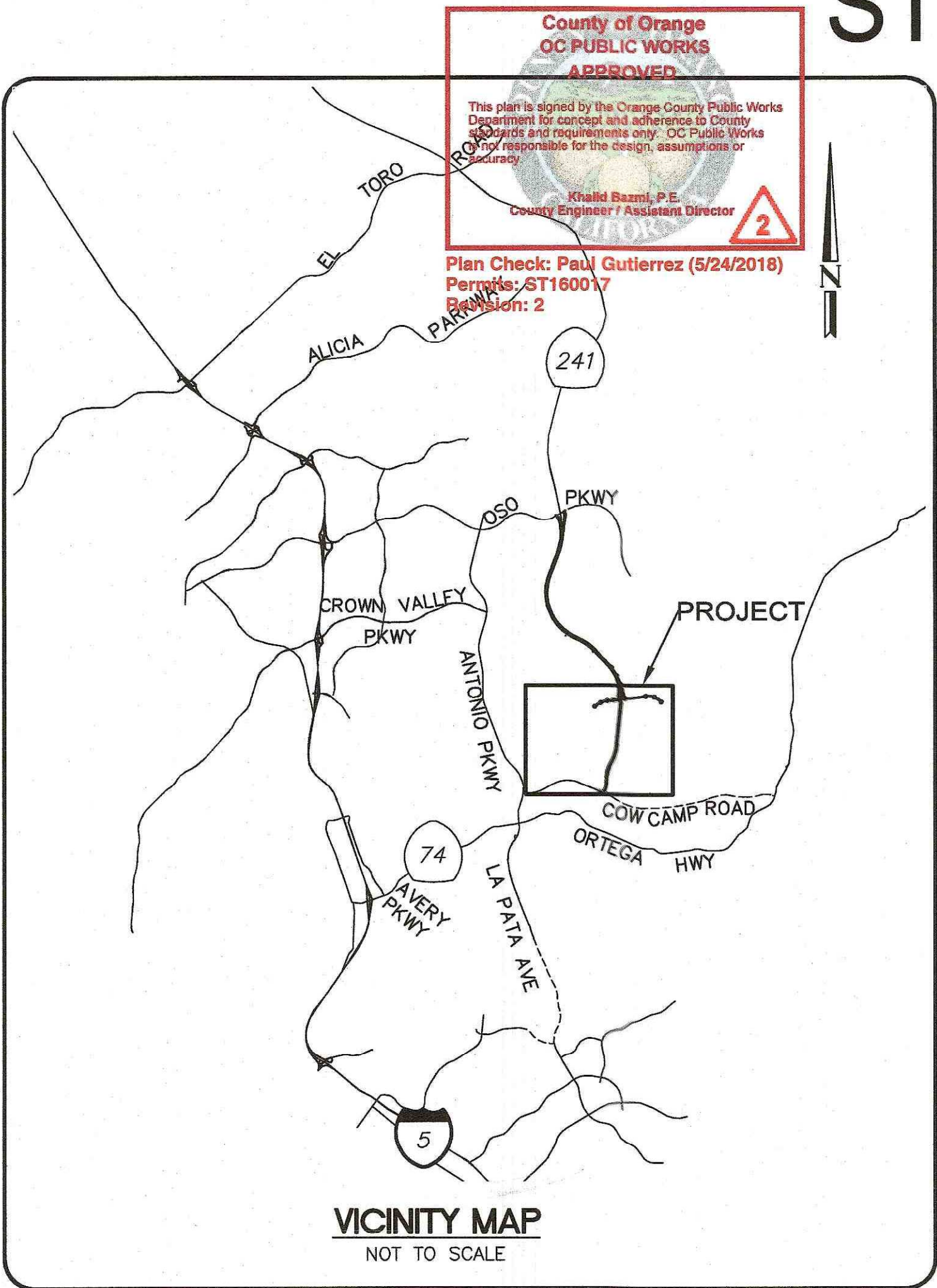


STREET AND STORM DRAIN IMPROVEMENT PLANS

LOS PATRONES PARKWAY

FROM CHIQUITA CANYON DRIVE TO COW CAMP ROAD

STAGE 2



DEVIATIONS FROM COUNTY OF ORANGE STANDARDS

DEVIATIONS FROM THE FOLLOWING COUNTY OF ORANGE / OC PUBLIC WORKS (OCPW) STANDARDS ARE APPROVED:

- OCHDM TOPIC 203.2(1) 1,400 FT MINIMUM RADIUS, TO ALLOW THE FOLLOWING MINIMUM RADII WITH SUPERELEVATION:
 - R=625 FT, NORTHBOUND LANES STA 255+35.98 TO STA 258+66.77
 - R=1100 FT, SOUTHBOUND LANES STA 249+90.38 TO STA 255+62.40
- OCHDM TOPIC 202.2 6% MAXIMUM SUPERELEVATION, TO ALLOW THE FOLLOWING MAXIMUM SUPERELEVATION RATES:
 - 11% MAXIMUM, NORTHBOUND LANES STA 256+25.98 TO STA 257+76.77
 - 8% MAXIMUM, SOUTHBOUND OFF RAMP AT CHIQUITA CANYON DRIVE FROM STA 92+26.04 TO STA 94+80.34
- OCPW SP 1108 AND OCHDM TOPIC 301.1, RURAL SECONDARY HIGHWAY TYPICAL SECTION, TO ALLOW A MEDIAN BARRIER OR OPEN MEDIAN, OPEN SWALES AND 10' WIDE MULTI-PURPOSE PATHWAY WITHIN THE RIGHT-OF-WAY.
- OCHDM CHAPTER 5.11.4.4, TO ALLOW MORE THAN TWO INLETS IN SERIES FOR THE STREET STORM DRAIN SYSTEM
- OCHDM TOPIC 302.2, 5% SHOULDER CROSS-SLOPE, TO ALLOW 2% CROSS-SLOPE
- OCHDM TOPIC 101.2, 50 MPH DESIGN SPEED FOR RURAL SECONDARY HIGHWAY, TO ALLOW 40MPH DESIGN SPEED
- PROJECT REPORT FOR "F" STREET FROM COW CAMP ROAD TO OSO PARKWAY DATED JANUARY 21, 2015, TO ALLOW A CABLE BARRIER ONLY ALONG OUTSIDE OF THE CURVE WHERE THE MULTI-PURPOSE PATHWAY IS LOCATED.
- PROJECT REPORT FOR "F" STREET FROM COW CAMP ROAD TO OSO PARKWAY DATED JANUARY 21, 2015, TO ALLOW STREET LIGHTING AT ONLY CHIQUITA CANYON DRIVE RAMPS AND OSO PARKWAY COUPLER.

APPROVED BY:

KHALID BAZMI, P.E.
COUNTY ENGINEER/ASSISTANT DIRECTOR
OC PUBLIC WORKS

DATE

ORANGE COUNTY PUBLIC WORKS

COUNTY OF ORANGE,

THIS PLAN IS SIGNED BY OC PUBLIC WORKS DEPARTMENT FOR CONCEPT AND ADHERENCE TO COUNTY STANDARDS AND REQUIREMENTS ONLY. OC PUBLIC WORKS DEPARTMENT IS NOT RESPONSIBLE FOR DESIGN ASSUMPTIONS OR ACCURACY.

