAL LINE SLEEVES SHALL BE A MINIMUM OF TWICE (2X) THE DIAMETER OF THE PIPE TO BE SLEEVED. CONTROL WIRE SLEEVES SHALL BE OF SUFFICIENT SIZE FOR THE REQUIRED NUMBER OF WIRES UNDER PAVING.
2. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWING. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT THE TIME OF SAID REJECTION.
3. INSTALL ALL PIPING BETWEEN THE POINT OF CONNECTION AND THE BASKET STRAINER OR THE R.P. BACKFLOW PREVENTOR AS PER LOCAL CODES.
4. FINAL LOCATION OF THE AUTOMATIC CONTROLLER AND BASKET STRAINER OR THE R.P. BACKFLOW SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND IRRIGATION CONSULTANT PRIOR TO INSTALLATION.
5. 120 VAC ELECTRICAL POWER SOURCE AT CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS. THE IRRIGATION CONTRACTOR SHALL MAKE THE FINAL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER. PER LOCAL ELECTRICAL CODES.
6. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.
7. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS AND VALVES FOR OPTIMUM COVERAGE WITH MINIMAL OVERSPRAY ONTO WALKS, STREETS, WALLS, ETC.
8. THE IRRIGATION DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE.
9. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO BECOME FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, STRUCTURES AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY THEIR WORK. WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, AND PAVING, ETC.
10. THE SPRINKLER SYSTEM DESIGN IS BASED ON A MINIMUM OPERATING PRESSURE AS SHOWN ON THE PLANS. CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO START OF WORK.
11. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES, OR DIFFERENCES IN THE AREA EXIST THAT ARE NOT SHOWN ON THE PLANS. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
12. ALL SPRINKLER EQUIPMENT NOT DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
13. THE IRRIGATION CONTRACTOR SHALL INSTALL KBI SERIES ANTI DRAIN VALVES ON ALL HEADS IN AREAS WHERE FINISH GRADE EXCEEDS 4:1, WHERE POST VALVE SHUT-OFF DRAINING OF THE IRRIGATION SYSTEM OCCURS OR AS DIRECTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
14. THE CONTRACTOR SHALL PROVIDE PRESSURE COMPENSATION SCREENS (PCS) AS NECESSARY TO ELIMINATE OVERSPRAY ONTO STREETS, WALKS OR OTHER AREAS AS DIRECTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
15. SHRUB HEADS AND RISERS MAY BE SUBSTITUTED FOR POP-UP HEADS IN PLANTED AREAS EXCEPT WHERE ADJACENT TO TRAFFIC AREAS SUCH AS WALKS, CURBS, TURF LINES, MONUMENTS, FOUNTAINS, OR SIGNAGE. REFER TO INSTALLATION DETAILS.

IRRIGATION EQUIPMENT LEGEND

SYMBOL	ITEM - MANUFACTURER - MODEL NUMBER - DESCRIPTION	
DM	DOMESTIC WATER METER	CONTRACTOR TO FURNISH AND INSTALL DOMESTIC WATER METER REFER TO PLAN FOR SIZE - VERIFY STATIC WATER PRESSURE AND REPORT TO IRRIGATION CONSULTANT PRIOR TO START OF WORK
	BACKFLOW WITH ENCLOSURE	FEBCO 825YA REDUCED PRESSURE BACKFLOW PREVENTION DEVICE INCLUDE WATTS 777 STRAINER WITH 20 MESH SCREEN ON UPSTREAM SIDE REFER TO PLAN FOR SIZE INSTALL BACKFLOW IN A STRONGBOX SBBC-30SS ENCLOSURE
	MASTER VALVE	RAINBIRD GB SERIES NORMALLY CLOSED, BRASS MASTER VALVE REFER TO PLAN FOR SIZE
	FLOW SENSOR	CREATIVE SENSOR TECHNOLOGY INCLUDED WITH CONTROLLER ASSEMBLY REFER TO CONTROLLER NOTE
	GATE VALVE	NIBCO T-113-K IRR BRONZE CROSS TOP - LINE SIZE UP TO 3"
	CONTROL VALVE	RAINBIRD PESBR CONTROL VALVE - REFER TO PLAN FOR SIZES
	QUICK COUPLER	HUNTER HQ44-LRC-AW-R 1" ACME QUICK COUPLER WITH PURPLE VINYL LOCKING COVER INCLUDE TWO (2) HK-44A KEYS WITH HS1 SWIVEL PER CONTROLLER
A	AIR RELIEF	API/JAIN ARV-2 COMBINATION AIR / VACUUM RELIEF VALVE
S	RECYCLED WATER SIGN	RECYCLED WATER WARNING ID SIGN - T CHRISTY MODEL ID-SIGN 3.5 (12" X 18") ALUMINUM WITH 1-1/2" SQUARE ALUMINUM POST
	CONTROLLER	STRONGBOX TOP MOUNTED STAINLESS STEEL CONTROLLER ASSEMBLY REFER TO CONTROLLER NOTE FOR MODEL NUMBER AND FEATURES
	BELOW GRADE PRESSURE MAINLINE	PURPLE CLASS 315 PRESSURE MAINLINE FOR PIPE 2" THROUGH 3" PURPLE SCH 40 PRESSURE MAINLINE FOR PIPE 1-1/2" AND SMALLER ALL PIPE TO BE SOLVENT WELD REFER TO TRENCHING DETAIL FOR DEPTHS
	BELOW GRADE LATERAL LINE	PURPLE SCHEDULE 40 SOLVENT WELD PVC - 3/4" MINIMUM REFER TO PLAN FOR SIZES AND TRENCHING DETAIL FOR BURIAL DEPTHS
X	SLEEVE	PURPLE SCHEDULE 40 PVC REFER TO SLEEVING LEGEND FOR QUANTITY AND SIZE
FS FS	FLOW SENSOR CABLE	RAINMASTER EV-CAB-SEN TWO WIRE FLOW SENSOR CABLE IN A GRAY SCHEDULE 40 PVC 1-1/4" CONDUIT WITH PULL BOXES AT 200' O.C. - NO SPLICES
DW DW	DOMESTIC WATER LINE	DOMESTIC WATER LINES PER CIVIL PLANS - FOR REFERENCE ONLY
RW RW	RECYCLED WATER LINE	RECYCLED WATER LINES PER CIVIL PLANS - FOR REFERENCE ONLY
NOT SHOWN	IRRIGATION WIRE	PAIGE 7001D UL LISTED U.F. 600V DIRECT BURIAL PILOT WIRE 14 AWG COLOR COMMON 14 AWG WHITE WITH STRIPE TO MATCH PILOT WIRE EXTRA WIRE 14 AWG ORANGE
NOT SHOWN	WIRE CONNECTORS	3M DBY OR 3M DBR WATERPROOF DIRECT BURY CONNECTORS
NOT SHOWN	MAINLINE FITTINGS	PRESSURE MAINLINE FITTINGS TO BE SCHEDULE 40 PVC SOLVENT WELD
	LATERAL FITTINGS	NON-PRESSURE LATERAL LINE FITTINGS TO BE SCHEDULE 40 PVC SOLVENT WELD (ABOVE GRADE PIPE FITTINGS SHALL BE UVR)
NOT SHOWN	ID TAGS	T CHRISTY ID-MAX-P2-RC006 PURPLE BILINGUAL RECYCLED WATER WARNING TAG - PER VALVE
NOT SHOWN	VALVE BOX	RECTANGULAR CARSON 1419 - 14" X 19" CIRCULAR CARSON 910 - 10" ROUND JUMBO CARSON 1220 - 12" X 20" JUMBO BOX / LID COLOR: PURPLE - INCLUDE BOLT DOWN LOCKING LID

A1 / 60
- DENOTES STATION NUMBER
- DENOTES VALVE FLOW (GPM)
- DENOTES VALVE SIZE

TOR009

REVISIONS

ADDENDUM 1 - 7/23/2013 1

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Landscape Plans

Tract #

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

IRRIGATION LEGEND AND NOTES

WATER CONCERN, LTD.
Landscape Irrigation Consulting
29859 Santa Margarita Pkwy, Suite 200
Rancho Santa Margarita, CA 92688
(949) 635-0474 (949) 635-0475 FAX

project manager:
Garry Collins
approved by:
Garry Collins
drawn by:

date:
06/05/13
scale:

SHEET
I-3 of 13

City of Torrance: 555 Maple Sports Field

WATER USAGE ESTIMATION

Controller A

CATEGORY	UNITS								
HYDROZONE CALLOUT		1	2	3	4	5	6	7	8
HYRDOZONE		SHRUB							
WATER USE REQUIREMENT		MODERATE							
HYDROZONE AREA (HA)	Square Feet	8,772							
IRRIGATION METHOD		SPRAY							
WATER TYPE		DOMESTIC							
SPECIAL LANDSCAPE AREA (SLA)		NO							
SPECIAL LANDSCAPE AREA	Square Feet								
PERCENT AREA USE	Percentage	**100%**							
YEARLY ETo ***	Inches / Year	42.60							
YEARLY AVG PLANT FACTOR (PF)		0.50							
ESTIMATED EFFICIENCY (IE)	Percentage	72%							
ESTIMATED WATER USAGE PER ZONE (EWU)	HCF / Year	215							
	Gallons / Year	160,893							
	Ac Ft. / Year	0.49							
ESTIMATED TOTAL WATER USAGE	HCF / Year	**215**							
	Gallons / Year	**160,893**							
	Ac Ft. / Year	**0.494**							
MAXIMUM APPLIED WATER ALLOWANCE	HCF / Year	**217**							
	Gallons / Year	**162,180**							
	Ac Ft. / Year	**0.50**							

FORMULAS
MAWA = Eto x 0.62 x [(0.7 x LA) + (0.3 x SLA)]
ETWU = Eto x 0.62 x [(PF x HA) / IE]

TOTAL LANDSCAPE AREA	TOTAL SPECIAL LANDSCAPE AREA	UNITS
8,772		SQ. FT.
0.20		ACRES

SITE IRRIGATION EFFICIENCY	SITE PLANT FACTOR	MAWA COMPLIANT
72%	0.50	YES

*** Yearly ETo obtained from ..... CIMIS Map Zone

IRRIGATION PRESSURE CALCULATION TABLE

Water Meter No. 1 — **Size** 2.00"
Hydraulic Gradiant 250.0'
Elevation of Meter 87.0'
Static Pressure **71 psi**
Source of Information City of Torrance
Phone Number
Date of Information 4.25.13
Basis for Calculation Longest Run/Highest Elevation/Highest Flow

Valve Information

Remote Control Valve A7 — **Size** 1.50"
Demand 20 GPM
Elevation of Highest Head 88.0'

Friction Loss

QTY.	SIZE	FLOW	ITEM	TYPE	PSI LOSS
40'	2.00"	20 GPM	Service Line	Copper	0.19
1	2.00"	20 GPM	Water Meter		0.32
1	2.00"	20 GPM	RP Backflow w/ Strainer		15.00
1	2.00"	20 GPM	Master Valve		0.06
1	1.50"	20 GPM	Flow Sensor		0.13
3	2.00"	20 GPM	Gate Valves		0.02
560'	2.00"	20 GPM	Mainline	PVC	1.99
1	1.50"	20 GPM	Automatic Control Valve		2.90
			Lateral Line Loss		4.00
			Fittings Loss (10%)		2.46
			Elevation Change		0.43

Total System Losses	27 psi
Pressure Required to Operate Head (Spray)	30 psi
Residual Percent Required (%)	15%
Pressure Required with Residual	**66 psi**
Static Pressure at Water Meter	**71 psi**
Residual Pressure	4 psi
Set Pressure Regulator to	71 psi

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REVISIONS

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SPORTS FIELDS AT 555 MAPLE AVENUE

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Tract #

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

IRRIGATION CALCULATIONS

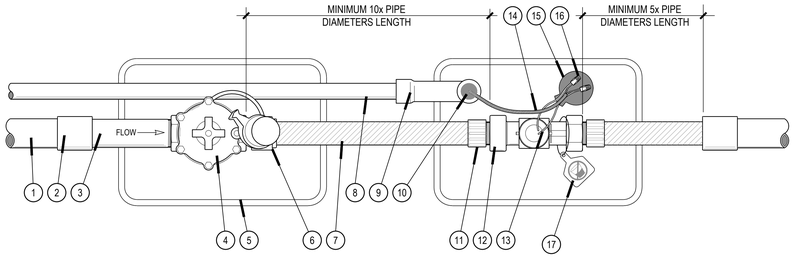
WATER CONCERN, LTD.
Landscape Irrigation Consulting
29899 Santa Margarita Pkwy, Suite 200
Rancho Santa Margarita, CA 92688
(949) 635-0474 (949) 635-0475 FAX

project manager: Garry Collins
approved by: Garry Collins
drawn by:
date: 06/05/13
scale:

SHEET I-4 of 13

City of Torrance: 555 Maple Sports Field

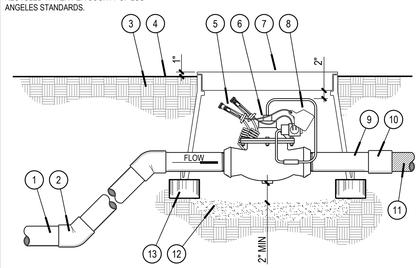
SENSOR SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.



1. MAINLINE
2. SOLVENT WELD PVC COUPLING - REFER TO LEGEND FOR TYPE
3. SCHEDULE 80 PVC THREAD ONE END (T.O.E.) NIPPLE - INLET SIZE - MINIMUM 12" LENGTH
4. MASTER VALVE - REFER TO MASTER VALVE DETAIL
5. RECTANGULAR VALVE BOX - REFER TO LABELING DETAIL
6. SCHEDULE 80 PVC MALE ADAPTER WITH REDUCING BUSHING TO MATCH SENSOR INLET SIZE
7. MAINLINE PIPING - FLOW SENSOR INLET SIZE
8. 1.25" SCHEDULE 40 PVC ELECTRICAL CONDUIT WITH PULL BOXES AT 200' O.C. (AS REQUIRED)
9. SCHEDULE 40 PVC LONG SWEEP ELL
10. WATERPROOF CONDUIT INLET WITH FOAM AFTER WIRE PULL
11. SCHEDULE 80 PVC MALE ADAPTER - INLET SIZE
12. FLOW SENSOR - REFER TO LEGEND
13. RED AND BLACK FLOW SENSOR WIRES - VERIFY POLARITY WITH CONNECTION TO CABLE
14. FLOW SENSOR COMMUNICATION CABLE
15. 3M SCOTCHLOK™ 3570 CONNECTOR SEALING PACK - INSTALL PER MANUFACTURER INSTRUCTIONS
16. BLUE SCOTHLOK WIRE CONNECTORS - TWO REQUIRED
17. RECYCLED WATER WARNING TAG, AS REQUIRED

FLOW SENSOR ASSEMBLY

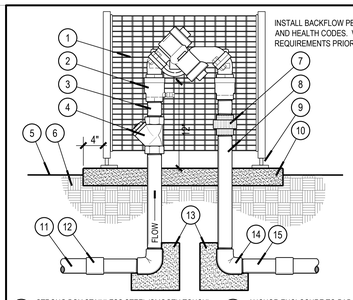
VALVE SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.



1. MAINLINE
2. PVC 45° ELL
3. SUB-GRADE
4. FINISH GRADE
5. WIRE CONNECTORS - 3M DBY WITH SCOTCHLOK CONNECTORS - PROVIDE 24" EXPANSION COIL
6. MASTER VALVE - REFER TO LEGEND
7. JUMBO VALVE BOX - LABEL PER BRANDING DETAIL
8. WATER IDENTIFICATION TAG AS REQUIRED
9. SCHEDULE 80 PVC THREAD ONE END NIPPLE, MINIMUM 6" LENGTH TO EXTEND PAST VALVE BOX
10. SOLVENT WELD PVC COUPLING - REFER TO LEGEND FOR TYPE
11. MAINLINE PIPE TO FLOW SENSOR - REFER TO PLAN
12. 3/4" CRUSHED GRAVEL - 12" DEEP
13. BRICK SUPPORT - FOUR REQUIRED

MASTER VALVE - THREADED

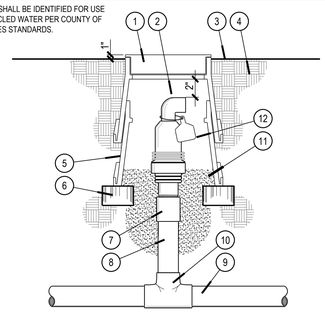
INSTALL BACKFLOW PER LOCAL PLUMBING AND HEALTH CODES. VERIFY REQUIREMENTS PRIOR TO INSTALLATION.



1. STRONG BOX STAINLESS STEEL 'SMOOTH TOUCH' BACKFLOW ENCLOSURE
2. REDUCE PRESSURE BACKFLOW DEVICE - REFER TO LEGEND
3. BRASS NIPPLE INLET SIZE - 3" LENGTH
4. BRONZE WYE STRAINER WITH 40 MESH SCREEN - INLET SIZE
5. FINISH GRADE
6. SUBGRADE
7. BRASS UNION - INLET SIZE
8. BRASS NIPPLE - INLET SIZE LENGTH AS REQUIRED
9. ANCHOR ENCLOSURE TO PAD PER MANUFACTURER RECOMMENDATIONS
10. TYPE 5 CONCRETE BASE 6" THICK - EXTEND 4" BEYOND COVER
11. MAINLINE
12. MAINLINE FITTING - REFER TO LEGEND
13. CONCRETE THRUST BLOCK AGAINST COMPACTED SUBGRADE - MINIMUM 1 CUBIC FOOT
14. BRASS ELL - INLET SIZE
15. SCHEDULE 80 PVC THREAD ONE END NIPPLE - 6" LENGTH MINIMUM

RP BACKFLOW PREVENTOR - ENCLOSURE

AIR RELIEF SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.



1. ROUND VALVE BOX - LABEL PER BRANDING DETAIL
2. AIR / VACUUM RELIEF VALVE - REFER TO LEGEND
3. FINISH GRADE
4. SUBGRADE
5. VALVE BOX EXTENSIONS AS REQUIRED
6. BRICK SUPPORT - TWO REQUIRED
7. SCHEDULE 80 PVC S xT COUPLING - INLET SIZE
8. MAINLINE PVC RISER - INLET SIZE LENGTH AS REQUIRED
9. MAINLINE
10. MAINLINE TEE OR ELL
11. 3/4" CRUSHED GRAVEL - 12" DEEP
12. WATER IDENTIFICATION TAG - AS REQUIRED

AIR VACUUM RELIEF

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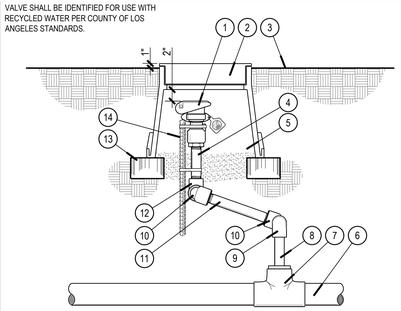
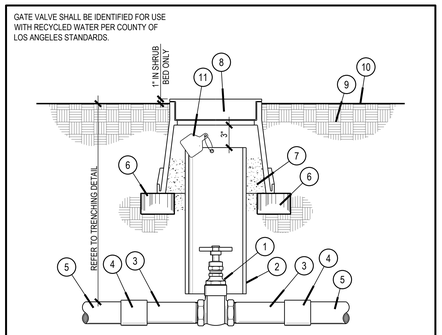
VALVE SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.



1. BRASS QUICK COUPLER WITH PURPLE LOCKABLE CAP. INCLUDE PURPLE RECYCLED WARNING TAG
2. ROUND VALVE BOX - LABEL PER BRANDING DETAIL
3. FINISH GRADE
4. BRASS NIPPLE - INLET SIZE 3" LENGTH
5. 3/4" CRUSHED GRAVEL - 12" DEEP
6. MAINLINE
7. MAINLINE TEE OR ELL FITTING WITH BUSHING TO ADAPT PIPE TO INLET SIZE OF QUICK COUPLER
8. SCHEDULE 80 PVC RISER - MINIMUM 4" LENGTH
9. SCHEDULE 80 PVC SLIP x THREAD ELL
10. BRASS STREET ELL - INLET SIZE
11. BRASS NIPPLE - INLET SIZE 12" MINIMUM LENGTH
12. BRASS ELL - INLET SIZE
13. BRICK SUPPORT - TWO REQUIRED
14. #4 REBAR, 18" LONG - SECURE TO QUICK COUPLER WITH TWO STAINLESS STEEL HOSE CLAMPS

QUICK COUPLER w/ SUPPORT

GATE VALVE SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.

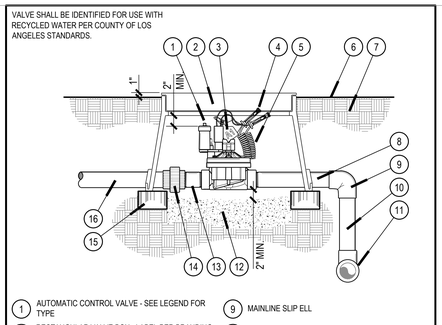


1. BRASS GATE VALVE WITH CROSS TOP
2. 6 INCH DIAMETER WHITE CLASS 200 PVC ACCESS SLEEVE
3. SCHEDULE 80 PVC T.O.E. NIPPLE, MINIMUM LENGTH 6"
4. SOLVENT WELD PVC COUPLING - REFER TO LEGEND FOR TYPE
5. PRESSURE MAINLINE - REFER TO TRENCHING DETAIL FOR DEPTH
6. COMMON BRICK SUPPORT, TWO REQUIRED
7. 1 CUBIC FOOT 3/4" CRUSHED GRAVEL
8. PURPLE, 10" ROUND VALVE BOX WITH STAINLESS STEEL BOLT LOCKING LID, HEAT BRAND "GV"
9. FINISH GRADE
10. SUBGRADE
11. RECYCLED WATER WARNING TAG

1.00 - CROSS TOP GATE VALVE

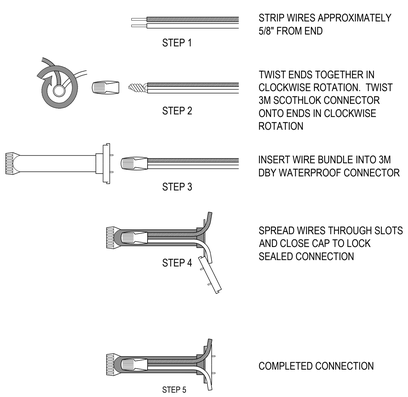
NO SCALE

VALVE SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.

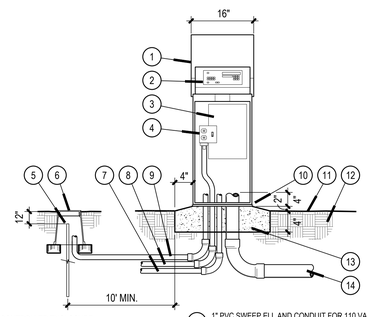


1. AUTOMATIC CONTROL VALVE - SEE LEGEND FOR TYPE
2. RECTANGULAR VALVE BOX - LABEL PER BRANDING DETAIL
3. T CHRISTY YELLOW STATION ID TAG AND A SERPERATE WATER ID TAG AS REQUIRED - ATTACH TO WIRES WITH ZIP TIE
4. 3M DBY WATERPROOF WIRE CONNECTOR
5. VALVE WIRE AND COMMON - PROVIDE 24" MININIMUM EXPANSION COIL
6. FINISH GRADE
7. SUBGRADE
8. SCHEDULE 80 PVC THREAD ONE END NIPPLE - MINIMUM 6" LENGTH TO EXTEND PAST VALVE BOX
9. MAINLINE SLIP ELL
10. MAINLINE PIPING - LENGTH AS REQUIRED
11. MAINLINE TEE OR ELL
12. 3/4" CRUSHED GRAVEL - 12" DEEP
13. SCHEDULE 80 PVC NIPPLE - 3" LENGTH
14. SCHEDULE 80 PVC S X T UNION
15. BRICK SUPPORTS - FOUR REQUIRED
16. PVC LATERAL LINE

REMOTE CONTROL VALVE



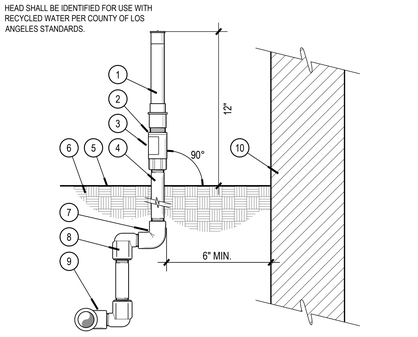
WIRE CONNECTIONS



1. CONTROLLER ENCLOSURE
2. AUTOMATIC CONTROLLER
3. CONTROLLER SUB ASSEMBLY
4. CONTROLLER ON/OFF WITH GFI SWITCH PER LOCAL ELECTRICAL CODE
5. 5/8" X 96" COPPER GROUND ROD -INSTALL PER MANUFACTURER RECOMMENDATIONS
6. VALVE BOX - 10" ROUND WITH TWO BRICK SUPPORTS
7. 1-1/2" LONG PVC SWEEP ELL AND CONDUIT FOR FLOW SENSOR WIRE
8. 1" PVC SWEEP ELL AND CONDUIT FOR 110 VAC ELECTRICAL CONNECTION
9. 1-1/2" LONG PVC SWEEP ELL AND CONDUIT FOR GROUND WIRE
10. EPOXY WATERPROOFING ALONG BASE OF ENCLOSURE
11. FINISH GRADE
12. SUBGRADE
13. CONCRETE BASE - 6" THICK MIN - SLOPE EDGES FOR DRAINAGE
14. 3" PVC LONG SWEEP ELL AND CONDUIT FOR CONTROLLER WIRES

CONTROLLER - TOP MOUNT

HEAD SHALL BE IDENTIFIED FOR USE WITH RECYCLED WATER PER COUNTY OF LOS ANGELES STANDARDS.



1. SPRAY NOZZLE WITH RISER ADAPTER - REFER TO LEGEND
2. IN-LINE CHECK VALVE
3. WATER IDENTIFICATION TAG - AS REQUIRED
4. SCHEDULE 80 PVC NIPPLE - LENGTH AS REQUIRED
5. FINISH GRADE
6. SUB-GRADE
7. SCHEDULE 40 PVC TxT ELL
8. MARLEX STREET ELL - INLET SIZE
9. SCHEDULE 40 PVC SxSxT TEE OR ELBOW
10. WALL / STRUCTURE

SPRAY ON RISER

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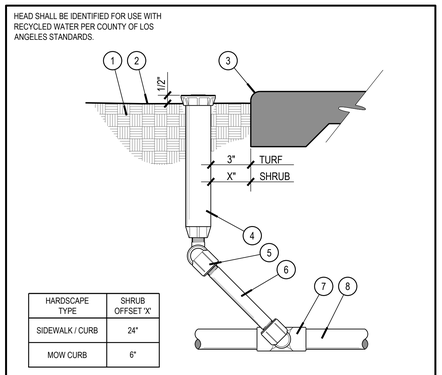

HARDSCAPE TYPE	SHRUB OFFSET 'X'
SIDEWALK / CURB	24"
MOW CURB	6"

1. SUBGRADE
2. FINISH GRADE
3. HARDSCAPE / PLANTER SEPARATION HEADER - REFER TO MATRIX FOR OFFSET DISTANCE
4. SPRAY HEAD POP UP - REFER TO LEGEND
5. MARLEX STREET ELL INLET SIZE
6. SCHEDULE 80 PVC NIPPLE - LENGTH AS REQUIRED
7. SCHEDULE 40 PVC SxSxT TEE OR ELL
8. LATERAL LINE - SIZE PER PLAN

POP UP SPRAY BODY

TOR009

REVISIONS

ADDENDUM 1 - 7/23/2013 1

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Landscape Plans

Tract #

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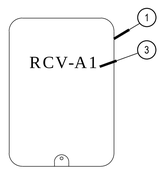
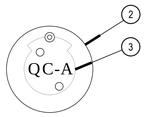
SHEET I-5 of 13

City of Torrance: 555 Maple Sports Field



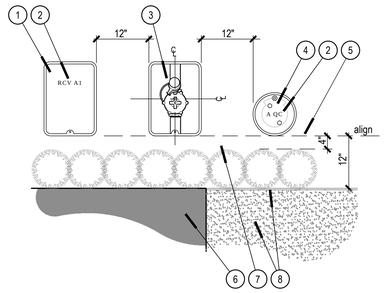
RECTANGULAR VALVE BOX		
ITEM	COLOR	BRAND
BALL VALVE	PURPLE	BV-A
REGULATOR	PURPLE	PR-A
MASTER VALVE	PURPLE	MV-A
FLOW SENSOR	PURPLE	FS-A
PULL BOX	BLACK	PB-A
CONTROL VALVE	PURPLE	RCV-A ##
GROUND ROD	BLACK	GR-A



ROUND VALVE BOX		
ITEM	COLOR	BRAND
QUICK COUPLER	PURPLE	QC-A
ANGLE VALVE	PURPLE	GV-A
AIR RELIEF	PURPLE	AR-A

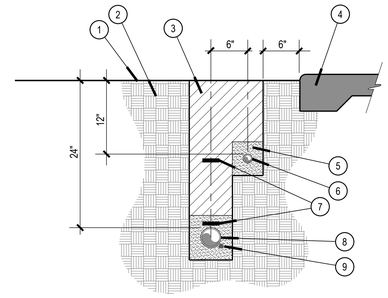
1. RECTANGULAR VALVE BOX
2. ROUND VALVE BOX
3. 1" IDENTIFICATION BRAND - REFER TO CHART

VALVE BOX BRANDING - RECYCLED WATER



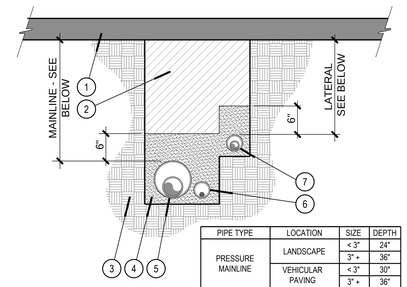
1. RECTANGULAR VALVE BOX
2. 1" IDENTIFICATION BRAND - REFER TO BRANDING DETAILS
3. CENTER VALVE WITHIN BOX
4. ROUND VALVE BOX
5. ALIGN VALVE BOXES PARALLEL TO HARDSCAPE SURFACE AND PERPENDICULAR TO EDGE
6. HARDSCAPE CONDITION
7. MAINTAIN 3" MINIMUM FROM HEDGE PLANTING. DO NOT LOCATE VALVE BOXES IN HEDGES, NEAR TREES OR IN TURF AREAS.
8. TURF PLANTER WITH EDGE CONDITION

VALVE BOX LAYOUT



1. FINISH GRADE
2. SUBGRADE
3. BACKFILL - REFER TO SPECIFICATIONS
4. HARDSCAPE OR STRUCTURE
5. DEBRIS AND ROCK FREE BACKFILL (OR SAND) MINIMUM 2" ABOVE AND BELOW PIPING.
6. LATERAL
7. RECYCLED WATER WARNING TAPE ON TOP OF PIPE AND 12" ABOVE PIPE
8. MAINLINE
9. CONTROL WIRE - ATTACH TO PIPE AT 10' INTERVALS - PROVIDE 20" EXPANSION LOOP AT CHANGE IN DIRECTIONS

TRENCHING

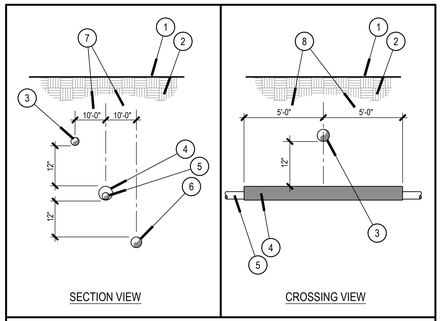


PIPE TYPE	LOCATION	SIZE	DEPTH
PRESSURE MAINLINE	LANDSCAPE	< 3"	24"
		3" +	36"
	VEHICULAR PAVING	< 3"	30"
		3" +	36"
NON PRESSURE LATERAL LINE	LANDSCAPE	< 3"	12"
		3" +	18"
	VEHICULAR PAVING	< 3"	24"
		3" +	30"

1. FINISH SURFACE IN LANDSCAPE OR VEHICULAR PAVING
2. BACKFILL - REFER TO SPECIFICATIONS
3. SUBGRADE
4. DEBRIS AND ROCK FREE BACKFILL (OR SAND) MINIMUM 2" BELOW PIPING.
5. PRESSURE MAINLINE PIPING IN SLEEVE - REFER TO SPECIFICATIONS
6. LOW VOLTAGE CONTROL WIRE SLEEVE - MINIMUM 2" - REFER TO SPECIFICATIONS
7. LATERAL LINE IN SLEEVE - REFER TO SPECIFICATIONS

NOTES
1. ALL SLEEVES TO BE TWICE DIAMETER OF CARRIER PIPE
2. NON-DOMESTIC WATER PIPE SLEEVES SHALL BE IDENTIFIED PER WATER DISTRICT STANDARDS
3. ALL SLEEVES SHALL EXTEND MINIMUM 12" BEYOND EDGE OF PAVING

PIPES UNDER PAVING

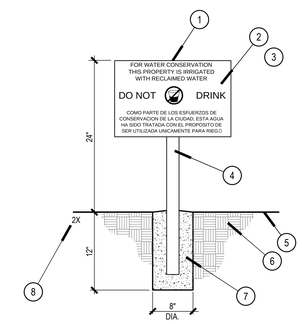


CONTRACTOR TO COORDINATE CROSSING OF ALL POTABLE AND RECYCLED WATER PRESSURE MAINLINES WITH WATER DISTRICT'S FIELD INSPECTOR PRIOR TO TRENCHING

1. FINISH GRADE
2. SUBGRADE
3. DOMESTIC SERVICE LINE - CONTRACTOR TO LOCATE POSITION
4. PURPLE RECYCLED WATER IRRIGATION PRESSURE MAINLINE SLEEVE - AS NECESSARY AT CROSSINGS
5. RECYCLED WATER IRRIGATION PRESSURE MAINLINE
6. SANITARY SEWER LINE - CONTRACTOR TO LOCATE POSITION
7. MAINTAIN 10' HORIZONTAL SEPARATION
8. IRRIGATION PRESSURE MAINLINE TO BE SLEEVED 5' FROM DOMESTIC CROSSING - EACH DIRECTION

RW / DW SERVICE LINE CROSSING

NO SCALE



1. ATTACH SIGN TO POST WITH STAINLESS STEEL HARDWARE, TWO BOLTS, MINIMUM
2. CHRISTY #ID-SIGN-3.5 - 12" x 18" ALUMINUM X 0.08" THICK RECYCLED WATER SIGN
3. SUBMIT SAMPLE OF SIGN TO WATER DISTRICT PRIOR TO INSTALLATION FOR APPROVAL
4. 1-1/2" X 36" X 1/16" WALL SQUARE ALUMINUM POST
5. FINISH GRADE
6. SUBGRADE
7. CONCRETE FOOTING WITH SLIGHT CROWN
8. FURNISH AND INSTALL TWO SIGNS PER CONTROLLER

RECYCLED WATER SIGN

NO SCALE

TOR009

REVISIONS

ADDENDUM 1 - 7/23/2013 1

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

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S H E E T

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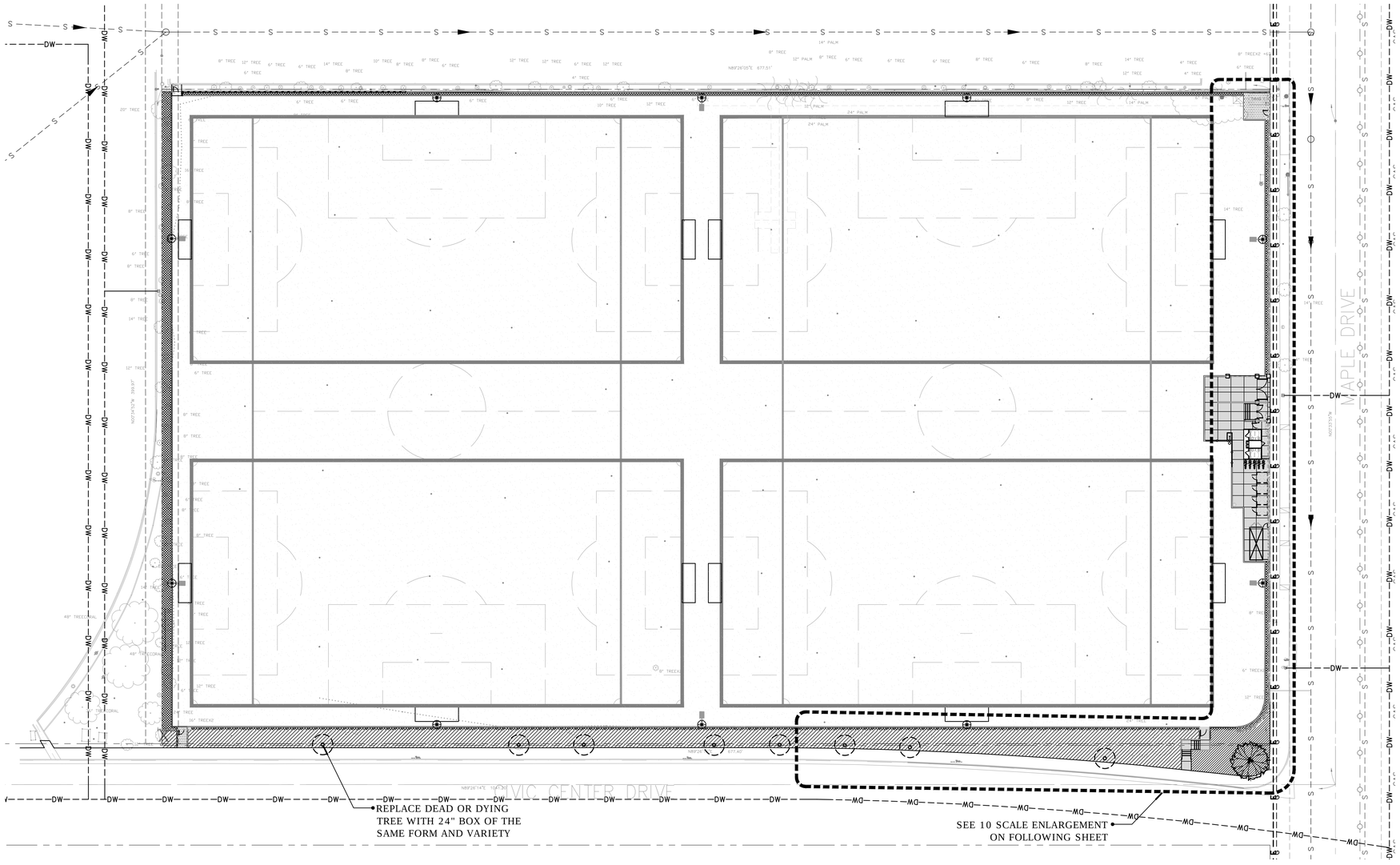
City of Torrance: 555 Maple Sports Field



SOIL AMENDMENTS

This note is for "BID PURPOSE ONLY". Contractor shall be responsible for obtaining an agronomic soils report and soil amendment recommendations per agronomist.

