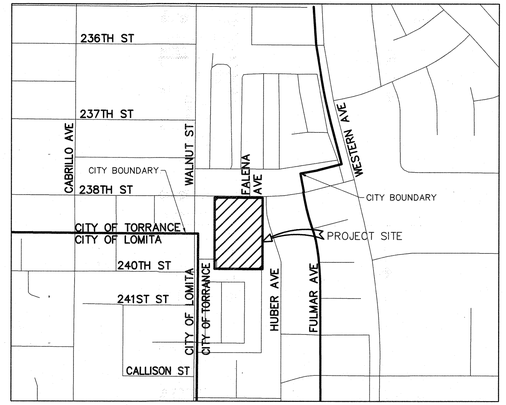
CITY OF TORRANCE

CONSTRUCTION PLANS FOR WALNUT STORM WATER CAPTURE AND GROUNDWATER REPLENISHMENT BASIN, I-173



VICINITY MAP
1" = 500'
THOMAS GUIDE: 2007, PAGE 793, H2, H3, J2, J3

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2012 STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 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 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. IF THE UTILITY OWNER IS THE CITY OF TORRANCE, A CONFIRMATION NUMBER INDICATING THE CITY HAS BEEN NOTIFIED SHALL BE OBTAINED BY USA AND/OR THE CONTRACTOR FROM THE APPROPRIATE CITY DEPARTMENT.
4. 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 310-783-9339.
5. 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 "CITY OF TORRANCE TRAFFIC CONTROL STANDARDS" AND "CA MUTCD" LATEST EDITION. THE CONTRACTOR SHALL PROVIDE A 24-HOUR TELEPHONE NUMBER FOR EMERGENCY REPAIRS TO TRAFFIC CONTROL AND PAVEMENT MARKINGS.
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. CRUSHED MISCELLANEOUS BASE (CMB) PER SECTION 200-2.4 OF THE STANDARD SPECIFICATIONS SHALL BE USED AS BASE MATERIAL UNDER SIDEWALK, CURBS, GUTTERS, CROSS GUTTERS, BUS PADS, DRIVEWAY APRONS AND PAVEMENT FOR ALL STREETS AND ALLEYS.
9. 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 CALIFORNIA TEST 217 OR ASTM D2419 AS CALLED FOR IN SECTION 200-2 OF THE STANDARD SPECIFICATIONS.
10. X" DIMENSION SHOWN ON SPPWC STANDARD 110 SHALL BE 3 FEET UNLESS OTHERWISE CALLED FOR ON THE PLAN OR IN THE SPECIFICATIONS.
11. 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.
12. 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.
13. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 PRIOR TO TRIMMING, REMOVING OR RELOCATING ANY EXISTING STREET TREE.
14. 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.
15. STORM DRAIN CONNECTIONS TO THE L.A. COUNTY STORM DRAIN SYSTEM REQUIRE A PERMIT FROM L.A. COUNTY (626-458-3129) BEFORE ISSUANCE OF A CITY PERMIT.
16. TRENCHES CUT INTO AN EXISTING ROADWAY WITHIN THE PUBLIC RIGHT OF WAY SHALL BE BACKFILLED AND PAVED PER TORRANCE STD T116.
17. PLANTED AND IRRIGATED PARKWAY(S) (IF REQUIRED) SHALL HAVE MATERIALS AND PLANTS APPROVED BY THE STREETSCAPE MANAGER PRIOR TO INSTALLATION.
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.
19. MANHOLE AND CATCH BASIN COVERS SHALL BE CAST WITH THE WORDS "TORRANCE DRAIN" FOR CITY MAINTAINED LINES AND "PRIVATE DRAIN" FOR PRIVATELY MAINTAINED LINES

LEGEND / HATCH

▪▪▪▪▪▪▪▪▪▪	BLOCK WALL
—X— X —X—	CHAIN LINK FENCE
— — E — —	ELECTRICAL
— — G — —	GAS (NATURAL)
— — O — —	OIL
— — OHE— —	OVERHEAD LINE
— — S — —	SEWER
— — SD — —	STORM DRAIN
— — W — —	WATER
	AC PAVEMENT
	PCC PAVEMENT
	JUTE EROSION CONTROL MATTING
	CAB/RIP RAP

ABBREVIATIONS

AC	ASPHALT CONCRETE	N.T.S.	NOT TO SCALE
CAB	CRUSHED AGGREGATE BASE	PCC	PORTLAND CEMENT CONCRETE
CL	CENTERLINE	PVC	POLYVINYL CHLORIDE
DWY	DRIVEWAY	RCP	REINFORCED CONCRETE PIPE
E	EAST	SD	STORM DRAIN
E'LY	EASTERLY	SS	SANITARY SEWER
EX	EXISTING	ST	STREET
GV	GAS VALVE	SPPWC	STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
LACDPW	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS	TEL	TELEPHONE
		W	WATER
MH	MANHOLE	W'LY	WESTERLY
N	NORTH	WV	WATER VALVE

STANDARD PLANS

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (SPPWC)

(2012 EDITION & REVISIONS)

110-2	DRIVEWAY APPROACHES
111-5	CURB RAMP
113-2	SIDEWALK AND DRIVEWAY REPLACEMENT
120-2	CURB AND GUTTER - BARRIER
300-3	CURB OPENING CATCH BASIN
313-3	LOCAL DEPRESSIONS AT CATCH BASINS
324-2	MANHOLE SHAFT WITH ECCENTRIC REDUCER
335-2	PIPE CONNECTIONS TO EXISTING STORM DRAINS
360-2	SLOPED PROTECTION BARRIER
430-1	CONCRETE LIGHTING STANDARD TYPE C-1
600-3	CHAIN LINK FENCE AND GATES
601-4	REINFORCED CONCRETE BLOCK WALL
630-4	24" (600 mm) MANHOLE FRAME AND COVER
635-3	STEEL STEP
636-2	POLYPROPYLENE-PLASTIC STEP

CITY OF TORRANCE

T104	PAVEMENT COATING
T116-2	TRENCH BACKFILL & PAVEMENT REPAIRS
T204	BEDDING FOR SEWER PIPE
T302	BEDDING FOR STORM DRAIN PIPE
T603	STREET CLOSURE POLICY
T604	BLOCK PARTY STREET CLOSURE
T703	TYPICAL 3/4" OR 1" METER INSTALLATION WITH 1" SERVICE LINE
T704	TYPICAL 1-1/2" OR 2" METER INSTALLATION WITH 2" SERVICE LINE
T715	STEEL CASING PIPE

CALTRANS

(2010 EDITION & REVISIONS)

T3A	TEMPORARY RAILING (TYPE K)
T3B	TEMPORARY RAILING (TYPE K)
D86B	PIPE CULVERT HEADWALLS, ENDWALLS AND WARPED WINGWALLS

LACDPW

(JANUARY 2008)

3080-3	PIPE BEDDING IN TRENCHES

UTILITY CONTACTS

COMPANY	CONTACT	PHONE NO.
AT&T LOCAL SERVICES	MARY RAMOS	(626) 578-3701
CHARTER	ANTHONY XANTHIS	(310) 216-4182
COX COMMUNICATIONS	SUZI SCHUTZMAN	(619) 266 5605
CALIFORNIA WATER SERVICE	MICHAEL MILLER	(310) 257-1400
PHILLIPS 66 PIPELINE	LEO MARTINEZ	(805) 226-2656
PLAINS ALL AMERICAN PIPELINE	DAVID DELGADO	(562) 728-2054
SEWER (CITY OF TORRANCE)	CITY OF TORRANCE	(310) 781-6900
SOUTHERN CALIFORNIA EDISON (SCE)	SCE EMERGENCY PERSONNEL	(800) 611-1911
SOUTHERN CALIFORNIA GAS	GAMALIEL VAZQUEZ	(310) 605-2194
TORRANCE WATER	ANDY DARLAK	(310) 781-6900

SHEET INDEX

BASIS OF BEARINGS AND DATUM STATEMENT

THE BEARING FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, ZONE 5 NAD 83 (EPOCH 2007.0) AS DETERMINED LOCALLY ALONG THE CENTERLINE OF: SPK 1FT W/O W. CURB WESTERN AVENUE; 61FT N/O C/L 238TH STREET; N. END CB

BENCHMARKS

ELEVATIONS AS SHOWN HEREON ARE IN TERMS OF THE NATIONAL GEODETIC VERTICAL DATUM OF 88 (NGVD88), 2014 QUAD YEAR BASED LOCALLY UPON THE FOLLOWING COUNTY OF LOS ANGELES BENCHMARK(S):
BM 21-01538, ELEVATION =(69.806) FT
STORM DRAIN EASEMENT CALCULATED PER RECORD DATA AS SHOWN ON TRACT 20829

REFERENCES:
R1= FCSD 9814-135
R2= FCSD 9814-137
R3= FCSD 9814-139
R4= TRACT NO. 20829

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG

REGISTERED PROFESSIONAL ENGINEER — WILLIAM B. ARMSTRONG — No. C 52060 — Exp. 12/31/20 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED BY: CWE
1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

CIVIL ENGINEER: 52060 LICENSE NO. 12/31/20 EXP. DATE

REVISIONS				
REV	DATE	BY	CHECKED	DESCRIPTION

WALNUT STORM WATER CAPTURE AND GROUNDWATER REPLENISHMENT BASIN, I-173

TITLE SHEET, GENERAL NOTES, LEGEND, SHEET INDEX, AND STANDARDS

DESIGNED BY: S. BELL
DRAWN BY: T. TAKIGAWA
PROJECT ENGINEER: WILSON MENDOZA
ENGINEERING MANAGER: JOHN C. DETTLE, P.E.

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED BY:
CRAIG BILEZERIAN, P.E.
CITY ENGINEER
R.C.E. NO. 55339
5/6/2019 DATE

SHEET 1 OF 9
SCALE: 1" = 40'
SPECIFICATION NO.
SUPPLEMENTAL PLAN NO.
PLAN NO. SD-512

Z:\17254\06 Tasks\D1 Design\80 Storm Drain\17254 - C-01-02-TS&NOTES.dwg

NOTICE TO CONTRACTOR:

1. INSPECTION: ALL WORK AND MATERIALS ARE SUBJECT TO INSPECTION PURSUANT TO SECTION 2-11 OF THE GREEN BOOK.
2. AT LEAST THIRTY (30) DAYS BEFORE THE START OF CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE CITY AT (310) 781-6900 TO VERIFY THAT THERE IS NO PROPOSED PROJECT IN THIS AREA.
3. NOTIFICATION: AT LEAST TEN (10) DAYS BEFORE THE START OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY, IN WRITING, ABUTTING PROPERTY OCCUPANTS OF THE PROPOSED CONSTRUCTION START DATE. A COPY OF SAID WRITTEN NOTIFICATION SHALL BE PROVIDED TO THE INSPECTOR FOR APPROVAL BEFORE THEY ARE DISTRIBUTED TO THE OCCUPANTS OF THE ABUTTING PROPERTY.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FACILITIES.
5. UNAUTHORIZED CHANGES AND USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS AND THE CITY OF TORRANCE.
6. PLANS ARE NOT TO BE UTILIZED UNLESS STAMPED "APPROVED" BY THE ENGINEER OF RECORD.
7. CONTRACTOR SHALL PROVIDE TIMELY NOTIFICATION TO THE ENGINEER OF RECORD OF ANY POTENTIAL OR ACTUAL DISCREPANCIES BETWEEN CIVIL PLANS AND OTHER PLANS/ACTUAL FIELD CONDITIONS.
8. ELEVATIONS INDICATED MAY HAVE BEEN INTERPOLATED FROM EXISTING TOPOGRAPHIC OR RECORD MAPS, CONTRACTOR SHALL FIELD VERIFY ELEVATIONS AND LOCATIONS WHERE PROPOSED IMPROVEMENTS JOIN EXISTING.
9. NOT ALL UTILITIES MAY BE SHOWN, CONTRACTOR SHALL FIELD VERIFY ELEVATIONS AND LOCATIONS OF ALL AFFECTED UTILITIES. PROTECT IN PLACE, RELOCATE, OR REPLACE AS NECESSARY. PROVIDE TEMPORARY UTILITY SERVICES AS NECESSARY.
10. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS, INSTALLATION DRAWINGS, CATALOG CUT-SHEETS, PRODUCT SPECIFICATIONS, AND OTHER APPLICABLE SUBMITTALS, IN A TIMELY MANNER, TO THE ENGINEER FOR APPROVAL.
11. WHERE EXISTING WATER SERVICES OR SEWER LATERALS ARE TO BE UTILIZED, CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND FUNCTIONALITY OF SUCH SERVICES OR LATERALS.

