PALOS VERDES BOULEVARD IMPROVEMENT PROJECT
(PACIFIC COAST HIGHWAY TO SOUTHERLY CITY LIMITS)
PROJECT I-121

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC), 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 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 811 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 "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 OF CRANES OR HOISTING DEVICES TO BE WITHIN 10 FEET OF OVERHEAD ELECTRIC/UTILITY LINES, CALL SOUTHERN CALIFORNIA EDISON CO. AT 310-783-9336.
6. CURB RAMPS SHALL BE CONSTRUCTED TO CURRENT ADA REQUIREMENTS PER SPPWC PLANS, MODIFIED AS NECESSARY TO MATCH EXISTING FIELD CONDITIONS, AND AS DIRECTED BY THE ENGINEER.
7. CURB RAMPS SHALL INCLUDE THE INSTALLATION OF A 36" X 48" DETECTABLE WARNING SURFACE PER THE PROJECT SPECIFICATIONS. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3' DEPTH OF THE RAMP. DETECTABLE WARNING SURFACES SHALL CONFORM TO THE DETAILS ON THIS PLAN AND THE REQUIREMENTS IN THE SPECIAL PROVISIONS.
8. THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FLOWLINE.
9. THE LIMITS AND QUANTITIES SHOWN FOR CURB, GUTTER, CROSS GUTTER, AND SIDEWALK REPLACEMENTS ARE APPROXIMATE ONLY. THE CONTRACTOR AND ENGINEER SHALL DETERMINE EXACT LIMITS AND QUANTITIES IN THE FIELD.
10. THE CONTRACTOR SHALL REPLACE ALL CURB PAINT AND CURB FACE ADDRESSES AFFECTED OR REMOVED DURING CONSTRUCTION. TWO COATS OF PAINT SHALL BE USED FOR CURB PAINT MARKINGS.
11. 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.
12. GRADE SHEETS PREPARED AND STAMPED BY A LICENSED ENGINEER OR SURVEYOR SHALL BE DELIVERED TO THE INSPECTOR 24 HRS PRIOR TO COMMENCEMENT OF WORK.
13. THE CONTRACTOR SHALL REMOVE ALL INTERFERING TREE ROOTS, TRIM SHRUBS AND LANDSCAPING, AND OTHERWISE REMOVE MATERIALS IN CONFLICT WITH CONSTRUCTION. LANDSCAPING AND IRRIGATION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION.
14. CURB RAMPS SHALL BE OUTLINED WITH A 1' WIDE BORDER, WITH 1/4" GROOVES 3/4" ON CENTER AT CHANGES IN GRADE AS SHOWN.
15. TRANSITIONS FROM RAMPS AND LANDINGS TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
16. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OF ACCESSIBLE ROUTE SHALL NOT EXCEED 5 PERCENT WITHIN 4' OF THE TOP AND BOTTOM OF THE CURB RAMP.
17. SIDEWALK AND RAMP THICKNESS "T" SHALL BE A 3.5" MINIMUM UNLESS OTHERWISE SHOWN.
18. UTILITY PULLBOXES, MANHOLES, VAULTS, AND ALL OTHER UTILITY FACILITIES WITHIN THE BOUNDARIES OF THE CURB RAMP SHALL BE RELOCATED OR ADJUSTED TO GRADE BY THE OWNER PRIOR TO, OR IN CONJUNCTION WITH, CURB RAMP CONSTRUCTION. THE CONTRACTOR SHALL ASSUME ALL COORDINATION FOR ADJUSTMENT OF UTILITIES TO GRADE.
19. ALL CONCRETE WORK, INCLUDING BUT NOT LIMITED TO RAMPS, CURBS, CURB AND GUTTER, AND SIDEWALK SHALL BE PLACED SEPARATELY. NO MONOLITHIC CONSTRUCTION IS ALLOWED.
20. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT 310-781-6900 PRIOR TO TRIMMING, REMOVING OR RELOCATING ANY EXISTING STREET TREES.
21. 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 PUBLIC WORKS DIRECTOR.
22. 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
23. "X" DIMENSION SHOWN ON SPPWC 110-2 SHALL BE 3 FEET UNLESS OTHERWISE CALLED FOR ON THE PLAN OR IN THE SPECIFICATIONS.
24. 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.

NOTICE: ACTUAL EXISTING SITE CONDITIONS MAY DIFFER FROM THOSE SHOWN. THE CONTRACTOR SHALL VERIFY SITE CONDITIONS PRIOR TO BIDDING. LOCATION OF EXISTING AND ABANDONED UTILITIES IS UNKNOWN OR FROM RECORD DATA ONLY. THE CONTRACTOR SHALL VERIFY TO HIS SATISFACTION LOCATIONS OF ALL UTILITIES PRIOR TO BIDDING AND CONSTRUCTION. CONTRACTOR SHALL MAINTAIN AS-BUILT RECORDS OF EXISTING UTILITIES AND INFORM THE ENGINEER IN CASE OF DISCREPANCIES.

THE CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED USE OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

THE CONTRACTOR SHALL VERIFY THE PRESENCE, LOCATION, AND MATERIAL OF ALL AFFECTED OR CONFLICTING UTILITIES AS NECESSARY FOR CONSTRUCTION. UTILITY VERIFICATION AND NOTIFICATION SHALL BE MADE IN A TIMELY MANNER SO AS TO ALLOW FOR ALTERNATIVE PLANNING WITHOUT AFFECTING THE CONSTRUCTION SCHEDULE MATERIALLY.

X:\ENG\CIP_Palos Verdes Blvd REHAB, I 121\10-PLANS PDF- PV Blvd Rehabilitation - SO PCH\1_FINAL 14\5-09-14 - AutoCAD 2010\5866 Torr5866 Torrance PVB Des SHEET 1 TITLE SHEET.dwg 8/05/14 07:50 lreis

BEST MANAGEMENT PRACTICES:

WM-1 MATERIAL DELIVERY AND STORAGE
Provide a material storage area with secondary containment and/or weather protection. Note the maintenance practices and schedule proposed for this area.

WM-2 MATERIAL USE
Hazardous materials, fertilizers, pesticides, plasters, solvents, paints, and other compounds must be properly handled in order to reduce the risk of pollution or contamination. Training and information on procedures for the proper use of all materials must be available to the employees that apply such materials.

WM-3 STOCKPILE MANAGEMENT
Ensure that all stockpiles are properly covered and contained, so that no run-off may occur.

WM-4 SPILL PREVENTION AND CONTROL
Identify spill prevention and control measures that will be taken for all proposed materials. Identify the methods, by which accidental spills will be cleaned and properly disposed of.

WM-5 SOLID WASTE MANAGEMENT
Provide designated waste collection areas and containers. Arrange for regular disposal. Provide covered storage with secondary containment. Containers are required to protect waste from rain to pollution and prevent wind dispersal.

WM-6 HAZARDOUS WASTE MANAGEMENT
Hazardous materials must be disposed of in accordance with State and Federal regulations. Identify the proposed methods of disposal and any special handling contracts that may be applicable.

WM-7 CONTAMINATED SOIL MANAGEMENT
Prevent or reduce the discharge of pollutants to stormwater from contaminated soil and highly acidic or alkaline soils by conducting preconstruction surveys, inspecting excavations regularly, and remediating contaminated soil promptly.

WM-8 CONCRETE WASTE MANAGEMENT
Store dry and wet materials under cover. Avoid on-site washout except in designated areas away from drains, ditches, streets, and streams. Concrete waste deposited on site shall set-up, be broken apart, and disposed of properly. Containment and proper disposal is required for all concrete waste.

WM-9 SANITARY/SEPTIC WASTE MANAGEMENT
Untreated raw wastewater is not to be discharged or buried. Sanitary sewer facilities on site are required to be in compliance with local health agency requirements. Sanitary or septic wastes must be treated or disposed of in accordance with State and local requirements.

WM-10 LIQUID WASTE MANAGEMENT
Liquid waste is not to be discharged or buried. Liquid waste disposal on site is required to be in compliance with local health agency requirements.

TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
A stabilized entrance/exit is required for all construction sites to ensure that dirt and debris are not tracked onto the road or adjacent property. Maintenance of such a system is required for the duration of the project. Such stabilization may be of rock or paved.

WE-1 WIND EROSION CONTROL
Water areas where wind conditions are causing migration of visible dust more than 100' from the active source.

NS-1 WATER CONSERVATION PRACTICES
Inspect site during project execution for evidence of illicit discharges or illegal dumping. Remove, dispose and replace damaged, deteriorated or otherwise unsuitable BMPs.

NS-2 DEWATERING OPERATIONS
Inspect site during project to remove non-storm water and accumulated precipitation.

NS-3 PAVING AND GRINDING OPERATIONS
Inspect and maintain machinery regularly to minimize leaks and drips. Bi-weekly, ensure that employees and subcontractors are implementing appropriate measures during paving operations. Cover storm drain inlets with a solid cover, not filter fabric, except during rain.

NS-6 ILLICIT CONNECTION/ILLEGAL DISCHARGE REPORTING
Notify the Resident Engineer of any illicit discharges or illegal dumping incidents at the time of discovery. Make sure all reports and documents are filled out.

NS-7 POTABLE WATER/IRRIGATION
Discharge of potential pollutants will be inspected weekly.

NS-8 VEHICLE AND EQUIPMENT CLEANING
Inspect Vehicle and Equipment Cleaning practices daily, and assure that no pollutants are running off the designated clean off area. The clean off area, should be secure and safe from run off onto the site. Notify the RE if incidents of runoff occur.

NS-9 VEHICLE AND EQUIPMENT FUELING
Inspect Vehicle and Equipment Fueling practices daily, and assure that no pollutants are running off the designated clean off area. The clean off area, should be secure and safe from run off onto the site. Notify the RE if incidents of runoff occur.

NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
Inspect Vehicle and Equipment Maintenance practices daily, and assure that no pollutants are running off the designated clean off area. The clean off area, should be secure and safe from run off onto the site. Notify the RE if incidents of runoff occur.

NS-12 CONCRETE CURING
Ensure that employees and sub contractors implement appropriate measures for storage and handling of curing compounds. Inspect cure containers and spray equipment for leaks and spills daily at the beginning and end of shift when this operation is to be used. Inspect any diversion devices for debris, remove debris as necessary.

NS-13 CONCRETE FINISHING
Sweep or vacuum up debris from sandblasting, shot blasting, grinding or high pressure water blasting at the end of each shift. At the end of each work shift, remove and contain liquid and solid waste from containment structures, if any, and from the general work area.

UNDERGROUND SERVICE ALERT (USA)

IT'S THE LAW!
DIAL BEFORE
YOU DIG!

DIGALERT

CALL AT LEAST
TWO WORKING DAYS
BEFORE YOU DIG

811
Know what's below.
Call before you dig.

DATUM STATEMENT:

ELEVATIONS
VERTICAL DATUM: LOS ANGELES COUNTY PUBLIC WORKS
ELEVATION: 213.659'
DESCRIPTION: PK&W IN THE WEST CURB, 1FT SOUTH OF THE END OF CURB RETURN AT THE SOUTHWEST CORNER OF PALOS VERDES DRIVE AND PASEO DE LA PLAYA

COORDINATES
HORIZONTAL DATUM: NAD-83 (NSRS 2007) EPOCH: 2007.00
PROJECTION: CCS-83 ZONE: 5
COMBINATION FACTOR: 1.00005487 CALCULATED AT SET MAG & WASHER "KDM CONTROL POINT", NORTHING 1753923.22, EASTING 6444174.99, ELEVATION 131.96
CONVERGENCE ANGLE: -0°13'14" CALCULATED AT NORTHING 1753923.22, EASTING 6444174.99

NOTES
1. COORDINATES, AND DISTANCES INVERSED FROM COORDINATES, ARE GRID. TO OBTAIN GROUND DISTANCES DIVIDE BY THE COMBINATION FACTOR.
2. THE GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC) WERE USED FOR CGPS STATIONS PVE3 AND TORP.

STATION PVE3 N: 1729207.091 E: 6438765.185 PUBLISHED CGPS STATION ACCURACY: 0.006'

STATION TORP N: 1748959.858 E: 6461222.724 PUBLISHED CGPS STATION ACCURACY: 0.006'

BASED ON A SURVEY PERFORMED BY KDM MERIDIAN OF LAKE FOREST, CALIFORNIA, ON SEPTEMBER 25, 2012, REF. PROJECT NO. 12-CBM-01.

STANDARD DRAWINGS:

SPPWC (2012 EDITION)
110-2 (TYPE C) DRIVEWAY APPROACHES
111-5 CURB RAMP
112-2 CURB AND SIDEWALK JOINTS
113-2 SIDEWALK AND DRIVEWAY REPLACEMENT
120-2 CURB AND GUTTER BARRIER
122-2 CROSS AND LONGITUDINAL GUTTERS
200-3 PRECAST CONCRETE SEWER MANHOLE
300-3 CURB OPENING CATCH BASIN

CITY OF TORRANCE
T114 SIDEWALK RETURN
T116-2 TRENCH BACKFILL AND PAVEMENT REPAIRS
T302 BEDDING FOR STORM DRAIN
T401-2 TREE PLANTING
T402 ROOT BARRIER AND PRUNING AT EXISTING TREE LOCATIONS

CITY OF REDONDO BEACH
STD-2 COMMERCIAL DRIVEWAY APPROACHES

ABBREVIATIONS

MON	SURVEY MONUMENT
WV	WATER VALVE
TEL. MH.	TELEPHONE MANHOLE
SMH	SEWER MANHOLE
IRR	IRRIGATION
C&G	CURB AND GUTTER
MOD	MODIFIED
DET.	DETAIL

UTILITY COMPANY CONTACT INFORMATION:

UTILITY COMPANY	PHONE
SOUTHERN CALIFORNIA EDISON COMPANY	(310) 783-1156
SOUTHERN CALIFORNIA GAS COMPANY	(310) 687-2020
VERIZON	(310) 793-4159
CALIFORNIA WATER SERVICE COMPANY	(310) 541-2438
COX COMMUNICATIONS	(310) 551-5020 X30
COUNTY OF LOS ANGELES, DEPARTMENT OF PUBLIC WORKS (STORM DRAIN)	(626) 458-3109
COUNTY OF LOS ANGELES, DEPARTMENT OF PUBLIC WORKS (SEWER)	(626) 458-4357
SANITATION DISTRICT OF LOS ANGELES COUNTY	(562) 699-7411 X1205
USA	(800) 227-2600
CITY OF TORRANCE, DEPARTMENT OF PUBLIC WORKS (STORM DRAIN & SEWER)	(310) 781-6900

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REMOVAL LIMITS	4 to 5
STREET PLANS AND PROFILES	6 to 10
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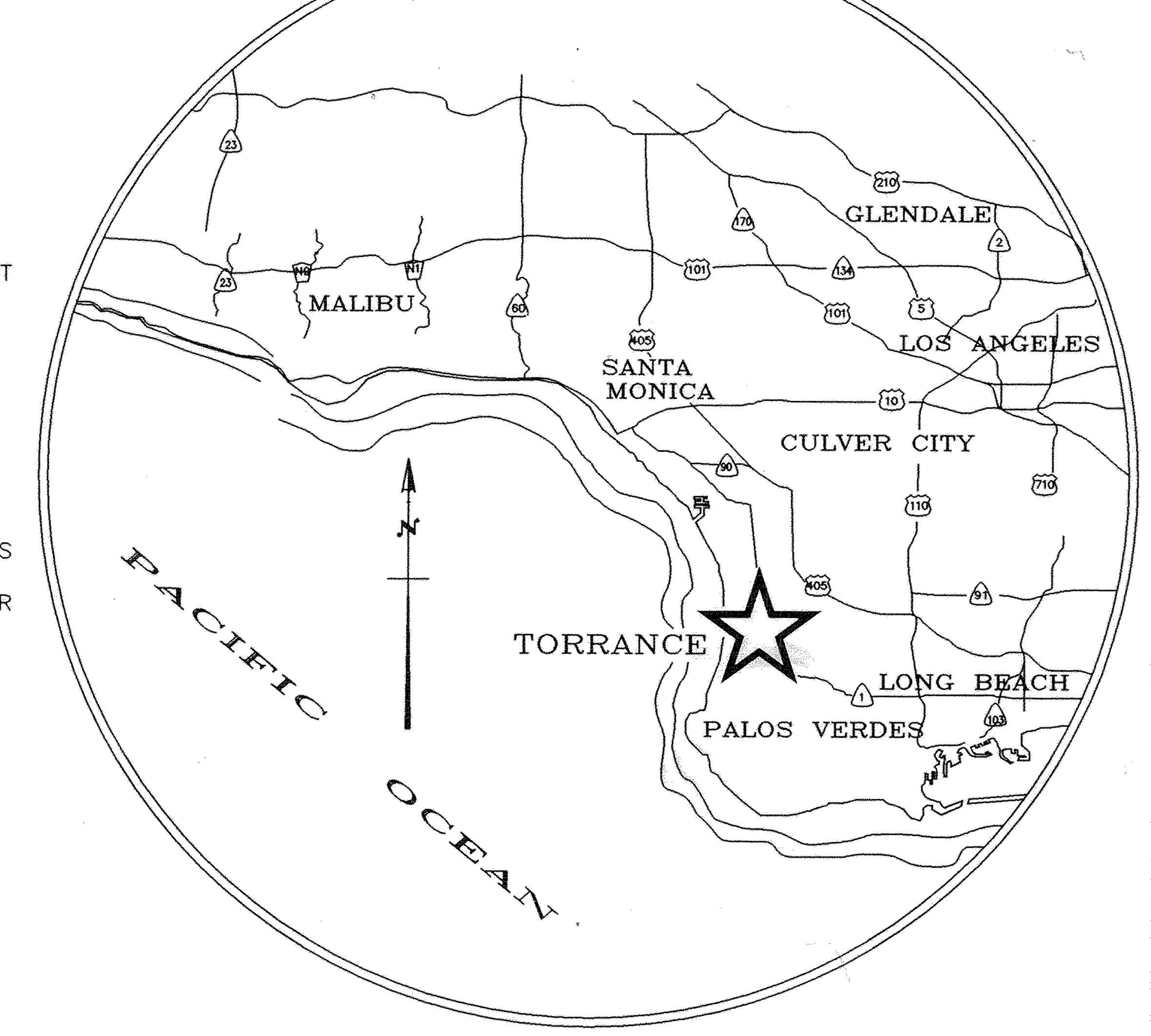
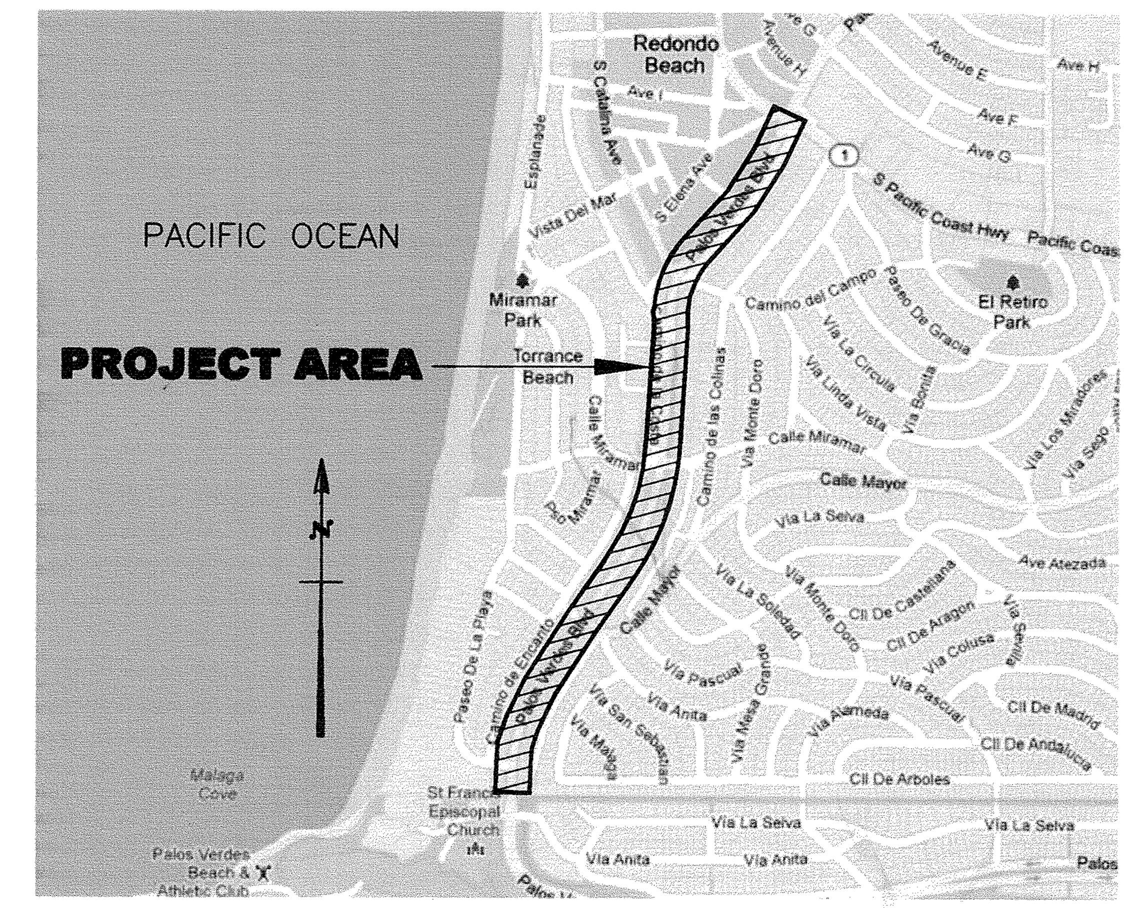
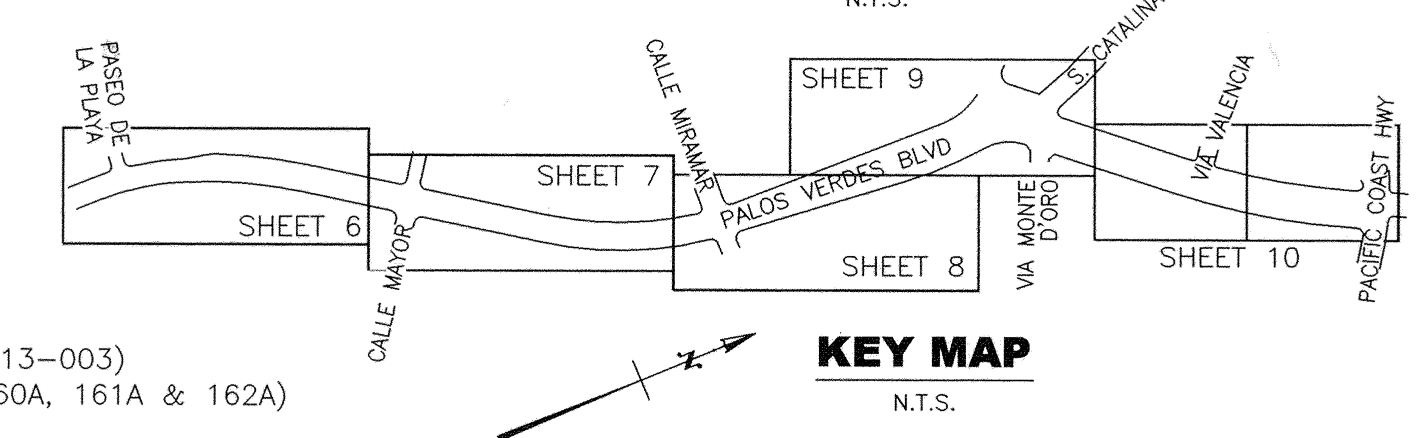
TRAFFIC CONTROL PLANS	28 to 32
LANDSCAPE & IRRIGATION PLANS	33 to 37 (LS-73)



LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.



KEY MAP
N.T.S.

TITLE SHEET
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: *This stamp shall include that portion of work prepared by or under my direct supervision* 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
Fax: (310) 329-1021

REGISTERED PROFESSIONAL ENGINEER — CHRISTINE KASKARA — No. 75585 — EXP. 6-30-16 — CIVIL ENGINEER — STATE OF CALIFORNIA

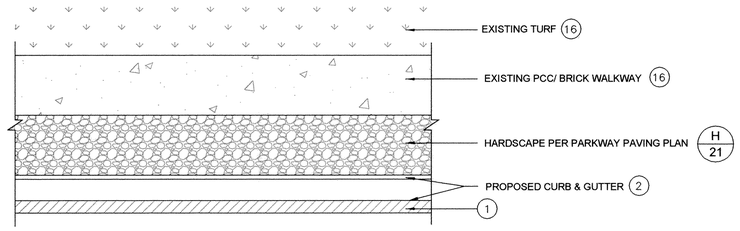
CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

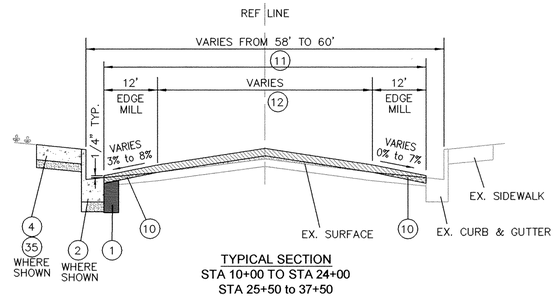
DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: [signature] ELIZABETH OVERSTREET, P.E.

APPROVED: [signature] 8/7/14
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

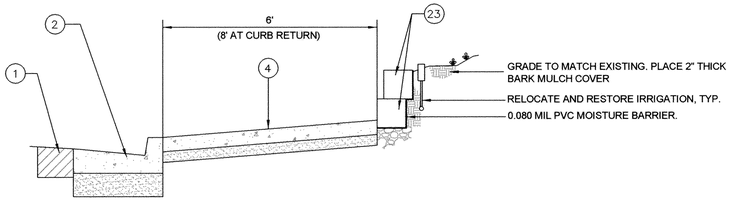
SCALE: AS SHOWN | SHEET 1 OF 37
PLAN NO. **ST-1055**



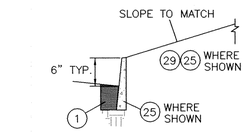
(A/2) SIDEWALK DETAIL
STA 50+93.50 TO 52+42.87 WEST SIDE
NO SCALE



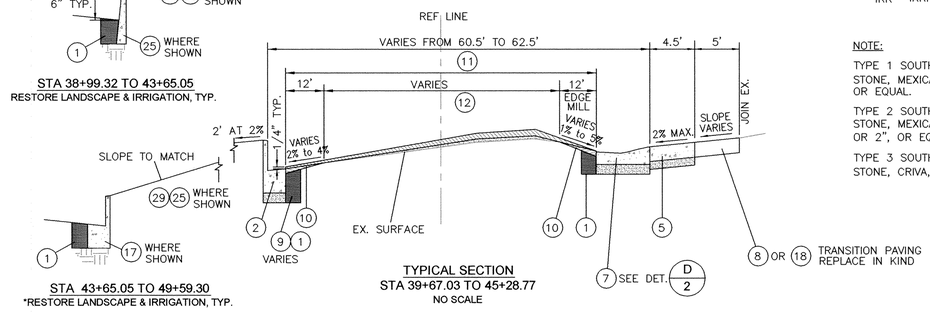
TYPICAL SECTION
STA 10+00 TO STA 24+00
STA 25+50 to 37+50
STA 54+41.06 TO 55+96.62
STA 57+71.45 TO 62+74.53
STA 65+24.74 TO STA 67+50
NO SCALE



(B/2) SIDEWALK DETAIL
STA 50+90 TO STA 52+54.48 EAST SIDE
NO SCALE

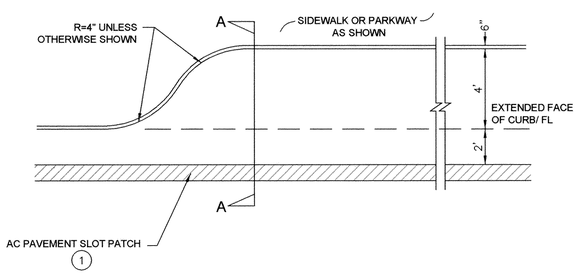


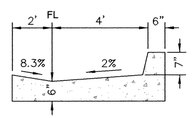
STA 38+99.32 TO 43+65.05
RESTORE LANDSCAPE & IRRIGATION, TYP.



STA 43+65.05 TO 49+59.30
*RESTORE LANDSCAPE & IRRIGATION, TYP.

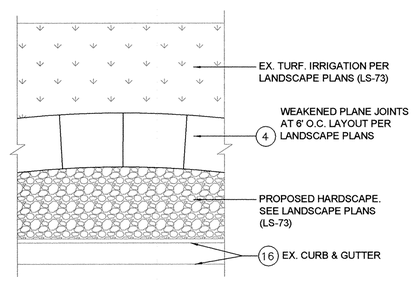
TYPICAL SECTION
STA 39+67.03 TO 45+28.77
NO SCALE



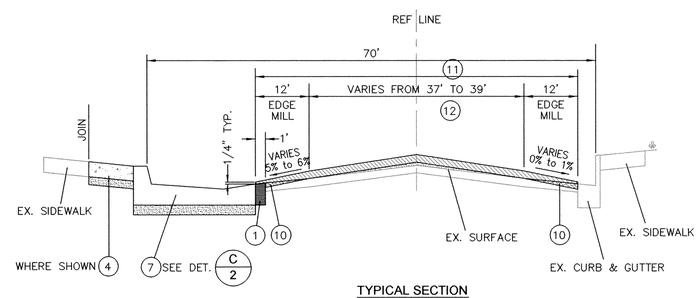


SECTION A-A
CONSTRUCT OVER 8" CMB

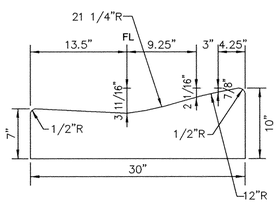
(C/2) CURB CUT-OUT
STA 55+96.62 TO 57+71.45 WEST SIDE
STA 62+74.53 TO 65+24.74 WEST SIDE
NO SCALE



(F/2) SIDEWALK, LANDSCAPE AND HARDSCAPE DETAIL
STA 15+43.28 TO 23+90.67 &
STA 25+40.09 TO 37+38.41 WEST SIDE
NO SCALE

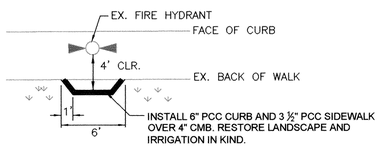


TYPICAL SECTION
STA 55+96.62 TO 57+71.45
STA 62+74.53 TO 65+24.74
NO SCALE



NOTE: THE OFFSET DIMENSION FOR THE FLOW LINE SHOWN ON THE PLAN AND PROFILE SHEETS IS LOCATED 6" FROM THE BACK OF CURB. CONSTRUCT OVER 8" CMB.

(D/2) TYPICAL 30" ROLLED CURB DETAIL
STA 39+67.03 TO 45+28.77
NO SCALE



(E/2) SIDEWALK DETAIL AROUND FIRE HYDRANT
STA 28+54.15 EAST SIDE
NO SCALE

LEGENDS:

MON	SURVEY MONUMENT
WV	WATER VALVE
WM	WATER METER
TEL. MH	TELEPHONE MANHOLE
SMH	SEWER MANHOLE
CB	CATCH BASIN
SL	STREET LIGHT
FS	FINISH SURFACE
FC	FACE OF CURB
FL	FLOW LINE
LT	LEFT
RT	RIGHT
BCR	BEGINNING OF CURB RETURN
ECR	END OF CURB RETURN
PRC	POINT OF REVERSE CURVE
R/W	RIGHT OF WAY
EA	EACH
STA	STATION
REF. LINE	REFERENCE LINE
AC	ASPHALT CONCRETE
PCC	PORTLAND CEMENT CONCRETE
C&G	CURB AND GUTTER
MOD.	MODIFIED
EX.	EXISTING
IRR	IRRIGATION CABINET

NOTE:

TYPE 1 SOUTHWEST BUILDER AND STONE, MEXICAN BEACH BUFF, ½" TO 1", OR EQUAL.

TYPE 2 SOUTHWEST BUILDER AND STONE, MEXICAN SUNBURST COBBLE, 1" OR 2", OR EQUAL.

TYPE 3 SOUTHWEST BUILDER AND STONE, CRIVA, BLACK, ⅜", OR EQUAL.

CONSTRUCTION NOTES:

1. SAWCUT, REMOVE AND DISPOSE OF EXISTING PAVEMENT BASE AND SUBGRADE MATERIAL AND SLOT PAVE PER SPECIFICATIONS.
2. REMOVE EXISTING AND CONSTRUCT PCC CURB AND 24" GUTTER PER SPPWC 120, TYPE A2-8, OVER 8" CMB.
3. REMOVE EXISTING AND CONSTRUCT 8" PCC CROSS GUTTER PER SPPWC 122 OVER 8" CMB.
4. REMOVE EXISTING AND CONSTRUCT 3½" PCC SIDEWALK OVER 4" CMB.
5. REMOVE EXISTING AND CONSTRUCT 6" PCC DRIVEWAY OVER 6" CMB.
6. REMOVE EXISTING AND CONSTRUCT PCC CURB ACCESS RAMP PER SPPWC 111 WITH 3' X 4' TRUNCATED DOME SURFACE OVER 4" CMB, TYPE AS NOTED.
7. REMOVE EXISTING AND CONSTRUCT PCC CURB & GUTTER PER DETAIL AS NOTED OVER 8" CMB.
8. REMOVE EXISTING AND CONSTRUCT 6" PCC TRANSITION OVER 6" CMB.
9. COLD MILL/REMOVE EXISTING AND CONSTRUCT EITHER 3" OR 6" FULL DEPTH PAVEMENT REPAIR PER SPECIFICATIONS.
10. EDGE MILL. DEPTH VARIES FROM 2" AT EDGE OF GUTTER TO 0" AT 12' FROM EDGE OF GUTTER.
11. 2" AC PAVEMENT OVERLAY, TYPE C2 PG 64-10.
12. AC PAVEMENT LEVEL COURSE, TYPE D2 PG 64-10. VARIES FROM 0" AT 12' FROM EDGE OF GUTTER TO 1" NOMINAL AT CROWN.
13. CONSTRUCT 6" PCC RETAINING CURB AND 3½" PCC SIDEWALK OVER 4" CMB PER DETAIL E SHEET-2.
14. ADJUST MANHOLE FRAME AND COVER TO GRADE.
15. ADJUST UTILITY ACCESS COVER TO GRADE. REPLACE BROKEN BOXES.
16. PROTECT IN PLACE.
17. REMOVE EXISTING AND CONSTRUCT 6" PCC CURB WITH 12" WIDE GUTTER PER SPPWC 120 TYPE A2-6, OVER 8" CMB.
18. REMOVE EXISTING & CONSTRUCT 6" FULL DEPTH AC TRANSITION.
19. TRAFFIC SIGN. SEE SIGNING AND STRIPING PLANS (C2013-003).
20. REMOVE TREE AND ROOTS TO 3 FEET BELOW GRADE.
21. REMOVE EXISTING AND INSTALL 15 GAL. BRONZE LOQUAT TREE PER TORRANCE STD PLAN 401-2. DO NOT INSTALL CIRCULAR ROOT BARRIER.
22. ADJUST UTILITY ACCESS COVER TO GRADE (BY OTHERS).
23. REMOVE AND RECONSTRUCT EXISTING GRAVITY BLOCK WALL OVER 4" CMB AND REINSTALL BEHIND NEW SIDEWALK. RECONSTRUCT LANDSCAPING IN KIND AND RESTORE IRRIGATION SYSTEM IN PLACE. PLACE 2" BARK MULCH COVER.
24. PROPOSED LANDSCAPE AND IRRIGATION. SEE LANDSCAPE PLANS.
25. REMOVE EXISTING AND CONSTRUCT HARDSCAPE PER PAVING PLANS, AS NOTED.
26. TRAFFIC SIGNAL LOOPS, SEE TRAFFIC SIGNAL PLANS.
27. RELOCATE FIRE HYDRANT.
28. RESTORE SURVEY MONUMENT, TYP.
29. REMOVE EXISTING AND CONSTRUCT COBBLESTONE PAVEMENT, TYPE-2 COBBLES, GROUTED IN PLACE PER DETAIL ON SHEET-21. MODIFY IRRIGATION AS NEEDED.
30. RELOCATE STREET LIGHT, PULL BOX, CONDUIT AND CONDUCTOR.
31. REMOVE EXISTING AND CONSTRUCT NEW MANHOLE PER SPPWC 200-3.
32. RESTORE CURB DRAIN IN KIND, TYPICAL ALL LOCATIONS.
33. REMOVE EXISTING AND CONSTRUCT 2" AC WALKWAY OVER 4" CMB.
34. FILL TO PROPOSED GRADE WITH NATIVE AND SELECT BACKFILL MATERIAL.
35. REMOVE EXISTING AND CONSTRUCT SIDEWALK, LANDSCAPE, HARDSCAPE AND IRRIGATION IMPROVEMENTS PER LANDSCAPE PLANS (LS-73).
36. REMOVE EXISTING AND CONSTRUCT 6" PCC DRIVEWAY PER SPPWC 110 TYPE C OVER 6" CMB.
37. REMOVE EXISTING AND INSTALL SOD TO GRADE. ADJUST OR MODIFY IRRIGATION AS REQUIRED.
38. INSTALL CAST IN PLACE OR SURFACE MOUNTED TRUNCATED DOME DETECTABLE WARNING SURFACE, 3' DEPTH x 4'.
39. RELOCATE WATER METER (BY OTHERS).
40. RELOCATE TRAFFIC SIGNAL, PULL BOX AND CONDUIT. REPLACE BROKEN BOXES. SEE TRAFFIC SIGNAL PLANS (TL160A, 161A & 162A).
41. EDGE MILL AND PROFILE GRIND TO PREPARE PAVEMENT FOR AC LEVEL COURSE OVERLAY.
42. REMOVE EXISTING AND CONSTRUCT 6" PCC CURB PER SPPWC 120 TYPE A2-6, OVER 8" CMB.
43. REMOVE EXISTING AND CONSTRUCT PCC DRIVEWAY PER REDONDO BEACH STD PLAN STD-2 TYPE D-1 OVER 6" CMB.
44. CLEAR AND GRUB AS REQUIRED TO OBTAIN PROPOSED GRADE.