If surface soil compaction has occurred, to extent possible, all areas to be landscaped should be cross ripped or otherwise tilled to a depth of 9-12 inches.

For turf and groundcover planting, the following amendments should be uniformly broadcast and thoroughly incorporated to a 6" depth by means of rototiller or equal:

- 6 cu. yds. Nitrogen stabilized organic amendment derived from redwood, fir or cedar sawdust.
- 15 lbs. 12-12-12 commercial fertilizer.
- 10 lbs. soil sulfur

Since soil sulfur is included in the pre-plant program, care should be taken in order to insure that all amendments are thoroughly incorporated to the depth specified. The backfill mix for use around the rootball of container grown trees and shrubs should be prepared as follows:

- 6 parts by volume on-site soil
- 4 parts by volume Nitrogen stabilized organic amendment
- 1 lb. 12-12-12 per cu. yd. of mix
- 2 lbs. Iron Sulfate per cu. yd. of mix

The above materials should be thoroughly blended prior to use for backfill purposes. The Iron Sulfate should not contact cement surfaces at any time, or severe staining will occur.

GENERAL PLANTING NOTES

All boxed trees will be selected by the Landscape Architect. Contact Landscape Architect for name of wholesale nursery.

Any tree indicated on a plan should be considered diagrammatic. All local jurisdiction standards and specifications should be reviewed prior to planting.

The Contractor shall verify all plant material quality and quantities prior to installation. The Contractor shall be responsible for the continuous protection of all plant materials upon arrival to the site. All trees, shrubs, vines, and groundcovers shall be spotted under the direction of the Landscape Architect and Builder Representative.

The placement (spotting) of all plant material is to be reviewed in the field with the Landscape Architect prior to planting. Any tree or shrub that is planted without prior review may be subject to transplant if it is deemed to be in the wrong position.

The Landscape Contractor is responsible for the correct height of plant material above grade.

Adjustments to tree locations are to be made if there is a conflict with subsurface drain lines or storm drains.

All specimen trees are to be fine pruned after planting.

Thirty (30) days after installation, all landscape areas shall be fertilized with a commercial grade fertilizer of 16-6-8 or approved equal, applied at the rate of 6 lbs. per sq. ft. Fertilizer application shall be continuous thereafter at monthly intervals.

During the last 30 days of maintenance, the Builder is responsible for obtaining as builts, controller charts and watering schedules from his Landscape Contractor. Three copies are to be submitted to the master or sub association and Maintenance Contractor.

PLANTING LEGEND

ESP.	Espaliered
GAL.	Gallon Container
G.C.	Ground Cover
HT.	Height
L.A.	Landscape Architect
L.C.	Landscape Contractor
MIN.	Minimum
M.T.	Multi-trunked
O.C.	On Center
RWD.	Redwood
S.L.A.	Selected by L.A.
SPEC.	Specimen
SP.	Spread
STD.	Standard

PLANTING KEY

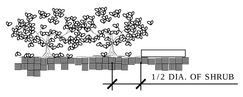
RIS 5-5

- See Legend
- Size of plant, gallon or box size
- Quantity

QUANTITIES

Contractor to note that the quantities on legends and plant call-outs have been provided for quick reference only. It is recommended that the Contractor not rely on the accuracy of these quantities and provide their own plant material counts at the time of preparing bid. Any discrepancy in plant quantities and sizes should be brought to the immediate attention of the Landscape Architect.

SHRUB SPACING & SETBACK NOTE



SPACING & SETBACK OF SHRUBS

All shrubs to be planted in planting areas a minimum of 1/2 their dia. Size from the edge of hardscape.

All Lonicera japonica 'Halliana' to be planted 1'-6" away from adjacent shrub massing.

GROUND COVER SCHEDULE

SYMBOL	DESCRIPTION	QUANTITY	NOTES	AVAIL.
	3" thick covering of Forest Floor Mulch in all flat (3:1 or less) planting areas. Slopes to receive 2" thick covering of mulch where specified on plan.	10,036 S.F.	Contractor to send sample to Landscape Architect	R & S
	Synthetic Turf - 3D 60 Extreme (2" Pile Height)	254,596 S.F.	See detail F, sheet D-4	Astro
	2" thick covering of Shredded Bark Mulch in all fallow areas. Slopes to receive 2" thick covering of mulch where specified on plan.	4,755 S.F.	Contractor to send sample to Landscape Architect	R & S

Supplier list:
R & S - R & S Soils Products - *23842 La Rosa Dr. Lake Forest, CA 92630 - Contact: Steve Carneal (949) 830-8882*
Astro - Astroturf - *4263 Oceanside Blvd. Oceanside, CA 92056 - Contact: Jennifer Young (760) 529-9809*

0' 10' 20' 30' 60'
Scale: 1"=30'-0"

TOR009

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Landscape Plans

Tract #

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

PLANTING LAYOUT

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager: P. Stevens
approved by: M. Imlay
drawn by: P. Stevens
date: 08/15/13
scale: 1" = 30'-0"

S H E E T
P-1 of 13

City of Torrance: 555 Maple Sports Field

QUANTITIES

Contractor to note that the quantities on legends and plant call-outs have been provided for quick reference only. It is recommended that the Contractor not rely on the accuracy of these quantities and provide their own plant material counts at the time of preparing bid. Any discrepancy in plant quantities and sizes should be brought to the immediate attention of the Landscape Architect.

PLANTING LEGEND

ESP.	Espaliered
GAL.	Gallon Container
G.C.	Ground Cover
HT.	Height
L.A.	Landscape Architect
L.C.	Landscape Contractor
MIN.	Minimum
M.T.	Multi-trunked
O.C.	On Center
RWD.	Redwood
S.L.A.	Selected by L.A.
SPEC.	Specimen
SP.	Spread
STD.	Standard

PLANTING KEY

RIS 5-5

- See Legend
- Size of plant, gallon or box size
- Quantity

GENERAL PLANTING NOTES

All boxed trees will be selected by the Landscape Architect. Contact Landscape Architect for name of wholesale nursery.

Any tree indicated on a plan should be considered diagrammatic. All local jurisdiction standards and specifications should be reviewed prior to planting.

The Contractor shall verify all plant material quality and quantities prior to installation. The Contractor shall be responsible for the continuous protection of all plant materials upon arrival to the site. All trees, shrubs, vines, and groundcovers shall be spotted under the direction of the Landscape Architect and Builder Representative.

The placement (spotting) of all plant material is to be reviewed in the field with the Landscape Architect prior to planting. Any tree or shrub that is planted without prior review may be subject to transplant if it is deemed to be in the wrong position.

The Landscape Contractor is responsible for the correct height of plant material above grade.

Adjustments to tree locations are to be made if there is a conflict with subsurface drain lines or storm drains.

All specimen trees are to be fine pruned after planting.

Thirty (30) days after installation, all landscape areas shall be fertilized with a commercial grade fertilizer of 16-6-8 or approved equal, applied at the rate of 6 lbs. per sq. ft. Fertilizer application shall be continuous thereafter at monthly intervals.

During the last 30 days of maintenance, the Builder is responsible for obtaining as builts, controller charts and watering schedules from his Landscape Contractor. Three copies are to be submitted to the master or sub association and Maintenance Contractor.

GROUND COVER SCHEDULE

SYMBOL	DESCRIPTION	QUANTITY	NOTES	AVAIL.
	3" thick covering of Forest Floor Mulch in all flat (3:1 or less) planting areas. Slopes to receive 2" thick covering of mulch where specified on plan.	10,036 S.F.	Contractor to send sample to Landscape Architect	R & S
	Synthetic Turf - 3D 60 Extreme (2" Pile Height)	254,596 S.F.	See detail F, sheet D-4	Astro
	2" thick covering of Shredded Bark Mulch in all fallow areas. Slopes to receive 2" thick covering of mulch where specified on plan.	4,755 S.F.	Contractor to send sample to Landscape Architect	R & S

Supplier list:
R & S - R & S Soils Products - *23842 La Rosa Dr. Lake Forest, CA 92630 - Contact: Steve Carneal (949) 830-8882*
Astro - Astroturf - *4263 Oceanside Blvd. Oceanside, CA 92056 - Contact: Jennifer Young (760) 529-9809*

SOIL AMENDMENTS

This note is for "BID PURPOSE ONLY". Contractor shall be responsible for obtaining an agronomic soils report and soil amendment recommendations per agronomist.

If surface soil compaction has occurred, to extent possible, all areas to be landscaped should be cross ripped or otherwise tilled to a depth of 9-12 inches.

For turf and groundcover planting, the following amendments should be uniformly broadcast and thoroughly incorporated to a 6" depth by means of rototiller or equal:

6 cu. yds. Nitrogen stabilized organic amendment
derived from redwood, fir or cedar sawdust.
15 lbs. 12-12-12 commercial fertilizer.
10 lbs. soil sulfur

Since soil sulfur is included in the pre-plant program, care should be taken in order to insure that all amendments are thoroughly incorporated to the depth specified. The backfill mix for use around the rootball of container grown trees and shrubs should be prepared as follows:

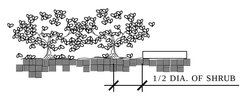
6 parts by volume on-site soil
4 parts by volume Nitrogen stabilized organic amendment
1 lb. 12-12-12 per cu. yd. of mix
2 lbs. Iron Sulfate per cu. yd. of mix

The above materials should be thoroughly blended prior to use for backfill purposes. The Iron Sulfate should not contact cement surfaces at any time, or severe staining will occur.

BID ALTERNATIVE SCHEDULE

SYM.	LOCATION	DESCRIPTION
1	CORNER OF CIVIC CENTER DRIVE AND MAPLE AVENUE	INSTALL PLANTING/IRRIGATION TO MATCH ADJACENT SLOPE IN LIEU OF STAIRS, WALLS, GATE & PAVING
2	CORNER OF CIVIC CENTER DRIVE AND MAPLE AVENUE	INSTALL 24" BOX CORNER ACCENT TREE IN LIEU OF 36" BOX.
3	CIVIC CENTER DRIVE	INSTALL GRASSES FROM LINERS IN LIEU OF 1 GALLON
4		

SHRUB SPACING & SETBACK NOTE



SPACING & SETBACK OF SHRUBS

All shrubs to be planted in planting areas a minimum of 1/2 their dia. Size from the edge of hardscape.

All Lonicera japonica 'Halliana' to be planted 1'-6" away from adjacent shrub massing.

SWALE SCHEDULE

SYM.	ABBR.	BOTANICAL NAME	COMMON NAME	SIZE	O.C. SPACING	WUCOLS
	BP	Baccharis pilularis 'Twin Peaks'	Dwarf Coyote Bush	1 Gal.	6' O.C.	L
	FM	Festuca mairei	Maire's Fescue	1 Gal.	30" O.C.	M
	DC	Dianella caerulea 'King Alfred'	Blue Flax Lily	1 Gal.	30" O.C.	M
	MC	Muhlenbergia capillaris 'Regal Mist'	Pink Muhly	1 Gal.	36" O.C.	M

3

Contractor Note: All shrubs to be planted at designated spacing as shown in legend.
WUCOLS NOTE:
WUCOLS, Water Use Classification of Landscape Species, is a University of California Cooperative Extension publication and is a guide to the water needs of the landscape plants.

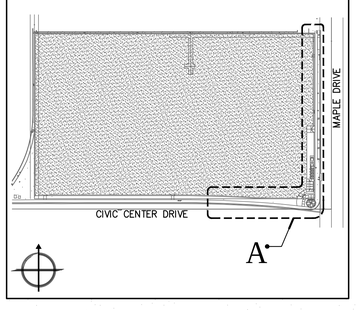
TREE SCHEDULE

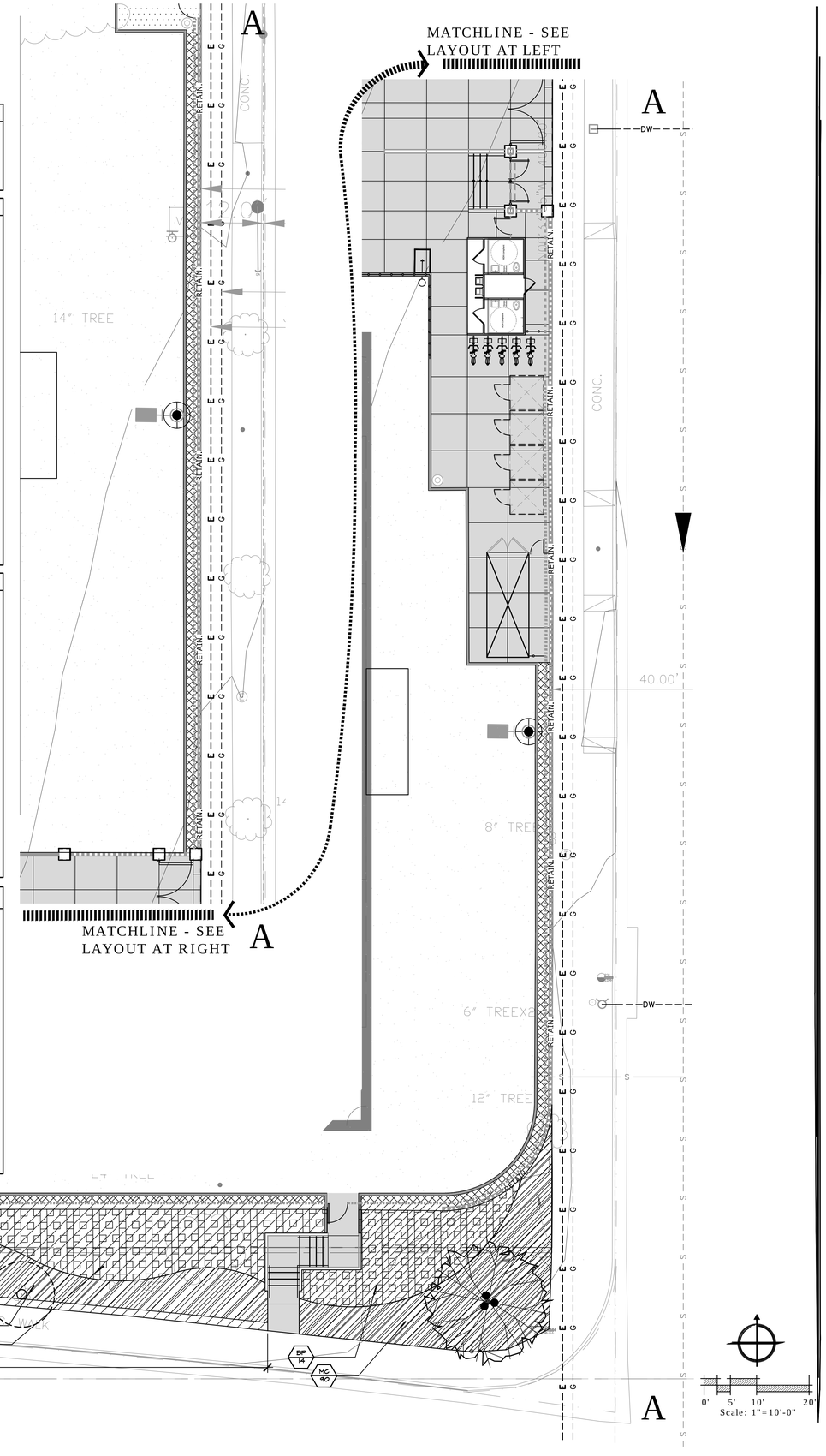
SYM.	ABBR.	BOTANICAL NAME	COMMON NAME	SIZE	DESCRIPT.	NURSERY	WUCOLS
	QS	Quercus suber	Cork Oak	36" Box	Standard	PCN	L

2

NURSERY CONTACT INFO:
P.C.N. - Pacific Coast Nursery - Contact Steve Adams @ (951) 689-1777
WUCOLS NOTE:
WUCOLS, Water Use Classification of Landscape Species, is a University of California Cooperative Extension publication and is a guide to the water needs of the landscape plants.

KEY MAP





TYPICAL PLANTING LAYOUT (± 245' LENGTH)
CONTINUE THIS LAYOUT FOR REMAINDER OF PROJECT

TOR009

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Landscape Plans

Tract #

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

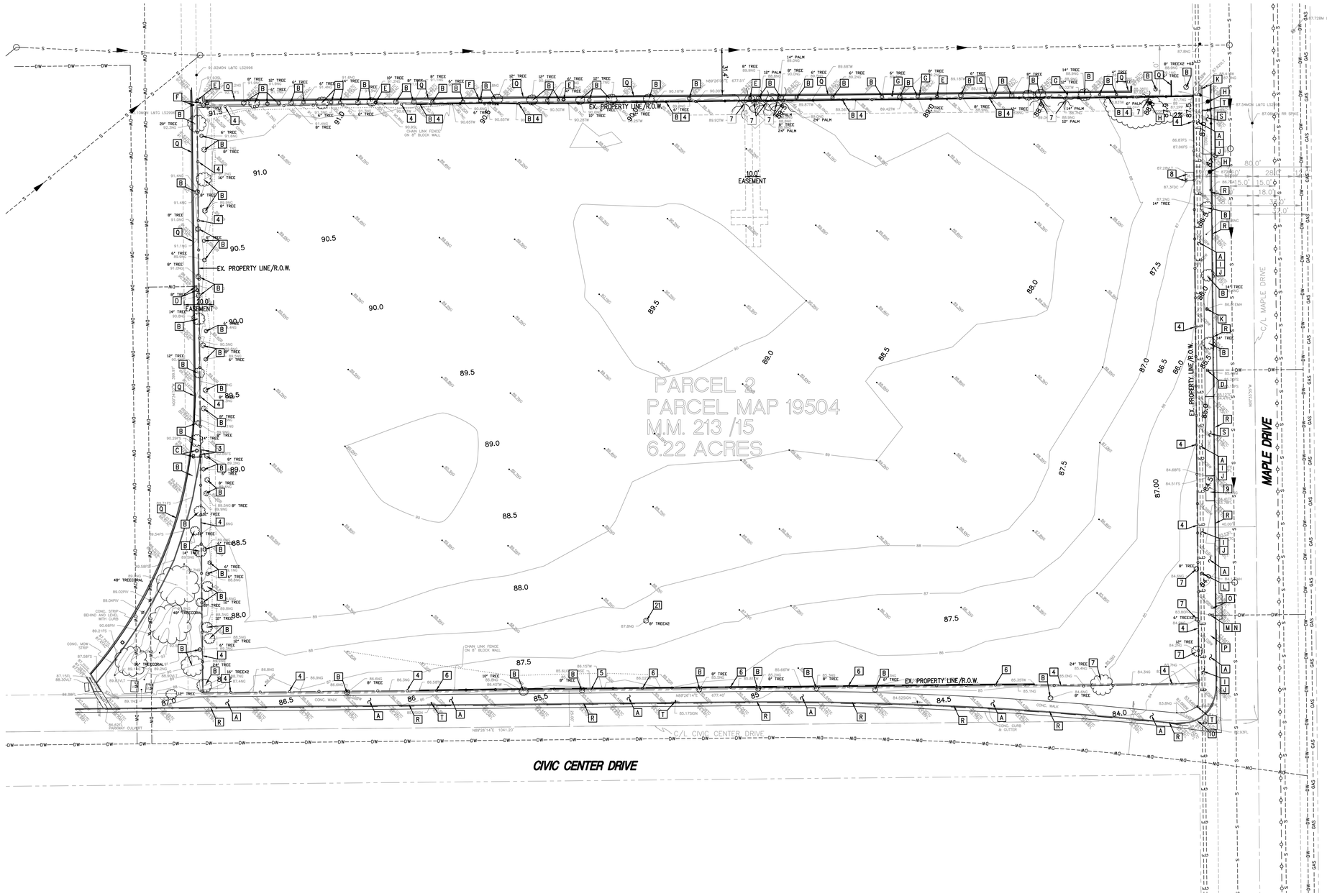
PLANTING LAYOUT

LAND CONCERN
LANDSCAPE ARCHITECTURE
1750 EAST DEERE AVENUE
SANTA ANA, CA 92705
949.250.4822

project manager: P. Stevens
approved by: M. Imlay
drawn by: P. Stevens
date: 08/15/13
scale: 1" = 10'-0"

SHEET P-2 of 13

City of Torrance: 555 Maple Sports Field



SITE DEMOLITION NOTES

- A — PROTECT IN PLACE EXISTING CONCRETE SIDEWALK.
- B — PROTECT IN PLACE EXISTING TREE OR LANDSCAPE.
- C — PROTECT IN PLACE EXISTING IRRIGATION METER AND CONTROLLER.
- D — PROTECT IN PLACE EXISTING WATER METER AND CONTROLLER.
- E — PROTECT IN PLACE EXISTING PARKING LOT LIGHT.
- F — PROTECT IN PLACE EXISTING ELECTRICAL BOX.
- G — PROTECT IN PLACE EXISTING 8" BLOCK WALL.
- H — PROTECT IN PLACE EXISTING POWER POLE.
- I — PROTECT IN PLACE EXISTING UNDERGROUND ELECTRICAL.
- J — PROTECT IN PLACE EXISTING UNDERGROUND GAS.
- K — PROTECT IN PLACE EXISTING UNDERGROUND ELECTRICAL VAULT AND MANHOLE.
- L — PROTECT IN PLACE EXISTING UNDERGROUND TELECOMMUNICATION MANHOLE.
- M — PROTECT IN PLACE EXISTING FIRE HYDRANT.
- N — PROTECT IN PLACE EXISTING BOLLARD INCLUDING ANY FOOTING.
- O — PROTECT IN PLACE EXISTING STORM DRAIN, CATCH BASIN AND MANHOLE.
- P — PROTECT IN PLACE EXISTING SEWER LINE.
- Q — PROTECT IN PLACE EXISTING CONCRETE CURB.
- R — PROTECT IN PLACE EXISTING CONCRETE CURB AND GUTTER.
- S — PROTECT IN PLACE EXISTING CONCRETE DRIVEWAY.
- T — PROTECT IN PLACE EXISTING STREET SIGN.

- 3 — REMOVE PORTION EXISTING MOWSTRIP.
- 4 — REMOVE EXISTING CHAIN LINK FENCE.
- 5 — REMOVE EXISTING LIGHT BASE AND CAP ASSOCIATED EXISTING ELECTRICAL CONNECTIONS PER THE DRY UTILITY CONSULTANTS RECOMMENDATIONS.
- 6 — REMOVE EXISTING 8" BLOCK WALL AND ASSOCIATED CHAIN LINK FENCE, INCLUDING ALL FOOTINGS AND STRUCTURAL REBAR.
- 7 — REMOVE EXISTING TREES AND LANDSCAPE PLANTING PER THE RECOMMENDATIONS OF THE LANDSCAPE ARCHITECT. REMOVALS WILL INCLUDE THE ENTIRE ROOT BALL FOR THE PLANTS.
- 8 — REMOVE EXISTING ON-SITE FIRE DEPARTMENT CONNECTIONS; INCLUDING ANY WATER LINES, THRUST BLOCKS, FITTINGS, VALVES, FIRE HYDRANT, VAULT AND POST INDICATOR VALVES PER CITY DEPARTMENT STANDARD.
- 9 — REMOVE EXISTING AC PAVEMENT IN PARKWAY FOR TURF INSTALLATION PER LANDSCAPE PLAN.
- 10 — SAWCUT EXISTING CONCRETE GUTTER, AND REMOVE EXISTING CURB AND GUTTER AND SIDEWALK AS REQUIRED TO INSTALL A NEW HANDICAPPED ACCESS RAMP PER GRADING PLANS. REMOVE ENTIRE CONCRETE GUTTER SPANDREL IF REQUIRED BY CITY INSPECTOR.

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

6-27-13
DATE TERRY P. AU RCE 68466 EXP. 9/30/13

REGISTERED PROFESSIONAL ENGINEER
TERRY P. AU
C 68466
EXP. 9-30-13
CIVIL
STATE OF CALIFORNIA

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Demolition Plan

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

23 MAUCHLY, SUITE 110
IRVINE, CALIFORNIA 92618
949.727.9095
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URBAN RESOURCE
CONSULTING CIVIL ENGINEERS

project manager:
approved by:
drawn by:
date:
scale:

S H E E T
C-DM1 of XX

City of Torrance: 555 Maple Sports Fielf

PLAN CONTROL
CITY OF TORRANCE

PLAN SET: PC4
DATE: 8-14-2013

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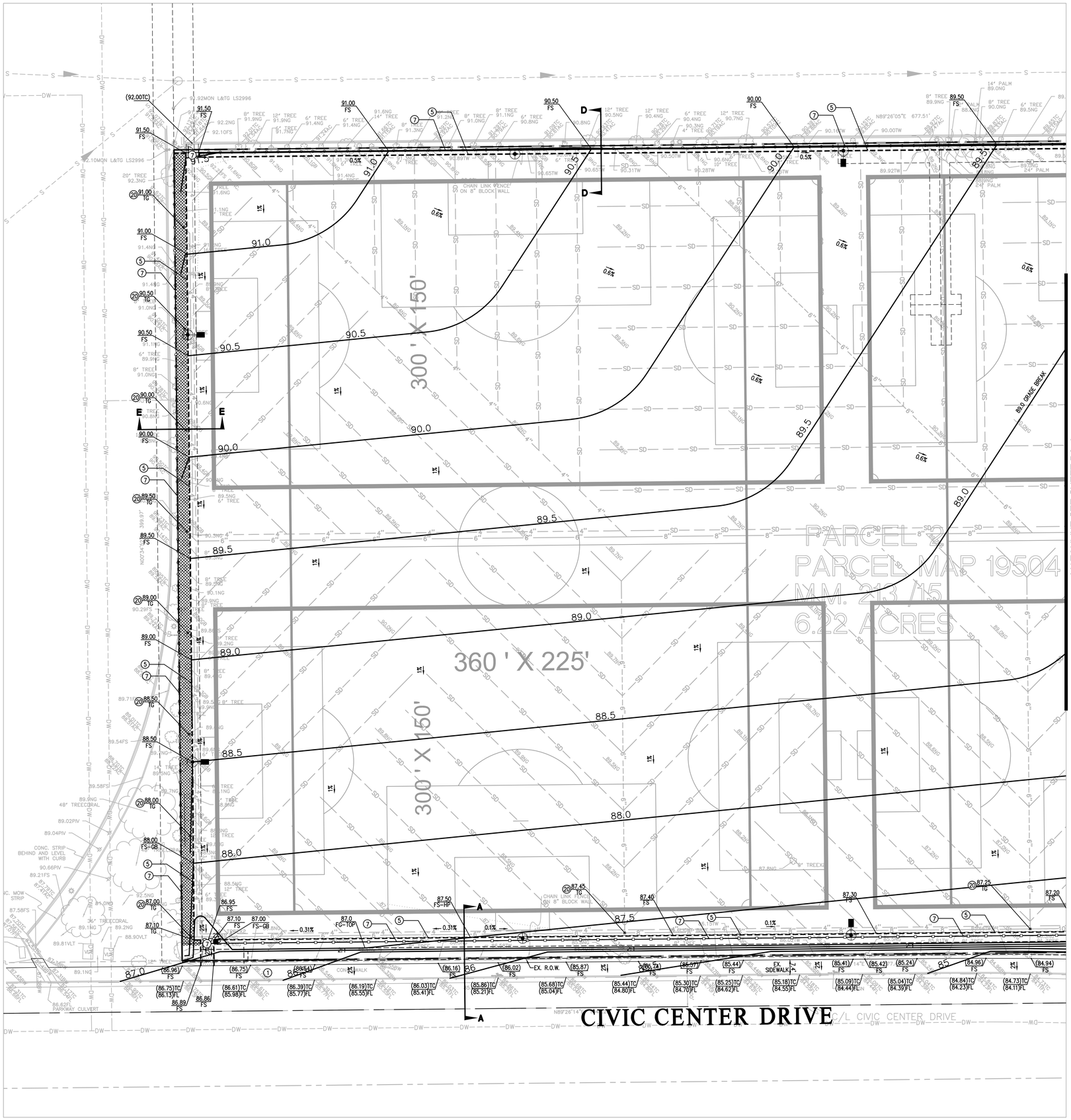

GRADING NOTE:
CONTRACTOR TO GRADE SYNTHETIC TURF SUB-GRADE PER DETAIL ON SHEET C-D4

SUBGRADE /BOTTOM OF ROCK IS 6 INCHES BELOW SURFACE FINISHED GRADES SHOWN HEREON.

SUBGRADE FOR 1" X 12" COMPOSITE SUB-DRAIN IS 7 INCHES BELOW SURFACE FINISHED GRADES SHOWN HEREON FOR LENGTH OF SUB-DRAIN.

SUBGRADE FOR PERFORATED SUBDRAIN PIPE CHANNEL IS A MINIMUN 22 INCHES BELOW SURFACE FINISHED GRADE OR 4 INCHES BELOW PIPE INVERT PER PLAN, WHICHVER IS DEEPER. CHANNEL WIDTH IS 8 INCHES WIDER THAN SUBDRAIN PIPE DIAMETER.