ADVANCE CONSTRUCTION NOTICE SIGNS:

12. THE CONTRACTOR SHALL VERIFY ALL DIMENSION AND CONDITIONS IN THE FIELD PRIOR TO STARTING ANY WORK.
13. THE ENGINEER DOES NOT WARRANT THE ACCURACY OF SCALED DIMENSION ON ANY PLAN. ALL DIMENSIONS SHALL BE AS DESIGNATED ON THE PLAN.
14. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL RIGHTS TO USE PROPERTIES OUTSIDE THE CITY'S RIGHT-OF-WAY WHICH THE CONTRACTOR DEEMS NECESSARY TO PERFORM ANY OF THE WORK UNDER THIS CONTRACT. ALL PRIVATE RIGHTS SHALL BE OBTAINED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.
15. THE CONTRACTOR SHALL PROTECT ALL PUBLIC AND PRIVATE PROPERTY DURING THE PERFORMANCE OF WORK DONE UNDER THIS CONTRACT. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTION TO AVOID ANY DAMAGE TO ANY STRUCTURES OR FEATURES ADJACENT TO THE CONSTRUCTION LIMITS, THE CONTRACTOR SHALL ALSO PROVIDE FOR THE PROTECTION OF THE PEDESTRIANS.
16. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FROM THE BUILDING OFFICIAL PRIOR TO COMMENCING ANY GRADING OR EXCAVATIONS.
17. SELECTIVE REMOVALS:
    - A. REMOVE EXISTING IMPROVEMENTS THAT INTERFERE WITH THE CONSTRUCTION OF THIS PROJECT, AND NO MORE THAN IS INDICATED IN THE DEMOLITION PLAN.
    - B. ALL REMOVALS OR RELOCATIONS OF EXISTING UTILITIES SHALL BE COORDINATED WITH THE OWNER OF SAID UTILITY. NO REMOVALS OR RELOCATIONS OF EXISTING UTILITIES SHALL COMMENCE PRIOR TO APPROVAL OF SAID UTILITY.
18. REPAIR AND/OR REPLACE ANY EXISTING BROKEN OR OFF-GRADE PAVEMENT, CONCRETE CURB, GUTTER OR SIDEWALK IMMEDIATELY ADJACENT TO OR WITHIN THE AREA OF THIS IMPROVEMENT SATISFACTORY TO THE CITY ENGINEER.
19. SURVEY MONUMENT PRESERVATION IS REQUIRED AND SHALL INCLUDE SUBMITTAL OF PRE AND POST CONSTRUCTION SURVEY MONUMENT TIES TO THE ENGINEER.

UNSTABLE SUBSTANCE:

20. THE CONTRACTOR SHALL POTHOLE EXISTING SURFACE INSTALLATIONS CARRYING UNSTABLE SUBSTANCES TO DETERMINE THEIR LOCATIONS AND ELEVATIONS PRIOR TO COMMENCING EXCAVATION. (NO POWER TOOL PERMITTED, EXCEPT TO BREAK PAVEMENT).
21. THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH ALL UTILITY COMPANIES RESPONSIBLE FOR WORK TO BE PERFORMED NEAR THEIR RESPECTIVE FACILITIES. IN THE EVENT THAT THE CONTRACTOR'S OPERATION REQUIRES UTILITY RELOCATION IN ADDITION TO THAT SPECIFIED ON THE PLAN, SUCH ADDITIONAL WORK SHALL BE AT CONTRACTOR'S EXPENSE.
22. ALL CONCRETE AND SOIL NOT UTILIZED IN CONSTRUCTION WILL BE DISPOSED OF IN ACCORDANCE WITH THE APPLICABLE JURISDICTION REGULATION.

STORM DRAIN CONSTRUCTION NOTES:

23. NO CONSTRUCTION DEBRIS WILL BE ALLOWED TO FALL IN TO THE CATCH BASIN OR STORM DRAIN, IF ANY MATERIAL IS INADVERTENTLY INTRODUCED, THEN IT MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
24. THE CONTRACTOR SHALL VERIFY THE ELEVATION OF ANY SUBSTRUCTURE INDICATED WITH AN ASTERISK (*) AND SHALL SECURE CLEARANCE OF THE ENGINEER OF RECORD BEFORE PROCEEDING WITH INSTALLATION OF THE PIPE.

TREE REMOVAL AND ROOT TRIMMING:

25. ROOT TRIMMING: TREE(S) MUST BE TRIMMED PRIOR TO ROOT PRUNING TO COMPENSATE FOR THE ROOT LOSS AND TO STABILIZE THE TREE. THE CROWN OF THE TREE IS TO BE REDUCED BY NO MORE THAN 25% OF FOLIAGE (UNLESS APPROVED OTHERWISE BY AN URBAN FORESTRY ARBORIST). PRUNE THE ROOTS ON ONE SIDE OF THE ROOT SYSTEM ONLY (UNLESS APPROVED OTHERWISE BY AN URBAN FORESTRY ARBORIST). DO NOT PRUNE ROOTS LARGER THAN 4" DIAMETER (PERMIT IS REQUIRED).

    CONTRACTOR IS TO TRIM THE TREE(S) TO THE SATISFACTION OF THE CITY NATURALIST (PERMIT IS REQUIRED).

    NOTIFY CITY NATURALIST AT (310) 782-3989, FIVE WORKING DAYS PRIOR TO TRIMMING AND/OR ROOT PRUNING FOR A REPRESENTATIVE TO INSPECT AND ISSUE THE NECESSARY PERMITS.

LAY DOWN AREA:

26. THE CONTRACTOR SHALL BE RESPONSIBLE TO SECURE AND PAY FOR ALL NECESSARY CONSTRUCTION LAYDOWN AREAS.
27. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITIES OF RENTING OPERATING EQUIPMENTS.
28. ALL REPAIRS TO CONSTRUCTION LAYDOWN AREAS AND TEMPORARY IMPROVEMENTS SHALL BE INSPECTED AND APPROVED BY THE INSPECTOR AND/OR AN AUTHORIZED REPRESENTATIVE OF THE PROPERTY OWNER PER REQUEST.
29. THE CONTRACTOR SHALL REMOVE, REGRADE AND, WHEN NECESSARY, BACKFILL TO RESTORE THE CONSTRUCTION LAY DOWN ACCESS AND TEMPORARY IMPROVEMENTS TO ITS ORIGINAL/FORMER CONDITION AT THE COMPLETION OF THE WORK.
30. THE CONTRACTOR SHALL BACKFILL EXCAVATED AREAS WITH ENGINEERED FILL UP TO THE ORIGINAL GRADE, UNLESS OTHERWISE SPECIFIED OR INDICATED ON THESE PLANS.

LACFCD FACILITY CONCRETE REMOVAL NOTES

WHERE REINFORCEMENT IS REQUIRED TO EXTEND THROUGH THE NEW JOINT, CONCRETE SHALL BE REMOVED IN THE FOLLOWING SEQUENCE.

1. A SAWCUT SHALL BE MADE ONE AND ONE-HALF INCHES DEEP AT THE REMOVAL LIMITS. CARE SHALL BE EXERCISED IN SAWING AT THE REMOVAL LIMITS SO AS NOT TO CUT THE REINFORCING STEEL IN THE REMAINING SLAB. THE EXISTING REINFORCING STEEL SHALL BE RETAINED AND EXTENDED INTO THE NEW CONSTRUCTION AS INDICATED ON THE PLANS.
2. USING HANDHELD EQUIPMENT, THE CONCRETE SHALL BE CAREFULLY REMOVED FOR THE FULL DEPTH OF THE WALL OR SLAB AND FOR A MINIMUM DISTANCE FROM THE SAWCUT EQUAL TO THE LONGEST EXTENSION OF THE EXISTING BARS TO BE EXTENDED INTO THE NEW CONSTRUCTION. THIS EXTENSION SHALL BE 30 BAR DIAMETERS, UNLESS OTHERWISE SHOWN.
3. EXISTING REINFORCEMENT SHALL BE CUT TO THE REQUIRED BAR EXTENSION.
4. THE REMAINING CONCRETE MAY BE REMOVED BY ANY SUITABLE METHOD UPON APPROVAL OF THE ENGINEER, WHO SHALL BE THE SOLE JUDGE OF THE USE OF ANY CONCRETE REMOVAL EQUIPMENT. EXPLOSIVES, WRECKING BALL, OR OTHER SIMILAR DEVICES, WHICH ARE LIKELY TO DAMAGE THE CONCRETE TO BE LEFT IN PLACE, SHALL NOT BE USED.

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG

REGISTERED PROFESSIONAL ENGINEER — ABRAM BAPTISTE — No. C 52060 — Exp. 12/31/20 — CIVIL — STATE OF CALIFORNIA

CIVIL ENGINEER: ABRAM BAPTISTE | LICENSE NO. 52060 | EXP. DATE 12/31/20

PLANS PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

REVISIONS				
REV	DATE	BY	CHECKED	DESCRIPTION

WALNUT STORM WATER CAPTURE AND GROUNDWATER REPLENISHMENT BASIN, I-173

GENERAL NOTES

DESIGNED BY: S. BELL | DRAWN BY: T. TAKIGAWA

PROJECT ENGINEER: WILSON MENDOZA

ENGINEERING MANAGER: JOHN C. DETTLE, P.E.

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED BY:

CRAIG BILEZERIAN, P.E.
CITY ENGINEER
R.C.E. NO. 55339

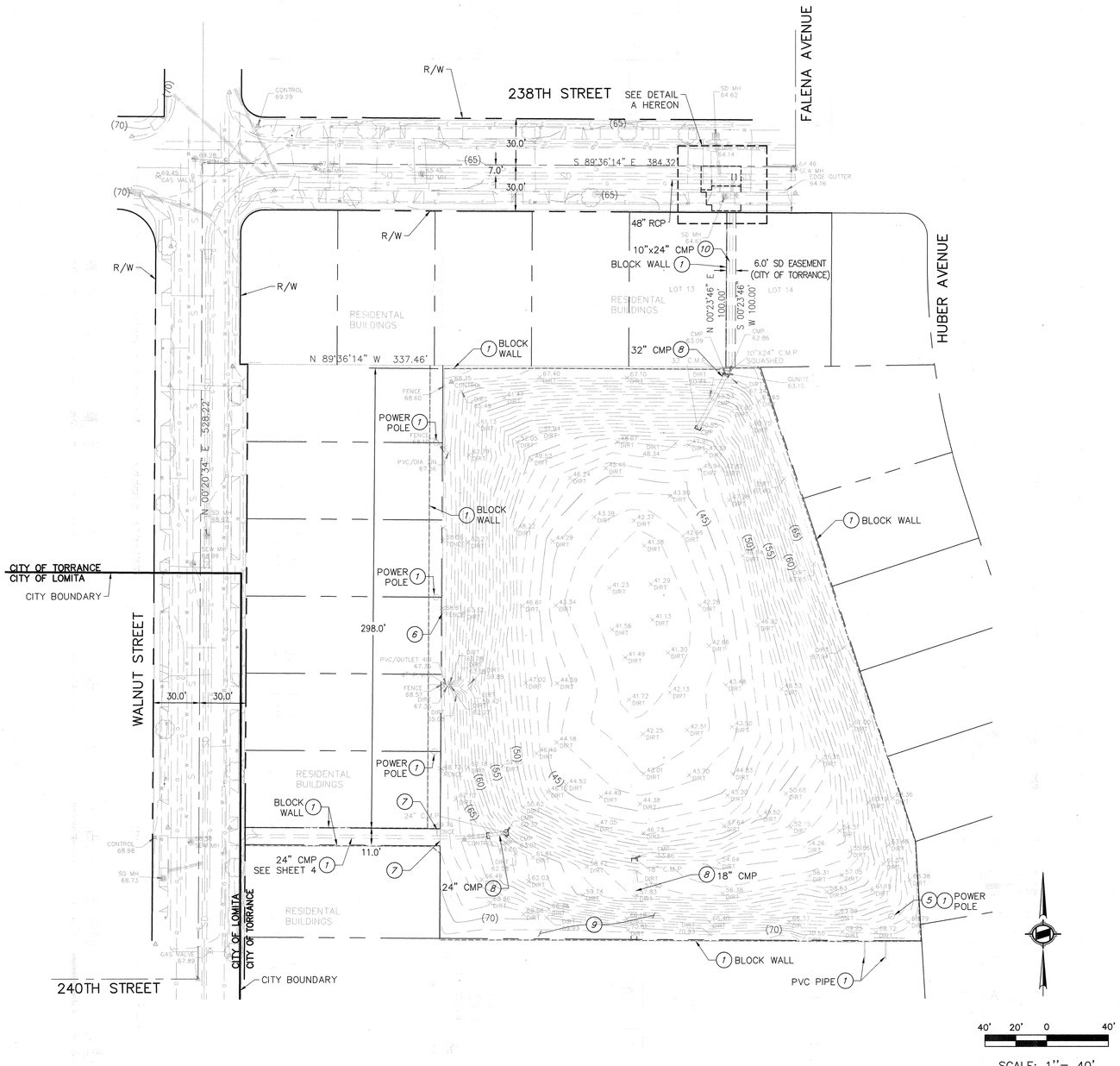
5/6/2019
DATE

SHEET 2 OF 9
SCALE: 1" = 40'
SPECIFICATION NO.
SUPPLEMENTAL PLAN NO.
PLAN NO. **SD-512**

Z:\17254\06 Tasks\01 Design\80 Storm Drain\17254 - C-01-02-TS&NOTES.dwg

DEMOLITION NOTES:

1. PROTECT IN PLACE
2. SAWCUT AND REMOVE EXISTING AC PAVEMENT
3. SAWCUT AND REMOVE EXISTING PCC PAVEMENT
4. REMOVE EXISTING CATCH BASIN
5. REMOVE ABANDONED ELECTRICAL EQUIPMENT ON WOOD POLE
6. REMOVE EXISTING CHAIN LINK FENCE
7. REMOVE CHAIN LINK FENCE SWING GATE
8. REMOVE EXISTING STORM DRAIN
9. REMOVE TRASH FROM SITE
10. FILL EXISTING STORM DRAIN WITH SLURRY. ABANDON EXISTING STORM DRAIN PER SECTION 306-5 OF THE STANDARD SPECIFICATIONS.