CONSTRUCTION NOTES, DETAILS, AND TYPICAL SECTIONS
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14
This stamp shall include that portion of work prepared by or under my direct supervision.

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REGISTERED PROFESSIONAL ENGINEER CORETTINE KOBAYASHI No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN — DATE
CITY ENGINEER
R.C.E. NO. — EXP.

SCALE: AS SHOWN | SHEET 2 OF 37
PLAN NO. **ST-1055**

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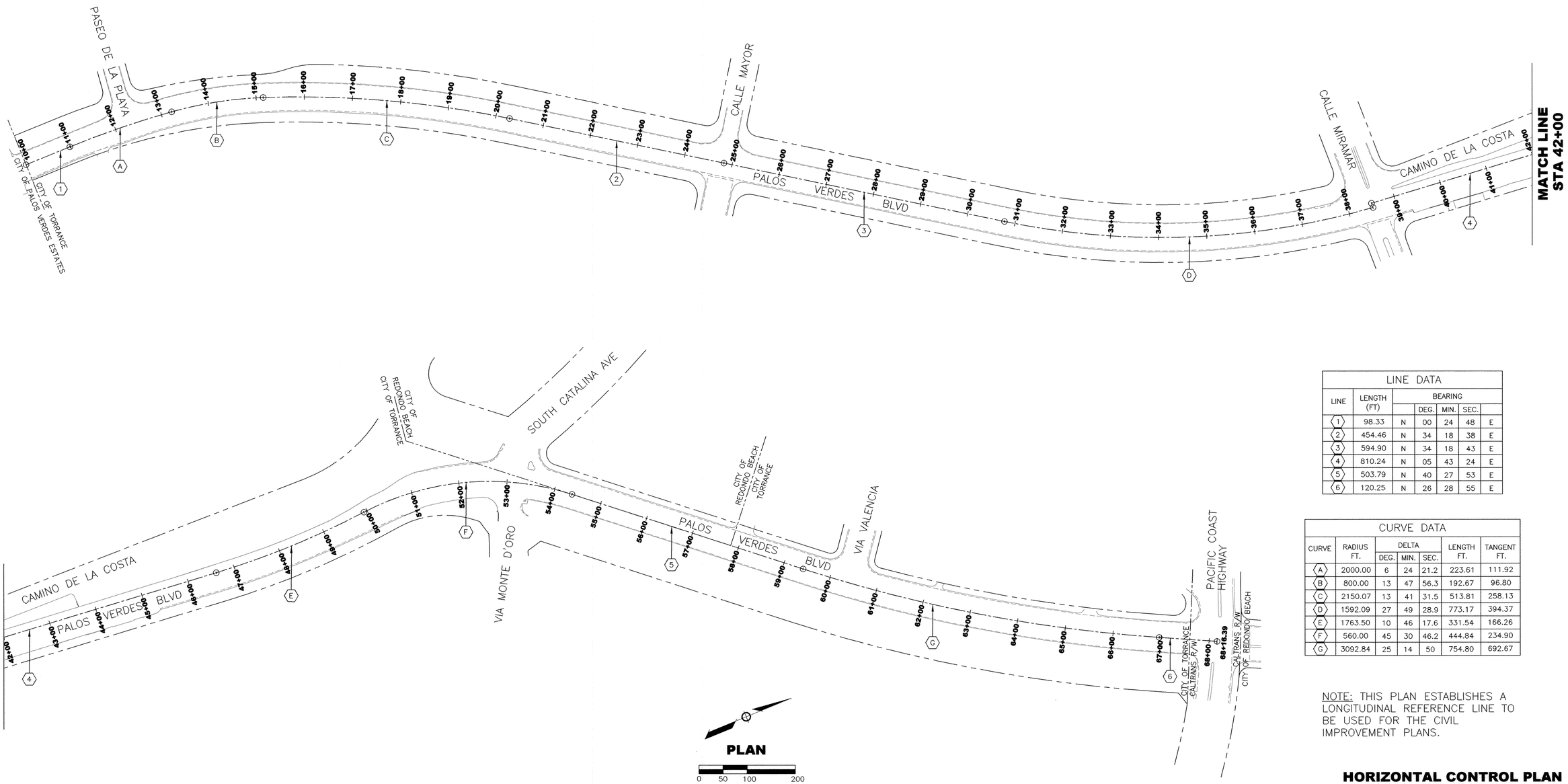

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5	503.79	N	40	27	53	E
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CURVE DATA						
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		DEG.	MIN.	SEC.		
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F	560.00	45	30	46.2	444.84	234.90
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NOTE: THIS PLAN ESTABLISHES A LONGITUDINAL REFERENCE LINE TO BE USED FOR THE CIVIL IMPROVEMENT PLANS.

HORIZONTAL CONTROL PLAN
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: This stamp shall include that portion of work prepared by or under my direct supervision. 5/13/14

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REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASKAVA No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 3 OF 37
PLAN NO. ST-1055

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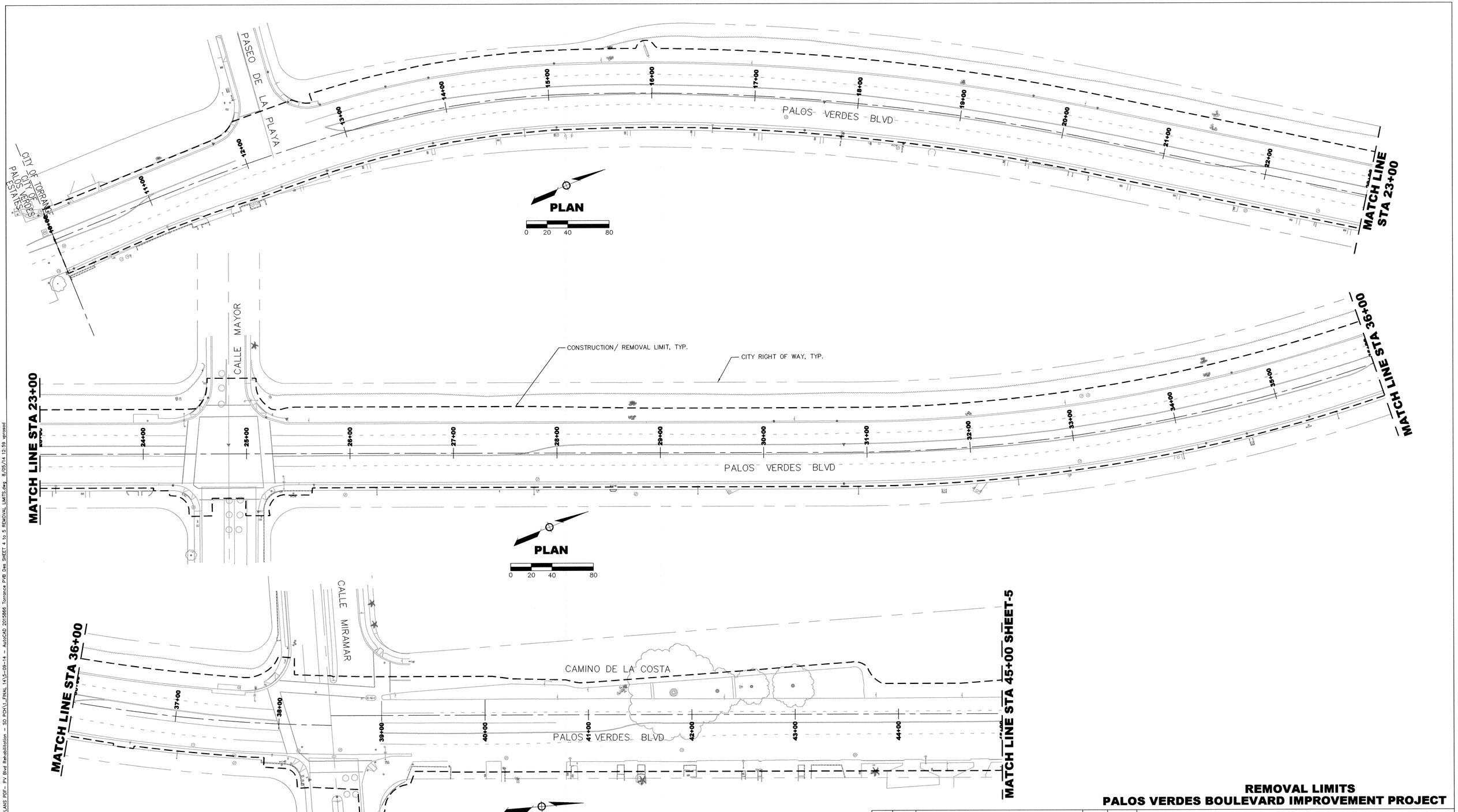

REMOVAL LIMITS
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: THIS STAMP SHALL INCLUDE THAT PORTION OF WORK PREPARED BY OR UNDER MY DIRECT SUPERVISION.

5/13/14

REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASKAR No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

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CBM PROJ# 5866

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

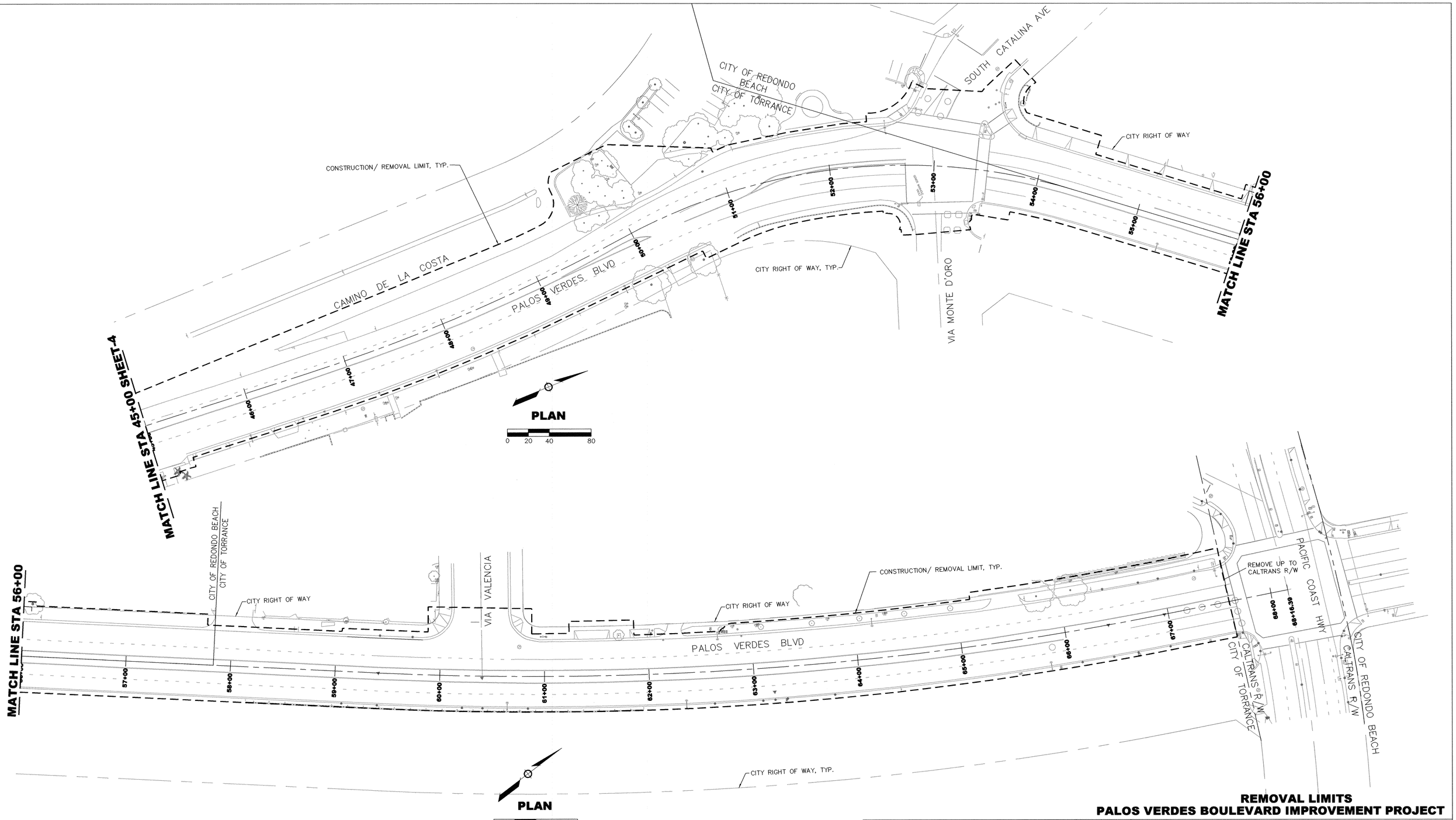
APPROVED: 8/7/14

CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 4 OF 37

PLAN NO. ST-1055

\\Pwfs\shdata\ENG\CIP_Palos Verdes Blvd REHAB, I 121\10-PLANS PDF- PV Blvd Rehabilitation - SO PCH\1_FINAL 14\5-09-14 - AutoCAD 2015866 Torrance PVB Des SHEET 4 to 5 REMOVAL LIMITS.dwg 8/05/14 12:59 vprasad



REMOVAL LIMITS
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: THIS STAMP SHALL INCLUDE THAT PORTION OF WORK PREPARED BY OR UNDER MY DIRECT SUPERVISION 5/13/14

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CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

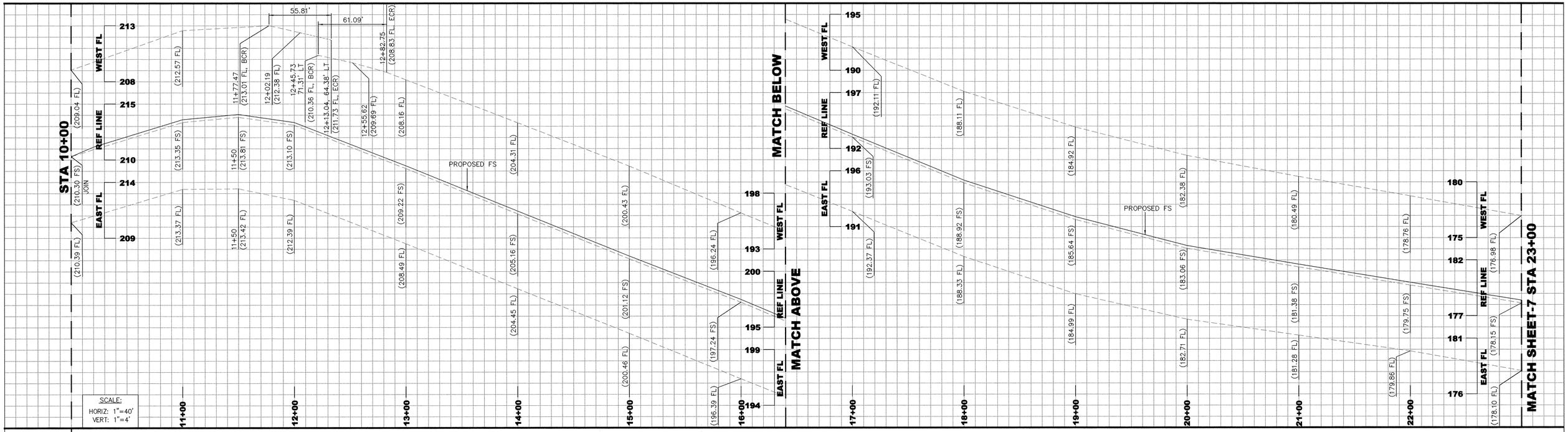
APPROVED: 8/7/14

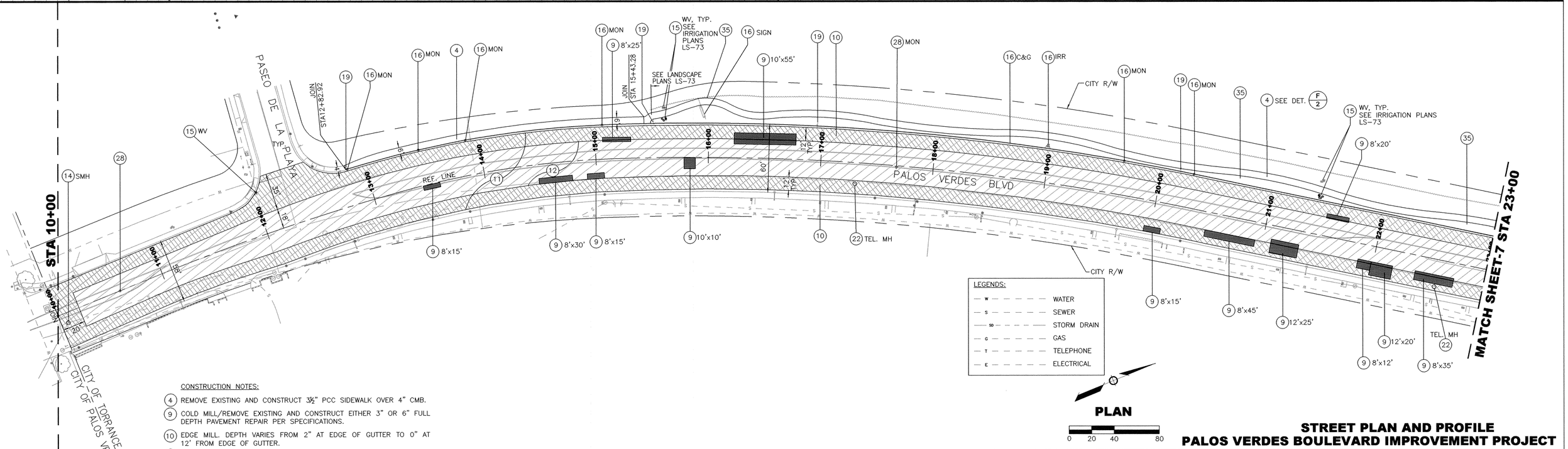
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 5 OF 37

PLAN NO. ST-1055

\\Pwfs\sdata\ENG\CIP_Palos Verdes Blvd REHAB, I 121\10-PLANS PDF- PV Blvd Rehabilitation - SO PCH\1_FINAL 14\5-09-14 - AutoCAD 2015866 Torrance PVB Des SHEET 4 to 5 REMOVAL LIMITS.dwg 8/05/14 13:04 vprasad





PLAN

0 20 40 80

CONSTRUCTION NOTES:

4. REMOVE EXISTING AND CONSTRUCT 3½" PCC SIDEWALK OVER 4" CMB.
9. COLD MILL/REMOVE EXISTING AND CONSTRUCT EITHER 3" OR 6" FULL DEPTH PAVEMENT REPAIR PER SPECIFICATIONS.
10. EDGE MILL. DEPTH VARIES FROM 2" AT EDGE OF GUTTER TO 0" AT 12' FROM EDGE OF GUTTER.
11. 2" AC PAVEMENT OVERLAY, TYPE C2 PG 64-10.
12. AC PAVEMENT LEVEL COURSE, TYPE D PG 64-10. VARIES FROM 0" AT 12' FROM EDGE OF GUTTER TO 1" NOMINAL AT CROWN.
14. ADJUST MANHOLE FRAME AND COVER TO GRADE.
15. ADJUST UTILITY ACCESS COVER TO GRADE. REPLACE BROKEN BOXES.
16. PROTECT IN PLACE.
19. TRAFFIC SIGN. SEE SIGNING AND STRIPING PLANS (C2013-003).
22. ADJUST UTILITY ACCESS COVER TO GRADE (BY OTHERS).
28. RESTORE SURVEY MONUMENT, TYP.
35. REMOVE EXISTING AND CONSTRUCT SIDEWALK, LANDSCAPE, HARDSCAPE AND IRRIGATION IMPROVEMENTS PER LANDSCAPE PLANS (LS-73).

STREET PLAN AND PROFILE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: THIS STAMP SHALL INCLUDE THAT PORTION OF WORK PREPARED BY OR UNDER MY DIRECT SUPERVISION. 5/13/14

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REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASKAR No. 75688 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

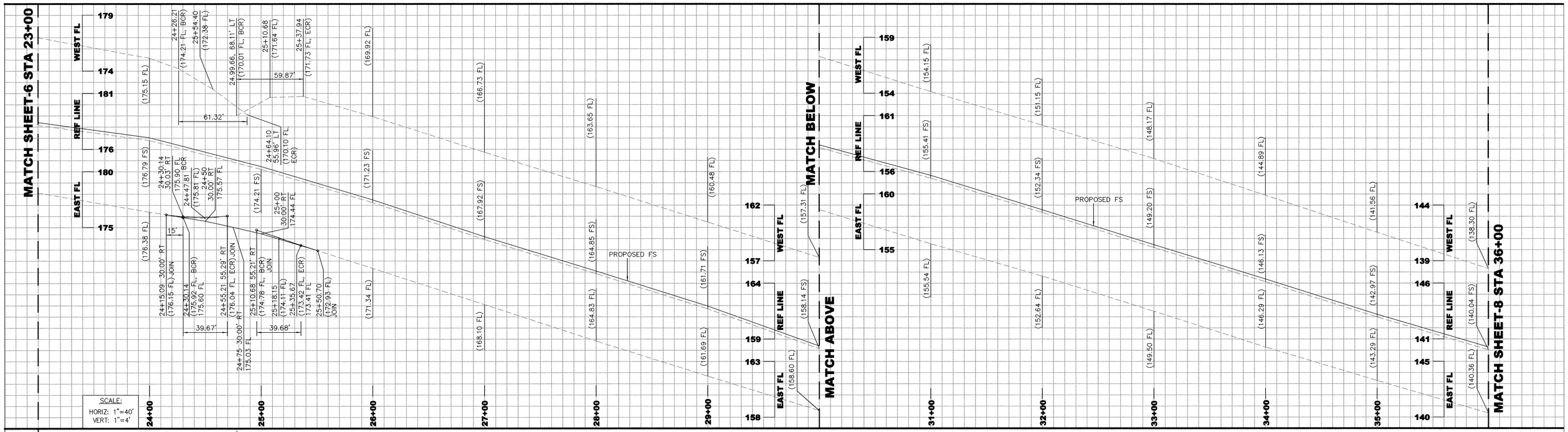
CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

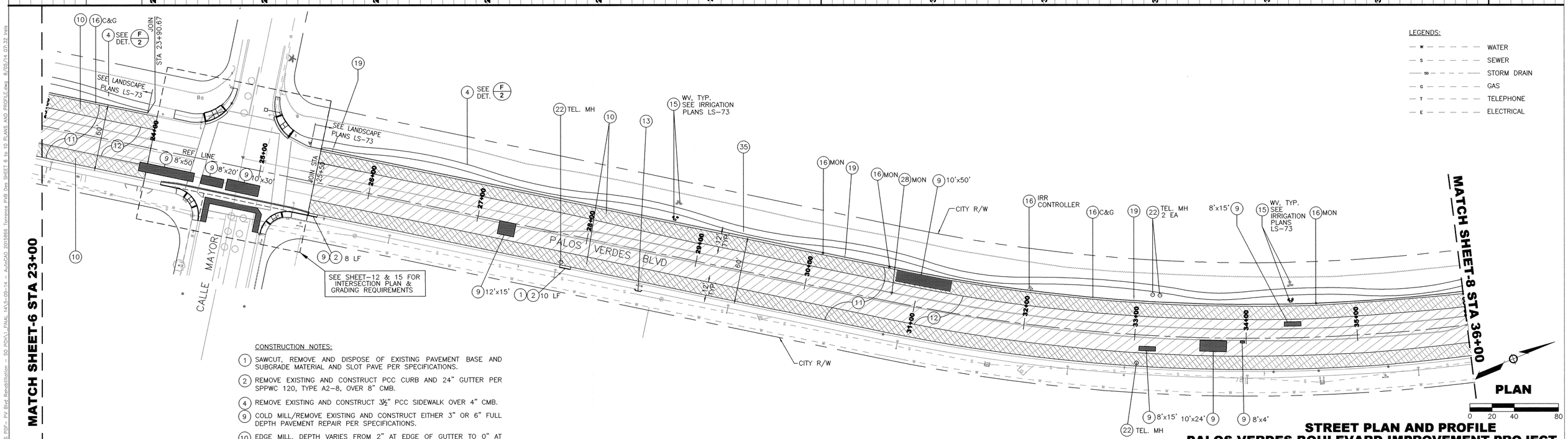
DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 6 OF 37

PLAN NO. ST-1055





LEGENDS:

- WATER
- SEWER
- STORM DRAIN
- GAS
- TELEPHONE
- ELECTRICAL

CONSTRUCTION NOTES:

1. SAWCUT, REMOVE AND DISPOSE OF EXISTING PAVEMENT BASE AND SUBGRADE MATERIAL AND SLOT PAVE PER SPECIFICATIONS.
2. REMOVE EXISTING AND CONSTRUCT PCC CURB AND 24" GUTTER PER SPPWC 120, TYPE A2-8, OVER 8" CMB.
4. REMOVE EXISTING AND CONSTRUCT 3½" PCC SIDEWALK OVER 4" CMB.
9. COLD MILL/REMOVE EXISTING AND CONSTRUCT EITHER 3" OR 6" FULL DEPTH PAVEMENT REPAIR PER SPECIFICATIONS.
10. EDGE MILL. DEPTH VARIES FROM 2" AT EDGE OF GUTTER TO 0" AT 12' FROM EDGE OF GUTTER.
11. 2" AC PAVEMENT OVERLAY, TYPE C2 PG 64-10.
12. AC PAVEMENT LEVEL COURSE, TYPE D PG 64-10. VARIES FROM 0" AT 12' FROM EDGE OF GUTTER TO 1" NOMINAL AT CROWN.
13. CONSTRUCT 6" PCC RETAINING CURB AND 3½" PCC SIDEWALK OVER 4" CMB PER DETAIL E SHEET-2.
15. ADJUST UTILITY ACCESS COVER TO GRADE. REPLACE BROKEN BOXES.
16. PROTECT IN PLACE.
19. TRAFFIC SIGN. SEE SIGNING AND STRIPING PLANS (C2013-003).
22. ADJUST UTILITY ACCESS COVER TO GRADE (BY OTHERS).
28. RESTORE SURVEY MONUMENT, TYP.
35. REMOVE EXISTING AND CONSTRUCT SIDEWALK, LANDSCAPE, HARDSCAPE AND IRRIGATION IMPROVEMENTS PER LANDSCAPE PLANS (LS-73).

STREET PLAN AND PROFILE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: THIS STAMP SHALL INCLUDE THAT PORTION OF WORK PREPARED BY OR UNDER MY DIRECT SUPERVISION 5/13/14

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REGISTERED PROFESSIONAL ENGINEER CHRISTINE ROSPAR No. 75886 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14

CRAIG BILEZERIAN
CITY ENGINEER
R.C.E. NO. EXP.
DATE

SCALE: AS SHOWN | SHEET 7 OF 37

PLAN NO. **ST-1055**

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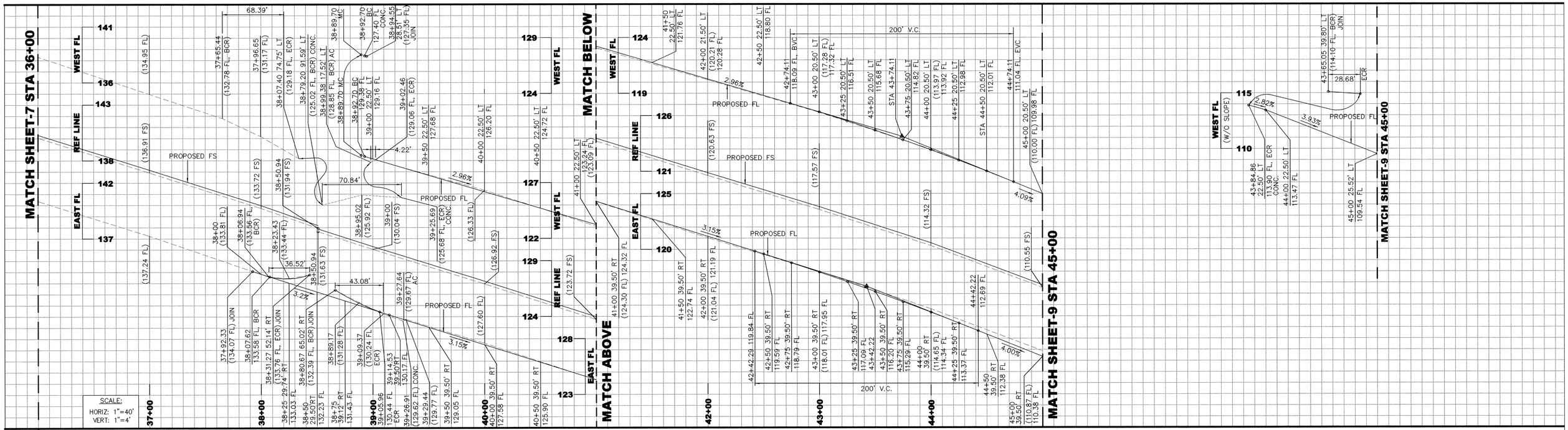

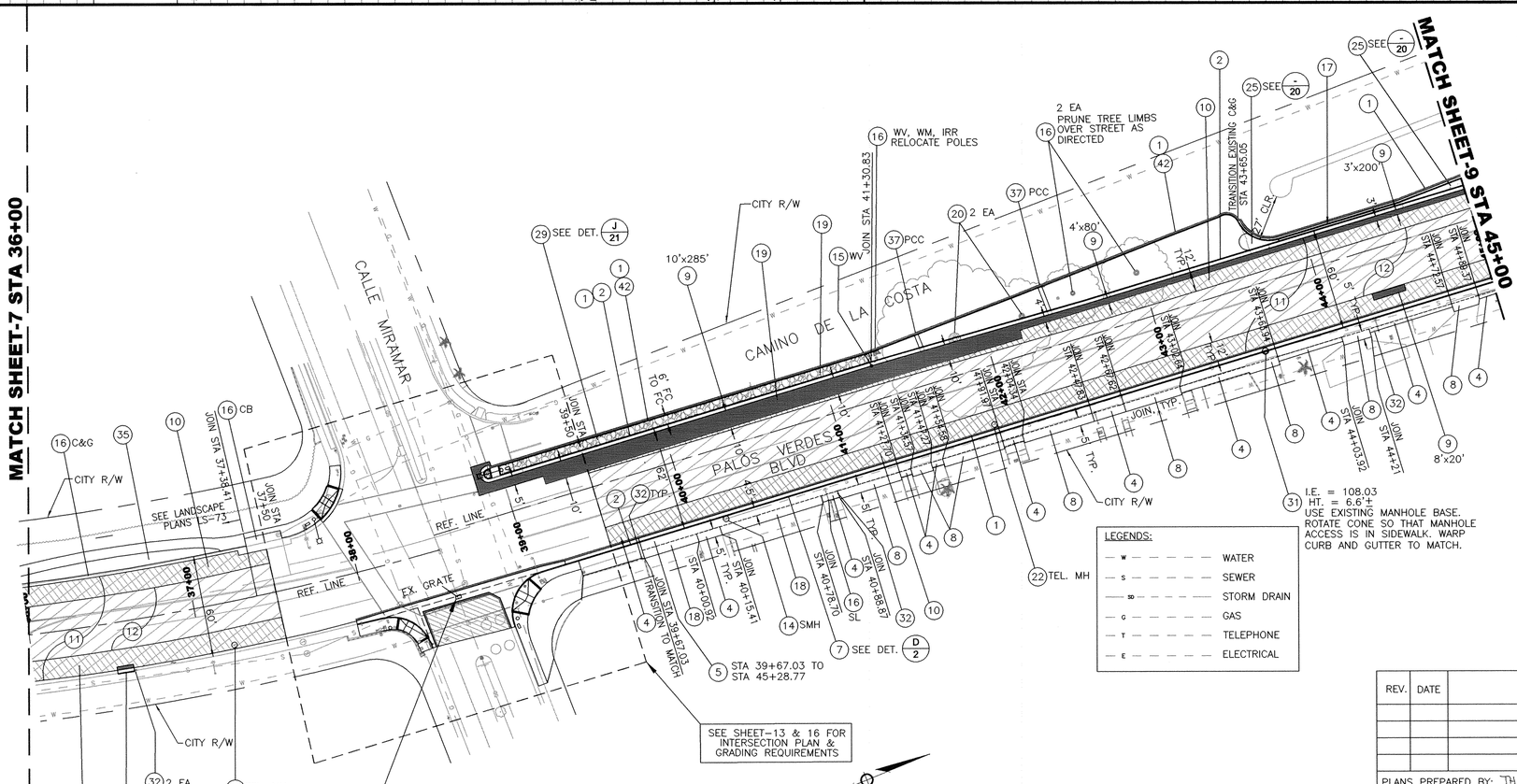

PLAN

0 20 40 80

CONSTRUCTION NOTES:

1. SAWCUT, REMOVE AND DISPOSE OF EXISTING PAVEMENT BASE AND SUBGRADE MATERIAL AND SLOT PAVE PER SPECIFICATIONS.
2. REMOVE EXISTING AND CONSTRUCT PCC CURB AND 24" GUTTER PER SPPWC 120, TYPE A2-8, OVER 8" CMB.
4. REMOVE EXISTING AND CONSTRUCT 3½" PCC SIDEWALK OVER 4" CMB.
5. REMOVE EXISTING AND CONSTRUCT 6" PCC DRIVEWAY OVER 6" CMB.
7. REMOVE EXISTING AND CONSTRUCT PCC CURB & GUTTER PER DETAIL AS NOTED OVER 8" CMB.
8. REMOVE EXISTING AND CONSTRUCT 6" PCC TRANSITION OVER 6" CMB.
9. COLD MILL/REMOVE EXISTING AND CONSTRUCT EITHER 3" OR 6" FULL DEPTH PAVEMENT REPAIR PER SPECIFICATIONS.
10. EDGE MILL. DEPTH VARIES FROM 2" AT EDGE OF GUTTER TO 0" AT 12' FROM EDGE OF GUTTER.
11. 2" AC PAVEMENT OVERLAY, TYPE C2 PG 64-10.
12. AC PAVEMENT LEVEL COURSE, TYPE D PG 64-10. VARIES FROM 0" AT 12' FROM EDGE OF GUTTER TO 1" NOMINAL AT CROWN.
14. ADJUST MANHOLE FRAME AND COVER TO GRADE.
15. ADJUST UTILITY ACCESS COVER TO GRADE. REPLACE BROKEN BOXES.
16. PROTECT IN PLACE.
17. REMOVE EXISTING AND CONSTRUCT 6" PCC CURB WITH 12" WIDE GUTTER PER SPPWC 120 TYPE A2-6, OVER 8" CMB.
18. REMOVE EXISTING & CONSTRUCT 6" FULL DEPTH AC TRANSITION.
19. TRAFFIC SIGN. SEE SIGNING AND STRIPING PLANS (C2013-003).
20. REMOVE TREE AND ROOTS TO 3 FEET BELOW GRADE.
22. ADJUST UTILITY ACCESS COVER TO GRADE (BY OTHERS).
25. REMOVE EXISTING AND CONSTRUCT HARDSCAPE PER PAVING PLANS, AS NOTED.
29. REMOVE EXISTING AND CONSTRUCT COBBLESTONE PAVEMENT, TYPE-2 COBBLES, GROUTED IN PLACE PER DETAIL ON SHEET-21. MODIFY IRRIGATION AS NEEDED.
31. REMOVE EXISTING AND CONSTRUCT NEW MANHOLE PER SPPWC 200-3.
32. RESTORE CURB DRAIN IN KIND, TYPICAL ALL LOCATIONS.
35. REMOVE EXISTING AND CONSTRUCT SIDEWALK, LANDSCAPE, HARDSCAPE AND IRRIGATION IMPROVEMENTS PER LANDSCAPE PLANS (LS-73).
37. REMOVE EXISTING AND INSTALL SOD TO GRADE. ADJUST OR MODIFY IRRIGATION AS REQUIRED.
42. REMOVE EXISTING AND CONSTRUCT 6" PCC CURB PER SPPWC 120 TYPE A2-6, OVER 8" CMB.

