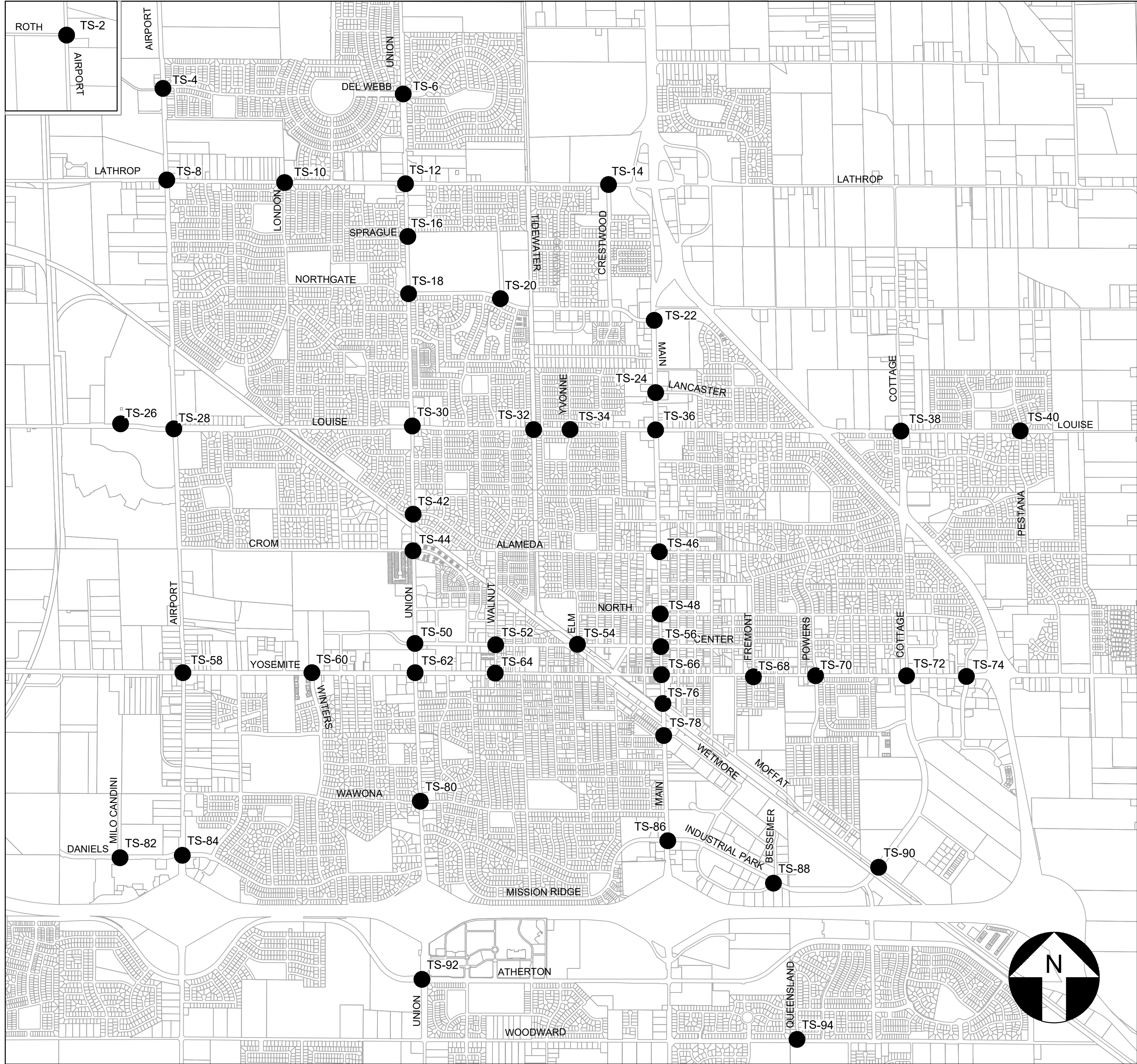


CITY OF MANTECA
TRAFFIC SIGNAL UPDATE
HSIPL 5242 (034)



PROJECT LOCATION MAP
NTS

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NOTE:
TS-EVEN NUMBER = TRAFFIC SIGNAL MODIFICATION PLAN SHEETS
TS-ODD NUMBER = CONDUCTOR AND EQUIPMENT SCHEDULE SHEETS

APPROVED

DATE

KEVIN JORGENSEN

ENGINEERING DIRECTOR

REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

COVER SHEET

1. WORK SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS AND PROJECT PLANS; THE 2023 EDITION OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLAN AND SPECIFICATIONS; THE LATEST EDITION OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD).
2. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF UNDERGROUND UTILITIES, THEIR FACILITIES, AND ASSOCIATED EQUIPMENT. PROTECTION SHALL BE PROVIDED PRIOR TO AND DURING DEMOLITION, TRENCHING, EXCAVATION, JACKING, AND BORING. CONTACT UNDERGROUND SERVICE ALERT (USA), TOLL FREE AT 811, AT LEAST 2 FULL WORKING DAYS BEFORE BEGINNING WORK.
3. AFTER ALL UNDERGROUND UTILITIES ARE MARKED, THE CONTRACTOR SHALL ESTABLISH THE LOCATIONS OF ALL POLES AND RELATED FACILITIES. THE CONTRACTOR SHALL THEN ARRANGE WITH THE ENGINEERING DIVISION TO APPROVE THOSE LOCATIONS PRIOR TO THE START OF ANY WORK.
4. THE CONTRACTOR SHALL FURNISH ALL MATERIALS AND SHALL PERFORM ALL LABOR IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND STANDARD PLANS.
5. CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL. TRAFFIC CONTROL MEASURES SHALL CONFORM TO THE STATE STANDARD PLANS AND THE LATEST EDITION OF THE CA MUTCD.
6. CONTRACTOR SHALL CONTACT PG&E TO CONFIRM POWER SUPPLY LOCATION AND VOLTAGE PRIOR TO START OF WORK.
7. ALL SALVAGED MATERIAL SHALL BE DELIVERED TO :
CITY OF MANTECA
STREETS DIVISION YARD
265 E. WETMORE STREET
MANTECA, CA 95337
8. CONTRACTORS SHALL NOTIFY THE CITY'S ENGINEERING DEPARTMENT TWO WORKING DAYS BEFORE THE START OF WORK.
9. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK CALLED FOR ON THESE PLANS UNTIL THE CITY ENGINEER'S SIGNATURE OF APPROVAL IS AFFIXED HEREON AND ALL APPLICABLE PERMITS HAVE BEEN OBTAINED. AN APPROVED SET OF PLANS SHALL BE ON THE JOB SITE DURING ANY CONSTRUCTION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING ALL CONFLICTS, ERRORS, OMISSIONS, ETC. TO THE ENGINEER IMMEDIATELY UPON DISCOVERY. IF SO DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL STOP WORK UNTIL REMEDIAL ACTION CAN BE TAKEN. ANY COSTS RESULTING FROM THE CONTRACTOR'S FAILURE TO REPORT OR FAILURE TO STOP WORK AS DIRECTED WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE CITY AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
12. THE CONTRACTOR SHALL MAKE AN ON-SITE INSPECTION PRIOR TO PROVIDING ANY PROPOSALS TO DETERMINE ANY AND ALL ITEMS NOT SHOWN AS BID ITEMS ON THE PROPOSAL SHEETS, BUT WHICH MAY BE NECESSARY TO PERFORM A COMPLETE AND ACCEPTABLE JOB.
13. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE CITY.
14. THE CONTRACTOR SHALL NOTIFY THE CITY IMMEDIATELY REGARDING ANY DISCREPANCIES OR AMBIGUITIES WHICH MAY EXIST IN THE PLANS OR SPECIFICATIONS. THE CITY'S INTERPRETATION OR CORRECTION THEREOF SHALL BE CONCLUSIVE.
15. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED (REFER TO PROJECT SPECIFICATIONS FOR MORE DETAIL).
16. AT THE TIME WORK IS BEING PERFORMED, THE CONTRACTOR SHALL POSSESS A VALID, CONTRACTORS LICENSE OF A CLASS APPROPRIATE TO COVER THE WORK BEING DONE, AS ADVERTISED IN THE INVITATION TO BIDDERS FOR THIS PROJECT.
17. AFTER CONSTRUCTION OF ALL IMPROVEMENTS, THE CONTRACTOR SHALL SUBMIT ONE SET OF REPRODUCIBLE "AS BUILT" PLANS, OPERATION AND MAINTENANCE MANUALS, AND ALL OTHER DELIVERABLES REQUIRED BY THIS CONTRACT. FINAL LOCATIONS AND ELEVATIONS, INCLUDING INVERT, SHALL BE SHOWN ON THE "AS BUILT" PLANS. "AS BUILT" PLANS SHALL CLEARLY AND DISTINCTIVELY SHOW CHANGES FROM ORIGINAL CONFORMED DRAWINGS.
18. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EXISTING RAILROAD PREEMPTION OPERATION DURING CONSTRUCTION. NOTIFY UPRR 30 DAYS BEFORE WORKING IN ANY TRAFFIC SIGNAL CABINETS AND CONTROLLERS THAT INCLUDES RAILROAD PREEMPTION OPERATION.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND LICENSES AND PAYING ALL ASSOCIATED FEES REQUIRED FOR THE CONSTRUCTION AND COMPLETION OF THE PROJECT.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING UPRR ENCROACHMENT PERMIT BEFORE DOING ANY WORK WITHIN UPRR RIGHT OF WAY.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. THE COST OF REPLACING EXISTING IMPROVEMENTS SHALL BE AT THE CONTRACTOR'S EXPENSE.
23. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL ITEMS DISTURBED OR DAMAGED DURING CONSTRUCTION TO THE SATISFACTION OF THE CITY INCLUDING UTILITIES, DRAINAGE AND FENCING.
24. WHEN SWITCHING OVER FROM EXISTING SIGNAL CABINET TO NEW SIGNAL CABINET, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SCHEDULE THEIR HIS/HER WORK SUCH THAT THE TURN OVER SHALL BE COMPLETED AND THE SIGNAL FULLY OPERATIONAL IN ONE WORKING DAY DURING OFF-PEAK PERIOD APPROVED BY THE CITY. CONTRACTOR SHALL NOT SCHEDULE THE TRAFFIC SIGNAL SHUTDOWN FOR TWO INTERSECTIONS OR MORE ON THE SAME CORRIDOR AT ONCE. TRAFFIC SIGNAL SHUTDOWN AND TURN OVER SCHEDULE MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
25. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH TMC AT CITY HALL. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FULL INSTALLATION AND TESTING OF THE CENTRAL MANAGEMENT SYSTEM PER THE DIRECTION OF CITY IT STAFF.

3. CABLE BENDING RADIUS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS. FIBER OPTIC CABLE SHALL BE PULLED STRAIGHT FROM THE CONDUIT WITHOUT TOUCHING THE SIDE OF THE PULL BOX. FIBER CONDUIT MUST ENTER THE PULL BOX AT 45 DEGREE ELBOW, 3" BENDING RADIUS MINIMUM.
4. FIBER OPTIC CABLE TESTING MUST COMPLY TO THE PROJECT SPECIAL PROVISIONS SECTION 87-19.01(D)(4) AND SECTION 87-19.01(D)(5). COMPLETE AND SUBMIT FOR APPROVAL THE SYSTEM GAIN MARGIN WORKSHEET AND CABLE VERIFICATION WORKSHEET FOR EACH LINK IN THE FIBER OPTIC SYSTEM AND FOR EACH TEST AS SPECIFIED TO DEMONSTRATE THE FIBER SYSTEM'S MEETING OR EXCEEDING THE SYSTEM GAIN MARGIN REQUIREMENT UNDER SECTION 87-19.01(D)(3). DO NOT PROCEED WITH THE TESTING UNTIL AUTHORIZED AND A TEST PLAN HAS BEEN SUBMITTED AND APPROVED BY THE ENGINEER. PERFORM EACH TEST IN THE PRESENCE OF THE ENGINEER.
5. PROTECT ALL WATER SERVICES, FIRE HYDRANTS, VALVES, AND OTHER EXISTING UTILITIES IN PLACE WHETHER OR NOT THEY ARE SHOWN ON THESE PROJECT PLANS PRIOR TO ANY EXCAVATION. THE CONTRACTOR PERFORMING THIS WORK IS RESPONSIBLE FOR ALL THE REPAIR COSTS AS A RESULT OF ANY DAMAGE CAUSED BY YOUR CONSTRUCTION ACTIVITIES TO UTILITY FACILITIES.
6. AT THE END OF EACH WORK DAY, CONDUIT CAPS SHALL BE PLACED ON ALL VACANT CONDUITS/DUCTS. CONDUITS/DUCTS, NEW OR EXISTING SHALL BE SEALED PRIOR TO AND AFTER PLACEMENT OF FIBER OPTIC CABLE, INCLUDING CONDUITS/DUCTS ON WALLS WHERE CORING IS REQUIRED.
7. ALL BORINGS SHALL BE OUTSIDE DRIP LINE OF ALL TREES TO MINIMIZE ROOT DAMAGE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING RECORD DRAWINGS FOR ALL WORK THROUGHOUT THE COURSE OF CONSTRUCTION AND SHALL PRESENT SUCH DRAWINGS TO THE ENGINEER FOR INSPECTION UPON DEMAND. NO RECORD DRAWINGS SHALL BE MORE THAN 24 HOURS OUT OF DATE.
9. BACKFILL AND CAPPING METHODS FOR POT HOLES, BORE PITS, PILOT HOLES, AND TRENCH EXCAVATIONS SHALL CONFORM TO THE 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS AND THE SPECIAL PROVISIONS AND THE PROJECT PLANS.
10. ALL CONDUIT, PULL BOXES, AND FIBER INSTALLATIONS SHALL CONFORM TO THE SPECIAL PROVISIONS, PROJECT PLANS, AND 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS.
11. CONTRACTOR SHALL INSTALL PULL ROPE/PULL TAPE AND A NO. 18 AWG TRACER WIRE IN ALL NEW CONDUITS AND IF NOT ALREADY INCLUDED, IN EXISTING EMPTY CONDUITS WHERE SMOKE CABLE IS TO BE INSTALLED.
12. PROPOSED PULL BOX LOCATIONS AND CONDUITS ARE SHOWN DIAGRAMMATICALLY.
13. CONTRACTOR MUST COMPLETE WIRELESS SITE SURVEY AS SPECIFIED BEFORE THE PROCUREMENT OF THE WIRELESS ANTENNAS SYSTEMS.
14. ALL FIBER OPTIC CABLES INSTALLED SHALL HAVE A MINIMUM ADDITIONAL SLACK COILED AT LOCATIONS AS FOLLOWS:
 - (a) PULL BOXES = 50' SLACK
 - (b) COMMUNICATIONS VAULTS = 100' SLACK
 - (c) 332LS AND HUB CABINETS = 12' SLACK
 - (d) BUILDING TELECOM ROOMS = 100'
15. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION OR UNLESS OTHERWISE SHOWN.
16. BORE DEPTHS SHALL BE A MINIMUM OF 36" DEEP. IF 36" DEPTH IS NOT ATTAINABLE, YOU MUST GET THE WRITTEN APPROVAL FROM THE ENGINEER AND THE CITY AND DOCUMENT, IN DETAIL, THE PATH AND DEPTH VARIANCE.
17. CONDUIT SWEEPS AT THE SIDES OF STRUCTURES (BUILDINGS, POLES, OR CABINETS) SHALL BE SCHED 80 PVC 3FT RADIUS WITH BELL ENDS DOWN.
18. ALL VAULTS SHALL BE SET ON A 6" LAYER OF DRAINABLE GRAVEL MATERIAL AND CONDUIT SHALL EXTEND ABOVE THE GRAVEL SURFACE.
19. CONCRETE VAULT WALL PENETRATIONS SHALL BE GROUTED, INSIDE AND OUT.
20. ALL CONDUIT TO BE PLUGGED WITH DUCT SEAL AFTER FIBER IS PLACED AS PER PROJECT SPECIAL PROVISIONS.
21. BORED DEPTH PROFILE SHALL INCLUDE: -DETAILED DESCRIPTION OF 0.00 START STATION. INCLUDING GPS COORDINATES (CAN BE OBTAINED FROM GOOGLE EARTH IN DEGREES/DECIMAL FORMAT) - BORE DIRECTION IN DEGREE'S-MAGNETIC (CAN BE OBTAINED FROM GOOGLE EARTH MEASURING TOOL) - BORE VERTICAL PROFILE DATA AT 20FT INTERVALS WITH OCCASIONAL DESCRIPTION OF INTERVAL STATION, LISTED AS X+XX FT. AND XX IN DEPTH - LATERAL ALIGNMENT IN RELATION TO THE ROAD CURB OR CENTERLINE LISTED AS 0.00FT E-W-N OR S OF CURB, FOG LINE OR CENTERLINE.
22. FIBER OPTIC IDENTIFICATION TAGS SHALL BE PLACED AT EVERY WORK POLE, MANHOLE, FIBER, STORAGE LOOPS, SPICE CASES, FIBER OPTIC VAULT, FIBER OPTIC PULL BOX, FIBER DISTRIBUTION UNIT AND WHERE INDICATED BY PROJECT MANAGERS. TAGS NEED TO BE PLACED SO AS TO BE READ FROM THE GROUND.
23. EXCAVATIONS AND TRENCHES SHALL BE SECURELY PLATED OR BACKFILLED DURING NON-WORKING HOURS.

1. THE TRAFFIC CONTROL SHALL BE CONDUCTED IN CONFORMANCE WITH A TRAFFIC CONTROL PLAN, PREPARED BY THE CONTRACTOR, APPROVED BY THE CITY ENGINEERING DEPARTMENT.
2. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE LATEST CALIFORNIA MUTCD REVISION AND CITY REQUIREMENTS. A TRAFFIC CONTROL PLAN MUST BE PREPARED BY A STATE OF CALIFORNIA C-31 LICENSED CONTRACTOR AND STAMPED BY A CALIFORNIA-LICENSED PROFESSIONAL ENGINEER (PE) AND BE SUBMITTED FOR CITY REVIEW 4 WEEKS PRIOR TO COMMENCEMENT OF WORK FOR APPROVAL. APPROVAL IS NEEDED AT LEAST 5 BUSINESS DAYS PRIOR AND POSTING A MINIMUM OF 3 DAYS PRIOR TO THE COMMENCEMENT OF WORK.
3. STREET SIGNS, TRAFFIC CONTROL SIGNS, AND PAVEMENT MARKINGS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AT LOCATIONS ESTABLISHED IN THE APPROVED TRAFFIC CONTROL PLAN PREPARED BY THE CONTRACTOR.
4. AN ENCROACHMENT PERMIT SHALL BE OBTAINED FROM THE CITY OF MANTECA, ENGINEERING DEPARTMENT, SAN JOAQUIN COUNTY, OR ANY OTHER APPLICABLE AGENCIES PRIOR TO COMMENCEMENT OF WORK WITHIN EXISTING CITY AND COUNTY RIGHT-OF-WAY WHERE ROAD CLOSURES ARE TO OCCUR.
5. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PRESERVING ALL SURVEY MONUMENTS IN THE AREA OF CONSTRUCTION. IF ANY MONUMENTS NEED TO BE REMOVED OR ADJUSTED FOR THE PURPOSE OF COMPLETING THE PROJECT, THE CONTRACTOR IS RESPONSIBLE TO NOTIFY A LICENSED SURVEYOR AND HAVE ALL MONUMENTS FOUND AND SURVEYED PRIOR TO CONSTRUCTION.
6. REPLACE IN-KIND STRIPING, SIGNAGE, CURB, GUTTER AND PAVEMENTS THAT ARE DAMAGED DURING CONSTRUCTION. THIS SHALL INCLUDE ALL OWNED AND MAINTAINED CITY FACILITIES INCLUDING BUT NOT BE LIMITED TO UTILITIES, DRAINAGE, FENCING, SIGNAGE, PAVEMENT MARKING, AND STRIPING. DAMAGE TO PAVEMENT MARKING AND STRIPING SHALL INCLUDE BUT NOT LIMITED TO TRACKING OF TACK OIL OR MATERIAL USED DURING CONSTRUCTION THAT MARK, FADE, OR DARKEN EXISTING STRIPING. DAMAGED PAVEMENT MARKING SHALL BE RESTORED FOR ENTIRE PAVEMENT MARKING LEGEND. DAMAGED STRIPING SHALL BE RESTORED FOR THE ENTIRE CONTINUOUS STRIPING SEGMENT.
7. ROADWAYS AND DRIVEWAYS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED WITH SAME MATERIALS OR BETTER.
8. ROAD AND DRIVEWAY ACCESS SHALL BE MAINTAINED TO THE MAXIMUM EXTENT FEASIBLE THROUGHOUT THE PROJECT. NOTIFY ALL RESIDENCE AND BUSINESSES OF ANY IMPENDING TEMPORARY DRIVEWAY CLOSURES AT LEAST 5 BUSINESS DAYS PRIOR.
9. CROSS STREET AND THROUGH TRAVEL LANES ACCESS SHALL BE MAINTAINED AT ALL TIMES UNLESS APPROVED BY THE DIRECTOR OF ENGINEERING DEPARTMENT. EVEN WHERE APPROVAL IS OBTAINED, ACCESS SHALL BE MAINTAINED TO THE MAXIMUM EXTENT POSSIBLE.
10. ANY LANE CLOSURES MUST BE COORDINATED AROUND PEAK TRAFFIC DEMANDS, AND MINIMALLY IMPACT TRAFFIC THROUGHOUT CLOSURE PERIODS MAY BE RESTRICTED BY THE CITY.

1. ALL MATERIALS USED SHALL CONFORM TO THE 2023 CALTRANS STANDARD PLANS AND SPECIFICATIONS, LOCAL STANDARDS, AND APPLICABLE INDUSTRY STANDARDS AND GUIDELINES SUCH AS ANSI, ASTM, AWWA AND ACI AND MUST BE ON THE CALTRANS AUTHORIZED MATERIAL LIST.
2. IF EXISTING CONDUIT IS USED, AND IF CONDUIT SWEEP IS NOT AS SPECIFIED, MODIFY EXISTING CONDUIT SWEEP.
3. ASPHALTIC CONCRETE SHALL CONFORM TO THESE PLANS AND SPECIFICATIONS, AND THE MOST CURRENT CALTRANS STANDARDS. ASPHALTIC CONCRETE SHALL BE TYPE A 1/2-INCH HOT-MIX ASPHALT PG 64-10, OR BETTER, UNLESS OTHERWISE SPECIFIED.
4. ASPHALTIC CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS ABOVE 50°F. ASPHALTIC CONCRETE TEMPERATURE IN WINDROWS SHALL NOT DROP BELOW 260°F PRIOR TO SPREADING OR KNOCK DOWN.
5. PORTLAND CEMENT CONCRETE SHALL BE PLACED IN CONFORMANCE WITH ACI 305 OR 306, PARTICULARLY WHEN THE WIND SPEEDS ARE ANTICIPATED TO EXCEED 10 MPH OR AMBIENT TEMPERATURES ARE ANTICIPATED TO BE BELOW 55°F OR ABOVE 80°F, RESPECTIVELY, DURING THE CURING PERIOD. PROPER PROTECTION AND/OR MITIGATION MEASURES SHALL BE IMPLEMENTED TO PROTECT THE CONCRETE DURING PLACEMENT AND CURING.
6. ALLOWED FIBER OPTIC REEL END SPLICE HAS SPECIFIC NUMBER AND LOCATION FOR THIS PROJECT. SEE SIC-13 FOR ADDITIONAL DETAILS, MATERIAL REQUIREMENTS, AND LIMITATION.
7. ALL NEW PULL BOXES MUST HAVE PENTA BOLT LOCKING MECHANISM CAPABILITY AS A THEFT DETERRENT. TWO 1/2" DIAMETER BRASS OR STAINLESS STEEL STUD BOLTS, NUTS, AND WASHERS. TWO (2) BOLTS PER BOX RECESS IN COVER FOR NUT UNLESS OTHERWISE NOTED.
8. ALL NEW METALLIC CONDUIT MUST HAVE THREADED METALLIC BUSHINGS. ALL PVC AND HDPE CONDUITS MUST HAVE BELL ENDS. IF EXISTING CONDUIT IS USED, AND IF CONDUIT END IS NOT AS SPECIFIED, MODIFY EXISTING CONDUIT END.

1. IMMEDIATELY UPON ANY UTILITY SERVICE DISRUPTION, OTHER THAN THOSE SPECIFIED ON THESE IMPROVEMENT PLANS, A 14 DAYS NOTICE TO THE CITY OF MANTECA OR ASSOCIATED UTILITY COMPANY AND RESIDENCES TO BE AFFECTED SHALL BE GIVEN FOR ANY PLANNED DISRUPTION. COORDINATION W/WQCF 14 DAYS AHEAD AND 48 HOURS CONFIRMATION.
2. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AT ALL UTILITY CROSSINGS.
3. EXISTING OVERHEAD ELECTRIC AND TELEPHONE TRANSMISSION LINES MAY BE LOCATED AT OR NEAR THE SITE. THE CONTRACTOR SHALL MAINTAIN PROPER CLEARANCE. THESE OVERHEAD UTILITIES ARE NOT SHOWN ON THE PLANS. EXTREME CAUTION SHALL BE USED WHEN WORKING IN THE VICINITY OF OVERHEAD UTILITIES SO AS TO PREVENT INJURY TO WORKMEN OR DAMAGE TO UTILITIES. CONTRACT UTILITIES FOR PROPER CLEARANCE GUIDELINES BEFORE WORKING UNDER OR NEAR ELECTRIC AND COMMUNICATION UTILITIES TO MAINTAIN ADEQUATE CLEARANCE.
4. IF ANY EXCAVATION MAY OCCUR, THE CONTRACTOR SHALL CHECK WITH UTILITY COMPANIES AND VERIFY ALL UTILITY LOCATIONS. IT SHALL BE THE CONTRACTORS SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO NO DAMAGE RESULTS DURING THE PERFORMANCE OF THIS CONTACT WORK.
5. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES REGARDING APPROPRIATE CLEARANCES AND EQUIPMENT WHEN PROXIMITY TO OVERHEAD UTILITIES. COORDINATION W/WQCF 14 DAYS AHEAD AND 48 HOURS CONFIRMATION.
6. GENERALLY, MINIMUM SEPARATION REQUIREMENTS FROM FRONTIER FACILITIES SHALL BE 3 FT HORIZONTALLY AND 1 FT VERTICALLY, UNLESS SPECIFIED OTHERWISE.
7. GENERALLY, MINIMUM VERTICAL SEPARATION AT CROSSINGS OF AT&T FACILITIES SHALL BE 2 FT. AT&T REPRESENTATIVE SHALL BE ONSITE DURING EXCAVATION. HAND DIGGING IS REQUIRED FOR EXCAVATIONS WITHIN 2 FT OF AT&T FACILITIES, UNLESS SPECIFIED OTHERWISE.
8. GENERALLY, PG&E REPRESENTATIVE SHALL BE ONSITE DURING EXCAVATION WITHIN 10 FT OF A GAS TRANSMISSION MAIN, UNLESS SPECIFIED OTHERWISE.

ENGINEERING
CITY OF MANTECA
ENGINEERING
SOMPORN BOONSALAT
1001 W. CENTER STREET
MANTECA, CA 95337
(209) 456-8460

WQCF
CITY OF MANTECA
PUBLIC WORKS DEPARTMENT
2450 W. YOSEMITE AVENUE
MANTECA, CA 95337
(209) 456-8470

POTABLE WATER
CITY OF MANTECA
PUBLIC WORKS DEPARTMENT
GEORGE MONTROSS
1001 W. CENTER STREET
MANTECA, CA 95337
(209) 456-
8466

PARKS YARD
CITY OF MANTECA
PARKS & RECREATION DEPARTMENT
CODY ROSS
245 N UNION ROAD
MANTECA, CA 95337
(209) 456-8613

SANITARY SEWER AND STORM DRAINAGE

**PUBLIC WORKS DEPARTMENT
HEATHER GROVE
1001 W. CENTER STREET
MANTECA, CA 95337
(209) 458-8470**

TELEPHONE
AT&T
ROBERT KNECHT
1116 M STREET
MODESTO, CA 95354
(209) 587-7037

CABLE
CHARTER COMMUNICATION
ABEL DAVILA
773 N. WALNUT ROAD
TURLOCK, CA 95380
(209) 633-3311

CABLE
COMCAST
KRIS COOK
6505 TAM O'SHANTER DRIV
STOCKTON, CA 95210
(209) 955-6020

PETROLEUM
KINDER MORGAN
KARLY PAYNE
1100 W. TOWN & COUNTRY ROAD
ORANGE, CA 92686
(714) 560-4604

GAS & ELECTRIC
PG&E
JIM WIROWEK
4040 WEST LANE
STOCKTON, CA 95204
(209) 932-6415

TELEPHONE
QWEST COMMUNICATIONS (CENTURYLINK)
GEORGE MCELVAIN
700 W. MINERAL AVENUE
LITTLETON, CO 80120
(303) 992-9931

TELEPHONE
VERIZON
BERNADETTE MARTINEZ
2775 MITCHELL DRIVE
WALNUT CREEK, CA 94598
(925) 951-2014

TELEPHONE
FRONTIER COMMUNICATIONS
JAMES CARTER
430 WEST CENTER STREET
MANTECA, CA 95336
(209) 239-0655

FIBER OPTICS
AT&T (SHASTA CONSULTING GROUP)
RONALD PIMENTEL
2741 N. MAIN STREET
WALNUT CREEK, CA 94597
(530) 841-0621



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

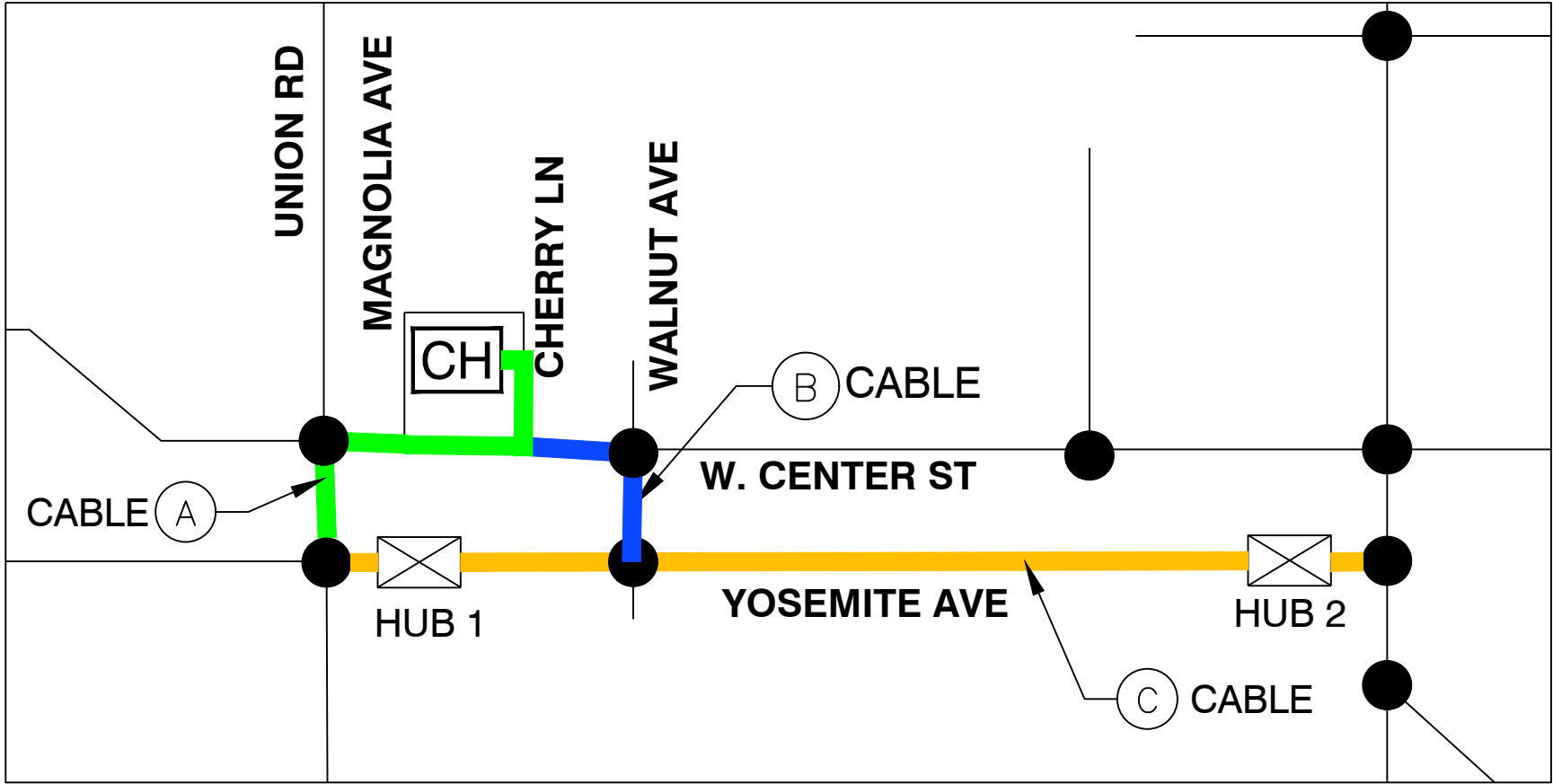


BEFORE EXCAVATING
CALL U.S.A.
UNDERGROUND SERVICE ALERT
800-642-2444
48-HOURS BEFORE ALL
PLANNED WORK OPERATIONS

1. FIBER OPTIC CABLE AND ELECTRICAL LOCATIONS ARE PROVIDED AS AN INSTALLATION GUIDELINE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE NECESSARY MATERIAL AND EQUIPMENT AS REQUIRED FOR THE INTENDED OPERATION, UNLESS SPECIFIED ELSEWHERE IN THE PLANS AND SPECIFICATIONS.
2. THE LOCATION OF PROPOSED PULL BOXES, AND FIBER OPTIC VAULTS ARE PRELIMINARY AND MAY BE CHANGED TO SUIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

[illegible]

FIBER CABLES			
CABLE NAME	FIBER TYPE	SEGMENT	CONNECTIVITY
(A)	1-144 STRAND SMFO	UNION RD / W. CENTER ST	HUB 1 TO CITY HALL
(B)	1-96 STRAND SMFO	N. WALNUT AVE	YOSEMITE AVE TO W. CENTER ST
(C)	1-144 STRAND SMFO	W. CENTER ST	UNION RD TO HUB 2



FIBER LAYOUT DETAIL A

LEGEND:

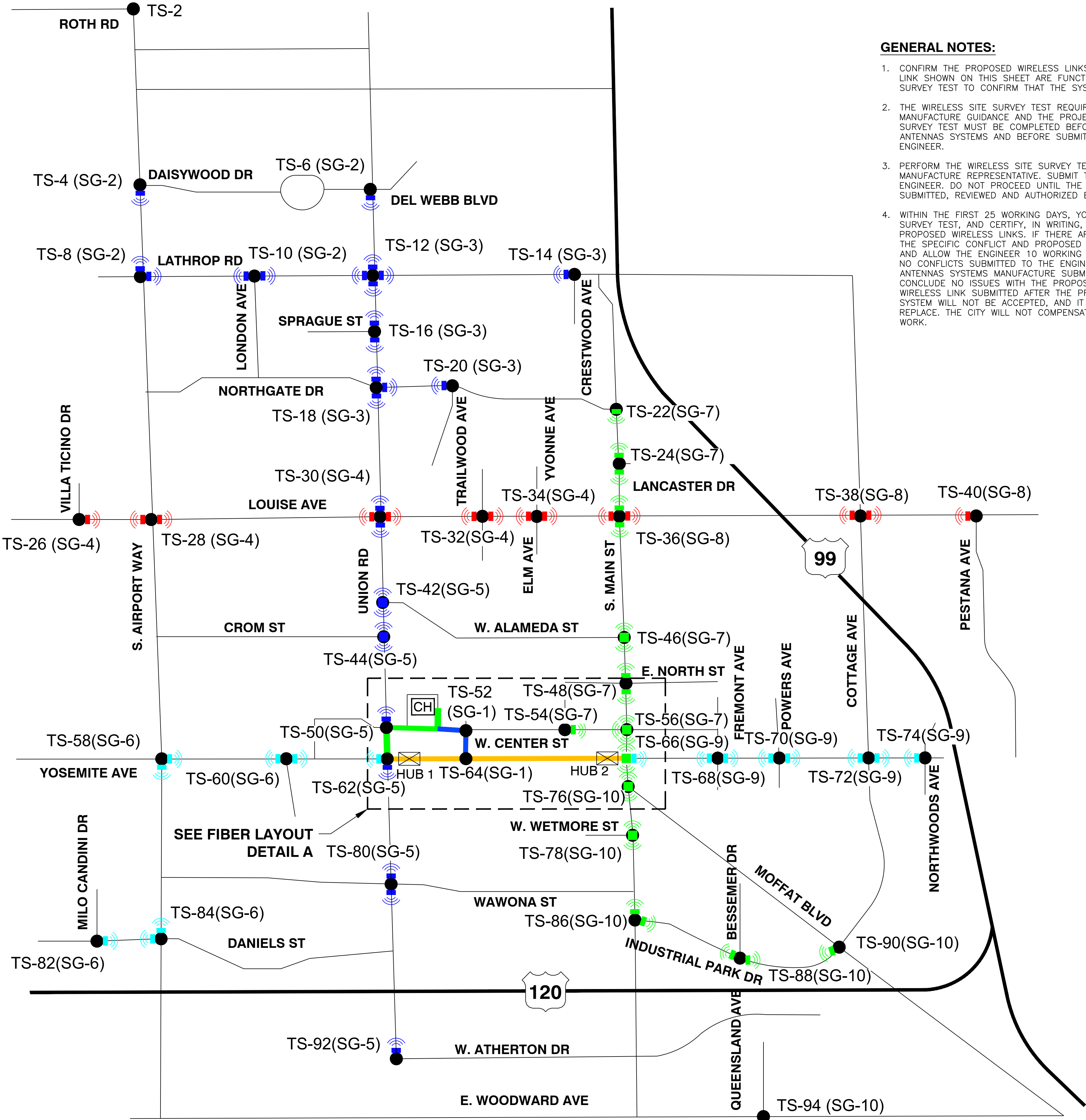
- CABLE (A)
- CABLE (B)
- CABLE (C)
- PROPOSED FIBER HUB CABINET AT EXISTING SIGNAL LOCATION INTERSECTION
- EXISTING SIGNAL LOCATION WITH PROPOSED ANTENNA PART OF ORIGINAL TRAFFIC SIGNAL UPGRADE HSIPL 5242 (034)
- MANTECA TELECOM ROOM
- LOUISE AVENUE WIRELESS INTEGRATED RADIO DEVICES
- MAIN STREET WIRELESS INTEGRATED RADIO DEVICES
- UNION ROAD WIRELESS INTEGRATED RADIO DEVICES
- YOSEMITE AVENUE WIRELESS INTEGRATED RADIO DEVICES

SYMBOL LEGEND:

- PROPOSED UNI-DIRECTIONAL ANTENNA
- PROPOSED OMNI-DIRECTIONAL ANTENNA
- PROPOSED OMNI-DIRECTIONAL ANTENNA

ABBREVIATIONS:

SG-X SIGNAL GROUP - X



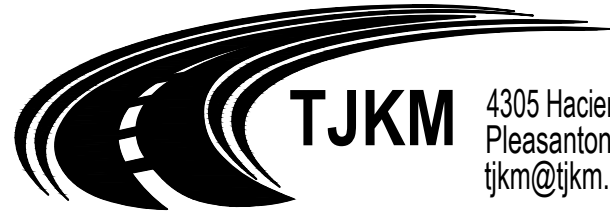
GENERAL NOTES:

- CONFIRM THE PROPOSED WIRELESS LINKS AND EACH LINE OF SIGHT FOR EACH WIRELESS LINK SHOWN ON THIS SHEET ARE FUNCTIONING BY PERFORMING A WIRELESS SITE SURVEY TEST TO CONFIRM THAT THE SYSTEM WILL OPERATE AS SPECIFIED.
- THE WIRELESS SITE SURVEY TEST REQUIREMENTS MUST BE PER THE WIRELESS MANUFACTURE GUIDANCE AND THE PROJECT SPECIAL PROVISIONS. THE WIRELESS SITE SURVEY TEST MUST BE COMPLETED BEFORE THE PROCUREMENT OF THE WIRELESS ANTENNAS SYSTEMS AND BEFORE SUBMITTING MANUFACTURE SUBMITTAL TO THE ENGINEER.
- PERFORM THE WIRELESS SITE SURVEY TEST IN THE PRESENCE OF THE ENGINEER AND MANUFACTURE REPRESENTATIVE. SUBMIT THE WIRELESS SITE SURVEY PLAN TO THE ENGINEER. DO NOT PROCEED UNTIL THE WIRELESS SITE SURVEY PLAN HAS BEEN SUBMITTED, REVIEWED AND AUTHORIZED BY THE ENGINEER.
- WITHIN THE FIRST 25 WORKING DAYS, YOU SHALL PHYSICALLY COMPLETE WIRELESS SITE SURVEY TEST, AND CERTIFY, IN WRITING, THAT THERE ARE NO CONFLICTS WITH THE PROPOSED WIRELESS LINKS. IF THERE ARE CONFLICTS, YOU SHALL INDICATE IN WRITING, THE SPECIFIC CONFLICT AND PROPOSED RESOLUTION PER YOUR FIELD INVESTIGATION, AND ALLOW THE ENGINEER 10 WORKING DAYS TO PROVIDE A RESPONSE. IF THERE ARE NO CONFLICTS SUBMITTED TO THE ENGINEER BEFORE SUBMITTING THE WIRELESS ANTENNAS SYSTEMS MANUFACTURE SUBMITTAL TO THE ENGINEER, THE ENGINEER WILL CONCLUDE NO ISSUES WITH THE PROPOSED WIRELESS LINKS. ANY NONOPERATIONAL WIRELESS LINK SUBMITTED AFTER THE PROCUREMENT OR INSTALLATION OF THE WIRELESS SYSTEM WILL NOT BE ACCEPTED, AND IT WILL BE YOUR RESPONSIBILITY TO REPAIR OR REPLACE. THE CITY WILL NOT COMPENSATE YOU FOR ANY REPAIR OR REPLACEMENT WORK.

NOTE:

SEE FIBER ASSIGNMENT TABLE ON SHEET SIC-11 FOR SIGNAL GROUP FIBER ASSIGNMENTS

REV	DATE	DESCRIPTION	BY



4305 Hacienda Drive, Suite 550
Pleasanton, CA 94588
tjkm@tjkm.com



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

SIGNAL INTERCONNECT PLAN

A-3

SHEET 3 OF 117



WIRELESS RADIO AND ANTENNA INSTALLATION DETAIL

NOT TO SCALE

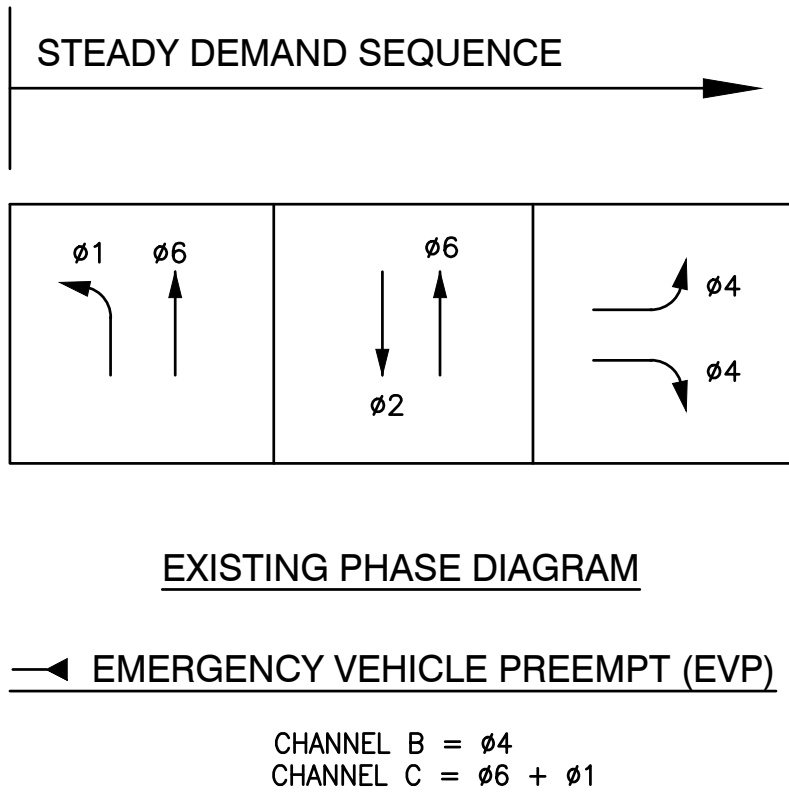
NOTES:

1. CONTRACTOR TO WORK WITH THE RECORD ENGINEER AND WIRELESS ANTENNA MANUFACTURER TO DETERMINE BEST PLACEMENT FOR WIRELESS COMMUNICATION DEVICE TO MEET THE DESIGN INTENT.
2. ALL ELECTRICAL CONNECTIONS SHALL CONFORM TO MFG. REQUIREMENTS TO ENSURE WEATHER PROOF CONNECTION.
3. DRILL MAX 3/4" BEVELED HOLE. GROMMET SHALL FORM A TIGHT SEAL BETWEEN POLE AND CABLE
4. SECURELY STRAP ANTENNA CABLES TO POLE WITH STAINLESS STEEL NYLON COATED STRAPS (FOLLOW NEC STANDARDS FOR SPACING.)
5. BRACKET TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS.

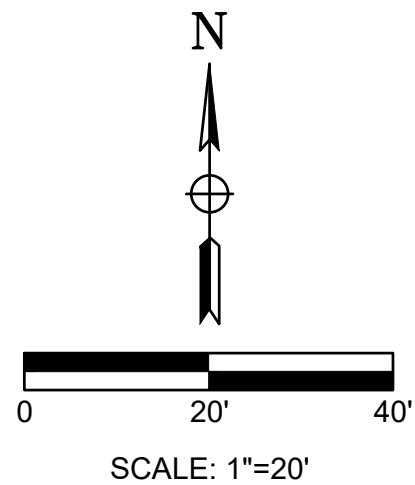
WIRELESS RADIO DETAIL

TS-1

SHEET 4 OF 117



- GENERAL NOTES**
- ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
 - THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
- PROJECT NOTES**
- REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
 - FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE WEST.
 - FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
 - EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

ROTH ROAD AND S. AIRPORT WAY
TRAFFIC SIGNAL MODIFICATION PLAN

TS-2
SHEET 5 OF 117

CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE					
							
#14	PEU			3	3	3	
#14	Ø1	3	3	3	3	3	3
	Ø2			3	3	3	3
	Ø4	3	3	3	3	3	3
	Ø6	3	3	3	3	3	3
	SPARES	3	3	3	3	3	3
	TOTAL No. 14	12	12	18	18	18	15
#10	SIGNAL COMMON	2	2	1	2	1	1
	LUMINAIRE	2	2	2	2	2	
	FLASHING BEACONS		3	3	3	3	
	TOTAL No. 10	4	4	3	4	3	1
DLC	111U		1	1	1	1	1
	212U					1	1
	214U					1	1
	418U				1	1	1
	Ø4 DELAY				1	1	1
	6J2U		1	1	1	1	1
	6J4U		1	1	1	1	1
							
	TOTAL DLC		3	3	5	7	7
EVP	CHANNEL B		1	1	1	1	1
	CHANNEL C	1	1	1	1	1	1
	TOTAL CABLES	1	2	2	2	2	2
CONDUIT SIZE(INCHES)		3"	3"	3"	3"	3"	3"
% FILL		6%	10%	11%	14%	15%	14%

NOTES:

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

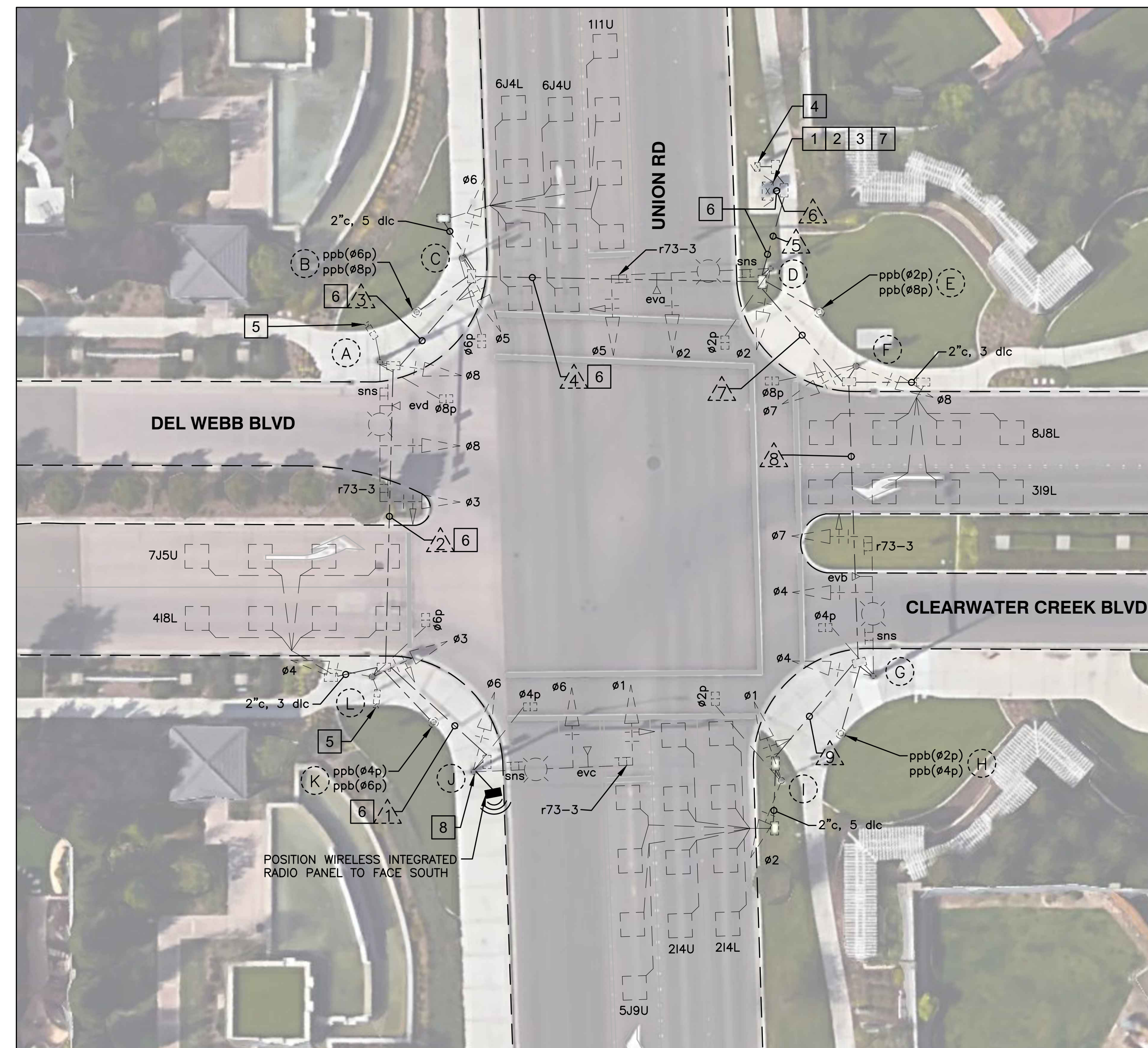
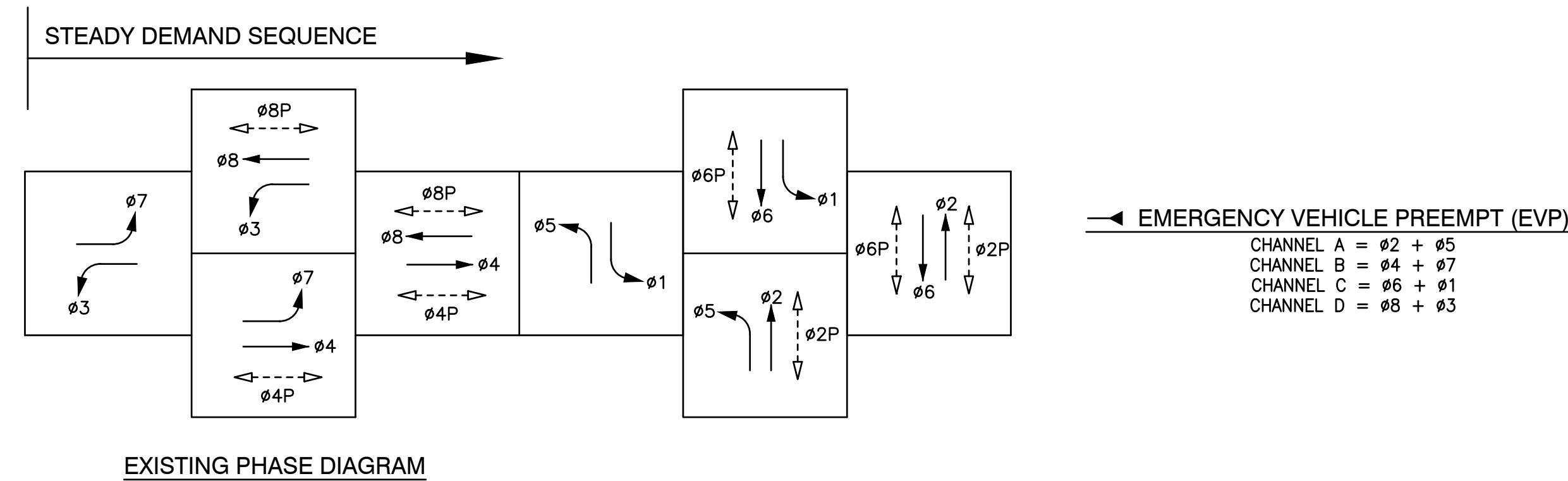
EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	1-A	—	—	—	TV-2-T	—	—	—	—	—	
(B)	1-A	—	—	—	TV-1-T	—	—	—	—	—	
(C)	26-4-100	45'	15'	MAS MAS	SV-1-T	—	—	—	—	87W	
(D)	19-4-100	30'	15'	MAS	SV-2-T	—	—	—	—	105W	
(E)	24-4-100	35'	15'	MAS MAS	SV-2-T	—	—	—	—	105W	

NOTES:

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]



GENERAL NOTES

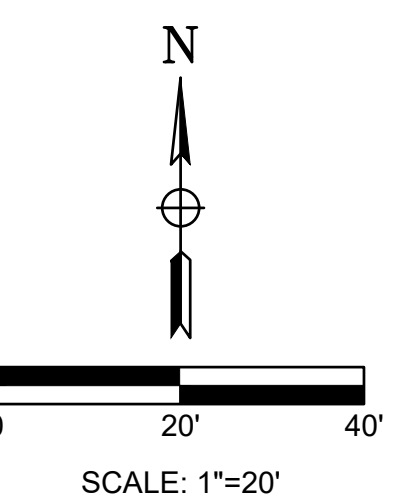
1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

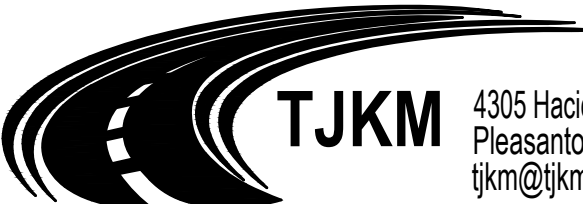
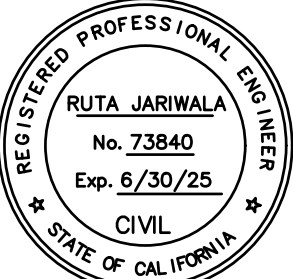
PROJECT NOTES

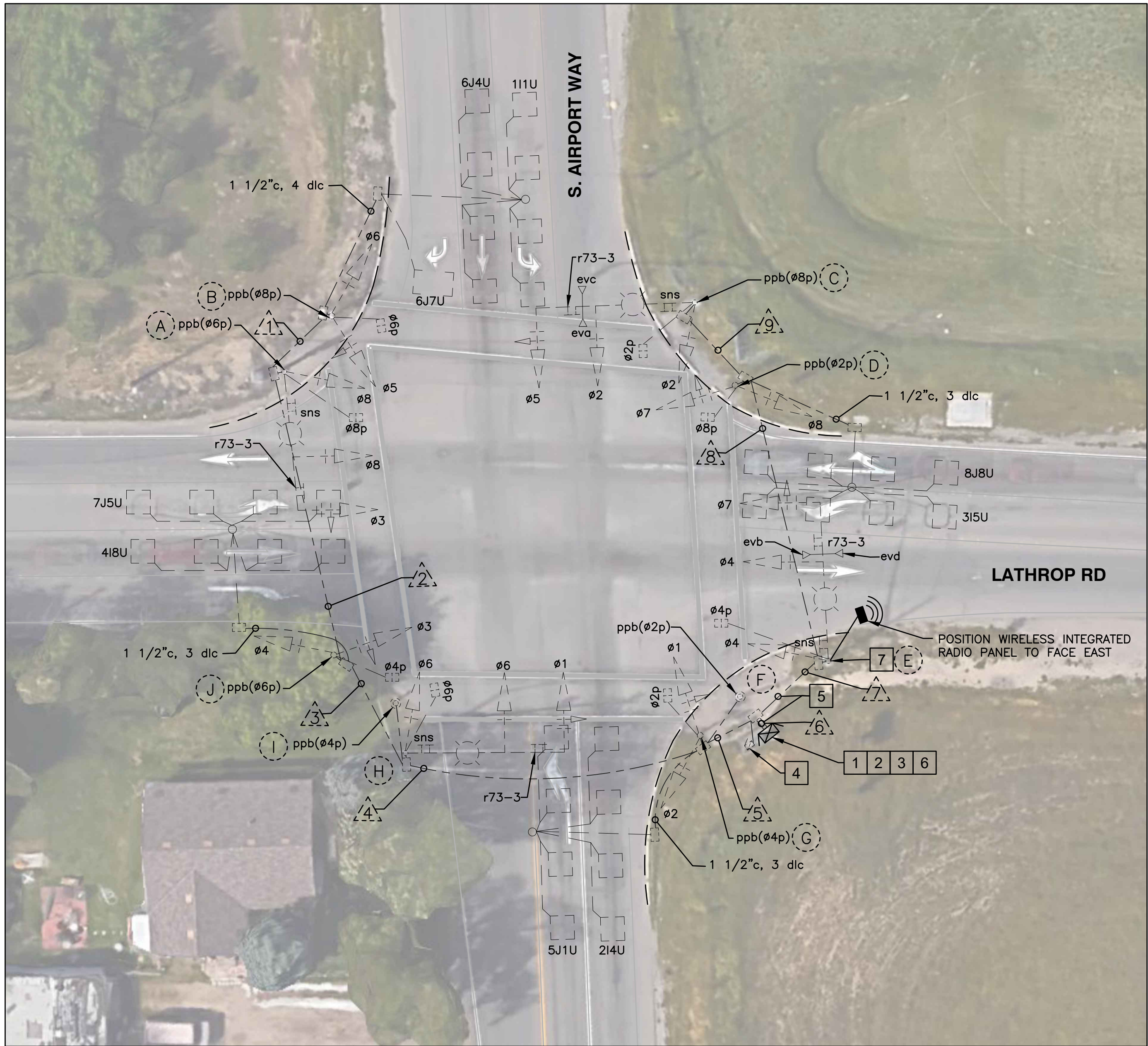
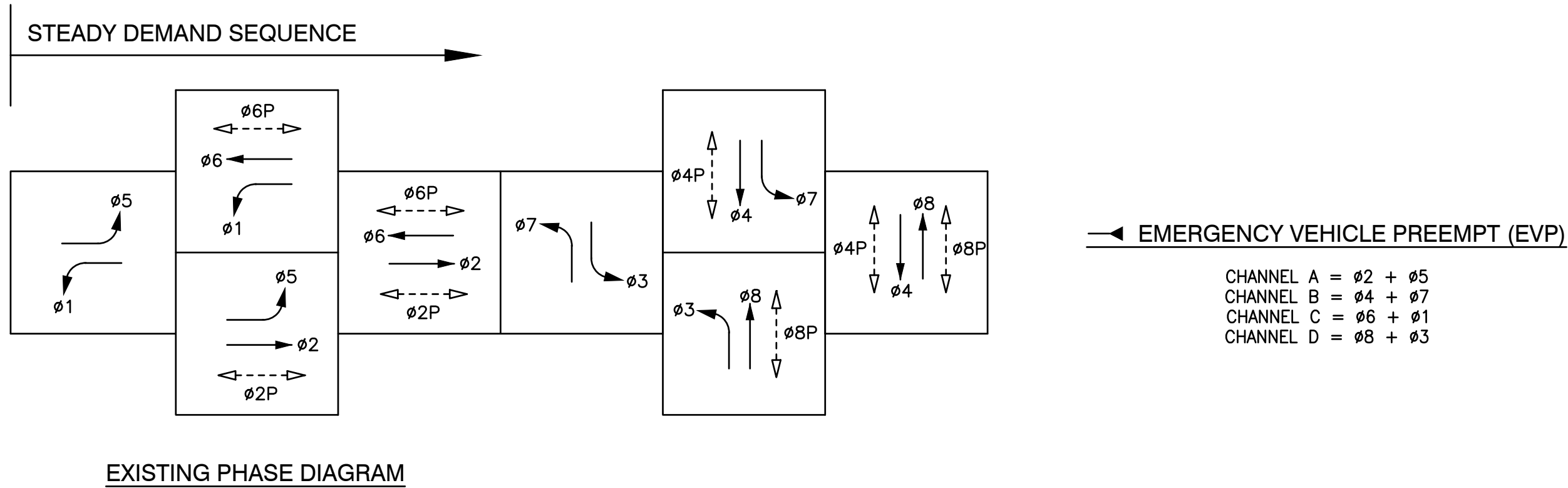
- 1 EXISTING SIGNAL CABINET TO REMAIN.
- 2 REMOVE AND SALVAGE EXISTING CONTROLLER IN EXISTING SIGNAL CABINET AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN EXISTING CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 EXISTING CAMERA ON SIGNAL POLE TO REMAIN.
- 6 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE IN EXISTING CONDUIT.
- 7 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN EXISTING CABINET.
- 8 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

-) PROPOSED RADIO TRANSMITTER



					 4305 Hacienda Drive, Suite 550 Pleasanton, CA 94588 tjkm@tjkm.com	 DATE SIGNED: 01/19/2024	SCALE: 1"=20' DRAWN BY: A. DICKINSON / M. MONTERO CHECKED BY: R. PATEL DATE: 01/19/2024 PROJECT NO: 103-029	DEL WEBB BOULEVARD AND UNION ROAD	TS-6
REV	DATE	DESCRIPTION	BY					TRAFFIC SIGNAL MODIFICATION PLAN	SHEET 9 OF 117

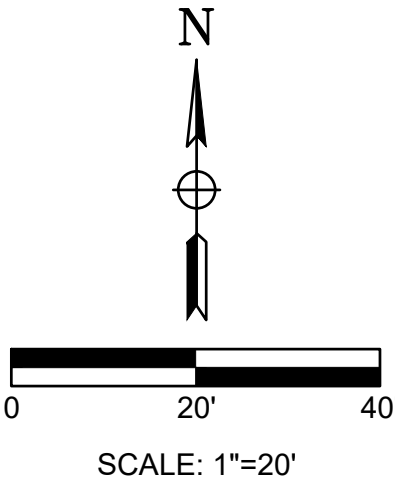


- GENERAL NOTES**
- ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
 - THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
 - CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

- PROJECT NOTES**
- REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
 - FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE SOUTH.
 - FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
 - EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
 - FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
 - FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
 - FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

■))) PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

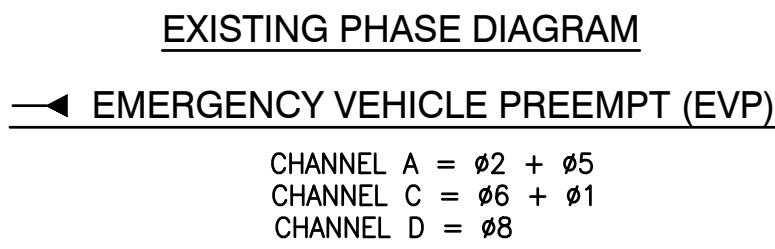
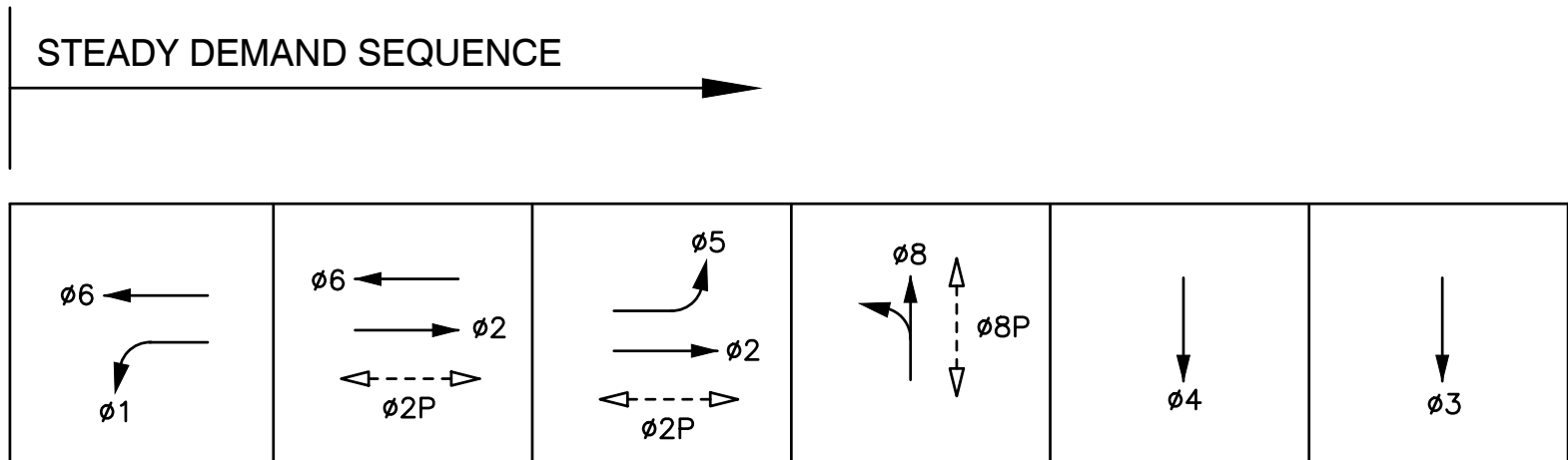
SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

LATHROP ROAD AND S. AIRPORT WAY	TS-8
TRAFFIC SIGNAL MODIFICATION PLAN	SHEET 11 OF 117

NOTES:
ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.
() = NEW CONDUCTORS

NOTES:
ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

SHEET 12 OF 117

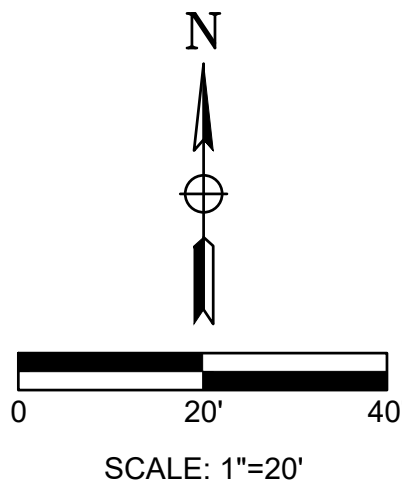


- GENERAL NOTES**
- ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
 - THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION AND NEW SIGNAGE IN THIS SHEET. FOR NEW SIGNS IN THIS SHEET, SIGN THICKNESS MUST BE 0.080" AND FRAMING MUST BE PER 2023 CALTRANS STANDARD PLANS SHEET S93, S94, AND S95. RETROREFLECTIVE SHEET MUST BE TYPE XI, EXCEPT FOR WHITE BACKGROUND SIGNS, IT MUST BE TYPE IX PER 2023 CALTRANS STANDARD SPECIFICATIONS SECTION 82-2.02C.
 - CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

- PROJECT NOTES**
- REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
 - FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE WEST.
 - FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
 - EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
 - REMOVE AND SALVAGE EXISTING R9-3a SIGN AND R9-3bP(R) SIGN ON SIGNAL POLE. FURNISH AND INSTALL R9-3a SIGN (18"x18") AND R9-3bP(R) SIGN (18"x12") IN PLACE.
 - EXISTING CAMERA ON SIGNAL POLE TO REMAIN.
 - FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
 - FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
 - FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 02/01/2024
PROJECT NO: 103-029

LATHROP ROAD AND LONDON AVENUE

TS-10

TRAFFIC SIGNAL MODIFICATION PLAN

SHEET 13 OF 117

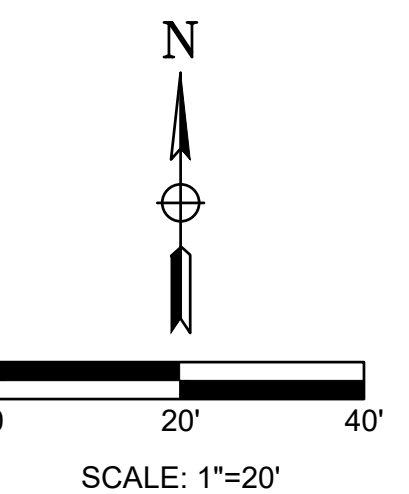


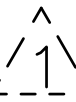
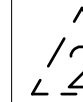
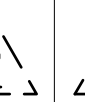
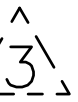
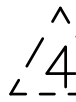
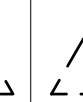
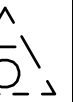
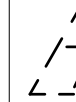
1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE SOUTH.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]

CONDUCTOR SCHEDULE											
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE									
											
#14	Ø1	3	3	3	3	3	6	3	3	3	3
	Ø2						3	3	3	3	3
	Ø4			3	3	3	6	3	3	3	
	Ø5					3	6	3			
	Ø6	3	3	3	3	3	3				
	Ø8		3	3	3	3	6	3	3		
	Ø2P						2	2	2	2	2
	Ø8P				2	2	4	2	2		
	PPB(Ø2P)						2	2	2	2	
	PPB(Ø8P)					2	4	2	2		
	PPB COMMON					1	2	1	1	1	
	SPARES	3	3	3	3	3	6	3	3	3	3
TOTAL No. 14	9	12	15	17	23	50	27	24	17	11	
#10	SIGNAL COMMON	1	1	1	1	1	2	1	1	1	1
	LUMINAIRE	2	2	2	2	2		2	2	2	
	TOTAL No. 10	3	3	3	3	3	2	3	3	3	1
ANTENNA TRANSMITTER	RADIO POE						(1)	(1)			
	TOTAL CABLES						(1)	(1)			
DLC	111U					1	1				
	212U						1	1	1	1	1
	212L						1	1	1	1	1
	214U						1	1	1	1	1
	214L						1	1	1	1	1
	216U						1	1	1	1	1
	216L						1	1	1	1	1
	416L			1	1	1	1				
	418U			1	1	1	1				
	418L			1	1	1	1				
	5J7U	1	1	1	1	1	1				
	6J2U					1	1				
	6J2L					1	1				
	6J4U					1	1				
	6J4L					1	1				
	8J6L						1	1	1		
	8J8U						1	1	1		
	8J8L						1	1	1		
	TOTAL DLC	1	1	4	4	9	18	9	9	6	6
EVP	CHANNEL A						1	1			
	CHANNEL B						1	1	1	1	
	CHANNEL C	1	1	1	1	1	1				
	CHANNEL D				1	1	1				
	TOTAL CABLES	1	1	1	2	2	4	2	1	1	
TOTAL CABLES		3"	3"	3"	3"	3"	2-4"	3"	3"	3"	3"
CONDUIT SIZE(INCHES)		6%	7%	11%	12%	18%	11%	21%	18%	14%	11%