DETAIL A
SCALE: 1"=10'

40' 20' 0 40'

SCALE: 1"= 40'

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG

REGISTERED PROFESSIONAL ENGINEER — WILLIAM B. PARK — No. C 52060 — Exp. 12/31/20 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

CIVIL ENGINEER: 52060 LICENSE NO. 12/31/20 EXP. DATE

REVISIONS				
REV	DATE	BY	CHECKED	DESCRIPTION

WALNUT STORM WATER CAPTURE AND GROUNDWATER REPLENISHMENT BASIN, I-173

DEMOLITION PLAN AND NOTES

DESIGNED BY: S. BELL
DRAWN BY: T. TAKIGAWA
PROJECT ENGINEER: WILSON MENDOZA
ENGINEERING MANAGER: JOHN C. DETTLE, P.E.

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

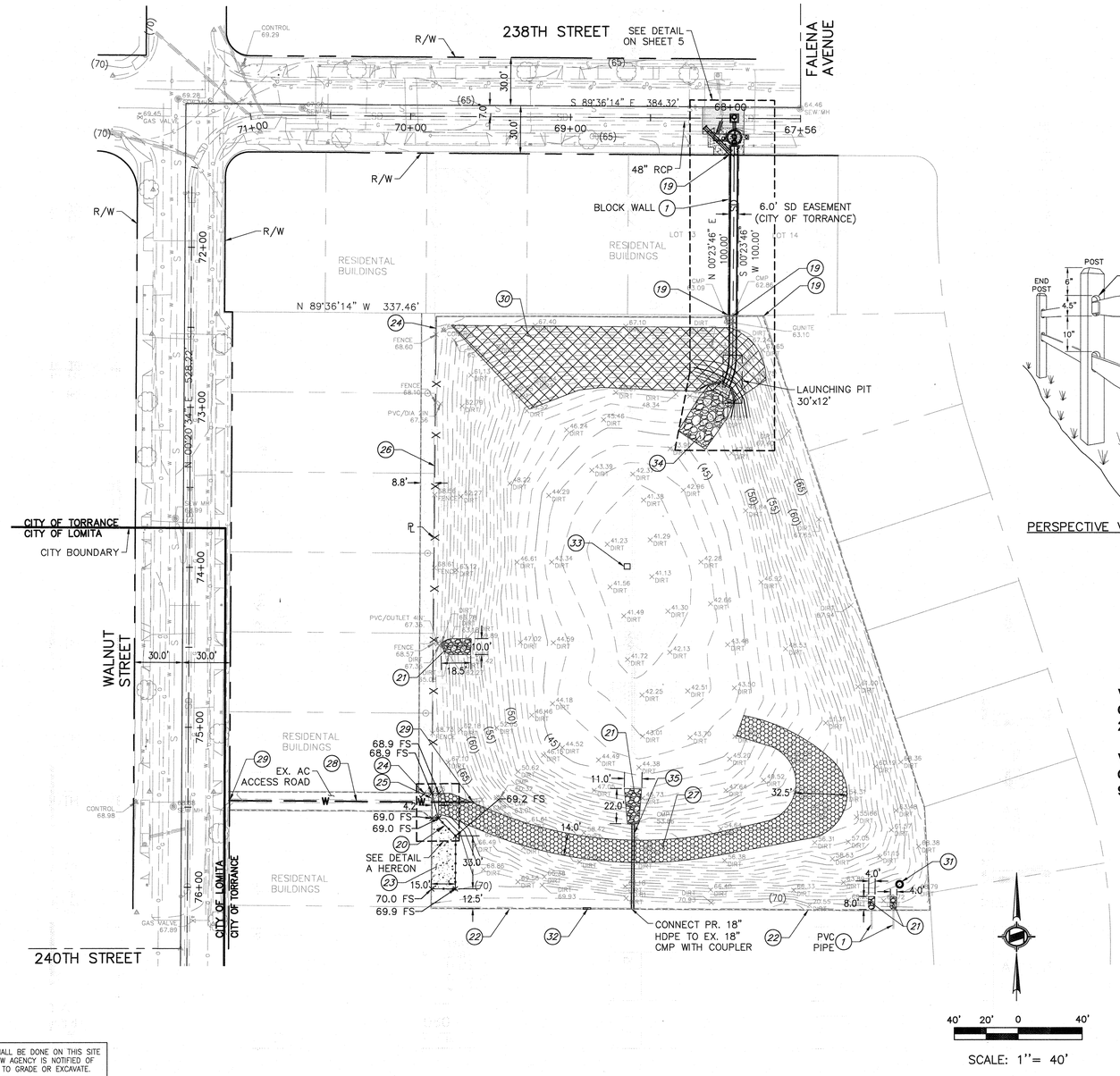
APPROVED BY:
CRAIG BILEZERIAN, P.E.
CITY ENGINEER
R.C.E. NO. 55339
5/6/2019 DATE

SHEET 3 OF 9
SCALE: 1" = 40'
SPECIFICATION NO.
SUPPLEMENTAL PLAN NO.
PLAN NO. **SD-512**

Z:\17254\06 Tasks\D1 Design\80 Storm Drain\17254 - C-03-DEMO.dwg

CONSTRUCTION NOTES:

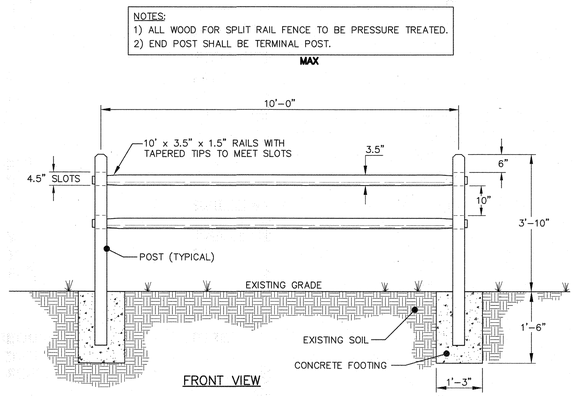
(1) PROTECT IN PLACE
(19) ESTABLISH BENCHMARK ON BLOCK WALL PER SPECIFICATIONS
(20) SPLIT-RAIL FENCE PER DETAIL ON SHEET 4
(21) 6" DEPTH OF 2" GRAVEL
(22) BARBED WIRES AND ANGLE BRACKETS PER DETAIL HEREON
(23) 4" THICK CONCRETE PAD
(24) 6' HIGH WALK GATE WITH BARBED WIRE PER SPPWC STD PLAN 600-3
(25) 6' HIGH SINGLE LEAF DRIVE GATE WITH BARBED WIRE PER SPPWC STD PLAN 600-3, W=16'
(26) 6' HIGH CHAIN LINK FENCE WITH BARBED WIRE PER SPPWC STD PLAN 600-3
(27) 2" CAB ACCESS ROAD (3,755 SF)
(28) 152 LF OF 8" PVC CASING INSTALLED IN 24" CMP PER CITY STD PLAN T715 FOR FUTURE IRRIGATION PIPE CAPPED ON BOTH ENDS
(29) 8" CLEANOUT FOR 8" PVC CASING
(30) JUTE EROSION CONTROL MATTING AND SEEDS (CA BUCKWHEAT, CA SUNFLOWER, OR FOOTHILLS NEEDLE GRASS)
(31) PHENOLOGY STUDY CAMERA ON EXISTING POWER POLE
(32) REPAIR BROKEN SECTION OF CINDER BLOCK WALL
(33) FOOT INCREMENT STAFF GAUGE 10' HIGH
(34) RIP RAP PER SECTION 200-1.6 OF THE STANDARD SPECIFICATIONS (FACING CLASS)
(35) 18" ANNULAR CHDPE STORM DRAIN PIPE, BEDDING PER CITY STD PLAN T302



SCALE: 1"= 40'

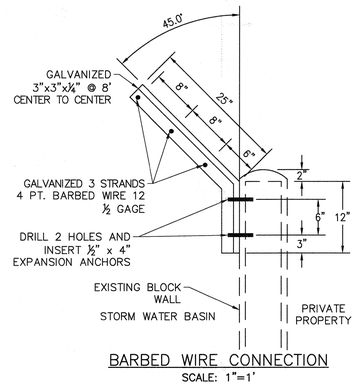
PERSPECTIVE VIEW

NOTES:
1) ALL WOOD FOR SPLIT RAIL FENCE TO BE PRESSURE TREATED.
2) END POST SHALL BE TERMINAL POST.



FRONT VIEW

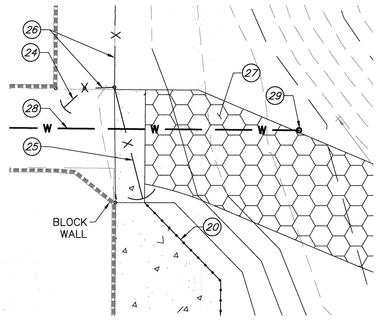
SPLIT-RAIL FENCE
SCALE: 1"=2'



BARBED WIRE CONNECTION
SCALE: 1"=1'

VOLUME REQUIRED FOR FULL CAPTURE OF 85TH PERCENTILE STORM: 2.72 ACRE-FEET

VOLUME AVAILABLE BELOW ELEVATION OF OUTFLOW: 9.17 ACRE-FEET



DETAIL A
SCALE: 1"=10'

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG

REGISTERED PROFESSIONAL ENGINEER — BRYAN M. BALL — No. C 52060 — Exp. 12/31/20 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

CIVIL ENGINEER: 52060 LICENSE NO. 12/31/20 EXP. DATE

REVISIONS				
REV	DATE	BY	CHECKED	DESCRIPTION

WALNUT STORM WATER CAPTURE AND GROUNDWATER REPLENISHMENT BASIN, I-173

SITE PLAN

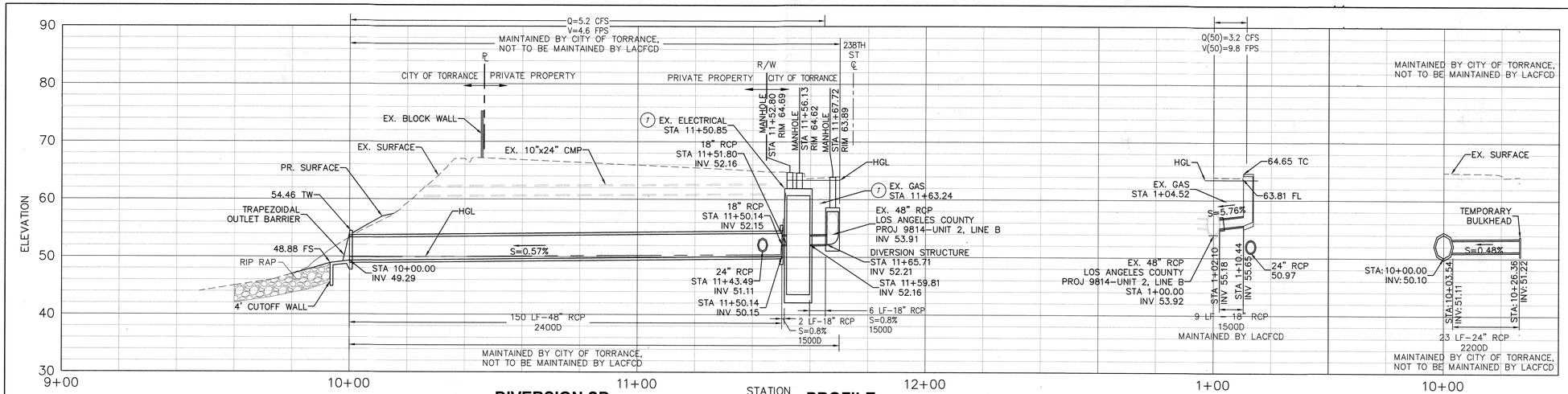
DESIGNED BY: S. BELL
DRAWN BY: T. TAKIGAWA
PROJECT ENGINEER: WILSON MENDOZA
ENGINEERING MANAGER: JOHN C. DETTLE, P.E.