STREET PLAN AND PROFILE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: THIS STAMP SHALL INCLUDE THAT PORTION OF WORK PREPARED BY OR UNDER MY DIRECT SUPERVISION. 5/13/14

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REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASCHE No. 75588 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14

CRAIG BILEZERIAN
CITY ENGINEER
R.C.E. NO. EXP.
DATE

SCALE: AS SHOWN

SHEET 8 OF 37

PLAN NO. ST-1055

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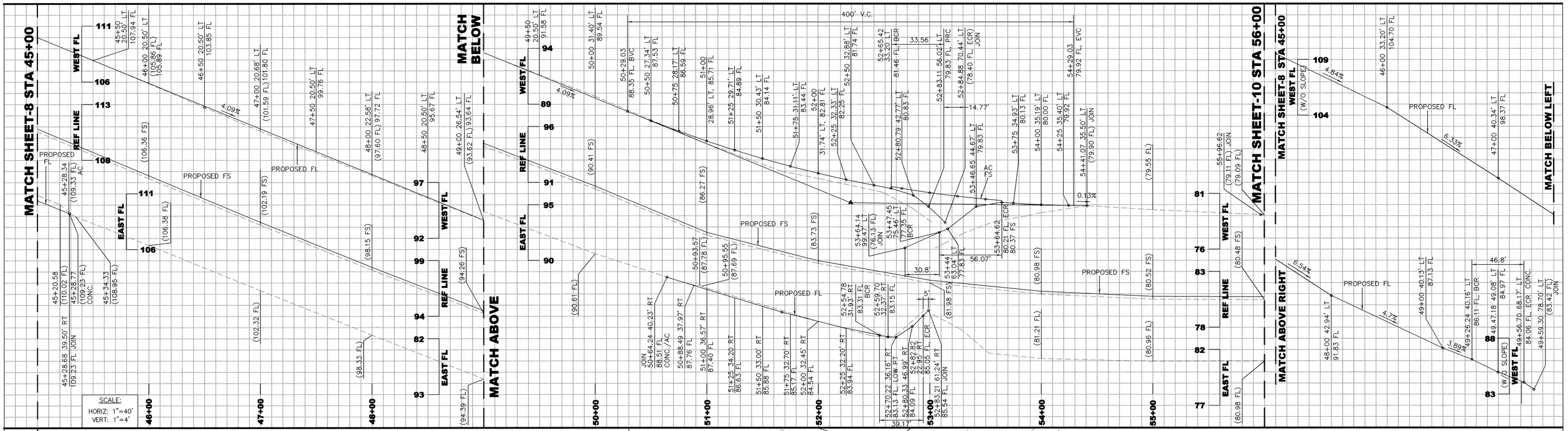
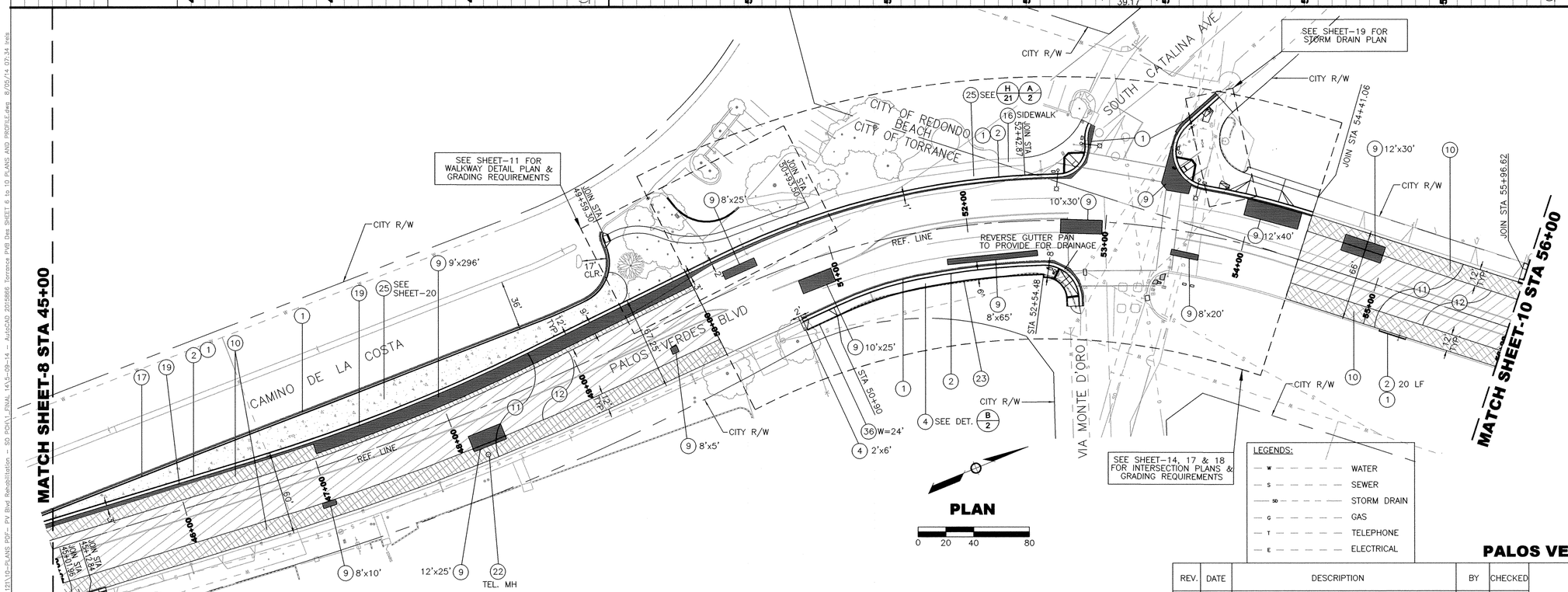




CONSTRUCTION NOTES:

1. SAWCUT, REMOVE AND DISPOSE OF EXISTING PAVEMENT BASE AND SUBGRADE MATERIAL AND SLOT PAVE PER SPECIFICATIONS.
2. REMOVE EXISTING AND CONSTRUCT PCC CURB AND 24" GUTTER PER SPPWC 120, TYPE A2-8, OVER 8" CMB.
4. REMOVE EXISTING AND CONSTRUCT 3½" PCC SIDEWALK OVER 4" CMB.
5. REMOVE EXISTING AND CONSTRUCT 6" PCC DRIVEWAY OVER 6" CMB.
7. REMOVE EXISTING AND CONSTRUCT PCC CURB & GUTTER PER DETAIL AS NOTED OVER 8" CMB.
9. COLD MILL/REMOVE EXISTING AND CONSTRUCT EITHER 3" OR 6" FULL DEPTH PAVEMENT REPAIR PER SPECIFICATIONS.
10. EDGE MILL. DEPTH VARIES FROM 2" AT EDGE OF GUTTER TO 0" AT 12' FROM EDGE OF GUTTER.
11. 2" AC PAVEMENT OVERLAY, TYPE C2 PG 64-10.
12. AC PAVEMENT LEVEL COURSE, TYPE D PG 64-10. VARIES FROM 0" AT 12' FROM EDGE OF GUTTER TO 1" NOMINAL AT CROWN.
16. PROTECT IN PLACE.
17. REMOVE EXISTING AND CONSTRUCT 6" PCC CURB WITH 12" WIDE GUTTER PER SPPWC 120 TYPE A2-6, OVER 8" CMB.
19. TRAFFIC SIGN. SEE SIGNING AND STRIPING PLANS (C2013-003).
22. ADJUST UTILITY ACCESS COVER TO GRADE (BY OTHERS).
23. REMOVE AND RECONSTRUCT EXISTING GRAVITY BLOCK WALL OVER 4" CMB BEHIND NEW SIDEWALK. RECONSTRUCT LANDSCAPING IN KIND AND RESTORE IRRIGATION SYSTEM IN PLACE. PLACE 2" BARK MULCH COVER.
25. REMOVE EXISTING AND CONSTRUCT HARDSCAPE PER PAVING PLANS, AS NOTED.
36. REMOVE EXISTING AND CONSTRUCT 6" PCC DRIVEWAY PER SPPWC 110 TYPE C OVER 6" CMB.

LEGENDS:

- W — WATER
- S — SEWER
- SD — STORM DRAIN
- G — GAS
- T — TELEPHONE
- E — ELECTRICAL

STREET PLAN AND PROFILE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: THIS STAMP SHALL INCLUDE THAT PORTION OF WORK PREPARED BY OR UNDER MY DIRECT SUPERVISION. 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
Fax: (310) 329-1021

REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASHA No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

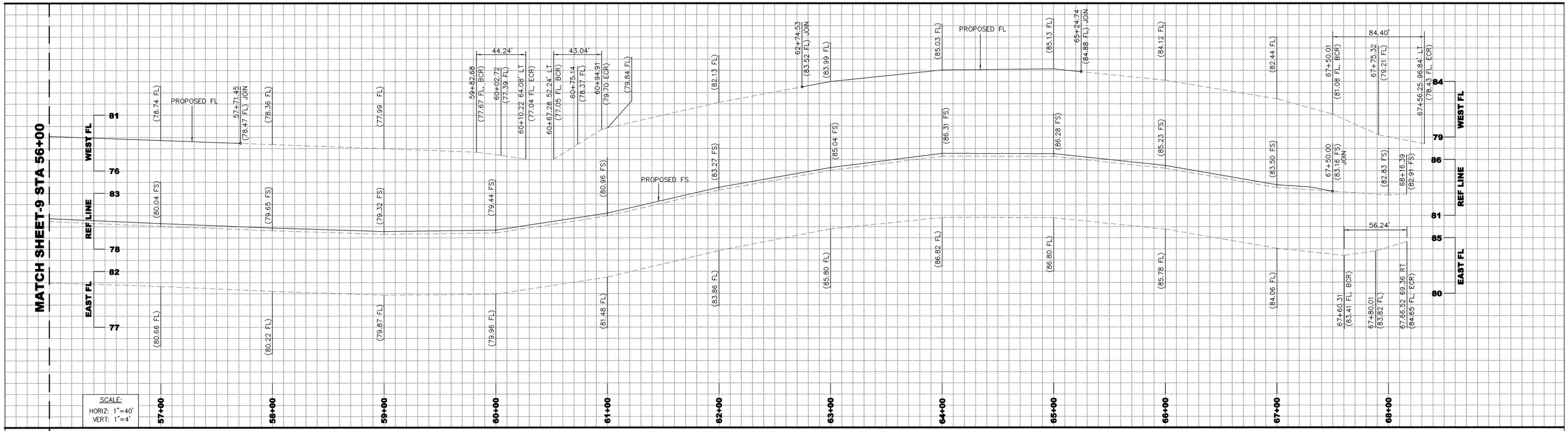
CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

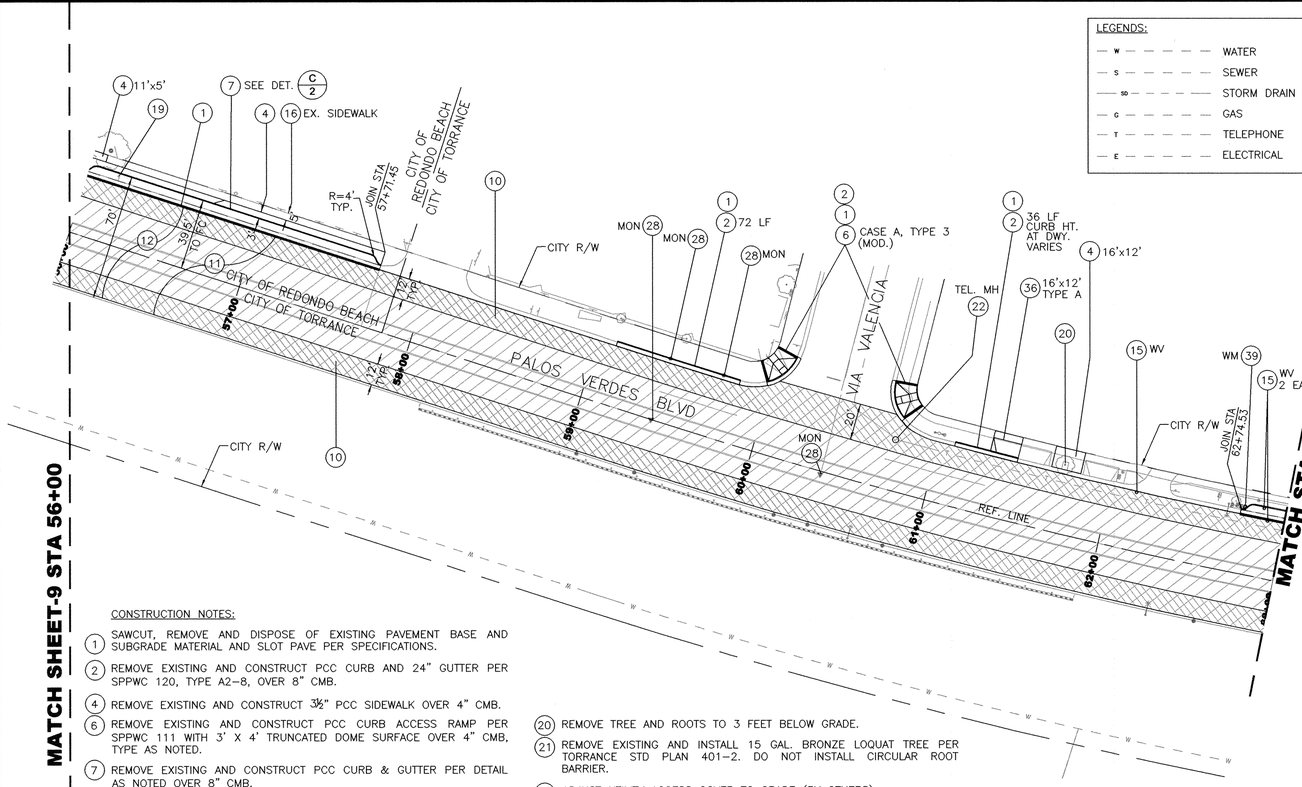
DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

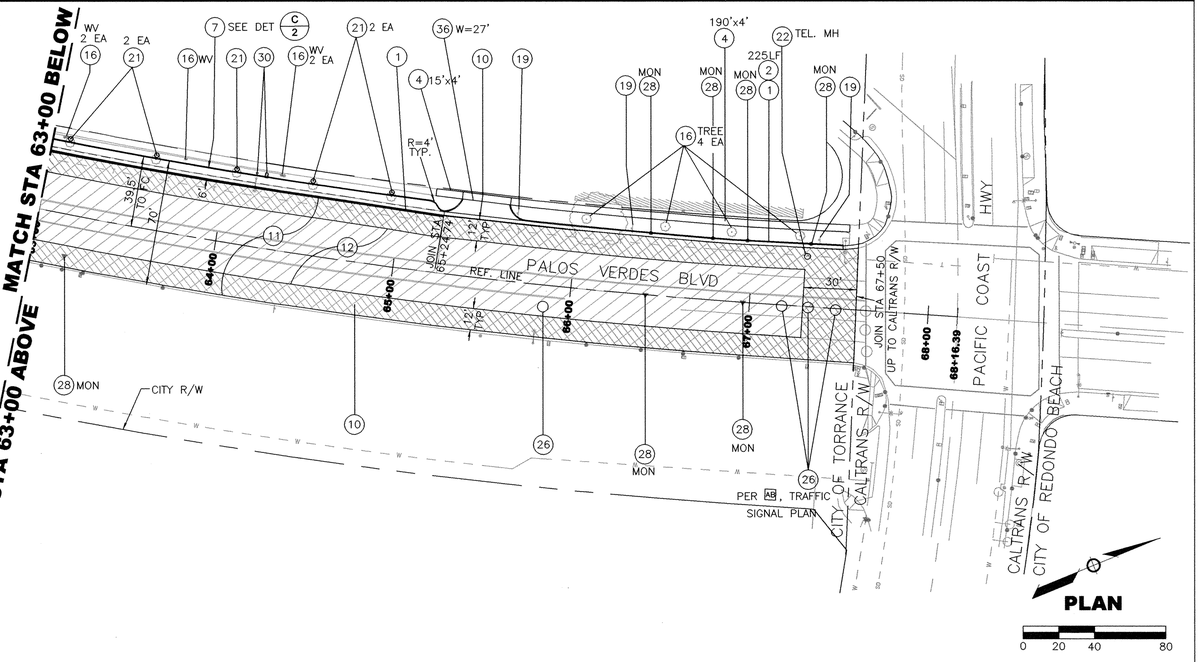
APPROVED: 8/7/14
CRAIG BILEZERIAN — DATE
CITY ENGINEER
R.C.E. NO. — EXP.

SCALE: AS SHOWN | SHEET 9 OF 37

PLAN NO. **ST-1055**







CONSTRUCTION NOTES:

1. SAWCUT, REMOVE AND DISPOSE OF EXISTING PAVEMENT BASE AND SUBGRADE MATERIAL AND SLOT PAVE PER SPECIFICATIONS.
2. REMOVE EXISTING AND CONSTRUCT PCC CURB AND 24" GUTTER PER SPPWC 120, TYPE A2-8, OVER 8" CMB.
4. REMOVE EXISTING AND CONSTRUCT 3½" PCC SIDEWALK OVER 4" CMB.
6. REMOVE EXISTING AND CONSTRUCT PCC CURB ACCESS RAMP PER SPPWC 111 WITH 3' X 4' TRUNCATED DOME SURFACE OVER 4" CMB, TYPE AS NOTED.
7. REMOVE EXISTING AND CONSTRUCT PCC CURB & GUTTER PER DETAIL AS NOTED OVER 8" CMB.
10. EDGE MILL. DEPTH VARIES FROM 2" AT EDGE OF GUTTER TO 0" AT 12' FROM EDGE OF GUTTER.
11. 2" AC PAVEMENT OVERLAY, TYPE C2 PG 64-10.
12. AC PAVEMENT LEVEL COURSE, TYPE D PG 64-10. VARIES FROM 0" AT 12' FROM EDGE OF GUTTER TO 1" NOMINAL AT CROWN.
15. ADJUST UTILITY ACCESS COVER TO GRADE. REPLACE BROKEN BOXES.
16. PROTECT IN PLACE.
19. TRAFFIC SIGN. SEE SIGNING AND STRIPING PLANS (C2013-003).
20. REMOVE TREE AND ROOTS TO 3 FEET BELOW GRADE.
21. REMOVE EXISTING AND INSTALL 15 GAL. BRONZE LOQUAT TREE PER TORRANCE STD PLAN 401-2. DO NOT INSTALL CIRCULAR ROOT BARRIER.
22. ADJUST UTILITY ACCESS COVER TO GRADE (BY OTHERS).
26. TRAFFIC SIGNAL LOOPS, SEE TRAFFIC SIGNAL PLANS.
28. RESTORE SURVEY MONUMENT, TYP.
30. RELOCATE STREET LIGHT, PULL BOX, CONDUIT AND CONDUCTOR.
36. REMOVE EXISTING AND CONSTRUCT 6" PCC DRIVEWAY PER SPPWC 110 TYPE C OVER 6" CMB.
39. RELOCATE WATER METER (BY OTHERS).

STREET PLAN AND PROFILE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: KOA CORPORATION
1411 W. 190TH ST., SUITE 525
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This stamp shall include that portion of work prepared by or under my direct supervision. 5/13/14

REGISTERED PROFESSIONAL ENGINEER ROBERT STEVE KOOCHAK No. 75295 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN
CITY ENGINEER
R.C.E. NO. EXP.
DATE

SCALE: AS SHOWN
SHEET 10 OF 37
PLAN NO. **ST-1055**

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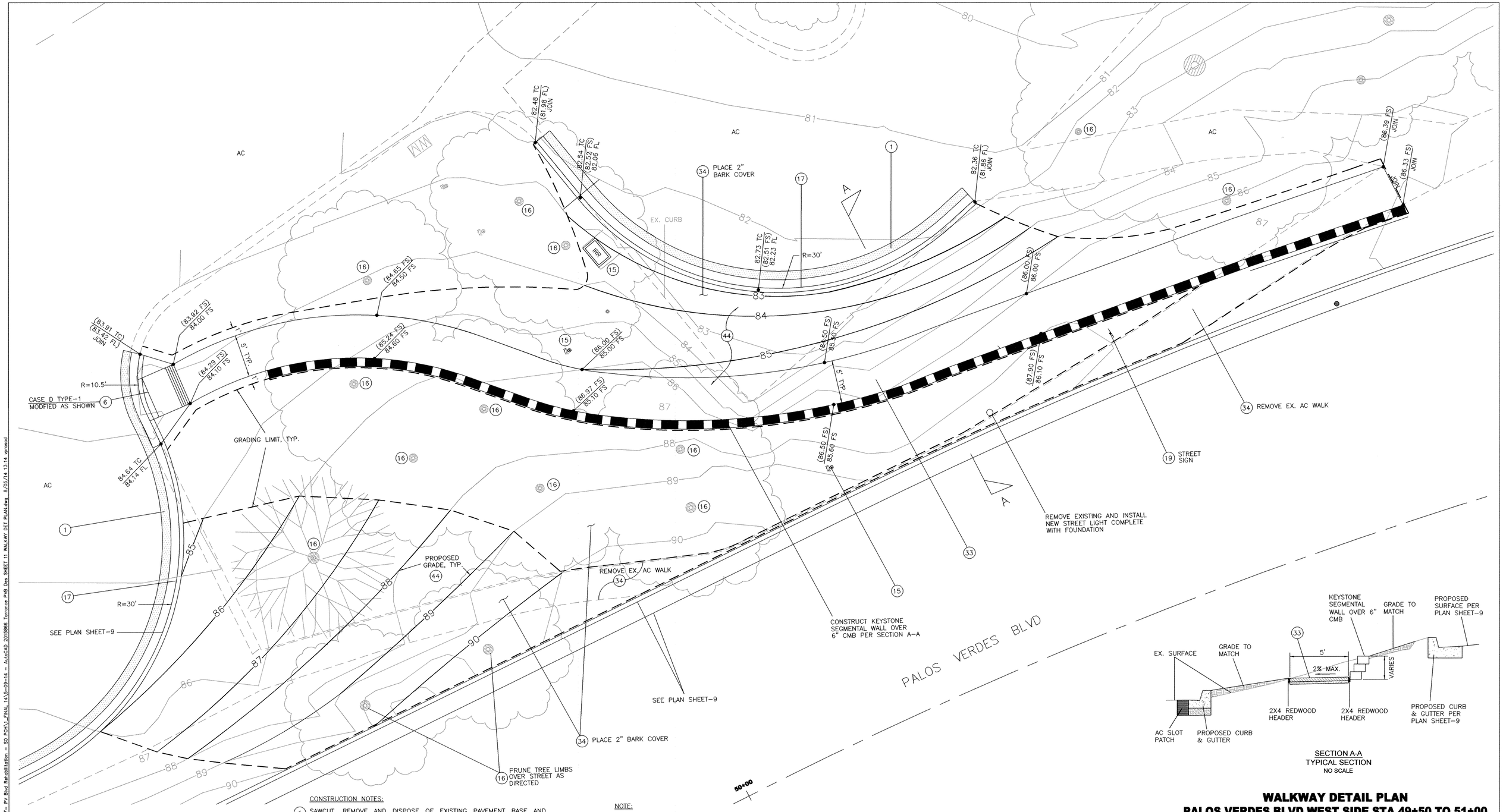

SECTION A-A
TYPICAL SECTION
NO SCALE

CONSTRUCTION NOTES:

1. SAWCUT, REMOVE AND DISPOSE OF EXISTING PAVEMENT BASE AND SUBGRADE MATERIAL AND SLOT PAVE PER SPECIFICATIONS.
6. REMOVE EXISTING AND CONSTRUCT PCC CURB ACCESS RAMP PER SPPWC 111 WITH 3' X 4' TRUNCATED DOME SURFACE OVER 4" CMB, TYPE AS NOTED.
15. ADJUST UTILITY ACCESS COVER TO GRADE. REPLACE BROKEN BOXES.
16. PROTECT IN PLACE.
17. REMOVE EXISTING AND CONSTRUCT 6" PCC CURB WITH 12" WIDE GUTTER PER SPPWC 120 TYPE A2-6, OVER 8" CMB.
19. TRAFFIC SIGN. SEE SIGNING AND STRIPING PLANS (C2013-003).
33. REMOVE EXISTING AND CONSTRUCT 2" AC WALKWAY OVER 4" CMB.
34. FILL TO PROPOSED GRADE WITH NATIVE AND SELECT BACKFILL MATERIAL.
44. CLEAR AND GRUB AS REQUIRED TO OBTAIN PROPOSED GRADE.

NOTE:

RESTORE LANDSCAPE AND IRRIGATION, TYP. ADJUST IRRIGATION AS DIRECTED.

PLAN

0 2.5 5 10

WALKWAY DETAIL PLAN
PALOS VERDES BLVD WEST SIDE STA 49+50 TO 51+00
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: This Stamp shall include that portion of work prepared by or under my direct supervision 5/13/14

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REGISTERED PROFESSIONAL ENGINEER CHRISTINE KOBARA No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 11 OF 37
PLAN NO. **ST-1055**

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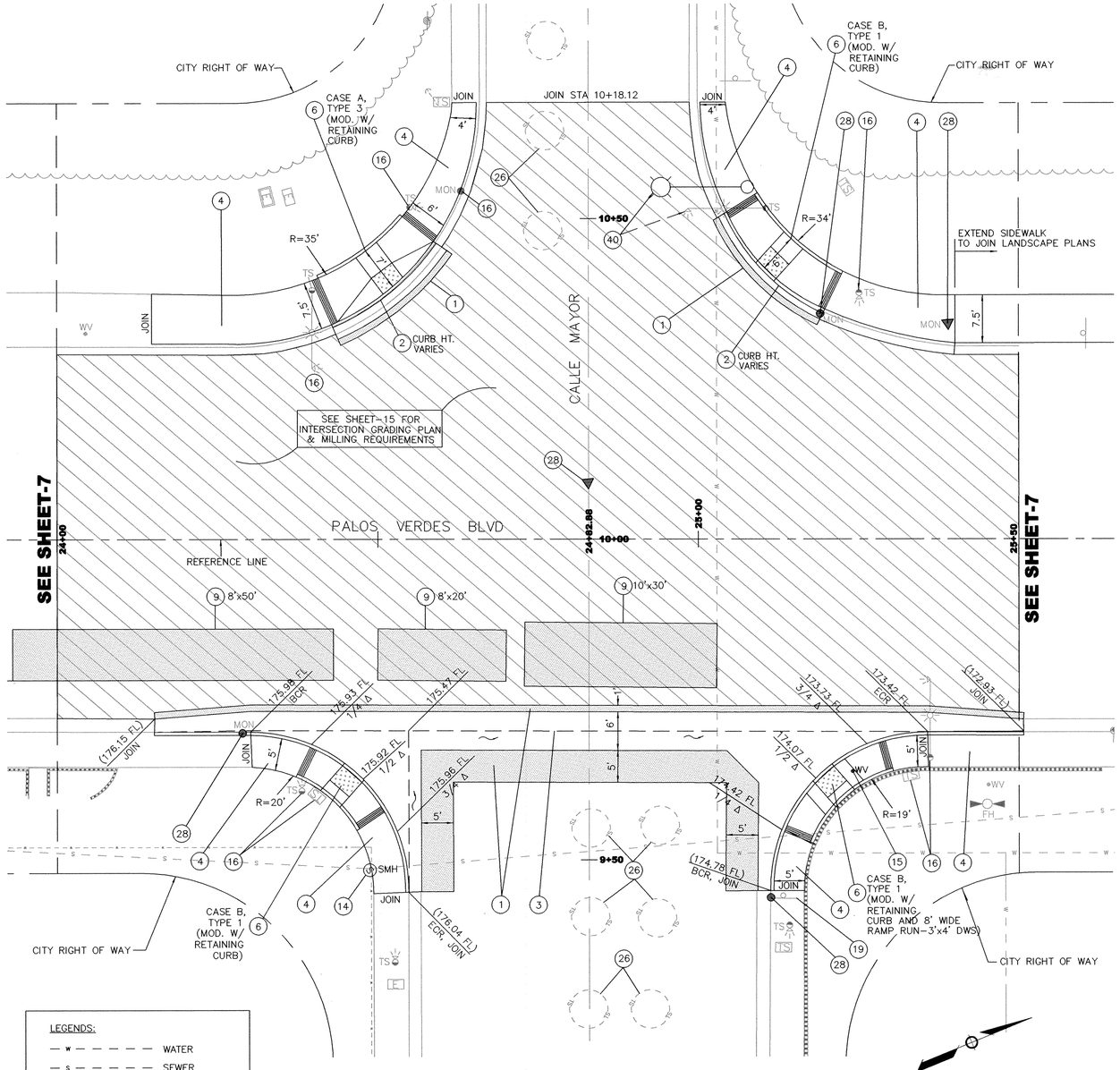

LEGENDS:

- W — WATER
- S — SEWER
- SD — STORM DRAIN
- G — GAS
- T — TELEPHONE
- E — ELECTRICAL

PLAN

0 5 10 20

CONSTRUCTION NOTES:

1. SAWCUT, REMOVE AND DISPOSE OF EXISTING PAVEMENT BASE AND SUBGRADE MATERIAL AND SLOT PAVE PER SPECIFICATIONS.
2. REMOVE EXISTING AND CONSTRUCT PCC CURB AND 24" GUTTER PER SPPWC 120, TYPE A2-8, OVER 8" CMB.
3. REMOVE EXISTING AND CONSTRUCT 8" PCC CROSS GUTTER PER SPPWC 122 OVER 8" CMB.
4. REMOVE EXISTING AND CONSTRUCT 3½" PCC SIDEWALK OVER 4" CMB.
6. REMOVE EXISTING AND CONSTRUCT PCC CURB ACCESS RAMP PER SPPWC 111 WITH 3' X 4' TRUNCATED DOME SURFACE OVER 4" CMB, TYPE AS NOTED.
9. COLD MILL/REMOVE EXISTING AND CONSTRUCT EITHER 3" OR 6" FULL DEPTH PAVEMENT REPAIR PER SPECIFICATIONS.
14. ADJUST MANHOLE FRAME AND COVER TO GRADE.
15. ADJUST UTILITY ACCESS COVER TO GRADE. REPLACE BROKEN BOXES.
16. PROTECT IN PLACE.
19. TRAFFIC SIGN. SEE SIGNING AND STRIPING PLANS (C2013-003).
26. TRAFFIC SIGNAL LOOPS, SEE TRAFFIC SIGNAL PLANS.
28. RESTORE SURVEY MONUMENT, TYP.
40. RELOCATE TRAFFIC SIGNAL, PULL BOX AND CONDUIT. REPLACE BROKEN BOXES. SEE TRAFFIC SIGNAL PLANS (TL160A, 161A & 162A).

STREET INTERSECTION PLAN
PALOS VERDES BLVD AT CALLE MAYOR
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

PLANS PREPARED BY: 5/13/14

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REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASKARA No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 12 OF 37
PLAN NO. **ST-1055**

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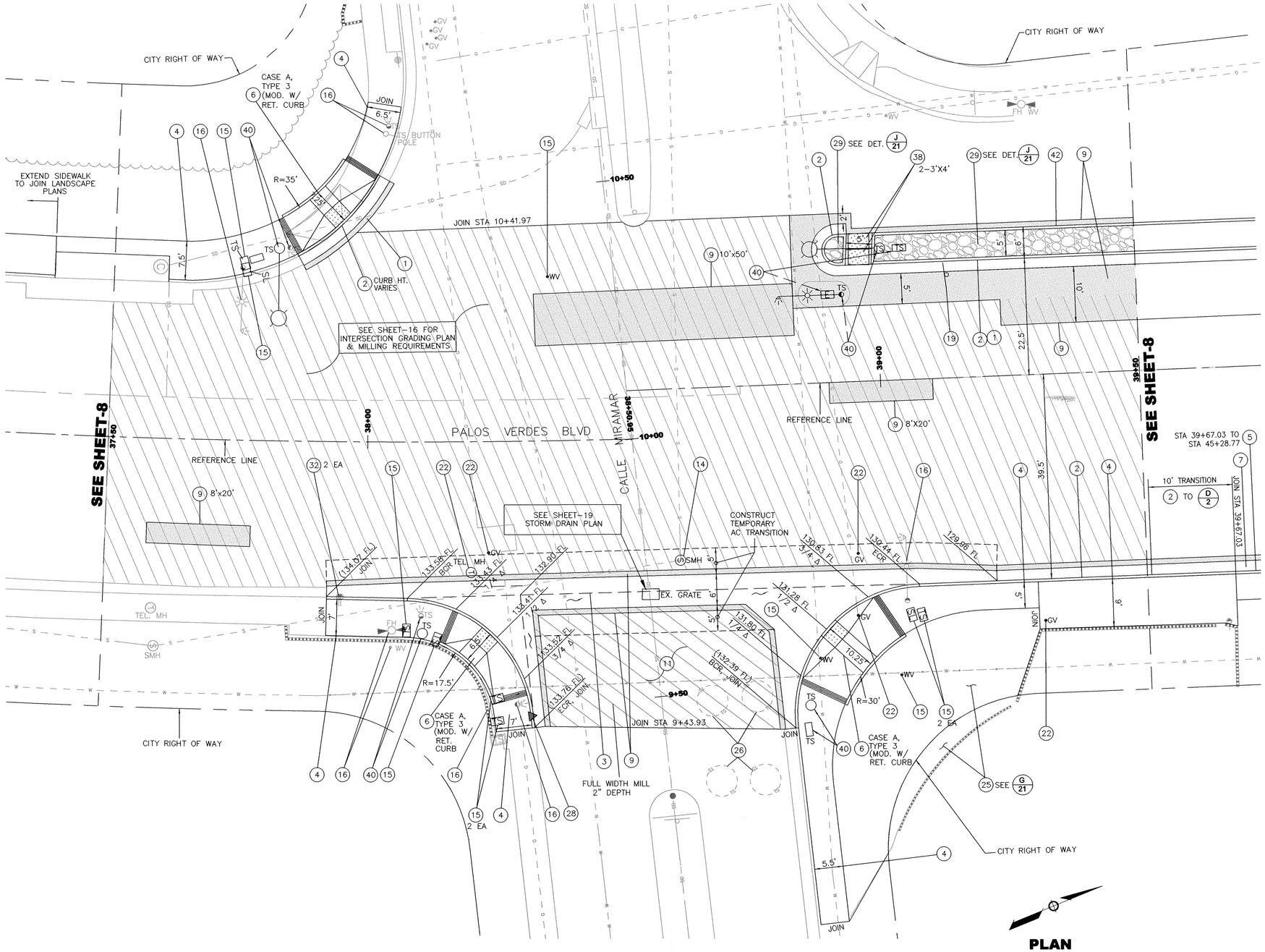

PLAN

0 5 10 20

CONSTRUCTION NOTES:

1. SAWCUT, REMOVE AND DISPOSE OF EXISTING PAVEMENT BASE AND SUBGRADE MATERIAL AND SLOT PAVE PER SPECIFICATIONS.
2. REMOVE EXISTING AND CONSTRUCT PCC CURB AND 24" GUTTER PER SPPWC 120, TYPE A2-8, OVER 8" CMB.
3. REMOVE EXISTING AND CONSTRUCT 8" PCC CROSS GUTTER PER SPPWC 122 OVER 8" CMB.
4. REMOVE EXISTING AND CONSTRUCT 3½" PCC SIDEWALK OVER 4" CMB.
5. REMOVE EXISTING AND CONSTRUCT 6" PCC DRIVEWAY OVER 6" CMB.
6. REMOVE EXISTING AND CONSTRUCT PCC CURB ACCESS RAMP PER SPPWC 111 WITH 3' X 4' TRUNCATED DOME SURFACE OVER 4" CMB, TYPE AS NOTED.
7. REMOVE EXISTING AND CONSTRUCT PCC CURB & GUTTER PER DETAIL AS NOTED OVER 8" CMB.
9. COLD MILL/REMOVE EXISTING AND CONSTRUCT EITHER 3" OR 6" FULL DEPTH PAVEMENT REPAIR PER SPECIFICATIONS.
11. 2" AC PAVEMENT OVERLAY, TYPE C2 PG 64-10.
14. ADJUST MANHOLE FRAME AND COVER TO GRADE.
15. ADJUST UTILITY ACCESS COVER TO GRADE. REPLACE BROKEN BOXES.
16. PROTECT IN PLACE.
19. TRAFFIC SIGN. SEE SIGNING AND STRIPING PLANS (C2013-003).
22. ADJUST UTILITY ACCESS COVER TO GRADE (BY OTHERS).
25. REMOVE EXISTING AND CONSTRUCT HARDSCAPE PER PAVING PLANS, AS NOTED.
26. TRAFFIC SIGNAL LOOPS, SEE TRAFFIC SIGNAL PLANS.
28. RESTORE SURVEY MONUMENT, TYP.
29. REMOVE EXISTING AND CONSTRUCT COBBLESTONE PAVEMENT, TYPE-2 COBBLES, GROUTED IN PLACE PER DETAIL ON SHEET-21. MODIFY IRRIGATION AS NEEDED.
32. RESTORE CURB DRAIN IN KIND, TYPICAL ALL LOCATIONS.
38. INSTALL CAST IN PLACE OR SURFACE MOUNTED TRUNCATED DOME DETECTABLE WARNING SURFACE, 3' DEPTH x 4'.
40. RELOCATE TRAFFIC SIGNAL, PULL BOX AND CONDUIT. REPLACE BROKEN BOXES. SEE TRAFFIC SIGNAL PLANS (TL160A, 161A & 162A).
42. REMOVE EXISTING AND CONSTRUCT 6" PCC CURB PER SPPWC 120 TYPE A2-6, OVER 8" CMB.