RECOMMENDED BY:

JAMES TYLER, P.E.
MANAGER, OC INFRASTRUCTURE PROGRAMS/DEVELOPMENT
SUPPORT DIVISION OC PUBLIC WORKS

DATE

APPROVED BY:

KHALID BAZMI, P.E.
COUNTY ENGINEER/ASSISTANT DIRECTOR
OC PUBLIC WORKS

DATE

STREET IMPROVEMENT PLAN GENERAL NOTES

- THIS NOTE HEREIN INCORPORATES, BY REFERENCE, THOSE GENERAL NOTES NUMBERED 1 THROUGH 22 OF OC PUBLIC WORKS STANDARD PLAN 1801, LATEST EDITION.
- ALL WORK SHALL BE IN CONFORMANCE WITH THE LATEST EDITIONS OF BOTH THE COUNTY OF ORANGE, OC PUBLIC WORKS (OCPW) STANDARD PLANS AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AS PUBLISHED BY BNI BUILDING NEWS (GREENBOOK), EACH OF WHICH SHALL BE KEPT ON THE WORK SITE AT ALL TIMES.
- THE DEVELOPER SHALL TELEPHONE OC PUBLIC WORKS INSPECTION SERVICES AT (714) 245-4550 AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION WORK SUBJECT TO OC PUBLIC WORKS INSPECTION.
- OC PUBLIC WORKS ENCROACHMENT PERMIT REQUIRED. COUNTY APPROVED PLANS DO NOT RELIEVE THE CONTRACTOR/DEVELOPER FROM THE RESPONSIBILITY OF OBTAINING PUBLIC PROPERTY PERMITS, WHICH SHALL BE AVAILABLE ON THE JOB AT ALL TIMES WORK IS BEING ACCOMPLISHED IN THE PUBLIC RIGHT-OF-WAY.
- ALL CONCRETE CURB AND GUTTER FLOW LINES WITH LESS THAN 1% GRADE SHALL BE WATER TESTED PRIOR TO FINAL FINISHING INSURING PROPER DRAINAGE WITHOUT UNACCEPTABLE HIGH OR LOW SPOTS.
- ALL UTILITY TRENCH BACKFILL AND COMPACTION INSPECTION OUTSIDE THE LIMITS OF DEDICATED STREET RIGHT-OF-WAY SHALL BE UNDER A SEPARATE PERMIT AND INSPECTION FROM OC DEVELOPMENT SERVICES.
- ALL DAMAGED CONCRETE SIDEWALKS OR CURBS SHALL BE SAW CUT TO THE NEAREST TRANSVERSE SCORE MARK OR ADJUSTABLE CONTROL POINT OR WEAKENED PLANE JOINT, AND REPLACED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF OC PUBLIC WORKS STANDARD PLANS.
- DEVELOPER SHALL MAINTAIN ADJACENT STREETS IN NEAT, CLEAN, DUST-FREE AND SANITARY CONDITIONS AT ALL TIMES AND TO THE SATISFACTION OF THE COUNTY'S INSPECTOR. THE ADJACENT STREETS SHALL BE KEPT CLEAN OF DEBRIS, WITH DUST AND OTHER NUISANCE BEING CONTROLLED AT ALL TIMES. DEVELOPER SHALL BE RESPONSIBLE FOR ANY CLEAN UP ON ADJACENT STREETS AFFECTED BY HIS CONSTRUCTION. METHOD OF STREET CLEANING SHALL BE BY DRY SWEEPING OF ALL PAVED AREAS. NO STOCKPILING OF BUILDING MATERIALS WITHIN THE COUNTY RIGHT-OF-WAY WITHOUT PERMISSION OF THE COUNTY'S INSPECTOR.
- PRIOR TO FINAL ACCEPTANCE OF STREET IMPROVEMENTS, ALL STREET PAVEMENT, STRIPING AND STENCILING WITHIN THE PERMETER OF THE CONSTRUCTION PROJECT WILL BE RESTORED TO A "LIKE NEW" CONDITION, IN A MANNER MEETING THE APPROVAL OF THE OCPW INSPECTOR. PAINT FOR TRAFFIC STRIPING AND PAVEMENT MARKINGS USED ON PUBLIC ROADS SHALL CONFORM TO SECTION 134, "TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS" OF THE LATEST EDITION OF THE GREENBOOK WITH THE FOLLOWING EXCEPTION: DELETE THE LAST SENTENCE OF PARAGRAPH FIVE OF SUBSECTION 314-4.3.5, "APPLICATION," AND REPLACE WITH "IF THE PAINT IS APPLIED IN TWO COATS, THE FIRST COAT SHALL BE APPLIED AT LEAST SEVEN CALENDAR DAYS BEFORE THE SECOND COAT."
- ALL TRAFFIC MARKING AND STRIPING SHALL BE STENCILS THAT CONFORM TO THE LATEST APPROVED EDITIONS OF THE CA MUTCD AND THE CALTRANS STANDARD PLANS.
- TRAFFIC SHALL BE MAINTAINED AT ALL TIMES AND SHALL BE PROTECTED WITHIN ADEQUATE BARRICADES, LIGHTS, SIGNS AND WARNING DEVICES AS PER OCPW STD. PLAN 1801, NOTE 17, AND AS REQUIRED BY THE OCPW INSPECTOR.
- OC PUBLIC WORKS STANDARD PLANS SHALL TAKE PRECEDENCE OVER ANY CONFLICTS EXCEPT FOR STANDARD PLANS AFFECTING UTILITY COMPANIES, IF THEIR STANDARDS ARE MORE STRINGENT.
- ALL UTILITIES UNDER PAVED AREAS OF PRIVATE STREETS SHALL HAVE A MINIMUM 30" COVER. OCPW SHALL TEST ALL SOILS AND A COMPACTION CERTIFICATION SHALL BE OBTAINED FOR ALL UNDERGROUND UTILITIES PRIOR TO ANY PAVING.
- NO CONCENTRATED FLOWS ACROSS ASPHALT PAVEMENT.
- SURVEY MONUMENTS SHALL BE PRESERVED AND REFERENCED BEFORE CONSTRUCTION, AND REPLACED AFTER CONSTRUCTION PURSUANT TO SECTION 8771 OF THE BUSINESS AND PROFESSIONAL CODE AND OC PUBLIC WORKS STANDARD PLAN 1801, NOTE 12.
- PRIOR TO ORDERING ANY CONCRETE OR CONCRETE PRODUCTS FOR USE ON THIS PROJECT, SOIL SULFATE TESTS SHALL BE PERFORMED BY THE OC PUBLIC WORKS MATERIALS LABORATORY.
- CONCRETE ITEMS SHALL MEET THE REQUIREMENTS OF THE INTENT OF SECTION 201-1.1.3 "CONCRETE SPECIFIED BY SPECIAL EXPOSURE" OF THE GREENBOOK, LATEST APPROVED EDITION, UNLESS OTHERWISE APPROVED BY THE OC PUBLIC WORKS MATERIALS LABORATORY.
- SIDEWALK SHALL BE CLEAR OF ALL VERTICAL OBSTRUCTIONS PER OCPW STANDARD PLAN 1410.
- STRUCTURAL SECTION REQUIREMENTS FOR PRIVATE AND PUBLIC ROADS CREATED BY A TRACT MAP OR PARCEL MAP SHALL BE DETERMINED BY THE OCPW MATERIALS LAB AND OCPW STANDARD PLAN 1801, NOTE 10.
- WHERE BACKFILL IS TO BE PLACED UNDER A PREVIOUSLY PLACED CONDUIT OR UTILITY, SAND SLURRY BACKFILL WILL BE PROVIDED TO THE SATISFACTION OF THE OCPW INSPECTOR.

CALTRANS ENCROACHMENT PERMIT No.: 1215-NMC-0895

OCPW ENCROACHMENT PERMIT No.:

COUNTY APPROVED PLANS DO NOT RELIEVE CONTRACTOR/DEVELOPER FROM THE RESPONSIBILITY TO OBTAIN COUNTY PROPERTY PERMITS WHICH SHALL BE AVAILABLE ON THE JOB SITE AT ALL TIMES WORK IS BEING ACCOMPLISHED IN PUBLIC RIGHT-OF-WAY.