NOTES:

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

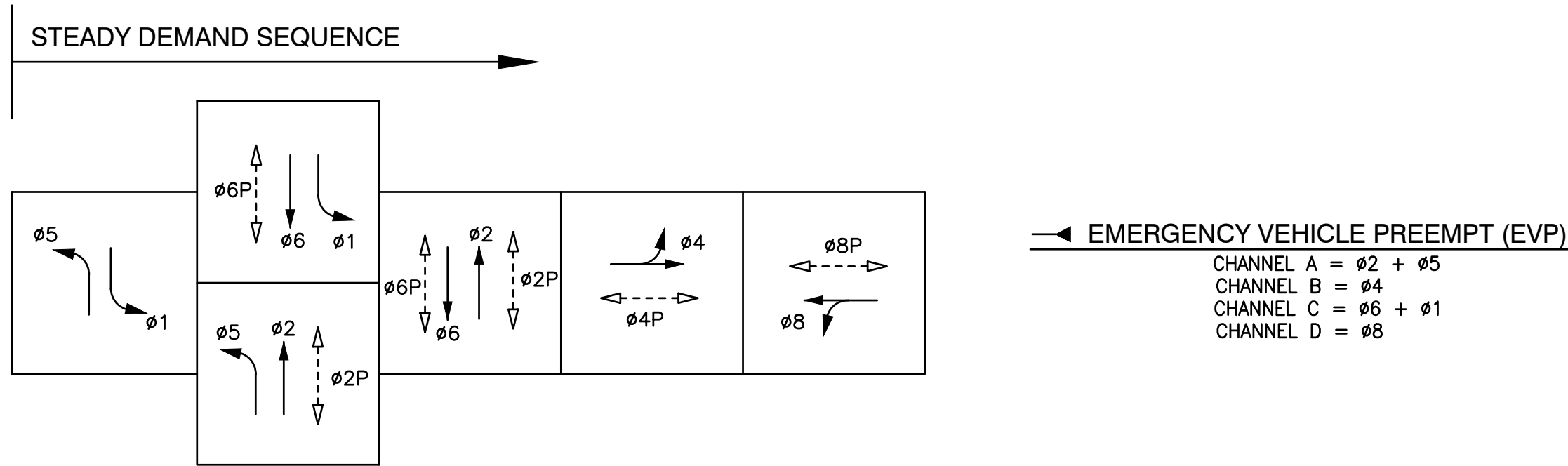
() = NEW CONDUCTORS

EQUIPMENT SCHEDULE											
No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Most Arm	Pole	ø	MTG	ø	ARROW		
(A)	26A-4-100	45'	-	MAS MAS	SV-1-T	-	-	-	-	206W	
(B)	1-A	-	-	-	TV-1-T	-	-	-	-	-	
(C)	1-A	-	-	-	TV-1-T	-	-	-	-	-	
(D)	26A-4-100	45'	-	MAS MAS	SV-1-T	8	SP-1-T	-	-	206W	
(E)	15TS	-	12'	-	SV-2-T	-	-	8	RIGHT	154W	
(F)	61A-5-100	65'	-	MAS MAS MAS	SV-1-T	2	SP-1-T	-	-	206W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE.
(G)	PPB POST	-	-	-	-	-	-	8	RIGHT	-	
(H)	1-A	-	-	-	TV-2-T	8	SP-1-T	2	RIGHT	-	
(I)	26-4-161	45'	-	MAS MAS	SV-1-T	-	-	2	LEFT	206W	
(J)	1-A	-	-	-	TV-2-T	2	SP-1-T	-	-	-	

NOTES:

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]



EXISTING PHASE DIAGRAM



GENERAL NOTES

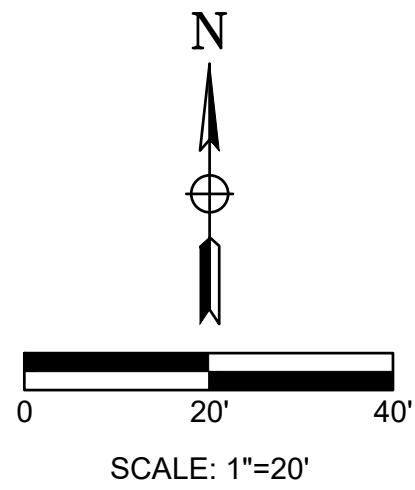
1. ALL CONDUITS ARE SHOWN DIAGMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE NORTH.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

- PROPOSED RADIO TRANSMITTER



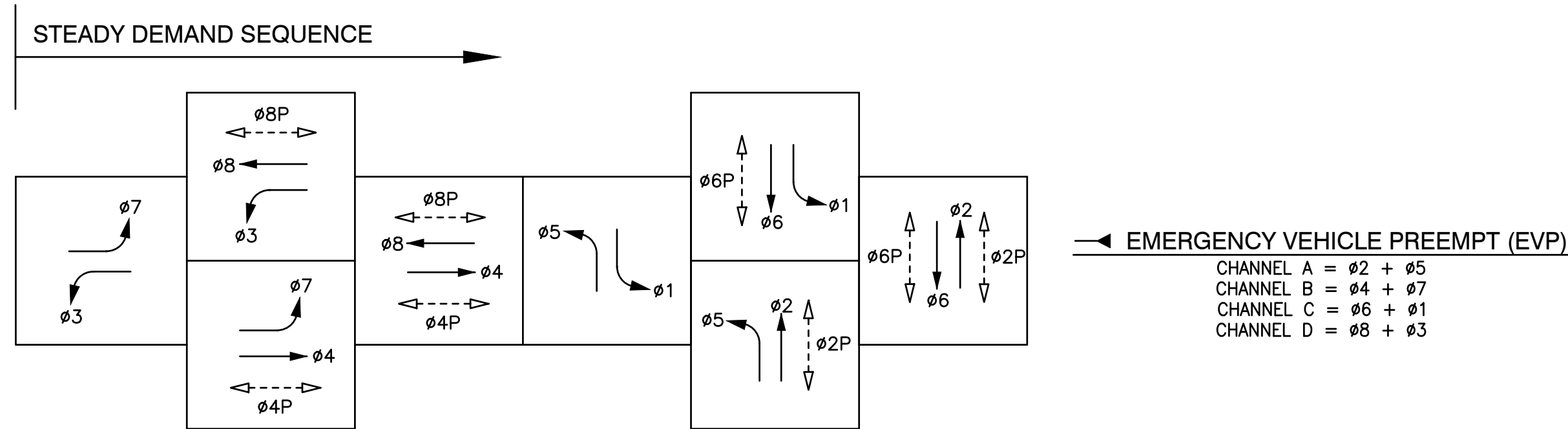
REV	DATE	DESCRIPTION	BY



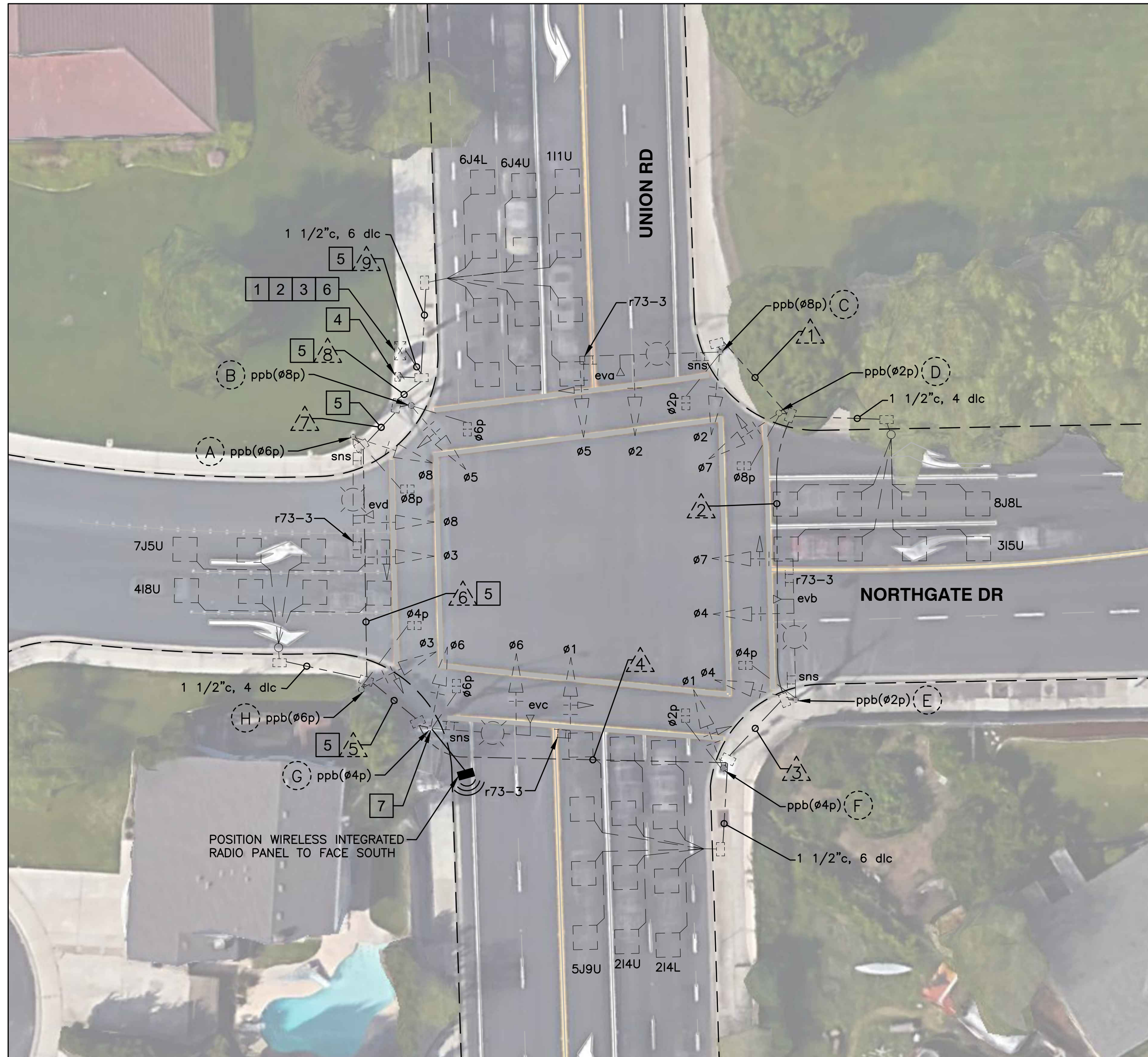
DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

UNION ROAD AND LANCER WAY/SPRAGUE STREET	TS-16
TRAFFIC SIGNAL MODIFICATION PLAN	SHEET 19 OF 117



EXISTING PHASE DIAGRAM



GENERAL NOTES

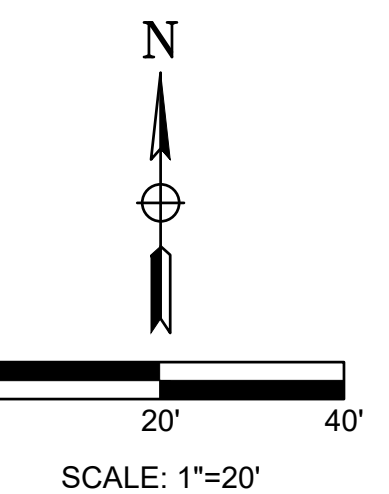
1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 EXISTING SIGNAL CABINET TO REMAIN.
- 2 REMOVE AND SALVAGE EXISTING CONTROLLER IN EXISTING SIGNAL CABINET AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN EXISTING SIGNAL CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN EXISTING CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

- PROPOSED RADIO TRANSMITTER



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CONDUCTOR SCHEDULE										
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE								
#14	Ø1				3	3	3	3	3	3
	Ø2	3	3	3	3	3	3	3	3	3
	Ø3						3	3	3	3
	Ø4			3	3	3	3	3	3	3
	Ø5	3	3	3	3	3	3	3	3	3
	Ø6					3	3	3	3	3
	Ø7		3	3	3	3	3	3	3	3
	Ø8							3	3	3
	Ø2P	2	2	2	2	2	2	2	2	2
	Ø4P			2	2	2	2	2	2	2
	Ø6P					2	2	2	2	2
	Ø8P		2	2	2	2	2	2	2	2
	PPB(Ø2P)		1	1	1	1	1	1	1	1
	PPB(Ø4P)				1	1	1	1	1	1
	PPB(Ø6P)						1	1	1	1
	PPB(Ø8P)	1	1	1	1	1	1	1	1	1
	PPB COMMON	1	1	1	1	1	1	1	1	1
	P.E.U.									
SPARES	3	3	3	3	3	3	3	3	3	
TOTAL No. 14	13	19	24	28	33	37	40	40	40	
#10	SIGNAL COMMON	1	1	1	1	1	1	1	1	1
	LUMINAIRE	2	2	2	2	2	2	2	2	
	TOTAL No. 10	3	3	3	3	3	3	3	3	1
ANTENNA TRANSMITTER	RADIO POE					(1)	(1)	(1)	(1)	(1)
	TOTAL CABLES					(1)	(1)	(1)	(1)	(1)
DLC	111U									1
	212U				1	1	1	1	1	1
	212L				1	1	1	1	1	1
	214U				1	1	1	1	1	1
	214L				1	1	1	1	1	1
	315U		1	1	1	1	1	1	1	1
	416U						1	1	1	1
	418U						1	1	1	1
	5J9U				1	1	1	1	1	1
	6J2U									1
	6J2L									1
	6J4U									1
	6J4L									1
	7J5U						1	1	1	1
	8J6U		1	1	1	1	1	1	1	1
	8J8L		1	1	1	1	1	1	1	1
	TOTAL DLC		3	3	8	8	11	11	11	16
	EVP	CHANNEL A	1	1	1	1	1	1	1	1
CHANNEL B				1	1	1	1	1	1	1
CHANNEL C						1	1	1	1	1
CHANNEL D								1	1	1
TOTAL CABLES		1	1	2	2	3	3	4	4	4
TOTAL CABLES		2"	3"	3"	3"	3"	3"	2-3"	2-3"	
CONDUIT SIZE(INCHES)		13%	11%	13%	19%	22%	26%	28%	14%	16%

() = NEW CONDUCTORS

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Most Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	19-4-70	30'	12'	MAT MAS	SV-1-T	8	SP-1-T	6	LEFT	65W	
(B)	1-A	-	-	-	TV-1-T	6	SP-1-T	8	RIGHT	-	
(C)	24-4-70	35'	12'	MAT MAT	SV-1-T	2	SP-1-T	8	LEFT	65W	
(D)	1-A	-	-	-	TV-1-T	8	SP-1-T	2	RIGHT	-	
(E)	19-4-70	30'	12'	MAT MAS	SV-1-T	4	SP-1-T	2	LEFT	65W	
(F)	1-A	-	-	-	TV-1-T	2	SP-1-T	4	RIGHT	-	
(G)	24-4-70	35'	15'	MAT MAT	SV-1-T	6	SP-1-T	4	LEFT	70W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(H)	1-A	-	-	-	TV-1-T	4	SP-1-T	6	RIGHT	-	

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]

CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE					
							
#14	Ø1	3	3		3		
	Ø2		3		3		
	Ø3	3	3	3	9	3	3
	Ø4			3	6	3	3
	Ø5						
	Ø6	3	3		6	3	3
	Ø7						
	Ø8						
	Ø2P		2		2		
	Ø4P	2	2		2		
	Ø6P				2	2	2
	Ø8P						
	PPB(Ø2P)		1	1	2		
	PPB(Ø4P)	1	1		1		
	PPB(Ø6P)				1	1	1
	PPB(Ø8P)						
	PPB COMMON	1	1	1	3	1	1
	P.E.U.				3		
SPARES	3	3	3	9	3	3	
TOTAL No. 14	16	22	11	52	16	16	
#10	SIGNAL COMMON	1	1	1	3	1	1
	LUMINAIRE	2	2			2	
	TOTAL No. 10	3	3	1	3	3	1
ANTENNA TRANSMITTER	RADIO POE				(1)	(1)	
	TOTAL CABLES				(1)	(1)	
DLC	114U				1	1	
	212U		1	1	1		
	212L		1	1	1		
	214U		1	1	1		
	214L		1	1	1		
	319U			1	1		
	319L			1	1		
	418U				1	1	1
	418L				1	1	1
	612U				1	1	
	612L				1	1	
	6J4U				1	1	
	6J4L				1	1	
TOTAL DLC		4	6	13	7	2	
EVP	CHANNEL A	1	1		1		
	CHANNEL B	1	1		1		
	CHANNEL C				1	1	1
	CHANNEL D						
TOTAL CABLES		2	2		3	1	1
TOTAL CABLES		3"	3"	2"	2-3"	3"	3"
CONDUIT SIZE(INCHES)		8%	13%	21%	16%	14%	8%

NOTES:

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	24-4-70	35'	15'	MAS MAS	SV-2-TB	4	SP-1-T	4	RIGHT	65W	
(B)	1-A	-	-	-	TV-3-T	6	SP-1-T	6	RIGHT	-	REMOVE AND SALVAGE EXISTING "DO NOT ENTER" SIGN. FURNISH AND INSTALL R5-1 SIGN (30"x30") IN PLACE.
(C)	15	-	12'	-	-	6	SP-1-T	6	LEFT	65W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE.
(D)	17-3-70	20'	12'	MAS	-	2	SP-1-T	-	-	53W	
(E)	1-A	-	-	-	TV-2-T	-	-	2	RIGHT	-	
(F)	1-A	-	-	-	TV-2-T	2 4	SP-2-T	2 4	RIGHT LEFT	-	

NOTES:

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]

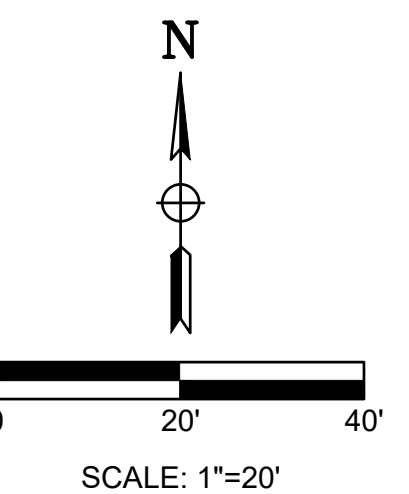


1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE AND UPLVAGE EXISTING SIGNAL CABINET, EXISTING CONTROLLER, AND EXISTING BATTERY BACKUP UNIT ENCLOSURE AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE SOUTH.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL NEW BATTERY BACKUP UNIT ENCLOSURE AND LX-BBS FOUNDATION. NEW FOUNDATION TO BE INSTALLED ADJACENT TO EXISTING 332 CABINET FOUNDATION. SEE CALTRANS RSP ES-3C FOR FOUNDATION DETAILS.
- 6 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE IN EXISTING CONDUIT.
- 7 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 8 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]

CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE									
		1	2	3	4	5	6	7	8	9	10
#14	Ø1				3	3	3	3			
	Ø2						3	3	3	3	3
	Ø3		3	3	3	3	3	3			
	Ø4			3	3	3	6	6	3	3	3
	Ø5	3	3	3	3	3	6	6	3	3	3
	Ø6	3	3	3	3	3	3	3			
	Ø7						3	3	3	3	
	Ø8		3	3	3	3	6	6	3	3	
	Ø2P						2	2	2	2	2
	Ø4P			2	2	2	4	4	2		
	Ø6P	2	2	2	2	2	2	2			
	Ø8P		2	2	2	2	4	4	2	2	
	PPB(Ø2P)						1	1	1	1	
	PPB(Ø4P)				1	1	1	1			
	PPB(Ø6P)		1	1	1	1	1	1			
	PPB(Ø8P)	1	1	1	1	1	2	2	1	1	1
	PPB COMMON	1	1	1	1	1	1	1	1	1	1
	P.E.U.						3		3		
	SPARES	3	3	3	3	3	6	6	3	3	3
	TOTAL No. 14	13	22	27	31	31	60	57	30	25	16
#10	SIGNAL COMMON	1	1	1	1	1	1	1	1	1	1
	LUMINAIRE		2	2	2	2	4		2	2	2
ANTENNA TRANSMITTER	TOTAL No. 10	1	3	3	3	3	5	1	3	3	3
	RADIO POE						(1)	(1)	(1)	(1)	(1)
	TOTAL CABLES						(1)	(1)	(1)	(1)	(1)
DLC	111U	1	1	1	1	1	1	1			
	212U							1			
	212L							1			
	214U							1			
	214L							1			
	3J5U						1	1	1	1	
	4I6U			1	1	1	1	1			
	4I6L			1	1	1	1	1			
	4I8U			1	1	1	1	1			
	4I8L			1	1	1	1	1			
	5J9U					1	1	1			
	5J9L					1	1	1			
	6J2U	1	1	1	1	1	1	1			
	6J2L	1	1	1	1	1	1	1			
	6J4U	1	1	1	1	1	1	1			
	6J4L	1	1	1	1	1	1	1			
	7J5U			1	1	1	1	1			
	8J8U						1	1	1	1	
	8J8L						1	1	1	1	
	8J6U						1	1	1	1	
	8J6L						1	1	1	1	
	TOTAL DLC	5	5	10	10	12	17	21	5	5	
EVP	CHANNEL A						1	1	1	1	1
	CHANNEL B						1	1	1		
	CHANNEL C				1	1	1	1			
	CHANNEL D		1	1	1	1	1	1			
	TOTAL CABLES		1	1	2	2	4	4	2	1	1
	TOTAL CABLES	3"	3"	3"	3"	3"	3-3"	3"	3"	3"	3"
CONDUIT SIZE(INCHES)		9%	13%	20%	22%	24%	40%	12%	17%	15%	7%

NOTES:
ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.
() = NEW CONDUCTORS

EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast	Arm	Pole	Ø	MTG	Ø	ARROW	
A	26-4-70	-	12'	-	-	-	-	-	6	LEFT	76W
B	1-A	-	-	-	-	TV-2-T	6	SP-1-T	-	-	-
C	26-4-70	45'	12'	MAS MAS	-	SV-2-TB	-	-	-	-	FURNISH AND INSTALL INTEGRATED RADIO AND ANTENNA TRANSMITTER ON SHAFT OF SIGNAL POLE.
D	1-A	-	-	-	-	TV-2-T	4	SP-1-T	4	RIGHT	-
E	26-4-70	45'	12'	MAS MAS	-	SV-1-T	6	SP-1-T	4	LEFT	76W
F	1-A	-	-	-	-	TV-1-T	4	SP-1-T	6	RIGHT	-

NOTES:
ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

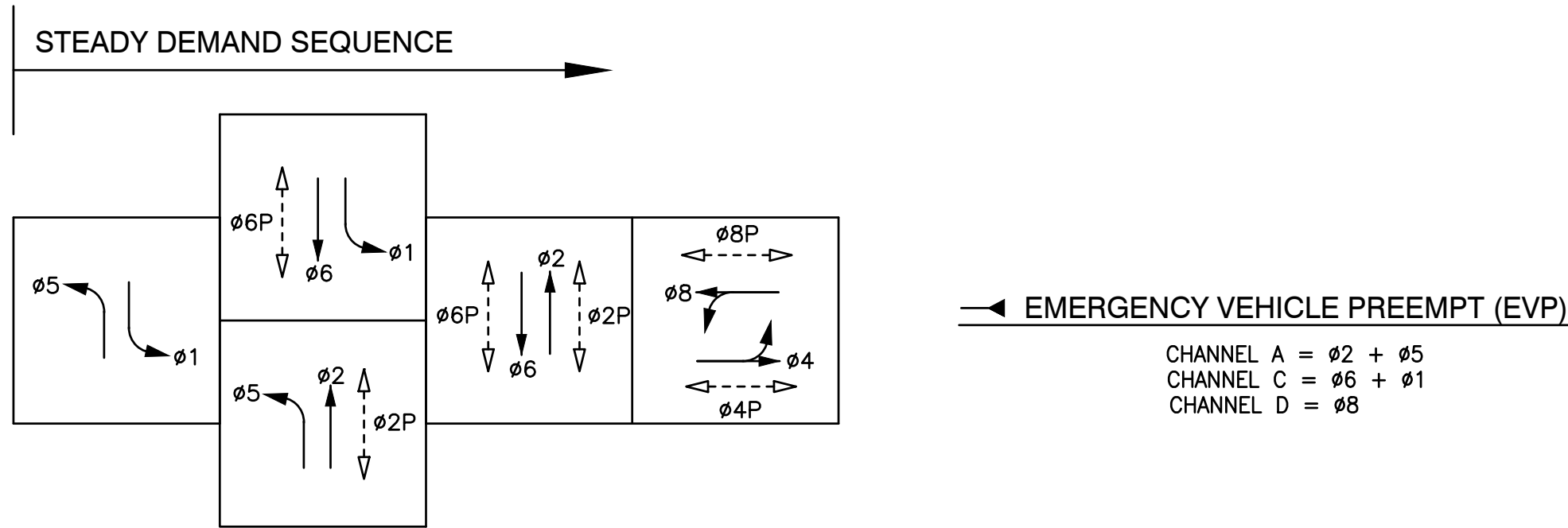
REV	DATE	DESCRIPTION	BY



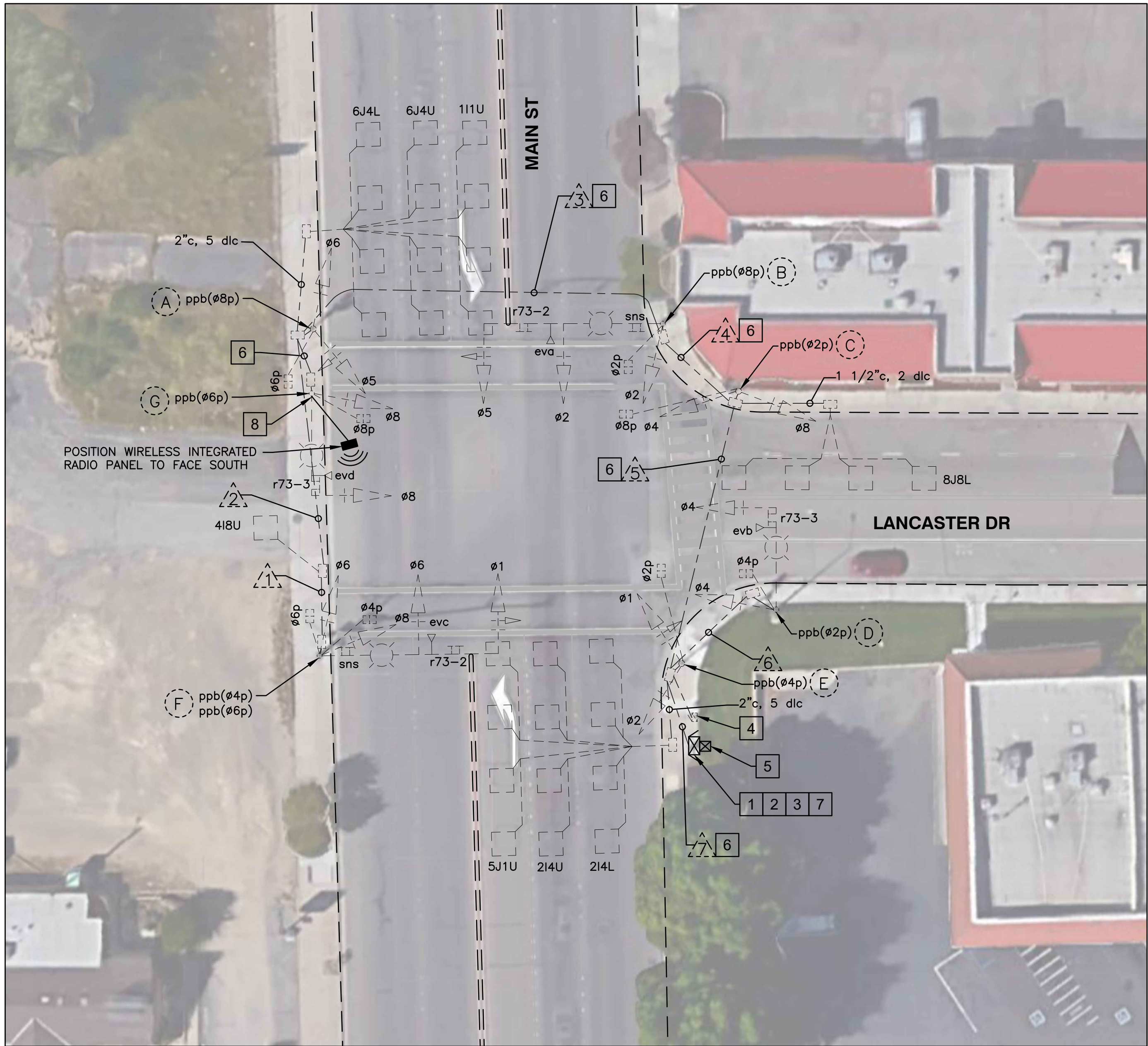
DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

NORTHGATE DRIVE AND MAIN STREET		TS-23
CONDUCTOR AND EQUIPMENT SCHEDULE		SHEET 26 OF 117



EXISTING PHASE DIAGRAM



GENERAL NOTES

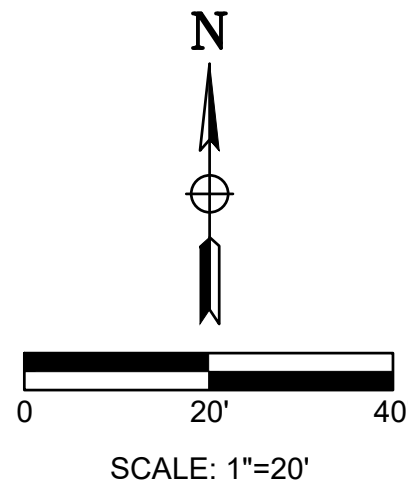
1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE AND SALVAGE EXISTING SIGNAL CABINET, EXISTING CONTROLLER, AND EXISTING BATTERY BACKUP UNIT ENCLOSURE AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE SOUTH.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL NEW BATTERY BACKUP UNIT ENCLOSURE AND LX-BBS FOUNDATION. NEW FOUNDATION TO BE INSTALLED ADJACENT TO EXISTING 332 CABINET FOUNDATION. SEE CALTRANS RSP ES-3C FOR FOUNDATION DETAILS.
- 6 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 7 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 8 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

- PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY

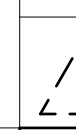
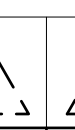
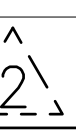
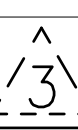
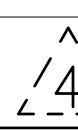
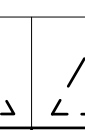
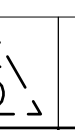


DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

LANCASTER DRIVE AND MAIN STREET	TS-24
TRAFFIC SIGNAL MODIFICATION PLAN	SHEET 27 OF 117

CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE						
								
#14	Ø1	3	3	3	3	3		3
	Ø2				3	3		3
	Ø4					3	3	6
	Ø5			3	3	3		3
	Ø6	3	3	3	3	3		3
	Ø8	3	3	3	3	3		3
	Ø2P				2	2		2
	Ø4P	2	2	2	2	2	2	4
	Ø6P	2	2	2	2	2		2
	Ø8P			2	2	2		2
	PPB(Ø2P)					1	1	2
	PPB(Ø4P)	1	1	1	1	1		1
	PPB(Ø6P)	1	1	1	1	1		1
	PPB(Ø8P)			1	1	1		1
	PPB COMMON	1	1	1	1	1	1	2
	SPARES	3	3	3	3	3		6
P.E.U.				3	3		3	
	TOTAL No. 14	19	19	25	33	37	7	47
#10	SIGNAL NEUTRAL	1	1	1	1	1	1	2
	LUMINAIRE	2	2	2	2	2	2	
	TOTAL No. 10	3	3	3	3	3	3	2
ANTENNA TRANSMITTER	RADIO POE			(1)	(1)	(1)		(1)
	TOTAL CABLES			(1)	(1)	(1)		(1)
DLC	111U			1	1	1		1
	212U							1
	212L							1
	214U							1
	214L							1
	418U		1	1	1	1		1
	5J1U							1
	6J2U			1	1	1		1
	6J2L			1	1	1		1
	6J4U			1	1	1		1
	6J4L			1	1	1		1
	8J6U					1		1
	8J8L					1		1
	TOTAL DLC		1	6	6	8		13
EVP	CHANNEL A				1	1		1
	CHANNEL B							
	CHANNEL C	1	1	1	1	1		1
	CHANNEL D			1	1	1		1
	TOTAL CABLES	1	1	2	3	3	#	3
CONDUIT SIZE(INCHES)		2"	2"	3"	3"	3.5"	2"	2-3"
% FILL		17%	19%	16%	19%	16%	9%	15%

NOTES:

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Most Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	1-A	—	—	—	TV-2-T	6	SP-1-T	8	RIGHT RIGHT	—	
(B)	26-4-70	45'	12'	MAS MAS	SV-1-T	2	SP-1-T	8	LEFT	65W	
(C)	1-A	—	—	—	TV-2-T	8	SP-1-T	2	RIGHT	—	
(D)	19-3-100	25'	15'	MAS	SV-1-T	4	SP-1-T	2	LEFT	65W	
(E)	1-A	—	—	—	TV-2-T	2	SP-1-T	4	RIGHT	—	
(F)	26-4-70	45'	12'	MAS MAS	SV-2-TB	4 6	SP-2-T	4 6	LEFT LEFT	15W	
(G)	19-3-100	25'	15'	MAS	SV-1-T	8	SP-1-T	6	RIGHT	65W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.

NOTES:

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]

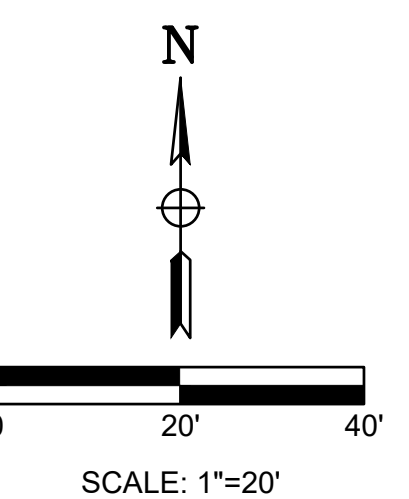


1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE SOUTH.
- 3 FURNISH AND INSTALL 2070LK CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUIP IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]

CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE							
									
#14	Ø1	3	3	3	3				
	Ø2	3	3	3					3
	Ø3	3	3	3	3	3	3		
	Ø4	3	3	3	3	3			
	Ø5	6	6	6	3	3	3	3	3
	Ø6	3	3	3	3	3	3	3	
	Ø7	3	3	3					3
	Ø8	6	6	6	3	3	3		3
	Ø2P	2	2	2					2
	Ø4P	2	2	2	2	2			
	Ø6P	2	2	2	2	2	2	2	
	Ø8P								
	PPB(Ø2P)	1	1						1
	PPB(Ø4P)	1	1	1	1				
	PPB(Ø6P)	1	1	1	1	1	1		
	PPB(Ø8P)								
	PPB COMMON	2	2	2	1	1	1		1
	P.E.U.	3	3						
SPARES	3	3	3	3	3	6	6	3	
TOTAL No. 14	47	47	43	28	24	22	14	19	
#10	SIGNAL COMMON	2	2	2	1	1	1	1	1
	LUMINAIRE		4	4	2	2	2		2
	TOTAL No. 10	2	6	6	3	3	3	1	3
ANTENNA TRANSMITTER	RADIO POE	(1)	(1)	(1)					(1)
	TOTAL CABLES	(1)	(1)	(1)					(1)
DLC	111U	1	1	1	1	1	1	1	1
	212U	1	1	1					
	214U	1	1	1					
	416U	1	1	1	1	1			
	5J1U	1	1	1					
	6J2U	1	1	1	1	1	1	1	1
	6J4U	1	1	1	1	1	1	1	1
	6J4L	1	1	1	1	1	1	1	1
	7J5U	1	1	1	1	1			
TOTAL DLC	9	9	9	6	6	4	4	4	
EVP	CHANNEL A	1	1	1					1
	CHANNEL B	1	1						
	CHANNEL C	1	1	1	1				
	CHANNEL D	1	1	1	1	1	1		
	TOTAL CABLES	4	4	3	2	1	1		1
CONDUIT SIZE(INCHES)		2-3"	2-3"	3"	3"	3"	3"	3"	3"
% FILL		16%	17%	29%	17%	15%	13%	9%	11%

NOTES:

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

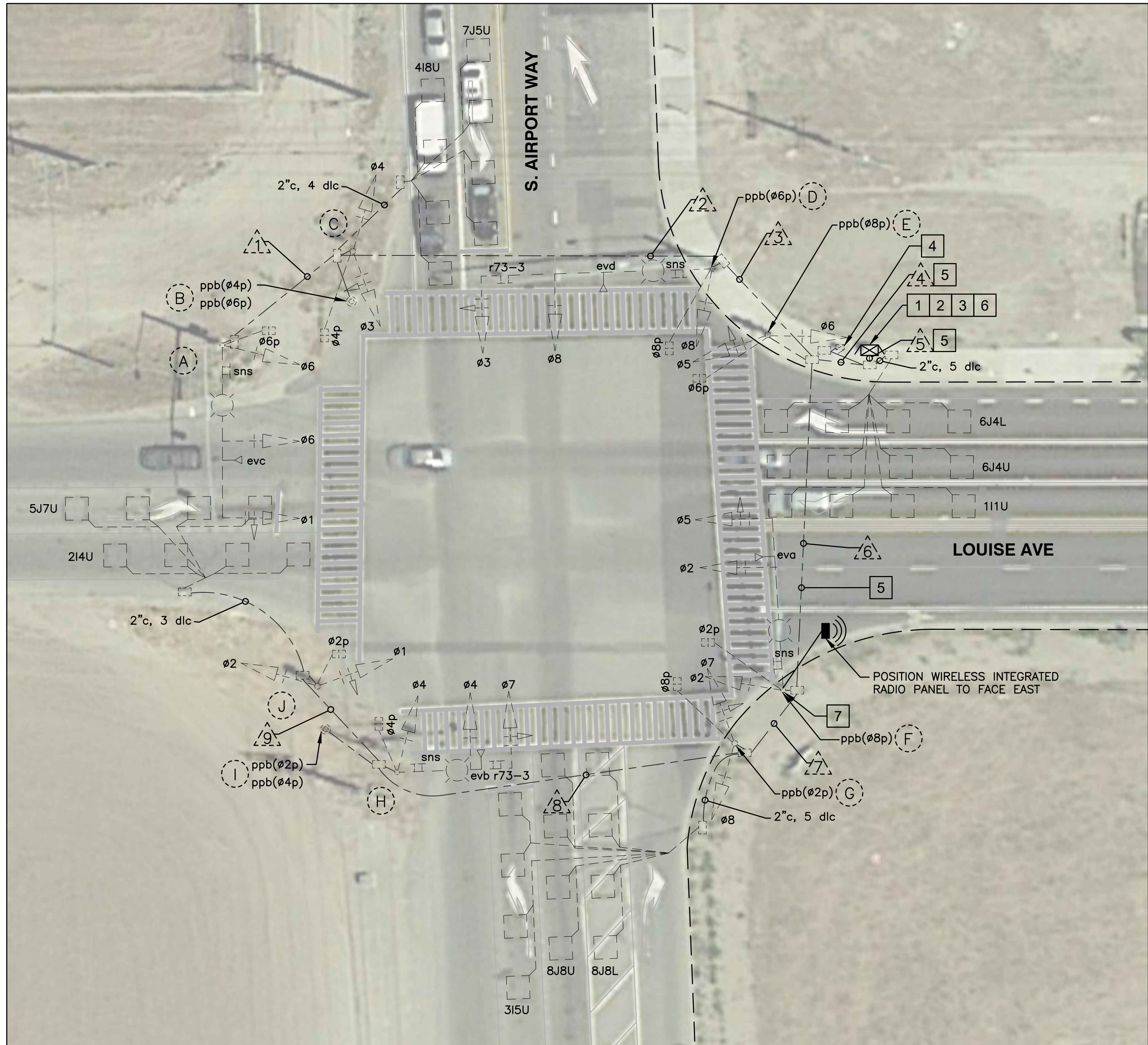
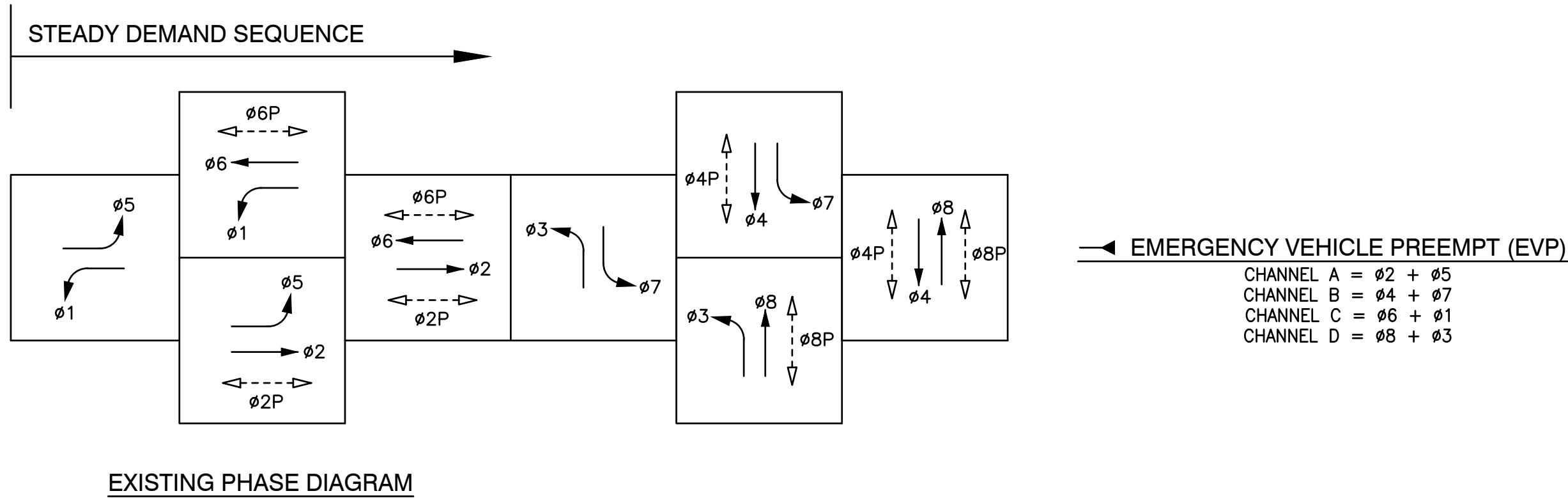
EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG	PED SIGNAL	PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS		
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG			Ø	ARROW
(A)	26-4-129	45'	—	MAS MAS	SV-1-T	6	SP-1-T	—	—	—	
(B)	PPB POST	—	—	—	—	—	—	4 6	LEFT RIGHT	—	
(C)	1-A	—	—	—	TV-2-T	4	SP-1-T	—	—	—	
(D)	26-5-129	55'	15'	MAS MAS	SV-1-T	—	—	—	—	65W	
(E)	PPB POST	—	—	—	—	—	—	6	LEFT	—	
(F)	1-A	—	—	—	TV-2-T	6	SP-1-T	—	—	—	
(G)	26-4-129	45'	15'	MAS MAS	SV-1-T	2	SP-1-T	—	—	65W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE.
(H)	1-A	—	—	—	TV-2-T	—	—	2	RIGHT	—	
(I)	19-4-129	30'	15'	MAS MAS	SV-1-T	4	SP-1-T	2	LEFT	65W	
(J)	1-A	—	—	—	TV-2-T	2	SP-1-T	4	RIGHT	—	

NOTES:

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]

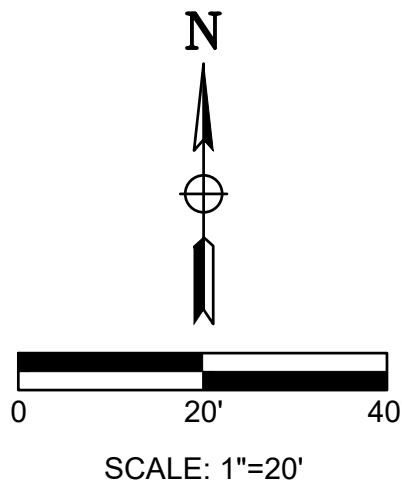


- GENERAL NOTES**
- ALL CONDUITS ARE SHOWN DIAGMATICALLY.
 - THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
 - CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

- PROJECT NOTES**
- REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
 - FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE EAST.
 - FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
 - EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
 - FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
 - FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
 - FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

■ PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

LOUISE AVENUE AND S. AIRPORT WAY	TS-28
TRAFFIC SIGNAL MODIFICATION PLAN	SHEET 31 OF 117

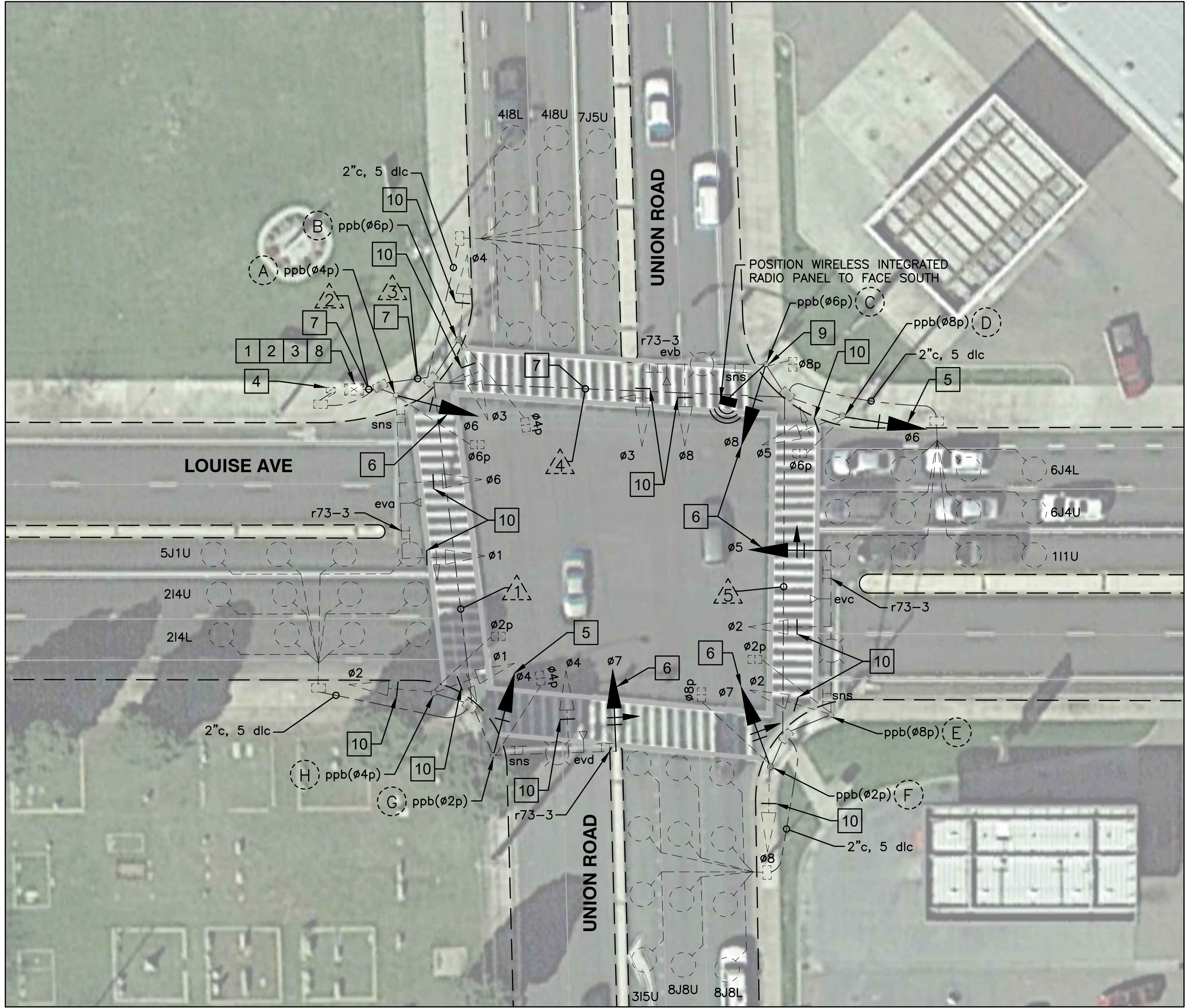
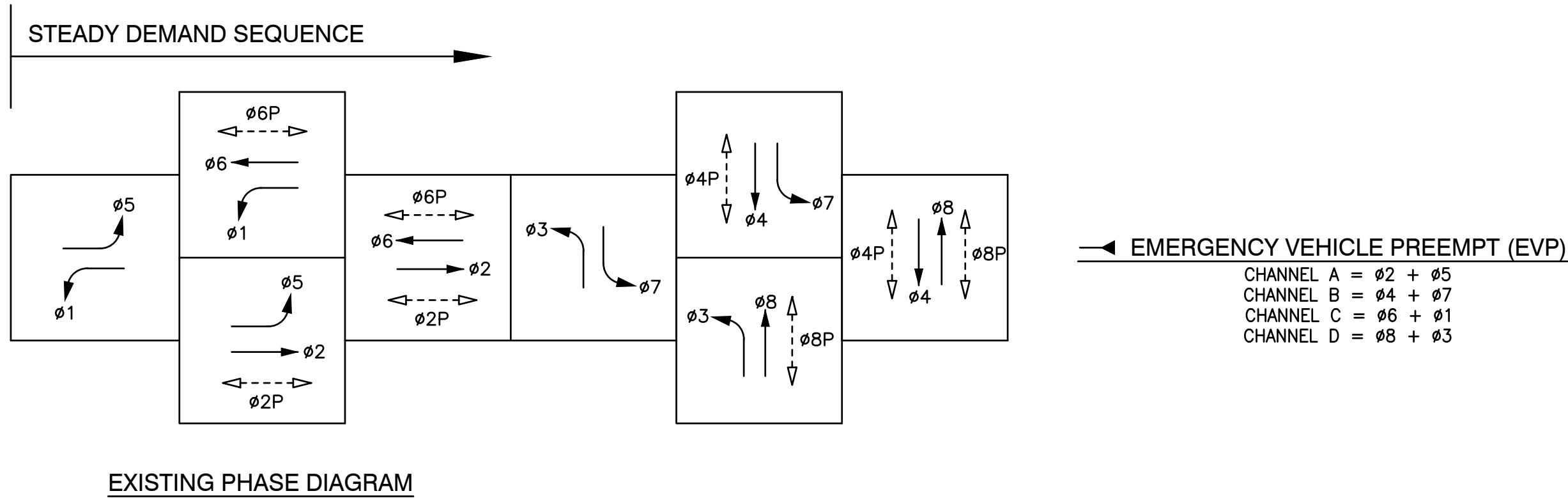
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE								
#14	Ø1	3	3	3	6	6	3	3	3	3
	Ø2				3	3	3	3	3	3
	Ø3		3	3	3	3				
	Ø4		3	3	6	6	3	3	3	
	Ø5				3	3	3			
	Ø6	3	3	3	3	3				
	Ø7				3	3	3	3	3	
	Ø8			3	6	6	3	3		
	Ø2P				2	2	2	2	2	2
	Ø4P		2	2	4	4	2	2	2	
	Ø6P	2	2	2	2	2				
	Ø8P			2	4	4	2	2		
	PPB(Ø2P)				1	1	1	1	1	
	PPB(Ø4P)		1	1	2	2	1	1	1	
	PPB(Ø6P)		1	1	1	1				
	PPB(Ø8P)				1	1	1			
	PPB COMMON		1	1	2	2	1	1	1	
	P.E.U.				3					
SPARES	3	3	3	6	6	3	3	3	3	
TOTAL No. 14	11	22	27	61	58	31	27	22	11	
#10	SIGNAL COMMON	1	1	1	2	2	1	1	1	
	LUMINAIRE	2	2	2	4		2	2	2	
	TOTAL No. 10	3	3	3	6	2	3	3	3	
ANTENNA TRANSMITTER	RADIO POE				(1)	(1)	(1)			
	TOTAL CABLES				(1)	(1)	(1)			
DLC	111U					1				
	212U				1	1	1	1	1	1
	214U				1	1	1	1	1	1
	315U				1	1	1	1		
	416U		1	1	1	1				
	418U		1	1	1	1				
	5J7U				1	1	1	1	1	1
	6J2U					1				
	6J2L					1				
	6J4U					1				
	6J4L					1				
	7J5U		1	1	1	1				
	7J9U		1	1	1	1				
	8J6U				1	1	1	1		
	8J6L				1	1	1	1		
	8J8U				1	1	1	1		
	8J8L				1	1	1	1		
	TOTAL DLC		4	4	12	17	8	8	3	3
	EVP	CHANNEL A				1	1	1		
CHANNEL B					1	1	1	1		
CHANNEL C		1	1	1	1	1				
CHANNEL D				1	1	1				
TOTAL CABLES		1	1	2	4	4	2	1	1	
CONDUIT SIZE(INCHES)		3"	3"	3"	2-3"	2-3"	3"	3"	3"	3"
% FILL		5%	12%	15%	18%	19%	20%	18%	11%	6%

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.
() = NEW CONDUCTORS

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	26-4-129	45'	12'	MAS MAS	SV-1-T	6	SP-1-T	-	-	65W	
(B)	PPB POST	-	-	-	-	-	-	4 6	LEFT RIGHT	-	
(C)	1-B	-	-	-	TV-2-T	4	SP-1-T	-	-	-	
(D)	65-5-129	60'	12'	MAS MAS	SV-1-T	8	SP-1-T	6	LEFT	65W	
(E)	1-B	-	-	-	TV-2-T	6	SP-1-T	8	RIGHT	-	
(F)	26-4-129	45'	15'	MAS MAS	SV-1-T	2	SP-1-T	8	LEFT	65W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(G)	1-B	-	-	-	TV-2-T	8	SP-1-T	2	RIGHT	-	
(H)	19-4-129	30'	15'	MAS MAS	SV-1-T	4	SP-1-T	-	-	65W	
(I)	PPB POST	-	-	-	-	-	-	2 4	LEFT RIGHT	-	
(J)	1-B	-	-	-	TV-2-T	2	SP-1-T	-	-	-	

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]

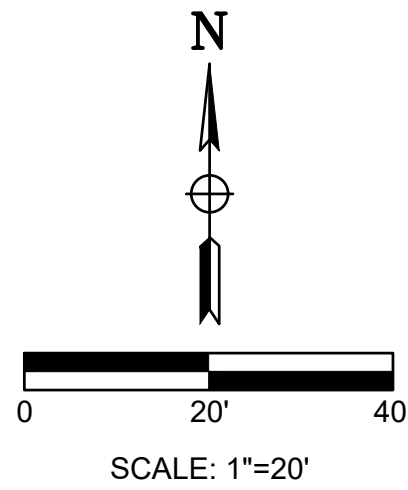


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 3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

- PROJECT NOTES**
- 1 EXISTING SIGNAL CABINET TO REMAIN.
 - 2 REMOVE AND SALVAGE EXISTING CONTROLLER IN EXISTING SIGNAL CABINET AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337.
 - 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN EXISTING CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
 - 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
 - 5 REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD. FURNISH AND INSTALL 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
 - 6 REMOVE AND SALVAGE EXISTING SIGNAL HEAD. FURNISH AND INSTALL 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
 - 7 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
 - 8 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN EXISTING CABINET.
 - 9 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
 - 10 FURNISH AND INSTALL NEW YELLOW RETROREFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE.

LEGEND:

■))) PROPOSED RADIO TRANSMITTER



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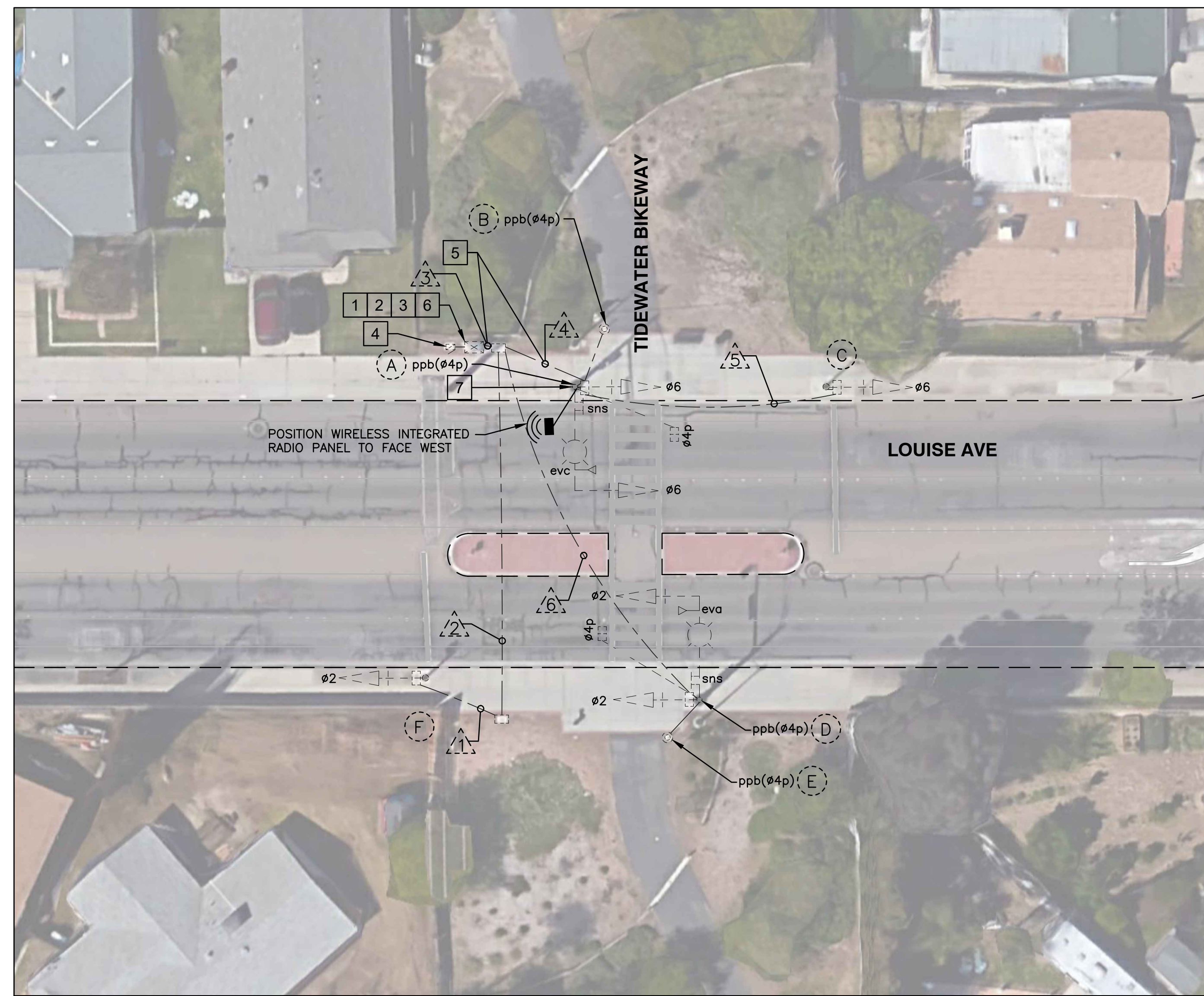
CONDUCTOR SCHEDULE						
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE				
#14	Ø1	3	3			
	Ø2	3	6	6	3	3
	Ø3		3	3	3	
	Ø4	3	3	3		
	Ø5		3	3	3	3
	Ø6		3	3	3	
	Ø7	3	6	6	3	3
	Ø8		3	3	3	3
	Ø2P					
	Ø4P	2	4	4	2	2
	Ø6P		2	2	2	
	Ø8P		2	2	2	2
	PPB(Ø2P)	1	2	2	1	1
	PPB(Ø4P)	1	1	1		
	PPB(Ø6P)		1	1	1	
	PPB(Ø8P)		1	1	1	1
	PPB COMMON	1	2	2	1	1
	P.E.U.					
	SPARES	3	6	6	3	3
TOTAL No. 14	22	53	50	31	22	
#10	SIGNAL COMMON	1	2	2	1	1
	LUMINAIRE	2		4	2	2
	TOTAL No. 10	3	2	6	3	3
ANTENNA TRANSMITTER	RADIO POE		(1)	(1)	(1)	
	TOTAL CABLES		(1)	(1)	(1)	
DLC	111U		1	1	1	
	212U	1	1	1		
	212L	1	1	1		
	214U	1	1	1		
	214L	1	1	1		
	315U		1	1	1	1
	416U		1	1		
	416L		1	1		
	418U		1	1		
	418L		1	1		
	5J1U	1	1	1		
	6J2U		1	1	1	
	6J2L		1	1	1	
	6J4U		1	1	1	
	6J4L		1	1	1	
	7J5U		1	1		
	8J6U		1	1	1	1
	8J6L		1	1	1	1
	8J8U		1	1	1	1
	8J8L		1	1	1	1
	TOTAL DLC	5	19	19	9	4
EVP	CHANNEL A		1			
	CHANNEL B		1	1	1	
	CHANNEL C		1	1	1	1
	CHANNEL D	1	1	1		
	TOTAL CABLES	1	4	3	2	1
CONDUIT SIZE (INCHES)		3"	2—3"	3"	3"	3"
% FILL		13%	20%	38%	21%	12%

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.
() = NEW CONDUCTORS

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	24-3-70	35'	-	MAT MAS	SV-1-T	6	SP-1-T	4	LEFT	-	REMOVE AND SALVAGE EXISTING SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL 12" SIGNAL HEAD IN PLACE.
(B)	1-A	-	-	-	TV-2-T	4	SP-1-T	6	RIGHT	-	
(C)	19-3-70	30'	12'	MAT MAS	SV-1-T	8	SP-1-T	6	LEFT	65W	REMOVE AND SALVAGE EXISTING SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL 12" SIGNAL HEAD IN PLACE. FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(D)	1-A	-	-	-	TV-2-T (N)	6	SP-1-T	8	RIGHT	-	REMOVE AND SALVAGE EXISTING TV-2-T MOUNTING AND REPLACE WITH NEW TV-2-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL 12" SIGNAL HEAD IN PLACE.
(E)	24-4-80	35'	12'	MAT MAS	SV-1-T	2	SP-1-T	8	LEFT	65W	REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD ON SIGNAL MAST ARM. FURNISH AND INSTALL 12" SIGNAL HEAD IN PLACE.
(F)	1-A	-	-	-	TV-2-T	8	SP-1-T	2	RIGHT	-	REMOVE AND SALVAGE EXISTING SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL 12" SIGNAL HEAD IN PLACE.
(G)	19-3-70	30'	12'	MAT MAS	SV-1-T (N)	4	SP-1-T	2	LEFT	65W	REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD ON SIGNAL MAST ARM. FURNISH AND INSTALL 12" SIGNAL HEAD IN PLACE. REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL 12" SIGNAL HEAD IN PLACE.
(H)	1-A	-	-	-	TV-2-T	2	SP-1-T	4	RIGHT	-	

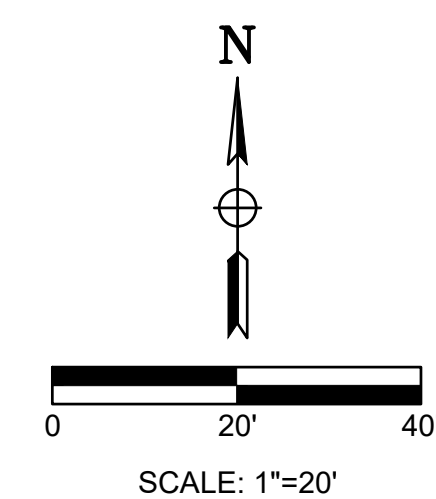
ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.
(N) = NEW EQUIPMENT

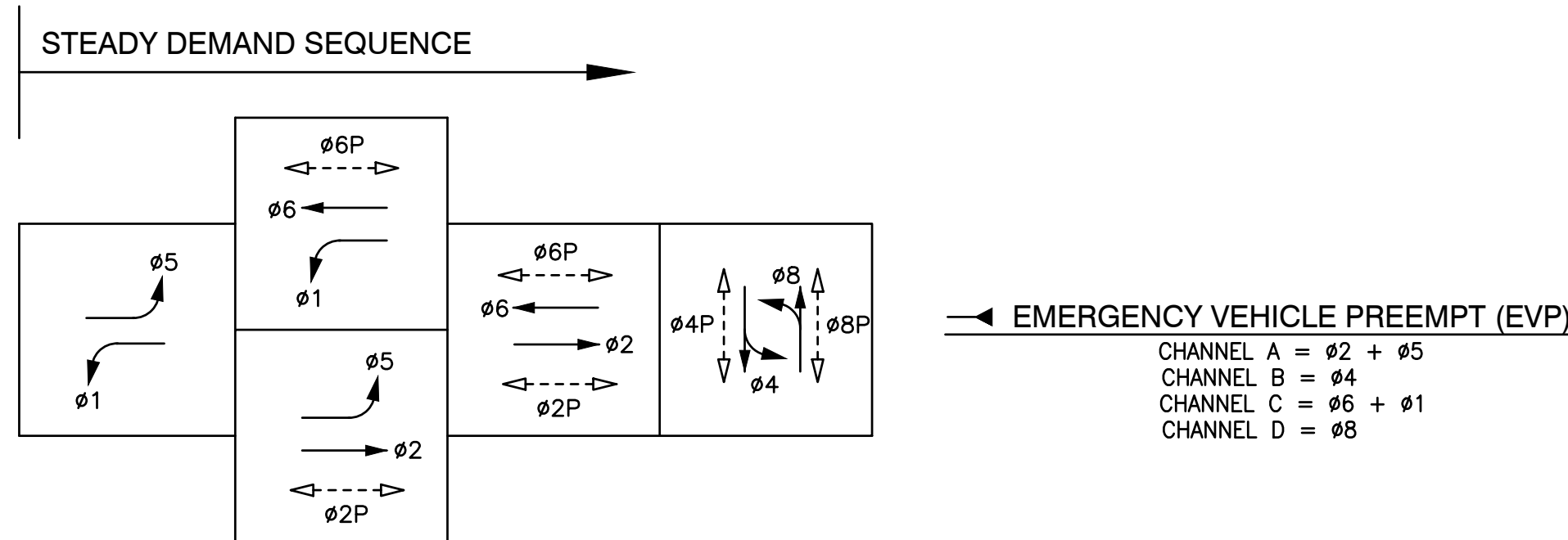
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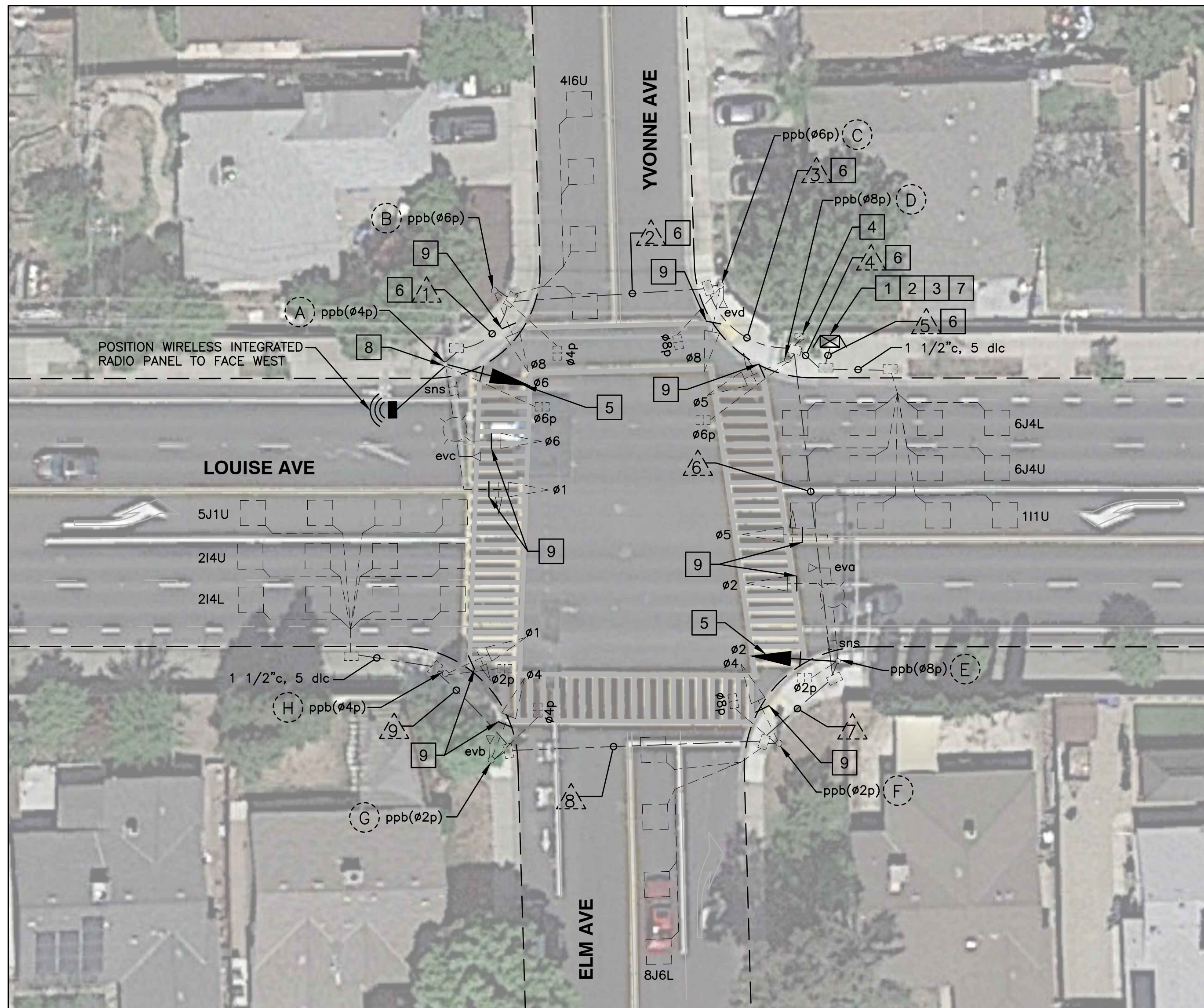
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3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

- 1 EXISTING SIGNAL CABINET TO REMAIN.
- 2 REMOVE AND SALVAGE EXISTING CONTROLLER IN EXISTING SIGNAL CABINET AND
TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA
95337.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED
EQUIV IN EXISTING CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS
SHOWN IN THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING
CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK
SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN
EXISTING CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND
OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAF OF SIGNAL POLE. SEE
SHEET TS-1 FOR MOUNTING DETAIL.