LEGENDS:

- W — WATER
- S — SEWER
- SD — STORM DRAIN
- G — GAS
- T — TELEPHONE
- E — ELECTRICAL

STREET INTERSECTION PLAN
PALOS VERDES BLVD AT CALLE MIRAMAR
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: This stamp shall include that portion of work prepared by or under my direct supervision 5/13/14

KOA CORPORATION
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REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASKARA No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14

CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 13 OF 37

PLAN NO. ST-1055

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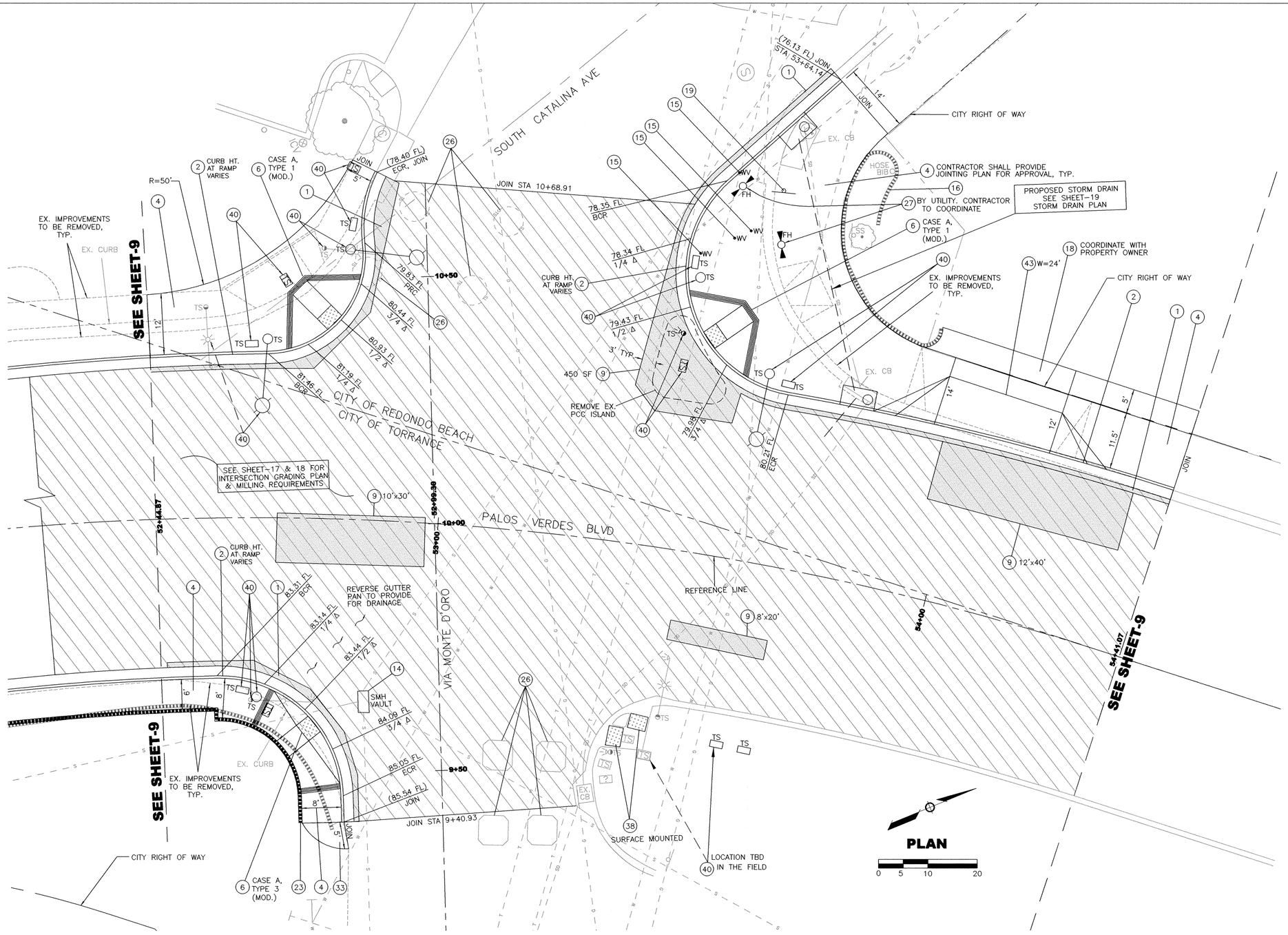

CONSTRUCTION NOTES:

1. SAWCUT, REMOVE AND DISPOSE OF EXISTING PAVEMENT BASE AND SUBGRADE MATERIAL AND SLOT PAVE PER SPECIFICATIONS.
2. REMOVE EXISTING AND CONSTRUCT PCC CURB AND 24" GUTTER PER SPPWC 120, TYPE A2-8, OVER 8" CMB.
4. REMOVE EXISTING AND CONSTRUCT 3½" PCC SIDEWALK OVER 4" CMB.
6. REMOVE EXISTING AND CONSTRUCT PCC CURB ACCESS RAMP PER SPPWC 111 WITH 3' X 4' TRUNCATED DOME SURFACE OVER 4" CMB, TYPE AS NOTED.
9. COLD MILL/REMOVE EXISTING AND CONSTRUCT EITHER 3" OR 6" FULL DEPTH PAVEMENT REPAIR PER SPECIFICATIONS.
14. ADJUST MANHOLE FRAME AND COVER TO GRADE.
15. ADJUST UTILITY ACCESS COVER TO GRADE. REPLACE BROKEN BOXES.
16. PROTECT IN PLACE.
18. REMOVE EXISTING & CONSTRUCT 6" FULL DEPTH AC TRANSITION.
19. TRAFFIC SIGN. SEE SIGNING AND STRIPING PLANS (C2013-003).
23. REMOVE AND RECONSTRUCT EXISTING GRAVITY BLOCK WALL OVER 4" CMB BEHIND NEW SIDEWALK. RECONSTRUCT LANDSCAPING IN KIND AND RESTORE IRRIGATION SYSTEM IN PLACE. PLACE 2" BARK MULCH COVER.
26. TRAFFIC SIGNAL LOOPS, SEE TRAFFIC SIGNAL PLANS.
27. RELOCATE FIRE HYDRANT.
33. REMOVE EXISTING AND CONSTRUCT 2" AC WALKWAY OVER 4" CMB.
38. INSTALL CAST IN PLACE OR SURFACE MOUNTED TRUNCATED DOME DETECTABLE WARNING SURFACE, 3' DEPTH x 4'.
40. RELOCATE TRAFFIC SIGNAL, PULL BOX AND CONDUIT. REPLACE BROKEN BOXES. SEE TRAFFIC SIGNAL PLANS (TL160A, 161A & 162A).
43. REMOVE EXISTING AND CONSTRUCT PCC DRIVEWAY PER REDONDO BEACH STD PLAN STD-2 TYPE D-1 OVER 6" CMB.

LEGENDS:

- W — WATER
- S — SEWER
- SD — STORM DRAIN
- G — GAS
- T — TELEPHONE
- E — ELECTRICAL

STREET INTERSECTION PLAN
PALOS VERDES BLVD AT SOUTH CATALINA AVE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: This stamp shall include that portion of work prepared by or under my direct supervision 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
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REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASSOUF No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

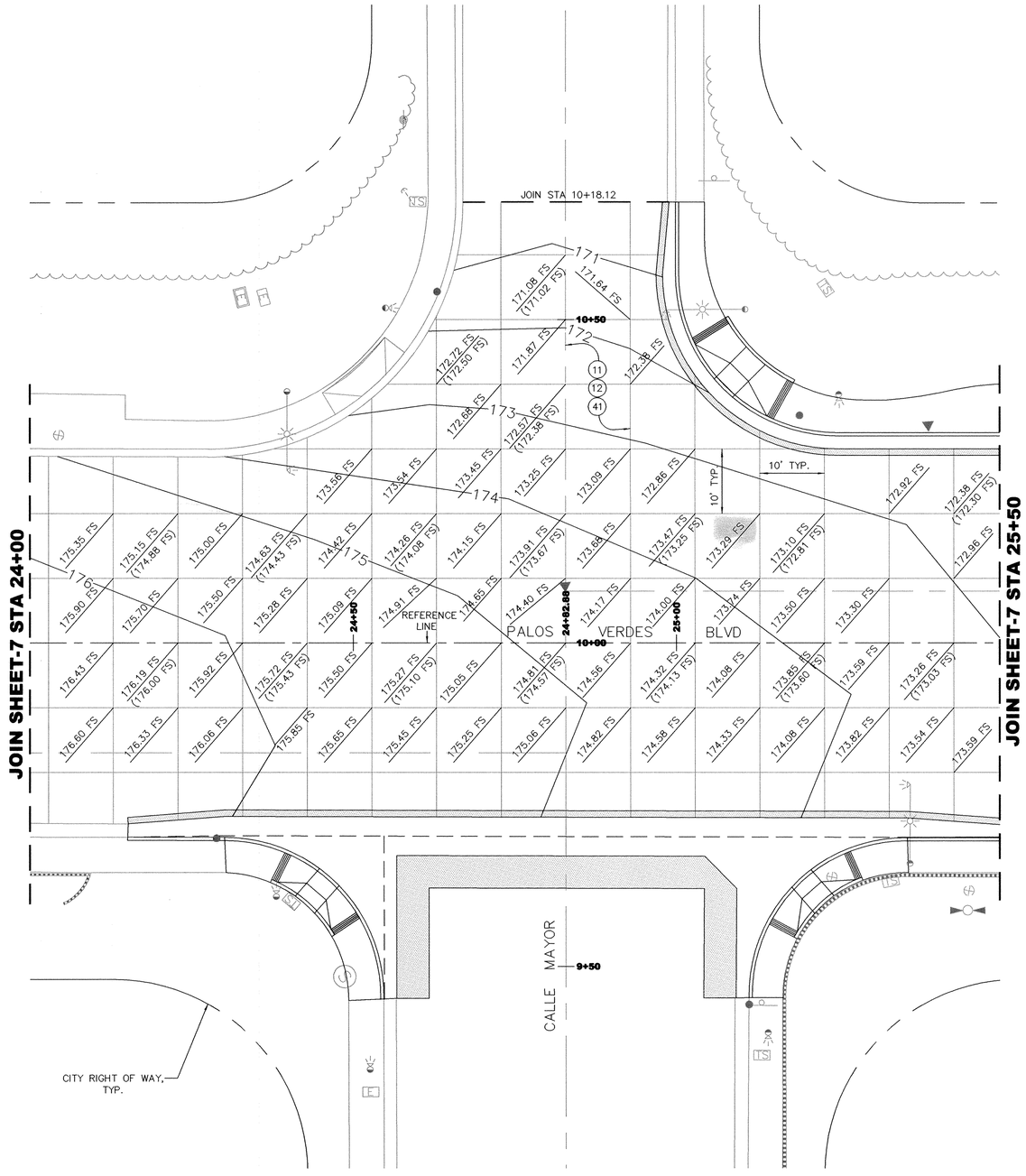
APPROVED: 8/7/14

CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN | SHEET 14 OF 37

PLAN NO. **ST-1055**

\\Pw6a\hdata\ENG\DP_Palos Verdes Blvd REHAB. I 121\10-PLANS PDF- PV Blvd Rehabilitation - SO PCH_FINAL 14\5-09-14 - AutoCAD 2015866 Torrance PVB Des SHEET 12 to 14 INTERSECT PLANS.dwg 8/05/14 13:48 spreasd



LEGENDS:

XXX.XX FS PROPOSED ELEVATION
(XXX.XX FS) EXISTING ELEVATION

CONSTRUCTION NOTES:

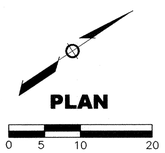
(11) 2" AC PAVEMENT OVERLAY, TYPE C2 PG 64-10.

(12) AC PAVEMENT LEVEL COURSE, TYPE D PG 64-10. VARIES FROM 0" AT 12' FROM EDGE OF GUTTER TO 1" NOMINAL AT CROWN.

(41) EDGE MILL AND PROFILE GRIND TO PREPARE PAVEMENT FOR AC LEVEL COURSE AND OVERLAY.

NOTE:

PROPOSED FINISH SURFACE PAVEMENT ELEVATIONS ARE SHOWN HEREON. CURB, GUTTER, SIDEWALK AND OTHER IMPROVEMENTS ARE SHOWN ELSEWHERE.



INTERSECTION GRADING PLAN
PALOS VERDES BLVD AND CALLE MAYOR
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: This stamp shall include that portion of work prepared by or under my direct supervision 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
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Tel: (310) 329-0102
Fax: (310) 329-1021

REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASSARA No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14

CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 15 OF 37

PLAN NO. ST-1055

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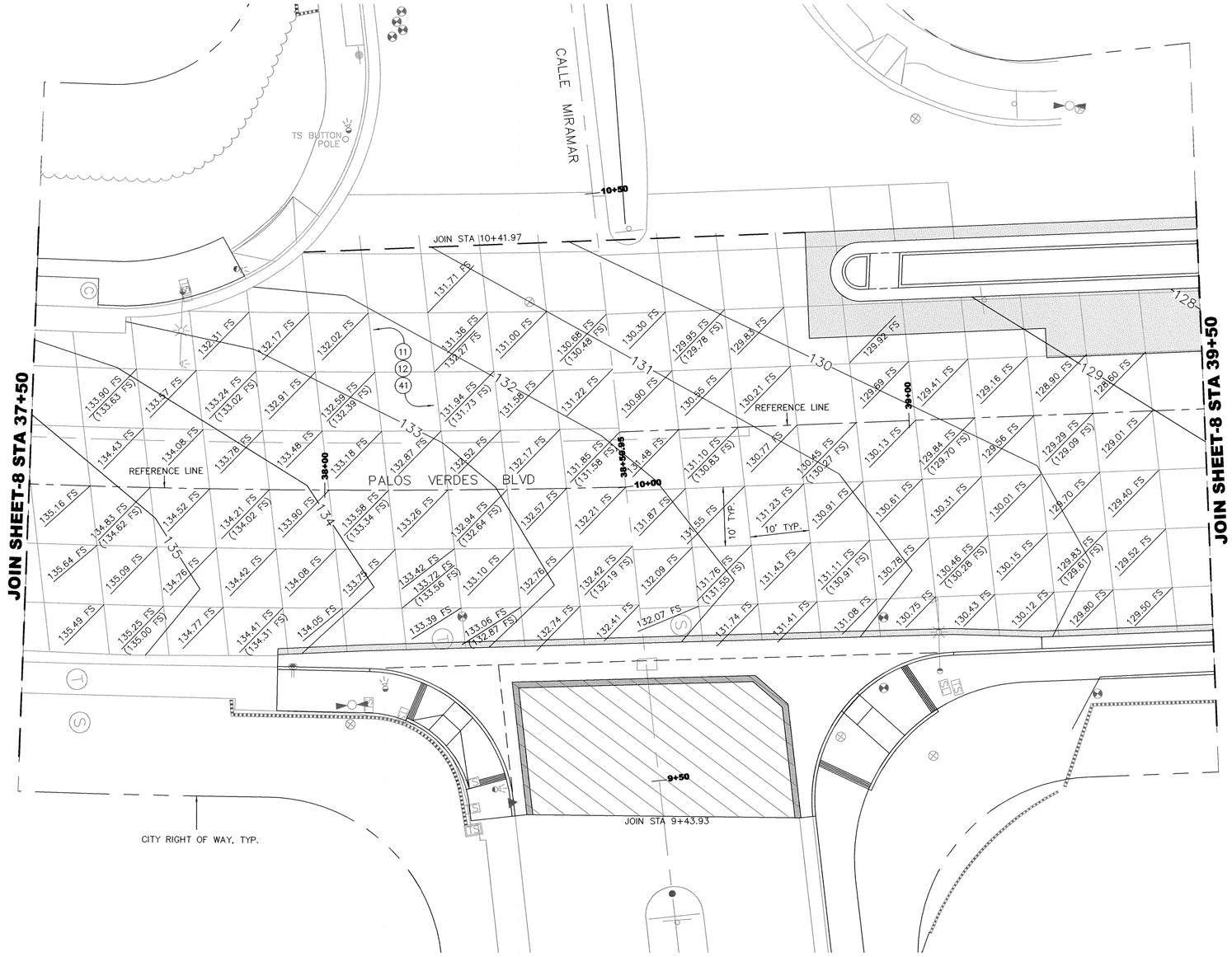

PALOS VERDES DR EAST AND CALLE MIRAMAR

LEGENDS:

XXX.XX FS PROPOSED ELEVATION
(XXX.XX FS) EXISTING ELEVATION

CONSTRUCTION NOTES:

(11) 2" AC PAVEMENT OVERLAY, TYPE C2 PG 64-10.

(12) AC PAVEMENT LEVEL COURSE, TYPE D PG 64-10. VARIES FROM 0" AT 12' FROM EDGE OF GUTTER TO 1" NOMINAL AT CROWN.

(41) EDGE MILL AND PROFILE GRIND TO PREPARE PAVEMENT FOR AC LEVEL COURSE AND OVERLAY.

NOTE:

PROPOSED FINISH SURFACE PAVEMENT ELEVATIONS ARE SHOWN HEREON. CURB, GUTTER, SIDEWALK AND OTHER IMPROVEMENTS ARE SHOWN ELSEWHERE.

PLAN

0 5 10 20

INTERSECTION GRADING PLAN
PALOS VERDES BLVD AND CALLE MIRAMAR
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: This stamp shall include that portion of work prepared by or under my direct supervision 5/13/14

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REGISTERED PROFESSIONAL ENGINEER FORESTTRE KARKARI No. 75595 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

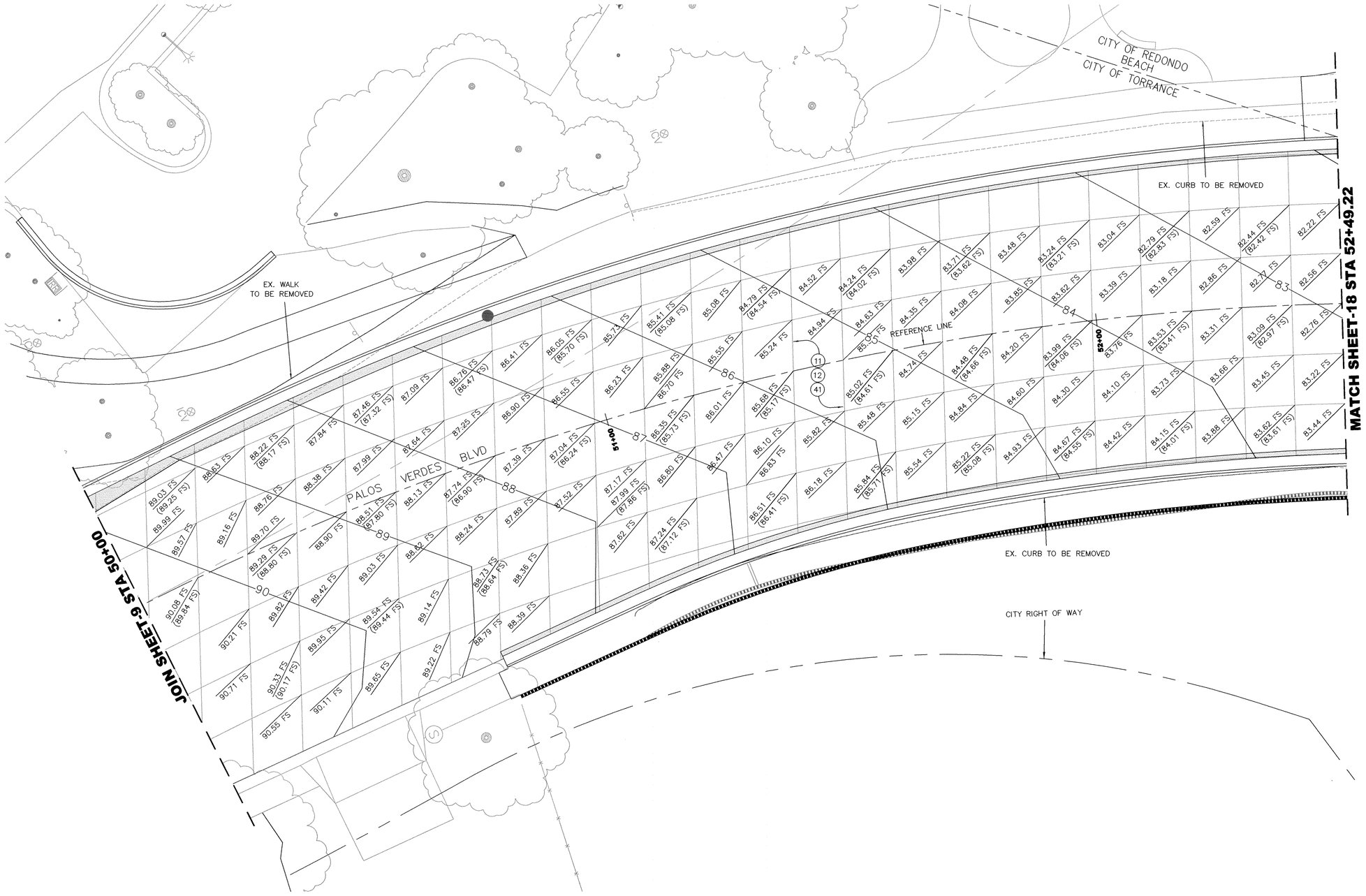
APPROVED: 8/7/14

CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 16 OF 37

PLAN NO. **ST-1055**

\\Pw5\vndata\ENG\CIP_Palos Verdes Blvd REHAB\ 1121\10-PLANS PDF- PV Blvd Rehabilitation - SO PGH\1_FINAL 14\5-09-14 - AutoCAD 2015866 Torrance PVB Des SHEET 15 to 18 INTERSECT GRADING PLANS.dwg 8/05/14 14:10 vprasad



LEGENDS:

XXX.XX FS PROPOSED ELEVATION
(XXX.XX FS) EXISTING ELEVATION

CONSTRUCTION NOTES:

(11) 2" AC PAVEMENT OVERLAY, TYPE C2 PG 64-10.

(12) AC PAVEMENT LEVEL COURSE, TYPE D PG 64-10. VARIES FROM 0" AT 12' FROM EDGE OF GUTTER TO 1" NOMINAL AT CROWN.

(41) EDGE MILL AND PROFILE GRIND TO PREPARE PAVEMENT FOR AC LEVEL COURSE AND OVERLAY.

NOTE:

PROPOSED FINISH SURFACE PAVEMENT ELEVATIONS ARE SHOWN HEREON. CURB, GUTTER, SIDEWALK AND OTHER IMPROVEMENTS ARE SHOWN ELSEWHERE.

PLAN

0 5 10 20

INTERSECTION GRADING PLAN
PALOS VERDES BLVD AND S. CATALINA AVE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: This stamp shall include that portion of work prepared by or under my direct supervision 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
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Tel: (310) 329-0102
Fax: (310) 329-1021

REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASKARA No. 75585 EXP.6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14

CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 17 OF 37

PLAN NO. ST-1055

LEGENDS:

XXX.XX FS PROPOSED ELEVATION
(XXX.XX FS) EXISTING ELEVATION

CONSTRUCTION NOTES:

(11) 2" AC PAVEMENT OVERLAY, TYPE C2 PG 64-10.

(12) AC PAVEMENT LEVEL COURSE, TYPE D PG 64-10. VARIES FROM 0" AT 12' FROM EDGE OF GUTTER TO 1" NOMINAL AT CROWN.

(41) EDGE MILL AND PROFILE GRIND TO PREPARE PAVEMENT FOR AC LEVEL COURSE AND OVERLAY.

NOTE:

PROPOSED FINISH SURFACE PAVEMENT ELEVATIONS ARE SHOWN HEREON. CURB, GUTTER, SIDEWALK AND OTHER IMPROVEMENTS ARE SHOWN ELSEWHERE.

PLAN

0 5 10 20

INTERSECTION GRADING PLAN
PALOS VERDES BLVD AND S. CATALINA AVE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

This stamp shall include that portion of work prepared by or under my direct supervision

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
Fax: (310) 329-1021

REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASKARIK No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

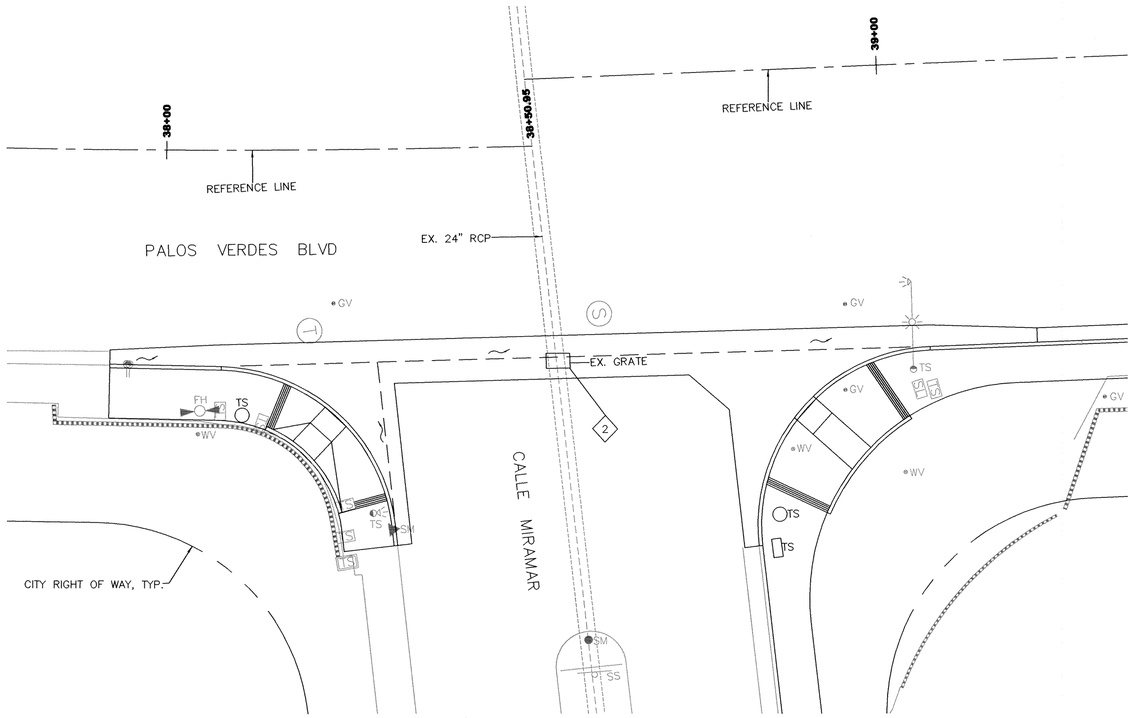
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14

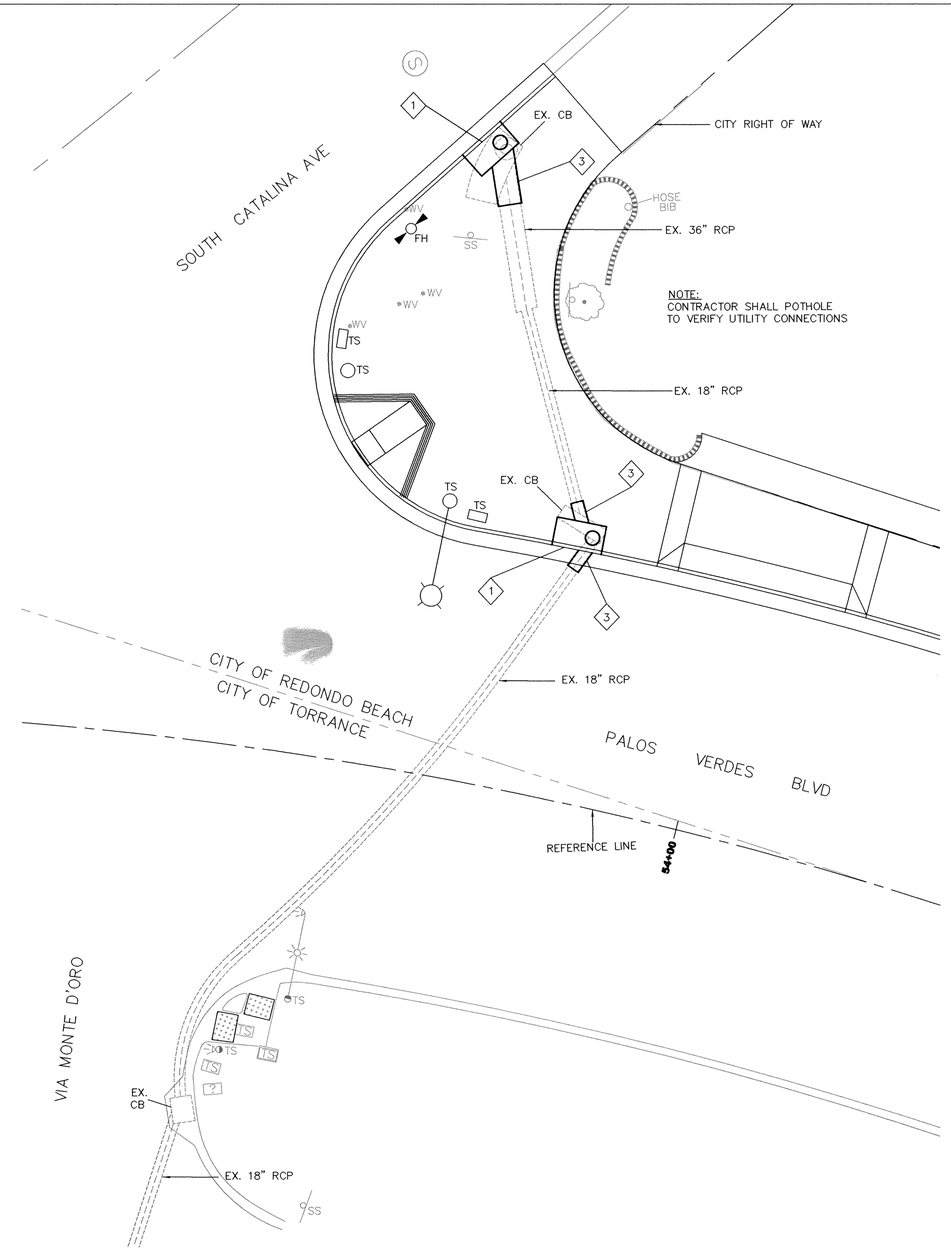
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 18 OF 37

PLAN NO. ST-1055



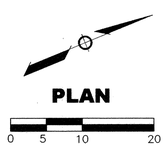
PALOS VERDES BLVD AND CALLE MIRAMAR



PALOS VERDES BLVD AND CATALINA AVE

CONSTRUCTION NOTES:

1. REMOVE EXISTING AND CONSTRUCT CATCH BASIN PER SPPWC 300. W=7', V=MATCH EXISTING.
2. ADJUST EXISTING INLET TO GRADE.
3. MONOLITHIC CATCH BASIN CONNECTION PER SPPWC 308-2, TYP.



STORM DRAIN PLAN
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

PLANS PREPARED BY: THIS STAMP SHALL INCLUDE THAT PORTION OF WORK PREPARED BY OR UNDER MY DIRECT SUPERVISION. 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
Fax: (310) 329-1021

REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASKAR No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

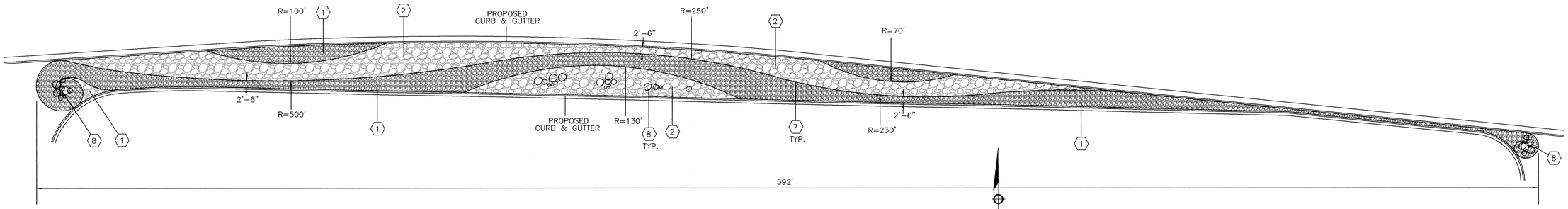
CBM PROJ# 5866

DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 19 OF 37
PLAN NO. **ST-1055**

\\Pwfs\shdata\ENG\CIP_Palos Verdes Blvd REHAB, I 121\10-PLANS PDF- PV Blvd Rehabilitation - SO PCH\1_FINAL 14\5-09-14 - AutoCAD 2015866 Torrance PVB Des SHEET 19 STORM DRAIN PLAN.dwg 8/05/14 14:53 vprasad



SLOPE PAVING BOUNDARY

TRUE SCALE

0 10 20 40

CONSTRUCTION NOTES:

(1) INSTALL *TYPE 1 COBBLESTONES, GROUTED IN PLACE, PER (J/21)

(2) INSTALL *TYPE 2 COBBLESTONES, GROUTED IN PLACE, PER (J/21)

(7) $\frac{3}{8}$" x 2" BENDABLE PVC DIVIDER, OR EQUAL.

(8) BOULDERS PER DETAIL (I/21)

*NOTE:

TYPE 1 SOUTHWEST BUILDER AND STONE, MEXICAN BEACH BUFF, $\frac{1}{2}$" TO 1", OR EQUAL.

TYPE 2 SOUTHWEST BUILDER AND STONE, MEXICAN SUNBURST COBBLE, 1" OR 2", OR EQUAL.

TYPE 3 SOUTHWEST BUILDER AND STONE, CRIVA, BLACK, $\frac{3}{8}$", OR EQUAL.