REFERENCES

- GRADING, STORM DRAIN AND CULVERT PLANS LOS PATRONES PARKWAY DELTA 2 APPROVED 10-28-2016 PERMIT GA150002
- WILDLIFE UNDERCROSSING LOS PATRONES PARKWAY DELTA 1 APPROVED 10-07-2016 PERMIT ST150016
- STREET AND STORM DRAIN IMPROVEMENT PLANS LOS PATRONES PARKWAY STAGE 1 PERMIT ST150014

OWNER/DEVELOPER:

RMV PA 2 DEVELOPMENT, L.L.C.
28811 ORTEGA HIGHWAY/ PO BOX 9
SAN JUAN CAPISTRANO, CA 92675
(949) 240-3363

PREPARED BY

HUTT-ZOLIARS

Hutt-Zoliars, Inc.
2020 Main Street, Suite 400
Irvine, California 92614-4250
Phone (949) 998-5815 Fax (949) 998-5820

PREPARED UNDER RESPONSIBLE CHARGE OF:

VICTOR A. ILLIG

DATE

NPDES NOTES

- IN THE CASE OF EMERGENCY, CALL PHILLIP HEALD, CONSTRUCTION MANAGER, AT WORK PHONE # 949-240 3363
- SEDIMENT FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE USING STRUCTURAL CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE.
- STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO MINIMIZE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING, OR WIND.
- APPROPRIATE BMP'S FOR CONSTRUCTION-RELATED MATERIALS, WASTES, SPILLS SHALL BE IMPLEMENTED TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTIES BY WIND OR RUNOFF.
- RUNOFF FROM EQUIPMENT AND VEHICLE WASHING SHALL BE CONTAINED AT CONSTRUCTION SITES UNLESS TREATED TO REDUCE OR REMOVE SEDIMENT AND OTHER POLLUTANTS.
- ALL CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR PERSONNEL ARE TO BE MADE AWARE OF THE REQUIRED BEST MANAGEMENT PRACTICES AND GOOD HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS.
- AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED IN TRASH OR RECYCLE BINS.
- CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT AN ANTICIPATED STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OF MATERIAL OTHER THAN STORM WATER ONLY WHEN NECESSARY FOR PERFORMANCE AND COMPLETION OF CONSTRUCTION PRACTICES AND WHERE THEY DO NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY WATER QUALITY STANDARD; CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; OR CONTAIN A HAZARDOUS SUBSTANCE IN A QUANTITY REPORTABLE UNDER FEDERAL REGULATIONS 40 CFR PARTS 117 AND 302.
- POTENTIAL POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, GLUES, LIMES, PESTICIDES, HERBICIDES, WOOD PRESERVATIVES AND SOLVENTS; ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; FERTILIZERS; VEHICLE/EQUIPMENT WASH WATER AND CONCRETE WASH WATER; CONCRETE, DETERGENT OR FLOATABLE WASTES; WASTES FROM ANY ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING AND SUPERCHLORINATED POTABLE WATER LINE FLUSHING DURING CONSTRUCTION. PERMITTEE SHALL DISPOSE OF SUCH MATERIALS IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON-SITE, PHYSICALLY SEPARATED FROM POTENTIAL STORM WATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
- DEWATERING OF CONTAMINATED GROUNDWATER OR DISCHARGING CONTAMINATED SOILS VIA SURFACE EROSION IS PROHIBITED. DEWATERING OF NON-CONTAMINATED GROUNDWATER REQUIRES A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FROM THE RESPECTIVE STATE REGIONAL WATER QUALITY CONTROL BOARD.
- GRADED AREAS ON THE PERMITTED AREA PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPES AT THE CONCLUSION OF EACH WORKING DAY. DRAINAGE IS TO BE DIRECTED TOWARD DESILTING FACILITIES.
- THE PERMITTEE AND CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
- THE PERMITTEE AND CONTRACTOR SHALL INSPECT THE EROSION CONTROL WORK AND INSURE THAT THE WORK IS IN ACCORDANCE WITH THE APPROVED PLANS.
- THE PERMITTEE SHALL NOTIFY ALL GENERAL CONTRACTORS, SUBCONTRACTORS, MATERIAL SUPPLIERS, LESSEES, AND PROPERTY OWNERS: THAT DUMPING OF CHEMICALS INTO THE STORM DRAIN SYSTEM OR THE WATERSHED IS PROHIBITED.
- EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
- ALL REMOVABLE EROSION PROTECTIVE DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 5-DAY RAIN PROBABILITY FORECAST EXCEEDS 40%.
- SEDIMENTS FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE USING AN EFFECTIVE COMBINATION OF EROSION AND SEDIMENT CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE, AND STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO MINIMIZE SEDIMENT TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING, OR WIND.
- APPROPRIATE BMP'S FOR CONSTRUCTION-RELATED MATERIALS, WASTES, SPILLS OR RESIDUES SHALL BE IMPLEMENTED AND RETAINED ON SITE TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTY BY WIND OR RUNOFF.

STANDARD PLAN NOTE

REFERENCES HEREIN TO O.C.P.W. STANDARD PLANS SHALL BE UNDERSTOOD TO REFER TO ORANGE COUNTY STANDARD PLANS 2013 EDITION.

STREET AND STORM DRAIN
IMPROVEMENT PLANS
LOS PATRONES PARKWAY
FROM CHIQUITA CANYON DRIVE
TO COW CAMP ROAD
SHEET 1 OF 55

INDEX OF SHEETS

SHEET REF. NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX MAP
3	GENERAL NOTES
4	CONSTRUCTION NOTES & QUANTITIES
5	HORIZONTAL CONTROL MAP
6-10	TYPICAL SECTIONS
11-26	ST-01-16
27-32	ST-17 - ST-22
33-35	SS-1-3
36-41	TS-1-6
42-46	SD-1 - SD-5
47-55	SD-6 - SD-14



SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIGALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIGALERT I.D. NUMBER CALL UNDERGROUND SERVICE ALERT TOLL FREE 1-800-422-4133 TWO WORKING DAYS BEFORE YOU DIG

NO.	DESCRIPTION	SHT.	APPROVED	DATE
1	ADDED FENCE AND GATES FROM COW CAMP ROAD TO CHIQUITA CANYON DR.	ST-01-03, ST-02-10		5/29/18
2	ADDED NOTES, MGS & CRASH CUSHION BY BRIDGE COLUMNS, BASIN DETAILS, REVISED INTERSECTIONS AT CHIQUITA CYN DR.	ST-01-03, ST-02-10, ST-03-10, ST-04-10, ST-05-10, ST-06-10, ST-07-10, ST-08-10, ST-09-10, ST-10-10, ST-11-10, ST-12-10, ST-13-10, ST-14-10, ST-15-10, ST-16-10, ST-17-10, ST-18-10, ST-19-10, ST-20-10, ST-21-10, ST-22-10		

UTILITY OWNER

	PHONE NO.
A SANTA MARGARITA WATER DISTRICT (SMWD)	(949) 459-6522 (949) 459-6519
B THE GAS COMPANY (SGC)	(949) 488-8514
C AT&T	(714) 666-5696
D SAN DIEGO GAS & ELECTRIC (SDG&E)	(858) 654-8394
TRANSMISSION	(949) 361-8047
DISTRIBUTION	
F COX COMMUNICATIONS (COX)	(949) 546-2802

BASIS OF BEARINGS:

THE BEARINGS SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE VI, NAD 83, EPOCH 1991.35, AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING STATIONS (CGPS), TRAK AND SBCC, BEING N60°31'33"W AS DERIVED FROM GEODETIC VALUES PUBLISHED AND ON FILE IN THE OFFICE OF THE ORANGE COUNTY SURVEYOR.

BENCH MARK:

ORANGE COUNTY BENCHMARK NUMBER 3W-69-99.
NAVD88 (FEET) ELEVATION = 368.550: 3 3/4" OCS
ALUMINUM BENCHMARK DISK STAMPED
"3W-69-99, SET IN THE TOP OF A 6" BY 6"
CONCRETE POST, UP 0.3', WITH A STEEL WITNESS
POST WESTERLY AND 2 CARBONITE WITNESS POSTS
NORTHEASTERLY, IN CANADA GOBERNADORA. REFER
TO ORANGE COUNTY PUBLIC WORKS VERTICAL
CONTROL DATA SHEET FOR MORE INFORMATION

LEGAL DESCRIPTION:

PORTIONS OF LOTS H, I, P, R, T, W, X, Y, Z AND
AA TRACT NO. 17561 AS SHOWN ON THE MAP
RECORDED IN BOOK 932, PAGES 1-38 INCLUSIVE OF
MISCELLANEOUS MAPS, RECORDS OF ORANGE
COUNTY, PORTIONS OF LOTS 13, 14, 15, 19, 20, 21,
22, 25, 26, 27, 43, 48, 50, 51, 52, AND 54 OF
CERTIFICATE OF COMPLIANCE NO. CC 2011-01
RECORDED AS INSTRUMENT NO. 2011000677171 OF
OFFICIAL RECORDS OF ORANGE COUNTY.