SEE SHEET C-D5 FOR CONSTRUCTION NOTES

LEGEND

- RIGHT OF WAY
- LOT LINE
- PROJECT BOUNDARY/LIMITS OF GRADING
- DRAINAGE SWALE (S=0.010 MIN)
- 360 GRADING CONTOUR

ABBREVIATIONS

EX	EXISTING	R	RADIUS
FG	FINISHED GRADE	ROW	RIGHT OF WAY
FL	FLOWLINE	TC	TOP OF CURB
FS	FINISHED SURFACE	TG	TOP OF GRATE
HP	HIGH POINT		

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

6-27-13
DATE TERRY P. AU RCE 68466 EXP. 9/30/13

REGISTERED PROFESSIONAL ENGINEER TERRY P. AU C 68466 EXP. 9-30-13 CIVIL STATE OF CALIFORNIA

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Precise Grading Plan

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

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IRVINE, CALIFORNIA 92618
949.727.9095
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project manager:
approved by:
drawn by:
date:
scale:

S H E E T
C-PG1 of XX

City of Torrance: 555 Maple Sports Fielf

PLAN CONTROL
CITY OF TORRANCE

PLAN SET: PC4
DATE: 8-14-2013

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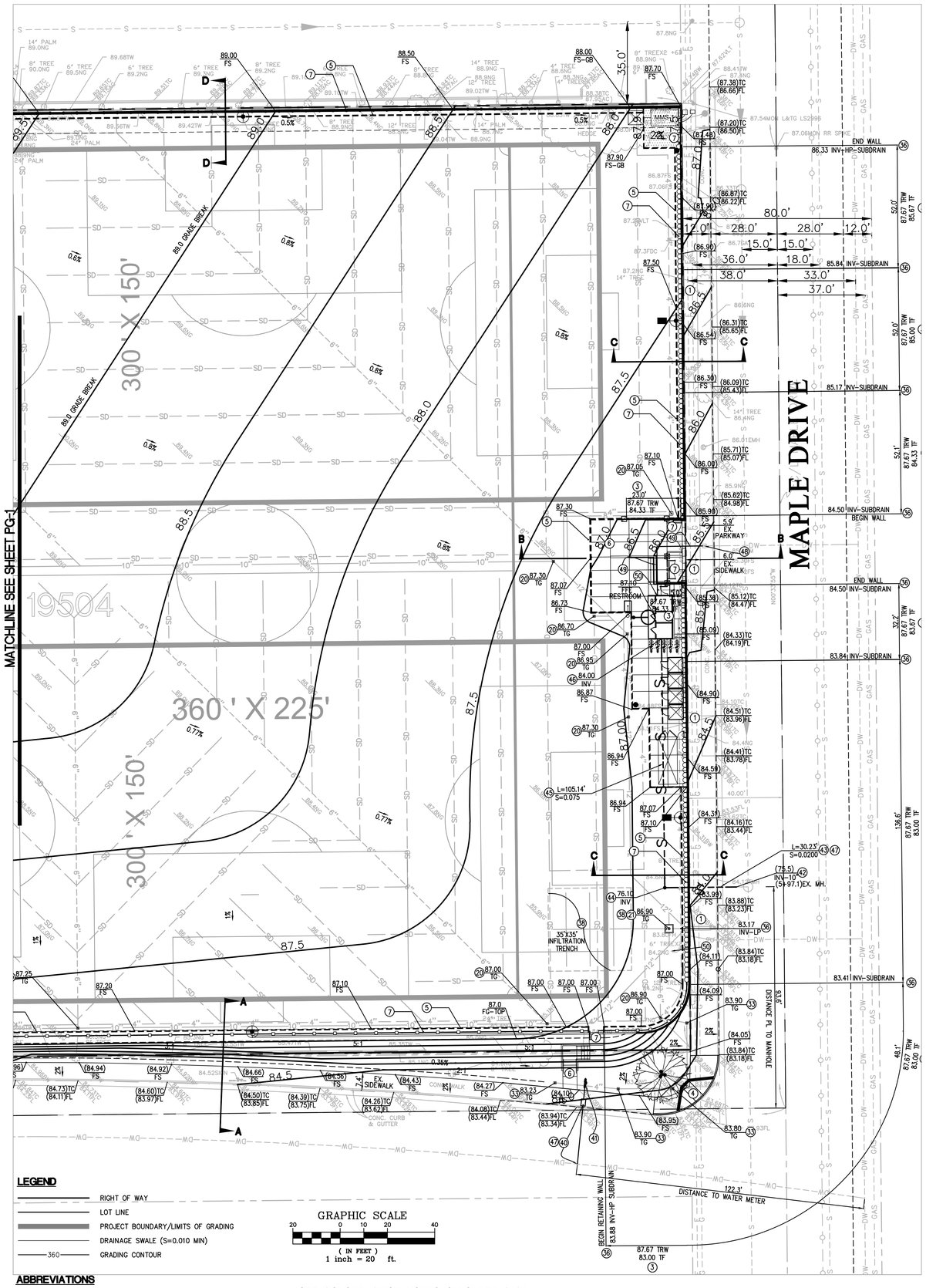
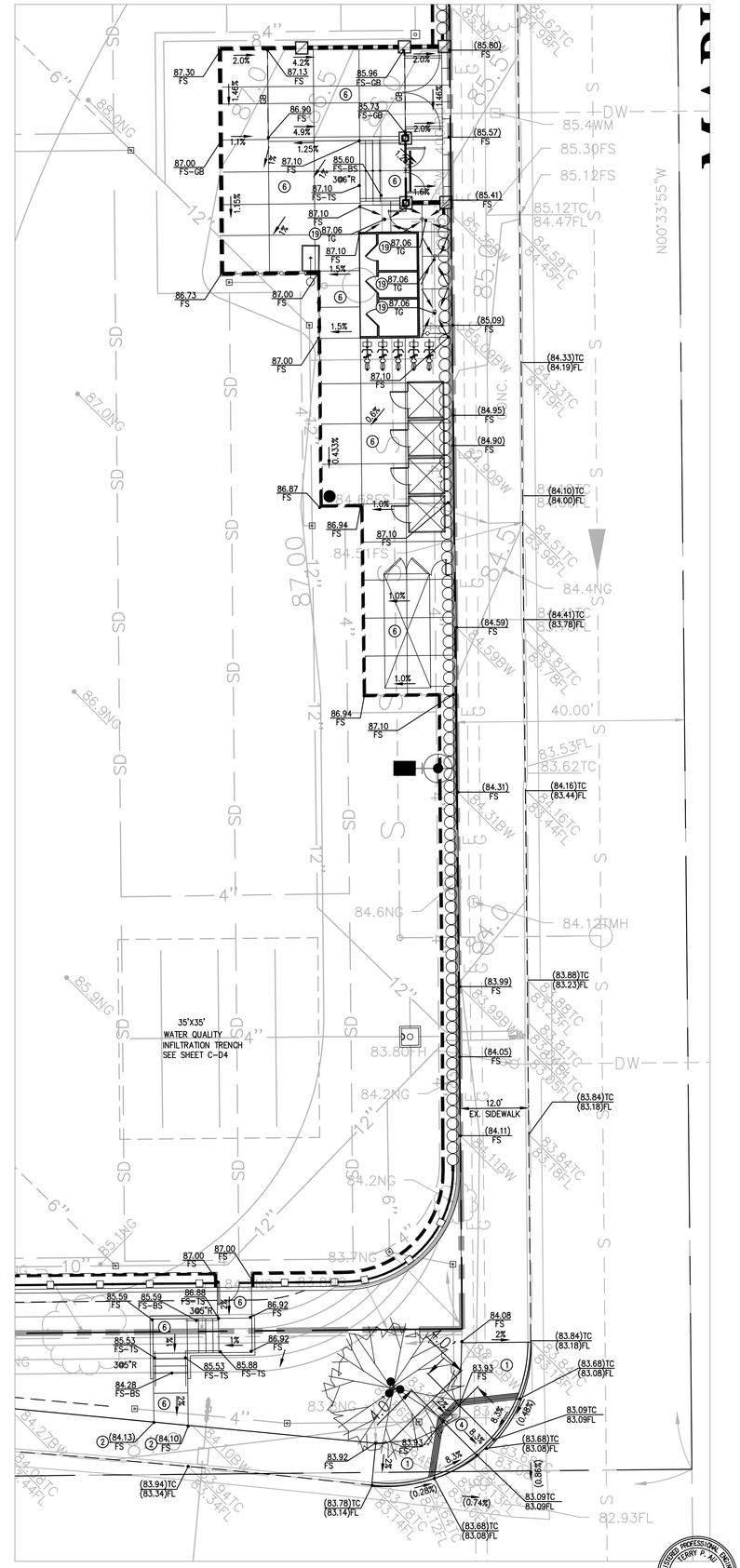


ABBREVIATIONS

EX	EXISTING	R	RADIUS
FG	FINISHED GRADE	ROW	RIGHT OF WAY
FL	FLOWLINE	TC	TOP OF CURB
FS	FINISHED SURFACE	TG	TOP OF GRATE
HP	HIGH POINT		

SEE CONSTRUCTION NOTES ON SHEET C-D5



PRECISE GRADING DETAIL

6-27-13 DATE TERRY P. AU RCE 68466 EXP. 9/30/13

REGISTERED PROFESSIONAL ENGINEER TERRY P. AU C 68466 EXP. 9-30-13 CIVIL STATE OF CALIFORNIA

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Precise Grading Plan

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

23 MAUCHLY, SUITE 110
IRVINE, CALIFORNIA 92618
949.727.9095
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project manager:
approved by:
drawn by:
date:
scale:

S H E E T
C-PG2 of XX

City of Torrance: 555 Maple Sports Fielf

P:\174-283\GRADING\283-PG.dwg
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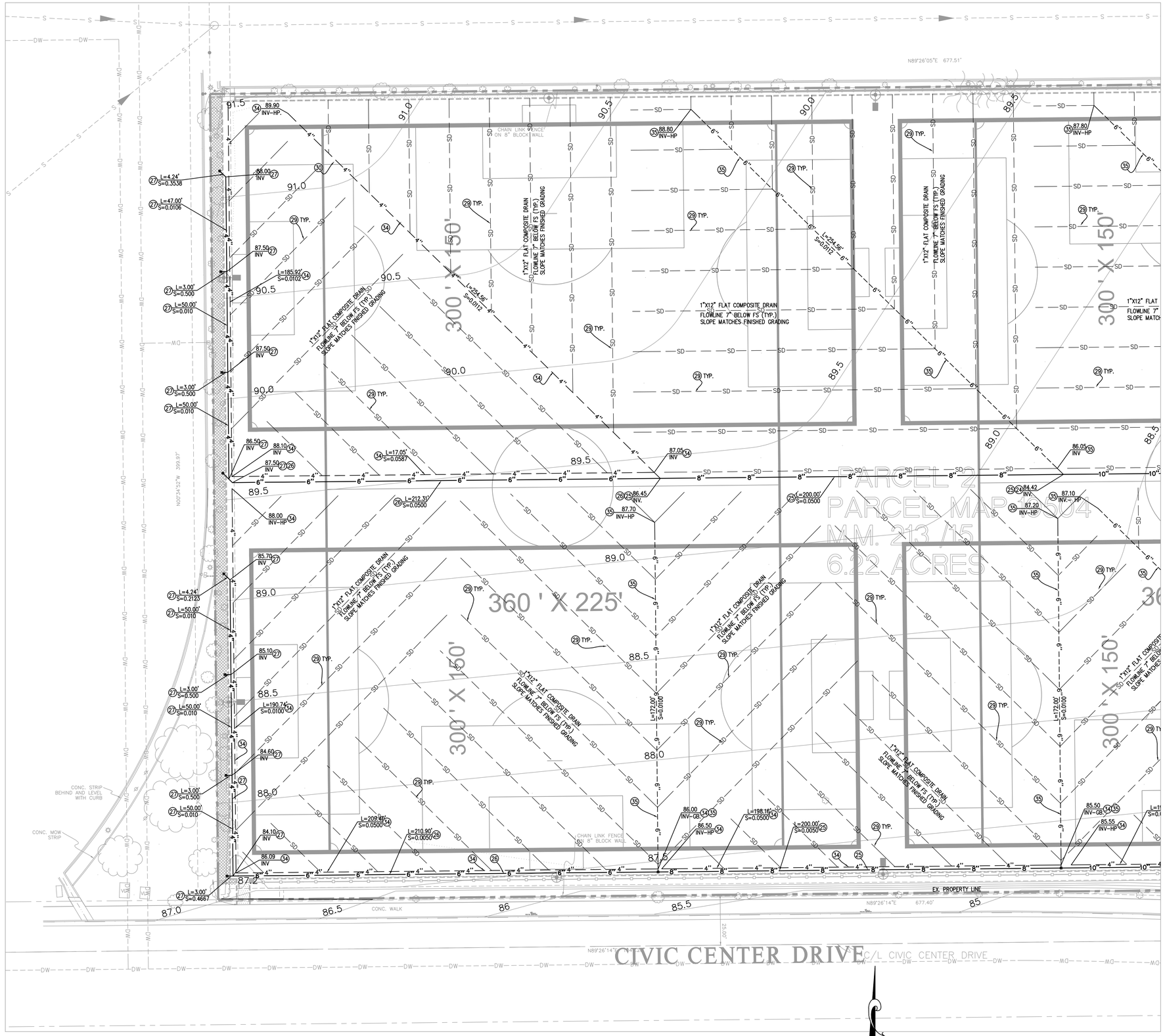
PLAN CONTROL | PLAN SET: PC4
CITY OF TORRANCE | DATE: 8-14-2013



SEE C-D2 FOR CONSTRUCTION NOTES

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

6-27-13
DATE TERRY P. AU RCE 68466 EXP. 9/30/13

REGISTERED PROFESSIONAL ENGINEER
TERRY P. AU
C 68466
EXP. 9-30-13
CIVIL
STATE OF CALIFORNIA

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Area Drain Plan

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

23 MAUCHLY, SUITE 110
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project manager:
approved by:
drawn by:
date:
scale:

SHEET
C-AD1 of XX

City of Torrance: 555 Maple Sports Fielf

PLAN CONTROL
CITY OF TORRANCE

PLAN SET: PC4
DATE: 8-14-2013

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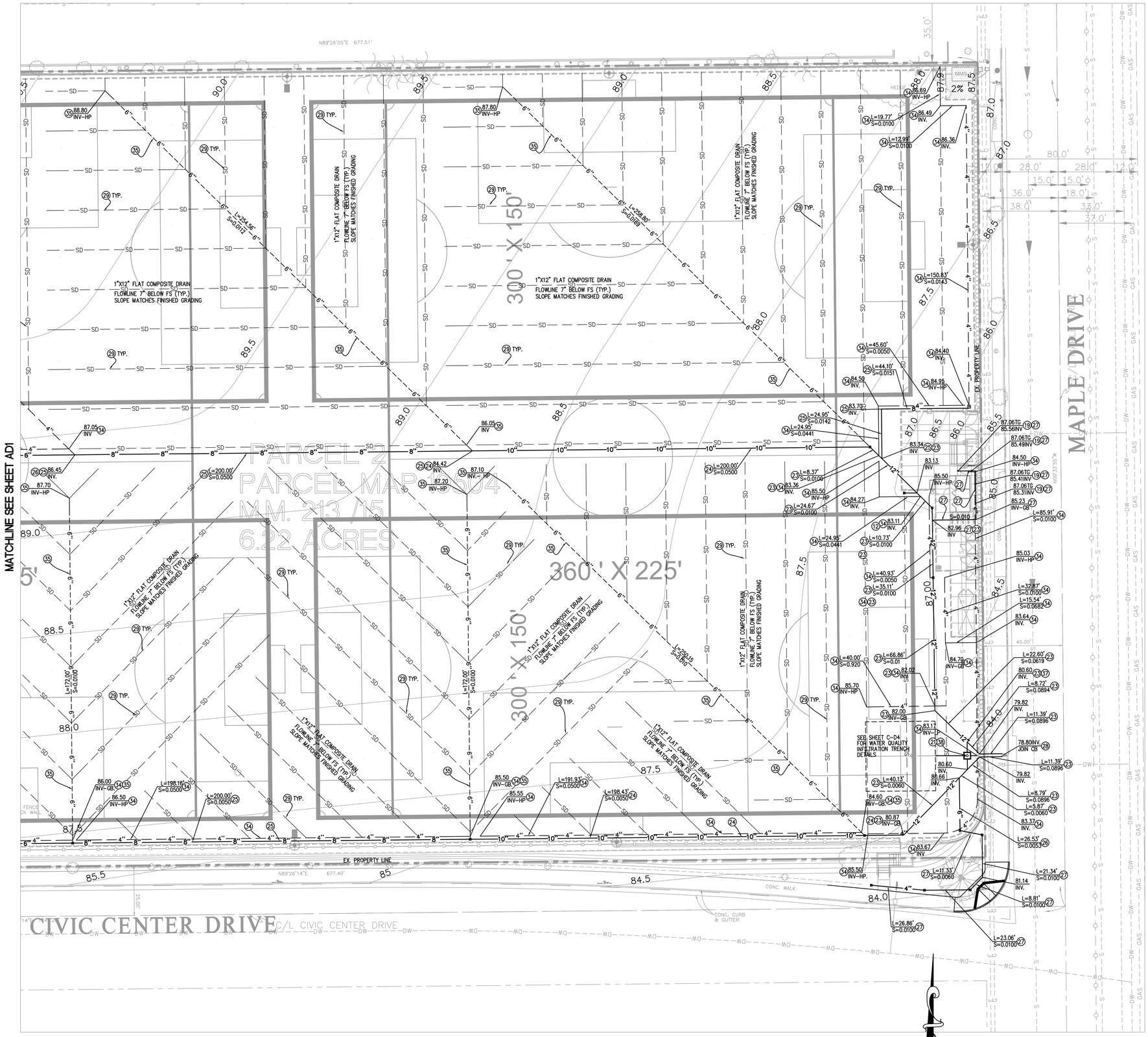

SEE SHEET C-D5 FOR CONSTRUCTION NOTES

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

6-27-13
DATE TERRY P. AU RCE 68466 EXP. 9/30/13

REGISTERED PROFESSIONAL ENGINEER
TERRY P. AU
C 68466
EXP. 9-30-13
CIVIL
STATE OF CALIFORNIA

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Area Drain Plan

City of Torrance
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Torrance, CA 90503
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project manager:

approved by:

drawn by:

date:

scale:

S H E E T

C-AD2 of XX

City of Torrance: 555 Maple Sports Fielf

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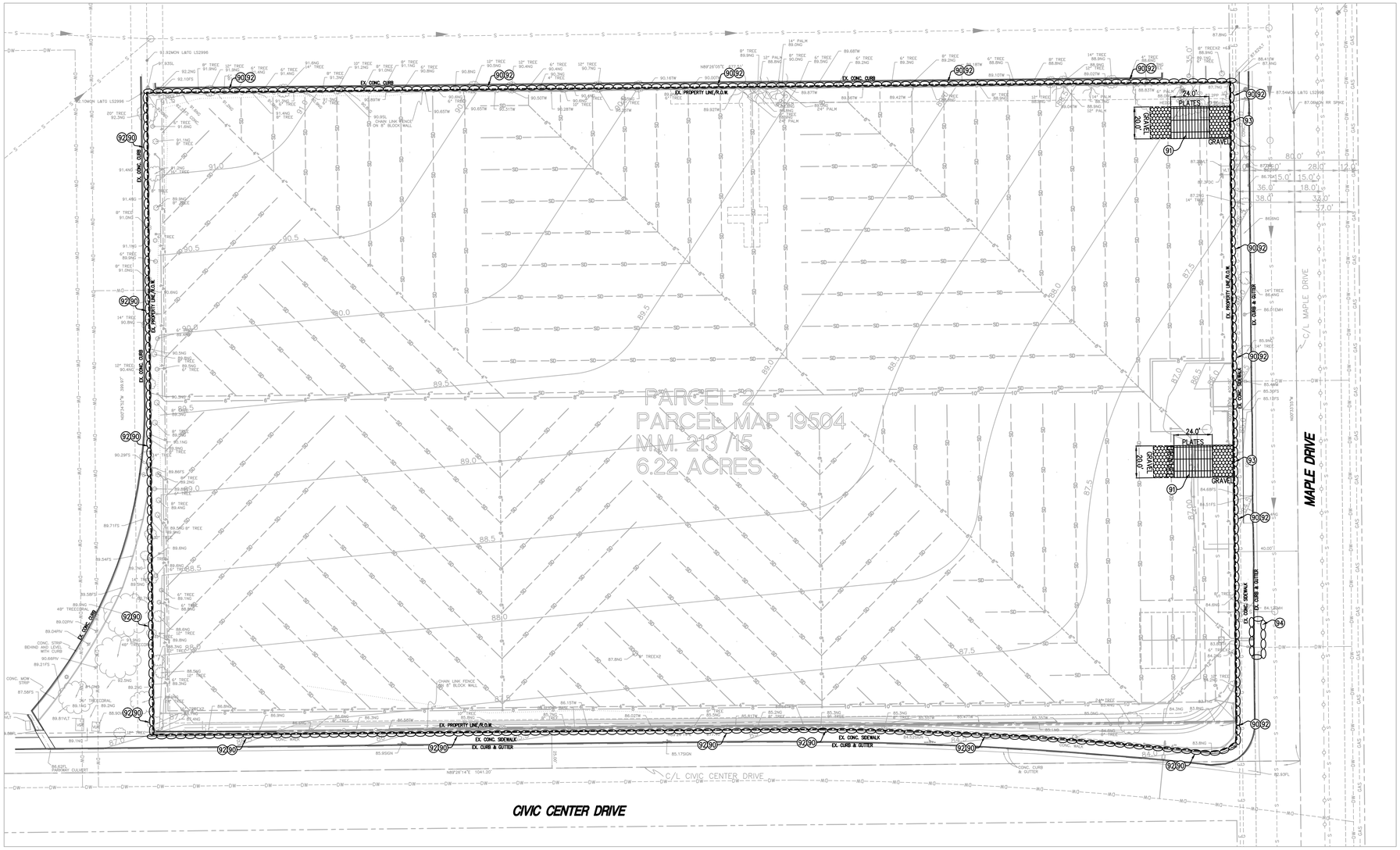
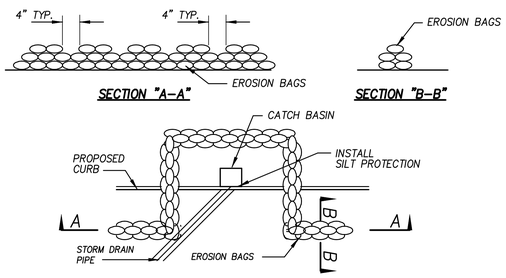
PLOT DATE - Aug 20, 2013 - 2:19PM

PLAN CONTROL | PLAN SET: PC4
CITY OF TORRANCE | DATE: 8-14-2013





CATCH BASIN BERM DETAIL

EROSION CONTROL DETAILS

N.T.S.

EROSION CONTROL NOTES

90 — INSTALL GRAVEL BAG BERM (MINIMUM 2 BAG HIGH) PER CALIFORNIA STORMWATER QUALITY ASSOCIATION (CASQA) STORMWATER BEST MANAGEMENT PRACTICE FOR CONSTRUCTION – SECTION 3 EROSION AND SEDIMENT CONTROL BMP # SE-6.

91 — INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT PER CALIFORNIA STORMWATER QUALITY ASSOCIATION (CASQA) STORMWATER BEST MANAGEMENT PRACTICE FOR CONSTRUCTION – SECTION 3 EROSION AND SEDIMENT CONTROL BMP # TC-1.

92 — INSTALL 6' HIGH CHAIN LINK CONSTRUCTION FENCING WITH GREEN SCREEN

93 — INSTALL CONSTRUCTION ACCESS GATE

94 — INSTALL CATCH BASIN INLET PROTECTION PER DETAIL HEREON.

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

6-27-13
DATE TERRY R. AU RCE 68466 EXP. 9/30/13

REGISTERED PROFESSIONAL ENGINEER
TERRY R. AU
C 68466
EXP. 9-30-13
CIVIL
STATE OF CALIFORNIA

REVISIONS

SPORTS FIELDS
AT 555 MAPLE AVENUE

City of Torrance, California 90503

Erosion Control Plan

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

23 MAUCHLY, SUITE 110
IRVINE, CALIFORNIA 92618
949.727.9095
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www.URBRESOURCE.COM
URBAN RESOURCE
CONSULTING CIVIL ENGINEERS

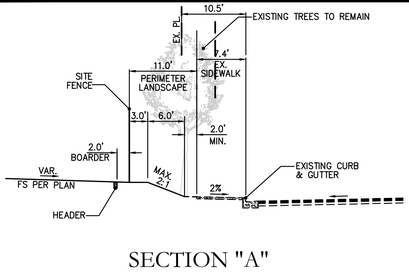
project manager:
approved by:
drawn by:
date:
scale:

S H E E T
C-EC1 of XX

City of Torrance: 555 Maple Sports Fielf

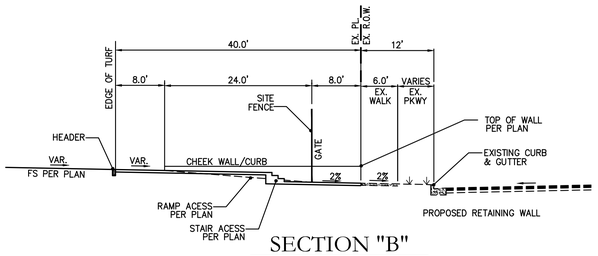
P:\174.383\GRADING\383-PC-EROSION.dwg
PLOT DATE – Aug 14, 2013 – 2:08PM

PLAN CONTROL | PLAN SET: PC4
CITY OF TORRANCE | DATE: 8-14-2013



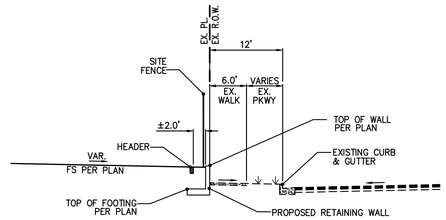
SECTION "A"

N.T.S.



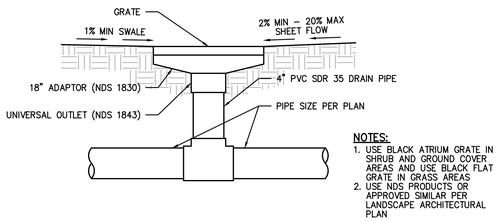
SECTION "B"

N.T.S.



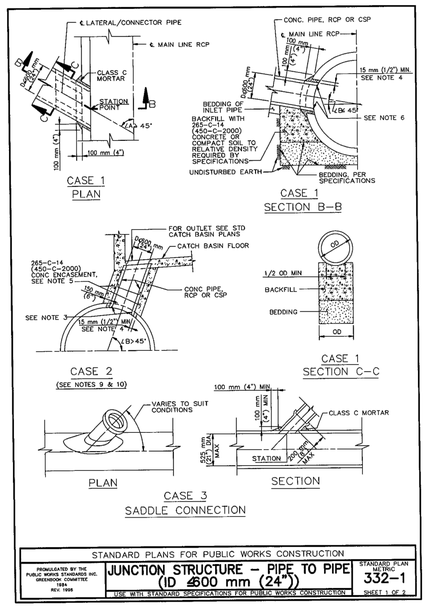
SECTION "C"

N.T.S.



NOTES:

1. USE BLACK ATRIUM GRATE IN SHRUB AND GROUND COVER AREAS AND USE BLACK FLAT GRATE IN GRASS AREAS
2. USE NDS PRODUCTS OR APPROVED SIMILAR PER LANDSCAPE ARCHITECTURAL PLAN



STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION		
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1994 REV. 1998	JUNCTION STRUCTURE – PIPE TO PIPE (ID ≤600 mm (24")) USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION	STANDARD PLAN METRIC 332–1 SHEET 1 OF 2

NOTES

CASE 1 AND CASE 2

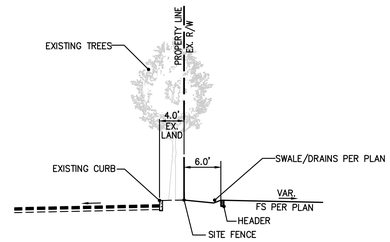
1. IF ANGLE A IS LESS THAN 45° OR IF D IS LARGER THAN 600 mm (24"), THEN ANOTHER STANDARD STRUCTURE SHALL BE SPECIFIED.
2. THE OUTSIDE DIAMETER OF THE INLET PIPE SHALL NOT EXCEED ONE–HALF THE INSIDE DIAMETER OF THE MAIN LINE.
3. THE INLET PIPE SHALL ENTER THE MAIN LINE RADIALLY. IF THE INLET PIPE CANNOT ENTER RADIALLY, THEN ANOTHER STANDARD STRUCTURE SHALL BE SPECIFIED.
4. THE SIZE OF THE OPENING INTO THE MAIN LINE SHALL BE THE OUTSIDE DIAMETER OF THE INLET PIPE PLUS 30 mm (1") MINIMUM TO 75 mm (3") MAXIMUM.
5. ALL CONNECTOR PIPES FOR CASE 2 SHALL BE ENCASED IN CONCRETE IF LAID WITHIN THE MAIN LINE EXCAVATED TRENCH OR IF LAID ON FILL WHICH HAS NOT BEEN DENSIFIED.
6. BURN OR CHIP END OF CONNECTOR PIPE FLUSH WITH INNER SURFACE OF MAIN LINE. ROUND EDGE OF CONCRETE PIPE OR RCP.
7. ALL CSP AND FITTINGS SHALL BE GALVANIZED.
8. STATION SPECIFIED ON THE PLANS APPLIES AT THE INTERSECTION OF THE INSIDE WALL OF MAIN LINE AND THE CENTERLINE OF INLET PIPE.
9. CASE 2 SHALL NOT BE USED TO CONNECT TO THE FLOOR OF A GRATING CATCH BASIN WHERE THE GRATE WILL BE SUBJECT TO VEHICLE TRAFFIC.
10. FOR CASE 2, NOT MORE THAN 3.5 m (12') OF INLET PIPE SHALL BE LOCATED WITHIN THE MAIN LINE EXCAVATED TRENCH.

CASE 3

11. CONNECTIONS TO PIPES 525 mm (21") OR LESS IN DIAMETER WITHOUT JUNCTION STRUCTURES OR PRECAST Y BRANCHES SHALL BE MADE WITH SADDLES.
12. THE OUTSIDE DIAMETER OF THE INLET PIPE SHALL NOT EXCEED ONE–HALF THE INSIDE DIAMETER OF THE MAIN LINE.
13. TRIM OR CUT SADDLE TO FIT SNUGLY OVER THE OUTSIDE OF THE MAIN LINE SO ITS AXIS WILL BE ON THE LINE AND GRADE OF THE CONNECTOR PIPE.
14. THE OPENING INTO THE PIPE SHALL BE CUT AND TRIMMED TO FIT THE SADDLE SO THAT NO PART WILL PROJECT WITHIN THE BORE OF THE SADDLE PIPE.
15. THE CONNECTOR PIPE SHALL BE SUPPORTED AS SHOWN IN CASES 1 AND 2.

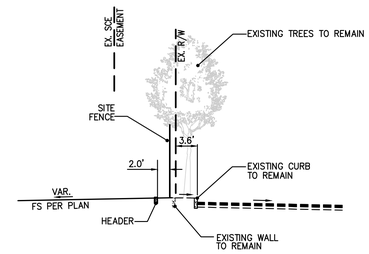
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION	STANDARD PLAN METRIC
JUNCTION STRUCTURE – PIPE TO PIPE (ID ≤600 mm (24"))	332–1 SHEET 2 OF 2

28 AREA DRAIN LINE TO STORM DRAIN/CATCH BASIN DETAIL



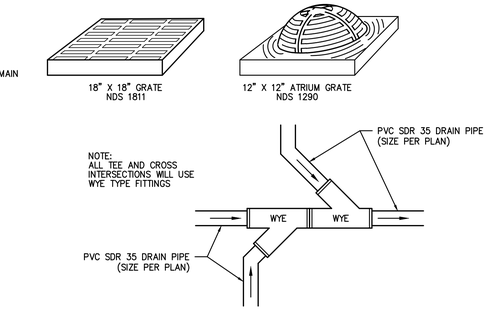
SECTION "E"

N.T.S.



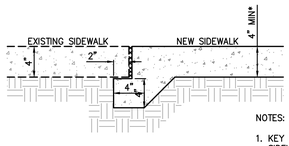
SECTION "D"

N.T.S.



33 AREA DRAIN DETAILS

NOT TO SCALE

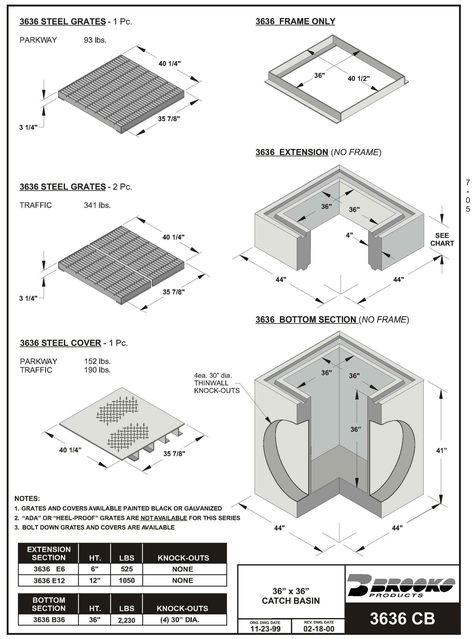


NOTES:

1. KEY NEW SIDEWALK SECTION UNDER EXISTING SIDEWALK.
2. SOAKING OF SOIL SHALL BE APPROVED BY THE INSPECTOR.
3. NEW SIDEWALK THICKNESS PER GEOTECHNICAL ENGINEERS RECOMMENDATION.

2 JOIN EXISTING SIDEWALK

N.T.S.



NOTES:
1. GRATES AND COVERS AVAILABLE PAINTED BLACK OR GALVANIZED
2. "ADA" OR "HEEL-PROOF" GRATES ARE NOT AVAILABLE FOR THIS SERIES
3. BOLT DOWN GRATES AND COVERS ARE AVAILABLE

EXTENSION SECTION	HT.	LBS	KNOCK-OUTS
3636 E6	6"	525	NONE
3636 E12	12"	1050	NONE

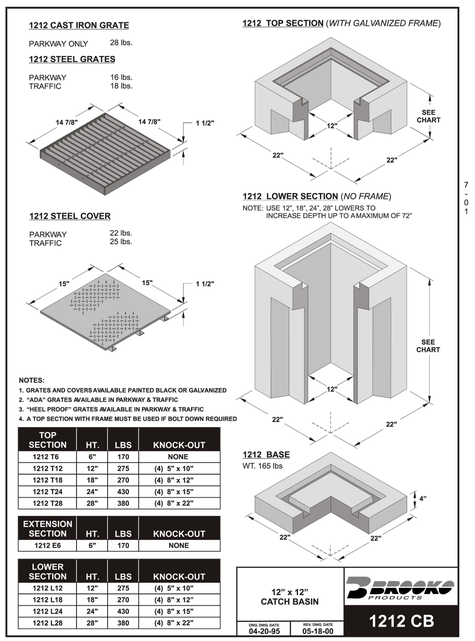
BOTTOM SECTION	HT.	LBS	KNOCK-OUTS
3636 B36	36"	2,230	(4) 30" DIA.

36" x 36" CATCH BASIN — BROOKS PRODUCTS — 3636 CB

DRG. DWG. DATE 11-23-99 | REV. DWG. DATE 02-18-00

21 36" BROOKS CATCH BASIN

N.T.S. JOIN PVC PIPE TO BASIN PER DETAIL 28 HEREON



NOTES:
1. GRATES AND COVERS AVAILABLE PAINTED BLACK OR GALVANIZED
2. "ADA" GRATES AVAILABLE IN PARKWAY & TRAFFIC
3. "HEEL PROOF" GRATES AVAILABLE IN PARKWAY & TRAFFIC
4. A TOP SECTION WITH FRAME MUST BE USED IF BOLT DOWN REQUIRED

TOP SECTION	HT.	LBS	KNOCK-OUT
1212 T6	6"	170	NONE
1212 T12	12"	275	(4) 5" x 10"
1212 T18	18"	270	(4) 8" x 12"
1212 T24	24"	430	(4) 8" x 15"
1212 T28	28"	380	(4) 8" x 22"

EXTENSION SECTION	HT.	LBS	KNOCK-OUT
1212 E6	6"	170	NONE

LOWER SECTION	HT.	LBS	KNOCK-OUT
1212 L12	12"	275	(4) 5" x 10"
1212 L18	18"	270	(4) 8" x 12"
1212 L24	24"	430	(4) 8" x 15"
1212 L28	28"	380	(4) 8" x 22"

12" x 12" CATCH BASIN — BROOKS PRODUCTS — 1212 CB

DRG. DWG. DATE 04-20-95 | REV. DWG. DATE 05-18-00

20 12" BROOKS CATCH BASIN

N.T.S. JOIN PVC PIPE TO BASIN PER DETAIL 28 HEREON

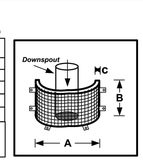
TRITON 180 FILTRATION SERIES for Downspouts

REM's TRITON 180 Filter Series are universally designed for downspout applications of all types and sizes.