 PROPOSED RADIO TRANSMITTER[illegible]



EXISTING PHASE DIAGRAM



GENERAL NOTES

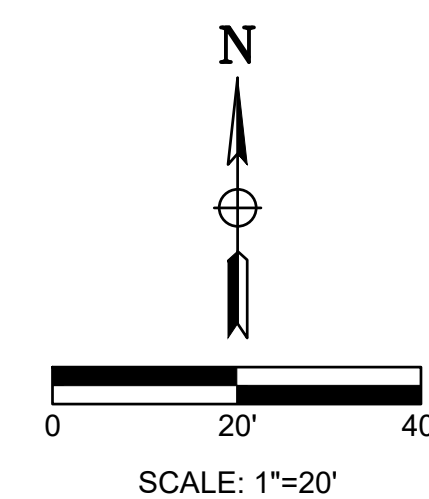
1. ALL CONDUITS ARE SHOWN DIAGMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE EAST.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD. FURNISH AND INSTALL 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
- 6 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 7 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 8 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
- 9 FURNISH AND INSTALL NEW YELLOW RETROREFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE.

LEGEND:

- PROPOSED RADIO TRANSMITTER



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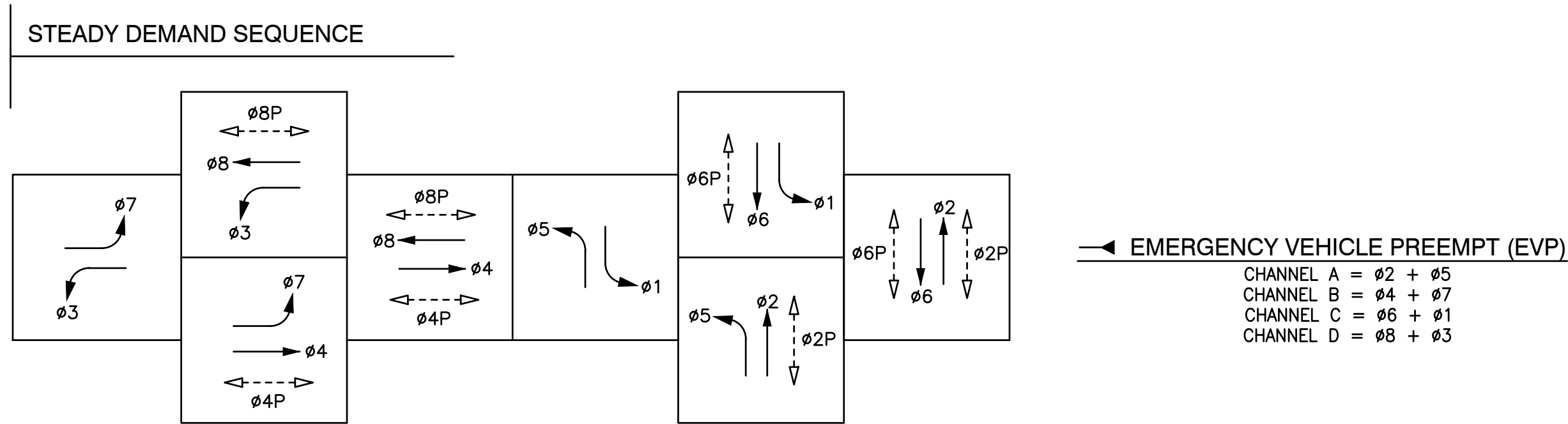
AWG OR CABLE		CIRCUIT	CONDUIT RUN NUMBER AND SIZE								
#14	Ø1	3	3	3	6	6	3	3	3	3	
	Ø2				3	3	3				
	Ø4				3	3	3	3	3		
	Ø5				3	3	3				
	Ø6	3	3	3	3	3					
	Ø8		3	3	3	3					
	Ø2P				2	2	2	2	2	2	
	Ø4P		2	2	4	4	2	2	2		
	Ø6P	2	2	2	2	2					
	Ø8P			2	4	4	2	2			
	PPB(Ø2P)				2	2	2	2	2		
	PPB(Ø4P)	2	2	2	4	4	2	2	2	2	
	PPB(Ø6P)		2	2	2	2					
PPB(Ø8P)				2	2	2					
	PPB COMMON	1	1	1	2	2	1	1	1	1	
	TOTAL No. 14	11	18	20	45	45	25	17	15	8	
#10	SIGNAL NEUTRAL	1	1	1	2	2	1	1	1	1	
	LUMINAIRE	2	2	2			2				
	TOTAL No. 10	3	3	3	2	2	3	1	1	1	
DLC	1I1U					1					
	2I2U				1	1	1	1	1	1	
	2I2L				1	1	1	1	1	1	
	2I4U				1	1	1	1	1	1	
	2I4L				1	1	1	1	1	1	
	4I6U		1	1	1	1					
	5J1U				1	1	1	1	1	1	
	6J2U					1					
	6J2L					1					
	6J4U					1					
	6J4L					1					
	8J6L				1	1	1	1			
		TOTAL DLC		1	1	5	6	4	4	4	4
ANTENNA TRANSMITTER	RADIO POE	(1)	(1)	(1)	(1)	(1)					
	TOTAL CABLES	(1)	(1)	(1)	(1)	(1)					
EVP	CHANNEL A				1	1	1				
	CHANNEL B				1	1	1	1	1		
	CHANNEL C	1	1	1	1	1					
	CHANNEL D			1	1	1					
	TOTAL CABLES	1	1	2	4	4	2	1	1		
CONDUIT SIZE(INCHES)		2"	2.5"	2.5"	2.5"	2-2.5"	2.5"	2.5"	2.5"	2"	
% FILL		13%	14%	16%	35%	14%	22%	16%	15%	15%	

() = NEW CONDUCTORS

EQUIPMENT SCHEDULE												
No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE	SPECIAL REQUIREMENTS	
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW			
(A)	19-3-70	30'	12'	MAT MAS	SV-1-T (N)	6	SP-1-T	4	LEFT	70W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.	
(B)	1-A	-	-	-	TV-1-T	4	SP-1-T	6	RIGHT	-		
(C)	1-A	-	-	-	TV-1-T	8	SP-1-T	6	LEFT	-		
(D)	1-A	-	-	-	TV-1-T	6	SP-1-T	8	RIGHT	-		
(E)	19-3-70	30'	12'	MAT MAS	SV-1-T (N)	2	SP-1-T	8	LEFT	70W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.	
(F)	1-A	-	-	-	TV-1-T	8	SP-1-T	2	RIGHT	-		
(G)	1-A	-	-	-	TV-1-T	4	SP-1-T	2	LEFT	-		
(H)	1-A	-	-	-	TV-1-T	2	SP-1-T	4	RIGHT	-		

(N) = NEW EQUIPMENT

[illegible]



EXISTING PHASE DIAGRAM



GENERAL NOTES

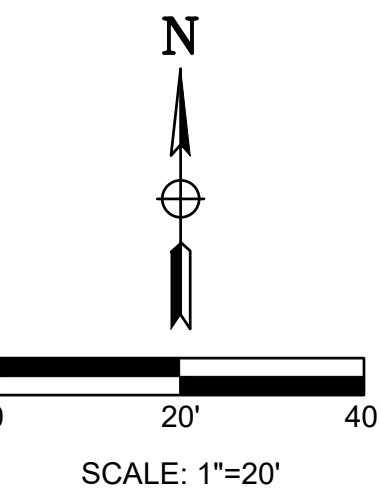
1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 EXISTING SIGNAL CABINET TO REMAIN.
- 2 REMOVE AND SALVAGE EXISTING CONTROLLER IN EXISTING SIGNAL CABINET AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN EXISTING CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET.
- 5 REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD. FURNISH AND INSTALL NEW 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
- 6 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 7 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN EXISTING CABINET.
- 8 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
- 9 FURNISH AND INSTALL NEW YELLOW RETROREFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE.

LEGEND:

-))) PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

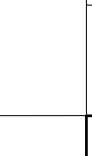
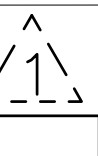
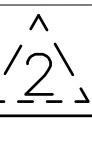
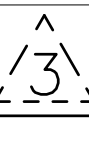
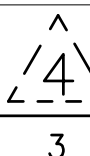
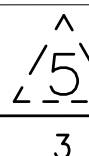
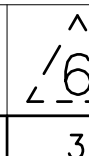
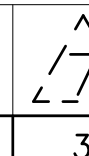
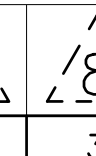
LOUISE AVENUE AND MAIN STREET

TS-36

TRAFFIC SIGNAL MODIFICATION PLAN

SHEET 39 OF 117

CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE									
											
#14	Ø1				3	3	3	3	3		
	Ø2				3	3	3	3			
	Ø3	3	3	3	6	3	3	3	3	3	
	Ø4				3	3	3	3	3	3	
	Ø5		3	3	3						
	Ø6		3	3	6	3	3	3	3		
	Ø7				3	3	3				
	Ø8	3	3	3	6	3					
	Ø2P				2	2	2	2			
	Ø4P				2	2	2	2	2	2	
	Ø6P		2	2	4	2	2	2	2		
	Ø8P	2	2	2	4	2					
	PPB(Ø2P)				1	1	1				
	PPB(Ø4P)				1	1	1	1	1		
	PPB(Ø6P)	1	1	1	2	1	1	1	1	1	
	PPB(Ø8P)		1	1	1						
	PPB COMMON	1	1	1	2	1	1	1	1	1	
P.E.U.											
SPARES	3	3	3	6	3	3	3	3	3		
TOTAL No. 14	10	19	19	52	33	28	24	19	10		
#10	SIGNAL COMMON	1	1	1	2	1	1	1	1	1	
	LUMINAIRE	2	2	2	4	2	2	2	2		
ANTENNA TRANSMITTER	TOTAL No. 10	3	3	3	6	3	3	3	3	1	
	RADIO POE				(1)						
	TOTAL CABLES				(1)						
DLC	111U		1	1	1						
	212U				1	1	1	1			
	212L				1	1	1	1			
	214U				1	1	1	1			
	214L				1	1	1	1			
	2J4U				1	1	1	1			
	3I5U				1	1					
	4I6U				1	1	1	1	1	1	
	4I6L				1	1	1	1	1	1	
	4I8U				1	1	1	1	1	1	
	4I8L				1	1	1	1	1	1	
	5J1U				1	1	1	1			
	6J2U		1	1	1						
	6J2L		1	1	1						
	6J4U		1	1	1						
	6J4L		1	1	1						
	6I4U		1	1	1						
	7J5U				1	1	1	1	1	1	
	8J6U				1	1					
	8J6L				1	1					
	8J7L				1	1					
	8J8U				1	1					
	TOTAL DLC		6	6	22	16	11	11	5	5	
	EVP	CHANNEL A				1					
		CHANNEL B				1	1	1			
		CHANNEL C				1	1	1	1		
CHANNEL D		1	1	1	1						
TOTAL CABLES		1	1	1	4	2	2	1	1		
CONDUIT SIZE(INCHES)		2"	3"	3"	2-3"	3"	3"	2-2½"	2½"	2"	
% FILL		11%	14%	14%	22%	28%	22%	12%	19%	18%	

EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	19-4-80	30'	12'	MAT MAS	SV-1-T	8	SP-1-T	6	LEFT	70W	
(B)	1-A	-	-	-	TV-2-T	6	SP-1-T	8	RIGHT	-	
(C)	19-4-80	35'	12'	MAT MAS (N)	SV-1-T	2	SP-1-T	8	LEFT	200W HPS	REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD ON SIGNAL MAST ARM. FURNISH AND INSTALL 12" SIGNAL HEAD IN PLACE. FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(D)	1-A	-	-	-	TV-2-T	8	SP-1-T	2	RIGHT	-	
(E)	19-4-80	30'	12'	MAT MAS	SV-1-T	4	SP-1-T	2	LEFT	70W	
(F)	1-A	-	-	-	TV-2-T	2	SP-1-T	4	RIGHT	-	
(G)	19-4-80	35'	12'	MAT MAS (N)	SV-1-T	6	SP-1-T	4	LEFT	53W	REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD ON SIGNAL MAST ARM. FURNISH AND INSTALL 12" SIGNAL HEAD IN PLACE.
(H)	1-A	-	-	-	TV-2-T	4	SP-1-T	6	RIGHT	-	

NOTES:

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

(N) = NEW EQUIPMENT

NOTES:

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

[illegible]

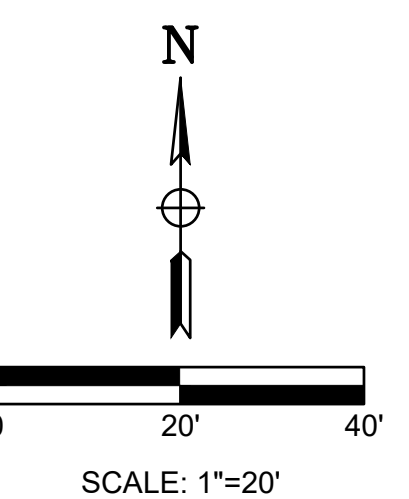


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LEGEND:

 PROPOSED RADIO TRANSMITTER

												SCALE: 1"=20' DRAWN BY: <u>A. DICKINSON / M. MONTERO</u> CHECKED BY: <u>R. PATEL</u> DATE: <u>01/19/2024</u> PROJECT NO: <u>103-029</u>		LOUISE AVENUE AND COTTAGE AVENUE		TS-38	
														TRAFFIC SIGNAL MODIFICATION PLAN		SHEET 41 OF 117	
REV	DATE	DESCRIPTION				BY											

	CONDUIT SCHEDULE									
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE								
										
#14	Ø1	3	3	6	6	3	3	3	3	3
	Ø2			3	3	3	3	3	3	3
	Ø3		3	3	3					
	Ø4		3	6	6	3	3	3	3	3
	Ø5			3	3	3	3			
	Ø6	3	3	6	6	3				
	Ø7			3	3	3	3	3		
	Ø8			3	3	3	3	3		
	Ø2P			2	2	2	2	2	2	2
	Ø4P		2	4	4	2	2	2	2	
	Ø6P	2	2	4	4	2				
	Ø8P			2	2	2	2	2		
	PPB(Ø2P)			2	2	2	2	2	2	
	PPB(Ø4P)	2	2	4	4	2	2	2	2	2
	PPB(Ø6P)		2	2	2					
	PPB(Ø8P)			3	3	3	3			
	PBB COMMON	1	1	2	2	1	1	1	1	1
SPARES	3	3	6	6	3	3	3	3	3	
PEU			3							
TOTAL No. 14	14	24	67	64	40	35	29	21	17	
#8	SIGNAL NEUTRAL	1	1	2	2	1	1	1	1	1
	LUMINAIRE	2	2	4	4	2	2	2	2	
	TOTAL No. 8	3	3	6	6	3	3	3	3	1
DLC	111U			1	1	1				
	212U			1	1	1	1	1	1	1
	212L			1	1	1	1	1	1	1
	214U			1	1	1	1	1	1	1
	214L			1	1	1	1	1	1	1
	315U			1	1	1	1	1		
	416U		1	1	1					
	418U		1	1	1					
	5J1U			1	1	1	1	1	1	1
	6J2U			1	1	1				
	6J2L			1	1	1				
	6J4U			1	1	1				
	6J4L			1	1	1				
	7J5U		1	1	1					
	8J6U			1	1	1	1	1		
	8J8U			1	1	1	1	1		
	TOTAL CABLES		2	8	8	6	5	5	4	4
ANTENNA TRANSMITTER	RADIO POE	(1)	(1)	(1)	(1)					
	TOTAL CABLES	(1)	(1)	(1)	(1)					
EVP	CHANNEL A			1	1	1	1			
	CHANNEL B			1	1	1	1	1		
	CHANNEL C	1	1	1	1					
	CHANNEL D			1	1					
	TOTAL CABLES	1	1	4	4	2	2	1	1	
CONDUIT SIZE(INCHES)		3"	3"	2-4"	2-4"	3"	3"	3"	3"	3"
% FILL		8%	13%	11%	10%	22%	19%	17%	13%	10%

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Most Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	26-4-129	45'	12'	MAT MAS	SV-1-T	6	SP-1-T	4	LEFT	70W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(B)	1-A	-	-	-	TV-2-T	4	SP-1-T	6	RIGHT	-	
(C)	24-4-129	35'	12'	MAT MAS	SV-1-T	8	SP-1-T	6	LEFT	70W	
(D)	1-A	-	-	-	TV-2-T	6	SP-1-T	8	RIGHT	-	
(E)	24-4-129	35'	12'	MAT MAS	SV-1-T	2	SP-1-T	8	LEFT	70W	
(F)	1-A	-	-	-	TV-2-T	8	SP-1-T	2	RIGHT	-	
(G)	19-4-129	30'	12'	MAT MAS	SV-1-T	4	SP-1-T	2	LEFT	70W	
(H)	1-A	-	-	-	TV-2-T	2	SP-1-T	4	RIGHT	-	

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	TOTAL CABLES	1	1	4	4	2	2	1	1	
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	% FILL	8%	13%	11%	10%	22%	19%	17%	13%	10%

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[illegible]

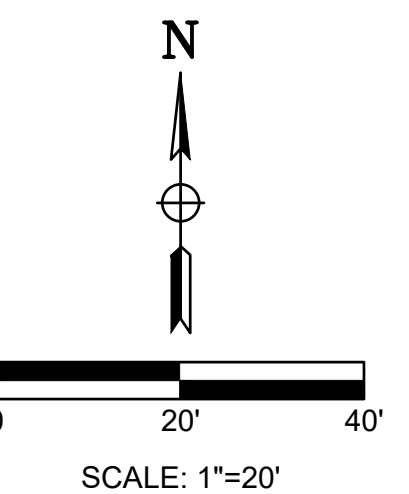


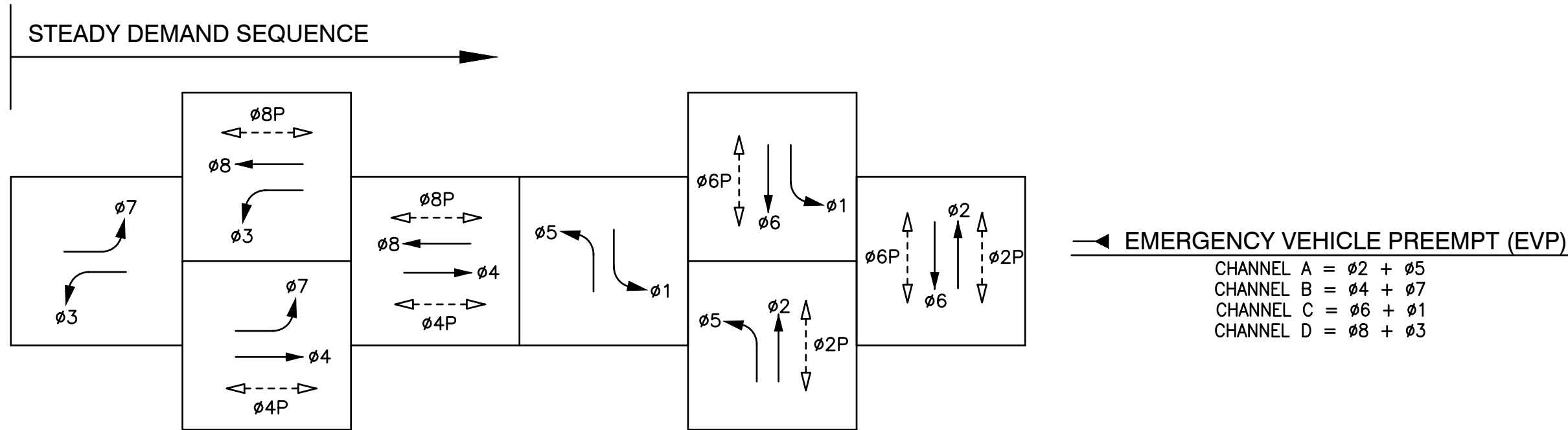
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- 9 FURNISH AND INSTALL NEW YELLOW RETROREFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]



EXISTING PHASE DIAGRAM



GENERAL NOTES

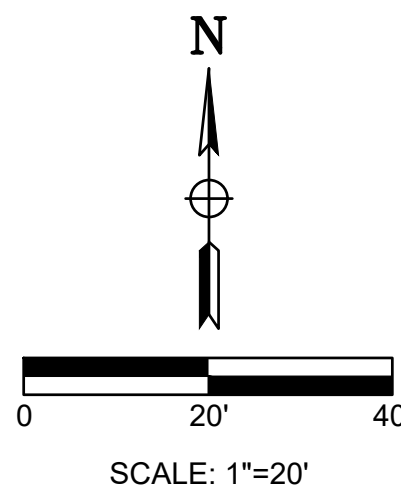
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LEGEND:

PROPOSED RADIO TRANSMITTER



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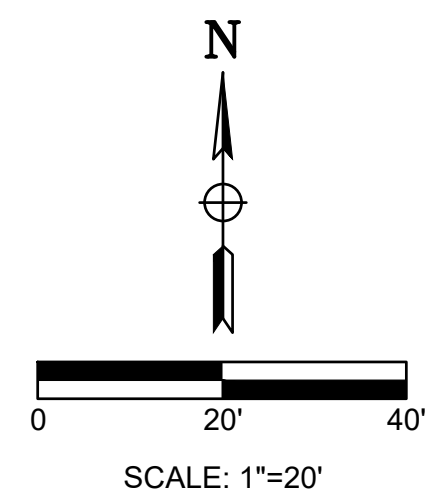


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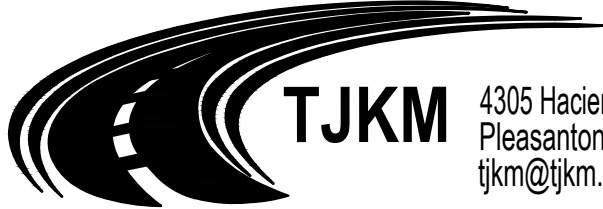
 PROPOSED RADIO TRANSMITTER

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[illegible]

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	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	19-4-70	30'	12'	MAS MAT	SV-1-T	8	SP-1-T	2	LEFT	65W	
(B)	1-B	-	-	-	TV-2-T	2	SP-1-T	8	RIGHT	-	
(C)	26-4-70	40'	12'	MAS MAT	SV-1-T	6	SP-1-T	8	LEFT	65W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(D)	1-B	-	-	-	TV-2-T	8	SP-1-T	6	RIGHT	-	
(E)	19-4-70	30'	12'	MAS MAT	SV-1-T	4	SP-1-T	6	LEFT	65W	
(F)	1-B	-	-	-	TV-2-T	6	SP-1-T	4	RIGHT	-	
(G)	26-4-70	40'	12'	MAS MAT	SV-1-T	2	SP-1-T	4	LEFT	65W	
(H)	1-B	-	-	-	TV-2-T	4	SP-1-T	2	RIGHT	-	

NOTES:
ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.
() = NEW CONDUCTORS



4305 Hacienda Drive, Suite 550
Pleasanton, CA 94588
tjkm@tjkm.com



SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

CHERRY LANE/CROM STREET AND UNION ROAD

TS-45

CONDUCTOR AND EQUIPMENT SCHEDULE

SHEET 48 OF 117

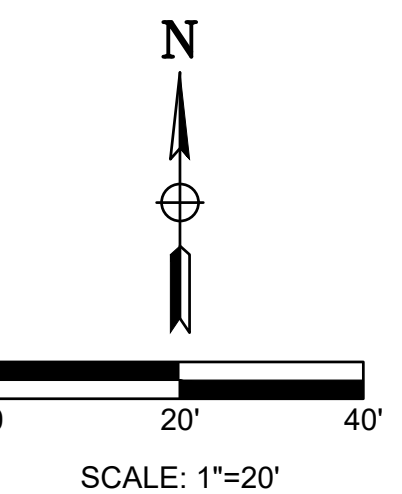


1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

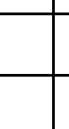
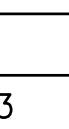
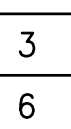
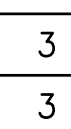
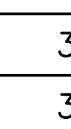
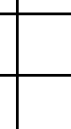
PROJECT NOTES

- 1 EXISTING SIGNAL CABINET AND EXISTING CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL TO REMAIN.
- 2 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 3 REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD. FURNISH AND INSTALL 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
- 4 REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD. FURNISH AND INSTALL 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
- 5 FURNISH AND INSTALL EMERGENCY VEHICLE PRE-EMPTION DEVICE ON NEW SIGNAL HEAD.
- 6 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 7 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN EXISTING CABINET.
- 8 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
- 9 FURNISH AND INSTALL NEW YELLOW RETROREFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]

CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE							
									
#14	Ø1			3	3	3			
	Ø2			3	3	3	3	3	3
	Ø3		3	3					
	Ø4			3	3	3	3		
	Ø5	3	3	6	3	3	3	3	3
	Ø6			3	3				
	Ø7			3	3	3	3	3	
	Ø8		3	3					
	Ø2P			2	2	2	2	2	2
	Ø4P			2	2	2	2		
	Ø6P	2	2	4	2				
	Ø8P		2	4	2	2	2	2	
	PPB(Ø2P)			1	1	1	1	1	
	PPB(Ø4P)			1	1	1			
	PPB(Ø6P)		1	1					
	PPB(Ø8P)	1	1	2	1	1	1	1	1
	PPB COMMON	1	1	2	1	1	1	1	1
P.E.U.				3					
SPARES	3	3	6	3	3	3	3	3	
TOTAL No. 14	10	19	52	36	28	24	19	13	
#10	SIGNAL COMMON	1	1	2	1	1	1	1	1
	LUMINAIRE		1		1	1	1	1	1
	TOTAL No. 10	1	2	2	2	2	2	2	2
ANTENNA TRANSMITTER	RADIO POE			(1)	(1)				
	TOTAL CABLES			(1)	(1)				
DLC	111U	1	1	1					
	212U			1	1	1			
	214U			1	1	1			
	214L			1	1	1			
	315U			1	1	1	1		
	416U			1					
	5J1U			1	1	1			
	6J2U	1	1	1					
	6J4U	1	1	1					
	6J4L	1	1	1					
	7J5U			1					
	8J6U			1	1	1	1		
TOTAL DLC	4	4	12	6	6	2			
EVP	CHANNEL A			1	1	1	1	1	1
	CHANNEL B			1	1	1	1		
	CHANNEL C			1	1				
	CHANNEL D		1	1					
	TOTAL CABLES		1	4	3	2	2	1	1
CONDUIT SIZE(INCHES)		2"	2.5"	2—3"	3.5"	3"	2"	2"	1.5"
% FILL		16%	17%	16%	15%	17%	25%	16%	20%

NOTES:

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

EQUIPMENT SCHEDULE

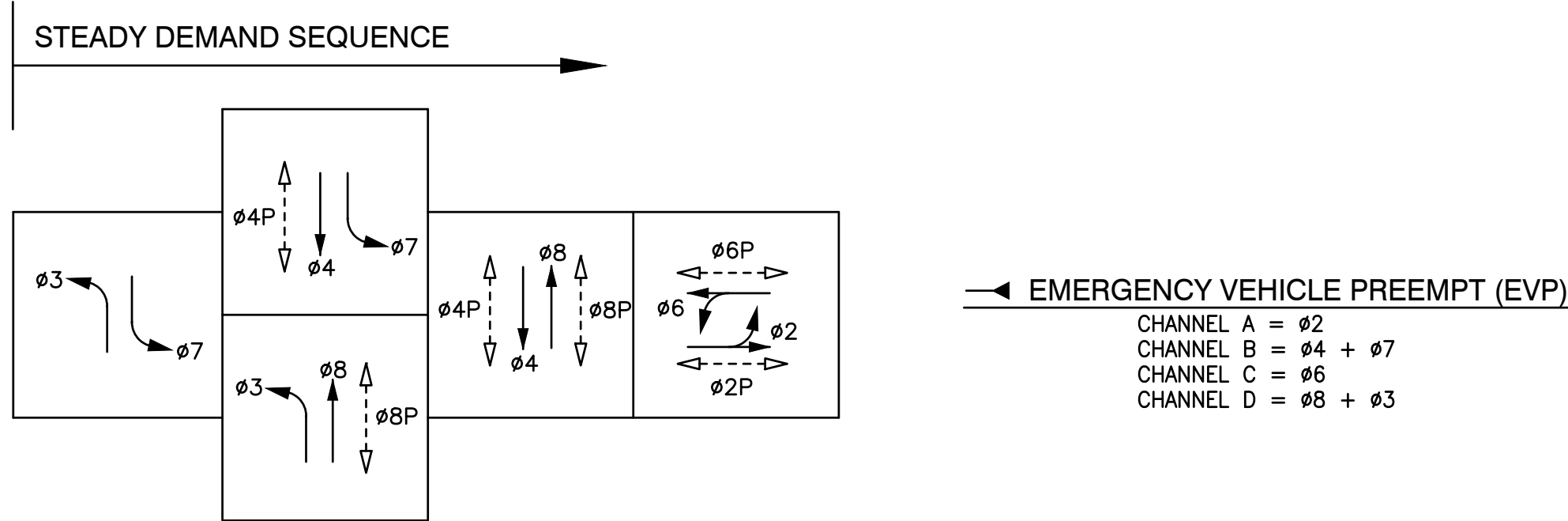
No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	17-3-70	20'	12'	MAT MAS	SV-1-T (N)	8	SP-1-T	6	LEFT	76W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD ON SIGNAL MAST ARM. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(B)	1-A	-	-	-	TV-1-T (N)	6	SP-1-T	8	RIGHT	-	REMOVE AND SALVAGE EXISTING TV-1-T MOUNTING AND REPLACE WITH NEW TV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(C)	19-3-70	30'	12'	MAT MAS	SV-1-T (N)	2	SP-1-T	8	LEFT	76W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD ON SIGNAL MAST ARM. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. FURNISH AND INSTALL EMERGENCY VEHICLE PRE-EMPTION DEVICE CHANNEL A ON NEW SIGNAL HEAD.
(D)	1-A	-	-	-	TV-1-T	8	SP-1-T	2	RIGHT	-	REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(E)	17-3-70	20'	12'	MAT MAS	SV-1-T (N)	4	SP-1-T	2	LEFT	53W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD ON SIGNAL MAST ARM. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(F)	1-A	-	-	-	TV-1-T	2	SP-1-T	4	RIGHT	-	
(G)	19-3-70	30'	12'	MAT MAS	SV-1-T (N)	6	SP-1-T	4	LEFT	76W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD ON SIGNAL MAST ARM. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. FURNISH AND INSTALL EMERGENCY VEHICLE PRE-EMPTION DEVICE CHANNEL C ON NEW SIGNAL HEAD.
(H)	1-A	-	-	-	TV-1-T (N)	4	SP-1-T	6	RIGHT	-	REMOVE AND SALVAGE EXISTING TV-1-T MOUNTING AND REPLACE WITH NEW TV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.

NOTES:

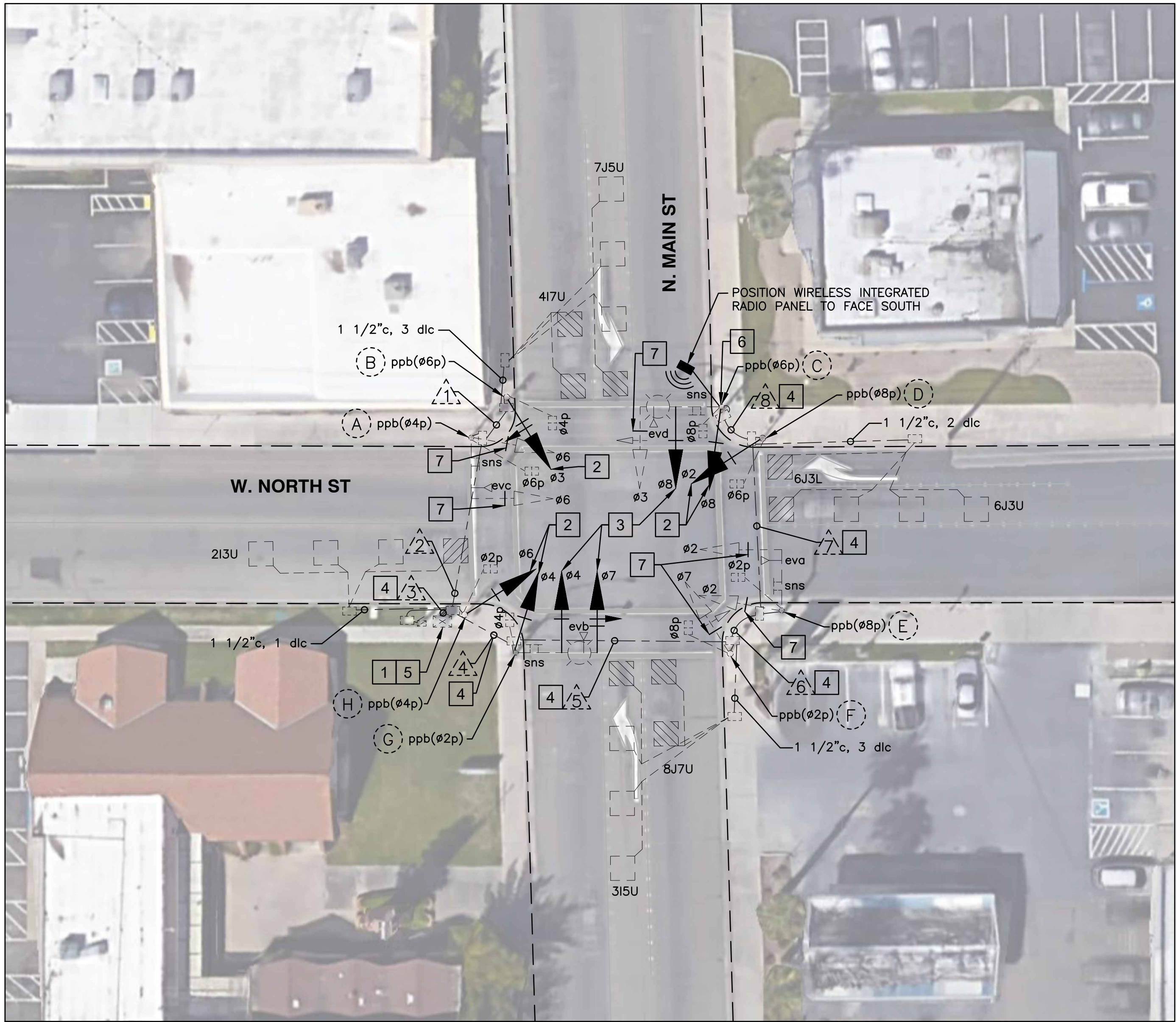
ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

(N) = NEW EQUIPMENT

[illegible]



EXISTING PHASE DIAGRAM



GENERAL NOTES

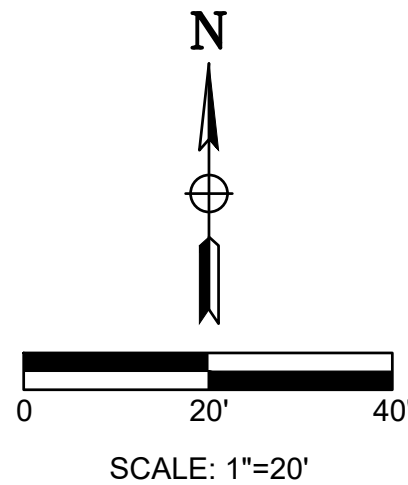
1. ALL CONDUITS ARE SHOWN DIAGMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 EXISTING SIGNAL CABINET AND EXISTING CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL TO REMAIN.
- 2 REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD. FURNISH AND INSTALL 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
- 3 REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD. FURNISH AND INSTALL 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
- 4 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 5 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN EXISTING CABINET.
- 6 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
- 7 FURNISH AND INSTALL NEW YELLOW RETROREFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE.

LEGEND:

-))) PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

W. NORTH STREET AND N. MAIN STREET

TS-48

TRAFFIC SIGNAL MODIFICATION PLAN

SHEET 51 OF 117

CONDUCTOR SCHEDULE									
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE							
# 14	Ø1								
	Ø2			3	3	3	3		
	Ø3	3	3	6	3	3	3	3	3
	Ø4			3	3				
	Ø5								
	Ø6	3	3	3					
	Ø7			3	3	3			
	Ø8			3	3	3	3	3	3
	Ø2P			2	2	2	2		
	Ø4P	2	2	4	2				
	Ø6P		2	4	2	2	2	2	
	Ø8P			2	2	2	2	2	2
	PPB(Ø2P)			1	1	1			
	PPB(Ø4P)		1	1					
	PPB(Ø6P)	1	1	2	1	1	1	1	1
	PPB(Ø8P)			1	1	1	1	1	
	PPB COMMON	1	1	2	1	1	1	1	1
	P.E.U.				3				
SPARES	3	3	6	3	3	3	3	3	
TOTAL No. 14	13	16	46	33	25	21	16	13	
#10	SIGNAL COMMON	1	1	2	1	1	1	1	1
	LUMINAIRE				1	1	1	1	1
	TOTAL No. 10	1	1	2	2	2	2	2	2
ANTENNA TRANSMITTER	RADIO POE			(1)	(1)	(1)	(1)	(1)	(1)
	TOTAL CABLES			(1)	(1)	(1)	(1)	(1)	(1)
DLC	213U			1					
	315U			1	1	1			
	416U	1	1	1					
	417U	1	1	1					
	6J3U			1	1	1	1	1	
	6J3L			1	1	1	1	1	
	7J5U	1	1	1					
	8J6U			1	1	1			
	8J7U			1	1	1			
	TOTAL DLC	3	3	9	5	5	2	2	
EVP	CHANNEL A			1	1	1	1		
	CHANNEL B			1	1				
	CHANNEL C	1	1	1					
	CHANNEL D			1	1	1	1	1	1
	TOTAL CABLES	1	1	4	3	2	2	1	1
CONDUIT SIZE(INCHES)		2"	3"	2-3"	3"	3"	3"	3"	2"
% FILL		18%	9%	14%	19%	15%	11%	9%	13%

() = NEW CONDUCTORS

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	16-1-70	-	-	MAS	SV-1-T	6	SP-1-T	4	LEFT	-	
(B)	1-B	-	-	-	TV-1-T (N)	4	SP-1-T	6	RIGHT	-	REMOVE AND SALVAGE EXISTING TV-1-T MOUNTING AND REPLACE WITH NEW TV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(C)	17-3-70	20'	12'	MAT MAS	SV-1-T (N)	8	SP-1-T	6	LEFT	65W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD ON SIGNAL MAST ARM. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(D)	1-A	-	-	-	TV-1-T (N)	6	SP-1-T	8	RIGHT	-	REMOVE AND SALVAGE EXISTING TV-1-T MOUNTING AND REPLACE WITH NEW TV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(E)	16-1-70	-	-	MAS	SV-1-T	2	SP-1-T	8	LEFT	-	
(F)	1-B	-	-	-	TV-1-T	8	SP-1-T	2	RIGHT	-	
(G)	17-3-70	20'	12'	MAT MAS	SV-1-T (N)	4	SP-1-T	2	LEFT	65W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD ON SIGNAL MAST ARM. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(H)	1-B	-	-	-	TV-1-T (N)	2	SP-1-T	4	RIGHT	-	REMOVE AND SALVAGE EXISTING TV-1-T MOUNTING AND REPLACE WITH NEW TV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.

(N) = NEW EQUIPMENT

[illegible]

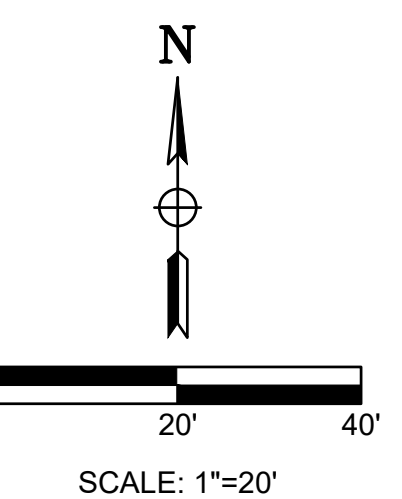


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2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE WEST.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD. FURNISH AND INSTALL NEW 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
- 6 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE IN EXISTING CONDUIT.
- 7 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET. CONNECT ETHERNET CABLE TO ETHERNET NETWORK SWITCH. SEE SIC SHEETS FOR CONNECTION DETAILS.
- 8 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
- 9 FURNISH AND INSTALL NEW YELLOW RETROREFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]

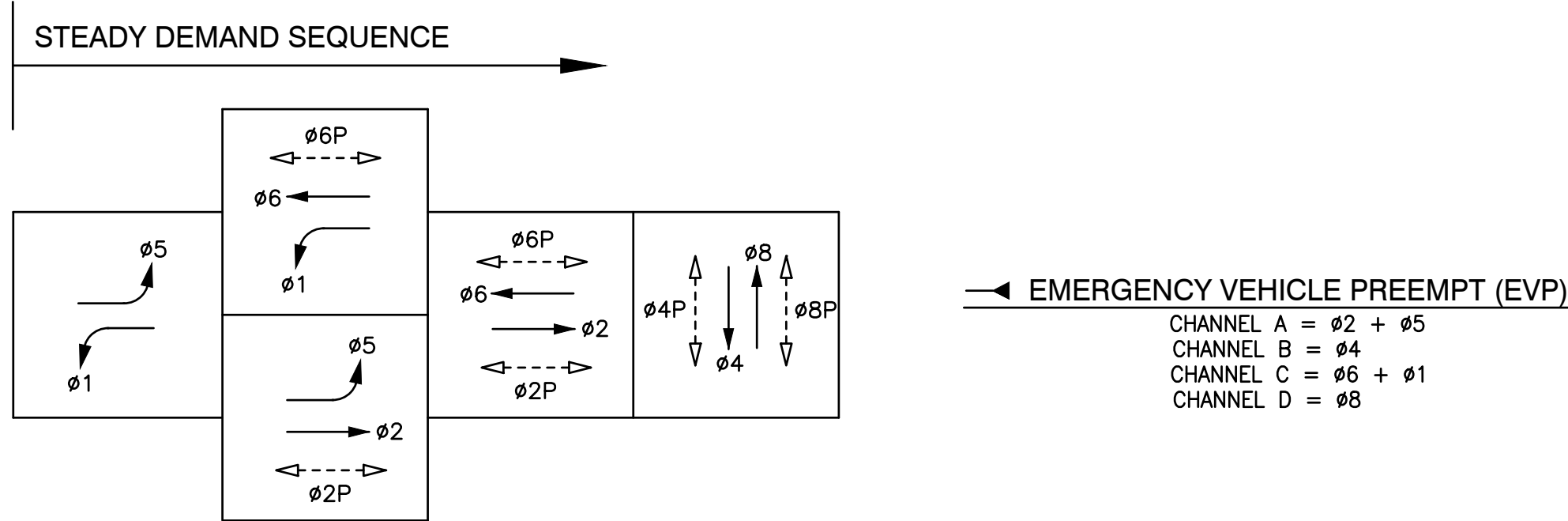
CONDUCTOR SCHEDULE										
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE								
#14	Ø1				3	3	3	3	3	
	Ø2		3	3	3	3				
	Ø3				3	3	3			
	Ø4				3	3	3	3	3	3
	Ø5		3	3	3	3				
	Ø6				3	3	3	3		
	Ø7	3	3	3	6	6	3	3	3	3
	Ø8				3	3				
	Ø2P		2	2	4	4	2	2	2	
	Ø4P				2	2	2	2	2	2
	Ø6P			2	4	4	2	2		
	Ø8P	2	2	2	2	2				
	PPB(Ø2P)	1	1	1	2	2	1	1	1	1
	PPB(Ø4P)				1	1	1	1	1	
	PPB(Ø6P)				1	1	1			
	PPB(Ø8P)		1	1	1	1				
PPB COMMON	1	1	1	2	2	1	1	1	1	
P.E.U.										
SPARES	3	3	3	6	6	3	3	3	3	
TOTAL No. 14	10	19	21	52	52	28	24	19	13	
#10	SIGNAL COMMON	1	1	1	2	2	1	1	1	1
	LUMINAIRE		2	2	4	4	2	2	2	2
	TOTAL No. 10	1	3	3	6	6	3	3	3	3
ANTENNA TRANSMITTER	RADIO POE				(1)	(1)	(1)	(1)		
	TOTAL CABLES				(1)	(1)	(1)	(1)		
DLC	111U			1	1	1				
	212U				1	1	1	1	1	
	214U				1	1	1	1	1	
	214L				1	1	1	1	1	
	315U	1	1	1	1	1				
	416U				1	1	1			
	418U				1	1	1			
	5J9U				1	1	1	1	1	
	6J2U			1	1	1				
	6J2L			1	1	1				
	6J4U			1	1	1				
	6J4L			1	1	1				
	7J5U				1	1	1			
	8J6U	1	1	1	1	1				
	8J8U	1	1	1	1	1				
	3	3	8	15	15	7	4	4		
EVP	CHANNEL A		1	1	1	1				
	CHANNEL B				1	1	1	1	1	1
	CHANNEL C				1	1	1			
	CHANNEL D				1	1				
	TOTAL CABLES		1	1	4	4	2	1	1	1
#18	TRACER WIRE					(1)				
12-STRAND SMFO CABLE						(1)				
CONDUIT SIZE(INCHES)		2"	2 ½"	2 ½"	2-2 ½"	2-2 ½"	2 ½"	2 ½"	2 ½"	2"
% FILL		14%	16%	25%	21%	23%	29%	21%	18%	13%

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.
() = NEW CONDUCTORS

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	19-3-70	30'	12'	MAT MAS	SV-1-T (N)	8	SP-1-T	6	LEFT	65W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(B)	1-A	-	-	-	TV-1-T	6	SP-1-T	8	RIGHT	-	
(C)	24-3-70	35'	12'	MAT MAT	SV-1-T (N)	2	SP-1-T	8	LEFT	65W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(D)	1-A	-	-	-	TV-1-T	8	SP-1-T	2	RIGHT	-	
(E)	26-3-70	40'	12'	MAT MAT	SV-1-T (N)	4	SP-1-T	2	LEFT	65W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(F)	1-A	-	-	-	TV-1-T	2	SP-1-T	4	RIGHT	-	
(G)	19-3-70	30'	12'	MAT MAS	SV-1-T (N)	6	SP-1-T	4	LEFT	65W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(H)	1-A	-	-	-	TV-1-T	4	SP-1-T	6	RIGHT	-	

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.
(N) = NEW EQUIPMENT

[illegible]



EXISTING PHASE DIAGRAM

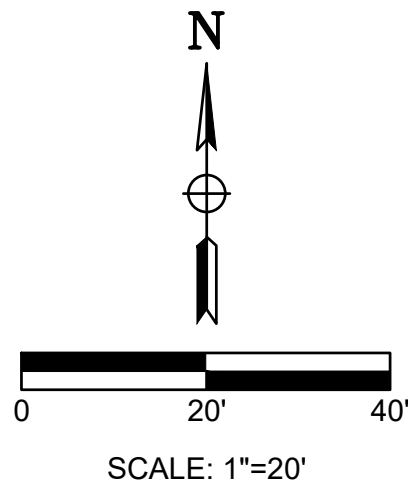


GENERAL NOTES

1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.

PROJECT NOTES

1. REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
2. FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE SOUTH.
3. FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
4. EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

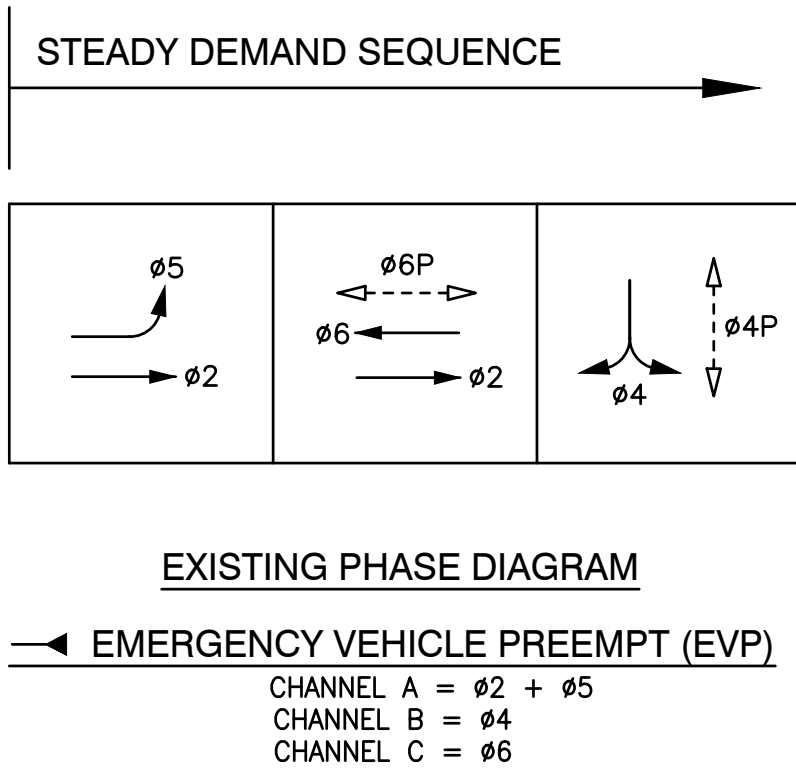
SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

W. CENTER STREET AND N. WALNUT AVENUE

TRAFFIC SIGNAL MODIFICATION PLAN

TS-52

SHEET 55 OF 117

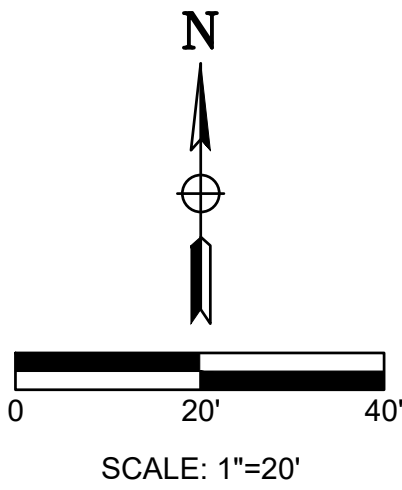


- GENERAL NOTES**
- ALL CONDUITS ARE SHOWN DIAGMATICALLY.
 - THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
 - CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

- PROJECT NOTES**
- REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
 - FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE NORTH.
 - FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
 - FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE IN EXISTING CONDUIT.
 - FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
 - FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

W. CENTER STREET AND ELM AVENUE
TRAFFIC SIGNAL MODIFICATION PLAN

TS-54
SHEET 57 OF 117

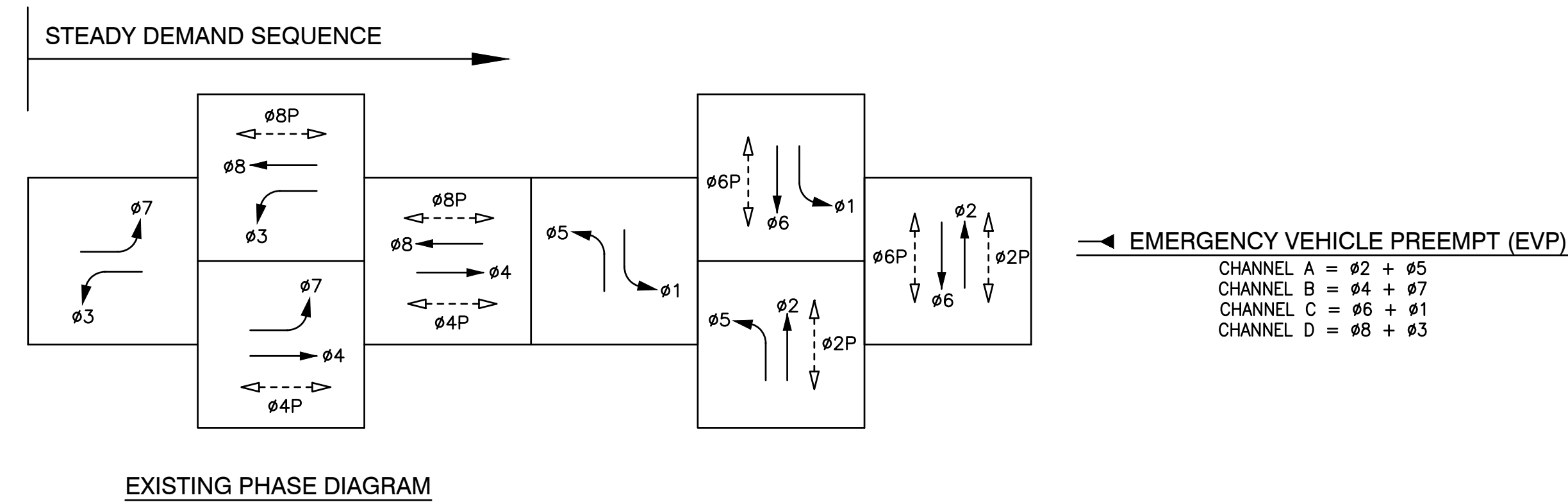
CONDUCTOR SCHEDULE									
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE							
									
#14	Ø2	3	3	6	6	6	6	6	
	Ø4		3	3	3	3	3	3	
	Ø5	3		3	6	6	6	6	3
	Ø6				3	3	3	3	3
	Ø4P	2		2	4	4	4	4	2
	Ø6P				2	2	2	2	2
	PPB(Ø4P)	2		2	4	4	4	4	2
	PPB(Ø6P)				2	4	4	4	2
	PBB COMMON	1		1	2	2	2	2	1
	SPARES	3	3	6	9	9	9	9	3
	PEU				3	3	3	3	
	TOTAL No. 14	14	9	23	44	46	46	46	18
#8	SIGNAL NEUTRAL	1	1	2	2	2	2	2	1
	LUMINAIRE	2		2	2	2	2	2	
	TOTAL No. 8	3	1	4	4	4	4	4	1
#6	RAILROAD PREMPTION				1	1	1	1	
DLC	2I2U		1	1	1	1	1	1	
	2I4U		1	1	1	1	1	1	
	4I8U						1	1	
	5I1U		1	1	1	1	1	1	
	6J2U				1	1	1	1	1
	6J4U				1	1	1	1	1
	TOTAL CABLES		3	3	5	5	6	6	2
ANTENNA TRANSMITTER	RADIO POE	(1)		(1)	(1)	(1)	(1)	(1)	
	TOTAL CABLES	(1)		(1)	(1)	(1)	(1)	(1)	
EVP	CHANNEL A	1		1	1	1	1	1	
	CHANNEL B			1	1	1	1	1	
	CHANNEL C				1	1	1	1	
	TOTAL CABLES	1		2	3	3	3	3	
CONDUIT SIZE(INCHES)		3"	3"	3"	3"	3"	3"	2-4"	3"
% FILL		8%	6%	15%	25%	25%	26%	8%	8%

NOTES:
ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.
() = NEW CONDUCTORS

EQUIPMENT SCHEDULE												
No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS	
	Type	Sig. M.A.	Lum.M.A.	Mast	Arm	Pole	∅	MTG	∅			ARROW
(A)	19-3-80	20'	15'	MAS		SV-1-T	6	SP-1-T	-	-	65W	
(B)	1-B	-	-	-		TV-1-T		-	6	RIGHT	-	
(C)	1-B	-	-	-		TV-2-T	4 6	SP-2-T	4 6	RIGHT RIGHT	-	
(D)	19-3-80	30'	15'	MAT MAS		SV-2-T	4	SP-1-T	4	LEFT	65W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE.
(E)	1-B	-	-	-		TV-1-T	-	-	-	-	-	
(F)	1-B	-	-	-		TV-1-T	-	-	-	-	-	

NOTES:
ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]



GENERAL NOTES

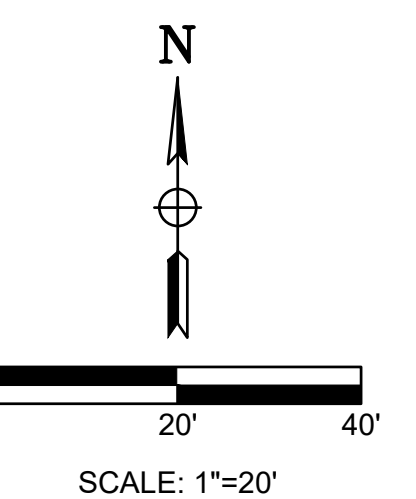
1. ALL CONDUITS ARE SHOWN DIAGMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

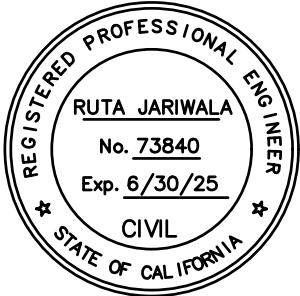
PROJECT NOTES

- 1 EXISTING SIGNAL CABINET AND EXISTING CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL TO REMAIN.
- 2 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 3 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 4 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN EXISTING CABINET.
- 5 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

-))) PROPOSED RADIO TRANSMITTER



					 4305 Hacienda Drive, Suite 550 Pleasanton, CA 94588 tjkm@tjkm.com	 DATE SIGNED: 01/19/2024	SCALE: 1"=20' DRAWN BY: A. DICKINSON / M. MONTERO CHECKED BY: R. PATEL DATE: 01/19/2024 PROJECT NO: 103-029	W. CENTER STREET AND MAIN STREET	TS-56
REV	DATE	DESCRIPTION	BY					TRAFFIC SIGNAL MODIFICATION PLAN	SHEET 59 OF 117

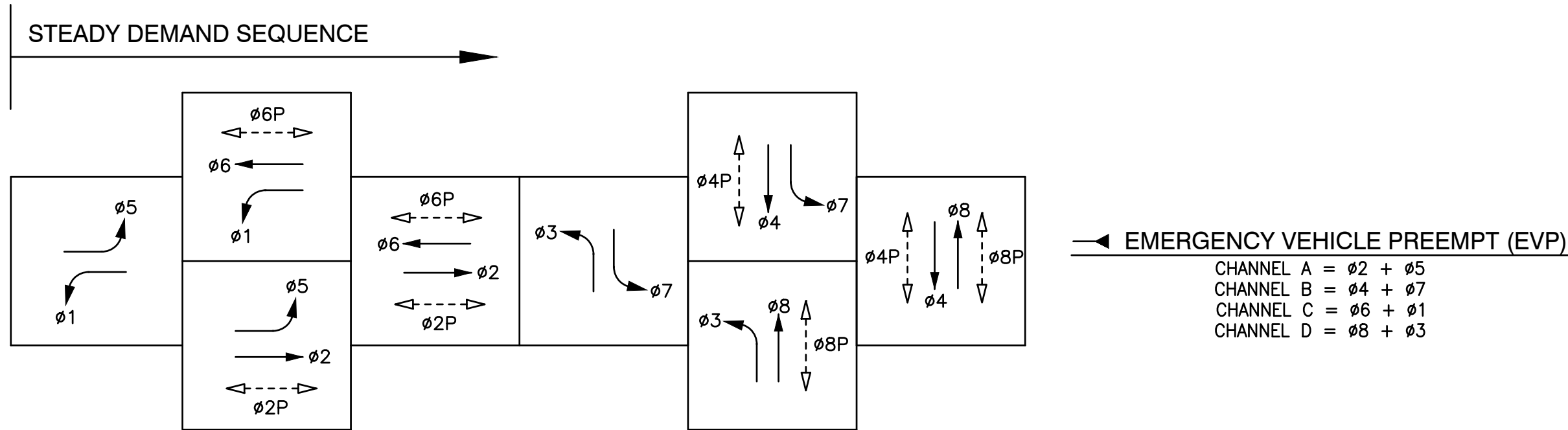
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE								
#14	Ø1	3	3	3	3	3	6	3	3	3
	Ø2					3	6	3	3	3
	Ø3		3	3	3	3	3			
	Ø4	3	3	3	3	3	6	3	3	
	Ø5				3	3	3			
	Ø6	3	3	3	3	3	3			
	Ø7						3	3	3	
	Ø8			3	3	3	3			
	Ø2P					1	2	1	1	1
	Ø4P		1	1	1	1	2	1	1	
	Ø6P	1	1	1	1	1	1			
	Ø8P			1	1	1	1			
	PPB(Ø2P)						1	1	1	
	PPB(Ø4P)	1	1	1	1	1	2	1	1	
	PPB(Ø6P)	1	1	1	1	1	1			
	PPB(Ø8P)			1	1	1	1			
	PPB COMMON	1	1	1	1	1	2	1	1	1
	P.E.U.					3	3			
	SPARES	3	3	3	3	3	6	3	3	3
TOTAL No. 14	16	20	25	28	35	55	20	20	11	
#10	SIGNAL COMMON	1	1	1	1	1	1	1	1	1
	LUMINAIRE	2	2	2	2	2		2	2	
	TOTAL No. 10	3	3	3	3	3	1	3	3	1
ANTENNA TRANSMITTER	RADIO POE					(1)	(1)			
	TOTAL CABLES					(1)	(1)			
DLC	111U				1	1				
	212U						1	1	1	1
	214U						1	1	1	1
	315U						1			
	416U		1	1	1	1	1			
	418U		1	1	1	1	1			
	515U						1	1	1	1
	6J2U				1	1	1			
	6J4U				1	1	1			
	7J5U		1	1	1	1	1			
	8J6U						1			
	8J8U						1			
	TOTAL DLC		3	3	6	6	12	3	3	3
EVP	CHANNEL A					1	1			
	CHANNEL B						1	1		
	CHANNEL C	1	1	1	1	1	1			
	CHANNEL D			1	1	1	1			
	TOTAL CABLES	1	1	2	2	2	3	1		
CONDUIT SIZE(INCHES)		3"	2"	2"	3"	3.5"	2-3"	3"	2.5"	3"
% FILL		7%	24%	29%	17%	15%	16%	11%	15%	7%

() = NEW CONDUCTORS

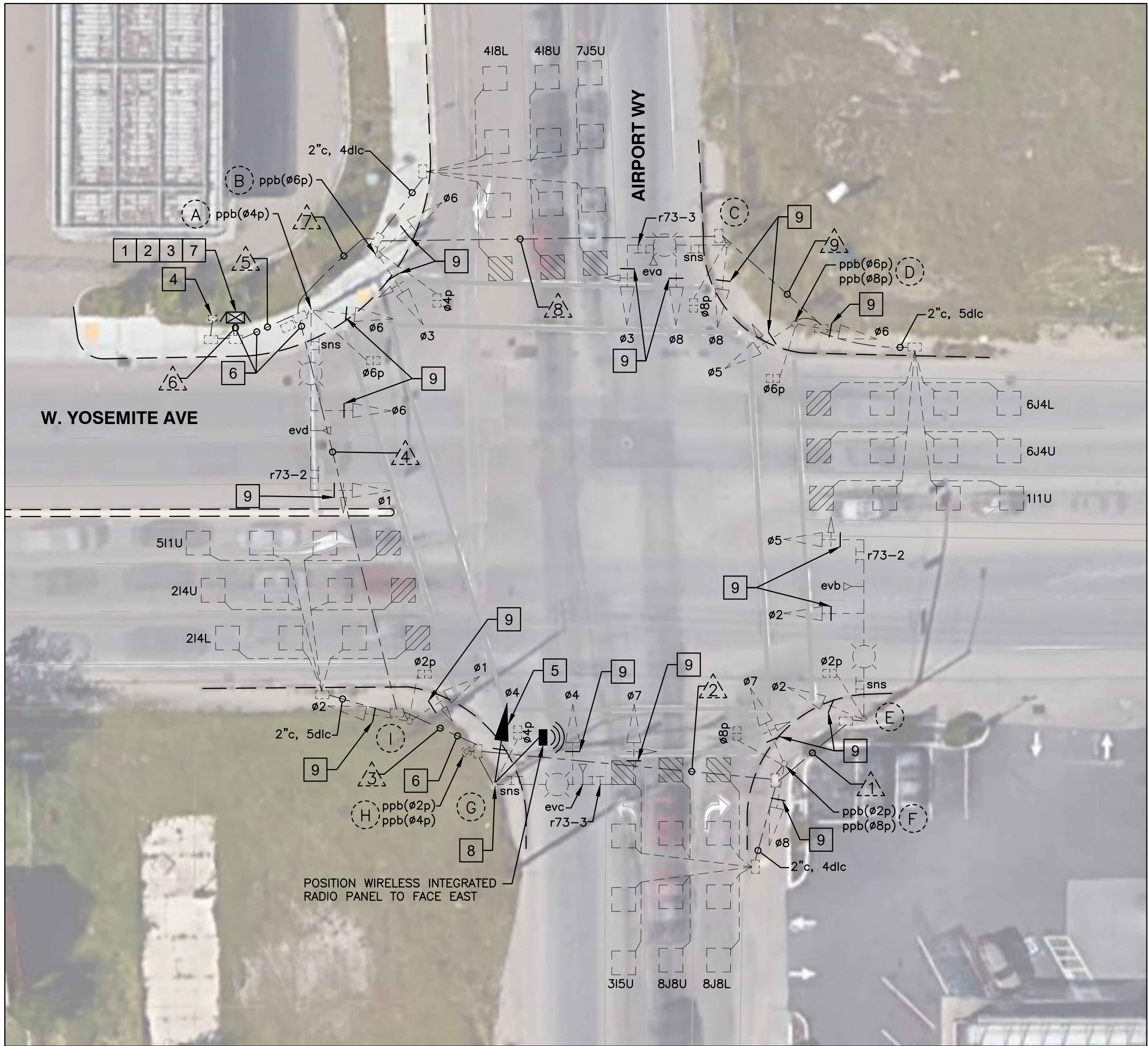
No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	*	25'	12'	MAS MAS	SV-1-T	8	SP-1-T	-	-	53W	
(B)	PPB POST	-	-	-	-	-	-	6 8	LEFT RIGHT	-	
(C)	1-A	-	-	-	TV-1-T	6	SP-1-T	-	-	-	
(D)	*	25'	12'	MAS MAS	SV-1-T	2	SP-1-T	-	-	53W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(E)	1-A	-	-	-	TV-2-T	8	SP-1-T	2 8	RIGHT RIGHT	-	
(F)	*	25'	12'	MAS MAS	SV-1-T	4	SP-1-T	-	-	53W	
(G)	PPB POST	-	-	-	-	-	-	2 4	LEFT LEFT	-	
(H)	1-A	-	-	-	TV-1-T	2	SP-1-T	-	-	-	
(I)	*	20'	12'	MAS MAS	SV-1-T	6	SP-1-T	-	-	200W HPS	
(J)	PPB POST	-	-	-	-	-	-	4 6	LEFT LEFT	-	
(K)	1-A	-	-	-	TV-1-T	4	SP-1-T	-	-	-	

(N) = NEW EQUIPMENT

[illegible]



EXISTING PHASE DIAGRAM



GENERAL NOTES

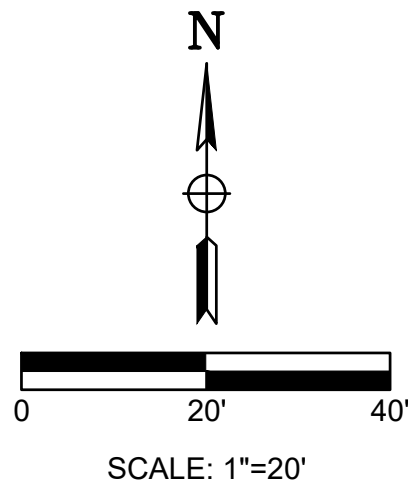
1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE WEST.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 REMOVE AND SALVAGE EXISTING SIGNAL HEAD. FURNISH AND INSTALL 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
- 6 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 7 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 8 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
- 9 FURNISH AND INSTALL NEW YELLOW RETROREFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE.

LEGEND:

-)) PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

YOSEMITE AVENUE AND AIRPORT WAY

TRAFFIC SIGNAL MODIFICATION PLAN

TS-58

SHEET 61 OF 117

CONDUCTOR SCHEDULE										
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE								
#14	Ø1				3	3	3			
	Ø2	3	3	3	3	3	3			
	Ø3					3	3	3	3	
	Ø4			3	3	6	6	3		
	Ø5	3	3	3	3	6	6	3	3	3
	Ø6					3	3	3	3	3
	Ø7		3	3	3	3	3			
	Ø8		3	3	3	6	6	3	3	
	Ø2P	2	2	2	2	2	2			
	Ø4P			2	2	4	4	2		
	Ø6P					2	2	2	2	2
	Ø8P		2	2	2	4	4	2	2	
	PPB(Ø2P)		1	1	1	1	1			
	PPB(Ø4P)				1	1	1			
	PPB(Ø6P)					1	1	1	1	
	PPB(Ø8P)		1	1	1	2	2	1	1	1
	PPB COMMON		1	1	1	2	2	1	1	1
	PEU					3				
SPARES	3	3	3	3	6	6	3	3	3	
TOTAL No. 14		11	22	27	31	61	58	27	22	13
#10	SIGNAL NEUTRAL	1	1	1	1	2	2	1	1	1
	LUMINAIRE	2	2	2	2	4		2	2	
	TOTAL No. 10	3	3	3	3	6	2	3	3	1
DLC	111U					1	1	1	1	1
	212U				1	1	1			
	212L				1	1	1			
	214U				1	1	1			
	214L				1	1	1			
	315U		1	1	1	1	1			
	416U					1	1	1		
	418U					1	1	1		
	418L					1	1	1		
	511U				1	1	1	1		
	6J2U				1	1	1	1	1	1
	6J2L					1	1	1	1	1
	6J4U					1	1	1	1	1
	6J4L					1	1	1	1	1
	7J5U					1	1	1		
	8J6U		1	1	1	1	1			
	8J8U		1	1	1	1	1			
	8J8L		1	1	1	1	1			
	TOTAL DLC		4	4	10	18	18	10	5	5
ANTENNA TRANSMITTER	RADIO POE			(1)	(1)	(1)	(1)			
	TOTAL CABLES			(1)	(1)	(1)	(1)			
EVP	CHANNEL A	1	1	1	1	1	1			
	CHANNEL B			1	1	1	1			
	CHANNEL C					1	1			
	CHANNEL D					1	1	1	1	
	TOTAL CABLES	1	1	2	2	4	4	1	1	
CONDUIT SIZE(INCHES)		2"	3"	3"	3"	2-3"	2-3"	3"	3"	2"
% FILL		12%	12%	15%	22%	21%	20%	20%	13%	20%

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	ø	MTG	ø	ARROW		
(A)	29-5-100	55'	15'	MAS MAS	SV-1-T	6	SP-1-T	4	LEFT	65W	
(B)	1-B	-	-	-	TV-2-T	4	SP-1-T	6	RIGHT	-	
(C)	19-4-70	30'	15'	MAS MAS	SV-1-T	8	SP-1-T	-	-	65W	
(D)	1-B	-	-	-	TV-2-T	6	SP-1-T	6 8	RIGHT RIGHT	-	
(E)	26-4-70	45'	15'	MAS MAS	SV-1-T	2	SP-1-T	-	-	65W	
(F)	1-B	-	-	-	TV-2-T	8	SP-1-T	2 8	RIGHT LEFT	-	
(G)	24-4-70	35'	15'	MAS MAS	SV-1-T	4	SP-1-T	-	-	65W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(H)	PPB POST	-	-	-	-	-	-	2 4	LEFT RIGHT	-	
(I)	1-B	-	-	-	TV-2-T	2	SP-1-T	-	-	-	

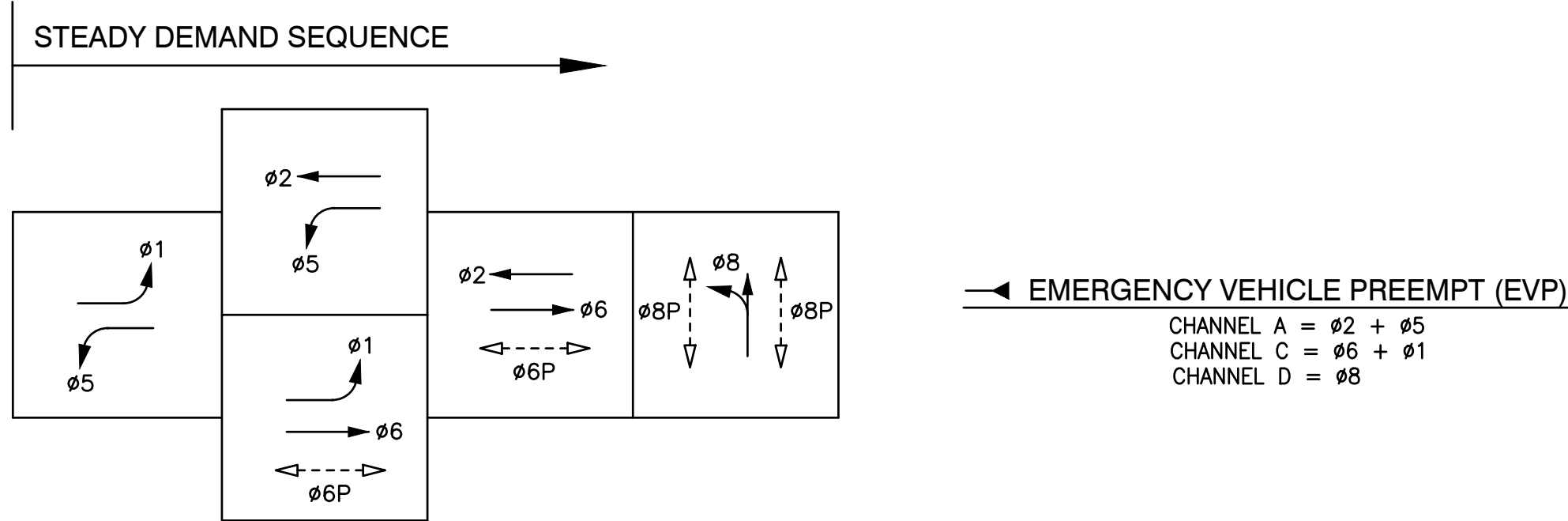
ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.