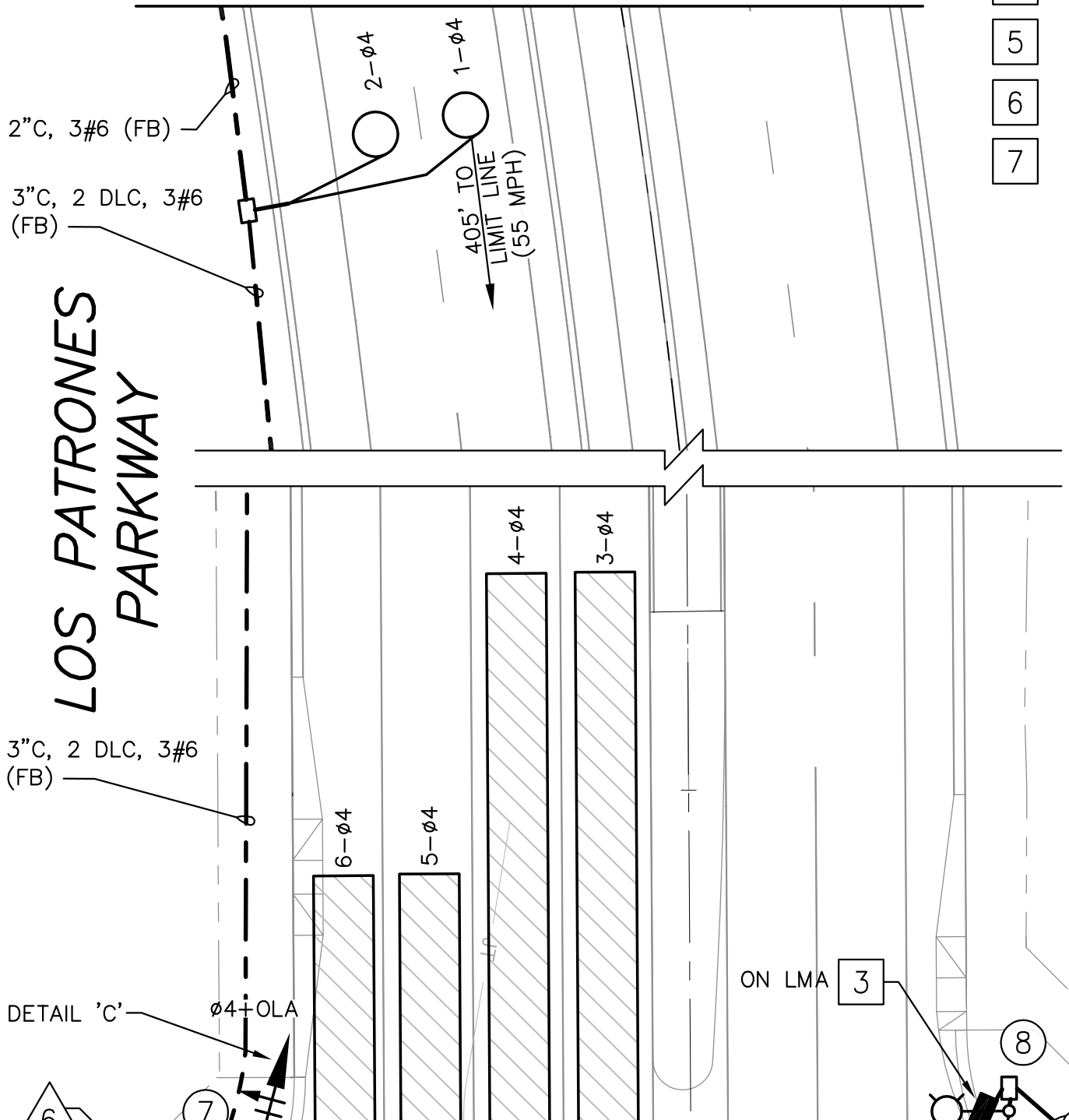
GENERAL NOTES (SHEETS TS-1 THRU TS-6 ONLY):

- ALL METHODS, WORKS, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS AND THE SPECIAL PROVISIONS (SCOPE OF WORK) FOR THIS PROJECT UNLESS NOTED OTHERWISE.
- UTILITIES SHOWN ON THESE PLANS ARE CORRECT AND ACCURATE TO THE EXTENT OF AVAILABLE KNOWLEDGE. THE CONTRACTOR, HOWEVER, IS REQUIRED TO TAKE STEPS TO ASCERTAIN THE EXACT LOCATION OF UNDERGROUND FACILITIES PRIOR TO DOING WORK THAT MAY INTERFERE WITH SUCH FACILITIES. CONTACT USA DIG AT 1-800-227-2600 48 HOURS IN ADVANCE.
- EACH CONDUCTOR IN EACH PULL BOX SHALL BE IDENTIFIED WITH A PERMANENT IDENTIFICATION BAND IN PULL BOXES AND NEAR END OF EACH CONDUCTOR WHERE CONDUCTORS ARE TERMINATED. PERMANENT IDENTIFICATION BANDS SHALL BE EMBOSSED ALUMINUM FOIL TYPE WITH PRESSURE SENSITIVE OIL RESISTANT BACKING.
- ALL NEW CONDUITS SHALL BE SCHEDULE 80 PVC AND SHALL BE 3" IN SIZE UNLESS OTHERWISE NOTED ON PLANS. ALL PVC CONDUITS SHALL HAVE A BARE #8 WIRE.
- CORE, SAW-CUT, AND POLE FOUNDATION LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER PRIOR TO EXCAVATING. DIRT AND DEBRIS ON THE STREET SURFACE DUE TO SAWCUTTING AND CORING ACTIVITIES SHALL BE VACUUMED IMMEDIATELY AFTER SAWCUTTING. POLE PLACEMENT MAY BE ADJUSTED BY THE ENGINEER; NO ADDITIONAL COMPENSATION FOR THE NEW LOCATION SHALL BE GRANTED TO THE CONTRACTOR.
- ALL PULL BOXES SHALL BE No. 5 WITH FIBRELYTE NON-CONCRETE LID LABELED "TRAFFIC SIGNAL" UNLESS NOTED OTHERWISE ON PLAN.
- ALL CONDUITS SHALL BE INSTALLED AT MINIMUM DEPTH OF 30".
- TRENCHING IN STREET PAVEMENT SHALL NOT BE ALLOWED FOR THIS PROJECT. HOWEVER, IN SIDEWALK AREAS, CONTRACTOR MAY TRENCH OR BORE SUCH THAT SIDEWALK IS REPLACED IN KIND, SCORE MARK TO SCORE MARK.
- PROTECT-IN-PLACE EXISTING SIGNS UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL FURNISH ALL MATERIAL AND EQUIPMENT REQUIRED.

- CONTRACTOR SHALL POT-HOLE TO IDENTIFY EXACT UTILITY LOCATION AND DEPTH PRIOR TO BORING/JACKING CONDUIT.
- ADDITIONAL REMOVAL AND REPLACEMENT OF ASPHALT CONCRETE MAY BE NEEDED. REMOVAL AND REPLACEMENT LIMITS WILL BE TO THE DISCRETION OF THE ENGINEER.
- VIDEO DETECTION SYSTEM SHALL BE ECONOLITE AUTOSCOPE TERRA OR ENGINEER APPROVED EQUIVALENT.
- UNINTERRUPTED POWER SYSTEM (UPS) SHALL BE CLARY CORPORATION SP1250PD "PLUS" TRAFFIC UPS OR APPROVED EQUAL HOUSED IN A CLARY CBS 126 NEMA 3R CABINET ENCLOSURE OR APPROVED EQUAL MOUNTED TO SIDE OF CONTROLLER CABINET.
- INDICATES VIDEO DETECTION ZONE.