SLOPE PAVING PLAN
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: THE STAMP SHALL INCLUDE THAT PORTION OF WORK PREPARED BY OR UNDER MY DIRECT SUPERVISION 5/13/14

REGISTERED PROFESSIONAL ENGINEER CHRISTINE KOMORA No. 72585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
Fax: (310) 329-1021

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

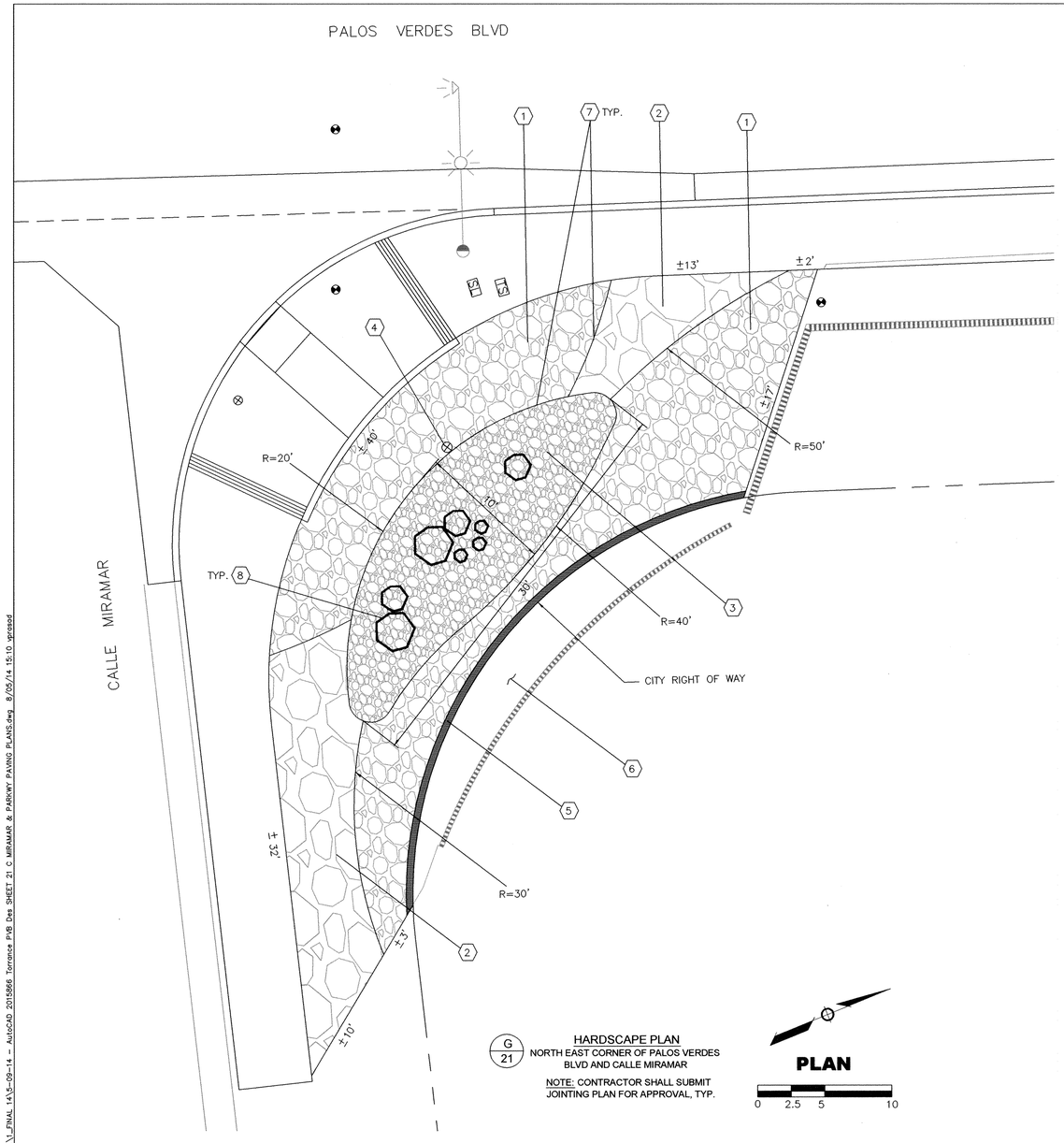
APPROVED: 8/7/14

CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN | SHEET 20 OF 37

PLAN NO. **ST-1055**

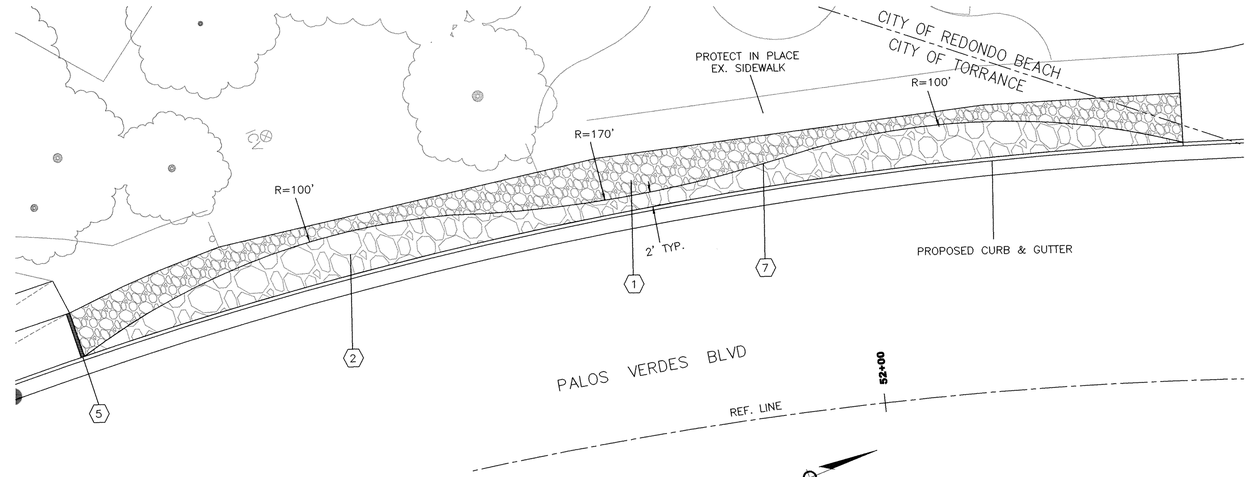
\\Pw6\Vehicles\ENG\CIP_Palos Verdes Blvd REHAB. 1121\10-PLANS PDF- PV Blvd Rehabilitation - SO PCN_FINAL 14\3-09-14 - AutoCAD 2015866 Torrance PVB Des SHEET 20 SLOPE PAVING PLAN.dwg 8/05/14 14:56 sprosad



G/21 HARDSCAPE PLAN
NORTH EAST CORNER OF PALOS VERDES BLVD AND CALLE MIRAMAR

NOTE: CONTRACTOR SHALL SUBMIT JOINTING PLAN FOR APPROVAL, TYP.

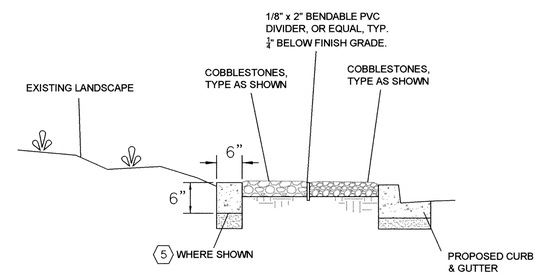
PLAN
0 2.5 5 10



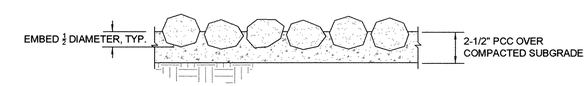
H/21 HARDSCAPE PLAN
WEST SIDE OF PALOS VERDES BLVD, SOUTH OF CATALINA AVE

NOTE: CONTRACTOR SHALL SUBMIT JOINTING PLAN FOR APPROVAL, TYP.

PLAN
0 5 10 20

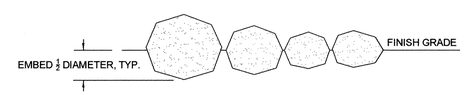


COBBLESTONE PAVEMENT TYPICAL SECTION
NO SCALE



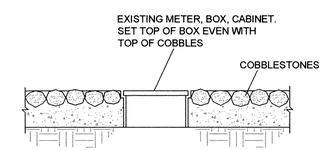
NOTE: EMBED COBBLES INTO 2,000 PSI MIN. PCC MIX. COBBLES SHALL BE PLACED TO A MINIMUM DEPTH OF 1/2 DIAMETER. PROVIDE CONSTRUCTION JOINTS AT 10' MAX. SPACING.

J/21 GROUTED COBBLESTONE DETAIL, TYP.
NO SCALE



NOTE: EMBED BOULDER TO 1/4" DIA., TYP. PLACEMENT AND ORIENTATION TO BE AS DETERMINED BY THE ENGINEER IN THE FIELD.

I/21 GROUTED BOULDER DETAIL, TYP.
NO SCALE



K/21 COBBLESTONE PAVEMENT AROUND EXISTING UTILITY, TYP.
NO SCALE

CONSTRUCTION NOTES:

1. INSTALL *TYPE 1 COBBLESTONES, GROUTED IN PLACE, PER J/21
2. INSTALL *TYPE 2 COBBLESTONES, GROUTED IN PLACE, PER J/21
3. INSTALL *TYPE 3 COBBLESTONES, GROUTED IN PLACE, PER J/21
4. ADJUST WATER VALVE COVER TO GRADE.
5. 6" WIDE MOW CURB OVER 3" CMB.
6. REMOVE EXISTING PAVEMENT AND PLACE 3" BARK MULCH.
7. 1/8" x 2" BENDABLE PVC DIVIDER, OR EQUAL.
8. BOULDERS PER DETAIL I/21

*NOTE:

TYPE 1 SOUTHWEST BUILDER AND STONE, MEXICAN BEACH BUFF, 1/2" TO 1", OR EQUAL.

TYPE 2 SOUTHWEST BUILDER AND STONE, MEXICAN SUNBURST COBBLE, 1" OR 2", OR EQUAL.

TYPE 3 SOUTHWEST BUILDER AND STONE, CRIVA, BLACK, 1/8", OR EQUAL.

CALLE MIRAMAR INTERSECTION & PARKWAY PAVING PLAN
PALOS VERDES BLVD AT CALLE MIRAMAR
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: THIS STAMP SHALL INCLUDE THAT PORTION OF WORK PREPARED BY OR UNDER MY ~~DIRECT~~ DIRECT SUPERVISION 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
Fax: (310) 329-1021

REGISTERED PROFESSIONAL ENGINEER CHRISTINE ROSCOE No. 75586 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

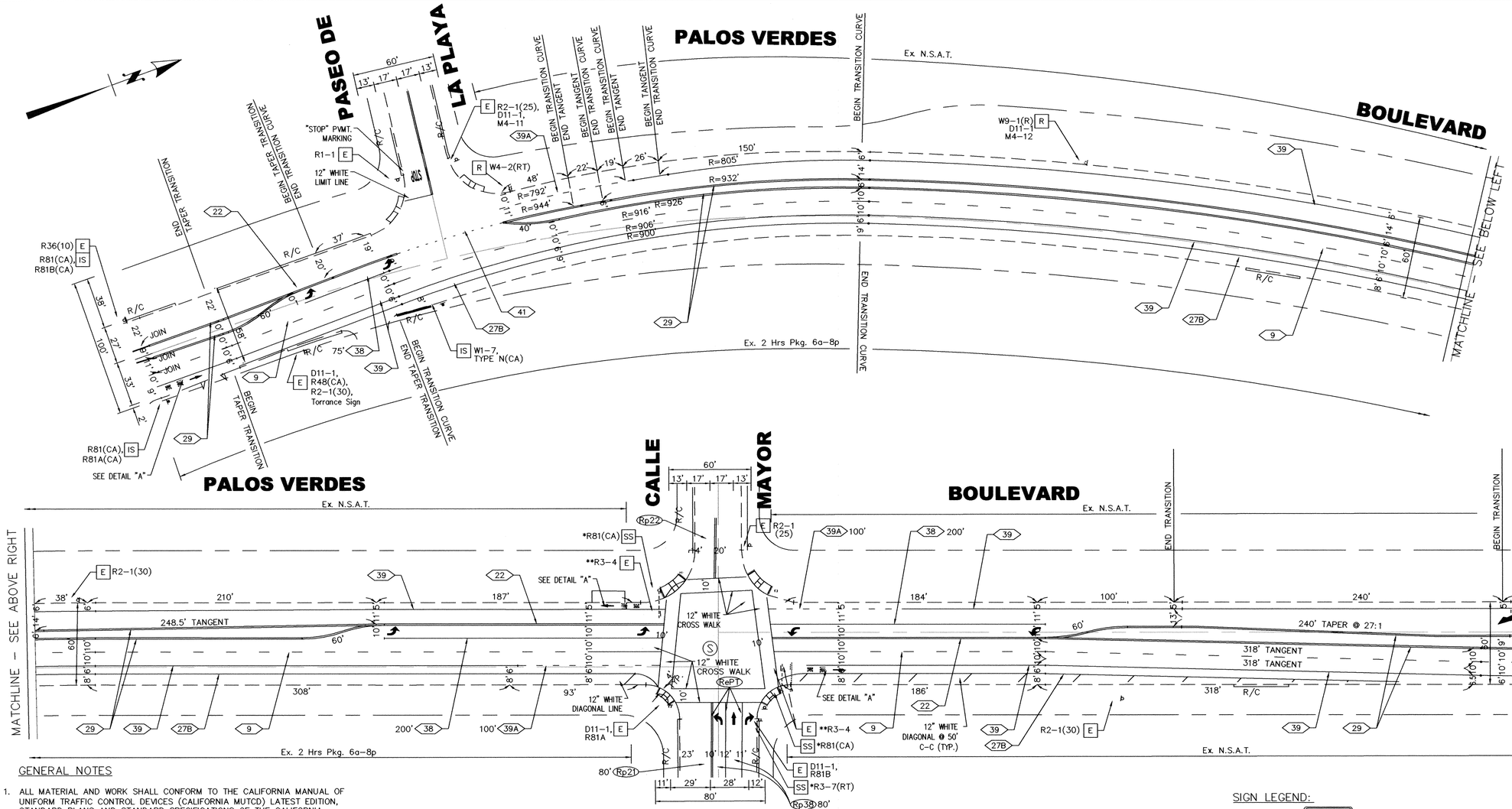
CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

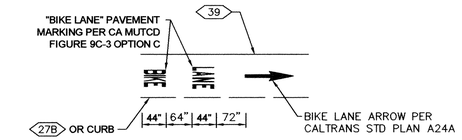
DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN
CITY ENGINEER
R.C.E. NO. EXP. DATE

SCALE: AS SHOWN SHEET 21 OF 37
PLAN NO. **ST-1055**

\\Pw1\photo\ENG\CP_Palos Verdes Blvd REHAB. I 121\10-PLANS PDF- PV Blvd Rehabilitation - SO PCH_FINAL 14\5-09-14 - AutoCAD 2015866 Torrance PVB Des SHEET 21 C MIRAMAR & PARKWY PAVING PLANS.dwg 8/05/14 15:10 cpcsaad





DETAIL "A"

NO SCALE

GENERAL NOTES

1. ALL MATERIAL AND WORK SHALL CONFORM TO THE CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA MUTCD) LATEST EDITION, STANDARD PLANS AND STANDARD SPECIFICATIONS OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION LATEST EDITION, FHWA STANDARD HIGHWAY SIGNS LATEST EDITION, CALIFORNIA SIGN SPECIFICATION LATEST EDITION, AND THE SPECIAL PROVISIONS.
2. ALL STRIPING AND PAVEMENT LEGENDS SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
3. ALL CONFLICTING LINES, LEGENDS AND MARKEINGS SHALL BE REMOVED BY WET SANDBLASTING.
4. ALL SALVAGED SIGNS AND POSTS SHALL BE DELIVERED TO THE CITY MAINTENANCE YARD, UNLESS OTHERWISE INDICATED.
5. NEW SIGN POSTS SHALL BE "UNISTRUT" SQUARE GALVANIZED STEEL POSTS WITH BREAKAWAY ANCHOR POST, OR APPROVED EQUAL, PER DETAIL.
6. ALL NEW SIGNS ARE TO BE REFLECTORIZED USING 3M DIAMOND GRADE CUBED WITH PROTECTIVE OVERLAY FILM AND MATCHED COMPONENT SYSTEM WARRANTY (12 YEARS).
7. ALL SIGNS ARE TO BE PER THE STATE OF CALIFORNIA SIGN SPECIFICATIONS, EXCEPT THAT ALL SIGNS SHALL BE 0.080 ALUMINUM.
8. STRIPING SHALL BE CAT TRACKED AND APPROVED BY THE CITY TRAFFIC ENGINEER PRIOR TO FINAL INSTALLATION. MINIMUM OF ONE WEEK NOTICE REQUIRED BY THE CITY TRAFFIC ENGINEER FOR APPROVAL OF STRIPING.
9. PAVING DAMAGED DUE TO REMOVING RAISED PAVEMENT MARKERS SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER.
10. INTERSECTION APPROACHES AND DEPARTURES SHALL BE STRIPED WITH A 50' SECTION OF 4" SOLID WHITE STRIPING WITH TYPE "G" RAISED PAVEMENT MARKERS AT EACH END OF LINE.
11. ALL MEDIAN NOSE CURBS SHALL BE PAINTED YELLOW.
12. CONTRACTOR SHALL INSTALL A TYPE D (BLUE) REFLECTIVE MARKER AT EACH FIRE HYDRANT LOCATION WITHIN THE PROJECT LIMITS. THE MARKER SHALL BE 6" FROM THE CENTER LINE STRIPE, OR APPROXIMATE CENTER OF THE PAVEMENT WHERE THERE IS NO CENTER LINE.
13. WHERE N.S.A.T. (NO STOPPING ANY TIME) IS TO BE INSTALLED, SIGNS SHALL BE PLACED AT EACH END OF THE ZONE WITH LEFT AND RIGHT ARROWS AND IN THE MIDDLE PORTION WITH DOUBLE ARROWS AT 100' SPACING WERE APPLICABLE.
14. SEE SHEET 24 FOR SIGN INSTALLATION DETAIL.
15. SEE CIVIL PLAN SHEET FOR STREET IMPROVEMENTS.

LEGEND

1. = EXISTING STRIPING & MARKINGS TO REMAIN.
   = PROPOSED STRIPING & MARKINGS.
2. = EXISTING SIGN AND POST. PROTECT IN PLACE.
   = EXISTING SIGN AND POST TO BE REMOVED OR RELOCATED.
   = PROPOSED SIGN AND POST.
3. R/C = EXISTING RED CURB MARKINGS TO REMAIN.
   R/C = EXISTING RED CURB MARKINGS TO BE REMOVED.
   R/C = PROPOSED RED CURB MARKINGS.
4. N.S.A.T. = NO STOPPING ANY TIME
5. = PROPOSED TYPE IV (RT/LT) PAVEMENT ARROW PER CALTRANS STD. PLAN A24A.
6. = PROPOSED TYPE VI (RT/LT) PAVEMENT ARROW PER CALTRANS STD. PLAN A24A.
7. (S) = SIGNALIZED INTERSECTION

PAVEMENT MARKING & STRIPING NOTES:

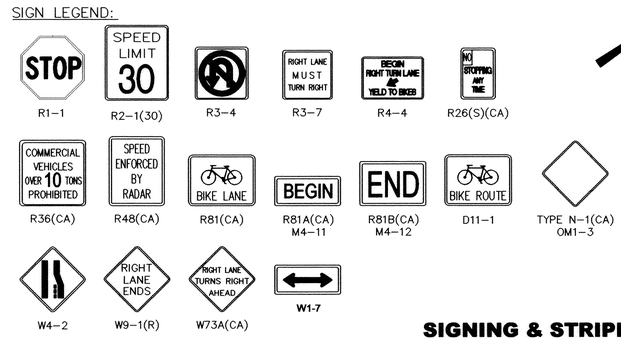
- (XX) STRIPING DETAIL NUMBER PER CALTRANS STANDARD PLANS, 2010 EDITION.
- (RpXX) REPAINT EXISTING STRIPING DETAIL NUMBER PER CALTRANS STANDARD PLANS, 2010 EDITION
- (RePT) REPAINT EXISTING PAVEMENT MARKING AS SHOWN.

SIGN NOTES

- [E] EXISTING SIGN TO REMAIN
- [R] REMOVE ROADSIDE SIGN AND POST
- [RE] RELOCATE ROADSIDE SIGN POST/PANEL
- [RP] REMOVE ROADSIDE SIGN PANEL
- [IS] INSTALL SIGN AND/OR POST AS SHOWN
- [SS] INSTALL SIGN – (STRAP AND SADDLE BRACKET METHOD)
- [MH] INSTALL SIGN – (MAST-ARM HANGER METHOD)

* – MOUNTED ON TRAFFIC SIGNAL OR STREET LIGHT POLE
** – MOUNTED ON TRAFFIC SIGNAL MAST ARM

SIGN LEGEND:



40' 20' 0 20' 40'
1"=40' GRAPHIC SCALE

SIGNING & STRIPING PLAN
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
PLANNING & ENGINEERING
1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705

REGISTERED PROFESSIONAL ENGINEER DOUG K. TEX No. TR1990 TRAFFIC STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER FRANCISCO D. BERMUDEZ No. C85061 CIVIL STATE OF CALIFORNIA

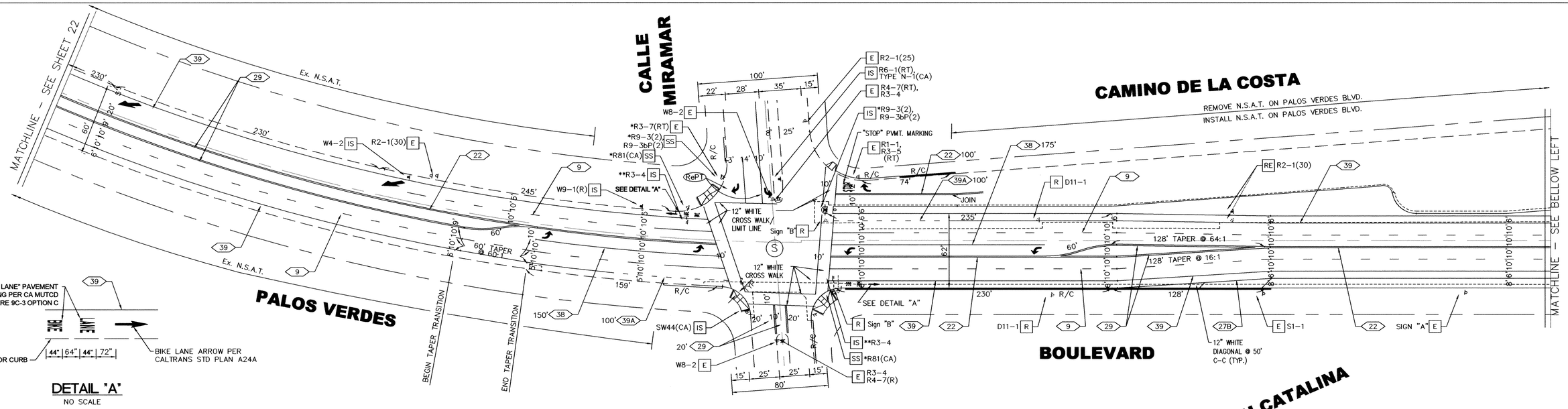
CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

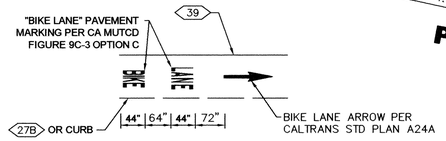
DRAWN: SB
DESIGNED: SB
PROJECT ENGINEER: CS
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN
CITY ENGINEER
R.C.E. NO. 55339
DATE EXP. 12/31/2014

SCALE: AS SHOWN | SHEET 22 OF 37
PLAN NO. C2013-003

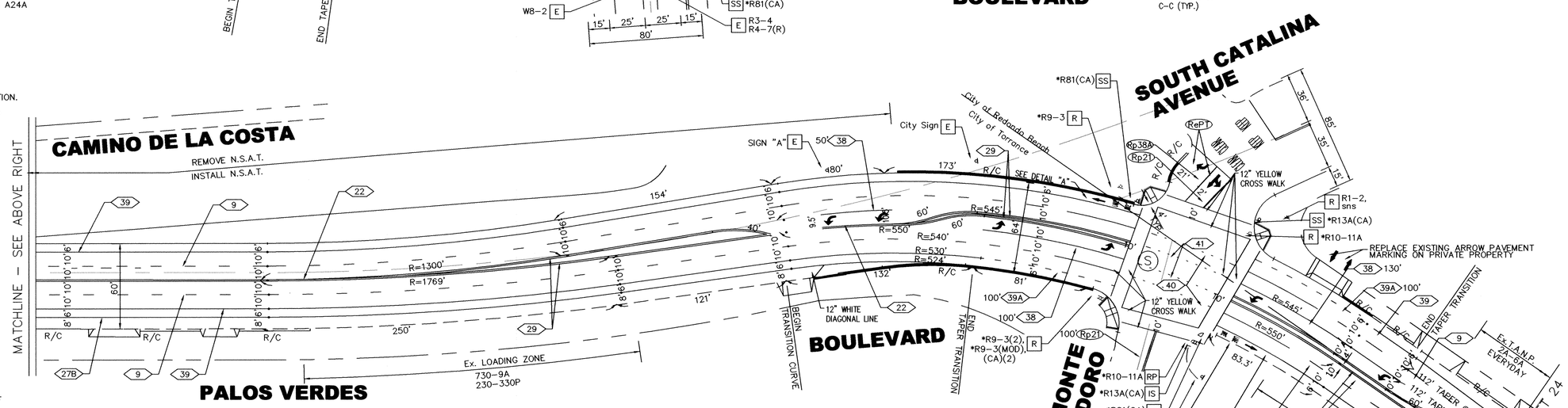
X:\CIVIL\CIP_Palos Verdes Blvd REHAB, 1121\10-PLANS PDF- PV Blvd Rehabilitation - SD PCH_FINAL 14\8-09-14 - AutoCAD 2010\5866 Torr5866 Torrance PVB Dwg SHEET 22 SIGNING AND STRIPING PLAN.dwg 8/07/14 11:11 bebs





DETAIL "A"

NO SCALE



PAVEMENT MARKING & STRIPING NOTES:

- (XX) STRIPING DETAIL NUMBER PER CALTRANS STANDARD PLANS, 2010 EDITION.
- (RpXX) REPAINT EXISTING STRIPING DETAIL NUMBER PER CALTRANS STANDARD PLANS, 2010 EDITION
- (RePT) REPAINT EXISTING PAVEMENT MARKING AS SHOWN.

SIGN NOTES

- [E] EXISTING SIGN TO REMAIN
- [R] REMOVE ROADSIDE SIGN AND POST
- [RE] RELOCATE ROADSIDE SIGN POST/PANEL
- [RP] REMOVE ROADSIDE SIGN PANEL
- [IS] INSTALL SIGN AND/OR POST AS SHOWN
- [SS] INSTALL SIGN – (STRAP AND SADDLE BRACKET METHOD)
- [MH] INSTALL SIGN – (MAST-ARM HANGER METHOD)

* – MOUNTED ON TRAFFIC SIGNAL OR STREET LIGHT POLE
** – MOUNTED ON TRAFFIC SIGNAL MAST ARM

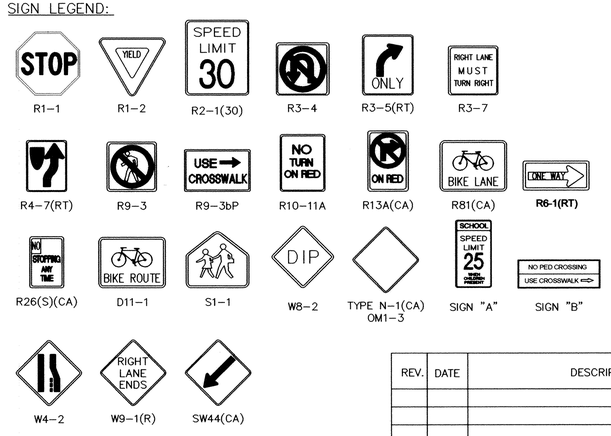
GENERAL NOTES

1. ALL MATERIAL AND WORK SHALL CONFORM TO THE CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA MUTCD) LATEST EDITION, STANDARD PLANS AND STANDARD SPECIFICATIONS OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION LATEST EDITION, FHWA STANDARD HIGHWAY SIGNS LATEST EDITION, CALIFORNIA SIGN SPECIFICATION LATEST EDITION, AND THE SPECIAL PROVISIONS.
2. ALL STRIPING AND PAVEMENT LEGENDS SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
3. ALL CONFLICTING LINES, LEGENDS AND MARKINGS SHALL BE REMOVED BY WET SANDBLASTING.
4. ALL SALVAGED SIGNS AND POSTS SHALL BE DELIVERED TO THE CITY MAINTENANCE YARD, UNLESS OTHERWISE INDICATED.
5. NEW SIGN POSTS SHALL BE "UNISTRUT" SQUARE GALVANIZED STEEL POSTS WITH BREAKAWAY ANCHOR POST, OR APPROVED EQUAL, PER DETAIL.
6. ALL NEW SIGNS ARE TO BE REFLECTORIZED USING 3M DIAMOND GRADE CUBED WITH PROTECTIVE OVERLAY FILM AND MATCHED COMPONENT SYSTEM WARRANTY (12 YEARS).
7. ALL SIGNS ARE TO BE PER THE STATE OF CALIFORNIA SIGN SPECIFICATIONS, EXCEPT THAT ALL SIGNS SHALL BE 0.080 ALUMINUM.
8. STRIPING SHALL BE CAT TRACKED AND APPROVED BY THE CITY TRAFFIC ENGINEER PRIOR TO FINAL INSTALLATION. MINIMUM OF ONE WEEK NOTICE REQUIRED BY THE CITY TRAFFIC ENGINEER FOR APPROVAL OF STRIPING.
9. PAVING DAMAGED DUE TO REMOVING RAISED PAVEMENT MARKERS SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER.
10. INTERSECTION APPROACHES AND DEPARTURES SHALL BE STRIPED WITH A 50' SECTION OF 4" SOLID WHITE STRIPING WITH TYPE "G" RAISED PAVEMENT MARKERS AT EACH END OF LINE.
11. ALL MEDIAN NOSE CURBS SHALL BE PAINTED YELLOW.
12. CONTRACTOR SHALL INSTALL A TYPE D (BLUE) REFLECTIVE MARKER AT EACH FIRE HYDRANT LOCATION WITHIN THE PROJECT LIMITS. THE MARKER SHALL BE 6" FROM THE CENTER LINE STRIPE, OR APPROXIMATE CENTER OF THE PAVEMENT WHERE THERE IS NO CENTER LINE.
13. WHERE N.S.A.T. (NO STOPPING ANY TIME) IS TO BE INSTALLED, SIGNS SHALL BE PLACED AT EACH END OF THE ZONE WITH LEFT AND RIGHT ARROWS AND IN THE MIDDLE PORTION WITH DOUBLE ARROWS AT 100' SPACING WERE APPLICABLE.
14. SEE SHEET 24 FOR SIGN INSTALLATION DETAIL.
15. SEE CIVIL PLAN SHEET FOR STREET IMPROVEMENTS.

LEGEND

1. = EXISTING STRIPING & MARKINGS TO REMAIN.
   = PROPOSED STRIPING & MARKINGS.
2. = EXISTING SIGN AND POST. PROTECT IN PLACE.
   = EXISTING SIGN AND POST TO BE REMOVED OR RELOCATED.
   = PROPOSED SIGN AND POST.
3. R/C = EXISTING RED CURB MARKINGS TO REMAIN.
   R/C = EXISTING RED CURB MARKINGS TO BE REMOVED.
   R/C = PROPOSED RED CURB MARKINGS.
4. N.S.A.T. = NO STOPPING ANY TIME
5. = PROPOSED TYPE IV (RT/LT) PAVEMENT ARROW PER CALTRANS STD. PLAN A24A.
6. = PROPOSED TYPE VI (RT/LT) PAVEMENT ARROW PER CALTRANS STD. PLAN A24A.
7. (S) = SIGNALIZED INTERSECTION

SIGN LEGEND:



40' 20' 0 20' 40'
1"=40' GRAPHIC SCALE

SIGNING & STRIPING PLAN
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
PLANNING & ENGINEERING
1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705

REGISTERED PROFESSIONAL ENGINEER DOUG K. YEN No. TR1900 TRAFFIC STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER FRANCISCO D. BERMUDEZ No. C65061 CIVIL STATE OF CALIFORNIA

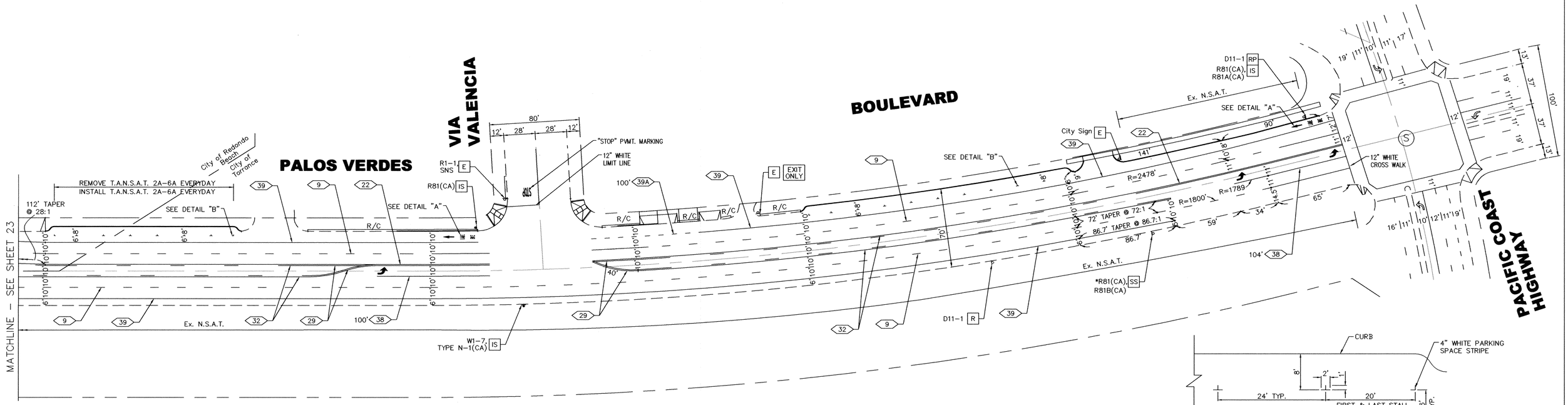
CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: SB
DESIGNED: SB
PROJECT ENGINEER: CS
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN, CITY ENGINEER, R.C.E. NO. 55339 — DATE EXP. 12/31/2014

SCALE: AS SHOWN SHEET 23 OF 37
PLAN NO. C2013-003

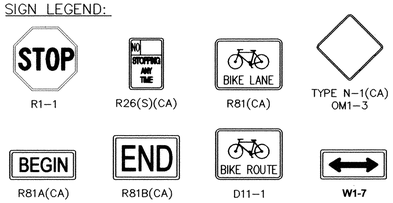
X:\ENG\CIP_Palos Verdes Blvd REHAB, I 12\10-PLANS PDF- PV Blvd Rehabilitation - SD PCH\I_FINAL 14\5-09-14 - AutoCAD 2010\5866 Torr5866 Torrance PVB Des SHEET 23 SIGNING AND STRIPING PLAN.dwg 8/07/14 11:09 tedd



LEGEND

1. = EXISTING STRIPING & MARKINGS TO REMAIN.
   = PROPOSED STRIPING & MARKINGS.
2. = EXISTING SIGN AND POST. PROTECT IN PLACE.
   = EXISTING SIGN AND POST TO BE REMOVED OR RELOCATED.
   = PROPOSED SIGN AND POST.
3. R/C = EXISTING RED CURB MARKINGS TO REMAIN.
   R/C = EXISTING RED CURB MARKINGS TO BE REMOVED.
   R/C = PROPOSED RED CURB MARKINGS.
4. N.S.A.T. = NO STOPPING ANY TIME
5. = PROPOSED TYPE IV (RT/LT) PAVEMENT ARROW PER CALTRANS STD. PLAN A24A.
6. = PROPOSED TYPE VI (RT/LT) PAVEMENT ARROW PER CALTRANS STD. PLAN A24A.
7. (S) = SIGNALIZED INTERSECTION

SIGN LEGEND:



GENERAL NOTES

1. ALL MATERIAL AND WORK SHALL CONFORM TO THE CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA MUTCD) LATEST EDITION, STANDARD PLANS AND STANDARD SPECIFICATIONS OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION LATEST EDITION, FHWA STANDARD HIGHWAY SIGNS LATEST EDITION, CALIFORNIA SIGN SPECIFICATION LATEST EDITION, AND THE SPECIAL PROVISIONS.
2. ALL STRIPING AND PAVEMENT LEGENDS SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
3. ALL CONFLICTING LINES, LEGENDS AND MARKINGS SHALL BE REMOVED BY WET SANDBLASTING.
4. ALL SALVAGED SIGNS AND POSTS SHALL BE DELIVERED TO THE CITY MAINTENANCE YARD, UNLESS OTHERWISE INDICATED.
5. NEW SIGN POSTS SHALL BE "UNISTRUT" SQUARE GALVANIZED STEEL POSTS WITH BREAKAWAY ANCHOR POST, OR APPROVED EQUAL, PER DETAIL.
6. ALL NEW SIGNS ARE TO BE REFLECTORIZED USING 3M DIAMOND GRADE CUBED WITH PROTECTIVE OVERLAY FILM AND MATCHED COMPONENT SYSTEM WARRANTY (12 YEARS).
7. ALL SIGNS ARE TO BE PER THE STATE OF CALIFORNIA SIGN SPECIFICATIONS, EXCEPT THAT ALL SIGNS SHALL BE 0.080 ALUMINUM.
8. STRIPING SHALL BE CAT TRACKED AND APPROVED BY THE CITY TRAFFIC ENGINEER PRIOR TO FINAL INSTALLATION. MINIMUM OF ONE WEEK NOTICE REQUIRED BY THE CITY TRAFFIC ENGINEER FOR APPROVAL OF STRIPING.
9. PAVING DAMAGED DUE TO REMOVING RAISED PAVEMENT MARKERS SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER.
10. INTERSECTION APPROACHES AND DEPARTURES SHALL BE STRIPED WITH A 50' SECTION OF 4" SOLID WHITE STRIPING WITH TYPE "G" RAISED PAVEMENT MARKERS AT EACH END OF LINE.
11. ALL MEDIAN NOSE CURBS SHALL BE PAINTED YELLOW.
12. CONTRACTOR SHALL INSTALL A TYPE D (BLUE) REFLECTIVE MARKER AT EACH FIRE HYDRANT LOCATION WITHIN THE PROJECT LIMITS. THE MARKER SHALL BE 6" FROM THE CENTER LINE STRIPE, OR APPROXIMATE CENTER OF THE PAVEMENT WHERE THERE IS NO CENTER LINE.
13. WHERE N.S.A.T. (NO STOPPING ANY TIME) IS TO BE INSTALLED, SIGNS SHALL BE PLACED AT EACH END OF THE ZONE WITH LEFT AND RIGHT ARROWS AND IN THE MIDDLE PORTION WITH DOUBLE ARROWS AT 100' SPACING WERE APPLICABLE.
14. SEE SHEET 24 FOR SIGN INSTALLATION DETAIL.
15. SEE CIVIL PLAN SHEET FOR STREET IMPROVEMENTS.