TS-59

SHEET 62 OF 117



EXISTING PHASE DIAGRAM



GENERAL NOTES

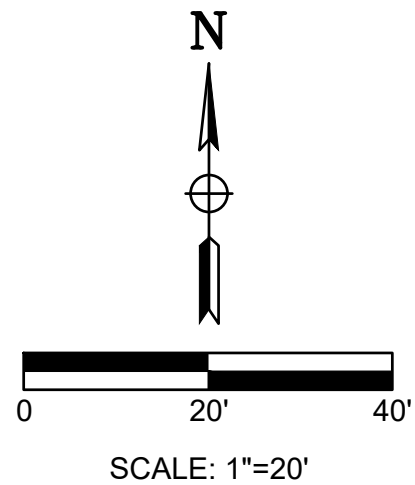
1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE EAST.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

- PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

W. YOSEMITE AVENUE AND WINTERS DRIVE

TRAFFIC SIGNAL MODIFICATION PLAN

TS-60

SHEET 63 OF 117

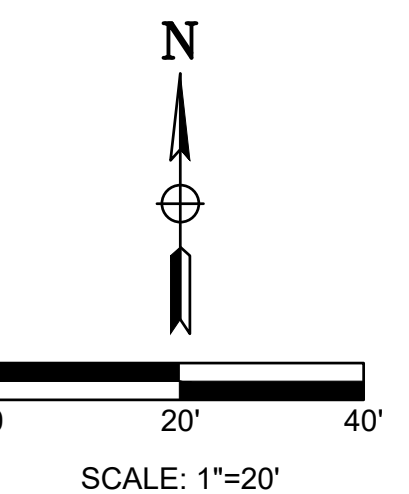


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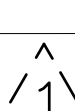
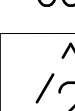
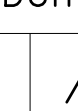
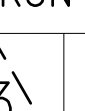
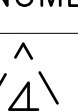
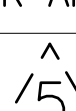
PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE SOUTH.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD. FURNISH AND INSTALL 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
- 6 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 7 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET. CONNECT ETHERNET CABLE TO ETHERNET NETWORK SWITCH. SEE SHEETS FOR CONNECTION DETAILS.
- 8 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
- 9 FURNISH AND INSTALL NEW YELLOW RETROREFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]

CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE						
								
#14	Ø1			3	3			
	Ø2		3	3				
	Ø3			3	3	3	3	
	Ø4			3				
	Ø5		3	6	3	3	3	3
	Ø6			3	3	3	3	3
	Ø7	3	3	3				
	Ø8			3	3	3	3	
	Ø2P		2	2				
	Ø4P			2	2	2		
	Ø6P			2	2	2	2	2
	Ø8P	2	2	4	2	2	2	
	PPB(Ø2P)	1	1	1				
	PPB(Ø4P)			1	1			
	PPB(Ø6P)			1	1	1	1	
	PPB(Ø8P)		1	2	1	1	1	1
PPB COMMON	1	1	2	1	1	1	1	
P.E.U.			3					
SPARES	3	3	6	3	3	3	3	
TOTAL No. 14	10	19	53	28	24	22	13	
#10	SIGNAL COMMON	1	1	2	1	1	1	1
	LUMINAIRE		2	4	2	2	2	
	TOTAL No. 10	1	3	6	3	3	3	1
ANTENNA TRANSMITTER	RADIO POE		(1)	(1)				
	TOTAL CABLES		(1)	(1)				
DLC	111U			1	1	1	1	1
	212U			1				
	214U			1				
	315U	1	1	1				
	416U			1	1	1		
	416L			1	1	1		
	418U			1	1	1		
	418L			1	1	1		
	5J9U			1				
	6J2U			1	1	1	1	1
	6J2L			1	1	1	1	1
	6J4U			1	1	1	1	1
	6J4L			1	1	1	1	1
	7J5U			1	1	1		
	8J6U	1	1	1				
	8J6L	1	1	1				
	8J8U	1	1	1				
	8J8L	1	1	1				
TOTAL DLC	5	5	18	10	10	5	5	
EVP	CHANNEL A		1	1				
	CHANNEL B			1				
	CHANNEL C			1	1			
	CHANNEL D			1	1	1	1	
	TOTAL CABLES		1	4	2	1	1	
#18	TRACER WIRE			(1)				
12—STRAND SMFO CABLE				(1)				
CONDUIT SIZE(INCHES)		2"	2"	2—3½"	3"	3"	3"	2½"
% FILL		18%	29%	14%	21%	19%	13%	14%

EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE	SPECIAL REQUIREMENTS	
	Type	Sig. M.A.	Lum.M.A.	Mast	Arm	Pole	Ø	MTG	Ø			ARROW
(A)	24-3-70	35'	15'	MAT		SV-1-T (N)	6	SP-1-T	4	LEFT	I135W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(B)	1-A	-	-	-		TV-1-T	4	SP-1-T	6	RIGHT	-	
(C)	26-4-70	45'	12'	MAT		SV-1-T (N)	8	SP-1-T	6	LEFT	I135W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(D)	1-A	-	-	-		TV-2-T (N)	6	SP-1-T	8	RIGHT	-	REMOVE AND SALVAGE EXISTING TV-2-T MOUNTING AND REPLACE WITH NEW TV-2-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(E)	19-4-70	30'	15'	MAT		SV-1-T	2	SP-1-T	8	LEFT	I135W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(F)	1-A	-	-	-		TV-1-T	8	SP-1-T	2	RIGHT	-	
(G)	26-4-70	40'	12'	MAT		SV-1-T (N)	4	SP-1-T	2	LEFT	I135W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(H)	1-A	-	-	-		TV-2-T	2	SP-1-T	4	RIGHT	-	

NOTES:

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

(N) = NEW EQUIPMENT

NOTES:

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

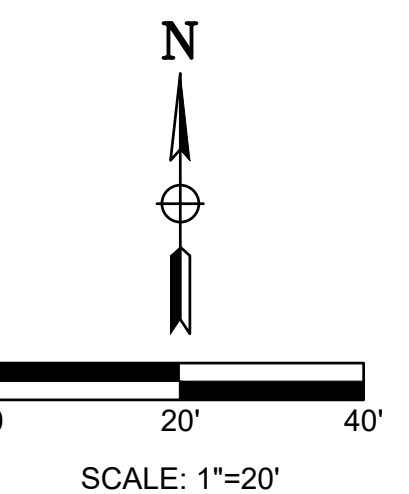
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PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE EAST.
- 3 FURNISH AND INSTALL 2070XL CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.

[illegible]

CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE						
								
#14	Ø1			3	3	3	3	3
	Ø2	3	3	3	3	3	3	3
	Ø3							
	Ø4	3	3	3	3	3	3	3
	Ø5	3	3	3	3	3	3	3
	Ø6				3	3	3	3
	Ø7							
	Ø8	3	3	3	3	3	3	3
	Ø2P	2	2	2	2	2	2	2
	Ø4P			2	2	2	2	2
	Ø6P				2	2	2	2
	Ø8P	2	2	2	2	2	2	2
	PPB(Ø2P)	1	1	1	1	1	1	1
	PPB(Ø4P)			1	1	1	1	1
	PPB(Ø6P)				1	1	1	1
	PPB(Ø8P)	1	1	1	1	1	1	1
	PPB COMMON	1	1	1	1	1	1	1
	P.E.U.				3	3	3	3
SPARES	3	3	3	3	3	3	3	
TOTAL No. 14	22	22	28	37	37	37	37	
#10	SIGNAL COMMON	1	1	1	1	1	1	1
	LUMINAIRE				2	2	2	
	TOTAL No. 10	1	1	1	3	3	3	1
DLC	111U							1
	212U			1	1	1	1	1
	214U			1	1	1	1	1
	416U					1	1	1
	418U					1	1	1
	5J9U			1	1	1	1	1
	6J2U							1
	6J4U							1
	8J6U	1	1	1	1	1	1	1
	8J8U	1	1	1	1	1	1	1
TOTAL DLC	2	2	5	5	7	7	10	
EVP	CHANNEL A	1	1	1	1	1	1	1
	CHANNEL B	1	1	1	1	1	1	1
	CHANNEL C				1	1	1	1
	CHANNEL D				1	1	1	1
	TOTAL CABLES	2	2	2	4	4	4	4
#18	TRACER WIRE							(1)
12—STRAND SMFO CABLE								(1)
CONDUIT SIZE(INCHES)		3"	3"	3"	3"	3"	4"	2—4"
% FILL		11%	11%	15%	21%	23%	13%	8%

NOTES:

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

EQUIPMENT SCHEDULE									
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No.	STANDARD			VEH	SIG	MTG	PED	SIGNAL		PPB		LED	SPECIAL REQUIREMENTS
	Type	Sig.	M.A.	Lum.M.A.	Mast	Arm	Pole	ø	MTG	ø	ARROW	LUMINAIRE	
(A)	19-4-80	30'	15'	MAT			SV-3-TB	4	SP-2-T	4	LEFT	53W	
				MAS				6		6	RIGHT		
(B)	1-B	-	-	-			TV-3-T	6	SP-2-T	6	LEFT	-	
								8		8	RIGHT		
(C)	18-4-80	30'	-	MAT			SV-3-TB	2	SP-2-T	2	RIGHT	-	
				MAS				8		8	LEFT		
(D)	1-B	-	-	-			TV-3-T	2	SP-2-T	2	LEFT	-	
								4		4	RIGHT		

NOTES:

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[illegible]

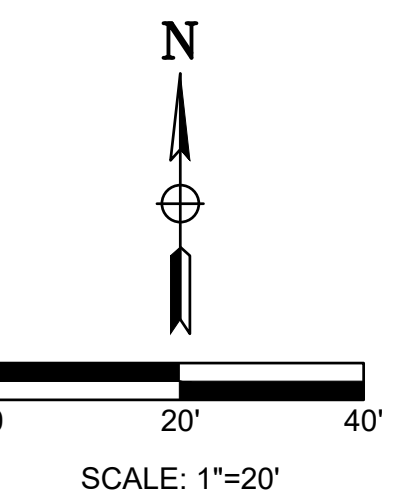


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3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 EXISTING SIGNAL CABINET AND EXISTING CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL TO REMAIN.
- 2 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 3 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 4 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET. CONNECT ETHERNET CABLE TO ETHERNET NETWORK SWITCH. SEE SIC SHEETS FOR CONNECTION DETAILS.
- 5 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]

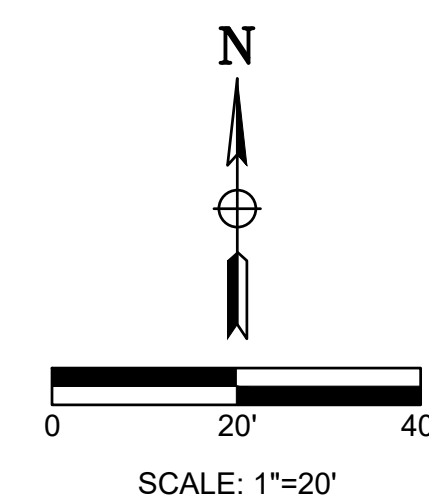


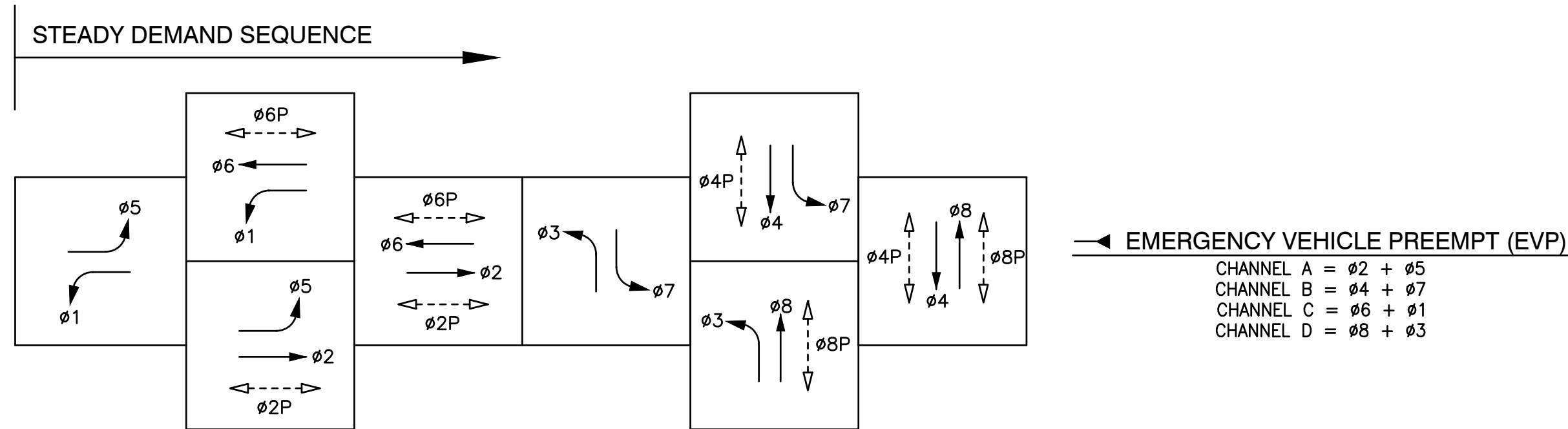
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- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE NORTH.
- 3 FURNISH AND INSTALL 2070XL CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

 PROPOSED RADIO TRANSMITTER

PROPOSED RADIO TRANSMITTER

[illegible]



EXISTING PHASE DIAGRAM



GENERAL NOTES

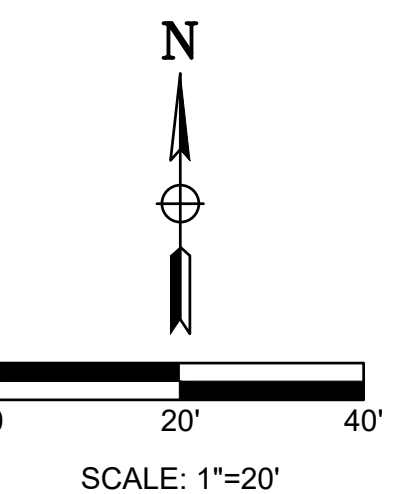
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PROJECT NOTES

- 1 EXISTING SIGNAL CABINET TO REMAIN.
- 2 REMOVE AND SALVAGE EXISTING CONTROLLER IN EXISTING SIGNAL CABINET AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337.
- 3 FURNISH AND INSTALL 2070LY CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN EXISTING SIGNAL CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING SERVICE CABINET ON SIDE OF SIGNAL CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN EXISTING CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

-) PROPOSED RADIO TRANSMITTER



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AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE							
#14	Ø1		3	3					
	Ø2			3		3	3		
	Ø3	3	3	6		3	3	3	3
	Ø4	3	3	6	3				
	Ø5			3		3	3	3	
	Ø6		2	6		3	3	3	
	Ø7			6	3	3			
	Ø8			3		3	3	3	3
	Ø2P			2		2	2		
	Ø4P	2	2	4	2				
	Ø6P		2	4		2	2	2	
	Ø8P			2		2	2	2	
	PPB(Ø2P)			2	1	1			
	PPB(Ø4P)		1	1					
	PPB(Ø6P)	1	1	2		1	1	1	1
PPB(Ø8P)			1		1	1	1		
PPB COMMON	1	1	2	1	1	1	1	1	
P.E.U.									
SPARES	3	3	9	3	3	3	3	3	
TOTAL No. 14	13	21	65	13	31	27	22	11	
#10	SIGNAL COMMON	1	1	2	1	1	1	1	1
	LUMINAIRE		2	4		2	2	2	2
	TOTAL No. 10	1	3	6	1	3	3	3	3
ANTENNA TRANSMITTER	RADIO POE		(1)	(1)					
	TOTAL CABLES		(1)	(1)					
DLC	111U			1		1	1	1	
	212U			1					
	214U			1					
	315U			1		1			
	416U	1	1	1					
	418U	1	1	1					
	5J1U			1					
	6J2U			1		1	1	1	
	6J4U			1		1	1	1	
	7J5U	1	1	1					
	8J6U			1		1			
	8J8U			1		1			
TOTAL DLC	3	3	12		6	3	3		
EVP	CHANNEL A			1		1	1		
	CHANNEL B			1		1	1	1	1
	CHANNEL C			1		1	1		
	CHANNEL D			1		1	1	1	1
	TOTAL CABLES			4		4	4	2	2
CONDUIT SIZE(INCHES)		2"	3"	2-3"	2"	3"	3"	3"	2"
% FILL		16%	11%	19%	9%	20%	16%	12%	14%

() = NEW CONDUCTORS

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS	
	Type	Sig. M.A.	Lum.M.A.	Mast	Arm	Pole	Ø	MTG	Ø			ARROW
(A)	19-4-70	30'	12'	MAS		SV-1-T	6	SP-1-T	4	LEFT	70W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(B)	1-A	-	-	-		TV-2-T	4	SP-1-T	6	RIGHT	-	
(C)	17-3-70	20'	6'	MAS		SV-1-T	8	SP-1-T	6	LEFT	65W	
(D)	1-A	-	-	-		TV-2-T	6	SP-1-T	8	RIGHT	-	
(E)	26-4-70	45'	12'	MAS		SV-1-T	2	SP-1-T	8	LEFT	65W	
(F)	1-A	-	-	-		TV-2-T	8	SP-1-T	2	RIGHT	-	
(G)	19-3-70	25'	12'	MAS		SV-1-T	4	SP-1-T	2	LEFT	70W	
(H)	1-A	-	-	-		TV-2-T	2	SP-1-T	4	RIGHT	-	

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]

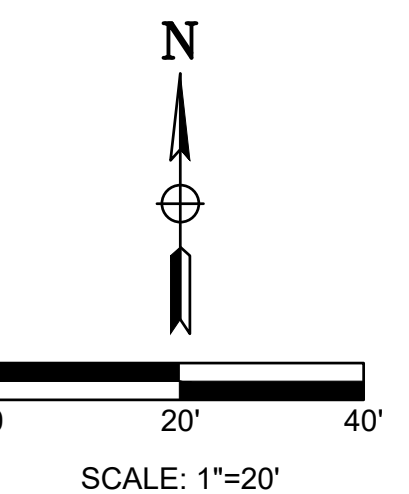


1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE EAST.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE							
									
#14	Ø1	3	3	3	6	3		3	3
	Ø2				6	3	3	3	3
	Ø3		3	3	3				
	Ø4		3	3	6	3		3	3
	Ø5				3	3	3		
	Ø6	3	3	3	3				
	Ø7				6	3	3	3	
	Ø8			3	6	3	3		
	Ø2P				4	2	2	2	2
	Ø4P		2	2	4	2		2	
	Ø6P	2	2	2	2				
	Ø8P			3	4	3	3		
	PPB(Ø2P)				2	1	1	1	
	PPB(Ø4P)	1	1	1	2	2		1	1
	PPB(Ø6P)	1	1	1	1				
	PPB(Ø8P)				2	1	1		
PPB COMMON	1	1	1	2	1	1	1	1	
P.E.U.	3	3	3	3					
SPARES	3	3	3	9	3	3	3	3	
TOTAL No. 14	17	25	31	74	33	23	22	16	
SIGNAL COMMON	1	1	1	2	1	1	1	1	
LUMINAIRE	2	2	2	4	2	2	2		
TOTAL No. 10	3	3	3	6	3	3	3	1	
ANTENNA TRANSMITTER	RADIO POE				(1)	(1)	(1)		
	TOTAL CABLES				(1)	(1)	(1)		
DLC	111U				1				
	212U				1	1	1	1	
	212L				1	1	1	1	
	214U				1	1	1	1	
	214L				1	1	1	1	
	215U				1	1	1	1	
	315U				1	1			
	315L				1	1			
	317L				1	1			
	414U		1	1	1				
	416U		1	1	1				
	5J1U				1	1	1	1	
	6J2U				1				
	6J2L				1				
	6J4U				1				
	6J4L				1				
	7J5U		1	1	1				
	8J6U				1	1			
8J8U				1	1				
TOTAL DLC		3	3	19	11	6	6		
EVP	CHANNEL A				1	1	1		
	CHANNEL B				1	1		1	
	CHANNEL C	1	1	1	1				
	CHANNEL D			1	1				
	TOTAL CABLES	1	1	2	4	2	1	1	
CONDUIT SIZE(INCHES)		2"	2½"	2½"	2-3"	3"	2"	3"	2"
% FILL		16%	19%	23%	23%	24%	33%	14%	11%

EQUIPMENT SCHEDULE											
No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	26-3-70	45'	12'	MAS MAS	SV-1-T	6	SP-1-T	4 6	LEFT RIGHT	65W	
(B)	1-A	-	-	-	TV-2-T	4	SP-1-T	-	-	-	
(C)	24-4-70	35'	12'	MAS MAS	SV-1-T	8	SP-1-T	6	LEFT	65W	
(D)	1-A	-	-	-	TV-2-T	6	SP-1-T	8	RIGHT	-	
(E)	29-5-70	55'	15'	MAS MAS	SV-3-T	2 8	SP-2-T	2 8	LEFT RIGHT	65W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(F)	26-4-70	45'	12'	MAS MAS	SV-1-T	4	SP-1-T	2	LEFT	65W	
(G)	1-A	-	-	-	SV-2-T	2	SP-1-T	4	RIGHT	-	

NOTES:

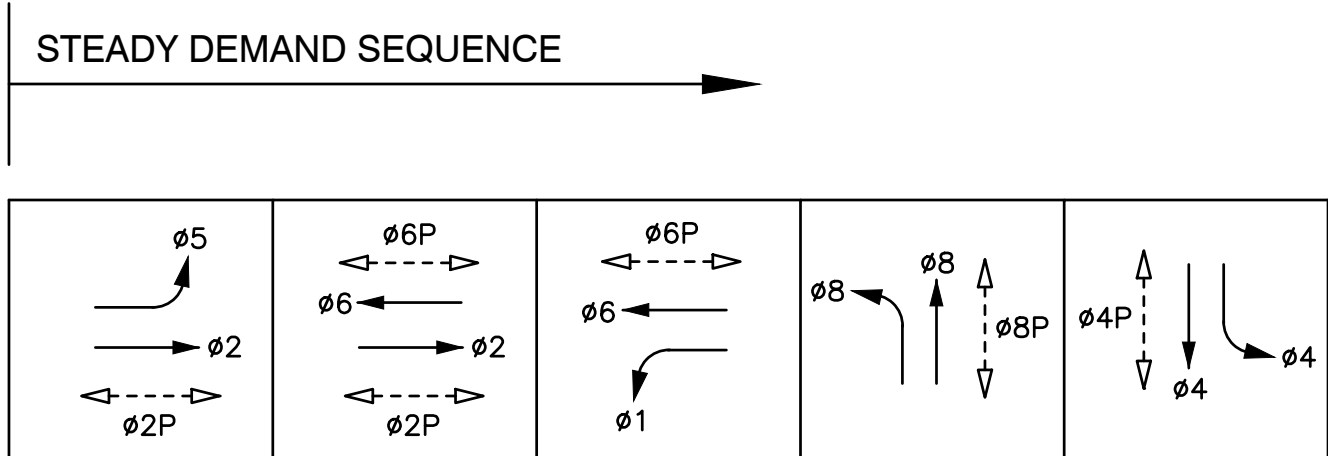
ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

NOTES:

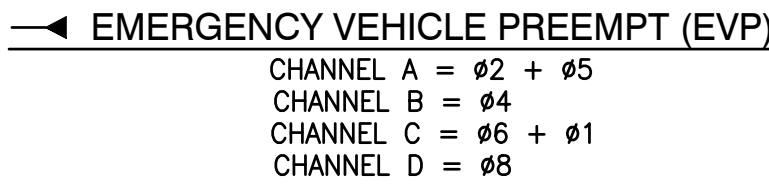
ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

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EXISTING PHASE DIAGRAM



GENERAL NOTES

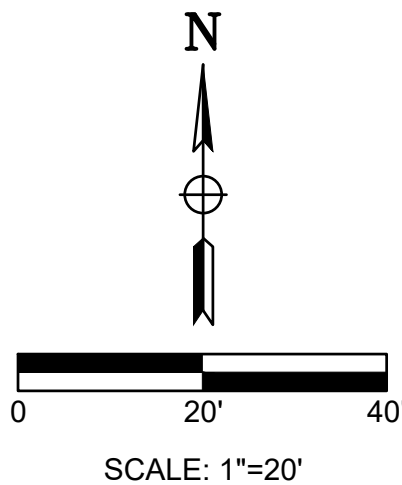
1. ALL CONDUITS ARE SHOWN DIAGMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

1. PROTECT EXISTING SIGNAL CABINET AND EXISTING CONTROLLER IN PLACE.
2. EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
3. FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE IN EXISTING CONDUIT.
4. FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
5. FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

-  PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

E. YOSEMITE AVENUE AND NORTHWOODS AVENUE

TS-74

TRAFFIC SIGNAL MODIFICATION PLAN

SHEET 77 OF 117

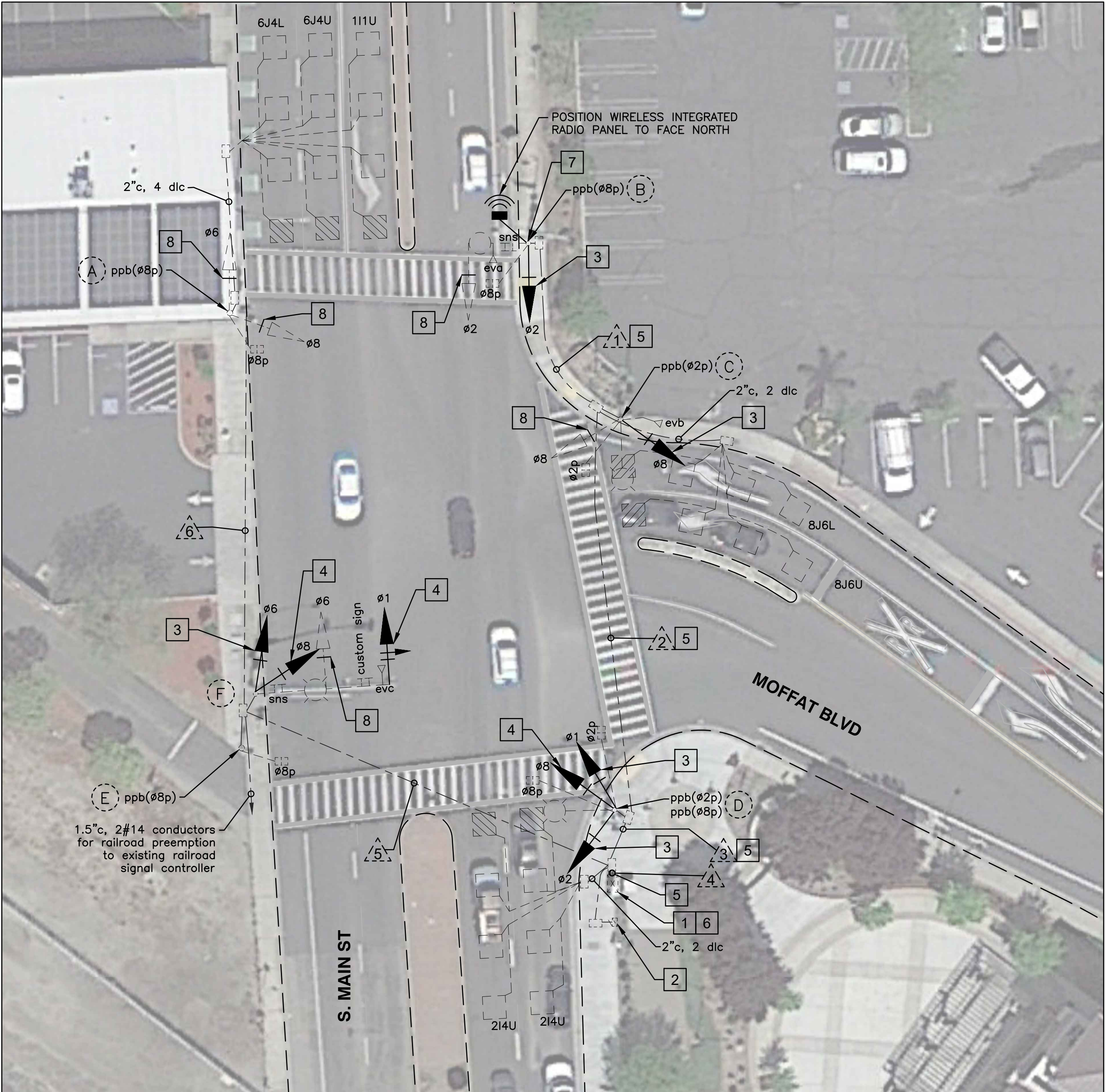
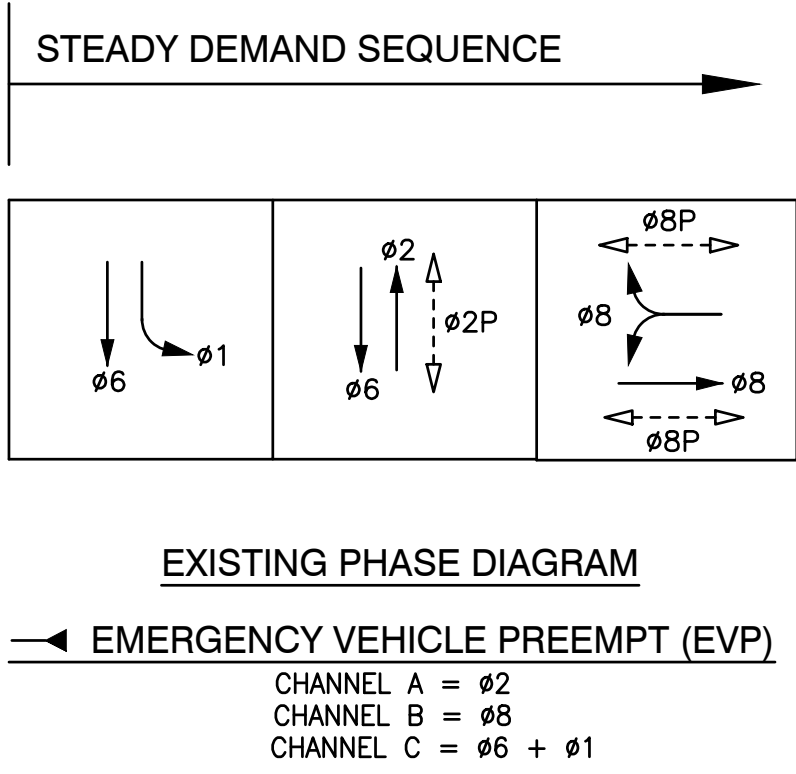
CONDUCTOR SCHEDULE											
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE									
# 14	Ø1	3	3	3	3		6	6	6	3	3
	Ø2					3	6	6	6	3	3
	Ø3										
	Ø4		3	3	3		6	6	6	3	
	Ø5				3	3	6	6	6		
	Ø6	3	3	3	3		3	3	3		
	Ø7										
	Ø8		3	3	3		3	3	3		
	Ø2P					2	4	4	4	2	2
	Ø4P		2	2	2		4	4	4	2	
	Ø6P	2	2	2	2		2	2	2		
	Ø8P			2	2		2	2	2		
	PPB(Ø2P)						1	1	1	1	
	PPB(Ø4P)	1	1	1	1		2	2	2	1	1
	PPB(Ø6P)		1	1	1		1	1	1		
PPB(Ø8P)			1	1	1	2	2	2			
PPB COMMON	1	1	1	1	1	2	2	2	1	1	
P.E.U.						3	3				
SPARES	3	3	3	3	3	9	9	9	3	3	
TOTAL No. 14	13	22	24	28	13	62	62	59	19	13	
#8	SIGNAL COMMON	1	1	1	1	2	2	1	1	1	1
	LUMINAIRE		2	2	2	2	6	6		2	
	TOTAL No. 8	1	3	3	3	4	8	7	1	3	1
ANTENNA TRANSMITTER	RADIO POE			(1)	(1)		(1)	(1)	(1)		
	TOTAL CABLES			(1)	(1)		(1)	(1)	(1)		
DLC	11IU				1		1	1	1		
	11IL				1		1	1	1		
	212U						1	1	1	1	1
	212L						2	2	2	2	2
	213U						2	2	2	2	2
	213L						1	1	1	1	1
	416U		1	1	1		1	1	1		
	417U		1	1	1		1	1	1		
	418U		1	1	1		1	1	1		
	5J1U						1	1	1	1	1
	6J2U				1		1	1	1		
	6J2L				1		1	1	1		
	6J3U				1		1	1	1		
	6J3L				1		1	1	1		
	8J6U							1	1		
	8J7U							1	1		
	8J8U							1	1		
	8J8L							2	2		
	TOTAL DLC		3	3	9		16	21	21	7	7
EVP	CHANNEL A					1	1	1	1		
	CHANNEL B						1	1	1	1	
	CHANNEL C	1	1	1	1		1	1	1		
	CHANNEL D			1	1		1	1	1		
TOTAL CABLES	1	1	2	2	1	4	4	4	1		
CONDUIT SIZE(INCHES)		2"	3"	3"	3"	3"	2-4"	2-4"	2-4"	3"	2"
% FILL		13%	13%	15%	22%	8%	13%	14%	12%	16%	25%

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	26-4-70	45'	15'	MAS MAS	SV-1-T	6	SP-1-T	4	LEFT	70W	
(B)	1-A	-	-	-	TV-2-T	4	SP-1-T	6	RIGHT	-	
(C)	19-4-80	25'	12'	MAS	SV-1-T	8	SP-1-T	6	LEFT	65W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE.
(D)	1-A	-	-	-	TV-2-T	6	SP-1-T	8	RIGHT	-	
(E)	29-5-70	55'	15'	MAS MAS MAS	SV-1-T	2	SP-1-T	8	LEFT	65W	
(F)	1-A	-	-	-	TV-2-T	8	SP-1-T	2	RIGHT	-	
(G)	26-4-70	45'	15'	MAS	SV-1-T	4	SP-1-T	2	LEFT	65W	
(H)	1-A	-	-	-	TV-2-T	2	SP-1-T	4	RIGHT	-	

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

[illegible]

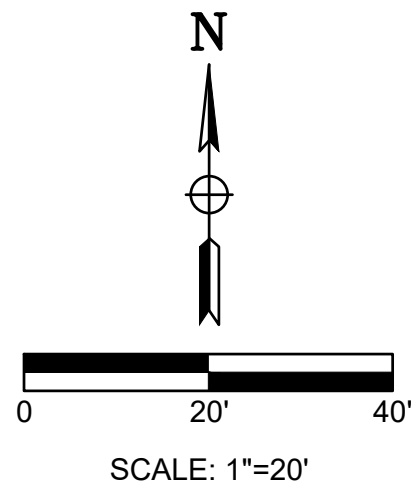


- GENERAL NOTES**
1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
 2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
 3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

- PROJECT NOTES**
- 1 EXISTING SIGNAL CABINET AND EXISTING CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL TO REMAIN.
 - 2 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
 - 3 REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD. FURNISH AND INSTALL NEW 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
 - 4 REMOVE AND SALVAGE EXISTING SIGNAL HEAD. FURNISH AND INSTALL NEW 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
 - 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
 - 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN EXISTING CABINET.
 - 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
 - 8 FURNISH AND INSTALL NEW YELLOW RETROREFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE.

LEGEND:

PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY

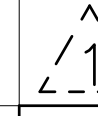
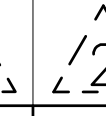
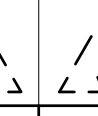
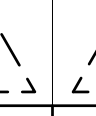
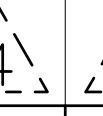
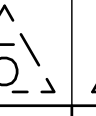


DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

MOFFAT BOULEVARD AND S. MAIN STREET	TS-76
TRAFFIC SIGNAL MODIFICATION PLAN	SHEET 79 OF 117

CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE					
							
#14	Ø1			3	6	3	
	Ø2	3	3	3	3		
	Ø6				3	3	3
	Ø8		3	3	6	3	3
	Ø2P		2	2	2		
	Ø8P	2	2	2	4	2	2
	PPB(Ø2P)		1	1	1		
	PPB(Ø8P)	1	1	1	2	1	1
	PPB COMMON	1	1	1	1	1	1
#10							
	RAILROAD PREEMPTION				1	1	
	TOTAL No. 14	7	13	16	29	14	10
	SERVICE				3		
	SIGNAL NEUTRAL	1	1	1	2	1	1
DLC	LUMINAIRE	2	2	2	4	2	
	TOTAL No. 10	3	3	3	9	3	1
	111U				1	1	1
	212U				1		
DLC	214U				1		
	214L				1		
	6J2U				1	1	1
	6J4U				1	1	1
	6J4L				1	1	1
	8J6U		1	1	1		
	8J6L		1	1	1		
	TOTAL DLC		2	2	9	4	4
ANTENNA TRANSMITTER	RADIO POE	(1)	(1)	(1)	(1)		
	TOTAL CABLES	(1)	(1)	(1)	(1)		
EVP	CHANNEL A	1	1	1	1		
	CHANNEL B		1	1	1		
	CHANNEL C				1	1	
	TOTAL CABLES	1	2	2	3	1	
CONDUIT SIZE(INCHES)		2"	2.5"	2.5"	2-2.5"	2.5"	2"
% FILL		10%	14%	15%	13%	15%	15%

NOTES:

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

EQUIPMENT SCHEDULE

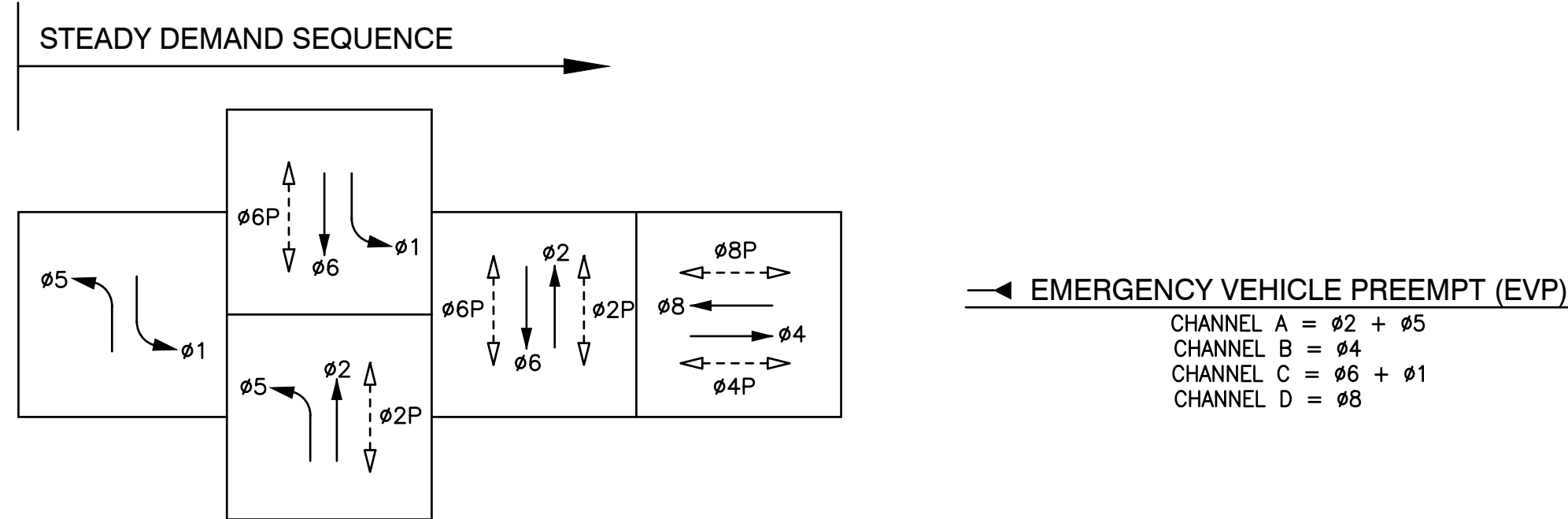
No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	1-A	—	—	—	TV-2-T	8	SP-1-T	8	LEFT	—	
(B)	17-1-70	15'	12'	MAT	SV-1-T (N)	8	SP-1-T	8	LEFT	I135W	REMOVE AND SALVAGE EXISTING SV-1-T MOUNTING AND REPLACE WITH NEW SV-1-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(C)	15	—	12'	—	SV-2-T (N)	2	SP-1-T	2	RIGHT	I135W	REMOVE AND SALVAGE EXISTING SV-2-T MOUNTING AND REPLACE WITH NEW SV-2-T MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(D)	15	—	12'	—	SV-3-TB (N)	2 8	SP-2-T	2 8	RIGHT RIGHT	I135W	REMOVE AND SALVAGE EXISTING SV-3-TB MOUNTING AND REPLACE WITH NEW SV-3-TB MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE TWO (2) EXISTING 8" SIGNAL HEADS ON SIGNAL POLE. FURNISH AND INSTALL TWO (2) NEW 12" SIGNAL HEADS IN PLACE. REMOVE AND SALVAGE EXISTING SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(E)	1-B	—	—	—	—	8	TP-1-T	8	RIGHT	—	
(F)	19-3-70	30'	12'	MAT MAS	SV-2-TB (N)	—	—	—	—	I135W	REMOVE AND SALVAGE EXISTING SV-2-TB MOUNTING AND REPLACE WITH NEW SV-2-TB MOUNTING IN PLACE TO HANDLE NEW 12" SIGNAL HEAD. REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. REMOVE AND SALVAGE EXISTING SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE. REMOVE AND SALVAGE EXISTING SQUARE SIGNAL HEAD ON SIGNAL MAST ARM. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.

NOTES:

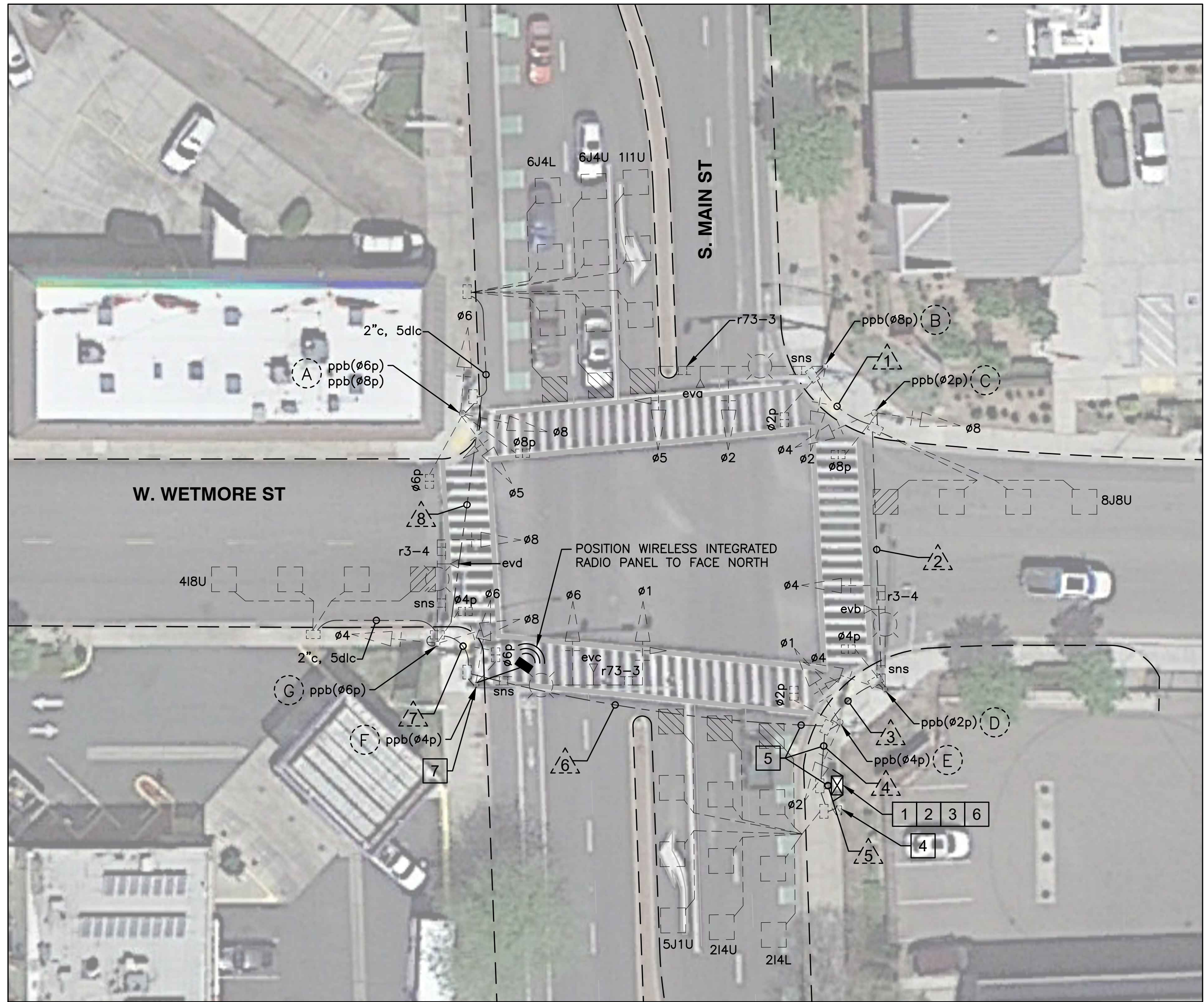
ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

(N) = NEW EQUIPMENT

[illegible]



EXISTING PHASE DIAGRAM



GENERAL NOTES

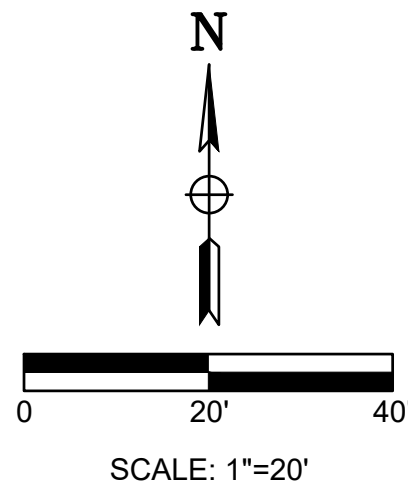
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3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

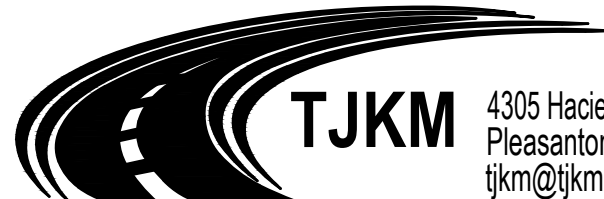
PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE SOUTH.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

PROPOSED RADIO TRANSMITTER



					 4305 Hacienda Drive, Suite 550 Pleasanton, CA 94588 tjkm@tjkm.com	 RUTA JARIWALA No. 73840 Exp. 6/30/25 CIVIL DATE SIGNED: 01/19/2024	SCALE: 1"=20' DRAWN BY: <u>A. DICKINSON / M. MONTERO</u> CHECKED BY: <u>R. PATEL</u> DATE: <u>01/19/2024</u> PROJECT NO: <u>103-029</u>	W. WETMORE STREET AND S. MAIN STREET		TS-78
REV	DATE	DESCRIPTION						TRAFFIC SIGNAL MODIFICATION PLAN		SHEET 81 OF 117

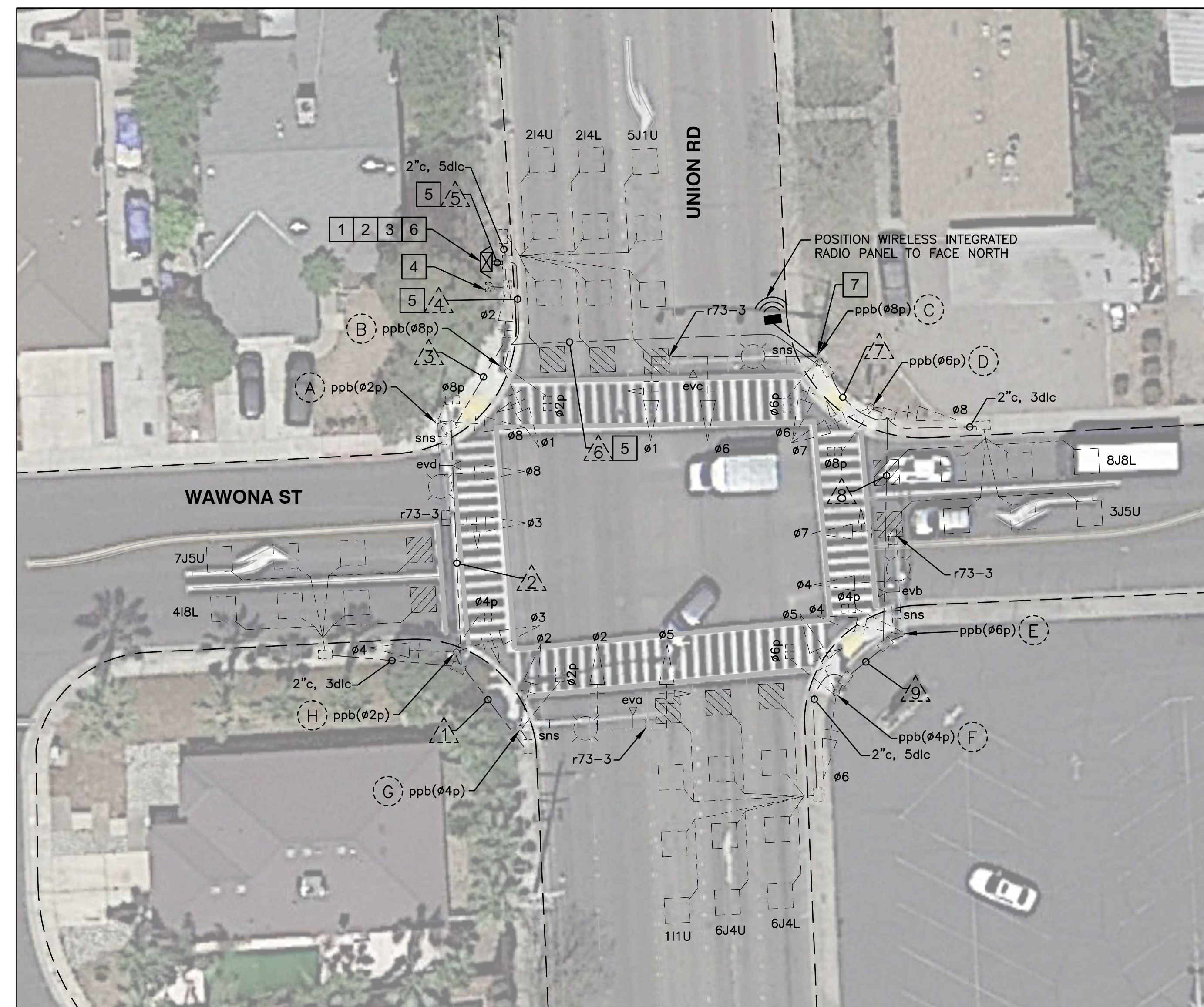
CONDUCTOR SCHEDULE									
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE							
#14	Ø1				3	3	3		
	Ø2	3	3	3	3	3			
	Ø4		3	3	3	3			
	Ø5	3	3	3	6	6	3	3	3
	Ø6				3	3	3	3	3
	Ø8		3	3	6	6	3	3	3
	Ø2P	2	2	2	2	2			
	Ø4P			2	4	4	2	2	
	Ø6P				2	2	2	2	2
	Ø8P		2	2	4	4	2	2	2
	PPB(Ø2P)		1	1	1	1			
	PPBØ4P)				1	1	1		
	PPB(Ø6P)				1	1	1	1	1
	PPB(Ø8P)	1	1	1	2	2	1	1	1
PPB COMMON	1	1	1	2	2	1	1	1	
P.E.U.			3	3					
SPARE	6	6	3	3	3	3	3	3	
TOTAL No. 14	16	25	27	49	46	25	21	19	
#10	LUMINAIRE	2	2	2	4		2	2	2
	SIGNAL COMMON	1	1	1	2	2	1	1	1
TOTAL No. 10	3	3	3	6	2	3	3	3	
DLC	1I1U				1	1	1	1	1
	2I2U					1			
	2I2L					1			
	2I4U					1			
	2I4L					1			
	4I6U				1	1	1	1	
	4I8U				1	1	1	1	
	5J1U					1			
	6J2U				1	1	1	1	1
	6J2L				1	1	1	1	1
	6J4U				1	1	1	1	1
	6J4L				1	1	1	1	1
	8J6U		1	1	1	1			
	8J8U		1	1	1	1			
TOTAL DLC		2	2	11	14	7	7	5	
ANTENNA TRANSMITTER	RADIO POE				(1)	(1)	(1)		
	TOTAL CABLES				(1)	(1)	(1)		
OPTICOM	CHANNEL A	1	1	1	1	1			
	CHANNEL B			1	1	1			
	CHANNEL C				1	1	1		
	CHANNEL D				1	1	1	1	
	TOTAL CABLE	1	1	2	4	4	2	1	
PERCENT FILL		7%	11%	13%	16%	16%	18%	15%	12%
CONDUIT SIZE (INCHES)		3"	3"	3"	2-3"	2-3"	3"	3"	3"

() = NEW CONDUCTORS

EQUIPMENT SCHEDULE											
No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	1-A	—	—	—	TV-3-T	6 8	SP-2-T	6 8	RIGHT RIGHT	—	
(B)	24-4-80	35'	15'	MAS MAS	SV-1-T	2	SP-1-T	8	LEFT	135W	
(C)	1-A	—	—	—	TV-2-T	8	SP-1-T	2	RIGHT	—	
(D)	19-3-80	30'	12'	MAS	SV-1-T	4	SP-1-T	2	LEFT	135W	
(E)	1-A	—	—	—	TV-2-T	2	SP-1-T	4	RIGHT	—	
(F)	26-4-80	45'	15'	MAS MAS	SV-1-T	6	SP-1-T	4	LEFT	135W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(G)	19-3-80	30'	12'	MAS	SV-2-T	4	SP-1-T	6	RIGHT	135W	

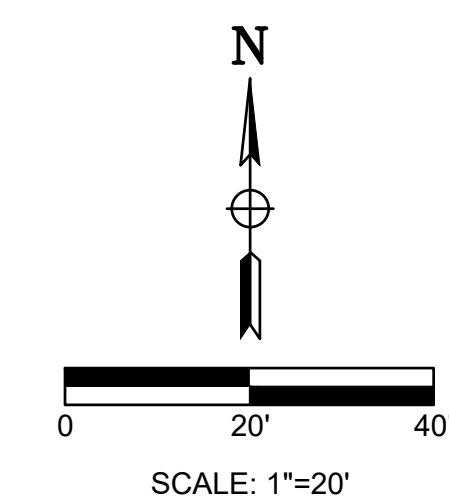
ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]



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2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE NORTH.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

 PROPOSED RADIO TRANSMITTER[illegible]

CONDUCTOR SCHEDULE										
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE								
#14	Ø1				3	3	3			
	Ø2	3	3	3	3	3				
	Ø3		3	3	3	3				
	Ø4		3	3	6	6	3	3	3	
	Ø5	3	3	3	6	6	3	3	3	3
	Ø6				3	3	3	3	3	3
	Ø7				3	3	3	3	3	
	Ø8			3	6	6	3	3		
	Ø2P	2	2	2	2	2				
	Ø4P		2	2	4	4	2	2	2	
	Ø6P					2	2	2	2	2
	Ø8P			2	4	4	2	2		
	PPB(Ø2P)		1	1	1	1				
	PPB(Ø4P)	1	1	1	2	2	1	1	1	1
	PPB(Ø6P)				1	1	1	1	1	
	PPB(Ø8P)				1	1	1			
	PPB COMMON	1	1	1	2	2	1	1	1	1
	P.E.C.			3	3					
SPARES	3	3	3	6	6	3	3	3	3	
TOTAL No. 14	13	22	30	59	58	31	27	22	13	
#10	SIGNAL COMMON	1	1	1	2	2	1	1	1	1
	LUMINAIRE	1	1	1	1		1	1	1	
	TOTAL No. 10	2	2	2	3	2	2	2	2	1
ANTENNA TRANSMITTER	RADIO POE				(1)	(1)	(1)			
	TOTAL CABLES				(1)	(1)	(1)			
DLC	111U				1	1	1	1	1	1
	212U					1				
	212L					1				
	214U					1				
	214L					1				
	315U				1	1	1	1		
	416U		1	1	1	1				
	418L		1	1	1	1				
	5J1U					1				
	6J2U				1	1	1	1	1	1
	6J2L				1	1	1	1	1	1
	6J4U				1	1	1	1	1	1
	6J4L				1	1	1	1	1	1
	7J5U		1	1	1	1				
	8J6U				1	1	1	1		
	8J8L				1	1	1	1		
	TOTAL DLC		3	3	11	16	8	8	5	5
EVP	CHANNEL A	1	1	1	1	1				
	CHANNEL B				1	1	1	1		
	CHANNEL C				1	1	1			
	CHANNEL D			1	1	1				
TOTAL CABLES		1	1	2	4	4	2	1	1	
CONDUIT SIZE(INCHES)		2"	3"	3"	2-3"	2-3"	3"	3"	3"	2"
% FILL		12%	11%	14%	17%	19%	20%	17%	13%	20%

NOTES:
ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.
() = NEW CONDUCTORS

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	19-4-70	30'	12'	MAS MAT	SV-1-T	8	SP-1-T	2	LEFT	135W	
(B)	1-B	-	-	-	TV-2-T	2	SP-1-T	8	RIGHT	-	
(C)	26-4-70	45'	12'	MAS MAT	SV-1-T	6	SP-1-T	8	LEFT	135W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(D)	1-B	-	-	-	TV-2-T	8	SP-1-T	6	RIGHT	-	
(E)	19-4-70	30'	12'	MAS MAT	SV-1-T	4	SP-1-T	6	LEFT	135W	
(F)	1-B	-	-	-	TV-2-T	6	SP-1-T	4	RIGHT	-	
(G)	24-4-70	35'	12'	MAS MAT	SV-1-T	2	SP-1-T	4	LEFT	135W	
(H)	1-B	-	-	-	TV-2-T	4	SP-1-T	2	RIGHT	-	

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]

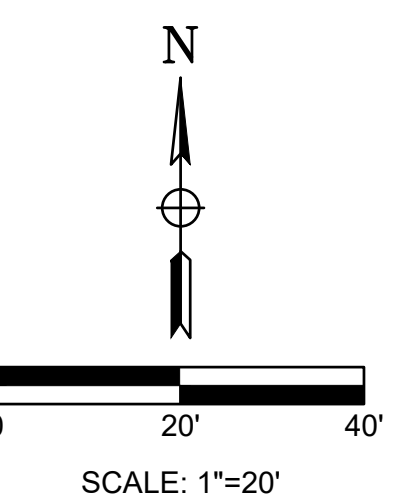


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3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE NORTH.
- 3 FURNISH AND INSTALL 2070LK CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUIP IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]

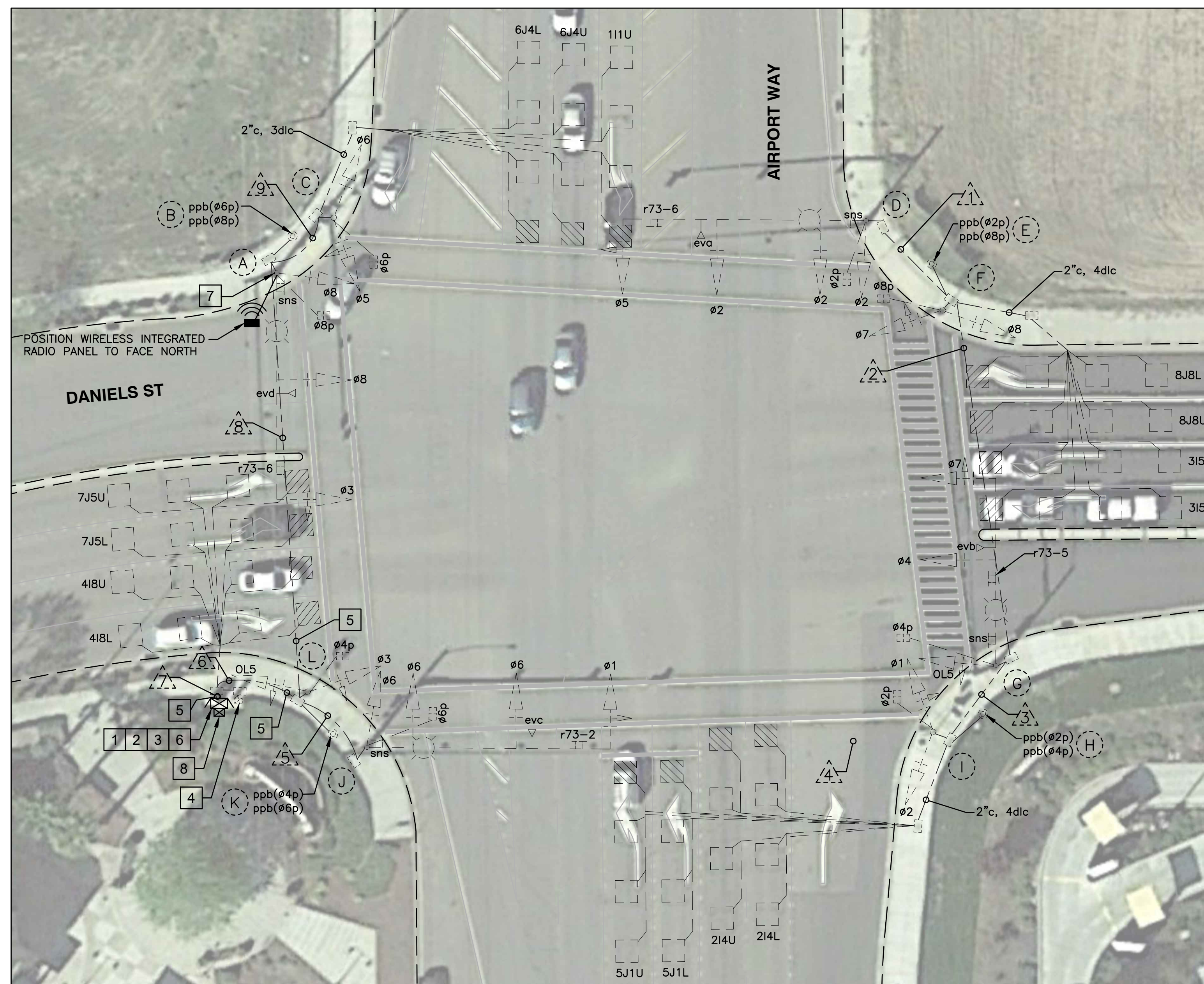
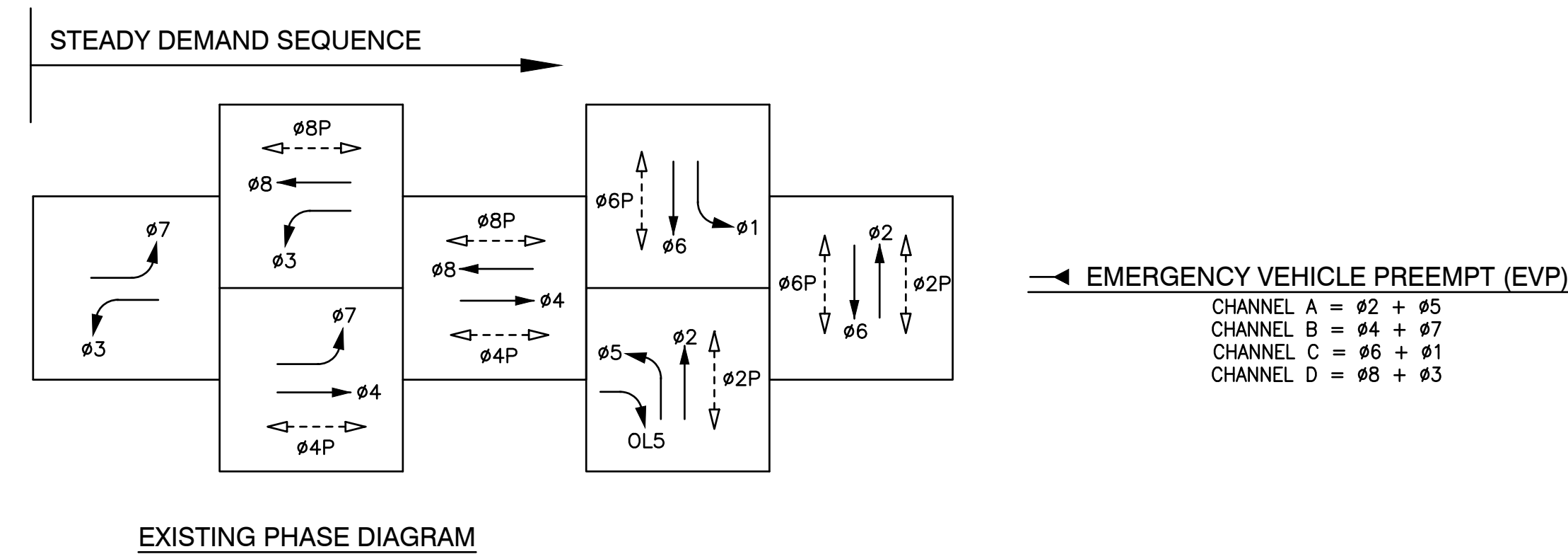
CONDUCTOR SCHEDULE										
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE								
#14	Ø1				3	3	3	3		
	Ø2	3	3	3	3	3	3	3		
	Ø3		3	3	3	3	6	6	3	
	Ø4		3	3	3	3	3	3		
	Ø5	3	3	3	3	3	6	6	3	3
	Ø6					3	6	6	3	3
	Ø2P	2	2	2	2	2	2	2		
	Ø3P		2	2	2	2	4	4	2	
	Ø4P			2	2	2	2	2		
	Ø6P					2	4	4	2	2
	PPB(Ø2P)		2	2	2	2	2	2		
	PPB(Ø3P)		2	2	2	2	4	4	2	
	PPB(Ø4P)				2	2	2	2		
	PPB(Ø6P)					2	4	4	2	
PPB COMMON	1	1	1	1	1	2	2	1	1	
SPARES	3	3	3	3	3	6	6	3	3	
P.E.U.						3				
	TOTAL No. 14	12	24	26	31	38	62	59	21	12
#10	SIGNAL NEUTRAL	1	1	1	1	1	2	2	1	
	LUMINAIRE	2	2	2	2	2	4	4	2	
	TOTAL No. 10	3	3	3	3	3	6	6	3	
ANTENNA TRANSMITTER	RADIO POE					(1)	(1)	(1)		
	TOTAL CABLES					(1)	(1)	(1)		
DLC	111U						1	1	1	1
	214U				1	1	1	1		
	214L				1	1	1	1		
	315U	1	1	1	1	1	1	1		
	315L	1	1	1	1	1	1	1		
	319L	1	1	1	1	1	1	1		
	418U							1		
	418L							1		
	5J1U				1	1	1	1		
	6J4U						1	1	1	1
	6J4L						1	1	1	1
TOTAL DLC	3	3	3	6	6	9	11	3	3	
EVP	CHANNEL A	1	1	1	1	1	1	1		
	CHANNEL B						1	1	1	
	CHANNEL C					1	1	1		
	CHANNEL D			1	1	1	1	1		
	TOTAL CABLES	1	1	2	2	3	4	4	1	
CONDUIT SIZE(INCHES)		2"	3"	3"	3"	3"	2-3"	2-3"	3"	2"
% FILL		13%	13%	14%	20%	24%	19%	20%	8%	19%

() = NEW CONDUCTORS

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	*	40'	12'	MAS MAS	SV-1-T	6	SP-1-T	-	-	250W**	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE.
(B)	PPB POST	-	-	-	-	-	-	4 6	LEFT RIGHT	-	
(C)	1-B	-	-	-	TV-2-T	4	SP-1-T	-	-	-	
(D)	*	35'	12'	MAS	SV-1-T	3	SP-1-T	-	-	73W	
(E)	PPB POST	-	-	-	-	-	-	3 6	RIGHT LEFT	-	
(F)	1-B	-	-	-	TV-2-T	6	SP-1-T	-	-	-	
(G)	*	50'	20'	MAS MAS	SV-1-T	2	SP-1-T	-	-	73W	
(H)	PPB POST	-	-	-	-	-	-	2 3	RIGHT LEFT	-	
(I)	1-B	-	-	-	TV-2-T	3	SP-1-T	-	-	-	
(J)	*	40'	15'	MAS	SV-1-T	4	SP-1-T	-	-	73W	
(K)	PPB POST	-	-	-	-	-	-	2 4	LEFT RIGHT	-	
(L)	1-B	-	-	-	TV-2-T	2	SP-1-T	-	-	-	

** = INDICATES HPS LUMINAIRE

[illegible]



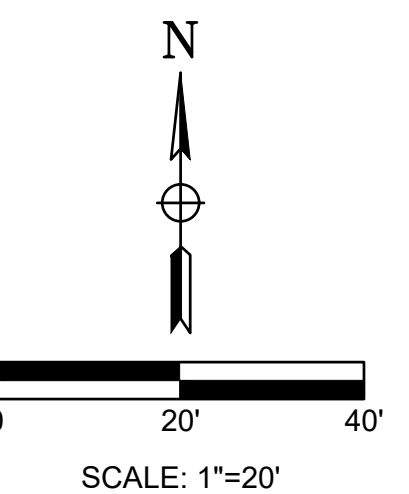
GENERAL NOTES

1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT, EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

- 1 REMOVE AND SALVAGE EXISTING SIGNAL CABINET, EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE WEST.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
- 8 FURNISH AND INSTALL NEW BATTERY BACKUP UNIT ENCLOSURE AND LX-BBS FOUNDATION. NEW FOUNDATION TO BE INSTALLED ADJACENT TO EXISTING 332 CABINET FOUNDATION. SEE CALTRANS RSP ES-3C FOR FOUNDATION DETAILS.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]

CONDUCTOR SCHEDULE											
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE									
#14	Ø1				3	3	3	3			
	Ø2	3	3	3	3	3	3	3			
	Ø3		3	3	3	3	3	3			
	Ø4			3	3	3	3	3			
	Ø5	3	3	3	3	3	6	6	3	3	
	Ø6					3	6	6	3	3	
	Ø7		3	3	3	3	3	3			
	Ø8		3	3	3	3	6	6	3		
	Ø2P	2	2	2	2	2	2	2			
	Ø4P			2	2	2	2	2			
	Ø6P						2	2	2	2	
	Ø8P		2	2	2	2	4	4	2		
	PPB(Ø2P)		2	2	2	2	2	2			
	PPB(Ø4P)				2	2	2	2			
	PPB(Ø6P)					2	4	4	2		
	PPB(Ø8P)		2	2	2	2	4	4	2		
	PPB COMMON	1	1	1	1	1	2	2	1	1	
SPARES	3	3	3	3	3	6	6	3	3		
P.E.U.						3					
	TOTAL No. 14	12	27	32	37	42	66	63	21	12	
#10	IRRIGATION			2	2	2	2				
#8	SIGNAL NEUTRAL	1	1	1	1	1	2		1	1	
	LUMINAIRE	2	2	2	2	2	4		2		
	TOTAL No. 8	3	3	3	3	3	6		3	1	
ANTENNA TRANSMITTER	RADIO POE						(1)	(1)	(1)		
	TOTAL CABLES						(1)	(1)	(1)		
DLC	111U						1	1	1	1	
	2I4U				1	1	1	1			
	2I4L				1	1	1	1			
	3I5U		1	1	1	1	1	1			
	3I5L		1	1	1	1	1	1			
	4I8U							1			
	4I8L							1			
	5J1U				1	1	1	1			
	5J1L				1	1	1	1			
	6J4U						1	1	1	1	
	6J4L						1	1	1	1	
	7J5L							1			
	7J5U							1			
	8J8U		1	1	1	1	1	1			
	8J8L		1	1	1	1	1	1			
		TOTAL DLC		4	4	8	8	11	15	3	3
	EVP	CHANNEL A	1	1	1	1	1	1	1		
CHANNEL B				1	1	1	1	1			
CHANNEL C						1	1	1			
CHANNEL D								1	1		
	TOTAL CABLES	1	1	2	2	3	3	4	1		
CONDUIT SIZE(INCHES)		2"	3"	3"	3"	4"	2-3"	2-3"	3"	2"	
% FILL		15%	16%	19%	26%	17%	22%	21%	15%	21%	

() = NEW CONDUCTORS

EQUIPMENT SCHEDULE											
No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		LED LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Most Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	*	60'	20'	MAS MAS	SV-1-T	8	SP-1-T	-	-	76W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(B)	PPB POST	-	-	-	-	-	-	6 8	LEFT RIGHT	-	
(C)	1-B	-	-	-	TV-2-T	6	SP-1-T	-	-	-	
(D)	*	60'	20'	MAS MAS MAS	SV-1-T	2	SP-1-T	-	-	76W	
(E)	PPB POST	-	-	-	-	-	-	2 8	RIGHT LEFT	-	
(F)	1-B	-	-	-	TV-2-T	8	SP-1-T	-	-	-	
(G)	*	45'	12'	MAS MAS	SV-1-T	4	SP-1-T	-	-	76W	
(H)	PPB POST	-	-	-	-	-	-	2 4	LEFT RIGHT	-	
(I)	1-B	-	-	-	TV-2-T	2	SP-1-T	-	-	-	
(J)	*	65'	20'	MAS MAS MAS	SV-1-T	6	SP-1-T	-	-	76W	
(K)	PPB POST	-	-	-	-	-	-	4 6	LEFT RIGHT	-	
(L)	1-B	-	-	-	TV-2-T	4	SP-1-T	-	-	-	

* = AS-BUILT PLANS DO NOT PROVIDE POLE INFORMATION DATA AND FIELD VERIFICATION SHOWED POLES HAD NO TAGS. CITY TO PROVIDE THIS INFORMATION.