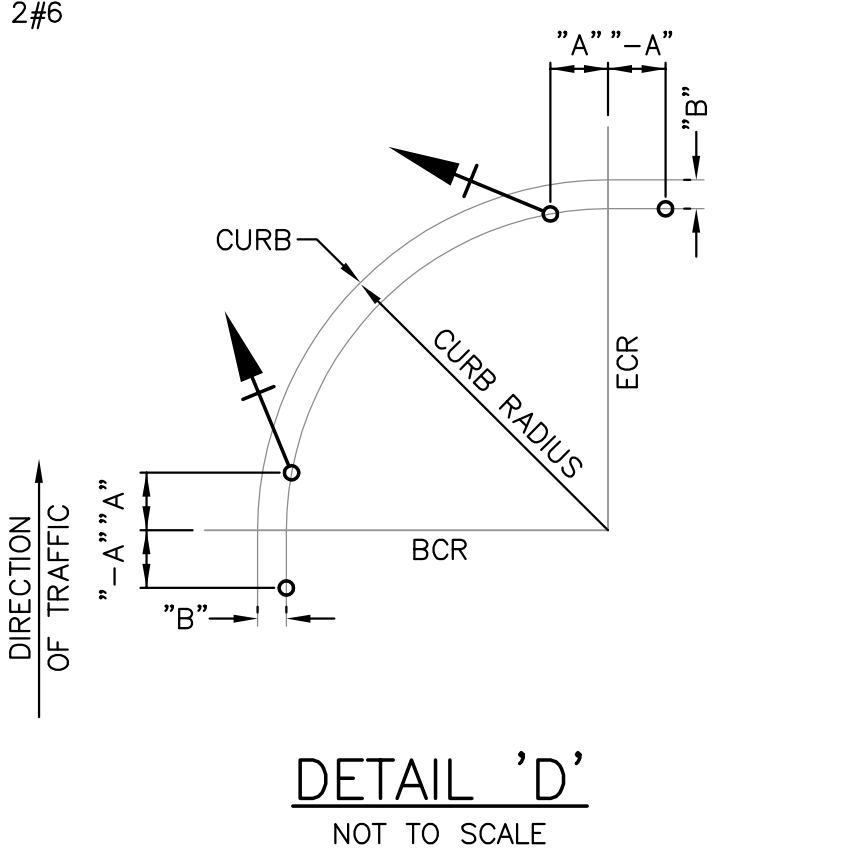
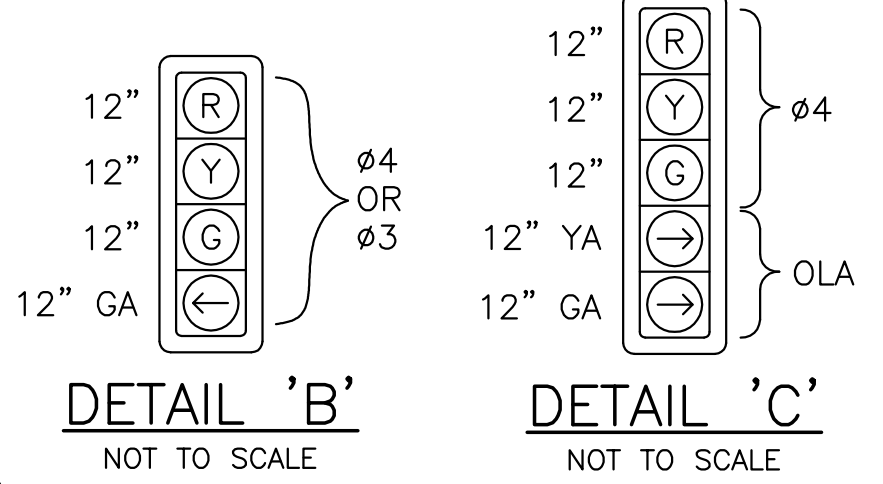
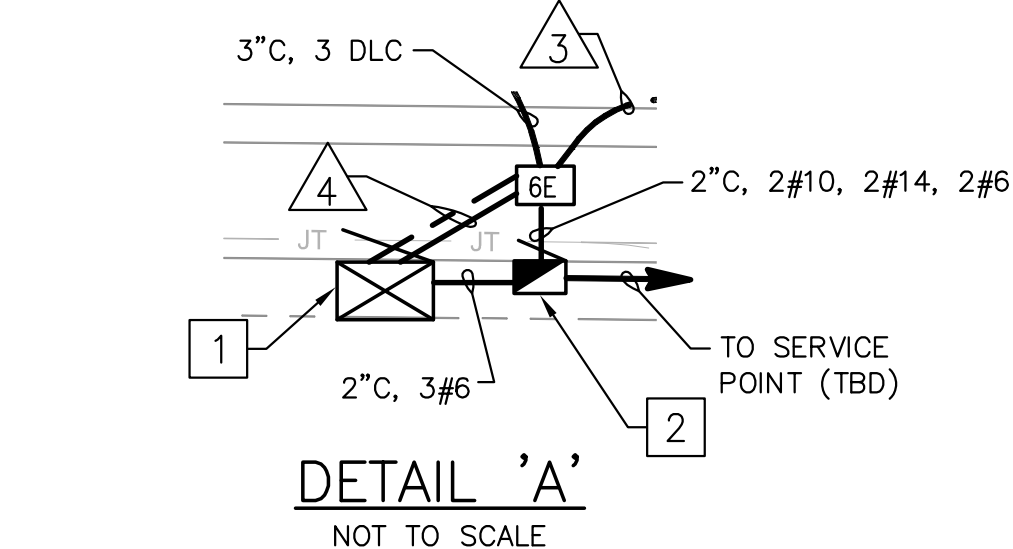
MATCHLINE - SEE SHEET TS-2 FOR CONTINUATION



PHASE - FUNCTION - SEQUENCE DIAGRAM							
VEHICLE & PEDESTRIAN MOVEMENTS PER FUNCTION							
NEMA PHASE DESIGNATION	ø1	ø2	ø3	ø4	ø5	ø6	ø7
COORDINATED FUNCTION	*	*	*	*	*	*	*
* DETERMINED BY MASTER COMPUTER DURING COORDINATION OPERATION							
SEQUENCE WITH CALLS ON ALL PHASES							
5 + 2 + OLA → 2 + 6 → 3 → 4							

CONSTRUCTION NOTES (THIS SHEET ONLY):

- FURNISH AND INSTALL NEW NEMA TS2 TYPE 2 ECONOLITE ASC/3-2100 CONTROLLER WITH ETHERNET PORT, DATA KEY, 9-PIN FSK MODULE, VIDEO DETECTION SYSTEM (ECONOLITE AUTOSCOPE TERRA OR APPROVED EQUAL), EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM AND ALL NECESSARY EQUIPMENT FOR INTENDED OPERATION IN A NEW NEMA TS2 TYPE 2 PLUG-AND-GO TYPE P-44 CABINET AND UNINTERRUPTED POWER SYSTEM (UPS) PER SPECIAL PROVISIONS.
- FURNISH AND INSTALL NEW TYPE III-BF SERVICE CABINET. FURNISH AND INSTALL 2"C, SERVICE CONDUCTORS FROM SERVICE POINT TO NEW SERVICE CABINET PER SPECIAL PROVISIONS.
- FURNISH AND INSTALL VIDEO DETECTION CAMERA ON LUMINAIRE OR SIGNAL MAST ARM PER ENGINEER APPROVAL AND NECESSARY VIDEO AND POWER CABLES TO CONTROLLER CABINET.
- FURNISH AND INSTALL MODEL 711 OR 722 EVP OPTICAL DETECTOR UNITS ON MAST ARM AS SHOWN.
- INSTALL SIGN ON SIGNAL MAST ARM PER CALTRANS STD. PLAN ES-7N.
- INSTALL TYPE 1 PEDESTRIAN BARRICADE PER CALTRANS STANDARD PLAN ES-7Q.
- INTERCEPT EXISTING 2" CONDUIT AND EXTEND INTO NEW PULL BOX.



Underground Service Alert

Call: TOLL FREE 811/800 227-2600

TWO WORKING DAYS BEFORE YOU DIG

County of Orange
OC PUBLIC WORKS
APPROVED

This plan is signed by the Orange County Public Works Department for concept and adherence to County standards and requirements only. OC Public Works is not responsible for the design, assumptions or accuracy.