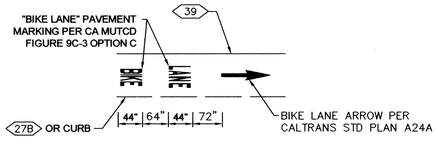
PAVEMENT MARKING & STRIPING NOTES:

(XX) STRIPING DETAIL NUMBER PER CALTRANS STANDARD PLANS, 2010 EDITION.

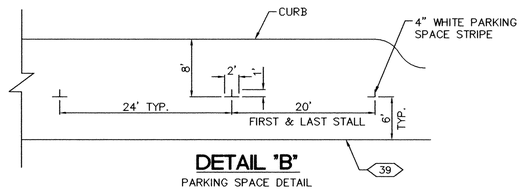
SIGN NOTES

- [E] EXISTING SIGN TO REMAIN
- [R] REMOVE ROADSIDE SIGN AND POST
- [RE] RELOCATE ROADSIDE SIGN POST/PANEL
- [RP] REMOVE ROADSIDE SIGN PANEL
- [IS] INSTALL SIGN AND/OR POST AS SHOWN
- [SS] INSTALL SIGN – (STRAP AND SADDLE BRACKET METHOD)
- [MH] INSTALL SIGN – (MAST–ARM HANGER METHOD)

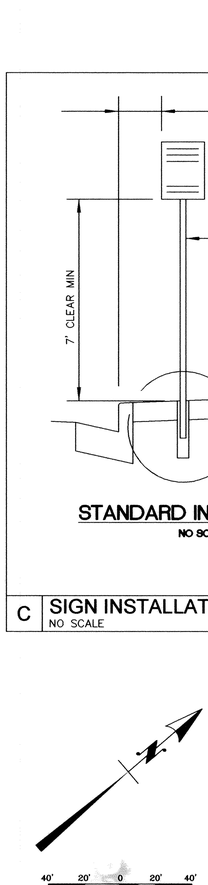
* – MOUNTED ON TRAFFIC SIGNAL OR STREET LIGHT POLE
** – MOUNTED ON TRAFFIC SIGNAL MAST ARM



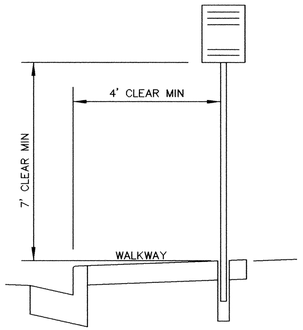
DETAIL "A"
NO SCALE



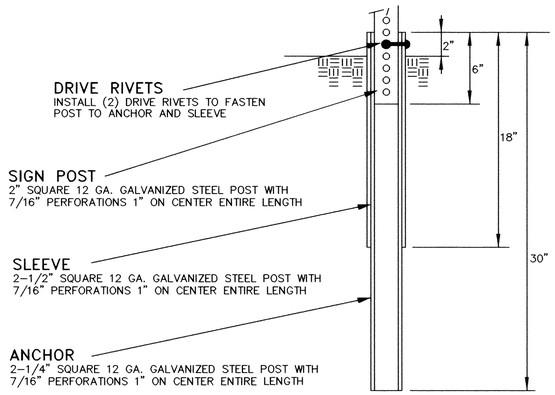
DETAIL "B"
PARKING SPACE DETAIL
NO SCALE



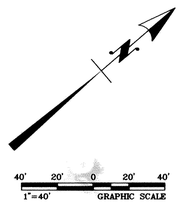
STANDARD INSTALLATION
NO SCALE



OPTIONAL INSTALLATION
(WHEN APPROVED BY ENGINEER)
NO SCALE



C **SIGN INSTALLATION**
NO SCALE



REGISTERED PROFESSIONAL ENGINEER DOUG K. YEH No. TR1900 TRAFFIC STATE OF CALIFORNIA

SIGNING & STRIPING PLAN
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
PLANNING & ENGINEERING
1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705

REGISTERED PROFESSIONAL ENGINEER FRANCISCO D. BENAVIDEZ No. C65061 CIVIL STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: SB
DESIGNED: SB
PROJECT ENGINEER: CS
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN
CITY ENGINEER
R.C.E. NO. 55339
DATE EXP. 12/31/2014

SCALE: AS SHOWN | SHEET 24 OF 37
PLAN NO. C2013–003

X:\ENG\CP_Palos Verdes Blvd REHAB. I 121\10-PLANS PSF- PV Blvd Rehabilitation - SD PCI\1_FINAL 14\5-09-14 - AutoCAD 2010\5866 Torr5866 Torrance PVB Des SHEET 24 SIGNING AND STRIPING PLAN.dwg 8/07/14 11:14 fredb

GENERAL NOTES:

1. — ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE "CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (LATEST EDITION).
2 — TRAFFIC SIGNAL AND HIGHWAY LIGHTING CONSTRUCTION SHALL CONFORM TO THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS (SECTION 86), LATEST EDITION, THE PROJECT SPECIAL PROVISIONS, AND THIS PLAN.
3 — DETECTOR LOCATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO SAWCUTTING.
4 — ALL INDUCTIVE LOOPS TO BE TAGGED PER PLAN. EACH GROUP OF LOOPS WITHIN A LANE SHALL BE WIRED IN SERIES IN THE PULL BOX.
5 — INSTALL 6' DIAMETER CIRCULAR LOOPS, CENTERED IN THE LANE, WITH 10' (CLEAR) SPACING IN THE DIRECTION OF TRAVEL, PER CALTRANS STANDARD PLAN ES-5B, TYPE E.
6 — INSTALL FRONT LOOP 1' INTO CROSSWALK OR LIMIT LINE AREA, UNLESS SHOWN OTHERWISE ON THE PLANS.
7 — INSTALL LOOP CURB TERMINATION PER CALTRANS STANDARD PLAN ES-5D, TYPE A. CONDUIT DIAMETER SHALL BE 2", MINIMUM.
8 — ALL NEW VEHICLE INDICATIONS SHALL BE 12" DIAMETER "LED" TYPE WITH FULL-CIRCLE VISORS AND BACKPLATES. ALL NEW VEHICLE INDICATIONS, VISORS AND BACKPLATES SHALL BE POLYCARBON. ALL LED UNITS SHALL BE MANUFACTURED BY DIALIGHT LEDs OR McCAIN SIGNAL HEADS.
9 — ALL NEW PEDESTRIAN INDICATIONS SHALL BE TYPE G.E. GT1 L.E.D. COUNTDOWN.
10 — ALL NEW PULL BOXES SHALL BE No. 6 PLASTIC LINED WITH FIBERGLASS LIDS, UNLESS SHOWN OTHERWISE ON THE PLAN (SEE SPECIAL PROVISIONS).
11 — ALL NEW CONDUIT SHALL BE TYPE 1 (RIGID, GALVANIZED), UNLESS SHOWN OTHERWISE ON THE PLANS. ALL NEW CONDUITS BETWEEN PULL BOXES SHALL BE 2" DIAMETER UNLESS SHOWN OTHERWISE ON THE PLANS.
12 — UNDERGROUND TRAFFIC SIGNAL CONDUCTORS SHALL BE 12 CONDUCTORS TO JTB – 5 CONDUCTORS TO EACH SIGNAL HEAD IF SPLICING EXISTING, CRIMPED AND SOLDERED, TAPED AND DIPPED PER CALTRANS SPECS. NO FLAMES SOLDERING ALLOWED. 86-2.09C.3.
13 — CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
14 — ALL CONDUCTORS AND CABLES SHALL BE NEW.
15 — TEMPORARY OVERHEAD WIRING SHALL BE REQUIRED.
16 — ALL SALVAGED MATERIALS SHALL BE DELIVERED TO CITY YARD, 20500 MADRONA AVE., TORRANCE CA.
17 — ALL NEW SIGNS SHALL BE 0.080" ALUMINUM WITH 3M VIP TYPE IX, WITH GRAFITTI OVERLAY AND "CITY OF TORRANCE" AND YEAR (2013) ON BORDER.

PROPOSED PHASE DIAGRAM

NOT USED		NOT USED	
ø1	ø2	ø3	ø4
NOT USED	NOT USED	NOT USED	NOT USED
ø5	ø6	ø7	ø8

EXISTING PHASE DIAGRAM

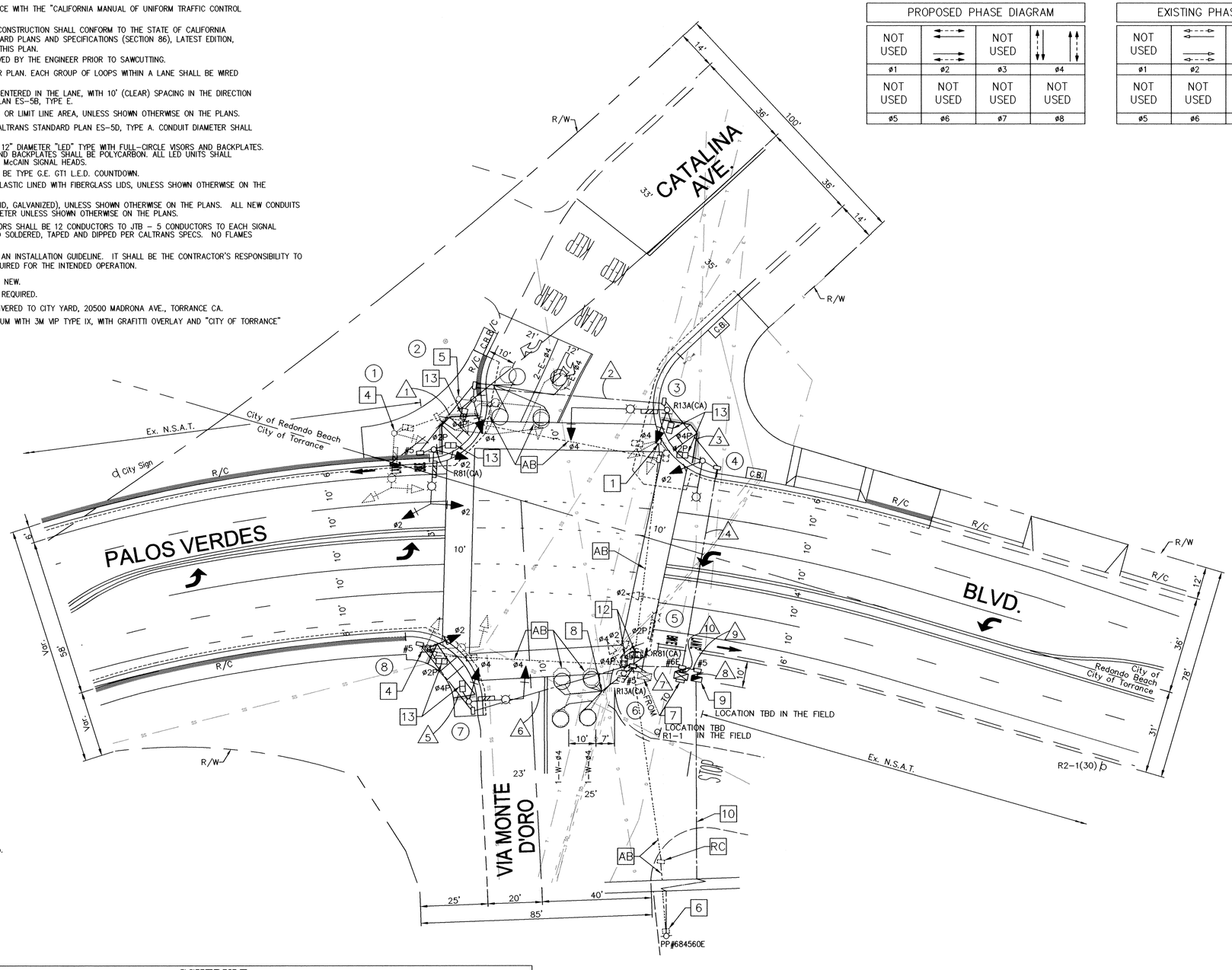
NOT USED		NOT USED	
ø1	ø2	ø3	ø4
NOT USED	NOT USED	NOT USED	NOT USED
ø5	ø6	ø7	ø8

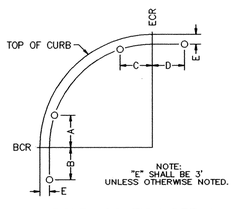
CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	1	2	3	4	5	6	7	8	9	10
3 CONDUCTOR	POLE – ①	1	1	1	1					1	1
	②			1	1						1
	③				1						1
	④			1	1						1
12 CONDUCTOR	⑤							1			1
	⑥							1			1
	⑦						1	1			1
	⑧					1	1	1	1	1	1
TOTAL CABLES–3 CONDUCTOR / 12 CONDUCTOR		1/1	1/2	1/3	1/4	1/1	1/2	1/4		2/7	

#8	LUMINAIRE	2	2	2	2		2	2	2	2	
	TOTAL #8	2	2	2	2		2	2	2	2	
#6	SIGNAL SERVICE								2	2	2
	TOTAL #6								2	2	2
DLC	ø1 DETECTOR LOOP										
	ø2 DETECTOR LOOP										
	ø3 DETECTOR LOOP										
	ø4 DETECTOR LOOP		2	2	2			2			4
	ø5 DETECTOR LOOP										
	ø6 DETECTOR LOOP										
	ø7 DETECTOR LOOP										
	ø8 DETECTOR LOOP										
	TOTAL DLC		2	2	2			2			4
CONDUIT SIZE		2"	3"	3"	3"	2"	3"	3"	2"	2"	2-3"

ALL CONDUCTORS, CABLES & CONDUITS SHALL BE NEW UNLESS SHOWN AS EXISITING (E)





POLE LOCATION DETAIL
(NO SCALE)

CONSTRUCTION NOTES:

1. REMOVE AND SALVAGE EXISTING TYPE 1-A STANDARD COMPLETE WITH ATTACHED SIGNAL EQUIPMENT AND SIGNS. REMOVE FOUNDATION AND PULL BOX. ABANDON CONDUIT.
4. REMOVE AND SALVAGE EXISTING TYPE 17 STANDARD COMPLETE WITH ATTACHED SIGNAL EQUIPMENT AND SIGNS. REMOVE FOUNDATION AND PULL BOX. ABANDON CONDUIT.
5. REMOVE AND SALVAGE EXISTING TYPE 19 STANDARD COMPLETE WITH ATTACHED SIGNAL EQUIPMENT AND SIGNS. REMOVE FOUNDATION AND PULL BOX. ABANDON CONDUIT.
6. REMOVE AND SALVAGE EXISTING TYPE SCE-1 SERVICE CABINET. ABANDON CONDUIT.
7. RELOCATE EXISTING TYPE M-1 CABINET, TYPE 50 CONTROLLER AND BATTERY BACK-UP SYSTEM ON NEW FOUNDATION AS SHOWN ON PLAN. REMOVE FOUNDATION AND PULL BOX. ABANDON CONDUIT.
8. RE-USE EXISTING STUB-OUT AS DETERMINED BY THE TRAFFIC SIGNAL INSPECTOR. IF STUB-OUT IS NOT IN PLACE OR DAMAGED, CONTRACTOR SHALL INSTALL NEW STUB-OUT PER CALTRANS STANDARD PLAN ES-5D. CONDUIT DIAMETER SHALL BE 2", MININIUM.
9. INSTALL NEW TYPE III-BF SERVICE EQUIPMENT ENCLOSURE AND NEW FOUNDATION WITH TWO 120/240V SERVICE METERS/UNMETERD SERVICE AND A 100 AMP-2P MAIN CIRCUIT BREAKER, WITH 50A-120V-1P CIRCUIT BREAKER FOR TRAFFIC SIGNAL AND 30A-240V-2P CIRCUIT BREAKER FOR SAFETY LIGHTING (METERED), FACTORY TO PROVIDE TEST BYPASS FACILITIES INSIDE THE CABINET. CONTACT S.C.E. ANGEL MEJIA AT (310) 783-9339 TO ARRANGE FOR SERVICE CHANGE.
10. INSTALL 3" CONDUIT, AND A TYPE "H" SERVICE RISER PER SCE REQUIREMENTS. S.C.E. TO INSTALL SERVICE WIRES, CONTACT S.C.E., ANGEL MEJIA AT (310) 783-9339 PRIOR TO START WORK.
12. REMOVE EXISTING PEDESTRIAN INDICATION AND INSTALL NEW TYPE G.E. GT1 L.E.D. COUNTDOWN PEDESTRIAN INDICATION AS SHOWN.
13. INSTALL NEW TYPE G.E. GT1 L.E.D. COUNTDOWN PEDESTRIAN INDICATION AS SHOWN.

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.

RC EQUIPMENT OR MATERIAL TO BE REMOVE AND BECOME THE PROPERTY OF THE CONTRACTOR.

SCALE: 1"=20'

POLE SCHEDULE

No.	STANDARD TYPE	HEIGHT	SIG. M.A.	LUM. M.A.	* LUMINAIRE	RRSNS LEGEND	SIGNAL MOUNTING MAS ARM	POLE	PED	PPB PHASE	TYPE	POLE LOCATION A	B	C	D	E	REMARKS
1	19-4-100(N)	30'(N)	20'(N)	12'(N)	85W(N)	Catalina Av → (N)	2-MAS(N)	SV-1-T(N)	SP-1-T(N)	4(N)	B(N)	–	–	0'	–	–	CUSTOM MAST ARM
2	1-A(N)	10'(N)	–	–	–	–	–	TV-1-T(N)	SP-1-T(N)	–	–	1'	–	–	–	–	
3	24-4-100(N)	30'(N)	35'(N)	12'(N)	85W(N)	Palos Verdes Bl (N)	MAS(N)	TV-1-T(N)	SP-1-T(N)	–	–	–	–	17'	–	–	
4	15TS(N)	30'(N)	–	12'(N)	85W(N)	–	–	SV-1-T(N)	SP-1-T(N)	4(N)	B(N)	5'	–	–	–	–	
5	17-1-70	30'	20'	12'	85W	Via Monte D'Oro	MAS	SV-1-T	SP-1-T(N)	4	B	EXISTING					12
6	1-A	10'	–	–	–	–	–	TV-1-T	SP-1-T(N)	–	–	EXISTING					12
7	17-3-100(N)	30'(N)	20'(N)	12'(N)	85W(N)	Palos Verdes Bl (N)	MAS(N)	SV-1-T(N)	SP-1-T(N)	–	–	8'	–	–	–	–	
8	1-A(N)	10'(N)	–	–	–	–	–	TV-1-T(N)	SP-1-T(N)	4(N)	B(N)	0	–	–	–	–	

ALL EQUIPMENT ARE EXISTING UNLESS OTHERWISE NOTED, (N) = NEW, (R) = RELOCATE
* LUMINARE SHALL BE CUT OFF TYPE. GE #MSCL84Q0E21GC3C. NO SUBS PHASE.

Know what's below. Call before you dig.

REGISTERED PROFESSIONAL ENGINEER DOUG K. YCH No. TR1900 TRAFFIC STATE OF CALIFORNIA

TRAFFIC SIGNAL PLAN
PALOS VERDES BLVD AND VIA MONTE D'ORO
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
PLANNING & ENGINEERING
1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705

REGISTERED PROFESSIONAL ENGINEER FRANCISCO D. BENAVIDEZ No. 065061 CIVIL STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: SB
DESIGNED: SB
PROJECT ENGINEER: CS
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN
CITY ENGINEER
R.C.E. NO. 55339 EXP. 12/31/2014

SCALE: AS SHOWN SHEET 25 OF 37
PLAN NO. TL-160A

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GENERAL NOTES:

1. — ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE "CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (LATEST EDITION).
2 — TRAFFIC SIGNAL AND HIGHWAY LIGHTING CONSTRUCTION SHALL CONFORM TO THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS (SECTION 86), LATEST EDITION, THE PROJECT SPECIAL PROVISIONS, AND THIS PLAN.
3 — DETECTOR LOCATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO SAWCUTTING.
4 — ALL INDUCTIVE LOOPS TO BE TAGGED PER PLAN. EACH GROUP OF LOOPS WITHIN A LANE SHALL BE WIRED IN SERIES IN THE PULL BOX.
5 — INSTALL 6' DIAMETER CIRCULAR LOOPS, CENTERED IN THE LANE, WITH 10' (CLEAR) SPACING IN THE DIRECTION OF TRAVEL, PER CALTRANS STANDARD PLAN ES-5B, TYPE E.
6 — INSTALL FRONT LOOP 1' INTO CROSSWALK OR LIMIT LINE AREA, UNLESS SHOWN OTHERWISE ON THE PLANS.
7 — INSTALL LOOP CURB TERMINATION PER CALTRANS STANDARD PLAN ES-5D, TYPE A. CONDUIT DIAMETER SHALL BE 2", MINIMUM.
8 — ALL NEW VEHICLE INDICATIONS SHALL BE 12" DIAMETER "LED" TYPE WITH FULL-CIRCLE VISORS AND BACKPLATES. ALL NEW VEHICLE INDICATIONS, VISORS AND BACKPLATES SHALL BE POLYCARBON. ALL LED UNITS SHALL BE MANUFACTURED BY DIALIGHT LEDs OR McCAIN SIGNAL HEADS.
9 — ALL NEW PEDESTRIAN INDICATIONS SHALL BE TYPE G.E. GT1 L.E.D. COUNTDOWN.
10 — ALL NEW PULL BOXES SHALL BE No. 6 PLASTIC LINED WITH FIBERGLASS LIDS, UNLESS SHOWN OTHERWISE ON THE PLAN (SEE SPECIAL PROVISIONS).
11 — ALL NEW CONDUIT SHALL BE TYPE 1 (RIGID, GALVANIZED), UNLESS SHOWN OTHERWISE ON THE PLANS. ALL NEW CONDUITS BETWEEN PULL BOXES SHALL BE 2" DIAMETER UNLESS SHOWN OTHERWISE ON THE PLANS.
12 — UNDERGROUND TRAFFIC SIGNAL CONDUCTORS SHALL BE 12 CONDUCTORS TO JTB – 5 CONDUCTORS TO EACH SIGNAL HEAD IF SPLICING EXISTING, CRIMPED AND SOLDERED, TAPED AND DIPPED PER CALTRANS SPECS. NO FLAMES SOLDERING ALLOWED. 86-2.09C.3.
13 — CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
14 — ALL CONDUCTORS AND CABLES SHALL BE NEW.
15 — TEMPORARY OVERHEAD WIRING SHALL BE REQUIRED.
16 — ALL SALVAGED MATERIALS SHALL BE DELIVERED TO CITY YARD, 20500 MADRONA AVE., TORRANCE CA.
17 — ALL NEW SIGNS SHALL BE 0.080" ALUMINUM WITH 3M VIP TYPE IX, WITH GRAFITTI OVERLAY AND "CITY OF TORRANCE" AND YEAR (2013) ON BORDER.

CONSTRUCTION NOTES:

3 REMOVE AND SALVAGE EXISTING TYPE 1 STANDARD COMPLETE WITH ATTACHED SIGNAL EQUIPMENT COMPLETE. REMOVE FOUNDATION AND PULL BOX. ABANDON CONDUIT.

4 REMOVE AND SALVAGE EXISTING TYPE 17 STANDARD COMPLETE WITH ATTACHED SIGNAL EQUIPMENT AND SIGNS. REMOVE FOUNDATION AND PULL BOX. ABANDON CONDUIT.

11 REMOVE AND SALVAGE EXISTING PEDESTRIAN PUSH BUTTON POST AND ATTACHED SIGNAL EQUIPMENT COMPLETE. REMOVE FOUNDATION AND PULL BOX. ABANDON CONDUIT.

12 REMOVE EXISTING PEDESTRIAN INDICATION AND INSTALL NEW TYPE G.E. GT1 L.E.D. COUNTDOWN PEDESTRIAN INDICATION AS SHOWN.

13 INSTALL NEW TYPE G.E. GT1 L.E.D. COUNTDOWN PEDESTRIAN INDICATION AS SHOWN.

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.

BC INSTALL PULL BOX IN EXISTING CONDUIT RUN.

PROPOSED PHASE DIAGRAM

NOT USED		NOT USED	
ø1	ø2	ø3	ø4
NOT USED	NOT USED	NOT USED	NOT USED
ø5	ø6	ø7	ø8

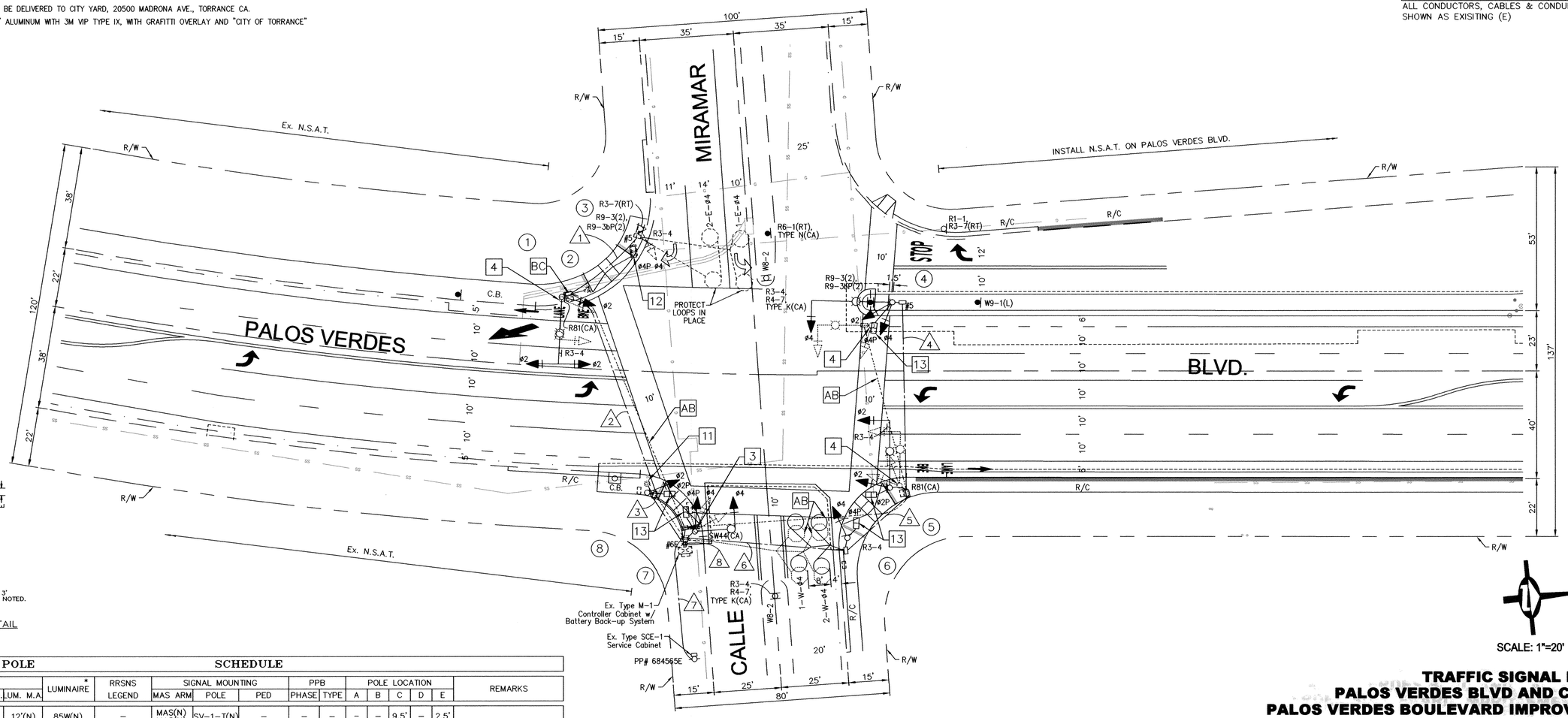
EXISTING PHASE DIAGRAM

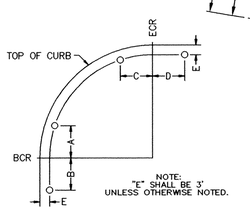
NOT USED		NOT USED	
ø1	ø2	ø3	ø4
NOT USED	NOT USED	NOT USED	NOT USED
ø5	ø6	ø7	ø8

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	1	2	3	4	5	6	7	8	9	10
CONDUCTOR 3	POLE – 1		1	1					1		
	2	1	1						1		
	3	1	1	1					1		
CONDUCTOR 12	4			1	1	1	1		1		
	5				1	1	1		1		
	6						1		1		
	7								1		
	8			1	1				1		
TOTAL CABLES–3		1	1	1	1	2	2		4		
CONDUCTOR / 12 CONDUCTOR		1	2	2	1	2	3		7		
#8	LUMINAIRE		2	2	2	2	2	2			
	TOTAL #8 (N)		2	2	2	2	2	2			
#6	SIGNAL SERVICE							2	2		
	TOTAL #6							2	2		
DLC	ø1 DETECTOR LOOP										
	ø2 DETECTOR LOOP										
	ø3 DETECTOR LOOP										
	ø4 DETECTOR LOOP	2	2	2			2		4		
	ø5 DETECTOR LOOP										
	ø6 DETECTOR LOOP										
	ø7 DETECTOR LOOP										
	ø8 DETECTOR LOOP										
	TOTAL DLC	2	2	2			2		4		
CONDUIT SIZE		1.5"(E)	3"	3"	3"	3"	3"	1.5"(E)	2-2" (E)		

ALL CONDUCTORS, CABLES & CONDUITS SHALL BE NEW UNLESS SHOWN AS EXISITING (E)





POLE LOCATION DETAIL
(NO SCALE)

SCALE: 1"=20'

POLE SCHEDULE

No.	TYPE	STANDARD HEIGHT	STANDARD SIG. M.A.	STANDARD LUM. M.A.	LUMINAIRE *	RRSNS LEGEND	SIGNAL MOUNTING MAS ARM	SIGNAL MOUNTING POLE	SIGNAL MOUNTING PED	PPB PHASE	PPB TYPE	POLE LOCATION A	POLE LOCATION B	POLE LOCATION C	POLE LOCATION D	POLE LOCATION E	REMARKS
1	19-4-100(N)	30'(N)	25'(N)	12'(N)	85W(N)	–	MAS(N) MAS(N)	SV-1-T(N)	–	–	–	–	–	9.5'	–	2.5'	
2	PPB Post	3'-4"	–	–	–	–	–	–	–	4	B	EXISTING					
3	1-A	10'	–	–	–	–	–	TV-1-T	SP-1-T(N)	–	–	EXISTING					12
4	19-4-100(N)	30'(N)	30'(N)	12'(N)	85W(N)	–	MAS(N)	SV-2-T(N)	SP-1-T(N)	4(N)	**B(N)	AS SHOWN ON PLAN				–	
5	19-4-100(N)	30'(N)	25'(N)	12'(N)	85W(N)	–	MAS(N)	SV-1-T(N)	SP-1-T(N)	4(N)	B(N)	–	–	6'	–	–	
6	1-A(N)	10'(N)	–	–	–	–	–	TV-1-T(N)	SP-1-T(N)	–	–	4'	–	–	–	–	
7	17-3-100(N)	30'(N)	15'(N)	12'(N)	85W(N)	–	–	SV-1-T(N)	SP-1-T(N)	–	–	–	–	2'	–	–	
8	1-A(N)	10'(N)	–	–	–	–	–	TV-1-T(N)	SP-1-T(N)	4(N)	B(N)	3'	–	–	–	6'	

ALL EQUIPMENT ARE EXISTING UNLESS OTHERWISE NOTED, (N) = NEW, (R) = RELOCATE
* LUMINARE SHALL BE CUT OFF TYPE. GE #MSCL84Q0E21GC3C. NO SUBS PHASE.
** PEDESTRIAN PUSH BUTTON SHALL BE MOUNTED AT 2'-10" ABOVE BASE OF POLE (MAX. 3'-4' ABOVE SURFACE OF PEDESTRIAN PATHWAY).

811 Know what's below. Call before you dig.

TRAFFIC SIGNAL PLAN
PALOS VERDES BLVD AND CALLE MIRAMAR
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
PLANNING & ENGINEERING
1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705

REGISTERED PROFESSIONAL ENGINEER DOUG K. YEH No. 71900 TRAFFIC STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER FRANCISCO D. BENAVIDEZ No. C65061 CIVIL STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: SB
DESIGNED: SB
PROJECT ENGINEER: CS
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN, CITY ENGINEER, R.C.E. NO. 55339 — DATE EXP. 12/31/2014

SCALE: AS SHOWN | SHEET 26 OF 37
PLAN NO. TL-161A

X:\ENG\CIP_Palos Verdes Blvd RSHAB, I 121\10-PLANS PDF- PV Blvd Rehabilitation - SD PDH\1_FINAL 14\3-08-14 - AutoCAD 2010\3850 torr3858 Torrance PVB Bas SHEET 26 PVB AND CALLE MIRAMAR TRAFFIC SIGNAL PLAN.dwg 5/07/14 11:34 lrea

GENERAL NOTES:

1. — ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE "CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (LATEST EDITION).
2 — TRAFFIC SIGNAL AND HIGHWAY LIGHTING CONSTRUCTION SHALL CONFORM TO THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS (SECTION 86), LATEST EDITION, THE PROJECT SPECIAL PROVISIONS, AND THIS PLAN.
3 — DETECTOR LOCATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO SAWCUTTING.
4 — ALL INDUCTIVE LOOPS TO BE TAGGED PER PLAN. EACH GROUP OF LOOPS WITHIN A LANE SHALL BE WIRED IN SERIES IN THE PULL BOX.
5 — INSTALL 6' DIAMETER CIRCULAR LOOPS, CENTERED IN THE LANE, WITH 10' (CLEAR) SPACING IN THE DIRECTION OF TRAVEL, PER CALTRANS STANDARD PLAN ES-5B, TYPE E.
6 — INSTALL FRONT LOOP 1' INTO CROSSWALK OR LIMIT LINE AREA, UNLESS SHOWN OTHERWISE ON THE PLANS.
7 — INSTALL LOOP CURB TERMINATION PER CALTRANS STANDARD PLAN ES-5D, TYPE A. CONDUIT DIAMETER SHALL BE 2", MINIMUM.
8 — ALL NEW VEHICLE INDICATIONS SHALL BE 12" DIAMETER "LED" TYPE WITH FULL-CIRCLE VISORS AND BACKPLATES. ALL NEW VEHICLE INDICATIONS, VISORS AND BACKPLATES SHALL BE POLYCARBON. ALL LED UNITS SHALL BE MANUFACTURED BY DIALIGHT LEDs OR McCAIN SIGNAL HEADS.
9 — ALL NEW PEDESTRIAN INDICATIONS SHALL BE TYPE G.E. GT1 L.E.D. COUNTDOWN.
10 — ALL NEW PULL BOXES SHALL BE No. 6 PLASTIC LINED WITH FIBERGLASS LIDS, UNLESS SHOWN OTHERWISE ON THE PLAN (SEE SPECIAL PROVISIONS).
11 — ALL NEW CONDUIT SHALL BE TYPE 1 (RIGID, GALVANIZED), UNLESS SHOWN OTHERWISE ON THE PLANS. ALL NEW CONDUITS BETWEEN PULL BOXES SHALL BE 2" DIAMETER UNLESS SHOWN OTHERWISE ON THE PLANS.
12 — UNDERGROUND TRAFFIC SIGNAL CONDUCTORS SHALL BE 12 CONDUCTORS TO JTB – 5 CONDUCTORS TO EACH SIGNAL HEAD IF SPLICING EXISTING, CRIMPED AND SOLDERED, TAPED AND DIPPED PER CALTRANS SPECS. NO FLAMES SOLDERING ALLOWED. 86-2.09C.3.
13 — CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
14 — ALL CONDUCTORS AND CABLES SHALL BE NEW.
15 — TEMPORARY OVERHEAD WIRING SHALL BE REQUIRED.
16 — ALL SALVAGED MATERIALS SHALL BE DELIVERED TO CITY YARD, 20500 MADRONA AVE., TORRANCE CA.
17 — ALL NEW SIGNS SHALL BE 0.080" ALUMINUM WITH 3M VIP TYPE IX, WITH GRAFITTI OVERLAY AND "CITY OF TORRANCE" AND YEAR (2013) ON BORDER.