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED BY:
CRAIG BILEZERIAN, P.E.
CITY ENGINEER
R.C.E. NO. 55339
DATE 5/6/2019

SHEET 4 OF 9
SCALE: 1" = 40'
SPECIFICATION NO.
SUPPLEMENTAL PLAN NO.
PLAN NO. **SD-512**

Z:\17254\06 Tasks\01 Design\80 Storm Drain\17254 - C-04-SITE PLAN.dwg



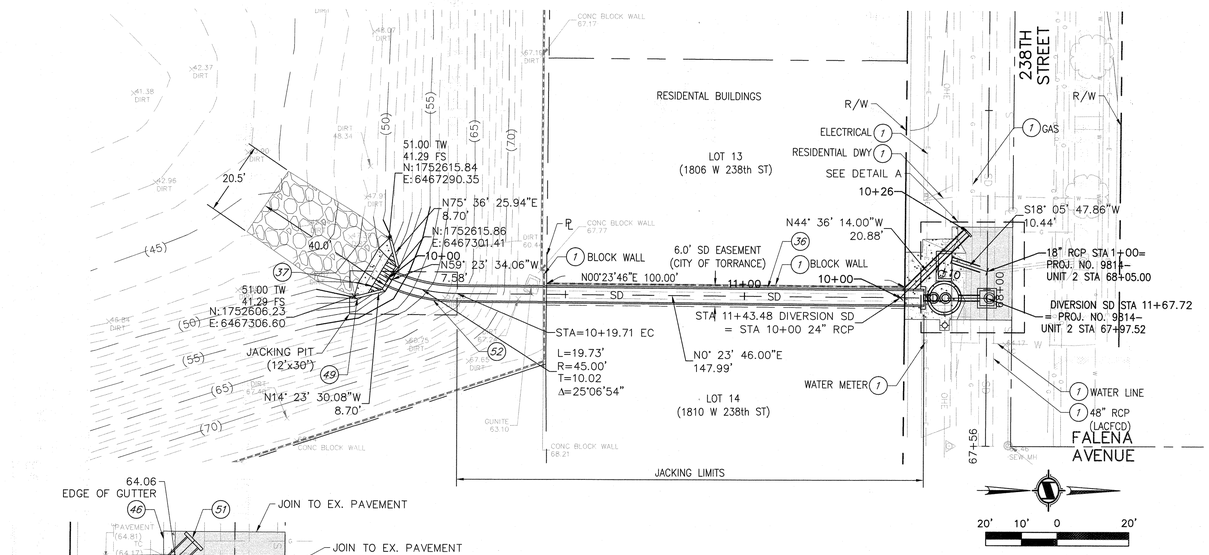
DIVERSION SD PROFILE

VERT: 1"=10'
HORIZ: 1"=20'

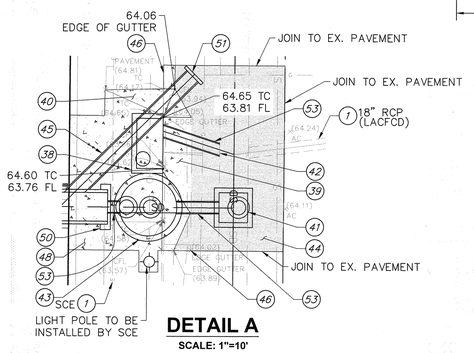
18" RCP / 24" RCP CONSTRUCTION NOTES:

CONSTRUCTION NOTES:

1. PROTECT IN PLACE
36. 48" RCP, 2400D, BEDDING PER LACDPW STD PLAN 3080-3, JACKED INTO PLACE PER SECTION 306-2 OF THE STD SPECIFICATIONS
37. TRAPEZOIDAL OUTLET BARRIER PER SPPWC STD PLAN 360-2
38. CATCH BASIN PER SPPWC STD PLAN 300-3 (W=7', H=10", V=9')
39. LOCAL DEPRESSION PER SPPWC STD PLAN 313-3, CASE B
40. DRIVEWAY APPROACH, PER SPPWC STD PLAN 110-2, TYPE B (APRON ONLY)
41. DIVERSION STRUCTURE PER DETAIL ON SHEET 6
42. CONNECTION TO EXISTING STORM DRAIN PER SPPWC STD PLAN 335-2, CASE 1
43. HYDRODYNAMIC SEPARATOR (96" I.D.) PER DETAIL ON SHEET 6
44. 5" AC OVER 6" AB
45. 24" RCP STUB, 2200D, BEDDING PER LACDPW STD PLAN 3080-3, AT 45° ANGLE (FOR FUTURE CONNECTION), CONNECTION PER SPPWC STD PLAN 335-2, CASE 1
46. CURB AND GUTTER PER SPPWC STD PLAN 120-2 (A2-6(150))
48. CONSTRUCT PCC SIDEWALK PER SPPWC STD PLAN 113-2
49. CONCRETE HEADWALL AND WINGWALLS PER CALTRANS STD PLAN D86B (MAX H=5.17', L=6.92', W=5.58', ANGLE OF FLARE = 15')
50. PERMANENT PIPE BULKHEAD PER DETAIL HEREON
51. TEMPORARY PIPE BULKHEAD PER DETAIL HEREON
52. 48" RCP, 2400D, BEDDING PER LACDPW STD PLAN 3080-3
53. 18" RCP, 1500D, BEDDING PER LACDPW STD PLAN 3080-3

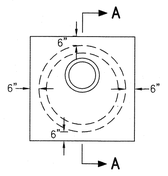


SCALE: 1''= 20'



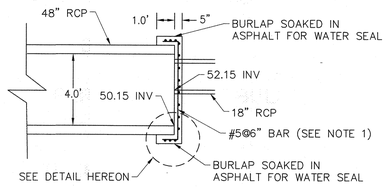
DETAIL A

SCALE: 1"=10'



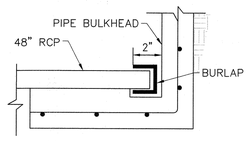
FRONT VIEW

SCALE: 1"=4'



SECTION A-A

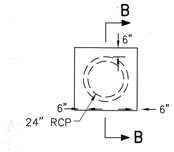
SCALE: 1"=4'



WATER SEAL DETAIL

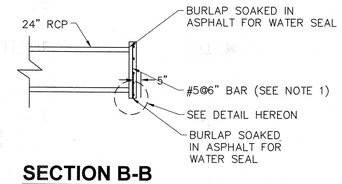
SCALE: NTS

PERMANENT PIPE BULKHEAD



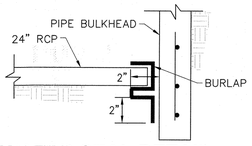
FRONT VIEW

SCALE: 1"=4'



SECTION B-B

SCALE: 1"=4'



WATER SEAL DETAIL

SCALE: NTS

TEMPORARY PIPE BULKHEAD

NOTES:

1. REINFORCEMENT STEEL SHALL BE CENTERED IN BULKHEAD WITH HORIZONTAL "A" BARS TOWARDS OUTSIDE FACE OF BULKHEAD

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG

REGISTERED PROFESSIONAL ENGINEER WINGAM BAO No. C 52060 Exp. 12/31/20 CIVIL STATE OF CALIFORNIA

PLANS PREPARED BY:

CWE 1561 E. ORANGETHORPE AVE. SUITE 240 FULLERTON, CA 92831 (714) 526-7500 www.cwecorp.com

CIVIL ENGINEER: 52060 LICENSE NO. 12/31/20 EXP. DATE

REVISIONS				
REV	DATE	BY	CHECKED	DESCRIPTION

WALNUT STORM WATER CAPTURE AND GROUNDWATER REPLENISHMENT BASIN, I-173

STORM DRAIN PLAN AND PROFILE

DESIGNED BY: S. BELL | DRAWN BY: T. TAKIGAWA

PROJECT ENGINEER: WILSON MENDOZA

ENGINEERING MANAGER: JOHN C. DETTLE, P.E.

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED BY:

CRAIG BILEZERIAN, P.E.
CITY ENGINEER
R.C.E. NO. 55339

5/6/2019 DATE

SHEET 5 OF 9
SCALE: 1" = 20'
SPECIFICATION NO.
SUPPLEMENTAL PLAN NO.
PLAN NO. **SD-512**

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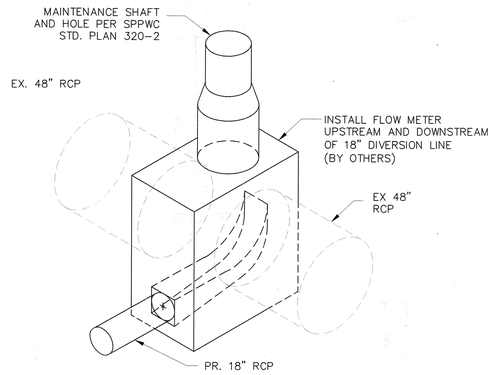
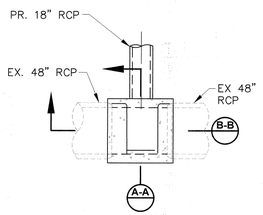
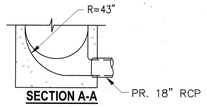


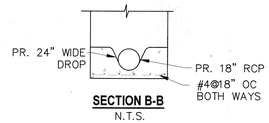
ISOMETRIC VIEW
N.T.S.



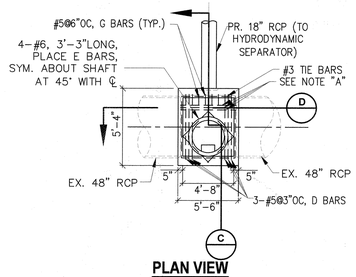
DIVERSION STRUCTURE FLOOR TOP VIEW
N.T.S.



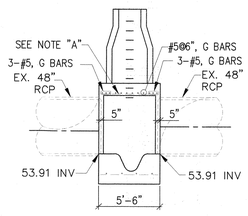
SECTION A-A
N.T.S.



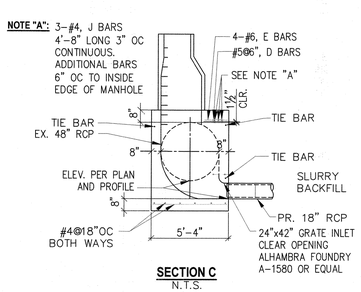
SECTION B-B
N.T.S.



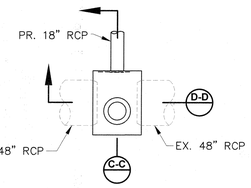
PLAN VIEW
N.T.S.



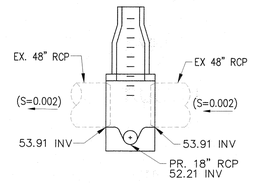
SECTION D
N.T.S.



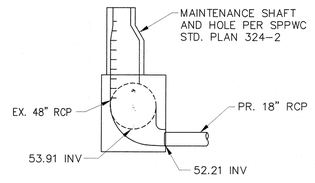
SECTION C
N.T.S.



PLAN VIEW
N.T.S.

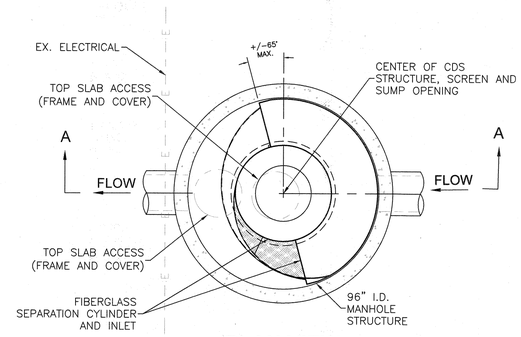


SECTION D-D
N.T.S.

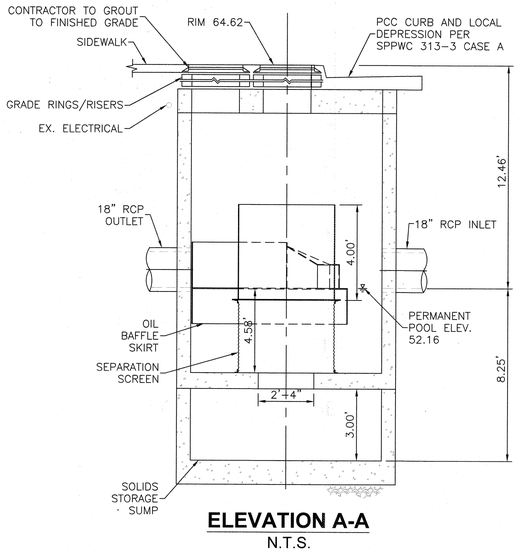


SECTION C-C
N.T.S.

DIVERSION STRUCTURE



PLAN VIEW
N.T.S.



ELEVATION A-A
N.T.S.

HYDRODYNAMIC SEPARATOR

SITE DESIGN DATA: **(OR APPROVED EQUAL)**

WATER QUALITY FLOW RATE	5.16 CFS
RETURN PERIOD OF WATER QUALITY FLOW RATE	85th PERCENTILE
CDS MODEL NUMBER	CDS4040-8-C

MATERIAL LIST:

COUNT	DESCRIPTION	PROVIDED
1	FIBERGLASS INLET AND CYLINDER	CONTECH
1	2400 MICRON SEP. SCREEN	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	GRADE RINGS/RISERS	CONTRACTOR
2	TOP SLAB ACCESS (FRAME AND COVER)	CONTECH
1	PRECAST CONCRETE MANHOLE STRUCTURE	CONTECH
1	CYLINDER EXTENSION	CONTECH
1	SAFETY NETTING	CONTRACTOR

GENERAL NOTES:

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
4. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING.
5. ALL CONCRETE TO BE 6,000 PSI WITH TYPE V CEMENT.