Khalid Bazmil, P.E.
County Engineer / Assistant Director

Plan Check: Chi Dang (12/14/2016)
Permits: ST160017

DESIGNED BY: MJ
DRAWN BY: BW/RC
CHECKED BY: JB
DRAWING CODE: R303332.01
JOB NO. R303332.01
PLOT DATE: 9-7-16
SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

FEHR PEERS
Architects, CA 92608
841 E. Kaiser Boulevard
Suite 110 (714) 941-8800

LOS PATRONES PARKWAY
STAGE 2

**TRAFFIC SIGNAL
MODIFICATION PLAN**

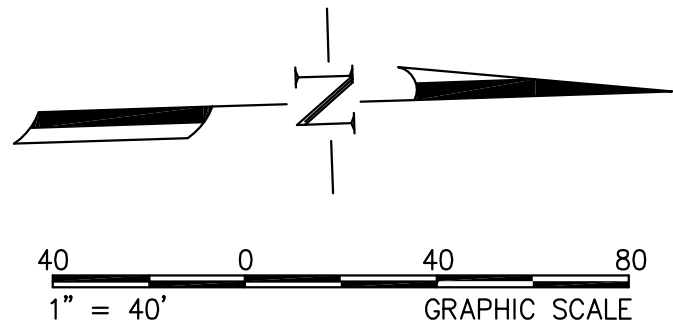
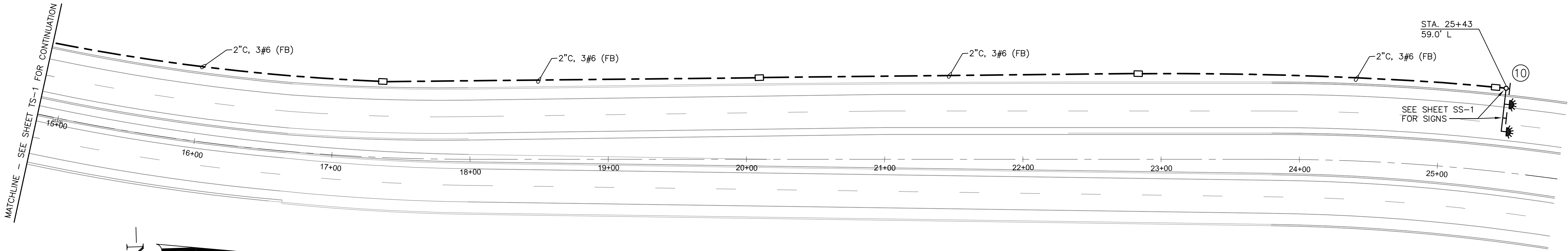
COW CAMP ROAD
AT LOS PATRONES
PARKWAY

Sheet
Reference
Number

TS-1

36 OF 54

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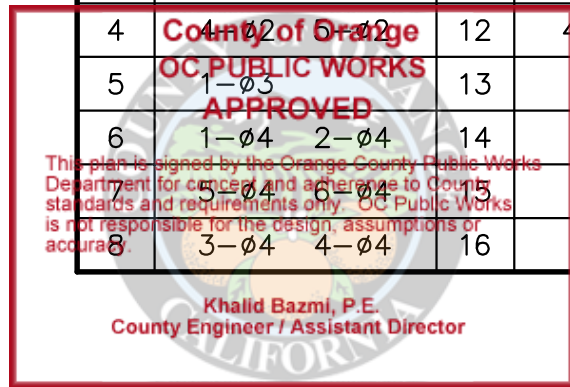


LOS PATRONES PARKWAY

CABLE AND CONDUCTOR SCHEDULE										
AWG SIZE, WIRE OR CABLE TYPE	S T D	PHASES	CONDUIT SIZE & RUN NUMBER							
			△	△	△	△	△	△	△	△
12 CSC 5 CSC 3 CSC	①	Ø2,Ø4,Ø5/-/-	2/0/0	2/0/0	2/0/0	2/0/0	-	-	-	-
	②	-/Ø2P/Ø2PPB		0/1/1	0/1/1	0/1/1				
	③	-/-/Ø2PPB		0/0/1	0/0/1					
	④	Ø2,Ø4+OLA,Ø4P,Ø2P/-/-	-	-	2/0/0	2/0/0	-	-	-	-
	⑤	-/-/Ø4PPB	-	-	0/0/1	0/0/1	-	-	-	-
	⑥	Ø6,Ø6P/-/Ø4PPB	-	-	1/0/1	1/0/1	1/0/1	-	-	-
	⑦	Ø4+OLA,Ø3,Ø4P/-/Ø6PPB	-	-	1/0/1	1/0/1	1/0/1	1/0/1	-	-
	⑧	Ø3/-/Ø6PPB	-	-	1/0/1	1/0/1	1/0/1	1/0/1	1/0/1	-
	⑨	Ø5,Ø6,Ø6P/-/-	-	-	1/0/0	1/0/0	1/0/0	1/0/0	1/0/0	1/0/0
		TOTAL	2/0/0	2/1/1	8/1/4	8/1/6	4/0/3	3/0/2	2/0/1	1/0/0
#14		I.I.S.N.S.	2	2	2	-	2	-	-	-
#10		SIGNAL & SIGN COM.	1	1	2	-	1	1	1	1
		LUMINAIRES	2	2	2	-	2	2	2	2
		TOTAL	3	3	4	-	3	3	3	3
#6		FLASHING BEACON			3		3	3		
DLC	Ø2				3					
	Ø4				2	2	2	2		
	Ø6				3	3	3	3	3	3
		TOTAL	-	-	5	8	5	5	3	3
VIDEO DETECTION POWER/VIDEO			1	1	4	4	2	1	1	-
12PR#19 SIC					1	1	1			
EVP CABLE (M-138)			1	1	3	3	1	-	-	-
CONDUIT SIZE (NEW)			3	2-3"	2-4"	2-4"	2-3"	2-3"	3"	2
PERCENT FILL (%)			18	11	25	25	25	17	21	21

INSTALL NEW CONDUCTORS THROUGHOUT

DETECTION SCHEDULE									
1			9	1-Ø5	2-Ø5				
2	1-Ø2	2-Ø2	10	1-Ø6	2-Ø6				
3	3-Ø2		11	3-Ø6	6-Ø6				
4	4-Ø2		12	4-Ø6	5-Ø6				
5			13						
6	1-Ø4	2-Ø4	14						
7	3-Ø4	4-Ø4	16						



Plan Check: Chi Dang (12/14/2016)
Permits: ST160017

POLE AND EQUIPMENT SCHEDULE																
POLE DATA			SIGNAL M.A.	SOLID STATE L.E.D.			SIGNAL HEADS AND MOUNTINGS			PED. PUSH BUTTON		FOUNDATION		POLE LOCATION		IISNS LED TYPE (DOUBLE FACE)
NO.	TYPE	HEIGHT		M.A.	WATTS	TYPE	VEHICULAR	M.A.	PEDESTRIAN	PHASE	QUAD.	TYPE	SIZE	"A"	"B"	
①	61-5-100	30'	65'	15'	157	*	SV-2-TB	MAS MAS MAS	-	-	-	C	3'-6" x 13'-0"	AS SHOWN		LOS PATRONES
②	1-A	7'	-	-	-	-	-	-	TP-1-T	Ø2	N	C	2'-0" x 3'-6"	AS SHOWN		-
③	PPB POST	3'-4"	-	-	-	-	-	-	-	Ø2	N	C	1'-6" x 1'-6"	AS SHOWN		-
④	26-4-100	30'	40'	15' ■	157	*	SV-2-TB	MAS-4B	SP-1-CS SP-1-CS	-	-	C	3'-6" x 12'-0"	AS SHOWN		COW CAMP
⑤	PPB POST	3'-4"	-	-	-	-	-	-	-	Ø4	W	C	1'-6" x 1'-6"	AS SHOWN		-
⑥	26-4-100	30'	45'	15'	157	*	SV-1-T	MAS MAS	SP-1-CS	Ø4	E	C	3'-6" x 12'-0"	11.2'	4.3'	LOS PATRONES
⑦	15TS	30'	-	15'	157	*	SV-2-TB	-	SP-1-CS	Ø6	S	C	2'-6" x 7'-6"	11.7'	3.2'	-
⑧	TYPE 15	30'	-	15'	157	*	SV-1-T	-	-	Ø6	S	C	2'-6" x 5'-0"	11.0'	3.7'	-
⑨	15TS	30'	-	15'	157	*	TV-2-T	-	SP-1-CS	-	-	C	2'-6" x 7'-6"	10.4'	3.2'	-
⑩	TYPE 9B FLASHING BEACON	20'	18'	-	-	-	-	-	-	-	-	C	2'-6" x 8'-6"	AS SHOWN		FURNISH AND INSTALL SIGN LIGHT PER CALTRANS STD. PLAN ES-7K

NOTES:

■ = ROTATE LUMINAIRE ARM 90°

C = C.I.D.H.