STANDARD DIMENSIONS
(CUSTOM SIZES AVAILABLE UPON REQUEST)

MODEL NO.	A	B	C
TR14-180 (8")	14"	9"	1.5"
TR14-180 (16")	14"	17"	1.5"
TR14-180 (32")	14"	33"	1.5"
TR24-180 (17")	24"	17"	2"
TR24-180 (34")	24"	34"	2"

Overflow Bypass
Top Sections of the TRITON 180 Downspout Filters are designed so that they are able to release the larger storm events when needed.



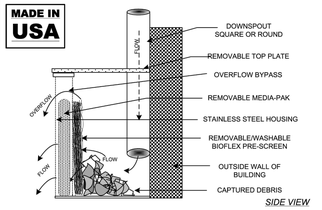
MODEL: TR14-180 (8) - FOG

MODEL: TR24-180 (8) - BFTG

MADE IN USA

Notes:

- TRITON 180 Series Filters are universally designed for downspouts of all types and sizes.
- The TRITON 180 Series Filters can be equipped with different media and prescreen combinations to address specific flow rates and removal requirements.
- For larger flows and debris capacities please see our TRITON 360 Series.
- Filter Media-Pak's can be equipped with media that capture: fats, oil, grease, metals, bacterial growth and many other runoff pollutants.
- Filters configured with FOG media polishes flow to remove TSS's including but not limited to fine sediment, silt and debris. Heavy metals may be reduced and/or removed from flow through agglomeration.
- FOG media encapsulates hydrocarbons including Fats, Oil and Grease.
- Filters configured with Biofex Media and BFTG Prescreen are designed for increased flow and capture 100% of particles that are 5mm or greater in size.
- Filters are constructed using Non-reactive High Density Polyethylene Plastic (HDPE) with U.V. inhibitors added.
- The interior & exterior cage of the cartridges are made from Type 304 Stainless Steel configured with 12 gauge welded 1.75" X 2" square openings.
- REM will help develop custom sizes to fit most applications.
- Biofex Prescreens are constructed using Polyester Fiber Mesh (Netting), a blend of coir fibers (fiber), and water based latex (as the binding agent).
- BioFlex shall be biodegradable and may often be washed and re-used.
- Biofex Prescreen UV Resistance (ASTM D 4355 – 500 hour exposure)
- Biofex Tensile Properties (ASTM D 5035/ECTC)
- Sediment Control (ASTM D 5141).
- Please refer to manufacture's recommendations for an approved maintenance program.



THE DESIGN AND DETAIL OF THIS DRAWING IS THE PROPERTY OF REM INC. AND IS NOT TO BE USED EXCEPT IN CONNECTION WITH OUR WORK, DESIGN AND INVENTION RIGHTS ARE RESERVED.	REM Inc.			
	TRITON 180 DOWNSPOUT FILTRATION SERIES (Multiple Applications)			
Patent Pending	PH: (888) 526-4736	DRAWN BY: C.F.	TITLE: Downspout Filtering	REV
DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED	SIZE: ISCA	SCALE: 1/4 : 1	DATE: 3/22/2009	SHT. 1 OF 1

38 TRITON 180 - MODEL NO. TR-14-180 (32" HT)

N.T.S.

NOTES:

1. CONTRACTOR TO INSTALL TRITON FILTER AT THE BOTTOM OF THE PROPOSED 36" BROOKS BOX.
2. FILTER SHALL BE LOCATED ON THE SIDE FOR WHICH THE 4" PVC OUTLET(S) DRAIN FILTERED FLOWS TO THE INFILTRATION TRENCH.
3. REMOVAL TOP PLATE IS REQUIRED TO PREVENT UNTREATED FLOWS FROM ENTERING INFILTRATION TRENCH.
4. FINAL CAGE CONFIGURATION AND/OR LID TO BE DESIGNED TO ALLOW FOR EASE OF MAINTENANCE AND/OR FILTER REPLACEMENT.

6-27-13 TERRY P. AU RCE 68466 EXP. 9/30/13
DATE

REGISTERED PROFESSIONAL ENGINEER TERRY P. AU C 68466 EXP. 9-30-13 CIVIL STATE OF CALIFORNIA

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Sections & Details

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

23 MAUCHLY, SUITE 110
IRVINE, CALIFORNIA 92618
949.727.9095
949.727.9098 FAX
www.URBRESOURCE.COM
URBAN RESOURCE
CONSULTING CIVIL ENGINEERS

project manager:
approved by:
drawn by:
date:
scale:

S H E E T
C-D1 of XX

City of Torrance: 555 Maple Sports Fielf

P:\174.383\GRADING\383-PC-DETAILS.dwg
PLOT DATE – Aug 14, 2013 – 1:46PM

PLAN CONTROL | PLAN SET: PC4
CITY OF TORRANCE | DATE: 8-14-2013

STREET PLAN 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., HEREINAFTER REFERRED TO AS THE STANDARD SPECIFICATIONS, THE TORRANCE STANDARDS, AND TO THE SATISFACTION OF THE COMMUNITY DEVELOPMENT OR PUBLIC WORKS DIRECTOR.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY DEPTH AND PROTECT ALL STRUCTURES, INCLUDING SUBSTRUCTURES, SHOWN ON THE PLAN. 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. ALL LOCATIONS SHOWN ON THE PLAN FOR UTILITY LINES HAVE BEEN TAKEN FROM AVAILABLE RECORDS AND THEIR COMPLETENESS AND CORRECTNESS ARE IN NO WAY GUARANTEED.

3. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 AND ALL PUBLIC UTILITY COMPANIES AND OWNERS OF PRIVATE FACILITIES WITHIN THE AREA OF CONSTRUCTION AT LEAST 2 WORKING DAYS IN ADVANCE OF PERFORMING ANY WORK WITHIN SAID AREA.

4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY BEFORE COMMENCING WORK. TRAFFIC CONTROL WITHIN PUBLIC STREET RIGHTS OF WAY SHALL BE IN CONFORMANCE WITH THE "WATCH MANUAL" AND "MUTCD MANUAL" LATEST EDITION. THE CONTRACTOR SHALL PROVIDE A 24-HOUR TELEPHONE NUMBER FOR EMERGENCY REPAIRS TO TRAFFIC CONTROL AND PAVEMENT MARKINGS.

5. OVERHEAD UTILITY LINE CAUTION: REVIEW APPROVED CONSTRUCTION PLAN. IF CONSTRUCTION REQUIRES WORKERS AND/OR EQUIPMENT TO BE WITHIN 6 FEET OR CRANES OR HOISTING DEVICES TO BE WITHIN 10 FEET OF OVERHEAD ELECTRIC/UTILITY LINES, CALL SOUTHERN CALIFORNIA EDISON CO. AT 310-783-9336.

6. PRIOR TO COMMENCEMENT OF WORK, ALL SURVEY MONUMENTS IN THE PROJECT AREA SHALL BE LOCATED AND TIED OUT. ALL CENTERLINE MONUMENTS OR TIES LOST OR DESTROYED BY THIS WORK SHALL BE REPLACED EITHER BY A LICENSED SURVEYOR OR A CIVIL ENGINEER REGISTERED PRIOR TO JANUARY 1, 1982 AND NEW TIE SHEETS PROVIDED. METHOD OF ESTABLISHMENT SHALL BE STATED ON THE TIE SHEET.

7. GRADE SHEETS PREPARED AND STAMPED BY A LICENSED ENGINEER OR SURVEYOR SHALL BE DELIVERED TO THE INSPECTOR 24 HRS PRIOR TO COMMENCEMENT OF WORK.

8. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 PRIOR TO TRIMMING, REMOVING OR RELOCATING ANY EXISTING STREET TREES.

9. UNLESS OTHERWISE SHOWN, ALL TRAFFIC SIGNS SHALL BE RELOCATED OR REMOVED BY THE CONTRACTOR.

10. IF STREET TREES ARE REQUIRED IN THE PARKWAY, NEWLY INSTALLED TREES SHALL BE INSTALLED PER CITY OF TORRANCE STANDARD T401 AND TO THE SATISFACTION OF THE STREETSCAPE MANAGER. CONTACT THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 FOR TYPE(S), SIZE(S) AND LOCATION(S) OF TREES.

11. PLANTED AND IRRIGATED PARKWAY(S) (IF REQUIRED) SHALL HAVE MATERIALS AND PLANTS APPROVED BY THE STREETSCAPE MANAGER PRIOR TO INSTALLATION.

12. CRUSHED AGGREGATE BASE (CAB) PER SECTION 200-2.2 OF THE STANDARD SPECIFICATIONS SHALL BE USED FOR ALL BASE MATERIAL. ACCEPTABLE SUBSTITUTION: CRUSHED MISCELLANEOUS BASE (CMB) PER SECTION 200-2.4 OF THE STANDARD SPECIFICATIONS MAY BE USED AS BASE MATERIAL UNDER SIDEWALK, CURBS, GUTTERS, CROSS GUTTERS, RESIDENTIAL DRIVEWAY APRONS AND PAVEMENT ON LOCAL STREETS; AND ALLEYS.

13. BASE FOR A RESIDENTIAL DRIVEWAY MAY BE OMITTED ON SANDY SOILS AND SHALL BE 4" THICK ON OTHER SOILS. SANDY SOILS SHALL BE DETERMINED BY A MINIMUM SE OF 30 PER SAND EQUIVALENT TEST AS PER SECTION 211-3 OF THE STANDARD SPECIFICATIONS.

14. "X" DIMENSION SHOWN ON A.P.W.A. STANDARD 110 SHALL BE 3 FEET UNLESS OTHERWISE CALLED FOR ON THE PLAN OR IN THE SPECIFICATIONS.

TTV100(7/12/2006)

CITY OF TORRANCE

DATE ISSUED		STANDARD NO.
JULY 2006	STREET PLAN GENERAL NOTES ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T100
		SHEET 1 OF 2

STREET PLAN GENERAL NOTES (CON'T)

15. MINIMUM LENGTH OF FULL HEIGHT CURB BETWEEN DRIVEWAYS ON THE SAME LOT SHALL BE 20 FEET.

16. FOR A NEW ASPHALT CONCRETE (AC) SECTION 4" THICK OR LESS, THE CONTRACTOR SHALL CONSTRUCT ONE LIFT OF C2-AR4000 (C2-PG-64-10) OVER BASE. FOR A NEW AC SECTION 5" THICK, THE CONTRACTOR SHALL CONSTRUCT ONE 2" THICK LIFT OF C2-AR4000 (C2-PG-64-10) OVER ONE 3" THICK LIFT OF B-AR4000 (B-PG- 64-10) OVER BASE. FOR A NEW AC SECTION THICKER THAN 5" AND PAVEMENT OVERLAYS REFER TO CONSTRUCTION NOTES AND/OR PLANS. THE MAXIMUM THICKNESS OF EACH LIFT SHALL BE 4". INSTALLATION OF THE FINAL COURSE SHALL NOT TAKE PLACE UNTIL ALL UNDERGROUND UTILITY TRENCHING HAS BEEN COMPLETED AND APPROVAL TO PROCEED HAS BEEN GRANTED BY THE PUBLIC WORKS INSPECTOR OR ENGINEER.

17. DURING NON-CONSTRUCTION HOURS, ALL EXCAVATIONS MUST BE APPROPRIATELY SHORED AND PLATED OR BACKFILLED, EXCEPT BORE PITS WHICH SHALL BE SECURED WITH K-RAIL AND 6' HIGH CHAIN LINK FENCE PANELS SECURED IN PLACE TO THE SATISFACTION OF THE PUBLIC WORKS INSPECTOR OR ENGINEER. PLATES SHALL BE TACK WELDED, PINNED AND/OR SECURED IN PLACE BY ANOTHER METHOD APPROVED BY THE INSPECTOR OR ENGINEER.

18. THE CONTRACTOR SHALL MAKE AVAILABLE FOR THE INSPECTOR'S REVIEW, ON A DAILY BASIS, AS-BUILT DRAWINGS FOR WORK PERFORMED UP TO AND INCLUDING THE PREVIOUS DAY'S ACTIVITIES. WORK SHALL NOT BE CONSIDERED AS COMPLETE UNTIL AS-BUILT DRAWINGS ARE SUBMITTED TO AND ACCEPTED BY THE COMMUNITY DEVELOPMENT OR PUBLIC WORKS DIRECTOR.

CITY OF TORRANCE

DATE ISSUED		STANDARD NO.
JULY 2006	STREET PLAN GENERAL NOTES ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T100
		SHEET 2 OF 2

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., HEREINAFTER REFERRED TO AS THE STANDARD SPECIFICATIONS, THE TORRANCE STANDARDS, THE AMERICAN WATER WORKS ASSOCIATION STANDARDS LATEST EDITION, AND TO THE SATISFACTION OF THE COMMUNITY DEVELOPMENT OR PUBLIC WORKS DIRECTOR.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY DEPTH AND PROTECT ALL STRUCTURES, INCLUDING SUBSTRUCTURES, SHOWN ON THE PLAN. 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. ALL LOCATIONS SHOWN ON THE PLAN FOR UTILITY LINES HAVE BEEN TAKEN FROM AVAILABLE RECORDS AND THEIR COMPLETENESS AND CORRECTNESS ARE IN NO WAY GUARANTEED.

3. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 AND ALL PUBLIC UTILITY COMPANIES AND OWNERS OF PRIVATE FACILITIES WITHIN THE AREA OF CONSTRUCTION AT LEAST 2 WORKING DAYS IN ADVANCE OF PERFORMING ANY WORK WITHIN SAID AREA.

4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY BEFORE COMMENCING WORK. TRAFFIC CONTROL WITHIN PUBLIC STREET RIGHTS OF WAY SHALL BE IN CONFORMANCE WITH THE CALIFORNIA MUTCD MANUAL OR CITY OF TORRANCE STANDARDS FOR TRAFFIC CONTROL, LATEST EDITION. THE CONTRACTOR SHALL PROVIDE A 24-HOUR TELEPHONE NUMBER FOR EMERGENCY REPAIRS TO TRAFFIC CONTROL AND PAVEMENT MARKINGS.

5. OVERHEAD UTILITY LINES CAUTION: REVIEW APPROVED CONSTRUCTION PLAN. IF CONSTRUCTION REQUIRES WORKERS AND/OR EQUIPMENT TO BE WITHIN 6 FEET OR CRANES OR HOISTING DEVICES TO BE WITHIN 10 FEET OF OVERHEAD ELECTRIC LINES, CALL SOUTHERN CALIFORNIA EDISON CO. AT 310-783-9336.

6. PRIOR TO COMMENCEMENT OF WORK, ALL SURVEY MONUMENTS IN THE PROJECT AREA SHALL BE LOCATED AND TIED OUT. ALL CENTERLINE MONUMENTS OR TIES LOST OR DESTROYED BY THIS WORK SHALL BE REPLACED EITHER BY A LICENSED SURVEYOR OR A CIVIL ENGINEER REGISTERED PRIOR TO JANUARY 1, 1982 AND NEW TIE SHEETS PROVIDED. METHOD OF ESTABLISHMENT SHALL BE STATED ON THE TIE SHEET.

7. GRADE SHEETS PREPARED AND STAMPED BY A LICENSED ENGINEER OR SURVEYOR SHALL BE DELIVERED TO THE INSPECTOR 24 HOURS PRIOR TO COMMENCEMENT OF WORK.

8. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 PRIOR TO TRIMMING, REMOVING OR RELOCATING ANY EXISTING STREET TREES.

9. UNLESS OTHERWISE SHOWN, ALL TRAFFIC SIGNS SHALL BE RELOCATED OR REMOVED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 AT LEAST 2 WORKING DAYS IN ADVANCE OF THE WORK.

10. THE CONTRACTOR SHALL DISINFECT WATER LINES UNDER THE DIRECTION OF THE CITY'S WATER QUALITY INSPECTOR. THE TORRANCE MUNICIPAL WATER DEPARTMENT SHALL COLLECT WATER SAMPLES FOR ANALYSIS SUBSEQUENT TO DISINFECTING OF THE PIPELINE BY THE CONTRACTOR.

11. THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AT LEAST TWO WORKING DAYS IN ADVANCE OF A PROPOSED WATER MAIN OR SERVICE LINE SHUT DOWN. THE CONTRACTOR SHALL NOTIFY THE CUSTOMERS EFFECTED BY THE PROPOSED SHUT DOWN AT LEAST 24 HOURS IN ADVANCE. CUSTOMER NOTIFICATION SHALL CONSIST OF A DOOR HANGER SPECIFING THE DATE(S) AND TIME(S) OF THE PROPOSED SHUT DOWN. NOTICE SHALL CONTAIN THE CONTRACTORS NAME AND TELEPHONE NUMBER. NOTICE SHALL BE APPROVED BY THE INSPECTOR PRIOR TO DISTRIBUTION.

12. OPERATION OF VALVES ON ALL PUBLIC WATER LINES AND THE FIRST NEW VALVE DOWNSTREAM OF A PUBLIC WATER MAIN SHALL BE PERFORMED BY THE TORRANCE MUNICIPAL WATER DEPARTMENT UNLESS OTHERWISE SHOWN.

13. ALL WATER LINES SHALL HAVE 42" COVER FROM PROPOSED FINISHED GRADE UNLESS OTHERWISE SHOWN ON THE PLAN.

TTV700

CITY OF TORRANCE

DATE ISSUED		STANDARD NO.
12 MAY 2008	WATER GENERAL NOTES ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T700
		SHEET 1 OF 2

GENERAL NOTES (CON'T)

14. FOR PARALLEL CONSTRUCTION ALL WATER LINES SHALL BE INSTALLED WITH A TWO FOOT (MIN.) CLEARANCE FROM EXISTING UTILITY LINES. (GAS, TELEPHONE, CABLE, POWER...). A MINIMUM OF 12" CLEARANCE SHALL BE PROVIDED WHEN CROSSING UTILITY LINES.

15. NO PVC PIPE SHALL BE INSTALLED UPSTREAM OF THE INLET SIDE OF METERS OR DETECTOR CHECK VALVES.

16. CONTRACTOR SHALL MAKE AVAILABLE FOR THE PUBLIC WORKS INSPECTOR'S REVIEW, ON A DAILY BASIS, AS-BUILT DRAWINGS FOR WORK PERFORMED UP TO AND INCLUDING THE PREVIOUS DAY'S ACTIVITIES. WORK SHALL NOT BE CONSIDERED AS COMPLETE UNTIL AS-BUILTS ARE SUBMITTED TO AND ACCEPTED BY THE COMMUNITY DEVELOPMENT OR PUBLIC WORKS DIRECTOR.

17. TRENCHES CUT INTO AN EXISTING ROADWAY WITHIN THE PUBLIC RIGHTS OF WAY SHALL BE BACKFILLED AND PAVED AS PER CITY OF TORRANCE STANDARD T116.

18. TRENCH RESURFACING SHALL BE OF THE SAME TYPE AS THE EXISTING PAVEMENT, EXCEPT IF EXISTING PAVEMENT IS A.C. OVER P.C.C., RESURFACING MAY BE FULL-DEPTH A.C.

19. PIPE BEDDING SHALL CONFORM TO TORRANCE STANDARD DRAWING T701.

20. ALL FLANGE NUTS, BOLTS AND WASHERS SHALL BE 316 S.S. UNLESS OTHERWISE SHOWN.

21. ALL BURIED PIPE, VALVES, FITTING, ETC. SHALL BE WRAPPED IN 8 MIL. POLYETHYLENE.

CITY OF TORRANCE

DATE ISSUED		STANDARD NO.
12 MAY 2008	WATER GENERAL NOTES ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T700
		SHEET 2 OF 2

SANITARY SEWER 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., HEREINAFTER REFERRED TO AS THE STANDARD SPECIFICATIONS, THE TORRANCE STANDARDS, AND TO THE SATISFACTION OF THE COMMUNITY DEVELOPMENT OR PUBLIC WORKS DIRECTOR.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY DEPTH AND PROTECT ALL STRUCTURES, INCLUDING SUBSTRUCTURES, SHOWN ON THE PLAN. 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. ALL LOCATIONS SHOWN ON THE PLAN FOR UTILITY LINES HAVE BEEN TAKEN FROM AVAILABLE RECORDS AND THEIR COMPLETENESS AND CORRECTNESS ARE IN NO WAY GUARANTEED.

3. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 AND ALL PUBLIC UTILITY COMPANIES AND OWNERS OF PRIVATE FACILITIES WITHIN THE AREA OF CONSTRUCTION AT LEAST 2 WORKING DAYS IN ADVANCE OF PERFORMING ANY WORK WITHIN SAID AREA.

4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY BEFORE COMMENCING WORK. TRAFFIC CONTROL WITHIN PUBLIC STREET RIGHTS OF WAY SHALL BE IN CONFORMANCE WITH THE "WATCH MANUAL" AND "CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD CALIFORNIA SUPPLEMENT MANUAL)" LATEST EDITION. THE CONTRACTOR SHALL PROVIDE A 24-HOUR TELEPHONE NUMBER FOR EMERGENCY REPAIRS TO TRAFFIC CONTROL AND PAVEMENT MARKINGS.

5. OVERHEAD UTILITY LINE CAUTION: REVIEW APPROVED CONSTRUCTION PLAN. IF CONSTRUCTION REQUIRES WORKERS AND/OR EQUIPMENT TO BE WITHIN 6 FEET OR CRANES OR HOISTING DEVICES TO BE WITHIN 10 FEET OF OVERHEAD ELECTRIC/UTILITY LINES, CALL SOUTHERN CALIFORNIA EDISON CO. AT 310-783-9336.

6. PRIOR TO COMMENCEMENT OF WORK, ALL SURVEY MONUMENTS IN THE PROJECT AREA SHALL BE LOCATED AND TIED OUT. ALL CENTERLINE MONUMENTS OR TIES LOST OR DESTROYED BY THIS WORK SHALL BE REPLACED EITHER BY A LICENSED SURVEYOR OR A CIVIL ENGINEER REGISTERED PRIOR TO JANUARY 1, 1982 AND NEW TIE SHEETS PROVIDED. METHOD OF ESTABLISHMENT SHALL BE STATED ON THE TIE SHEET.

7. GRADE SHEETS PREPARED AND STAMPED BY A LICENSED ENGINEER OR SURVEYOR SHALL BE DELIVERED TO THE INSPECTOR 24 HRS. PRIOR TO COMMENCEMENT OF WORK.

8. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 PRIOR TO TRIMMING, REMOVING OR RELOCATING ANY EXISTING STREET TREES.

9. UNLESS OTHERWISE SHOWN, ALL TRAFFIC SIGNS SHALL BE RELOCATED OR REMOVED BY THE CONTRACTOR.

10. BEFORE BREAKING INTO OR CONSTRUCTION ON A COUNTY SANITATION DISTRICT SEWER AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, COUNTY SANITATION DISTRICT INSPECTOR SHALL BE NOTIFIED BY PHONE AT 310-633-1361 IN ORDER THAT REQUIRED INSPECTION MAY BE MADE.

11. EXISTING DOWNSTREAM MANHOLES SHALL BE BULKHEADED WITH BRICK AND MORTAR OR PLUGS APPROVED BY THE INSPECTOR AT NEW INLET DURING CONSTRUCTION OF NEW UPSTREAM LINES. BRICK AND MORTAR OR PLUG SHALL BE REMOVED IN THE PRESENCE OF THE INSPECTOR(S) DURING CLEANING OF THE FIRST UPSTREAM SECTION OF THE NEW SYSTEM.

12. NO CONNECTION FOR THE DISPOSAL OF INDUSTRIAL WASTES SHALL BE MADE TO SEWERS SHOWN ON THESE DRAWINGS UNTIL A PERMIT FOR INDUSTRIAL WASTE WATER DISCHARGE HAS BEEN ISSUED BY THE LOCAL COUNTY SANITATION DISTRICTS FOR SAID CONNECTION.

13. TRENCHES CUT INTO AN EXISTING ROADWAY WITHIN THE PUBLIC RIGHT OF WAY SHALL BE BACKFILLED AND PAVED AS PER TORRANCE STANDARD T116.

TTV200

CITY OF TORRANCE

DATE ISSUED		STANDARD NO.
19 FEB 2008	SANITARY SEWER GENERAL NOTES ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T200
		SHEET 1 OF 2

SANITARY SEWER GENERAL NOTES (CON'T)

14. TRENCH RESURFACING SHALL BE OF THE SAME TYPE AS THE EXISTING PAVEMENT, EXCEPT IF EXISTING PAVEMENT IS A.C. OVER P.C.C., RESURFACING MAY BE FULL-DEPTH A.C.

15. MANHOLE COVER SHALL BE CAST WITH THE WORDS "TORRANCE SEWER" FOR CITY MAINTAINED LINES AND "PRIVATE SEWER" FOR PRIVATELY MAINTAINED LINES.

16. ALL SEWER LINES CONSTRUCTED TO PUBLIC STANDARDS SHALL BE VITRIFIED CLAY PIPE (VCP). DUCTILE IRON PIPE MAY BE USED SUBJECT TO PRIOR WRITTEN APPROVAL FROM THE COMMUNITY DEVELOPMENT/PUBLIC WORKS DIRECTOR. ALL HOUSE CONNECTION LATERALS SHALL BE MINIMUM 6 INCH DIAMETER.

17. CONTRACTOR SHALL SET ALL MANHOLE FRAMES AND COVERS TO FINISHED GRADE.

18. CONCRETE ENCASEMENT SHALL BE REQUIRED FOR SEWER MAIN LINE AND HOUSE LATERALS WITH LESS THAN 3 FEET OF COVER.

19. THE CONTRACTOR SHALL MAKE AVAILABLE FOR THE INSPECTOR'S REVIEW, ON A DAILY BASIS, AS-BUILT DRAWINGS FOR WORK PERFORMED UP TO AND INCLUDING THE PREVIOUS DAY'S ACTIVITIES. WORK SHALL NOT BE CONSIDERED AS COMPLETE UNTIL AS-BUILT DRAWINGS ARE SUBMITTED TO AND ACCEPTED BY THE COMMUNITY DEVELOPMENT/PUBLIC WORKS DIRECTOR.

TTV200

CITY OF TORRANCE

DATE ISSUED		STANDARD NO.
19 FEB 2008	SANITARY SEWER GENERAL NOTES ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T200
		SHEET 2 OF 2

STORM DRAIN 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., HEREINAFTER REFERRED TO AS THE STANDARD SPECIFICATIONS, THE TORRANCE STANDARDS, AND TO THE SATISFACTION OF THE COMMUNITY DEVELOPMENT OR PUBLIC WORKS DIRECTOR.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY DEPTH AND PROTECT ALL STRUCTURES, INCLUDING SUBSTRUCTURES, SHOWN ON THE PLAN. 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. ALL LOCATIONS SHOWN ON THE PLAN FOR UTILITY LINES HAVE BEEN TAKEN FROM AVAILABLE RECORDS AND THEIR COMPLETENESS AND CORRECTNESS ARE IN NO WAY GUARANTEED.

3. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 AND ALL PUBLIC UTILITY COMPANIES AND OWNERS OF PRIVATE FACILITIES WITHIN THE AREA OF CONSTRUCTION AT LEAST 2 WORKING DAYS IN ADVANCE OF PERFORMING ANY WORK WITHIN SAID AREA.

4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY BEFORE COMMENCING WORK. TRAFFIC CONTROL WITHIN PUBLIC STREET RIGHTS OF WAY SHALL BE IN CONFORMANCE WITH THE CALIFORNIA MUTCD MANUAL OR CITY OF TORRANCE STANDARDS FOR TRAFFIC CONTROL, LATEST EDITION. THE CONTRACTOR SHALL PROVIDE A 24-HOUR TELEPHONE NUMBER FOR EMERGENCY REPAIRS TO TRAFFIC CONTROL AND PAVEMENT MARKINGS.

5. CAUTION: REVIEW APPROVED CONSTRUCTION PLAN. IF CONSTRUCTION REQUIRES WORKERS AND/OR EQUIPMENT TO BE WITHIN 6 FEET OR CRANES OR HOISTING DEVICES TO BE WITHIN 10 FEET OF OVERHEAD ELECTRIC LINES, CALL SOUTHERN CALIFORNIA EDISON CO. AT 310-783-9336.

6. PRIOR TO COMMENCEMENT OF WORK, ALL SURVEY MONUMENTS IN THE PROJECT AREA SHALL BE LOCATED AND TIED OUT. ALL CENTERLINE MONUMENTS OR TIES LOST OR DESTROYED BY THIS WORK SHALL BE REPLACED EITHER BY A LICENSED SURVEYOR OR A CIVIL ENGINEER REGISTERED PRIOR TO JANUARY 1, 1982 AND NEW TIE SHEETS PROVIDED. METHOD OF ESTABLISHMENT SHALL BE STATED ON THE TIE SHEET.

7. GRADE SHEETS PREPARED AND STAMPED BY A LICENSED ENGINEER OR SURVEYOR SHALL BE DELIVERED TO THE INSPECTOR 24 HRS. PRIOR TO COMMENCEMENT OF WORK.

8. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 PRIOR TO TRIMMING, REMOVING OR RELOCATING ANY EXISTING STREET TREES.

9. UNLESS OTHERWISE SHOWN, ALL TRAFFIC SIGNS SHALL BE RELOCATED OR REMOVED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 AT LEAST 2 WORKING DAYS IN ADVANCE OF THE WORK.

10. STORM DRAIN CONNECTIONS TO THE L.A. COUNTY STORM DRAIN SYSTEM REQUIRE A PERMIT FROM L.A. COUNTY (1-626-458-3129) BEFORE ISSUANCE OF A CITY PERMIT.

11. IN CASE OF CONFLICT BETWEEN A CONNECTOR PIPE AND AN EXISTING UNDERGROUND LINE, THE CONNECTOR PIPE MAY BE REALIGNED OVER OR UNDER THE CONFLICTING LINE. CONNECTOR PIPE GRADES SHALL DRAIN POSITIVELY TOWARD THE MAIN LINE, AND WHERE GRADE BREAKS EXCEED FIVE DEGREES A CONCRETE COLLAR PER A.P.W.A. STD. DRAWING 380 SHALL BE CONSTRUCTED. APPROVAL FOR REALIGNMENT SHALL BE OBTAINED FROM THE COMMUNITY DEVELOPMENT/PUBLIC WORKS DIRECTOR PRIOR TO COMMENCEMENT OF WORK.

12. TRENCHES CUT INTO AN EXISTING ROADWAY WITHIN THE PUBLIC RIGHT OF WAY SHALL BE BACKFILLED AND PAVED AS PER TORRANCE STANDARD T116.

TTV300

CITY OF TORRANCE

DATE ISSUED		STANDARD NO.
02 JUL 2008	STORM DRAIN GENERAL NOTES ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T300
		SHEET 1 OF 2

STORM DRAIN GENERAL NOTES (CON'T)

13. MANHOLE AND CATCH BASIN COVERS SHALL BE CAST WITH THE WORDS "TORRANCE DRAIN" FOR CITY MAINTAINED LINES AND "PRIVATE DRAIN" FOR PRIVATELY MAINTAINED LINES.

14. DURING NON-CONSTRUCTION HOURS, ALL EXCAVATIONS MUST BE APPROPRIATELY SHORED, PLATED OR BACKFILLED EXCEPT BORE PITS WHICH SHALL BE SECURED WITH K-RAIL AND 6' HIGH CHAIN LINK FENCE PANELS SECURED IN PLACE TO THE SATISFACTION OF THE PUBLIC WORKS INSPECTOR. STEEL PLATES SHALL BE TACK WELDED, PINNED AND/OR SECURED IN PLACE BY ANOTHER METHOD APPROVED BY THE INSPECTOR.

15. THE CONTRACTOR SHALL MAKE AVAILABLE FOR THE INSPECTOR'S REVIEW, ON A DAILY BASIS, AS-BUILT DRAWINGS FOR WORK PERFORMED UP TO AND INCLUDING THE PREVIOUS DAY'S ACTIVITIES. WORK SHALL NOT BE CONSIDERED AS COMPLETE UNTIL AS-BUILT DRAWINGS ARE SUBMITTED TO AND ACCEPTED BY THE COMMUNITY DEVELOPMENT DIRECTOR.

TTV300

CITY OF TORRANCE

DATE ISSUED		STANDARD NO.
02 JUL 2008	STORM DRAIN GENERAL NOTES ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T300
		SHEET 2 OF 2

6-27-13
DATE TERRY P. AU RCE 68466 EXP. 9/30/13

REGISTERED PROFESSIONAL ENGINEER
TERRY P. AU
C 68466
EXP. 9-30-13
CIVIL
STATE OF CALIFORNIA

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Sections & Details

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

23 MAUCHLY, SUITE 110
IRVINE, CALIFORNIA 92618
949.727.9095
949.727.9098 FAX
www.URBRESOURCE.COM
URBAN RESOURCE
CONSULTING CIVIL ENGINEERS

project manager:

approved by:

drawn by:

date:

scale:

S H E E T

C-D2 of XX

City of Torrance: 555 Maple Sports Fielf

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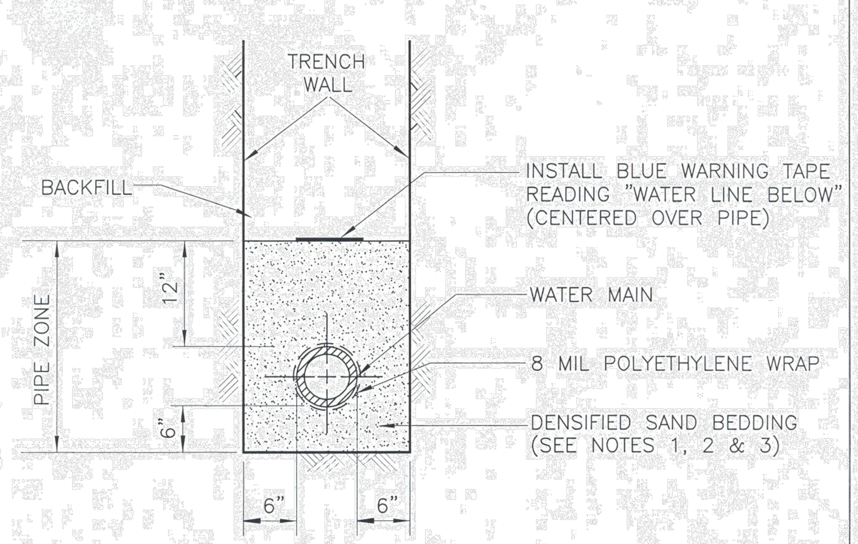
PLOT DATE - Aug 14, 2013 - 2:05PM

PLAN CONTROL | PLAN SET: PC4
CITY OF TORRANCE | DATE: 8-14-2013



NOTES:

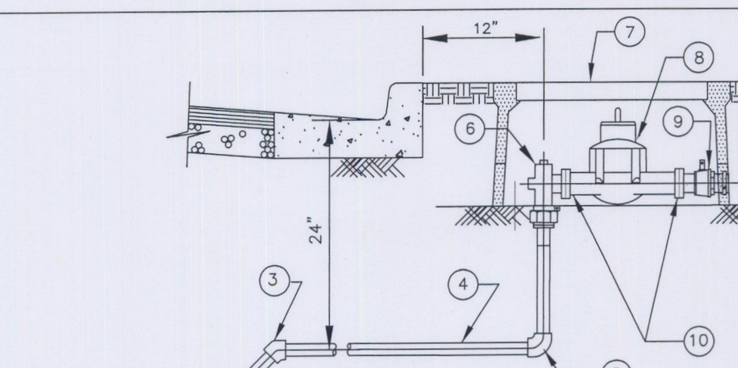
1. SAND BEDDING SHALL CONFORM TO SECTIONS 200–1.5.3 AND 200–1.5.5 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. DENSIFICATION OF BEDDING SHALL BE ACCOMPLISHED IN CONFORMANCE WITH 306–1.2.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
3. BEDDING SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY UNDER STRUCTURES AND 90% ELSEWHERE.