[illegible]

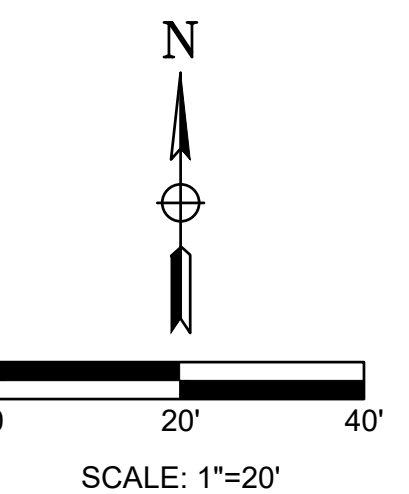


1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

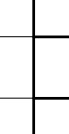
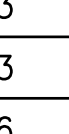
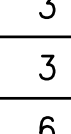
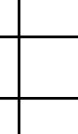
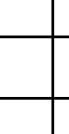
PROJECT NOTES

- 1 REMOVE AND SALVAGE EXISTING SIGNAL CABINET, EXISTING CONTROLLER AND TURN IN TO THE CALIF. STREET DIVISION YARD, 285 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- 2 FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE SOUTH.
- 3 FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
- 8 FURNISH AND INSTALL NEW BATTERY BACKUP UNIT ENCLOSURE AND LX-BBS FOUNDATION. NEW FOUNDATION TO BE ESTABLISHED ADJACENT TO EXISTING 332 CABINET FOUNDATION. SEE CALTRANS RSP ES-3C FOR FOUNDATION DETAILS.

LEGEND:

 PROPOSED RADIO TRANSMITTER[illegible]

CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE					
							
#14	Ø1	3	4	5			
	Ø2	3	3	3	3	3	
	Ø3	3	3				3
	Ø4	3	3	3	3		
	Ø5	6	6	3	3	3	3
	Ø6	3	3				3
	Ø7	3	3	3	3	3	
	Ø8	6	6	3	3	3	3
	Ø2P	2	2	2	2	2	
	Ø4P	2	2	2	2		
	Ø6P	2	2				2
	Ø8P	4	4	2	2	2	2
	PPB(Ø2P)	1	1	1	1	1	
	PPB(Ø4P)	1	1	1	1		
	PPB(Ø6P)	1	1				1
	PPB(Ø8P)	2	2	1	1	1	1
	PPB COMMON	2	2	1	1	1	1
P.E.U.	3	3					
SPARES	6	6	3	3	3	3	
TOTAL No. 14	56	57	33	28	22	22	
#10	SIGNAL COMMON	2	2	1	1	1	1
	LUMINAIRE		2	1	1	1	1
	TOTAL No. 10	2	4	2	2	2	2
ANTENNA TRANSMITTER	RADIO POE	(1)	(1)				(1)
	TOTAL CABLES	(1)	(1)				(1)
DLC	111U	1	1				1
	213U	1	1	1			
	213L	1	1	1			
	315U	1	1	1	1	1	
	417U	1	1				
	417L	1	1				
	5J1L	1	1	1			
	6J3U	1	1				1
	6J3L	1	1				1
	7J5L	1	1				
	7J5U	1	1				
	8J7U	1	1	1	1	1	
TOTAL DLC							
EVP		12	12	5	2	2	3
	CHANNEL A	1	1	1	1	1	
	CHANNEL B	1	1	1	1		
	CHANNEL C	1	1				
	CHANNEL D	1	1				1
TOTAL CABLES	4	4	2	2	1	1	
CONDUIT SIZE(INCHES)		2-3"	2-3"	3"	3"	3"	3"
% FILL		21%	21%	21%	14%	11%	14%

NOTES:

ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.

() = NEW CONDUCTORS

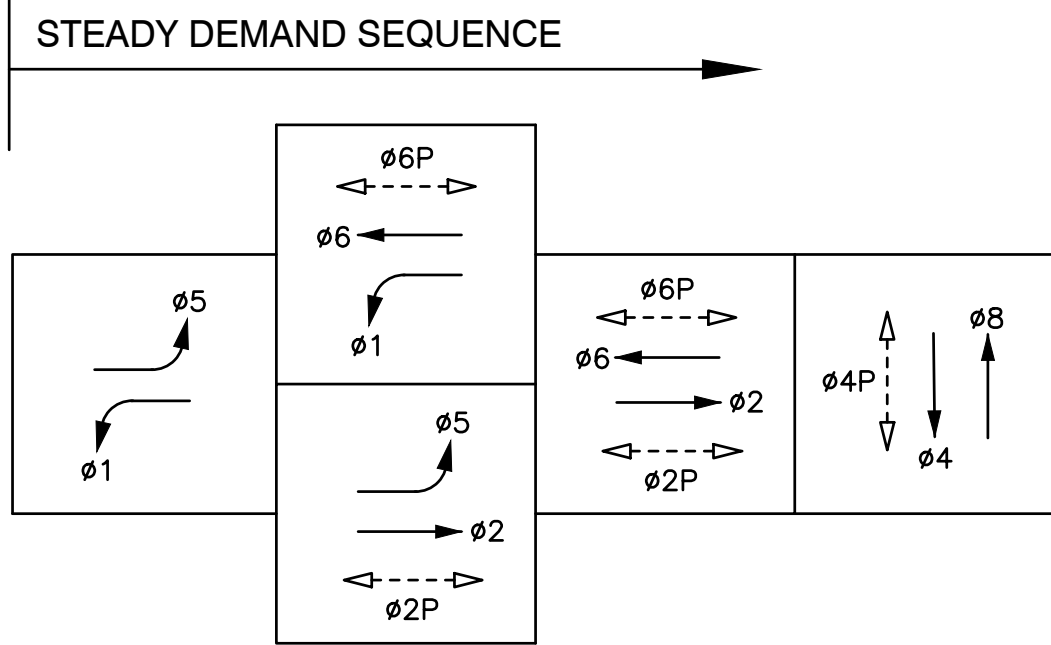
EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED	SIGNAL		PPB		HPS	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Most Arm	Pole	ø	MTG	ø	ARROW	LUMINAIRE		
(A)	24-4-70	35'	15'	MAS MAS	SV-1-T	8	SP-1-T	6	LEFT	135W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.	
(B)	1-A	-	-	-	TV-2-T	6	SP-1-T	8	RIGHT	-		
(C)	26-4-70	45'	15'	MAS MAS	SV-1-T	2	SP-1-T	8	LEFT	135W		
(D)	1-A	-	-	-	TV-2-T	8	SP-1-T	2	RIGHT	-		
(E)	19-4-70	30'	15'	MAS MAS	SV-1-T	4	SP-1-T	2	LEFT	135W		
(F)	PPB POST	-	-	-	-	-	-	2	LEFT	-		
(G)	1-A	-	-	-	TV-2-T	2	SP-1-T	4	RIGHT	-		
(H)	26-4-70	45'	15'	MAS MAS MAS	SV-1-T	6	SP-1-T	4	LEFT	135W		
(I)	1-A	-	-	-	TV-2-T	4	SP-1-T	6	RIGHT	-		

NOTES:

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

[illegible]



EXISTING PHASE DIAGRAM

EMERGENCY VEHICLE PREEMPT (EVP)
CHANNEL A = ø2 + ø5
CHANNEL B = ø4
CHANNEL C = ø6 + ø1
CHANNEL D = ø8



GENERAL NOTES

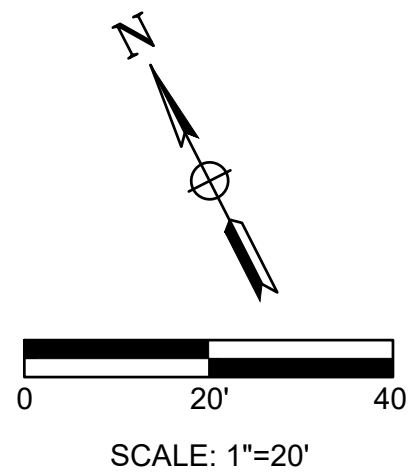
- ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
- THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
- CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.

PROJECT NOTES

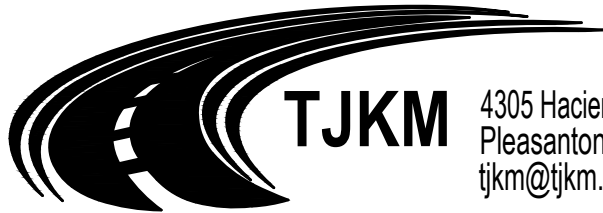
- REMOVE EXISTING SIGNAL CABINET AND EXISTING CONTROLLER AND TURN IN TO THE CITY STREET DIVISION YARD, 265 E WETMORE ST, MANTECA, CA 95337. EXISTING FOUNDATION TO REMAIN.
- FURNISH AND INSTALL TYPE 332LS CABINET IN PLACE ON EXISTING FOUNDATION USING EXISTING ANCHOR BOLT LOCATIONS. FRONT DOOR SHALL FACE EAST.
- FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL IN NEW CABINET. FURNISH AND INSTALL ALL NEW SIGNAL EQUIPMENT IN NEW CABINET AND WIRE FOR FULLY FUNCTIONING SIGNAL AS SHOWN ON THIS PLAN.
- EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
- REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD. FURNISH AND INSTALL 12" SIGNAL HEAD WITH YELLOW RETROREFLECTIVE BORDER SIGNAL BACKPLATE IN PLACE.
- FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE(S) IN EXISTING CONDUIT.
- FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN PROPOSED CABINET.
- FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.
- FURNISH AND INSTALL NEW YELLOW RETROREFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE.

LEGEND:

PROPOSED RADIO TRANSMITTER



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

INDUSTRIAL PARK DRIVE AND VANDERBILT CIRCLE/BESSEMER AVE
TRAFFIC SIGNAL MODIFICATION PLAN

TS-88
SHEET 91 OF 117

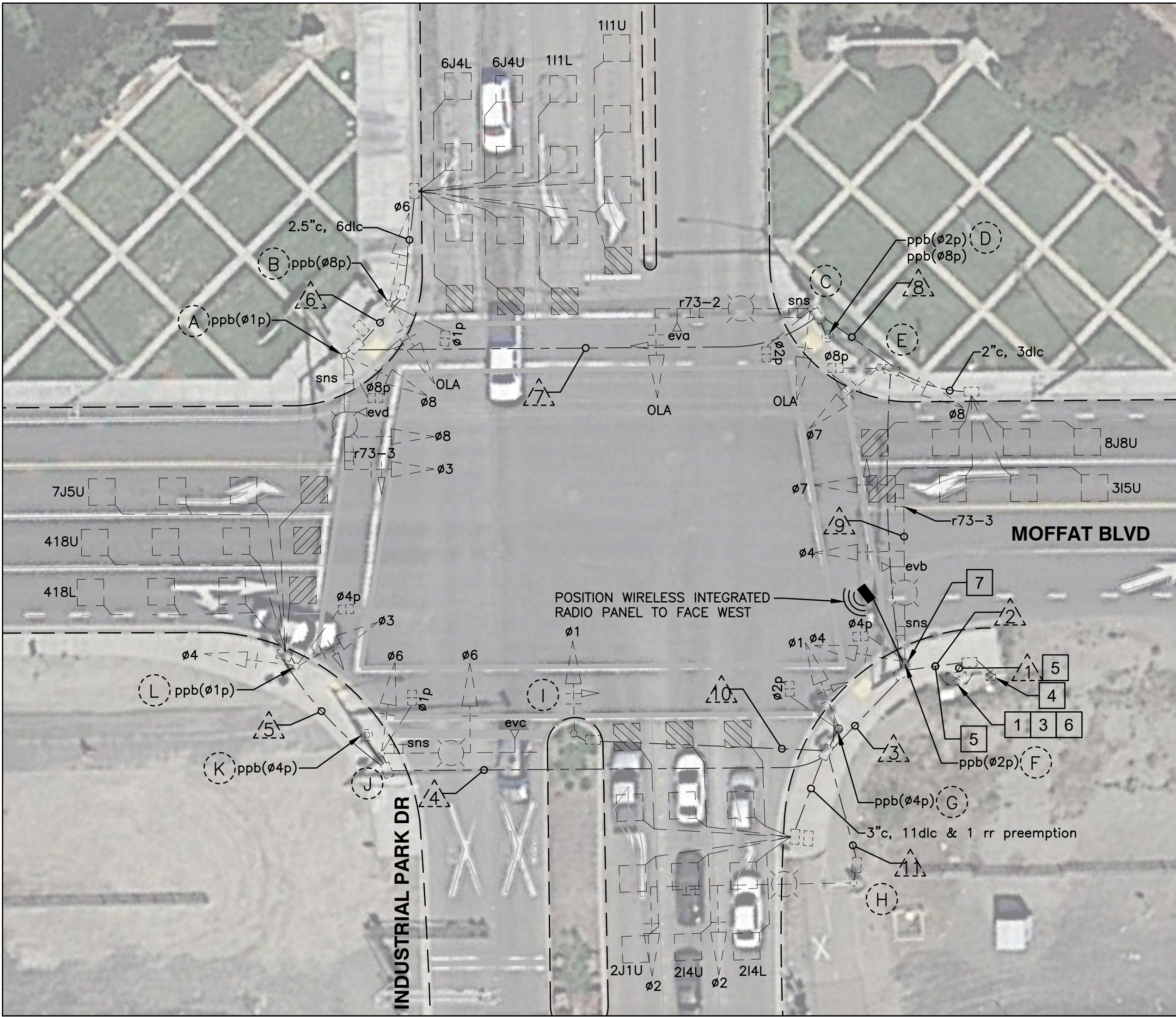
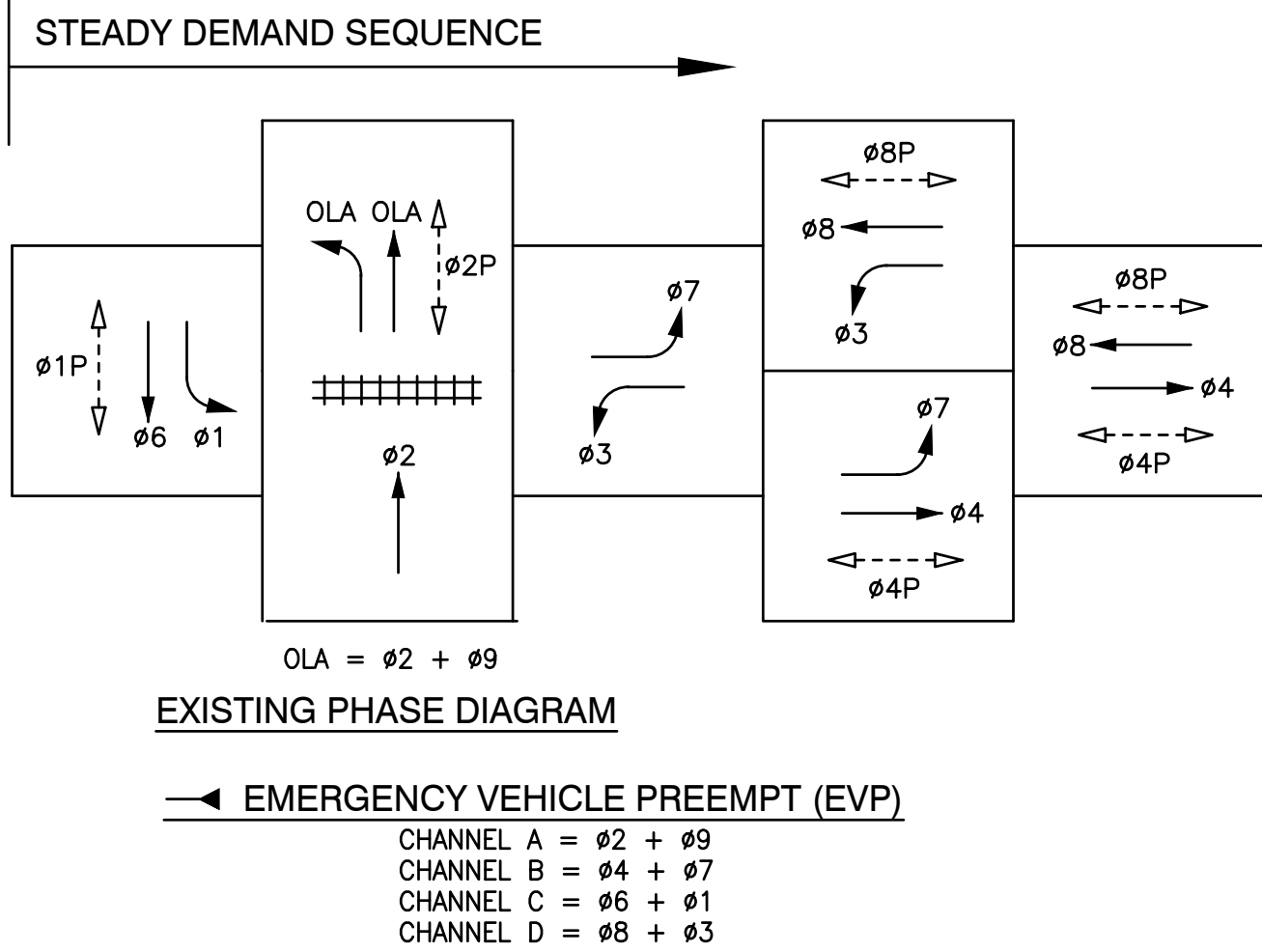
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE									
#14	Ø1	6	6	3	3	3	3	3	3	3	3
	Ø2	3	3	3	3	3	3				
	Ø4	6	6	3	3	3		3	3	3	
	Ø5	6	6	3							
	Ø6	6	6								
	Ø8	6	6	3	3			3	3	3	
	Ø2P	2	2	2	2	2		2	2	2	
	Ø4P	4	4	2	2	2		2	2	2	
	Ø6P	2	2					2	2	2	
	PPB(Ø2P)	2	2	1	1	1					
	PPB(Ø4P)	1	1	1	1	1		1	1	1	
	PPB(Ø6P)	1	1					1	1	1	
	PPB COMMON	2	2	1	1	1		1	1	1	
	PEU		3					3	3		
	SPARES	6	6	3	3	3	3	3	3	3	3
TOTAL No. 14	53	56	25	22	19	9	24	24	21	6	
#8	LUMINAIRE		4	2	2	2		2	2	2	2
	SIGNAL COMMON	2	2	1	1	1	1	1	1	1	1
	TOTAL No. 8	2	6	3	3	3	1	3	3	3	3
ANTENNA TRANSMITTER	RADIO POE	(1)	(1)	(1)							
	TOTAL CABLES	(1)	(1)	(1)							
DLC	11U	1									
	212U	1	1	1	1	1	1				
	214U	1	1	1	1	1	1				
	416U	1	1					1	1	1	
	418U	1	1					1	1	1	
	5J1L	1	1	1	1	1	1				
	6J2U	1									
	6J4U	1									
	8J6U	1	1	1	1						
	8J8U	1	1	1	1						
TOTAL DLC	10	7	5	5	3	3	2	2	2		
EVP	CHANNEL A	1	1	1							
	CHANNEL B	1	1	1	1	1					
	CHANNEL C	1	1								
	CHANNEL D	1	1								
TOTAL CABLES	4	4	2	1	1						
CONDUIT SIZE(INCHES)		2-3"	2-3"	3"	3"	3"	2"	3"	3"	3"	2"
% FILL		15%	16%	17%	15%	12%	14%	11%	11%	10%	9%

() = NEW CONDUCTORS

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	24-4-129	35'	12'	MAS MAS	SV-1-T	-	-	-	-	150W	
(B)	1-A	-	-	-	TV-2-T	4 6	SP-2-T	4 6	LEFT RIGHT	-	REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(C)	19-4-129	25'	12'	MAS	SV-1-T	-	-	-	-	150W	
(D)	1-A	-	-	-	-	6	TP-1-T	6	LEFT	-	
(E)	1-A	-	-	-	TV-2-T	-	-	-	-	-	REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(F)	24-4-129	35'	12'	MAS MAS	SV-1-T	-	-	-	-	150W	FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL AND OMNI-DIRECTIONAL ANTENNA TRANSMITTERS ON SHAFT OF SIGNAL POLE.
(G)	1-A	-	-	-	TV-2-T	2	SP-1-T	2	RIGHT	-	REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.
(H)	19-4-129	30'	12'	MAS	SV-1-T	2 4	SP-2-T	-	-	150W	
(I)	1-A	-	-	-	TV-2-T	-	-	2 4	LEFT RIGHT	-	REMOVE AND SALVAGE EXISTING 8" SIGNAL HEAD ON SIGNAL POLE. FURNISH AND INSTALL NEW 12" SIGNAL HEAD IN PLACE.

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

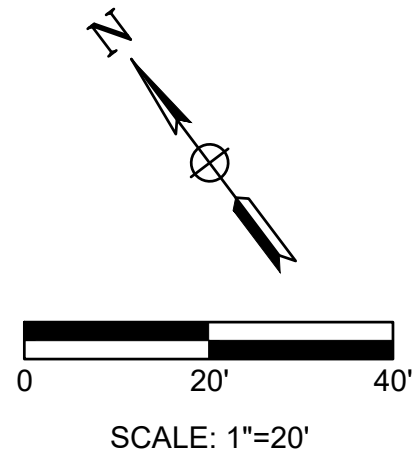
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- GENERAL NOTES**
1. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY.
 2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY. NO SIGNAGE AND STRIPING WORK AS PART OF THIS PROJECT. EXCEPT FIXING SIGNAGE AND STRIPING DAMAGED DUE TO CONSTRUCTION.
 3. CONTRACTOR TO COORDINATE WITH MANUFACTURER TO DETERMINE THE OPTIMAL POSITION OF THE WIRELESS INTEGRATED RADIO PANEL AND ANTENNA(S) MOUNTED ON THE TRAFFIC SIGNAL POLE.
- PROJECT NOTES**
- 1 EXISTING SIGNAL CABINET TO REMAIN.
 - 2 NOT USED
 - 3 EXISTING SIGNAL CONTROLLER TO REMAIN
 - 4 EXISTING TYPE III-AF SERVICE CABINET TO REMAIN.
 - 5 FURNISH AND INSTALL RADIO POWER OVER ETHERNET CABLE IN EXISTING CONDUIT.
 - 6 FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP, ETHERNET NETWORK SWITCH, AND ALL NECESSARY CABLES TO ESTABLISH ETHERNET COMMUNICATION IN EXISTING CABINET.
 - 7 FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE. SEE SHEET TS-1 FOR MOUNTING DETAIL.

LEGEND:

PROPOSED RADIO TRANSMITTER



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CONDUCTOR SCHEDULE

AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE										
		1	2	3	4	5	6	7	8	9	10	11
#14	Ø1	3	3	3							3	
	Ø2	3	3	3								3
	Ø3	6	6	3	3	3		3	3	3		
	Ø4	3	3	3	3	3						
	Ø6	6	6	3	3		3	3	3	3		
	Ø7	3	3							3		
	Ø8	3	3					3	3	3		
	OLA	6	6				3	3	3	3		
	Ø1P	4	4	2	2		2	2	2	2		
	Ø2P	4	4	2					2	2		
	Ø4P	2	2	2	2	2						
	Ø8P	2	2									
	APS(Ø1P)	1	1	1	1	1					1	
	APS(Ø2P)	4	4	2	2	2		2	2	2		
	APS(Ø4P)	4	4						2	2		
	APS(Ø8P)	2	2	2	2						2	
	ABO SIGN	2	2				2	2	2	2		
	SPARES	6	6	3	3	3	3	3	3	3	3	3
	TOTAL No. 14	64	64	29	21	14	13	21	25	28	9	6
#8	SIGNAL COMMON	2	2	1	1	1	1	1	1	1	1	1
	LUMINAIRE		2	2	2			2	2	2		2
	GROUND	2	2	1	1	1	1	1	1	1	1	1
	TOTAL No. 8	4	6	4	4	2	2	4	4	4	2	4
ANTENNA TRANSMITTER	RADIO POE	(1)	(1)									
	TOTAL CABLES	(1)	(1)									
DLC	111U	1	1				1	1	1	1		
	111L	1	1				1	1	1	1		
	212U	1	1	1								
	212L	1	1	1								
	2J1L	1	1	1								
	2I3U	1	1	1								
	2I3L	1	1	1								
	2J1U	1	1	1								
	2I4U	1	1	1								
	2I4L	1	1	1								
	3I5U	1	1							1		
	4I6U	1	1	1	1	1						
	4I8U	1	1	1	1	1						
	4I8L	1	1	1	1	1						
	6J2U	1	1				1	1	1	1		
	6J2L	1	1				1	1	1	1		
	6J4U	1	1				1	1	1	1		
	6J4L	1	1				1	1	1	1		
	7J5U	1	1	1	1	1						
	8J6U	1	1							1		
	8J8U	1	1							1		
	QJ9U	1	1	1								
	QJ9L	1	1	1								
	QI9U	1	1	1								
	TOTAL DLC	24	24	15	4	4	6	6	6	9		
	RR PREEMPTION	1	1	1								1
EVP	CHANNEL A	1	1						1	1		
	CHANNEL B	1	1									
	CHANNEL C	1	1	1	1							
	CHANNEL D	1	1					1	1	1		
	TOTAL CABLES	4	4	1	1			1	2	2		
CONDUIT SIZE(INCHES)		2-4"	2-4"	4"	3"	2.5"	3"	4"	3"	3.5"	3"	2"
% FILL		15%	15%	16%	14%	15%	11%	9%	18%	16%	4%	13%

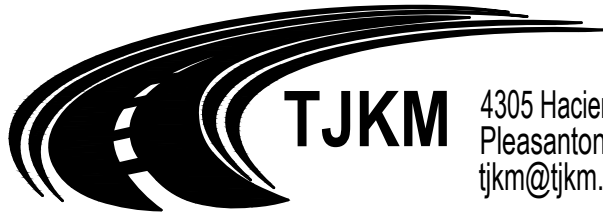
EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast	Arm	Pole	Ø	MTG	Ø	ARROW	
(A)	19-4-70	25'	12'	MAT		SV-1-T	8	SP-1-T	1	LEFT	200W
(B)	1-B	-	-	-		TV-2-T	1	SP-1-T	8	RIGHT	-
(C)	26-4-70	30'	15'	MAS-4B		SV-1-T	2	SP-1-T	-	-	200W
(D)	PBA POST	-	-	-		-	-	-	2	RIGHT	-
									8	LEFT	-
(E)	1-B	-	-	-		TV-2-T	8	SP-1-T	-	-	-
(F)	26-4-70	40'	15'	MAT		SV-1-T	4	SP-1-T	2	LEFT	200W
				MAS							FURNISH AND INSTALL WIRELESS INTEGRATED RADIO PANEL ON SHAFT OF SIGNAL POLE.
(G)	1-B	-	-	-		TV-3-T	2	SP-1-T	4	RIGHT	-
(H)	26-3-100	45'	15'	MAS		-	-	-	-	-	ROADWAY 1
				MAS							
(I)	1-B	-	-	-		TV-2-T	-	-	4	RIGHT/LEFT	-
(J)	24-4-70	35'	15'	MAS		SV-1-T	1	SP-1-T	-	-	200W
(K)	PPB POST	-	-	-		-	-	-	4	LEFT	-
(L)	1-B	-	-	-		TV-3-T	4	SP-1-T	1	RIGHT	-

NOTES:
ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

NOTES:
ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.
() = NEW CONDUCTORS

REV	DATE	DESCRIPTION	BY



4305 Hacienda Drive, Suite 550
Pleasanton, CA 94588
tjkm@tjkm.com



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

INDUSTRIAL PARK DRIVE AND MOFFAT BOULEVARD
CONDUCTOR AND EQUIPMENT SCHEDULE

TS-91
SHEET 94 OF 117

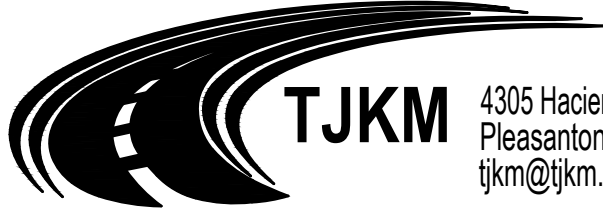
CONDUCTOR SCHEDULE											
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE									
		1	2	3	4	5	6	7	8	9	10
#14	Ø1						3	3	3	3	
	Ø2				3	3	3	3			
	Ø3	3	3	3	3	3	6	6	3	3	3
	Ø4						3	3			
	Ø5			3	3	3	3	3			
	Ø6						3	3	3	3	
	Ø7					3	3	3			
	Ø8	3	3	3	3	3	3	3			
	OLA						2	2	2	2	2
	OLB			2	2	2	4	4	2	2	
	OLC	2	2	2	2	2	2	2			
	OLD				2	2	4	4	2		
	Ø2P				2	2	4	4	2		
	Ø4P						2	2	2	2	
	Ø6P		2	2	2	2	4	4	2	2	2
	Ø8P		2	2	2	2	2	2			
	PPB(Ø2P)					2	2	2			
	PPB(Ø4P)						2	2	2	2	
	PPB(Ø6P)	2	2	2	2	2	4	4	2	2	2
	PPB(Ø8P)		2	2	2	2	2	2			
	PPB COMMON	1	1	1	1	1	2	2	1	1	1
	SPARES	3	3	3	3	3	6	6	3	3	3
	PEU						3				
	TOTAL No. 14	14	20	25	32	37	72	69	29	25	13
#8	SIGNAL NEUTRAL	1	1	1	1	1	2	2	1	1	1
	LUMINAIRE	2	2	2	2	2			2	2	
	TOTAL No. 8	3	3	3	3	3	2	2	3	3	1
DLC	111U & 111L			2	2	2	2	2			
	212U & 212L						2	2	2		
	214U & 214L						2	2	2		
	315U & 315L					2	2	2			
	416U & 416L						2	2	2	2	2
	417L						1	1	1	1	1
	418U & 418L						2	2	2	2	2
	5J1U & 5J1L						2	2	2		
	6J2U & 6J2L			2	2	2	2	2			
	6J4U & 6J4L			2	2	2	2	2			
	7J5U & 7J9L						2	2	2	2	2
	8J6U & 8J6L					2	2	2			
	8J7L					1	1	1			
	8J8U & 8J8L					2	2	2			
	OLA						1	1	1	1	1
	OLB			2	2	2	2	2			
	OLC					2	2	2			
	OLD						1	1	1		
	TOTAL CABLES			8	8	17	32	32	15		
ANTENNA TRANSMITTER	RADIO POE				(1)	(1)	(1)	(1)			
	TOTAL CABLES				(1)	(1)	(1)	(1)			
EVP	CHANNEL A				1	1	1	1			
	CHANNEL B						1	1			
	CHANNEL C						1	1	1	1	
	CHANNEL D	1	1	1	1	1	1	1			
	TOTAL CABLES	1	1	1	2	2	4	4	1	1	
CONDUIT SIZE(INCHES)		3"	3"	3"	3"	4"	2-4"	2-4"	3"	3"	3"
% FILL		7%	9%	18%	22%	19%	17%	17%	26%	10%	5%

NOTES:
ALL CONDUCTORS TO REMAIN UNLESS OTHERWISE NOTED.
() = NEW CONDUCTORS

EQUIPMENT SCHEDULE												
No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE	SPECIAL REQUIREMENTS	
	Type	Sig. M.A.	Lum.M.A.	Mast	Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	61-5-100	65'	15'	MAS	MAS	MAS	SV-1-T	-	-	6	LEFT	135W
(B)	1-A	-	-	-	-	-	6 8	SP-2-T	8	LEFT	-	-
(C)	1-B	-	-	-	-	TV-2-T	-	-	-	-	-	-
(D)	61-4-100	65'	15'	MAS	MAS	-	SV-1-T	2	SP-1-T	8	LEFT	135W
(E)	1-B	-	-	-	-	TV-2-T	8	SP-1-T	2	RIGHT	-	-
(F)	29-5-100	55'	15'	MAS	MAS	MAS	SV-1-T	4	SP-1-T	-	-	135W
(G)	1-B	-	-	-	-	-	-	-	2 4	LEFT RIGHT	-	-
(H)	1-B	-	-	-	-	TV-2-T	2	SP-1-T	-	-	-	-
(I)	61-5-100	65'	15'	MAS	MAS	MAS	SV-1-T	4	SP-1-T	4	LEFT	135W
(J)	1-B	-	-	-	-	TV-2-T	6	SP-1-T	6	LEFT	-	-

NOTES:
ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

REV	DATE	DESCRIPTION	BY



4305 Hacienda Drive, Suite 550
Pleasanton, CA 94588
tjkm@tjkm.com



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

ATHERTON DRIVE AND UNION ROAD		TS-93
CONDUCTOR AND EQUIPMENT SCHEDULE		SHEET 96 OF 117

CONDUCTOR SCHEDULE										
AWG OR CABLE	CIRCUIT	CONDUIT RUN NUMBER AND SIZE								
#14	Ø1	3	3	3	3	6	3	3	3	3
	Ø2	3	3	3	3	3				
	Ø3									
	Ø4									
	Ø5				3	6	3			
	Ø6					3	3	3	3	3
	Ø7		3	3	3	6	3	3	3	
	Ø8					3	3	3	3	
	Ø2P	2	2	2	2	2				
	Ø6P				2	2	2	2	2	2
	Ø7P					2	2	2	2	2
	Ø8P			2	2	4	2	2		
	PPB(Ø2P)		1	1	1	1				
	PPB(Ø6P)					1	1	1	1	
	PPB(Ø7P)	1	1	1	1	2	1	1	1	1
	PPB(Ø8P)		1	1	1	1				
	PPB COMMON	1	1	1	1	2	1	1	1	1
	SPARES	3	3	3	3	6	3	3	3	3
TOTAL No. 14	13	18	20	25	50	27	24	22	15	
#8	SIGNAL COMMON	1	1	1	1	2	1	1	1	1
	LUMINAIRE		2	2	2		2	2		
	TOTAL No. 8	1	3	3	3	2	3	3	1	1
DLC	1I1U					1				
	2I2U	1	1	1	1	1				
	2I2L	1	1	1	1	1				
	2I4U	1	1	1	1	1				
	2I4L	1	1	1	1	1				
	5J1U	1	1	1	1	1				
	6I1U					1				
	6I2L					1				
	6J2U					1				
	6J2L					1				
	7J3U					1	1	1	1	
	7J5U					1	1	1	1	
	8J8U			1	1	1				
	8J8L			1	1	1				
	TOTAL DLC	5	5	7	7	14	2	2	2	
EVP	CHANNEL A				1	1				
	CHANNEL B		1	1	1	1				
	CHANNEL C					1	1	1	1	1
	CHANNEL D					1	1	1		
	TOTAL CABLES		1	1	2	4	2	2	1	1
CONDUIT SIZE(INCHES)		3"	3"	3"	3"	2-3"	3"	3"	3"	3"
% FILL		9%	13%	16%	18%	16%	14%	13%	10%	6%

() = NEW CONDUCTORS

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE	SPECIAL REQUIREMENTS
	Type	Sig. M.A.	Lum.M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW		
(A)	27-4-129	40'	—	MAS MAS	SV-1-T	6	SP-1-T	7	LEFT	—	
(B)	1-A	—	—	—	TV-2-T	7	SP-1-T	6	RIGHT	—	
(C)	17-3-129	20'	12'	MAS	SV-1-T	8	SP-1-T	6	LEFT	151W	
(D)	1-A	—	—	—	TV-2-T	6	SP-1-T	8	RIGHT	—	
(E)	29-5-129	55'	15'	MAS MAS	SV-1-T	2	SP-1-T	8	LEFT	151W	
(F)	1-A	—	—	—	TV-2-T	8	SP-1-T	2	RIGHT	—	
(G)	24-3-129	35'	15'	MAS	SV-1-T	7	SP-1-T	2	LEFT	151W	
(H)	1-A	—	—	—	TV-2-T	2	SP-1-T	7	RIGHT	—	

ALL EXISTING EQUIPMENT TO REMAIN UNLESS OTHERWISE NOTED.

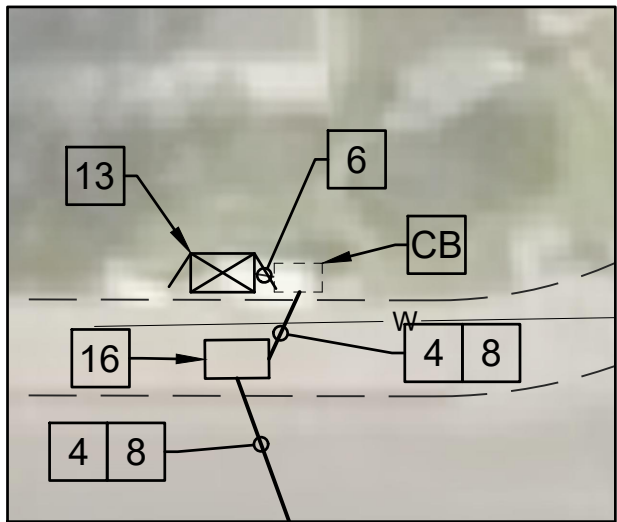
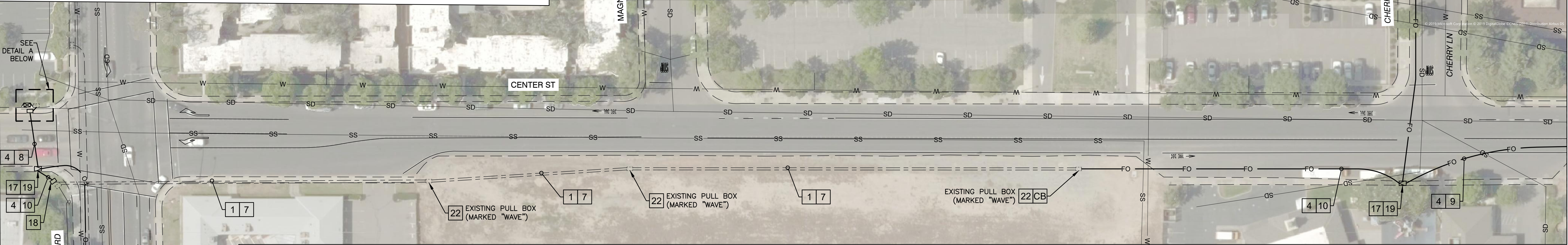
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GENERAL NOTES

1. CONTRACTOR TO DETERMINE BEST METHOD FOR CONDUIT INSTALLATION. CONDUITS CROSSING ROADWAYS SHALL BE INSTALLED BY DIRECTIONAL BORE METHOD. CONTRACTOR TO PROVIDE CITY ENGINEER WITH CONDUIT INSTALLATION METHODS BEFORE CONSTRUCTION.

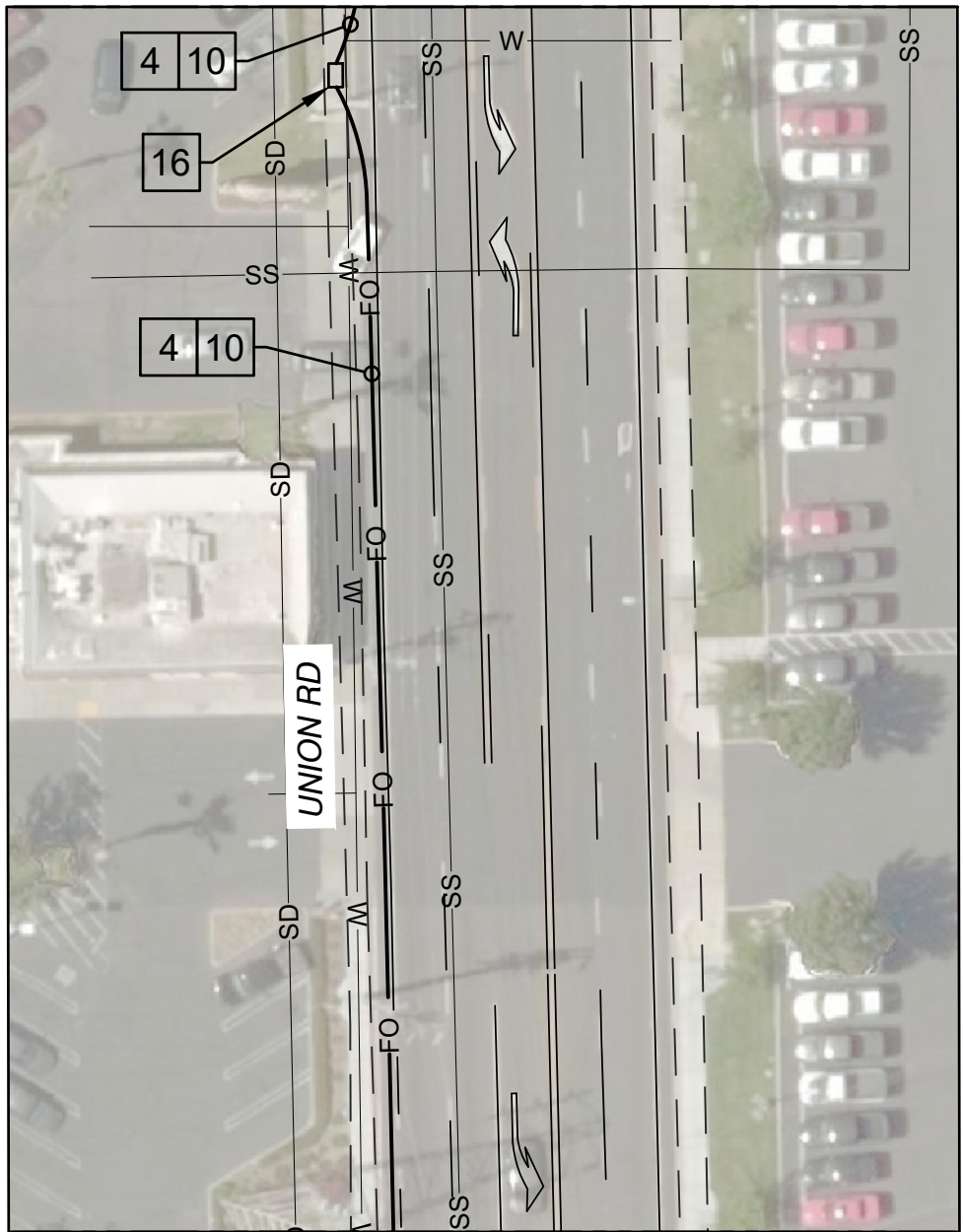
PROJECT NOTES

- 1 EXISTING 2" CONDUIT WITH EXISTING PULL ROPE.
- 4 FURNISH AND INSTALL 4" CONDUIT WITH FOUR 1" HDPE SDR 11 INNERDUCT, SEE DETAIL 4 AND 6 ON SHEET SIC-5.
- 6 FURNISH AND INSTALL 1-12 STRAND SMFO CABLE AND 1-18 AWG TRACER WIRE IN EXISTING CONDUIT.
- 7 FURNISH AND INSTALL 1-144 STRAND SMFO CABLE, 1-18 AWG TRACER WIRE, AND 3-CELL MAXCELL OR APPROVED EQUAL FABRIC INNERDUCT IN EXISTING CONDUIT.
- 8 FURNISH AND INSTALL 1-12 STRAND SMFO CABLE, 1-18 AWG TRACER WIRE, AND 1 PULL TAPE IN EACH OF THE FOUR 1" INNERDUCT IN NEW CONDUIT.
- 9 FURNISH AND INSTALL 1-96 STRAND SMFO CABLE, 1-18 AWG TRACER WIRE, AND 1 PULL TAPE IN EACH OF THE FOUR 1" INNERDUCT IN NEW CONDUIT.
- 10 FURNISH AND INSTALL 1-144 STRAND SMFO CABLE, 1-18 AWG TRACER WIRE, AND 1 PULL TAPE IN EACH OF THE FOUR 1" INNERDUCT IN NEW CONDUIT.
- 13 FURNISH AND INSTALL ETHERNET SWITCH, 12-PORT FIBER PATCH PANEL, AND FOUR SMFO PATCH CORDS IN CONTROLLER CABINET. CONTRACTOR SHALL MAKE ALL CONNECTIONS PER EQUIPMENT CONNECTION DIAGRAMS ON SHEET SIC-9.
- 16 FURNISH AND INSTALL FIBER OPTIC PULL BOX PER DETAIL 1 ON SHEET SIC-4.
- 17 FURNISH AND INSTALL N48E SPLICE VAULT PER DETAIL 2 ON SHEET SIC-4.
- 18 REPLACE EXISTING PULL BOX WITH NEW FIBER OPTIC PULL BOX PER DETAIL 1 ON SHEET SIC-4.
- 19 FURNISH AND INSTALL SPLICE ENCLOSURE. SPLICE SMFO CABLES PER SPLICE DIAGRAMS ON SHEET SIC-9 FOR DETAILS.
- 22 REPLACE EXISTING BOLTS WITH PENTA HEAD 1/2-13UNC BOLTS FOR EXISTING PULL BOX.



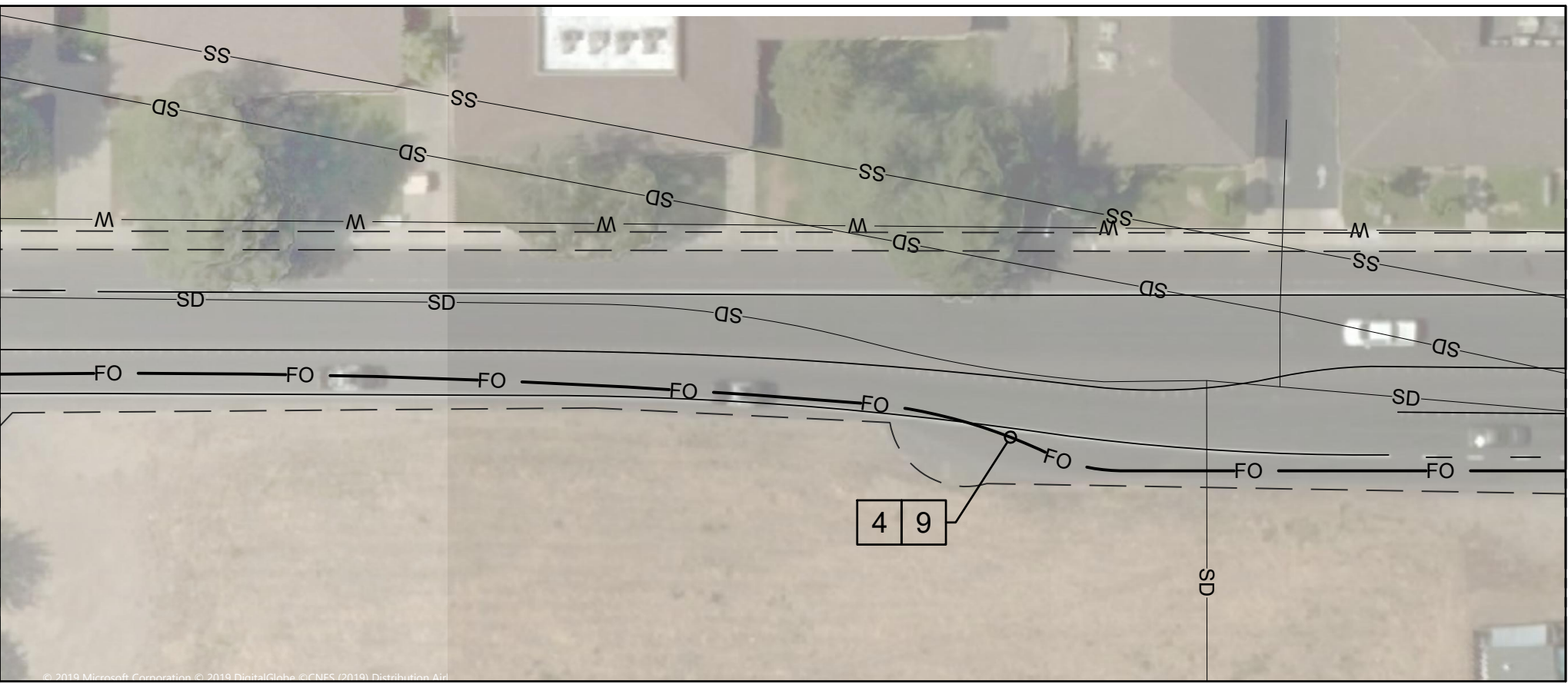
DETAIL A
SCALE: 1" = 10'

MATCH LINE A-A - SEE LEFT



MATCH LINE B-B - SEE SHEET SIC-2

MATCH LINE C-C - SEE ABOVE



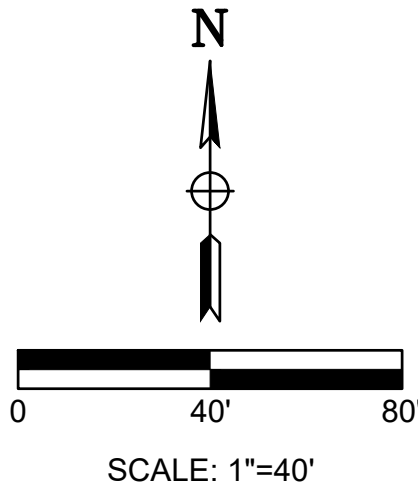
MATCH LINE D-D - SEE SHEET SIC-3

NOTES (BID ALTERNATE 1)

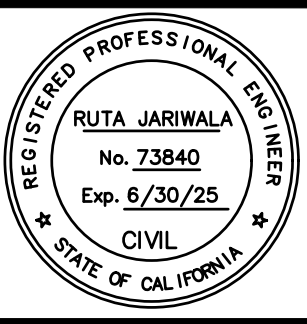
- CONTRACTOR TO FURNISH AND INSTALL AN ADDITIONAL 4" CONDUIT WITH PULL TAPE AS PART OF BID ALTERNATE 1. PROPOSED CONDUIT SHALL BE PARALLEL TO ALL PROPOSED 4" CONDUITS THAT ARE PART OF THE BASE BID. CONDUIT MUST BE HDPE SDR 11 FOR OPEN TRENCH METHOD OR SDR 9 FOR DIRECTIONAL DRILL METHOD.
- CONTRACTOR SHALL FURNISH AND INSTALL A NEW SPLICE VAULT FOR EVERY 300 FEET OF CONDUIT INSTALLED AS PART OF BID ALTERNATE 1 EXCEPT UNDER THE TRAIN TRACK. SPLICE VAULTS TO BE PLACED NEAR BASE BID SPLICE VAULTS.
- CONTRACTOR SHALL FURNISH AND INSTALL ONE SPLICE VAULT MINIMUM AT EACH INTERSECTION.
- THE CONTRACTOR MAY USE THE SAME TRENCH FOR BOTH THE BASE BID AND BID ALTERNATE 1 CONDUITS, BUT THE CONDUITS MUST USE SEPARATE PULLBOXES/SPLICE VAULTS.
- THE 4" CONDUIT AS PART OF THE BID ALTERNATE 1 PACKAGE MUST NOT SHARE OR ACCESS ANY PULL BOX OR SPLICE VAULT FROM THE BASE BID PACKAGE.
- THE SHEET/PLAN SET FOR THE BID ALTERNATE 1 WILL BE PROVIDED AFTER PROJECT AWARDING.

BID ALTERNATE 1 - QUANTITIES

ITEM	UNIT	QUANTITY
4" CONDUIT	LF	1950
PULL TAPE	LF	2150
SPLICE VAULT	EA	10



REV	DATE	DESCRIPTION	BY

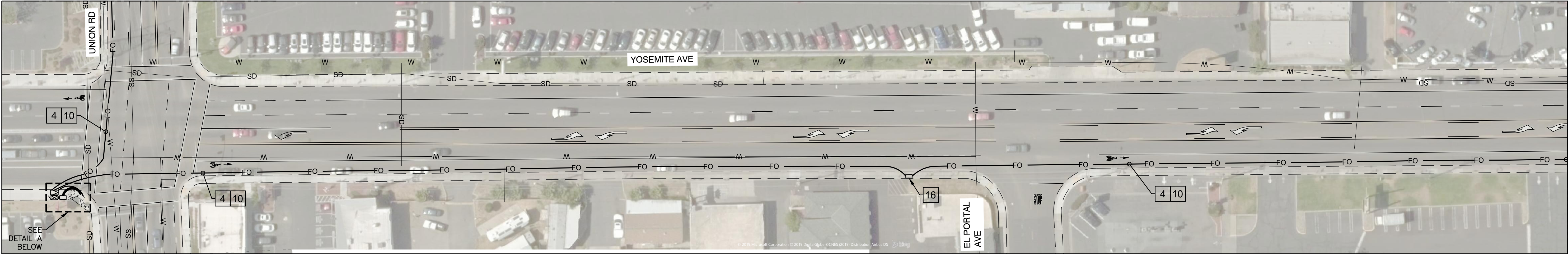


DATE SIGNED: 01/19/2024

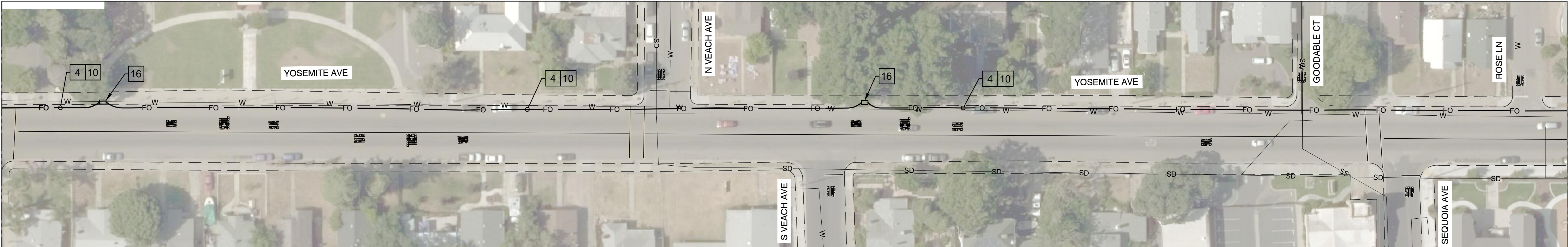
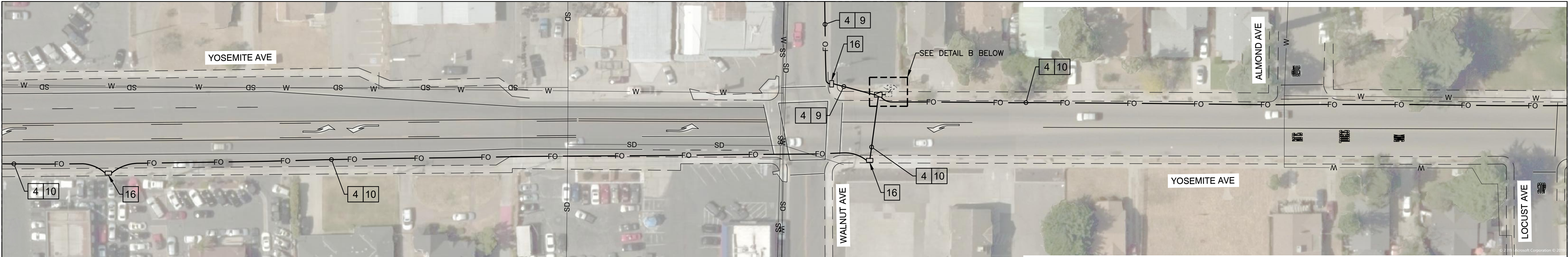
SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 02/01/2024
PROJECT NO: 103-029

UNION ROAD AND CENTER STREET	SIC-1
FIBER OPTIC CABLE SYSTEMS	SHEET 99 OF 117

MATCH LINE B-B - SEE SHEET SIC-1



MATCH LINE F-F - SEE SHEET SIC-3



GENERAL NOTES

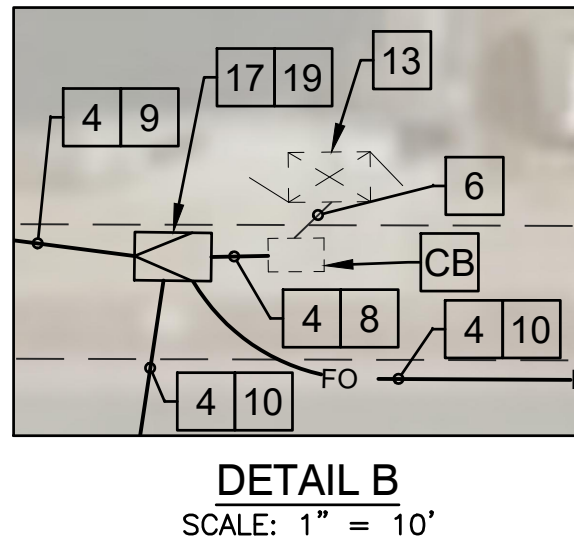
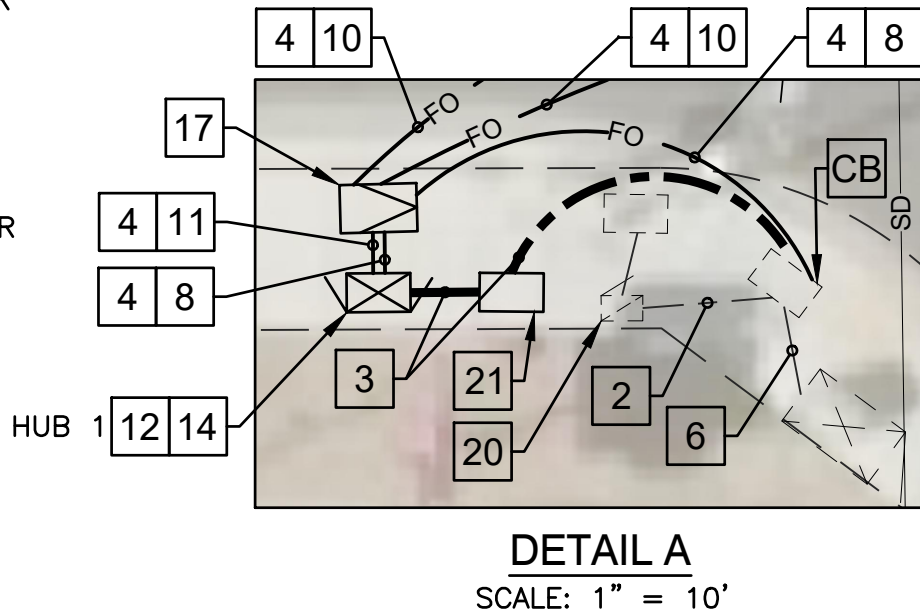
1. CONTRACTOR TO DETERMINE BEST METHOD FOR CONDUIT INSTALLATION. CONDUITS CROSSING ROADWAYS SHALL BE INSTALLED BY DIRECTIONAL BORE METHOD. CONTRACTOR TO PROVIDE CITY ENGINEER WITH CONDUIT INSTALLATION METHODS BEFORE CONSTRUCTION.

PROJECT NOTES

2. FURNISH AND INSTALL NEW 2#8(120V HUB POWER) AND 1#8(GROUND) IN EXISTING CONDUIT.
3. FURNISH AND INSTALL 2" CONDUIT WITH NEW 2#8(120V HUB POWER) AND 1#8(GROUND) IN NEW CONDUIT. SEE DETAIL 3 AND 5 ON SHEET SIC-5.
4. FURNISH AND INSTALL 4" CONDUIT WITH FOUR 1" HDPE SDR 11 INNERDUCT, SEE DETAIL 4 AND 6 ON SHEET SIC-5.
6. FURNISH AND INSTALL 1-12 STRAND SMFO CABLE AND 1-18 AWG TRACER WIRE IN EXISTING CONDUIT.
8. FURNISH AND INSTALL 1-12 STRAND SMFO CABLE, 1-18 AWG TRACER WIRE, AND 1 PULL TAPE IN EACH OF THE FOUR 1" INNERDUCT IN NEW CONDUIT.
9. FURNISH AND INSTALL 1-96 STRAND SMFO CABLE, 1-18 AWG TRACER WIRE, AND 1 PULL TAPE IN EACH OF THE FOUR 1" INNERDUCT IN NEW CONDUIT.
10. FURNISH AND INSTALL 1-144 STRAND SMFO CABLE, 1-18 AWG TRACER WIRE, AND 1 PULL TAPE IN EACH OF THE FOUR 1" INNERDUCT IN NEW CONDUIT.

PROJECT NOTES(CONTINUED)

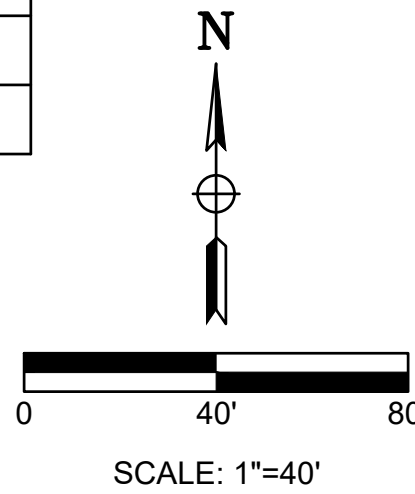
11. FURNISH AND INSTALL 2-144 STRAND SMFO CABLE, 1-18 AWG TRACER WIRE, AND 1 PULL TAPE IN EACH OF THE FOUR 1" INNERDUCT IN NEW CONDUIT. EACH OF THE 144 STRAND SMFO CABLE AND TRACER WIRE MUST BE IN A SEPARATE INNERDUCT.
12. FURNISH AND INSTALL 332LS CABINET. SEE DETAIL 17 ON SHEET SIC-8 AND SIC-12 FOR WIRING INSTALLATION AND CABINET LAYOUT.
13. FURNISH AND INSTALL ETHERNET SWITCH, 12-PORT FIBER PATCH PANEL, AND FOUR SMFO PATCH CORDS IN CONTROLLER CABINET. CONTRACTOR SHALL MAKE ALL CONNECTIONS PER EQUIPMENT CONNECTION DIAGRAMS ON SHEET SIC-9.
14. FURNISH AND INSTALL 2 144-PORT FIBER OPTIC DISTRIBUTION UNIT, 1 12-PORT FIBER OPTIC DISTRIBUTION UNIT, 2-LAYER 3 SWITCHES, AND 34 SMFO PATCH CORDS IN CONTROLLER CABINET. CONTRACTOR SHALL MAKE ALL SFP PORT AND FIBER CONNECTIONS PER DIAGRAMS ON SHEET SIC-10.
16. FURNISH AND INSTALL FIBER OPTIC PULL BOX PER DETAIL 1 ON SHEET SIC-4.
17. FURNISH AND INSTALL N48E SPLICE VAULT PER DETAIL 2 ON SHEET SIC-4.
19. FURNISH AND INSTALL SPLICE ENCLOSURE. SPLICE SMFO CABLES PER SPLICE DIAGRAMS ON SHEET SIC-9 FOR DETAILS.
20. FURNISH AND INSTALL 20A, 120V, 1P CIRCUIT BREAKER FOR FIBER HUB CABINET IN SERVICE PEDESTAL.
21. FURNISH AND INSTALL NO. 5 PULL BOX PER CALTRANS STD PLANS ES-8A.