INSTALLATION NOTES FOR CDS UNIT:

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE APPROVED BY OWNER'S REPRESENTATIVE.

B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.

C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.

D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.

E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. ALL JOINTS BELOW PIPE INVERTS TO BE GROUTED.

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG

REGISTERED PROFESSIONAL ENGINEER — WILLIAM BAZZI — No. C 52060 — Exp. 12/31/20 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED BY:
CWE
1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

CIVIL ENGINEER: 52060 LICENSE NO. 12/31/20 EXP. DATE

REVISIONS				
REV	DATE	BY	CHECKED	DESCRIPTION

WALNUT STORM WATER CAPTURE AND GROUNDWATER REPLENISHMENT BASIN, I-173

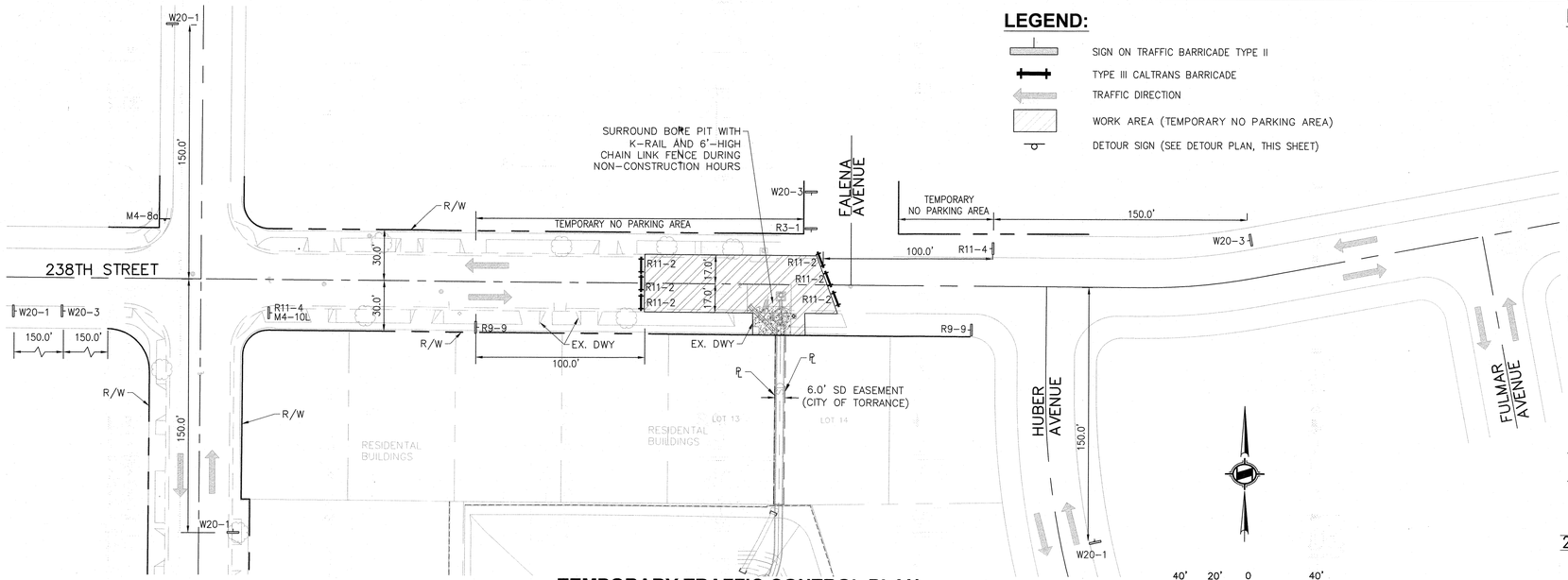
DETAILS

DESIGNED BY: S. BELL
DRAWN BY: T. TAKIGAWA
PROJECT ENGINEER: WILSON MENDOZA
ENGINEERING MANAGER: JOHN C. DETTLE, P.E.

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED BY:
CRAIG BILEZERIAN, P.E.
CITY ENGINEER
R.C.E. NO. 55339
5/6/2019 DATE

SHEET 6 OF 9
SCALE: 1" = 40'
SPECIFICATION NO.
SUPPLEMENTAL PLAN NO.
PLAN NO. **SD-512**



TEMPORARY TRAFFIC CONTROL PLAN

LEGEND:

- SIGN ON TRAFFIC BARRICADE TYPE II
- TYPE III CALTRANS BARRICADE
- TRAFFIC DIRECTION
- WORK AREA (TEMPORARY NO PARKING AREA)
- DETOUR SIGN (SEE DETOUR PLAN, THIS SHEET)

NOTES:

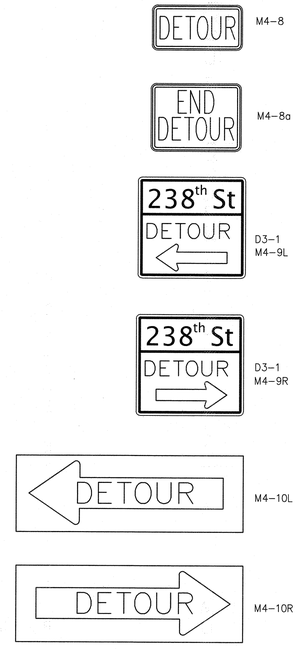
1. REMOVE CONFLICTING STRIPING AND COVER ALL CONFLICTING TRAFFIC SIGNS DURING TRAFFIC CONTROL PHASE
2. DELINEATORS OR K-RAIL TO BE PLACED TO NOT BLOCK RESIDENT DRIVEWAY
3. WORK AREA SHALL BE KEPT CLEAR FOR DRIVEWAY ACCESS VISIBILITY DURING NON-WORKING HOURS
4. IF FLAGGERS ARE DEEMED NECESSARY BY THE CITY OF TORRANCE, FLAGGERS MUST BE TRAINED AS REQUIRED BY SECTION 3203 OF THE CAL-OSHA GENERAL INDUSTRIAL SAFETY ORDERS. EYE CONTACT MUST BE MAINTAINED BETWEEN FLAGGERS, OR USE 2-WAY RADIO COMMUNICATION.
5. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF SECTION 7-10 (PUBLIC CONVENIENCE AND SAFETY) OF THE "GREENBOOK" (STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2012 EDITION). THIS INCLUDES BUT NOT LIMITED TO THAT THE CONTRACTOR SHALL PROVIDE SAFE AND ADEQUATE PEDESTRIAN AND VEHICULAR ACCESS TO PROPERTIES ADJACENT OR WITHIN THE WORK ZONE, EXCEPT WHEN NECESSARY CONSTRUCTION PRECLUDES SUCH ACCESS FOR REASONABLE PERIODS OF TIME. THE CONTRACTOR SHALL COOPERATE WITH VARIOUS PARTIES INVOLVED IN THE DELIVERY OF MAIL AND THE COLLECTION AND REMOVAL OF TRASH AND GARBAGE TO MAINTAIN EXISTING SCHEDULES FOR THESE SERVICES
6. CONTRACTOR MUST SUBMIT A NOTIFICATION LETTER TO THE PUBLIC WORKS DEPARTMENT FOR APPROVAL AT LEAST SEVEN (7) WORKING DAYS BEFORE PROPOSED STREET CLOSURE. SEE STD T104 FOR ADDITIONAL REQUIREMENTS FOR PAVEMENT COATINGS.
7. AFTER APPROVAL OF NOTIFICATION LETTER, THE CONTRACTOR SHALL HAND DELIVER THIS LETTER TO ALL RESIDENTS AND BUSINESSES LOCATED ALONG THE STREET OR ALLEY TO BE CLOSED AT LEAST FIVE (5) WORKING DAYS PRIOR TO SAID CLOSURE.
8. IF THE CLOSURE IS TO TAKE PLACE ON A STREET OR ALLEY WHERE CITY TRASH COLLECTION OCCURS, THE CONTRACTOR SHALL NOT CLOSE THE STREET OR ALLEY ON TRASH COLLECTION DAY. CONTACT THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 TO CONFIRM TRASH COLLECTION DAY.
9. THE CONTRACTOR SHALL ASSIST THE CITY'S TRASH COLLECTORS DURING TRASH COLLECTION DAY. TRASH COLLECTION DAY IS THURSDAY.
10. THE CONTRACTOR SHALL NOTIFY THE CITY OF TORRANCE PUBLIC WORKS DEPARTMENT (310-781-6900) AT LEAST FOUR (4) WORK DAYS AND POLICE (310-618-5557), FIRE (310-781-7042), SCHOOLS IN PROXIMITY (JOHN ADAMS ELEMENTARY SCHOOL), AND THE U.S. POST OFFICE BRANCH SERVICING THE AREA OF THE PROPOSED CLOSURE AT LEAST TWO (2) WORK DAYS IN ADVANCE OF THE PROPOSED CLOSURE.
11. THE CONTRACTOR IS RESPONSIBLE TO POST "TEMPORARY NO PARKING" SIGNS AT LEAST 48 HOURS (TWO WORK DAYS) IN ADVANCE OF THE FIRST DATE OF ENFORCEMENT. EACH SIGN MUST INCLUDE THE BEGINNING AND END DATES AND THE HOURS IN EFFECT (IF NOT 24 HOURS/DAY). "TOW-AWAY" AND "CITY OF TORRANCE" MUST BE WRITTEN ON THE SIGN FACE.

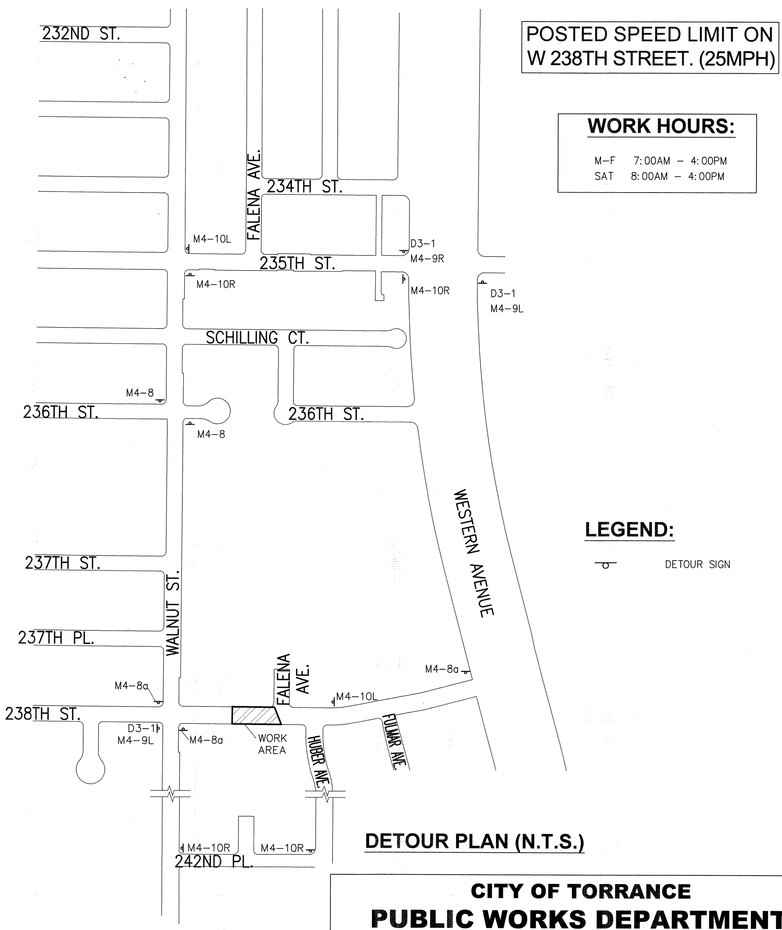
    SIGNS SHALL BE PROFESSIONALLY MADE OF MOISTURE-RESISTANT, HEAVY DUTY CARDBOARD OR OTHER APPROVED MATERIAL. ALL SIGNS SHALL BE MAINTAINED BY THE CONTRACTOR AND KEPT FREE OF GRAFFITI. ANY SIGN WHICH BECOMES ILLEGIBLE OR IS REMOVED SHALL BE REPLACED WITHIN 24 HOURS (ONE WORK DAY). THE CONTRACTOR SHALL ONLY BE PERMITTED TO RESTRICT PARKING FOR THE MINIMUM TIME NECESSARY TO COMPLETE ONGOING WORK AND SHALL BE RESPONSIBLE TO REMOVE AND REPOST "TEMPORARY NO PARKING" SIGNS IF AND WHEN PARKING CAN BE RESTORED FOR MORE THAN FIVE (5) CONSECUTIVE DAYS, UNLESS OTHERWISE APPROVED BY THE COMMUNITY DEVELOPMENT DIRECTOR.