EXISTING PHASE DIAGRAM

NOT USED		NOT USED	
ø1	ø2	ø3	ø4
NOT USED	NOT USED	NOT USED	NOT USED
ø5	ø6	ø7	ø8

CONSTRUCTION NOTES:

2 RELOCATE EXISTING TYPE 1-A STANDARD COMPLETE WITH ATTACHED SIGNAL EQUIPMENT. REMOVE FOUNDATION AND ABANDON CONDUIT.

4 REMOVE AND SALVAGE EXISTING TYPE 17 STANDARD COMPLETE WITH ATTACHED SIGNAL EQUIPMENT AND SIGNS. REMOVE FOUNDATION AND PULL BOX. ABANDON CONDUIT.

6 REMOVE AND SALVAGE EXISTING TYPE SCE-1 SERVICE CABINET. ABANDON CONDUIT.

8 RE-USE EXISTING STUB-OUT AS DETERMINED BY THE TRAFFIC SIGNAL INSPECTOR. IF STUB-OUT IS NOT IN PLACE OR DAMAGED, CONTRACTOR SHALL INSTALL NEW STUB-OUT PER CALTRANS STANDARD PLAN ES-5D. CONDUIT DIAMETER SHALL BE 2", MININIUM.

9 INSTALL NEW TYPE III-BF SERVICE EQUIPMENT ENCLOSURE AND NEW FOUNDATION WITH TWO 120/240V SERVICE METERS/UNMETERD SERVICE AND A 100 AMP-2P MAIN CIRCUIT BREAKER, WITH 50A-120V-1P CIRCUIT BREAKER FOR TRAFFIC SIGNAL AND 30A-240V-2P CIRCUIT BREAKER FOR SAFETY LIGHTING (METERED), FACTORY TO PROVIDE TEST BYPASS FACILITIES INSIDE THE CABINET. CONTACT S.C.E. ANGEL MEJIA AT (310) 783-9339 TO ARRANGE FOR SERVICE CHANGE.

10 INSTALL 3" CONDUIT, AND A TYPE "H" SERVICE RISER PER SCE REQUIREMENTS. S.C.E. TO INSTALL SERVICE WIRES, CONTACT S.C.E., ANGEL MEJIA AT (310) 783-9339 PRIOR TO START WORK.

12 REMOVE EXISTING PEDESTRIAN INDICATION AND INSTALL NEW TYPE G.E. GT1 L.E.D. COUNTDOWN PEDESTRIAN INDICATION AS SHOWN.

13 INSTALL NEW TYPE G.E. GT1 L.E.D. COUNTDOWN PEDESTRIAN INDICATION AS SHOWN.

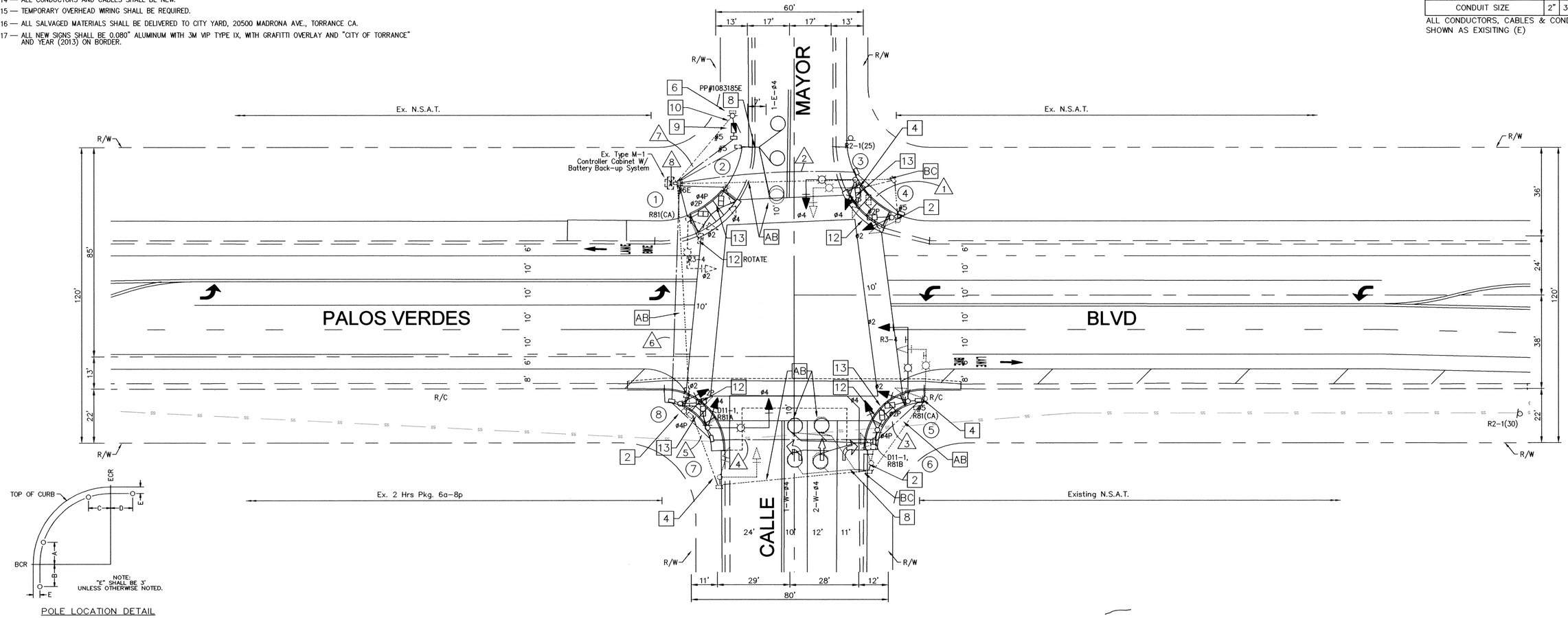
AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.

BC INSTALL PULL BOX IN EXISTING CONDUIT RUN.

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE		POLE OR CIRCUIT	1	2	3	4	5	6	7	8	9	10
CONDUCTOR	3 (N)	POLE – ①							1	1		
		②								1		
		③								1		
		④	1	1	1					1		
		⑤			1	1	1	1	1	1		
	12 (N)	⑥					1	1	1	1		
		⑦						1	1	1		
		⑧						1	1	1		
TOTAL CABLES-3 CONDUCTOR/ 12 CONDUCTOR			1/1	1/2	1/1	1/2	1/3	2/4	/	4/8		
#8	LUMINAIRE			2	2	2	2	2	2			
	TOTAL #8			2	2	2	2	2	2			
#6	SIGNAL SERVICE								2	2		
	TOTAL #6								2	2		
DLC	ø1 DETECTOR LOOP											
	ø2 DETECTOR LOOP											
	ø3 DETECTOR LOOP											
	ø4 DETECTOR LOOP (N)				2	2	2			4		
	ø5 DETECTOR LOOP											
	ø6 DETECTOR LOOP											
	ø7 DETECTOR LOOP											
	ø8 DETECTOR LOOP											
	TOTAL DLC				2	2	2			4		
CONDUIT SIZE			2"	3"	2"	3"	3"	3"	2"	2-2" (E)		

ALL CONDUCTORS, CABLES & CONDUITS SHALL BE NEW UNLESS SHOWN AS EXISITING (E)



POLE LOCATION DETAIL
(NO SCALE)

SCALE: 1"=20'

POLE SCHEDULE

No.	STANDARD TYPE	HEIGHT	SIG. M.A.	LUM. M.A.	LUMINAIRE*	RRSNS LEGEND	SIGNAL MOUNTING MAS ARM	POLE	PED	PPB PHASE	TYPE	POLE LOCATION A	B	C	D	E	REMARKS
1	17-1-70	30'	20'	12'	85W	–	MAS	SV-1-T	SP-1-T(N)	4	B	EXISTING					12
2	1-A	10'	–	–	–	–	–	TV-1-T	SP-1-T(N)	–	–	EXISTING					13
3	17-3-100(N)	30'(N)	20'(N)	12'(N)	85W(N)	–	MAS(N)	SV-1-T(N)	SP-1-T(N)	–	–	–	–	13'	–	5'	
4	1-A(R)	10'(R)	–	–	–	–	–	TV-1-T(R)	SP-1-T(N)	4	B(R)	15.5'	–	–	–	5'	
5	19-4-100(N)	30'(N)	30'(N)	12'(N)	85W(N)	–	MAS(N)	SV-1-T(N)	SP-1-T(N)	4	B(N)	–	–	5'	–	5'	
6	1-A(R)	10'(R)	–	–	–	–	–	TV-1-T(R)	SP-1-T(R)	–	–	8'	–	–	–	5'	12
7	19-4-100(N)	30'(N)	25'(N)	12'(N)	85W(N)	–	MAS(N)	SV-1-T(N)	SP-1-T(N)	–	–	–	–	11.5'	–	5'	
8	1-A(R)	10'(R)	–	–	–	–	–	TV-1-T(R)	SP-1-T(R)	4	B(R)	6.5'	–	–	–	5'	12

ALL EQUIPMENT ARE EXISTING UNLESS OTHERWISE NOTED, (N) = NEW, (R) = RELOCATE
* LUMINARE SHALL BE CUT OFF TYPE. GE #MSCL84Q0E21GC3C. NO SUBS PHASE.

Know what's below. Call before you dig.

REGISTERED PROFESSIONAL ENGINEER DOUG K. YEN No. TR1900 TRAFFIC STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER FRANCISCO D. BENAVIDEZ No. C65061 CIVIL STATE OF CALIFORNIA

TRAFFIC SIGNAL PLAN
PALOS VERDES BLVD AND CALLE MAYOR
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
PLANNING & ENGINEERING
1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: SB
DESIGNED: SB
PROJECT ENGINEER: CS
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN
CITY ENGINEER
R.C.E. NO. 55339
DATE
EXP. 12/31/2014

SCALE: AS SHOWN
SHEET 27 OF 37
PLAN NO. TL-162A

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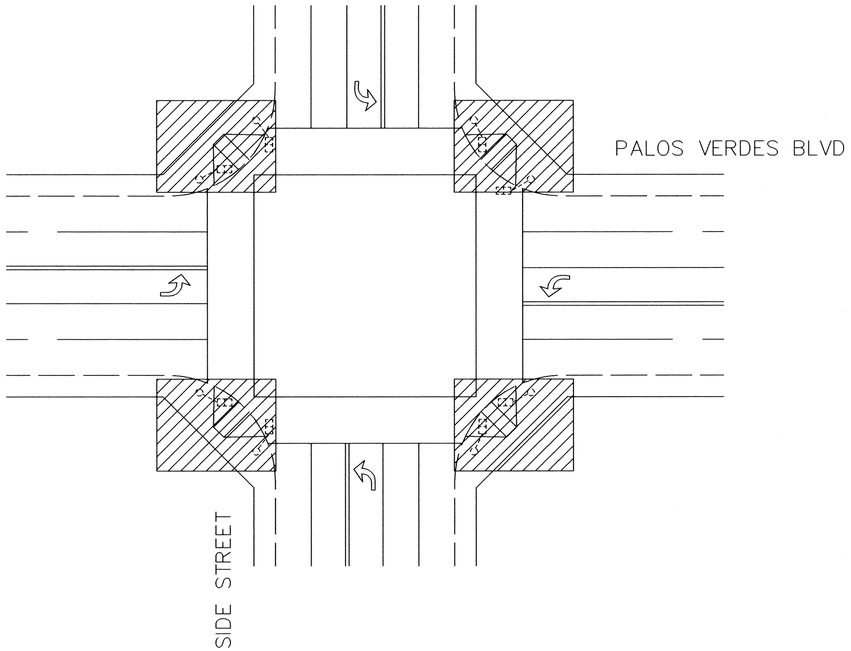
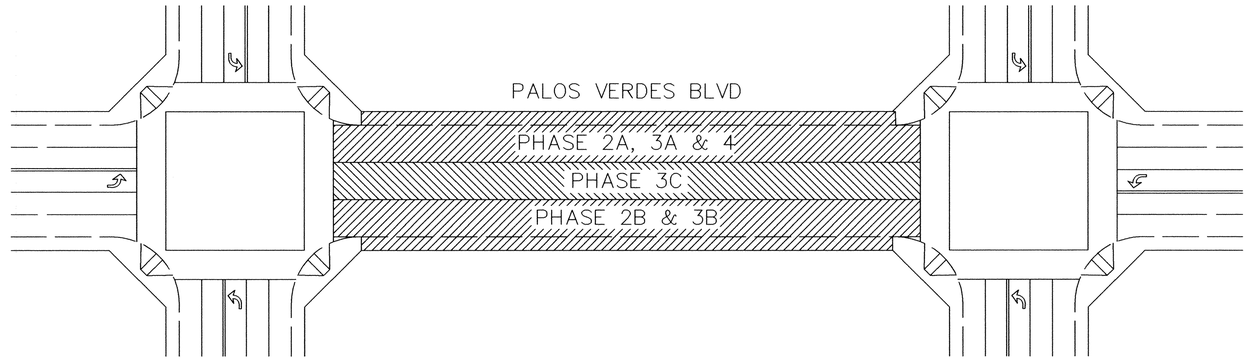
PHASE 1 WORK AREA

(TRAFFIC SIGNALS)
NO SCALE



TYPICAL CONSTRUCTION PHASES

NO SCALE

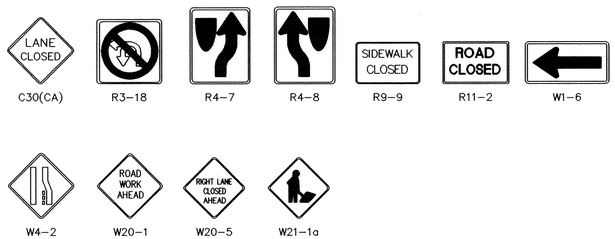


CONSTRUCTION PHASING PLAN GENERAL DESCRIPTION OF WORK:

PHASE 1	TRAFFIC SIGNALS.
PHASE 2	AC SLOT PATCH, CURB, GUTTER, SIDEWALK, DRIVEWAY, STORM DRAINS, UTILITIES.
PHASE 3	R&R, MILLING, PAVING.
PHASE 4	LANDSCAPE, HARDSCAPE, IRRIGATION.

PHASING AND TRAFFIC CONTROL MAY BE SUBDIVIDED INTO SMALLER AREAS.
CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLANS FOR WORK THAT VARIES FROM THAT SHOWN HEREON. CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES, AND PROVIDE FOR VEHICLE, BICYCLE AND PEDESTRIAN TRAVEL.

SIGN LEGEND:



NOTES:

1. THE CONTRACTOR MAY NOT WORK WITHIN MORE THAN ONE CONSTRUCTION PHASE SIMULTANEOUSLY.
2. THE CONTRACTOR MAY NOT WORK WITHIN ADJACENT INTERSECTIONS SIMULTANEOUSLY.
3. PHASE 2 AND 3 ARE DIVIDED INTO TWO AREAS (A AND B). THE CONTRACTOR MAY NOT WORK IN BOTH AREAS SIMULTANEOUSLY.

TRAFFIC CONTROL AND CONSTRUCTION STAGING
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
PLANNING & ENGINEERING
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Monterey Park, California 91754
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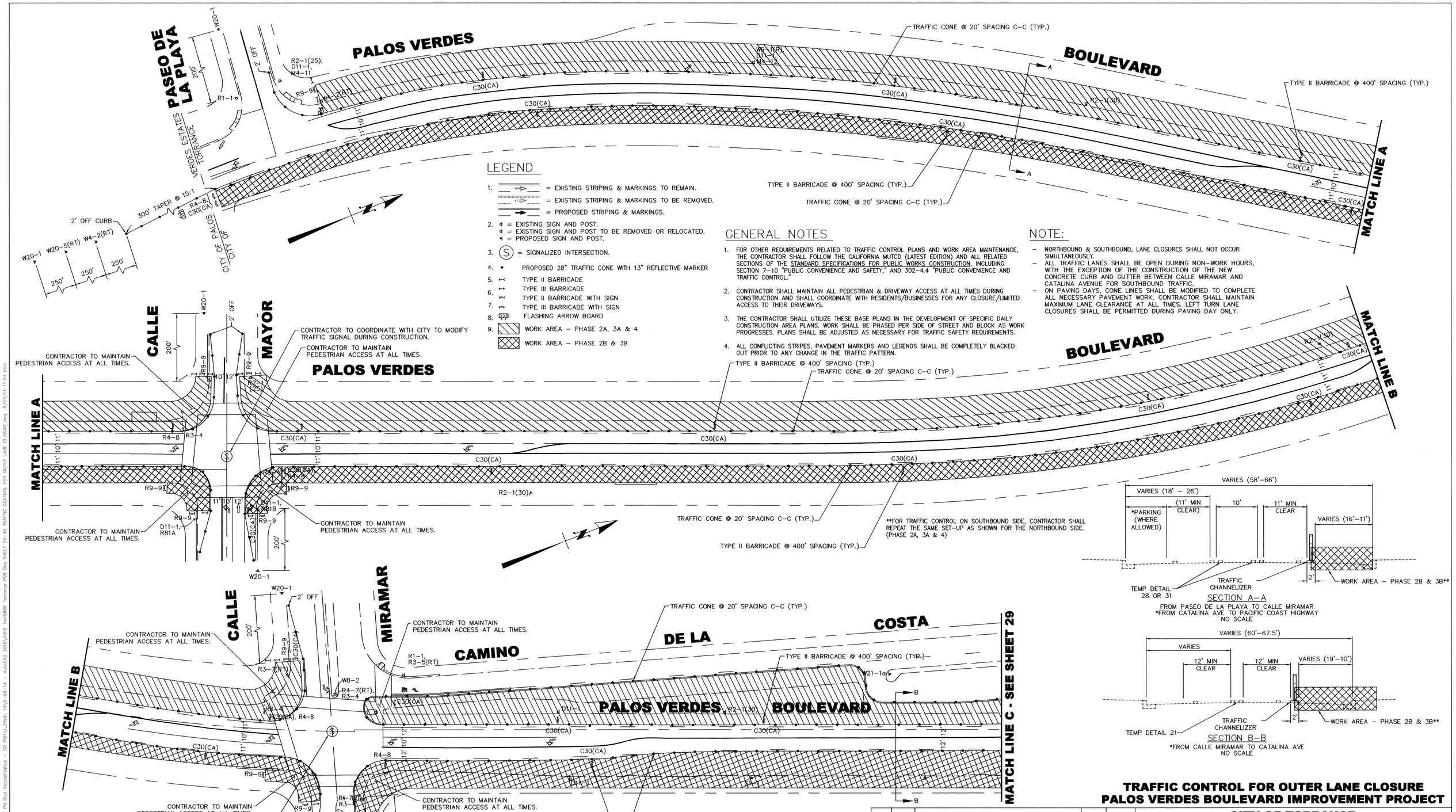
CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: SB
DESIGNED: SB
PROJECT ENGINEER: CS
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN
CITY ENGINEER
R.C.E. NO. 55339
DATE
EXP. 12/31/2014

SCALE: AS SHOWN | SHEET 28 OF 37

PLAN NO. ST-1055



LEGEND

1. = EXISTING STRIPING & MARKINGS TO REMAIN.
   = EXISTING STRIPING & MARKINGS TO BE REMOVED.
   = PROPOSED STRIPING & MARKINGS.
2. = EXISTING SIGN AND POST.
   = EXISTING SIGN AND POST TO BE REMOVED OR RELOCATED.
   = PROPOSED SIGN AND POST.
3. (S) = SIGNALIZED INTERSECTION.
4. • PROPOSED 28" TRAFFIC CONE WITH 13" REFLECTIVE MARKER
5. TYPE II BARRICADE
6. TYPE III BARRICADE
7. TYPE II BARRICADE WITH SIGN
8. TYPE III BARRICADE WITH SIGN
9. FLASHING ARROW BOARD
10. WORK AREA – PHASE 2A, 3A & 4
11. WORK AREA – PHASE 2B & 3B

GENERAL NOTES

1. FOR OTHER REQUIREMENTS RELATED TO TRAFFIC CONTROL PLANS AND WORK AREA MAINTENANCE, THE CONTRACTOR SHALL FOLLOW THE CALIFORNIA MUTCD (LATEST EDITION) AND ALL RELATED SECTIONS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, INCLUDING SECTION 7-10 "PUBLIC CONVENIENCE AND SAFETY," AND 302-4.4 "PUBLIC CONVENIENCE AND TRAFFIC CONTROL."
2. CONTRACTOR SHALL MAINTAIN ALL PEDESTRIAN & DRIVEWAY ACCESS AT ALL TIMES DURING CONSTRUCTION AND SHALL COORDINATE WITH RESIDENTS/BUSINESSES FOR ANY CLOSURE/LIMITED ACCESS TO THEIR DRIVEWAYS.
3. THE CONTRACTOR SHALL UTILIZE THESE BASE PLANS IN THE DEVELOPMENT OF SPECIFIC DAILY CONSTRUCTION AREA PLANS. WORK SHALL BE PHASED PER SIDE OF STREET AND BLOCK AS WORK PROGRESSES. PLANS SHALL BE ADJUSTED AS NECESSARY FOR TRAFFIC SAFETY REQUIREMENTS.
4. ALL CONFLICTING STRIPES, PAVEMENT MARKERS AND LEGENDS SHALL BE COMPLETELY BLACKED OUT PRIOR TO ANY CHANGE IN THE TRAFFIC PATTERN.

NOTE:

- NORTHBOUND & SOUTHBOUND, LANE CLOSURES SHALL NOT OCCUR SIMULTANEOUSLY.
- ALL TRAFFIC LANES SHALL BE OPEN DURING NON-WORK HOURS, WITH THE EXCEPTION OF THE CONSTRUCTION OF THE NEW CONCRETE CURB AND GUTTER BETWEEN CALLE MIRAMAR AND CATALINA AVENUE FOR SOUTHBOUND TRAFFIC.
- ON PAVING DAYS, CONE LINES SHALL BE MODIFIED TO COMPLETE ALL NECESSARY PAVEMENT WORK. CONTRACTOR SHALL MAINTAIN MAXIMUM LANE CLEARANCE AT ALL TIMES. LEFT TURN LANE CLOSURES SHALL BE PERMITTED DURING PAVING DAY ONLY.

TRAFFIC CONTROL FOR OUTER LANE CLOSURE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
PLANNING & ENGINEERING
1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705

REGISTERED PROFESSIONAL ENGINEER FRANCISCO D. BENAVIDEZ No. 065061 CIVIL STATE OF CALIFORNIA

CITY OF PALOS VERDES ESTATES
APPROVED: _____ DATE _____

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: SB
DESIGNED: SB
PROJECT ENGINEER: CS
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN, CITY ENGINEER, R.C.E. NO. 55339 — DATE EXP. 12/31/2014

SCALE: AS SHOWN | SHEET 29 OF 37
PLAN NO. ST-1055

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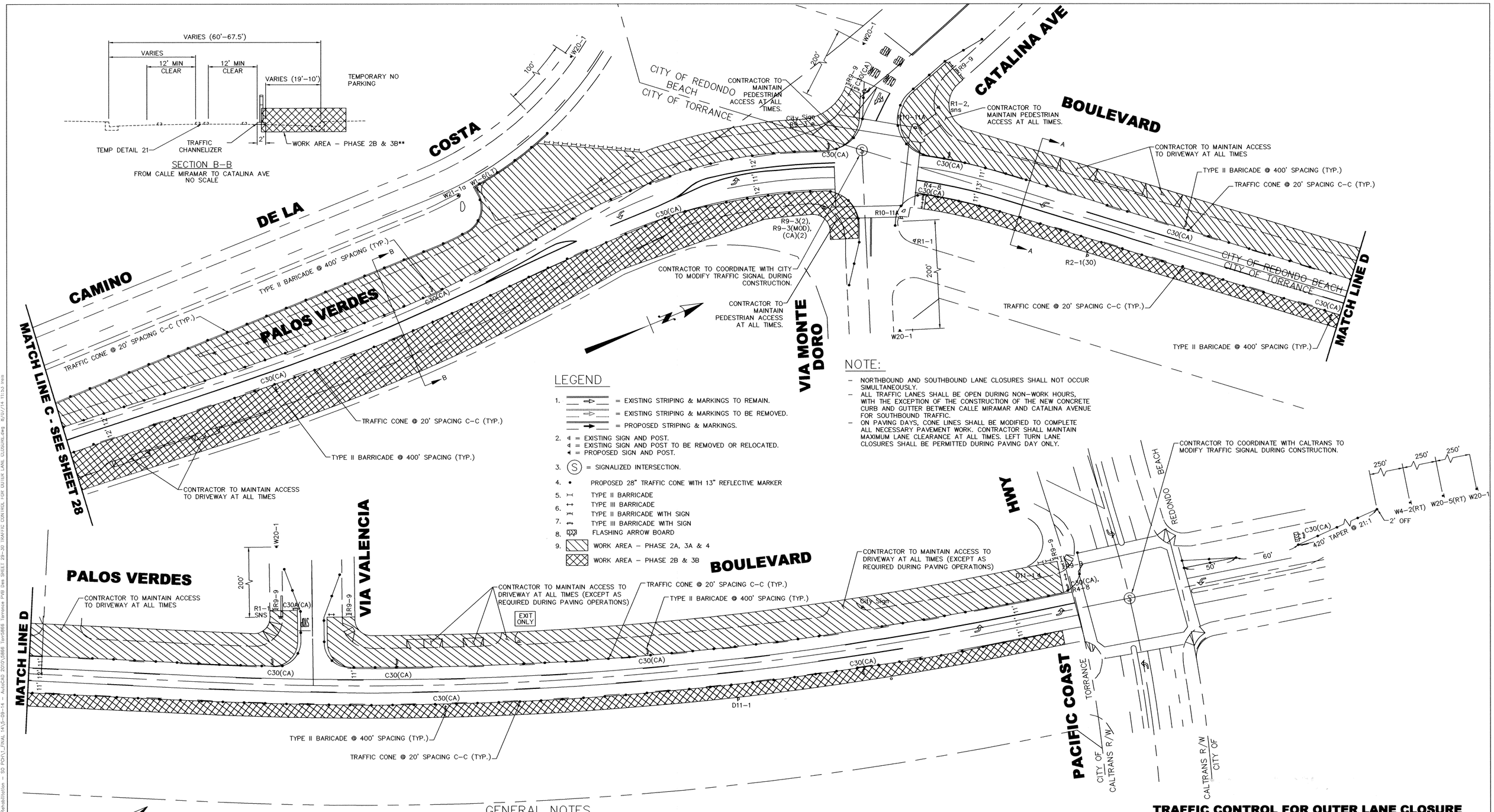
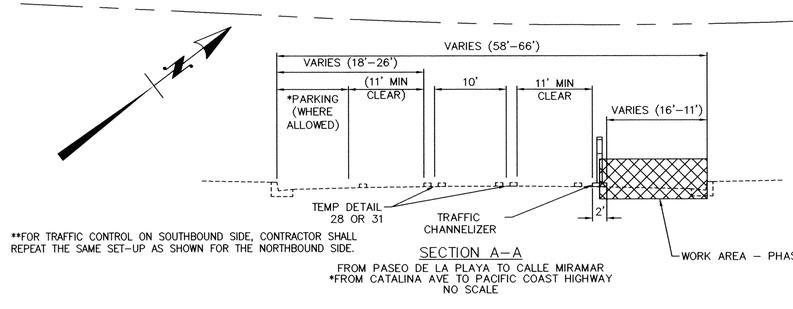


LEGEND

1. = EXISTING STRIPING & MARKINGS TO REMAIN.
   = EXISTING STRIPING & MARKINGS TO BE REMOVED.
   = PROPOSED STRIPING & MARKINGS.
2. = EXISTING SIGN AND POST.
   = EXISTING SIGN AND POST TO BE REMOVED OR RELOCATED.
   = PROPOSED SIGN AND POST.
3. (S) = SIGNALIZED INTERSECTION.
4. • PROPOSED 28" TRAFFIC CONE WITH 13" REFLECTIVE MARKER
5. TYPE II BARICADE
6. TYPE III BARICADE
7. TYPE II BARICADE WITH SIGN
8. TYPE III BARICADE WITH SIGN
9. FLASHING ARROW BOARD
10. WORK AREA – PHASE 2A, 3A & 4
    WORK AREA – PHASE 2B & 3B

NOTE:

- NORTHBOUND AND SOUTHBOUND LANE CLOSURES SHALL NOT OCCUR SIMULTANEOUSLY.
- ALL TRAFFIC LANES SHALL BE OPEN DURING NON–WORK HOURS, WITH THE EXCEPTION OF THE CONSTRUCTION OF THE NEW CONCRETE CURB AND GUTTER BETWEEN CALLE MIRAMAR AND CATALINA AVENUE FOR SOUTHBOUND TRAFFIC.
- ON PAVING DAYS, CONE LINES SHALL BE MODIFIED TO COMPLETE ALL NECESSARY PAVEMENT WORK. CONTRACTOR SHALL MAINTAIN MAXIMUM LANE CLEARANCE AT ALL TIMES. LEFT TURN LANE CLOSURES SHALL BE PERMITTED DURING PAVING DAY ONLY.



**FOR TRAFFIC CONTROL ON SOUTHBOUND SIDE, CONTRACTOR SHALL REPEAT THE SAME SET–UP AS SHOWN FOR THE NORTHBOUND SIDE.

GENERAL NOTES

1. FOR OTHER REQUIREMENTS RELATED TO TRAFFIC CONTROL PLANS AND WORK AREA MAINTENANCE, THE CONTRACTOR SHALL FOLLOW THE CALIFORNIA MUTCD (LATEST EDITION) AND ALL RELATED SECTIONS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, INCLUDING SECTION 7–10 "PUBLIC CONVENIENCE AND SAFETY," AND 302–4.4 "PUBLIC CONVENIENCE AND TRAFFIC CONTROL."
2. CONTRACTOR SHALL MAINTAIN ALL PEDESTRIAN & DRIVEWAY ACCESS AT ALL TIMES DURING CONSTRUCTION AND SHALL COORDINATE WITH RESIDENTS/BUSINESSES FOR ANY CLOSURE/LIMITED ACCESS TO THEIR DRIVEWAYS.
3. THE CONTRACTOR SHALL UTILIZE THESE BASE PLANS IN THE DEVELOPMENT OF SPECIFIC DAILY CONSTRUCTION AREA PLANS. WORK SHALL BE PHASED PER SIDE OF STREET AND BLOCK AS WORK PROGRESSES. PLANS SHALL BE ADJUSTED AS NECESSARY FOR TRAFFIC SAFETY REQUIREMENTS.
4. ALL CONFLICTING STRIPES, PAVEMENT MARKERS AND LEGENDS SHALL BE COMPLETELY BLACKED OUT PRIOR TO ANY CHANGE IN THE TRAFFIC PATTERN.

40' 20' 0 20' 40'
1"=40' GRAPHIC SCALE

TRAFFIC CONTROL FOR OUTER LANE CLOSURE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
PLANNING & ENGINEERING
1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705

REGISTERED PROFESSIONAL ENGINEER FRANCISCO D. BONAVIZZA No. 065061 CIVIL STATE OF CALIFORNIA

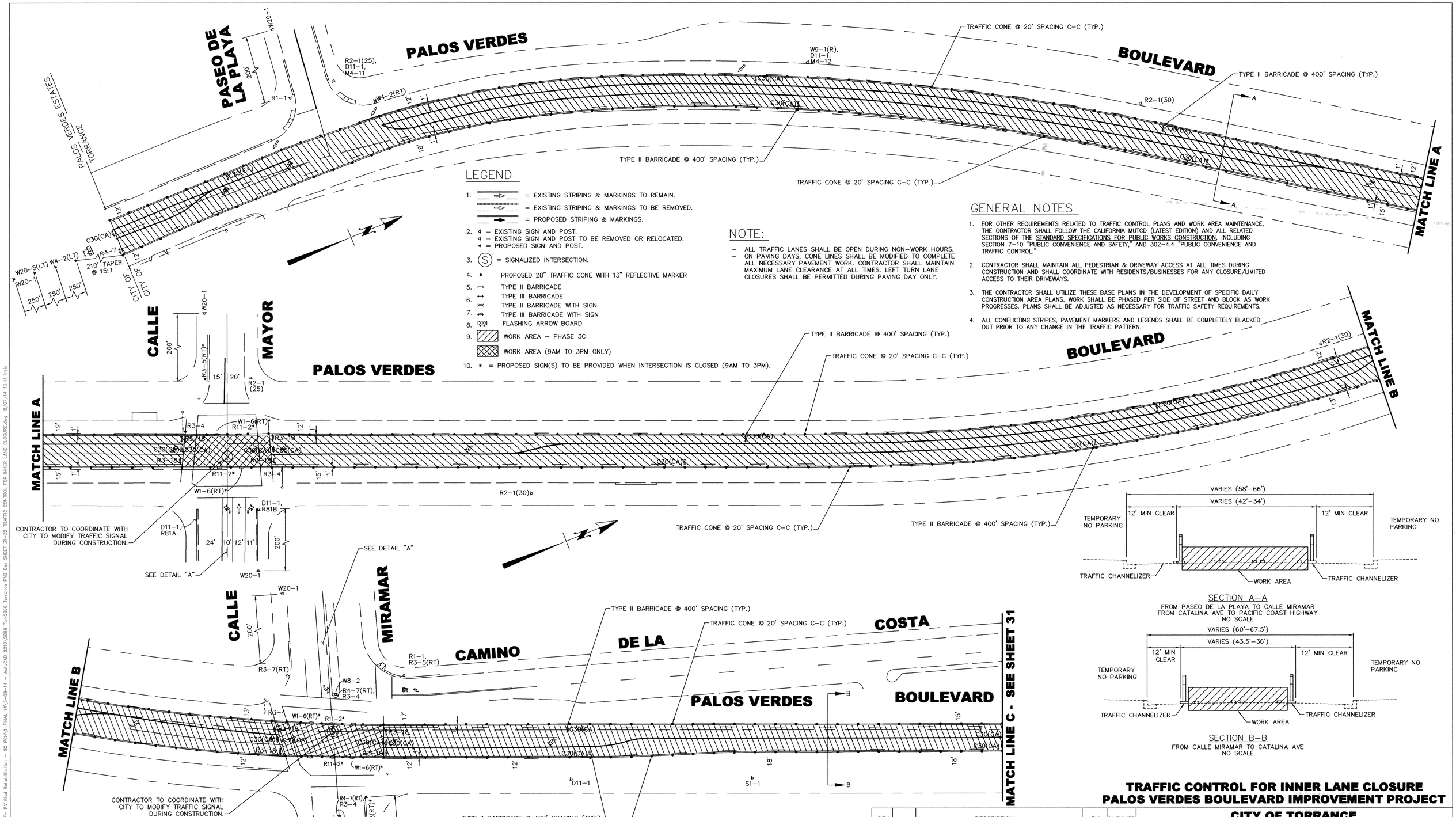
CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: SB
DESIGNED: SB
PROJECT ENGINEER: CS
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN
CITY ENGINEER
R.C.E. NO. 55339
DATE EXP. 12/31/2014

SCALE: AS SHOWN
SHEET 30 OF 37
PLAN NO. ST–1055

X:\ENG\CIP_Paros Verdes Blvd REHAB, 121\10-PLANS PDF- PV Blvd Rehabilitation - SD PGN\1_FINAL 14\5-09-14 - AutoCAD 2010\5866 Torrance PVB Des SHEET 29-30 TRAFFIC CONTROL FOR OUTER LANE CLOSURE.dwg 8/07/14 11:52 PMPB



LEGEND

1. = EXISTING STRIPING & MARKINGS TO REMAIN.
   = EXISTING STRIPING & MARKINGS TO BE REMOVED.
   = PROPOSED STRIPING & MARKINGS.
2. = EXISTING SIGN AND POST.
   = EXISTING SIGN AND POST TO BE REMOVED OR RELOCATED.
   = PROPOSED SIGN AND POST.
3. (S) = SIGNALIZED INTERSECTION.
4. • PROPOSED 28" TRAFFIC CONE WITH 13" REFLECTIVE MARKER
5. TYPE II BARRICADE
6. TYPE III BARRICADE
7. TYPE II BARRICADE WITH SIGN
8. TYPE III BARRICADE WITH SIGN
9. FLASHING ARROW BOARD
10. WORK AREA – PHASE 3C
    WORK AREA (9AM TO 3PM ONLY)
11. * = PROPOSED SIGN(S) TO BE PROVIDED WHEN INTERSECTION IS CLOSED (9AM TO 3PM).

NOTE:

- ALL TRAFFIC LANES SHALL BE OPEN DURING NON-WORK HOURS.
- ON PAVING DAYS, CONE LINES SHALL BE MODIFIED TO COMPLETE ALL NECESSARY PAVEMENT WORK. CONTRACTOR SHALL MAINTAIN MAXIMUM LANE CLEARANCE AT ALL TIMES. LEFT TURN LANE CLOSURES SHALL BE PERMITTED DURING PAVING DAY ONLY.