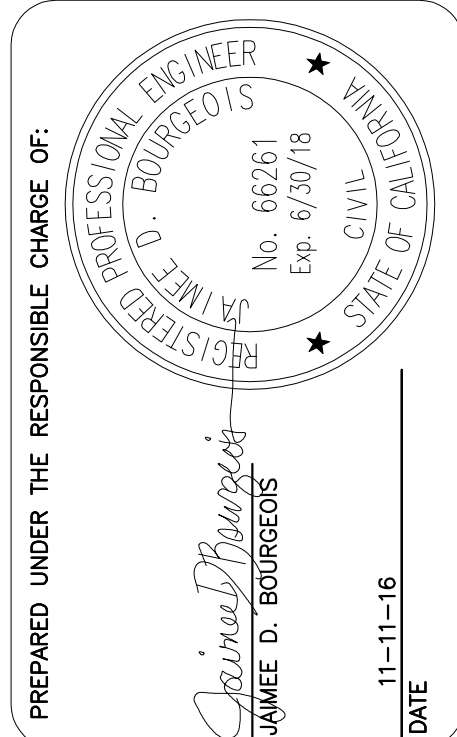
ALL EQUIPMENT IS NEW.


* = COOPER NAVION LED: MODEL NVN-AE-03-E-U-T3-10K-U-AP OR APPROVED EQUAL.

CS = CLAM SHELL MOUNT



MARK	DESCRIPTION	DATE	APPR.

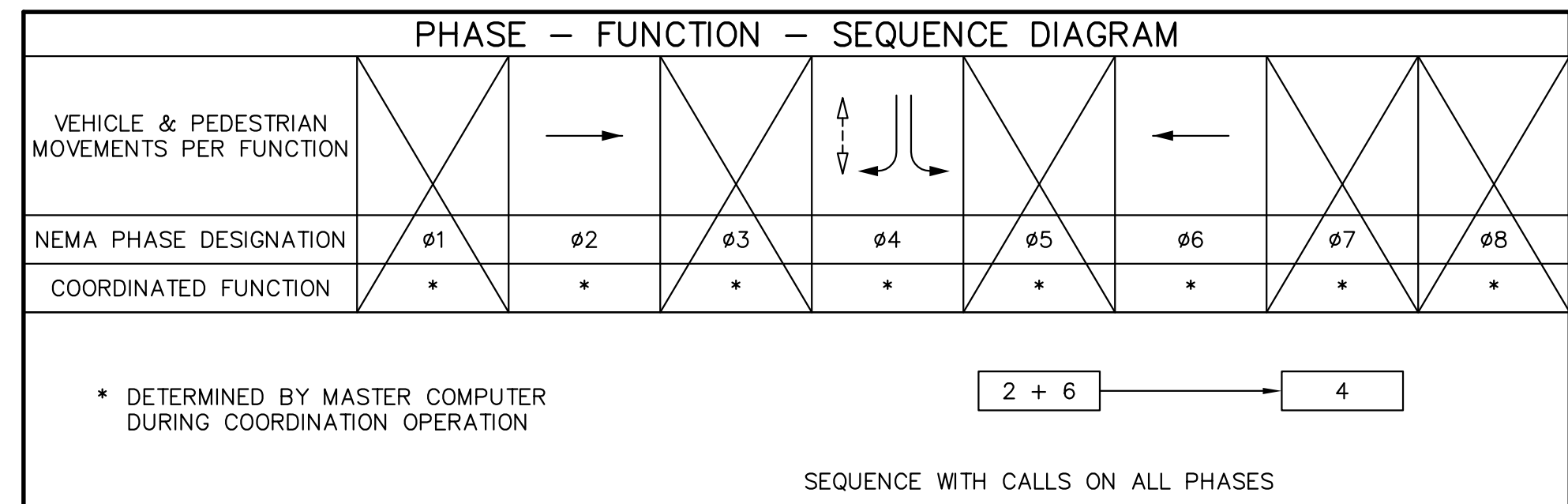


COUNTY OF ORANGE OC PUBLIC WORKS	DESIGNED BY: MJ			
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			SCALE: AS SHOWN	
			PLOT DATE:	
			DRAWING CODE:	
FEHR PEERS  841 E. Kaiser Boulevard Suite 10 Anaheim, CA 92808 (714) 941-8800				

LOS PATRONES PARKWAY STAGE 2	CONDUCTOR AND POLE SCHEDULES	COW CAMP ROAD AT LOS PATRONES PARKWAY
---------------------------------	---------------------------------	---

Sheet Reference Number
TS-2
37 OF 54

- 1 FURNISH AND INSTALL NEW NEMA TS2 TYPE 2 ECONOLITE ASC/3-2100 CONTROLLER WITH ETHERNET PORT, DATA KEY, 9-PIN FSK MODULE, VIDEO DETECTION SYSTEM (ECONOLITE AUTOSCOPE TERRA OR APPROVED EQUAL), EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM AND ALL NECESSARY EQUIPMENT FOR INTENDED OPERATION IN A NEW NEMA TS2 TYPE 2 PLUG-AND-GO TYPE P-44 CABINET AND UNIVERSAL POWER SYSTEM (UPS) PER SPECIAL PROVISIONS.
- 2 FURNISH AND INSTALL NEW TYPE III-BF SERVICE CABINET. FURNISH AND INSTALL 2" C, SERVICE CONDUCTORS FROM SERVICE POINT TO NEW SERVICE CABINET PER SPECIAL PROVISIONS.
- 3 FURNISH AND INSTALL VIDEO DETECTION CAMERA ON LUMINAIRE OR SIGNAL MAST ENGINEER APPROVAL AND NECESSARY VIDEO AND POWER CABLES TO CONTROLLER.
- 4 FURNISH AND INSTALL MODEL 711 OR 722 EVP OPTICAL DETECTOR UNITS ON MA
- 5 INSTALL SIGN ON SIGNAL MAST ARM PER CALTRANS STD. PLAN ES-7N.
- 6 INSTALL TYPE 1 PEDESTRIAN BARRICADE PER CALTRANS STANDARD PLAN ES-7Q.
- 7 INSTALL PREFORMED TYPE E LOOP DETECTOR IN BRIDGE DECK.
- 8 INSTALL CONDUIT INTO EXISTING PULL BOX.



CABLE AND CONDUCTOR SCHEDULE								
AWG SIZE, WIRE OR CABLE TYPE	S T D	PHASES	CONDUIT SIZE & RUN NUMBER					
			①	②	③	④	⑤	⑥
<div> <div>12 CSC</div> <div>5 CSC</div> <div>3 CSC</div> </div>	①	Ø2,Ø4/-/-	1/0/0	1/0/0	1/0/0	-	-	-
	②	Ø2,Ø4,Ø4P/-/Ø4PPB	-	1/0/1	1/0/1	-	-	-
	③	-/Ø6/Ø4PPB	-	0/1/1	0/1/1	0/1/1	-	-
	④	Ø4,Ø4P/-/-	-	1/0/0	1/0/0	1/0/0	-	-
	⑤	-/Ø6/-	-	0/1/0	0/1/0	0/1/0	0/1/0	0/1/0
		TOTAL	1/0/0	3/2/2	3/2/2	1/2/1	1/1/0	0/1/0
#14	I.I.S.N.S.	-	2	-	2	-	-	
#10	SIGNAL & SIGN COM.	1	2	-	1	1	1	
	LUMINAIRES	2	2	-	2	2	-	
	TOTAL	3	4	-	3	3	1	
DLC	Ø2			2				
	Ø4		2	2	2	2		
	Ø6		1	1	1	1	1	
	TOTAL	-	3	5	3	3	1	
VIDEO DETECTION POWER/VIDEO			1	3	3	1	-	-
EVP CABLE (M-138)			1	3	3	1	-	-
12 PR#19 SIC				2	2	2	1	1
CONDUIT SIZE (NEW)			2	4	4	3	3	3
PERCENT FILL (%)			14	18	18	18	12	4

DETECTOR SCHEDULE

1		9	
2	1- ϕ 2 2- ϕ 2	10	1- ϕ 6
3	5- ϕ 2	11	
4	3- ϕ 2 4- ϕ 2	12	2- ϕ 6 3- ϕ 6
5		13	
6	1- ϕ 4 2- ϕ 4	14	
7		15	
8	3- ϕ 4 4- ϕ 4	16	