    THE CONTRACTOR SHALL OBTAIN APPROVAL FOR THE SIGNS AND THE PLACEMENT THEREOF FROM THE INSPECTOR. IMMEDIATELY AFTER THIS APPROVAL AND POSTING, THE CONTRACTOR SHALL NOTIFY TORRANCE POLICE DEPARTMENT, TRAFFIC DIVISION, AT 310-618-5557, FOR REVIEW AND ENFORCEMENT.
12. A CONSTRUCTION AND EXCAVATION PERMIT MUST BE OBTAINED BEFORE CLOSING ANY STREET. CONTACT THE COMMUNITY DEVELOPMENT DEPARTMENT AT 310-618-5898.
13. CONTRACTOR SHALL BE RESPONSIBLE TO ESTABLISH ALTERNATE DATE(S) FOR STREET CLOSURE IF RAIN OR OTHER CONDITIONS STOP WORK ON THE CHOSEN DATE(S) AND TO NOTIFY ALL RESIDENTS, BUSINESSES AND AGENCIES OF THE CHANGE(S). CONTRACTOR SHALL BE RESPONSIBLE TO CORRECT OR REPLACE ALL SIGNS.

GENERAL NOTES

1. THESE STANDARD NOTES AND PLANS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OR MAINTENANCE WORK, INCLUDING SAFETY OF ALL PERSONS, VEHICLES, AND PROPERTY.
2. ALL WORK, MATERIALS, PRACTICES, AND PRINCIPLES SHALL COMPLY WITH THE CALTRANS STANDARD PLANS AND SPECIFICATIONS LATEST EDITION, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES LATEST EDITION, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES CALIFORNIA SUPPLEMENT LATEST EDITION, AND THE WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH) LATEST EDITION.
3. TRAFFIC CONTROL PLANS PREPARED BY A REGISTERED TRAFFIC ENGINEER OR REGISTERED CIVIL ENGINEER IN THE STATE OF CALIFORNIA MAY BE REQUIRED IF THE COMPLEXITY OF THE CONSTRUCTION AND ITS CORRESPONDING TRAFFIC CONTROL EXCEED THE CONTENT OF THESE STANDARDS.
4. NO DEVIATIONS OR EXCEPTIONS FROM THESE STANDARDS NOTES OR PLANS SHALL BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE CITY ENGINEER.
5. CONES AND DELINEATORS SHALL GENERALLY BE PLACED ON EXISTING LANE LINES, EXCEPT AS NECESSARY FOR LANE CLOSURES TAPERS.
6. ALL STRIPING AND MARKINGS SHALL CONFORM TO THE STATE OF CALIFORNIA, STANDARD PLANS AND SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES LATEST EDITION.
7. ALL CONFLICTING STRIPING, MARKINGS, AND LEGENDS SHALL BE COMPLETELY REMOVED BY AN APPROVED METHOD PRIOR TO ANY CHANGE IN THE TRAFFIC PATTERN.
8. ALL EXISTING SIGNING SHALL BE PROTECTED IN PLACE AND FREE FROM OBSTRUCTED VIEW FOR TRAFFIC. IN THE EVENT THAT EXISTING SIGNING IS CONTRADICTORY TO TEMPORARY SIGNING FOR CONSTRUCTION, THE CONTRACTOR SHALL EITHER COMPLETELY COVER THE EXISTING SIGNING OR REMOVE THE SIGNING AND SUPPORTING POSTS ENTIRELY AND REPLACE THE COMPLETE INSTALLATION WITH NEW SIGNING AND SUPPORTS AT THE CONCLUSION OF CONSTRUCTION ACTIVITIES.
9. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES EXCEPT AS NECESSARY FOR CONSTRUCTION ACTIVITIES IN THE IMMEDIATE VICINITY OF THE WORK AREA.
10. CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER AS TO CAUSE AS LITTLE INCONVENIENCE AS POSSIBLE TO THE PUBLIC AND ABUTTING PROPERTY OWNERS.
11. THE CONTRACTOR SHALL HAVE ALL SIGNS, DELINEATORS, BARRICADES, ETC., PROPERLY INSTALLED PRIOR TO CONSTRUCTION.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING, AT ALL TIMES, ALL SIGNS, DELINEATORS, BARRICADES, ETC., TO ENSURE PROPER FLOW AND SAFETY OF TRAFFIC.
13. THE CONTRACTOR SHALL UTILIZE FLAG MEN DURING WORK HOURS AS REQUIRED BY THESE STANDARD PLANS AND AS DEEMED NECESSARY BY THE CITY TO ASSIST IN MAINTAINING SAFE TRAFFIC FLOW.
14. THE FIRST SIGN IN A SERIES OF ADVANCED WARNING SIGNS SHALL BE EQUIPPED WITH FLAGS.
15. FLASHING YELLOW BEACONS, TYPE "B", SHALL BE USED ON ALL BARRICADES THAT PROTECT THE WORK AREA AFTER NORMAL WORKING HOURS SET FORTH HEREIN.
16. ALL SIGNS SHALL BE RETROREFLECTORIZED AND OF STANDARD SIZES.
17. THE CONTRACTOR SHALL BE REQUIRED TO REPLACE STRIPING AND LEGENDS TO THEIR ORIGINAL CONDITION AFTER COMPLETION OF CONSTRUCTION.
18. ALL DELINEATORS SHALL BE 36" MINIMUM, SURFACE ADHESIVE MOUNT CHANNELIZER, ORANGE IN COLOR, AND SHALL BE REPAIRED, REPLACED, OR CLEANED AS NECESSARY TO PRESERVE THEIR APPEARANCE AND CONTINUITY.
19. ALL CONES SHALL BE FITTED WITH 12" MINIMUM REFLECTIVE SLEEVES FOR NIGHTTIME TRAFFIC CONTROL. MAXIMUM SPACING BETWEEN DELINEATORS SHALL BE 15'.
20. AT LEAST EVERY THIRD CONE AND/OR DELINEATOR SHALL HAVE DELINEATOR OR CONE-MOUNTED DIRECTIONAL ARROWS PER SECTION 7-4 OF THE WORK AREA TRAFFIC CONTROL "WATCH" HANDBOOK.
21. BARRICADES SHALL BE USED, IN LIEU OF OR IN ADDITION TO RUBBER GUIDE POSTS AS REQUIRED BY THESE STANDARD PLANS AND AT THE DIRECTION OF THE CITY, WHEN THEY ARE INTENDED TO PROVIDE ADDITIONAL EMPHASIS IN AREAS WHERE WORKERS ARE PRESENT.
22. C27 "OPEN TRENCH" SHALL BE USED IN CONJUNCTION WITH TYPE II BARRICADES DURING CONSTRUCTION AND NIGHTTIME CLOSURES AS APPLICABLE.
23. WHERE LIGHTS ARE USED TO DELINEATE THE TRAVELED WAY THROUGH AND AROUND THE WORK AREA, THEY SHALL BE TYPE "C" – STEADY BURN LAMPS.
24. ALL RESIDENTIAL STREET ACCESS RESTRICTED BY CONSTRUCTION OR MAINTENANCE ACTIVITIES SHALL BE RESTORED AT THE END OF EACH WORKING DAY UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
25. MAINTAIN LOCAL AND EMERGENCY ACCESS AT ALL TIMES.
26. THE CONTRACTOR SHALL NOTIFY CITY TRAFFIC ENGINEER AT (310) 781-6900, FOUR (4) WORK DAYS PRIOR TO THE START OF CONSTRUCTION FOR THE POSTING OF TEMPORARY "TOW AWAY NO STOPPING" SIGNS AS NEEDED.
27. FOR QUESTIONS REGARDING TRAFFIC LANE REQUIREMENTS, PLEASE CALL THE CITY TRAFFIC ENGINEER AT (310) 781-6900.





POSTED SPEED LIMIT ON W 238TH STREET. (25MPH)

WORK HOURS:

M-F 7:00AM – 4:00PM
SAT 8:00AM – 4:00PM

LEGEND:

- DETOUR SIGN

DETOUR PLAN (N.T.S.)

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG

REGISTERED PROFESSIONAL ENGINEER BRIGHAM BARTLETT No. C 52060 Exp. 12/31/20 CIVIL STATE OF CALIFORNIA

PLANS PREPARED BY: CWE
1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

CIVIL ENGINEER: 52060 LICENSE NO. 12/31/20 EXP. DATE

REVISIONS				
REV	DATE	BY	CHECKED	DESCRIPTION

WALNUT STORM WATER CAPTURE AND GROUNDWATER REPLENISHMENT BASIN, I-173

TRAFFIC CONTROL PLAN

DESIGNED BY: S. BELL
DRAWN BY: T. TAKIGAWA
PROJECT ENGINEER: WILSON MENDOZA
ENGINEERING MANAGER: JOHN C. DETTLE, P.E.

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED BY:
CRAIG BILEZERIAN, P.E.
CITY ENGINEER
R.C.E. NO. 55339
5/6/2019 DATE

SHEET 7 OF 9
SCALE: 1" = 40'
SPECIFICATION NO.
SUPPLEMENTAL PLAN NO.
PLAN NO. **SD-512**

Z:\17254\06 Tasks\01 Design\80 Storm Drain\17254 - C-07-TRAFFIC CONTROL.dwg

LEGEND:

- LIMIT OF CONSTRUCTION AREA
- PROPERTY LINE
- PROPERTY LINE
- DIRECTION OF FLOW
- MONITORING/SAMPLING LOCATION
- GRAVEL BAG BERM (SE-6)
- STORM DRAIN INLET PROTECTION (SE-10)
- STABILIZED CONSTRUCTION ENTRANCE EXIT (TC-1)
- STOCKPILE MANAGEMENT (WM-3)

EROSION CONTROL:
EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-3 HYDRAULIC MULCH
EC-4 HYDROSEEDING
EC-5 SOIL BINDERS
EC-6 STRAW MULCH
EC-7 GEOTEXTILES & MATS
EC-8 WOOD MULCHING
EC-9 EARTH DIKES AND DRAINAGE SWALES
EC-10 VELOCITY DISSIPATION DEVICES
EC-11 SLOPE DRAINS
EC-14 COMPOST BLANKETS
EC-15 SOIL PREPERATION/ROUGHENING
EC-16 NON-VEGETATIVE STABILIZATION

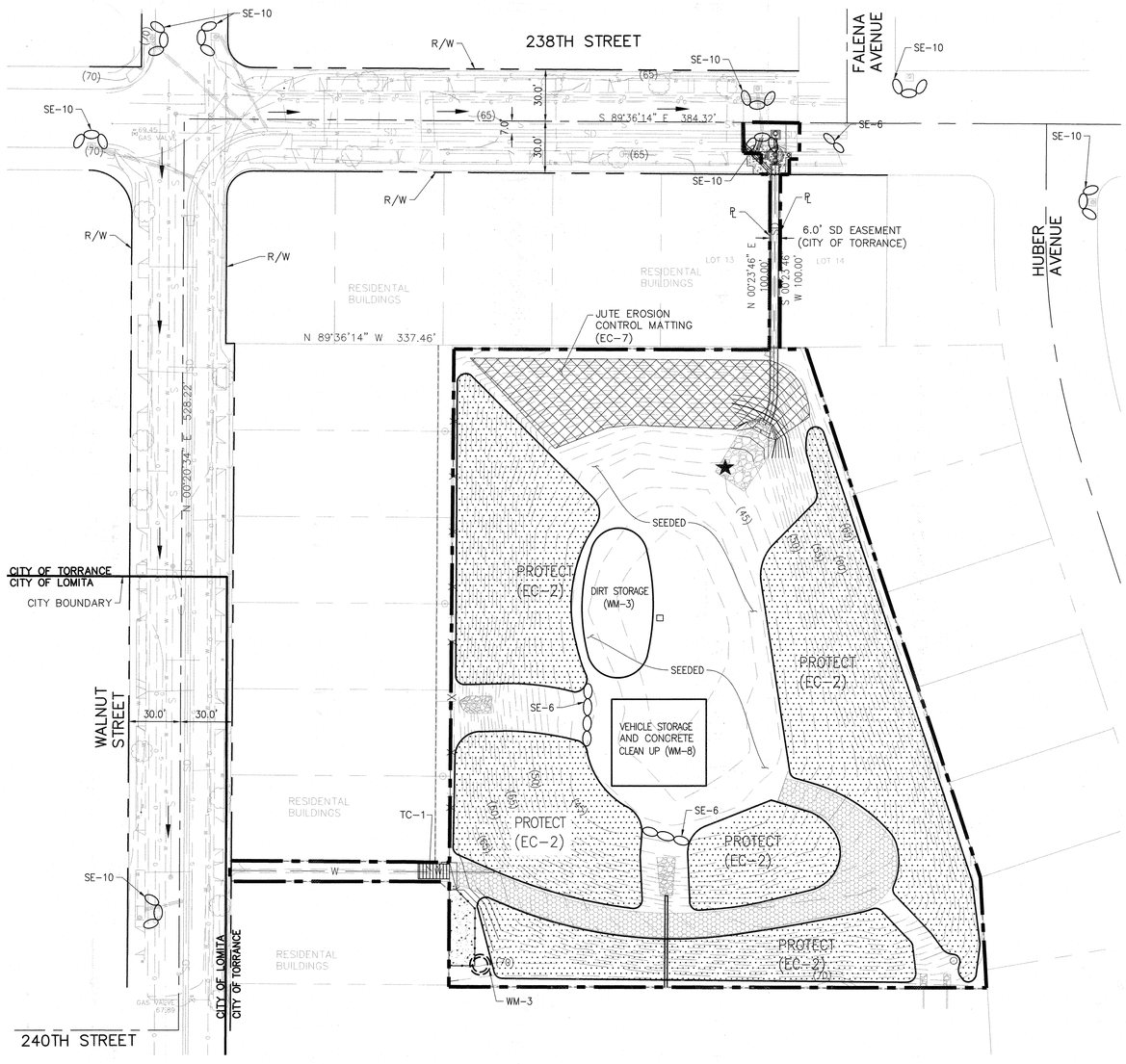
TEMPORARY SEDIMENT CONTROL:
SE-1 SILT FENCE
SE-3 SEDIMENT TRAP
SE-4 CHECK DAM
SE-5 FIBER ROLLS
SE-6 GRAVEL BAG BERM
SE-7 STREET SWEEPING AND VACUUMING
SE-8 SANDBAG BARRIER
SE-9 STRAW BALE BARRIER
SE-10 STORM DRAIN INLET PROTECTION
SE-12 TEMPORARY SILT DIKE
SE-13 COMPOST SOCKS AND BERMS
SE-14 BIOFILTER BAGS