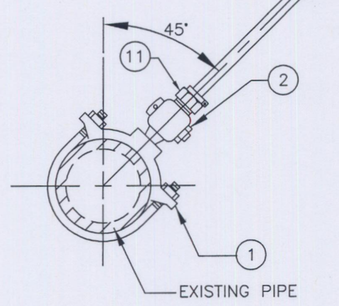
ACCOMPANYING STD.'S T700 AND T116

CITY OF TORRANCE

DATE ISSUED	BEDDING FOR WATER PIPE	STANDARD NO.
JAN 2011	ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T 701
		SHEET 1 OF 1

DV/EM/T701-1





NOTE:

1. CORPORATION STOP SHALL BE INSTALLED ON THE MAIN DIRECTLY OPPOSITE THE LOCATION OF THE METER.
2. NUTS AND BOLTS FOR CONNECTIONS TO METER SHALL BE STAINLESS STEEL.
3. METER AND BALL VALVE (9) SHALL BE SUPPLIED AND INSTALLED BY TMWD AT REQUESTING PARTY'S EXPENSE. (NOT SUPPLIED BY TMWD FOR CAPITAL IMPROVEMENT PROJECTS).

NEPTUNE MODEL	SIZE	COVER	TRAFFIC COVER	BOX
T-10 DISC	1 1/2"	A6001643, #66	A6001947T, #66	A6001640 PCX12, #66
	2 "	A6001643, #66	A6001947T, #66	A6001640 PCX12, #66
HI-PERFORMANCE TURBINE W/STRAINER (NOT SHOWN)	1 1/2"	A6001643, #66	A6001947T, #66	A6001640 PCX12, #66
	2"	A6001643, #66	A6001947T, #66	A6001640 PCX12, #66
TRU FLO COMPOUND W/ SEPARATE STRAINER (NOT SHOWN)	2"	A6001975, #67	A6001947T, #67	A6001974 PCX12, #66

ACCOMPANYING STD.'S T700, T701, T702 AND T116.

ITEM	DESCRIPTION	SIZE
1	SERVICE SADDLE–DOUBLE STRAP–BRONZE JONES 979, MCDONALD 3825, MUELLER BR2B, CAMBRIDGE BRASS (CB) #810– CC THREAD	MAIN SIZE X 2"
2	CORPORATION STOP–JONES E1930, FORD FB600–4NL, MUELLER B25000N CAMBRIDGE BRASS 301NL–M7B7, MCDONALD 74701B	2"
3	45° ELBOW–COPPER TO COPPER SJxSJ	2"
4	COPPER TUBING–TYPE "K" SOFT	2"
5	90° ELBOW–SJXSJ	2"
6	ANGLE METER STOP–JONES E1975W, FORD BFA43–777WNL, CB210NL–B7MF7	2"
7	METER BOX W/ COVER – ARMORCAST	SEE TABLE
8	NEPTUNE WATER METER, E–CODER)R900i WITH STUBBY ANTENNA CU. FT. REGISTER (TYPE TO BE DETERMINED BY TMWD)	SEE TABLE
9	BALL VALVE–JONES E1913W, FLGxFIP, CB# 212NL–F7MF7 –FORD BF13–777WNL OR 666WNL, W/HB67S HANDLE, FLGxFIP	1–1/2" OR 2"
10	NEOPRENE FULL FACE GASKET	1–1/2" OR 2"
11	PACK JOINT	

CITY OF TORRANCE

DATE ISSUED	TYPICAL 1–1/2" OR 2" METER (NON–TRAFFIC AREA) INSTALLATION WITH 2" SERVICE LINE	STANDARD NO.
JAN 2011	ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T 704
		SHEET 1 OF 1

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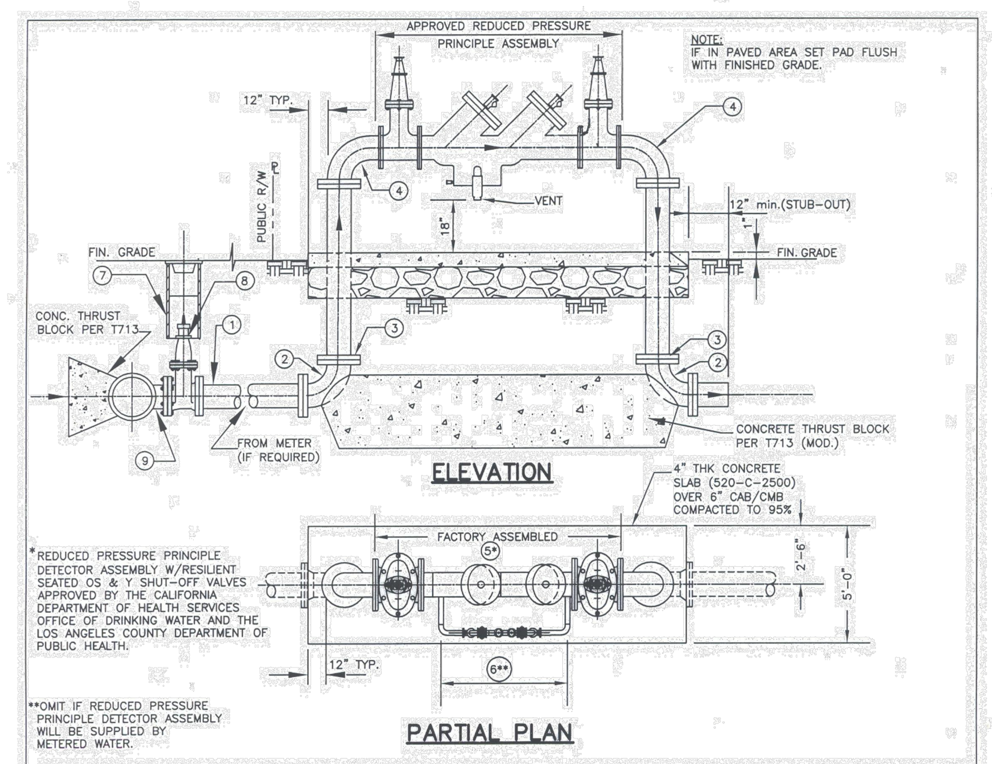

*REDUCED PRESSURE PRINCIPLE DETECTOR ASSEMBLY W/RESILIENT SEATED OS & Y SHUT–OFF VALVES APPROVED BY THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES OFFICE OF DRINKING WATER AND THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC HEALTH.

**OMIT IF REDUCED PRESSURE PRINCIPLE DETECTOR ASSEMBLY WILL BE SUPPLIED BY METERED WATER.

ASSEMBLY SHALL BE TESTED BY A CITY APPROVED TESTER CERTIFIED BY THE LOS ANGELES COUNTY DEPT. OF PUBLIC HEALTH. THE DEVELOPER/OWNER IS RESPONSIBLE FOR THE COST OF TESTING THE ASSEMBLY.

ITEM	DESCRIPTION	SIZE
1	D.I. WATER PIPE (CLASS 350)	
2	90°, D.I. ELBOW, MJ X FLG, CLS 350	SERVICE SIZE
3	D.I. SPOOL, CLS 350 (BOTH ENDS SHALL BE FLANGED) (UNI–FLANGE SHALL NOT BE USED)	
4	90°, D.I. ELBOW, FLG. CLS 350.	
5	REDUCED PRESSURE PRINCIPLE ASSEMBLY	
6	3/4" COPPER BY–PASS ASSEMBLY (NEPTUNE WATER METER, E–CODER) R900i WITH STUBBY ANTENNA CUBIC FEET REGISTER). (3)–3/4" FIP BALL VALVES W/LOCKWING (JONES E1908, FORD B13–332WNL)	5/8"
7	VALVE BOX ASSEMBLY PER T712	
8	MUELLER NO.2360–16 GATE VALVE, MJxFLG, W/EVERDUR STEM & SS 316 FASTENERS W/2" NUT & NRS OPENING CCW.	
9	M.J. x FLG. DUCTILE IRON TEE OR TAPPING SLEEVE (MUELLER: H615, H616 OR H619)	

CITY OF TORRANCE

DATE ISSUED	REDUCED PRESSURE PRINCIPLE DETECTOR ASSEMBLY > 2"	STANDARD NO.
SEPT 2011	ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T 711
		SHEET 1 OF 1

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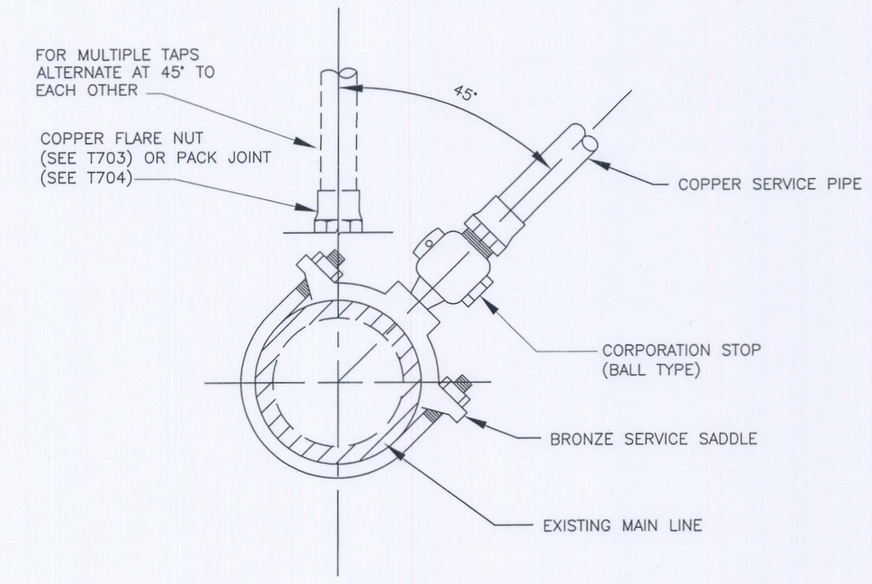

NOTES:

1. MINIMUM DISTANCE BETWEEN TAPS OR CONNECTIONS SHALL BE 20 INCHES, AND A MINIMUM OF 18 INCHES FROM END OF PIPE.
2. FOR STEEL MAINS DELETE SERVICE SADDLE. A TAP NOZZLE SHALL BE WELDED TO MAIN AND AN INSULATING BUSHING SHALL BE INSTALLED BETWEEN THE TAP NOZZLE AND THE CORPORATION STOP. FOR PIPES WITH WALL THICKNESS THINNER THAN 16 GAUGE A REINFORCEMENT COLLAR PLATE OR FULL WRAP REINFORCEMENT PLATE SHALL BE INSTALLED AS DETERMINED BY THE ENGINEER.

ACCOMPANYING STD.'S T700 AND T703 OR T704.

CITY OF TORRANCE

DATE ISSUED	1" & 2" SERVICE CONNECTION TO MAIN LINE	STANDARD NO.
JAN 2011	ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T 702
		SHEET 1 OF 1

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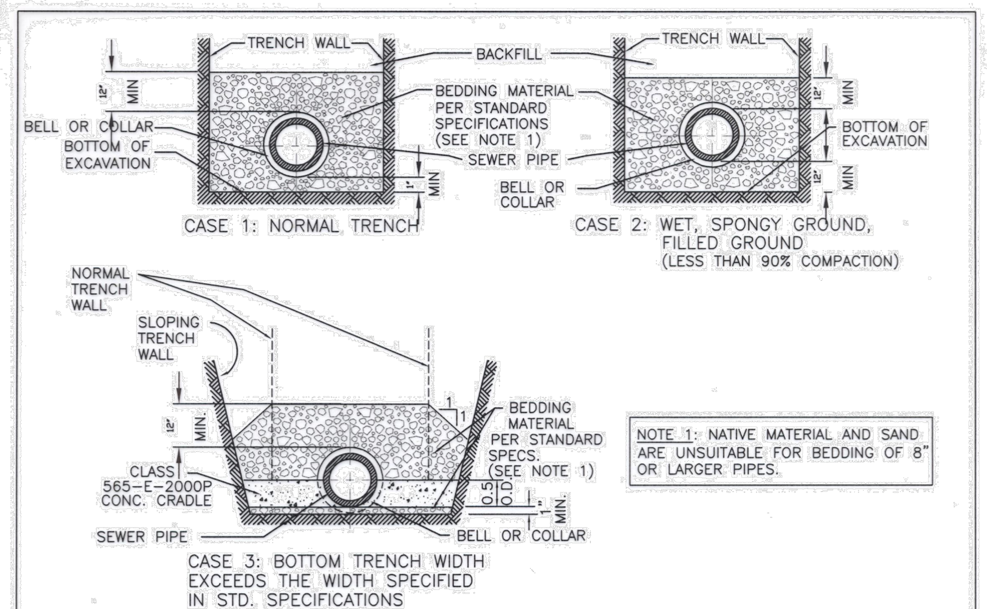
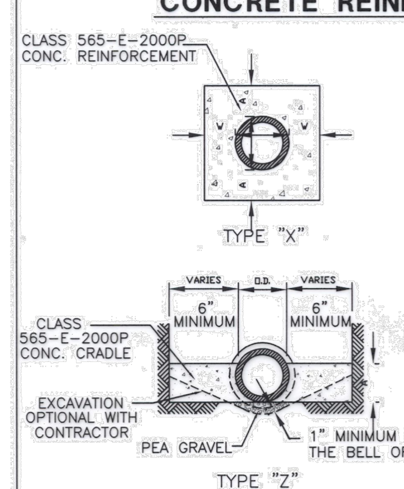


NOTE 1: NATIVE MATERIAL AND SAND ARE UNSUITABLE FOR BEDDING OF 8" OR LARGER PIPES.

CONCRETE REINFORCEMENT FOR SEWER PIPE



TABLES BELOW INDICATE DIMENSIONS OF CONCRETE FOR DIFFERENT SIZES OF PIPE

TYPE "X"

SIZE	W	A	CLAY PIPE STANDARD STRENGTH	CLAY PIPE EXTRA STRENGTH	CONCRETE PIPE STANDARD STRENGTH	CONCRETE PIPE EXTRA STRENGTH
6"	4"	4"	0.051	0.051	0.050	0.050
8"	4"	4"	0.063	0.063	0.063	0.063
10"	4"	4"	0.074	0.074	0.074	0.074
12"	4"	4"	0.086	0.086	0.086	0.091
15"	4"	4"	0.107	0.108	0.107	0.114
18"	5"	5"	0.158	0.166	0.159	0.171

SEE NOTE 2

TYPE "Z"

SIZE	A	CLAY PIPE STANDARD STRENGTH	CLAY PIPE EXTRA STRENGTH	CONCRETE PIPE STANDARD STRENGTH	CONCRETE PIPE EXTRA STRENGTH
6"	5"	0.017	0.017	0.017	0.017
8"	7"	0.024	0.024	0.024	0.024
10"	9"	0.032	0.032	0.032	0.032
12"	10"	0.037	0.037	0.037	0.037
15"	13"	0.050	0.050	0.050	0.050
18"	16"	0.063	0.064	0.063	0.064

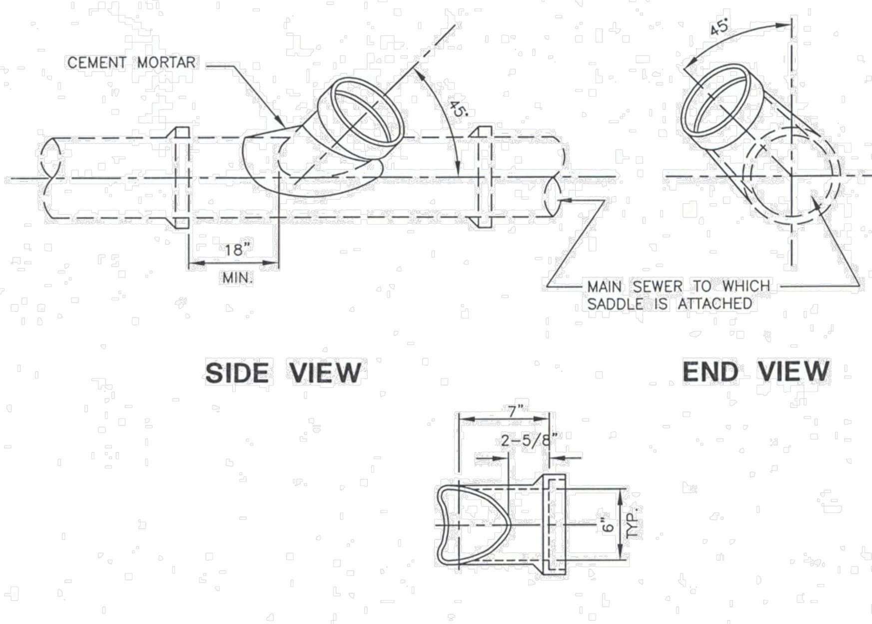
SEE NOTE 2

NOTE 2: COLUMNS INCLUDED BETWEEN ARROWS IN THE TABLES ABOVE INDICATE CUBIC YARDS OF CONCRETE PER LINEAR FT. OF PIPE.

CITY OF TORRANCE

DATE ISSUED	BEDDING FOR SEWER PIPE	STANDARD NO.
23 SEP 2009	ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T204
		SHEET 1 OF 1

TT/T204



SADDLE PLAN

SHOWING CONTACT OPENING

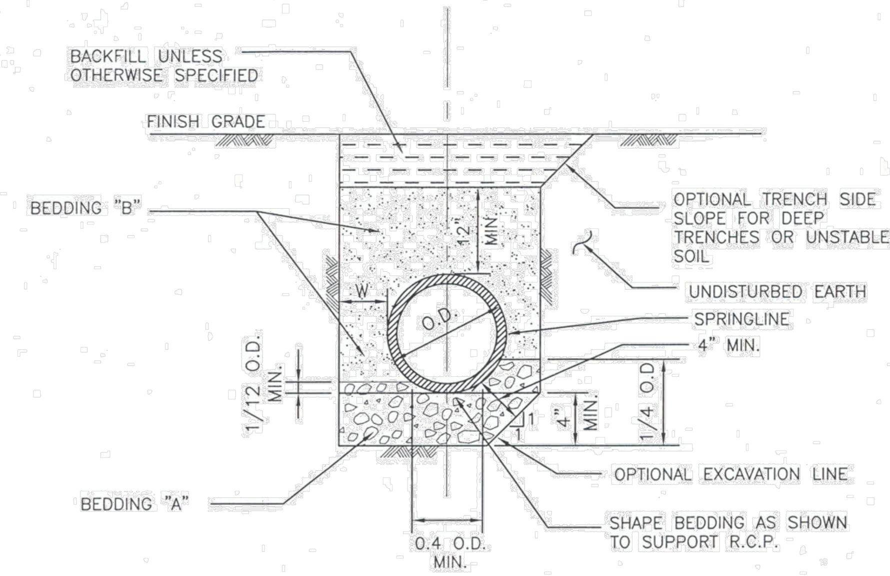
NOTES:

1. OPENING IN MAIN SEWER SHALL BE CUT TO EXACTLY FIT THE SADDLE AND THE SADDLE SHALL BE CAREFULLY ALIGNED, FITTED & ENCASED IN CEMENT MORTAR AS SHOWN.
2. SADDLE INSTALLATION SHALL BE PERFORMED IN THE PRESENCE OF AN INSPECTOR.
3. INSTALLATION SHALL BE CARRIED OUT IN SUCH A MANNER AS TO PREVENT THE INTRODUCTION OF DIRT, BROKEN PIPE, OR OTHER FOREIGN MATTER INTO THE SEWER PIPE.
4. PIPE TO BE SADDLED SHALL BE A MINIMUM OF ONE SIZE LARGER THAN SIZE OF CONNECTING LATERAL BUT IN NO CASE SHALL THE SIZE OF THE CONNECTING LATERAL BE LARGER THAN 8".

CITY OF TORRANCE

DATE ISSUED	SADDLE CONNECTION	STANDARD NO.
02 JUL 2008	ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T203
		SHEET 1 OF 1

TT\T203



1. BEDDING "A" SHALL BE COMPOSED OF EITHER SAND, NO. 3 OR NO. 4 CRUSHED ROCK OR GRAVEL PER STANDARD SPECIFICATIONS. OTHER GRANULAR MATERIAL WITH A SAND EQUIVALENT OF 30 OR GREATER MAY BE USED WHEN APPROVED BY THE COMMUNITY DEVELOPMENT/PUBLIC WORKS DIRECTOR.
2. BEDDING "B" SHALL BE COMPOSED OF SAND OR OTHER GRANULAR MATERIAL WITH A SAND EQUIVALENT OF 30 OR GREATER AS APPROVED BY THE COMMUNITY DEVELOPMENT/PUBLIC WORKS DIRECTOR AND SHALL CONFORM TO SECTION 306–1.2.1 OF THE STANDARD SPECIFICATIONS, EXCEPT BEDDING FOR PLASTIC PIPE SHOULD CONFORM TO SECTION 306–1.2.13.
3. BEDDING "B" SHALL BE COMPACTED TO A RELATIVE COMPACTION OF NOT LESS THAN 90 PERCENT UNLESS OTHERWISE SPECIFIED.
4. BEDDING "B" SHALL BE PLACED IN TWO OR MORE LIFTS FOR PIPES WITH AN O.D. GREATER THAN 60 INCHES.

CITY OF TORRANCE

DATE ISSUED	BEDDING FOR STORM DRAIN	STANDARD NO.
02 JUL 2008	ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T302
		SHEET 1 OF 2

TT\T302

5. BACKFILL SHALL BE PER SECTION 306–1.3 OF THE STANDARD SPECIFICATIONS.
6. WHERE THE COVER IS 8 FEET OR LESS, "W" MUST BE A MINIMUM OF 6 INCHES. WHERE THE COVER IS GREATER THAN 8 FEET, "W" MUST BE BETWEEN 6 AND 10 INCHES INCLUSIVE FOR PIPES UP TO AND INCLUDING 96 INCHES IN DIAMETER. FOR PIPES OVER 96 INCHES IN DIAMETER, "W" MUST BE BETWEEN 6 AND 12 INCHES INCLUSIVE.
7. "W" SHALL INCLUDE THE THICKNESS OF ANY SHORING.
8. SHORING SHALL BE A MINIMUM OF 6 INCHES FROM THE PIPE AT SPRINGLINE.

CITY OF TORRANCE

DATE ISSUED	BEDDING FOR STORM DRAIN	STANDARD NO.
02 JUL 2008	ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T302
		SHEET 2 OF 2

TT\T302

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Sections & Details

City of Torrance
3031 Torrance Blvd.
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URBAN RESOURCE
CONSULTING CIVIL ENGINEERS

project manager:

approved by:

drawn by:

date:

scale:

SHEET C–D3 of XX

City of Torrance: 555 Maple Sports Fielf

6–27–13
DATE TERRY P. AU RCE 68466 EXP. 9/30/13

REGISTERED PROFESSIONAL ENGINEER TERRY P. AU C 68466 EXP. 9–30–13 CIVIL STATE OF CALIFORNIA

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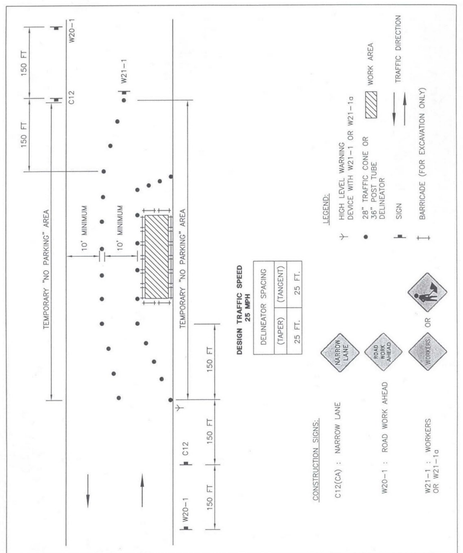
PLOT DATE – Aug 14, 2013 – 1:48PM

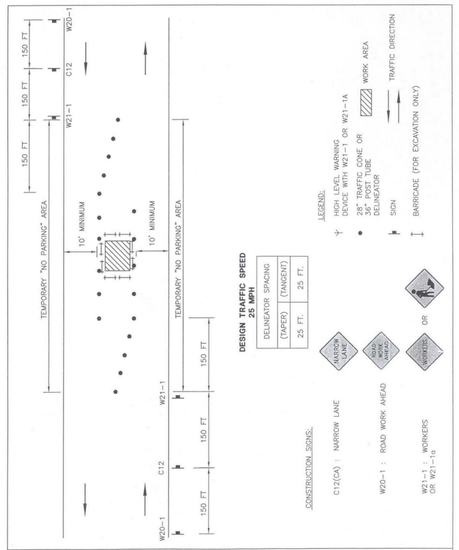
PLAN CONTROL
CITY OF TORRANCE
PLAN SET: PC4
DATE: 8–14–2013



CITY OF TORRANCE - WORK AREA TRAFFIC CONTROL

DATE ISSUED	TYPICAL CURBSIDE STREET CLOSURE FOR LOCAL STREET	STANDARD NO.
19 FEB 2008	ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T1001 SHEET 1 OF 1

TT/T1001



CITY OF TORRANCE - WORK AREA TRAFFIC CONTROL

DATE ISSUED	TYPICAL CENTER STREET CLOSURE FOR LOCAL STREET	STANDARD NO.
19 FEB 2008	ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T1002 SHEET 1 OF 1

TT/T1002

PROJECTS UNDER CONSTRUCTION

URBAN RUNOFF REQUIREMENTS

ALL PROJECTS UNDER CONSTRUCTION IN THE CITY OF TORRANCE MUST FOLLOW SPECIFIC BEST MANAGEMENT PRACTICES, OR BMPS. BMPS INSURE THAT HAZARDOUS MATERIALS, POLLUTANTS AND OTHER ITEMS ARE CONTAINED ON SITE AND DO NOT GET WASHED OR DUMPED INTO THE STORM DRAIN SYSTEM. THE BMPS IN THE LIST BELOW ARE REQUIRED BY CITY CODE SECTION 411.1. BMPS MUST BE PUT INTO PRACTICE AT THE START OF ANY CONSTRUCTION ON PRIVATE PROPERTY OR IN THE PUBLIC RIGHT OF WAY THAT MAY IMPACT THE DRAINAGE SYSTEM. BMPS MUST BE FULLY IMPLEMENTED UNTIL ALL WORK THAT MAY IMPACT THE DRAINAGE SYSTEM HAS BEEN COMPLETED.

THE CONTRACTOR IS SOLELY RESPONSIBLE, AT ITS EXPENSE, TO PROVIDE ALL LABOR, TOOLS, MATERIALS, EQUIPMENT AND DEVICES NECESSARY TO IMPLEMENT ALL BMPS TO THE SATISFICATION OF THE COMMUNITY DEVELOPMENT AND PUBLIC WORKS DIRECTORS, AND IS NOT PERMITTED TO BEGIN CONSTRUCTION UNTIL SUCH ITEMS ARE IN PLACE.

BEST MANAGEMENT PRACTICES

(BMPS)

1. RUNOFF CONTAINING SEDIMENT, OIL, GREASE AND CONSTRUCTION WASTE FROM CONSTRUCTION SITES AND PARKING AREAS MUST NOT LEAVE THE SITE OR ENTER ANY ON-SITE STORM DRAIN.
2. ANY SEDIMENT OR OTHER MATERIALS WHICH ARE TRACKED OFF THE SITE MUST BE CLEANED AND REMOVED THE SAME DAY. WHERE DETERMINED TO BE NECESSARY BY THE DESIGNATED CITY REPRESENTATIVE, A TEMPORARY SEDIMENT BARRIER MUST BE INSTALLED.
3. DURING EMERGENCIES, A PLASTIC COVERING MAY BE USED TO PREVENT EROSION OF AN UNPROTECTED AREA, ALONG WITH DEVICES DESIGNED TO INTERCEPT AND SAFELY DIVERT RUNOFF.
4. EXCAVATED SOIL MUST BE PLACED ON-SITE IN A WAY THAT INSURES THAT THE SOIL WON'T BE WASHED INTO THE STREET OR ADJOINING PROPERTIES.
5. DURING THE RAINY SEASON OR IF CHANCE OF PRECIPITATION EXIST, SOIL PILES MUST BE COVERED UNTIL THE SOIL IS EITHER USED OR REMOVED.
6. WASHING OF CONSTRUCTION OR OTHER INDUSTRIAL VEHICLES IS NOT ALLOWED ADJACENT TO THE CONSTRUCTION SITE. RUNOFF FROM THE WASHING OF VEHICLES ON A CONSTRUCTION SITE IS NOT ALLOWED TO LEAVE THE SITE OR ENTER THE STORM DRAIN.
7. DRAINAGE CONTROLS MUST BE USED AS NEEDED, DEPENDING ON THE EXTENT OF PROPOSED GRADING AND TOPOGRAPHY OF THE SITE.

PENALTIES FOR NON-COMPLIANCE

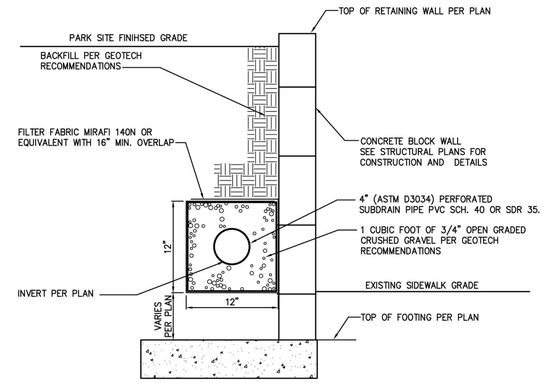
FAILURE TO IMPLEMENT BEST MANAGEMENT PRACTICES AT CONSTRUCTION SITES SHALL CONSTITUTE A MISDEMEANOR PUNISHABLE BY A FINE AS PER CITY ORDINANCE NO. 3452. EACH DAY THAT A VIOLATION OCCURS SHALL CONSTITUTE A SEPARATE OFFENSE. THE CITY IS ALSO AUTHORIZED TO ABATE VIOLATIONS BY MEANS OF A CIVIL ACTION. CONSTRUCTION SITES ARE SUBJECT TO STOPPAGE OF WORK FOR VIOLATION OF THESE REQUIREMENTS.

VIOLATION OF THESE PROVISIONS ALSO VIOLATE THE REGULATION OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES), CLEAN WATER SECTION 402 AND DIVISION 7 OF THE CALIFORNIA WATER CODE. THE VIOLATOR MAY BE SUBJECTED TO FINES AND/OR IMPRISONMENT AS PER STATE AND/OR FEDERAL STATUTES.

CITY OF TORRANCE

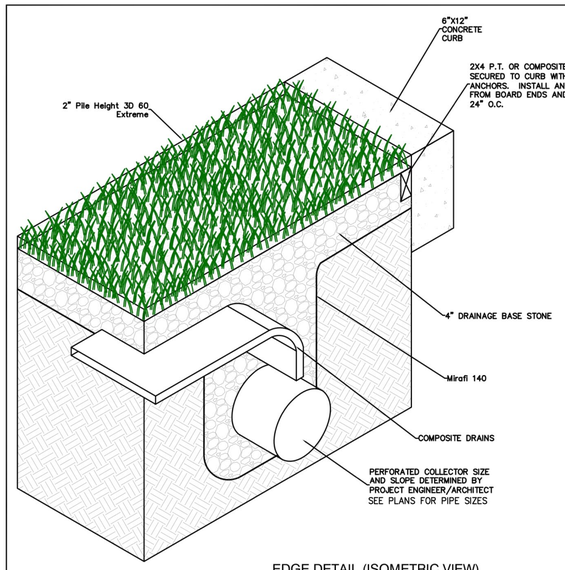
DATE ISSUED	NPDES - BEST MANAGEMENT PRACTICES	STANDARD NO.
23 SEP 2009	ROBERT J. BESTE PUBLIC WORKS DIRECTOR R.C.E. NO. 50737	T303 SHEET 1 OF 1

TT/T303

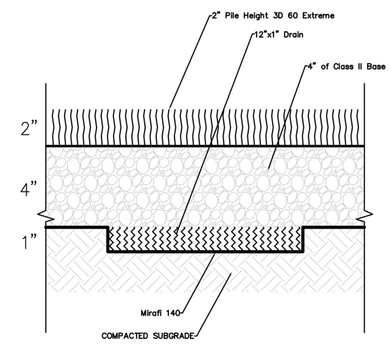


36 **WALL SUBDRAIN**
NOT TO SCALE

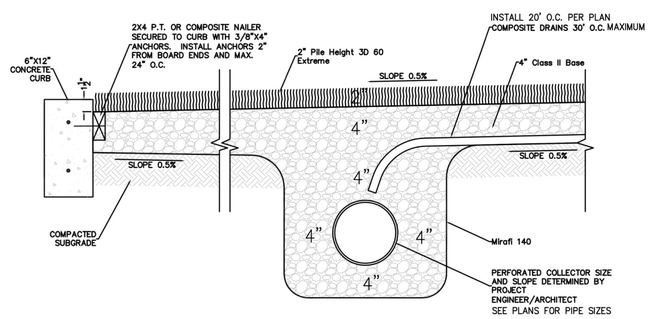
NOTE:
REFER TO GEOTECHNICAL REPORT FOR SPECIFIC GUIDELINES AND RECOMMENDATIONS FOR WALL BACKFILL, WATERPROOFING, AND DRAINAGE



EDGE DETAIL (ISOMETRIC VIEW)
SCALE: 1-1/2" = 1'-0"



3 COMPOSITE DRAIN DETAIL
SCALE: 3" = 1'-0"



2 TYPICAL EDGE DETAIL
SCALE: 1-1/2" = 1'-0"

1"X12" COMPOSITE DRAINS PER ASTROTURF SPECIFICAITONS
CONTRACTOR TO PROVIDE SPECIFICATIONS FOR APPROVAL BY ENGINEER
1"X12" COMPOSITE DRAIN TO BE 12" MULTI-FLOW OR APPROVED SIMILAR.