POLE AND EQUIPMENT SCHEDULE																
POLE DATA			SIGNAL M.A.	SOLID STATE L.E.D.			SIGNAL HEADS AND MOUNTINGS			PED. PUSH BUTTON		FOUNDATION		POLE LOCATION		IISNS LED TYPE (DOUBLE FACE)
NO.	TYPE	HEIGHT		M.A.	WATTS	TYPE	VEHICULAR	M.A.	PEDESTRIAN	PHASE	QUAD.	TYPE	SIZE	"A"	"B"	
①	19-4-100	30'	25'	15'	157	*	SV-2-TB	MAS	-	-	-	C	3'-0" x 11'-0"	AS SHOWN	LOS PATRONES	
②	19-4-100	30'	25'	15' ■	157	*	SV-2-TB	MAS	SP-1-CS	Ø4	W	C	3'-0" x 11'-0"	AS SHOWN	CHIQUITA CANYON	
③	24-4-100	30'	35'	15'	157	*	SV-1-T	MAS	-	Ø4	E	C	3'-0" x 11'-0"	-11.0'	6.2'	LOS PATRONES
④	15TS	30'	-	15'	157	*	SV-1-T	-	SP-1-CS	-	-	C	2'-0" x 3'-6"	19.5'	3.7'	-
⑤	1-A	10'	-	-	157	-	TV-1-T	-	-	-	-	C	2'-6" x 7'-6"	AS SHOWN	-	

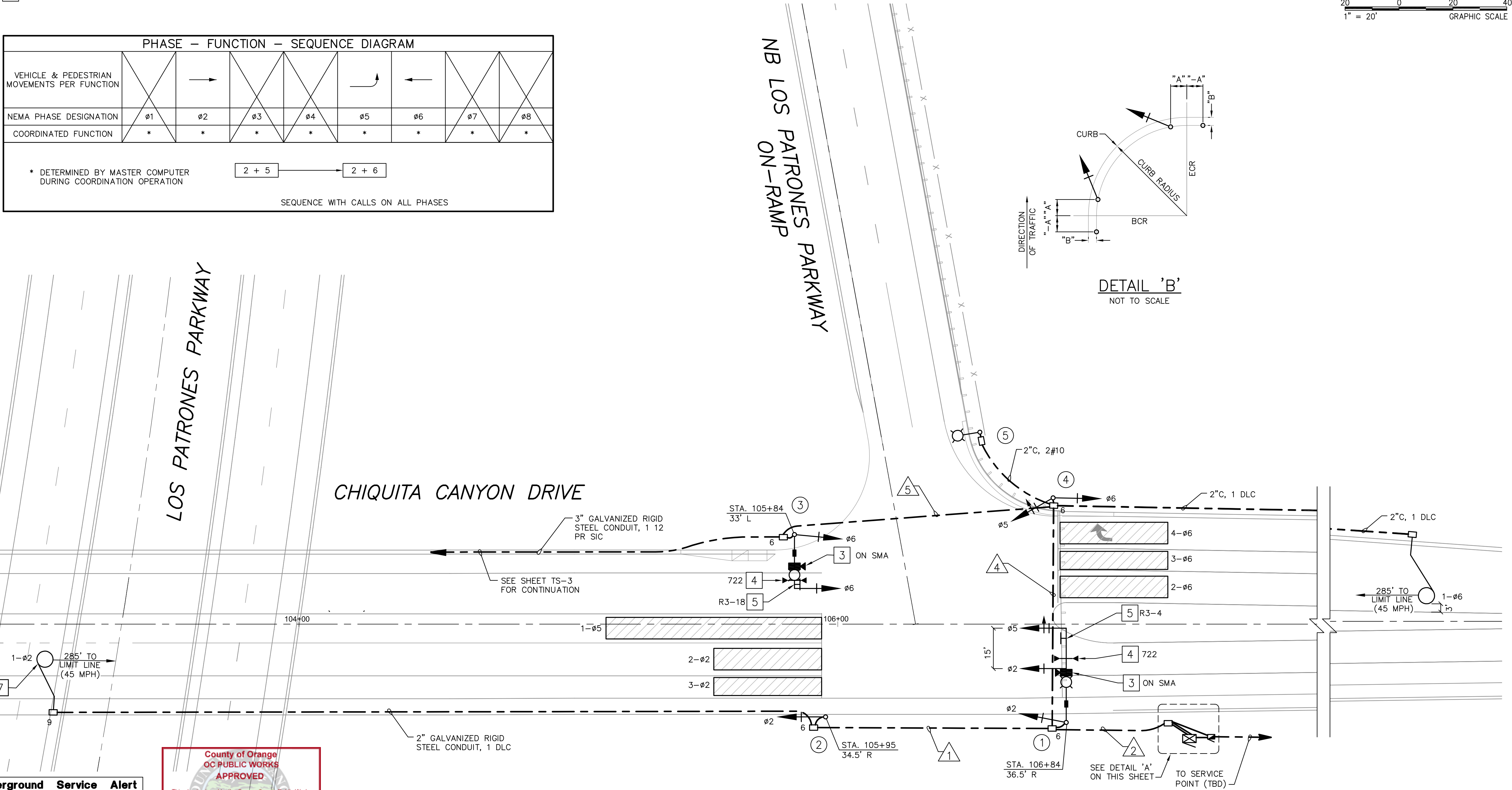
C = C.I.D.H.

CS = CLAM SHELL MOUNT

CONSTRUCTION NOTES (THIS SHEET ONLY):

- 1
- FURNISH AND INSTALL NEW NEMA TS2 TYPE 2 ECONOLITE ASC/3-2100 CONTROLLER WITH ETHERNET PORT, DATA KEY, 9-PIN FSK MODULE, VIDEO DETECTION SYSTEM (ECONOLITE AUTOSCOPE TERRA OR APPROVED EQUAL), EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM AND ALL NECESSARY EQUIPMENT FOR INTENDED OPERATION IN A NEW NEMA TS2 TYPE 2 PLUG-AND-GO TYPE P-44 CABINET AND UNIVERSAL POWER SYSTEM (UPS) PER SPECIAL PROVISIONS.
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- 3
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- 4
- FURNISH AND INSTALL MODEL 711 OR 722 EVP OPTICAL DETECTOR UNITS ON MAST ARM.
- 5
- INSTALL SIGN ON SIGNAL MAST ARM PER CALTRANS STD. PLAN ES-7N.
- 6
- INSTALL TYPE 1 PEDESTRIAN BARRICADE PER CALTRANS STANDARD PLAN ES-7Q.
- 7
- INSTALL PREFORMED TYPE E LOOP DETECTOR IN BRIDGE DECK.

PHASE -- FUNCTION -- SEQUENCE DIAGRAM								
VEHICLE & PEDESTRIAN MOVEMENTS PER FUNCTION								
NEMA PHASE DESIGNATION	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8
COORDINATED FUNCTION	*	*	*	*	*	*	*	*
* DETERMINED BY MASTER COMPUTER DURING COORDINATION OPERATION								
SEQUENCE WITH CALLS ON ALL PHASES								



Underground Service Alert



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TWO WORKING DAYS BEFORE YOU DIG

County of Orange
OC PUBLIC WORKS
APPROVED

This plan is signed by the Orange County Public Works Department for concept and adherence to County standards and requirements only. OC Public Works is not responsible for the design, assumptions or accuracy.

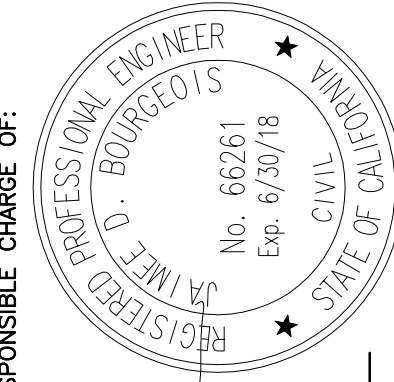
Khalid Bazmil, P.E.
County Engineer / Assistant Director

Plan Check: Chi Dang (12/14/2016)
Permits: ST160017



MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:



JAMEE D. BOURGEOIS
No. 66261
Exp. 6/30/18
CIVIL
STATE OF CALIF.

9-7-16
DATE

DESIGNED BY:

MJ
DRAWN BY:

CH
CHECKED BY:

BW/RC
JOB NO. R303332.01
PLOT DATE:

SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

FEHR PEERS
841 E. Kaiser Boulevard
Suite 110
Anaheim, CA 92808
(714) 941-8800

LOS PATRONES PARKWAY
STAGE 2

TRAFFIC SIGNAL
MODIFICATION PLAN

CHIKUITA CANYON DRIVE AT
NB LOS PATRONES PARKWAY
ON-RAMP

Sheet
Reference
Number

TS-5

40 OF 54