BID ALTERNATE 1 - QUANTITIES		
ITEM	UNIT	QUANTITY
4" CONDUIT	LF	4550
PULL TAPE	LF	5000
SPLICE VAULT	EA	16

NOTES (BID ALTERNATE 1)

1. SEE BID ALTERNATE 1 NOTES ON SHEET SIC-1 FOR DETAILS OF INSTALLATION



REV	DATE	DESCRIPTION	BY

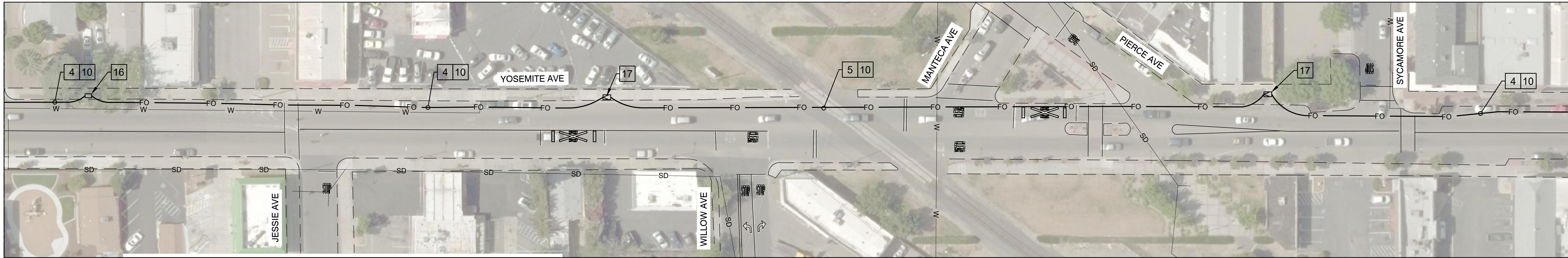


DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 02/01/2024
PROJECT NO: 103-029

YOSEMITE ROAD: UNION ROAD TO ROSE LANE	SIC-2
FIBER OPTIC CABLE SYSTEMS	SHEET 100 OF 117

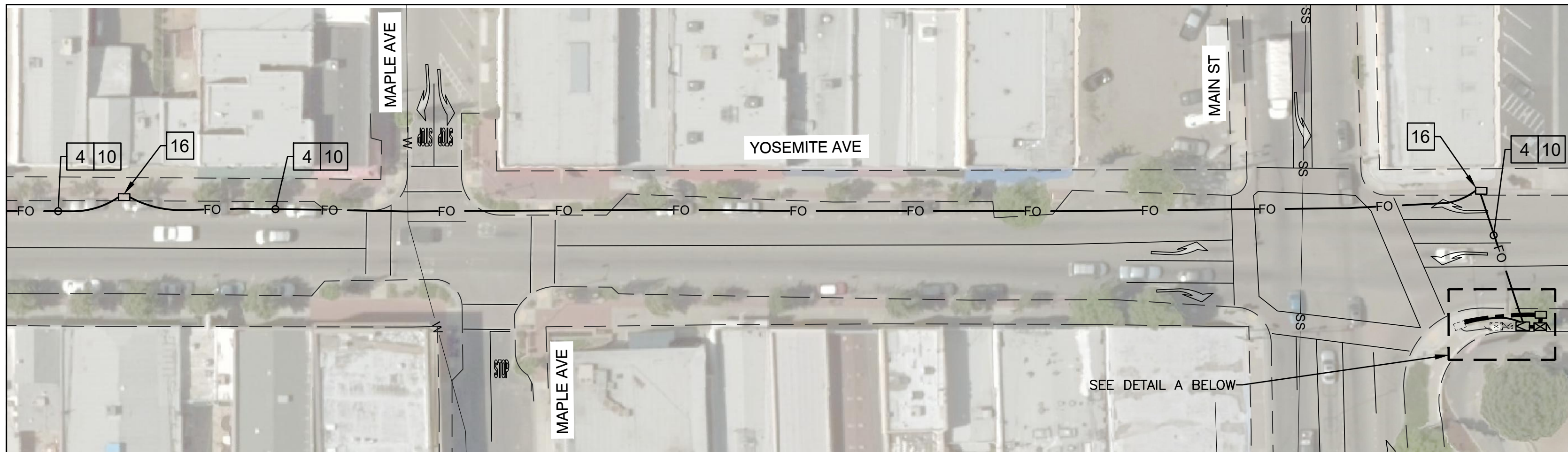
MATCH LINE H-H- SEE SHEET SIC-2



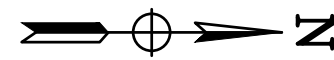
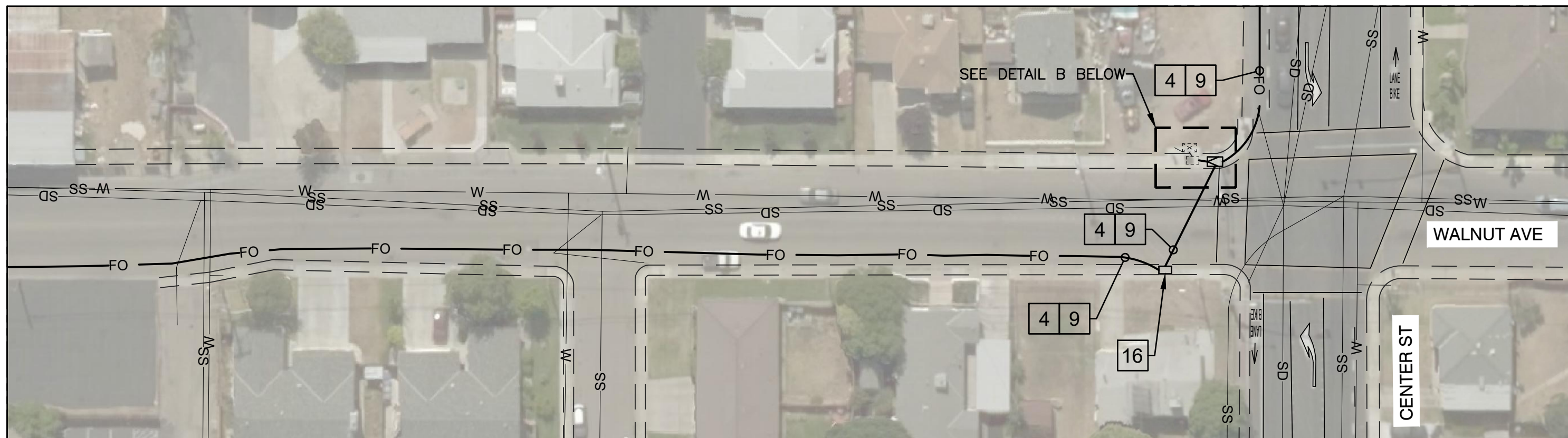
MATCH LINE I-I- SEE BELOW



MATCH LINE I-I- SEE ABOVE



MATCH LINE F-F - SEE SHEET SIC-2



GENERAL NOTES

1. CONTRACTOR TO DETERMINE BEST METHOD FOR CONDUIT INSTALLATION. CONDUITS CROSSING ROADWAYS SHALL BE INSTALLED BY DIRECTIONAL BORE METHOD. CONTRACTOR TO PROVIDE CITY ENGINEER WITH CONDUIT INSTALLATION METHODS BEFORE CONSTRUCTION.

PROJECT NOTES

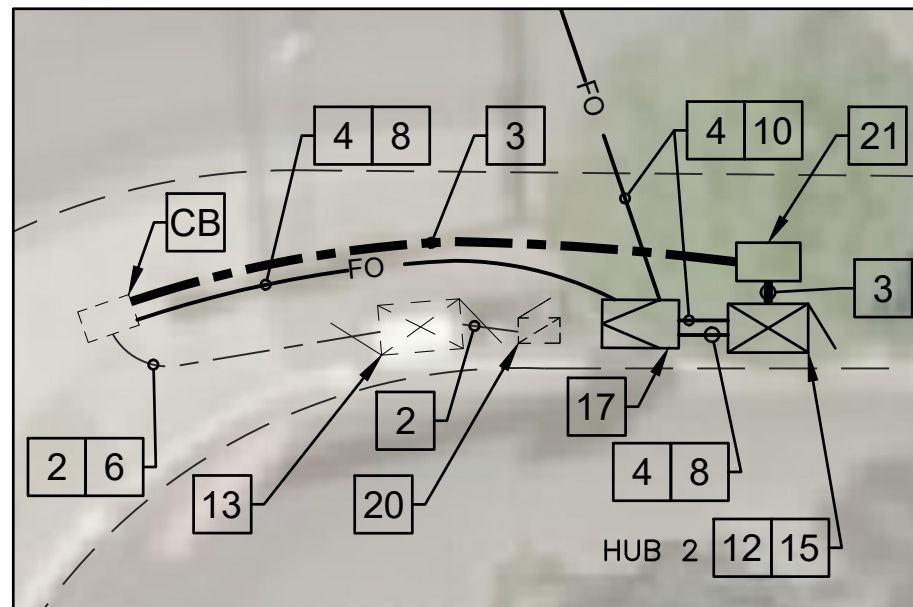
- 2 FURNISH AND INSTALL NEW 2#8(120V HUB POWER) AND 1#8(GROUND) IN EXISTING CONDUIT.
- 3 FURNISH AND INSTALL 2" CONDUIT WITH NEW 2#8(120V HUB POWER) AND 1#8(GROUND) IN NEW CONDUIT. SEE DETAIL 3 AND 5 ON SHEET SIC-5.
- 4 FURNISH AND INSTALL 4" CONDUIT WITH FOUR 1" HDPE SDR 11 INNERDUCT, SEE DETAIL 4 AND 6 ON SHEET SIC-5.
- 5 FURNISH AND INSTALL 4" TYPE 2 CONDUIT WITH FOUR 1" HDPE SDR 11 INNERDUCT BY DIRECTIONAL DRILLING UNDER TRAIN TRACKS, SEE DETAIL 7 ON SHEET SIC-5.
- 6 FURNISH AND INSTALL 1-12 STRAND SMFO CABLE AND 1-18 AWG TRACER WIRE IN EXISTING CONDUIT.
- 8 FURNISH AND INSTALL 1-12 STRAND SMFO CABLE, 1-18 AWG TRACER WIRE, AND 1 PULL TAPE IN EACH OF THE FOUR 1" INNERDUCT IN NEW CONDUIT.
- 9 FURNISH AND INSTALL 1-96 STRAND SMFO CABLE, 1-18 AWG TRACER WIRE, AND 1 PULL TAPE IN EACH OF THE FOUR 1" INNERDUCT IN NEW CONDUIT.
- 10 FURNISH AND INSTALL 1-144 STRAND SMFO CABLE, 1-18 AWG TRACER WIRE, AND 1 PULL TAPE IN EACH OF THE FOUR 1" INNERDUCT IN NEW CONDUIT.
- 12 FURNISH AND INSTALL 332LS CABINET. SEE DETAIL 18 ON SHEET SIC-8 AND SIC-12 FOR WIRING INSTALLATION AND CABINET LAYOUT.
- 13 FURNISH AND INSTALL ETHERNET SWITCH, 12-PORT FIBER PATCH PANEL, AND FOUR SMFO PATCH CORDS IN CONTROLLER CABINET. CONTRACTOR SHALL MAKE ALL CONNECTIONS PER EQUIPMENT CONNECTION DIAGRAMS ON SHEET SIC-9.
- 15 FURNISH AND INSTALL 1 144-PORT FIBER OPTIC DISTRIBUTION UNIT, 2-LAYER 3 SWITCHES, AND 17 SMFO PATCH CORDS IN CONTROLLER CABINET. CONTRACTOR SHALL MAKE ALL SFP PORT AND FIBER CONNECTIONS PER DIAGRAMS ON SHEET SIC-10.
- 16 FURNISH AND INSTALL FIBER OPTIC PULL BOX PER DETAIL 1 ON SHEET SIC-4.
- 17 FURNISH AND INSTALL N48E SPLICE VAULT PER DETAIL 2 ON SHEET SIC-4.
- 19 FURNISH AND INSTALL SPLICE ENCLOSURE. SPLICE SMFO CABLES PER SPLICE DIAGRAMS ON SHEET SIC-9 FOR DETAILS.
- 20 FURNISH AND INSTALL 20A, 120V, 1P CIRCUIT BREAKER FOR FIBER HUB CABINET IN SERVICE PEDESTAL.
- 21 FURNISH AND INSTALL NO. 5 PULL BOX PER CALTRANS STD PLANS ES-8A.

BID ALTERNATE 1 - QUANTITIES

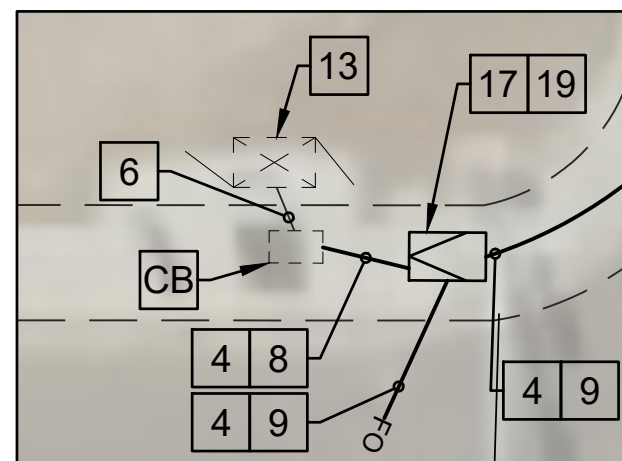
ITEM	UNIT	QUANTITY
4" CONDUIT	LF	2000
PULL TAPE	LF	2850
SPLICE VAULT	EA	10

NOTES (BID ALTERNATE 1)

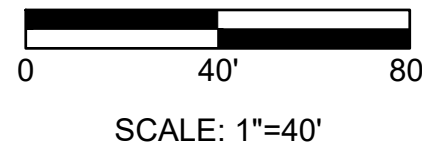
1. SEE BID ALTERNATE 1 NOTES ON SHEET SIC-1 FOR DETAILS OF INSTALLATION



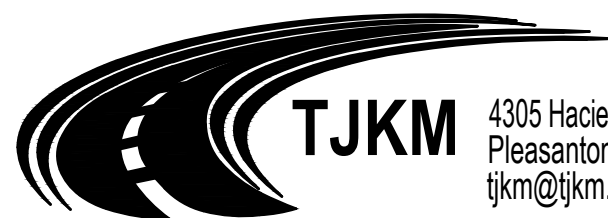
DETAIL A
SCALE: 1" = 10'



DETAIL B
SCALE: 1" = 10'



REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

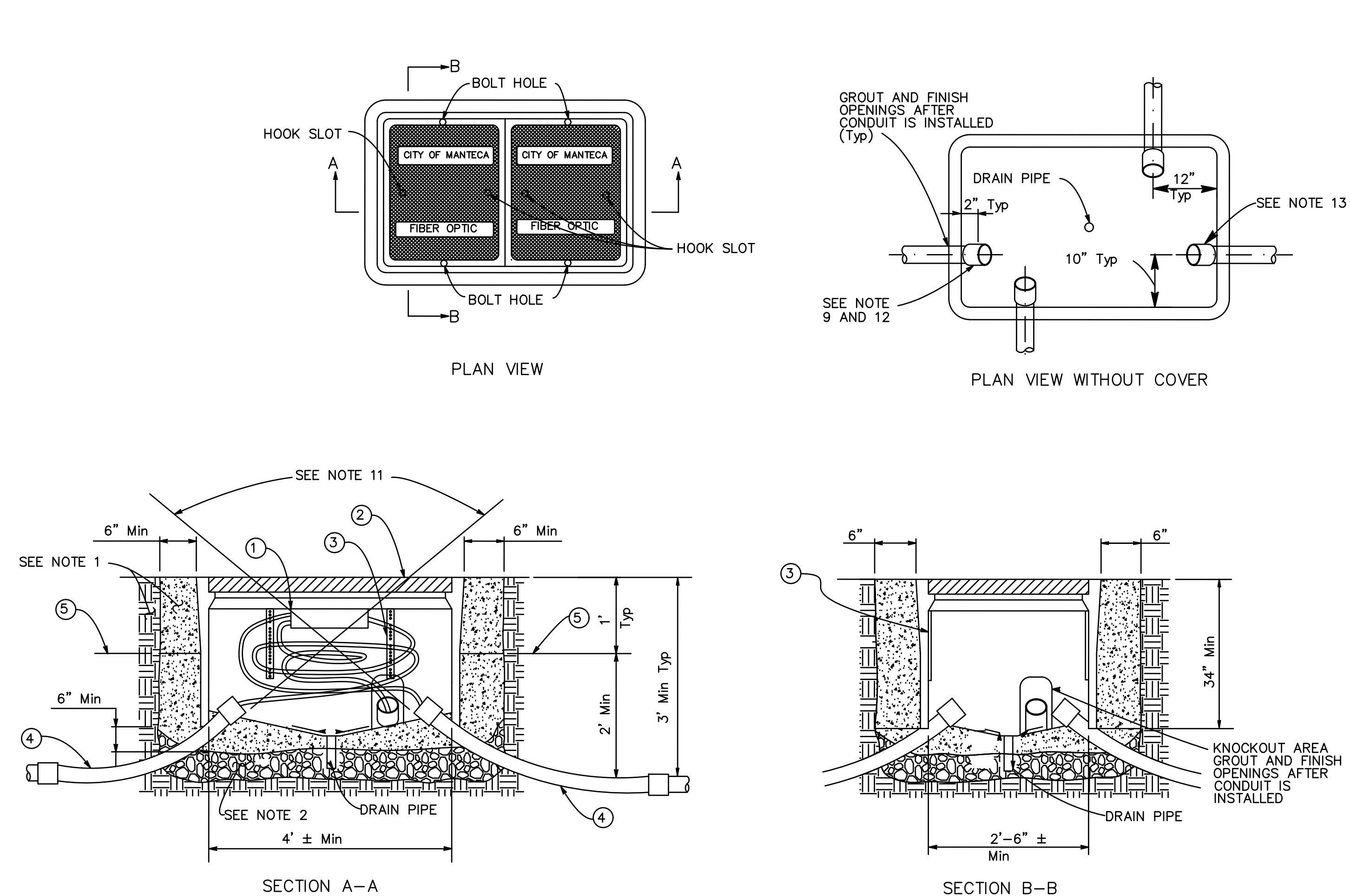
SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 02/01/2024
PROJECT NO: 103-029

YOSEMITE ROAD: JESSE AVENUE TO MAIN STREET

FIBER OPTIC CABLE SYSTEMS

SIC-3

SHEET 101 OF 117



LEGEND (FIBER OPTIC PULL BOX):

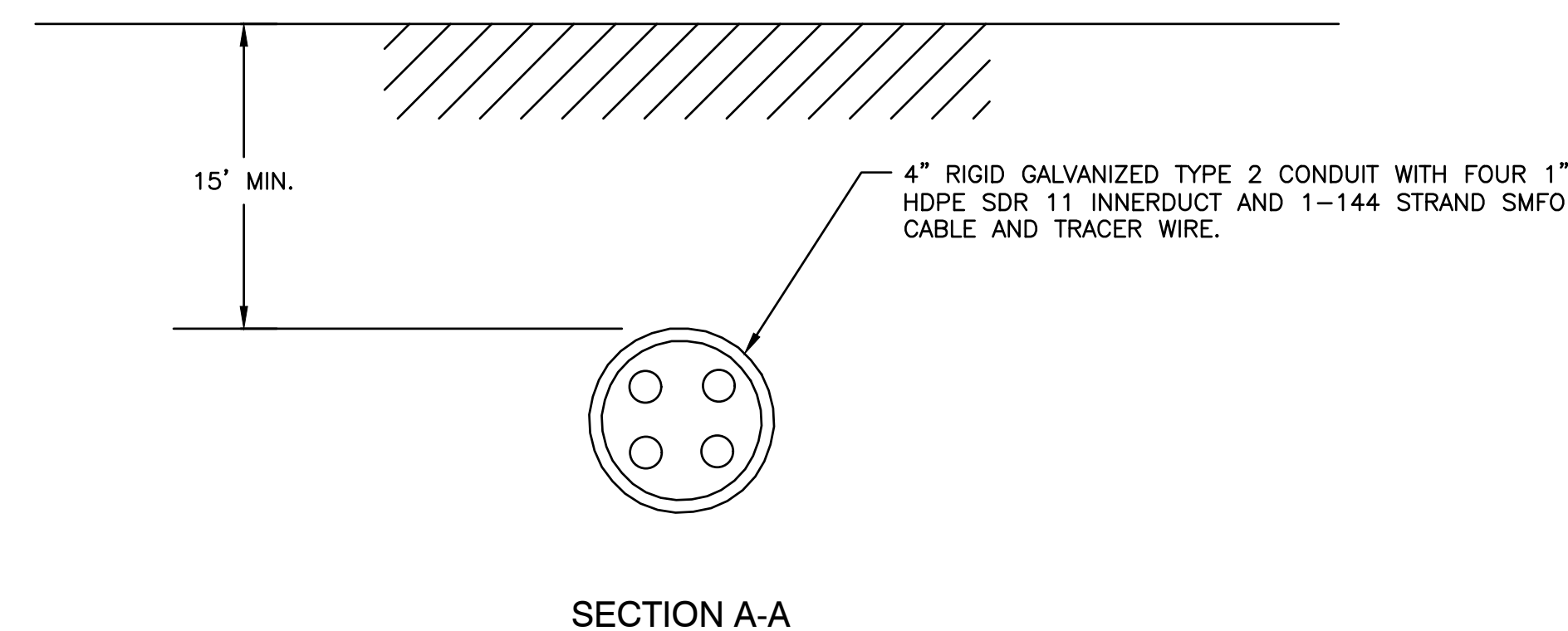
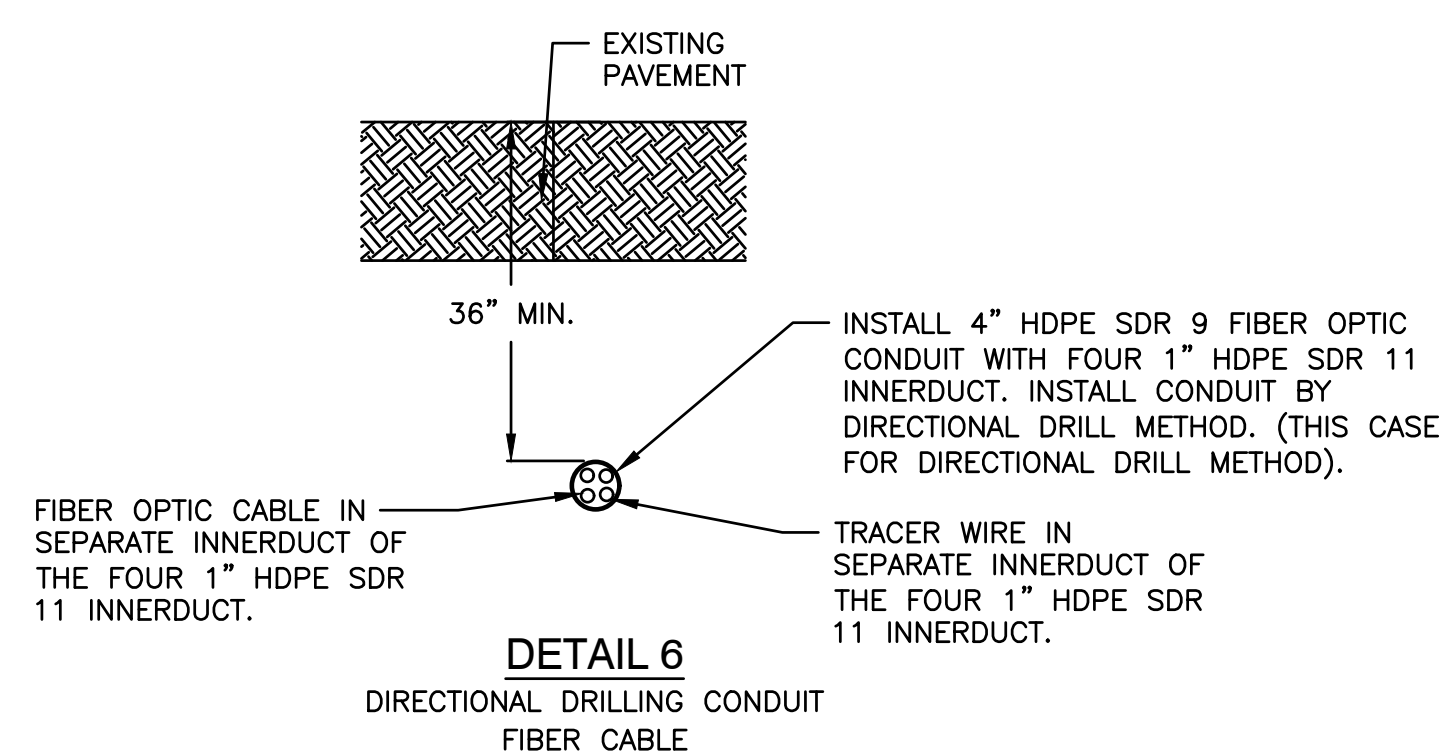
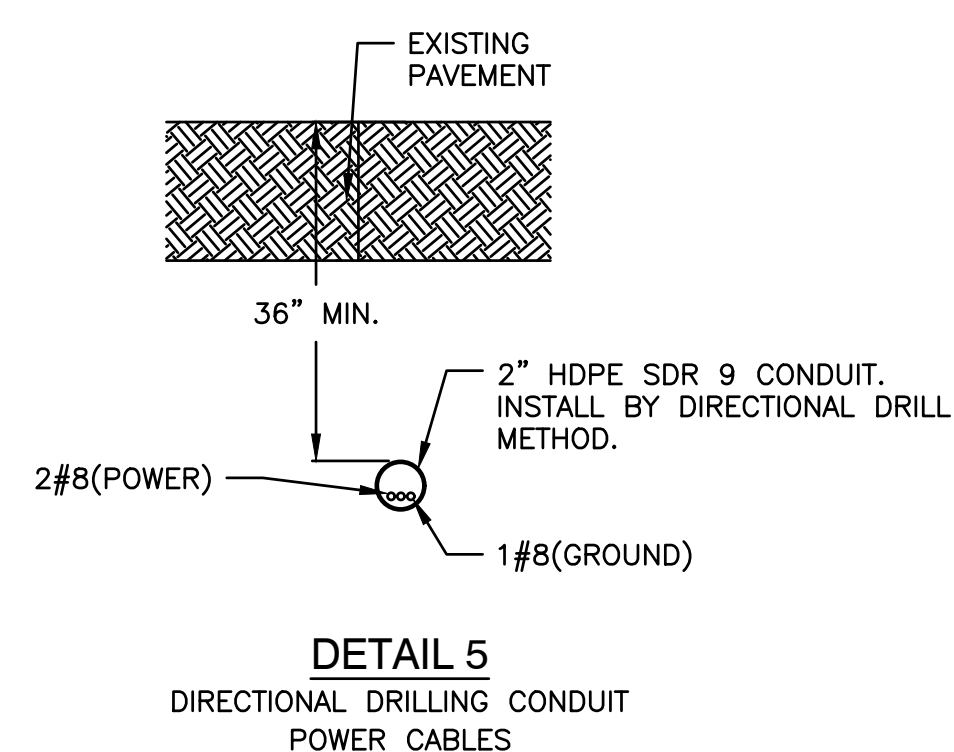
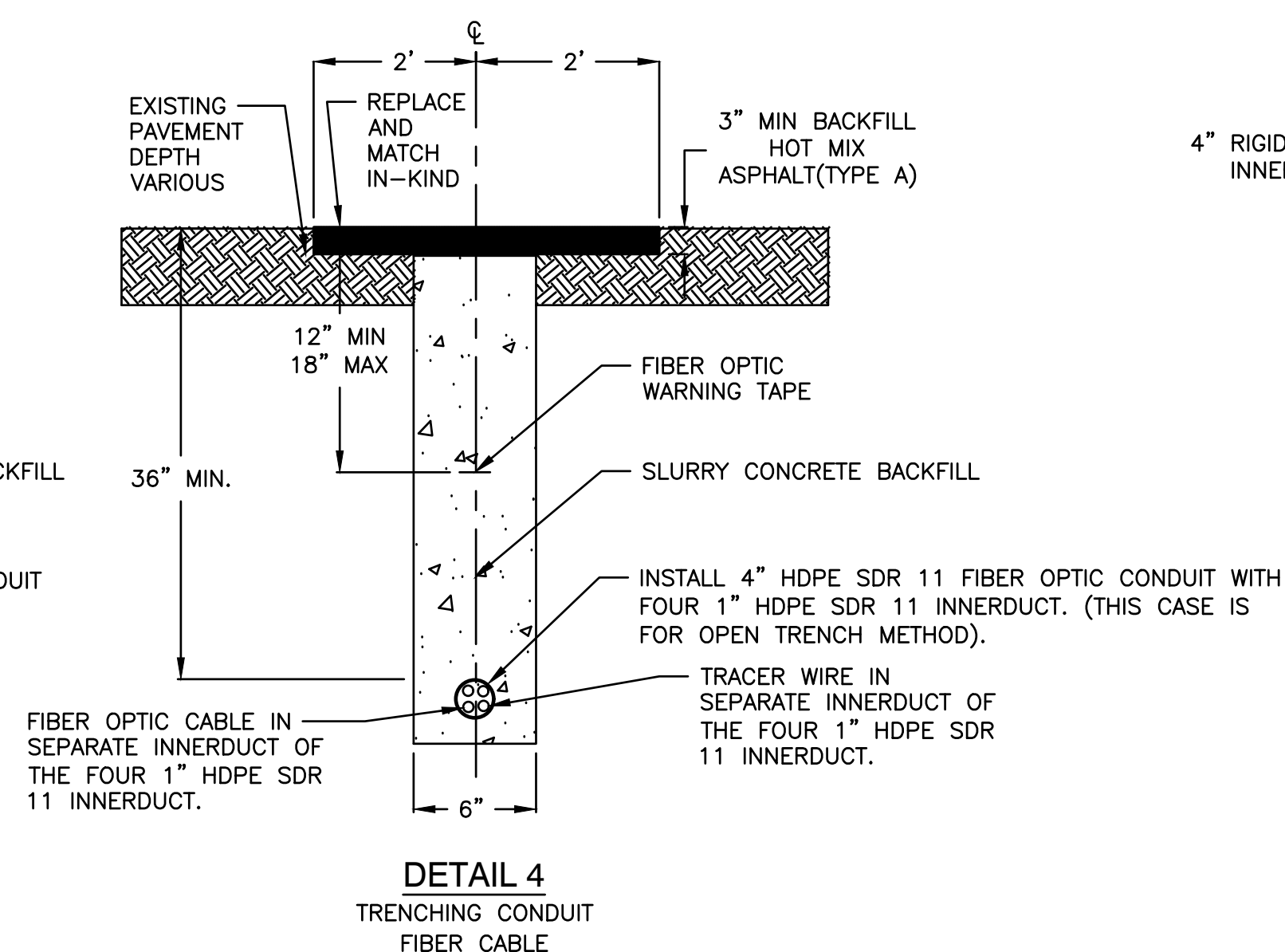
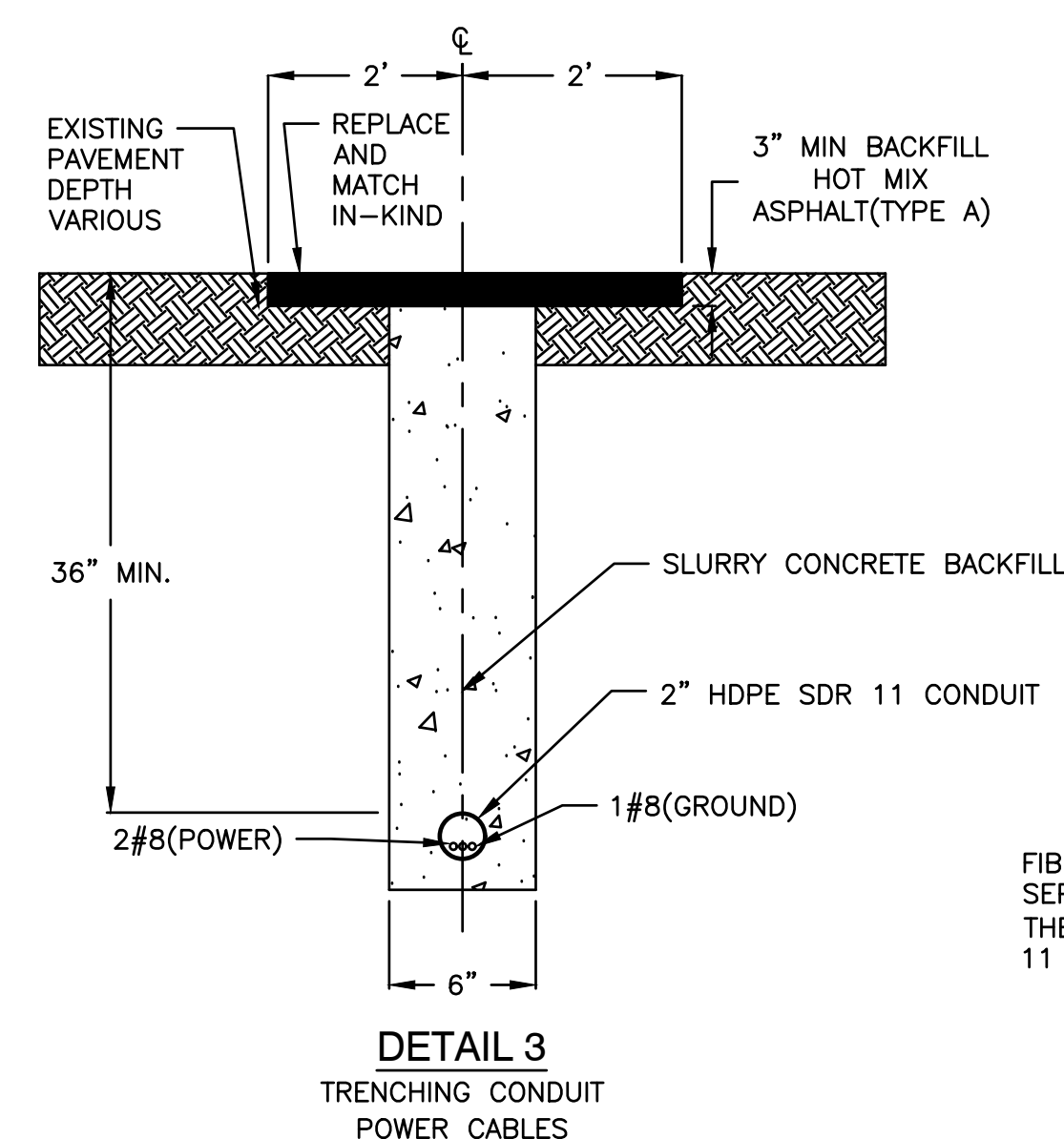
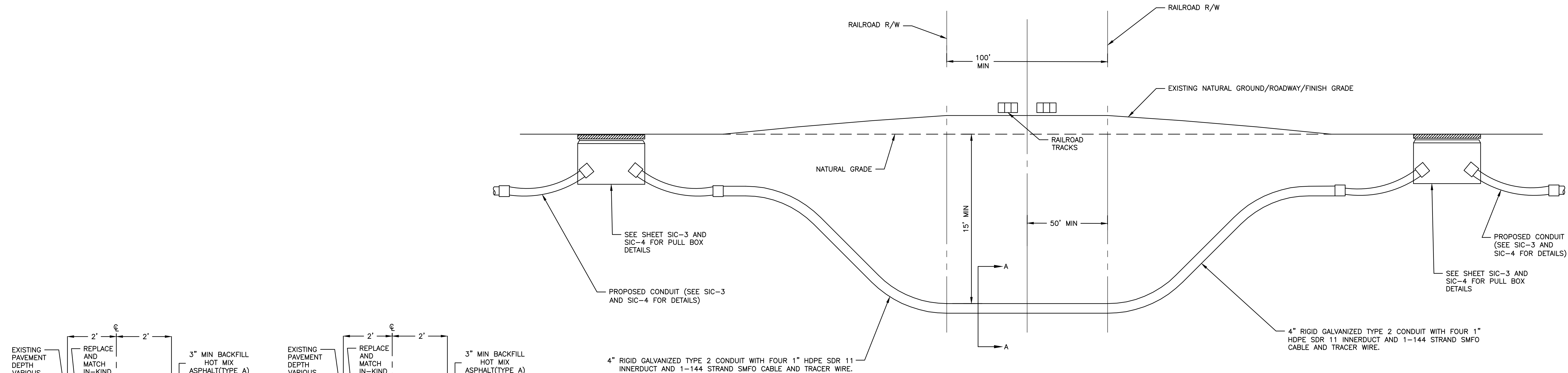
- ① 45 DEGREE ELBOW, 3' RADIUS Min. ELBOW AND COUPLING MAY NOT BE NECESSARY FOR NEW CONDUIT INSTALLED BY DIRECTIONAL BORING. NEW CONDUIT INSTALLED BY DIRECTIONAL BORING MUST ENTER THE PULL BOX WITH BENDING RADIUS OF 3' Min.
- ② WARNING TAPE (FOR NEW CONDUIT INSTALLED BY TRENCHING).

DETAIL 2
FIBER OPTIC SPLICE VAULT

- LEGEND (FIBER OPTIC SPLICE VAULT):

- ① FIBER OPTIC SPLICE ENCLOSURE, SEE NOTE 16.
- ② FIBER OPTIC VAULT COVER, SEE NOTE 4, 5 AND 6.
- ③ RACK & HOOK ASSEMBLY, SEE NOTE 15 AND 16.
- ④ 45 DEGREE ELBOW, 3" RADIUS MIN. ELBOW AND COUPLING
BE NECESSARY FOR NEW CONDUIT INSTALLED BY
DIRECTIONAL BORING NEW CONDUIT INSTALLED BY
DIRECTIONAL DRILLING MUST ENTER PULL BOX WITH A
BENDING RADIUS OF 3" MINIMUM.
- ⑤ WARNING TAPE (FOR NEW CONDUIT INSTALLED BY TRENCHING)

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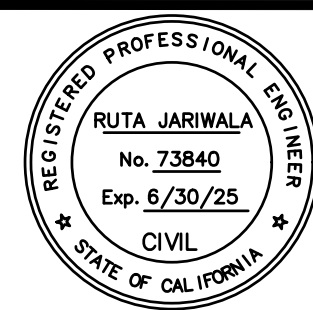


DETAIL 7
DIRECTIONAL DRILLING CONDUIT UNDER TRAIN TRACKS

NOTES (DETAIL 7):

- CONTRACTOR MUST APPLY FOR UPRR ENCROACHMENT PERMIT BEFORE PERFORMING ANY WORK WITHIN UPRR RIGHT OF WAY.
- TRUNK LINE CONDUITS FROM THE TYPICAL BORE MUST NOT DEFLECT BY MORE THAN ONE FEET PER 10 FT FROM THE ALIGNMENT PRECEDING OR FOLLOWING VAULT ENTRANCE/EXIT.
- EXCESS CONDUIT FOR ALL CONDUIT ENDS MUST BE CUT BACK TO PROVIDE STUB ENDS OF 1" MINIMUM TO 2" MAXIMUM.
- ALL METALLIC CONDUITS MUST HAVE THREADED METALLIC BUSHINGS. ALL PVC AND HDPE CONDUITS MUST HAVE BELL ENDS.
- INSTALL CONDUIT SEALING PLUGS FOR ALL NEW AND EXISTING CONDUITS USED IN THE PROJECT PLANS PER PROJECT SPECIFICATIONS.
- ALL CONDUITS AND FIBER OPTIC VAULT CONTAINING FIBER OPTIC CABLE MUST HAVE PERMANENT MARKERS AS SHOWN ON DRAWING SHEET SIC-13.
 - THE FOLLOWING DEPTHS ARE REQUIRED FOR MIN. COVER (AS MEASURED FROM THE NATURAL GRADE: 15' MINIMUM DEPTH - 6" DIA. OR LESS FOR HORIZONTAL DIRECTIONAL DRILLING.
- SEE TECHNICAL SPECIFICATIONS FOR MORE REQUIREMENTS. CONTRACTOR SHALL FOLLOW THE REQUIREMENTS IN THE TECHNICAL SPECIFICATIONS DURING CONSTRUCTION.
- SEE THE PROJECT SPECIAL PROVISIONS FOR COORDINATION AND PERMIT REQUIREMENTS FROM UPRR.
- CABLE BENDING RADIUS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION. FIBER OPTIC CABLE SHALL BE PULLED STRAIGHT FROM THE CONDUIT WITHOUT TOUCHING THE SIDE OF THE PULL BOX. 45 DEGREE COUPLING SHALL BE USED WHERE NECESSARY.
- ALL WORK PROCEDURES SHALL BE REVIEWED AND APPROVED BY BOTH UPRR AND THE ENGINEER.
- ALL WORK DONE SHALL BE OBSERVED BY ENGINEER.
- CONTRACTOR SHALL MEET ALL UPRR REQUIREMENTS INCLUDING NOTIFYING UPRR AND THE ENGINEER PRIOR TO WORK, TRAFFIC CONTROL, INSPECTION, AND ALL OTHER UPRR REQUIREMENTS FOR CONSTRUCTION.
- CONTRACTOR SHALL RECEIVE FIELD VERIFICATION BY ENGINEER AND UPRR PRIOR TO CONSTRUCTION.
- WORK SHALL NOT BEGIN UNTIL ALL REQUIRED MATERIAL FOR THE ENTIRETY OF WORK SHOWN IN DETAIL 7 HAS BEEN ACQUIRED.

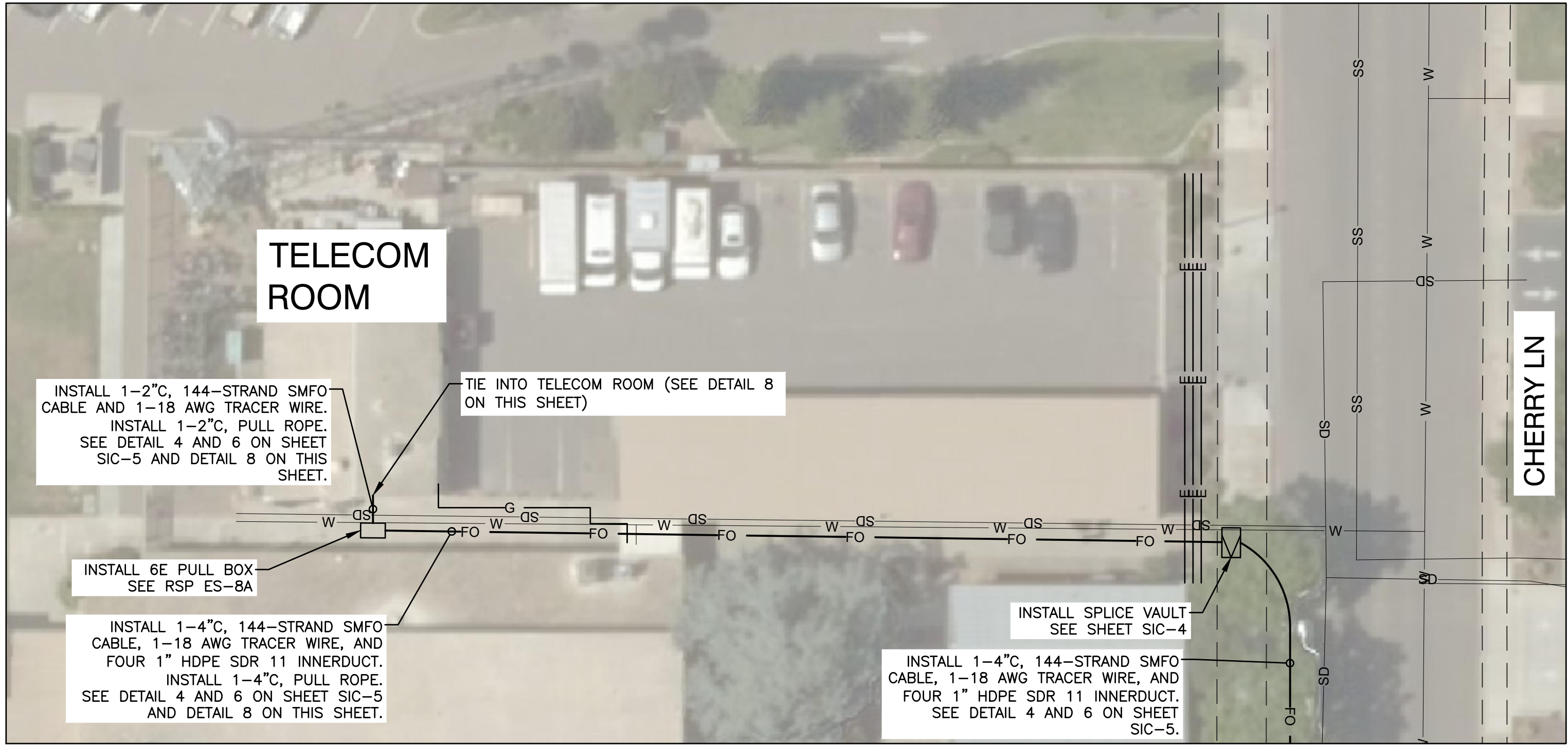
REV	DATE	DESCRIPTION	BY



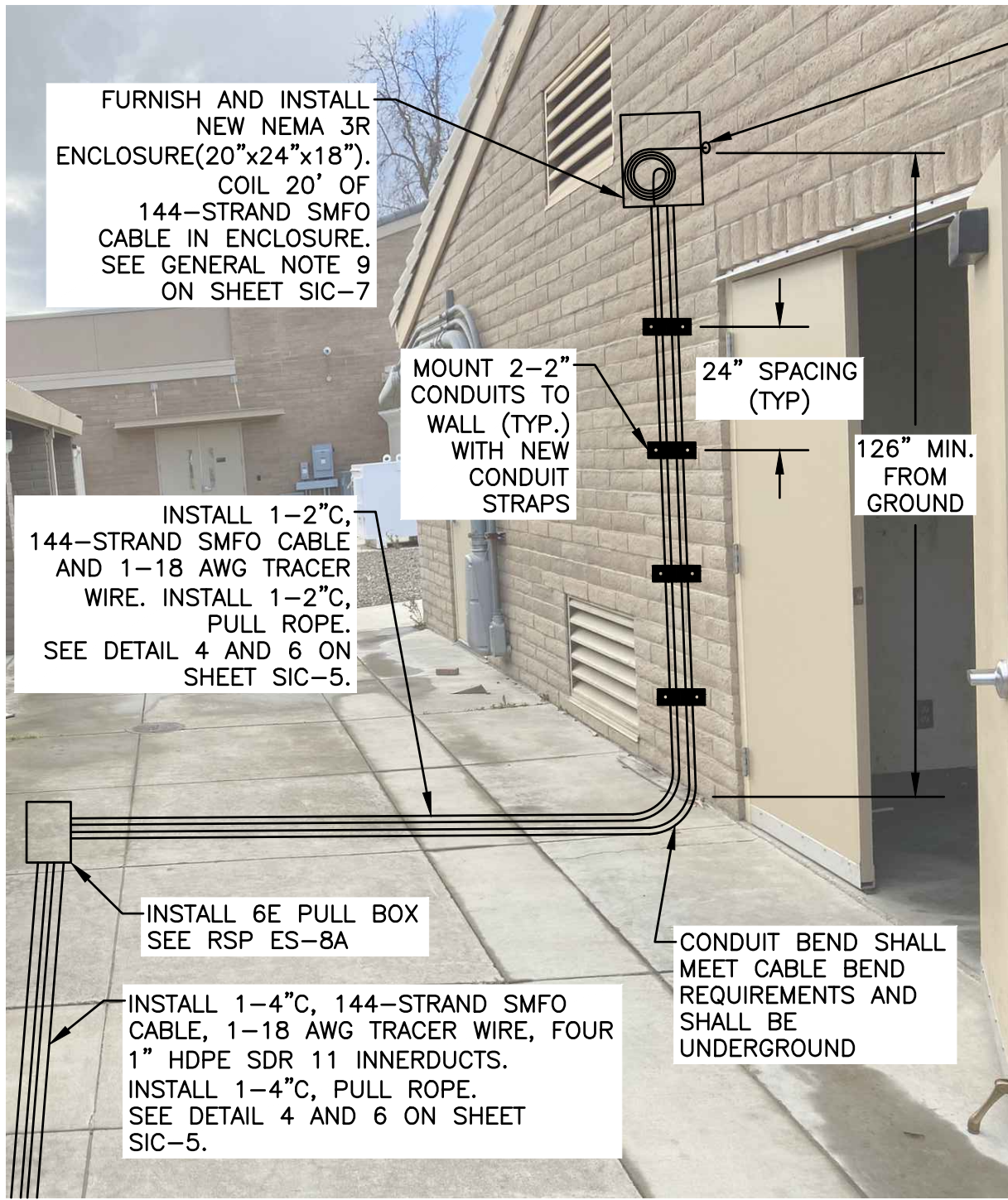
DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

CONDUIT DETAILS	SIC-5
FIBER OPTIC CABLE SYSTEMS	SHEET 103 OF 117

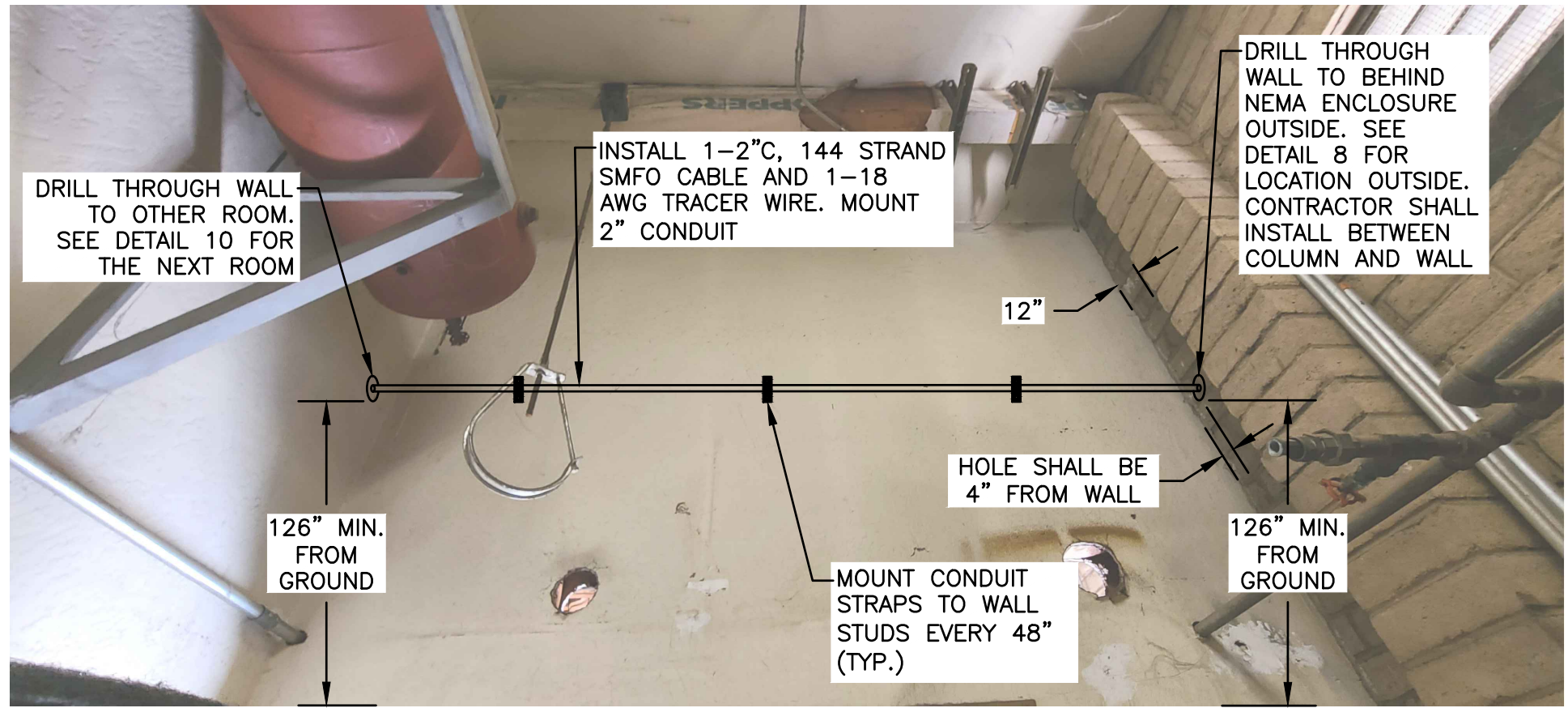


CITY HALL LAYOUT

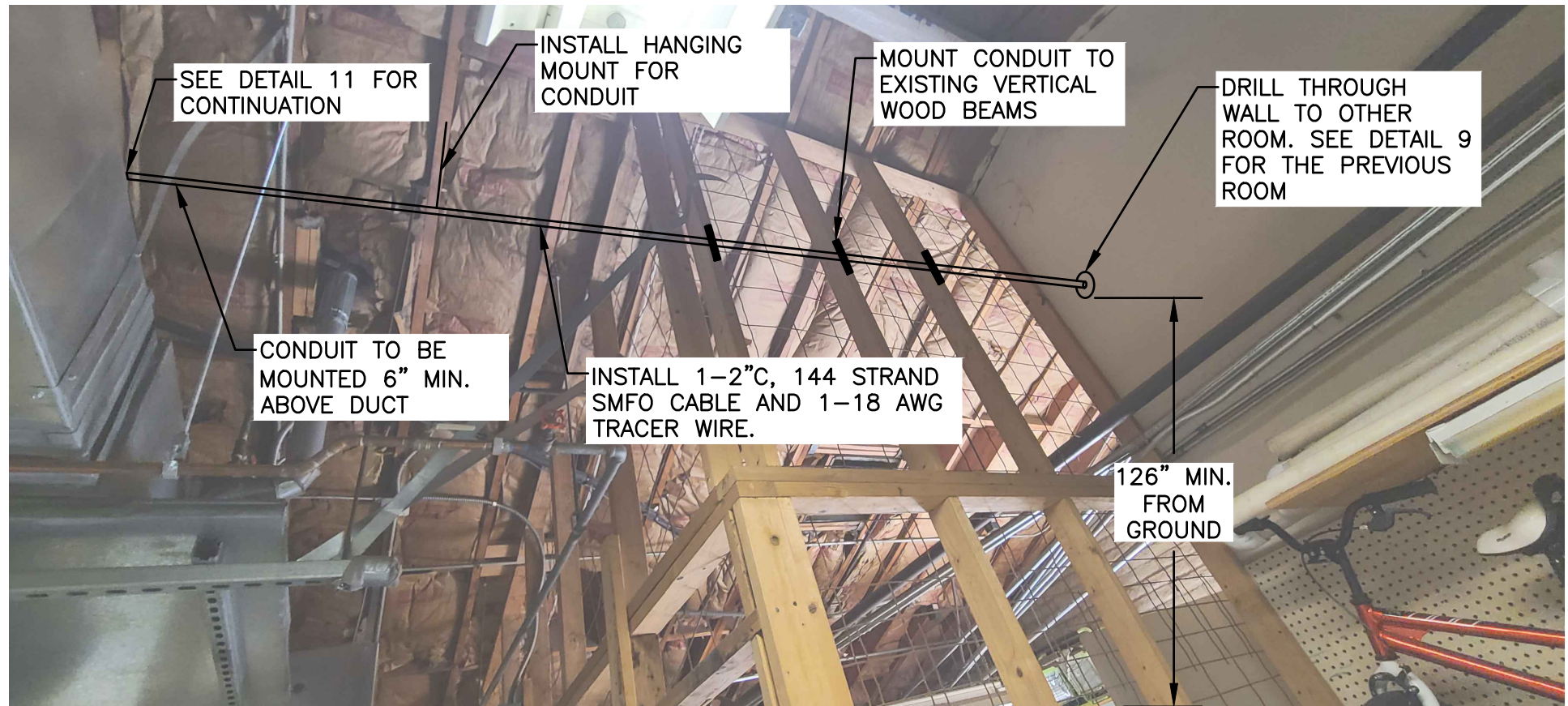


DETAIL 8

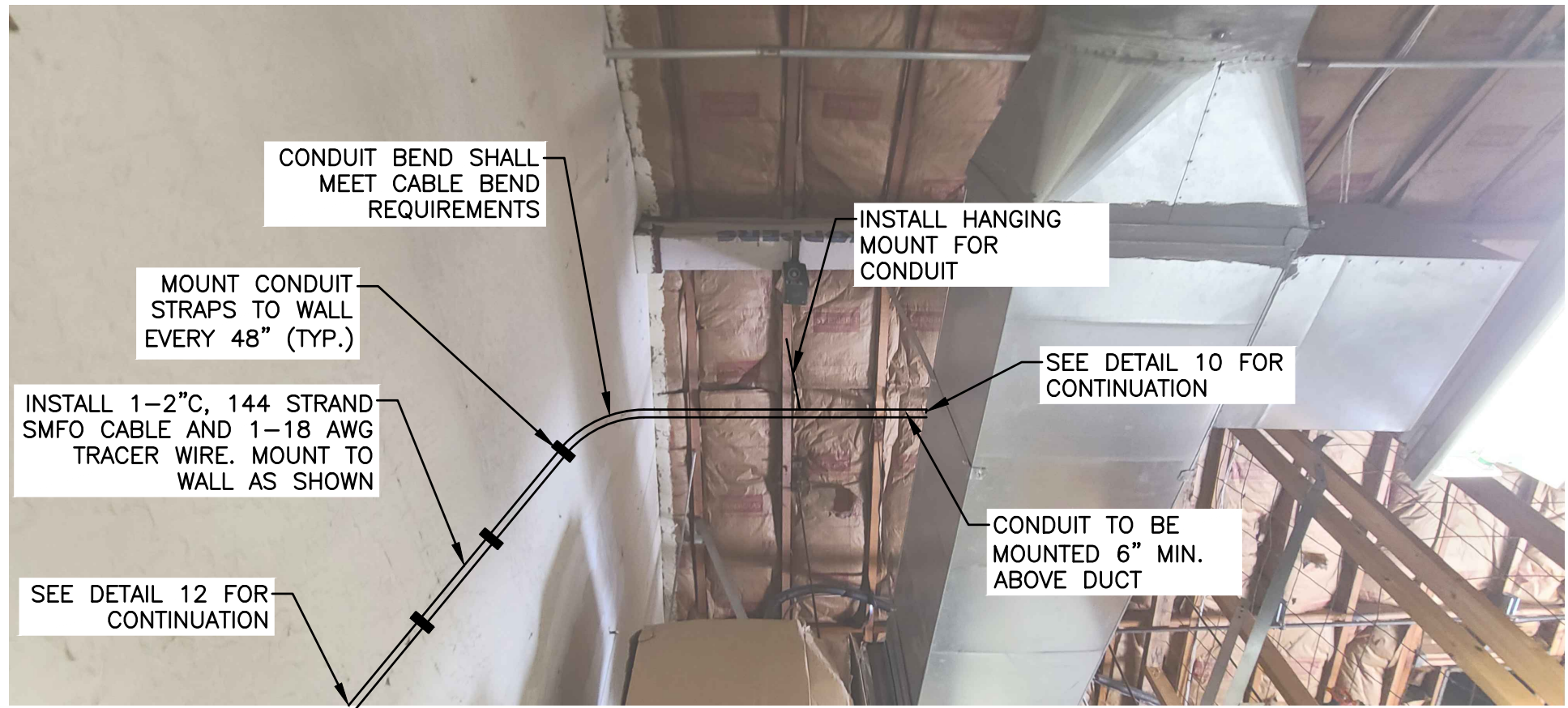
DRILL THROUGH WALL BEHIND NEMA ENCLOSURE INTO ROOM TO INSTALL 1-2" C, 144-STRAND SMFO CABLE, AND 1-18 AWG TRACER WIRE. SEE DETAIL 9 FOR LOCATION INSIDE ROOM



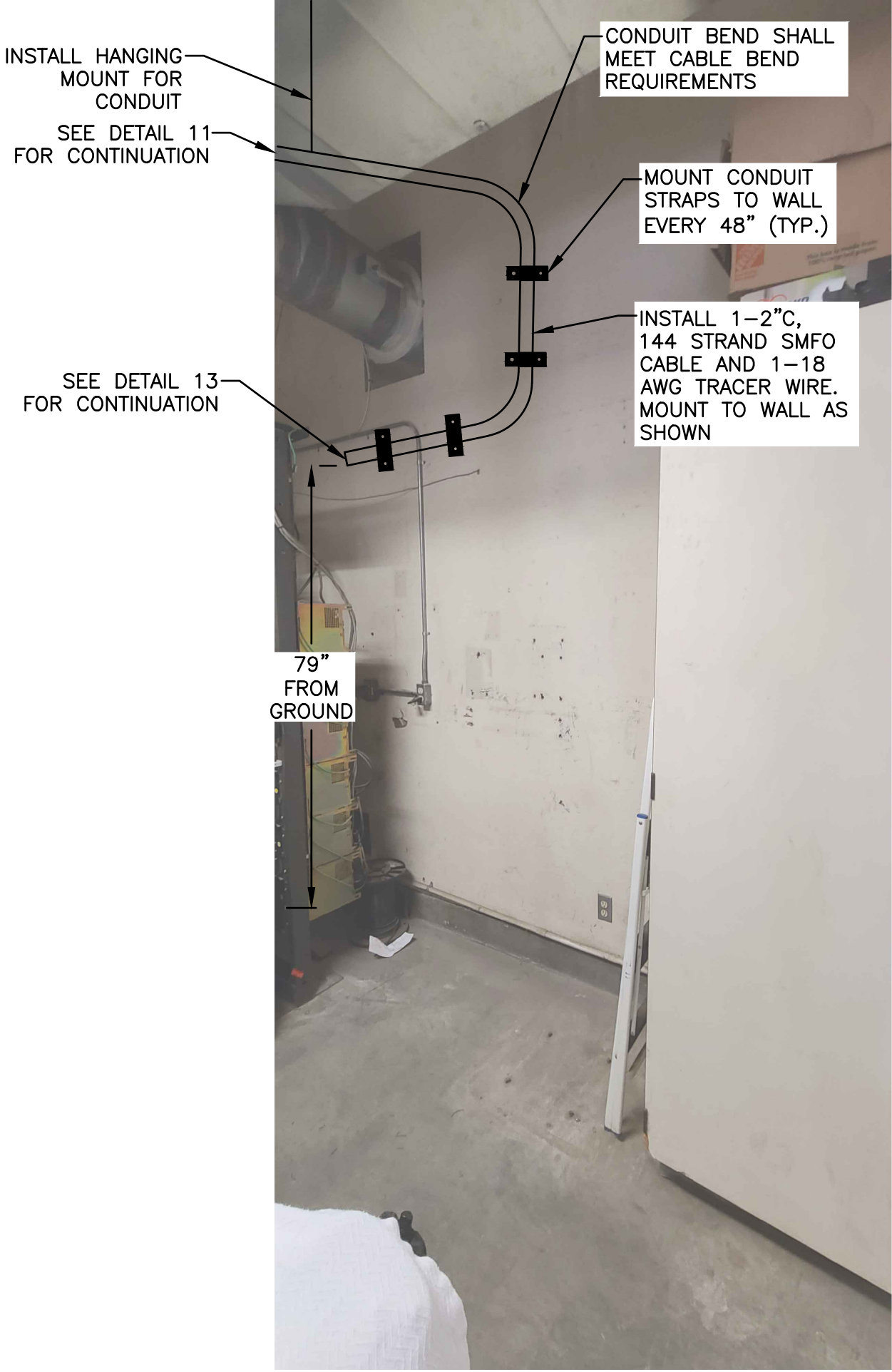
DETAIL 9



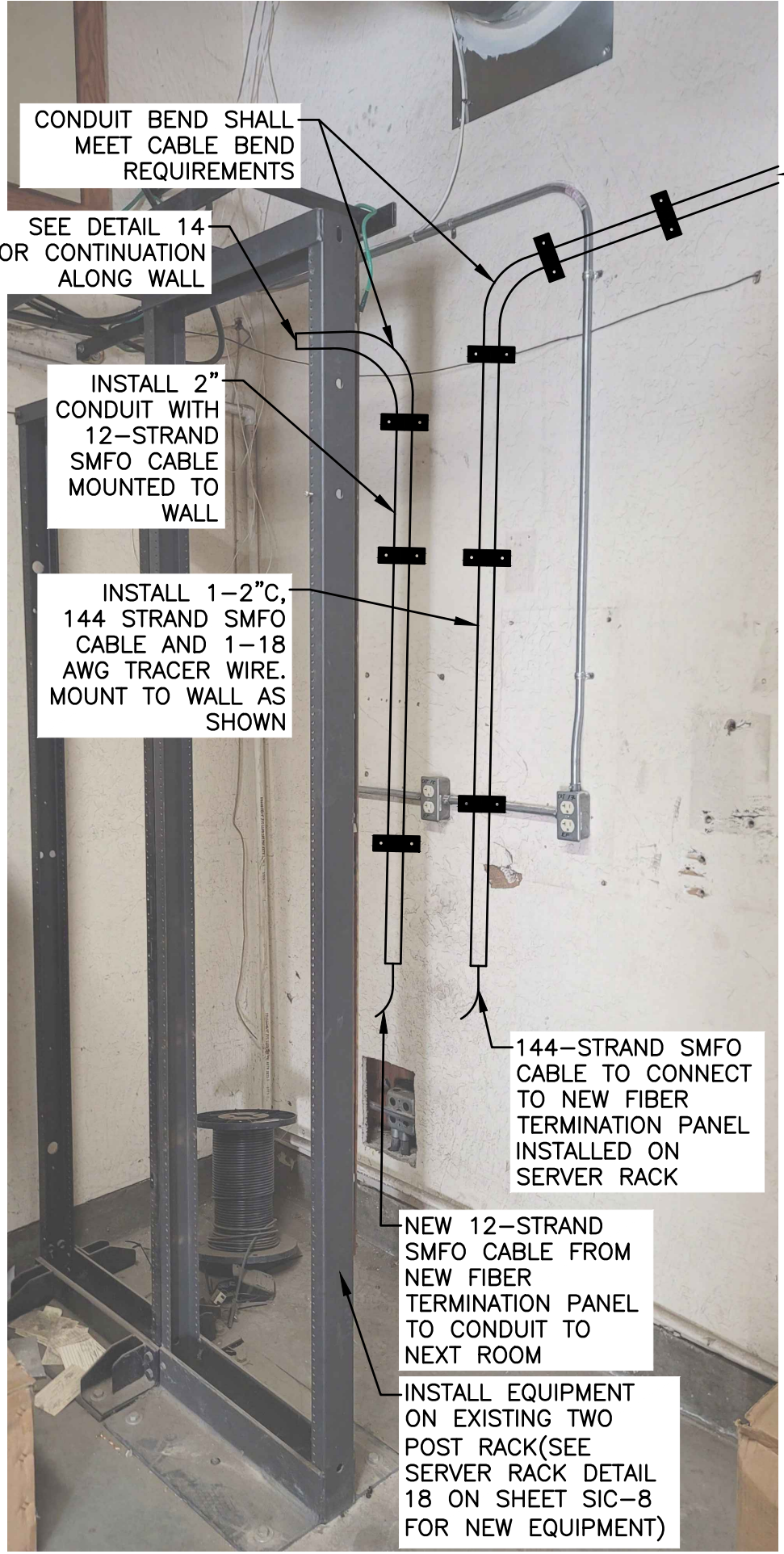
DETAIL 10



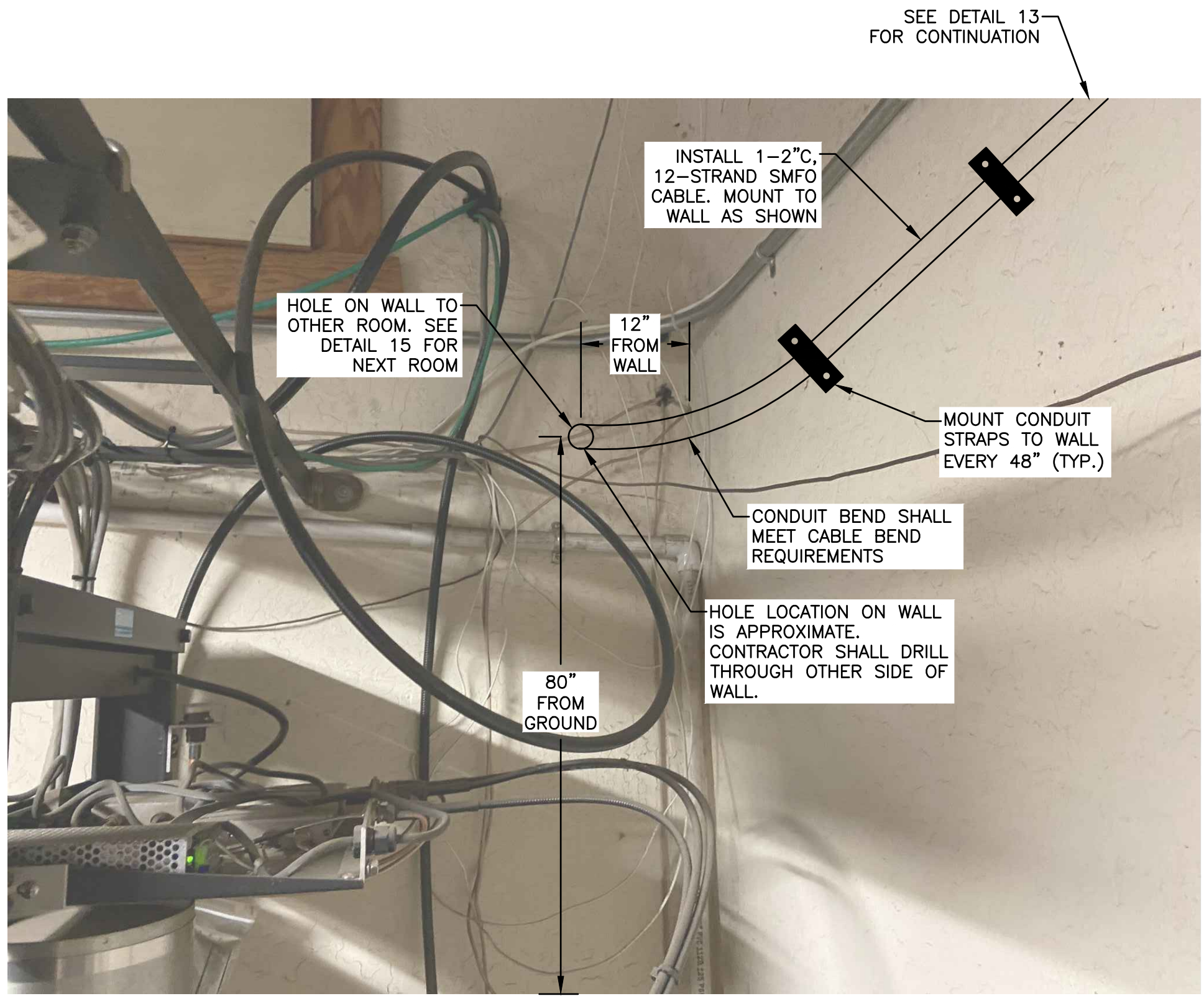
DETAIL 11



DETAIL 12



DETAIL 13



DETAIL 14

REV	DATE	DESCRIPTION	BY

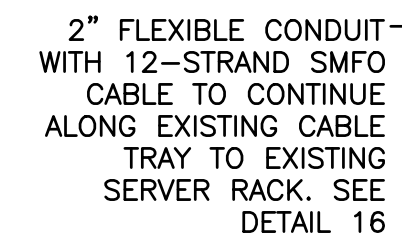


DATE SIGNED: 01/19/2024

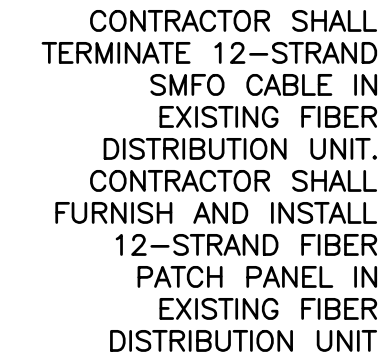
SCALE: 1"=20'
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CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

TELECOM ROOM DETAILS - SHEET 1

FIBER OPTIC CABLE SYSTEMS



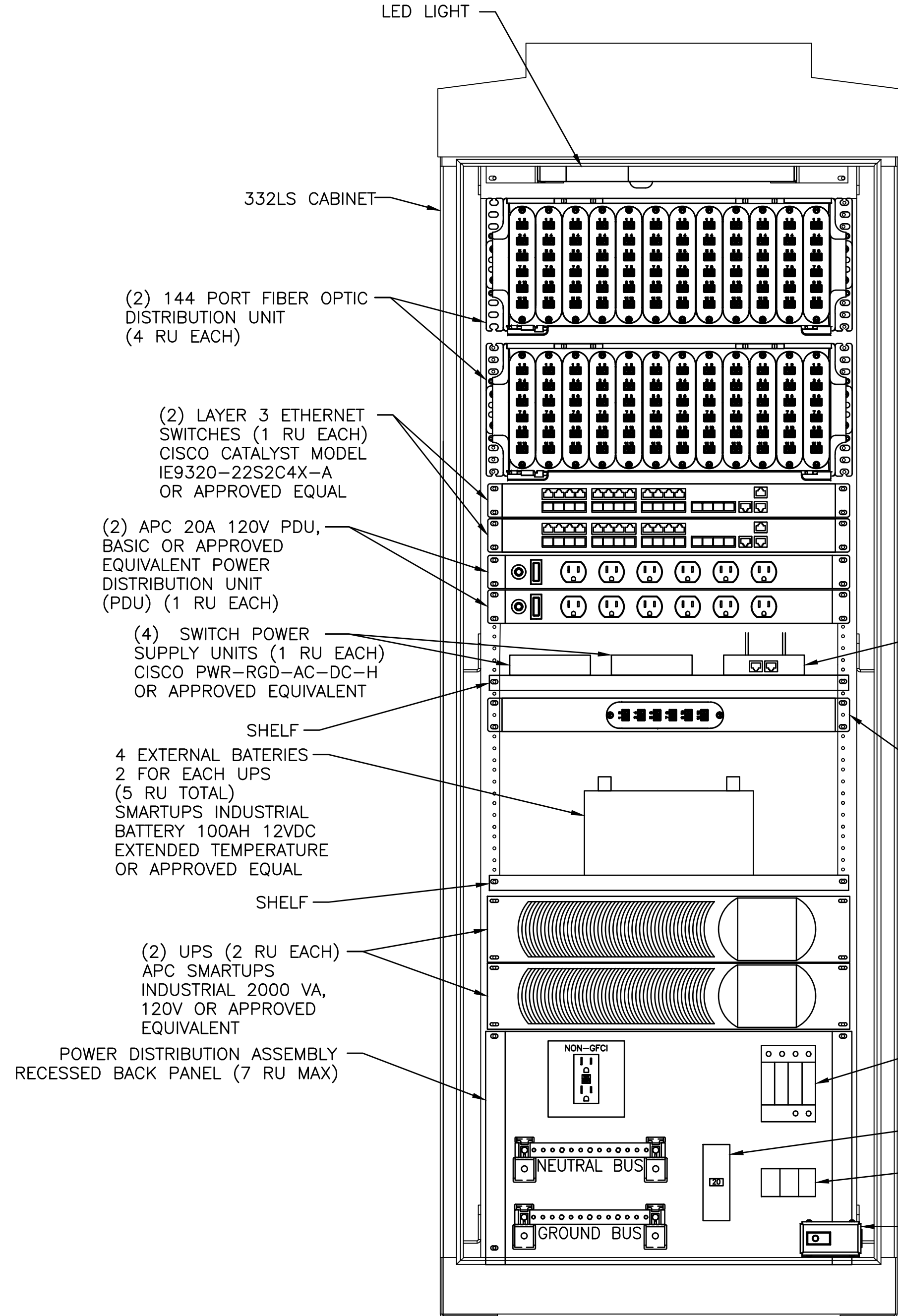
—DRILL HOLE
THROUGH WALL TO
PREVIOUS ROOM.
SEE DETAIL 14
FOR PREVIOUS
ROOM



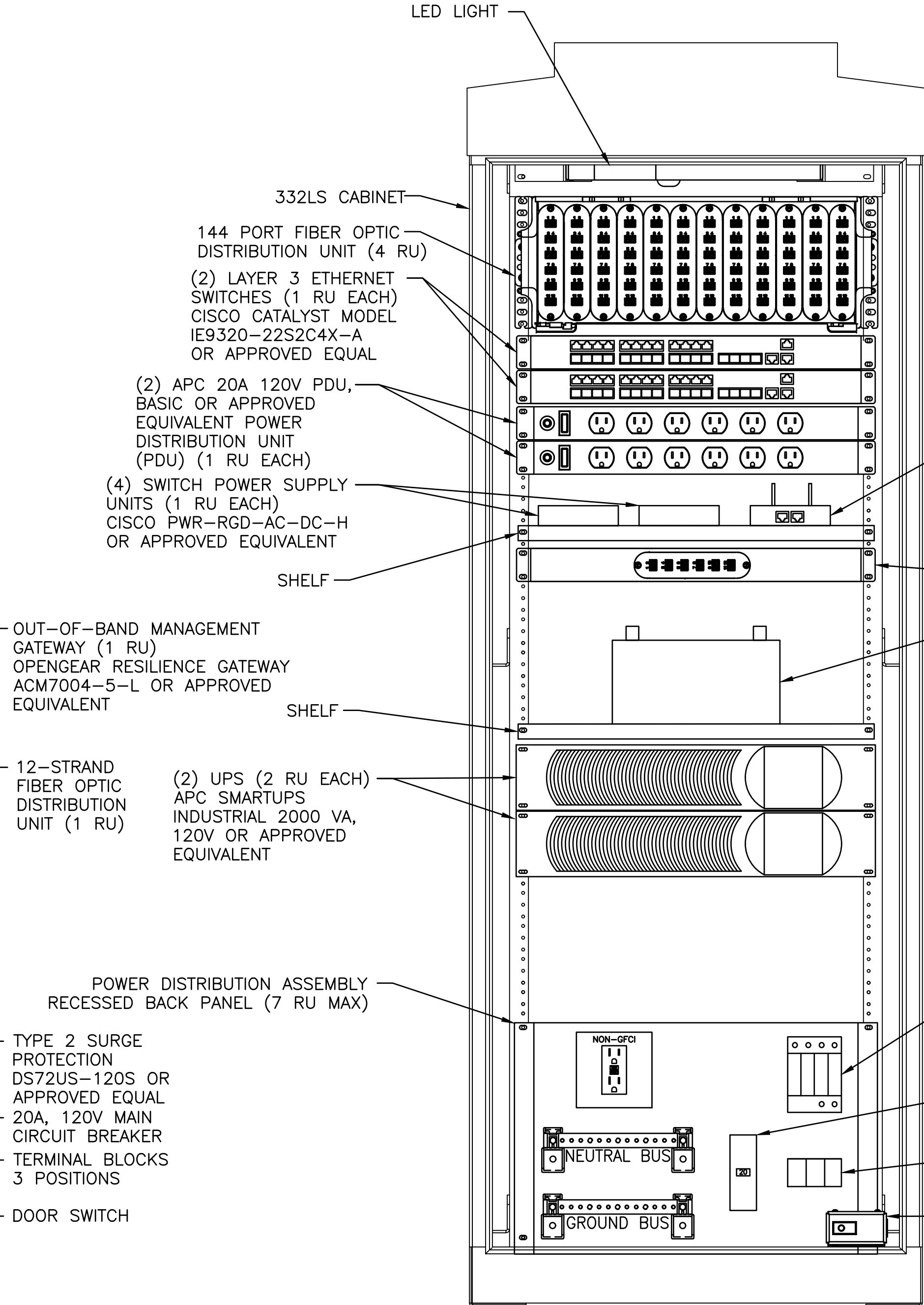
—CONTRACTOR SHALL
FURNISH 4 FIBER PATCH
CORDS.
CITY SHALL PATCH CORDS
FROM NEW TERMINATION
PANEL TO EXISTING
ETHERNET SWITCH

1. CONTRACTOR SHALL EXAMINE AND VERIFY ALL PROPOSED CONTROL DIMENSIONS, MATERIAL, EQUIPMENT, AND LAYOUT BEFORE FURNISHING ANY MATERIAL.
2. CONTRACTOR MUST PROTECT ALL EXISTING INFRASTRUCTURE IN PLACE.
3. CONTRACTOR SHALL SUBMIT WORK PLAN TO THE CITY AND ENGINEER 20 DAYS BEFORE START OF WORK IN THE TELECOM ROOM FOR REVIEW AND APPROVAL. CONTRACTOR SHALL MEET ALL INSPECTION AND FIELD VERIFICATION REQUIREMENTS BEFORE, DURING, AND AFTER CONSTRUCTION. CONTRACTOR SHALL NOT BEGIN WORK UNTIL THE WORK PLAN IS SUBMITTED, REVIEWED, AND APPROVED BY THE ENGINEER.
4. ALL WORK WITHIN THE CITY HALL PROPERTY, INCLUDING INSIDE THE TELECOM ROOM, SHALL BE DONE IN THE PRESENCE OF THE ENGINEER.
5. NOTIFY THE CITY AND ENGINEER 5 DAYS PRIOR TO THE START OF WORK.
6. WORK SHALL NOT BEGIN UNTIL ALL MATERIALS HAS BEEN ACQUIRED TO COMPLETE THE ENTIRETY OF WORK SHOWN ON SHEETS SIC-6 AND SIC-7.
7. CONTRACTOR SHALL FOLLOW ALL WEATHERPROOF AND MOUNTING CONNECTION REQUIREMENTS IN THE TECHNICAL SPECIFICATIONS.
8. CITY IT STAFF SHALL BE PRESENT FOR ALL CONSTRUCTION ACTIVITIES WITHIN THE SECONDARY TELECOM ROOM (DETAILS 13, 14, AND 15)
9. NEMA 3R ENCLOSURE SHALL BE LOCKABLE AND DOOR SHALL BE OUTWARD FACING. ALL HOLES AND CONDUIT ENTRY POINTS FOR BOTH THE BUILDING AND ENCLOSURE SHALL BE SEALED TO BE WEATHER TIGHT.
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH TMC AT CITY HALL. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FULL INSTALLATION AND TESTING OF THE CENTRAL MANAGEMENT SYSTEM PER THE DIRECTION OF CITY IT STAFF.