DETAILS
6"X12" CONCRETE CURB
WITH NAILER

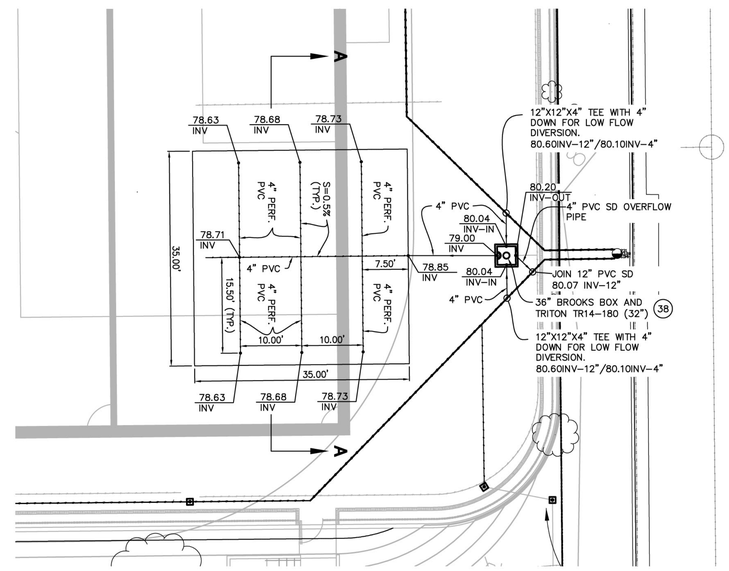
Project Name:

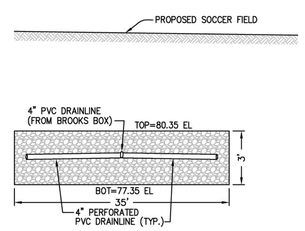
AstroTurf
THIS DRAWING IS THE PROPERTY OF ASTROTURF,LLC. AND IS NOT TO BE DUPLICATED OR RELEASED WITHOUT THE WRITTEN PERMISSION OF ASTROTURF,LLC.

City of Torrance

Date:
Drawn By:
Scale: NTS
Sheet Number:

29 30 31 **TYPICAL ASTROTURF SECTION / SUB-DRAIN DETAIL**





SECTION A-A

NOTES

1. THE BOTTOM AND SIDES OF THE TRENCH SHOULD BE LINED WITH FILTER FABRIC SOON AFTER THE TRENCH IS EXCAVATED. THE FABRIC SHOULD BE FLUSH WITH THE SIDES, OVERLAP ON THE ORDER OF 2 FEET OVER THE SEAMS, AND NOT HAVE TRAPPED AIR POCKETS. AS AN ALTERNATIVE, 6 INCHES OF CLEAN, WASHED SAND MAY BE PLACED ON THE BOTTOM OF HE TRENCH INSTEAD OF FILTER FABRIC.

2. THE TOP 2" ABOVE THE GRAVEL SHALL BE PEA GRAVEL.

2. THE BACKFILL MATERIAL IN THE TRENCH SHOULD HAVE A D50 SIZED BETWEEN 1.5 AND 3 INCHES AND CLAY CONTENT SHOULD BE LIMITED TO LESS THAN 30%. THE POROSITY OF THE MATERIAL SHOULD BE BETWEEN 0.3 AND 0.4.

3. AN OBSERVATION WELL OF 4 TO 6 INCHES DIAMETER PVC SHOULD BE LOCATED IN THE CENTER OF THE TRENCH AND THE BOTTOM SHOULD REST ON A PLATE. THE TOP SHOULD BE CAPPED. THE WATER LEVEL SHOULD BE MEASURED AFTER A STORM EVENT. IF IT HAS NOT COMPLETELY DRAINED IN THREE DAYS, SOM REMEDIAL WORK MAY NEED TO BE DONE.

4. ONCE CONSTRUCTED, CONTRACTOR TO BACKFILL OVER INFILTRATION TRENCH PER GEOTECHNICAL RECOMMENDATIONS.

39 **INFILTRATION TRENCH DETAIL**
N.T.S.

6-27-13
DATE TERRY P. AU RCE 68466 EXP. 9/30/13

REGISTERED PROFESSIONAL ENGINEER TERRY P. AU C 68466 EXP. 9-30-13 CIVIL STATE OF CALIFORNIA

REVISIONS

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Sections & Details

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project manager:
approved by:
drawn by:
date:
scale:

S H E E T
C-D4 of XX

City of Torrance: 555 Maple Sports Fielf

PLAN CONTROL
CITY OF TORRANCE

PLAN SET: PC4
DATE: 8-14-2013

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PLOT DATE – Aug 14, 2013 – 1:48PM

CITY OF TORRANCE

GRADING PLAN NOTES

1. Grading operations shall be conducted in accordance with the code of the City of Torrance and all revisions thereto.
2. A Pre-Job meeting with the Grading Inspector, (310) 618-5915, is required prior to the start of grading operations. Subsequent inspections shall be requested in accordance with the Inspector's instructions of the first inspection.
3. Estimated earthwork yardage including recompaction of sumps or existing loose fill:

Fill in Lots:	_____	Cubic Yards
Maximum Depth of Fill	_____	Feet
Cut in Lots:	_____	Cubic Yards
Maximum Depth of Cut:	_____	Feet
Overexcavation & Recompaction:	_____	Cubic Yards

4. Existing ground upon which fill or base is to be placed shall be cleared of weeds, debris, topsoil, and all other deleterious materials; no fill shall be placed until preparation of the existing ground has been approved by the Soils Engineer of record and by the Inspector.
5. Protective measures shall be taken by the contractor and the owner to protect adjacent property, public and utilities during grading operations. The contractor assumes all liability for the underground utility pipes, conduits, or structures, whether shown or not on the plan
6. Water content shall be controlled as determined by the Soils Engineer and the Inspector.
7. Permission shall be secured from the Engineering Department if the trucks are loaded in the street.
8. Unsuitable material shall be disposed of off-site. The location of dumping excess soil shall be approved by the Grading Inspector prior to starting excavation.
9. If a grading job extends over a period of time exceeding six months, the Department may require planting of those portions of the job where all other grading requirements have been met in order to prevent dust and erosion.
10. Loose material shall not exceed 3" in depth on a filled slope.
11. All slopes so designated shall be planted with an approved perennial for erosion control. Planting shall be sprinklered and maintained until planting has reached mature growth.
12. All loose on site fill shall be removed and compacted.
13. All work shall be accomplished in accordance with recommendations set forth in the soils report by dated _____ and the Geological Report by _____
14. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D1557.
15. Sufficient tests of the fill soils shall be made to determine the relative compaction of the fill in accordance with the following minimum guidelines:
    A. One test for each two foot vertical lift.
    B. One test for each 500 cubic yards of material placed.
    C. One test at the location of the final fill slope for each building site (Lot) in each four foot vertical lift of portion thereof.
    D. One test in the vicinity of each building pad for each four foot vertical lift or portion thereof.
16. Import Soils should consist of clean, compactable materials possessing expansion characteristics similar to or better than the upper on-site Soils. Import soils should be free of trash, debris or other objectionable materials. Contractor shall notify the Project Geotechnical Engineer not less than 72 hours in advance of the location of any soils proposed for Import. Each proposed Import source shall be sampled, tested, and approved prior to delivery of soils for use on the site.
17. All fill under the building foundation must be certified by the Soils Engineer as to proper bearing value design and its compliance with the preliminary soils report on note 13.
18. All subgrade under areas to be paved shall be certified by the Soils Engineer in compliance with Section 81.2.34(g) of the Torrance Municipal Code.
19. The engineering Geologist, Soils Engineer and Civil Engineer, in compliance with Section 81.2.37(g) of the Torrance Municipal Code, shall provide the Department with a grading certification upon completion of the job.
20. An as-graded plan prepared by the Civil Engineer of record shall be submitted with the required grading certifications to the Department upon job completion.
21. Approval of this plan is for grading and paving on site only and does not constitute approval of any building, wall or other structure shown on site nor any off-site improvements shown.
22. No fill shall be placed during unfavorable weather conditions. The Soils Engineer and Grading Inspector shall verify moisture content and density prior to placement of additional fill after heavy rains.
23. All construction in public right of way shall be under separate permit and approved by the Engineering Department.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS

1. Owner shall keep the construction area sufficiently dampened to control dust caused by grading and construction. Owner shall, at all times, provide reasonable control of dust caused by wind.
2. The export or import material in each truckload shall be kept low enough to prevent spillage and shall be sufficiently wet down to prevent dust.
3. A staging area shall be designated where each truck is prepared for road travel and all loose material removed. Any substance to drop from the body, tires, or wheels of any vehicle upon the public right of way shall be removed immediately and permanently.
4. Erosion control measures shall be in place from November 15 through April 15.

Rev. 8/9/01

SITE DEMOLITION NOTES

A — PROTECT IN PLACE EXISTING CONCRETE SIDEWALK.
B — PROTECT IN PLACE EXISTING TREE OR LANDSCAPE.
C — PROTECT IN PLACE EXISTING IRRIGATION METER AND CONTROLLER.
D — PROTECT IN PLACE EXISTING WATER METER AND CONTROLLER.
E — PROTECT IN PLACE EXISTING PARKING LOT LIGHT.
F — PROTECT IN PLACE EXISTING ELECTRICAL BOX.
G — PROTECT IN PLACE EXISTING 8" BLOCK WALL.
H — PROTECT IN PLACE EXISTING POWER POLE.
I — PROTECT IN PLACE EXISTING UNDERGROUND ELECTRICAL.
J — PROTECT IN PLACE EXISTING UNDERGROUND GAS.
K — PROTECT IN PLACE EXISTING UNDERGROUND ELECTRICAL VAULT AND MANHOLE.
L — PROTECT IN PLACE EXISTING UNDERGROUND TELECOMMUNICATION MANHOLE.
M — PROTECT IN PLACE EXISTING FIRE HYDRANT.
N — PROTECT IN PLACE EXISTING BOLLARD INCLUDING ANY FOOTING.
O — PROTECT IN PLACE EXISTING STORM DRAIN, CATCH BASIN AND MANHOLE.
P — PROTECT IN PLACE EXISTING SEWER LINE.
Q — PROTECT IN PLACE EXISTING CONCRETE CURB.
R — PROTECT IN PLACE EXISTING CONCRETE CURB AND GUTTER.
S — PROTECT IN PLACE EXISTING CONCRETE DRIVEWAY.
T — PROTECT IN PLACE EXISTING STREET SIGN.

3 — REMOVE PORTION EXISTING MOWSTRIP.
4 — REMOVE EXISTING CHAIN LINK FENCE.
5 — REMOVE EXISTING LIGHT BASE AND CAP ASSOCIATED EXISTING ELECTRICAL CONNECTIONS PER THE DRY UTILITY CONSULTANTS RECOMMENDATIONS.
6 — REMOVE EXISTING 8" BLOCK WALL AND ASSOCIATED CHAIN LINK FENCE, INCLUDING ALL FOOTINGS AND STRUCTURAL REBAR.
7 — REMOVE EXISTING TREES AND LANDSCAPE PLANTING PER THE RECOMMENDATIONS OF THE LANDSCAPE ARCHITECT. REMOVALS WILL INCLUDE THE ENTIRE ROOT BALL FOR THE PLANTS.
8 — REMOVE EXISTING ON-SITE FIRE DEPARTMENT CONNECTIONS; INCLUDING ANY WATER LINES, THRUST BLOCKS, FITTINGS, VALVES, FIRE HYDRANT, VAULT AND POST INDICATOR VALVES PER CITY DEPARTMENT STANDARD.
9 — REMOVE EXISTING AC PAVEMENT IN PARKWAY FOR TURF INSTALLATION PER LANDSCAPE PLAN.
10 — SAWCUT EXISTING CONCRETE GUTTER, AND REMOVE EXISTING CURB AND GUTTER AND SIDEWALK AS REQUIRED TO INSTALL A NEW HANDICAPPED ACCESS RAMP PER GRADING PLANS. REMOVE ENTIRE CONCRETE GUTTER SPANDREL IF REQUIRED BY CITY INSPECTOR.

PRECISE GRADING, DRAINAGE AND UTILITY CONSTRUCTION NOTES

(1) — CONSTRUCT CONCRETE SIDEWALK PER CITY OF TORRANCE STD. T102. REPLACE LIFTED, GRINDED AND CRACKED SECTIONS PER CITY INSPECTOR.
(2) — JOIN EXISTING CONCRETE SIDEWALK PER DETAIL ON SHEET C-D1.
(3) — INSTALL BLOCK RETAINING WALL, TOP OF FOOTING, TOP OF WALL PER PLAN. SEE LANDSCAPE PLANS FOR MATERIAL SPECIFICATIONS AND STRUCTURAL PLANS FOR CONSTRUCTION DETAILS.
(4) — CONSTRUCT WHEEL CHAIR ACCESS RAMP PER SPPWC STD. 111.
(5) — CONSTRUCT HEADER PER LANDSCAPE PLANS
(6) — INSTALL HARDCAPE, WALKS, AND STAIRS PER LANDSCAPE PLANS
(7) — CONSTRUCT FENCE AND GATES PER LANDSCAPE PLANS
(20) — INSTALL 12"X12" BROOKS BOX PER DETAIL ON SHEET C-D1
(21) — INSTALL 36"X36" BROOKS BOX PER DETAIL ON SHEET C-D1.
(23) — INSTALL 12" DIA. SDR 35 PVC DRAINPIPE.
(24) — INSTALL 10" DIA. SDR 35 PVC DRAINPIPE.
(25) — INSTALL 8" DIA. SDR 35 PVC DRAINPIPE.
(26) — INSTALL 6" DIA. SDR 35 PVC DRAINPIPE.
(27) — INSTALL 4" DIA. SDR 35 PVC DRAINPIPE.
(28) — CONNECT STORM DRAIN PIPE TO EXISTING CATCH BASIN PER SPPWC STD. 332 CASE 1 DETAIL ON SHEET C-D1.
(29) — INSTALL 1"X12" FLOAT COMPOSITE SUBDRAIN PER ASTROTURF DETAIL ON SHEET C-D4. INSTALLED WITH FLOWLINE 7" BELOW FINISHED GRADE ON PLANS
(30) — INSTALL 8" PERFORATED SDR 35 PVC SUBDRAIN PER ASTROTURF DETAIL ON SHEET C-D4, INVERT PER PLAN.
(31) — INSTALL 10" PERFORATED SDR 35 PVC SUBDRAIN PER ASTROTURF DETAIL ON SHEET C-D4, INVERT PER PLAN.
(32) — CONNECT PEFORATED SUBDRAIN PIPE TO SOLID AREA DRAIN PIPE.
(33) — INSTALL 12"X12" GRATED AREA DRAIN INLET, NDS OR APPROVED SIMILAR PER DETAIL ON SHEET C-D1
(34) — INSTALL 4" PERFORATED SDR 35 PVC SUBDRAIN PER ASTROTURF DETAIL ON SHEET C-D4, INVERT PER PLAN
(35) — INSTALL 6" PERFORATED SDR 35 PVC SUBDRAIN PER ASTROTURF DETAIL ON SHEET C-D4, INVERT PER PLAN
(36) — INSTALL 4" PERFORATED WALL SUBDRAIN PER DETAIL ON SHEET C-D4 AND PER GEOTECHNICAL REPORT AND STRUCTURAL DETAILS AS REQUIRED.
(36) — INSTALL 12"X12" GRATED AREA DRAIN INLET, NDS OR APPROVED SIMILAR PER DETAIL ON SHEET C-D1
(37) — INSTALL 12"X12"X4" PVC TEE WITH 4" OUTLET DIRECTED DOWN FOR LOW FLOW DIVERSION
(38) — INSTALL TRITON 180 FILTER INSERT TR14-180 (32") INSIDE 36"X36" BASIN PER DETAIL ON SHEET C-D1
(39) — INSTALL WATER QUALITY INFILTRATION TRENCH PER DETAIL ON SHEET C-D4
(40) — INSTALL 2" WATER SERVICE & 2" METER BOX PER CITY OF TORRANCE STD. NO. T-702.
(41) — INSTALL 2" REDUCED PRESSURE PRINCIPLE DETECTOR ASSEMBLY PER CITY OF TORRANCE STD. NO. 7-711.
(42) — REMOVE PLUG AND JOIN EXISTING 10" SEWER STUB
(43) — INSTALL 10" VCP SEWER LATERAL PER CITY OF TORRANCE STANDARD T-204 AND T116, AND SPPWC STD. 222..
(44) — INSTALL 4" SEWER CLEANOUT PER CITY OF TORRANCE STANDARDS
(45) — INSTALL 4" SDR 35 PVC SEWER LATERAL PER CITY OF TORRANCE STANDARD T-204
(46) — JOIN RESTROOM PLUMBING SEWER POC
(47) — SAWCUT AND REMOVE EXISTING AC PAVEMENT/ CONCRETE IMPROVEMENTS FOR UTILITY TRENCH AND REPLACE IN KIND PER CITY OF TORRANCE STANDARDS
(48) — JOIN EXISTING WATER METER AND/OR COORDINATE ¾ INCH METER INSTALLATION WITH CITY OF TORRANCE.
(49) — INSTALL 1/2 INCH TYPE L, HARD DRAWN COPPER WATER SERVICE
(50) — JOIN RESTROOM PLUMBING WATER POC

6-27-13
DATE TERRY P. AU RCE 68466 EXP. 9/30/13

REGISTERED PROFESSIONAL ENGINEER
TERRY P. AU
C 68466
EXP. 9-30-13
CIVIL
STATE OF CALIFORNIA

REVISIONS

SPORTS FIELDS
AT 555 MAPLE AVENUE
City of Torrance, California 90503

Sections & Details

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S H E E T
C-D5 of XX

City of Torrance: 555 Maple Sports Fielf

PLAN CONTROL
CITY OF TORRANCE
PLAN SET: PC4
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PLOT DATE - Aug 14, 2013 - 2:04PM

TORRANCE COMMUNITY
SPORTS PARK

ELECTRICAL CONSTRUCTION NOTES

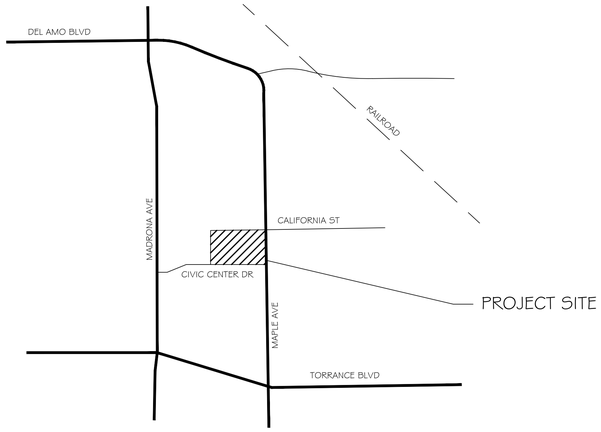
1. THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS SHALL BE CONSIDERED AS PART OF THE SPECIFICATION.
2. FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS TO PERFORM ELECTRICAL WORK SHOWN, NOTED OR SCHEDULED FOR A COMPLETE AND FINISHED INSTALLATION.
   A. ALL MATERIALS AND EQUIPMENT SHALL BE COMMERCIAL AND SHALL CARRY A U.L. LABEL.
   B. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SUCH AS APPEAR ON THE UNDERWRITER'S LABORATORIES LIST OF APPROVED ITEMS AND SHALL MEET REQUIREMENTS OF ASTM, IEEE, 2008 NEC, NEMA, AND OTHER RECOGNIZED STANDARDS AND SHALL BE SIZED IN CONFORMITY WITH REQUIREMENTS OF THE NATIONAL ELECTRIC CODE AND OTHER APPLICABLE CODES, WHICHEVER ARE MORE STRINGENT.
3. THE WORD "PROVIDE" AS USED HEREIN MEANS TO FURNISH AND INSTALL COMPLETE.
4. THE PROJECT SHALL COMPLY WITH TITLE-24 STANDARDS, INCLUDING 2010 CALIFORNIA BUILDING CODE (CBC). ALL WORK TO BE IN ACCORDANCE WITH THE 2010 CEC AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES.
5. CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION CERTIFICATES.
6. ABOVE GRADE CONDUIT SHALL BE STANDARD RIGID STEEL ACCORDING TO CODE REQUIREMENTS. CONDUIT SHALL BE CONCEALED IN FINISHED AREAS, EXCEPT AS OTHERWISE APPROVED BY ARCHITECT. RIGID CONNECTIONS SHALL BE COMPRESSION TYPE. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 OR 80 PVC BURIED A MINIMUM OF 24".
7. WIRE SHALL BE COPPER CONDUCTORS WITH 600 VOLT INSULATION. ALUMINUM CONDUCTORS ARE NOT PERMITTED. #10 AND LARGER SHALL BE STRANDED. MINIMUM WIRE SIZE SHALL BE #10. ALL WIRE AND CABLE SHALL BE NEW AND SHALL BE BROUGHT TO THE SITE IN UNBROKEN PACKAGES. ALL WIRING OF ANY TYPE SHALL BE IN CONDUIT.
   A. GENERAL WIRING SHALL BE THWN OR THHN.
8. ABOVE GRADE WIRE CONNECTORS SHALL BE BY "SCOTCHLOCK" OR EQUAL FOR #8 OR SMALLER AND T&B "LOCK-TITE" FOR #6 AND LARGER.
9. THIS CONTRACTOR SHALL DO ALL CUTTING, CHASING OR CHANNELING AND PATCHING REQUIRED FOR ANY WORK UNDER THIS DIVISION. ANY CUTTING SHALL HAVE PRIOR APPROVAL OF THE OWNER.
10. PROVIDE SAFETY AND DISCONNECT SWITCHES, SHALL BE FUSED OR NON-FUSED AS CALLED FOR ON DRAWINGS AND AS REQUIRED BY CODE. SWITCHES SHALL BE HEAVY DUTY, LOAD AND HORSEPOWER RATED AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC OR EQUAL.
11. JUNCTION, PULL BOXES AND COVERS SHALL BE GALVANIZED STEEL, CODE GAUGE SIZE AND ACCESSIBLE.
12. ELECTRICAL CONTRACTOR SHALL RECORD ALL FIELD CHANGES IN HIS WORK AS THE JOB PROGRESSES, AND UPON COMPLETION SHALL TURN OVER TO THE OWNER A "RECORD" SET OF PRINTS SHOWING THE CHANGES.
13. ALL ELECTRIC WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING MAINTAINING AND REPAIRING. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL, SUCH AS CHANNELS, RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK AND SHALL BE FASTENED TO STEEL, CONCRETE OR MASONRY, BUT NOT TO PIPING. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. EXPOSED CONDUITS SHALL BE IN STRAIGHT LINES PARALLEL WITH OR AT RIGHT ANGLES TO COLUMN LINES OR BEAMS AND SEPARATED AT LEASED 3" FROM WATER LINES WHEREVER THEY RUN ALONGSIDE OR ACROSS SUCH LINES. CONDUCTORS SHALL BE ON CONDUIT, DUCTS, OR APPROVED RACEWAYS.
14. ALL 90 DEGREE ELBOWS TO BE FACTORY MADE BENDS.
15. PRIVATE LIGHTING SYSTEM SHALL NOT BE JOINT TRENCH WITH PUBLIC UTILITY SYSTEM.
16. CONTRACTOR TO MAINTAIN PROPER SEPARATION AS REQUIRED BY THE UTILITY COMPANIES.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR ANY AND ALL UTILITY AND CITY INSPECTIONS.
18. ALL GROUND CONDUCTORS SHALL BE SPLICED TOGETHER WITH APPROVED CONNECTOR AT PULL BOXES AND CONNECTED TO GROUND LUG INSIDE POLE.
19. SEE IMPROVEMENT PLANS FOR SITE, SEWER AND WATER (ETC.) IMPROVEMENTS PRIOR TO START OF CONSTRUCTION.
20. CONTRACTOR SHALL CONTACT "DIG ALERT" FOR MARK-OUT PRIOR TO TRENCHING AS REQUIRED.
21. THESE PLANS ARE SCHEMATIC AND ARE FOR THE PURPOSE OF SHOWING HOW TO CONNECT THE ELECTRICAL SYSTEM. WHILE THE DRAWING IS AT ACTUAL SCALE, THE SYMBOLS REFERENCED ARE NOT, AND MAY APPEAR TO SHOW THE EQUIPMENT IN PLACES NOT INTENDED. THE CONTRACTOR IS TO FIELD VERIFY ALL UTILITY COMPANY SERVICE POINTS/METER LOCATIONS, POLES, PULL BOXES BUILDING LIGHT LOCATIONS, SERVICE EQUIPMENT LOCATIONS AND OTHER ELECTRICAL APPURTENANCES PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE ADDRESSED TO THE CITY BY MEANS OF A "REQUEST FOR INFORMATION" (RFI). CONTRACTOR IS TO VERIFY ALL LIGHT LOCATIONS WITH THE CITY PRIOR TO START OF CONSTRUCTION AND DURING STAKING. REFER TO LIGHT STANDARD DETAIL FOR STANDARDS.
    CONTRACTOR SHALL CONTACT "DIG ALERT" FOR MARK-OUT PRIOR TO TRENCHING AS REQUIRED.
22. PANEL CIRCUIT DIRECTORY TO COMPLY WITH SECTION 408.4, CEC.
23. NATIVE SOIL SHALL BE ACCEPTABLE FOR TRENCH BACK FILL PROVIDED THAT THE FILL MATERIAL USED SHALL PASS THROUGH A 1" SIEVE. SEE NOTES & DETAIL C/EL-03.
24. CONTRACTOR SHALL LABEL EACH CIRCUIT WITH PHENOLIC PLASTIC LABEL TAGS IN ANY DEVICE THAT HAS ACCESS. THIS SHALL INCLUDE LIGHT POLES, PULL BOXES, PANELS, AND ETCETERA. PANEL, CIRCUIT NUMBER AND VOLTAGE SHALL BE IDENTIFIED. TAGS SHALL BE AFFIXED WITH NYLON ZIP-TIES.

SPECIFICATIONS

1. ALL PULL BOXES TO BE TYPE 3-1/2 PB (10-1/2" X 17-1/2" X 12"D) WITH CONCRETE BOLT DOWN COVER MARKED "ELECTRICAL" (BL WALLACE DISTRIBUTION (714) 961-2071, BOX-C9EB, LID-C9R06). LEAVE 3' SLACK OF CONDUCTORS IN PULLBOX. SIZE PER SECTION 370-28, CEC. PROVIDE WITH McCAIN VANDAL RESISTANT PULL BOX INSERTS. 760/727-8100.
2. FUSE HOLDERS TO BE WATERPROOF AND UL LISTED.
3. ALL CONDUIT BELOW GRADE TO BE MINIMUM 1" PVC SCHEDULE 40.
4. ALL SPLICES BELOW GRADE SHALL BE MADE IN APPROVED PULL BOXES AND SHALL BE WATERTIGHT. USE ONLY EPOXY ENCAPSULATED TYPE 3M BAGS OR EQUAL.
5. ALL BELOW GRADE CONDUIT SHALL BE SEALED UPON COMPLETION OF INSTALLATION.
6. ALL ELECTRICIANS TO HAVE PROOF OF CALIFORNIA ELECTRICIANS CERTIFICATE/CREDENTIALS.

LEGEND

- BELOW GRADE ELECTRICAL CONDUIT AND WIRE RUN. SEE PLANS FOR TYPE AND # OF WIRES.
- SCE SERVICE POINT. VERIFY EXACT LOCATION WITH UTILITY WORK ORDER.
- MMS1 — 400A, 3Ø, 4W, 277/480V SWITCHGEAR MMS1. SEE PLAN FOR LOCATION AND A/EL-03 FOR SCHEDULES AND DETAILS
- CONCRETE UNDERGROUND PULLBOX. SEE SPEC. 1 AND DETAIL B/EL-03.
- MMS1-1 — CIRCUIT DESIGNATION. 1ST # INDICATES PANEL. REMAINING #S INDICATE CIRCUIT POSITIONS.
- S1 — TYPE 'A', MUSCO SPORT LIGHT WITH POLE DESIGNATION.
- TYPE 'B', SITE LIGHT. SEE SCHEDULE AND DETAIL E/EL-03
- TYPE 'C', SITE LIGHT ATTACHED TO MUSCO SPORT LIGHT WITH POLE SEE SCHEDULE AND DETAIL E/EL-03 (2)
- IRRIGATION CONTROLLER. VERIFY EXACT LOCATION.



VICINITY MAP N.T.S.

LUMINAIRE SCHEDULE

	COUNT	TYPE	SYMBOL	FIXTURE: HALOG	FIXTURE: INDUC	FIXTURE: LED	FIXTURE: LPS	FIXTURE: MH	FIXTURE: HPS	VOLTS: 120	VOLTS: 240	VOLTS: 12	VOLTS: 480	LAMPS: NO.	LAMPS: TYPE	LAMPS: WATTS	MOUNTING: WELL	MOUNTING: SURF	MOUNTING: H20	MOUNTING: WALL	MOUNTING: POLE	DESCRIPTION	MFR & CATALOG NO.
	10	A						X			X			9	1500 MH	5400					X	SPORTS LIGHTS-36 LIGHTS SEE DETAIL D/EL-04	MUSCO SPORTS LIGHTING L5G60AA-1500W-9 (POLES S1-S10)
*	1	B				X					X			1	40 LED	91					X	SITE LIGHTS- SEE DETAIL E/EL-03	CREE LED STR-LWY-3M-DA-04-E-UL-BZ-700-40K-ML POLE-PS4520C-1-BZ ADAPTER-PD-1HR-BZ
*	6	C				X					X			1	40 LED	91					X	SITE LIGHTS- SEE DETAIL E/EL-03 (MOUNTED TO MUSCO POLE)	CREE LED STR-LWY-3M-DA-04-E-UL-BZ-700-40K-ML ADAPTER-SIDE POLE MOUNTED-BZ

* DISTRIBUTOR TO CALL TOM BRINDLY OF WESTERN LIGHT SOURCE (702-466-2120) FOR CREE LED PRICING.

(2)

SHEET INDEX

SHEET #	DESCRIPTION
EL-01	NOTES, SPECS, LEGEND, SCHEDULE
EL-02	LIGHTING PLAN
EL-03	INSTALLATION DETAILS
EL-04	MUSCO INSTALLATION DETAILS

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LDC12/04271

REGISTERED PROFESSIONAL ENGINEER MILTON C. NIEDERHAUS No. E 8636 ELECTRICAL EXP. 9/14 STATE OF CALIFORNIA

REVISIONS
1. 1ST SUBMITTAL 6-10-13
2. CITY PLAN CHECK REV. 7-23-13

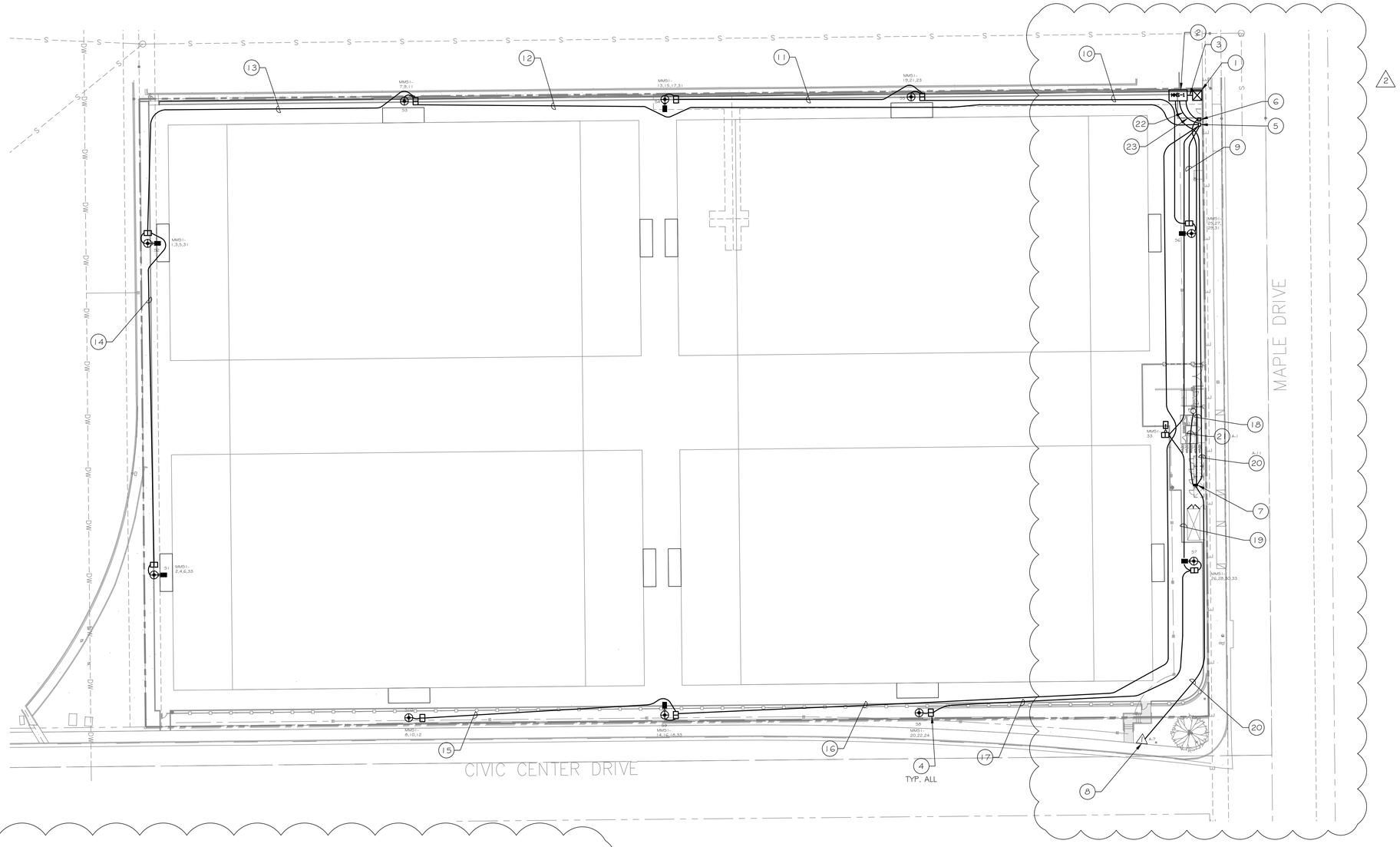
SPORTS FIELDS
AT 555 MAPLE AVENUE
City of Torrance, California 90503
Electrical Plans
Tract #
City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

VISUAL CONCEPTS
PRODUCERS OF LIGHTING FUSION
08:858-278-4583 FAX:858-278-4573
7287 ROBSON RD. SOUTH I-5 SAN DIEGO, CA. 92111
WWW.VISUALCONCEPTSINC.COM

project manager: K. PEREZ
approved by: M. NIEDERHAUS
drawn by: K. PEREZ
date: 08/14/13
scale: N/A

SHEET 1 of 4

City of Torrance: 555 Maple Sports Field



PLAN NOTES

1. SCE TRANSFORMER. SEE SCE WORK ORDER FOR INSTALLATION REQUIREMENTS.
2. 277/480V, 400A, 3Ø, 4W SWITCHGEAR MMS1. SEE DETAIL A/EL-3.
3. PROVIDE DB CONDUIT ONLY WITH 3/16" POLY-PROPYLENE PULL ROPE. INSTALL PER SCE WORK ORDER.
4. PROVIDE CONCRETE UNDERGOUND PULLBOX WITH EVERY LIGHT POLE. SEE SPEC. 1 AND DETAIL B/EL-03.
5. MUSCO SPORTS LIGHTING CONTROL CABINET. SEE 1-LINE DIAGRAM DETAIL A & D/EL-3 AND CONTROLS SUMMARY ON SHEET EL-03.
6. 480-120/240V STEP-DOWN TRANSFORMER 'T1'. SEE 1-LINE DIAGRAM DETAIL A & F/EL-0.
7. EXISTING 120/240V PANEL 'A' SUPPLIED AND INSTALLED BY BUILDING MANUFACTURER. CONTRACTOR TO MAKE ELECTRICAL CONNECTION IN PULL BOX.
8. IRRIGATION CONTROLLER. VERY EXACT LOCATION WITH LANDSCAPE PLANS
9. PROVIDE 2"C-11#8 (MMS1-13,15,17,19,21,23,25,27,29,31), 1#8 GND. BURY 24" BELOW GRADE.
10. PROVIDE 2"C-8#8 (MMS1-13,15,17,19,21,23,31), 1#8 GND. BURY 24" BELOW GRADE.
11. PROVIDE 2"C-8#8 (MMS1-13,15,17,31), 1#8 GND. BURY 24" BELOW GRADE.
12. PROVIDE 2"C-9#6 (MMS1-1,3,5,7,9,11,2,4,6), 3#8 (MMS1-31,33),1#8 GND. BURY 24" BELOW GRADE.
13. PROVIDE 2"C-6#6 (MMS1-1,3,5,7,2,4,6), 3#8 (MMS1-31,33),1#8 GND. BURY 24" BELOW GRADE.
14. PROVIDE 2"C-3#6 (MMS1-2,4,6), 2#8 (MMS1-33),1#8 GND. BURY 24" BELOW GRADE.
15. PROVIDE 2"C-3#6 (MMS1-8,10,12),1#8 GND. BURY 24" BELOW GRADE.
16. PROVIDE 2"C-6#6 (MMS1-8,10,12,14,16,18), 2#8 (MMS1-33),1#8 GND. BURY 24" BELOW GRADE.
17. PROVIDE 2"C-3#6 (MMS1-20,22,24),1#8 GND. BURY 24" BELOW GRADE.
18. PROVIDE 1 1/4"C-3#4, 1#8 GND. BURY 24" BELOW GRADE.
19. PROVIDE 2"C-6#6 (MMS1-20,22,24), 5#8 (MMS1-26,28,30,33),1#8 GND. BURY 24" BELOW GRADE.
20. PROVIDE 1"C-2#8, 1#10 GND. BURY 24" BELOW GRADE.
21. PROVIDE 3/4"C-2#10, 1#10 GND. BURY 24" BELOW GRADE. FUTURE SIGN POWER. JUNCTION BOX SHALL BE RECESSED INTO SIDE OF COLUMN, WITH 1/2" PVC STUBBED TO TOP OF COLUMN, EXPOSED AND CAPPED.