GENERAL NOTES

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TRAFFIC CONTROL FOR INNER LANE CLOSURE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 8/20/13

KOA CORPORATION
PLANNING & ENGINEERING
1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705

REGISTERED PROFESSIONAL ENGINEER FRANCISCO D. BENAVIDEZ No. C65061 CIVIL STATE OF CALIFORNIA

CITY OF PALOS VERDES ESTATES
APPROVED: _____ DATE _____

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: SB
DESIGNED: SB
PROJECT ENGINEER: CS
PROJECT MANAGER: ELIZABETH ~~LEA REIS~~ OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN
CITY ENGINEER
R.C.E. NO. 55339
DATE EXP. 12/31/2014

SCALE: AS SHOWN | SHEET 31 OF 37
PLAN NO. ST-1055

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GENERAL NOTES

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TRAFFIC CONTROL FOR INNER LANE CLOSURE
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
PLANNING & ENGINEERING
1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705

REGISTERED PROFESSIONAL ENGINEER FRANCISCO D. BENAVIDEZ No. C65061 CIVIL STATE OF CALIFORNIA

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: SB
DESIGNED: SB
PROJECT ENGINEER: CS
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. 55339 EXP. 12/31/2014

SCALE: AS SHOWN SHEET 32 OF 37

PLAN NO. ST–1055

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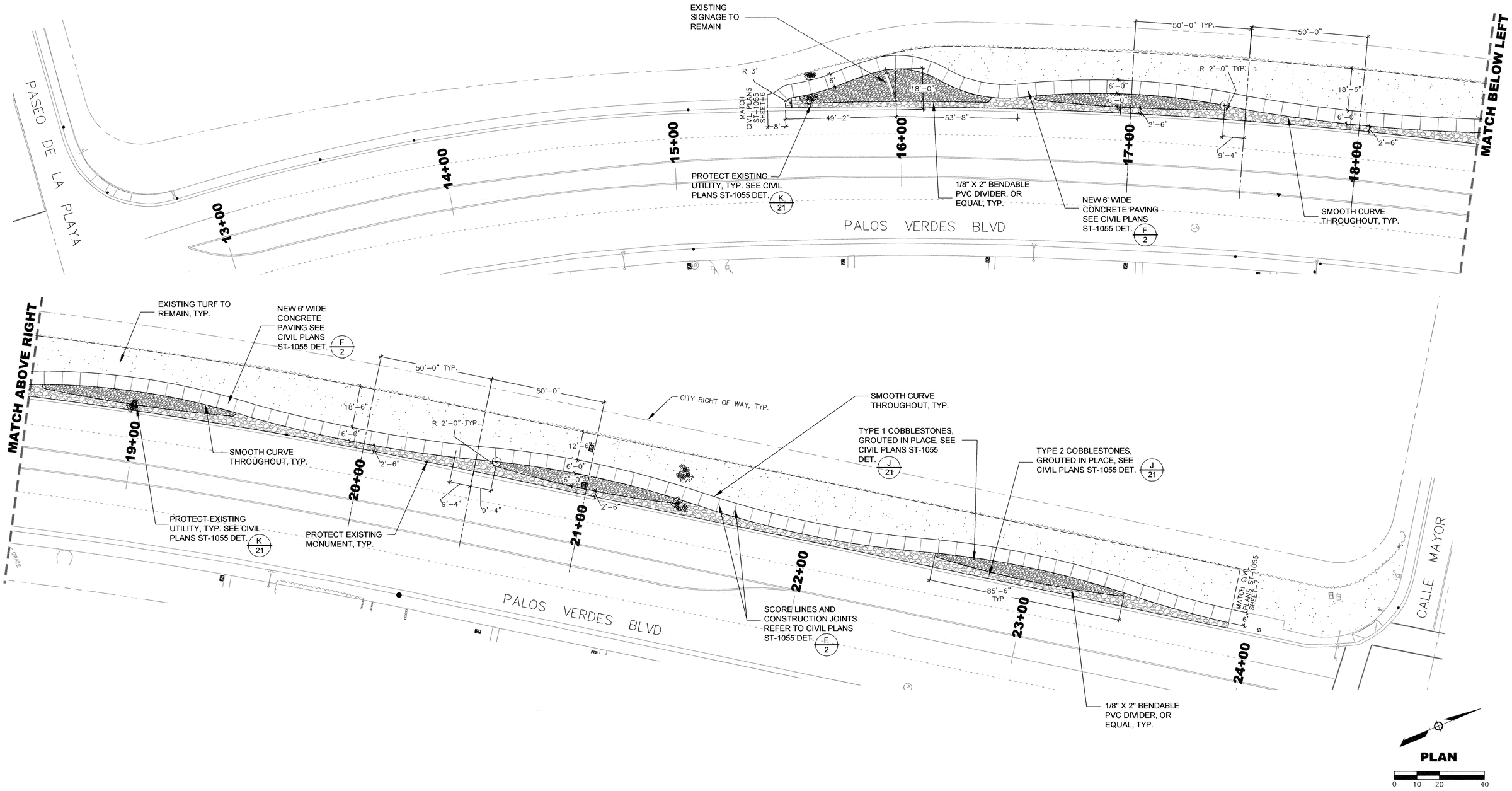


HARDSCAPE CONTRUCTION PLAN
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
Fax: (310) 329-1021

REGISTERED PROFESSIONAL ENGINEER CHRISTINE KOBAYASHI No. 75866 EXP.6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK

DESIGNED: CK

PROJECT ENGINEER: CS/ CK

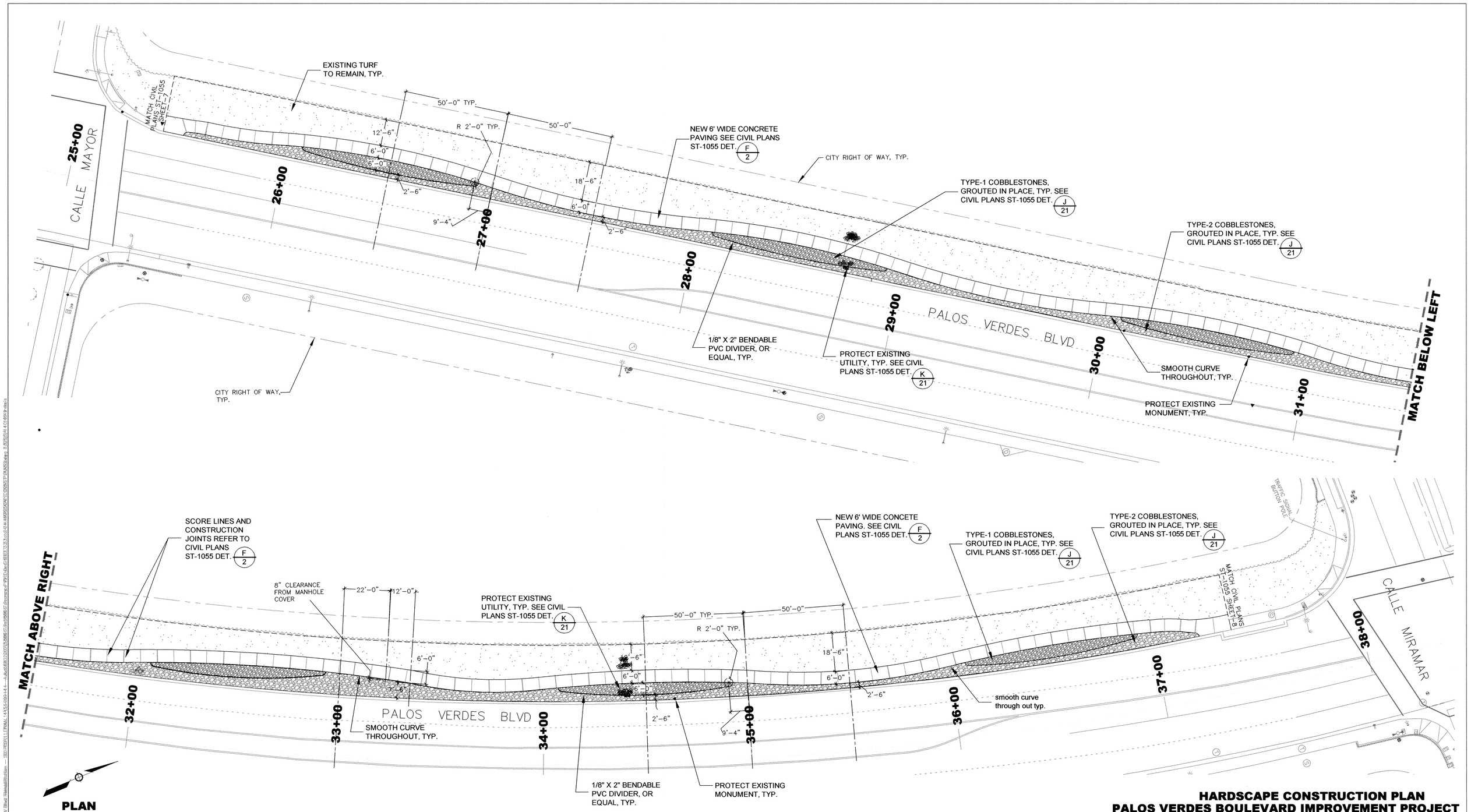
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14

CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 33 OF 37

PLAN NO. **LS-73**



HARDSCAPE CONSTRUCTION PLAN
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
Fax: (310) 329-1021

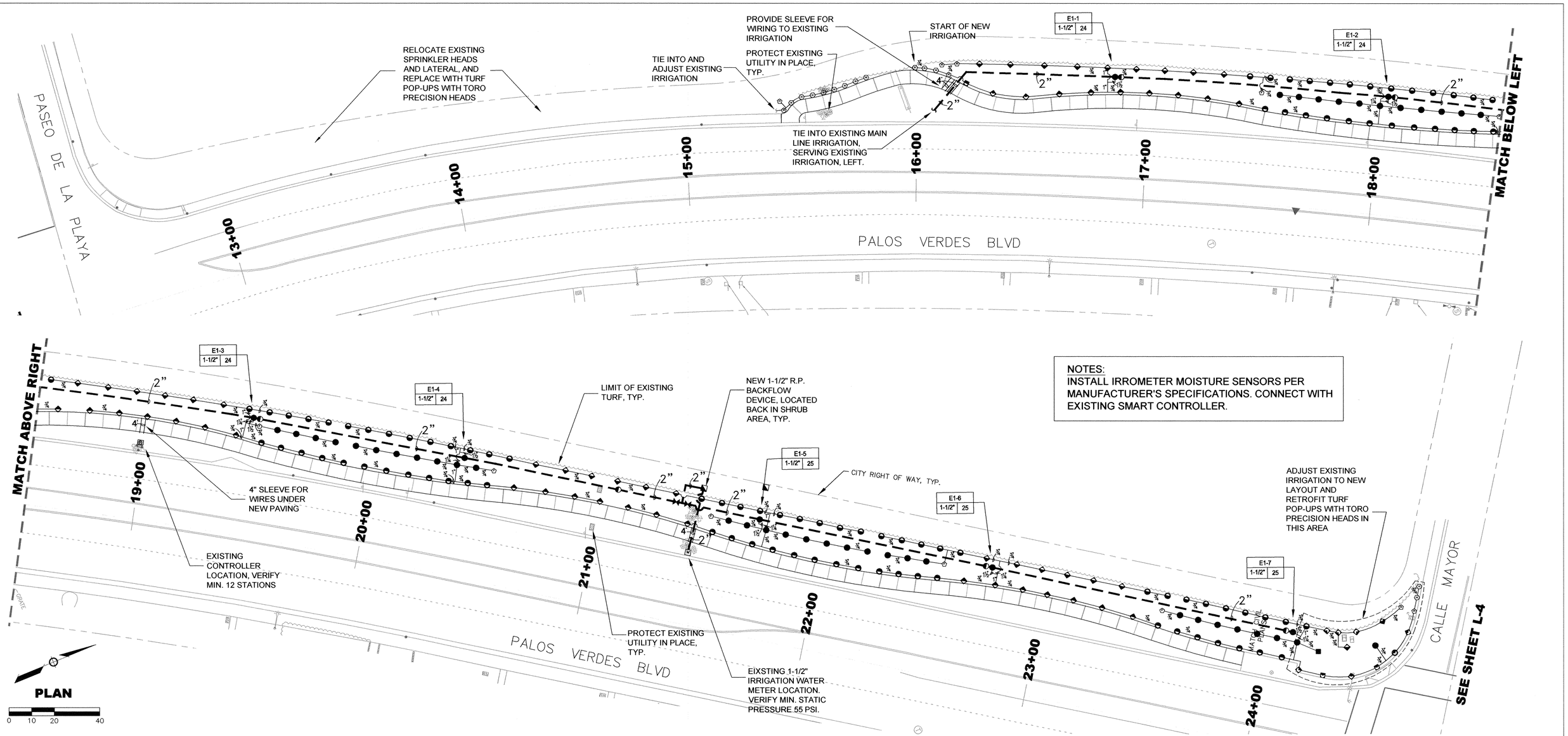
REGISTERED PROFESSIONAL ENGINEER CHRISTINE KASKAKA No. 75585 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 34 OF 37
PLAN NO. LS-73



NOTES:
INSTALL IRROMETER MOISTURE SENSORS PER MANUFACTURER'S SPECIFICATIONS. CONNECT WITH EXISTING SMART CONTROLLER.

IRRIGATION LEGEND

SYMBOLS	MANUFACTURER	ITEM	GPM	PATTERN	R	PSI	P.R.
	RAINBIRD # 1806-SAM W/ TORO O--15 NOZ	6" POP UP	.58 .77 1.16 2.31	90 VAN 180 360	15'	30	1.10
	RAINBIRD # 1806-SAM W/ TORO O--12 NOZ	6" POP UP	.37 .49 .74 1.48	90 VAN 180 360	12'	30	1.10
	RAINBIRD # 1806-SAM W/ TORO O--10 NOZ	6" POP UP	.23 .34 .51 1.03	90 VAN 180 360	10'	30	1.10
	RAINBIRD # 1806-SAM W/ TORO O--8 NOZ	6" POP UP	.17 .22 .33 .66	90 VAN 180 360	8'	30	1.10
	RAINBIRD # 1806-SAM W/ TORO O--5 NOZ	6" POP UP	.06 .09 .13 .26	90 VAN 180 360	5'	30	1.10

E2-1 / 1-1/2" 37	CONTROLLER AND STATION NUMBER	
	VALVE SIZE / GPM FLOW	
	RAINBIRD #PEB	REMOTE CONTROL VALVE
	RAINBIRD #44-LRC	QUICK COUPLER - 1" SIZE
	NIBCO # T-113	GATE VALVE - LINE SIZE
	FEBCO # 825 YA	REDUCED PRESSURE BACKFLOW PREVENTER
	EXISTING WATER METER	SEE CIVIL ENGINEERING DWG'S
	EXISTING CONTROLLERS	SEE CIVIL ENGINEERING DWG'S
	PVC CLASS 315	IRRIGATION MAIN LINE - 2" SIZE
	PVC SCHEDULE 40	SPRINKLER LATERAL
	PVC SCHEDULE 40	WIRE SLEEVE, PIPE SLEEVE - 4" SIZE

NOTE: CONTRACTOR SHALL USE THE CLOSEST ARC TO FIT SITUATION. REFER TO MANUFACTURERS LITERATURE.

PRESSURE LOSS CALCULATIONS.

PALOS VERDES BLVD 1 — MIN. STATIC PRESSURE: 55 PSI
PASEO PLAYA & CALLE MAYOR — MAX. GPM DEMAND: 24 GPM

UNITS	SIZE	TYPE	DESCRIPTION	GPM	PSI LOSS
1	1-1/2"	COMP.	WATER METER	24.0	1.20
1	1-1/2"	REDUCED	PRESS BACKFLOW	24.0	8.70
1	1-1/2"	PLASTIC	CONTROL VALVE	24.0	1.50
506'	2"	CL. 315	MAIN LINE	24.0	2.51
		SCH 40	LATERAL LINES		4.79
		FITTINGS	ALLOWANCE		1.46

COMPONENT LOSSES: 20.16
MIN. REQ'R BY HEAD: 30.00
0' ELEVATION GAIN: 0.00
STATION : E1-1 — TOTAL PRESSURE REQ'R: 50.16
FARTEST LARGEST SYSTEM — RESIDUAL PRESSURE: 4.84

IRRIGATION PLAN
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
Fax: (310) 329-1021

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER M. CRAGIN — No. 75586 — EXP. 6-30-14 — CIVIL ENGINEER — STATE OF CALIFORNIA

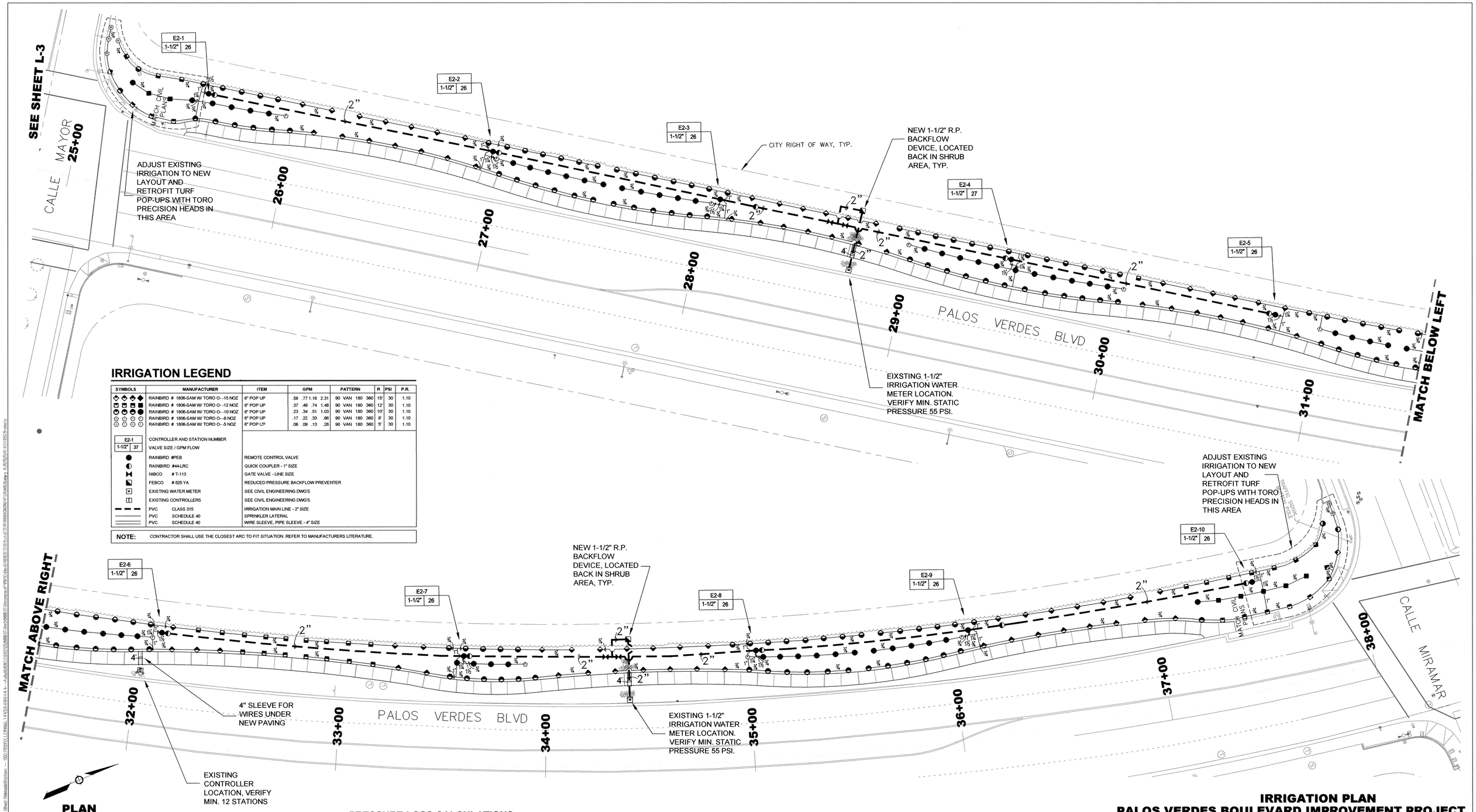
CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN — DATE
CITY ENGINEER
R.C.E. NO. — EXP.

SCALE: AS SHOWN — SHEET 35 OF 37
PLAN NO. **LS-73**



IRRIGATION LEGEND

SYMBOLS	MANUFACTURER	ITEM	GPM	PATTERN	R	PSI	P.R.
	RAINBIRD # 1806-SAM W/ TORO O-..-15 NOZ	6" POP UP	.58 .77 1.16 2.31	90 VAN 180 360	15'	30	1.10
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	RAINBIRD # 1806-SAM W/ TORO O-..-8 NOZ	6" POP UP	.17 .22 .33 .66	90 VAN 180 360	8'	30	1.10
	RAINBIRD # 1806-SAM W/ TORO O-..-5 NOZ	6" POP UP	.06 .09 .13 .26	90 VAN 180 360	5'	30	1.10

E2-1 / 1-1/2" 37	CONTROLLER AND STATION NUMBER / VALVE SIZE / GPM FLOW
●	RAINBIRD #PEB — REMOTE CONTROL VALVE
◐	RAINBIRD #44-LRC — QUICK COUPLER - 1" SIZE
⋈	NIBCO # T-113 — GATE VALVE - LINE SIZE
◪	FEBCO # 825 YA — REDUCED PRESSURE BACKFLOW PREVENTER
W	EXISTING WATER METER — SEE CIVIL ENGINEERING DWG'S
E	EXISTING CONTROLLERS — SEE CIVIL ENGINEERING DWG'S
PVC CLASS 315	IRRIGATION MAIN LINE - 2" SIZE
PVC SCHEDULE 40	SPRINKLER LATERAL
PVC SCHEDULE 40	WIRE SLEEVE, PIPE SLEEVE - 4" SIZE

NOTE: CONTRACTOR SHALL USE THE CLOSEST ARC TO FIT SITUATION. REFER TO MANUFACTURERS LITERATURE.

PLAN

0 10 20 40

PRESSURE LOSS CALCULATIONS

PALOS VERDES BLVD 2 — MIN. STATIC PRESSURE: 55 PSI
CALLE MAYOR & CALLE MIRAMAR — MAX. GPM DEMAND: 26 GPM

UNITS	SIZE	TYPE	DESCRIPTION	GPM	PSI LOSS
1	1-1/2"	COMP.	WATER METER	26.0	1.40
1	1-1/2"	REDUCED	PRESS BACKFLOW	26.0	8.70
1	1-1/2"	PLASTIC	CONTROL VALVE	26.0	1.50
355'	2"	CL. 315	MAIN LINE	26.0	2.05
		SCH 40	LATERAL LINES		4.55
		FITTINGS	ALLOWANCE		1.32

COMPONENT LOSSES: 19.52
MIN. REQ'R BY HEAD: 30.00
0' ELEVATION GAIN: 0.00
STATION : E2-1 — TOTAL PRESSURE REQ'R: 49.52
FARTEST LARGEST SYSTEM — RESIDUAL PRESSURE: 5.48

IRRIGATION PLAN
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
Fax: (310) 329-1021

REGISTERED PROFESSIONAL ENGINEER CHRISTINE ROSPAW No. 76595 EXP. 6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN — DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN — SHEET 36 OF 37
PLAN NO. **LS-73**

IRRIGATION INSTALLATION NOTES.

CODES:
INSTALL ALL MATERIALS TO COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES, AS SPECIFIED IN LEGEND AND AS SHOWN ON DETAILS.

DIMENSIONS:
THE IRRIGATION SYSTEM IS DIAGRAMMATIC. ALL VALVES, PIPING, ETC. SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHENEVER POSSIBLE.

PRESSURE:
NOTIFY CITY REPRESENTATIVE IMMEDIATELY IF STATIC PRESSURE IS LESS THAN SHOWN ON THE DRAWINGS, NOTIFY CITY PRIOR TO START OF CONSTRUCTION.

PRESSURE TEST:
TEST ALL MAIN LINES IN THE PRESENCE OF THE INSPECTOR UNDER A STATIC PRESSURE OF 150 PSI AND PROVE WATERTIGHT. CONTRACTOR SHALL PROVIDE THE NECESSARY FORCE PUMP AND PRESSURE GAUGES.
MAINTAIN PRESSURE FOR A PERIOD 3 HOURS WITH NO DROP OF PRESSURE DURING THIS TIME. ANY LEAKS FOUND DURING THE TEST PERIOD SHALL BE REPAIRED BY REPLACING OR TIGHTENING OF THE DEFECTIVE CONNECTION.

SITE DISCREPANCIES:
IF IT IS OBVIOUS IN THE FIELD THAT THERE WERE UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES, OR OTHER ITEMS WHICH WOULD HINDER THE INSTALLATION OR OPERATION OF THE SYSTEM DESIGNED, UNTIL SUCH CONDITIONS ARE BROUGHT TO THE ATTENTION OF THE OWNER, THE CONTRACTOR SHALL NOT INSTALL THE SYSTEM AS DESIGNED.

CONTROLLERS AND BACKFLOW DEVICES:
VERIFY FINAL LOCATION WITH CITY REPRESENTATIVE.

TRENCHING:
INSTALL BURIED LATERALS 12" BELOW GRADE ON SLOPE AND FLAT AREAS. (18" BELOW FOR ROTOR HEADS). INSTALL MAIN LINES 24" BELOW GRADE.

MAIN LINES UNDER PAVING AND CONTROL WIRE SLEEVING:
INSTALL ALL MAIN LINES UNDER PAVING IN SLEEVES WITH SAND BACKFILL. INSTALL WIRE SLEEVES IN SAME TRENCH WITH 6" CLEARANCE FROM MAIN LINE.

ELECTRICAL:
ALL CONNECTIONS SHALL BE PER LOCAL CODES AND ORDINANCES. UNLESS OTHERWISE INDICATED ON DRAWINGS, LINE VOLTAGE SHALL BE PROVIDED TO THE CONTROLLER LOCATION BY THE GENERAL CONTRACTOR. IRRIGATION CONTRACTOR TO MAKE FINAL HOOK UP AND INSTALLATION OF ALL REQUIRED EQUIPMENT.

CONTROL WIRING:
INSTALL # 14 UF DIRECT-BURIAL IRRIGATION WIRE. INSTALL BLACK PILOT WIRES AND WHITE COMMON WIRE. USE EPOXY TYPE CONNECTORS. FORM EXPANSION COILS EVERY 100 FEET AND AT EACH CHANGE OF DIRECTION. MARK CONTROL WIRES WITH VINYL TAG IN VALVE BOX, INDICATING THE CONTROLLER STATION NUMBER.

VALVE BOXES:
INSTALL VALVE BOXES PER DETAILS WITH STATION NUMBERS STENCILED ON LID WITH LETTERS 2 INCHES HIGH.

SPRINKLER PRESSURE:
ADJUST PRESSURE AT THE CONTROL VALVES TO PROVIDE THE REQUIRED PRESSURE INDICTED IN THE LEGEND .

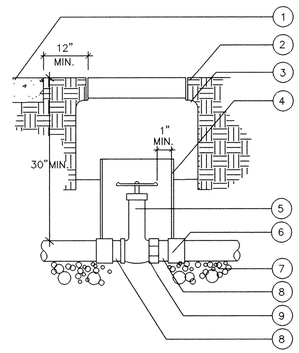
COVERAGE:
ADJUST ALL SPRINKLERS TO PROVIDE COVERAGE WITH MINIMAL OVERSPRAY ONTO PAVED AREAS. PERFORM COVERAGE TEST UPON COMPLETION IN PRESENCE OF THE INSPECTOR.

EXTRA:
CONTRACTOR SHALL DELIVER TO THE OWNER UPON COMPLETION THE EXTRA EQUIPMENT AS FOLLOWS:
* ONE LOCK WITH TWO KEYS FOR EACH CONTROLLER ENCLOSURE.
* TWO OF EACH TYPE OF SPRINKLER HEADS AND NOZZLES USED ON THE SITE.
* THREE EACH QUICK COUPLERS WITH ATTACHED HOSE SWIVELS.

AS-BUILT DRAWINGS:
CONTRACTOR SHALL PROVIDE "AS-BUILT" MYLARS TO THE OWNER UPON COMPLETION OF THE PROJECT. SHOWING LOCATIONS OF CONTROLLERS, REMOTE CONTROL VALVES. GATE AND QUICK COUPLER VALVES, MAINLINE AND CONTROL WIRE LOCATION. ALL DIMENSIONS GIVEN SHALL BE FROM TWO PERMANENT POINTS OF REFERENCE.

CONTROLLER CHARTS:
PROVIDE ONE CHART FOR EACH CONTROLLER SHOWING THE AREA COVERED BY EACH CONTROLLER. SIZE THE CHART AS BIG AS THE CONTROLLER DOOR WILL ALLOW. EACH CHART SHALL BE A REDUCED DRAWING OF THE "AS-BUILT" SYSTEM, CLEARLY LEGIBLE AT THE REDUCTION CHOSEN. CHART SHALL BE A BLACK LINE PRINT WITH DIFFERENT COLOR USED TO SHOW THE COVERAGE OF EACH STATION. AFTER APPROVAL BY THE OWNER , CHARTS SHALL BE HERMETICALLY SEALED BETWEEN TWO SHEETS OF PLASTIC 10 MILS THICK.

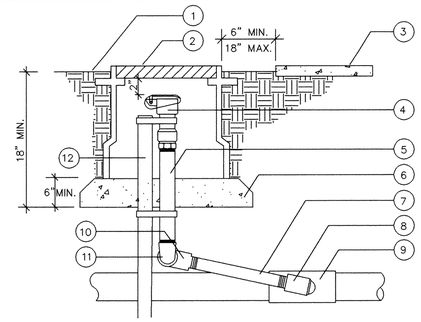
GUARANTEE:
CONTRACTOR SHALL GUARANTEE THE ENTIRE SPRINKLER SYSTEM FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE AGAINST DEFECTIVE MATERIAL AND WORKMANSHIP. REPAIR ANY DEFECTS AT NO COST TO THE OWNER



1. CURB, SIDEWALK, ETC.
2. FINISH GRADE
3. ROUND PLASTIC VALVE BOX W/ LOCKING TOP (LABELED GATE VALVE)
4. PLASTIC PIPE SLEEVE (MIN. 4" DIA.)
5. GATE VALVE (REFER TO LEGEND)
6. SxT MAINLINE FITTING (TYP.)
7. 2 C.F. PEA GRAVEL SUMP
8. SCH. 80 PVC NIPPLE
9. SCH. 80 PVC UNION (MAY BE A PART OF VALVE)

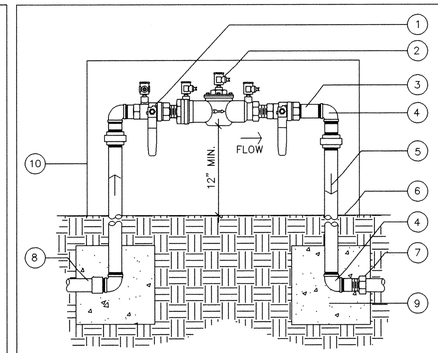
NOTE: ALL VALVES TO BE INSTALLED IN SHRUB AREAS.

GATE VALVE



1. FINISH GRADE
2. ROUND PLASTIC VALVE BOX & COVER
3. STRUCTURE OR HARDSCAPE WHERE OCCURS
4. QUICK COUPLING VALVE. SET 1" BELOW GRADE IN LAWN AREA, OR 2" BELOW FINISH GRADE IN PLANTING AREA
5. BRASS NIPPLE 8" LONG
6. 3/4" WASHED CRUSHED AGGREGATE BASE
7. BRASS NIPPLE 6" LONG
8. BRASS 90 STREET ELL FITTING
9. PRESSURE SUPPLY LINE
10. BRASS 90 STREET ELL
12. 24" LONG GALV. IRON STAKE WITH (2) STAINLESS STEEL CLAMPS.

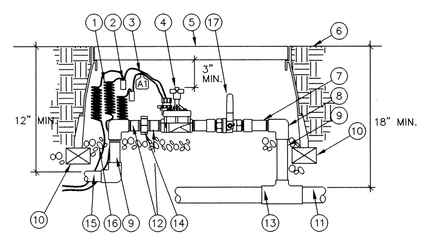
QUICK COUPLING VALVE



1. BRONZE STRAINER W/ CLEAN-OUT VALVE
2. PREVENTER UNIT
3. BRASS UNION
4. BRASS 90 ELL (TYP.)
5. FLOW DIRECTION
6. FINISH GRADE
7. SCH. 80 PVC MALE ADAPTER (TO SPRINKLERS)
8. TO POINT OF CONNECTION – ADAPT AS REQUIRED
9. 1 CU. FT. CONCRETE THRUST BLOCK (TYP.)
10. STAINLESS STEEL ENCLOSURE

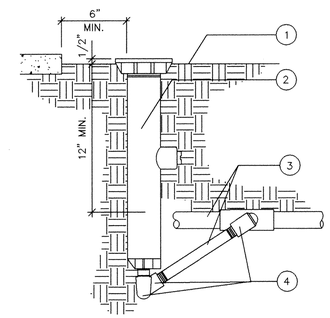
NOTES:
- LOCATE IN SBBC-30SS ENCLOSURE BY STRONGBOX.
- MAINTAIN MIN. 12" CLEARANCE ON ALL SIDES FROM BUILDINGS, WALLS, ETC.

BACKFLOW PREVENTER



1. 30" MIN. COIL OF WIRE
2. WATERPROOF CONNECTION (TYP.) DRY SPLICE
3. ID TAG
4. REMOTE CONTROL VALVE
5. RECTANGULAR VALVE BOX WITH LOCKING COVER.
6. FINISH GRADE
7. PVC SCH 80 NIPPLE
8. PVC SCH 80 ELL
9. PVC SCH 80 (LENGTH AS REQUIRED)
10. BRICK (1 OF 4)
11. PVC MAINLINE PIPE
12. SCH 80 NIPPLE (3" LENGTH)
13. PVC SCH 80 TEE OR ELL
14. PVC SCH 80 PVC UNION
15. PVC LATERAL PIPE
16. 1 C.F. PEA GRAVEL SUMP
17. BALL VALVE, MOUNTED SIDEWAYS.

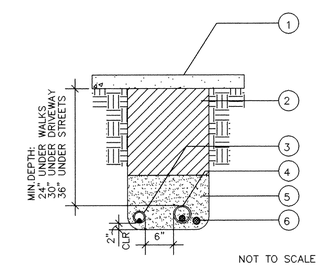
REMOTE CONTROL VALVE



1. FINISH GRADE
2. POP-UP SPRAY HEAD WITH ANTI-DRAIN VALVE. SET TOP OF HEAD 1/2" ABOVE GRADE
3. PVC LATERAL LINE PIPE AND

   PVC LATERAL LINE PIPE AND FITTING
4. RAINBIRD SP-100 SWING JOINT

POP-UP SPRINKLER



NOT TO SCALE

1. HARDSCAPE SURFACE
2. CLEAN BACKFILL AS REQUIRED. TO BE SET IN 6" LIFTS. REFER TO SPECIFICATIONS FOR SPECIFIC MATERIAL AND COMPACTION REQUIREMENTS.
3. LATERAL LINE WITH SLEEVE.
4. PRESSURE MAIN LINE WITH SLEEVE.
5. CLEAN SAND.
6. CONTROL WIRES & COMPUTER HARDWARE WIRE SLEEVE.

NOTES:
- ALL SLEEVES TO BE PVC. SCH. 80 AND TWICE THE DIAMETER OF THE WORKING PIPE.
- ALL SLEEVES TO RUN A MIN. OF 12" BEYOND HARDSCAPE EDGES.
- CLEAN BACKFILL MAY BE SUBSTITUTED FOR SAND UNDER WALKS AND DRIVES.

SLEEVING

IRRIGATION DETAILS & NOTES
PALOS VERDES BOULEVARD IMPROVEMENT PROJECT

REV.	DATE	DESCRIPTION	BY	CHECKED

CITY OF TORRANCE
PUBLIC WORKS DEPARTMENT

PLANS PREPARED BY: 5/13/14

KOA CORPORATION
1411 W. 190TH ST., SUITE 525
Gardena, CA 90248
Tel: (310) 329-0102
Fax: (310) 329-1021

REGISTERED PROFESSIONAL ENGINEER CHRISTINE ROBERTA No. 75585 EXP.6-30-14 CIVIL ENGINEER STATE OF CALIFORNIA

CBM PROJ# 5866

DRAWN: CK
DESIGNED: CK
PROJECT ENGINEER: CS/ CK
PROJECT MANAGER: ELIZABETH OVERSTREET, P.E.

APPROVED: 8/7/14
CRAIG BILEZERIAN DATE
CITY ENGINEER
R.C.E. NO. EXP.

SCALE: AS SHOWN SHEET 37 OF 37
PLAN NO. **LS-73**