[illegible]



DETAIL 17
PROPOSED HUB #1 CABINET LAYOUT



DETAIL 18
PROPOSED HUB #2 CABINET LAYOUT

EXISTING 45RU SERVER RACK(SEE NOTES BELOW)

OUT-OF-BAND MANAGEMENT
GATEWAY (1 RU)
OPENGear RESILIENCE GATEWAY
ACM7004-5-L OR APPROVED
EQUIVALENT

12-STRAND FIBER OPTIC
DISTRIBUTION UNIT (1 RU)

4 EXTERNAL BATERIES
2 FOR EACH UPS
(5 RU TOTAL)
SMARTUPS INDUSTRIAL
BATTERY 100AH
12VDC EXTENDED
TEMPERATURE OR
APPROVED EQUAL

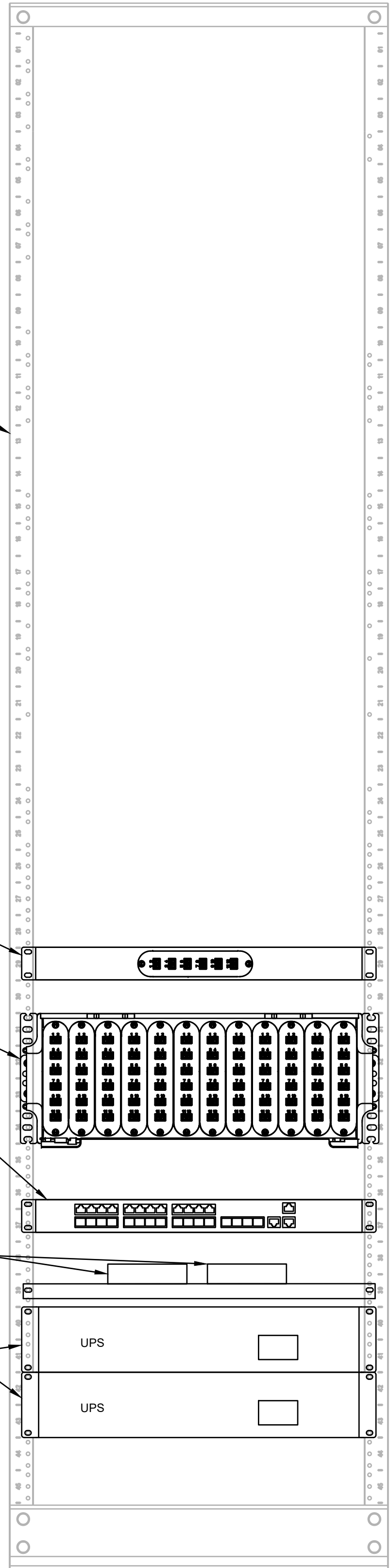
12-STRAND FIBER OPTIC
DISTRIBUTION UNIT (1 RU)

144-STRAND FIBER OPTIC
DISTRIBUTION UNIT (4 RU)

ETHERNET SWITCH (1 RU)
ARUBA 6300M 24-PORT
SFP+ AND 4-PORT SFP56
SWITCH (JL658A) OR
APPROVED EQUAL

(2) SWITCH POWER SUPPLY
UNITS (1 RU EACH)
ARUBA JL085A OR
APPROVED EQUAL

(2) UNINTERRUPTIBLE POWER SUPPLY(UPS)
(2 RU EACH)
APC SMART-UPS LINE INTERACTIVE, 1000VA,
LITHIUM-ION, 120V, 6X NEMA 5-15R
OUTLETS. SMTL1000RM2UCNC OR
APPROVED EQUAL



DETAIL 19
EXISTING CITY TELECOM ROOM RACK LAYOUT

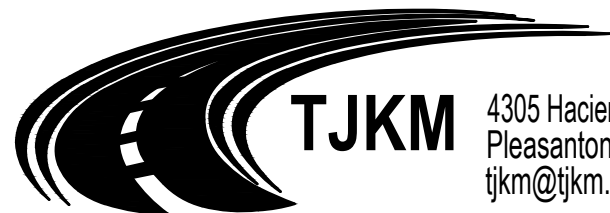
NOTES

1. CABINET THERMOSTAT AND FAN NOT SHOWN FOR CLARITY. THERMOSTAT AND FAN SHALL BE MOUNTED ABOVE EQUIPMENT RACK.
2. DOOR SWITCH LOCATION TO BE DETERMINED PER MANUFACTURER WIRED TO THE CABINET LIGHT FIXTURE. CONTRACTOR SHALL PROVIDE AND INDEPENDENT DOOR SENSOR COMPATIBLE WITH THE CABINET MONITORING SYSTEM.
3. ALL POWER WIRING SHALL BE RHH/RHW, NO. 12 AWG MINIMUM (UNLESS NOTED OTHERWISE).
4. CABINET AND RACK/EQUIPMENT LAYOUT VARIES BY LOCATION. CONTRACTOR SHALL ARRANGE EQUIPMENT TO MEET THE NEEDS OF EACH SITE. ALL EQUIPMENT SHALL BE MOUNTED AND LABELED IN A NEAT AND WORKMANLIKE MANNER.

NOTES

1. SEE SHEETS SIC-6 AND SIC-7 FOR RACK AND CONDUIT LAYOUTS.
2. CONTRACTOR SHALL USE EXISTING 45 RU RACK IN THE TELECOM ROOM AS IDENTIFIED ON SHEET SIC-6 DETAIL 13.
3. VERTICAL CABLE MANAGEMENT SYSTEM IS REQUIRED ON BOTH SIDES OF THE RACK.
4. POWER SUPPLY SHALL BE POWERED BY ADJACENT 20 AMP CIRCUIT BREAKER.

REV	DATE	DESCRIPTION	BY



4305 Hacienda Drive, Suite 550
Pleasanton, CA 94588
tjkm@tjkm.com



DATE SIGNED: 01/19/2024

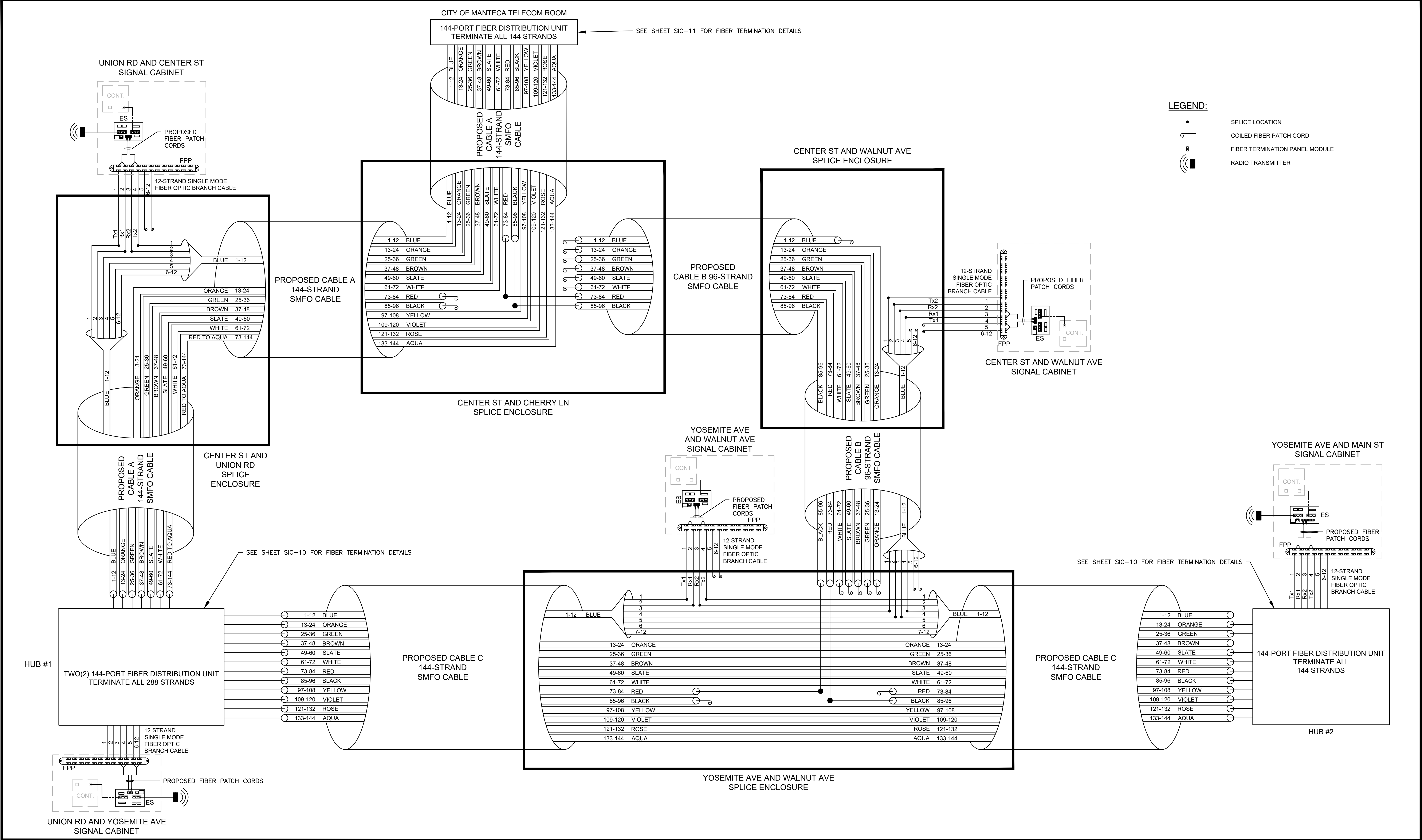
SCALE: 1"=20'
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CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

HUB AND RACK DETAILS

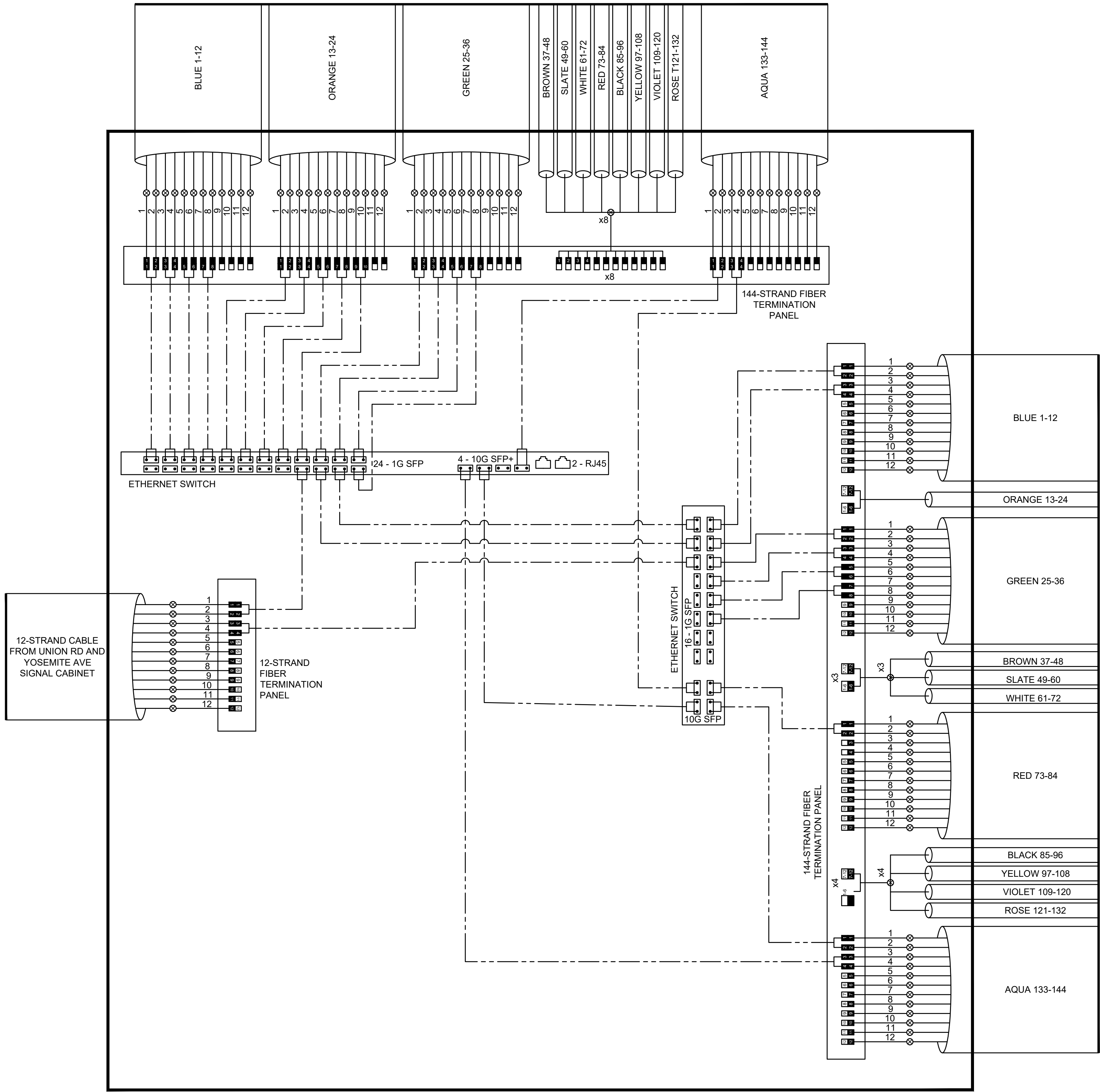
FIBER OPTIC CABLE SYSTEMS

SIC-8

SHEET 106 OF 117



144-STRAND CABLE A



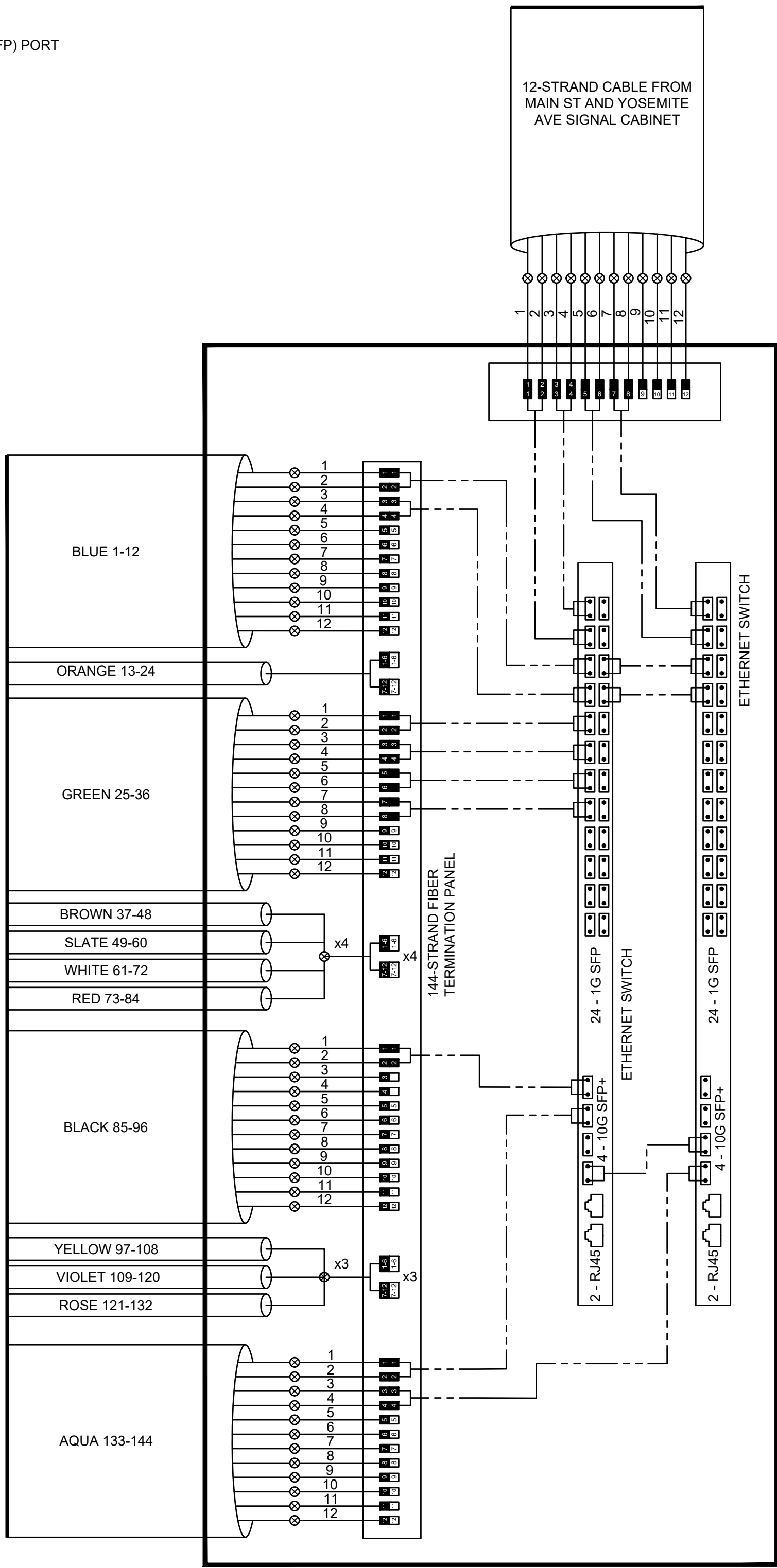
HUB #1 TERMINATION DETAIL
NTS

LEGEND:

- ⊙ SPLICE LOCATION
- ▢ FIBER TERMINATION PANEL MODULE
- ▢ TERMINATED FIBER STRANDS
- ⊡ SMALL FORM-FACTOR PLUGGABLE (SFP) PORT
- ⊡ ETHERNET PORT
- ⊡ WIRELESS COMMUNICATION DEVICE
- FIBER PATCH CORD

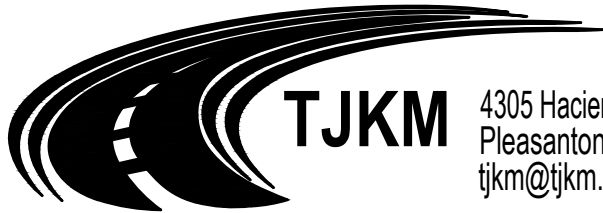
144-STRAND CABLE C

144-STRAND CABLE C



HUB #2 TERMINATION DETAIL
NTS

REV	DATE	DESCRIPTION	BY



4305 Hacienda Drive, Suite 550
Pleasanton, CA 94588
tjkm@tjkm.com



DATE SIGNED: 01/19/2024

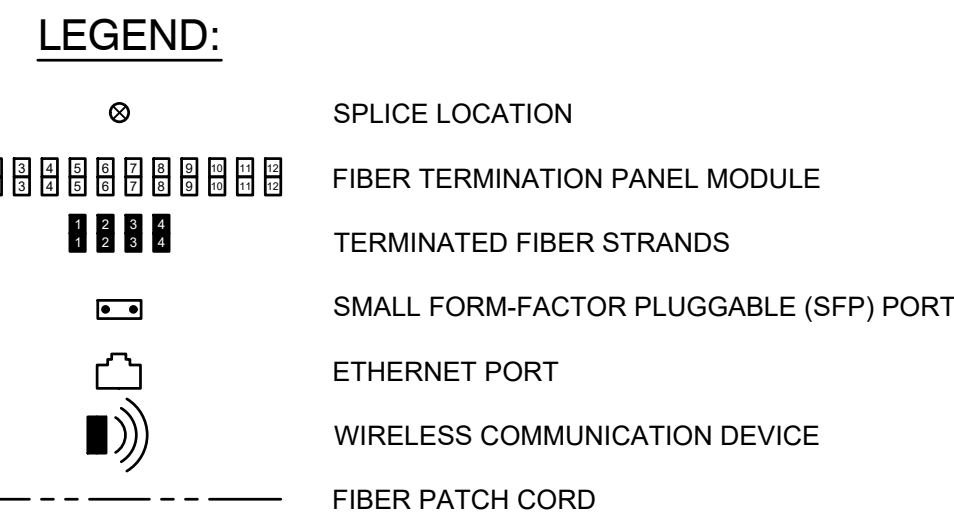
SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 01/19/2024
PROJECT NO: 103-029

FIBER SPLICE DIAGRAM - SHEET 2

FIBER OPTIC CABLE SYSTEMS

SIC-10

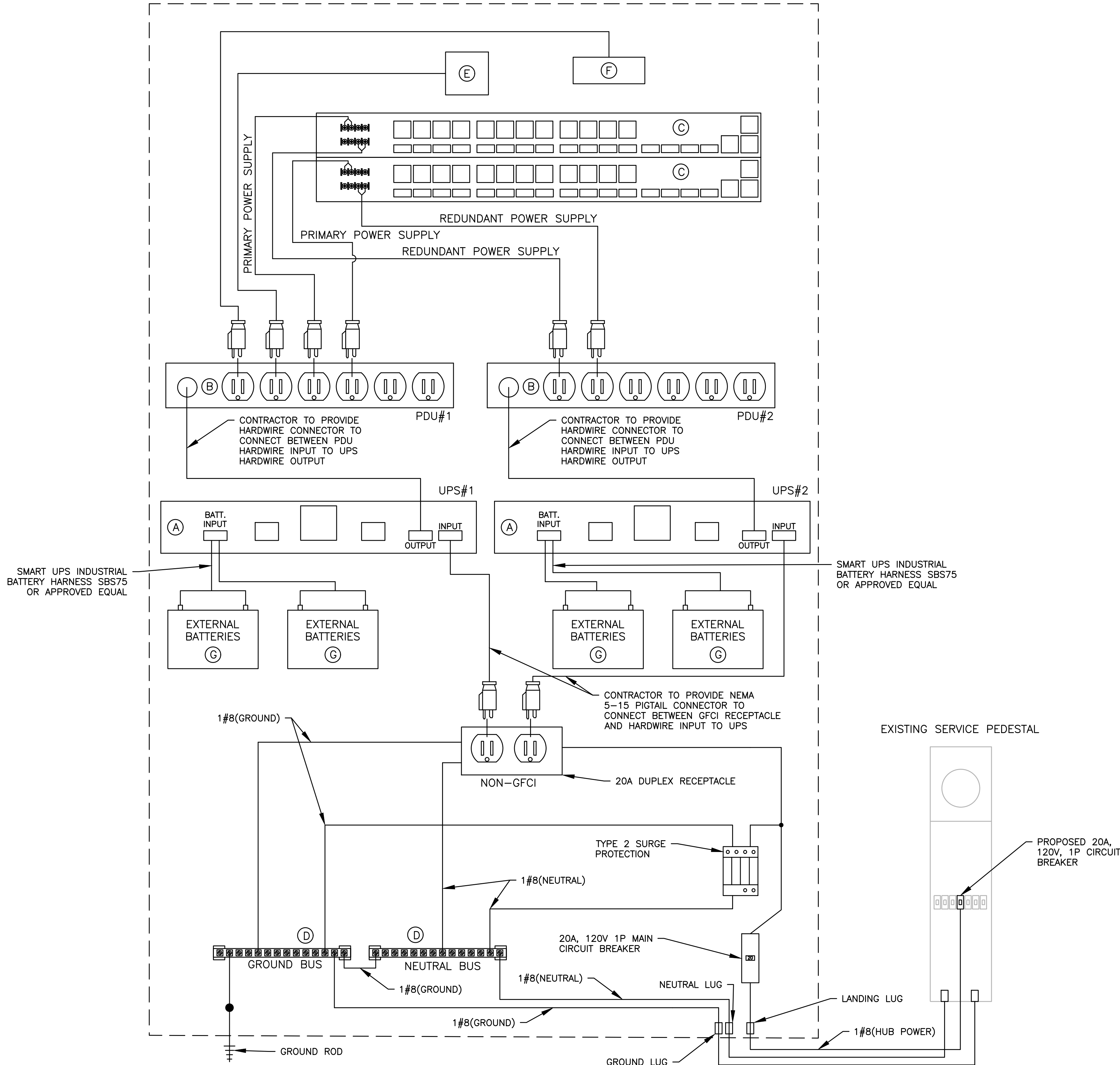
SHEET 108 OF 117



TRUNKLINE CABLE FIBER ASSIGNMENT		
CABLE	TUBE	DESIGNATION
PROPOSED CABLE A 144-STRAND	1-BLUE	TRAFFIC SIGNALS (SIGNAL GROUP 1)
	2-ORANGE	TRAFFIC SIGNALS (SIGNAL GROUP 2-6)
	3-GREEN	TRAFFIC SIGNALS (SIGNAL GROUP 7-10)
	4-BROWN	SPARE
	5-SLATE	SPARE
	6-WHITE	SPARE
	7-RED	10G CONNECTION
	8-BLACK	10G CONNECTION
	9-YELLOW	SPARE
	10-VIOLET	SPARE
	11-ROSE	SPARE
	12-AQUA	10G CONNECTION
PROPOSED CABLE B 96-STRAND	1-BLUE	TRAFFIC SIGNALS (SIGNAL GROUP 1)
	2-ORANGE	SPARE
	3-GREEN	SPARE
	4-BROWN	SPARE
	5-SLATE	SPARE
	6-WHITE	SPARE
	7-RED	10G CONNECTION
	8-BLACK	10G CONNECTION
PROPOSED CABLE C 144-STRAND	1-BLUE	TRAFFIC SIGNALS (SIGNAL GROUP 1)
	2-ORANGE	SPARE
	3-GREEN	TRAFFIC SIGNALS (SIGNAL GROUP 7-10)
	4-BROWN	SPARE
	5-SLATE	SPARE
	6-WHITE	SPARE
	7-RED	10G CONNECTION
	8-BLACK	10G CONNECTION
	9-YELLOW	SPARE
	10-VIOLET	SPARE
	11-ROSE	SPARE
	12-AQUA	10G CONNECTION

FIBER ASSIGNMENT TABLE

[illegible]

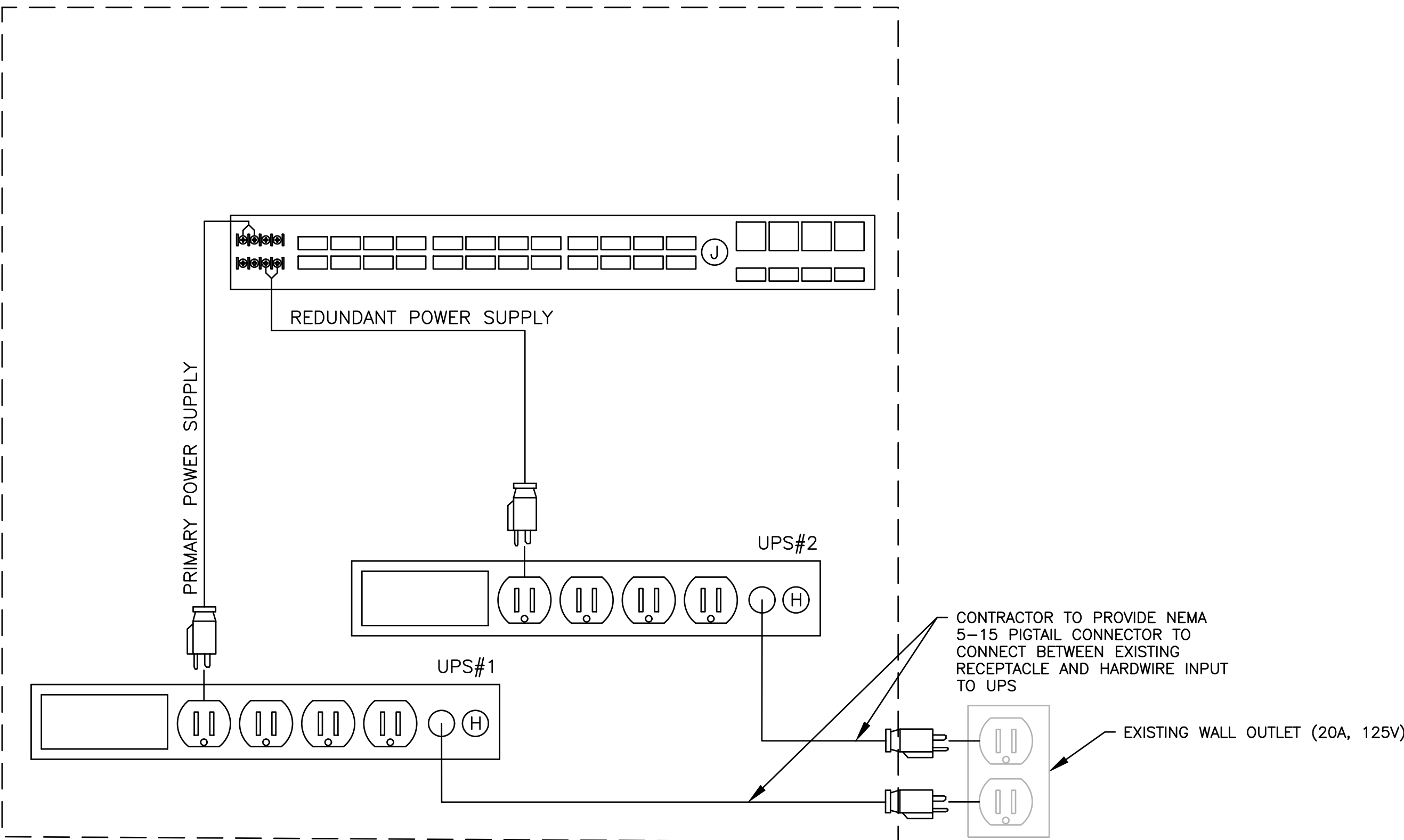


HUB #1 AND 2 POWER WIRING DIAGRAM

NOTES

1. HUB CABINET SHALL BE GROUNDED BASED ON MANUFACTURER'S REQUIREMENTS AND CALTRANS STANDARD PLANS AND SPECIFICATIONS.

ITEM	DESCRIPTION
(A)	APC SMART UPS INDUSTRIAL 2000VA/120V OR APPROVED EQUIVALENT
(B)	APC PDU BASIC, 20A, 120V OR APPROVED EQUIVALENT POWER DISTRIBUTION ASSEMBLY
(C)	LAYER 3 ETHERNET SWITCH CISCO CATALYST MODEL IE9320-22S2C4X-A OR APPROVED EQUIVALENT
(D)	GROUND/NEUTRAL BAR AS INDICATED
(E)	LED STRIP LIGHT FIXTURE AT TOP OF CABINET
(F)	CABINET FAN AT TOP OF CABINET
(G)	SMARTUPS 100AH 12VDC EXTENDED TEMPERATURE INDUSTRIAL BATTERIES OR APPROVED EQUIVALENT
(H)	APC SMART UPS 1000VA/120V LITHIUM-ION, 6X NEMA 5-15R OUTLETS (SMTL1000RM2UCNC) OR APPROVED EQUIVALENT
(J)	ARUBA 6300M 24-PORT SFP+ AND 4-PORT SFP56 SWITCH (JL658A) OR APPROVED EQUIVALENT

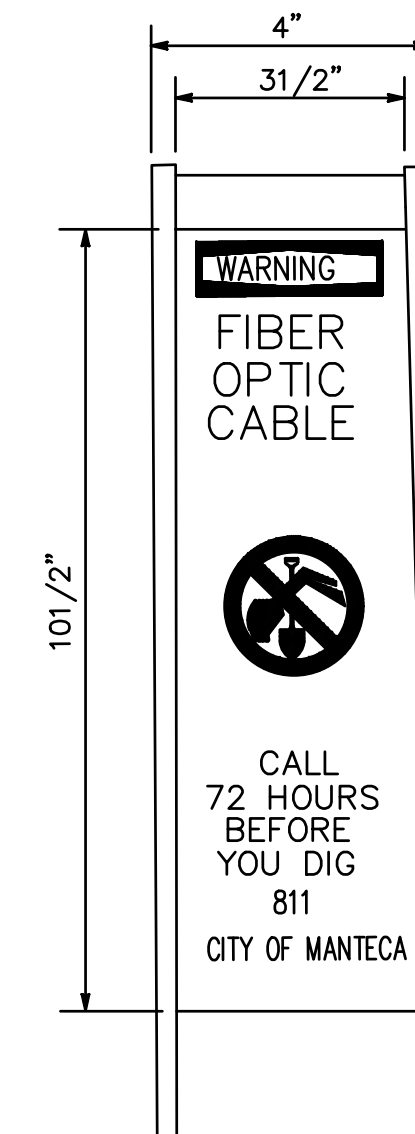
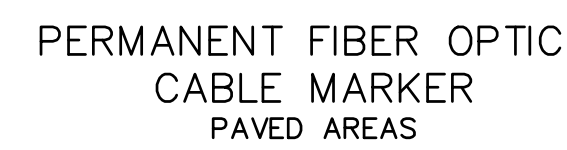


CITY TELECOM ROOM RACK POWER WIRING DIAGRAM



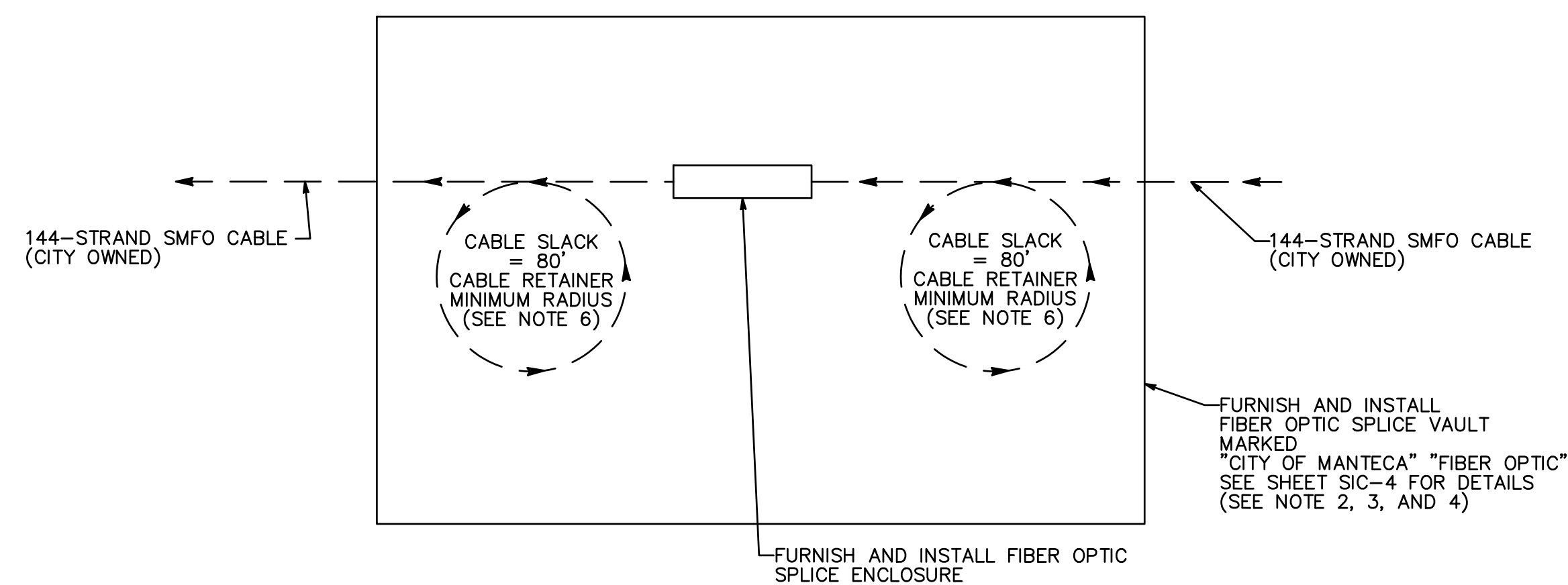
1. IN UNPAVED AREAS, INSTALL ONE MARKER 1 FOOT AWAY FROM EACH VAULT OR PULL BOX IN WHICH FIBER OPTIC CABLE IS INSTALLED.

2. FOR DETAILS NOT SHOWN, SEE RSP ES-17A.



DETAIL A

PERMANENT FIBER OPTIC MARKER



TYPICAL FIBER OPTIC REEL END SPLICE DETAIL

— — — 144-STRAND SMFO CABLE (CITY OWNED)

1. FURNISH AND INSTALL FIBER OPTIC SPlice VAULT AND FIBER OPTIC SPlice ENCLOSURE AS SHOWN AT THE REEL END OF THE FIBER OPTIC TRUNK CABLE. FIBER OPTIC SPlice VAULT MUST BE MARKED "CITY OF MANTECA" "FIBER OPTIC" FOR THE REEL END SPlice LOCATION.
2. SUBMIT THE PROPOSED REEL END SPlice LOCATION TO THE ENGINEER FOR REVIEW AND APPROVAL. THE PROPOSED LOCATION MUST BE APPROVED BY THE ENGINEER PRIOR TO THE INSTALLATION OF THE FIBER OPTIC CABLE, FIBER OPTIC CONDUIT, AND FIBER OPTIC SPlice VAULT.
3. PROVIDE THE PROPOSED TRUNK REEL END SPlice LOCATION, GEOGRAPHICAL CONDITION, AND DISTANCE FROM THE EDGE OF TRAVELED WAY STRIPE TO THE ENGINEER FOR AUTHORIZATION.
4. UP TO ONE (1) TRUNK SPlice IS ALLOWED ON YOSEMITE AVE BETWEEN UNION RD AND MAIN ST TO ACCOMMODATE FIBER OPTIC CABLE REEL END SPlice FOR 144-STRAND SMFO CABLE. REDUCE THE NUMBER OF THE REEL END SPlice. IF THE FIBER OPTIC CABLE REEL LENGTH PERMITS, AVOID INSTALLING FIBER OPTIC CABLE REEL END SPlice FOR THE 144-STRAND SMFO CABLE. NO ADDITIONAL FIBER OPTIC CABLE REEL END SPlice FOR THE 144-STRAND SMFO CABLE AND 96-STRAND SMFO CABLE IS ALLOWED.
5. SUBMIT AS-BUILT DRAWING OF THE AUTHORIZED REEL END SPlice LOCATION.
6. MINIMUM FIBER OPTIC CABLE BENDING RADIUS MUST BE VERIFIED PRIOR TO INSTALLATION TO BE AS SPECIFIED BY THE CABLE MANUFACTURER. BENDING RADIUS MUST NOT EXCEED THE DIMENSIONS OF THE FIBER OPTIC PULL BOX AND FIBER OPTIC SPlice VAULT TO PERMIT THE PROPOSED SLACK AS SHOWN.

[illegible]

BASE BID - FIBER OPTIC CABLE SYSTEMS QUANTITY TABLE																																						
SHEET NO.	FURNISH AND INSTALL 2" CONDUIT	FURNISH AND INSTALL 4" CONDUIT WITH FOUR 1" HDPE SDR 11 INNERDUCT UNDER TRAIN TRACKS	FURNISH AND INSTALL 4" CONDUIT WITH FOUR 1" HDPE SDR 11 INNERDUCT	FURNISH AND INSTALL 12-STRAND SMFO CABLE	FURNISH AND INSTALL 96-STRAND SMFO CABLE	FURNISH AND INSTALL 144-STRAND SMFO CABLE	FURNISH AND INSTALL 1-18 AWG TRACER WIRE	FURNISH AND INSTALL PULL TAPE	FURNISH AND INSTALL FABRIC INNERDUCT	FURNISH AND INSTALL #8 CABLE	FURNISH AND INSTALL NO. 5 PULL BOX	FURNISH AND INSTALL NO. 6E FIBER OPTIC PULL BOX	FURNISH AND INSTALL SPLICE VAULT	FURNISH AND INSTALL FIBER OPTIC SPLICE CLOSURE	FURNISH AND INSTALL 332LS HUB CABINET	FURNISH AND INSTALL POWER DISTRIBUTION UNIT	FURNISH AND INSTALL 12-STRAND FIBER DISTRIBUTION UNIT	FURNISH AND INSTALL 20A CIRCUIT BREAKER	FURNISH AND INSTALL FIBER PATCH CORDS	FURNISH AND INSTALL ETHERNET SWITCH (HUB CABINETS)	FURNISH AND INSTALL ETHERNET SWITCH (TELECOM ROOM)	FURNISH AND INSTALL 10GBPS FIBER TRANSCEIVER	FURNISH AND INSTALL 10GBPS FIBER TRANSCEIVER	FURNISH AND INSTALL 144-STRAND FIBER DISTRIBUTION UNIT	FURNISH AND INSTALL CELLULAR GATEWAY	FURNISH AND INSTALL NEMA 3R ENCLOSURE (20"X24"X18")	FURNISH AND INSTALL 2" INDOOR CONDUIT	FURNISH AND INSTALL CONDUIT CLAMP ASSEMBLY	FURNISH AND INSTALL CONDUIT HANGER	FURNISH AND INSTALL CORRUGATED FLEXIBLE CONDUIT	FURNISH AND INSTALL RACK CABLE ASSEMBLY	FURNISH AND INSTALL UNINTERRUPTIBLE POWER SUPPLY ASSEMBLY	FURNISH AND INSTALL EXTERNAL BATTERIES	FURNISH AND INSTALL TYPE 2 SURGE PROTECTION	FURNISH AND INSTALL CENTRAL MANAGEMENT SYSTEM			
	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	EA	EA	LF	EA	EA	EA	EA	LS		
SIC-1			2100	275	750	2910	2850	8360	900			3	2	2			1		2																			
SIC-2	35		4050	450	275	5434	4800	18040		90	1	6	2	1	1	2	3	1	28	2		25	7	2	1								2	4	1			
SIC-3	50	565	2100	525	725	3159	2400	11880		160	1	4	4	1	1	2	3	1	15	2		14	4	1	1								2	4	1			
TELECOM ROOM AND CITY HALL	50		250	100		655	200	800				1	1				1		21		1	17	4	1		1	80	22	3	75	2	2			1			
TOTAL	135	565	8500	1350	1750	12158	10250	39080	900	250	2	14	9	4	2	4	8	2	66	4	1	56	15	4	2	1	80	22	3	75	2	6	8	2		1		

SHEET NO.	FURNISH AND INSTALL 332LS CABINET	FURNISH AND INSTALL BATTERY BACKUP SYSTEM AND ENCLOSURE AND FOUNDATION	FURNISH AND INSTALL 2070LX CONTROLLER WITH OMNI SOFTWARE OR APPROVED EQUAL	FURNISH AND INSTALL SIGN ON SIGNAL STANDARD	FURNISH AND INSTALL 12X3 SIGNAL HEAD WITH YELLOWRETRO REFLECTIVE BORDER	FURNISH AND INSTALL SIGNAL HEAD MOUNT	FURNISH AND INSTALL YELLOWRETRO REFLECTIVE BORDER TAPE ON EXISTING SIGNAL BACKPLATE	FURNISH AND INSTALL EMERGENCY VEHICLE PRE-EMPTION DEVICE	FURNISH AND INSTALL INTEGRATED RADIO AND MOUNTING	FURNISH AND INSTALL INTEGRATED RADIO, OMNI-DIRECTIONAL ANTENNAS, AND MOUNTING	FURNISH AND INSTALL POWER OVER ETHERNET CABLE	FURNISH AND INSTALL SURGE PROTECTOR POWER STRIP	FURNISH AND INSTALL ETHERNET SWITCH (TRAFFIC SIGNAL CABINET)	REMOVE EXISTING SIGN MOUNTED ON MAST ARM	REMOVE EXISTING SIGNAL CABINET	REMOVE EXISTING BATTERY BACKUP SYSTEM	REMOVE EXISTING CONTROLLER	REMOVE SIGNAL HEAD	REMOVE SIGNAL HEAD MOUNT	REMOVE EMERGENCY VEHICLE PRE-EMPTION DEVICE
	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA
TS-2	1		1												1		1			
TS-4			1	4					1		245	1	1	4			1			
TS-6			1						1		290	1	1				1			
TS-8	1		1							1	75	1	1		1		1			
TS-10	1		1	2						1	210	1	1	2	1		1			
TS-12	1		1							1	160	1	1		1		1			
TS-14			1						1		70	1	1				1			
TS-16	1		1							1	165	1	1		1		1			
TS-18			1							1	155	1	1				1			
TS-20	1		1	1					1		125	1	1	1	1		1			
TS-22	1	1	1						1		205	1	1		1	1	1			
TS-24	1	1	1							1	275	1	1		1	1	1			
TS-26	1		1						1		175	1	1		1		1			
TS-28	1		1							1	155	1	1		1		1			
TS-30			1		7	2	13			1	155	1	1				1	7	2	
TS-32			1							1	75	1	1				1			
TS-34	1		1		2	2	10			1	155	1	1		1		1	2	2	
TS-36			1		3		17			1	65	1	1				1	3		
TS-38	1		1							1	165	1	1		1		1			
TS-40	1		1		4	2	14		1		145	1	1		1		1	4	2	
TS-42	1		1							1	80	1	1		1		1			
TS-44	1		1							1	160	1	1		1		1			
TS-46					14	6	2	2		1	65	1	1					14	6	2
TS-48					8	5	6			1	185	1	1					8	5	
TS-50	1		1		4	4	12			1	140	1	1		1		1	4	4	
TS-52	1		1										1		1		1			
TS-54	1		1						1		255	1	1		1		1			
TS-56										1	75	1	1							
TS-58	1		1		1		19			1	200	1	1		1		1	1		
TS-60	1		1							1	250	1	1		1		1			
TS-62	1		1		4	4	14			1	150	1	1		1		1	4	4	
TS-64	1		1										1		1		1			
TS-66			</																	

BID ALTERNATE 1 - QUANTITIES		
ITEM	UNIT	QUANTITY
FURNISH AND INSTALL 4" CONDUIT	LF	8500
FURNISH AND INSTALL PULL TAPE	LF	10000
FURNISH AND INSTALL SPLICE VAULT	EA	36

1. SEE BID ALTERNATE 1 NOTES ON SHEET SIC-1 FOR
DETAILS OF INSTALLATION



DATE SIGNED: 01/19/2024

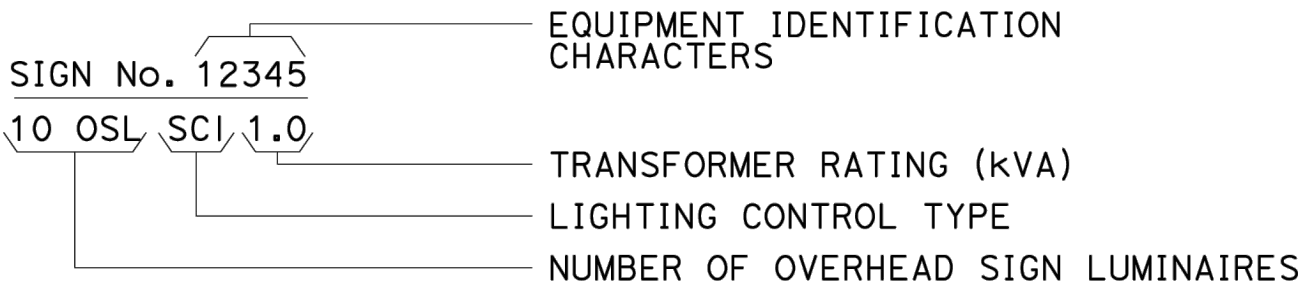
QUANTITY TABLE

TRAFFIC SIGNAL AND FIBER OPTIC CABLE SYSTEMS

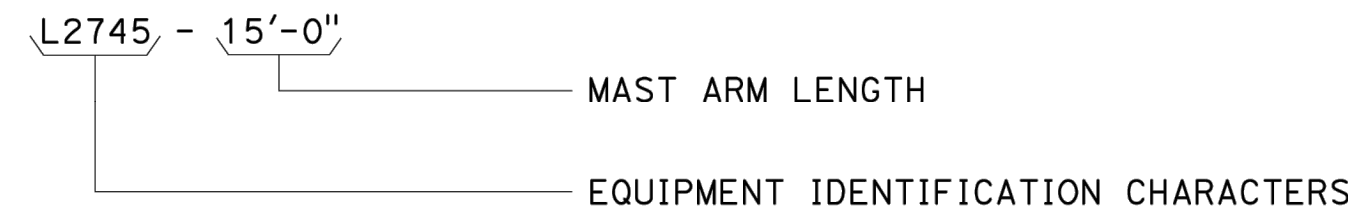
SHEET 112 OF 117

EQUIPMENT DESIGNATION

SIGN:



LIGHTING STANDARD, SIGNAL AND LIGHTING STANDARD:



SOFFIT:

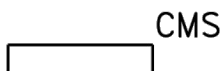
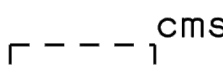
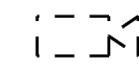
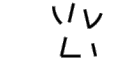
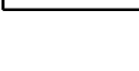
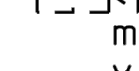
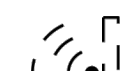


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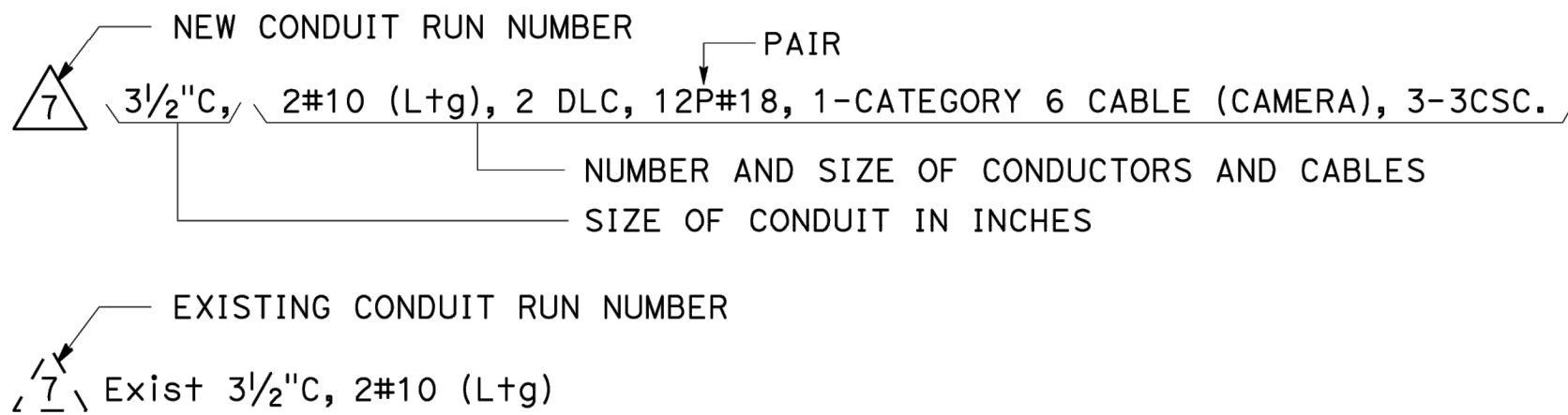
EXISTING EQUIPMENT IDENTIFICATION CHARACTERS ARE SHOWN IN PARENTHESIS

NEW	EXISTING	DESCRIPTION
(B)	(b)	POLE, POST OR STANDARD DESIGNATION

MISCELLANEOUS EQUIPMENT

NEW	EXISTING	DESCRIPTION
		CHANGEABLE MESSAGE SIGN
		CAMERA
		HIGHWAY ADVISORY RADIO POLE AND ANTENNA
		EXTINGUISHABLE MESSAGE SIGN
		DETECTION DEVICE M = MICROWAVE SENSOR V = VIDEO DETECTION SENSOR
		RADAR SPEED FEEDBACK SIGN

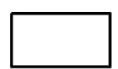
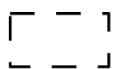
CONDUIT AND CONDUCTORS

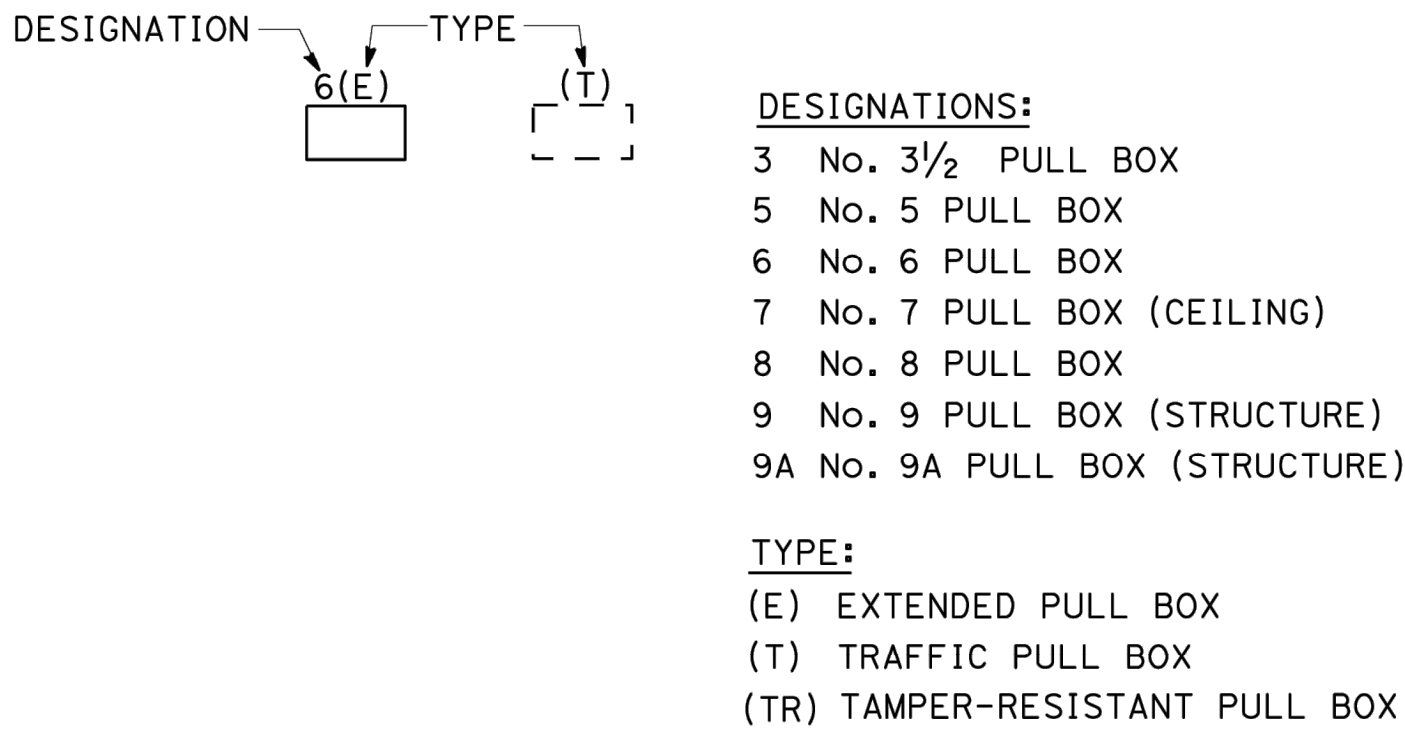


WIRING COMPONENTS

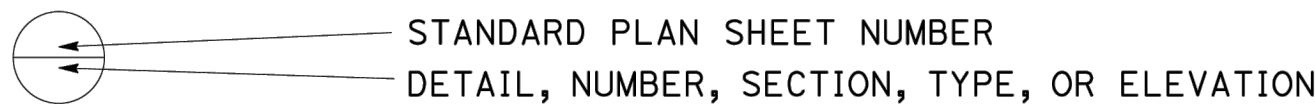
SYMBOL	DESCRIPTION
— —	EXTERNAL CONDUCTOR
— —	CONDUCTOR OR BUS
— • —	TIE POINT
— / —	CONTACTOR COIL
— —	CONTACTOR, NO CONTACT
⊗	TERMINAL BLOCKS
— / —	CONTACTOR, NC CONTACT
— / —	ENCLOSURE BOND
— / —	GROUNDING ELECTRODE
— / —	CIRCUIT BREAKER
Ⓜ	RECEPTACLE

HANDHOLES, PULL BOXES, AND VAULTS

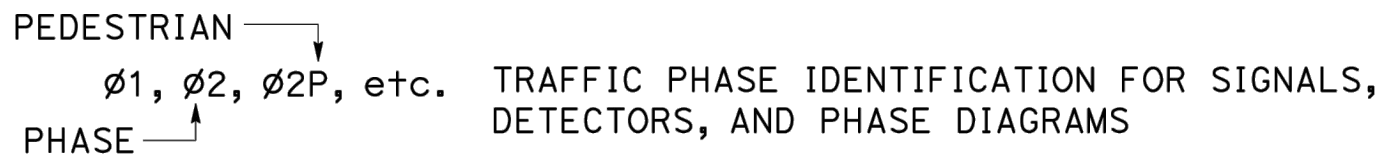
NEW	EXISTING	DESCRIPTION
		DETECTOR HANDHOLE
		PULL BOX, No. 5 UNLESS OTHERWISE INDICATED
		VAULT



DETAILS



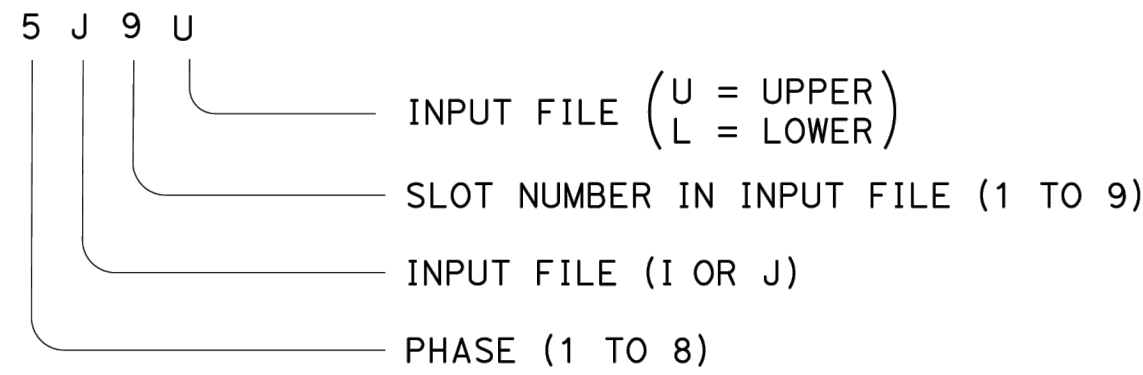
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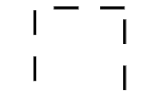
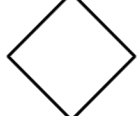
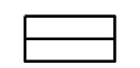
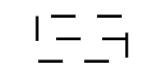
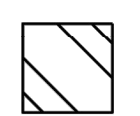
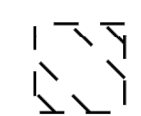
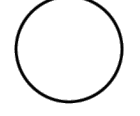
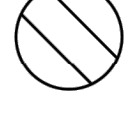
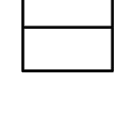
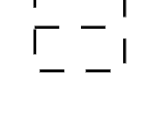
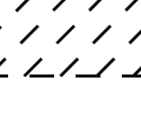
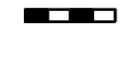
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
Omar Mendoza			REGISTERED ELECTRICAL ENGINEER		
January 22, 2024			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.			Omar Mendoza No. E17982 Exp. 12-31-24 ELECTRICAL STATE OF CALIFORNIA		

TO ACCOMPANY PLANS DATED _____

VEHICLE DETECTOR DESIGNATION



DETECTORS

NEW	EXISTING	DESCRIPTION
		TYPE A LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE B LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE C LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE D LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE E LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE F LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE Q LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		MICROWAVE OR VIDEO DETECTION ZONE
		ROADWAY SENSOR, PIEZOELECTRIC AXLE SENSOR UNLESS OTHERWISE INDICATED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND)

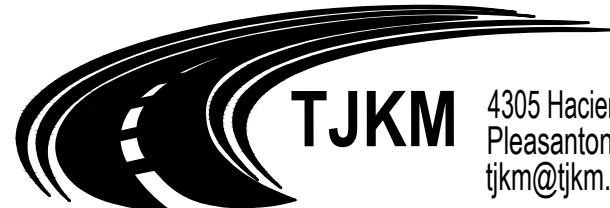
NO SCALE

RSP ES-1C DATED JANUARY 22, 2024 SUPERSEDES STANDARD PLAN ES-1C
DATED MAY 1, 2023 - PAGE 519 OF THE STANDARD PLANS BOOK DATED 2023.