LEGEND

- BELOW GRADE ELECTRICAL CONDUIT AND WIRE RUN. SEE PLANS FOR TYPE AND # OF WIRES.
- SCE SERVICE POINT. VERIFY EXACT LOCATION WITH UTILITY WORK ORDER.
- MMS-1 — 400A, 3Ø, 4W, 277/480V SWITCHGEAR MMS1. SEE PLAN FOR LOCATION AND A/EL-03 FOR SCHEDULES AND DETAILS
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- IRRIGATION CONTROLLER. VERIFY EXACT LOCATION.
- P — IRRIGATION BOOSTER PUMP. VERIFY EXACT LOCATION.
- J — JUNCTION BOX FOR FUTURE SIGN CONNECTION.

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LDC12/04271

REGISTERED PROFESSIONAL ENGINEER
MILTON C. NIEDERHAUS
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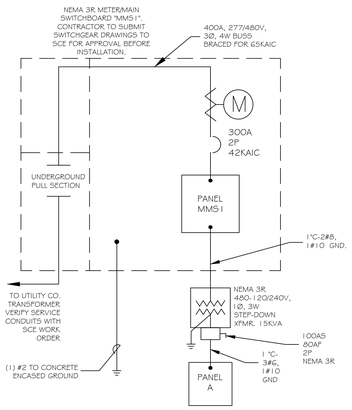
WWW.VISUALCONCEPTS-INC.COM

project manager:	K. PEREZ
approved by:	M. NIEDERHAUS
drawn by:	K. PEREZ
date:	08/14/13
scale:	1"=30'

SHEET 2 of 4

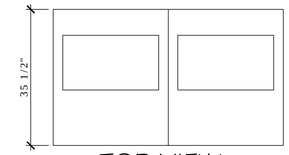
City of Torrance: 555 Maple Sports Field



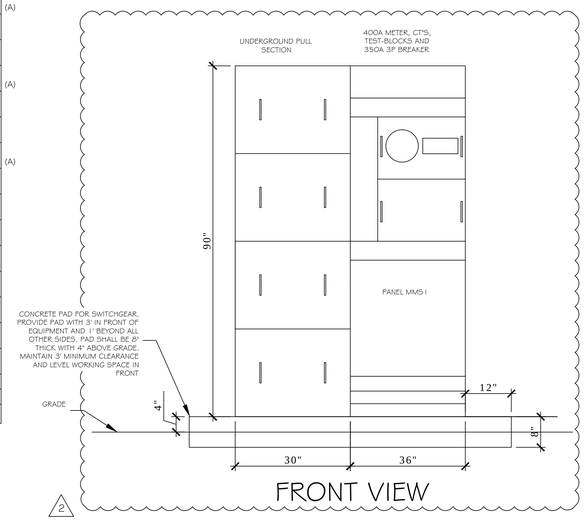
PANEL: MMS1	VOLT: 277/480V, 3Ø, 4W					BUS: 400A								MAIN:	
FIELD	MTG: SURFACE					AIC: 65,000								MLO	
LOCATION	LTG	REC	MIS	BKR	#	ØA	ØB	ØC	#	BKR	MIS	REC	LTG		LOCATION
(A) SOCCER FIELD POLE 52	9			40	1	5400			2	40			9	SOCCER FELD POLE 51	(A)
						5400									
					3		5400		4						
							5400								
				3	5			5400	6	3					
								5400							
(A) SOCCER FIELD POLE 53	9			40	7	5400			8	40			9	SOCCER FELD POLE 510	(A)
						5400									
					9		5400		10						
							5400								
				3	11			5400	12	3					
								5400							
(A) SOCCER FIELD POLE 54	9			40	13	5400			14	40			9	SOCCER FELD POLE 59	(A)
						5400									
					15		5400		16						
							5400								
				3	17			5400	18	3					
								5400							
(A) SOCCER FIELD POLE 55	9			40	19	5400			20	40			9	SOCCER FELD POLE 58	(A)
						5400									
					21		5400		22						
							5400								
				3	23			5400	24	3					
								5400							
(A) SOCCER FIELD POLE 56	9			40	25	5400			26	40			9	SOCCER FELD POLE 57	(A)
						5400									
					27		5400		28						
							5400								
				3	29			5400	30	3					
								5400							
(B) SITE LIGHTS	3			20	31	405			32	40				XFMR T1	
						2592									
(B) SITE LIGHTS	4			20	33		540		34	2					
							2520								
					35				36	3					
					37				38					SPACE ONLY	
					39				40					SPACE ONLY	
SPACE ONLY					41				42					SPACE ONLY	
CONNECTED VA:			A: 56997			B: 57060		C: 55760			TOTAL: 169817				
CONNECTED VA W/LCL:			A: 71246			B: 71325		C: 69700							
			TOTAL AMPS: 204.2					HIGH Ø W/LCL: 257.5							

(A) LIGHTING CIRCUIT CONTROLLED BY MUSCO SPORT LIGHTING CONTROLS

(B) LIGHTING CIRCUIT CONTROLLED BY LIGHTING CONTACTOR AT RESTROOM BUILDING

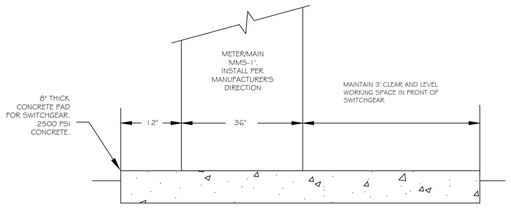


TOP VIEW



FRONT VIEW

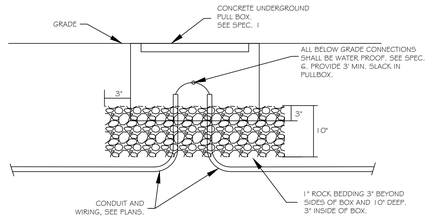
2



SIDE VIEW

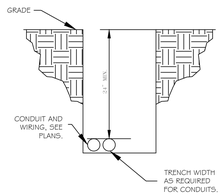
NO SCALE

(A) SWITCHGEAR INSTALLATION DETAIL



NO SCALE

(B) PULL BOX INSTALLATION DETAIL



BACKFILL MATERIAL:
THE MATERIAL USED FOR BACKFILLING THE TRENCH ABOVE THE SHADING MATERIAL AND EXTENDING UPWARD TO THE SUBGRADE SHALL BE FREE OF ROCKS OR CLODS LARGER THAT 6" IN ANY DIMENSION. THE COARSE MATERIAL SHALL BE WELL DISTRIBUTED THROUGHOUT THE FINER MATERIAL. THE AMOUNT OF ROCKS OR CLODS SHALL BE LIMITED, IN THE OPINION OF THE INSPECTOR. THE BACKFILL MATERIAL SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE CODES, ORDINANCES AND CITY STANDARDS AND BE FREE OF DEBRIS AND ORGANIC MATTER. SLURRY BACKFILL MAY BE REQUIRED BY CITY INSPECTOR. CHECK WITH CITY PRIOR TO START OF CONSTRUCTION.

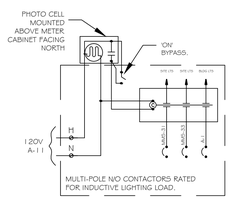
SHADING MATERIAL AND INSTALLATION:
NATURAL SAND, MANUFACTURED SAND, DECOMPOSED GRANITE, ROCK FREE SANDY LOAM, EXISTING NATIVE MATERIAL OR COMBINATION THEREOF. AGGREGATE MATERIAL SHALL BE CAPABLE OF PASSING THROUGH A 3/8" SIEVE. GRAVEL SHALL NOT AMOUNT TO MORE THAN 50% OF MIXTURE. SCREENING OR OTHER SUITABLE MEANS MAY BE REQUIRED AT THE INSPECTORS DISCRETION.
THE EARTH TRENCH BOTTOM SHALL BE STABLE WITH A UNIFORM GRADE CONTAINING NO HARD CLODS, ROCKS, AND ETCETERA. THAT MAY DAMAGE THE CONDUIT. IF IN THE OPINION OF THE INSPECTOR, THE CONDUIT MAY BE DAMAGED DURING COMPACTION, A 3" SHADE OF MATERIAL ABOVE AND BELOW THE CONDUIT MAY BE REQUIRED.

COMPACTION:
SHADING AND BACKFILL SHOULD BE COMPACTED IN ACCORDANCE WITH GOVERNMENTAL AGENCIES AND SHALL HAVE A MINIMUM OF 90% RELATIVE COMPACTION. VERIFY REQUIREMENTS WITH INSPECTOR.

NOTE TO CONTRACTOR:
FOLLOW SUGAR WORK ORDERS FOR UTILITY TRENCH REQUIREMENTS.

NO SCALE

(C) TRENCH INSTALLATION DETAIL

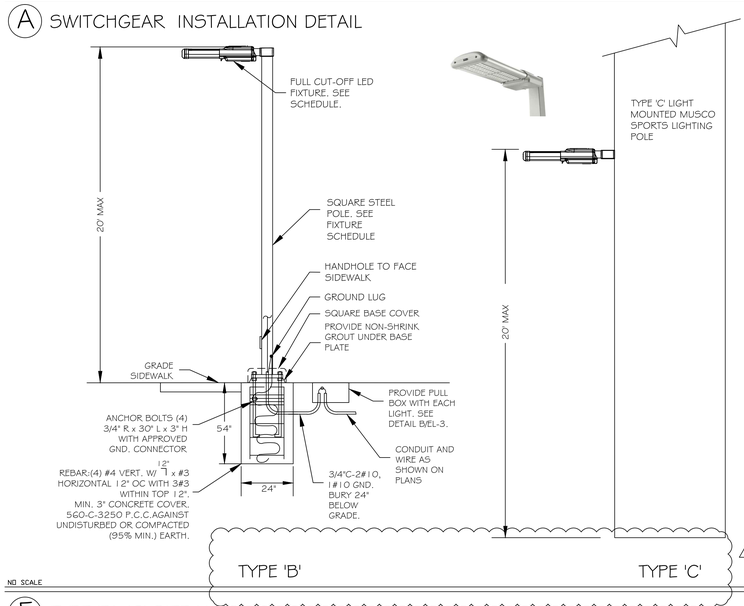


PANEL PROVIDED BY BUILDING MANUFACTURER

MOUNTING: SURFACE						PANEL A								LOCATION: RESTROOM	
VOLTAGE: 120/240		PHASE: 1			WIRE: 3		AIC SYM: 10,000					BUS: 100A MAIN: 50A, 2P			
LOCATION	WATTAGE		LTG	MIS	PBKR	CIR	CIR	BKR	POL	MIS	LTG	WATTAGE		LOCATION	
	ØA	ØB										ØA	ØB		
BUILDING LIGHTS	252		5		1	20	1	A	2					SPACE	
HAND DRYER		1800			1	1	20	3	B	4				SPACE	
HAND DRYER	1800				1	1	20	5	A	6				SPACE	
IRR. CONT.		540			1	1	20	7	B	8				SPACE	
MUSCO CONT.	540							9	A	10				SPACE	
LTG. CONT.		180						11	B	12				SPACE	
	2592	2520	WATTS/LINE									O	O		
TOTAL ØA: 2592 WATTS TOTAL ØB: 2520 WATTS			TOTAL WATTS: 5112 PANEL AMPS: 213 HIGH PHASE LCL AMPS: 27.0									BREAKERS SHALL BE SERIES RATED AND MARKED ACCORDING TO NEC.			

NO SCALE

(D) MUSCO CONTROL CABINET INSTALLATION DETAIL



2

TYPE 'B' SITE LIGHT STRUCTURAL CALCULATIONS

$q_z = 0.00256^{*}\ Kz\ ^{*}Kzt\ ^{*}\ Kd\ ^{*}\ V^2\ ^{*}\ I =$ 17.3 Psf

Kz= 0.98 Exposure= C
Kzt= 1
Kd= 0.85
I= 1
V= 90 Mph

F= qz * G * Cf * Af = 20.6 Af psf
G= 0.85
Cf= 1.4

Allowable Laeral Soil pressure Ps = 100 pcf
Allowable lateral soil bearing pressure S_1=2xPxxt.33xxS3
light size= 0.44 'x 2.3 '= 1.0 ft² (Fixtures and Arms)
light pole Dia= 0.47 ft
pilaster dim.= 24 in
pilaster above the ground hight= 0 ft
light pole hight H = 20 ft

Determine total lateral force P & distance h_a from ground to force P

	wind		Area		force		h		force x h
light=	20.6	x	1	=	20.57	x	20	=	411.3
light pole=	20.6	x	8.32	=	171	x	8.85	=	1513.3
footing above=	20.6	x	0	=	0	x	0	=	0.0
					191.6				1924.6

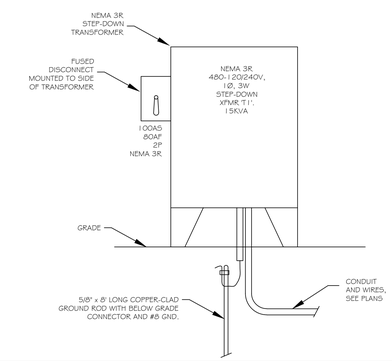
P= 191.56 lb h_a = 10.05 ft

try footing d= 4.5 ft
$S_{1(effect.Stiff)}$= 399 pcf
A=2.34xP/(S1xd)= 0.56 ft
d=A/2x(1+(1+4.36xh/A)^0.5)= 2.78 ft < 4.5 ft O.K

Use 24 " Dia > 4.5 ft deep footing

REGISTERED PROFESSIONAL ENGINEER
NO. 2325
CHECK M. NIEDERHAUS
EXP. 12/31/13
STATE OF CALIFORNIA

(E) TYPE 'B', 'C' SITE LIGHT INSTALLATION DETAIL



NO SCALE

(F) TRANSFORMER INSTALLATION DETAIL

LDC12/04271

REGISTERED PROFESSIONAL ENGINEER
MILTON C. NIEDERHAUS
No. E 8636
ELECTRICAL
EXP. 9/14
STATE OF CALIFORNIA

REVISIONS

1. 1ST SUBMITTAL 6-10-13
2. CITY PLAN CHECK REV. 7-23-13

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Electrical Plans

Tract #

City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7539

VISUAL CONCEPTS
PRODUCERS OF LIGHTING FUSION
08:858-278-4583 FAX:858-278-4573
7287 MOHSON DR. SUITE C | SAN DIEGO, CA. 92111
WWW.VISUALCONCEPTS-INC.COM

project manager: K. PEREZ
approved by: M. NIEDERHAUS
drawn by: K. PEREZ
date: 08/14/13
scale: N/A

S H E E T 3 of 4

City of Torrance: 555 Maple Sports Field

Control System Summary

Project Specific Notes:

Project Information

Project #:	163165
Project Name:	555 Maple Ave
Date:	04/11/13
Project Engineer:	SMeyer
Sales Representative:	Mike Maschetti
Control System Type:	Control and Monitoring
Communication Type:	Digital Cellular
Scan:	163165-B
Distribution Panel Location or ID:	Soccer Area
Total # of Distribution Panel Locations for Project:	1
Design Voltage/Hertz/Phase:	480/60/3
Control Voltage:	120

Equipment Listing

DESCRIPTION	APPROXIMATE SIZE
1.Control and Monitoring Cabinet	24 X 72
2.Surge Protection Device	8 X 10

	QTY:	SIZE:
Total Contactors	12	30 AMP
Total Off/On/Auto Switches:	2	

Materials Checklist

Contractor/Customer Supplied:

- ☐ A single control circuit must be supplied per distribution panel location
  - If the control voltage is NOT available, a control transformer is required.
- ☐ Electrical distribution panel to provide overcurrent protection for the Control/Monitoring circuit breaker sized per full load amps on Circuit Summary by Zone Chart
- ☐ Wiring:
  - Dedicated control power circuit
  - Power circuit to and from lighting contactors
  - Monitoring circuit from surge protection device to Control and Monitoring cabinet 1
  - Harnesses for cabinets at remote locations
  - Means of grounding, including lightning ground protection
- ☐ Electrical distribution/feeder system
  - Entrance hubs rated NEMA 4; must be die-cast zinc, PVC, or copper-free die-cast aluminum
- ☐ Mounting hardware for cabinets
- ☐ Control circuit lock-on device to prevent unauthorized power interruption to control circuit
- ☐ Anti-corrosion compound to apply to ends of wire, if necessary

Call Control-Link CentralT50 operations center at 877OWT-2319 to schedule activation of the control system upon completion of the installation. Note: Activation may take up to 1 1/2 hours

Summary Diagram
Wire Details - Voltage,
# of distribution panels, etc.

NOTE: Refer to Installation Instructions for more details on equipment information and the installation requirements

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Form: T-00001

PROJECT INFORMATION MATERIALS CHECKLIST, EQUIPMENT LISTING

Control System Summary

555 Maple Ave / 163165 - 163165-B
Soccer Area - Page 4 of 4

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Form: T-00001

PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID:	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
1	1	C1	Pole S1	22.20	MDP	2,4,6
1	1	C2	Pole S2	22.20	MDP	1,3,5
1	1	C3	Pole S3	22.20	MDP	8,10,12
1	1	C4	Pole S4	14.80	MDP	7,9,11
1	1	C5	Pole S5	22.20	MDP	14,16,18
1	1	C6	Pole S10	22.20	MDP	13,15,17
1	1	C7	Pole S4	11.10	MDP	19,21,23
1	1	C8	Pole S5	22.20	MDP	20,22,24
1	1	C9	Pole S6	22.20	MDP	25,27,29
1	1	C10	Pole S7	22.20	MDP	26,28,30
1	1	C11	Pole S8	22.20	MDP	31,33,35
1	1	C12	Pole S9	14.80	MDP	32,34,36

ZONE SCHEDULE

			CIRCUIT DESCRIPTION	
ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	POLE ID	CONTACTOR ID
Zone 1	1	West Side	S1	C1
			S2	C2
			S3	C3
			S4	C4
			S9	C5
			S10	C6
Zone 2	2	East Side	S4	C7
			S5	C8
			S6	C9
			S7	C10
			S8	C11
			S9	C12

PANEL SUMMARY, ZONE SCHEDULE

Control System Summary

555 Maple Ave / 163165 - 163165-B
Soccer Area - Page 2 of 4

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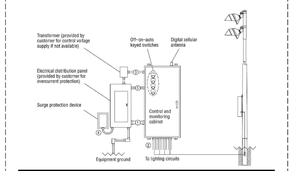
Form: T-00001

Control-Link. Control and Monitoring System – Digital Cellular



Wire	Description	# of Wires	Typ. Wire Size (AWG)	Max. Wire Length (FT)	Wire from Marker	Notes
1	Line power to contactors, and equipment grounding conductor	Note A	Note B	C	No	A - E
2	Load power to lighting circuits	Note A	Note B	N/A	No	A - D
3	Control power (dedicated, 20A)	2	12	N/A	No	C, D
4	Surge protection device to distribution panel	---	---	N/A	Yes	F
5	Surge protection device monitoring	2	14	N/A	Yes	C,D,F

Notes:
A. Voltage and phasing per the notes on solar page.
B. Calculate per load and voltage drop.
C. Refer to local and national electrical codes.
D. Refer to control and monitoring system installation instructions for more details on equipment information and the installation requirements.
E. Contact Musco if maximum wire length from circuit breaker to contactor exceeds value in chart.
F. Refer to surge protection device installation instructions for more details on equipment information and the installation requirements.

IMPORTANT: Control (D) and monitoring (D) wires must be in separate conduit from line and load power wiring (1, 2).

RM-DS-00-3

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Form: T-00001

CONTROL-LINK, CONTROL AND MONITORING SYSTEM - DIGITAL CELLULAR

Control System Summary

555 Maple Ave / 163165 - 163165-B
Soccer Area - Page 3 of 4

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Form: T-00001

SWITCHING SCHEDULE

Field/Zone Description	Zones
Soccer Area	**1,2**
-West Side	1
-East Side	2

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 3025.0 SEALED: 397.0

BALLAST SPECIFICATIONS .90 Minimum Power Factor	VOLTAGE: 480v			THREE PHASE			
BALLAST OPERATING VOLTAGE	208	220	240	277	347	380	480
1500 Watt Metal Halide Lamp Operating line amperage per fixture- maximum	8.6	8.3	7.5	6.5	5.1	4.7	3.7
1000 Watt Metal Halide Lamp Operating line amperage per fixture- maximum	6.5	6.4	5.8	4.9	4.0	3.6	2.9

CIRCUIT SUMMARY BY ZONE

POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
S1	West Side	9	22.2	30	C1	1
S2	West Side	9	22.2	30	C2	1
S3	West Side	9	22.2	30	C3	1
S4	West Side	6	14.8	30	C4	1
S9	West Side	4	11.1	30	C5	1
S10	West Side	9	22.2	30	C6	1
S4	East Side	4	11.1	30	C7	2
S5	East Side	9	22.2	30	C8	2
S6	East Side	9	22.2	30	C9	2
S7	East Side	9	22.2	30	C10	2
S8	East Side	9	22.2	30	C11	2
S9	East Side	6	14.8	30	C12	2

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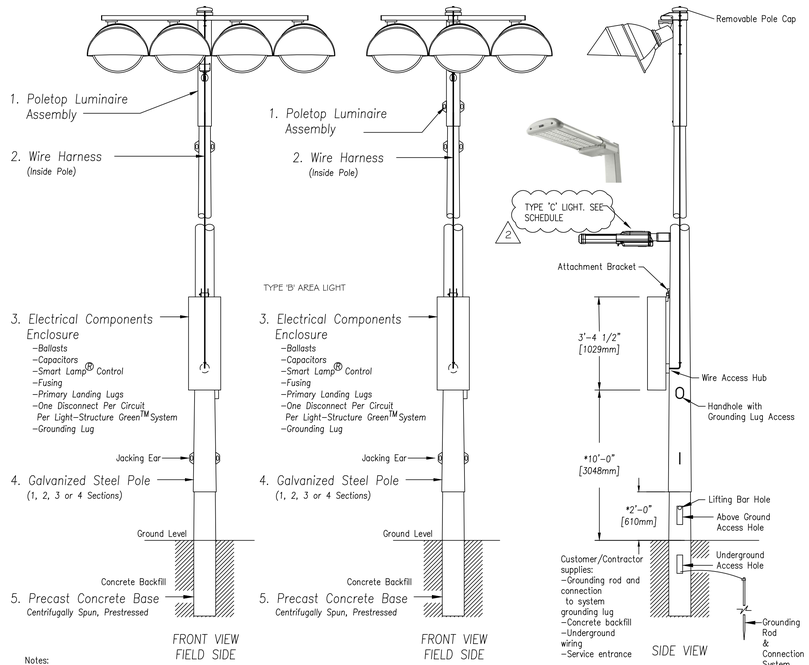
Form: T-00001

SWITCHING SCHEDULE, CIRCUIT SUMMARY



Notes:
1. This drawing is not to scale.
2. * This dimension for reference only. Variances may occur depending on steel pole tolerances, concrete tolerances, galvanizing thickness, hole depth accuracy.
3. Musco provides a base installation bar, an installation level modified for taper, and installation wedges.
4. Provisions for auxiliary equipment such as speaker or security lighting can be incorporated.
5. Copyright 1991, 2007, 2008 Musco Lighting. Patents issued and pending.

TYPE 'A' SPORTS LIGHT INSTALLATION DETAIL-9 LIGHTS PER POLE

LDC12/04271

REGISTERED PROFESSIONAL ENGINEER
MILTON C. NIEDERHAUS
No. E 8636
ELECTRICAL
EXP. 9/14
STATE OF CALIFORNIA

REVISIONS

1. 1ST SUBMITTAL 6-10-13
2. CITY PLAN CHECK REV. 7-23-13

SPORTS FIELDS AT 555 MAPLE AVENUE

City of Torrance, California 90503

Electrical Plans

Tract #

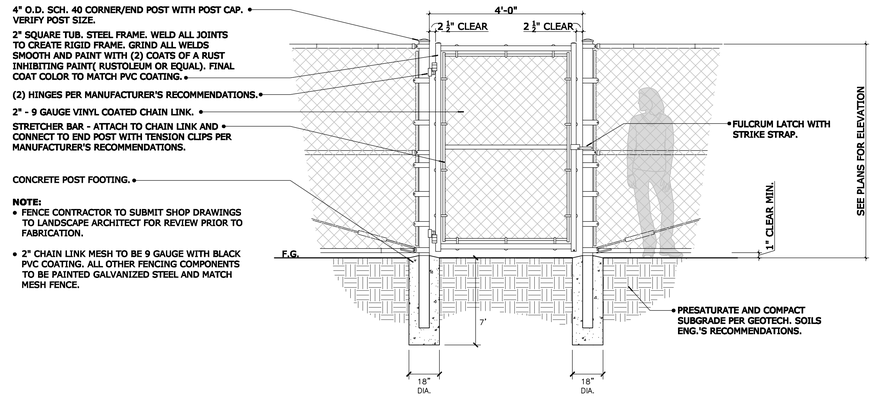
City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503
(310) 781-7559

VISUAL CONCEPTS
PRODUCERS OF LIGHTING FUSION
08:058-278-4583 FAX:058-278-8573
7207 ROBSON RD. SOUTH LAKE ROUGE, LA. 82111
WWW.VISUALCONCEPTS-INC.COM

project manager: K. PEREZ
approved by: M. NIEDERHAUS
drawn by: K. PEREZ
date: 08/14/13
scale: N/A

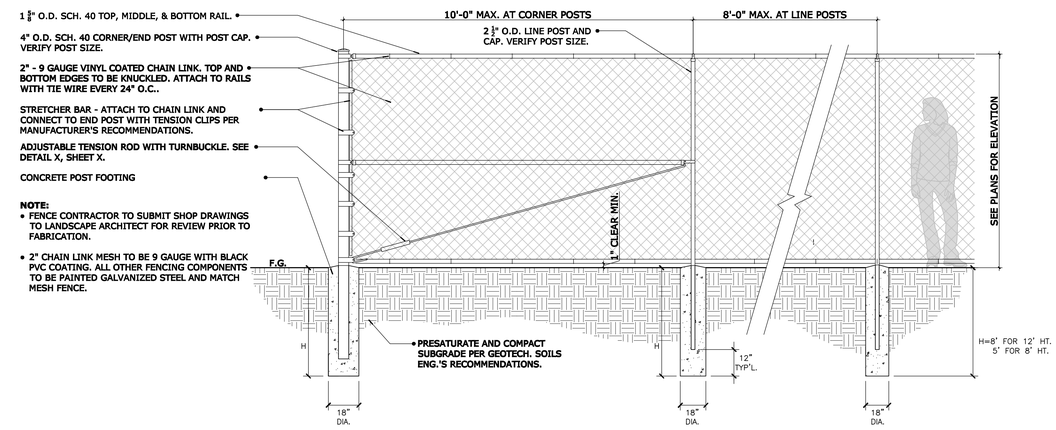
S H E E T 4 of 4

City of Torrance: 555 Maple Sports Field



B GATE (CHAIN LINK)

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

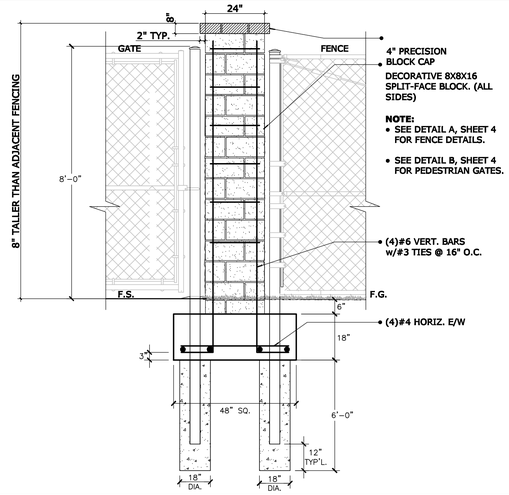


A FENCE (CHAIN LINK)

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

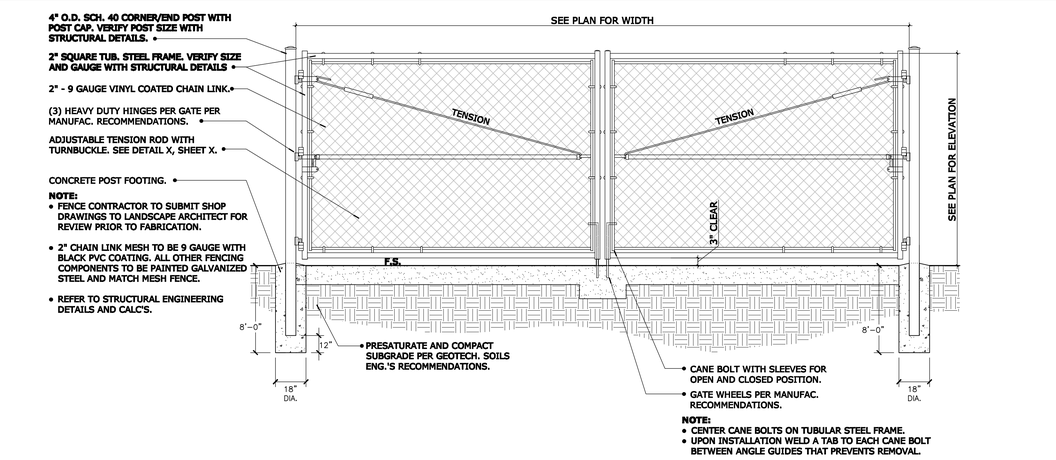
PILASTER AND WALL SPECS.
SPLIT-FACE ANGELUS BLOCK - COLOR TO BE SPICE. CAP: PRECISION ANGELUS BLOCK- COLOR TO BE PRECISION #208 MORTAR: COLOR TO BE MEDIUM TAN TYPE S.