WIND EROSION CONTROL:
WE-1 WIND EROSION CONTROL

EQUIPMENT TRACKING CONTROL:
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT

NON-STORMWATER MANAGEMENT:
NS-1 WATER CONSERVATION PRACTICES
NS-2 DEWATERING OPERATIONS
NS-3 PAVING AND GRINDING OPERATIONS
NS-6 ILLICIT CONNECTION/DISCHARGE
NS-7 POTABLE WATER/IRRIGATION
NS-8 VEHICLE AND EQUIPMENT CLEANING
NS-9 VEHICLE AND EQUIPMENT FUELING
NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
NS-12 CONCRETE CURING
NS-13 CONCRETE FINISHING
NS-14 MATERIAL AND EQUIPMENT USE

WASTE MANAGEMENT & MATERIAL POLLUTION CONTROL:
WM-1 MATERIAL DELIVERY AND STORAGE
WM-2 MATERIAL USE
WM-3 STOCKPILE MANAGEMENT
WM-4 SPILL PREVENTION AND CONTROL
WM-5 SOLID WASTE MANAGEMENT
WM-6 HAZARDOUS WASTE MANAGEMENT
WM-7 CONTAMINATION SOIL MANAGEMENT
WM-8 CONCRETE WASTE MANAGEMENT
WM-9 SANITARY/SEPTIC WASTE MANAGEMENT
WM-10 LIQUID WASTE MANAGEMENT



NPDES NOTES:

1. CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (BMPS) FOR THE MANAGEMENT OF STORM WATER AND NON-STORMWATER DISCHARGES SHALL BE DOCUMENTED ON THE GRADING PLAN. ARRANGEMENTS SHALL BE MADE BY THE DEVELOPER TO RETAIN THE SWPPP ON THE JOBSITE THROUGHOUT THE TIME OF CONSTRUCTION. THE IMPLEMENTATION AND MAINTENANCE OF THE SITE BMPS IS REQUIRED TO MINIMIZE JOBSITE EROSION AND SEDIMENTATION. ARRANGEMENTS SHALL BE MADE BY THE DEVELOPER TO MAINTAIN THOSE BMPS THROUGHOUT THE TIME OF CONSTRUCTION.
2. EROSION CONTROL BMPS SHALL BE IMPLEMENTED AND MAINTAINED TO PREVENT AND/OR MINIMIZE THE ENTRAINMENT OF SOIL IN RUNOFF FROM DISTURBED SOIL AREAS ON CONSTRUCTION SITES.
3. SEDIMENT CONTROL BMPS SHALL BE IMPLEMENTED AND MAINTAINED TO PREVENT AND/OR MINIMIZE THE TRANSPORT OF SOIL FROM THE CONSTRUCTION SITE.
4. GRADING SHALL BE PHASED TO LIMIT THE AMOUNT OF DISTURBED AREA EXPOSED TO THE EXTENT FEASIBLE.
5. AREAS THAT ARE CLEARED AND GRADED SHALL BE LIMITED TO ONLY THE PORTION OF THE SITE THAT IS NECESSARY FOR CONSTRUCTION. THE CONSTRUCTION SITE SHALL BE MANAGED TO MINIMIZE THE EXPOSURE TIME OF DISTURBED SOIL AREAS THROUGH PHASING AND SCHEDULING OF GRADING AND THE USE OF TEMPORARY AND PERMANENT SOIL STABILIZATION.
6. ONCE DISTURBED, SLOPES (TEMPORARY OR PERMANENT) SHALL BE STABILIZED IF THEY WILL NOT BE WORKED WITHIN 21 DAYS. DURING STORM SEASON, ALL SLOPES SHALL BE STABILIZED PRIOR TO PREDICTED STORM EVENT. CONSTRUCTION SITES SHALL BE REVEGETATED AS EARLY AS FEASIBLE AFTER SOIL DISTURBANCE.
7. STOCKPILES OF SOIL AND SEDIMENTS FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE PROPERLY CONTAINED TO ELIMINATE OR REDUCE SEDIMENT TRANSPORT FROM THE SITE OR STREETS, DRAINAGE FACILITIES OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING, OR WIND.
8. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT A STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OTHER THAN STORMWATER (NON-STORMWATER DISCHARGES) ARE PROHIBITED, EXCEPT AS AUTHORIZED BY AN INDIVIDUAL NPDES PERMIT, THE STATEWIDE GENERAL PERMIT-CONSTRUCTION ACTIVITY. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, SOLVENTS, DETERGENTS, GLUES, LIME, PESTICIDES, HERBICIDES, FERTILIZERS, WOOD PRESERVATIVES, AND ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS, FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS, CONCRETE AND RELATED CUTTING OR CURING RESIDUES; FLOATABLE WASTES; WASTES FROM ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING; WASTES FROM STREET CLEANING; AND SUPER -CHLORINATED POTABLE WATER FROM LINE FLUSHING AND TESTING. DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON-SITE PHYSICALLY SEPARATE FROM POTENTIAL STORMWATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
9. RUNOFF FROM EQUIPMENT AND VEHICLE WASHING SHALL BE CONTAINED AT CONSTRUCTION SITE AND MUST NOT BE DISCHARGED TO RECEIVING WATERS OR LOCAL STORM DRAIN SYSTEM.
10. APPROPRIATE BMPS FOR CONSTRUCTION-RELATED MATERIALS, WASTES, SPILLS OR RESIDUES SHALL BE IMPLEMENTED TO ELIMINATE OR REDUCE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTIES BY WIND OR RUNOFF.
11. ALL CONSTRUCTION CONTRACTORS AND SUBCONTRACTOR PERSONNEL ARE TO BE TRAINED IN THE IMPLEMENTATION AND USE OF THE REQUIRED BMPS AND GOOD HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS AND ALL TRAINING DOCUMENTATION SHALL BE MAINTAINED IN THE SWPPP.
12. DISCHARGING CONTAMINATED GROUNDWATER PRODUCED BY DEWATERING GROUNDWATER THAT HAS INFILTRATED INTO THE CONSTRUCTION SITE IS PROHIBITED. DISCHARGING OF CONTAMINATED SOILS VIA SURFACE EROSION IS ALSO PROHIBITED. DISCHARGING NON-CONTAMINATED GROUNDWATER PRODUCED BY DEWATERING ACTIVITIES MAY REQUIRE A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FROM THE REGIONAL WATER QUALITY CONTROL BOARD.
13. BMPS SHALL BE MAINTAINED AT ALL TIMES. IN ADDITION, BMPS SHALL BE INSPECTED PRIOR TO PREDICTED STORM EVENTS AND FOLLOWING STORM EVENTS.
14. AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY, ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED OF IN TRASH OR RECYCLE BINS.

NOTES:

1. SEDIMENTS AND OTHER MATERIALS MAY BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC, THE CONSTRUCTION ENTRANCE ROADWAYS SHALL BE STABILIZED SO AS TO PREVENT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC ROADS. DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS INTO THE STORM DRAIN SYSTEM.
2. STABILIZED CONSTRUCTION ENTRANCE SHALL BE:

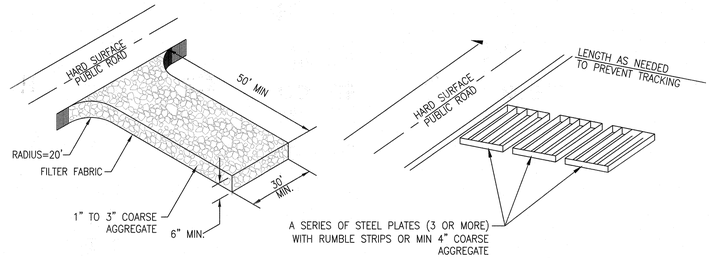
A. LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE ROAD OR FROM A PUBLIC RIGHT OF WAY, STREET, ALLEY, SIDEWALK, OR PARKING AREA.

B. A SERIES OF STEEL PLATES WITH "RUMBLE STRIPS", AND/OR MIN 4" COARSE AGGREGATE WITH LENGTH, WIDTH, AND THICKNESS AS NEEDED TO ADEQUATELY PREVENT ANY TRACKING ONTO PAVED SURFACES.

3. ADDING A WASH RACK WITH A SEDIMENT TRAP LARGE ENOUGH TO COLLECT ALL WASH WATER CAN GREATLY IMPROVE EFFICIENCY.
4. ALL VEHICLES ACCESSING THE CONSTRUCTION SITE SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE SITES.
5. ALL WORK AREAS SHALL BE SEEDED WHEN WORK IS COMPLETED.

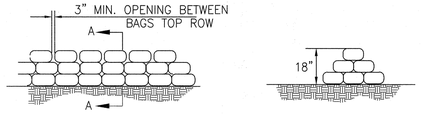
STREET MAINTENANCE:

1. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS IMMEDIATELY.
2. SWEEP PAVED AREAS THAT RECEIVE CONSTRUCTION TRAFFIC WHENEVER SEDIMENT BECOMES VISIBLE.
3. PAVEMENT WASHING WITH WATER IS PROHIBITED IF IT RESULTS IN A DISCHARGE TO THE STORM DRAIN SYSTEM.

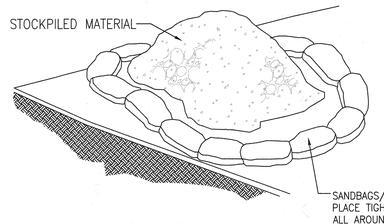


TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT

TO BE PLACED AT ALL ENTRY AND EXIT LOCATIONS



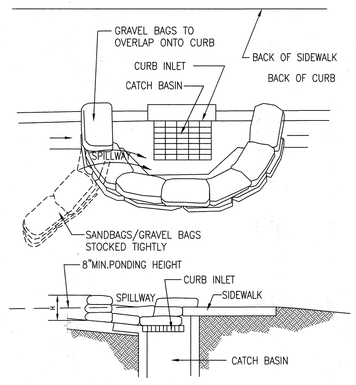
SE-6 GRAVEL BAG BARRIER



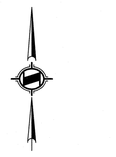
MATERIAL STORAGE:

1. DIRT AND OTHER CONSTRUCTION RELATED MATERIALS PLACED IN THE STREET OR ON OTHER IMPERVIOUS SURFACES MUST BE CONTAINED WITH SANDBAGS OR OTHER MEASURES TO PREVENT TRANSPORT TO THE STORM DRAIN SYSTEM.
2. ANY CONSTRUCTION MATERIAL STORED OR STOCKPILED ON-SITE SHALL BE PROTECTED FROM BEING TRANSPORTED BY THE FORCE OF WIND OR WATER.

WM-3 STOCKPILE MANAGEMENT



SE-10 STORM DRAIN INLET PROTECTION



SCALE: 1"= 40'

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.

811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG

REGISTERED PROFESSIONAL ENGINEER — BARRY A. PANG — No. C 52060 — Exp. 12/31/20 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED BY: CWE
1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

CIVIL ENGINEER: 52060 LICENSE NO. 12/31/20 EXP. DATE

REVISIONS				
REV	DATE	BY	CHECKED	DESCRIPTION

WALNUT STORM WATER CAPTURE AND GROUNDWATER REPLENISHMENT BASIN, I-173

EROSION CONTROL PLAN

DESIGNED BY: S. BELL
DRAWN BY: T. TAKIGAWA
PROJECT ENGINEER: WILSON MENDOZA
ENGINEERING MANAGER: JOHN C. DETTLE, P.E.

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED BY:
CRAIG BILEZERIAN, P.E.
CITY ENGINEER
R.C.E. NO. 55339
DATE 5/6/2019

SHEET 8 OF 9
SCALE: 1" = 40'
SPECIFICATION NO.
SUPPLEMENTAL PLAN NO.
PLAN NO. SD-512

Z:\17254\06 Tasks\01 Design\80 Storm Drain\17254 - C-08-EROSION CONTROL.dwg

BORING LOG NO. B-1

Page 1 of 2

PROJECT: Walnut Storm Water Capture and Groundwater Replenishment Basin
CLIENT: CWE Corporation, Fullerton, CA
SITE: Southeast of Walnut Street and 238th Street, Torrance, CA

LOCATION See Exhibit A-2
Latitude: 33.8075° Longitude: -118.3108°
Surface Elev.: 41.5 (Ft.)
DEPTH / ELEVATION (Ft.)

DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (psf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
0.0										
POORLY GRADED SAND (SP), trace silt, tan										
5.0 / 36.5										
5			9-13-24 N=37							
POORLY GRADED SAND WITH SILT (SP-SM), tan to light red, dense										
10			19-39-50				6	99		10
trace gravel, very dense										
15			20-40-50 N=90							
20.0 / 21.5										
POORLY GRADED SAND (SP), trace gravel, light tan, very dense			32-50/6"				4	105		

Stratification lines are approximate. In-situ, the transition may be gradual. Hammer Type: Automatic

Advancement Method: Hollow Stem Auger
Abandonment Method: Boring backfilled with auger cuttings upon completion.
WATER LEVEL OBSERVATIONS: *Not encountered*
See Exhibit A-3 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations. Elevations were interpolated from a topographic site plan.
Notes:
Terracon, 1421 Edinger Ave Ste C, Tustin, CA
Boring Started: 12-19-2017 | Boring Completed: 12-19-2017
Drill Rig: CME-75 | Driller: Cal Pac
Project No.: 60175120 | Exhibit: A-3

BORING LOG NO. B-2

Page 1 of 2

PROJECT: Walnut Storm Water Capture and Groundwater Replenishment Basin
CLIENT: CWE Corporation, Fullerton, CA
SITE: Southeast of Walnut Street and 238th Street, Torrance, CA

LOCATION See Exhibit A-2
Latitude: 33.8080° Longitude: -118.3112°
Surface Elev.: 65.4 (Ft.)
DEPTH / ELEVATION (Ft.)

DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (psf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
0.0										
SANDY FAT CLAY (CH), brown, hard										
10.0 / 55.5										
SANDY LEAN CLAY (CL), light brown, hard			10-17-28 N=45							52
15.0 / 50.5										
CLAYEY SAND (SC), tan, dense			10-31-34				15	111	34-19-15	63
20.0 / 45.5										
POORLY GRADED SAND WITH CLAY (SP-SC), light tan, very dense			8-11-23 N=34							
			28-50/6"				5	95		7

Stratification lines are approximate. In-situ, the transition may be gradual. Hammer Type: Automatic

Advancement Method: Hollow Stem Auger
Abandonment Method: Boring backfilled with auger cuttings upon completion.
WATER LEVEL OBSERVATIONS: *Not encountered*
See Exhibit A-3 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations. Elevations were interpolated from a topographic site plan.
Notes:
Terracon, 1421 Edinger Ave Ste C, Tustin, CA
Boring Started: 12-01-1917 | Boring Completed: 12-19-2017
Drill Rig: CME-75 | Driller: Cal Pac
Project No.: 60175120 | Exhibit: A-4

BORING LOG NO. B-3

Page 1 of 2

PROJECT: Walnut Storm Water Capture and Groundwater Replenishment Basin
CLIENT: CWE Corporation, Fullerton, CA
SITE: Southeast of Walnut Street and 238th Street, Torrance, CA

LOCATION See Exhibit A-2
Latitude: 33.8079° Longitude: -118.3107°
Surface Elev.: 51 (Ft.)
DEPTH / ELEVATION (Ft.)

DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (psf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
0.0										
POORLY GRADED SAND WITH SILTY CLAY (SP-SC), light brown										
5.0 / 46										
POORLY GRADED SAND (SP), tan, dense			17-32-50				6	99		
10.0 / 41										
POORLY GRADED SAND WITH SILT (SP-SM), tan, dense			12-18-27 N=45							
15.0 / 36										
POORLY GRADED SAND (SP), trace clay, light reddish tan, very dense			43-50/6"				7	95		
			18-36-50 N=86							

Stratification lines are approximate. In-situ, the transition may be gradual. Hammer Type: Automatic

Advancement Method: Hollow Stem Auger
Abandonment Method: Boring backfilled with auger cuttings upon completion.
WATER LEVEL OBSERVATIONS: *Not encountered*
See Exhibit A-3 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations. Elevations were interpolated from a topographic site plan.
Notes:
Terracon, 1421 Edinger Ave Ste C, Tustin, CA
Boring Started: 12-19-2017 | Boring Completed: 12-19-2017
Drill Rig: CME-75 | Driller: Cal Pac
Project No.: 60175120 | Exhibit: A-5

BORING LOG NO. B-4

Page 1 of 1

PROJECT: Walnut Storm Water Capture and Groundwater Replenishment Basin
CLIENT: CWE Corporation, Fullerton, CA
SITE: Southeast of Walnut Street and 238th Street, Torrance, CA

LOCATION See Exhibit A-2
Latitude: 33.8086° Longitude: -118.3105°
Surface Elev.: 65 (Ft.)
DEPTH / ELEVATION (Ft.)

DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (psf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
0.0										
ASPHALT, 5" thickness										
0.4 / 64.6										
1.0										
AGGREGATE BASE COURSE, 7" thickness										
1.6 / 64										
SANDY LEAN CLAY (CL), brown									25-14-11	
5.0 / 60										
SANDY FAT CLAY (CH), brown, very stiff			5-9-12				21	103	61-16-45	61
10.0 / 55										
SILTY SAND (SM), light brown, medium dense			6-9-14 N=23							
15.0 / 50										
POORLY GRADED SAND WITH SILT (SP-SM), tan, dense			9-34-50				6	97		
20.0 / 45										
POORLY GRADED SAND (SP), trace clay, light tan, dense			13-23-23 N=46							
21.5 / 43.5										
Boring Terminated at 21.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual. Hammer Type: Automatic
Hand Augered for the first 5'

Advancement Method: Hollow Stem Auger
Abandonment Method: Boring backfilled with Auger Cuttings. Surface capped with asphalt
WATER LEVEL OBSERVATIONS: *Not encountered*
See Exhibit A-3 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations. Elevations were interpolated from a topographic site plan.
Notes:
Terracon, 1421 Edinger Ave Ste C, Tustin, CA
Boring Started: 12-19-2017 | Boring Completed: 12-19-2017
Drill Rig: CME-75 | Driller: Cal Pac
Project No.: 60175120 | Exhibit: A-6

BORING LOG NO. B-1

Page 2 of 2

PROJECT: Walnut Storm Water Capture and Groundwater Replenishment Basin
CLIENT: CWE Corporation, Fullerton, CA
SITE: Southeast of Walnut Street and 238th Street, Torrance, CA

LOCATION See Exhibit A-2
Latitude: 33.8075° Longitude: -118.3108°
Surface Elev.: 41.5 (Ft.)
DEPTH / ELEVATION (Ft.)

DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (psf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
POORLY GRADED SAND (SP), trace gravel, light tan, very dense *(continued)*										
25			19-40-50 N=90							
light reddish tan										
26.5 / 15										
Boring Terminated at 26.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual. Hammer Type: Automatic

Advancement Method: Hollow Stem Auger
Abandonment Method: Boring backfilled with auger cuttings upon completion.
WATER LEVEL OBSERVATIONS: *Not encountered*
See Exhibit A-3 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations. Elevations were interpolated from a topographic site plan.
Notes:
Terracon, 1421 Edinger Ave Ste C, Tustin, CA
Boring Started: 12-19-2017 | Boring Completed: 12-19-2017
Drill Rig: CME-75 | Driller: Cal Pac
Project No.: 60175120 | Exhibit: A-3

BORING LOG NO. B-2

Page 2 of 2

PROJECT: Walnut Storm Water Capture and Groundwater Replenishment Basin
CLIENT: CWE Corporation, Fullerton, CA
SITE: Southeast of Walnut Street and 238th Street, Torrance, CA

LOCATION See Exhibit A-2
Latitude: 33.8080° Longitude: -118.3112°
Surface Elev.: 65.4 (Ft.)
DEPTH / ELEVATION (Ft.)

DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (psf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
POORLY GRADED SAND WITH CLAY (SP-SC), light tan, very dense *(continued)*										
25.0 / 40.5										
POORLY GRADED SAND (SP), trace silt, light reddish tan, very dense			13-23-38 N=61							
30										
31.0 / 34.5			38-50/6"				7	93		
Boring Terminated at 31 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual. Hammer Type: Automatic

Advancement Method: Hollow Stem Auger
Abandonment Method: Boring backfilled with auger cuttings upon completion.
WATER LEVEL OBSERVATIONS: *Not encountered*
See Exhibit A-3 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations. Elevations were interpolated from a topographic site plan.
Notes:
Terracon, 1421 Edinger Ave Ste C, Tustin, CA
Boring Started: 12-01-1917 | Boring Completed: 12-19-2017
Drill Rig: CME-75 | Driller: Cal Pac
Project No.: 60175120 | Exhibit: A-4

BORING LOG NO. B-3

Page 2 of 2

PROJECT: Walnut Storm Water Capture and Groundwater Replenishment Basin
CLIENT: CWE Corporation, Fullerton, CA
SITE: Southeast of Walnut Street and 238th Street, Torrance, CA

LOCATION See Exhibit A-2
Latitude: 33.8079° Longitude: -118.3107°
Surface Elev.: 51 (Ft.)
DEPTH / ELEVATION (Ft.)

DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (psf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
POORLY GRADED SAND (SP), trace clay, light reddish tan, very dense *(continued)*										
25			34-50/6"				4	104		
light tan										
31.5 / 19.5			21-38-50 N=88							
Boring Terminated at 31.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual. Hammer Type: Automatic

Advancement Method: Hollow Stem Auger
Abandonment Method: Boring backfilled with auger cuttings upon completion.
WATER LEVEL OBSERVATIONS: *Not encountered*
See Exhibit A-3 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any). See Appendix C for explanation of symbols and abbreviations. Elevations were interpolated from a topographic site plan.
Notes:
Terracon, 1421 Edinger Ave Ste C, Tustin, CA
Boring Started: 12-19-2017 | Boring Completed: 12-19-2017
Drill Rig: CME-75 | Driller: Cal Pac
Project No.: 60175120 | Exhibit: A-5

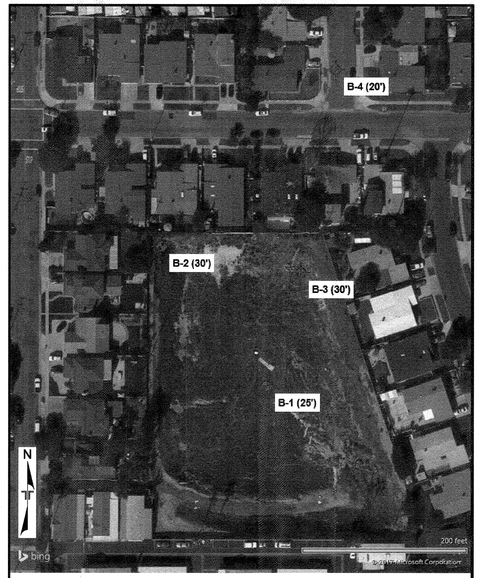


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES
AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

Project Manager: SP	Project No: 60175120	Terracon, 1421 Edinger Ave Ste C, Tustin, CA 92780-6237	EXPLORATION PLAN: CWE: Torrance Walnut Basin, South of W 238th Street, Torrance, CA
Drawn by: DB	Scale: AS SHOWN		Exhibit: A-2
Checked by: SP	File Name: A-2		
Approved by: FB	Date: 12/2017		

NO WORK SHALL BE DONE ON THIS SITE UNTIL BELOW AGENCY IS NOTIFIED OF INTENTION TO GRADE OR EXCAVATE.
811 Know what's below. Call before you dig. TWO WORKING DAYS BEFORE YOU DIG

REGISTERED PROFESSIONAL ENGINEER — SHAHRAM BAFRANI — No. C 52060 — Exp. 12/31/20 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED BY: CWE
1561 E. ORANGETHORPE AVE.
SUITE 240
FULLERTON, CA 92831
(714) 526-7500
www.cwecorp.com

CIVIL ENGINEER: 52060 LICENSE NO. 12/31/20 EXP. DATE

REVISIONS

REV	DATE	BY	CHECKED	DESCRIPTION

WALNUT STORM WATER CAPTURE AND GROUNDWATER REPLENISHMENT BASIN, I-173

BORING LOGS

DESIGNED BY: S. BELL | DRAWN BY: T. TAKIGAWA
PROJECT ENGINEER: WILSON MENDOZA
ENGINEERING MANAGER: JOHN C. DETTLE, P.E.

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

APPROVED BY:
CRAIG BILEZERIAN, P.E.
CITY ENGINEER
R.C.E. NO. 55339
5/6/2019 DATE

SHEET 9 OF 9
SCALE: 1" = 40'
SPECIFICATION NO.
SUPPLEMENTAL PLAN NO.
PLAN NO. SD-512

Z:\17254\06 Tasks\01 Design\80 Storm Drain\17254 - C-09-BORING LOGS.dwg