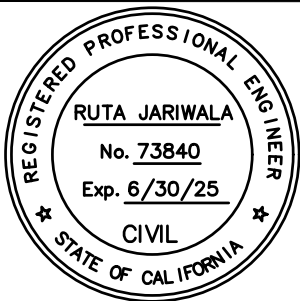
REVISED STANDARD PLAN RSP ES-1C

10-11-23

REV	DATE	DESCRIPTION	BY



4305 Hacienda Drive, Suite 550
Pleasanton, CA 94588
tjkm@tjkm.com



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 02/01/2024
PROJECT NO: 103-029

STANDARD DETAILS - SHEET 1

DT-1

SHEET 113 OF 117

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

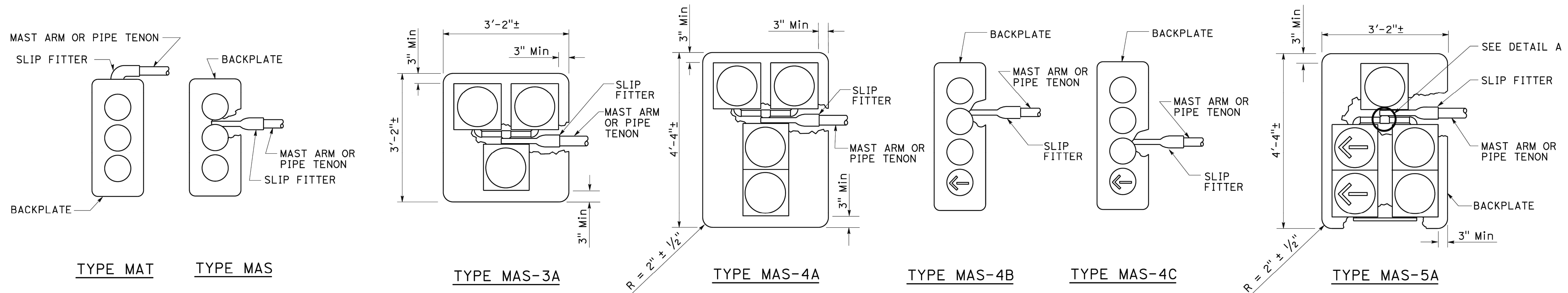
Omar Mendoza
REGISTERED ELECTRICAL ENGINEER

January 22, 2024
PLANS APPROVAL DATE

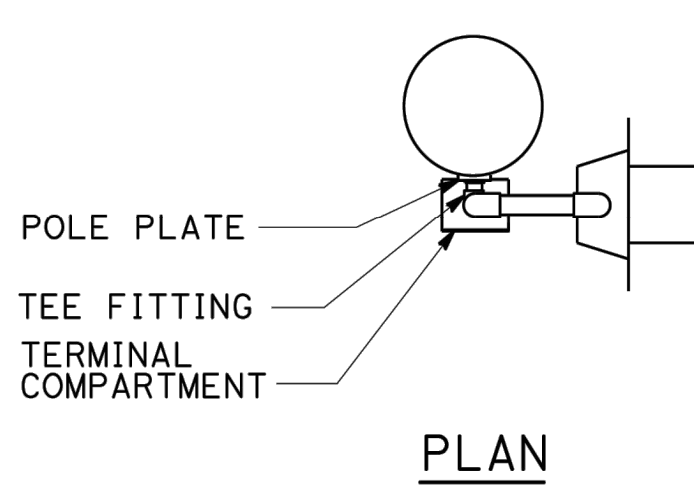
THE STATE OF CALIFORNIA OR ITS OFFICERS
OR AGENTS SHALL NOT BE RESPONSIBLE FOR
THE ACCURACY OR COMPLETENESS OF SCANNED
COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
Omar Mendoza
No. E17982
Exp. 12-31-24
ELECTRICAL
STATE OF CALIFORNIA

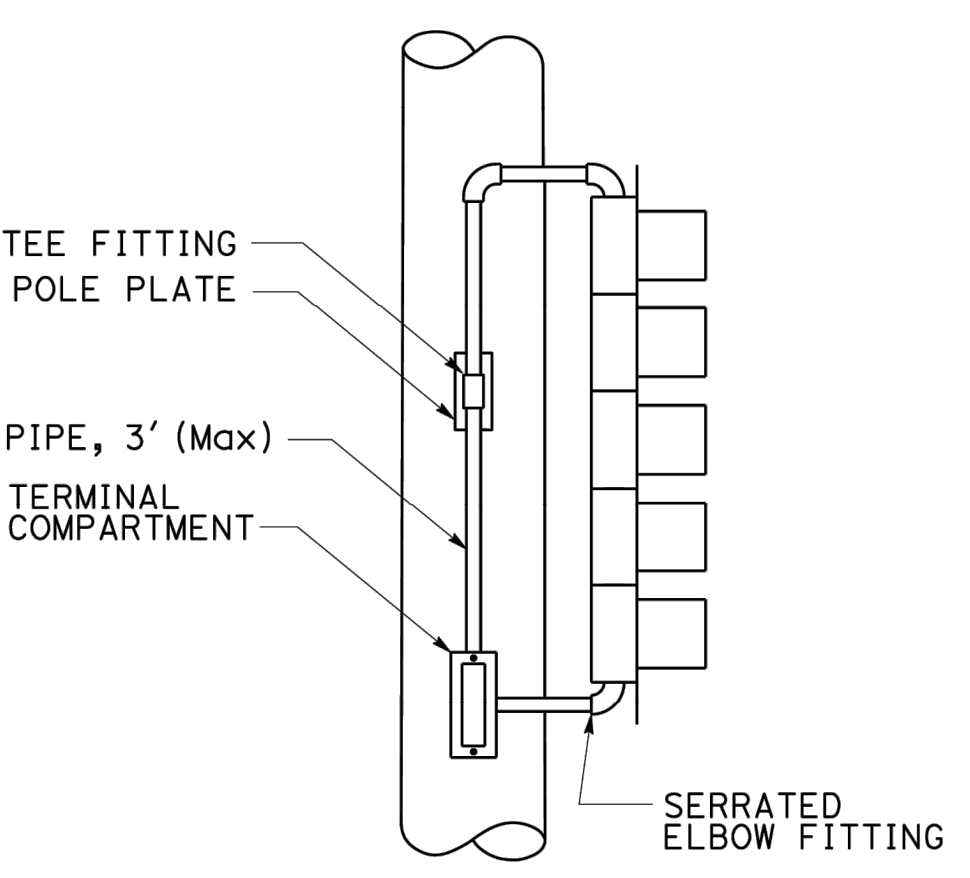
TO ACCOMPANY PLANS DATED _____



MAST ARM MOUNTINGS

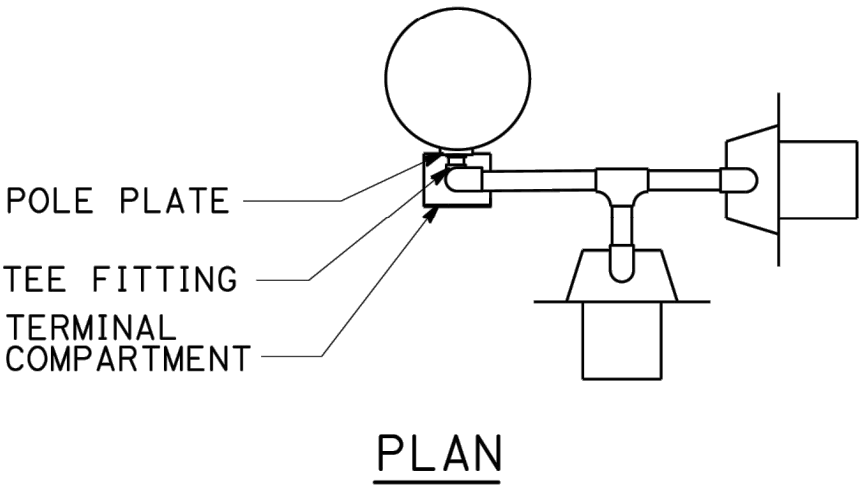


PLAN

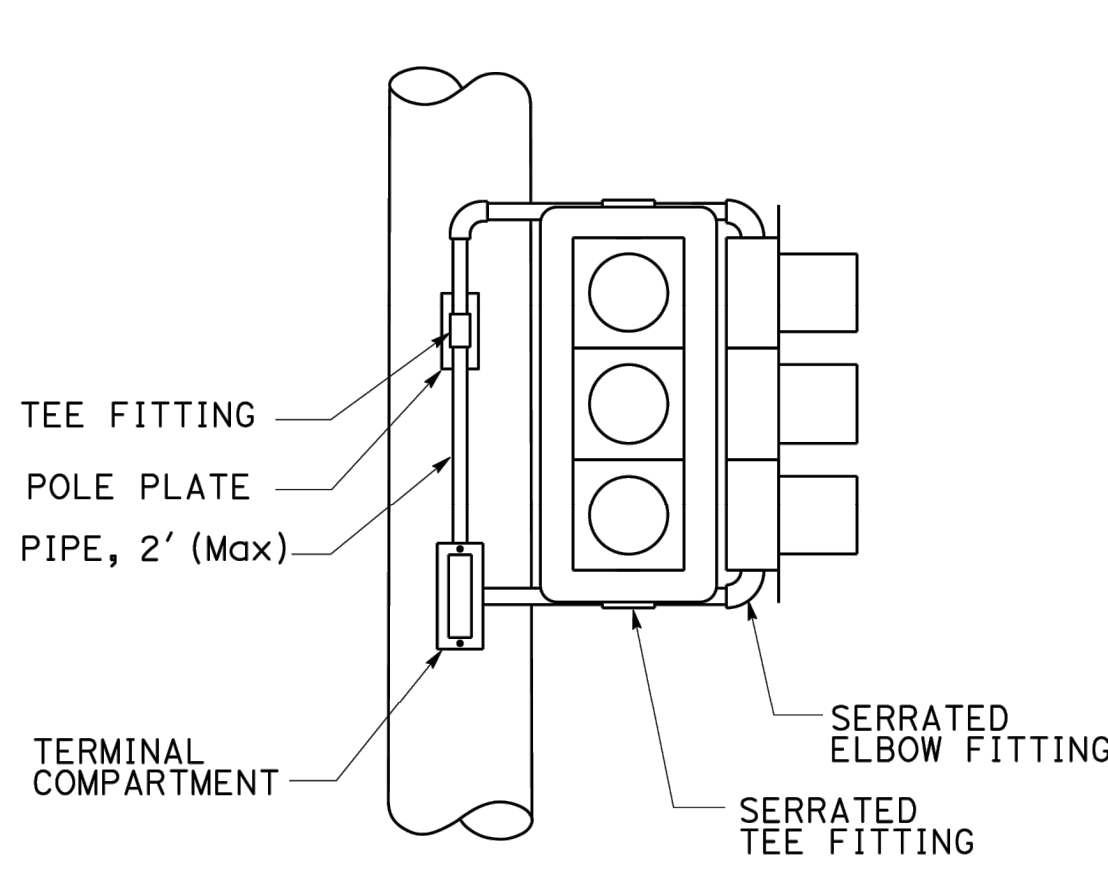


SIDE VIEW

SV-1-T WITH 5 SIGNAL SECTIONS

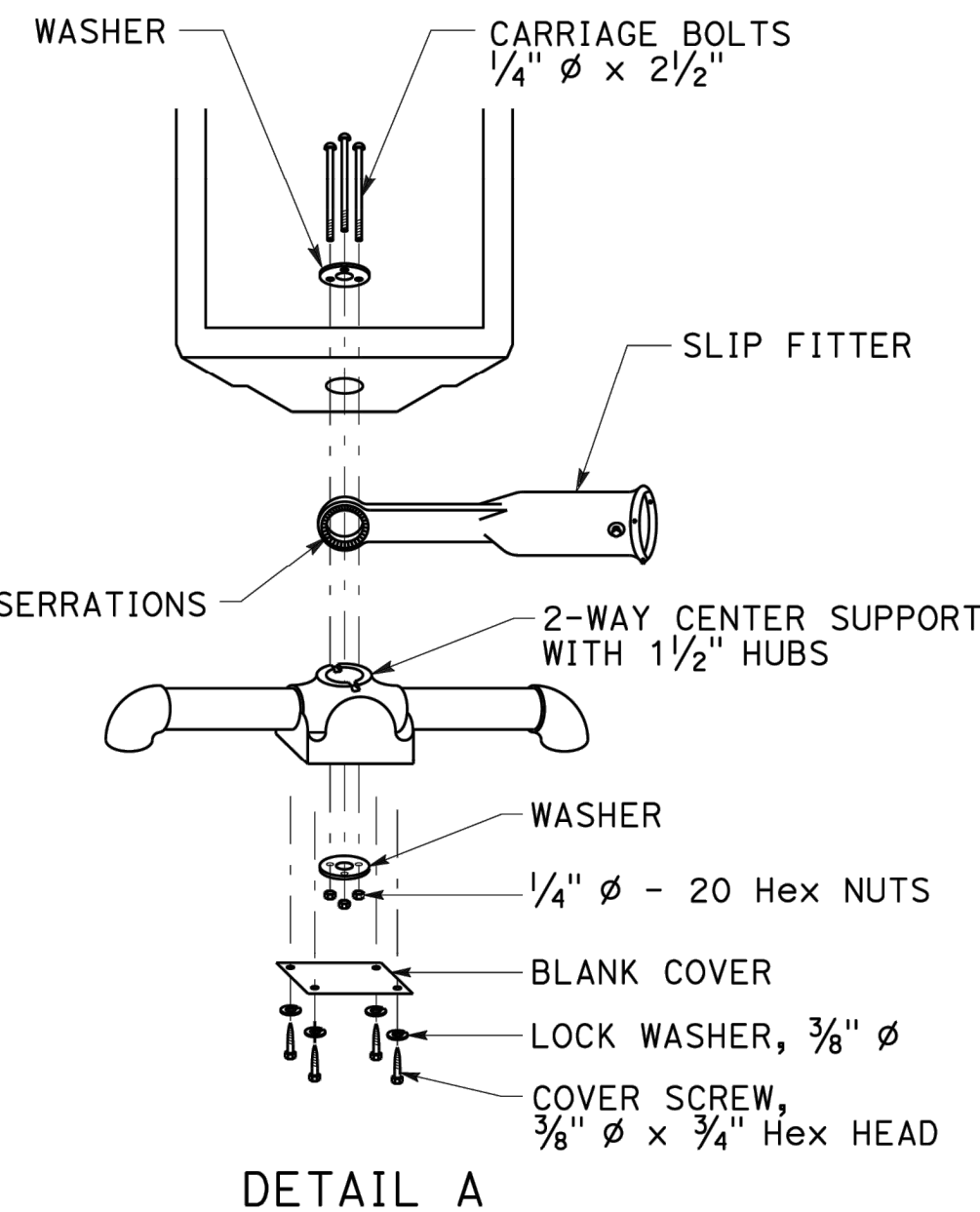


PLAN



SIDE VIEW

SV-2-TD



DETAIL A

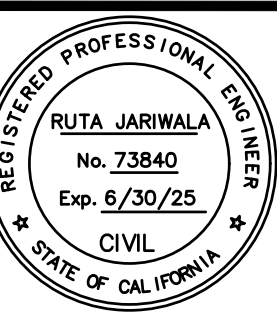
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(SIGNAL HEADS)**
NO SCALE

RSP ES-4E DATED JANUARY 22, 2024 SUPERSEDES STANDARD PLAN ES-4E
DATED MAY 1, 2023 - PAGE 540 OF THE STANDARD PLANS BOOK DATED 2023.

REVISED STANDARD PLAN RSP ES-4E

2023 REVISED STANDARD PLAN RSP ES-4E

REV	DATE	DESCRIPTION	BY



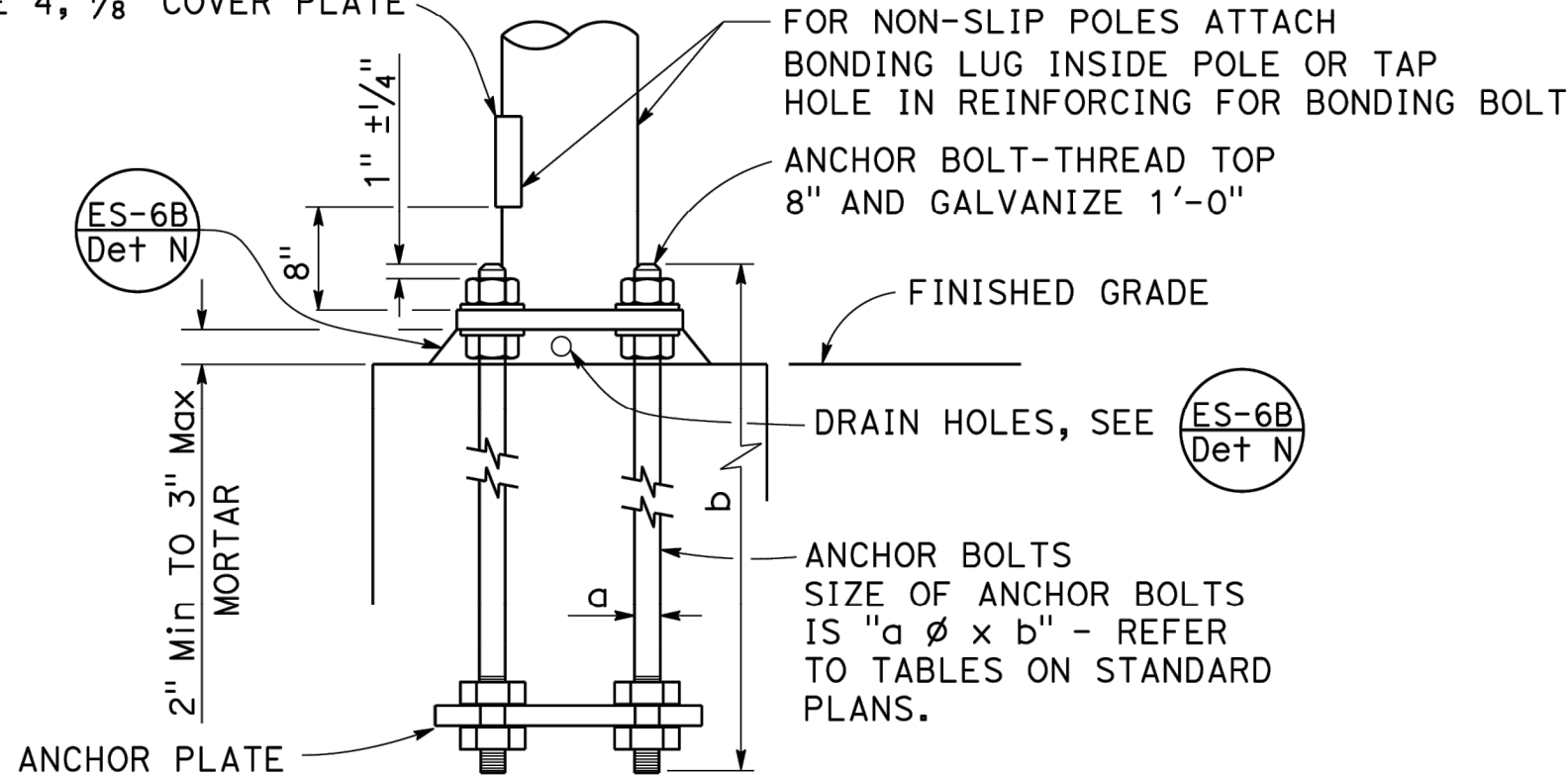
DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 02/01/2024
PROJECT NO: 103-029

STANDARD DETAILS - SHEET 2

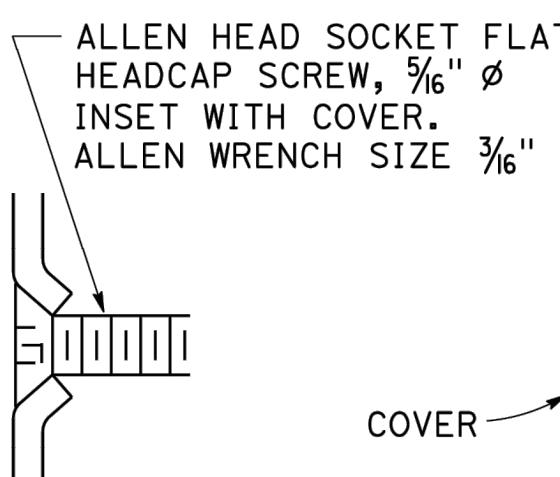
DT-2
SHEET 114 OF 117

4" x 6½" ROUNDED RECTANGLE OR 4½" x 7" OVAL HANDHOLE
REINFORCED WITH RING WELDED TO OUTSIDE OF POLE.
SEE NOTE 4, ⅛" COVER PLATE



HANDHOLE AND ANCHORAGE

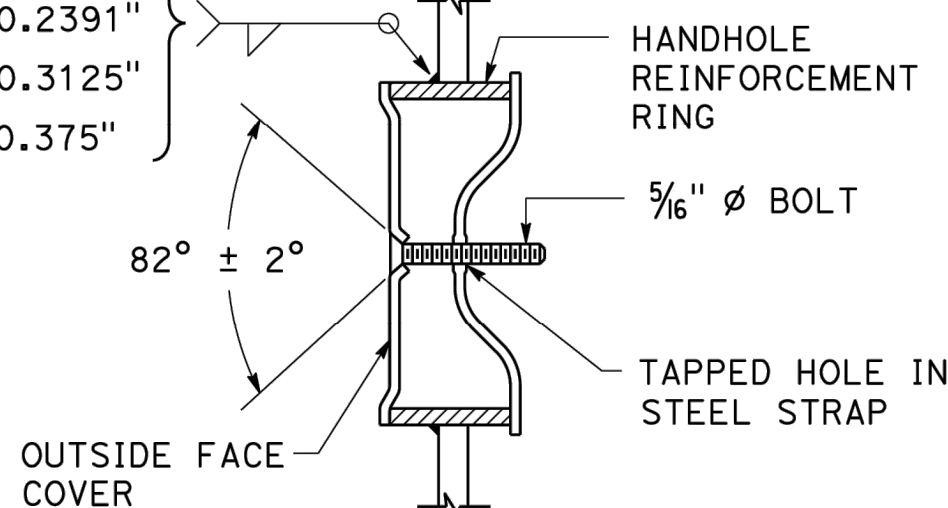
DETAIL A



TYPICAL DETAIL

DETAIL B-1

WELD SIZE	WALL THICKNESS
3/16"	0.1196"
1/4"	0.1793"
5/16"	0.2391"
3/8"	0.3125"
7/16"	0.375"

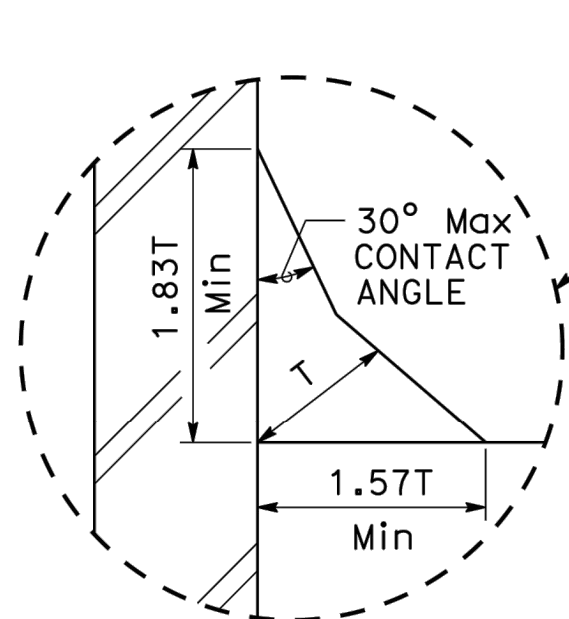


ALTERNATIVE DETAIL

DETAIL B-2

TAMPER RESISTANT HANDHOLE COVER

DETAIL B

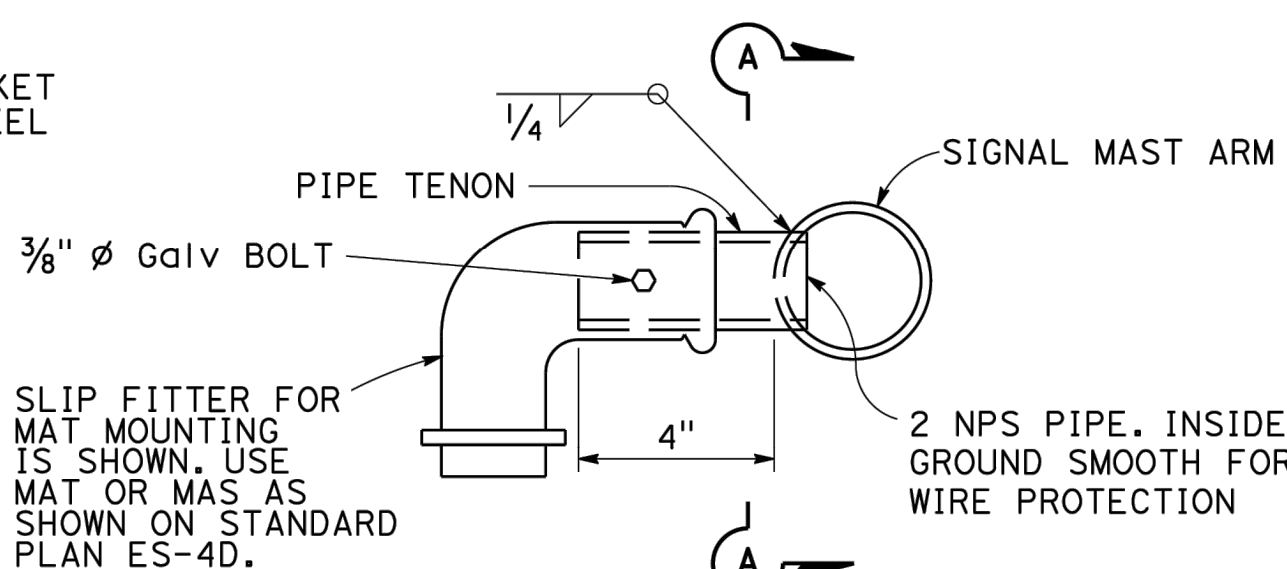


DETAIL F

Fatigue resistant weld
at socket type connection
see Elevation A for inner weld

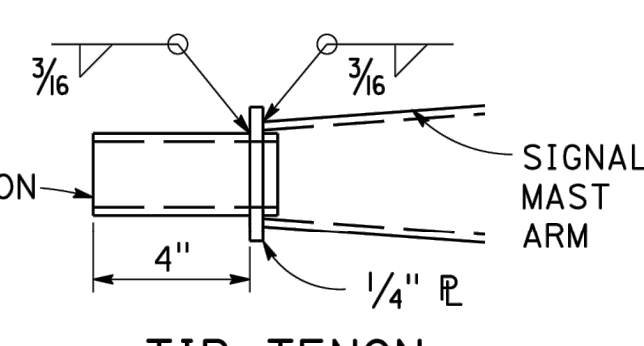
T = WALL THICKNESS

WHEN POLE THICKNESS IS
LESS THAN 3/16", USE 3/16"
FOR WELD SIZE CALCULATIONS



SIDE TENON

DETAIL S-1



TIP TENON

DETAIL TL

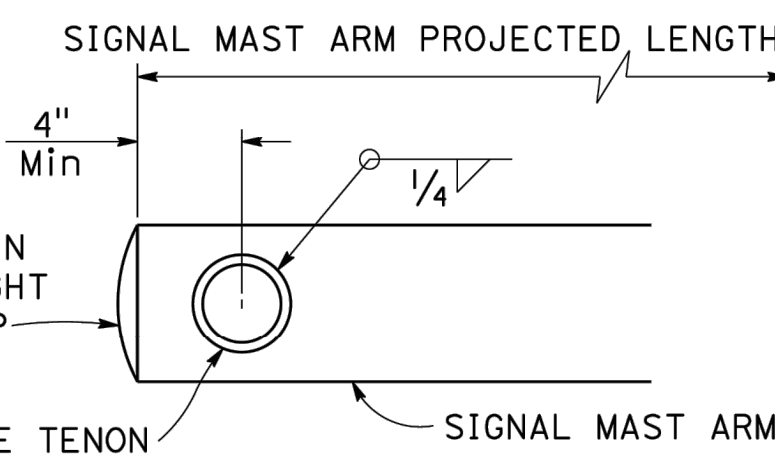
This detail supersedes
Detail S when so designated

IDENTIFICATION NUMBER

1. Attach a stamped metal tag with pole's identification number above the handhole. ¼" high number, minimum.
2. Attach a stamped metal tag with mast arm's identification number to the bottom of the signal mast arm near the pole plate. ¼" high number, minimum.

Type
Load case (Use SL for special load case)
Design wind velocity (mph)
Signal mast arm length (ft)
Standard plan year
Near handhole: Maximum signal mast arm length
Near pole plate: Installed signal mast arm length
Only for poles or mast arms using Detail F
Only for poles or mast arms using standard Plan ES-70

SAMPLE IDENTIFICATION NUMBER



SECTION A-A

PIPE TENONS

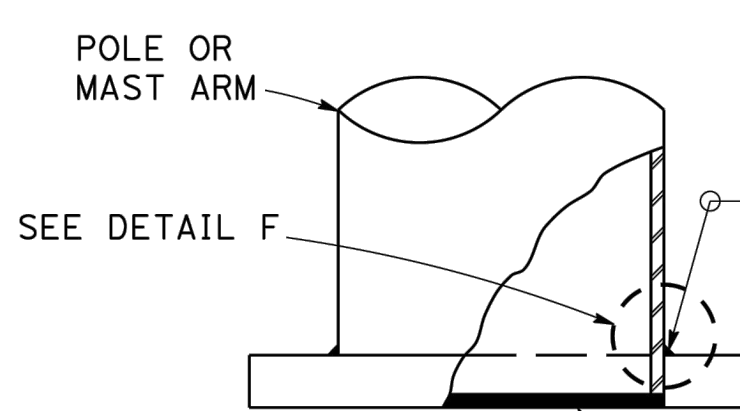
DETAIL S

WELD SIZE	WALL THICKNESS
1/8"	0.1196"
3/16"	0.1793"
1/4"	0.2391"

2 NPS PIPE, CHASED
FOR WIRE PROTECTION
SEE NOTE 2

TIP TENON

DETAIL TS



ELEVATION A

WELD SIZE	WALL THICKNESS
1/4"	0.1196"
3/16"	0.1793"
3/8"	0.2391"
1/2"	0.3125"
1/8"	0.1196"
3/16"	0.1793"
1/4"	0.2391"
5/16"	0.3125"

NOTES:

1. Provide a Hex nut, leveling nut and 2 washers for each bolt.
2. Luminaire mast arms shall be round, tapered steel tubes, taper of 0.1375" to 0.143-inch per foot with an end section 2 3/8" OD for mounting hardware. Extensions of 2 NPS Standard pipe and 7" long may be used at the option of the manufacturer. When low pressure sodium luminaires are required, the extension shall be 1'-3".
3. Signal mast arms shall be round, tapered steel tubes, maximum taper 0.143-inch per foot.
4. Handhole reinforcement ring shall be ¼" x 2" for 0.1196" to 0.2391" thick poles, 3/8" x 2" for 0.3125" to 0.375" thick poles.
5. Handholes shall be located on the downstream side of traffic.
6. Detail F, fatigue resistant weld, is required at socket welded signal mast arm plate and pole base plate.
7. Cap screws shall be tightened by the turn-of-nut method 1/3 turn from a snug tight condition. No washer will be required.
8. Outside diameter, wall thickness, and corresponding section properties of poles and mast arms as shown in the Standard Plans are minimums. Unless otherwise specified, alternative sections shall require approval by the Engineer.
9. Design: AASHTO Standard Specifications for Structural Support for Highway Signs, Luminaires, and Traffic Signals, 6th Edition. Basic Wind Speed = 100 mph (3 seconds gust). Yearly Mean Wind Velocity = 15.6 mph.
10. Materials (Structural steel):
fy = 55,000 psi (tapered steel tube and anchor bolts)
fy = 50,000 psi (unless otherwise noted)
11. Materials (Reinforced concrete):
f'c = 3,625 psi
fy = 60,000 psi
12. End of luminaire arm may be swaged down to 2 3/8" outside diameter.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD, DETAIL No. 1)

NO SCALE

RSP ES-7M DATED JANUARY 22, 2024 SUPERSEDES STANDARD PLAN ES-7M
DATED MAY 1, 2023 - PAGE 563 OF THE STANDARD PLANS BOOK DATED 2023.

REVISED STANDARD PLAN RSP ES-7M

2023 REVISED STANDARD PLAN RSP ES-7M

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
Stanley P. Johnson REGISTERED CIVIL ENGINEER			January 22, 2024 PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.			Stanley P. Johnson No. C57793 Exp. 3-31-24 CIVIL STATE OF CALIFORNIA		

TO ACCOMPANY PLANS DATED _____

REV	DATE	DESCRIPTION	BY



4305 Hacienda Drive, Suite 550
Pleasanton, CA 94588
tjkm@tjkm.com



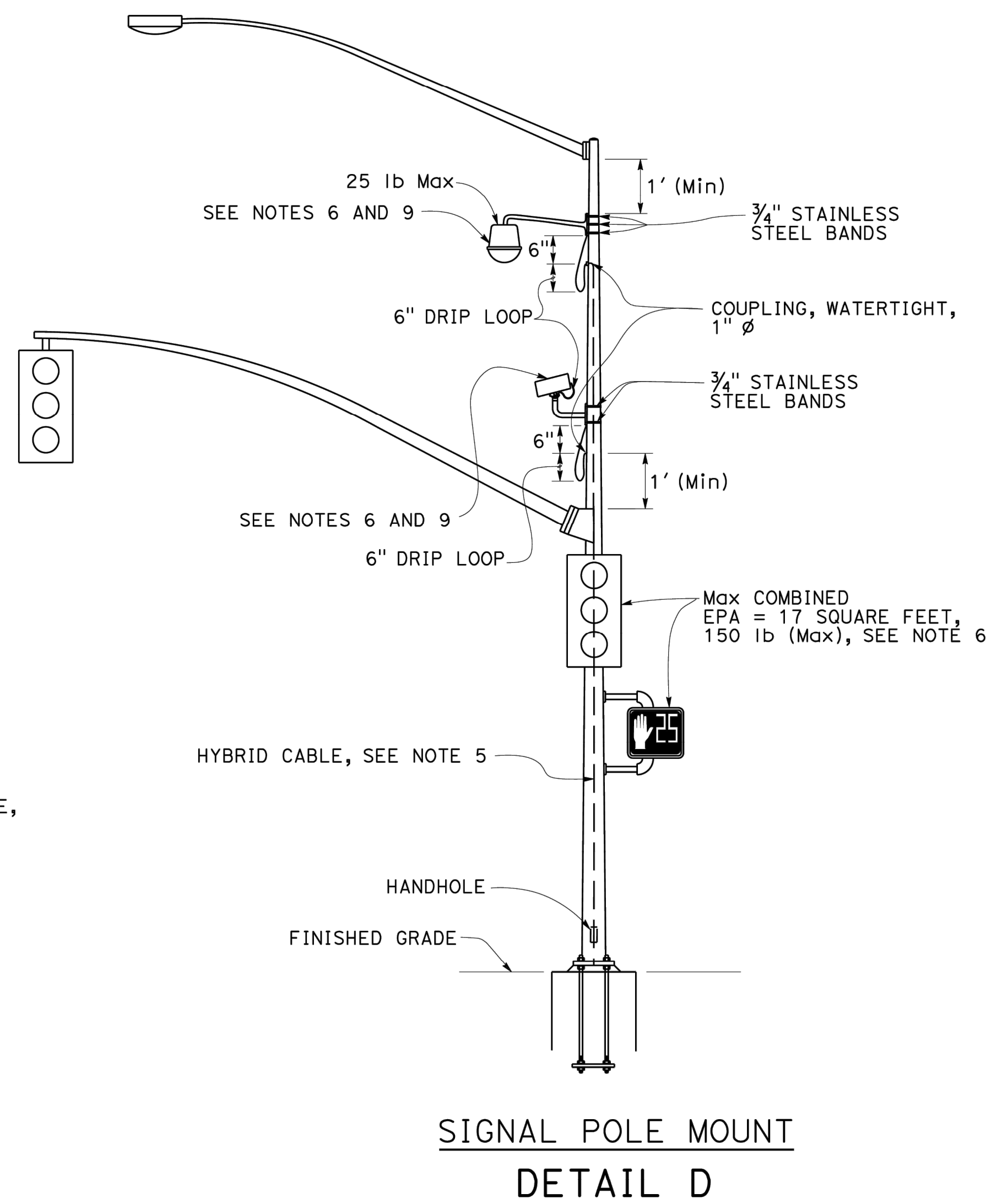
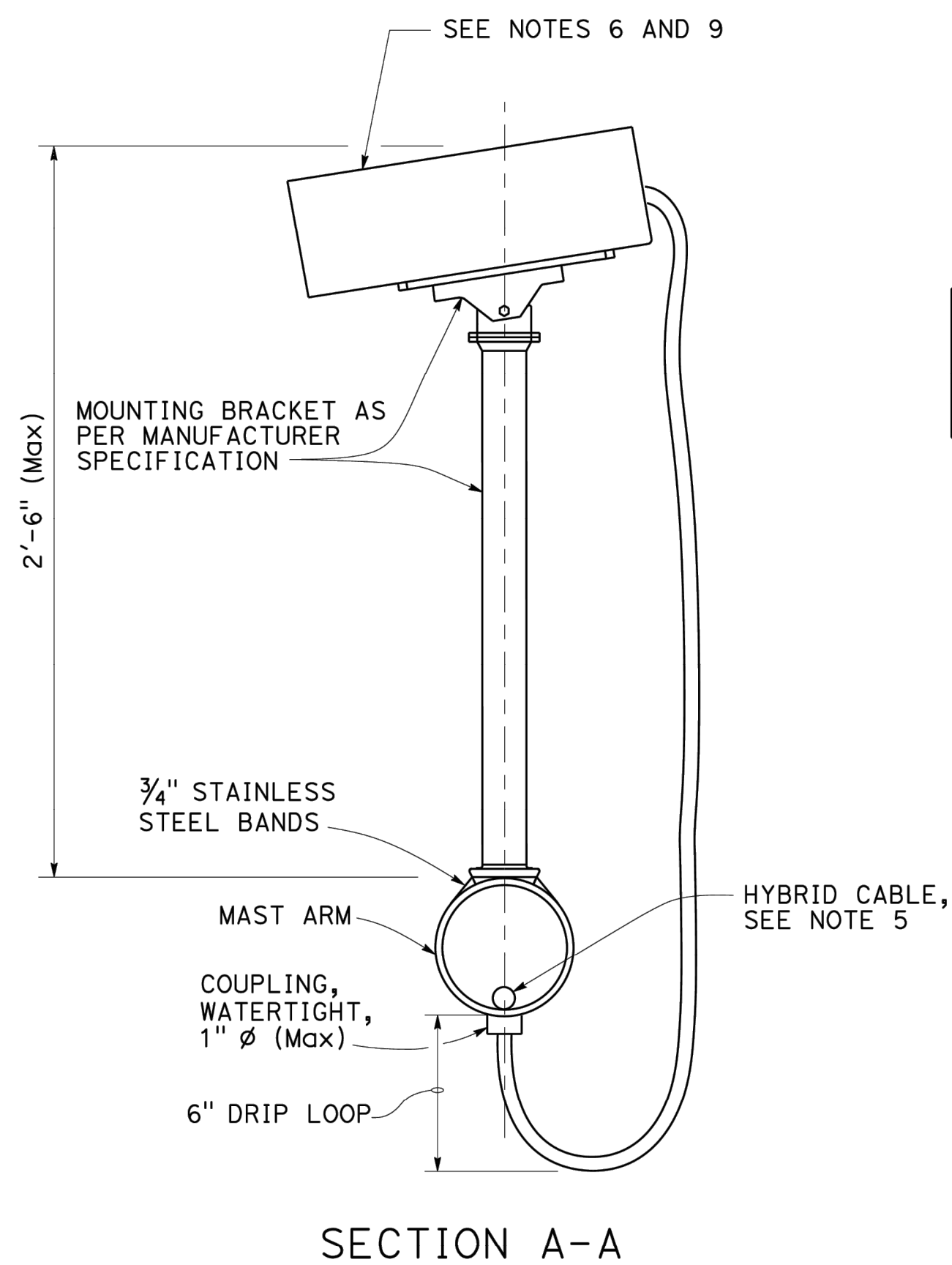
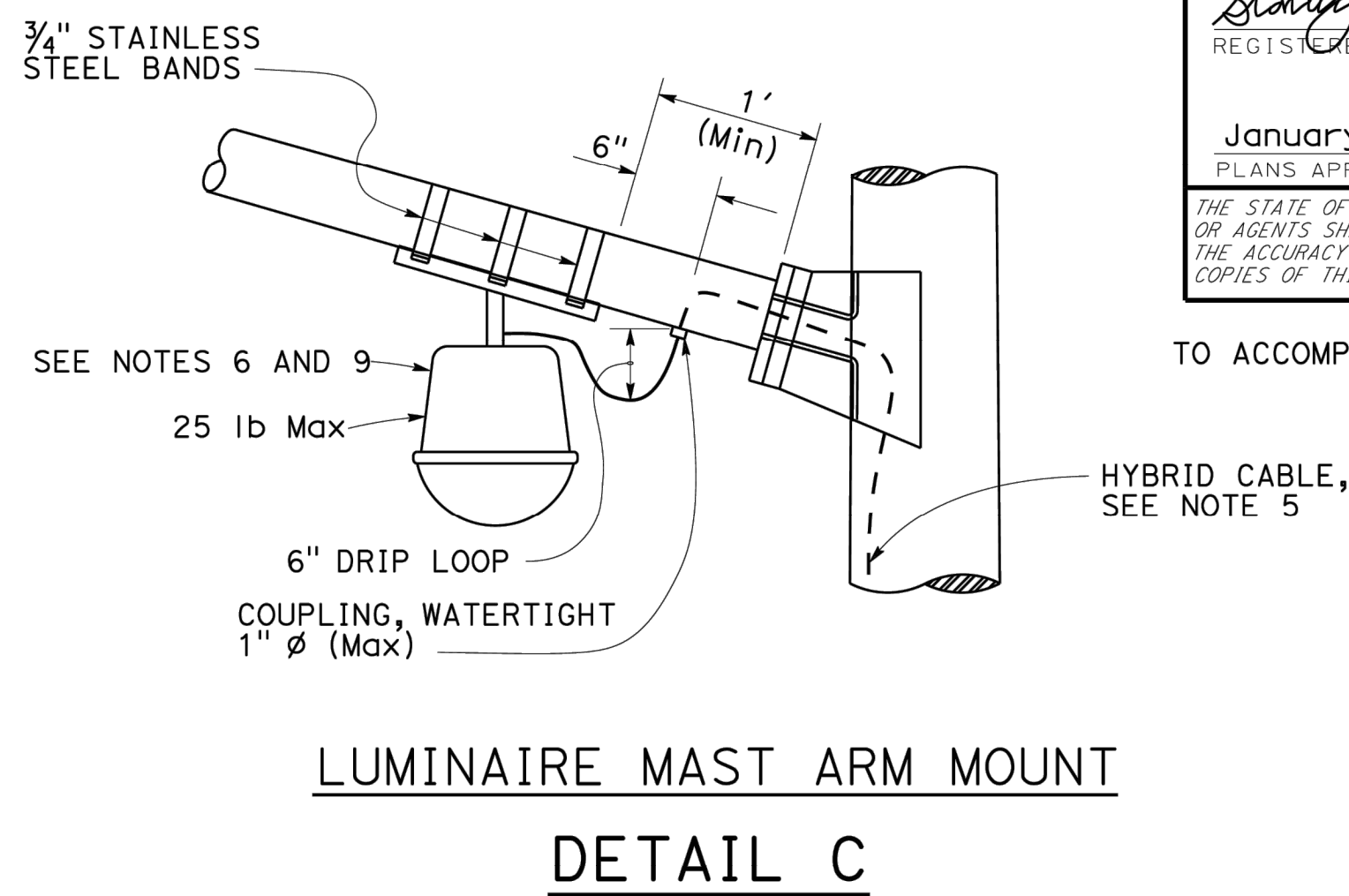
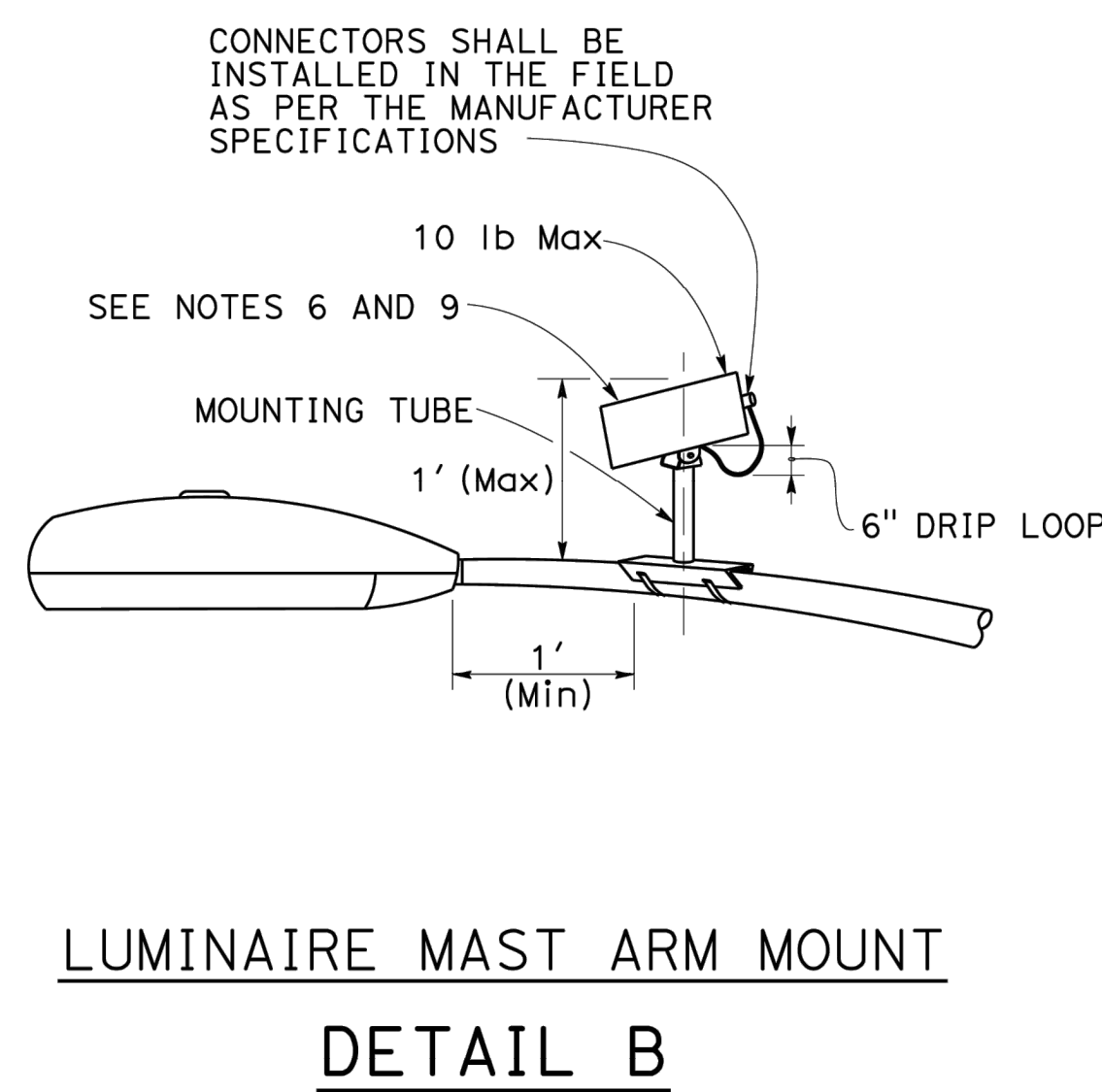
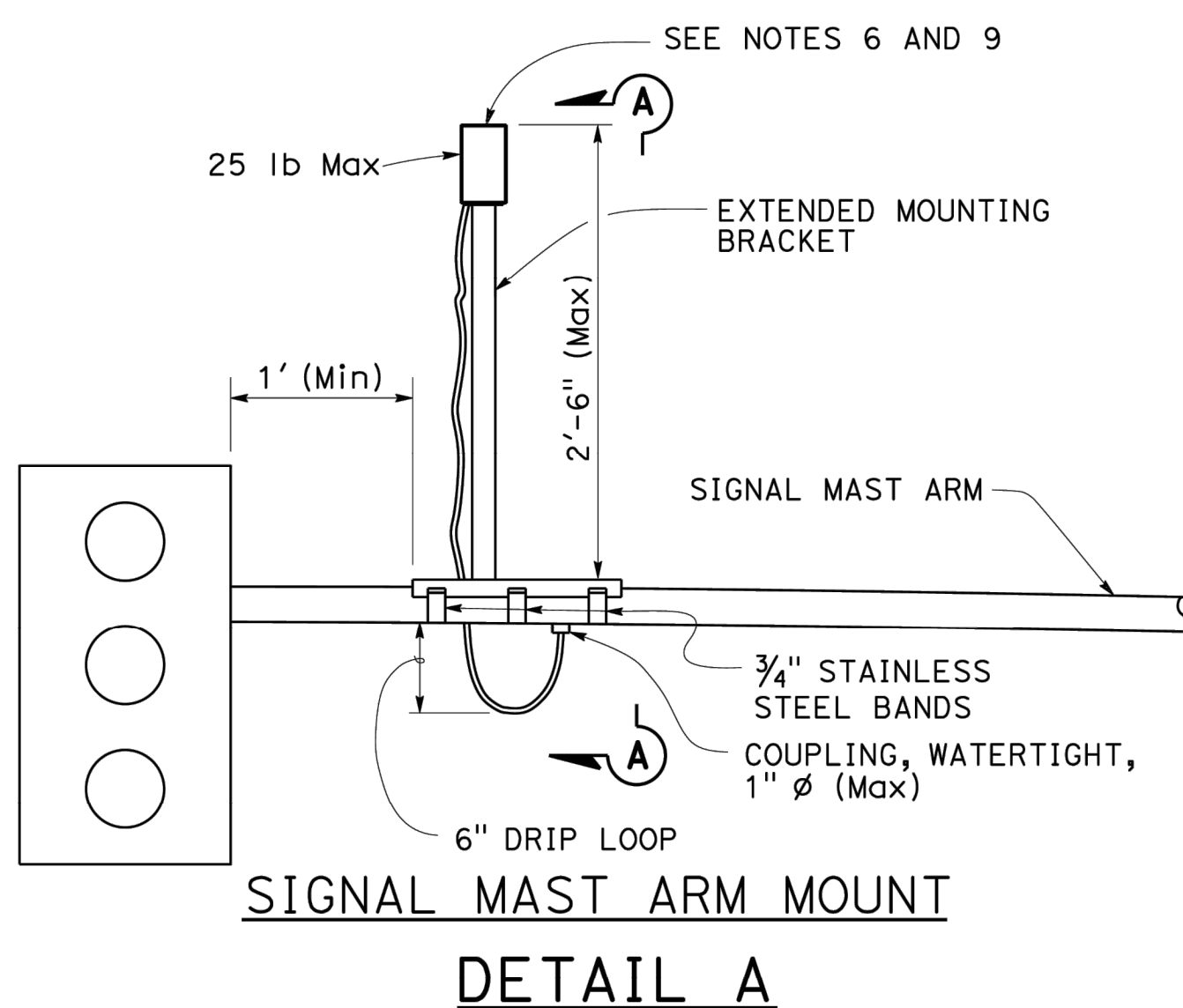
DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 02/01/2024
PROJECT NO: 103-029

STANDARD DETAILS - SHEET 3

DT-3

SHEET 115 OF 117



NOTES:

- Exact mounting location of miscellaneous attachment and bracket shall be approved by the Engineer per manufacturer's recommendation.
- Location of cable entrances on signal pole shall be a minimum of 1' from any flange or base plate.
- Hybrid cable entrances on signal pole shall be drilled for weathertight coupling as required.
- Hybrid cable shall have a drip loop at the entrance into signal pole, luminaire mast arm and signal mast arm.
- A single hybrid cable shall run continuous and shall not be twisted from the miscellaneous attachment to the controller cabinet. No splices shall be allowed.
- Use the manufacturer's Effective Projected Area (EPA) for miscellaneous attachment. The maximum EPA for each miscellaneous attachment shall be 1.6 square feet.
- Maximum of two miscellaneous attachments per traffic signal standard.
- Maximum of one miscellaneous attachment per mast arm.
- Miscellaneous attachment shall be mounted using clamping devices.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING,
MISCELLANEOUS ATTACHMENT)**

NO SCALE

RSP ES-7R DATED JANUARY 22, 2024 SUPERSEDES STANDARD PLAN ES-7R
DATED MAY 1, 2023 - PAGE 567 OF THE STANDARD PLANS BOOK DATED 2023.

REVISED STANDARD PLAN RSP ES-7R

2023 REVISED STANDARD PLAN RSP ES-7R

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
Stanley P. Johnson REGISTERED CIVIL ENGINEER					
January 22, 2024 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
Stanley P. Johnson No. C57793 Exp. 3-31-24 CIVIL STATE OF CALIFORNIA					

TO ACCOMPANY PLANS DATED _____

REV	DATE	DESCRIPTION	BY



4305 Hacienda Drive, Suite 550
Pleasanton, CA 94588
tjkm@tjkm.com



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 02/01/2024
PROJECT NO: 103-029

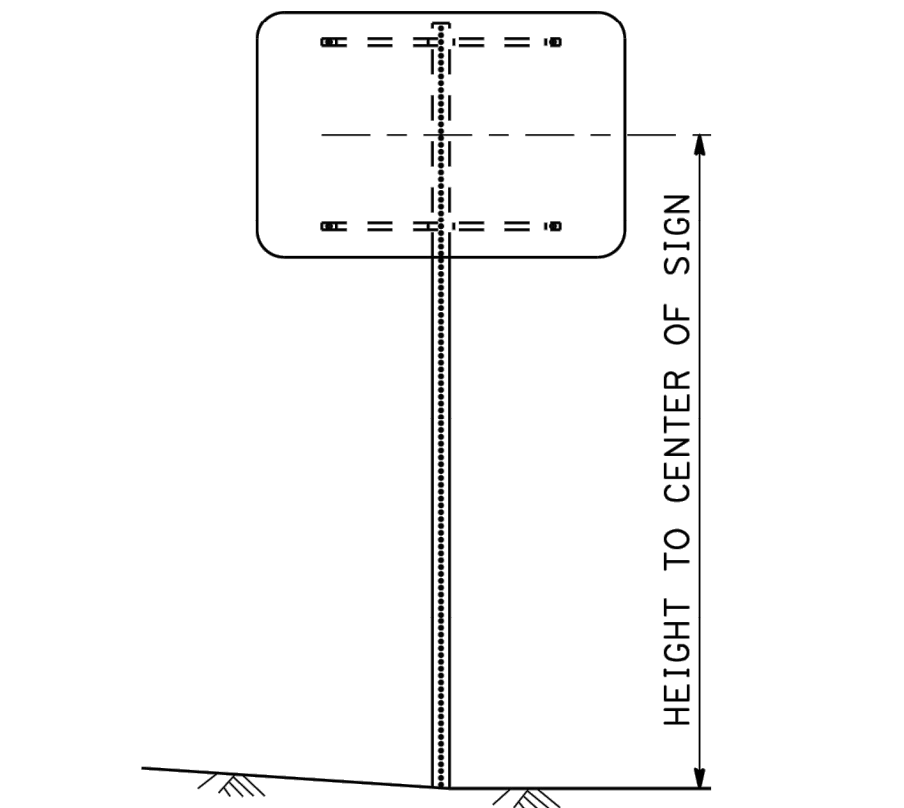
STANDARD DETAILS - SHEET 4

DT-4

SHEET 116 OF 117

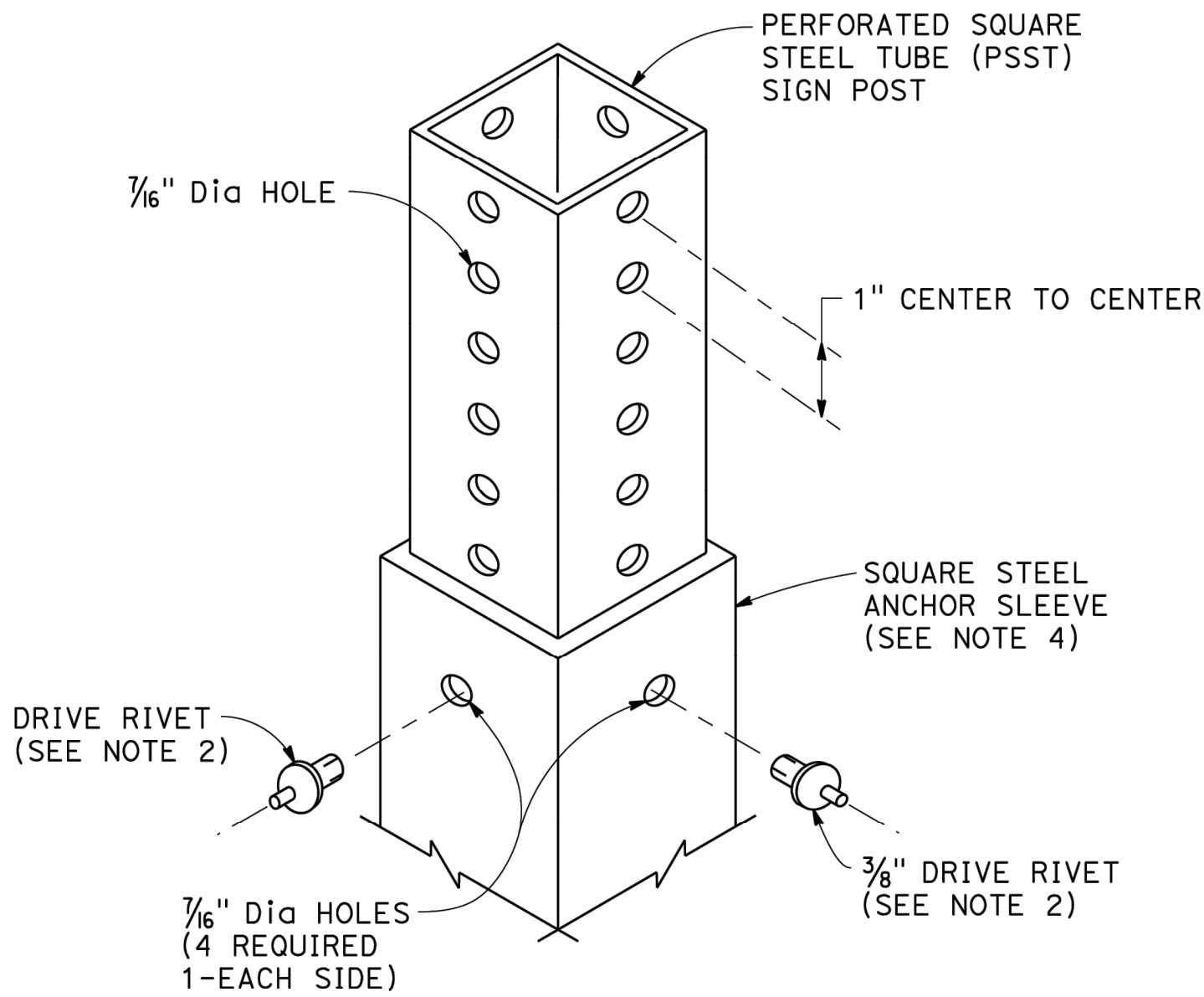
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
Stanley P. Johnson REGISTERED CIVIL ENGINEER					
January 22, 2024 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
			REGISTERED PROFESSIONAL ENGINEER Stanley P. Johnson No. C57793 Exp. 3-31-24 CIVIL STATE OF CALIFORNIA		

TO ACCOMPANY PLANS DATED _____



SINGLE POST INSTALLATION

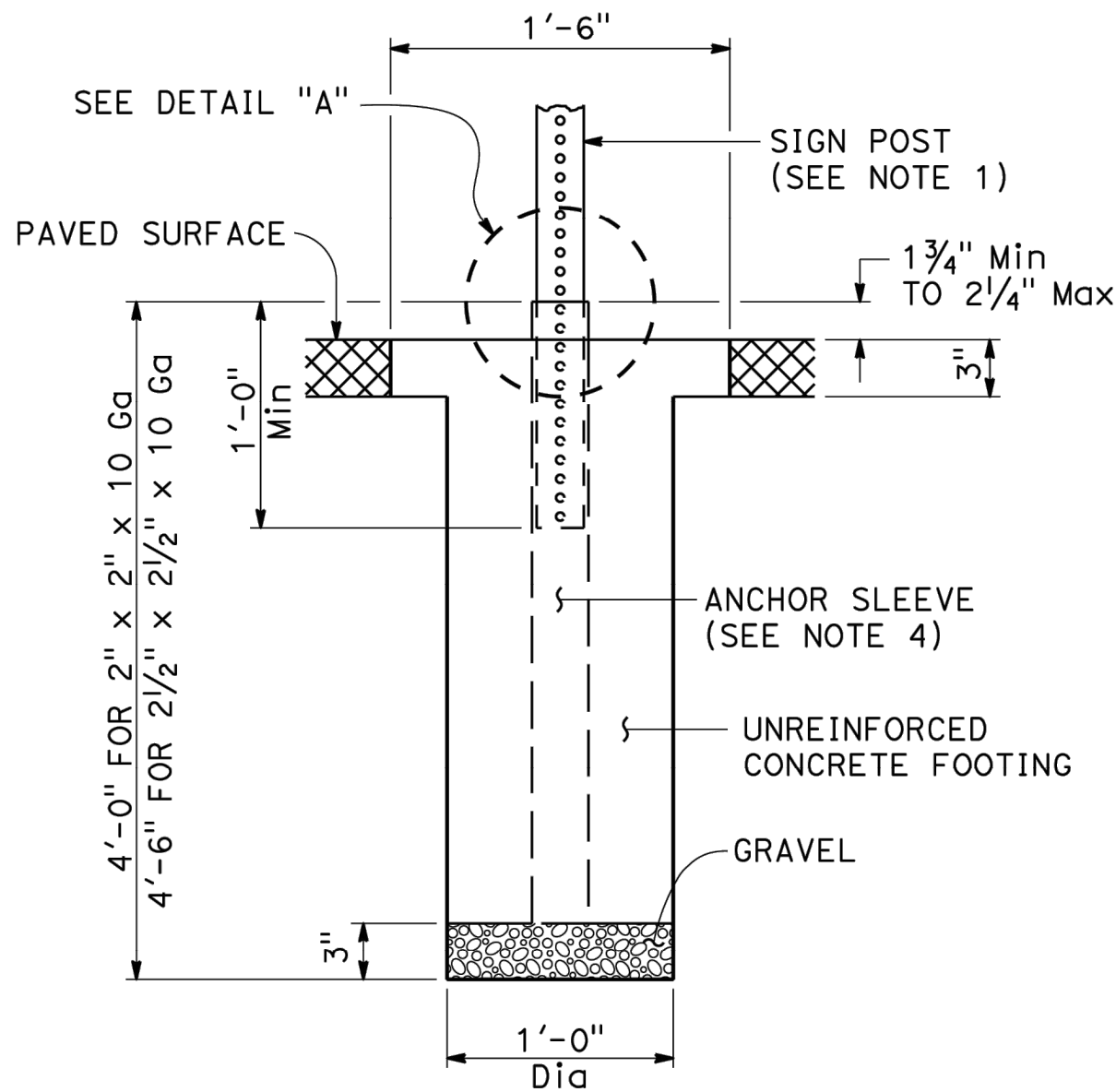
POST SIZE	Max AREA (SQUARE FEET) OF SIGN							SLEEVE SIZE
2" x 2" x 12 Ga	10.8	8.9	7.6	6.6	5.9	5.3	4.8	2 1/2" x 2 1/2" x 7 Ga
2 1/2" x 2 1/2" x 10 Ga	20	18	16	14	12	11	10	3" x 3" x 7 Ga
HEIGHT TO CENTER OF SIGN SINGLE POST GROUND SIGNS 100 MPH WIND SPEED	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	-



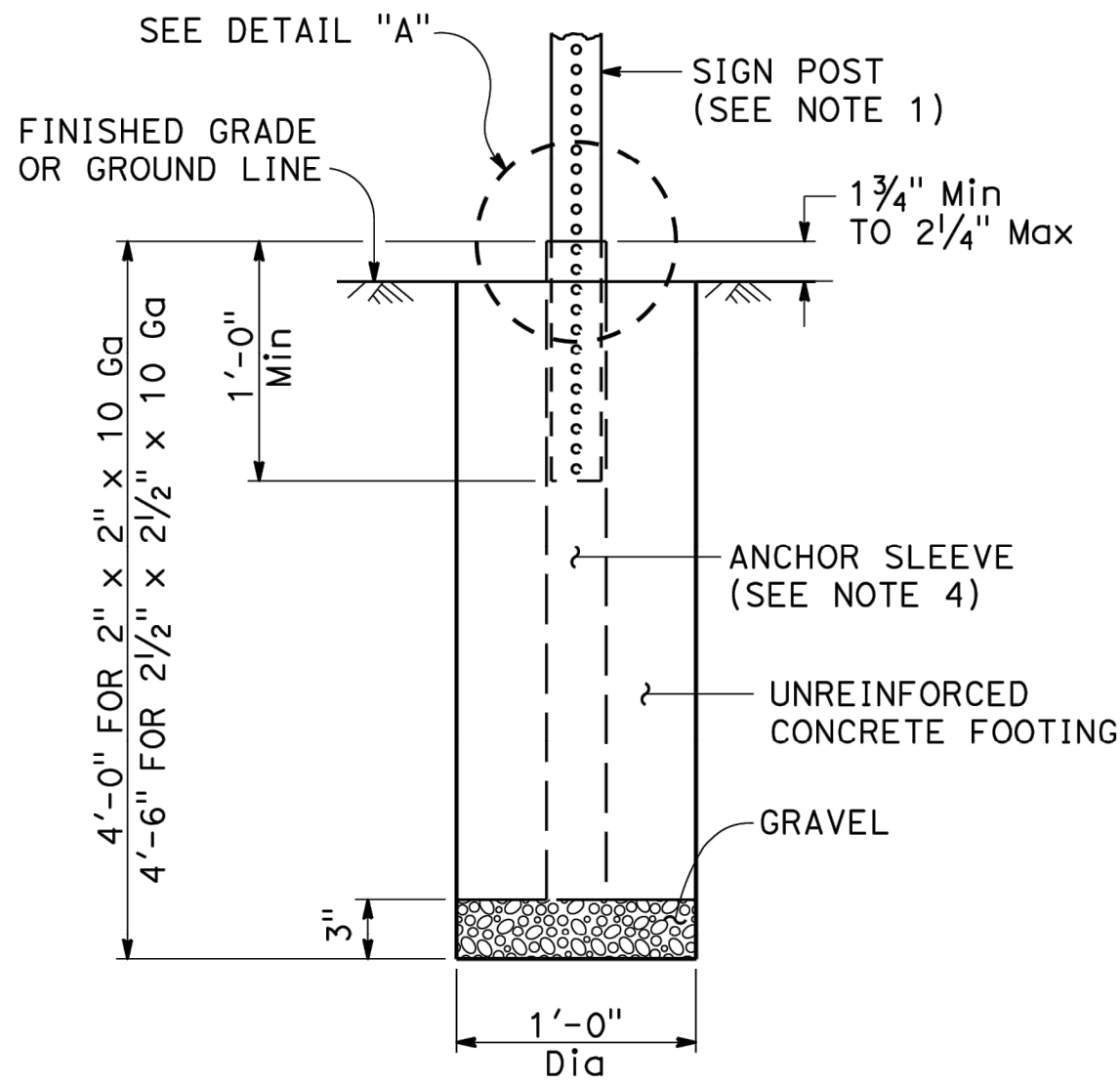
DETAIL "A"

NOTES:

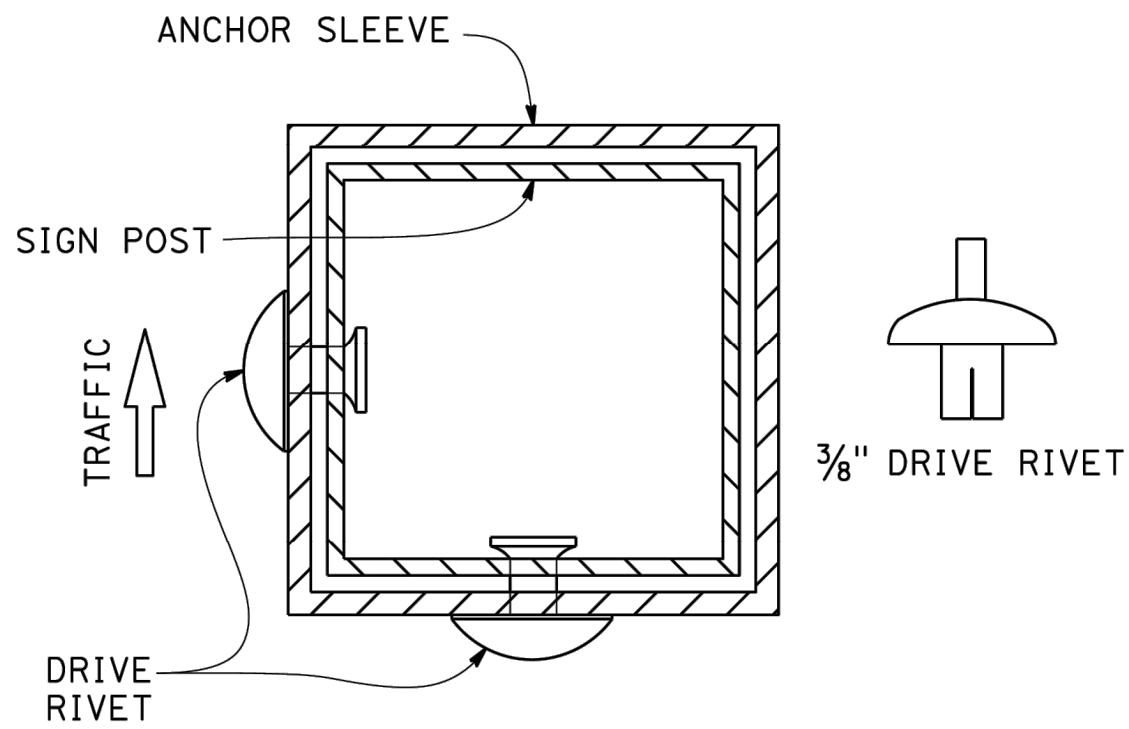
- The sign post shall have 7/16" diameter perforations 1" on center on all four sides for the full length.
- Use two drive rivets to fasten assembled sign and sign post into anchor sleeve. Install drive rivets or fastener alternative into the sides facing traffic.
- All steel sign posts and anchor sleeves shall be galvanized.
- All anchor sleeves shall be embedded in PCC.
- For details not shown, see Standard Plans RS1 and RS2.
- Steel post: $f_y = 60$ ksi



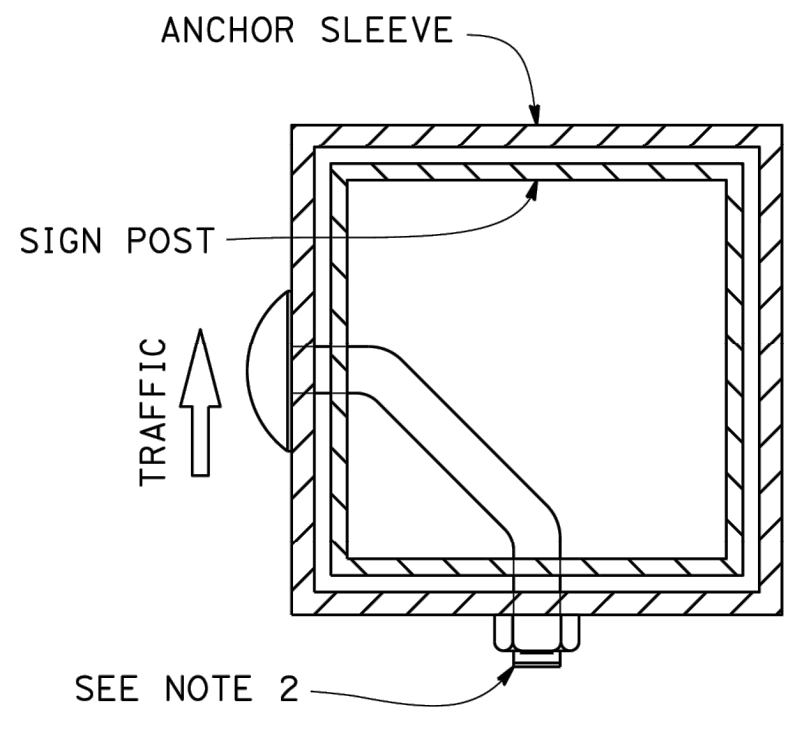
**ANCHOR SLEEVE IN
PAVED SURFACE**



**ANCHOR SLEEVE IN
UNPAVED SURFACE**



FASTENER



FASTENER ALTERNATIVE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ROADSIDE SIGN
PSST POST
TYPICAL INSTALLATION
DETAILS No. 1**

NO SCALE

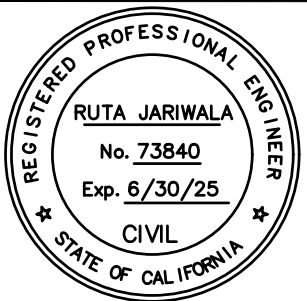
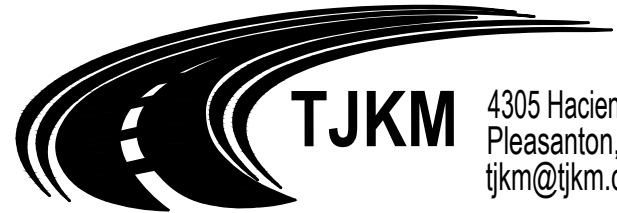
RSP RS5 DATED JANUARY 22, 2024 SUPERSEDES STANDARD PLAN RS5
DATED MAY 1, 2023 - PAGE 443 OF THE STANDARD PLANS BOOK DATED 2023.

REVISED STANDARD PLAN RSP RS5

2023 REVISED STANDARD PLAN RSP RS5

10-10-23

REV	DATE	DESCRIPTION	BY



DATE SIGNED: 01/19/2024

SCALE: 1"=20'
DRAWN BY: A. DICKINSON / M. MONTERO
CHECKED BY: R. PATEL
DATE: 02/01/2024
PROJECT NO: 103-029

STANDARD DETAILS - SHEET 5

DT-5

SHEET 117 OF 117