CONCRETE FOOTING - SEE CALCULATIONS
PRESATURATE AND COMPACT
SUBGRADE PER GEOTECHNICAL REPORT



D PILASTER (SPLIT FACE BLOCK)

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



C VEHICULAR GATE (CHAIN LINK)

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

ESI/FME, INC.
STRUCTURAL ENGINEERS
1800 E. 16TH STREET, UNIT B
SANTA ANA, CA 92701
PHONE: 714-835-2800
FAX: 714-835-2819
JN: C879 05.13.13

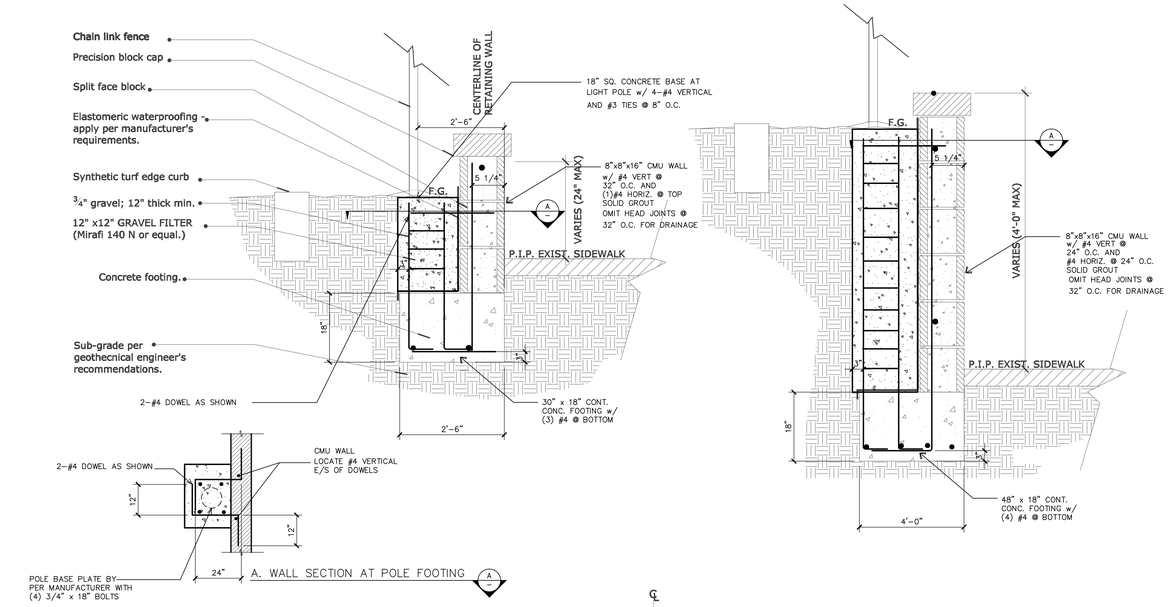
REGISTERED PROFESSIONAL ENGINEER
No. S2345
STATE OF CALIFORNIA

SPORTS FIELD
@ 555 MAPLE AVENUE
CITY OF TORRANCE, CALIFORNIA 90503

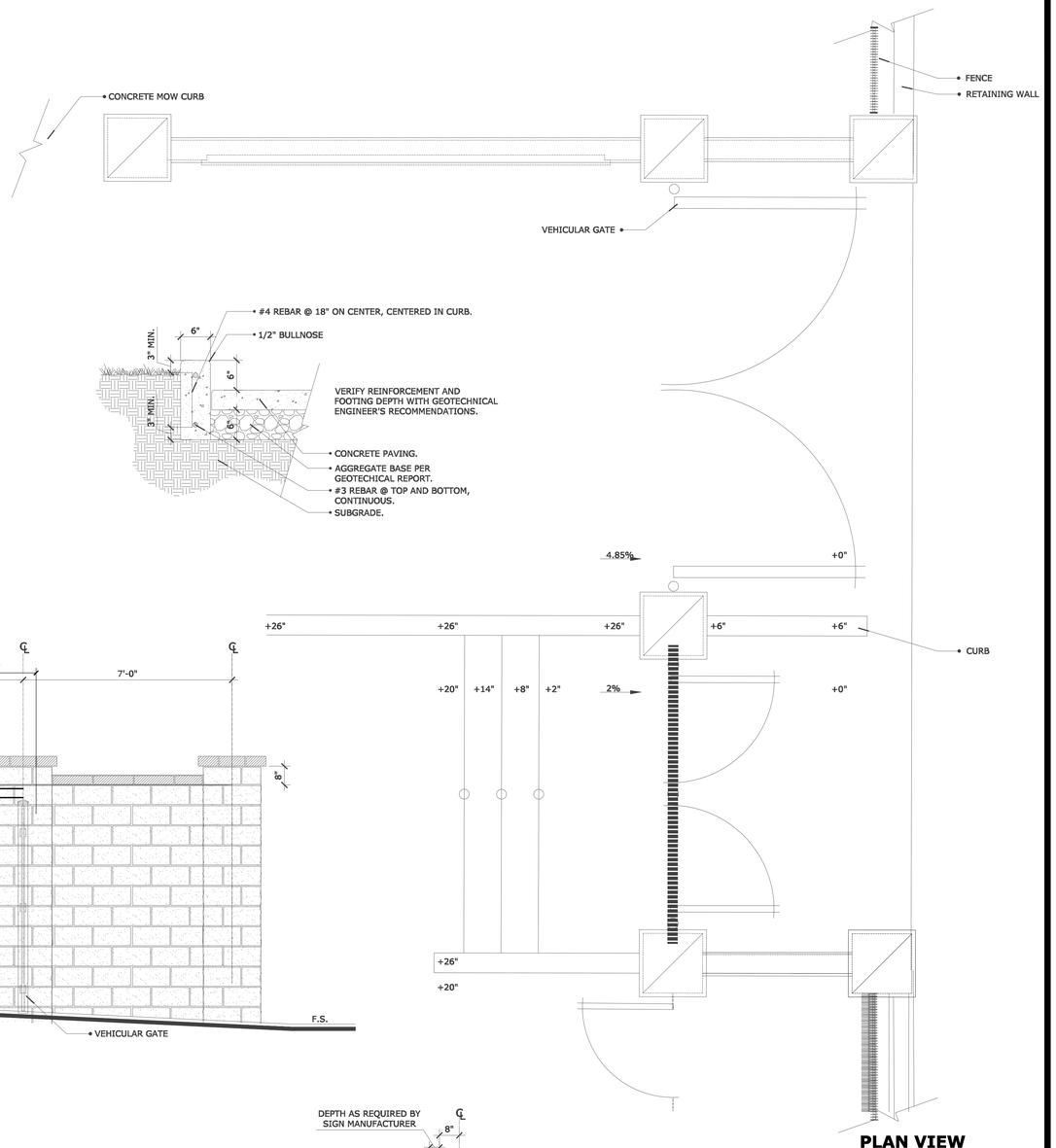
by LAND CONCERN, 1750 East Deere Ave., Santa Ana, CA. 92705 ph: (949) 250-4822

REVISIONS			
NO.	DATE	NO.	DATE

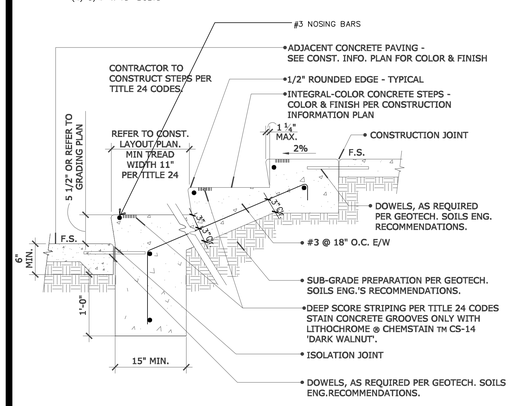
PROJECT ENGINEER
R.R.W.
DRAFTER
K.N.
PLOT DATE
08/14/2013
JOB NO.
513-C879
SHEET
S-1
SHEET: OF:

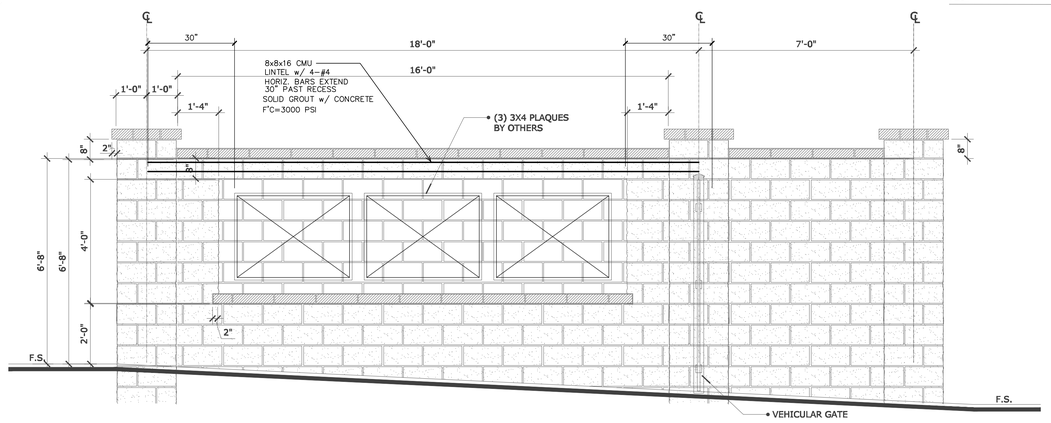


A. WALL SECTION AT POLE FOOTING

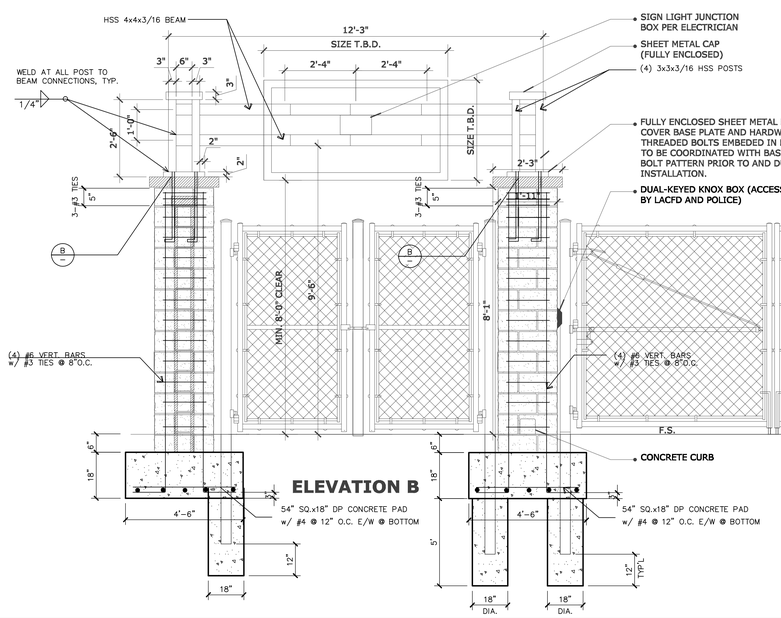


PLAN VIEW

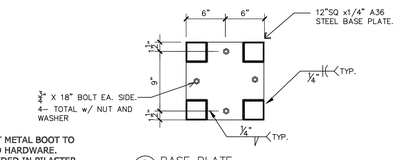




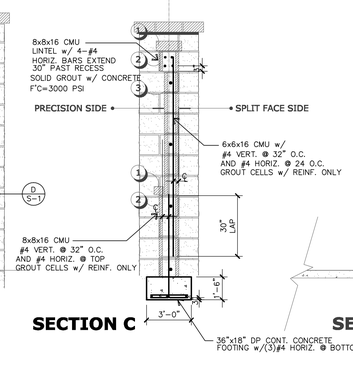
ELEVATION A



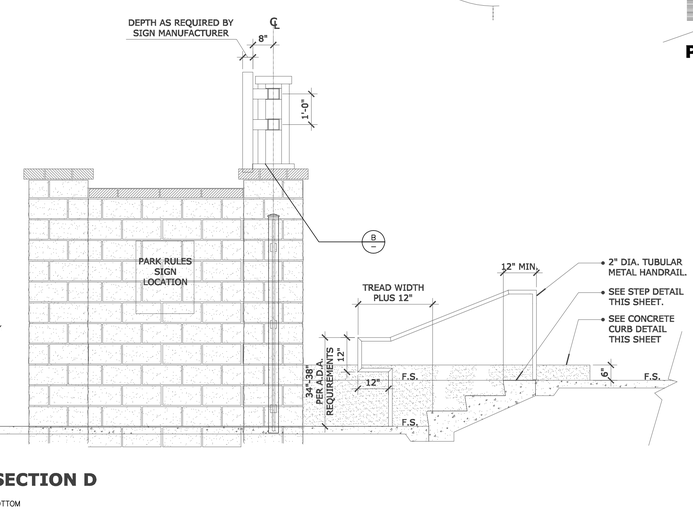
ELEVATION B



BASE PLATE



SECTION C



SECTION D

ESI/FME, INC.
STRUCTURAL ENGINEERS
1800 E. 16TH STREET, UNIT B
SANTA ANA, CA 92701
PHONE: 714-835-2800
FAX: 714-835-2819
JN: -C879 05.13.13

REGISTERED PROFESSIONAL ENGINEER RAMON R. WALTERS No. S2345 STRUCTURAL STATE OF CALIFORNIA

SPORTS FIELD
@ 555 MAPLE AVENUE
CITY OF TORRANCE, CALIFORNIA 90503

by LAND CONCERN, 1750 East Deere Ave., Santa Ana, CA. 92705 ph: (949) 250-4822

REVISIONS		
NO.	DATE	

PROJECT ENGINEER: R.R.W.
DRAFTER: K.N.
PLOT DATE: 08/14/2013
JOB NO.: 513-C879
SHEET: S-2
SHEET: OF:

GENERAL NOTES

1. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE ARCHITECT OR **ESI/FME, INC.** SHALL BE NOTIFIED OF ANY DISCREPANCY.
2. DIMENSIONING SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON DRAWINGS. TYPICAL DETAILS AND GENERAL NOTES ARE MINIMUM REQUIREMENTS TO BE USED WHEN CONDITIONS ARE NOT SHOWN OTHERWISE.
3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON PROJECT.
4. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE 2010 EDITION OF THE CALIFORNIA BUILDING CODE, AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK, INCLUDING THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, AND THOSE CODES AND STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.
5. APPROVAL BY THE INSPECTOR DOES NOT MEAN APPROVAL OR ALLOWABLE FAILURE TO COMPLY WITH THE PLANS AND SPECIFICATIONS. ANY DESIGN WHICH FAILS TO BE CLEAR OR IS AMBIGUOUS MUST BE REFERRED TO THE DESIGNER OR ENGINEER FOR INTERPRETATION OR CLARIFICATION.
6. SEE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR PITS, TRENCHES, ROOF OPENINGS, DEPRESSIONS ETC. NOT SHOWN ON STRUCTURAL DRAWINGS.
7. VIBRATION EFFECTS OF MECHANICAL EQUIPMENT HAVE NOT BEEN CONSIDERED BY **ESI/FME, INC.**
8. THE DESIGN ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS SOLE RESPONSIBILITY OF THE CONTRACTOR, AND HAS NOT BEEN CONSIDERED BY **ESI/FME, INC.** THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE PRIOR TO THE APPLICATION OF ALL SHEAR WALLS, ROOF AND FLOOR DIAPHRAGMS AND FINISH MATERIALS. HE SHALL PROVIDE THE NECESSARY BRACING TO PROVIDE STABILITY PRIOR TO THE APPLICATION OF THE AFOREMENTIONED MATERIALS. OBSERVATION VISITS TO THE SITE BY **ESI/FME, INC.** SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
9. CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC. IF ANY SUCH STRUCTURES ARE FOUND, **ESI/FME, INC.** AND THE SOIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
10. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.
11. CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ON ANY OR ALL SHEETS MAY BE SUBJECT TO REVIEW. THIS REVIEW MAY RESULT IN CHANGES WHICH MAY BE MADE TO THE PLANS PRIOR TO THE ISSUANCE OF THE FINAL CONSTRUCTION SET WHICH WILL CONTAIN NO "BID SET" DESIGNATIONS. CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ARE NOT CONSTRUED AS BEING THE COMPLETED OR FINAL DRAWINGS AND THEY SHOULD NOT IN ANY WAY BE USED AS SUCH.
12. ALL GUARD RAILS AND HANDRAILS SHALL BE DESIGNED TO WITHSTAND A LATERAL POINT LOAD OF 200 POUNDS APPLIED HORIZONTALLY AT RIGHT ANGLES, AT ANY POINT TO TOP RAIL. A 50 PLF LOAD IS REQUIRED AT 3-STORY AND MULTI-FAMILY.
13. THESE PLANS ARE INTENDED SOLELY FOR THE USE OF THE OWNER FOR CONSTRUCTION AND ARE EXPRESSLY NOT INTENDED FOR USE IN MARKETING. EXTERIOR ELEVATIONS AND OTHER DETAILS ON THESE PLANS ARE ONLY A REPRESENTATION AND MAY VARY SIGNIFICANTLY FROM THE ACTUAL CONSTRUCTION.
14. SLAB ON GRADE REQUIREMENTS TO BE PER THE SOIL ENGINEERS RECOMENDATIONS SOLELY. THE SLAB ON GRADE IS A NON-STRUCTURAL ITEM AND THEREFORE HAS NOT BEEN DESIGNED BY THE STRUCTURAL DESIGN ENGINEER.
15. IN THE EVENT OF CONFLICT BETWEEN THE ARCHITECTURAL GENERAL NOTES AND THE STRUCTURAL GENERAL NOTES (SHT SGN), THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

REINFORCING STEEL

1. ALL REINFORCING SHALL BE ASTM A-615 GRADE 40 FOR #4 BARS AND SMALLER. ALL REINFORCING SHALL BE ASTM A-615 GRADE 60 FOR #5 BARS AND LARGER. WELDED WIRE FABRIC TO BE ASTM A-185, LAP 1-1/2 SPACES, 9" MIN. FOR STRUCTURAL SLABS ALL REINFORCING #5 AND LARGER TO BE ASTM A-615 GRADE 60
2. ALL BARS SHALL BE DEFORMED AS PER ASTM A615 / A615M.
3. ALL BARS SHALL BE CLEAN OF LOOSE FLAKY RUST, GREASE OR OR OTHER MATERIALS LIKELY TO IMPAIR BOND.
4. ALL BENDS SHALL BE MADE COLD.
5. SPLICING OF #3-#5 BARS SHALL HAVE A MIN. LAPPING OF 42 DIA. OR 32" MIN., WHICH EVER IS GREATER, IN ALL CONTINUOUS REINFORCEMENT OF FOOTINGS AND CONCRETE WALLS, EXCEPT AS NOTED ON PLANS. MASONRY REINFORCEMENT SHALL HAVE LAPPINGS OF 40 DIA. FOR GRADE 40 & 48 DIA. FOR GRADE 60 MIN. OR 2'-0", WHICH EVER IS GREATER.
6. ALL REINFORCING BARS SHALL BE ACCURATELY AND SECURELY PLACED BEFORE POURING CONCRETE.
7. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE AT LEAST EQUAL TO THE DIAMETER OF THE BARS. COVER SHALL BE AS FOLLOW:

	CONC.	MASONRY
A. POURED AGAINST EARTH	3"	2"
B. POURED AGAINST FORM BELOW GRADE	2"	2"
#6 AND LARGER	2"	2"
#5 AND SMALLER	1 1/2"	1 1/2"
C. FORMED SLABS	1"	1"
D. SLABS ON GRADE (FROM TOP OF SLAB)	1"	1"
E. COLUMNS AND BEAMS TO MAIN BARS	1 1/2"	2"
F. WALLS - EXPOSED TO WEATHER	1 1/2"	1 1/2"
NOT EXPOSED TO WEATHER, #11 AND SMALLER	3/4"	3/4"
#14 AND #18	1 1/2"	1 1/2"

CONCRETE

1. ALL CONCRETE SHALL CONFORM TO THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE.
2. CONCRETE SHALL BE DESIGNED AND TESTED AS OUTLINED IN THE SPECS.
3. ALL CEMENT SHALL CONFORM TO ASTM C-150. PLEASE CROSS-REFERENCE EXPOSURE CLASS SHOWN BELOW WITH CORROSION TABLE FOR CONCRETE REQUIREMENTS

PROJECT EXPOSURE CLASS

CLASS	LOTS
S0	ALL LOTS
C1	ALL LOTS

4. FINE AND COARSE AGGREGATE SHALL CONFORM TO ASTM C-33 FOR STANDARD WEIGHT CONCRETE AND ASTM C-330 FOR LIGHT WEIGHT CONCRETE.
5. ALL AGGREGATE SHALL BE COMPARABLE TO "SAN GABRIEL VALLEY" AGGREGATE. THE SHRINKAGE SHALL BE AS PER ASTM C-157 WITH THE AVERAGE DRYING SHRINKAGE AT 28-DAYS NOT EXCEEDING 0.04%.
6. DRYPACK SHALL BE COMPOSED OF ONE PART PORTLAND CEMENT TO NOT MORE THAN THREE PARTS SAND.
7. ANCHOR BOLTS, HOLDOWN BOLTS, DOWELS, INSERTS, ETC. SHALL BE SECURELY TIED IN PLACE PRIOR TO POURING CONCRETE.
8. CONCRETE SHALL BE CURED BY KEEPING CONTINUOUSLY WET FOR 10-DAYS OR BY AN APPROVED CURING COMPOUND.
9. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR MISCELLANEOUS ITEMS TO BE CAST INTO CONCRETE AND FLOOR DEPRESSIONS, PITS, ETC.
10. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF EXPANSION JOINTS, SCORING, ETC. FOR CONCRETE WALKS AND SLABS.
11. ALL STRUCTURAL CONCRETE, TYPE II OR V — F'c = 3,000 PSI
    ALL SLAB-ON-GRADE, TYPE II OR V — F'c = 2,500 PSI
    ALL CONTINUOUS FOOTINGS AND PADS, TYPE II OR V — F'c = 2,500 PSI
    ALL CONCRETE SHALL REACH MINIMUM COMPRESSIVE STRENGTH 28 - DAYS.
12. ALL CONCRETE WITH F'c GREATER THAN 2,500 PSI SHALL HAVE SPECIAL INSPECTION PER SECTION 1704 OF THE 2010 CBC UNLESS NOTED OTHERWISE.
13. CONCRETE FOR SLAB ON GRADE SHALL HAVE A MAXIMUM OF 5 in. OF SLUMP PER ASTM C-143. 5 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE. CEMENT ASTM C-150 TYPE 1 OR 2 MIN.

STRUCT. STEEL

1. THE DEPICTIONS OF ALL MISCELLANEOUS FABRICATED METAL PRODUCTS SHOWN HEREON ARE NOT INTENDED TO BE USED AS FABRICATION SHOP DRAWINGS. THE METAL FABRICATOR SHALL BE RESPONSIBLE FOR ALL METAL FABRICATION DESIGNS IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL CODES AND POLICIES AS WELL AS THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND ANY OTHER INDUSTRY STANDARDS. ALL METAL FABRICATION DESIGNS ARE TO BE SUBMITTED TO AND APPROVED BY THE LOCAL BUILDING INSPECTION DEPARTMENT RESPONSIBLE FOR THE PROJECT PRIOR TO FABRICATION. ALL DIMENSIONS, DETAILS, ETC., SHOWN HEREON ARE INTENDED TO BE SCHEMATIC AND THE DESIGN IS TO BE VERIFIED WITH ALL AFFECTED SUBCONTRACTORS, FIELD CONDITIONS, AND THE REQUIREMENTS OF ALL GOVERNING AGENCIES AND FABRICATION STANDARDS.
   FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AISC, CURRENT EDITION. STEEL TO CONFORM TO ASTM A-992.
2. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS, USING THE ELECTRIC SHIELDING PROCESS AND CONFORMING TO AWS SPECIFICATIONS, E70XX ELECTRODE.
3. ALL STRUCTURAL STEEL SHALL BE FABRICATED IN THE SHOP OF A LICENSED FABRICATOR AND SHOP DRAWINGS SHALL BE SUBMITTED TO **ESI/FME, INC.** THROUGH THE ARCHITECT FOR APPROVAL PRIOR TO FABRICATION. STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS TO THE GENERAL CONTRACTOR AND OWNER FOR REVIEW PRIOR TO FABRICATION. ANY PROPOSED DEVIATION, ADDITION OR QUESTIONS SHALL BE NOTED CONSPICUOUSLY AND CLEARLY ON THE SHOP DRAWINGS.
   STEEL FABRICATOR SHALL FIELD CHECK ALL DIMENSIONS PRIOR TO ERECTION TO PROVIDE FOR A PROPER FIT.
   ALL FIELD WELDING EXCEPT MINOR AND TACK WELDING SHALL BE CONTINUOUSLY INSPECTED BY AN APPROVED WELDING INSPECTOR.
4. USE 3/4" ROUND MACHINE BOLTS, 13/16" ROUND HOLES, FOR ALL CONNECTIONS, UNLESS OTHERWISE SHOWN. ALL BOLTS SHALL CONFORM TO ASTM A-307 FOR UNFINISHED BOLTS, EXCEPT WHERE SPECIFICALLY NOTED AS HIGH STRENGTH BOLTS WHICH SHALL CONFORM TO ASTM A-325 OR ASTM A-490. HI TENSILE BOLTS SHALL BE THE FRICTION TYPE AND THERE SHALL BE NO PAINT, OIL, LACQUER, OR GALVANIZING BETWEEN THE CONTACT SURFACE. HIGH STRENGTH BOLTS REQUIRE SPECIAL INSPECTION PER SEC. 1701.5.6
5. ALL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
6. PIPE COLUMNS SHALL CONFORM TO ASTM A-53-B (TYPE E OR S), U.N.O.
7. TUBE COLUMNS SHALL CONFORM TO ASTM A-501 OR A-500 GRADE B. U.N.O.
8. WHERE FINISH IS ATTACHED TO STRUCTURAL STEEL PROVIDE 1/2" BOLT HOLES AT 4'-0" O/C FOR ATTACHMENT OF NAILERS. SEE ARCHITECTURAL DRAWINGS FOR FINISHES. (OR NELSON STUDS 1/2" X 3" CPL).
9. NONDESTRUCTIVE TESTING PER 2010 CBC SECTION 1703 ON STEEL MOMENT CONNECTION BETWEEN STEEL BEAM AND STEEL COLUMN, ALL FULL PENETRATION GROOVE WELDS CONTAINED IN JOINTS AND SPLICES SHALL BE TESTED 100 PERCENT EITHER BY ULTRASONIC TESTING OR BY RADIOGRAPHY.

FOUNDATION/SITEWORK

1. THE FOUNDATION DESIGN IS BASED ON THE FOUNDATION INVESTIGATION BY SOIL REPORT SUBMITTED:
   PER: PETRA
   PROJECT NO. : 13-248
   DATE : JUNE 3, 2013
2. THE ALLOWABLE SOIL BEARING VALUE IS 2000 PSF. MAY BE INCREASE +200 PSF PER EA. FT OF DEPTH TO 4000 PSF.
3. ALL SITE PREPARATION, EXCAVATION AND COMPACTION SHALL BE DONE UNDER THE SUPERVISION OF THE SOIL ENGINEER.
4. SEPARATE PERMITS SHALL BE OBTAINED FOR ALL FENCES AND WALLS, AS REQUIRED.
5. PROVIDE NON-EXPANSIVE FILL AS REQUIRED TO LEVEL PAD.
6. SURFACE WATER WILL DRAIN AWAY FROM BUILDING. DRAINAGE SHALL BE 2% FROM BUILDING TO SWALE LINE. SWALE SHALL DRAIN AT 1% (MIN.) FROM REAR OF BUILDING TO STREET.
7. THERE SHALL BE NO UTILITY TRENCH NEAR THE BUILDING FOUNDATION WHICH EXTEND DEEPER THAN A 45 DEGREE LINE PROJECTED DOWN AND AWAY FROM THE BOTTOM OUTSIDE CORNER OF ANY FOOTING.
8. SLAB SUBGRADE REQUIREMENTS ARE NOT WITHIN THE SCOPE OF WORK OR LIABILITY OF ESI/FME, INC. THE SUBGRADE CONFIGURATION SHOWN IN DETAIL 1/FD1 OR THE POST-TENSION DETAILS REFLECT THE GENERAL RECOMENDATIONS OF THE SOILS ENGINEER, AND/OR THE SITE CONDITIONS. IT IS THE RESPONSIBILITY OF THE OWNER TO REVIEW THE SLAB SUBGRADE CONFIGURATION WITH THE SOILS ENGINEER, AND CONCRETE/FLOORING CONTRACTORS, FOR ADEQUATE MOISTURE PROTECTION. PLEASE REFER TO THE SOILS REPORT FOR ADDITIONAL RECOMENDATIONS.
9. ALL HOLDOWN ANCHORS, POST BASES AND HOLDOWN BOLTS SHALL BE TIED INTO PLACE PRIOR TO FOUNDATION INSPECTION.
10. PLACE 20'-0" REBAR IN FOUNDATION AT SERVICE LOCATIONS. STUB UP REBAR ABOVE THE FLOOR BY ELECTRIC SERVICE METERS.
11. FOR THE LOCATION OF CONTROL JOINTS, REFER TO THE FOUNDATION PLAN. (ZIP STRIP OR EQUAL). MINIMUM OF 20'-0" O.C. EACH WAY IS RECOMMENDED.
12. DRIVEWAY PAVING SHALL BE 4" PORTLAND CEMENT CONCRETE. (5 SACKS MIN.).
13. FOR POST-TENSION SLAB, REFER TO APPROVED PLANS PREPARED BY OTHERS.
14. MINIMUM SLAB REINFORCEMENT AND PAD REQUIREMENT SHALL CONFORM TO THE SOILS ENGINEER'S RECOMMENDATIONS, U.N.O..

MASONRY

1. ALL MASONRY WORK SHALL CONFORM TO THE LATEST EDITION THE CALIFORNIA BUILDING CODE.
2. CONCRETE BLOCK SHALL BE OF SIZES SHOWN ON ARCHITECTURAL DRAWINGS AND/OR CALLED FOR IN SPECS. AND CONFORM TO ASTM C90-05, GRADE "N" NORMALWEIGHT UNITS WITH MAXIMUM LINEAR SHRINKAGE OF 0.06 % f'm = 1500 PSI GROUTED REINFORCED CELLS.
3. MORTAR MIX SHALL CONSIST OF ONE PART PORTLAND CEMENT, VOLUME OF SAND NOT LESS THAT 2-1/2 AND NOT MORE THAN 3 TIMES THE SUM OF THE VOLUMES OF CEMENT AND LIME USED, AND ½ TO ½ PART HYDRATED LIME OR LIME PUTTY. MINIMUM COMPRESSIVE STRENGTH OF MORTAR TO BE f'm=1800PSI TYPE S OR M.
4. GROUT SHALL CONSIST OF ONE PART PORTLAND CEMENT, 3 PARTS SAND AND 2 PARTS PEA GRAVEL. COMPRESSIVE STRENGTH OF GROUT SHALL NOT BE LESS THAN f'g = 2000 PSI.
5. PROVIDE CLEANOUT OPENINGS AT BOTTOM OF ALL VERTICALLY GROUTED CELLS IF GROUT LIFT EXCEEDS 4'-0'.
6. ALL REINFORCING SHALL HAVE A MINIMUM COVERAGE OF 1/2" GROUT.
7. BOLTS SHALL BE GROUTED WITH 1" OF GROUT BETWEEN BOLT AND MASONRY.
8. NO PIPES OR DUCTS SHALL BE PLACED IN MASONRY WALLS UNLESS SPECIFICALLY NOTED OR DETAILED.
9. DOWELS IN CONCRETE FOR MASONRY WALLS SHALL BE THE SAME SIZE AND SPACING AS MASONRY WALL REINFORCING.
10. ALL MASONRY, EXCEPT VENEER, SHALL BE REINFORCED GROUTED MASONRY, GROUT CELLS CONTAINING REINFORCING UNLESS NOTED OTHERWISE. GROUT SOLID ALL MASONRY RETAINING EARTH UP TO 6 in. ABOVE RETAINING WALL.
11. ALL VERTICAL REINFORCING IN MASONRY WALLS NOT RETAINING EARTH SHALL BE LOCATED IN THE CENTER OF THE WALL, U.N.O.
12. REINFORCING SHALL BE SECURELY HELD AND BRACED IN PLACE TO PREVENT MOVEMENT WHILE PLACING MASONRY.
13. THE MINIMUM QUALTIY ASSURANCE PROGRAM FOR MASONRY IN NON-ESSENTIAL FACILATIES SHALL COMPLY WITH TABLE 1.18.2 OF TMS 402-08/ACI 530-08/ASCE 5-08.. THE MINIMUM QUALTIY ASSURANCE PROGRAM FOR MASONRY IN ESSENTIAL FACILITIES SHALL COMPLY WITH WITH TABLE 1.18.3 OF TMS 402-08/ACI 530-08/ASCE 5-08..

CORROSION REQUIREMENTS

TABLE 4.3.1 ACI318-08 REQUIREMENTS FOR CONCRETE BY EXPOSURE CLASS

CAT.	SEVERITY	CLASS	CONDITION: WATER-SOLUBLE SULFATE (SO_4)IN SOIL, PERCENT BY WEIGHT	CONDITION: DISSOLVED SULFATE (SO_4)IN WATER, PPM	NORMAL WT. AGGREGATE Maximum w/cm	LIGHTWEIGHT AGGREGATE CONC. (Min f'c) Fc Normal Weight and Lightweight Aggregate Concrete, psi	ADDITIONAL REQUIREMENTS: CEMENT† TYPE	
S SULFATE	NOT APPLICABLE	S0	0-0.10	0-150	N/A	2,500	NO TYPE RESTRICTION	
	MODERATE	S1	0.10-0.20	150-1500 (SEAWATER)	0.50	4,000	II ‡	
	SEVERE	S2	0.20-2.00	1500-10.000	0.45	4,500	V §	
	VERY SEVERE	S3	>2.00	>10,000	0.45	4,500	V plus pozzolan or slag #	
							MAX. WATER-SOLUBLE CHLORIDE ION(Cl^-) CONTENT IN CONCRETE PERCENT BY WEIGHT OF CEMENT‡	
							REINFORCED CONCRETE	PRESTRESSED CONCRETE
C CORROSION PROTECTION OF REINFORCE-MENT	NOT APPLICABLE	C0	CONCRETE DRY OR PROTECTED FROM MOISTURE		N/A	2,500	1.00	0.06
	MODERATE	C1	CONCRETE EXPOSED TO MOISTURE BUT NOT TO EXTERNAL SOURCES OF CHLORIDES.		N/A	2,500	0.30	0.06
	SEVERE **	C2	CONCRETE EXPOSED TO MOISTURE AND EXTERNAL SOURCES OF CHLORIDES FROM DEICING CHEMICALS, WATER, SEATWATER, OR SPRAY FROM THESE SOURCES.		.40	5,000	0.15	0.06

† Alternative combinations of cermentitious materials of those listed in Table 4.3.1 shall be permitted when tested for sulfate resistance and meeting criteria in 4.5.1 of ACI 318.
‡ For seawater exposure, other types of portland cements with tricalcium aluminate (C_3A) contents up to 10 percent are permitted if the w/cm does not exceed 0.40.
§ Other available types of cement such as Type III or Type I are permitted in Exposure Classes S1 or S2 it the C_3A contents are less than 8 or 5 percent, repsectively.
# The ammount of the specific source of the possolan or slag to be used shall not be less than the ammount that has been determined by service record to improve sulfate resistance when used in concrete containing Type V cement. Alternatively, the amount of the specific source of the pssolan or slag to be sused shall not be less than the amount tested in accordance with ASTM C1012 and meeting the criteria of 4.5.1 of ACI 318.
‡ Water-soluable chloride ion content that is contributed from the ingredients include water, aggregates, cerementitious materials, and admixutres shall be determined on the concrete mixture by ASTM C1218 at age between 29 and 42 days.
** Requirements of 7.7.6 of ACI 318 shall be statisfied. See 18.16 of ACI 318 for unbonded tendons.

DESIGN LOADS:

VERTICAL	SEISMIC		WIND
6'X8' VEHICULAR GATE = 250 LBS	SEISMIC DESIGN CATEGORY = D		WIND VELOCITY = 85 MPH
	SITE CLASS = D		WIND EXPOSURE = C
	Ss = 1.335	S_1 = .600	WIND PRESSURE qs =14.8 PSF
	SDs = 0.890	SD1 = 0.600	SOILS
			PASSIVE = 150 psf / SBP = 2000 psf
			ACTIVE = 38 psf / FRICTION = .25

SPECIAL INSPECTION PROGRAM AND DESIGNATION OF SPECIAL INSPECTORS

SPECIAL INSPECTIONS
(Only Checked Items are Required)

INSPECTION ITEMS	Continuous (C) or Periodic (P)	SPECIAL INSPECTOR(S) NAME, PHONE NUMBER, REGISTRATION #
[X] CONCRETE (Design Mix, Form Work, Placement, etc., Per Table 1704.4)	P	
[ ] Bolts Installed in Concrete (Table 1704.4)	P	
[X] All Masonry Construction (Tables 1704.5.1 or 1704.5.3)	P	
[X] Soils (Excavation, Fill, Etc. per Table 1704.7)	P	

DECLARATION BY OWNER:
I, the Owner, declare that the above listed Special Inspector(s) are hired by me.

Print Name ____ Signature ____ Date ____

ESI/FME, INC.
STRUCTURAL ENGINEERS
1800 E. 16TH STREET, UNIT B
SANTA ANA, CA 92701
PHONE: 714-835-2800
FAX: 714-835-2819
JN:-C879 05.13.13

REGISTERED PROFESSIONAL ENGINEER — No. S2345 — STATE OF CALIFORNIA

SPORTS FIELD
@ 555 MAPLE AVENUE
CITY OF TORRANCE, CALIFORNIA 90503
by LAND CONCERN, 1750 East Deere Ave., Santa Ana, CA. 92705 ph: (949) 250-4822

REVISIONS			
NO.	DATE	NO.	DATE

PROJECT ENGINEER: R.R.W.
DRAFTER: K.N.
PLOT DATE: 08/14/2013
JOB NO.: 513-C879
SHEET: SGN
SHEET: OF: