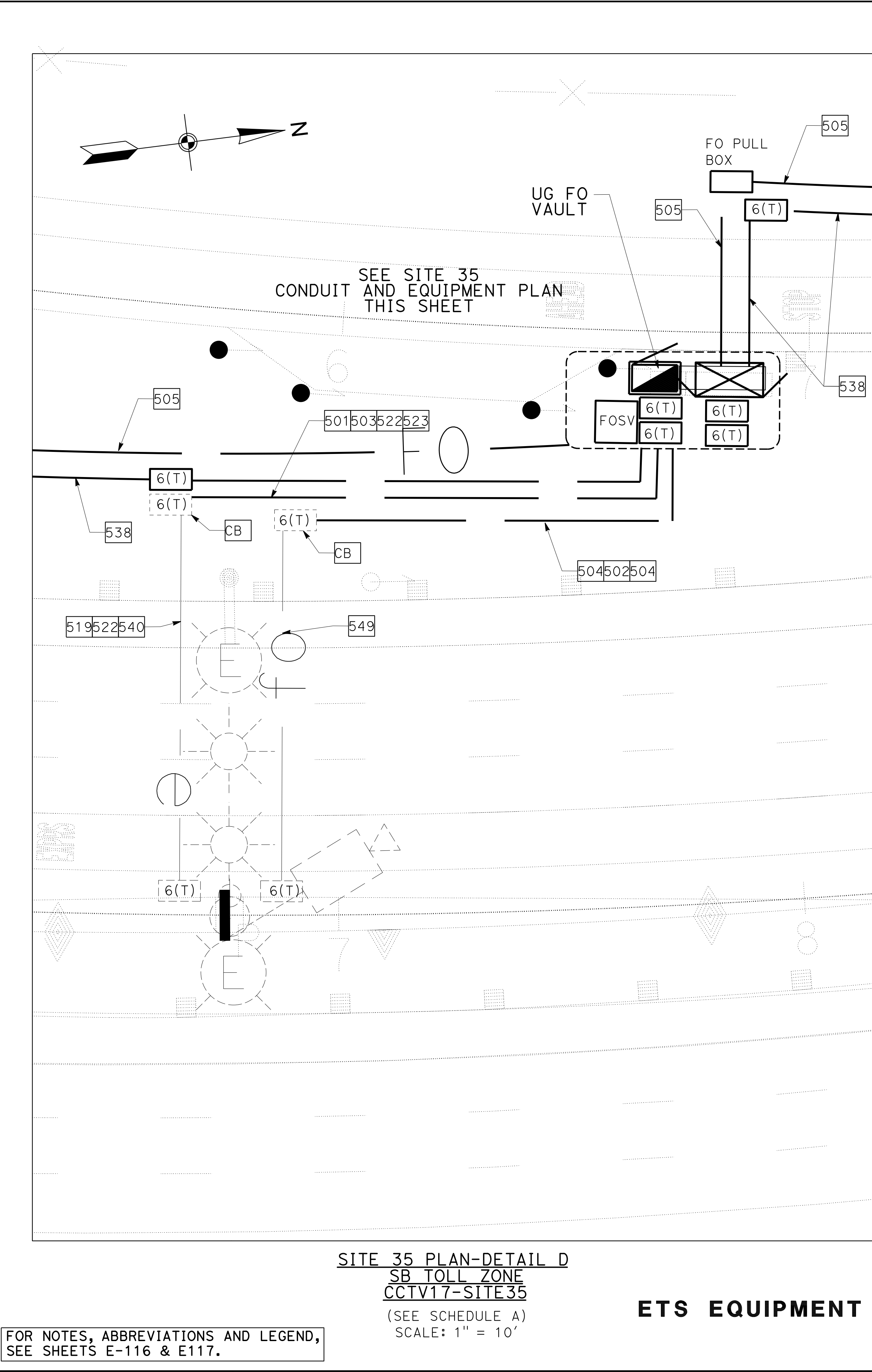




- NOTES:
- FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
 - FOR ELEVATIONS AND SECTIONS, SEE SHEET ED-100 AND ED-101.

Dist 04

COUNTY Alameda

ROUTE 680

POST MILES TOTAL PROJECT R11.0/R21.9, R0.0/0.9

SHEET No. 1401

TOTAL SHEETS 1710

ARBhoi

9-29-21

REGISTERED CIVIL ENGINEER DATE

October 8, 2021

PLANS APPROVAL DATE

Abhijeet R. Bhoi

No. 68606

Exp. 9-30-23

CIVIL

STATE OF CALIFORNIA

AECOM

4 N. Second Street

Suite 675

San Jose, CA 95113

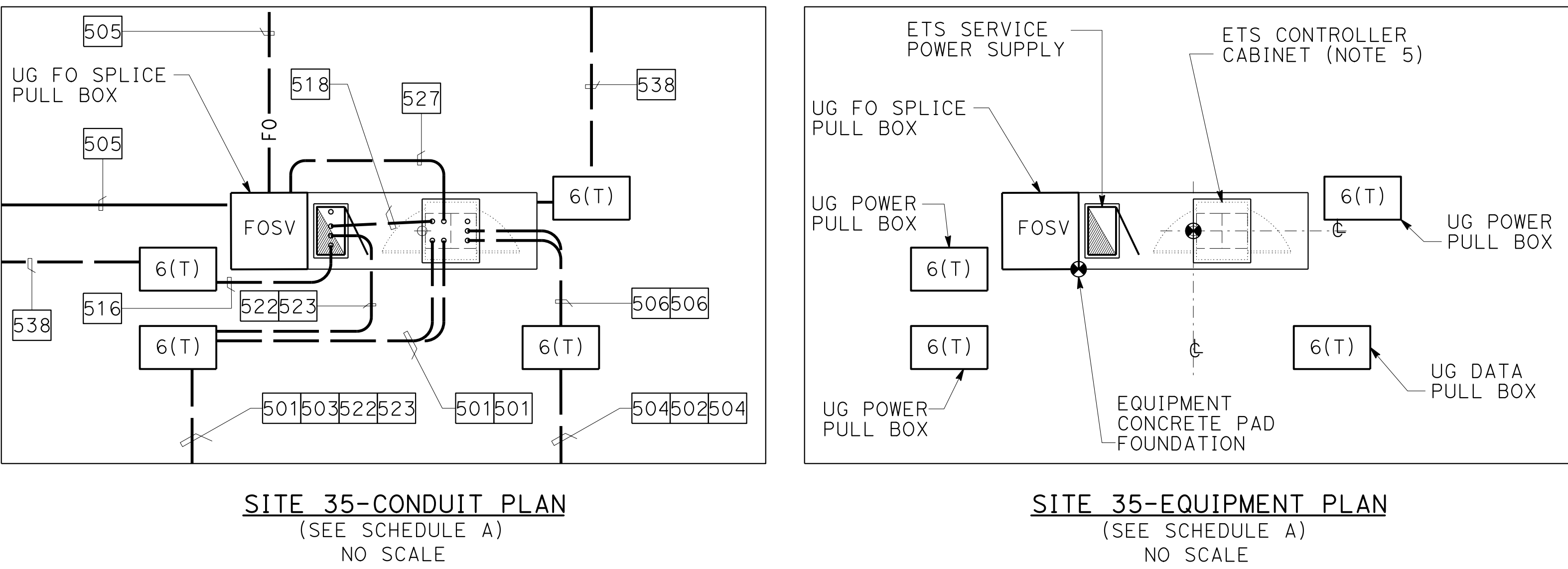
ALAMEDA CTC

1111 Broadway

Suite 800

Oakland, CA 94607

SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)							
REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	EQUIPMENT TAG ID	STATION				CCTV TAG ID	No. OF LED LIGHT
		(CORNER OF EQUIPMENT ⚡ CONCRETE PAD)	OFFSET DIMENSION ⚡ FROM ALIGNMENT (¢ OF PAD)	EQUIPMENT TAG ID			
				TRANSFORMER	POWER SUPPLY		
E-123	680-ETS-CCA-SITE35	"I-680" 167+88.8	111.9' LEFT	INSIDE PANEL	680-ETS-PS21A		2



ETS EQUIPMENT LAYOUT PLAN

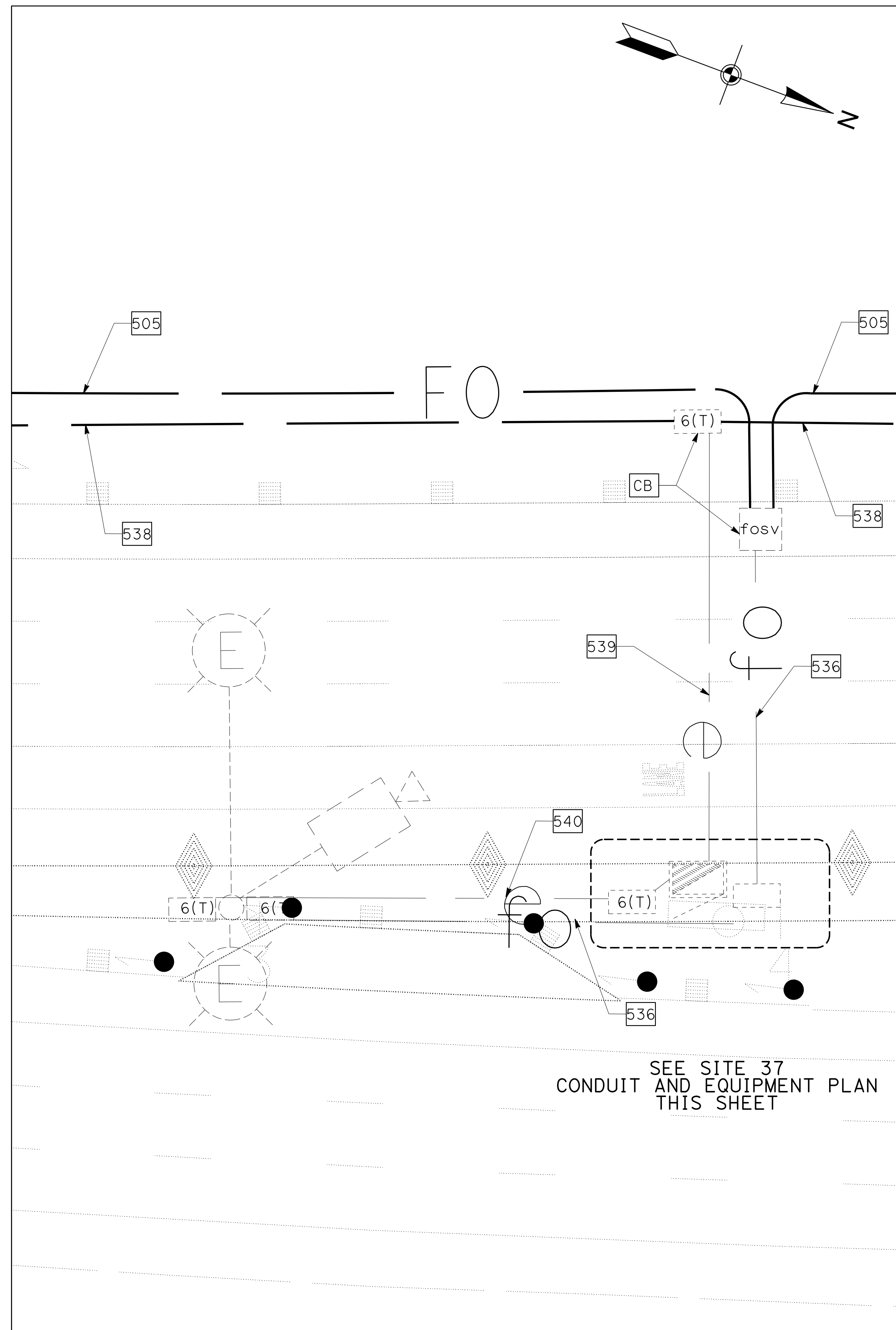
ELECTRICAL SYSTEMS DETAILS

X

2. FOR ELEVATIONS AND SECTIONS, SEE SHEET ED-100 AND ED-101.

SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)

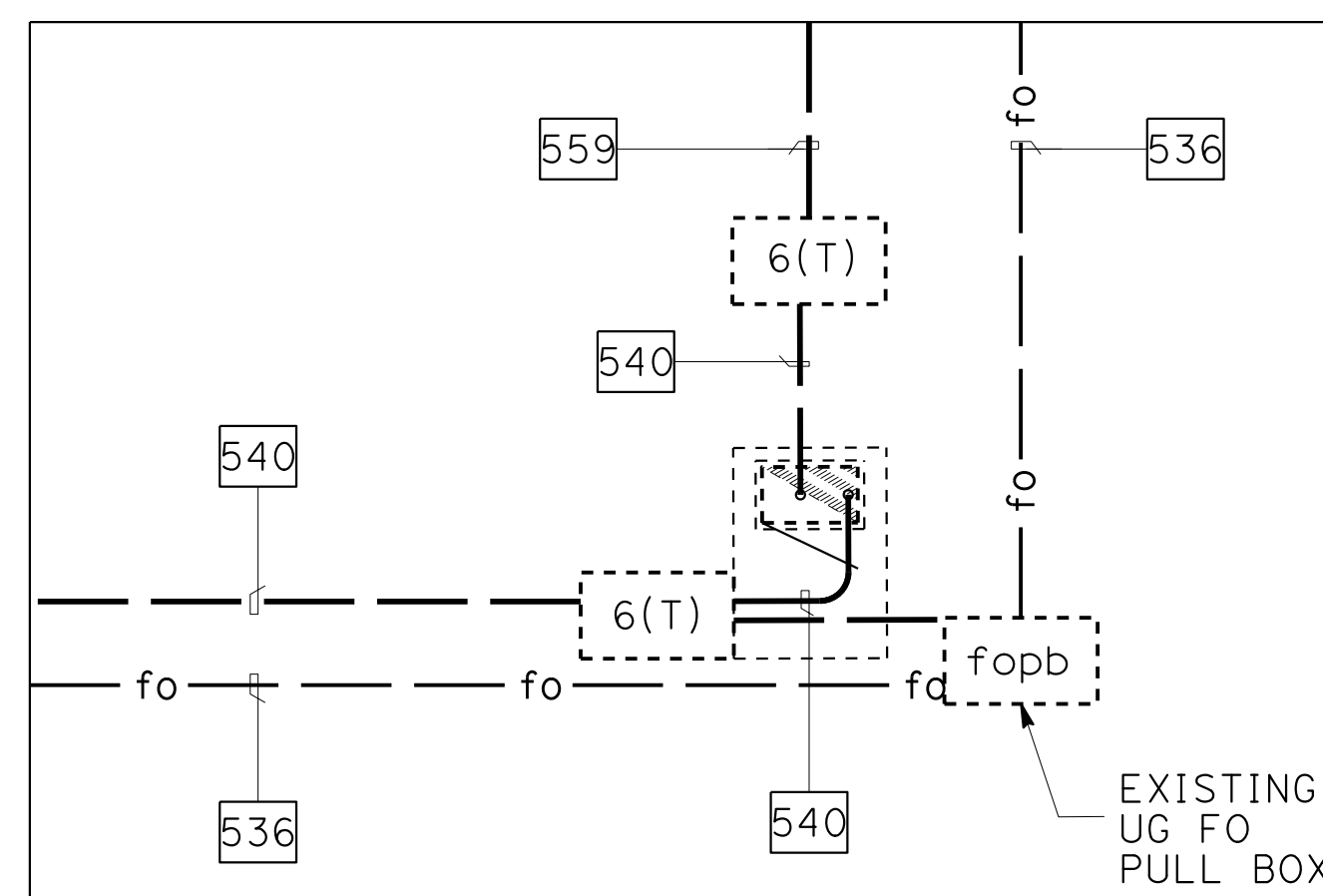
REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	EQUIPMENT TAG ID	STATION		EQUIPMENT TAG ID		CCTV TAG ID	No. OF LED LIGHT
		(CORNER OF EQUIPMENT CONCRETE PAD)	OFFSET DIMENSION FROM ALIGNMENT (C OF PAD)	TRANSFORMER	POWER SUPPLY		
E-126	CCTV18-SITE37	EXISTING		INSIDE PANEL	680-ETS-PS21C		2



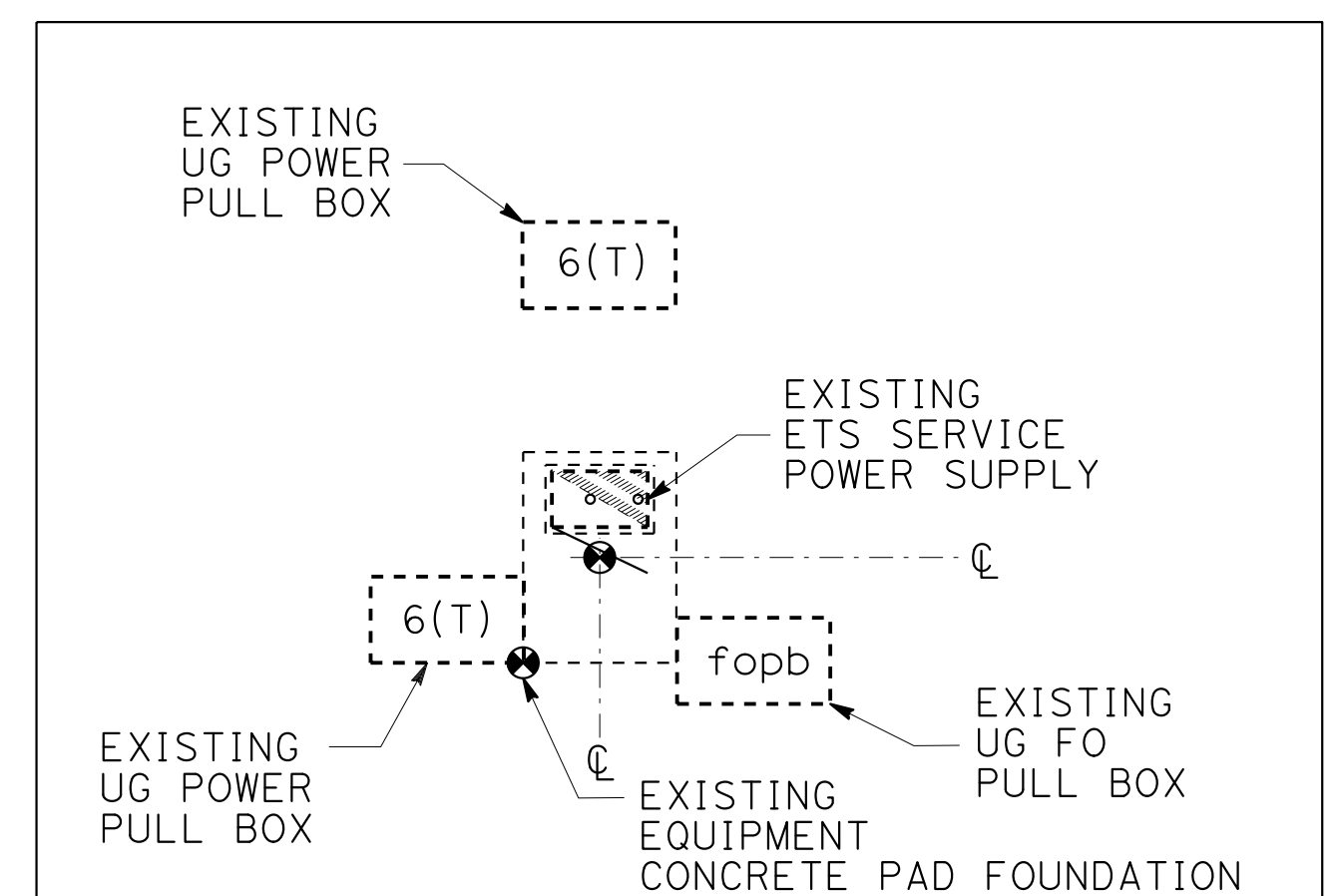
SITE 37 PLAN-DETAIL F
CCTV18-SITE 37
(SEE SCHEDULE A)
SCALE: 1" = 10'

ETS EQUIPMENT LAYOUT PLAN

FOR NOTES, ABBREVIATIONS AND LEGEND,
SEE SHEETS E-116 & E117.



SITE 37-CONDUIT PLAN
(SEE SCHEDULE A)
NO SCALE

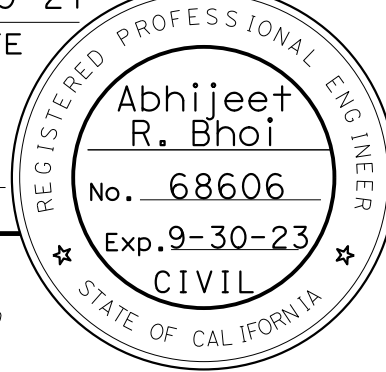


SITE 37-EQUIPMENT PLAN
(SEE SCHEDULE A)
NO SCALE

ELECTRICAL SYSTEMS DETAILS

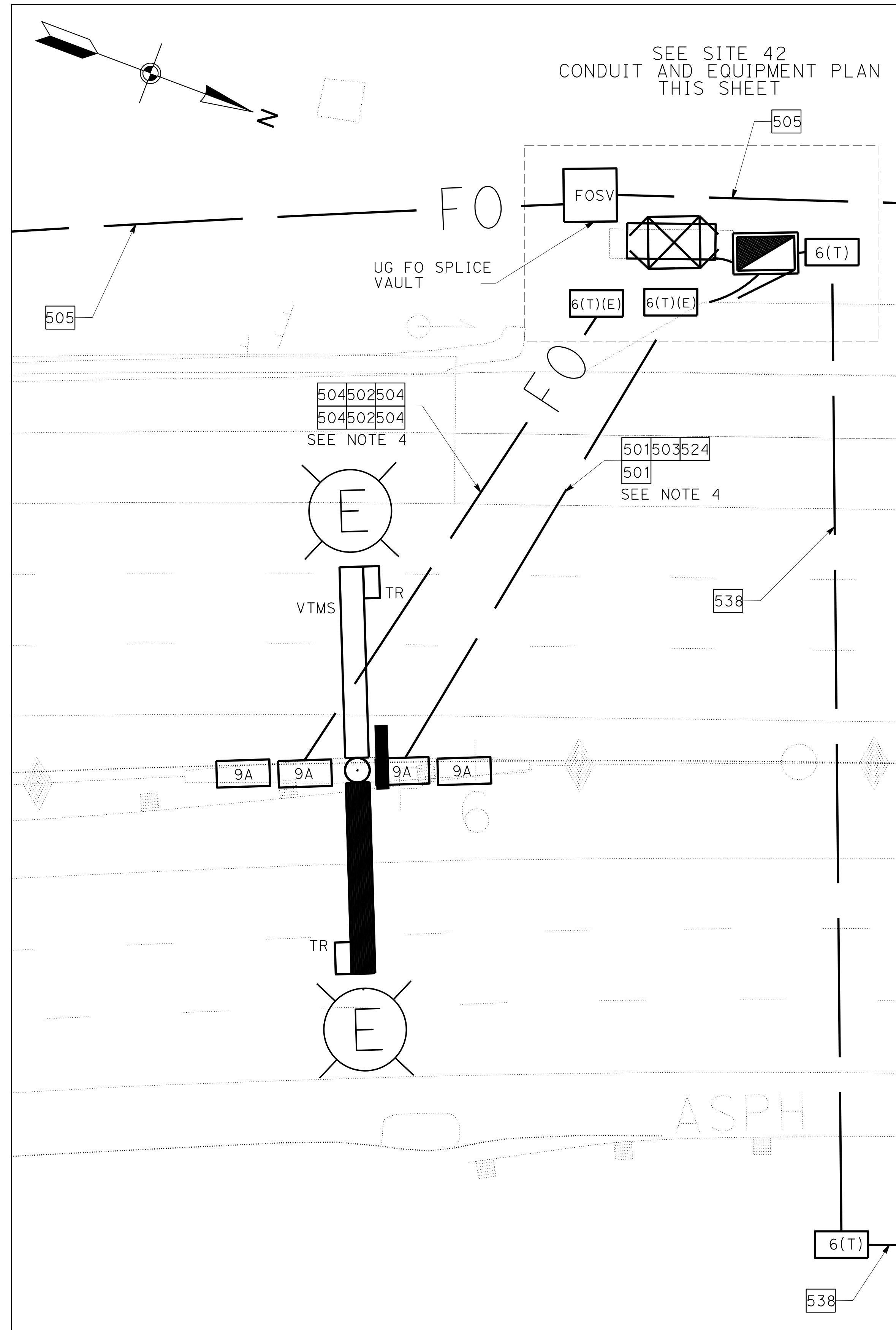
SCALE: AS SHOWN

ED - 36

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1407	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
<i>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.</i>					
AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		

- NOTES:

1. FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
2. FOR ELEVATIONS AND SECTIONS, SEE SHEETS ED-100 AND ED-101.
3. IN CENTER MEDIAN, INSTALL ALL PULL BOXES ADJACENT TO CENTER BARRIER AND AS FAR FROM ETW AS POSSIBLE.
4. NEW HDD CONDUITS FOR FUTURE NB TOLL ZONE TO BE INSTALLED NOW. FUTURE NB CONDUITS TO BE ROUTED IN SEPARATE TYPE 9A BOXES AND CAPPED INSIDE NB FOUNDATION.

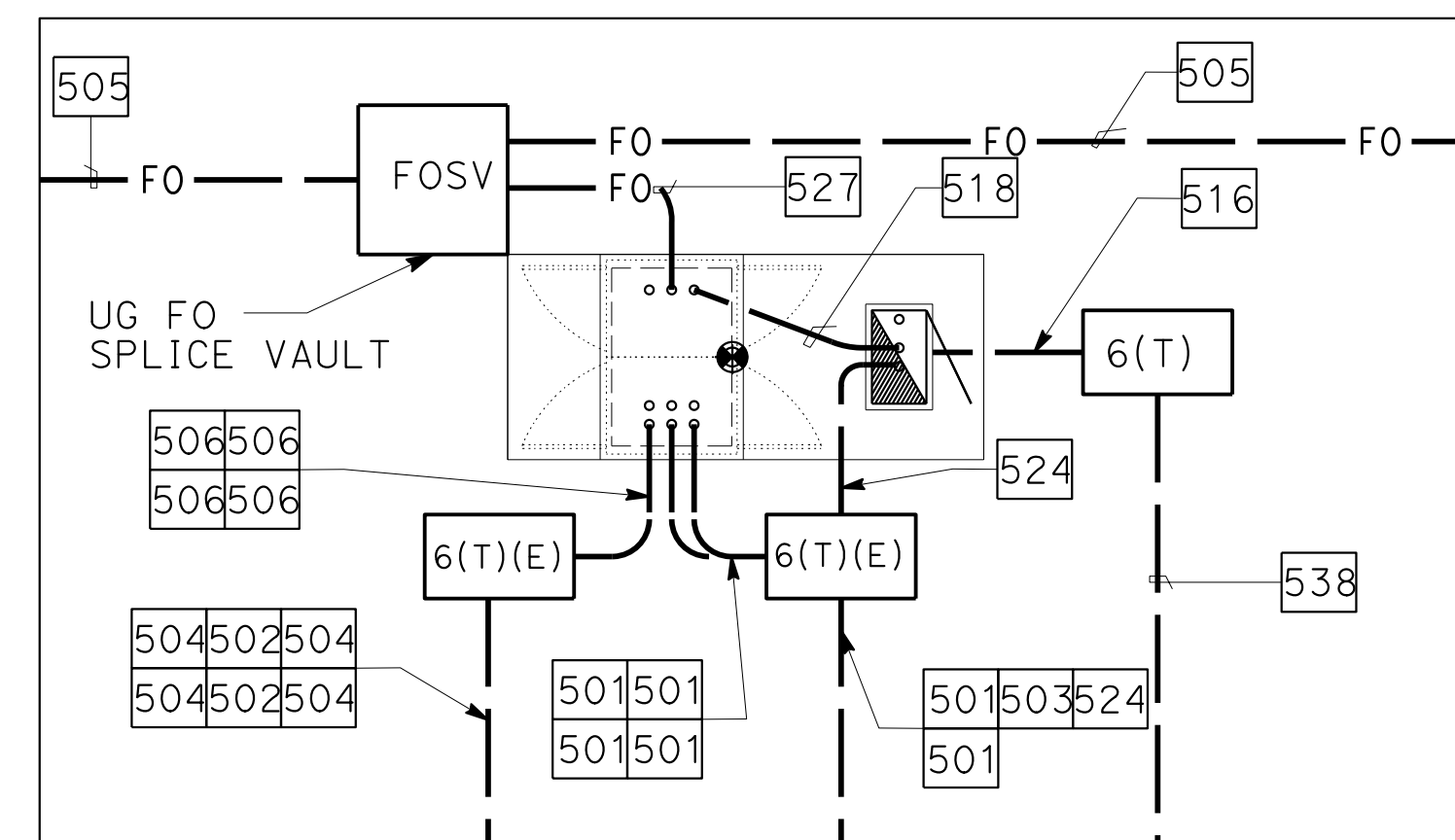


SITE 42 PLAN-DETAIL J
SB VTMS & TOLL ZONE
FUTURE NB TOLL ZONE
(SEE SCHEDULE A)
SCALE: 1" = 10'

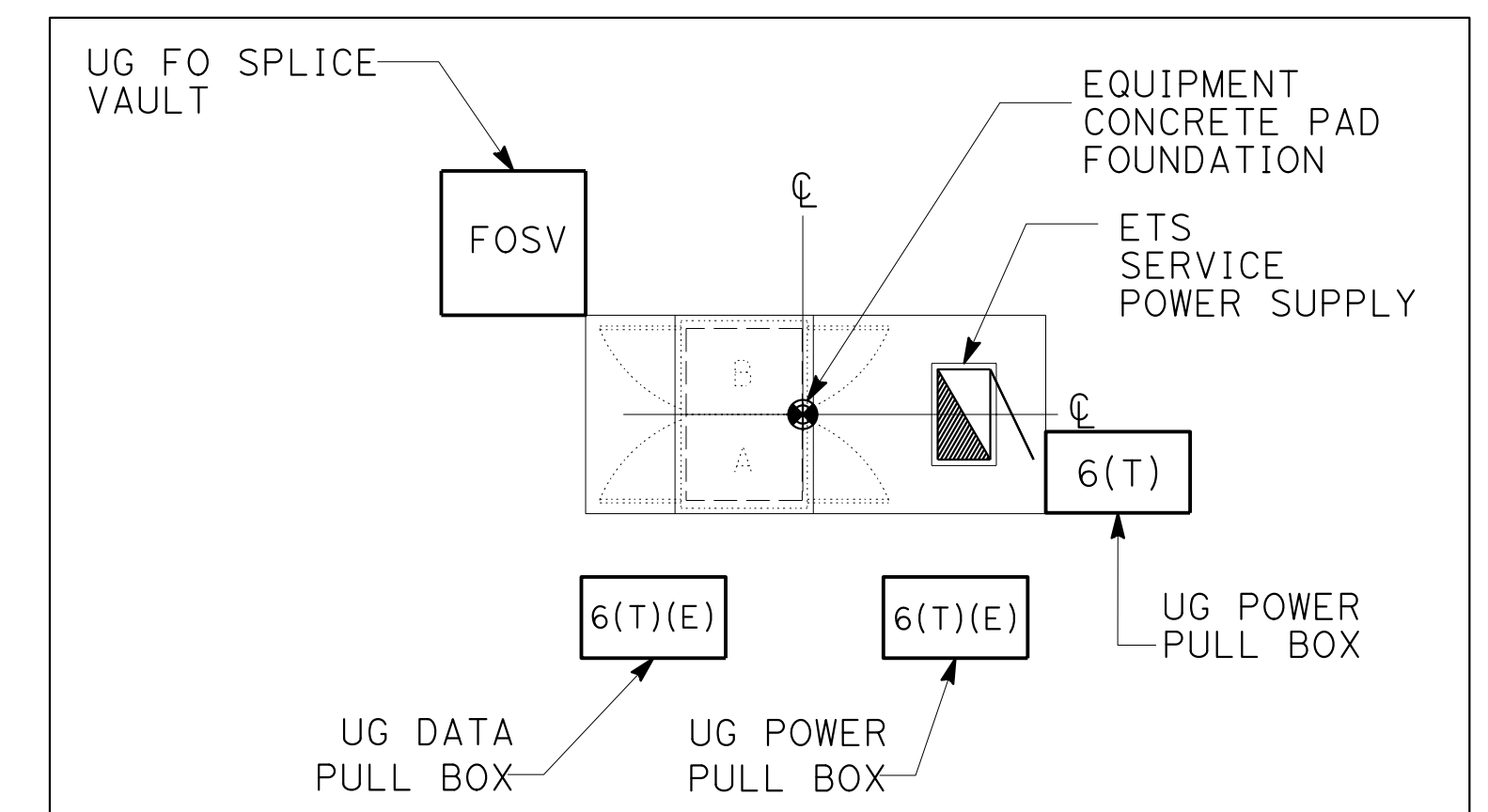
ETS EQUIPMENT LAYOUT PLAN

SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)

REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	EQUIPMENT TAG ID	STATION					
		(CENTER OF EQUIPMENT CONCRETE PAD)	OFFSET DIMENSION FROM ALIGNMENT (¢ OF PAD)	EQUIPMENT TAG ID		CCTV TAG ID	No. OF LED LIGHT
				TRANSFORMER	POWER SUPPLY		
E-132	680-ETS-CCA-SITE42	"I-680" 296+32.6	88.0' LEFT	INSIDE PANEL	680-ETS-PS24A		2
	680-ETS-CCB-SITE42						



SITE 42-CONDUIT PLAN
(SEE SCHEDULE A)
NO SCALE

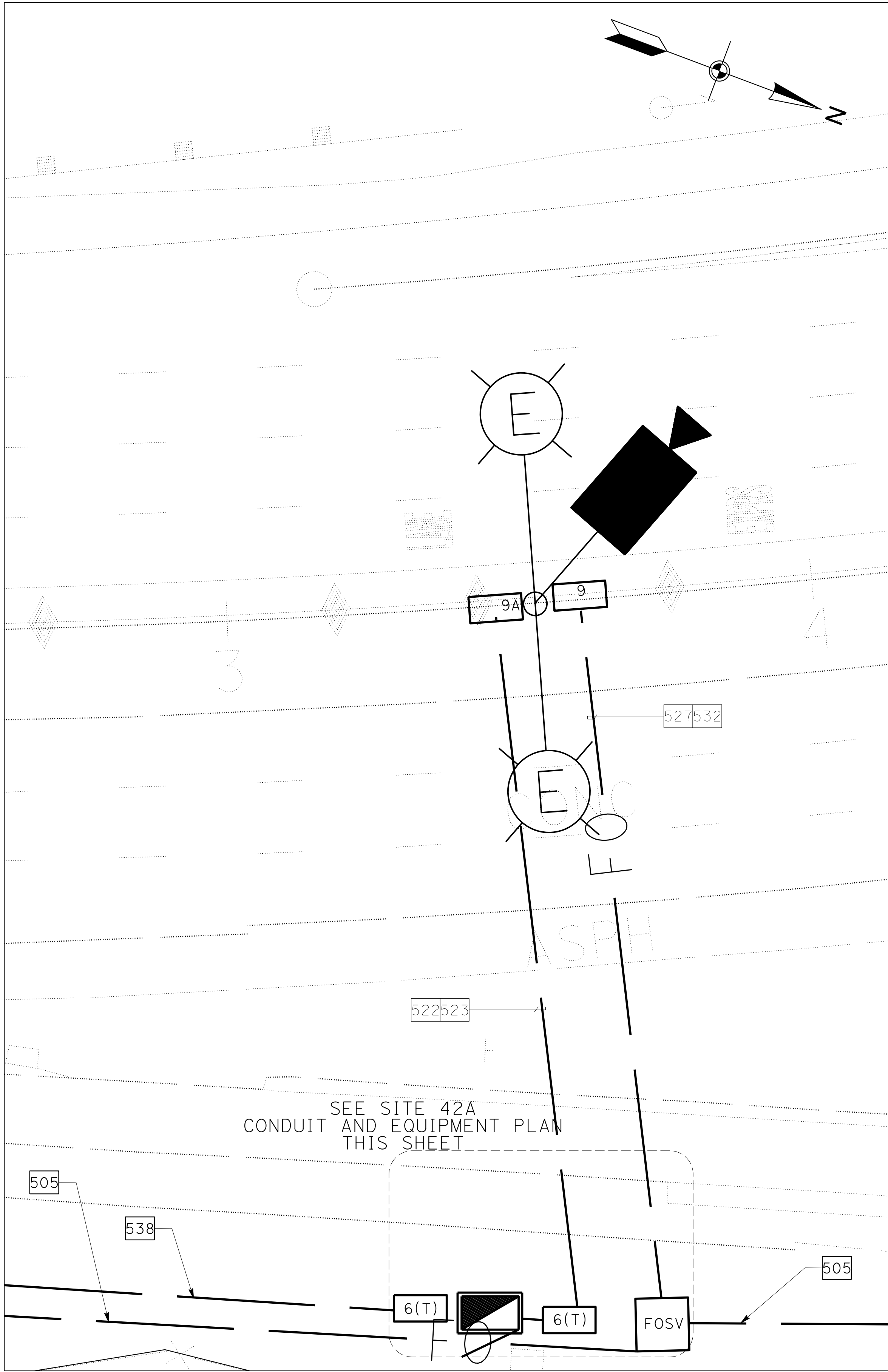


SITE 42-EQUIPMENT PLAN
(SEE SCHEDULE A)
NO SCALE

ELECTRICAL SYSTEMS DETAILS

SCALE: AS SHOWN

ED - 40



SITE 42A PLAN-DETAIL K
SB CCTV-SITE 42A
(SEE SCHEDULE A)
SCALE: 1" = 10'

FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

NOTES:

- FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
- FOR ELEVATIONS AND SECTIONS, SEE SHEETS ED-100 AND ED-101.
- FOR CCTV MOUNTING TO LIGHTING POLE, SEE DETAIL ON SHEET ED-114. INSTALLATION OF CCTV TO BE DONE BY OTHERS.
- IN CENTER MEDIAN, INSTALL ALL PULL BOXES ADJACENT TO CENTER BARRIER AND AS FAR FROM ETW AS POSSIBLE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1408	1710

ARBhoi

9-29-21

REGISTERED CIVIL ENGINEER

DATE

October 8, 2021

PLANS APPROVAL DATE

Abhijeet R. Bhoi

No. 68606

Exp. 9-30-23

CIVIL

STATE OF CALIFORNIA

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AECOM

4 N. Second Street

Suite 675

San Jose, CA 95113

ALAMEDA CTC

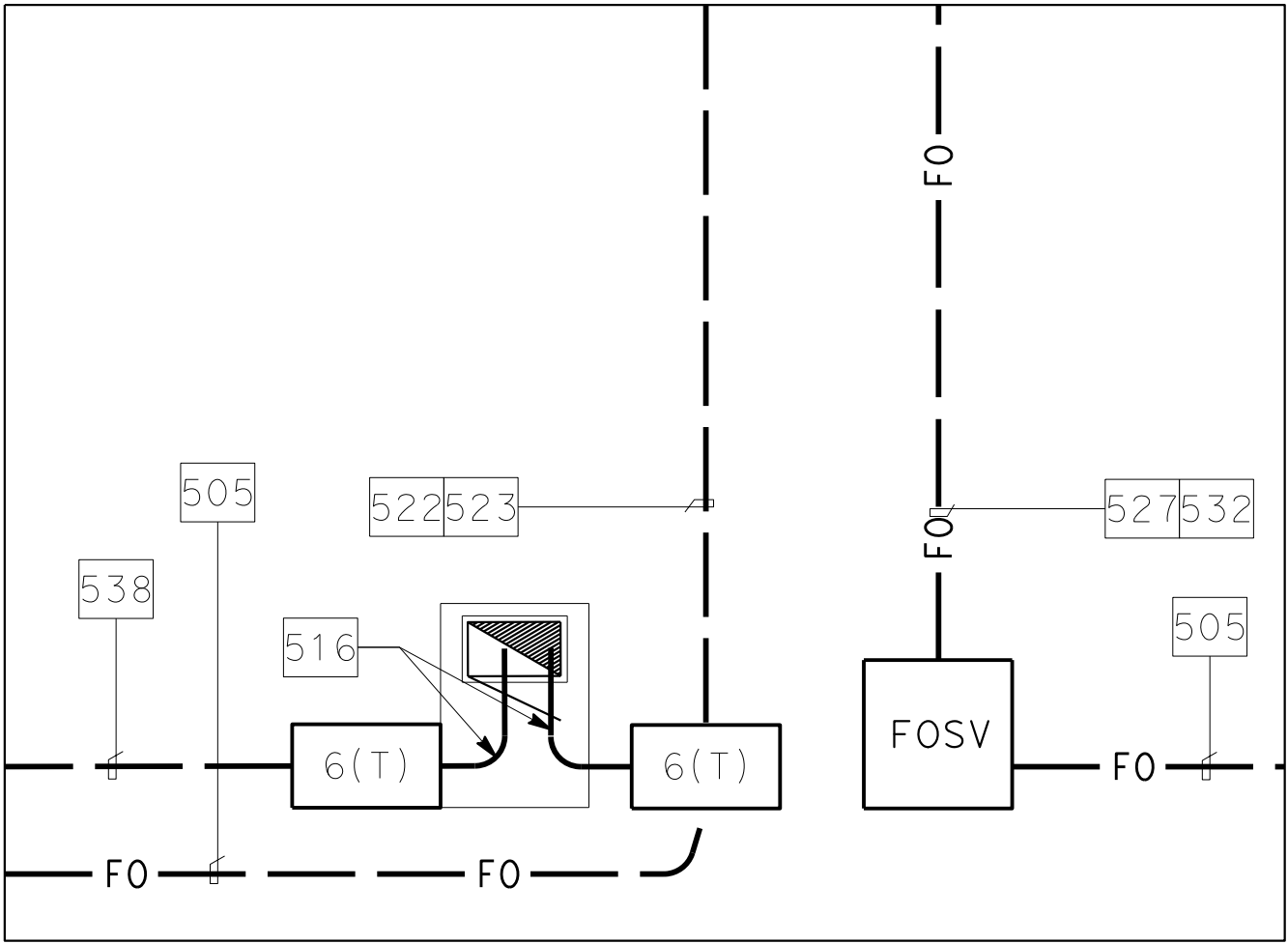
1111 Broadway

Suite 800

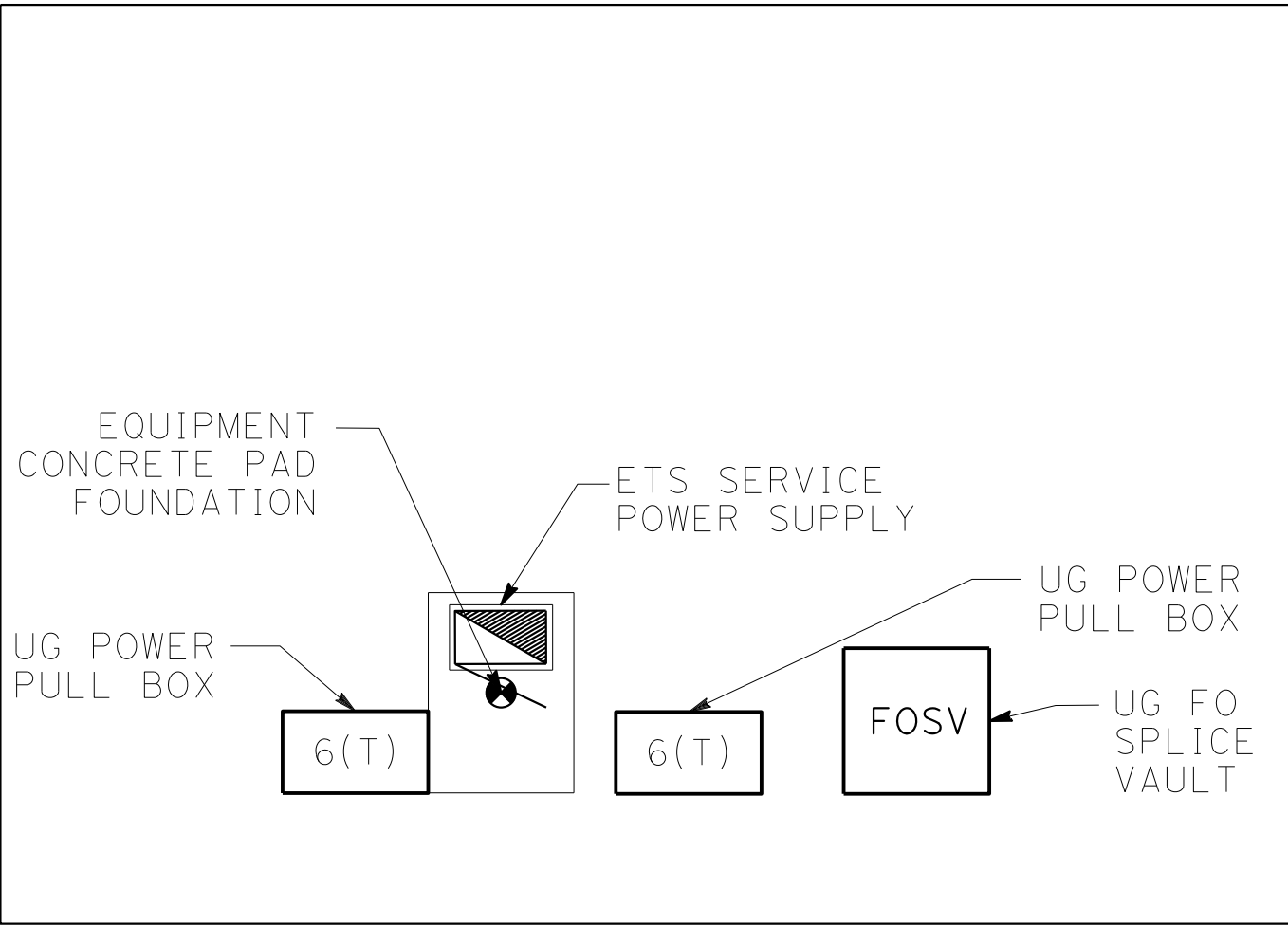
Oakland, CA 94607

SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)

REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	EQUIPMENT TAG ID	STATION		EQUIPMENT TAG ID		CCTV TAG ID	No. OF LED LIGHT
		(CENTER OF EQUIPMENT CONCRETE PAD)	OFFSET DIMENSION FROM ALIGNMENT (Q OF PAD)	TRANSFORMER	POWER SUPPLY		
E-133	CCTV20-SITE42A	"1-680" 303+33	120.7' RIGHT	INSIDE PANEL	680-ETS-PS24B		2



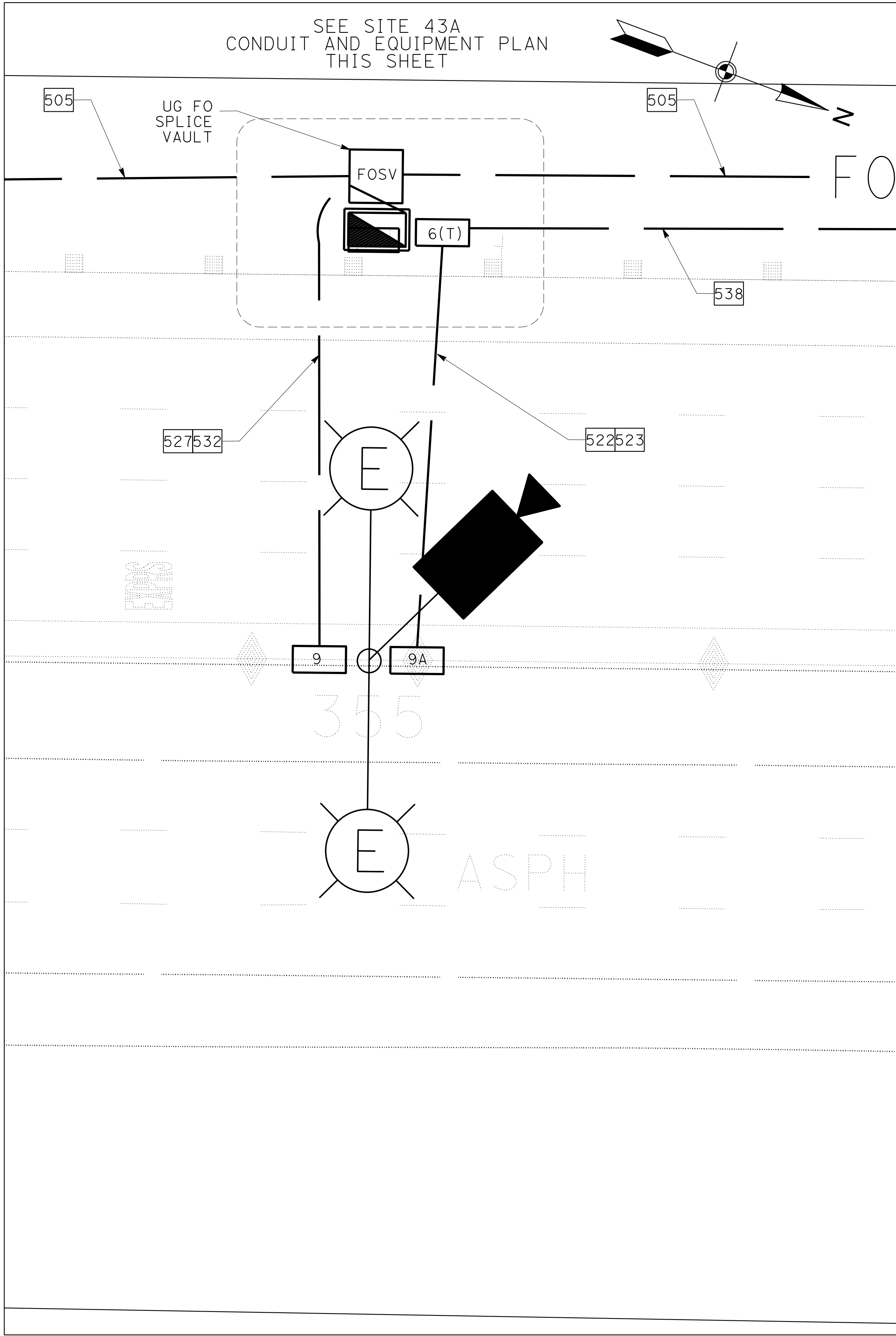
SITE 42A-CONDUIT PLAN
(SEE SCHEDULE A)
NO SCALE



SITE 42A-EQUIPMENT PLAN
(SEE SCHEDULE A)
NO SCALE

ELECTRICAL SYSTEMS DETAILS
SCALE: AS SHOWN

ED-41



SITE 43A PLAN-DETAIL M
CCTV22-SITE 43A
(SEE SCHEDULE A)
SCALE: 1" = 10'

FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

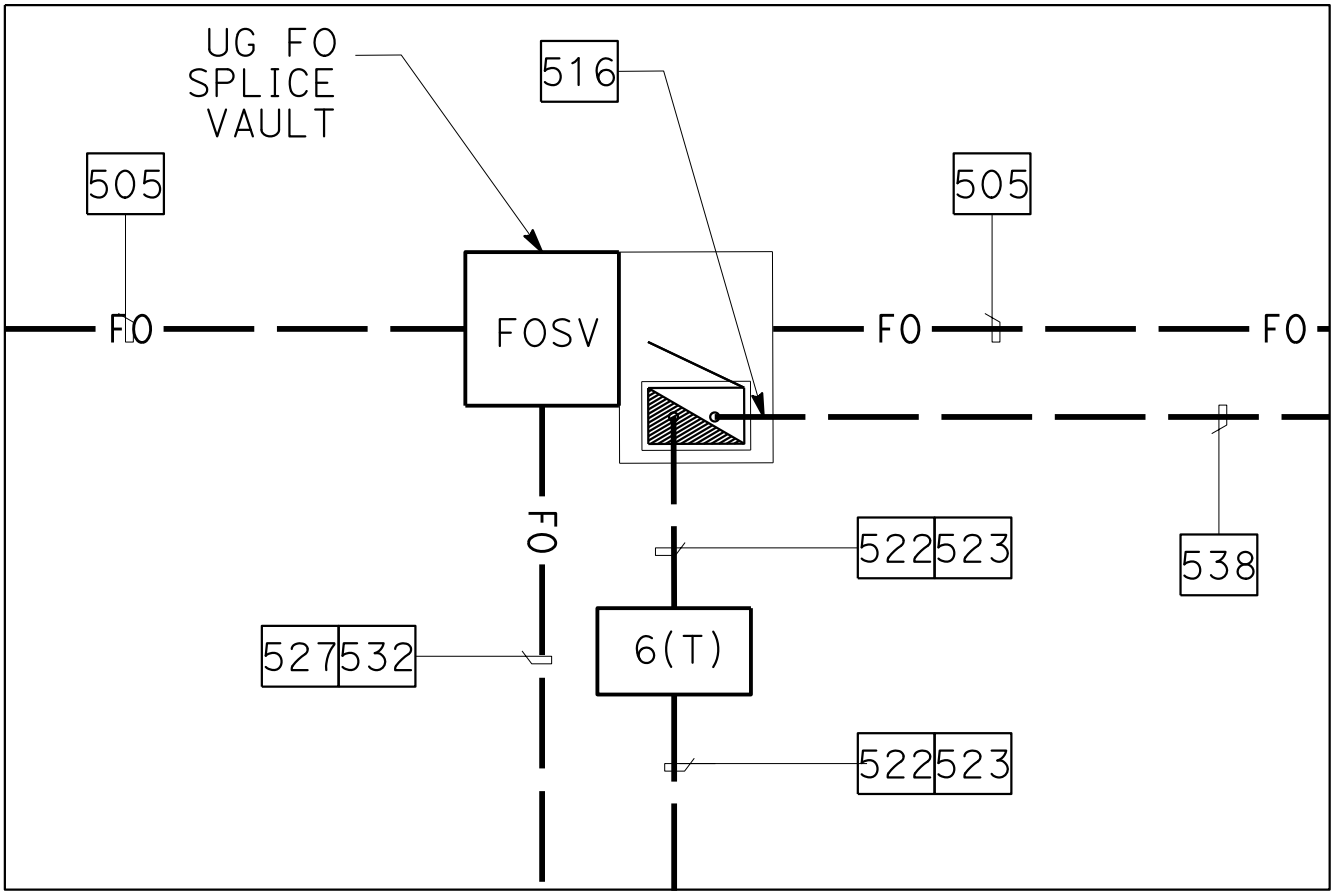
ETS EQUIPMENT LAYOUT PLAN

NOTES:

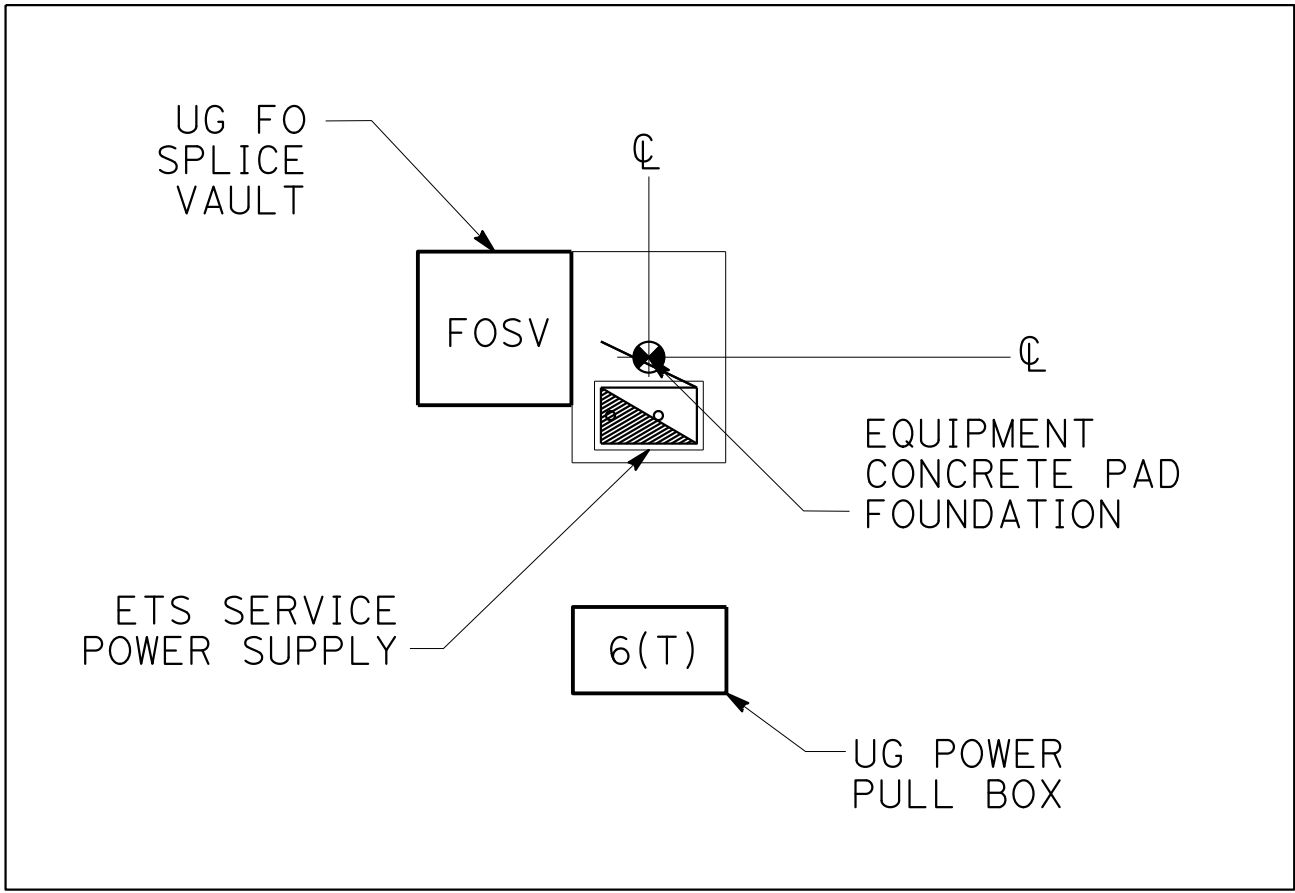
- FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
- FOR ELEVATIONS AND SECTIONS, SEE SHEETS ED-100 AND ED-101.
- FOR CCTV MOUNTING TO LIGHTING POLE, SEE DETAIL ON SHEET ED-114. INSTALLATION OF CCTV TO BE DONE BY OTHERS.
- IN CENTER MEDIAN, INSTALL ALL PULL BOXES ADJACENT TO CENTER BARRIER AND AS FAR FROM ETW AS POSSIBLE.

SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)

REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	EQUIPMENT TAG ID	STATION		EQUIPMENT TAG ID		CCTV TAG ID	No. OF LED LIGHT
		(CENTER OF EQUIPMENT CONCRETE PAD)	OFFSET DIMENSION FROM ALIGNMENT (CL OF PAD)	TRANSFORMER	POWER SUPPLY		
E-137	CCTV22-SITE43A	"I-680" 355+00	71.97' LEFT	INSIDE PANEL	680-ETS-PS27A		2



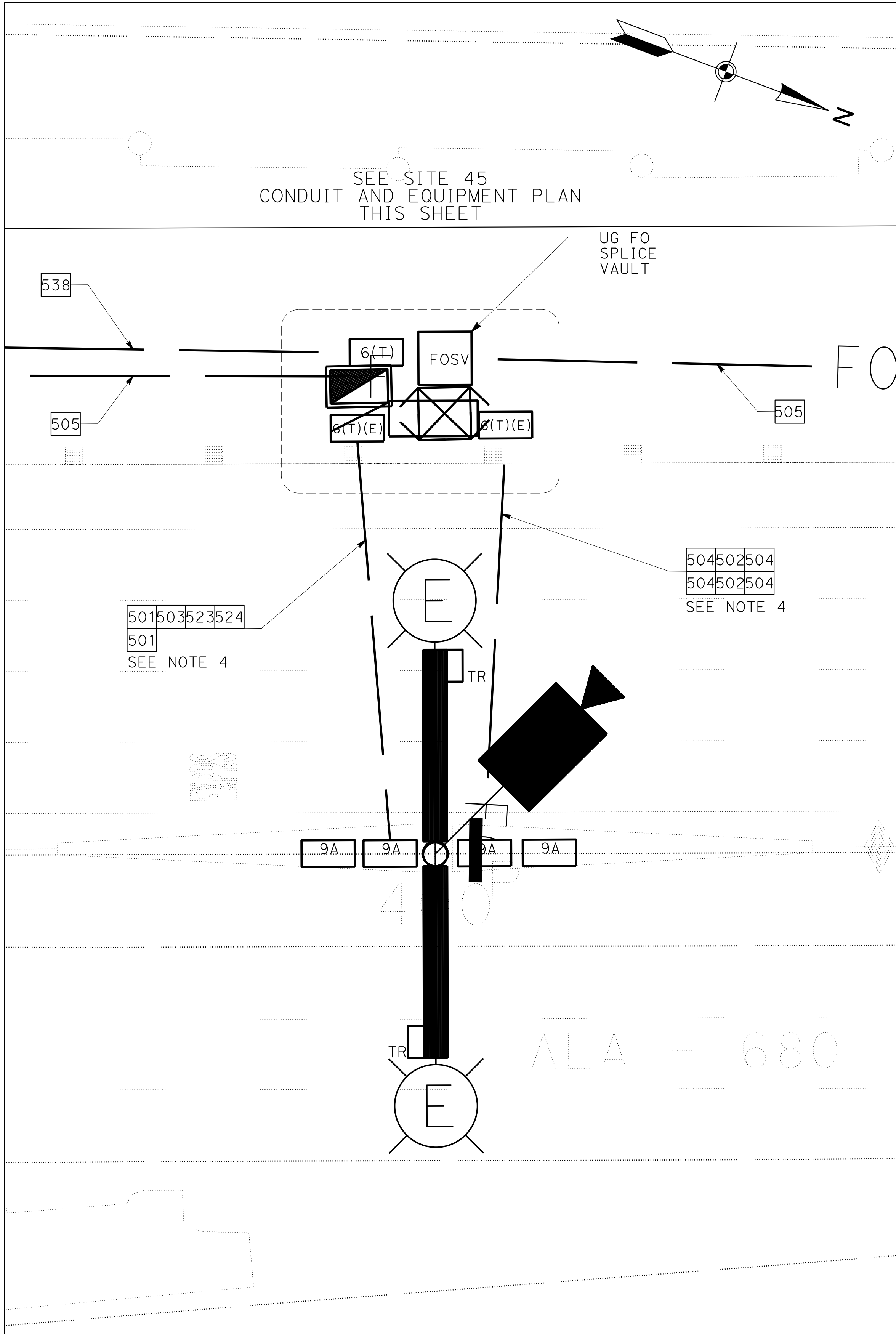
SITE 43A-CONDUIT PLAN
(SEE SCHEDULE A)
NO SCALE



SITE 43A-EQUIPMENT PLAN
(SEE SCHEDULE A)
NO SCALE

ELECTRICAL SYSTEMS DETAILS
SCALE: AS SHOWN

ED-43



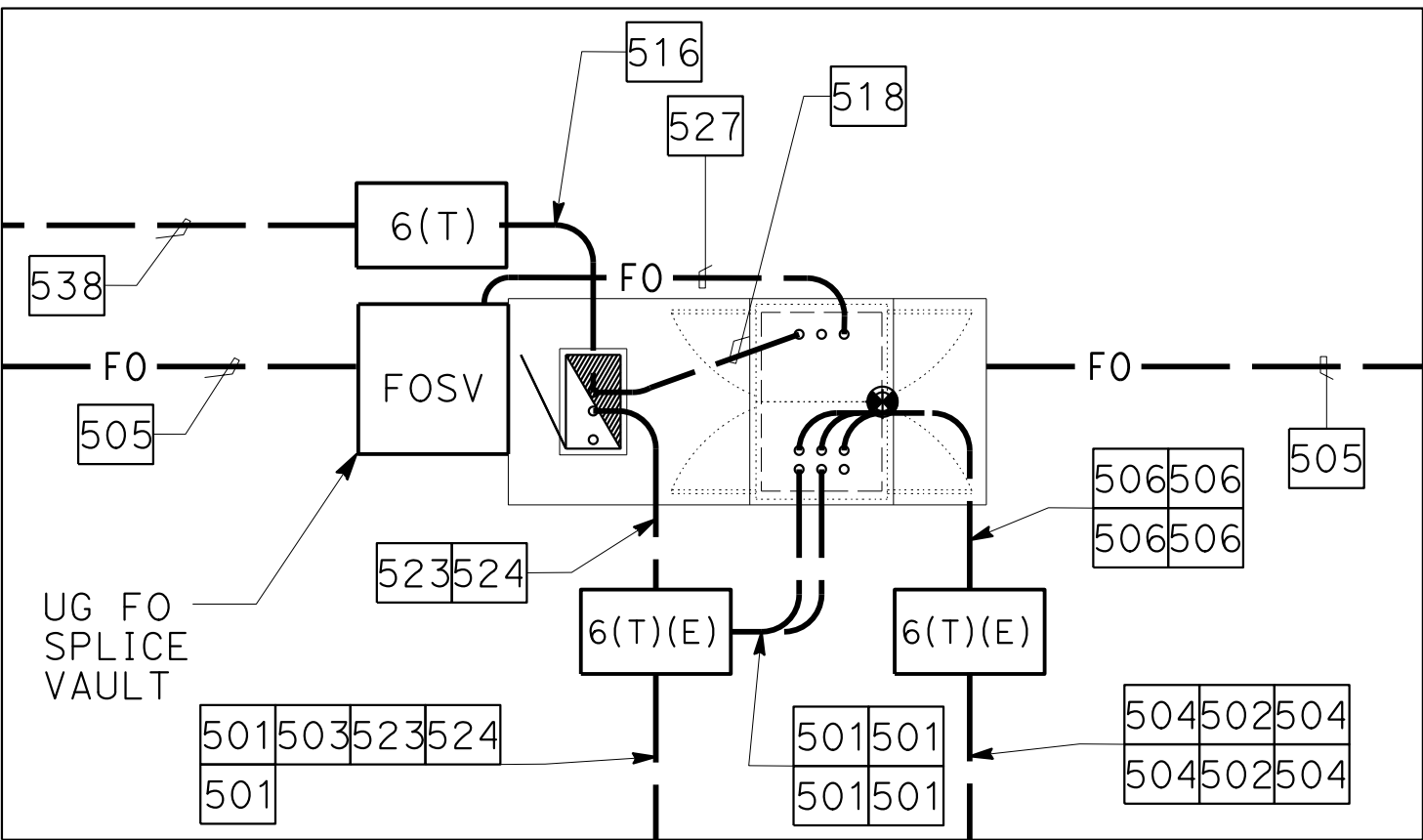
SITE 45 PLAN-DETAIL 0
SB TOLL ZONE
FUTURE NB TOLL ZONE
(SEE SCHEDULE A)
SCALE: 1" = 10'

ETS EQUIPMENT LAYOUT PLAN

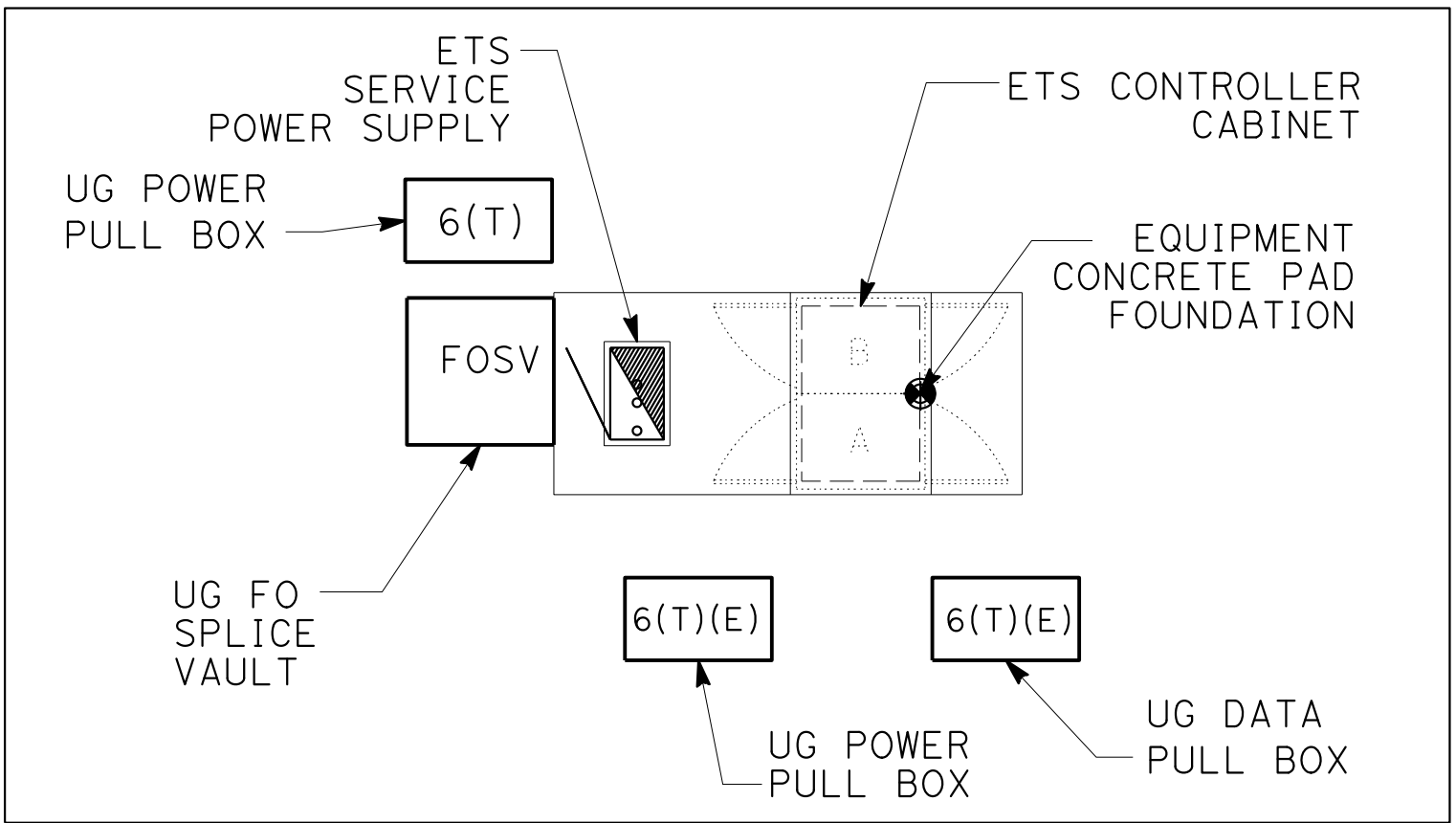
- NOTES:
- FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
 - FOR ELEVATIONS AND SECTIONS, SEE SHEETS ED-100 AND ED-101.
 - IN CENTER MEDIAN, INSTALL ALL PULL BOXES ADJACENT TO CENTER BARRIER AND AS FAR FROM ETW AS POSSIBLE.
 - NEW HDD CONDUITS FOR FUTURE NB TOLL ZONE TO BE INSTALLED NOW. FUTURE NB CONDUITS TO BE ROUTED IN SEPARATE TYPE 9A BOXES AND CAPPED INSIDE FOUNDATION.

SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)

REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	EQUIPMENT TAG ID	STATION		EQUIPMENT TAG ID		CCTV TAG ID	No. OF LED LIGHT
		(CENTER OF EQUIPMENT CONCRETE PAD)	OFFSET DIMENSION FROM ALIGNMENT (¢ OF PAD)	TRANSFORMER	POWER SUPPLY		
E-140	680-ETS-CCA-SITE45	"I-680" 400+00	73.6' LEFT	INSIDE PANEL	680-ETS-PS27C		2
	680-ETS-CCB-SITE45						

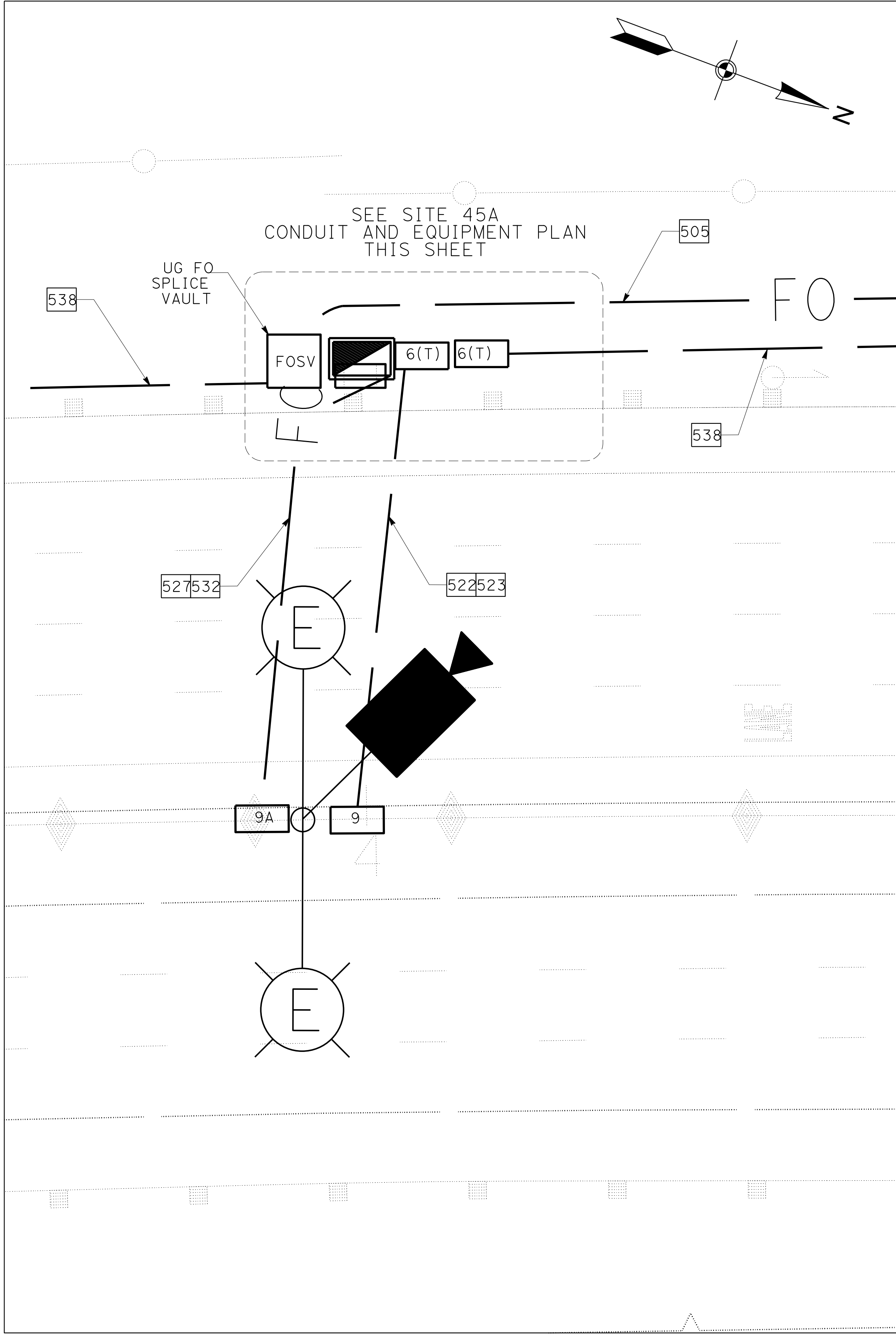


SITE 45-CONDUIT PLAN
(SEE SCHEDULE A)
NO SCALE



SITE 45-EQUIPMENT PLAN
(SEE SCHEDULE A)
NO SCALE

ELECTRICAL SYSTEMS DETAILS
SCALE: AS SHOWN
ED-45



SITE 45A PLAN-DETAIL P
CCTV24-SITE 45A
(SEE SCHEDULE A)
SCALE: 1" = 10'

FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

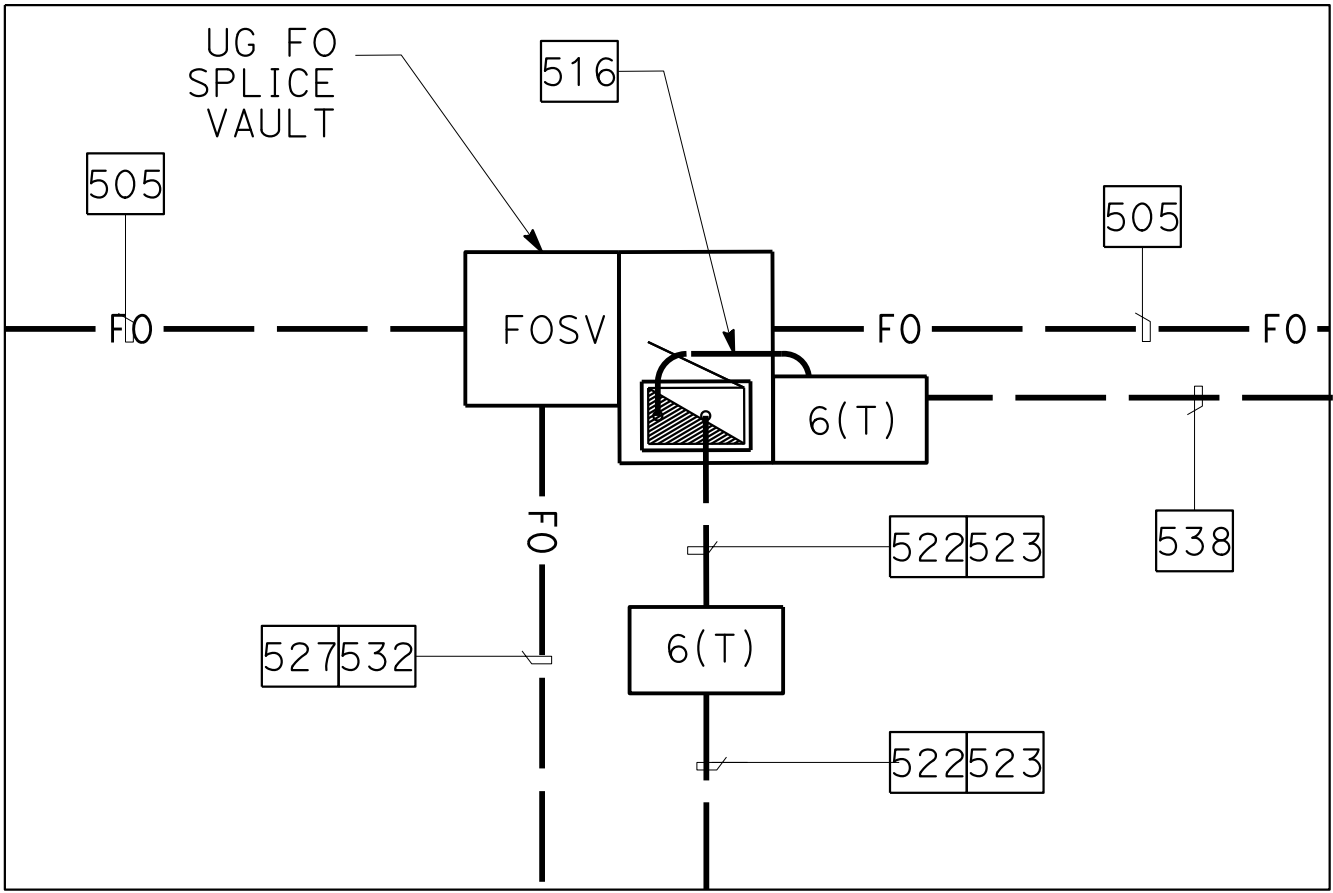
ETS EQUIPMENT LAYOUT PLAN

NOTES:

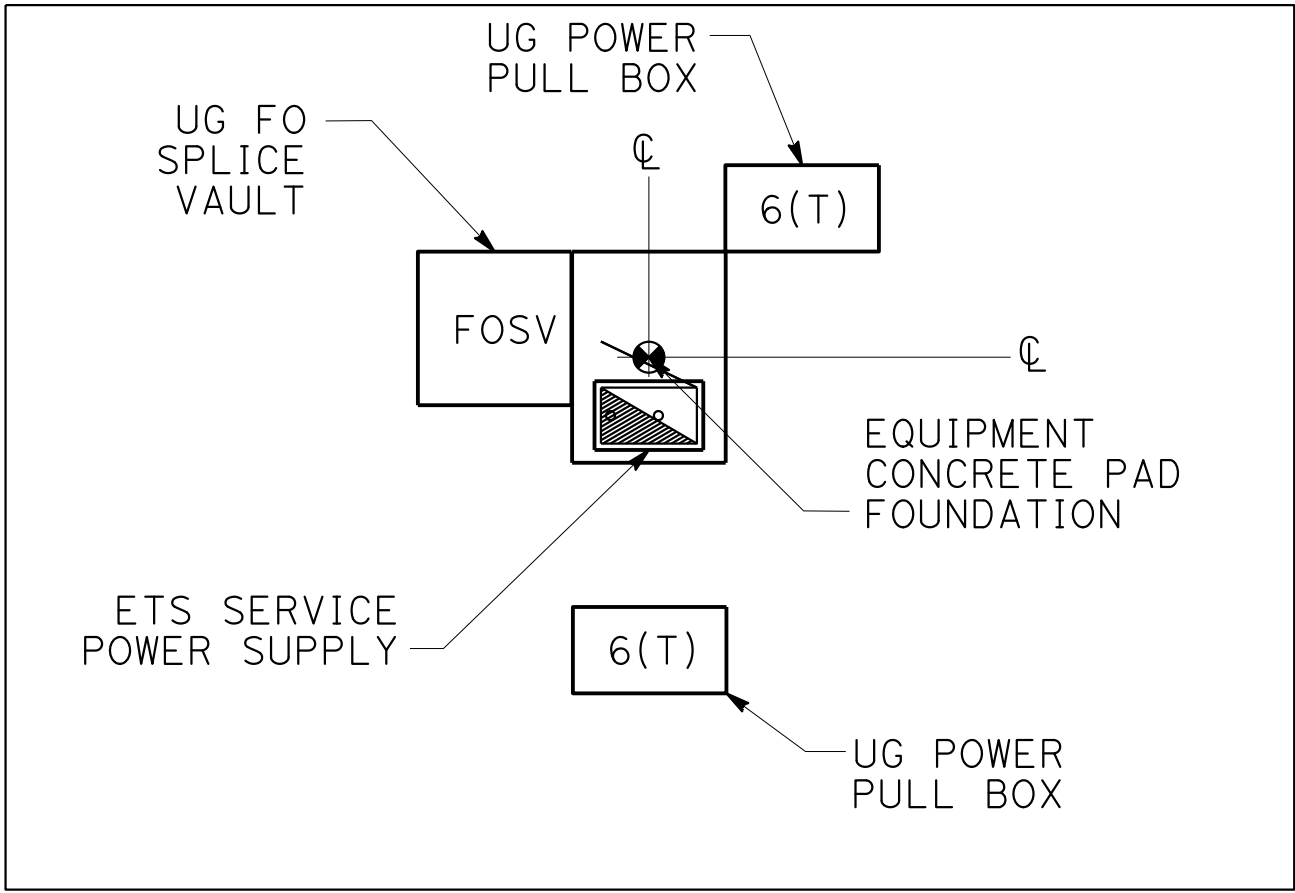
- FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
- FOR ELEVATIONS AND SECTIONS, SEE SHEETS ED-100 AND ED-101.
- FOR CCTV MOUNTING TO LIGHTING POLE, SEE DETAIL ON SHEET ED-114. INSTALLATION OF CCTV TO BE DONE BY OTHERS.
- IN CENTER MEDIAN, INSTALL ALL PULL BOXES ADJACENT TO CENTER BARRIER AND AS FAR FROM ETW AS POSSIBLE.

SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)

REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	EQUIPMENT TAG ID	STATION		EQUIPMENT TAG ID		CCTV TAG ID	No. OF LED LIGHT
		(CENTER OF EQUIPMENT CONCRETE PAD)	OFFSET DIMENSION FROM ALIGNMENT (¢ OF PAD)	TRANSFORMER	POWER SUPPLY		
E-142	CCTV24-SITE45A	"I-680" 424+00	72.87' LEFT	INSIDE PANEL	680-ETS-PS28A		2



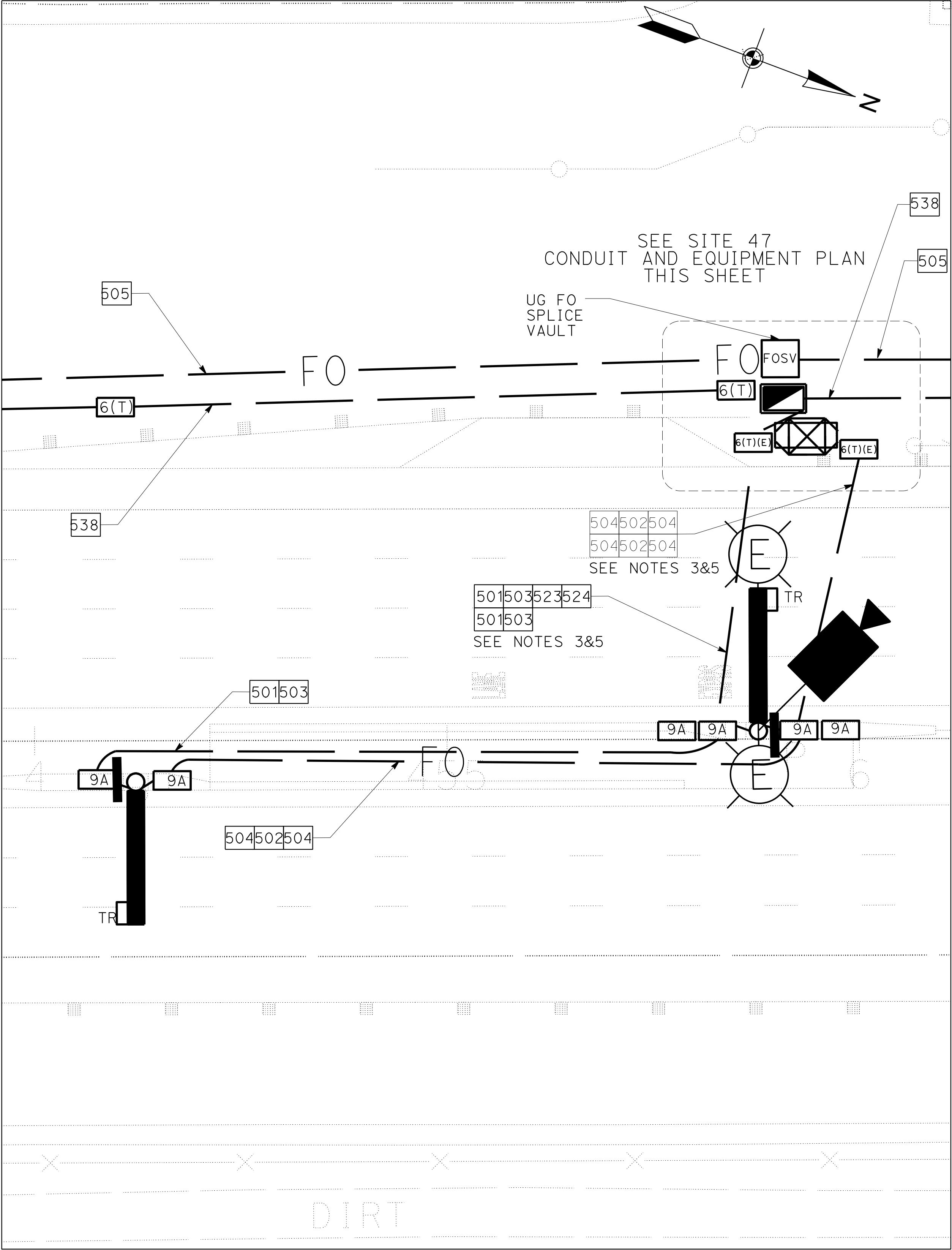
SITE 45A-CONDUIT PLAN
(SEE SCHEDULE A)
NO SCALE



SITE 45A-EQUIPMENT PLAN
(SEE SCHEDULE A)
NO SCALE

ELECTRICAL SYSTEMS DETAILS
SCALE: AS SHOWN

ED-46



SITE 47 PLAN-DETAIL R
SB TOLL ZONE
CHP AREA
FUTURE NB TOLL ZONE
(SEE SCHEDULE A)
SCALE: 1" = 10'

FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

ETS EQUIPMENT LAYOUT PLAN

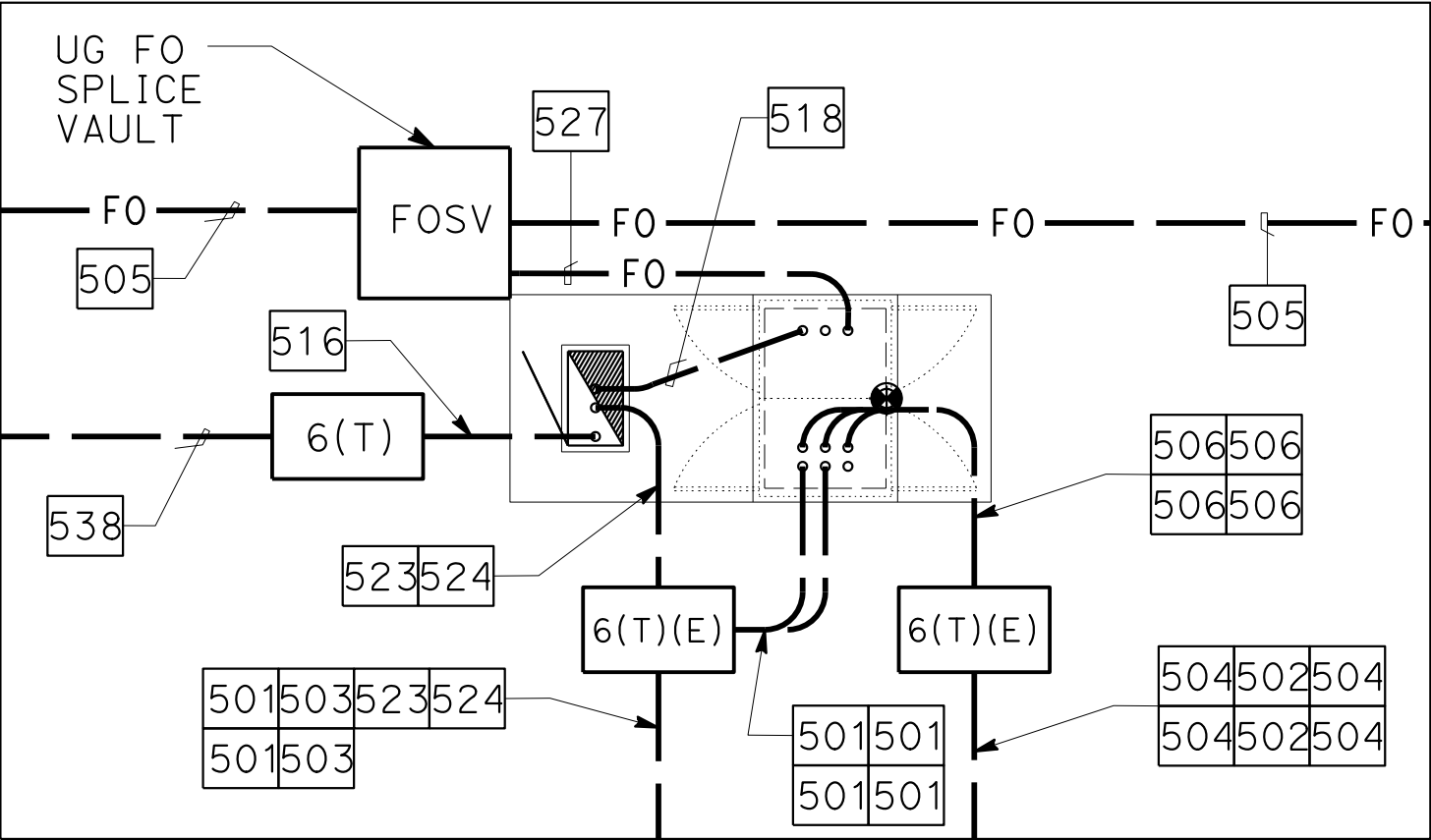
NOTES:

- FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
- FOR ELEVATIONS AND SECTIONS, SEE SHEETS ED-100 AND ED-101.
- NB SITE WILL BE FUTURE TOLL ZONE. CONDUITS FOR FUTURE NB SITE TO BE INSTALLED AND CAPPED INSIDE NB FOUNDATION.
- IN CENTER MEDIAN, INSTALL ALL PULL BOXES ADJACENT TO CENTER BARRIER AND AS FAR FROM ETW AS POSSIBLE.
- NEW HDD CONDUITS FOR FUTURE NB VTMS AND TOLL ZONE TO BE INSTALLED NOW.
FUTURE NB CONDUITS TO BE ROUTED IN SEPARATE TYPE 9A BOXES.

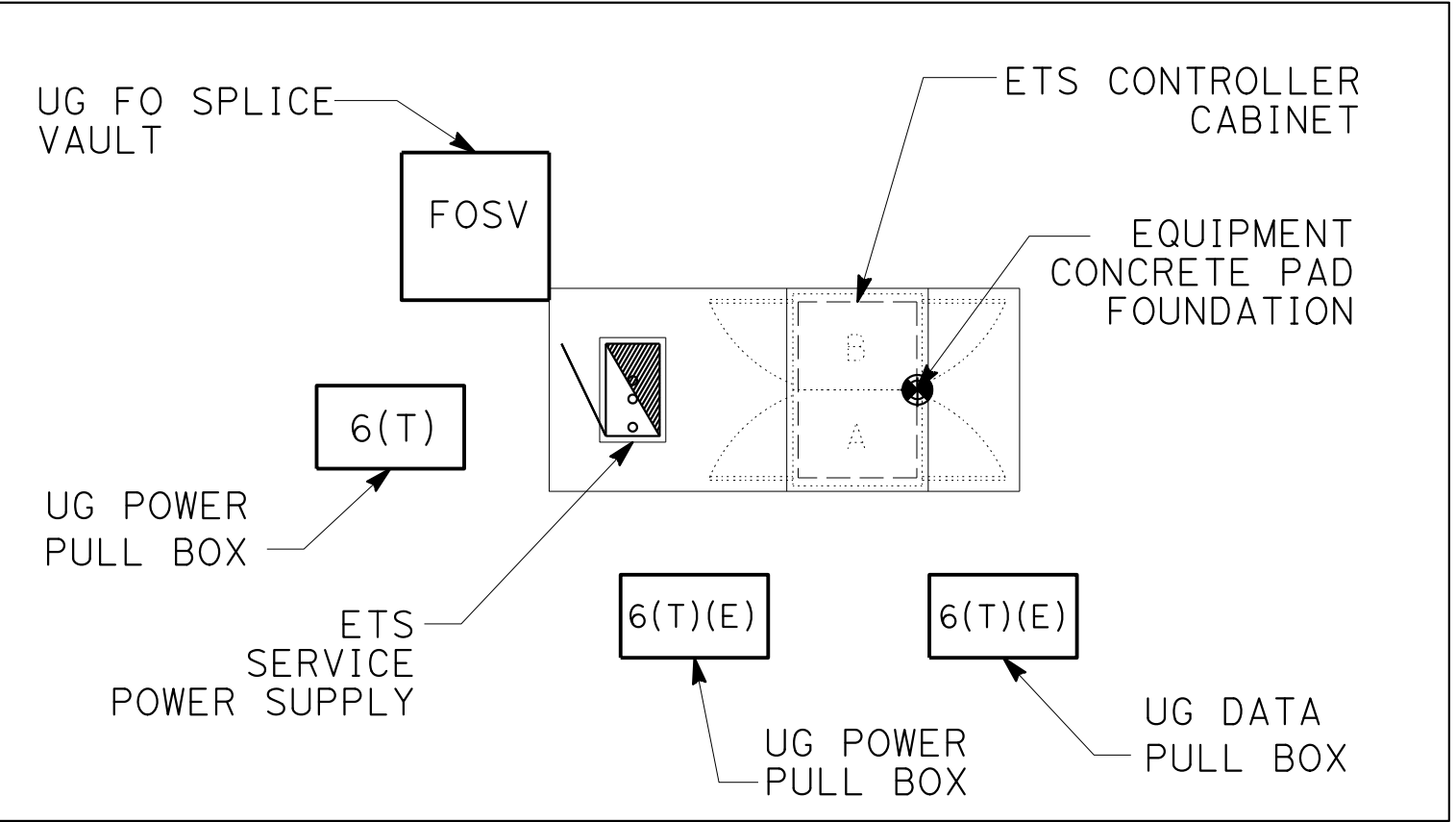
SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)

REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	EQUIPMENT TAG ID	STATION		EQUIPMENT TAG ID		CCTV TAG ID	No. OF LED LIGHT
		(CENTER OF EQUIPMENT CONCRETE PAD)	OFFSET DIMENSION FROM ALIGNMENT (Q OF PAD)	TRANSFORMER	POWER SUPPLY		
E-144	680-ETS-CCA-SITE47	"I-680" 455+87.49	73.3' LEFT	INSIDE PANEL	680-ETS-PS28C		4 *
	680-ETS-CCB-SITE47						

* (2) FUTURE NB LED LIGHT



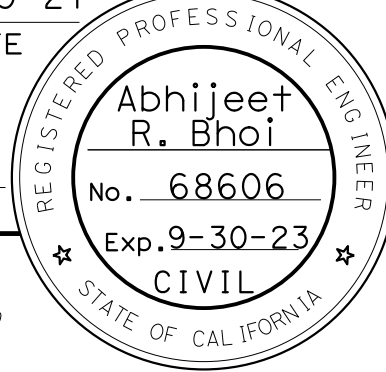
SITE 47-CONDUIT PLAN
(SEE SCHEDULE A)
NO SCALE



SITE 47-EQUIPMENT PLAN
(SEE SCHEDULE A)
NO SCALE

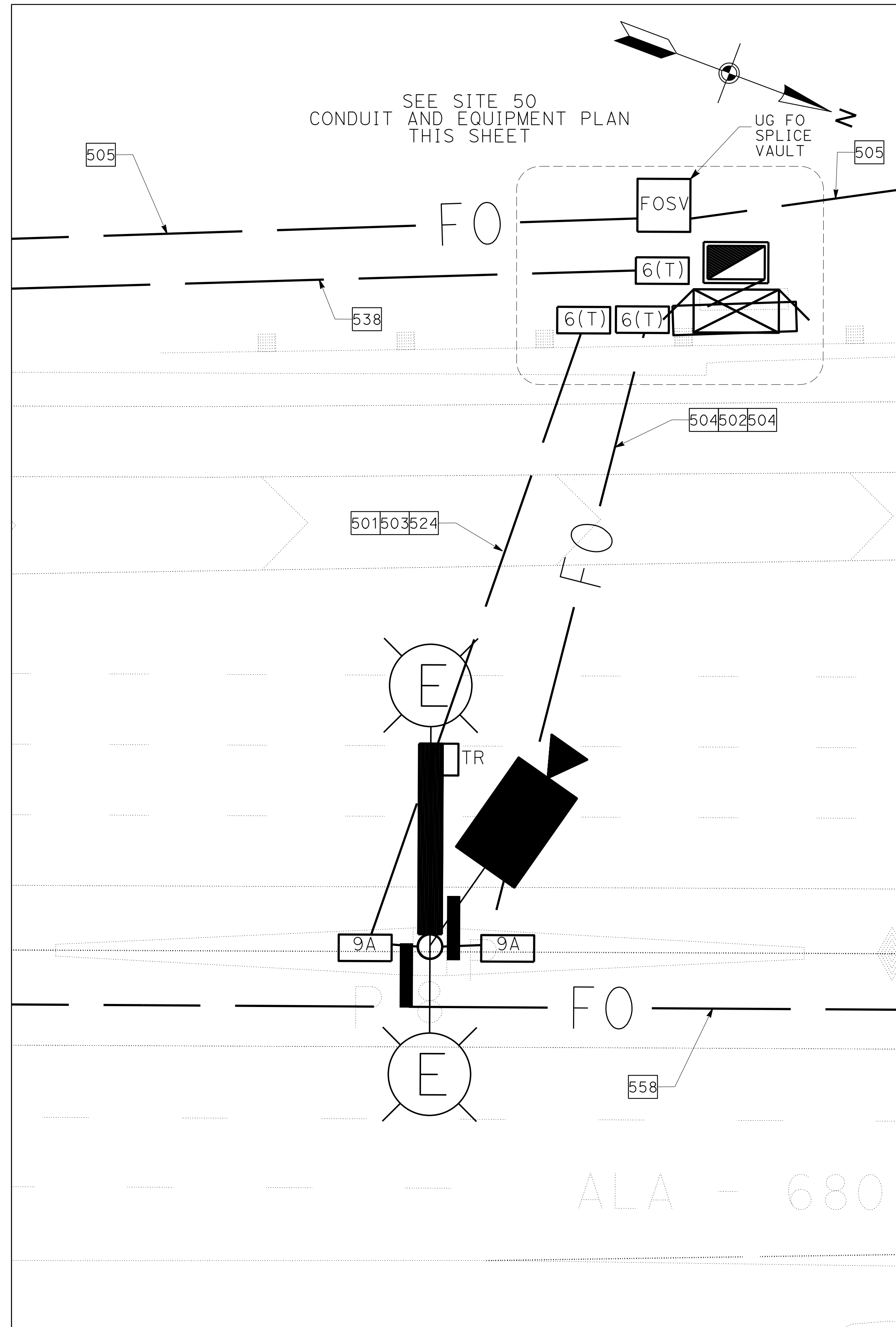
ELECTRICAL SYSTEMS DETAILS
SCALE: AS SHOWN

ED-48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1419	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
<i>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.</i>					
AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		

NOTES:

1. FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
2. FOR ELEVATIONS AND SECTIONS, SEE SHEETS ED-100 AND ED-101.
3. IN CENTER MEDIAN, INSTALL ALL PULL BOXES ADJACENT TO CENTER BARRIER AND AS FAR FROM ETW AS POSSIBLE.



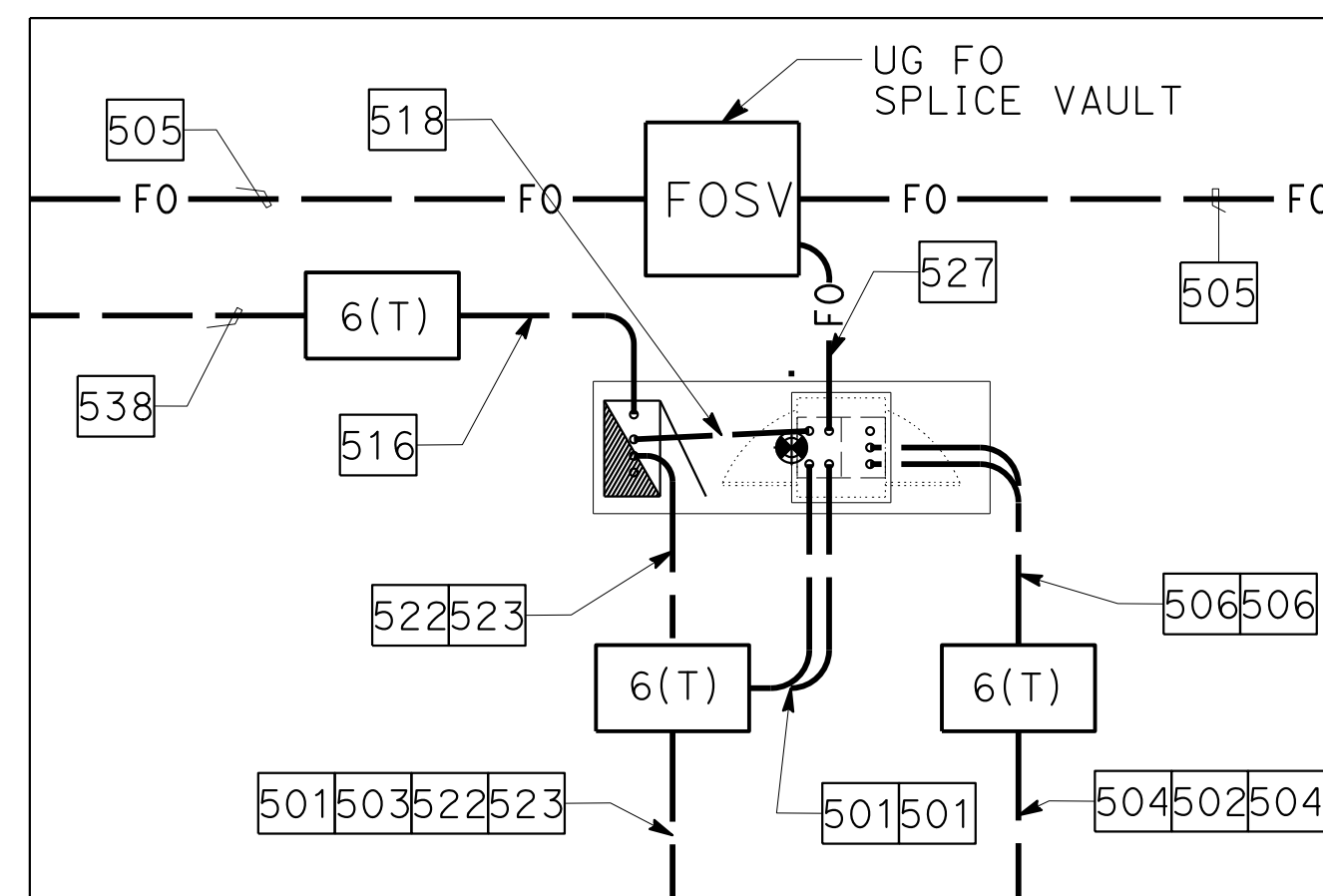
SITE 50 PLAN-DETAIL V
SB CCTV27
SB TOLL ZONE
(SEE SCHEDULE A)
SCALE: 1" = 10'

FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

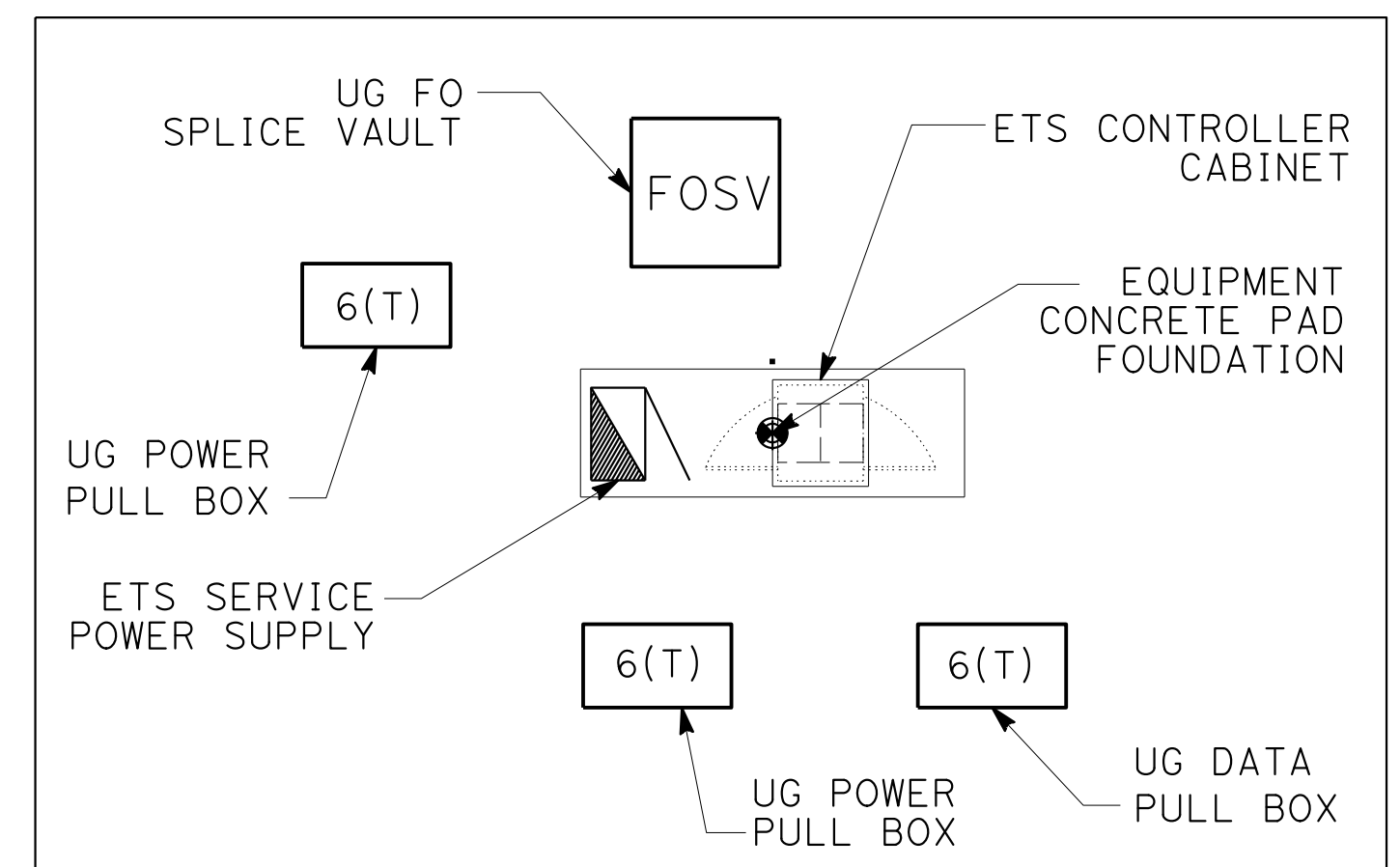
ETS EQUIPMENT LAYOUT PLAN

SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)

REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	EQUIPMENT TAG ID	STATION		EQUIPMENT TAG ID		CCTV TAG ID	No. OF LED LIGHT
		(CENTER OF EQUIPMENT CONCRETE PAD)	OFFSET DIMENSION FROM ALIGNMENT (C OF PAD)				
				TRANSFORMER	POWER SUPPLY		
E-151	680-ETS-CCA-SITE50	"I-680" 558+53	108.26' LEFT	INSIDE PANEL	680-ETS-PS29C		2



SITE 50-CONDUIT PLAN
(SEE SCHEDULE A)
NO SCALE



SITE 50-EQUIPMENT PLAN
(SEE SCHEDULE A)
NO SCALE

ELECTRICAL SYSTEMS DETAILS

SCALE: AS SHOWN

ED - 52

x

- | | |
|----------------------------|---------------|
| DATE PLOTTED => 9-MAR-2022 | LAST REVISION |
| TIME PLOTTED => 09:46 | 09-29-21 |

(SEE SCHEDULE A)
SCALE: 1" = 10'

FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

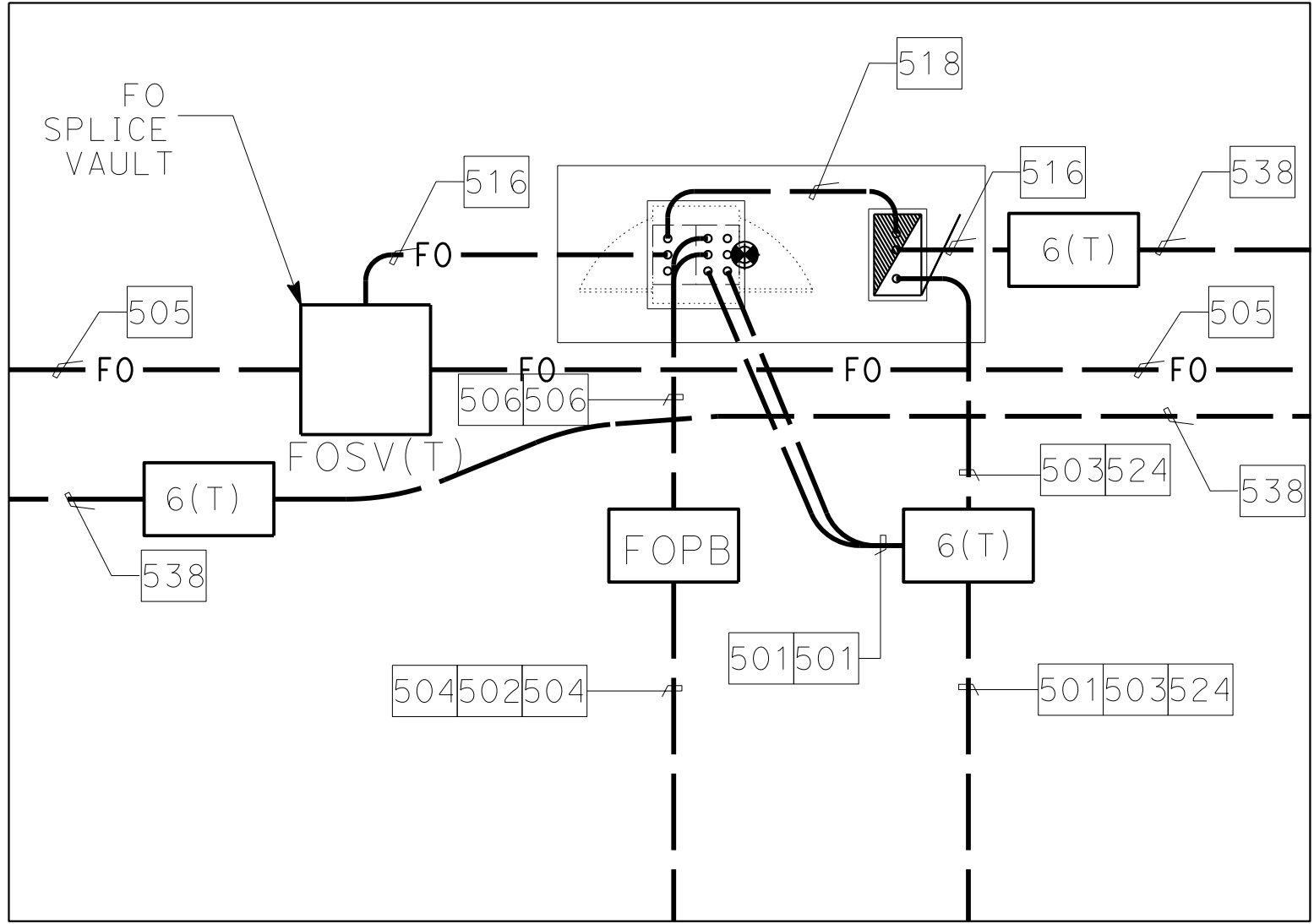
EIS EQUIPMENT LAYOUT PLAN

NOTES.

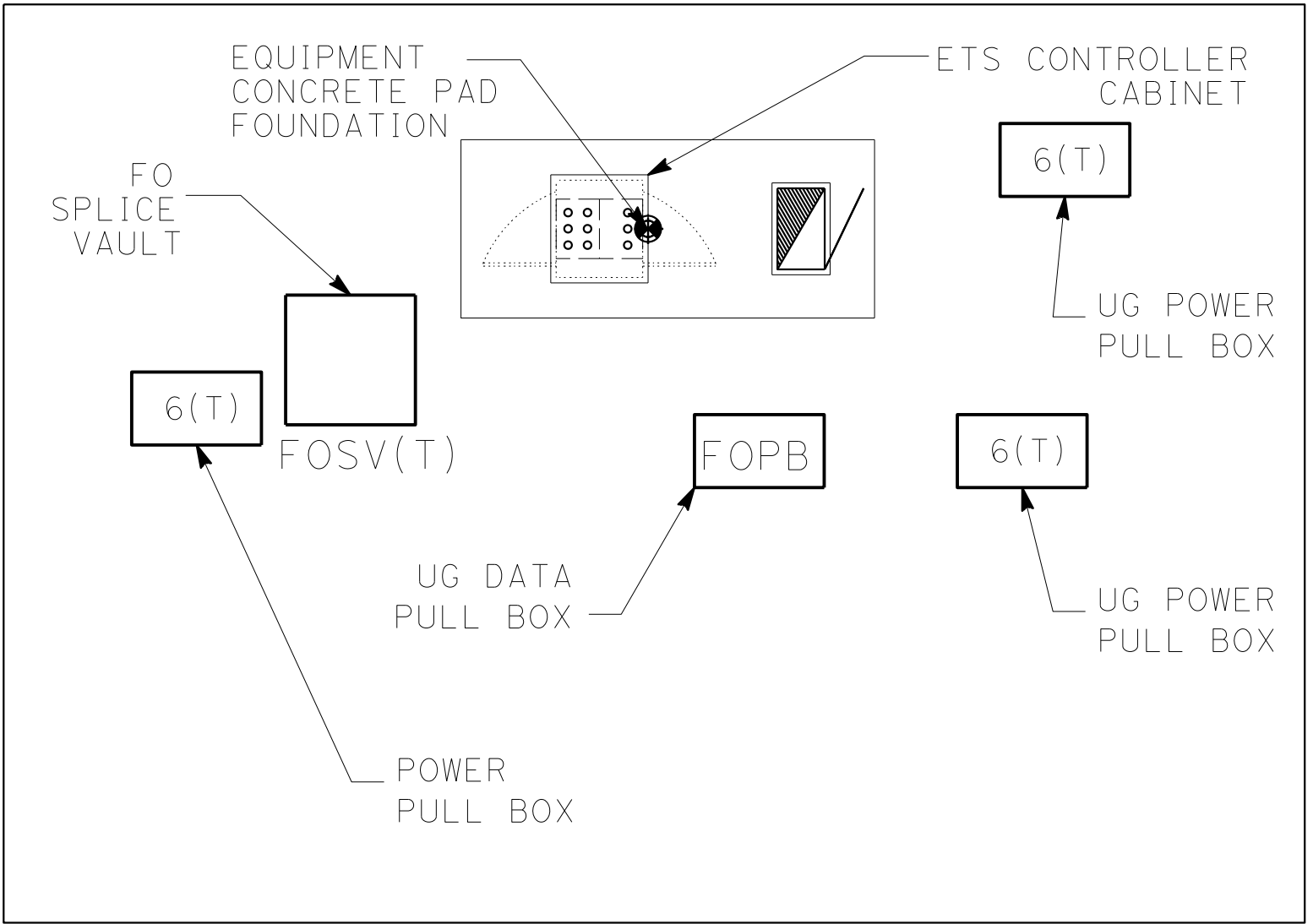
1. FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
2. FOR ELEVATIONS AND SECTIONS, SEE SHEETS ED-100 AND ED-101.
3. IN CENTER MEDIAN, INSTALL ALL PULL BOXES ADJACENT TO CENTER BARRIER AND AS FAR FROM ETW AS POSSIBLE.

SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)

REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	EQUIPMENT TAG ID	STATION					
		(CENTER OF EQUIPMENT  CONCRETE PAD)	OFFSET DIMENSION  FROM ALIGNMENT ( OF PAD)	EQUIPMENT TAG ID		CCTV TAG ID	No. OF LED LIGHT
				TRANSFORMER	POWER SUPPLY		
E-156	680-ETS-CCA-SITE53	"I-680" 629+25	102.4' LEFT	INSIDE PANEL	680-ETS-PS34AC		1



SITE 55-CONDUIT PLAN
(SEE SCHEDULE A)
NO SCALE



SITE 55-EQUIPMENT PLAN
(SEE SCHEDULE A)
NO SCALE

ELECTRICAL SYSTEMS DETAILS

SCALE: AS SHOWN

ED-34

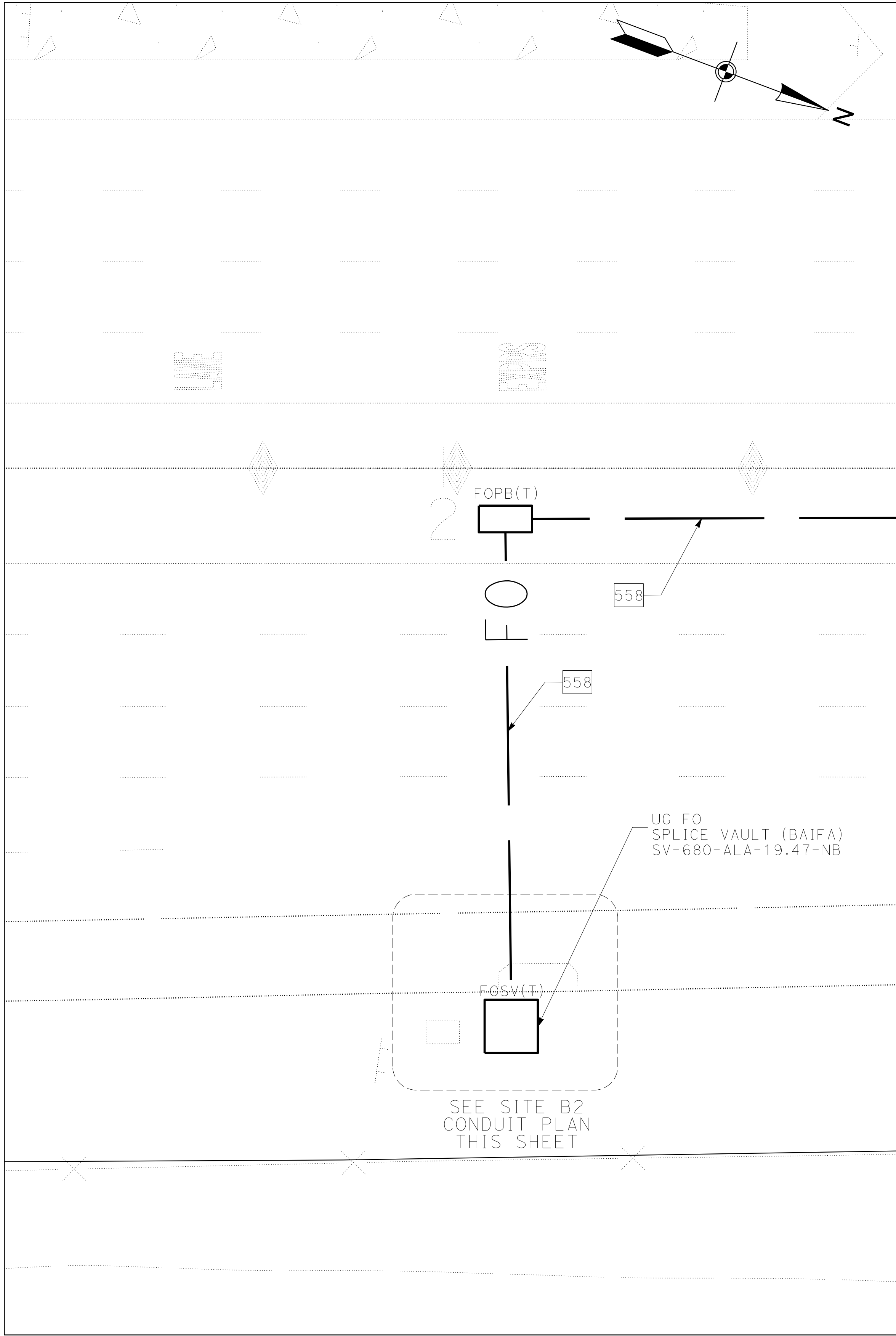
0:\0030\UNDRAFTING\FINAL_P58E\0420000235ub057.dgn

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-116 & E-117

DATE: 09-29-21

TIME: 09:47

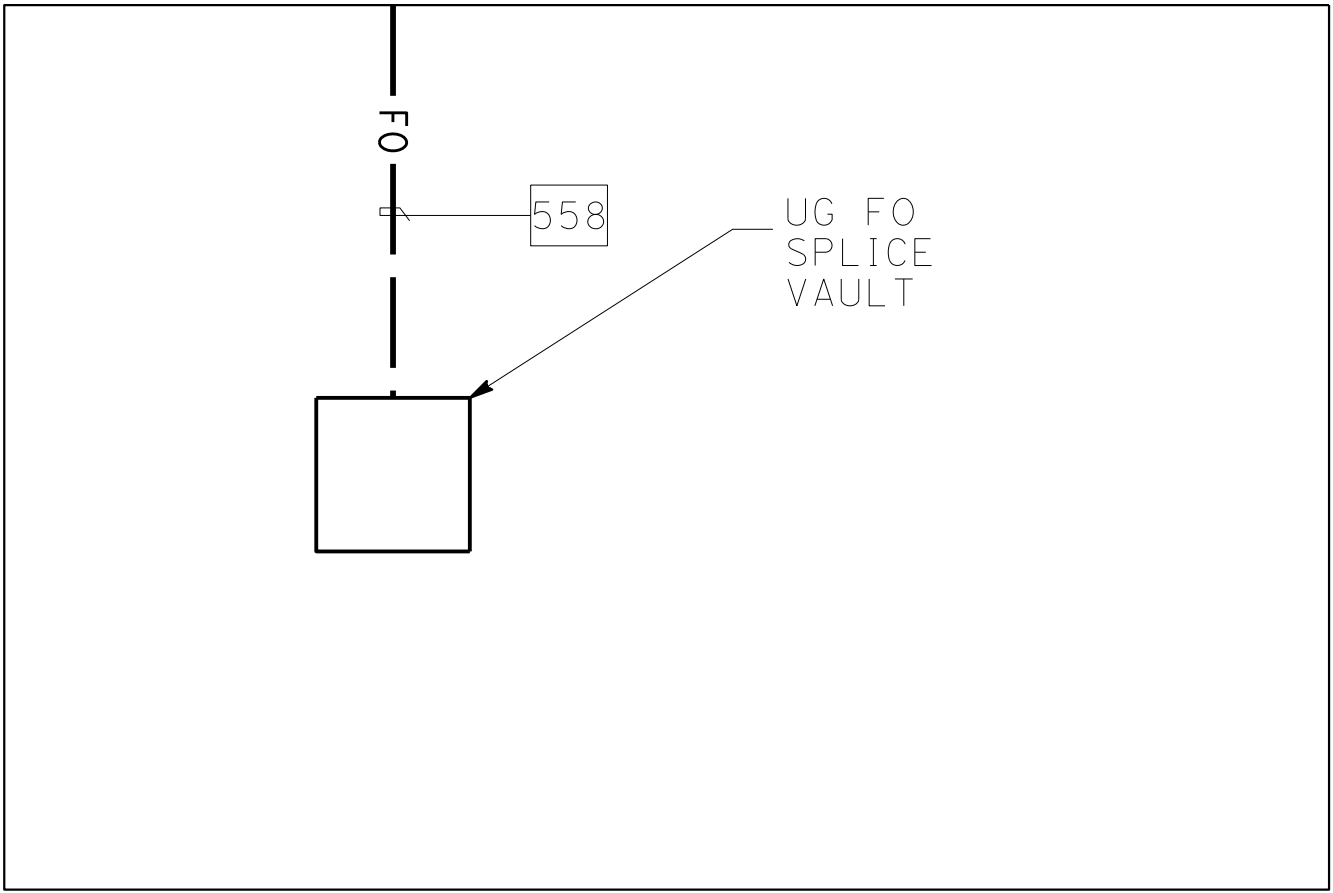


FUTURE SITE B2 PLAN-DETAIL B-B
CCTV-680-ALA-19.47-NB
SCALE: 1" = 10'

ETS EQUIPMENT LAYOUT PLAN

NOTES:

- FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
- IN CENTER MEDIAN, INSTALL ALL PULL BOXES ADJACENT TO CENTER BARRIER AND AS FAR FROM ETW AS POSSIBLE.
- CONSTRUCT PULL BOXES AND CONDUIT ONLY.



SITE B2-CONDUIT PLAN
NO SCALE

ELECTRICAL SYSTEMS DETAILS
SCALE: AS SHOWN
ED-57

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1424	1710

ARBhoi

REGISTERED CIVIL ENGINEER

DATE

9-29-21

October 8, 2021

PLANS APPROVAL DATE

Abhijeet R. Bhoi

No. 68606

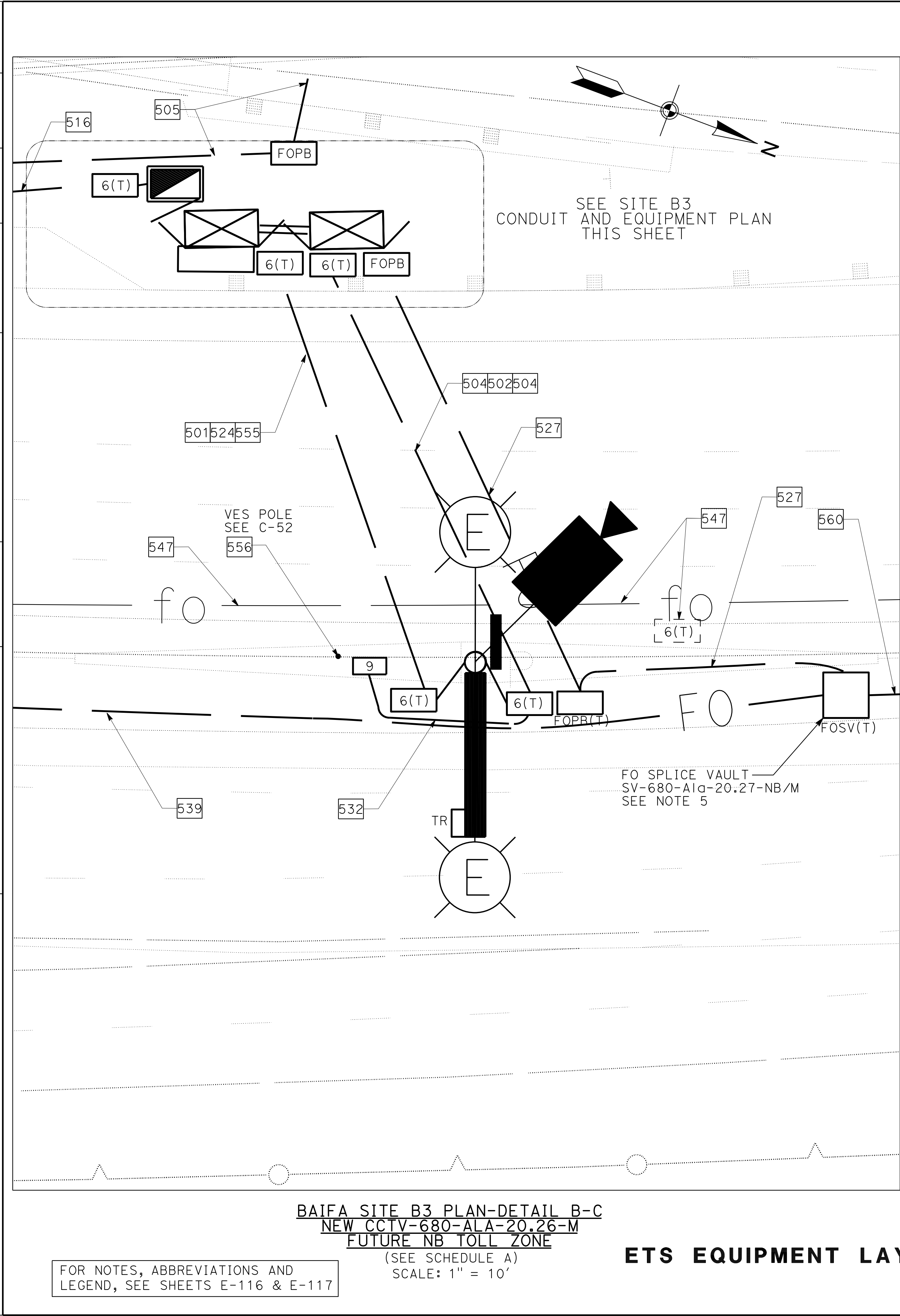
Exp. 9-30-23

CIVIL

STATE OF CALIFORNIA

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.

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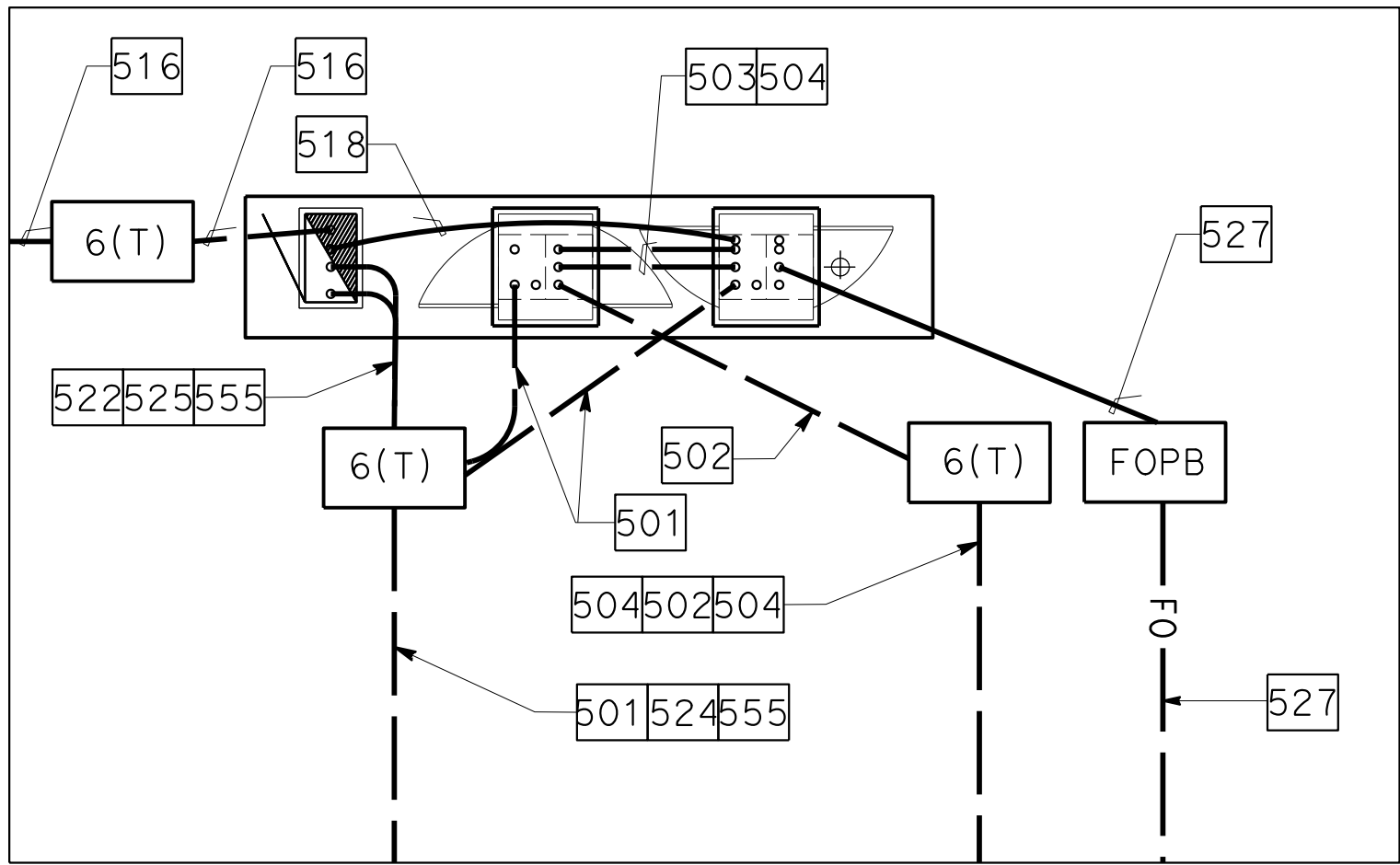


NOTES:

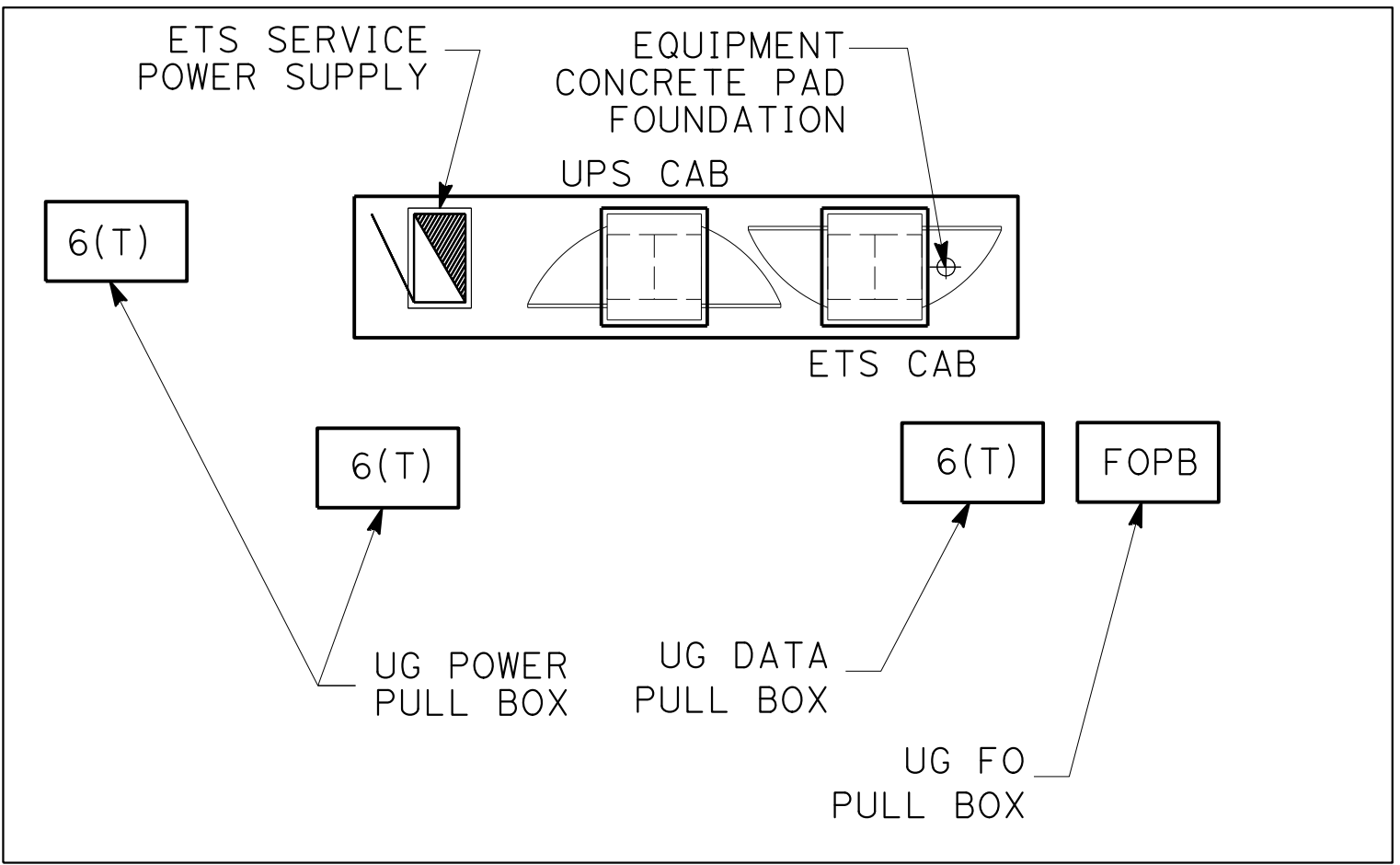
- FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
- FOR TYPICAL CONDUIT LAYOUT, SEE SHEET ED-112.
- IN CENTER MEDIAN, INSTALL ALL PULL BOXES ADJACENT TO CENTER BARRIER AND AS FAR FROM ETW AS POSSIBLE.
- PROVIDE TEMPORARY SPLICE VAULT AND TEMPORARY LATERAL CONDUIT FOR COMMUNICATION AND POWER TO EXISTING BAIFA SITE WHILE MEDIAN DEMOLITION AND NEW BAIFA TOLL SITE IS BEING CONSTRUCTED. CONNECT TEMPORARY POWER AND COMMUNICATION CONDUITS DIRECTLY TO CCTV POLE FOUNDATION CONDUIT ENTRANCE. SEE SHEET E-152. EXISTING TOLL EQUIPMENT SHALL BE REMOVED BY OTHERS ONCE NEW TOLL EQUIPMENT IS FULLY OPERATIONAL.
- 24-CT FIBER OPTIC CABLE ENDS INSIDE THIS VAULT.

SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)

REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	(FUTURE) EQUIPMENT TAG ID	STATION		EQUIPMENT TAG ID		CCTV TAG ID	No. OF LED LIGHT
		(CENTER OF EQUIPMENT CONCRETE PAD)	OFFSET DIMENSION FROM ALIGNMENT (¢ OF PAD)	TRANSFORMER	POWER SUPPLY		
E-152	680-ETS-CCA-SITEB3	"I-680" 573+48	78.74' LEFT	INSIDE PANEL	680-ETS-PS31A (B02031)	CCTV-680- ALA-20.27-M	2
	680-ETS-CCB-SITEB3						

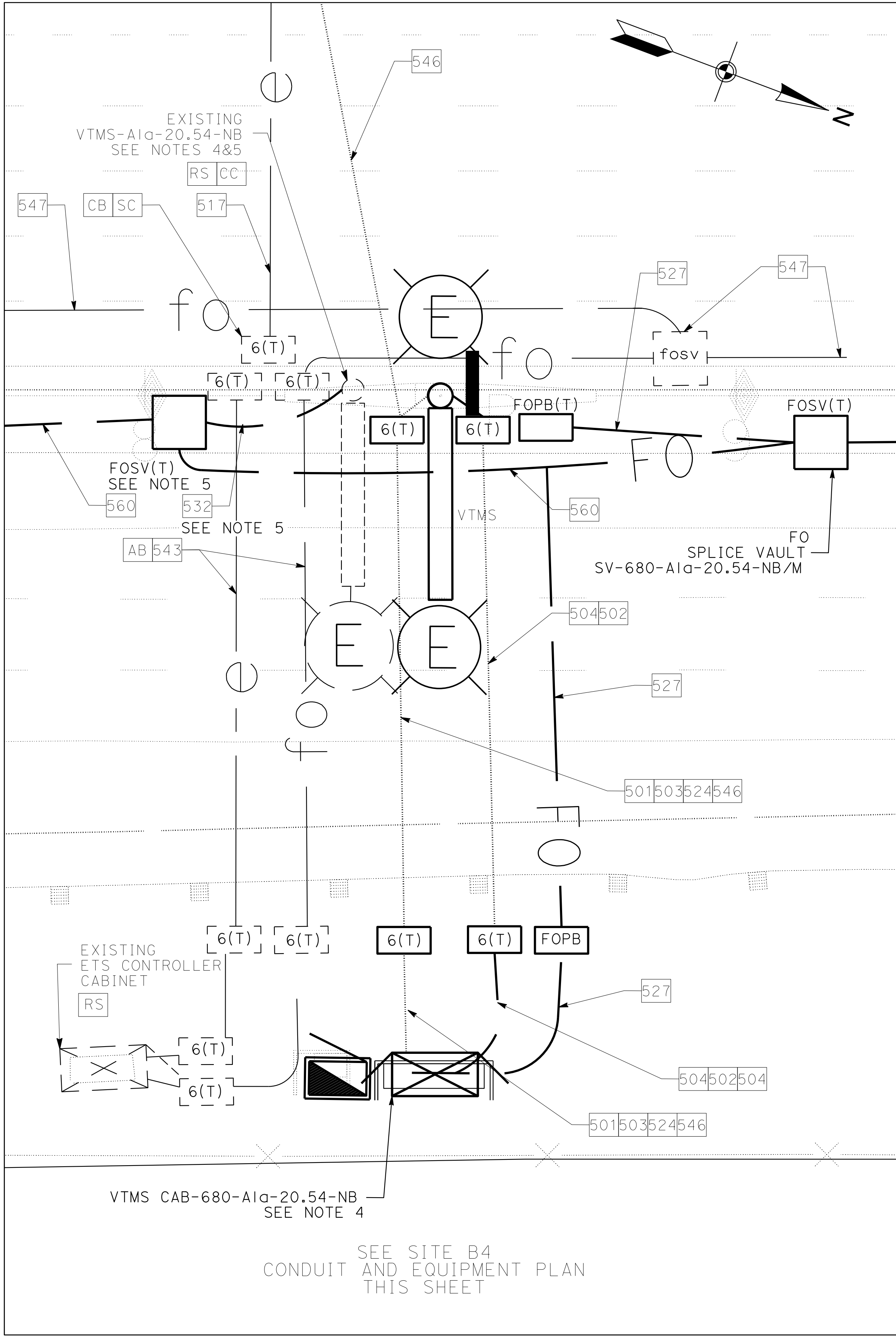


SITE B3-CONDUIT PLAN
(SEE SCHEDULE A)
NO SCALE



SITE B3-EQUIPMENT PLAN
(SEE SCHEDULE A)
NO SCALE

ELECTRICAL SYSTEMS DETAILS
SCALE: AS SHOWN
ED-58



BAIFA SITE B4 PLAN-DETAIL B-D
VTMS-680-A1a-20.54-NB

FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

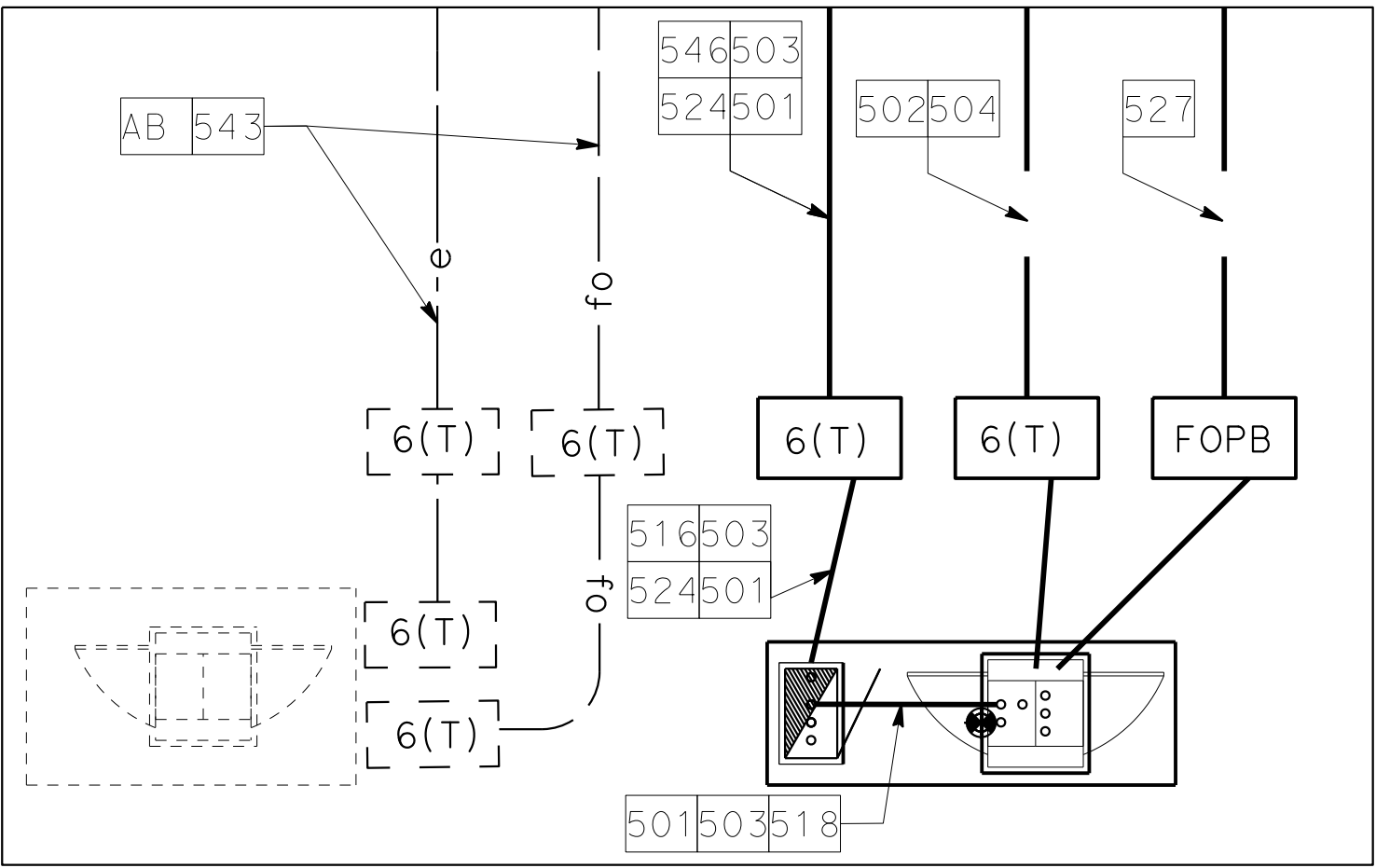
(SEE SCHEDULE A)
SCALE: 1" = 10'

NOTES:

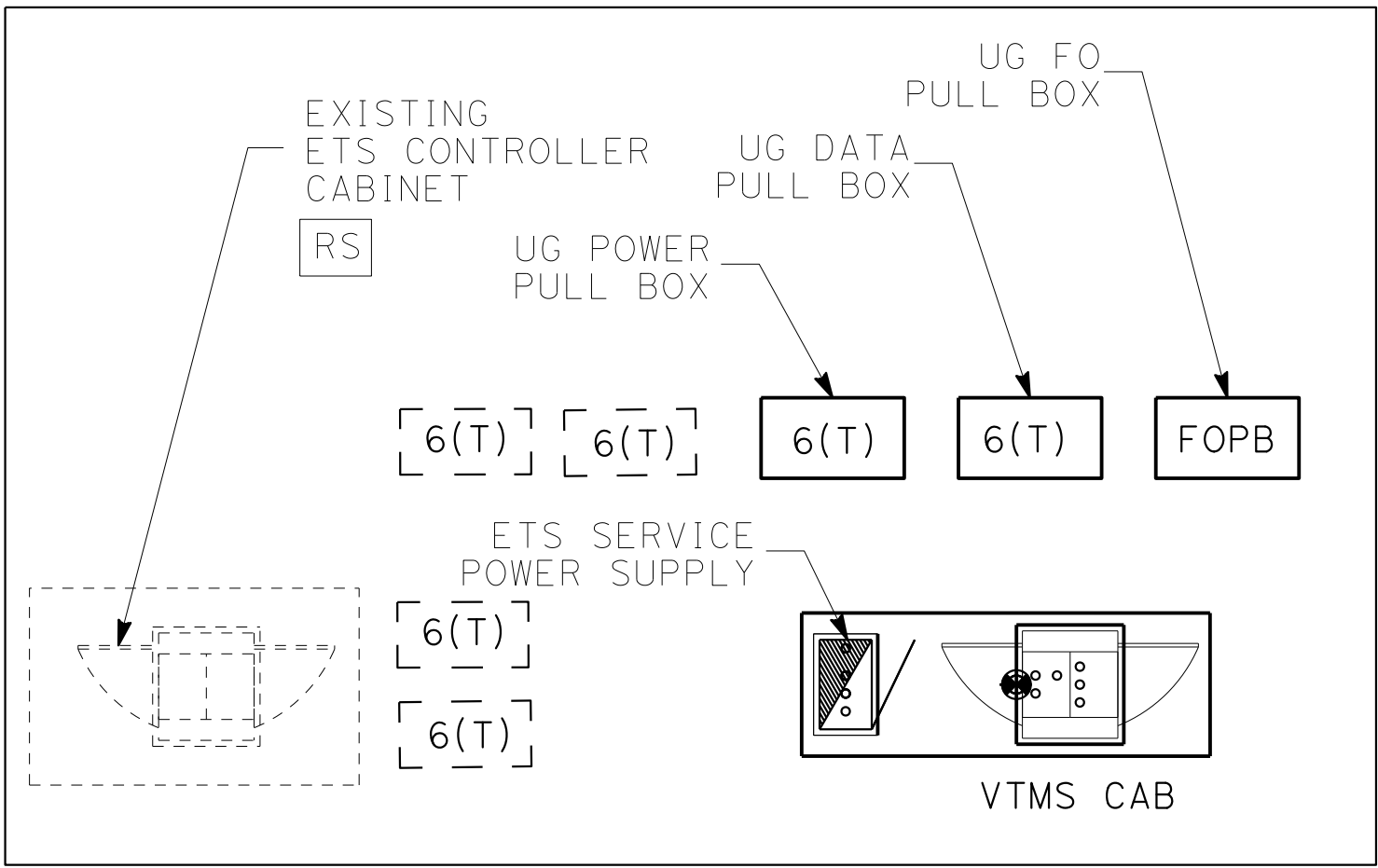
- FOR DETAILS AND INSTALLATION OF EQUIPMENT SERVICE ENCLOSURE, SEE CALTRANS STANDARD PLANS ES-2D AND ES-2G.
- FOR TYPICAL CONDUIT LAYOUT, SEE SHEET ED-112.
- IN CENTER MEDIAN, INSTALL ALL PULL BOXES ADJACENT TO CENTER BARRIER AND AS FAR FROM ETW AS POSSIBLE.
- NEW VTMS CABINET AND DISPLAYS MUST BE INSTALLED, COMMISSIONED, AND TESTED WITH COMMUNICATIONS, BEFORE THE OLD VTMS SYSTEM CAN BE REMOVED. COORDINATE WITH BAIFA TSI. EXISTING TOLL EQUIPMENT SHALL BE REMOVED BY OTHERS ONCE NEW TOLL EQUIPMENT IS FULLY OPERATIONAL.
- PROVIDE TEMPORARY SPLICE VAULT AND TEMPORARY LATERAL CONDUIT FOR COMMUNICATION AND POWER TO EXISTING BAIFA SITE WHILE MEDIAN DEMOLITION AND NEW BAIFA TOLL SITE IS BEING CONSTRUCTED. CONNECT TEMPORARY POWER AND COMMUNICATION CONDUITS DIRECTLY TO VTMS POLE FOUNDATION CONDUIT ENTRANCE.

SCHEDULE A (EQUIPMENT - ELECTRONIC TOLLING SYSTEM)

REFERENCE DRAWING NUMBER	ETS CONTROLLER CABINET			ETS SERVICE POWER SUPPLY		SYSTEM DEVICES AT TOLL GANTRY	
	EQUIPMENT TAG ID	STATION		EQUIPMENT TAG ID		CCTV TAG ID	No. OF LED LIGHT
		(CENTER OF EQUIPMENT CONCRETE PAD)	OFFSET DIMENSION FROM ALIGNMENT (¢ OF PAD)	TRANSFORMER	POWER SUPPLY		
E-153	680-ETS-CCA-SITEB4	"I-680" 588+30.66	115.45' RIGHT	INSIDE PANEL	B02042		2

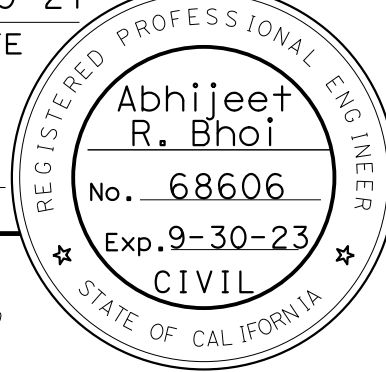


SITE B4-CONDUIT PLAN
(SEE SCHEDULE A)
NO SCALE



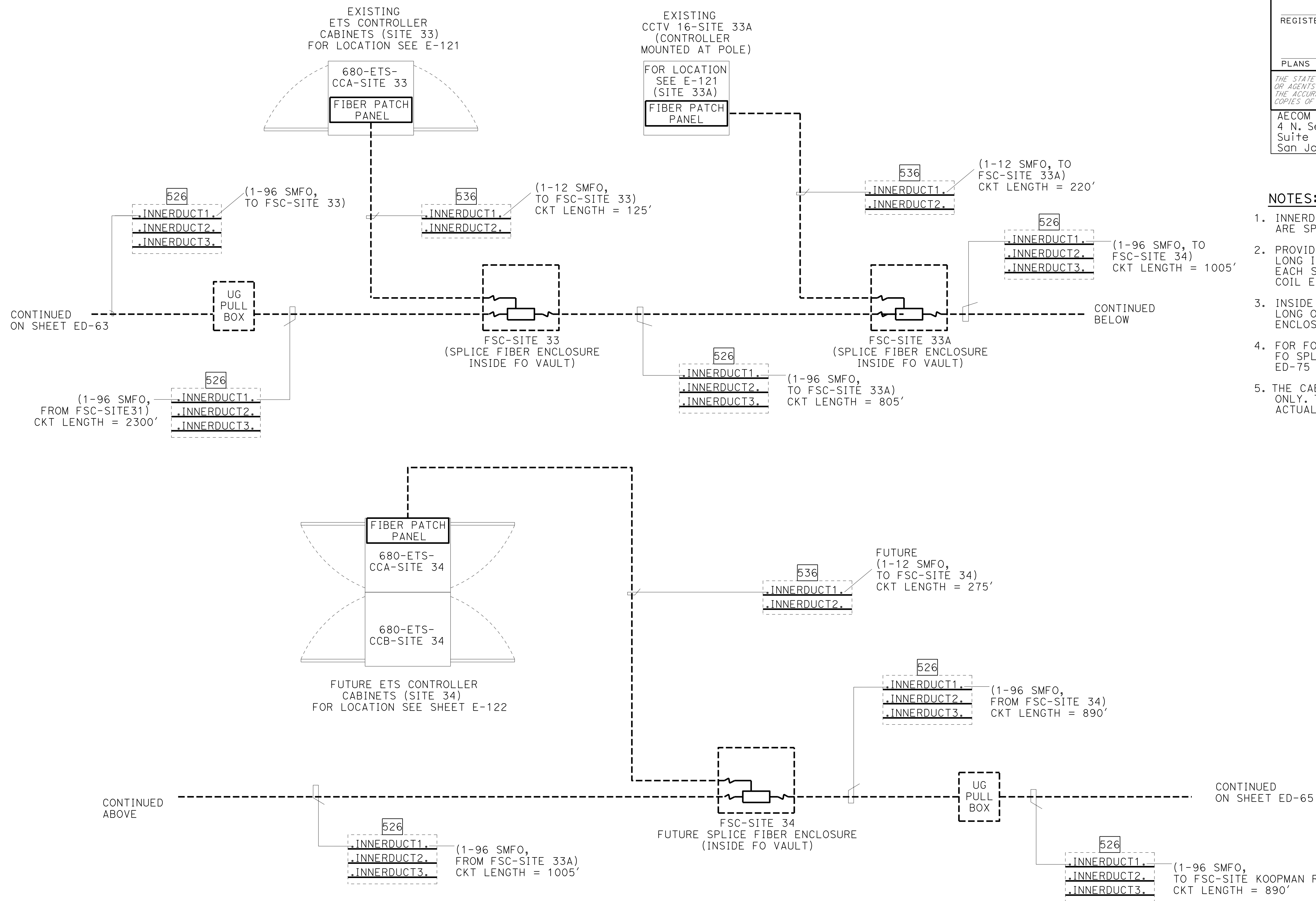
SITE B4-EQUIPMENT PLAN
(SEE SCHEDULE A)
NO SCALE

ELECTRICAL SYSTEMS DETAILS
SCALE: AS SHOWN
ED-59

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1431	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
<i>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.</i>					
AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		

NOTES:

1. INNERDUCT WITHOUT CABLE INSIDE ARE SPARES.
2. PROVIDE A CONTINUOUS FO CABLE 100' LONG INSIDE THE UG SPLICE VAULT. ON EACH SIDE OF THE FIBER SPLICE ENCLOSURE, COIL EQUAL LENGTH OF CABLE.
3. INSIDE THE UG SPLICE VAULT, COIL 50' LONG OF FO CABLE BEFORE THE FIBER SPLICE ENCLOSURE.
4. FOR FO INTERSTATE 680 NETWORK AND FO SPLICE CONFIGURATION SEE SHEETS ED-75 AND ED-76.
5. THE CABLE LENGTH SHOWN IS APPROXIMATE ONLY. THE CONTRACTOR TO PROVIDE THE ACTUAL LENGTH.



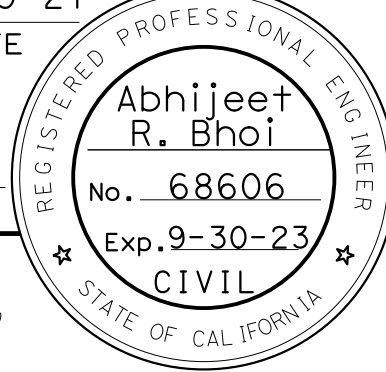
FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

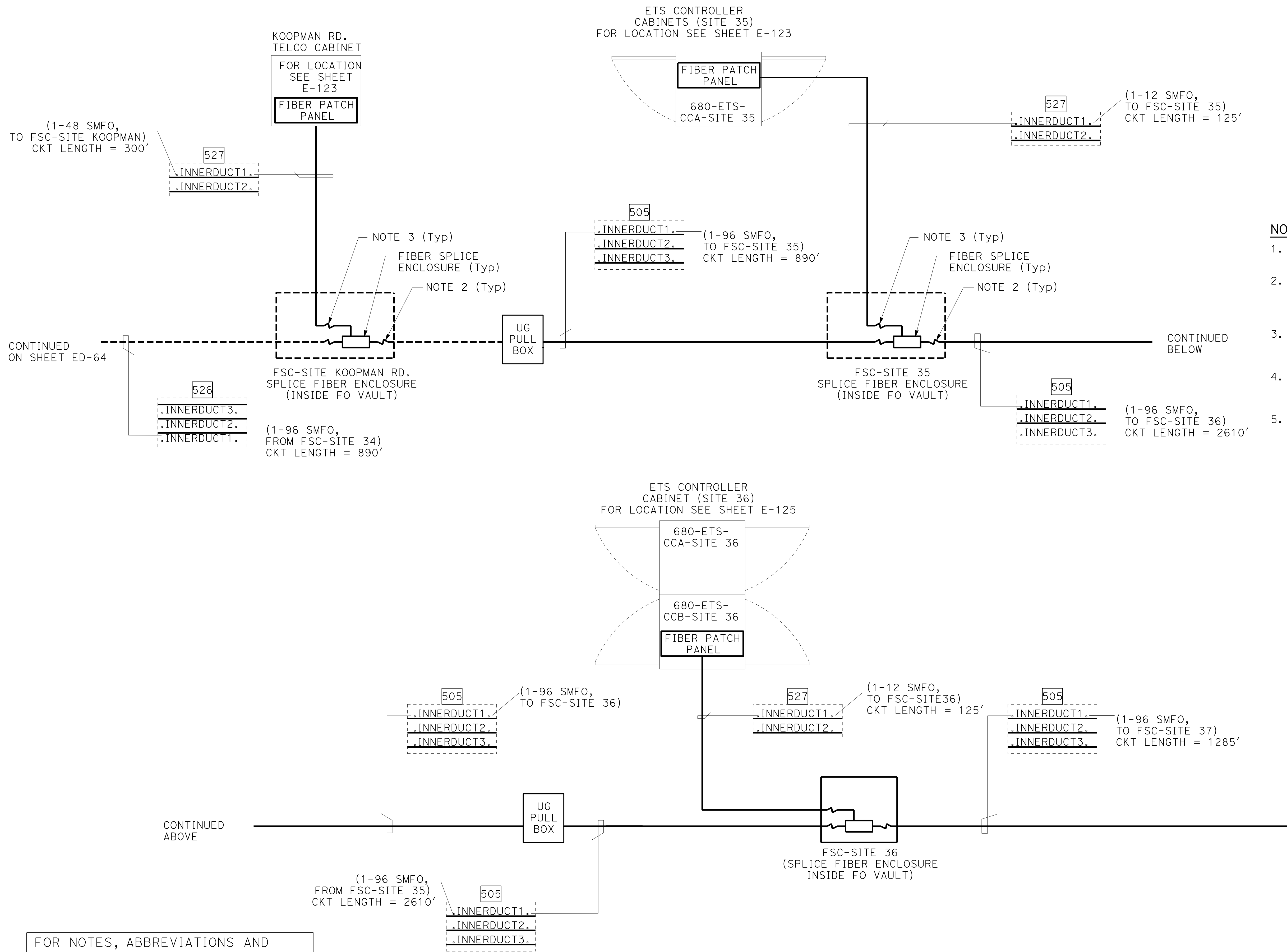
ETS FIBER OPTIC CABLE/ CONDUIT RISER BLOCK DIAGRAM

ELECTRICAL SYSTEMS DETAILS

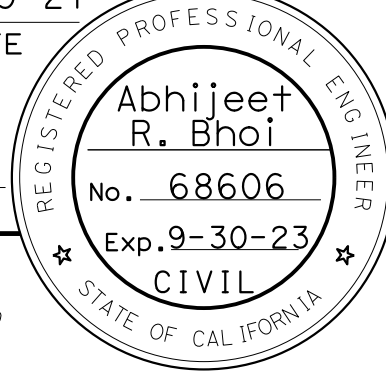
NO SCALE

ED-64

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1432	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
<i>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.</i>					
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ELECTRICAL SYSTEMS DETAILS
NO SCALE
ED-65

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1433	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
<i>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.</i>					
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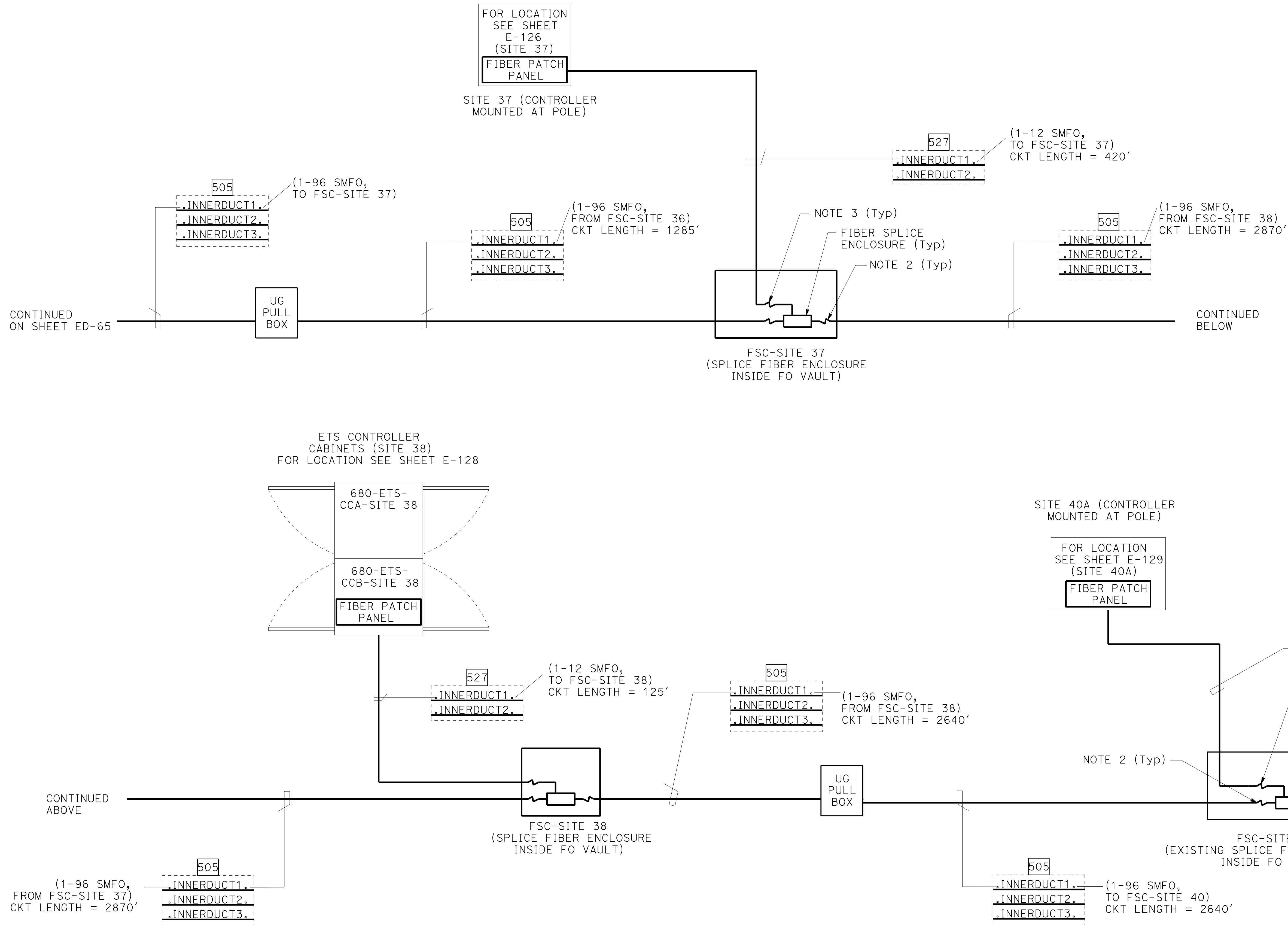
INNERDUCT WITHOUT CABLE INSIDE
ARE SPARES.

PROVIDE A CONTINUOUS FO CABLE 100'
LONG INSIDE THE UG SPLICE VAULT. ON EACH
SIDE OF THE FIBER SPLICE ENCLOSURE,
COIL EQUAL LENGTH OF CABLE.

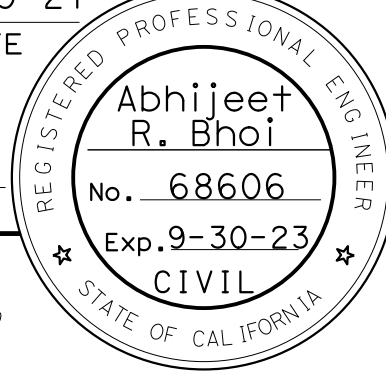
INSIDE THE UG SPLICE VAULT, COIL 50' LONG
OF FO CABLE BEFORE THE FIBER SPLICE
ENCLOSURE.

FOR FO INTERSTATE 680 NETWORK AND
FO SPLICE CONFIGURATION SEE SHEETS
ED-75 AND ED-76.

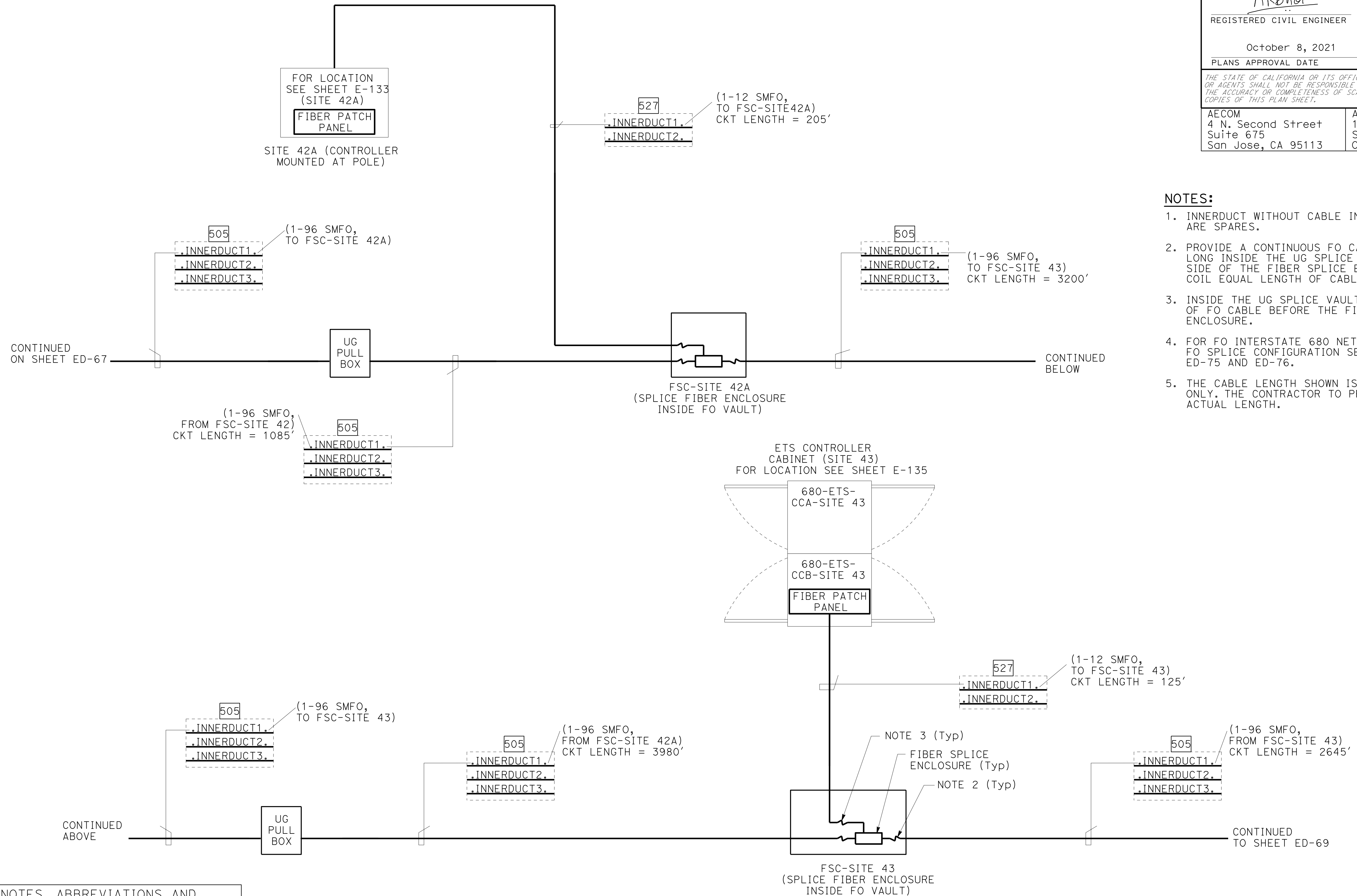
THE CABLE LENGTH SHOWN IS APPROXIMATE
ONLY. THE CONTRACTOR TO PROVIDE THE
ACTUAL LENGTH.



ELECTRICAL SYSTEMS DETAILS
NO SCALE
ED-66

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1435	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
<i>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.</i>					
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- ## NOTES:
1. INNERDUCT WITHOUT CABLE INSIDE ARE SPARES.
 2. PROVIDE A CONTINUOUS FO CABLE 100' LONG INSIDE THE UG SPLICE VAULT. ON EACH SIDE OF THE FIBER SPLICE ENCLOSURE, COIL EQUAL LENGTH OF CABLE.
 3. INSIDE THE UG SPLICE VAULT, COIL 50' LONG OF FO CABLE BEFORE THE FIBER SPLICE ENCLOSURE.
 4. FOR FO INTERSTATE 680 NETWORK AND FO SPLICE CONFIGURATION SEE SHEETS ED-75 AND ED-76.
 5. THE CABLE LENGTH SHOWN IS APPROXIMATE ONLY. THE CONTRACTOR TO PROVIDE THE ACTUAL LENGTH.



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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONSULTANT FUNCTIONAL SUPERVISOR

JASON VINCENT

REVISOR

JV

DATE

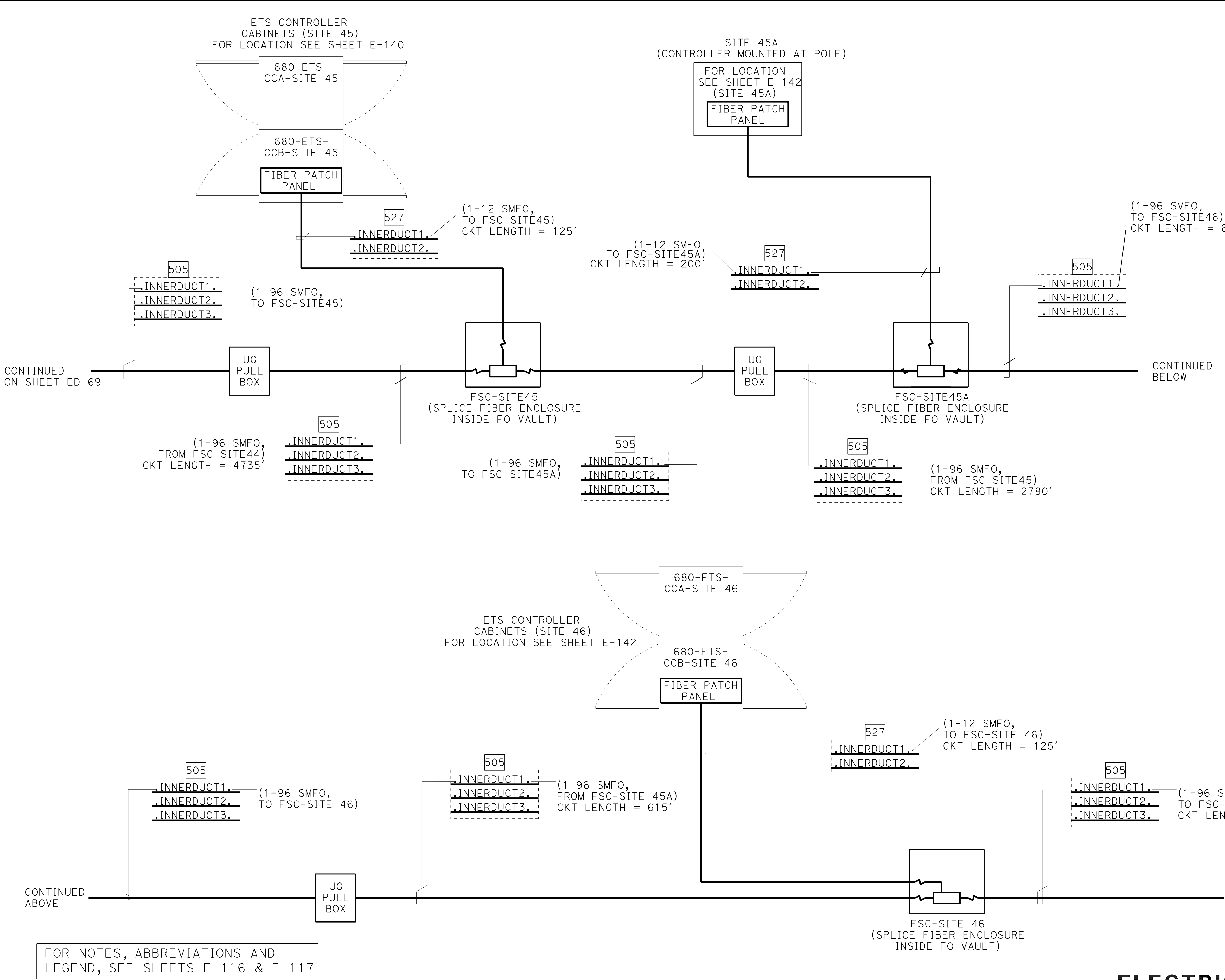
9-29-21

CHECKED BY

SIMA MORADI BAUESTANI

DESIGNED BY

DATE



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1437	1710

ARBhoi

9-29-21

REGISTERED CIVIL ENGINEER

DATE

October 8, 2021

PLANS APPROVAL DATE

Abhijeet R. Bhoi

No. 68606

Exp. 9-30-23

CIVIL

STATE OF CALIFORNIA

AECOM

4 N. Second Street

Suite 675

San Jose, CA 95113

ALAMEDA CTC

1111 Broadway

Suite 800

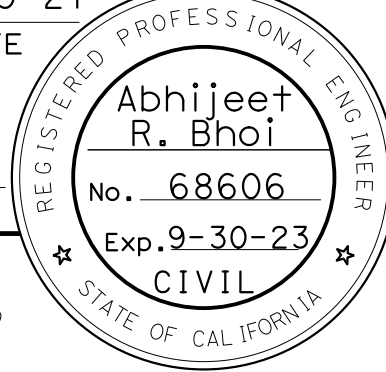
Oakland, CA 94607

- NOTES:**
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 - INSIDE THE UG SPLICE VAULT, COIL 50' LONG OF FO CABLE BEFORE THE FIBER SPLICE ENCLOSURE.
 - FOR FO INTERSTATE 680 NETWORK AND FO SPLICE CONFIGURATION SEE SHEETS ED-75 AND ED-76.
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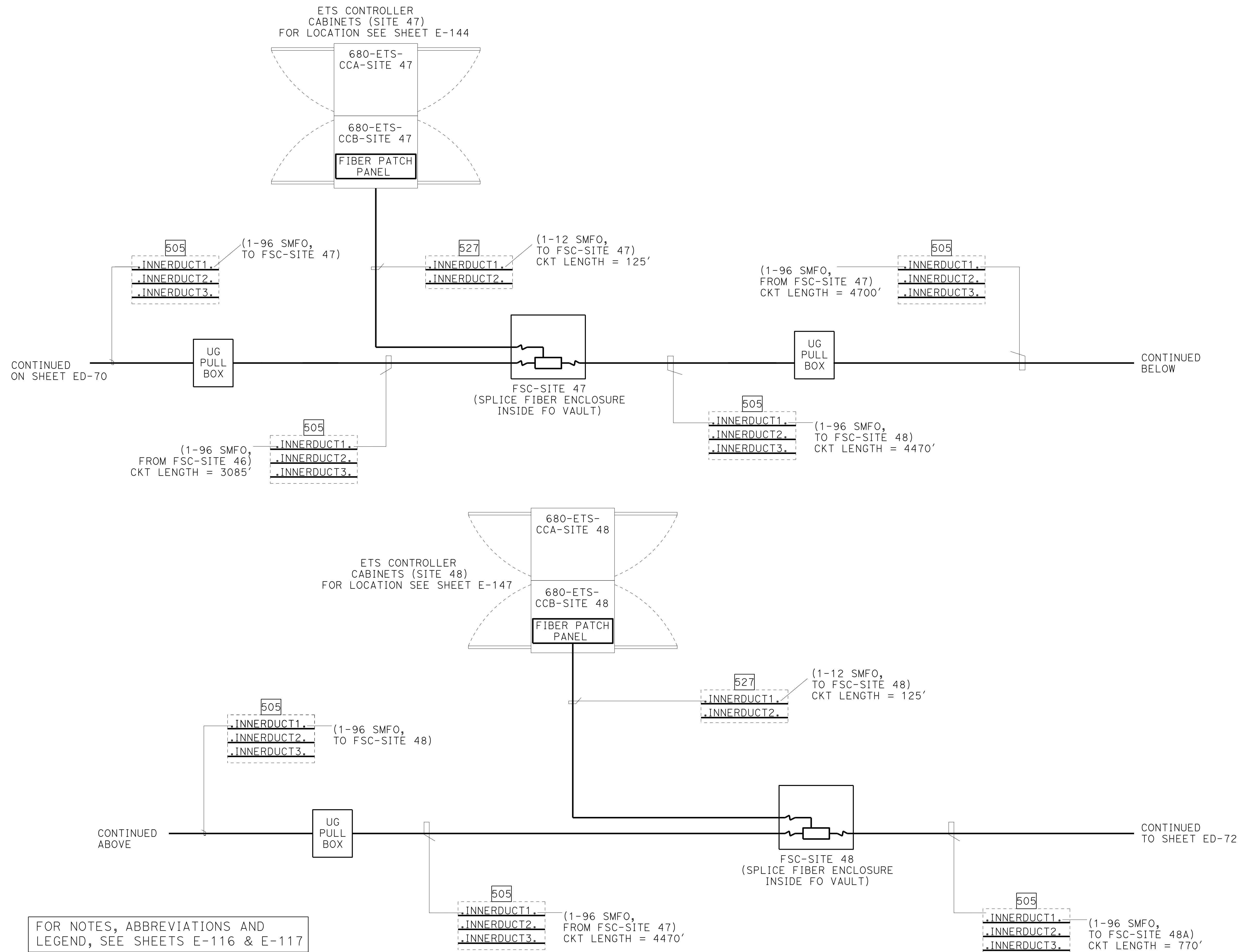
FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

ETS FIBER OPTIC CABLE/CONDUIT RISER BLOCK DIAGRAM

ELECTRICAL SYSTEMS DETAILS
NO SCALE
ED-70

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1438	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
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AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		

- # NOTES:
1. INNERDUCT WITHOUT CABLE INSIDE ARE SPARES.
 2. PROVIDE A CONTINUOUS FO CABLE 100' LONG INSIDE THE UG SPlice VAULT. ON EACH SIDE OF THE FIBER SPlice ENCLOSURE, COIL EQUAL LENGTH OF CABLE.
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 4. FOR FO INTERSTATE 680 NETWORK AND FO SPlice CONFIGURATION SEE SHEETS ED-75 AND ED-76.
 5. THE CABLE LENGTH SHOWN IS APPROXIMATE ONLY. THE CONTRACTOR TO PROVIDE THE ACTUAL LENGTH.



STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT

FUNCTIONAL SUPERVISOR

JASON VINCENT

REVISOR

DATE

9-29-21

DESIGNED BY

CHECKED BY

TIMOTHY J. LEE

FOR LOCATION SEE SHEET E-147 (SITE 48A)

FIBER PATCH PANEL

SITE 48A (CONTROLLER MOUNTED AT POLE)

UG PULL BOX

UG PULL BOX

FSC-SITE 49 (SPLICE FIBER ENCLOSURE INSIDE FO VAULT)

FSC-SITE 49 (SPLICE FIBER ENCLOSURE INSIDE FO VAULT)

ETS CONTROLLER CABINET (SITE 49) FOR LOCATION SEE SHEET E-150

680-ETS-CCA-SITE 49

680-ETS-CCB-SITE 49

FIBER PATCH PANEL

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-116 & E-117

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1439	1710

ARBhoi

REGISTERED CIVIL ENGINEER

DATE

9-29-21

October 8, 2021

PLANS APPROVAL DATE

Abhijeet R. Bhoi

No. 68606

Exp. 9-30-23

CIVIL

STATE OF CALIFORNIA

AECOM

4 N. Second Street

Suite 675

San Jose, CA 95113

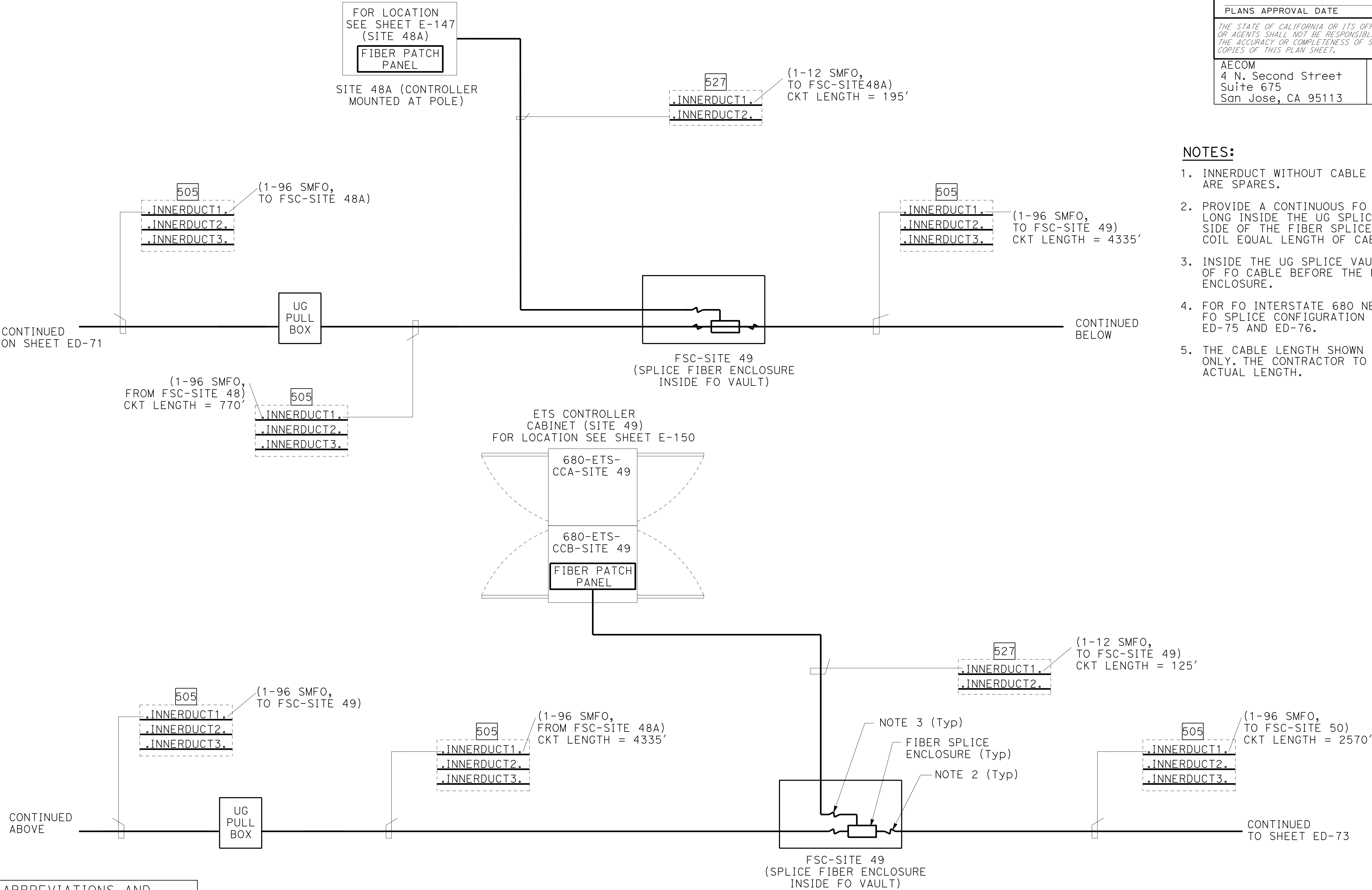
ALAMEDA CTC

1111 Broadway

Suite 800

Oakland, CA 94607

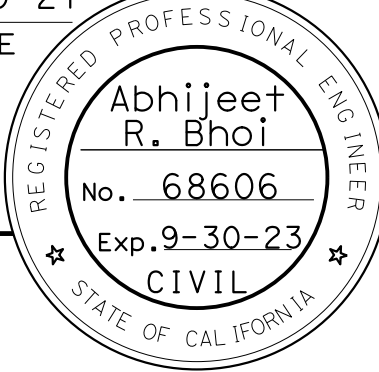
- NOTES:
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 - INSIDE THE UG SPLICE VAULT, COIL 50' LONG OF FO CABLE BEFORE THE FIBER SPLICE ENCLOSURE.
 - FOR FO INTERSTATE 680 NETWORK AND FO SPLICE CONFIGURATION SEE SHEETS ED-75 AND ED-76.
 - THE CABLE LENGTH SHOWN IS APPROXIMATE ONLY. THE CONTRACTOR TO PROVIDE THE ACTUAL LENGTH.



ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED-72

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1440	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
<i>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.</i>					
AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		

TES:

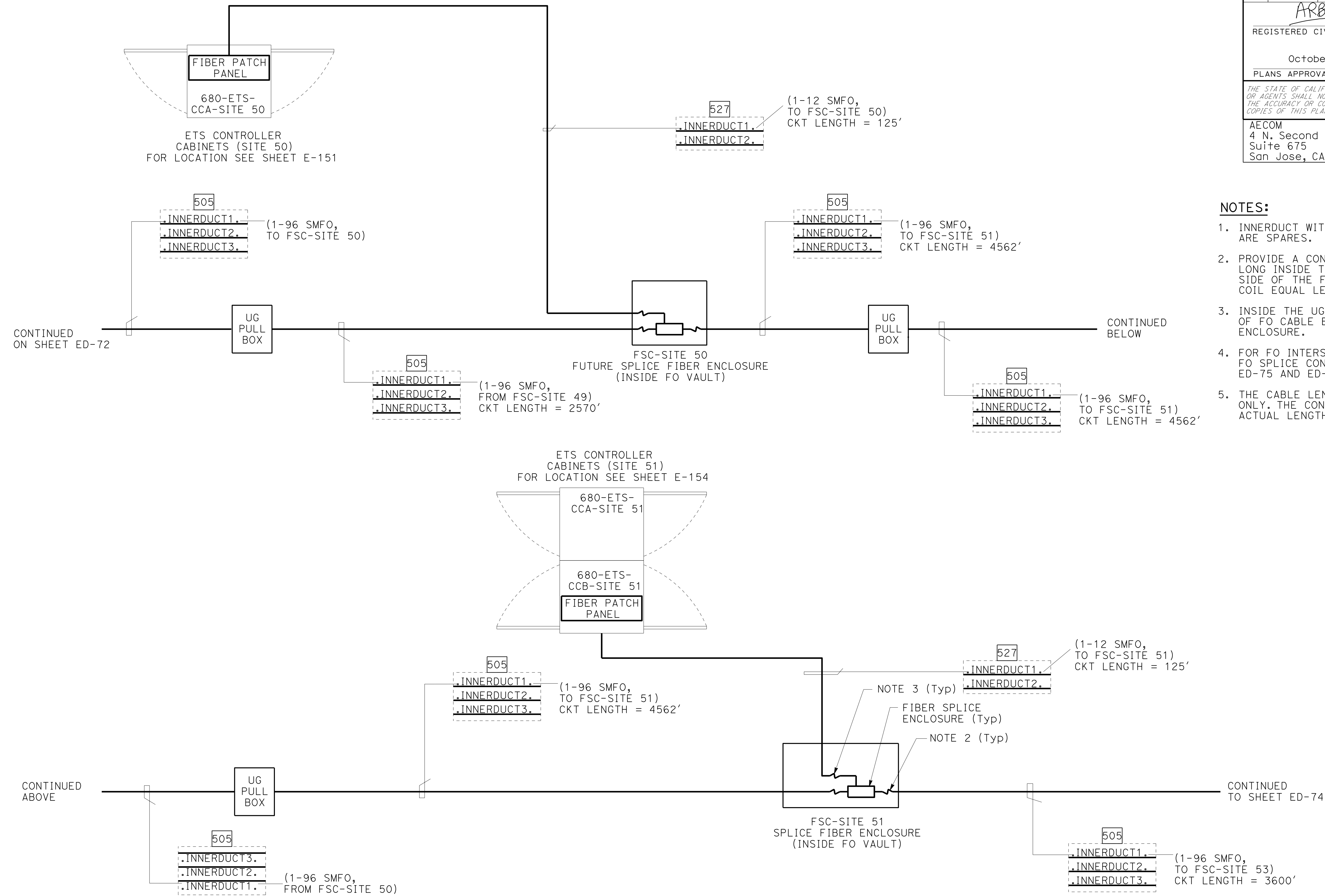
INNERDUCT WITHOUT CABLE INSIDE
ARE SPARES.

PROVIDE A CONTINUOUS FO CABLE 100'
LONG INSIDE THE UG SPlice VAULT. ON EACH
SIDE OF THE FIBER SPlice ENCLOSURE,
COIL EQUAL LENGTH OF CABLE.

INSIDE THE UG SPlice VAULT, COIL 50' LONG
OF FO CABLE BEFORE THE FIBER SPlice
ENCLOSURE.

FOR FO INTERSTATE 680 NETWORK AND
FO SPlice CONFIGURATION SEE SHEETS
ED-75 AND ED-76.

THE CABLE LENGTH SHOWN IS APPROXIMATE
ONLY. THE CONTRACTOR TO PROVIDE THE
ACTUAL LENGTH.



FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

ETS FIBER OPTIC CABLE/CONDUIT RISER BLOCK DIAGRAM

ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED-73

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

USERNAME => p302438

DGN FILE => 0420000235ub074.dgn

RELATIVE BORDER SCALE IS IN INCHES

0123

UNIT 0733

PROJECT NUMBER & PHASE

04200002351

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1441	1710

ARBhoi

9-29-21

REGISTERED CIVIL ENGINEER

DATE

October 8, 2021

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

Abhijeet R. Bhoi

No. 68606

Exp. 9-30-23

CIVIL

STATE OF CALIFORNIA

AECOM

4 N. Second Street

Suite 675

San Jose, CA 95113

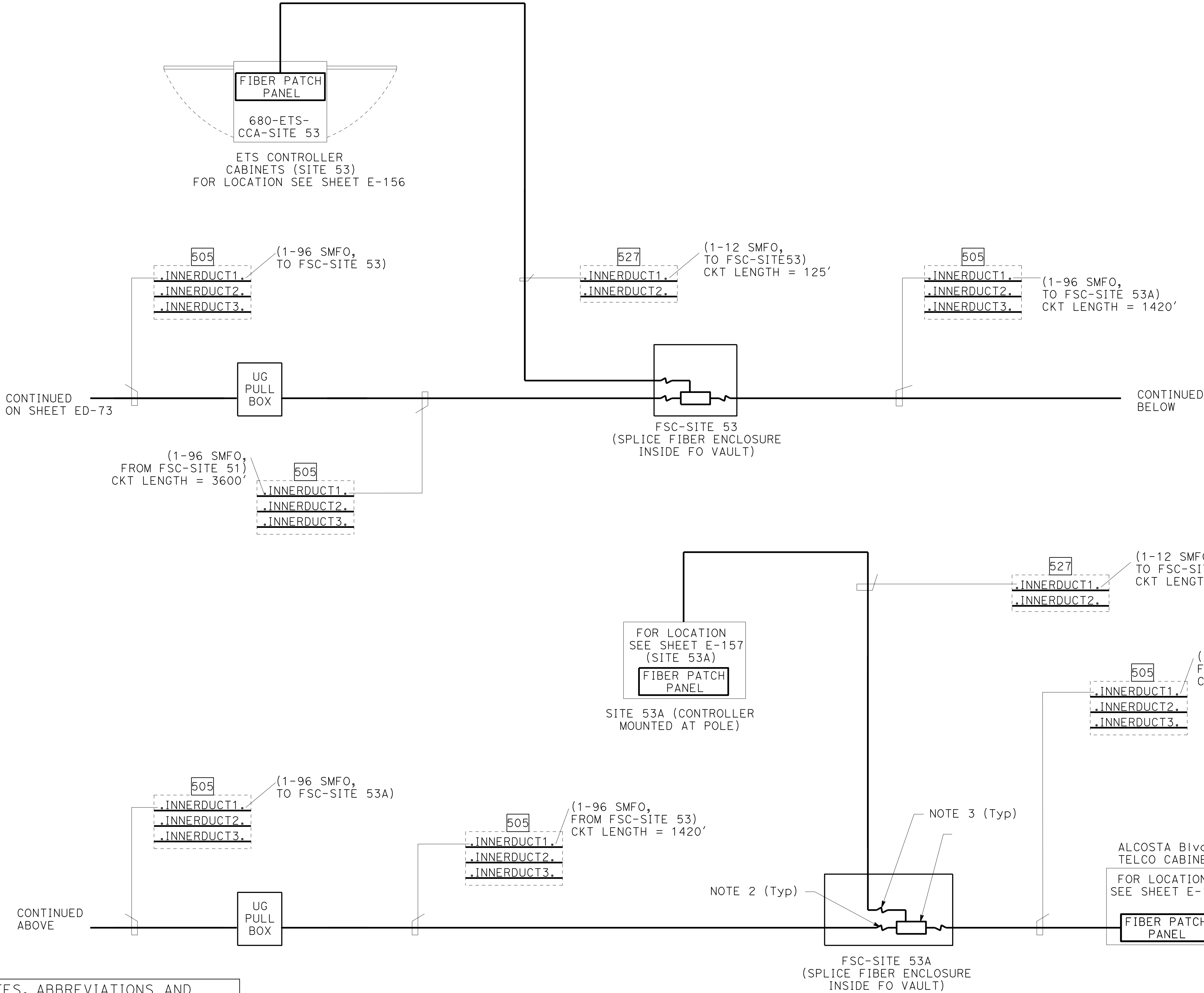
ALAMEDA CTC

1111 Broadway

Suite 800

Oakland, CA 94607

- NOTES:
- INNERDUCT WITHOUT CABLE INSIDE ARE SPARES.
 - PROVIDE A CONTINUOUS FO CABLE 100' LONG INSIDE THE UG SPLICE VAULT. ON EACH SIDE OF THE FIBER SPLICE ENCLOSURE, COIL EQUAL LENGTH OF CABLE.
 - INSIDE THE UG SPLICE VAULT, COIL 50' LONG OF FO CABLE BEFORE THE FIBER SPLICE ENCLOSURE.
 - FOR FO INTERSTATE 680 NETWORK AND FO SPLICE CONFIGURATION SEE SHEETS ED-75 AND ED-76.
 - THE CABLE LENGTH SHOWN IS APPROXIMATE ONLY. THE CONTRACTOR TO PROVIDE THE ACTUAL LENGTH.



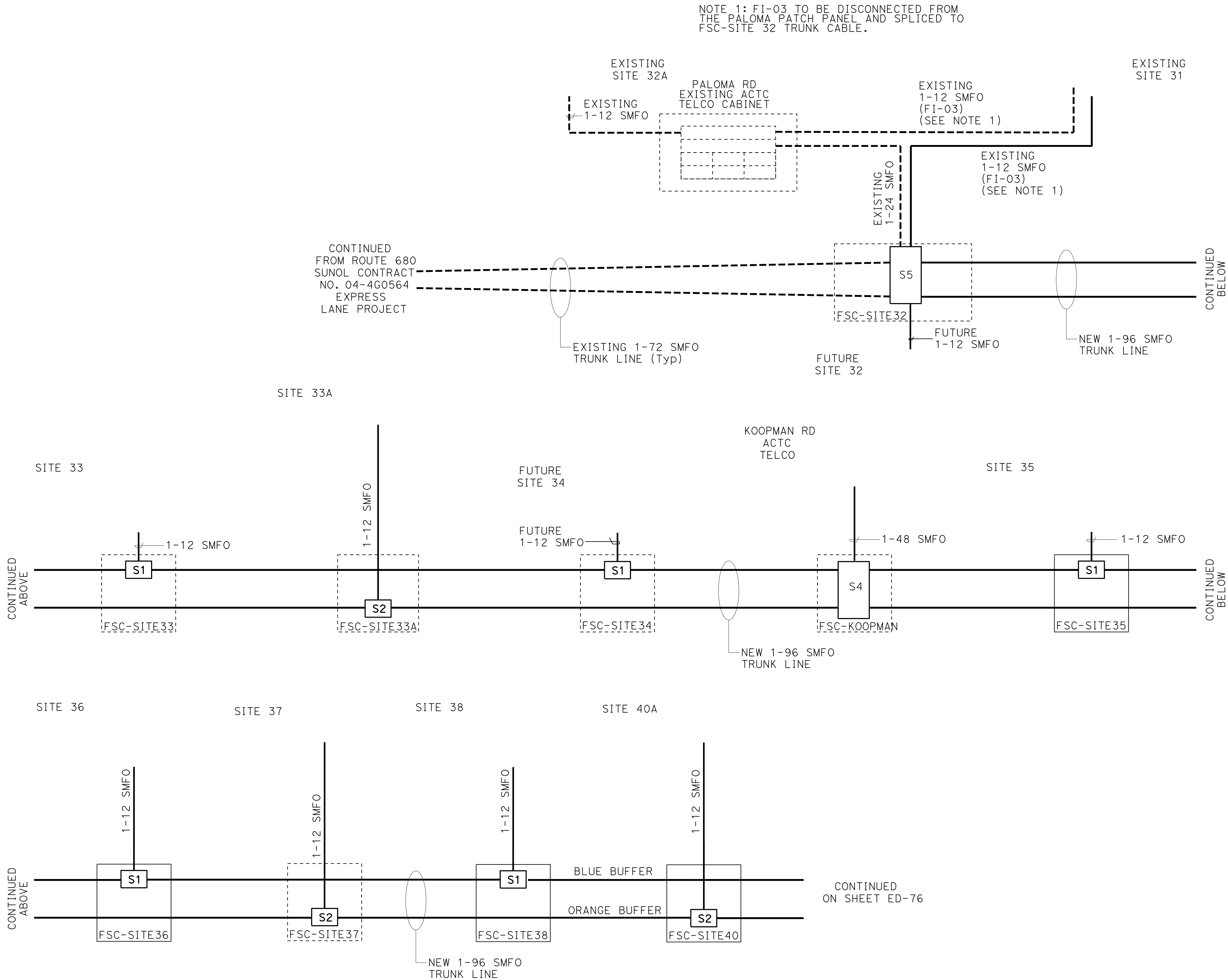
FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

ETS FIBER OPTIC CABLE/CONDUIT RISER BLOCK DIAGRAM

ELECTRICAL SYSTEMS DETAILS
NO SCALE

ED-74

LAST REVISION: 09-29-21 DATE PLOTTED => 09-29-21 TIME PLOTTED => 09:49



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1442	1710

ARBhoi

9-29-21

REGISTERED CIVIL ENGINEER

DATE

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No. 68606

Exp. 9-30-23

CIVIL

STATE OF CALIFORNIA

AECOM

4 N. Second Street

Suite 675

San Jose, CA 95113

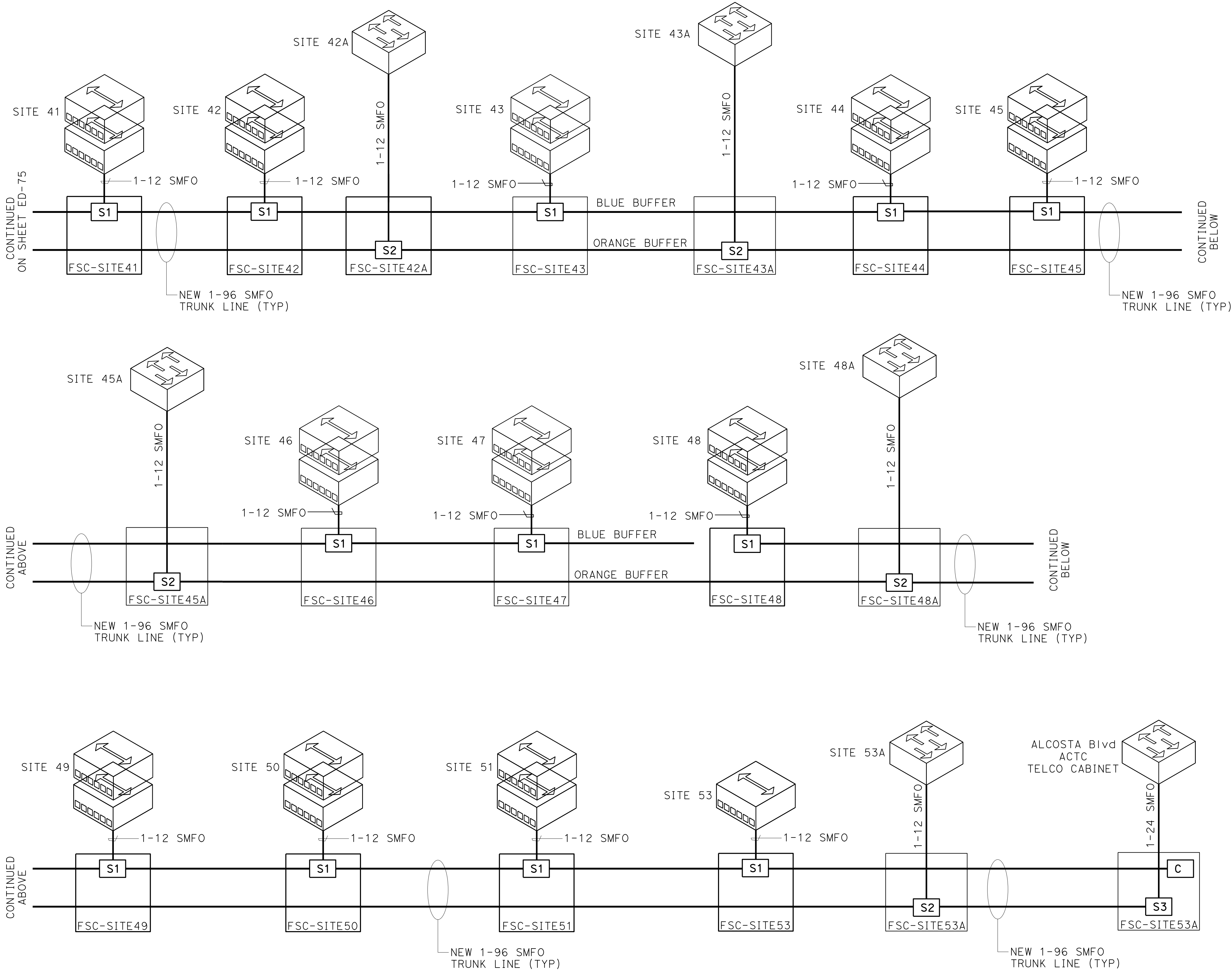
ALAMEDA CTC

1111 Broadway

Suite 800

Oakland, CA 94607

- LEGEND:
- TOLL PLAZA LAYER III SWITCH
- LAYER II SWITCH
- S1 UNDERGROUND SPLICE FIBER CONFIGURATION (SEE TYPICAL S1)
 - S2 UNDERGROUND SPLICE FIBER CONFIGURATION (SEE TYPICAL S2)
 - S3 UNDERGROUND SPLICE FIBER CONFIGURATION (SEE TYPICAL S3)
 - TL1 UNDERGROUND SPLICE FIBER CONFIGURATION (FOR SITE 1)
 - TL2 UNDERGROUND SPLICE FIBER CONFIGURATION (FOR SITE 30)
 - C UNTERMINATED FIBER / TUBES "COILED"
- FSC-SITE1 FIBER SPLICE ENCLOSURE (INSIDE UNDERGROUND PB/MANHOLE) SITE1-ASSIGNED NUMBER
- M "X" 24 SMFO LATERAL INTERCONNECT TO COMMUNICATIONS POINT OF INTERFACE
M1- TO MISSION BOULEVARD
M2- TO PALOMA ROAD
- 1-"X" SMFO FIBER OPTIC CABLE
1-12 SMFO LATERAL
1-24 SMFO INTERCONNECT
96 SMFO TRUNK LINE
- "COLOR" BUFFER PART OF 96 SMFO TRUNKLINE
BLUE BUFFER
ORANGE BUFFER
GREEN BUFFER
BROWN BUFFER
SLATE BUFFER
WHITE BUFFER



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1443	1710

ARBhoi

REGISTERED CIVIL ENGINEER

DATE

9-29-21

October 8, 2021

PLANS APPROVAL DATE

Abhijeet R. Bhoi

No. 68606

Exp. 9-30-23

CIVIL

STATE OF CALIFORNIA

AECOM

4 N. Second Street

Suite 675

San Jose, CA 95113

ALAMEDA CTC

1111 Broadway

Suite 800

Oakland, CA 94607

- LEGEND:
- TOLL PLAZA LAYER III SWITCH
 - LAYER II SWITCH
 - UNDERGROUND SPLICE FIBER CONFIGURATION (SEE TYPICAL S1)
 - UNDERGROUND SPLICE FIBER CONFIGURATION (SEE TYPICAL S2)
 - UNDERGROUND SPLICE FIBER CONFIGURATION (SEE TYPICAL S3)
 - UNTERMINATED FIBER / TUBES "COILED"
 - FSC-SITE1 FIBER SPLICE ENCLOSURE (INSIDE UNDERGROUND PB/MANHOLE) SITE1-ASSIGNED NUMBER
 - 1-"X" SMFO FIBER OPTIC CABLE
1-12 SMFO LATERAL
1-24 SMFO INTERCONNECT
96 SMFO TRUNK LINE
 - "COLOR" BUFFER
BLUE BUFFER
ORANGE BUFFER
GREEN BUFFER
BROWN BUFFER
SLATE BUFFER
WHITE BUFFER

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONSULTANT FUNCTIONAL SUPERVISOR

JASON VINCENT

REVISOR

JV

DATE

9-29-21

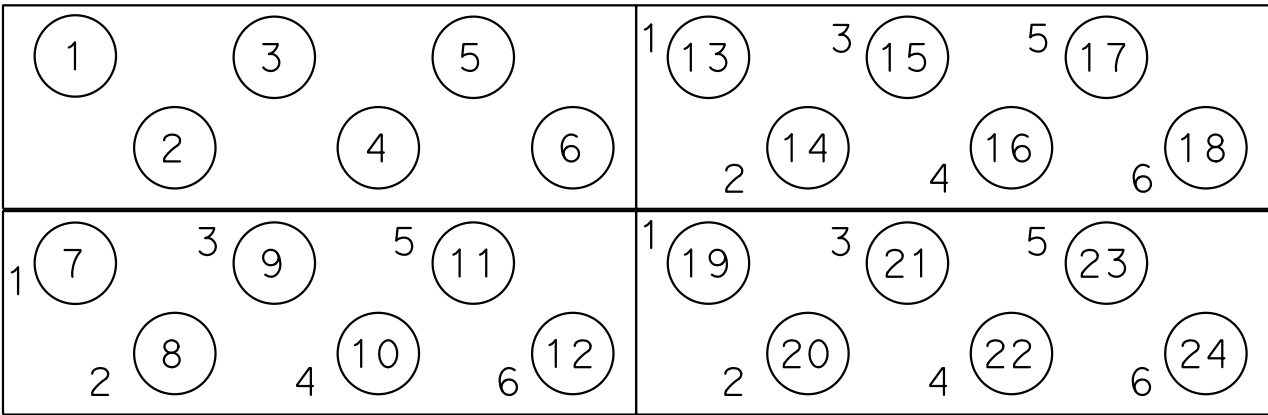
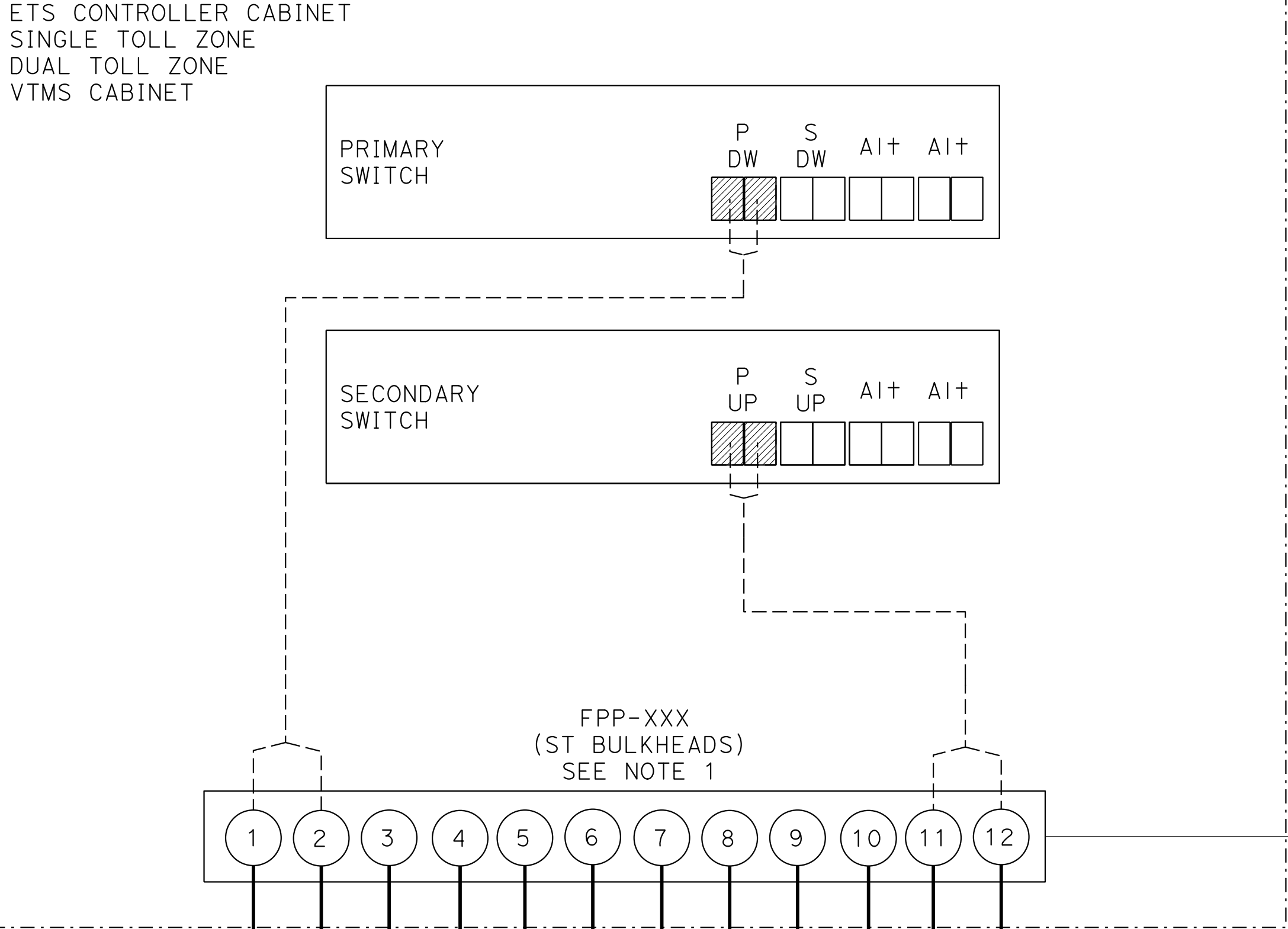
CHECKED BY

SIMA MORADI BAJESTANI

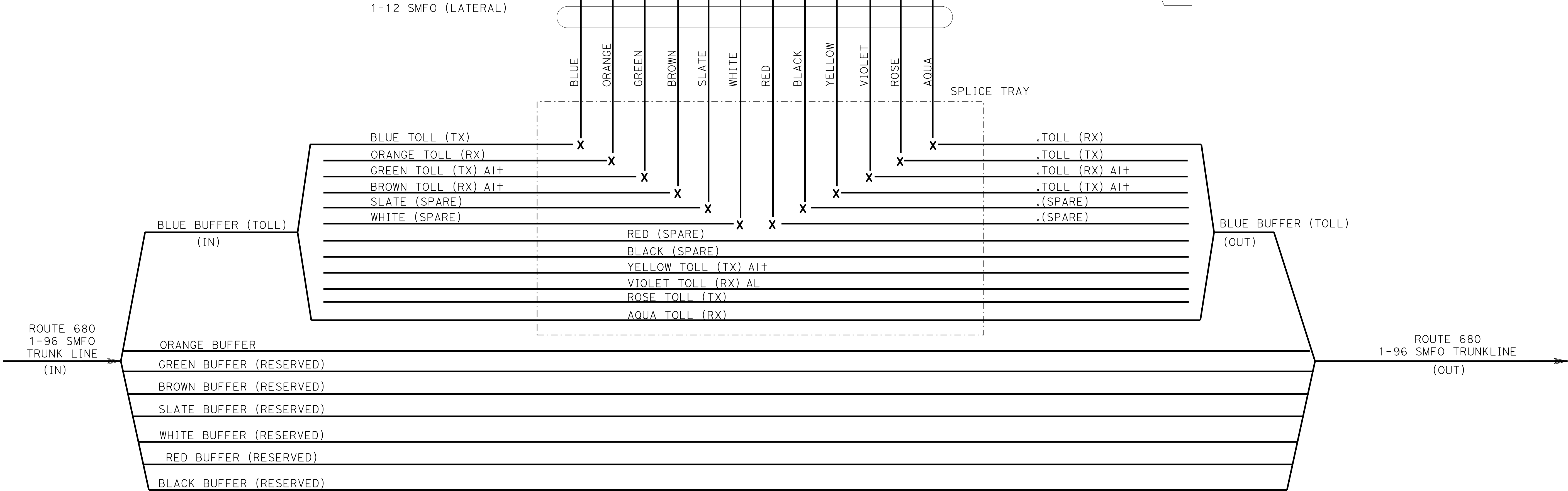
DESIGNED BY

TIMOTHY J. LEE

NOTES:
1. ACTC CIVIL CONTRACTOR WILL FURNISH AND INSTALL ALL EQUIPMENT REQUIRED TO TERMINATE THE FIBER OPTIC CABLES INSIDE THE CABINET.



RACK MOUNT FIBER OPTIC PATCH PANEL
(ST BULKHEADS - 24 POSITIONS (SHOWN))

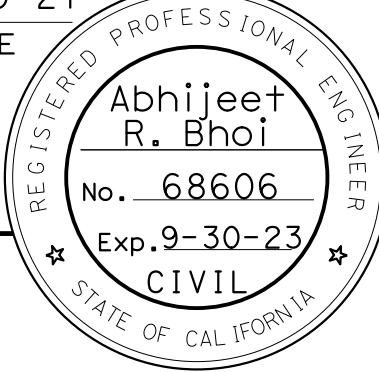


ETS TYPICAL S1-LATERAL FIBER OPTIC SPLICE CONFIGURATION

ELECTRICAL SYSTEMS DETAILS

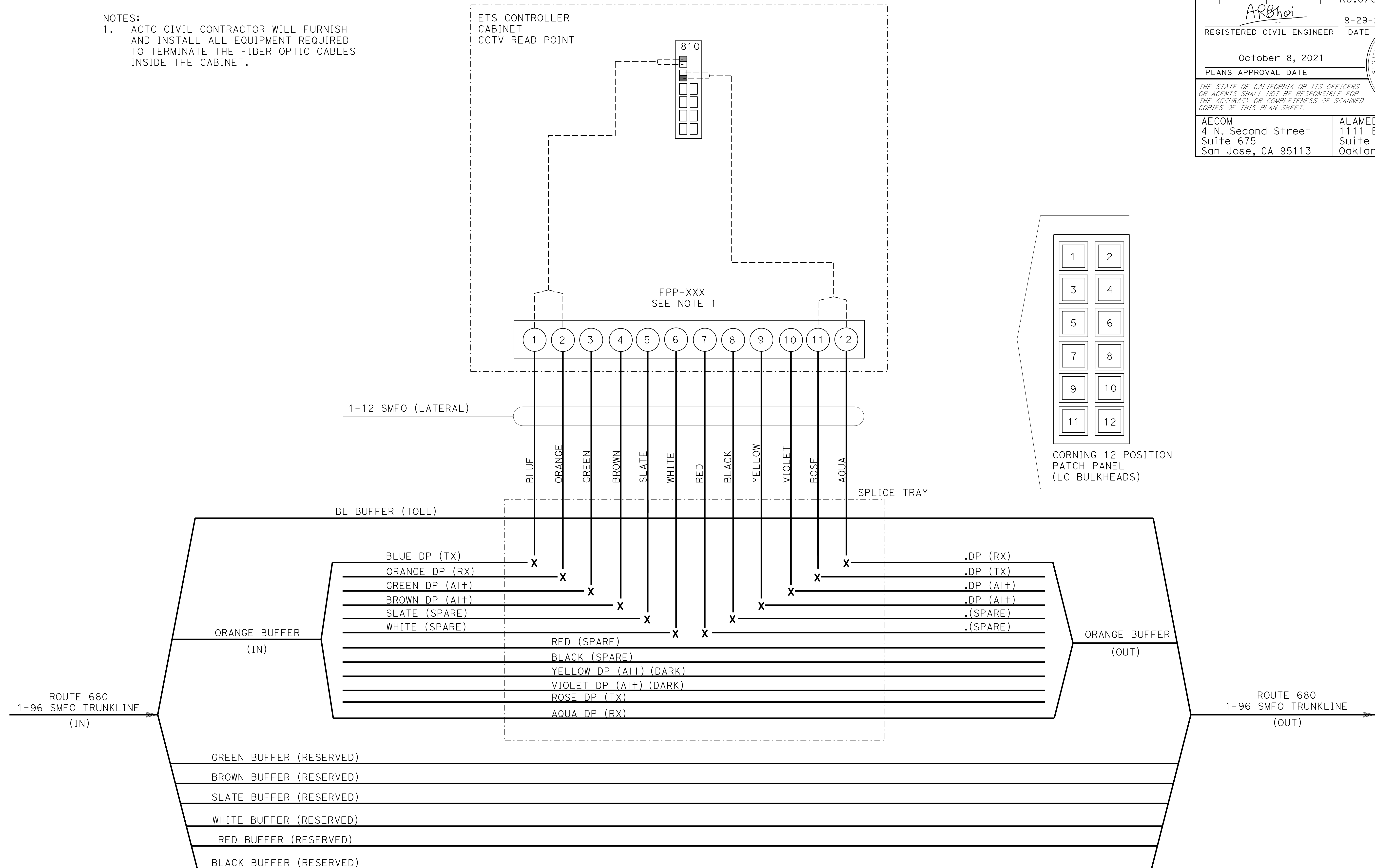
NO SCALE

ED-77

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1445	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
<i>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.</i>					
AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		

NOTES:

1. ACTC CIVIL CONTRACTOR WILL FURNISH AND INSTALL ALL EQUIPMENT REQUIRED TO TERMINATE THE FIBER OPTIC CABLES INSIDE THE CABINET.



ETS TYPICAL S2-LATERAL FIBER OPTIC SPLICE CONFIGURATION

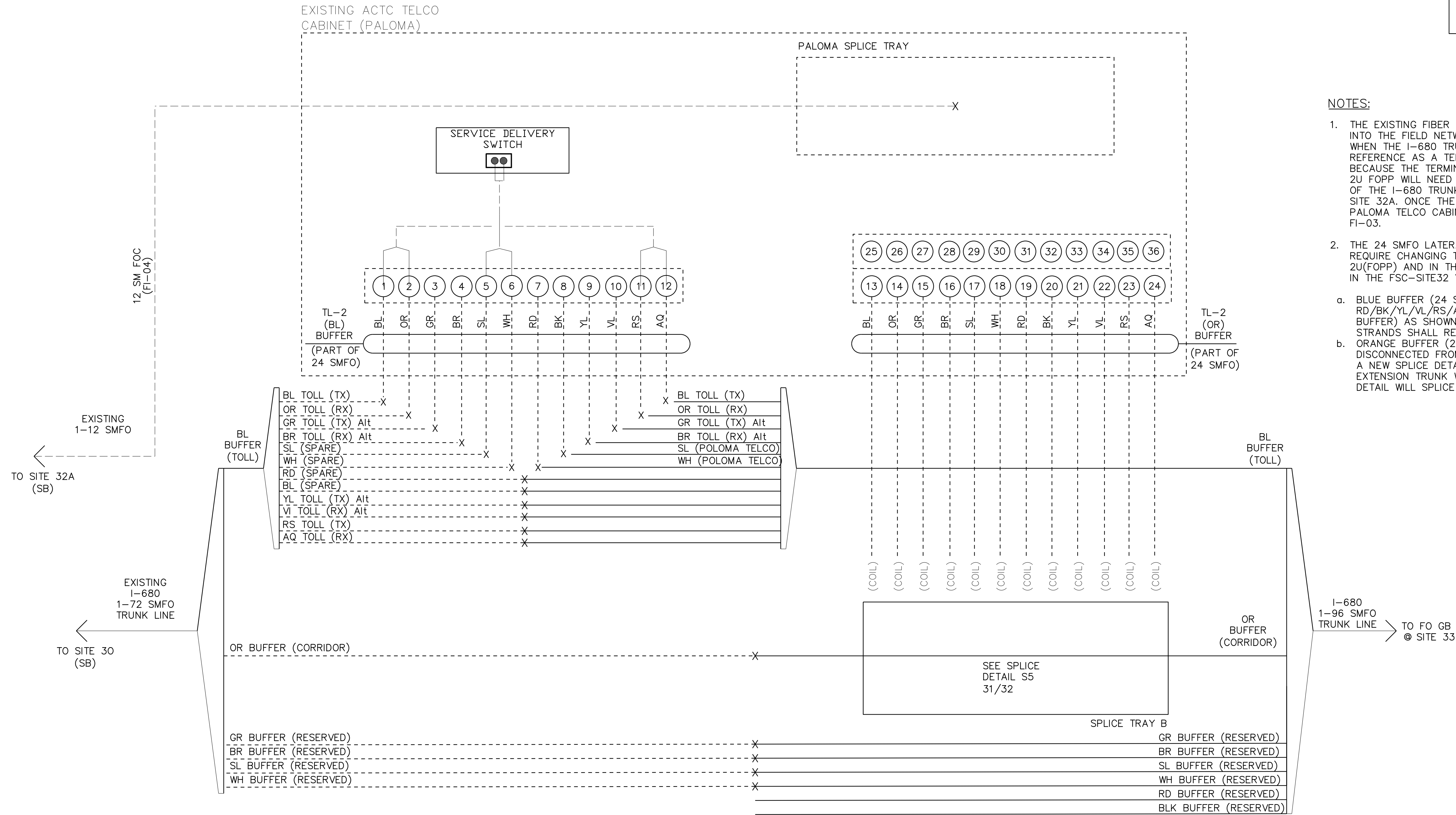
ELECTRICAL SYSTEMS DETAILS

NO SCALE

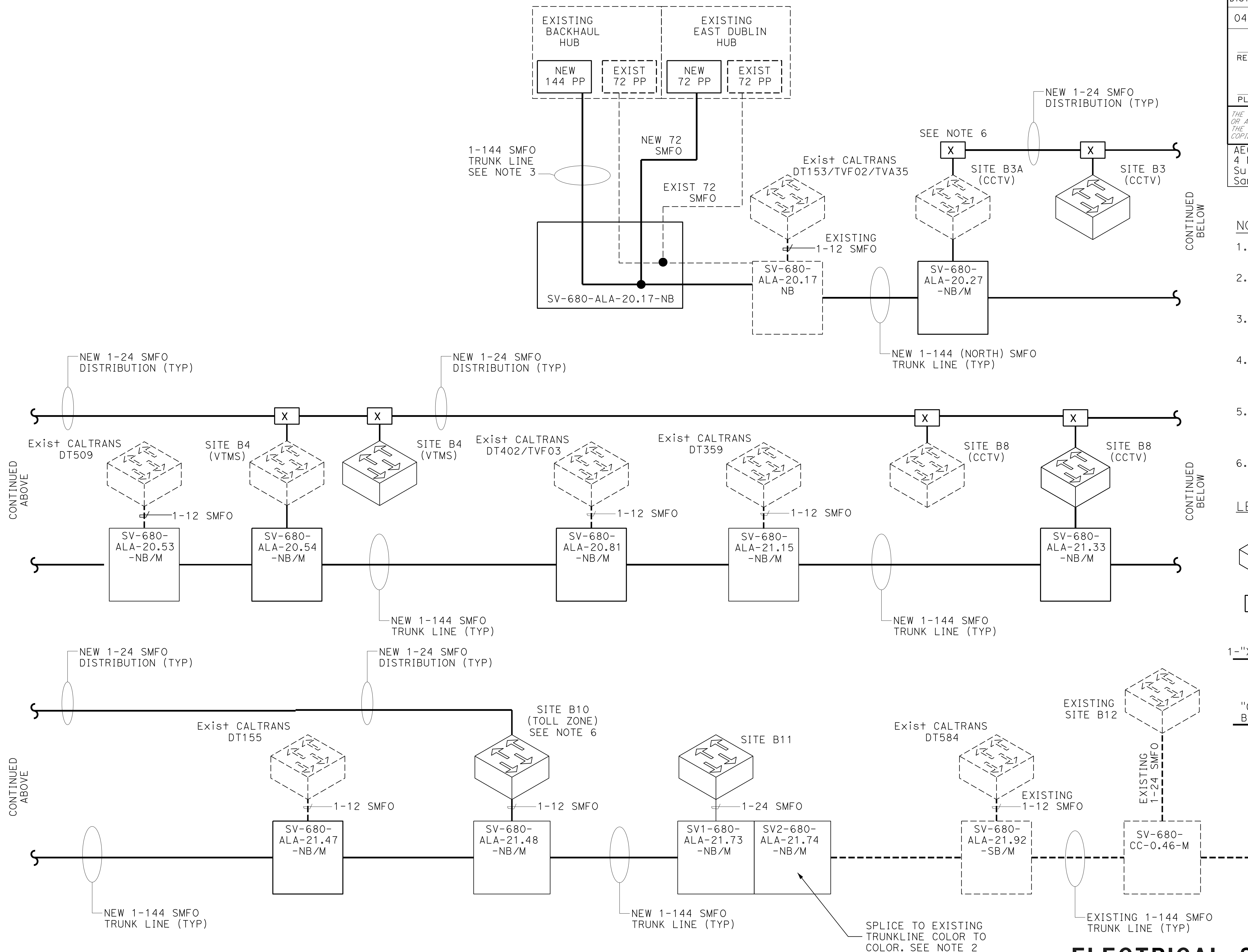
ED-78

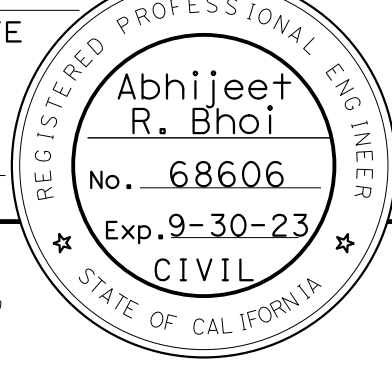
ETS TYPICAL S3-LATERAL FIBER OPTIC SPLICE CONFIGURATION





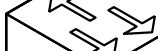
- NOTES:
1. THE EXISTING FIBER LATERAL (FI-03) IS USED TO BRING SITE 31 INTO THE FIELD NETWORK. THIS FIBER WILL REMAIN IN PLACE WHEN THE I-680 TRUNK IS EXTENDED NORTH. FIBER (FI-03) IS REFERENCE AS A TEMPORARY CONNECTION IN THE I-680 PLANS BECAUSE THE TERMINATION OF (FI-03) TO THE PALOMA CABINET 2U FOPP WILL NEED TO CHANGE AT THE TIME OF THE EXTENSION OF THE I-680 TRUNK SO THAT (FI-03) CAN BE USED TO BRING IN SITE 32A. ONCE THE LATERAL FOR SITE 32A IS PULLED INTO THE PALOMA TELCO CABINET, IT WILL BE SPLICED (ONE TO ONE) TO FI-03.
 2. THE 24 SMFO LATERAL TO THE POLAMA CABINET WILL ALSO REQUIRE CHANGING THE SPLICE IN BOTH THE TERMINATIONS IN THE 2U(FOPP) AND IN THE UNDERGROUND SPLICE ENCLOSURE LOCATED IN THE FSC-SITE32 VAULT.
 - a. BLUE BUFFER (24 SMFO LATERAL) - RE-SPLICE RD/BK/YL/VL/RS/AQ TO I-680 EXTENSION TRUNK (BLUE BUFFER) AS SHOWN ON THIS SHEET. THE BL/OR/GN/BR/SL/WH STRANDS SHALL REMAIN AS-IS.
 - b. ORANGE BUFFER (24 SMFO LATERAL) - THIS LATERAL WILL BE DISCONNECTED FROM THE ORANGE BUFFER OF THE I-680 TRUNK. A NEW SPLICE DETAIL FOR THE ORANGE BUFFER OF THE I-680 EXTENSION TRUNK WILL BE IMPLEMENTED. THIS NEW SPLICE DETAIL WILL SPLICE IN THE LATERAL TO SITE 31 AND SITE 32.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, RO.0/C.9	1450	1710
<u>ARBHOI</u> REGISTERED CIVIL ENGINEER			9-29-21 DATE		
October 8, 2021					
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.					
AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		

- # NOTE:
1. NEW 144 SMFO CABLES SHOULD TERMINATE IN BACKHAUL HUB.
 2. COORDINATE WITH BAIFA EXPRESS LANE OPERATIONS PRIOR TO CUTTING FIBER.
 3. FIBERS FOR 1-144 SMFO CABLE TO BE TERMINATED IN NEW 144 PORT PATCH PANEL.
 4. WHEN CONSTRUCTION IS COMPLETED ORANGE SPLICES AND DROP CABLES TO EXISTING DEVICES WILL BE ABANDONED IN PLACE.
 5. 1-24 SMFO CABLE INSTALLED IN PARALLEL WITH 1-144 SMFO CABLE VIA SAME SPLICE VAULTS AS TRUNK LINE TO SERVE EXISTING SITES.
 6. END OF 1-24 SMFO CABLE COILED AT EXISTING ETS CABINET PULL BOX.

LEGEND:

 BAIFA ETS HUB
LAYER II SWITCH
(BY OTHERS)

 TEMPORARY FIBER SPLICE

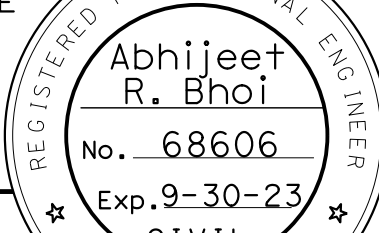
1-"X" SMFO FIBER OPTIC CABLE
1-12 SMFO LATERAL
1-24 SMFO INTERCONNECT
144 SMFO TRUNK LINE

"COLOR" PART OF 144 SMFO TRUNKLINE
BUFFER BLUE BUFFER
ORANGE BUFFER
GREEN BUFFER
BROWN BUFFER
SLATE BUFFER
WHITE BUFFER

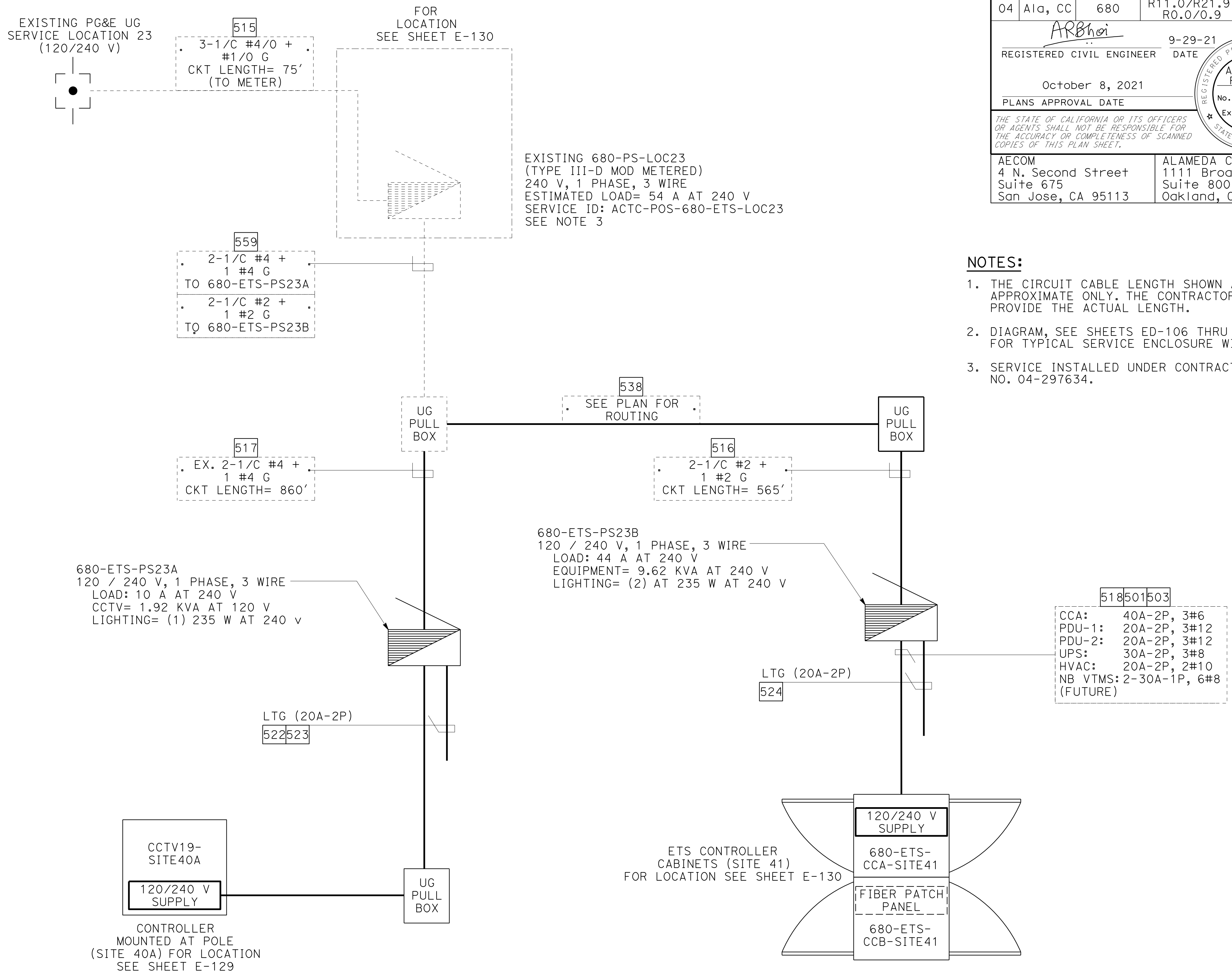
ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED-83

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1454	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
<i>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.</i>					
AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		

- NOTES:**
1. THE CIRCUIT CABLE LENGTH SHOWN ARE APPROXIMATE ONLY. THE CONTRACTOR TO PROVIDE THE ACTUAL LENGTH.
 2. DIAGRAM, SEE SHEETS ED-106 THRU ED-110. FOR TYPICAL SERVICE ENCLOSURE WIRING.
 3. SERVICE INSTALLED UNDER CONTRACT NO. 04-297634.



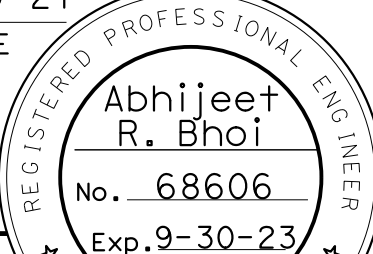
FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

ETS POWER DISTRIBUTION CABLE/CONDUIT RISER BLOCK DIAGRAM

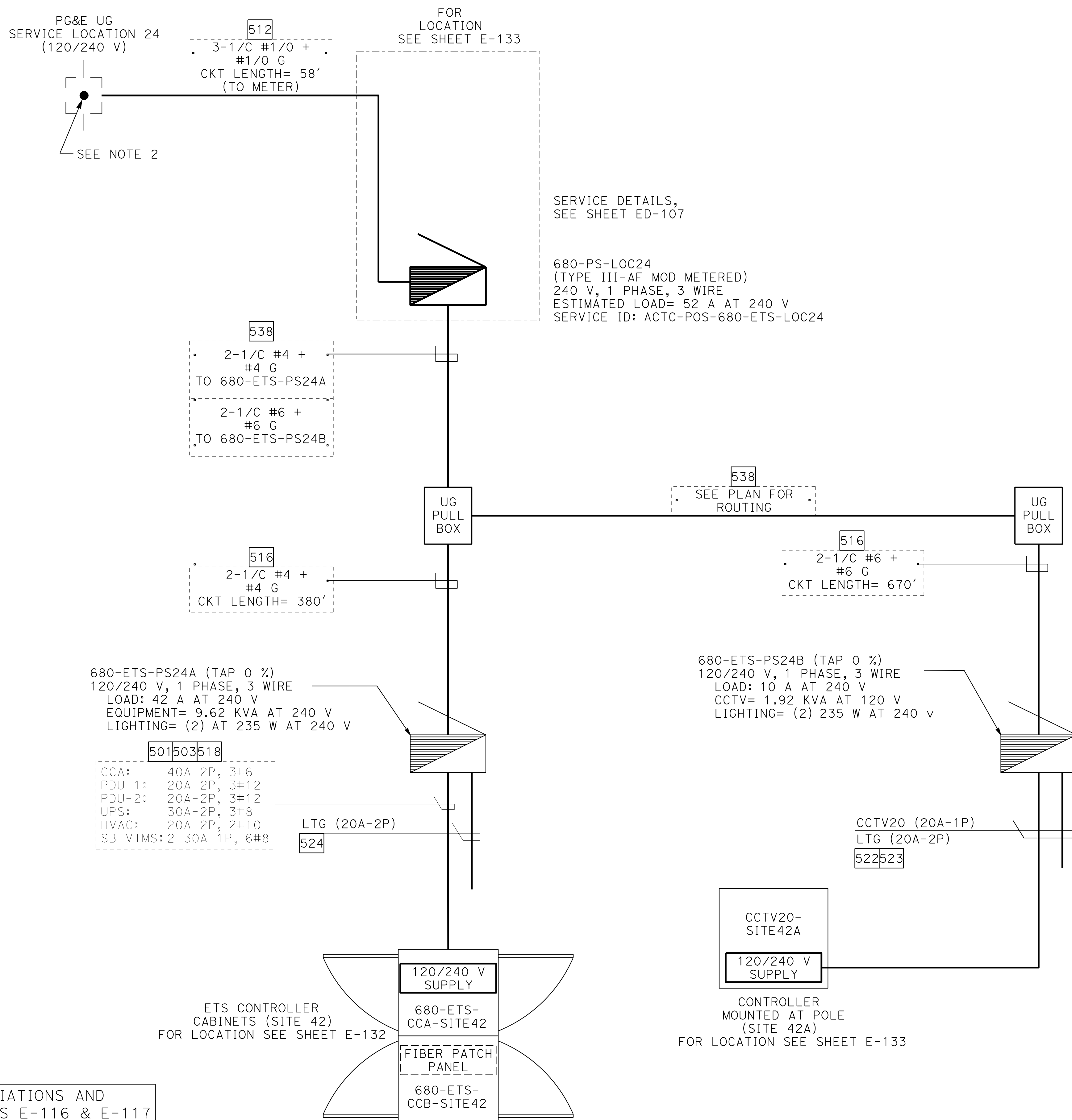
ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED - 87

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1455	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE					
October 8, 2021 PLANS APPROVAL DATE					
<i>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.</i>					
AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		

- ## NOTES:
1. THE CIRCUIT CABLE LENGTH SHOWN ARE APPROXIMATE ONLY. THE CONTRACTOR TO PROVIDE THE ACTUAL LENGTH.
 2. PRIOR TO INSTALLING ETS POWER, NOTIFY PG&E. COIL 10' LONG OF CABLE INSIDE PG&E #2 PULL BOX. CABLE TERMINATION SHALL BE BY PG&E.
 3. DIAGRAM, SEE SHEETS ED-106 THRU ED-110. FOR TYPICAL SERVICE ENCLOSURE WIRING.



ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED-88

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT

FUNCTIONAL SUPERVISOR

JASON VINCENT

REVISOR

DATE

9-29-21

BY

DATE

9-29-21

BY

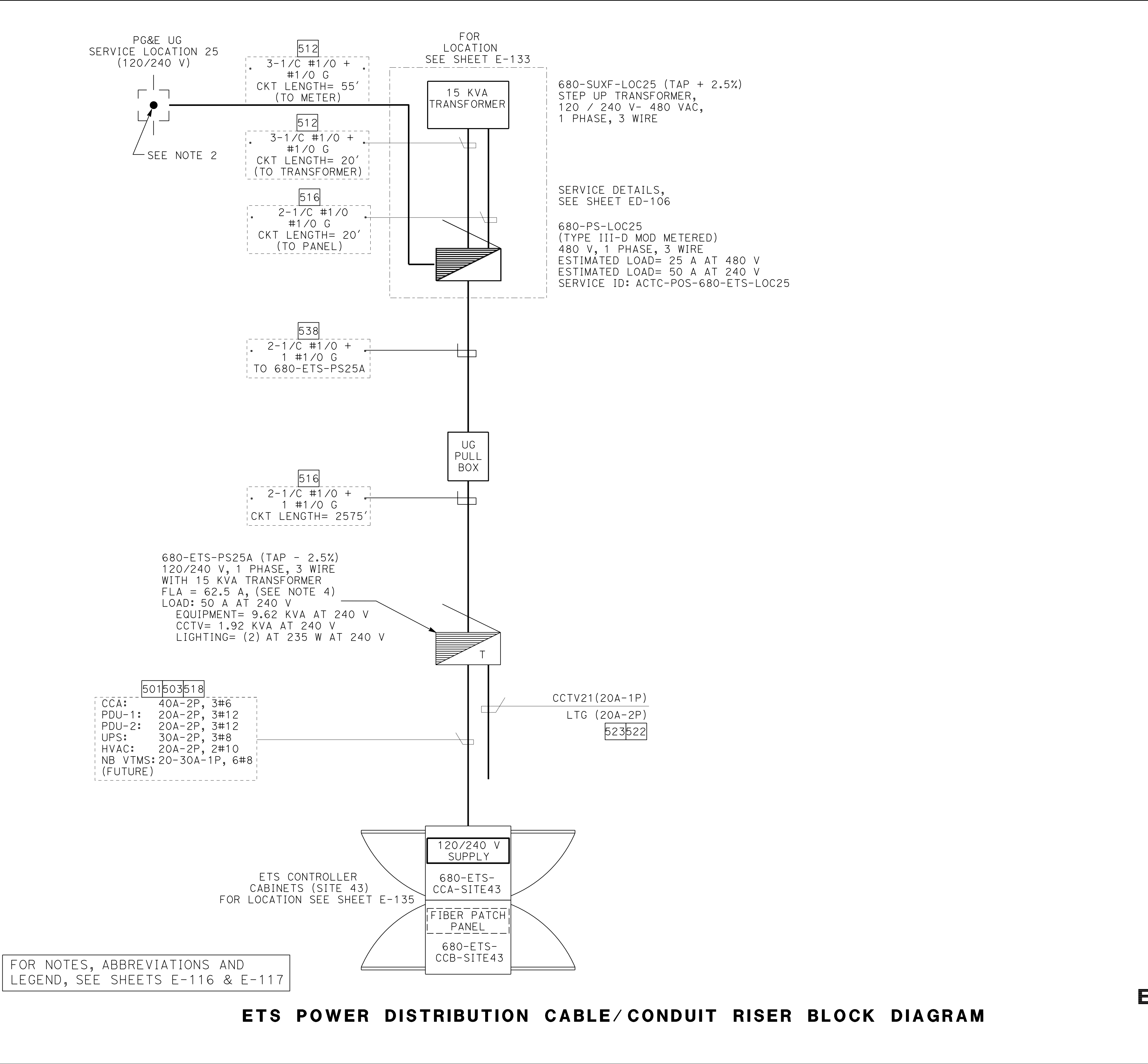
DATE

9-29-21

DESIGNED BY

CHECKED BY

TIMOTHY J. LEE



Dist

COUNTY

ROUTE

POST MILES TOTAL PROJECT

SHEET No.

TOTAL SHEETS

04

Ala, CC

680

R11.0/R21.9, R0.0/0.9

1456

1710

REGISTERED CIVIL ENGINEER

DATE

9-29-21

October 8, 2021

PLANS APPROVAL DATE

Abhijeet R. Bhoi

No. 68606

Exp. 9-30-23

CIVIL

STATE OF CALIFORNIA

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AECOM

4 N. Second Street

Suite 675

San Jose, CA 95113

ALAMEDA CTC

1111 Broadway

Suite 800

Oakland, CA 94607

NOTES:

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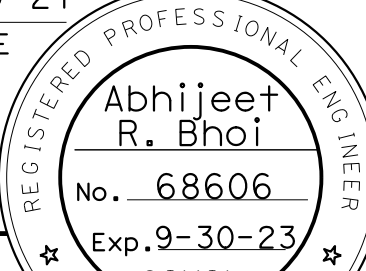
3. DIAGRAM, SEE SHEETS ED-106 THRU ED-110. FOR TYPICAL SERVICE ENCLOSURE WIRING.

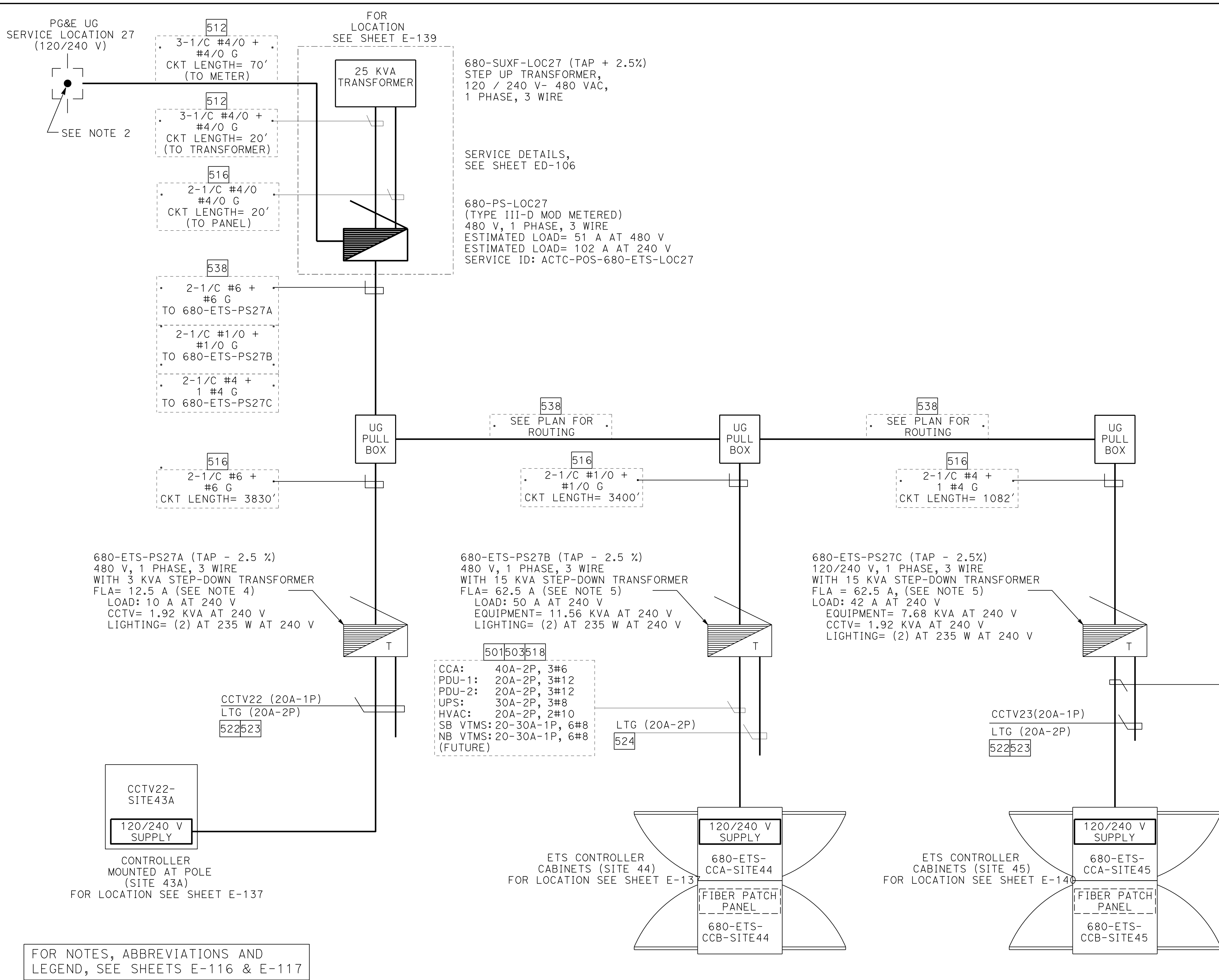
4. SERVICE POWER SUPPLY TYPE III-A (MOD) WITH STEP DOWN TRANSFORMER, 480-120/240 V, 1 PHASE, 3 WIRE. SEE SHEET ED-108 FOR SERVICE DETAILS.

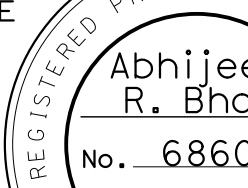
ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED-89

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1457	1710
<i>ARBhoi</i> 9-29-21					
REGISTERED CIVIL ENGINEER			DATE		
October 8, 2021					
PLANS APPROVAL DATE					
<i>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.</i>					
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1458	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE					
October 8, 2021 PLANS APPROVAL DATE					
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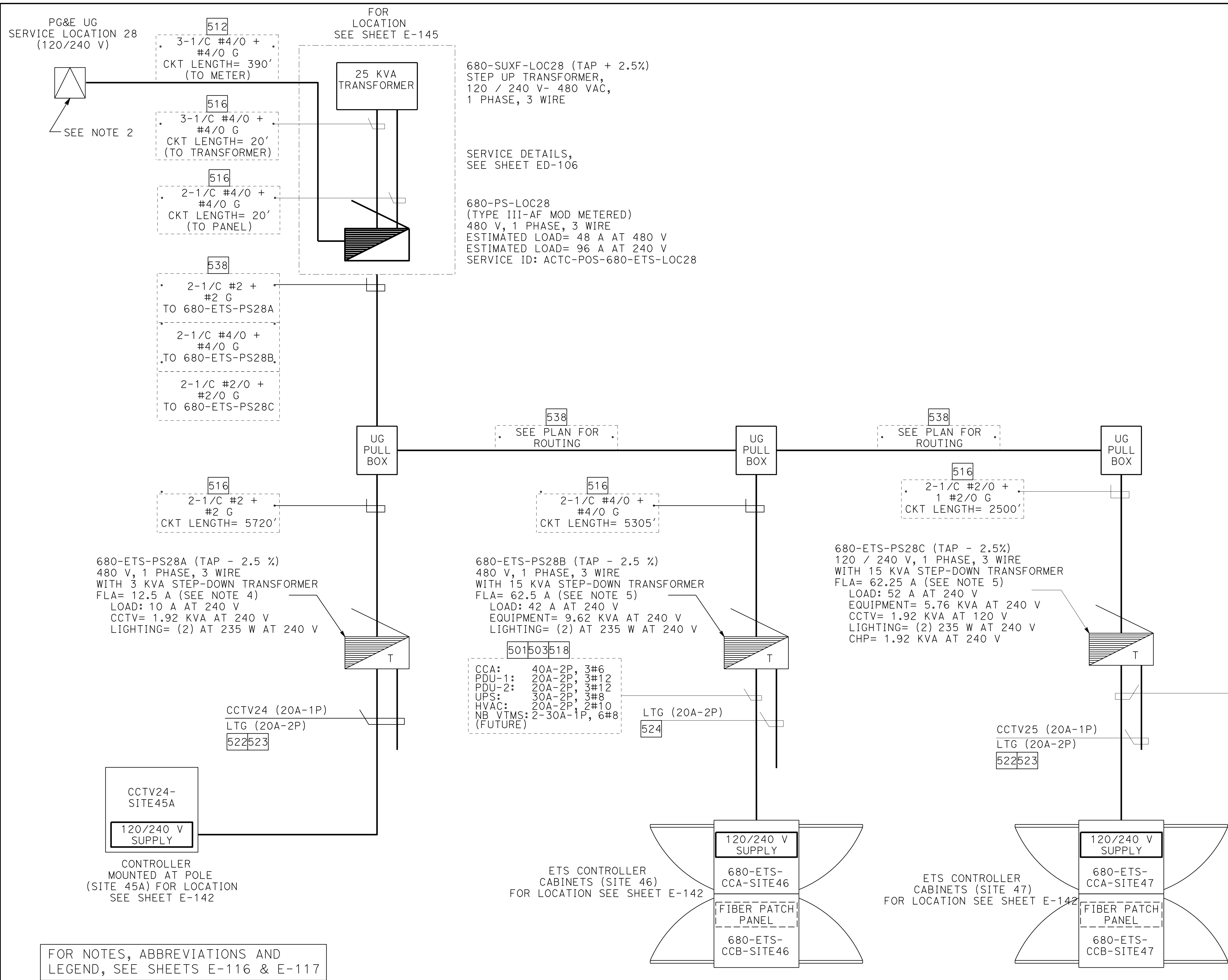
THE CIRCUIT CABLE LENGTH SHOWN ARE APPROXIMATE ONLY. THE CONTRACTOR TO PROVIDE THE ACTUAL LENGTH.

PRIOR TO INSTALLING ETS POWER, NOTIFY PG&E. COIL 10' LONG OF CABLE INSIDE PG&E #2 PULL BOX. CABLE TERMINATION SHALL BE BY PG&E.

DIAGRAM, SEE SHEETS ED-106 THRU ED-110. FOR TYPICAL SERVICE ENCLOSURE WIRING.

SERVICE POWER SUPPLY TYPE III-A (MOD) WITH STEP DOWN TRANSFORMER, 480-120/240 V, 1 PHASE, 3 WIRE. SEE SHEET ED-109 FOR SERVICE DETAILS.

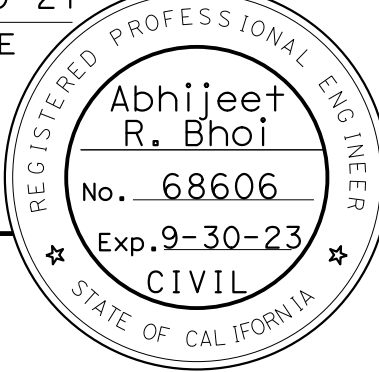
SERVICE POWER SUPPLY TYPE III-A (MOD) WITH STEP DOWN TRANSFORMER, 480-120/240 V, 1 PHASE, 3 WIRE. SEE SHEET ED-108 FOR SERVICE DETAILS.



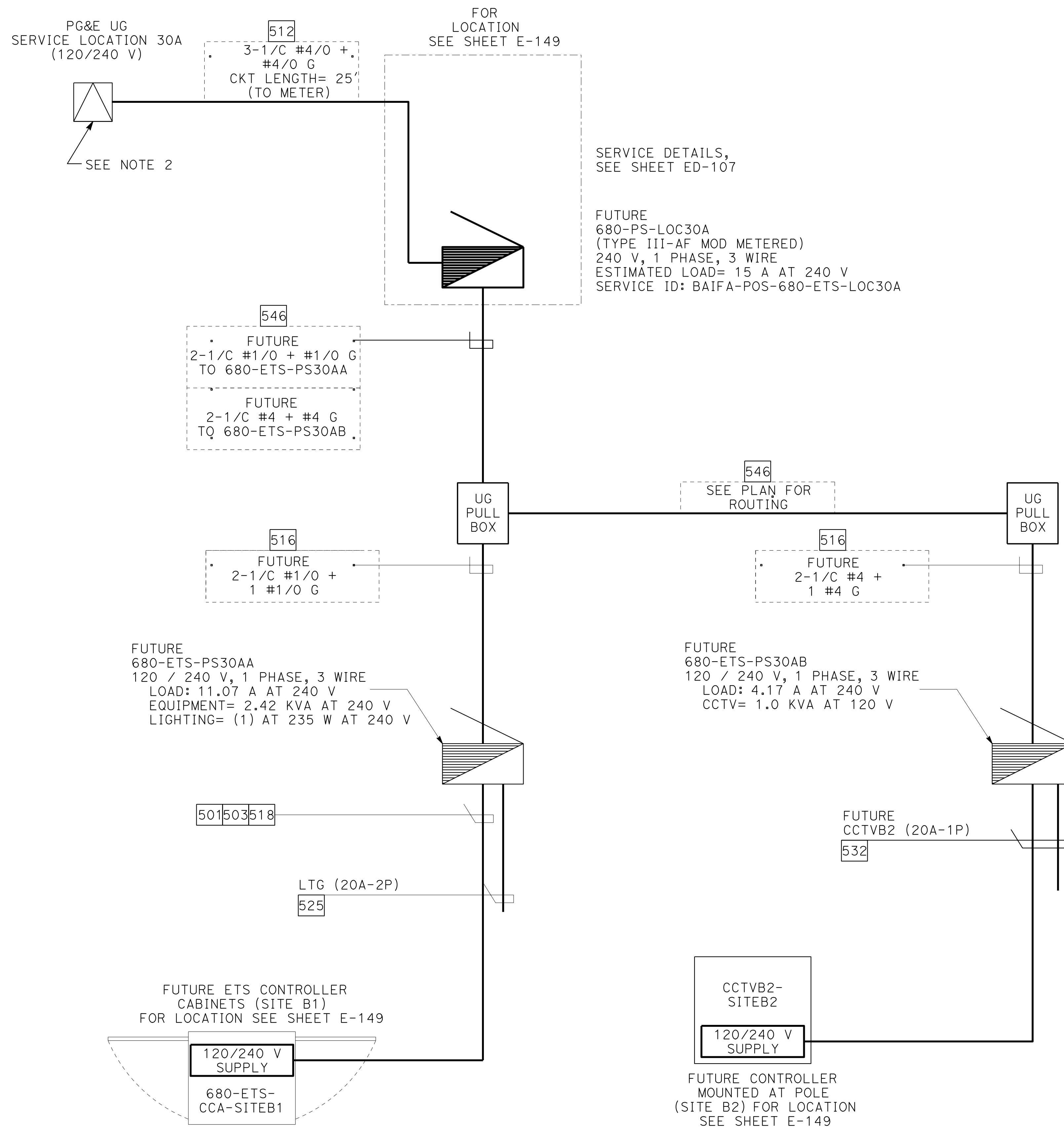
ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED-91

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1460	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
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AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		

- ## NOTES:
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 2. PRIOR TO INSTALLING ETS POWER, NOTIFY PG&E. COIL 10' LONG OF CABLE INSIDE PG&E #2 PULL BOX. CABLE TERMINATION SHALL BE BY PG&E.
 3. DIAGRAM, SEE SHEETS ED-106 THRU ED-110. FOR TYPICAL SERVICE ENCLOSURE WIRING.



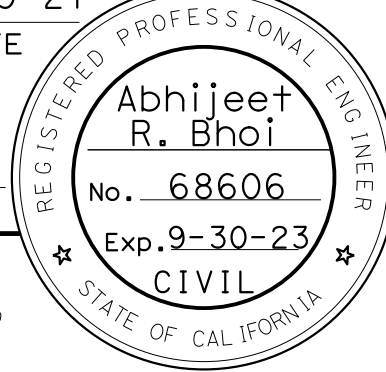
FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

ETS POWER DISTRIBUTION CABLE/CONDUIT RISER BLOCK DIAGRAM

ELECTRICAL SYSTEMS DETAILS

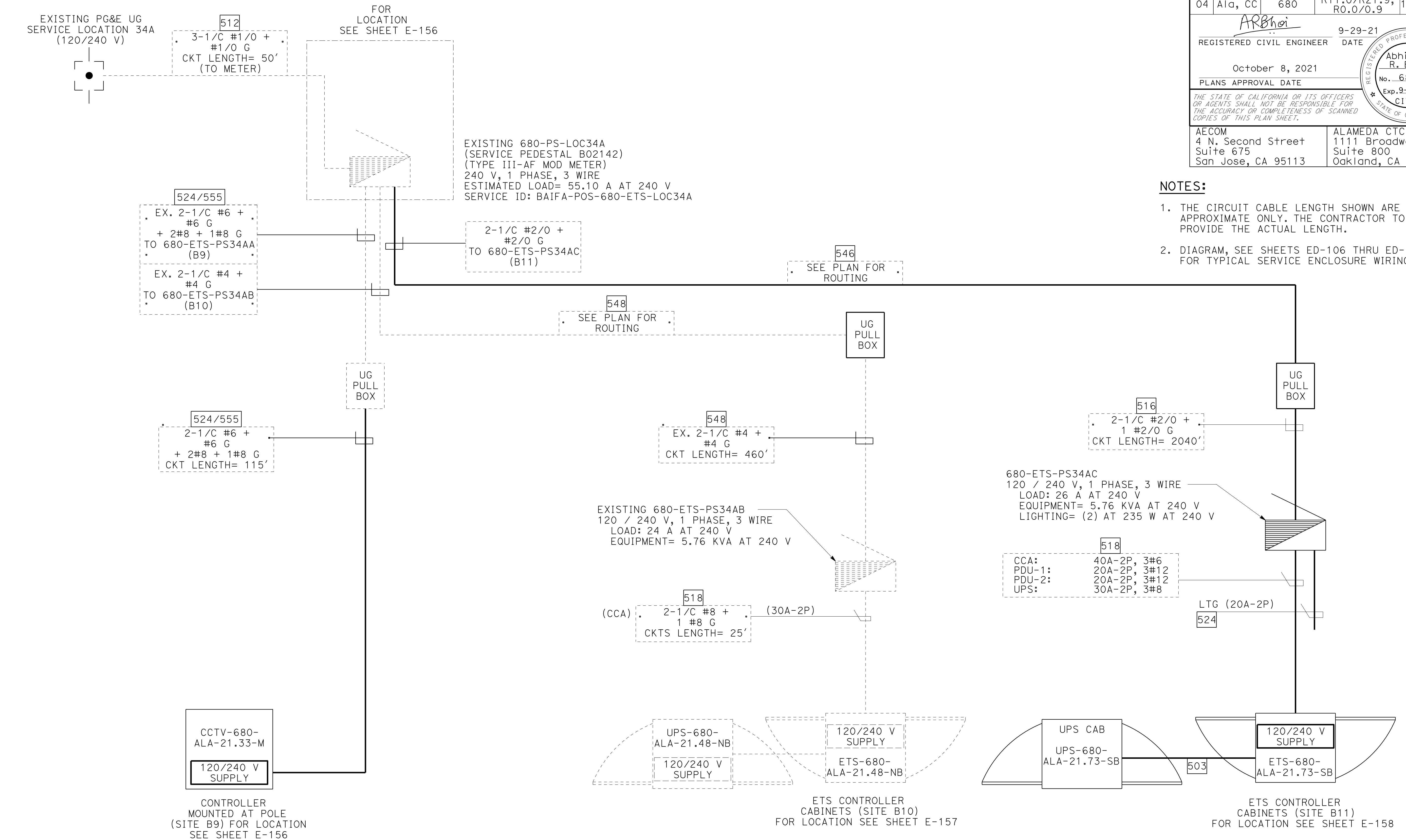
NO SCALE

ED - 93

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1463	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
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NOTES:

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2. DIAGRAM, SEE SHEETS ED-106 THRU ED-110. FOR TYPICAL SERVICE ENCLOSURE WIRING.



ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED-96

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONSULTANT - FUNCTIONAL SUPERVISOR

JASON VINCENT

CALCULATED-DESIGNED BY

SIMA MORADI BAUESTANI

CHECKED BY

TIMOTHY J. LEE

REVISOR

JV

DATE

9-29-21

REVISION

DATE

REVISION

DATE

Dist

COUNTY

ROUTE

POST MILES TOTAL PROJECT

SHEET No.

TOTAL SHEETS

04

Ala, CC

680

R11.0/R21.9, R0.0/0.9

1465

1710

REGISTERED CIVIL ENGINEER

DATE

October 8, 2021

PLANS APPROVAL DATE

9-29-21

DATE

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1111 Broadway

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Oakland, CA 94607

3' Dia CAST IRON RING AND TRAFFIC RATED MANHOLE COVER

NOTE 5 (2 PLACES)

NAMEPLATE (SEE NOTE 21)

FLUSH TO GRADE (SEE NOTE 7)

5'

UG PRECAST MANHOLE 4' DEEP

DEEP SUMP

EMBEDDED RACKING CHANNEL (Typ) (2) REQUIRED EACH KNOCKOUT

EMBEDDED PULLING IRON (Typ)

KNOCKOUTS ALL SIDES

4'

CL

CL

FIBER OPTIC TO ETS TOLL GANTRY CCTV CONTROLLER CABINET (SEE NOTE 4)

FIBER OPTIC SPLICE ENCLOSURE (FSC-SITEXXX) (SEE NOTE 16)

FIBER OPTIC IN (SEE NOTE 3)

FIBER OPTIC OUT (NOTE 1)

UNDERGROUND FIBER OPTIC SPLICE ENCLOSURE PULL BOX (MANHOLE)

ELECTRICAL SYSTEMS DETAILS

(ACTC FIBER OPTIC SPLICE VAULT)

NO SCALE

ED-98

NOTES: (THIS SHEET ONLY)

1. BACKFILL AS SPECIFIED IN STD SPEC, SECTION 87-1.03B(3)(c) COLORED CONCRETE MUST BE PLACED AROUND AND UNDER VAULT (6" MINIMUM) AND MUST CONTAIN A MINIMUM OF 500 lbs OF PORTLAND CEMENT PER CUBIC YARD.

2. PLACE MINIMUM OF 6" CLEAN CRUSHED ROCK SUMP UNDER PORTLAND CEMENT. BOTTOM OF PULL BOX MUST BE SLOPED TOWARD DRAIN PIPE FOR DRAINAGE AND MUST HAVE SMOOTH FINISH.

3. PROVIDE A CONTINUOUS FO CABLE INSIDE THE UG SPLICE VAULT. EACH SIDE OF THE FIBER SPLICE ENCLOSURE, COIL 50' LONG OF CABLE.

4. INSIDE THE UG PULL BOX, COIL 60' LONG OF FO CABLE BEFORE THE FIBER SPLICE ENCLOSURE.

5. WELD MANHOLE PLATE COVER TO CAST IRON RING COVER. THE WELDING MUST COMPLY WITH STANDARD SPECIFICATION SECTION 86.

6. VAULT LOCATED INSIDE AND OUTSIDE PAVEMENT MUST HAVE PENTA BOLT LOCKING MECHANISM CAPABILITY AS A THEFT DETERRENT. LOCKING MECHANISM MUST BE PROVIDED FOR COVER AND VAULT. FOUR 1/2" DIAMETER BRASS OR STAINLESS STEEL STUD BOLTS, NUTS, AND WASHERS. 4 BOLTS PER BOX, RECESS IN COVER FOR NUT.

7. UNDERGROUND MANHOLE SHALL BE FLUSHED TO GRADE EXCEPT IN DIRT/UNPAVED LOCATION SHALL BE BURIED 6" BELOW THE GRADE LEVEL.

8. SEE ELECTRICAL PLANS FOR NUMBER AND SIZE OF CONDUIT.

9. ALL CONDUITS MUST ENTER THROUGH KNOCKOUTS. IF MORE THAN 3 CONDUITS ARE REQUIRED IN SAME KNOCKOUT, KNOCKOUT MUST BE WIDENED TO 3/8" MORE THAN THE COMBINED CONDUIT WIDTH.

10. TRUNK LINE CONDUITS FROM THE TYPICAL BORE OR TRENCH SECTION MUST NOT DEFLECT BY MORE THAN ONE FEET PER 10 F+ FROM THE ALIGNMENT PRECEDING OR FOLLOWING VAULT ENTRANCE/EXIT.

11. BOTTOM OF CONDUIT CENTERLINE MUST BE ALIGNED TO EXIT TOP OF VAULT TO FACILITATE CABLE PULLING. IF EXISTING CONDUIT USED AND IF THE SWEEP IS NOT AS SHOWN, MODIFY EXISTING CONDUIT TO MATCH SWEEP AS SHOWN. INSTALL CONDUIT ELBOW AS SHOWN.

12. EXCESS CONDUIT FOR ALL CONDUIT ENDS MUST BE CUT BACK TO PROVIDE STUB ENDS OF 1" MINIMUM TO 2" MAXIMUM.

13. ALL METALLIC CONDUITS MUST HAVE THREADED METALLIC BUSHINGS. ALL PVC AND HDPE CONDUITS MUST HAVE BELL ENDS.

14. INSTALL CONDUIT SEALING PLUGS FOR ALL CONDUITS PER PROJECT SPECIFICATIONS.

15. ALL VAULT MUST BE FURNISHED WITH TWO RACKS AND HOOKS INSTALLED ON EACH OF THE TWO LONG SIDES.

16. SPLICE ENCLOSURES IN FIBER OPTIC VAULT MUST BE USED ONLY WHERE SHOWN. SPLICE ENCLOSURE MUST BE ATTACHED TO THE RACK AND HOOK SYSTEM ON THE SAME SIDE AS THE FIBER OPTIC CABLE. THE SPLICE ENCLOSURE MUST BE ANGLED TO FACILITATE MINIMUM BENDING RADIUS IN THE CABLE.

17. ALL CONDUITS AND FIBER OPTIC VAULT CONTAINING FIBER OPTIC CABLE MUST HAVE PERMANENT MARKERS AS SHOWN ON DRAWING SHEET ED-99.

18. WHEN TRENCH TRANSITIONS FROM ASPHALT TO DIRT AREAS, CONDUIT TO GRADUALLY DROP 9" MINIMUM DEPTH BENEATH ASPHALT TO 30" DEPTH WITHIN DIRT AREA.

19. INSTALL A MINIMUM OF 4" THICK OF FINE SOIL OR SAND OVER THE CONDUIT WITH SAND SHADING ON TOP BEFORE ADDITIONAL BACKFILL MATERIAL IS PLACED.

20. ALL FIBER OPTIC VAULT AND COVER MUST HAVE AN AASHTO-HS-20-44 RATING.

21. MARK "ETS FIBER" ON THE TOP FACE OF ALL COVERS FOR ACTC FIBER OPTIC CABLE SYSTEMS.

22. TRAFFIC PULL BOX SHALL BE PROVIDED WITH STEEL COVER AND SPECIAL CONCRETE FOOTING. STEEL COVER SHALL HAVE EMBOSSED NON-SKID PATTERN.

23. STEEL REINFORCING SHALL BE AS REGULARLY USED IN THE STANDARD PRODUCT OF THE RESPECTIVE MONUFACFURER.

24. BONDING JUMPER FOR METAL COVERS SHALL BE 3' LONG, MINIMUM.

BORDER LAST REVISED 9/24/2020

USERNAME => p302438
DGN FILE => 0420000235ub098.dgn

RELATIVE BORDER SCALE IS IN INCHES

0

1

2

3

UNIT 0733

PROJECT NUMBER & PHASE

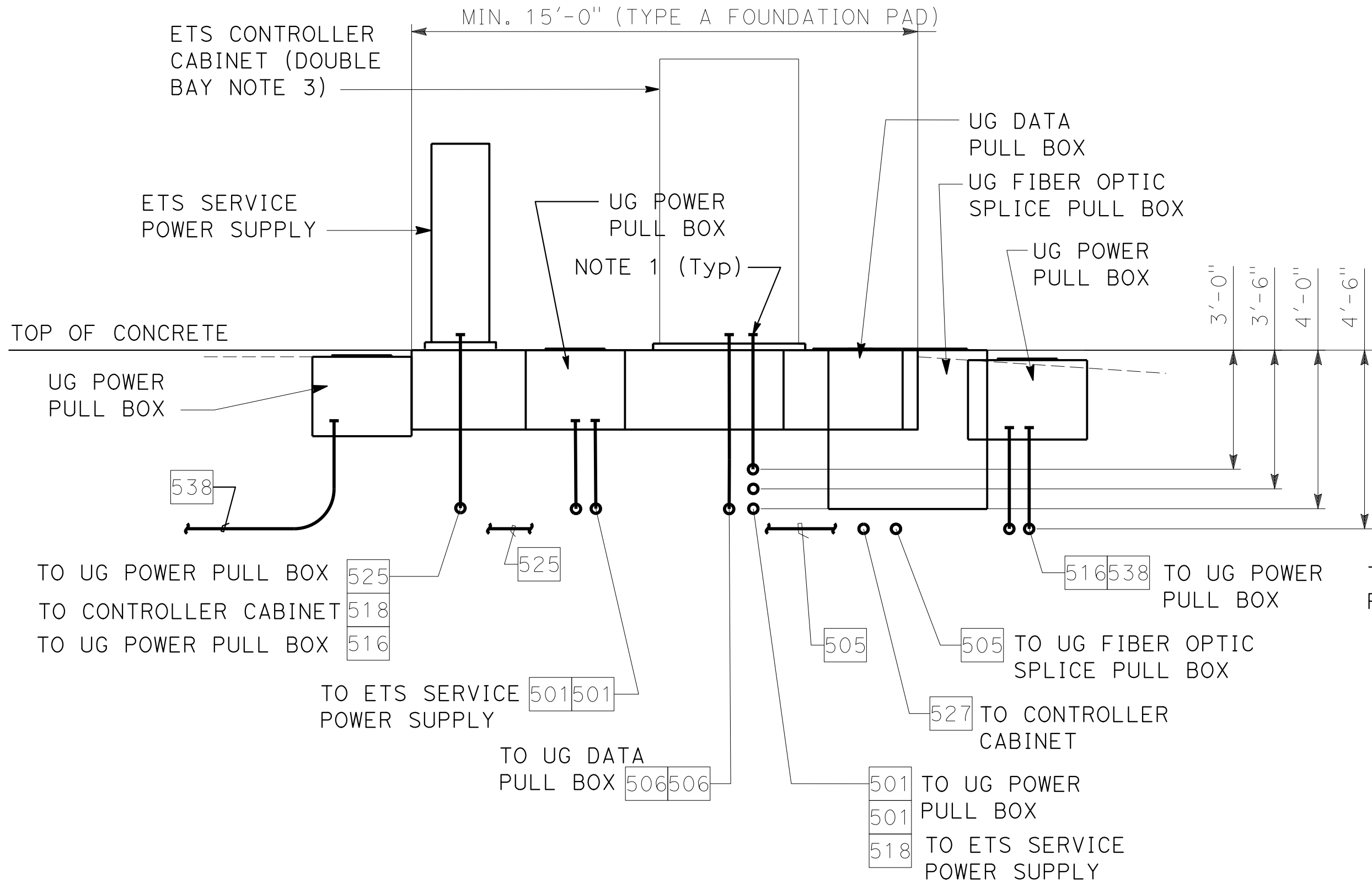
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LAST REVISION

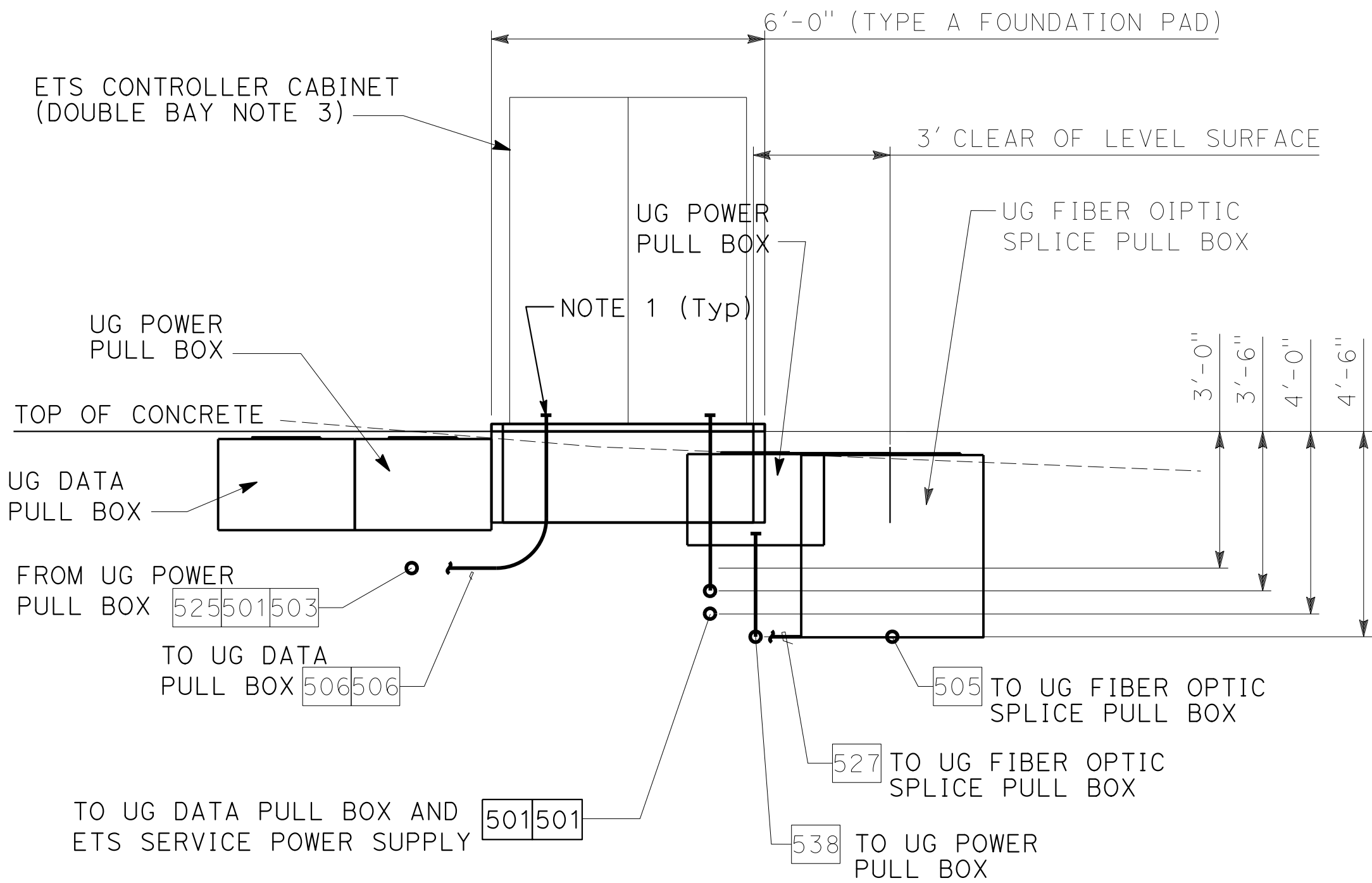
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09-29-21

TIME PLOTTED => 09:51

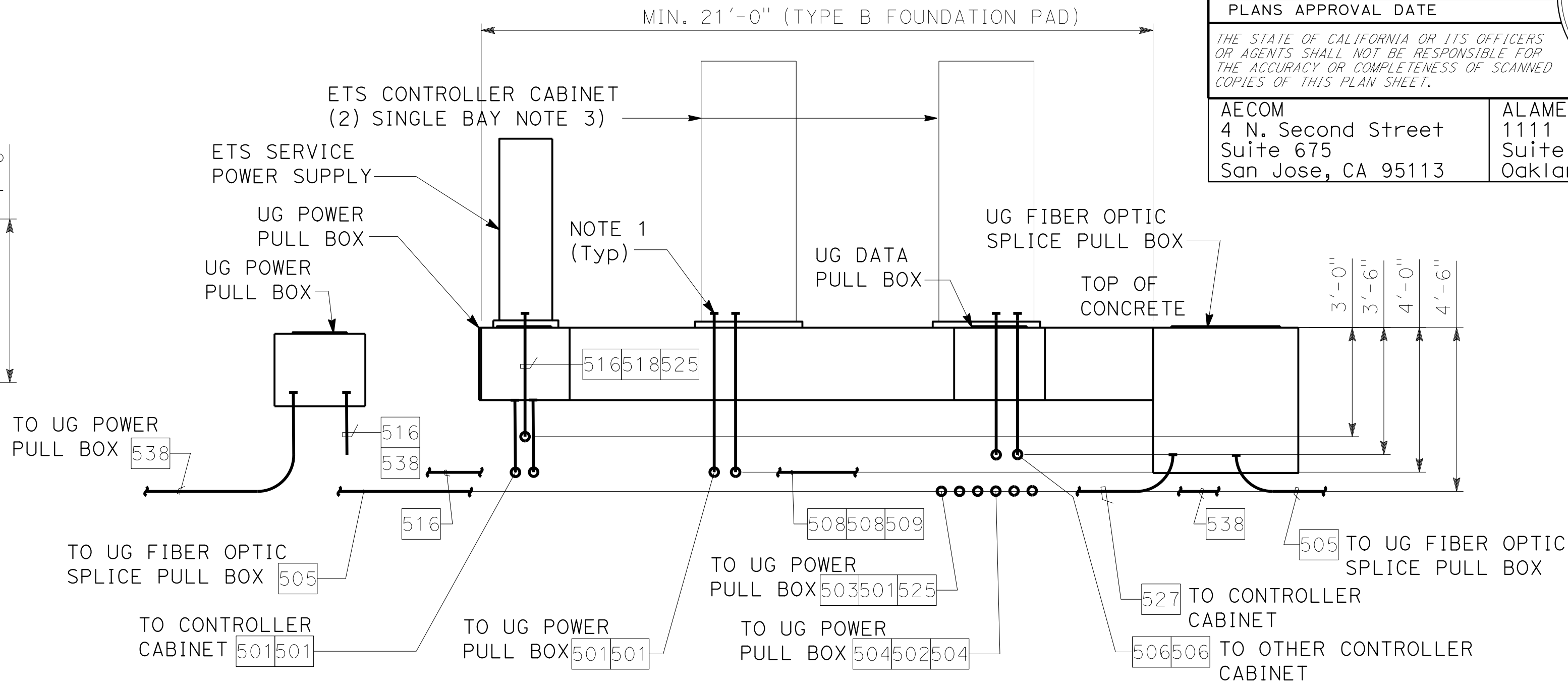


ETS EQUIPMENT-ELEVATION
WITH DOUBLE BAY CABINETS
(FOR SIMILAR EQUIPMENT ELEVATION - SEE NOTE 2)

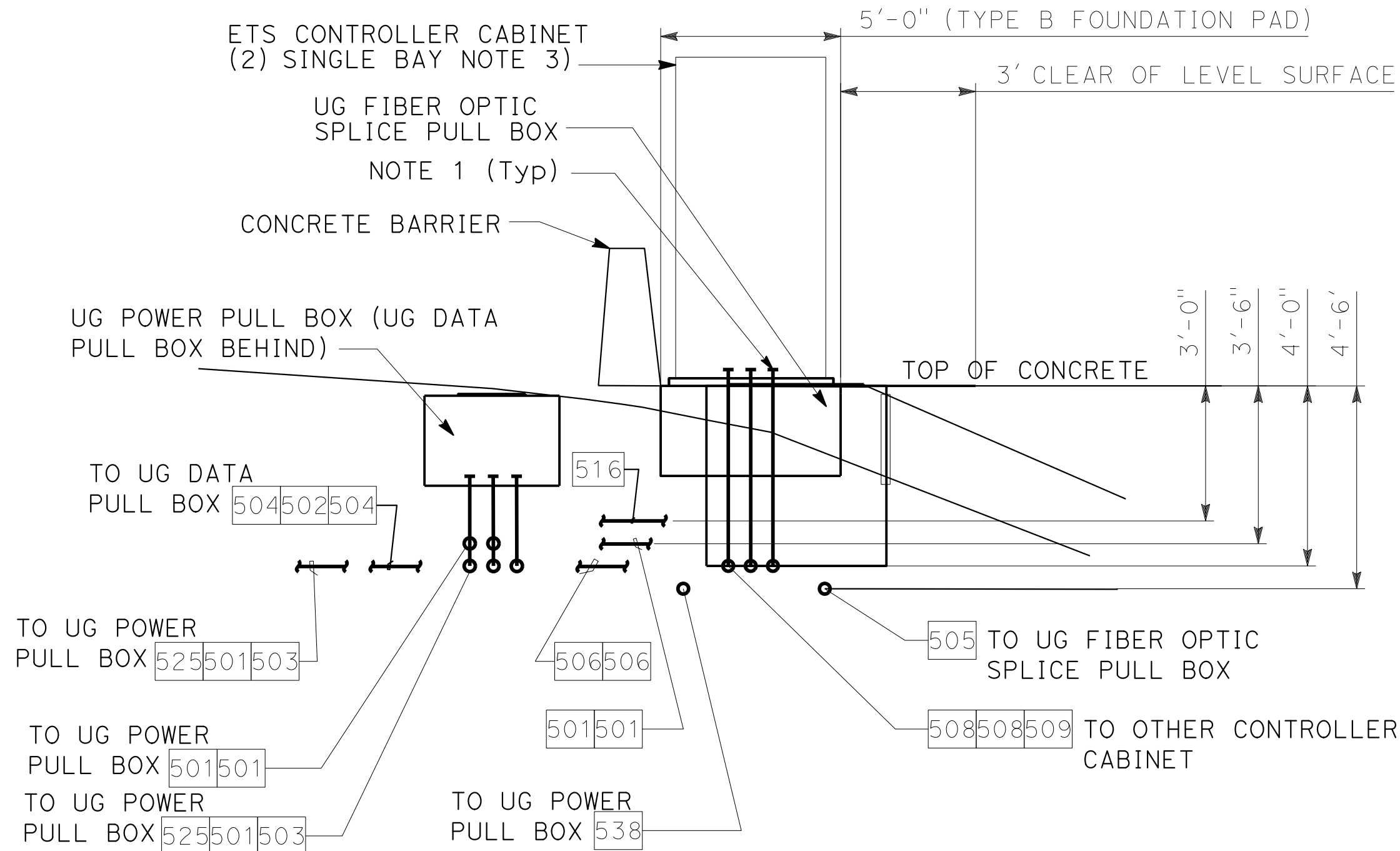


ETS EQUIPMENT-SECTION
WITH DOUBLE BAY CABINETS
(FOR SIMILAR EQUIPMENT SECTION - SEE NOTE 2)

FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117



ETS EQUIPMENT-ELEVATION
WITH (2) SINGLE BAY CABINETS
(FOR SIMILAR EQUIPMENT ELEVATION - SEE NOTE 2)



ETS EQUIPMENT-SECTION
WITH (2) SINGLE BAY CABINET
(FOR SIMILAR EQUIPMENT SECTION - SEE NOTE 2)

NOTES:

1. STUB UP CONDUITS UNDER EQUIPMENT AND UNDERGROUND PULL BOXES SHALL BE PROVIDED WITH GROUND BUSHING. CONDUITS SHALL BE BONDED WITH #6 BARE COPPER WIRE.
2. FOR TABULATION OF EQUIPMENT AND CONCRETE FOUNDATION PAD, SEE SCHEDULE A SHEET ED-27.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1467	1710

ARBhoi

REGISTERED CIVIL ENGINEER

9-29-21

DATE

October 8, 2021

PLANS APPROVAL DATE

Abhijeet R. Bhoi

No. 68606

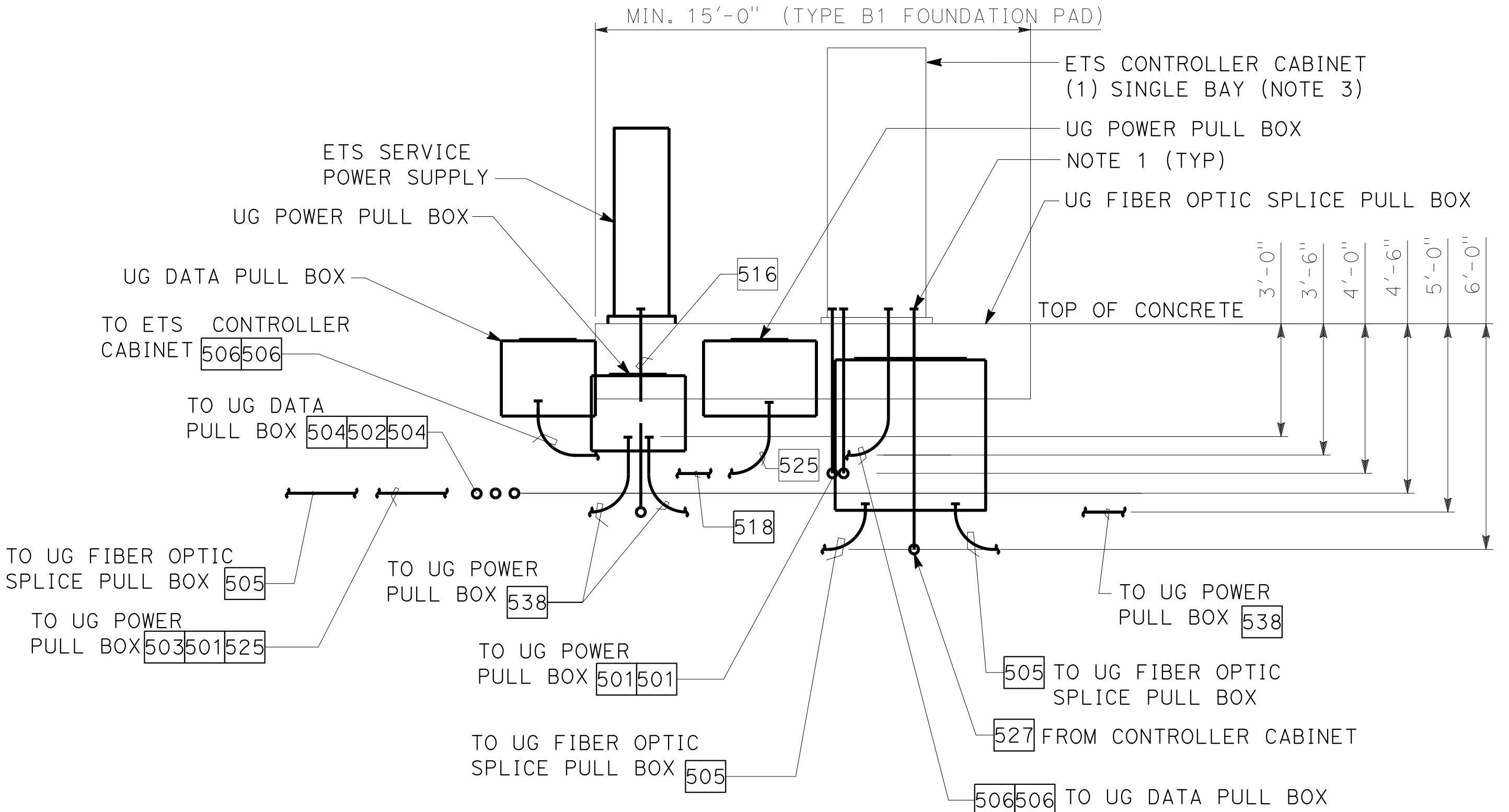
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CIVIL

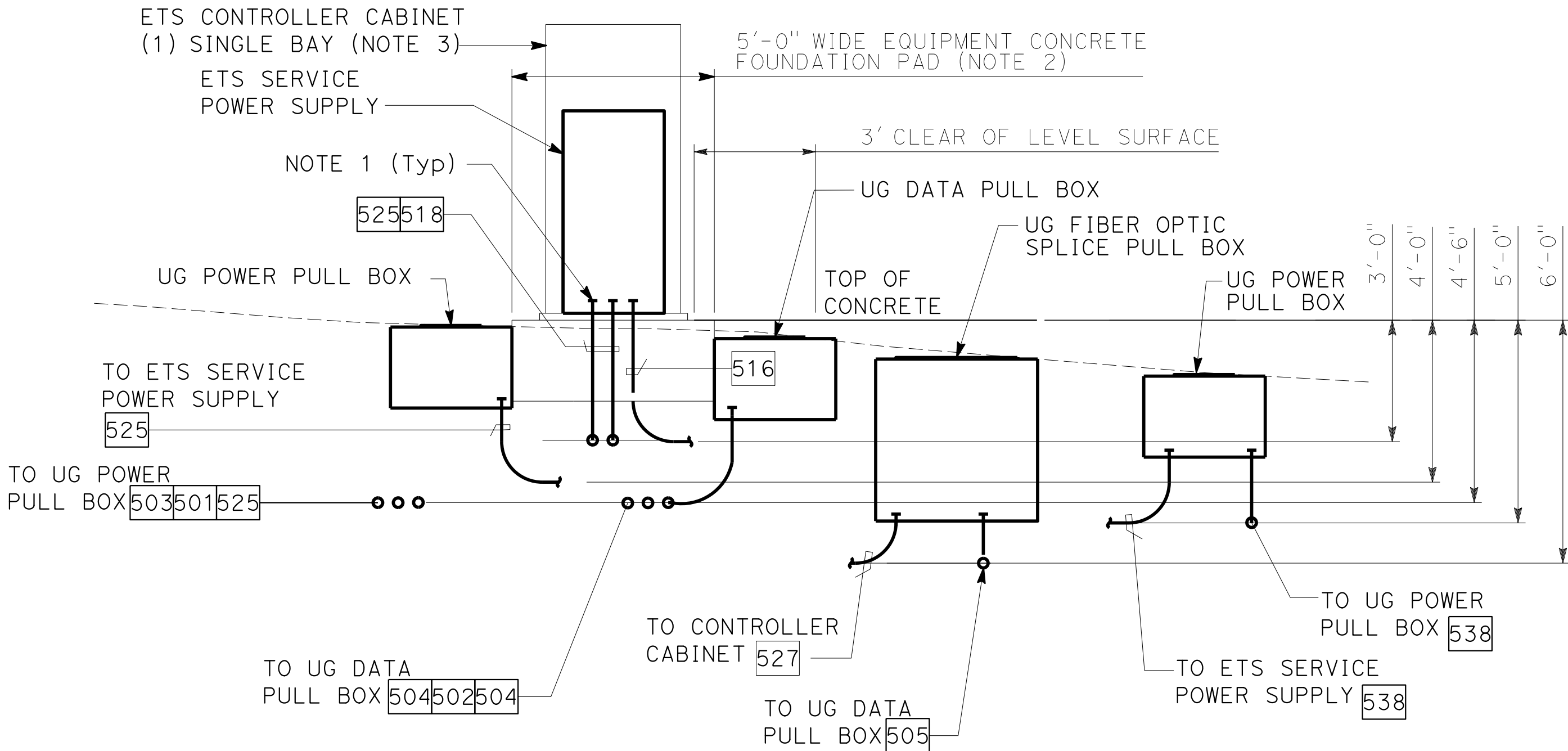
STATE OF CALIFORNIA

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ETS EQUIPMENT-ELEVATION
WITH (1) SINGLE BAY CABINET
(FOR SIMILAR EQUIPMENT ELEVATION - SEE NOTE 2)



ETS EQUIPMENT-SECTION
WITH (1) SINGLE BAY CABINET
(FOR SIMILAR EQUIPMENT SECTION - SEE NOTE 2)

FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

ETS TYPICAL EQUIPMENT ELEVATION AND SECTION

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1468	1710
REGISTERED CIVIL ENGINEER			9-29-21 DATE		
October 8, 2021			PLANS APPROVAL DATE		
AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		

ARBhoi

9-29-21

October 8, 2021

PLANS APPROVAL DATE

Abhijeet R. Bhoi

No. 68606

Exp. 9-30-23

CIVIL

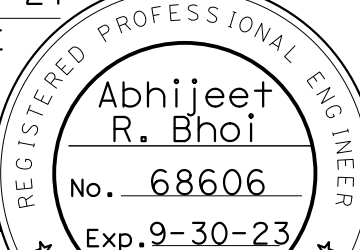
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER

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.

- NOTES:
- STUB UP CONDUITS UNDER EQUIPMENT AND UNDERGROUND PULL BOXES SHALL BE PROVIDED WITH GROUND BUSHING. CONDUITS SHALL BE BONDED WITH #6 BCW.
 - FOR TABULATION OF EQUIPMENT AND CONCRETE FOUNDATION PAD, SEE SCHEDULE A SHEET ED-27.

ELECTRICAL SYSTEMS DETAILS
SCALE: 3/8"=1'-0"
ED-101

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1469	1710
<i>ARBhoi</i> REGISTERED CIVIL ENGINEER			9-29-21 DATE		
October 8, 2021 PLANS APPROVAL DATE					
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STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

CDT

CDTRANS

CONSULTANT

FUNCTIONAL SUPERVISOR

JASON VINCENT

SIMA MORADI BAJESTANI

CHECKED BY

TIMOTHY J. LEE

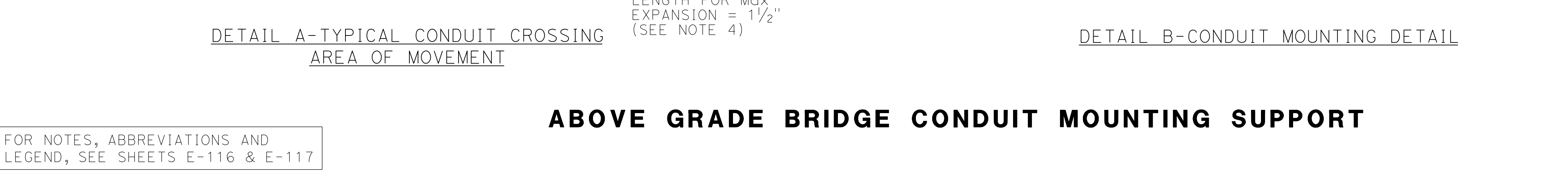
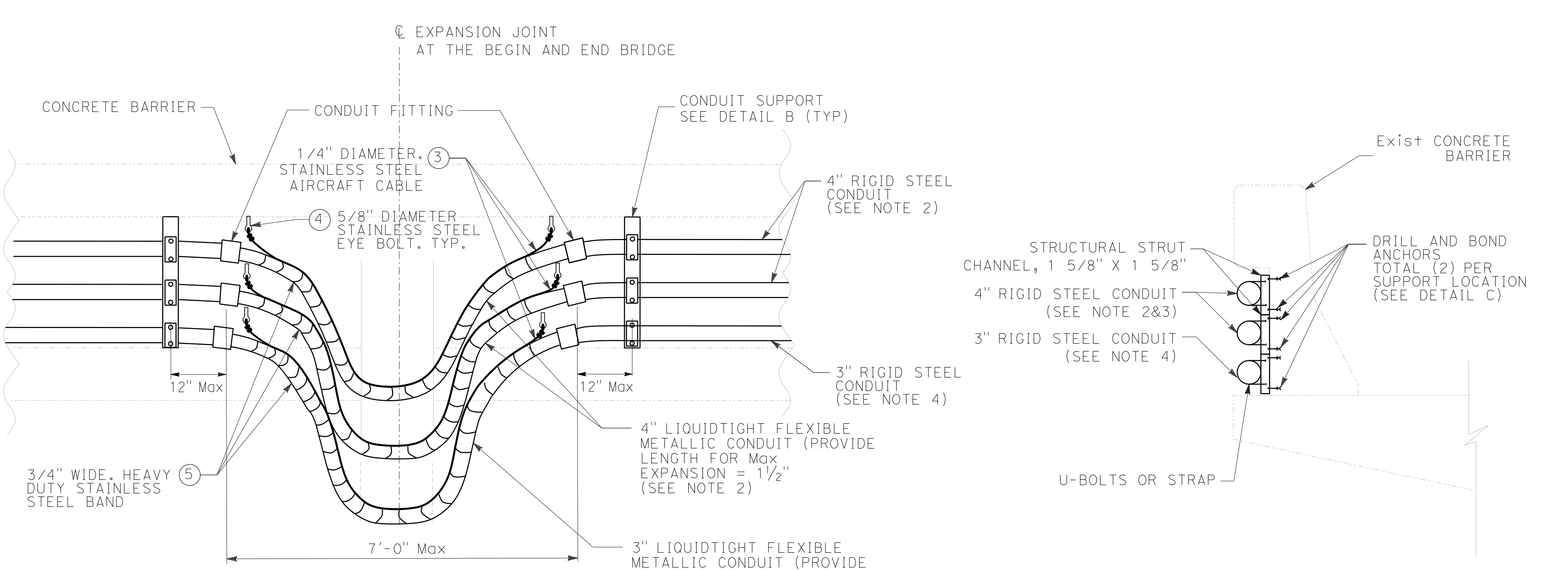
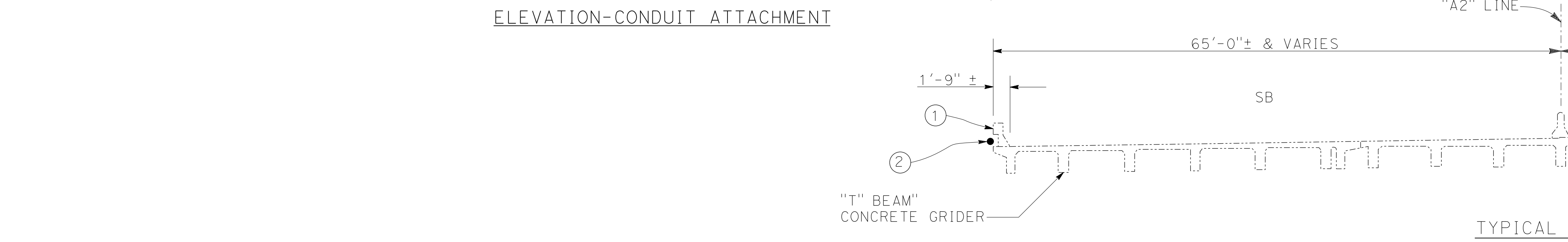
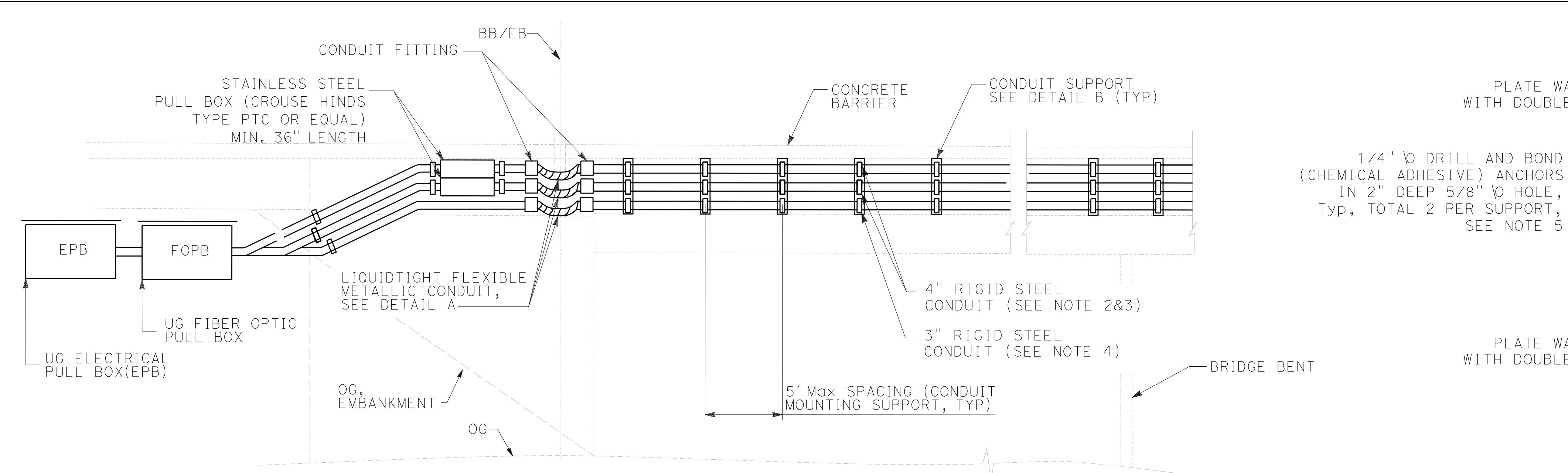
REVISOR

DATE

9-29-21

PROJECT

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Dist

COUNTY

ROUTE

POST MILES TOTAL PROJECT

SHEET No.

TOTAL SHEETS

04

Ala, CC

680

R11.0/R21.9, R0.0/0.9

1470

1710

REGISTERED CIVIL ENGINEER

DATE

9-29-21

October 8, 2021

PLANS APPROVAL DATE

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San Jose, CA 95113

ALAMEDA CTC
1111 Broadway
Suite 800
Oakland, CA 94607

LEGEND:

1. EXISTING CONCRETE BARRIER

2. NEW CONDUIT AT SOUTHBOUND SIDE OF BRIDGE (SEE NOTE 2 & 3)

3. TERMINATE EACH END OF THE CABLE WITH A STAINLESS STEEL THIMBLE AND 2 COMPRESSION SLEEVES. ATTACH THE CABLE AND THIMBLE TO THE EYE BOLT WITH A STAINLESS STEEL \"D\" SHACKLE (3/8\" DIA.X 1.5\" X 2\").

4. INSTALL EYE BOLT WITH A MECHANICAL EXPANSION ANCHOR WITH A 4\" MINIMUM EMBEDMENT INTO THE CONCRETE. HOLE DIAMETER AND INSTALLATION REQUIREMENTS SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS.

5. INSTALL STAINLESS STEEL BAND AT 12\" INTERVALS TO ATTACH CONDUIT AND STAINLESS STEEL AIRCRAFT CABLE.

NOTE:

1. REINFORCEMENT IN BARRIER MUST BE LOCATED BY NONDESTRUCTIVE MEANS PRIOR TO INSTALLING HOLES FOR ANCHORS. IF REINFORCEMENT IS ENCOUNTERED THE ANCHOR HOLE MUST BE ABANDONED, PATCHED AND A NEW HOLE INSTALLED. ROTARY DRILLS ARE TO BE USED, NO IMPACT DRILLS OR CORING.

2. INSTALL 4\" FIBER CONDUIT FOR ACTC ON SB BRIDGE AT PLEASANTON INDUSTRIAL PARK OH Br. No. 33-0380(TYPE 732 RAIL) AND LAGUNA CREEK LANE UC Br. No. 33-0381(TYPE 732 RAIL). ALL THE WORK MUST BE PERFORMED FROM THE BRIDGE DECK SURFACE. ACCESS TO THE SURFACE BELOW THE STRUCTURES ARE NOT ALLOWED.

3. INSTALL 4\" FIBER AND 4\" POWER FOR ACTC ON SB BRIDGE AT SOUTH PLEASANTON OH Br. No. 33-0388(TYPE 732 RAIL), DUBLIN BLVD UC Br. No. 33-0373(TYPE 1 RAIL) AND AMADOR VALLEY BLVD UC Br. No. 33-0356(TYPE 1 RAIL).

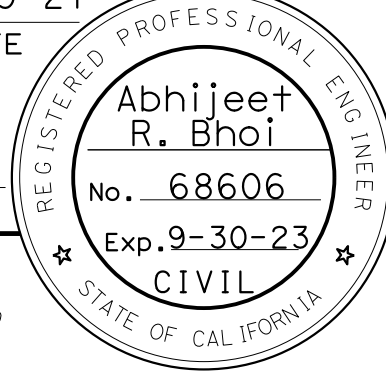
4. REFER TO ELECTRICAL PLANS FOR ADDITIONAL 3\" FIBER CONDUIT REQUIREMENTS AND LOCATION.

5. DRILL AND BOND (CHEMICAL ADHESIVE) ANCHORS SHALL BE ASTM F1554 GRADE THREADED ROD.

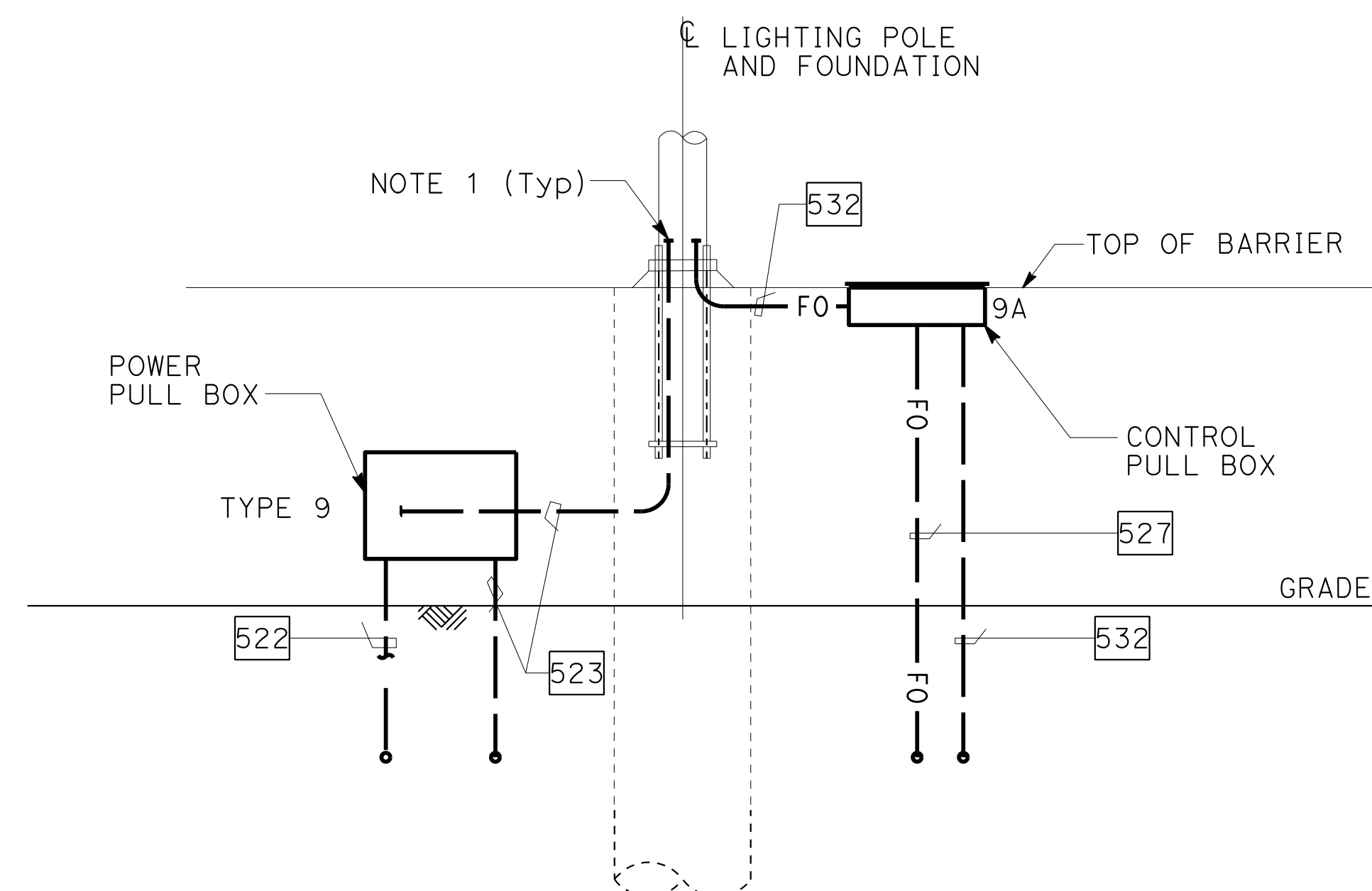
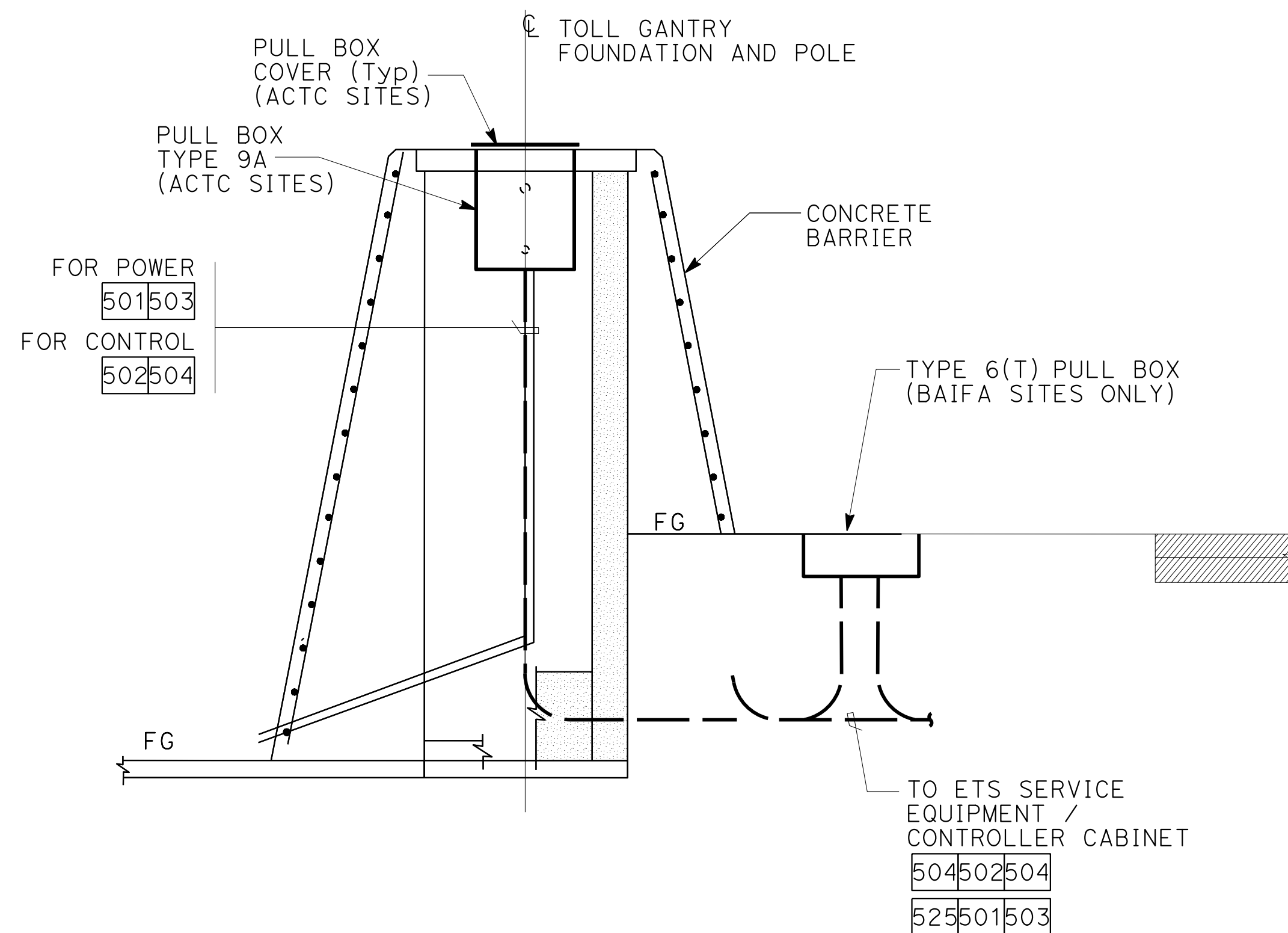
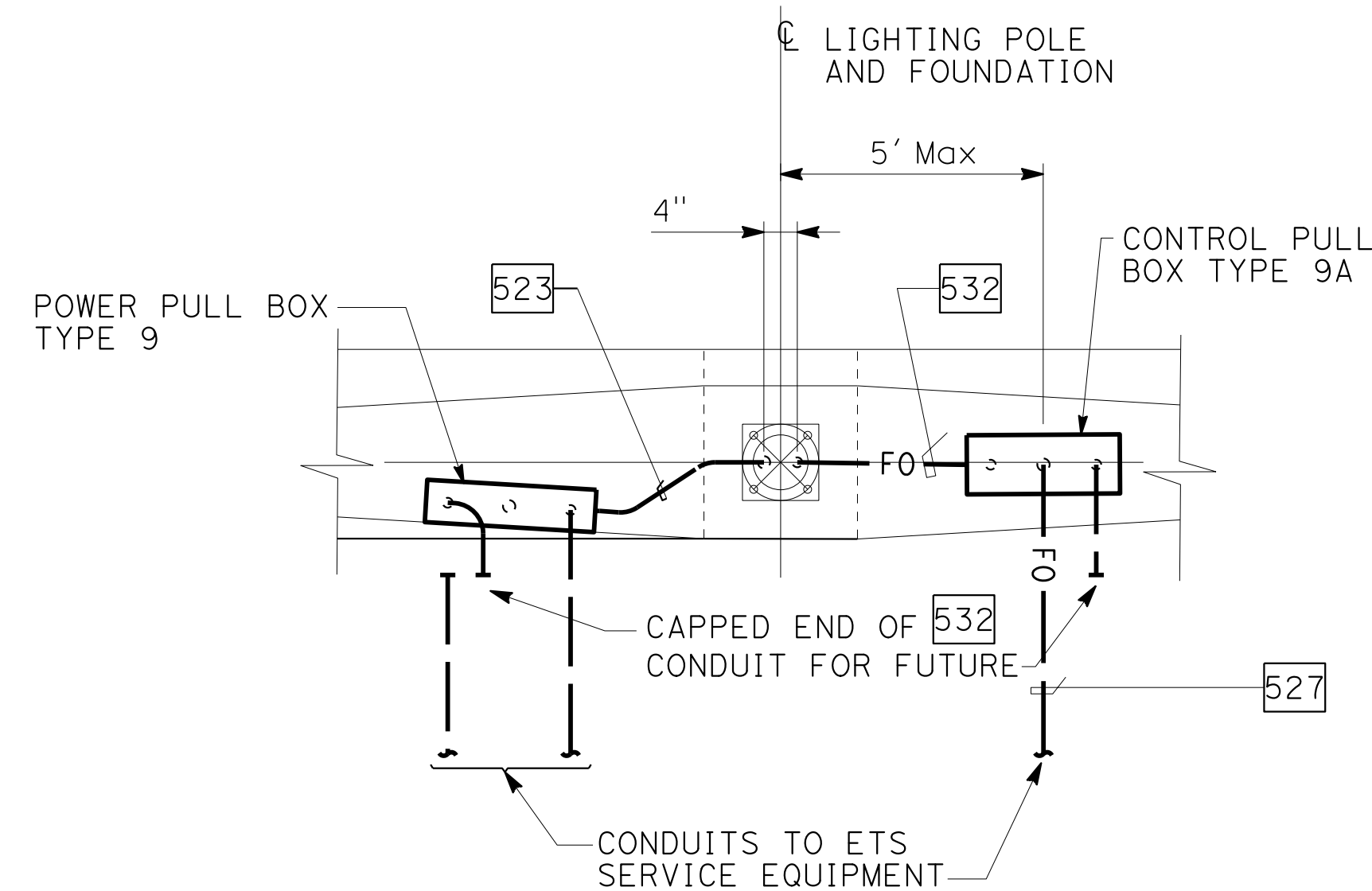
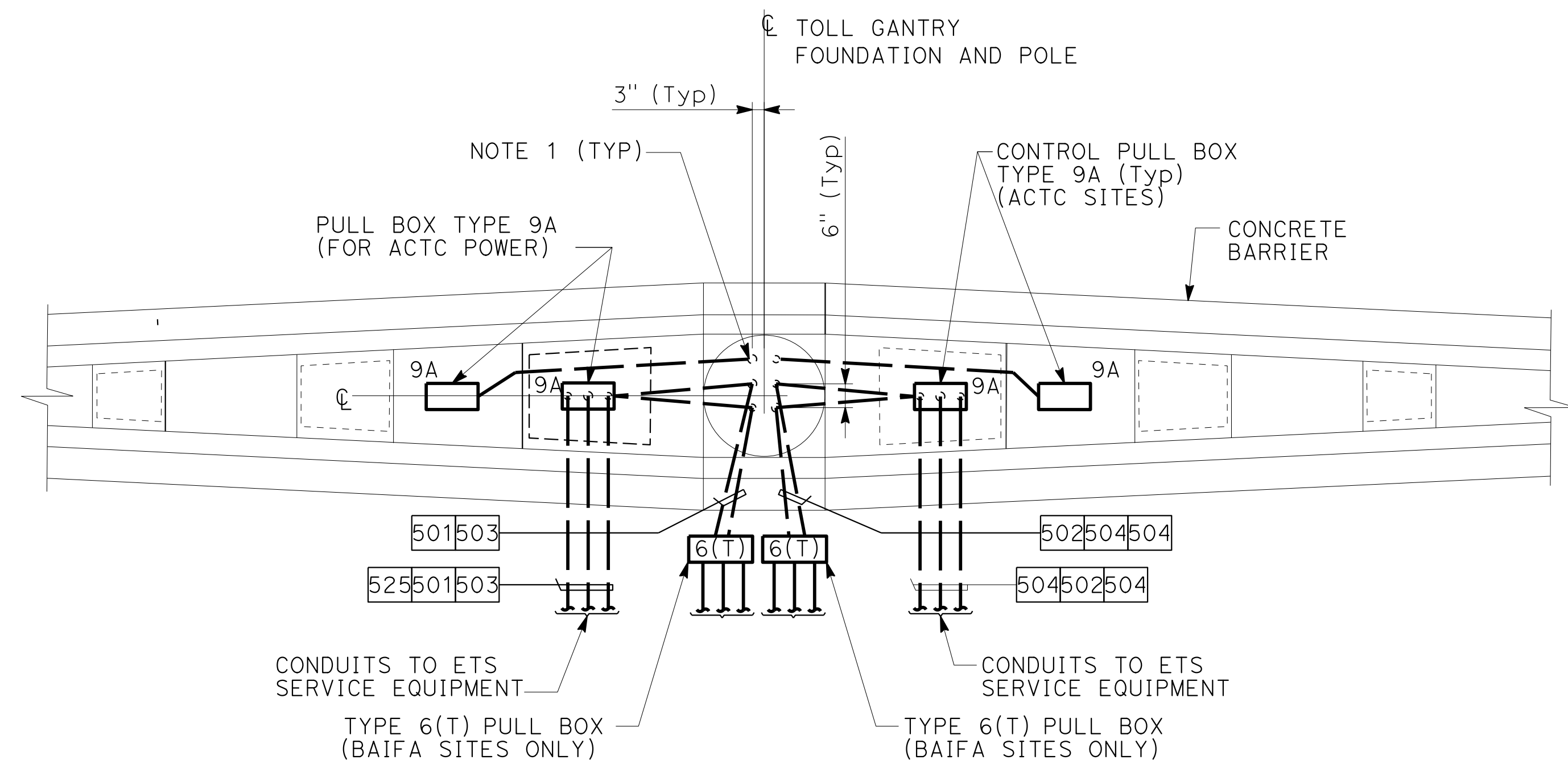
ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED-103

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
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WIDE GROUND BUSHING. BOND CONDUIT WITH
BARE COPPER WIRE.



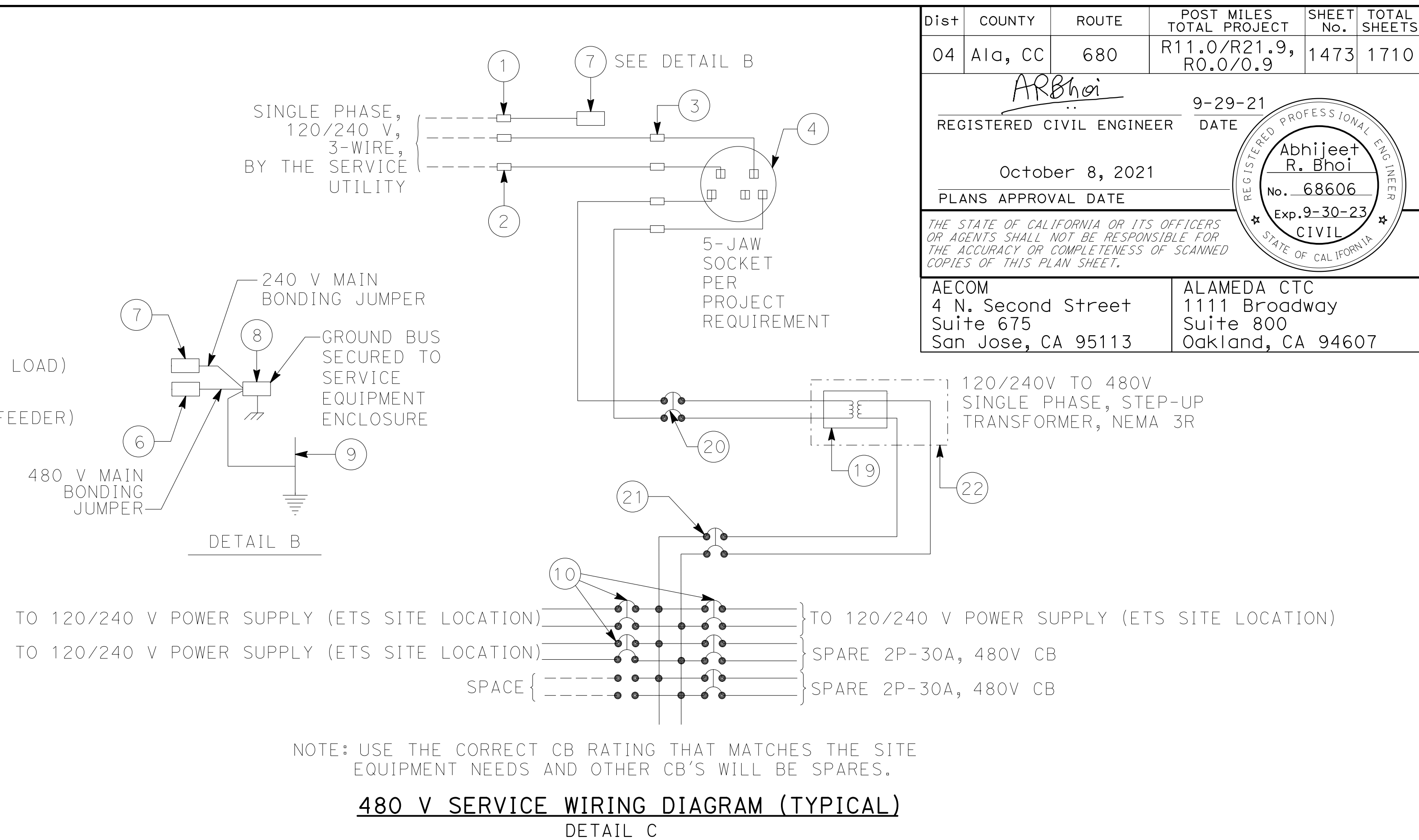
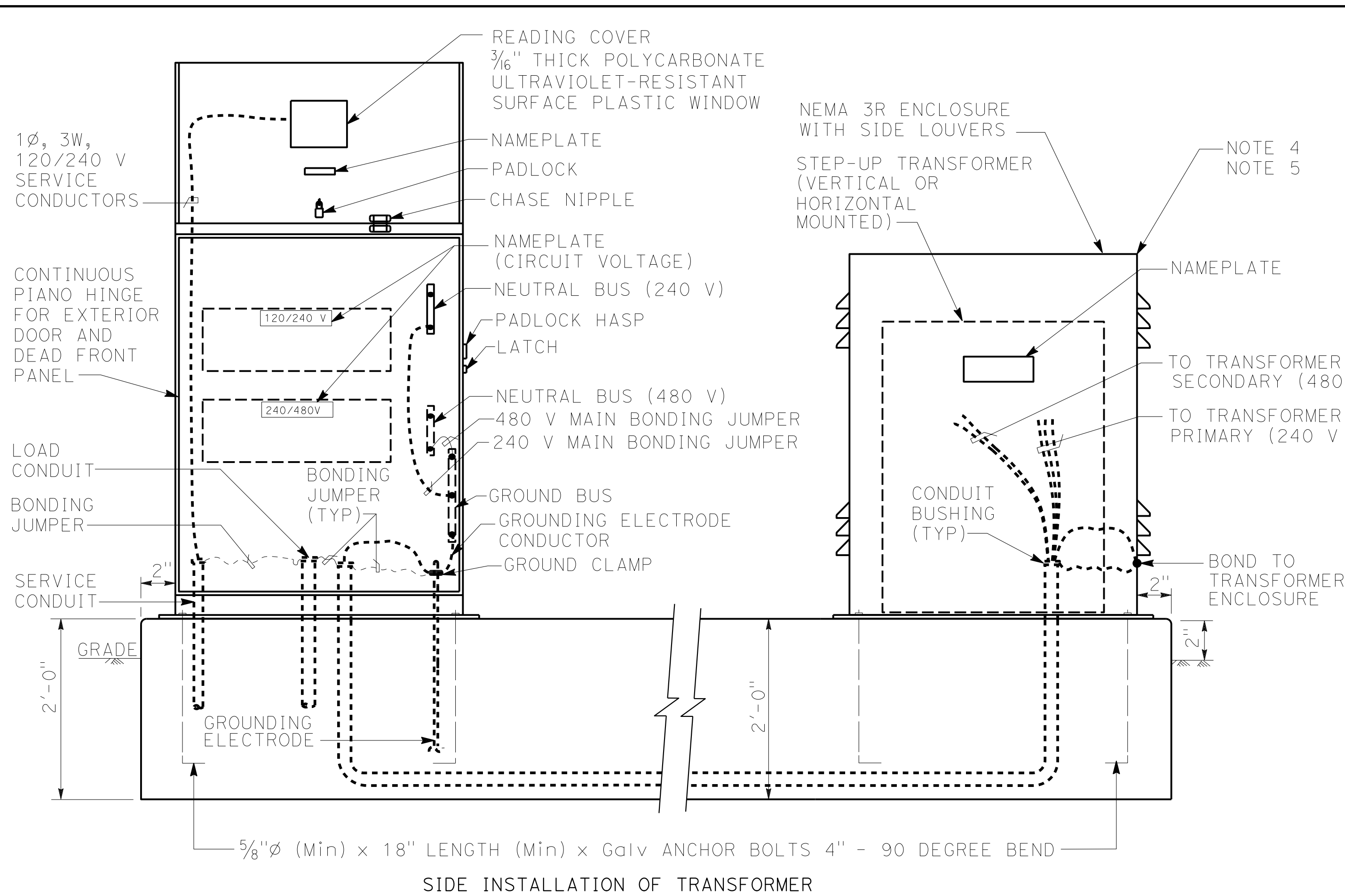
ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED - 105

TYPICAL CONDUIT PLAN AND PULL BOX LOCATION

FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117



TYPE III-D (MODIFICATION) SERVICE (480 V) EQUIPMENT LEGEND					
ITEM NO.	COMPONENT	NAMEPLATE DESCRIPTION	ITEM NO.	COMPONENT	NAMEPLATE DESCRIPTION
①	NEUTRAL LUG		⑧	GROUND BUS	
②	LANDING LUG		⑨	GROUNDING ELECTRODE	
③	SOCKET CLIP		⑩	30A, 480 V, 2P, CB	FEEDS FOR ETS SITES
④	METER SOCKET AND SUPPORT	*	⑪	25 kVA, 120/240-480 V	TRANSFORMER, 25 kVA, 240-480 V
⑥	NEUTRAL BUS	NEUTRAL BUS (480 V) *	⑫	200 A, 240 V, 2P, CB	TRANSFORMER PRIMARY (240 V)
⑦	NEUTRAL BUS	NEUTRAL BUS (240 V) *	⑬	70 A, 480 V, 2P, CB	TRANSFORMER SECONDARY (480 V)
			⑭	NEMA 3R ENCLOSURE WITH LOUVERS	TRANSFORMER, 15 kVA, 480-240 V

* SEE TABLE BELOW FOR INFO BASED ON TRANSFORMER SIZE

NOTES:

1. UNLESS OTHERWISE INDICATED ON THE PLANS, SERVICE EQUIPMENT ITEMS SHALL BE PROVIDED FOR EACH SERVICE EQUIPMENT ENCLOSURE AS SHOWN.
2. ITEMS NO. ①, ⑥ AND ⑦ SHALL BE ISOLATED FROM THE SERVICE EQUIPMENT ENCLOSURE.
3. COLOR OF INSULATION OF THE NEUTRAL SHALL BE WHITE FOR THE 120/240V SYSTEM.
4. THE NEMA 3R ENCLOSURE SHALL BE LOCATED TO THE SIDE OF THE SERVICE EQUIPMENT ENCLOSURE UNLESS OTHERWISE INDICATED ON THE PLANS.
5. THE BASE DIMENSION FOR THE NEMA 3R ENCLOSURE FOR THE TRANSFORMER SHALL BE AS PER MANUFACTURER'S DESIGN.
6. THE PRIMARY PG&E SERVICE IS 120/240 VAC, 1 PHASE

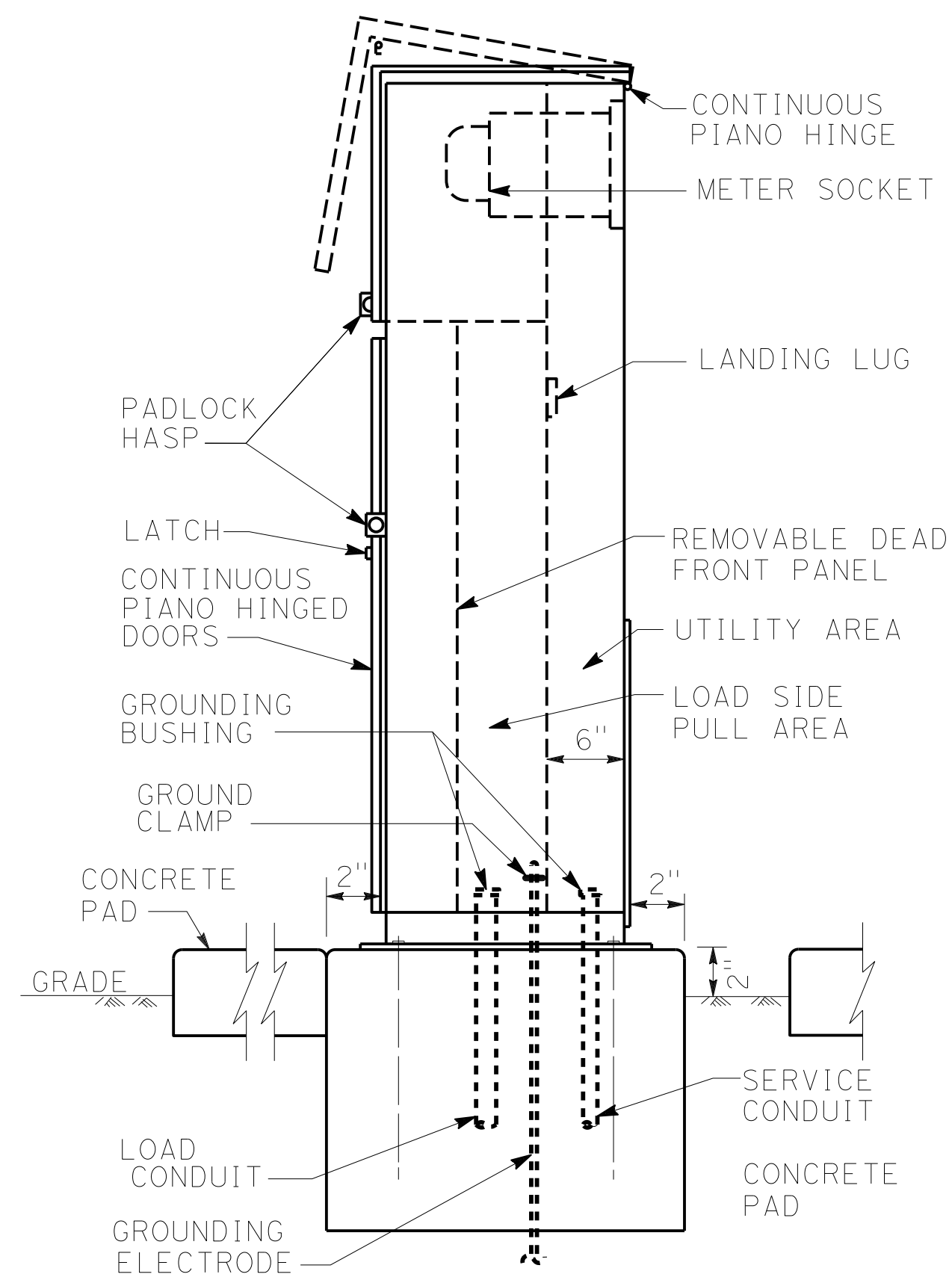
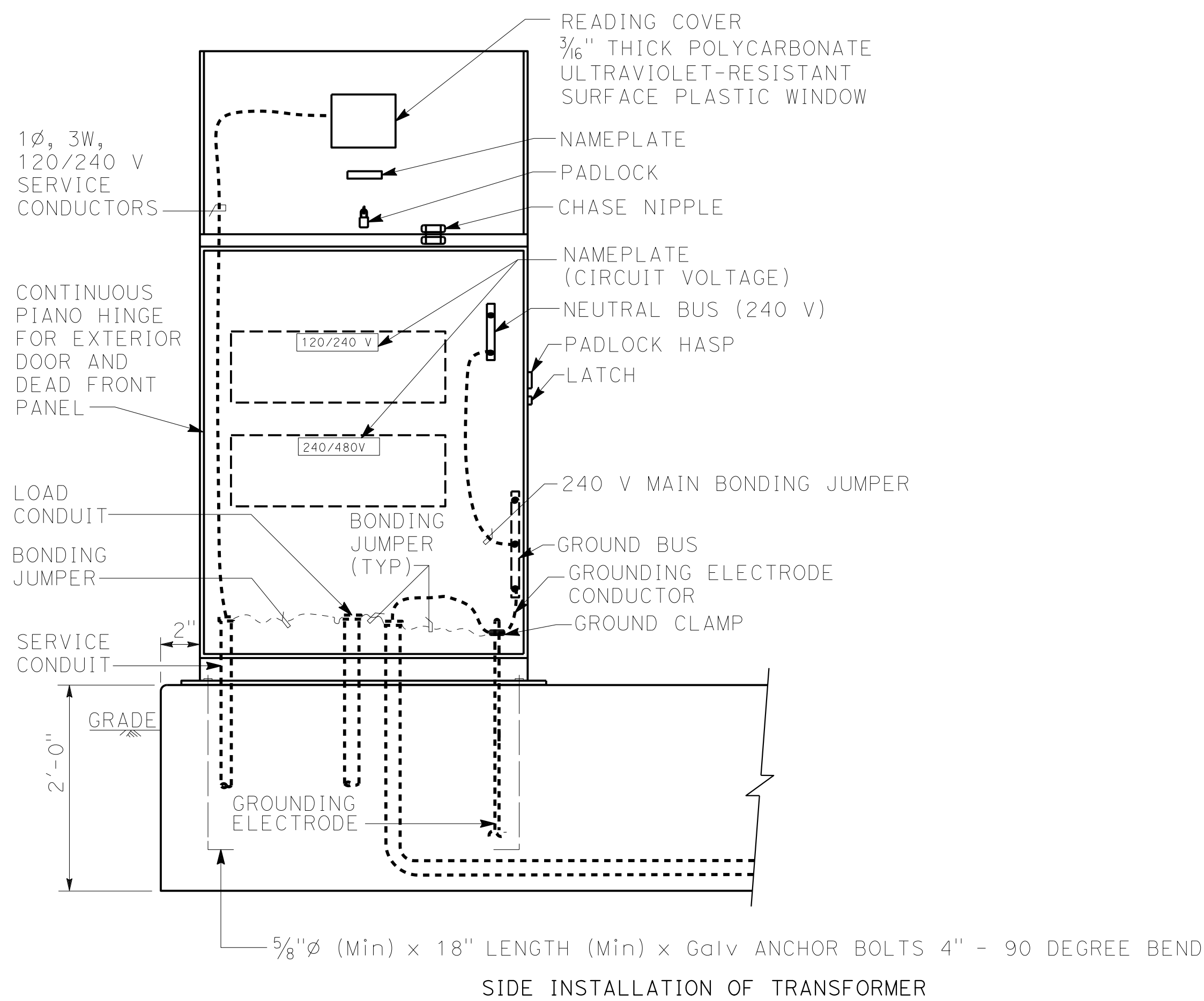
X	TRANSFORMER SIZE	EQUIPMENT AND CB'S DETAILS
	15 kVA	(19) 15 kVA, 120/240-480 TRANSFORMER (20) 150 A, 240 V, 2P, CB (21) 40 A, 480 V, 2P, CB
	25 kVA	(19) 25 kVA, 120/240-480 TRANSFORMER (20) 200 A, 240 V, 2P, CB (21) 70 A, 480 V, 2P, CB
	37.5 kVA	(19) 37.5 kVA, 120/240-480 TRANSFORMER (20) 200 A, 240 V, 2P, CB (21) 100 A, 480 V, 2P, CB

ELECTRICAL SYSTEMS DETAILS

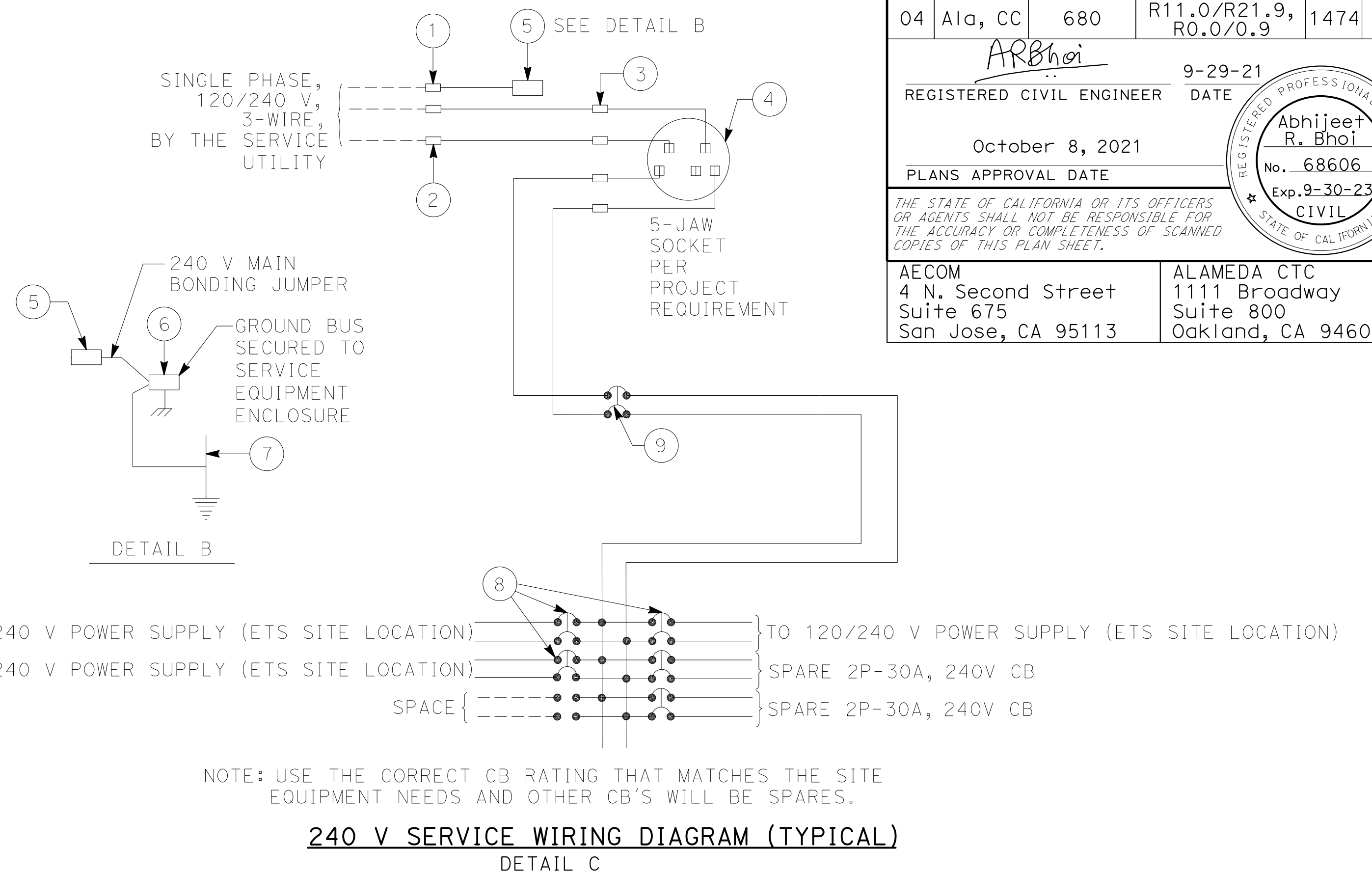
NO SCALE

ED - 106

X		X		X		X		X	
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION									
									
CONSULTANT		FUNCTIONAL SUPERVISOR		CALCULATED-DESIGNED BY		JASON VINCENT		REVISED BY	
TIMOTHY J. LEE				CHECKED BY		SIMA MORADI BAJESTANI		DATE REVISED	
								9-29-21	



TYPE III-D MOD SERVICE
EQUIPMENT ENCLOSURE (TYPICAL)
DETAIL A



TYPE III-D (MODIFICATION) SERVICE (240 V) EQUIPMENT LEGEND					
ITEM NO.	COMPONENT	NAMEPLATE DESCRIPTION	ITEM NO.	COMPONENT	NAMEPLATE DESCRIPTION
①	NEUTRAL LUG		⑥	GROUND BUS	
②	LANDING LUG		⑦	GROUNDING ELECTRODE	
③	SOCKET CLIP	*	⑧	30A, 240 V, 2P, CB	FEEDS FOR ETS EQUIPMENTS
④	METER SOCKET AND SUPPORT	**	⑨	100 A, 240 V, 2P, CB	MAIN BREAKER
⑤	NEUTRAL BUS	NEUTRAL BUS (240 V)			

NOTES:

1. UNLESS OTHERWISE INDICATED ON THE PLANS, SERVICE EQUIPMENT ITEMS SHALL BE PROVIDED FOR EACH SERVICE EQUIPMENT ENCLOSURE AS SHOWN.
2. ITEMS NO. ① AND ⑤ SHALL BE ISOLATED FROM THE SERVICE EQUIPMENT ENCLOSURE.
3. COLOR OF INSULATION OF THE NEUTRAL SHALL BE WHITE FOR THE 120/240V SYSTEM.
4. THE NEMA 3R ENCLOSURE SHALL BE LOCATED TO THE SIDE OF THE SERVICE EQUIPMENT ENCLOSURE UNLESS OTHERWISE INDICATED ON THE PLANS.
5. THE BASE DIMENSION FOR THE NEMA 3R ENCLOSURE FOR THE TRANSFORMER SHALL BE AS PER MANUFACTURER'S DESIGN.

SITE	CKT	CB'S DETAILS
LOC 23	PS23C	60A, 240 V, 2P
LOC 31	PS31A	50A, 240 V, 2P
LOC 34	PS34C	40A, 240 V, 2P

SEE PLANS FOR DETAILS

**	SITE	CB'S DETAILS
	LOC 30A	60A, 240 V, 2P

ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED - 107



TYPICAL ETS SERVICE EQUIPMENT/WIRING DIAGRAM



- # ELECTRICAL SYSTEMS DETAILS
- NO SCALE

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DATE

09-29-21

DESIGNED BY

JASON VINCENT

CHECKED BY

SIMA MORADI BAJESTANI

CONSULTANT FUNCTIONAL SUPERVISOR

TIMOTHY J. LEE

REVISIONS

DATE

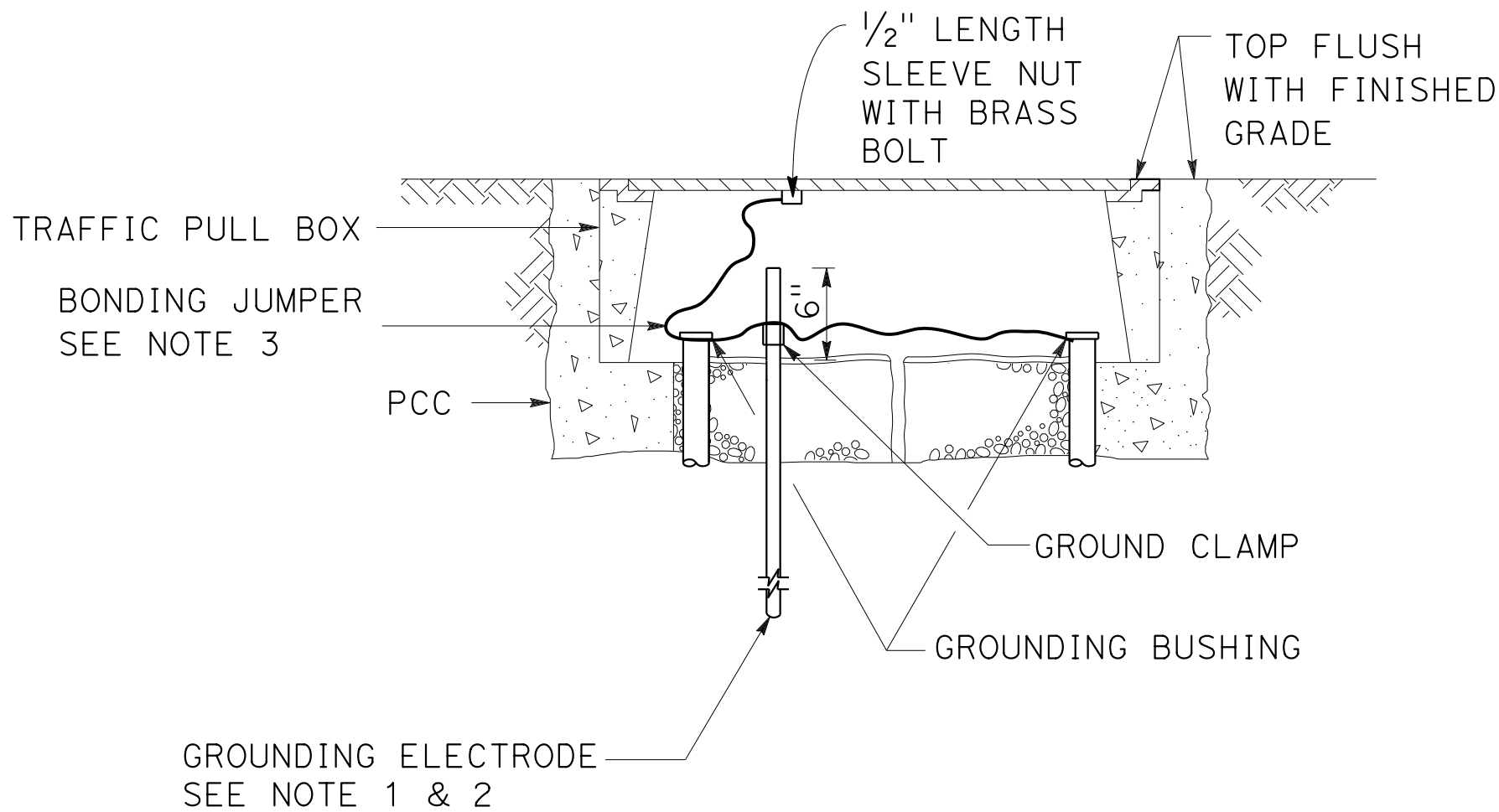
REVISOR

REVISION

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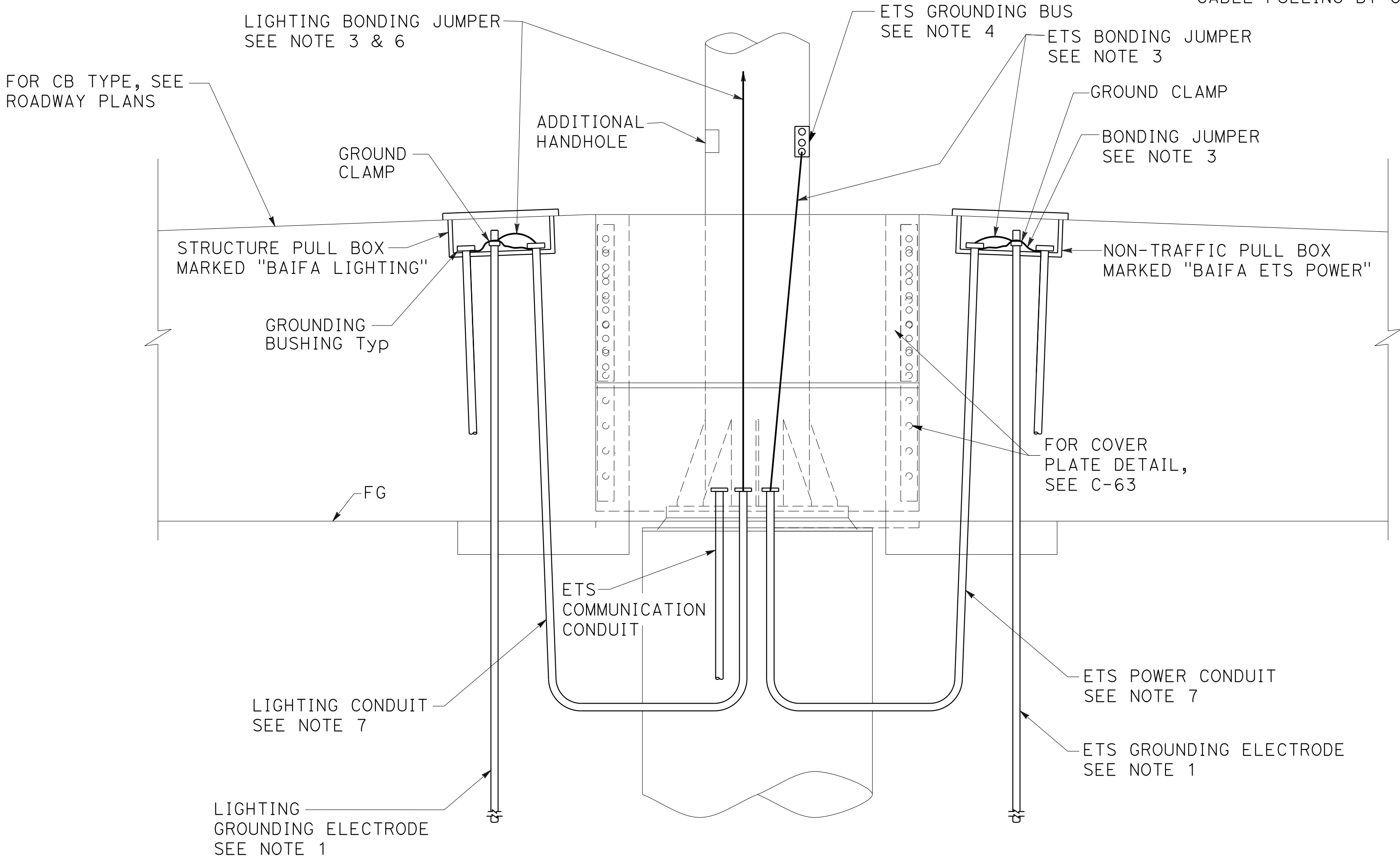
09-29-21

JV

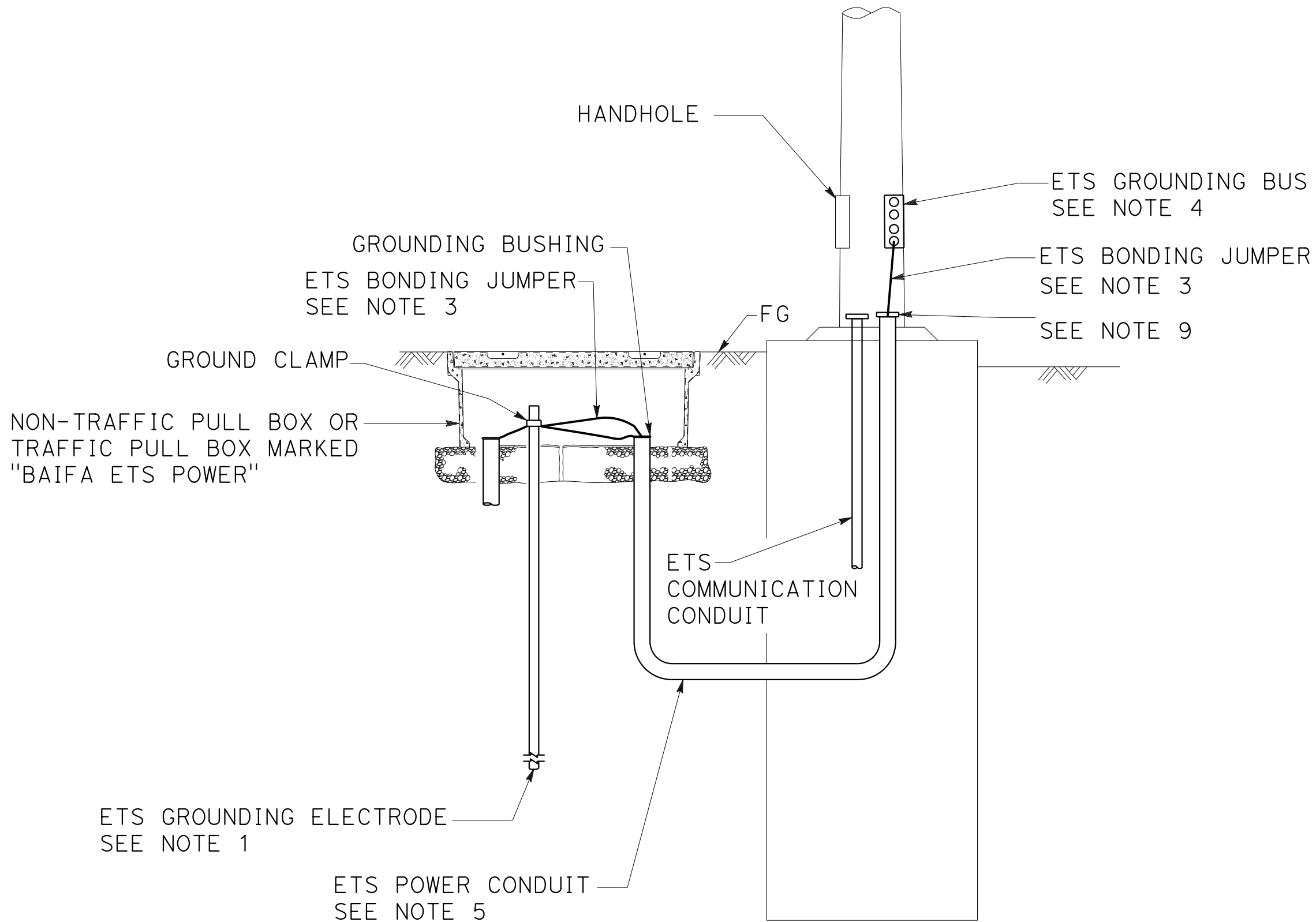


TRAFFIC PULL BOX TYPICAL GROUNDING DETAILS
DETAIL A

- NOTES:**
- GROUNDING ELECTRODE MUST COMPLY WITH STANDARD SPECIFICATIONS SECTION 86-1.020 AND 87-1.030.
 - FOR NOTES AND DIMENSIONS NOT SHOWN IN DETAIL A, SEE RSP ES-8B. DETAIL A SHOWS ONLY TYPICAL GROUNDING REQUIREMENT. FOR CONDUITS SIZES AND LAYOUTS, SEE ELECTRICAL PLANS.
 - BONDING JUMPER MUST COMPLY WITH STANDARD SPECIFICATIONS SECTION 86-1.02F(2)(c)(ii) AND MUST BE BARE.
 - ETS BONDING JUMPER AND ETS GROUNDING BUS MUST BE VISIBLE WHEN THE HANDHOLE COVER IS REMOVED. MOUNT GROUNDING BUS ADJACENT TO THE HANDHOLE LOCATED ABOVE THE CONCRETE BARRIER OR METAL PLATES.
 - FOR NOTES AND DIMENSIONS NOT SHOWN IN DETAIL B, SEE RSP ES-16B AND RSP ES-16D. DETAIL B SHOWS ONLY TYPICAL GROUNDING REQUIREMENT. FOR PULL BOXES TYPES AND CONDUITS SIZES AND LAYOUTS, SEE ELECTRICAL PLANS.
 - PROVIDE LIGHTING BONDING JUMPER ONLY IF LIGHTING STANDARD POLE IS MOUNTED ON THE OVERHEAD SIGN. SEE ELECTRICAL PLANS FOR LOCATIONS.
 - DETAIL C SHOWS ONLY TYPICAL GROUNDING REQUIREMENT. FOR PULL BOXES TYPES, CONDUITS SIZES AND LAYOUTS, SEE ELECTRICAL PLANS. FOR CB TYPE SEE ROADWAY PLANS. FOR SIGN POST TYPE SEE SIGN PLANS.
 - INSTALL GROUNDING ELECTRODE FOR EACH CABINET, SERVICE ENCLOSURE, TRANSFORMER, TRAFFIC AND NON-TRAFFIC PULL BOX, OVERHEAD SIGN STRUCTURE PULL BOX, VDS PULL BOX, CCTV PULL BOX AND TOLL GANTRY PULL BOX.
 - DO NOT CUT CONDUITS BELOW BASE PLACE ELEVATION WHEN INSTALLING STRUCTURE ONTO FOUNDATION. CONDUITS MUST EXTEND 1" MINIMUM ABOVE THE BASE PLATE ELEVATION AFTER THE STRUCTURE IS INSTALLED. IF HOWEVER THE CONDUITS ARE CUT, THEN CONTRACTOR MUST PROVIDE MAXCELL FLEXIBLE INNERDUCT FROM THE NEAREST MEDIAN JUNCTION BOX THROUGH EACH CONDUIT AND INTO THE STRUCTURE WITH A MINIMUM OF 18 INCHES OF SLACK ON BOTH ENDS TO FACILITATE CABLE PULLING BY OTHERS.



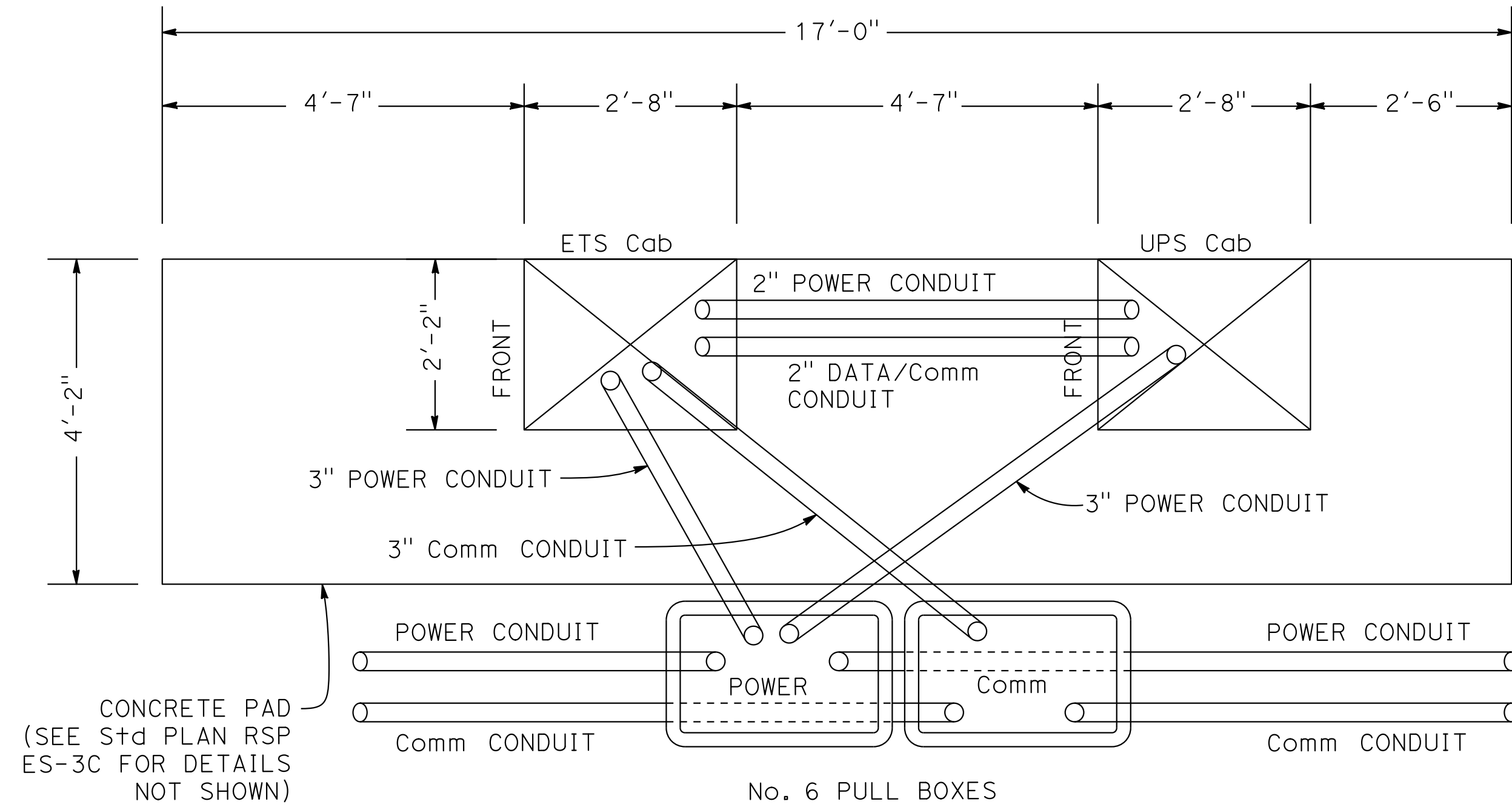
OVERHEAD SIGN POST,
STRUCTURE PULL BOX
AND NON-TRAFFIC PULL BOX
TYPICAL GROUNDING DETAILS
DETAIL C



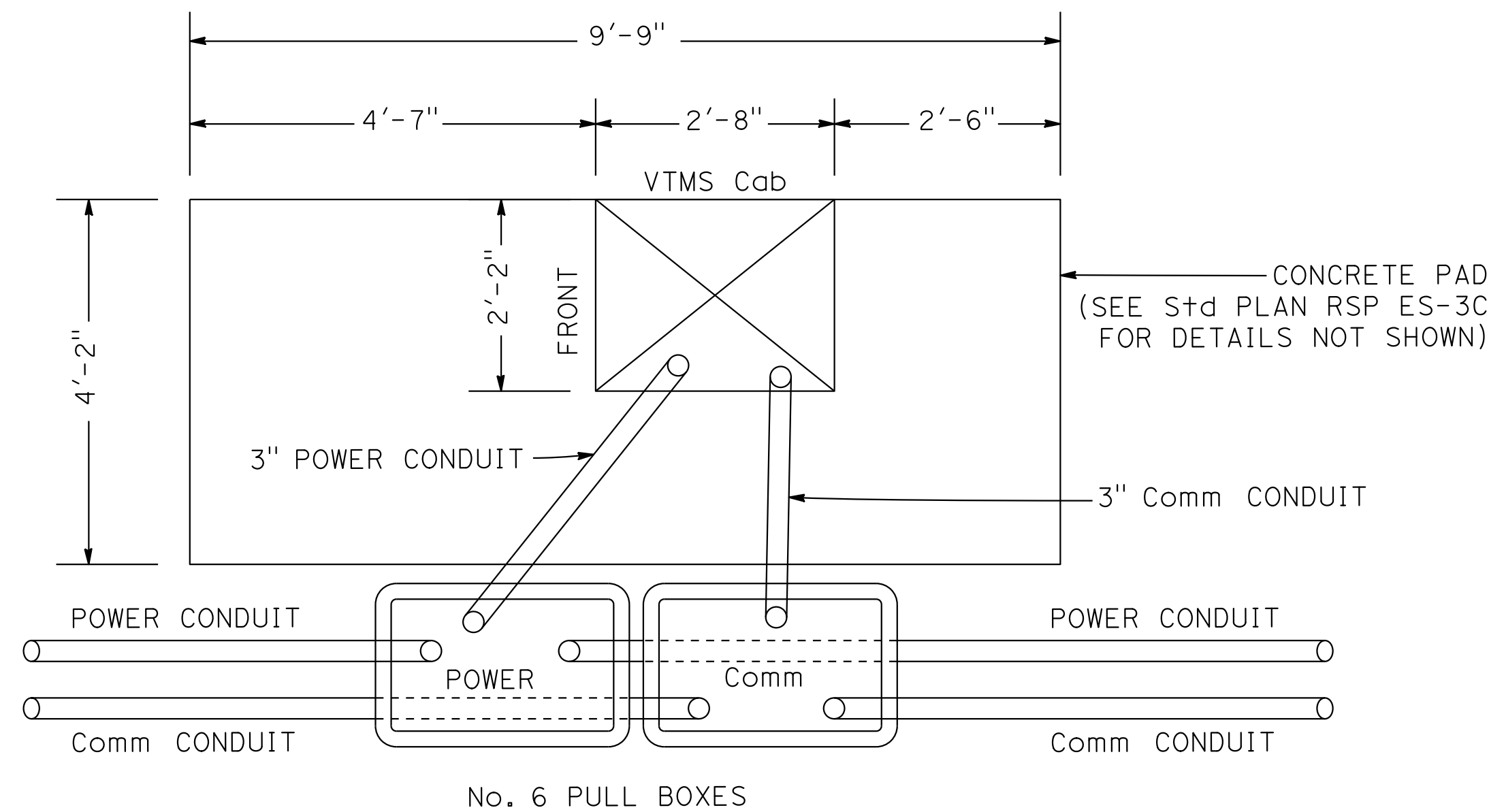
VDS AND CAMERA POLE
TYPICAL GROUNDING DETAILS
DETAIL B

ELECTRICAL SYSTEMS DETAILS
NO SCALE
ED-111

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1478	1710
REGISTERED CIVIL ENGINEER			9-29-21 DATE		
October 8, 2021 PLANS APPROVAL DATE					
AECOM 4 N. Second Street Suite 675 San Jose, CA 95113			ALAMEDA CTC 1111 Broadway Suite 800 Oakland, CA 94607		



DETAIL A
CONDUIT LAYOUT FOR ONE UPS CABINET



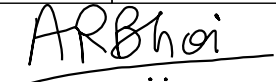
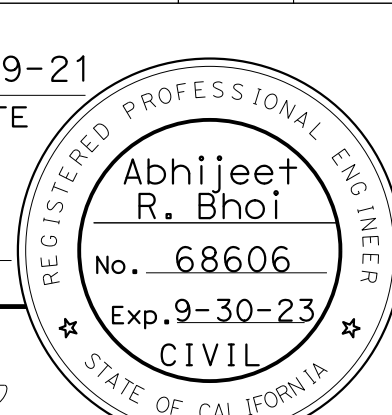
DETAIL B
CONDUIT LAYOUT FOR ONE VTMS CABINET

SITE LOCATION	REFERENCE SHEET NUMBER	EQUIPMENT		
		TYPE OF ETS CONTROLLER CABINET	120/240 V ETS POWER SUPPLY	NOTES
SITE B3	E-152	(2) SINGLE BAY ✖	TYPE III-A MOD	DETAIL A BAIFA TS
SITE B4	E-153	(1) SINGLE BAY	TYPE III-A Exis†	DETAIL B BAIFA TS
SITE B9	E-156	POLE MOUNT	TYPE III-A MOD	BAIFA TSI
SITE B10	E-157	EXISTING (2) SINGLE BAY	TYPE III-A Exis†	DETAIL A BAIFA TS
SITE B11	E-158	(2) SINGLE BAY	TYPE III-A MOD	DETAIL A BAIFA TS

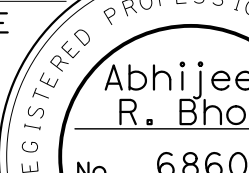
* FUTURE ETS CABINET. CABINET FOUNDATION FOR FUTURE NB TOLL SITE

NOTES:

1. SEE REVISED STANDARD PLAN RSP ES-3C FOR NOTES AND CABINET FOUNDATION DETAILS NOT SHOWN.
2. REFER TO ELECTRICAL PLANS FOR THE EXACT NUMBER OF POWER AND COMM PULL BOXES AT EACH ETS SITE.
3. FINAL CABINET LOCATIONS MUST BE VERIFIED IN THE FIELD AND APPROVED BY THE ENGINEER BEFORE INSTALLATION.
4. REFER TO CONSTRUCTION DETAILS FOR RETAINING WALL AT CONTROLLER CABINET.

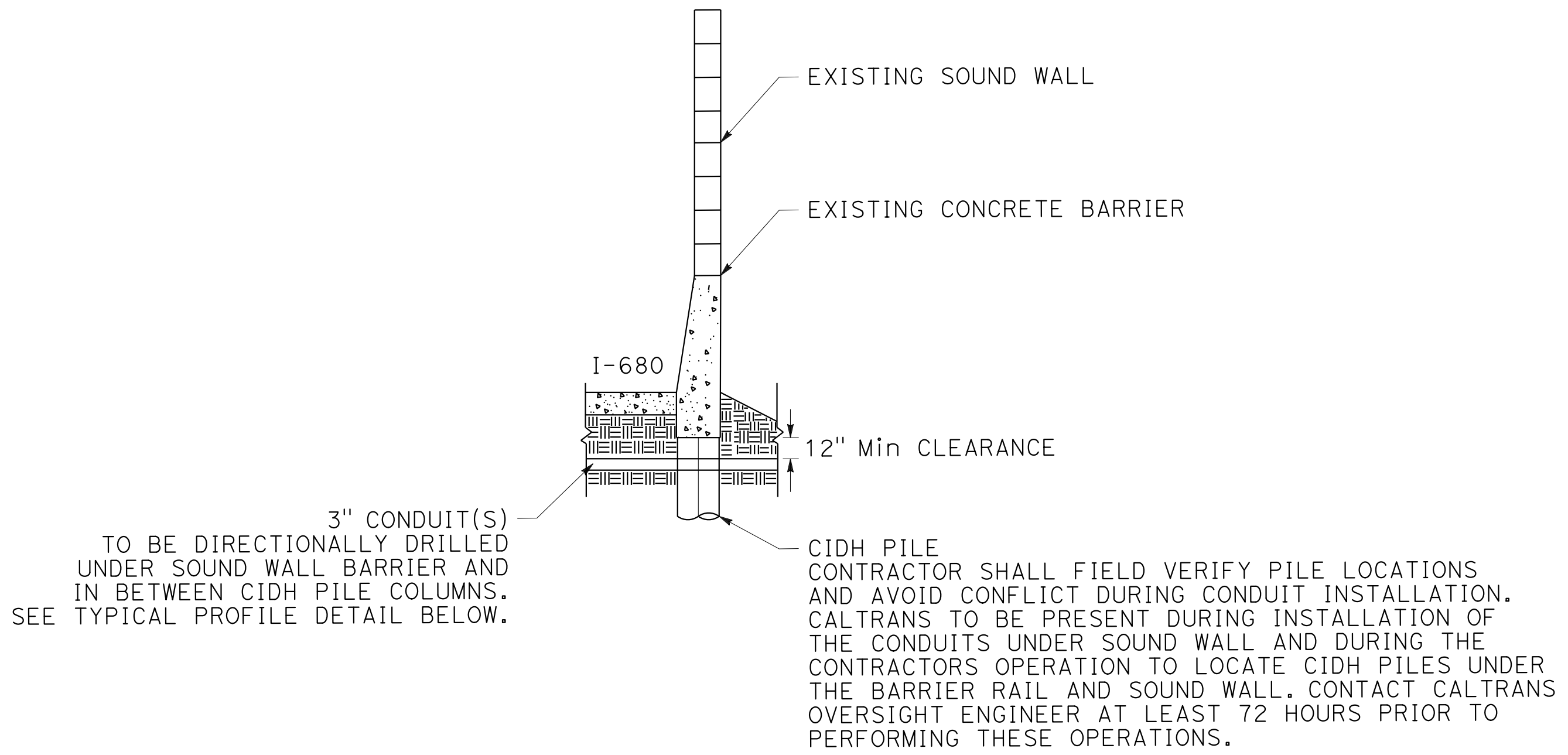
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1479 1710
 .. REGISTERED CIVIL ENGINEER			9-29-21 DATE	
October 8, 2021				
PLANS APPROVAL DATE				
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ELECTRICAL SYSTEMS DETAILS
(TYPICAL CONDUIT LAYOUT FOR BAIFA
ETS, VTMS AND UPS CABINETS)
 NO SCALE
ED-112

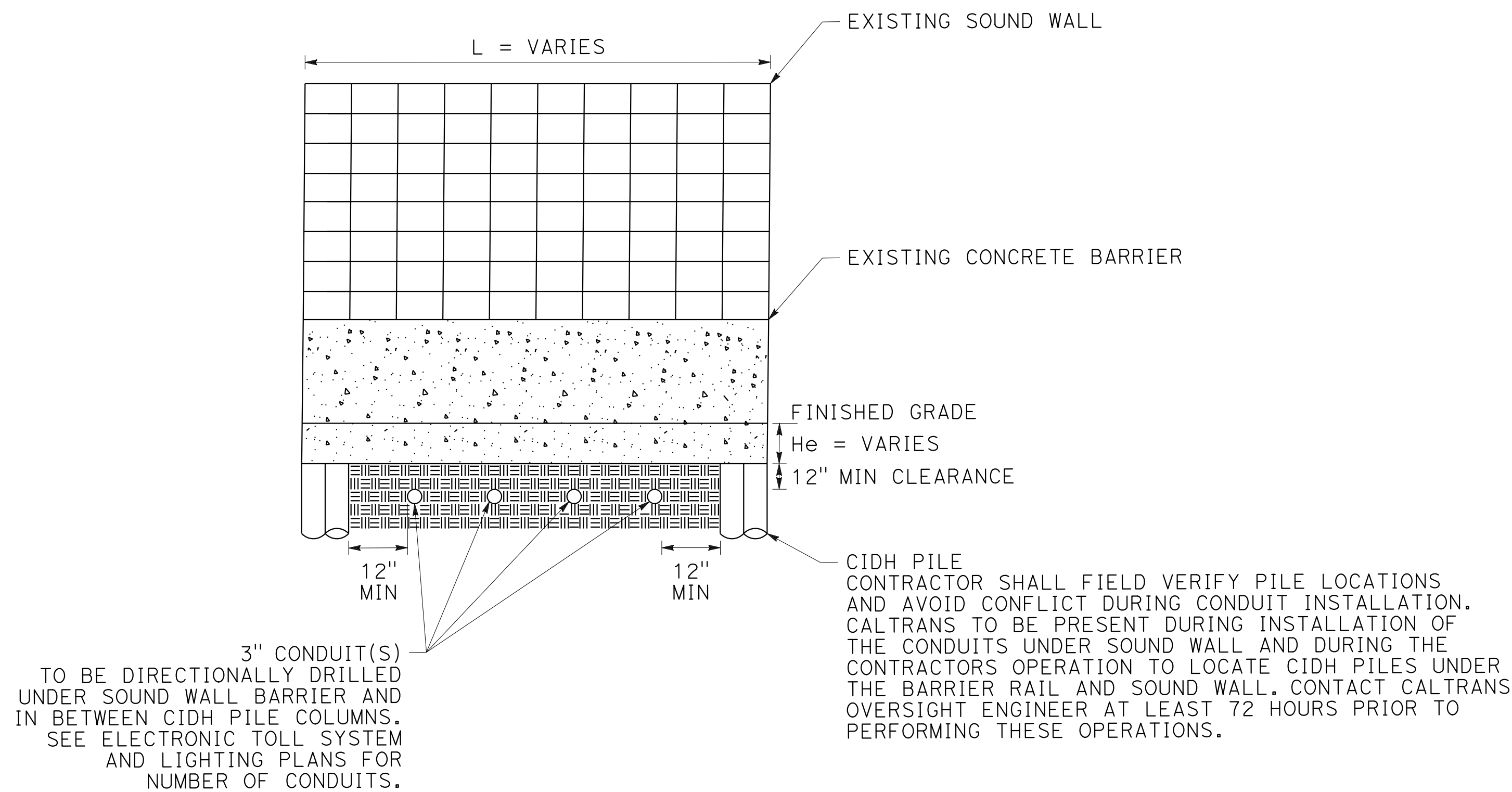
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1480	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
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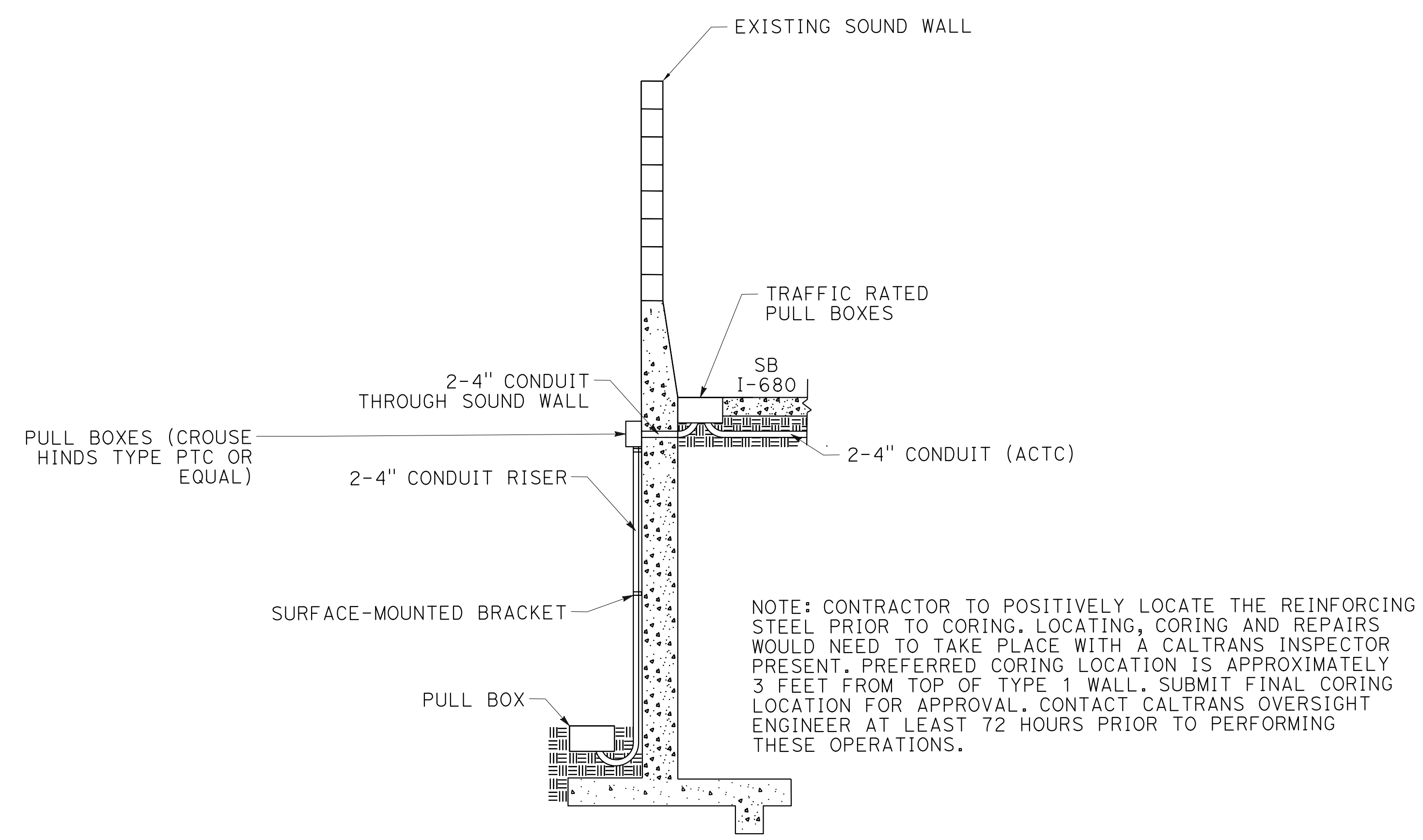
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--	--



TYPICAL CROSS SECTION
FOR CONDUIT INSTALLATION
UNDER SOUND WALL



TYPICAL PROFILE FOR CONDUIT INSTALLATION UNDER SOUND WALL



CONDUIT INSTALLATION THROUGH SOUND WALL

ELECTRICAL SYSTEMS DETAILS (POLE LOCATION AND CONDUIT INSTALLATION DETAILS)

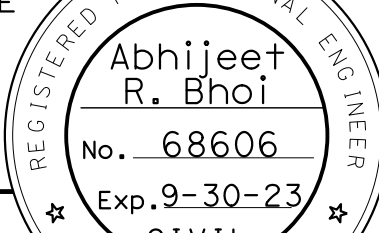
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1481	1710
<u>ARBhoi</u> .. REGISTERED CIVIL ENGINEER			9-29-21 DATE		
October 8, 2021					
PLANS APPROVAL DATE					
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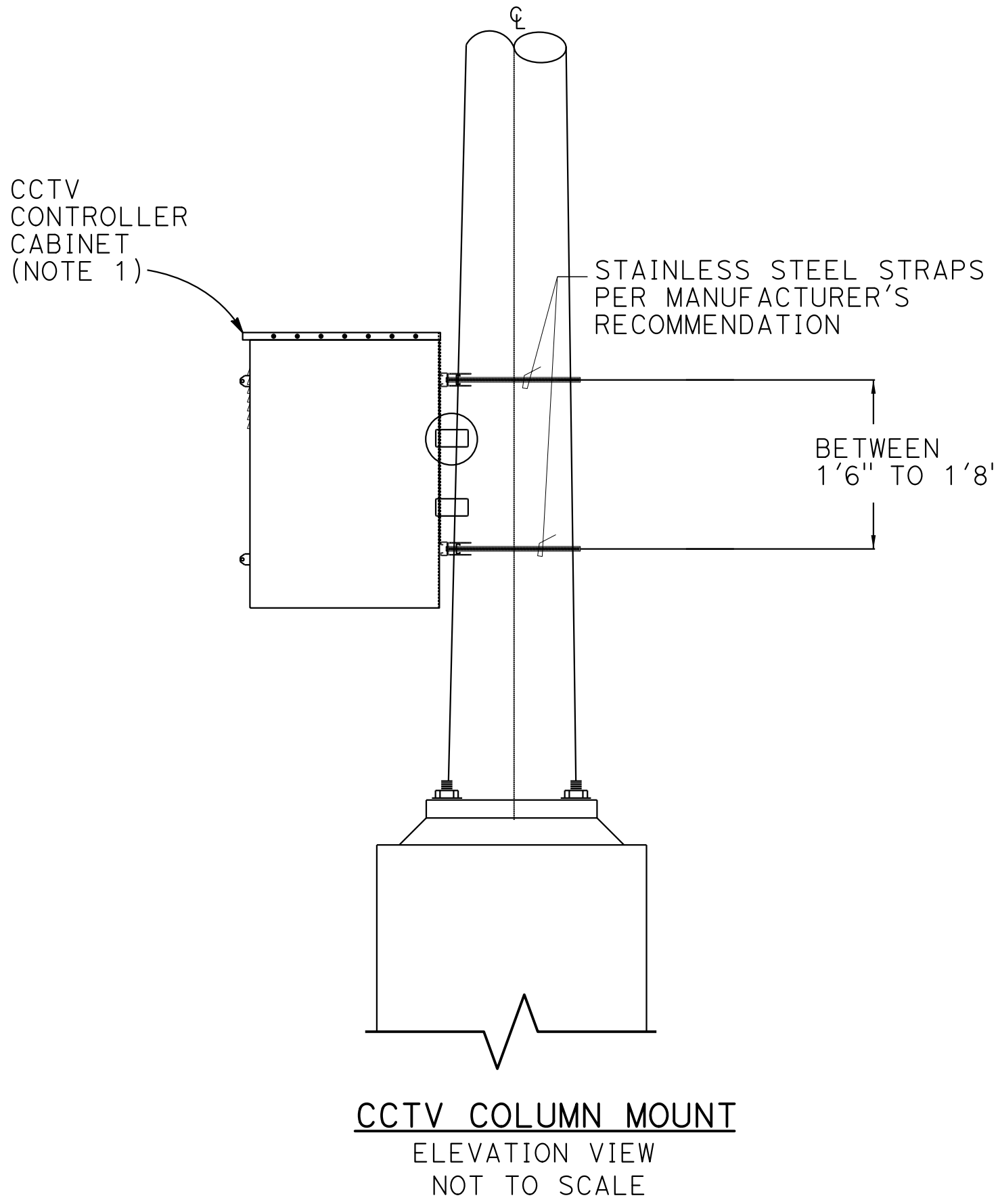
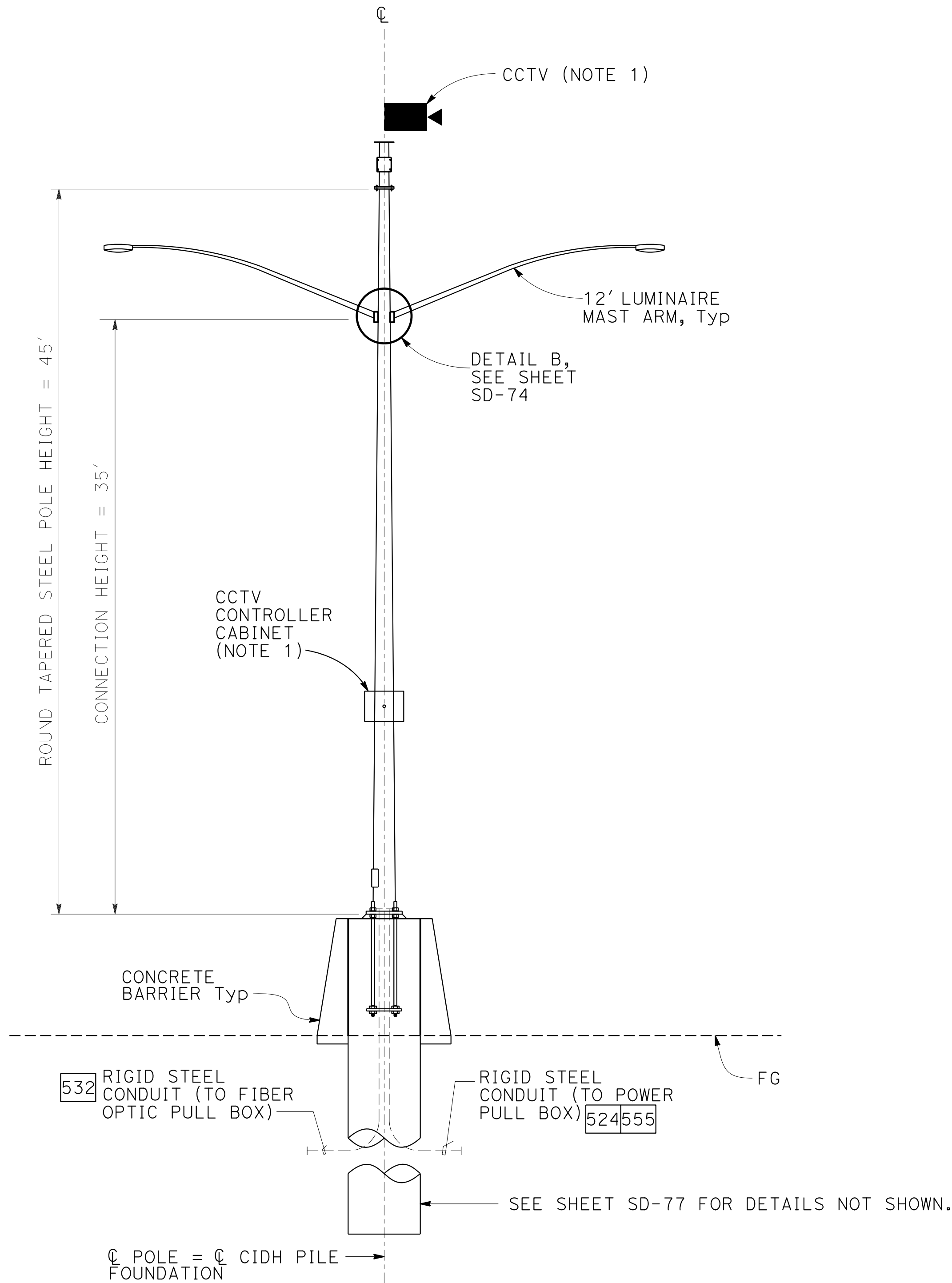
TABLE 1: CCTV SITE CONDUIT OPENINGS

SITE	CABINET LOCATION	LOWER 2" CONDUIT OPENING HEIGHT	UPPER 2" CONDUIT OPENING HEIGHT	POLE TYPE
SITE 40A	DOWNSTREAM	4'-4"	5'-0"	CAMERA POLE 45 (MOD)

1. HEIGHT OF 2" CONDUIT OPENING IS DETERMINED BY THE DISTANCE BETWEEN CONDUIT OPENING AND BASE PLATE.
2. TOP OF CABINET WILL BE LOCATED AT 6" ABOVE BASEPLATE.
3. SITE 43, 45, 47, 50, 51, B3, B9 ARE GENTRY/BOX TRUSS INSTALLS. REFER TO SHEET SD-77 FOR GENTRY/BOX TRUSS CONDUIT OPENINGS.

NOTES:

1. FURNISHED BY TSI AND INSTALLED BY CIVIL CONTRACTOR.
CCTV CONTROLLER MOUNT HOLE TO BE DRILLED BY CONTRACTOR.
2. FOR OTHER INFORMATION AND DESIGN DATA NOT SHOWN, SEE S+D PLAN ES-16B, 45' POLE.
3. FOR STRUCTURAL DESIGN AND DETAILS NOT SHOWN, SEE SD-74 AND SD-77.



ELECTRICAL SYSTEMS DETAILS

NO SCALE

ED-114

FOR NOTES, ABBREVIATIONS AND
LEGEND, SEE SHEETS E-116 & E-117

TYPICAL ABOVE GRADE DETAILS

0:\0030\UNDRAFTING\FINAL_P5&E\0420000235\ub116.dgn

STATE OF CALIFORNIA

CONSULTANT

FUNCTIONAL SUPERVISOR

DEPARTMENT OF TRANSPORTATION

JASON VINCENT

SIMA MORADI BAUESTANI

TIMOTHY J. LEE

REVISOR

DATE

REVISOR

DATE

JV

9-29-21

NOTES:

1. ELECTRICAL SERVICE INSTALLATION, WOOD POLE AND MATERIALS MUST COMPLY WITH SERVICE UTILITY REQUIREMENTS (GREENBOOK 025055).

2. THE POLE BRAND MUST REMAIN VISIBLE AT ALL TIMES. THE CONTRACTOR SHALL NOT INSTALL THE MAIN SERVICE SWITCH PANEL, OR CONDUIT RUNS OVER THE BRAND OR IN THE CLIMBING SPACE.

3. CONTRACTOR MUST FURNISH AND INSTALL THE SERVICE ENTRANCE WIRING AND SERVICE EQUIPMENT BEYOND THE POINT OF ATTACHMENT TO PG&E SERVICE WIRES. THE SERVICE ENTRANCE WIRES MUST BE CONTINUOUS AND MUST BE OF A SIZE AND TYPE THAT WILL PROVIDE NOT LESS THAN THE MINIMUM STANDARD OF SAFETY AS SPECIFIED IN LOCAL CITY AND COUNTY ORDINANCES OR, WHERE THERE IS NO LOCAL ORDINANCE, AS SPECIFIED IN THE CURRENT ISSUE OF THE NATIONAL ELECTRICAL CODE (NEC).

4. THE NEUTRAL CONDUCTOR OF 2-WIRE, 120 V AND 3-WIRE, 120/240 V SERVICES MUST BE SECURELY CONNECTED TO THE NEUTRAL TERMINAL OF THE METER SOCKET AND EXTENDED THROUGH TO THE NEUTRAL TERMINAL OF THE SERVICE ENTRANCE SWITCH. IT MUST BE CONTINUOUS (WITHOUT SPLICE) FROM THE SERVICE HEAD TO THE SERVICE ENTRANCE SWITCH.

5. AT LEAST 18 INCHES OF SERVICE ENTRANCE CONDUCTORS MUST BE PROVIDED OUTSIDE THE SERVICE HEAD.

6. WEATHERPROOF WIRE IS NOT PERMITTED IN CONDUIT.

7. SERVICE ENTRANCE AND LOAD SIDE CONDUIT AND CONDUIT COVERING REQUIREMENTS MUST COMPLY WITH APPLICABLE CODES AND LOCAL REQUIREMENTS. ANY CONDUIT INSTALLED BELOW THE 8-FOOT LEVEL ON THE POLE MUST BE TREATED AS A RISER; IN WHICH CASE, THE CONDUIT MUST BE EITHER RIGID GALVANIZED STEEL OR 2-INCH MINIMUM DIAMETER SCHEDULE 40 PVC.

EXCEPTION: CONDUIT THE ENTERS THE TOP OF AN ENCLOSURE IS CONSIDERED TO BE "PROTECTED" BY THE ENCLOSURE AND NEED NOT BE TREATED AS A RISER UNLESS INSTALLED BELOW THE 6-FOOT LEVEL. CONDUIT INSTALLED ABOVE THE 6-FOOT OR 8-FOOT LEVEL (WHICHEVER HEIGH APPLIES) MUST BE EITHER: (1) GALVANIZED STEEL CONDUIT, (2) RIGID ALUMINUM CONDUIT, (3) ELECTRICAL METALLIC TUBING, (4) IMC, OR (5) PVC PLASTIC CONDUIT HAVING A MINIMUM WALL THICKNESS OF 0.15 INCHES (SCHEDULE 40 FOR 2-INCH PVC CONDUIT OR LARGER, SCHEDULE 80 FOR 1-1/2-INCH OR SMALLER). ALL FITTING MUST BE RAIN-TIGHT. IF PVC PLASTIC CONDUIT IS USED, IT NEED NOT BE COVERED. IF RIGID STEEL OR OTHER APPROVED METALLIC CONDUIT IS USED, IT MUST BE ENCLOSED WITH PVC "U" SHAPED MOLDING FOR A MINIMUM DISTANCE OF 8 FEET BELOW THE LOWEST OPEN SERVICE ENTRANCE CONDUCTOR. THE COVERING MUST BE FASTENED TO THE POLE AT INTERVALS NOT GREATER THAN 3 FEET.

8. A WOOD BLOCK MUST BE ATTACHED DIRECTLY OVER THE SERVICE HEAD FOR A WOOD POLE WITH PLASTIC CONDUIT WHEN THE SERVICE HEAD IS METALLIC AND THE NEUTRAL SERVICE CONDUCTOR IS UNINSULATED. A WOOD BLOCK IS NOT REQUIRED ON A SERVICE POLE WITH PLASTIC CONDUIT INSTALLATION EXCEPT AS NOTED ABOVE.

9. ALL CONDUIT AND FITTINGS MUST BE RAIN-TIGHT.

10. WATER PIPE AND FITTINGS ARE NOT PERMITTED FOR USE AS ELECTRICAL CONDUIT.

11. MAIN SWITCH, RECEPTACLES, AND OTHER EQUIPMENT ON THE LOAD SIDE OF THE METER MUST BE OF WEATHERPROOF DESIGN OR PROTECTED BY WEATHERPROOF ENCLOSURES. SUCH EQUIPMENT MUST COMPLY WITH LOCAL ORDINANCES AND MUST ALSO COMPLY WITH THE CALIFORNIA BUIDLING CODE - ELECTRICAL REGULATIONS.

12. THE CONTRACTOR MUST BE RESPONSIBLE FOR BONDING AND GROUNDING ALL EXPOSED, NON-CURRENT-CARRYING METAL PARTS. GROUNDING MUST BE IN ACCORDANCE WITH NEC AND LOCAL ORDINANCES, EXCEPT THAT THE GROUNDING WIRE MUST BE PROTECTED AGAINST MECHANICAL DAMAGE BY RIGID STEEL CONDUIT OR ARMORED COPPER GROUND WIRE. THE GROUND ROD MUST BE LOCATED NO LESS THAN 12 INCHES FROM THE POLE SURFACE.

13. CONTRACTOR TO PROVIDE A PAD LOCK FOR MAIN SWITCH PANEL.

Dist

COUNTY

ROUTE

POST MILES
TOTAL PROJECT

SHEET
No.

TOTAL
SHEETS

04

Ala, CC

680

R11.0/R21.9,
R0.0/0.9

1483

1710

ARBhoi

REGISTERED CIVIL ENGINEER

9-29-21

DATE

October 8, 2021

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS
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COPIES OF THIS PLAN SHEET.

Abhijeet
R. Bhoi

No. 68606

Exp. 9-30-23

CIVIL

STATE OF CALIFORNIA

AECOM
4 N. Second Street
Suite 675
San Jose, CA 95113

ALAMEDA CTC
1111 Broadway
Suite 800
Oakland, CA 94607

OVERHEAD WIRE AND SERVICE CONDUCTORS
(BY PG&E)

WEATHERHEAD SERVICE ATTACHMENT (BY PG&E)
PG&E TERMINATION POINT

2" CONDUIT, RISER, AND SERVICE CONDUCTORS (BY PG&E)

PG&E-OWNED 40 FEET WOOD POLE
(BY PG&E)

100A MAIN SWITCH PANEL WITH PAD LOCK
(BY PG&E)

PG&E SERVICE METER
(BY PG&E)

2" CONDUIT AND SERVICE CONDUCTORS (BY CONTRACTOR).
TO UNMETERED SERVICE EQUIPMENT ENCLOSURE.

11' POLE EMBEDMENT

EXISTING PG&E TRANSFORMER/SERVICE POINT.
PG&E TO PERFORM SPLICING.

EXISTING PG&E WOOD POLE

EXISTING SOUND WALL

16" Min

10' Min

5'

48"

14'

PG&E-OWNED WOOD POLE INSTALLATION DETAIL
FOR SERVICE CONNECTION AT ELGIN LN

ELECTRICAL SYSTEMS DETAILS
(WOOD POLE DETAIL)

NO SCALE

ED-116

USERNAME => p302438

DGN FILE => 0420000235ub116.dgn

RELATIVE BORDER SCALE
IS IN INCHES

0

1

2

3

UNIT 0733

PROJECT NUMBER & PHASE

04200002351

09-29-21 09:53

DATE PLOTTED => 9-MAR-2022

TIME PLOTTED => 09:53

0:\00300\NDRAFTING\FINAL_P58&E\0420000235ub117.dgn

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION



CONSULTANT - FUNCTIONAL SUPERVISOR

CONSULTANT - FUNCTIONAL SUPERVISOR

TIMOTHY J. LEE

CALCULATED-DESIGNED BY

CHECKED BY

JASON VINCENT

SIMA MORADI BAJESTANI

REVISED BY

DATE REVISED

JV

9-29-21

VARIES

17.5" (10 RU)

44" +/-

58"

10.5" (8 RU)

EXISTING PATCH PANELS

NEW 144 PRETERM PATCH PANELS (NORTH)

AIR CONDITIONER

CELLULAR MODEM

WIRELESS GATEWAY

TERMINAL SERVER

DISTRIBUTION SWITCH

DISTRIBUTION SWITCH

ACCESS SWITCH

ENVIRO. MONITOR

PULL OUT DRAWER

POWER STRIP

POWER STRIP

SURGE PROTECTION

UPS

1.75" (1 RU)

1.75" (1 RU)

1.75" (1 RU)

1.75" (1 RU)

1.75" (1 RU)

1.75" (1 RU)

1.75" (1 RU)

3.5" (2 RU)

3.5" (2 RU)

3.5" (2 RU)

NOTES:

1. ALL DIMENSIONS ARE APPROXIMATE.

2. CABINET EQUIPMENT SHALL BE ADJUSTED AS REQUIRED TO FIT NEW PRETERMINATED FIBER PATCH PANEL.

USERNAME => p302438

DGN FILE => 0420000235ub117.dgn

RELATIVE BORDER SCALE IS IN INCHES

0

1

2

3

UNIT 0733

PROJECT NUMBER & PHASE

04200002351

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1484	1710
ARBhoi REGISTERED CIVIL ENGINEER			9-29-21 DATE		
October 8, 2021			PLANS APPROVAL DATE		
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ELECTRICAL SYSTEMS DETAILS
(BAIFA BACKHAUL CABINET DETAIL)

NO SCALE

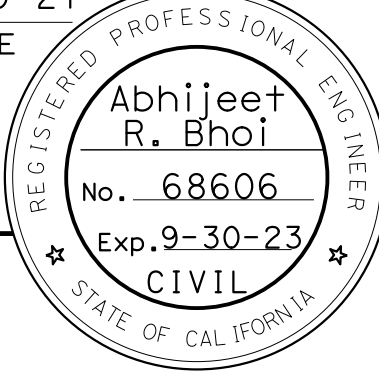
ED-117

LAST REVISION

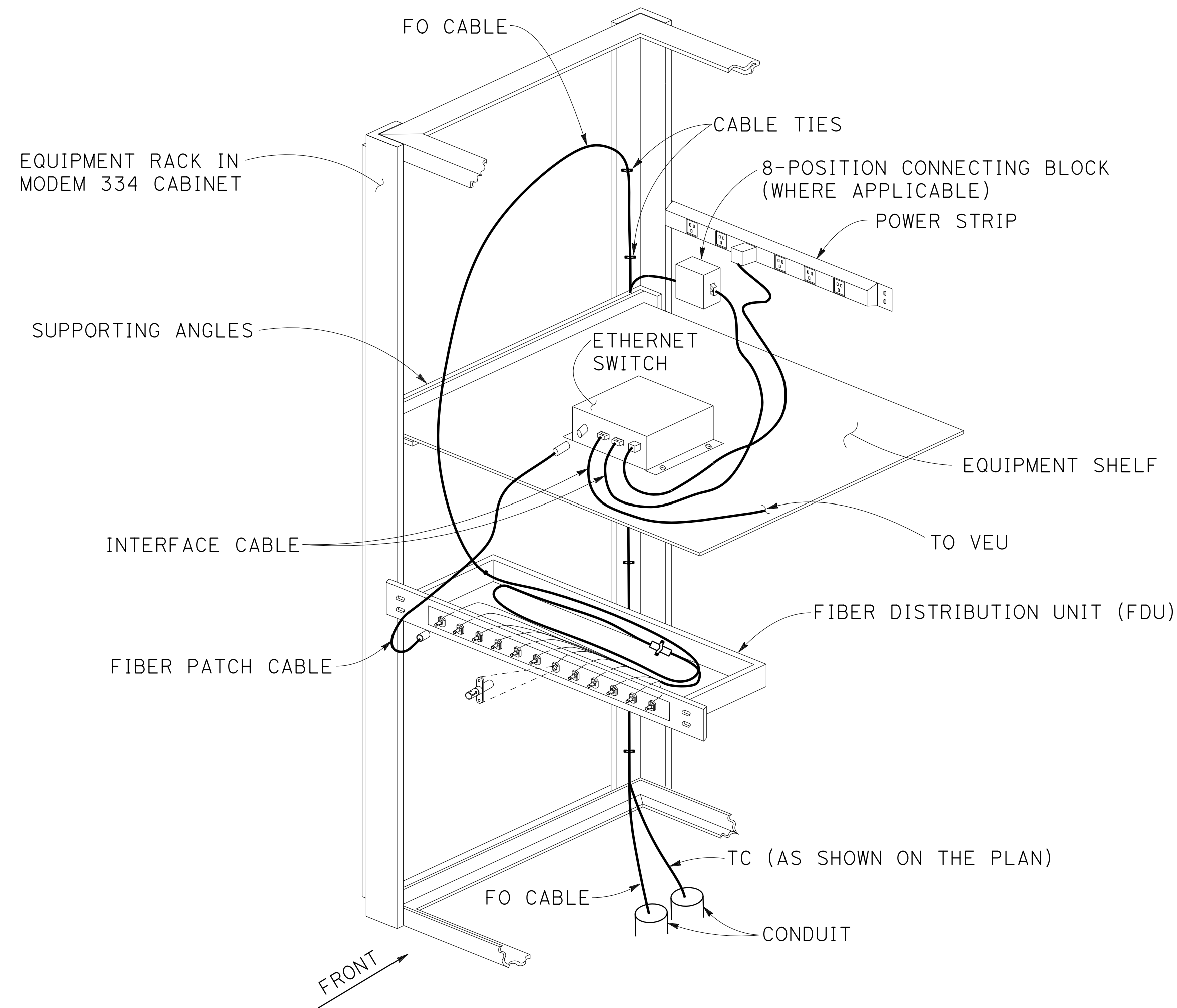
DATE PLOTTED => 9-MAR-2022

09-29-21

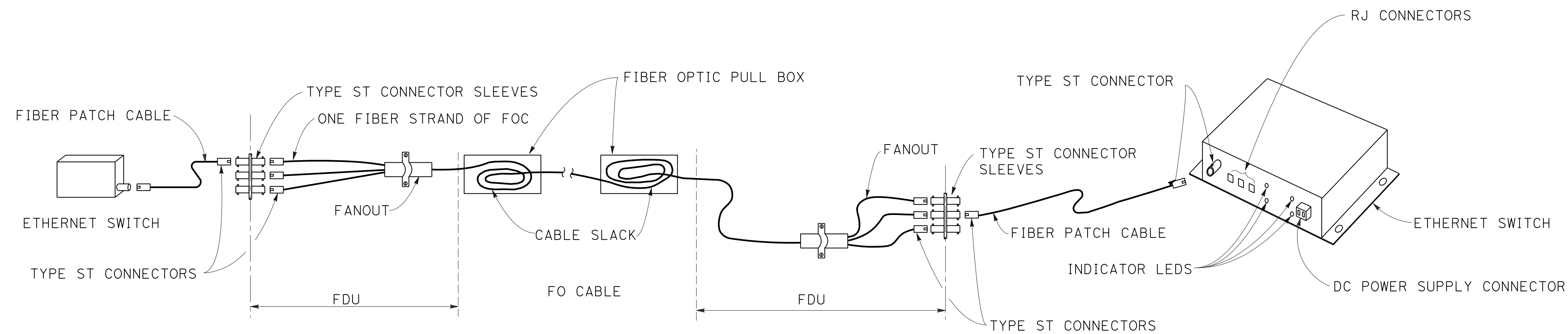
TIME PLOTTED => 09:53

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1485	1710
<i>ARBhoi</i> 9-29-21 REGISTERED CIVIL ENGINEER DATE October 8, 2021 PLANS APPROVAL DATE					
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CIVIL CONTRACTOR TO INSTALL AND
TERMINATE FIBER OPTICE CABLE IN
YOU FOR ACTC ETS SITES.



PARTIAL CABINET EQUIPMENT LAYOUT



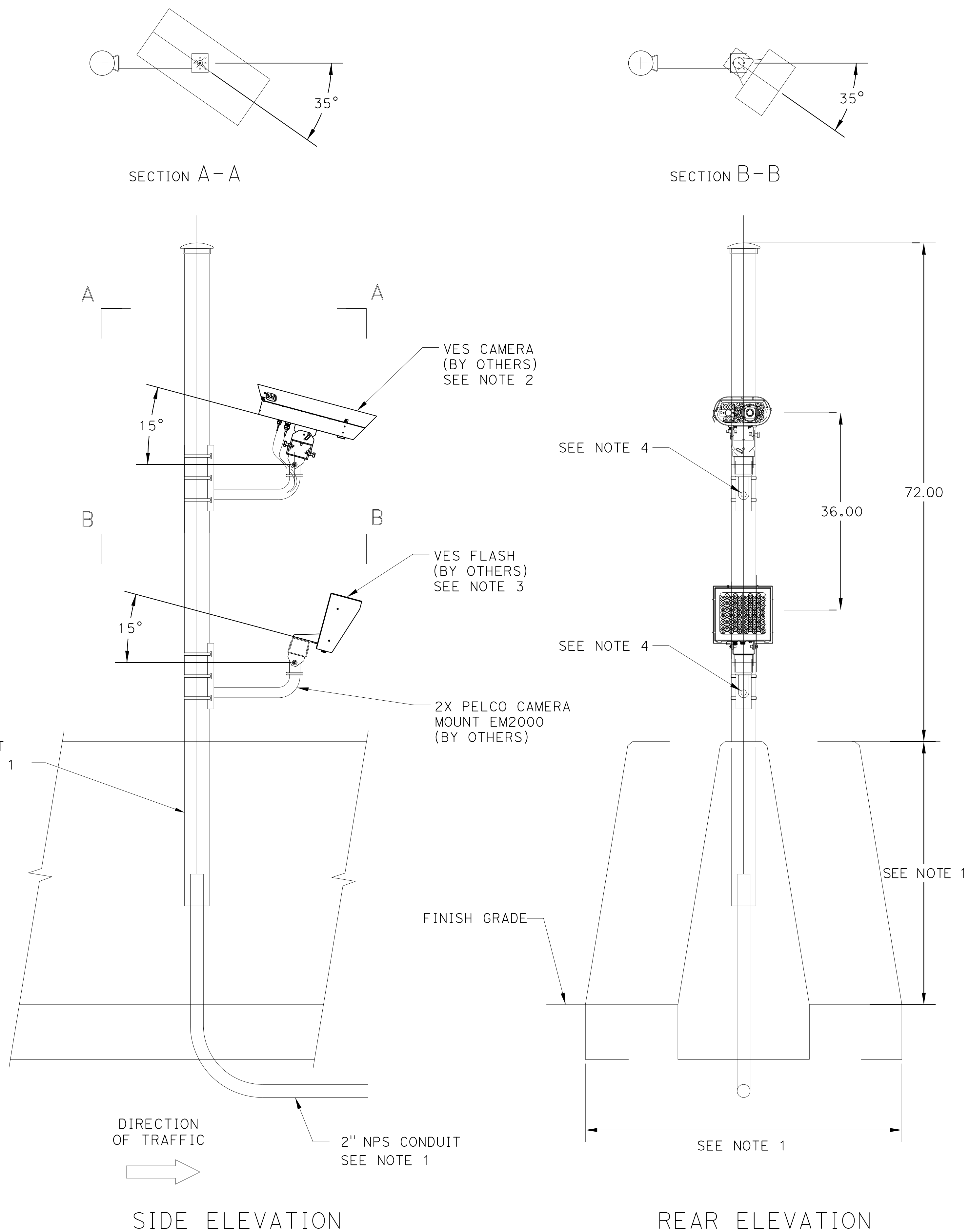
CABINET WITH WAN COMMUNICATION

CABINET WITH CAMERA INSTALLATION

TYPICAL FIBER OPTIC LINK

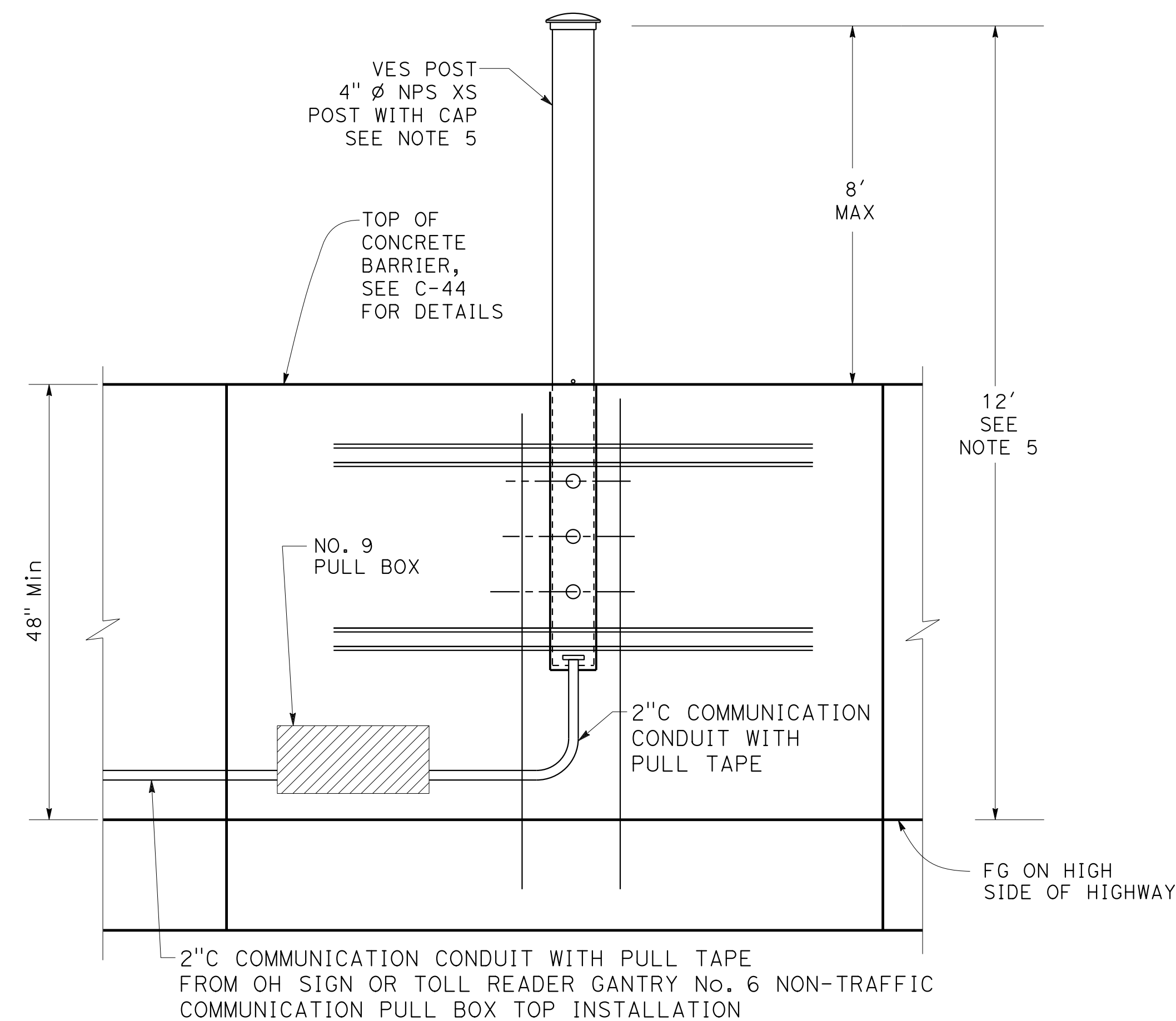
ELECTRICAL SYSTEMS DETAILS
(FIBER OPTIC LINK INSTALLATION DETAILS)
NO SCALE
ED-118

X		X		X		X		X	
01:0030UN0RAFTING\FINAL_P58E\0420000235ub120_.dgn									
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION									
									
CONSULTANT		FUNCTIONAL SUPERVISOR		CALCULATED-DESIGNED BY		JASON VINCENT		REVISED BY	
TIMOTHY J. LEE				CHECKED BY		SIMA MORADI BAJESTANI		DATE REVISED	
								9-29-21	



NOTES:

1. POST SOCKET LOCATION AND POST INSTALLATION SHALL BE IN ACCORDANCE WITH CIVIL PROJECT PLAN SHEETS C-52 & C-53 FOR SITE B3 AND C-63 FOR SITES B10 AND B11. BARRIER WIDTH AND HEIGHT WILL VARY BY LOCATION. CONDUIT SHALL BE IN ACCORDANCE WITH PROJECT PLAN SHEET E-117, PROJECT NOTE 532.
2. VES CAMERA AND MOUNTING HARDWARE TO BE FURNISHED AND INSTALLED BY TSI. FIELD LOCATE VES CAMERA FOR EACH SITE INDEPENDENTLY AS PEDESTAL HEIGHTS VARY. ROTATE CAMERA TOWARDS TARGET AND AFFIX USING 1/2" BANDING. USE NOMINAL PITCH AND YAW ANGLES SHOWN.
3. VES FLASH AND MOUNTING HARDWARE TO BE FURNISHED AND INSTALLED BY TSI. LOCATE AUXILIARY FLASH UNIT RELATIVE TO EACH CAMERA LOCATION. AUXILIARY FLASH UNIT SHALL MAINTAIN A 36.00 INCH DISTANCE FROM THE VES CAMERA. USE NOMINAL PITCH AND YAW ANGLES SHOWN. WHERE CAMERA LOCATION DICTATES A LOWER MOUNTING, PLACE FLASH ABOVE THE CAMERA UNIT MAINTAINING THE 36 INCH SEPARATION.
4. AFTER LOCATING THE CAMERA AND FLASH UNITS, MARK MOUNTING LOCATION ON THE POLE AND DRILL A 1.00 INCH DIA HOLE FOR CABLE ROUTING. DEBURR HOLE AND INSTALL A SNAP BUSHING, RICHCO PN RI-PGSC-1926A-25 OR EQUIV., IN HOLE FOR CABLE PROTECTION. INSTALL THE CAMERA MOUNT IN THE DESIRED LOCATION OVER THE CABLE ACCESS HOLE AND ROUTE THRU THE MOUNT TO THE CAMERA OR FLASH UNITS.
5. FOR NOTES AND DIMENSIONS NOT SHOWN, SEE CONSTRUCTION DETAILS C-52, C-53 & C-63. SEE ELECTRICAL PLANS FOR VES POST LOCATION. TOP OF VES POST MUST BE 12' ABOVE FG ON HIGH SIDE OF HIGHWAY.



VES POST TYPICAL CONDUIT LAYOUT

ELECTRICAL SYSTEMS DETAILS (INSTALLATION DETAIL, VES CAMERA MOUNTING)

NO SCALE

ED-120

Dist	COUNTY	ROUTE	TOTAL MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/0.9	1487	1710

ARBhoi

9-29-21

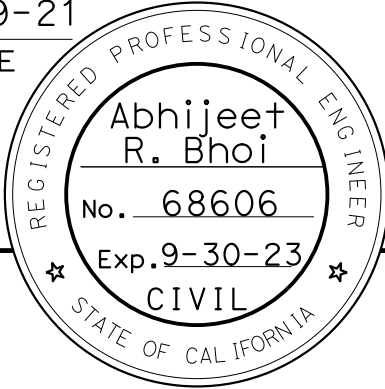
REGISTERED CIVIL ENGINEER DATE

October 8, 2021

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NOTE:

ELECTRICAL SYSTEMS QUANTITY TABLES SUMMARIZE SIGNIFICANT COMPONENTS. SEE ELECTRICAL SYSTEMS PLANS AND SPECIFICATIONS TO DETERMINE ALL MATERIALS NEEDED FOR EACH SYSTEM.

ABBREVIATIONS:

FSS - FRONT SIDE SHIELD
BSS - BACK SIDE SHIELD

MODIFYING LIGHTING SYSTEMS

SHEET NO.	(N)																																
	SERVICE EQUIPMENT ENCLOSURE AND Fdn	15 kVA Xfmr IN NEMA ENCLOSURE AND Fdn	ADD CB TO EXIST SERVICE ENCLOSURE	TYPE 1-B Std AND Fdn	TYPE 21 STRUCTURE Std	TYPE 21 DUAL ARM STRUCTURE Std	TYPE 30 Std AND Fdn	TYPE 31 Std AND Fdn	235 W Rdwy 2 LED Lum	Rdwy 11 LED Lum WITH FSS	Rdwy 11 LED Lum WITH BSS	Rdwy 12 LED Lum WITH FSS	Rdwy 12 LED Lum WITH BSS	PEU	SERVICE UTILITY PB	No. 5 PB	No. 5(T) PB	No. 6(T) PB	No. 9 PB	No. 9A PB	1½" TYPE 3 CONDUIT	1½" TYPE 1 CONDUIT	2" TYPE 3 CONDUIT	2" TYPE 1 CONDUIT	3" TYPE 3 CONDUIT	#2 AWG	#4 AWG	#6 AWG	#8 AWG	#10 AWG	#14 AWG	PULL TAPE	
	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF
E-6										4																							
E-7							2					6	4				3				10		365						710				
E-8												12																					
E-9												2																					
E-10					1		3					4					4			2			500	225				1450					
E-11					1		4					5					8			3			1215	215				2810					25
E-12	1			1							1					1	6			2			620	110	10	30	1240					60	120
E-13																1			3				5	580									585
E-14					4	3	2					12					5			11			525	1665					4380				
E-15	2	1		2		3	1	1		6		6	4	2		1	11	1	1	4	20		635	830	20	140	600	1790	180			90	
E-16						2					1	4	2				1		5	2	15		270	1400				3340					
E-17						7						14					2			8			435	1335				3750					
E-18						4						8				2			4				10	600		900	300						10
E-19						5						10							7				1400			2800							
E-20			1			1						2	3					1	1							820							
E-21							3		3								5				5		760					1180	320				
E-22																	5						975					2240					
E-23						3						6				2			3				10	550		1100							10
E-24						5						10							7					1400		2800							
E-25						1						2					7		1				1345	135		2960							
E-26																	7						1400			2800							
E-27	2	1		1										1	3	1	13							1875	420	2920	2140					75	315
E-28						4						8					4			4			650	820				2940					
E-29						4						8							6					1210				2420					
E-30						1	2					2	4				2		1				370	40				80	740				
E-31			1				2						2				3						235					20	470				
E-32			1																				20			2120							
E-33						5	2					10	2			1	2		1	5			205	955		2070			410				10
E-34						5	2					10	2				4		1	5			315				2650						10
E-35			1	1			1		3					1			1		1				175	315				980					
E-36																	2						425					850			240		
E-37													8				1											480					
E-38						6						12							7									2720					
E-39						3						6					1		3	4								2830					
E-40	2	1		1			1		1					1	1		13		4		15		1370	350	500	1100	2700	740				45	

(N) - NOT A SEPARATE BID ITEM

ELECTRICAL SYSTEMS QUANTITIES

EQ-1

NOTE:

ELECTRICAL SYSTEMS QUANTITY TABLES SUMMARIZE SIGNIFICANT COMPONENTS. SEE ELECTRICAL SYSTEMS PLANS AND SPECIFICATIONS TO DETERMINE ALL MATERIALS NEEDED FOR EACH SYSTEM.

MODIFYING RAMP METERING SYSTEMS

SHEET NO.	(N)																																
	ADD CB TO Exist SERVICE ENCLOSURE	23-4-100 Std AND Fdn	28-5-100 Std AND Fdn	60-5-100 Std AND Fdn	TYPE 1-B Std AND Fdn	TYPE 15FBS (Mod) Std AND Fdn	TYPE A LOOP DETECTOR	TYPE D LOOP DETECTOR	1-SECTION 8" SIGNAL HEAD	3-SECTION 8" SIGNAL HEADS	3-SECTION 12" SIGNAL HEADS	12" YELLOW LED FB	FBCA	MAS Mtg	TV-1-T Mtg	TV-2-T Mtg	No. 5(T) PB	No. 6(T) PB	No. 9 PB	No. 9A PB	1 1/2" TYPE 1 CONDUIT	2" TYPE 3 CONDUIT	2" TYPE 1 CONDUIT	3" TYPE 3 CONDUIT	3" TYPE 1 CONDUIT	#4 AWG	#6 AWG	#8 AWG	#10 AWG	#14 AWG	PULL TAPE	DLC	
E-41	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	
E-42					1		15	24	1	1	1				1	1	5	2	3	2		95	165		90				45		270		3635
E-43							8												1			15	100										690
E-44							1														5												1440
E-45							2												1				115										900
E-46							10										1		2			45	205				410						2260
E-47							10										2		2			590					3020						1100
E-48							2																										570
E-49	1		1			3	24	2	2		2	3	3	2	3		10	2	3			880	235	255			1720	1785	60	510	540		12420
E-50							2										2				30	180						750					160
E-51		1				4	24	2	2		2	4	4	2	4		5	3	2			500	295	295	865	560		815	750	2625	865		14240
E-52				1		4	14		3		3	4	4	3	4		1	1	2			135	215		1415	440				150		1415	4550

(N) - NOT A SEPARATE BID ITEM

Dist

COUNTY

ROUTE

POST MILES TOTAL PROJECT

SHEET No.

TOTAL SHEETS

04

Ala, CC

680

R11.0/R21.9, R0.0/R0.9

1489

1710



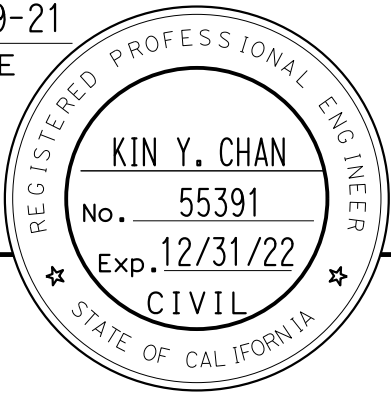
REGISTERED CIVIL ENGINEER

9-29-21

DATE

October 8, 2021

PLANS APPROVAL DATE



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Y&C TRANSPORTATION CONSULTANTS, INC.
200 Brown Rd, Suite 108
Fremont, CA 94539

ALAMEDA CTC
1111 Broadway
Suite 800
Oakland, CA 94607

ELECTRICAL SYSTEMS QUANTITY TABLES SUMMARIZE SIGNIFICANT COMPONENTS. SEE ELECTRICAL SYSTEMS PLANS AND SPECIFICATIONS TO DETERMINE ALL MATERIALS NEEDED FOR EACH SYSTEM.

$$(N)$$

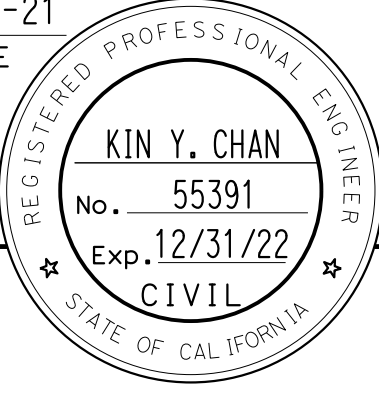
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SHEET No.	(N)							
	TEMPORARY WOOD POLE	235 W Rdwy 2 LED Lum	LMA	2" TYPE 3 CONDUIT				
	EA	EA	EA	LF	LF	LF	LF	LF
E-163	3	2	2	10		690		305
E-164	3	2	2	10			620	270
E-165	5	2	2	10	1220			570
E-166	5			15	1880			940
E-167	6	4	4	10		1650		785
E-168	3	2	2	10	820			370
E-169	1	1	1	160			320	
E-170	2	1	1	10		320		115

(N) - NOT A SEPARATE BID ITEM

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/R0.9	1492	1710
 REGISTERED CIVIL ENGINEER			9-29-21 DATE		
October 8, 2021 PLANS APPROVAL DATE					
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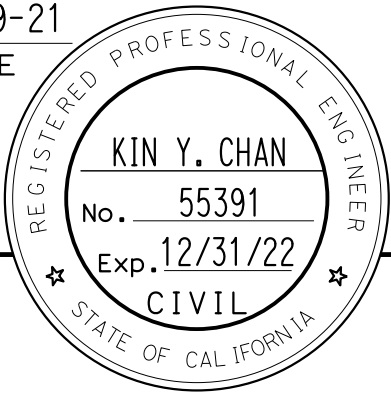
NOTE:

ELECTRICAL SYSTEMS QUANTITY TABLES SUMMARIZE SIGNIFICANT COMPONENTS. SEE ELECTRICAL SYSTEMS PLANS AND SPECIFICATIONS TO DETERMINE ALL MATERIALS NEEDED FOR EACH SYSTEM.

TEMPORARY TRAFFIC MONITORING STATION SYSTEMS

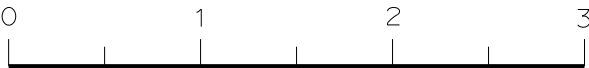
SHEET No.	(N)						
	TEMPORARY WOOD POLE	TYPE A LOOP DETECTOR	2" TYPE 3 CONDUIT	3" TYPE 3 CONDUIT	#4 AWG	MESSENGER WIRE	DLC
E-204	EA	EA	LF	LF	LF	LF	LF
E-205		4	35				
E-206		4	35				
E-207		4					
E-208		4	25				
E-209		4	45				
E-210		4	45				
E-211		4	40				
E-212		6					
E-213		6					
E-214		6					
E-215		6	35				
E-216	2	8	40	40		35	4650
E-217	2	8	85			35	1730
E-218	2	8	85			35	1730
E-219							
E-220		8	65				1880
E-221		2	40				
E-222		8	60	40			1170
E-223		8	50	25			2850
E-224		8	65	30			2510
E-225		8	60	20			10140
E-226		10	75				2700
E-227		4	225		370		
E-228	2	14	60			20	3020
E-229	3	16	85		570	240	3260
E-230	7				2560	1280	
E-231	2	16	95		520	215	3180
E-232	7	14	150	25	2390	1050	3050
E-233	3		10		1070	495	
E-234		2	35				4110
E-235		2	45				
E-236		6	45				
E-237							
E-238	3	6	20		850	385	1290
E-239	6				2800	1400	
E-240	2		15		560	235	
E-241		6	10				1020
E-242		6	15				1980
E-243		6	15				2050
E-244		8	15				10000

(N) - NOT A SEPARATE BID ITEM

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/R0.9	1494	1710
 REGISTERED CIVIL ENGINEER			9-29-21 DATE		
October 8, 2021 PLANS APPROVAL DATE					
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ELECTRICAL SYSTEMS QUANTITIES

EQ-7



NOTE:

ELECTRICAL SYSTEMS QUANTITY TABLES SUMMARIZE SIGNIFICANT COMPONENTS. SEE ELECTRICAL SYSTEMS PLANS AND SPECIFICATIONS TO DETERMINE ALL MATERIALS NEEDED FOR EACH SYSTEM.

Dist

COUNTY

ROUTE

POST MILES
TOTAL PROJECT

SHEET
No.

TOTAL
SHEETS

04

Ala, CC

680

R11.0/R21.9,
R0.0/0.9

1495

1710

ARBhoi

9-29-21

REGISTERED CIVIL ENGINEER

DATE

October 8, 2021

PLANS APPROVAL DATE

Abhijeet
R. Bhoi

No. 68606

Exp. 9-30-23

CIVIL

STATE OF CALIFORNIA

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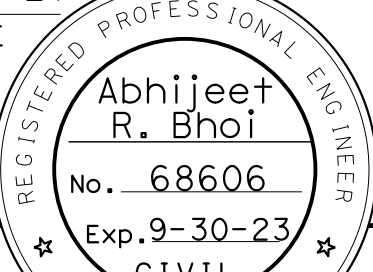
ELECTRONIC TOLL SYSTEM

SHEET NO.	(N)																																			
	120/240V SERVICE		UG FIBER OPTIC SPLICE VAULT	FIBER OPTIC SPLICE ENCLOSURE	235 W LED LUM	PULL BOX							CONDUIT							INNERDUCT		CONDUCTORS/CABLES							FIBER OPTIC					CONCRETE PADS		
	EQUIPMENT ENCLOSURE	XMFR SET-UP/DOWN				PG&E (NO. 2)	6 (T)	6(T)(E)	TYPE 9A	TYPE 9	PTC	FIBER	FIBER (T)	2 INCH LGT	2 INCH ETS	3 INCH PWR	3 INCH COMM	4 INCH PWR	4 INCH COMM	3 INCH BAIFA PWR	3 INCH BAIFA COMM	3-1"	2-3/4"	#8	#6	#2	#4	#1/0	#2/0	#4/0	12 COUNT	24 COUNT	48 COUNT		96 COUNT	144 COUNT
	EA														LF																CY					
E-118																																		135		
E-119																																		1,155		
E-120																								3,615	3,615		3,615							1,155		
E-121																								2,121	2,121		2,121							755		
E-122																																		1550		
E-123			1	2			10					1	110	220	110	220	1,083	940			2,820	440	882	30		3,720	1,137			125		290	1,640		6.67	
E-124							7										1,390	1,185			3,555				4,233	4,233							1,245			
E-125			1	1			7						80	160	80	80	1,410	1,415			4,245		792	30		7,002	3,534			125			1,515		3.89	
E-126							6										1,400	1,445			4,335		861			1,641				255			1,545			
E-127							7					2					1,406	1,408			4,224					2,688						1,528				
E-128			1	1	2		8	6				1		290	560	290	280	1,425	1,425			4,275		747	30		693			125			1,585		6.67	
E-129			1	1	1		11					1		350	1,02	350	350	1,408	1,420			4,260	680	1,227			219			465			1,580		3.46	
E-130			1	1	1		7	4						270	540	270	270	955	1,385			4,155		528	30	565				125			1,485		6.67	
E-131												2						1,390				4,170											1,490			
E-132			1	1	2		2	2	4			1		120	480	240	240	270	1,455			4,365		1,608	30		828			125			1,705		6.67	
E-133	2	1	1	1	2	2	11		1	1		6		145	95	75	95	1,200	1,815			5,445	190	633	2,010		318	2,223		205			2,315		9.44	
E-134							9					3					1,468	1,515			4,545						5,049						1,665			
E-135			1	1	2		3	2	4		4	2		110	440	220	220	595	1,390			4,170			30			1,821		125			1,690		6.67	
E-136											2	2						1,380				4,140											1,480			
E-137			2	2	4		8	2	5	1		1		195	450	200	270	1,230	1,400			4,200	200	1,911	3,804			2,526		335			1,800		9.19	
E-138							5					2	1				1,405	1,405			4,215				4,278			4,278					1,555			
E-139	1	1				1	10				4	4	1			55		1,505	1,505			4,515				1,884	2,829		420				1,790		2.52	

(N) -- NOT A SEPARATE BID ITEM

ELECTRICAL SYSTEMS QUANTITIES
EQ - 8

ELECTRICAL SYSTEMS QUANTITY TABLES SUMMARIZE SIGNIFICANT COMPONENTS. SEE ELECTRICAL SYSTEMS PLANS AND SPECIFICATIONS TO DETERMINE ALL MATERIALS NEEDED FOR EACH SYSTEM.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/R0.9	1496	1710
<u>ARBHOI</u> REGISTERED CIVIL ENGINEER			9-29-21 DATE		
October 8, 2021 PLANS APPROVAL DATE					
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ELECTRICAL SYSTEMS QUANTITIES

EQ-9

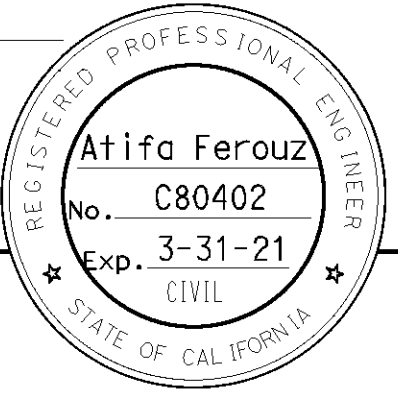
SHEET NO.	(N)																																				
	120/240V SERVICE		UG FIBER OPTIC SPLICER VAULT	FIBER OPTIC SPLICER ENCLOSURE	235 W LED LUM	PULL BOX								CONDUIT								INNERDUCT		CONDUCTORS/CABLES								FIBER OPTIC					CONCRETE PADS
	EQUIPMENT ENCLOSURE	XMR SET-UP/DOWN				PG&E (NO. 2)	6 (T)	6(T)(E)	TYPE 9A	TYPE 9	PTC	FIBER	FIBER (T)	2 INCH LGT	2 INCH ETS	3 INCH PWR	3 INCH COMM	4 INCH PWR	4 INCH COMM	3 INCH BAIFA PWR	3 INCH BAIFA COMM	3-1"	2-3/4"	#8	#6	#2	#4	#1/0	#2/0	#4/0	12 COUNT	24 COUNT	48 COUNT	96 COUNT	144 COUNT		
	EA													LF																		CY					
E-140			1	1	2		3	2	4			2		95	380	190	190	450	1,415			4,245		483	30		1,377				125			1,615		6.67	
E-141											2	3							1,425			4,275										1,575					
E-142			2	2	4		8	2	5	1				200	490	200	90	1,360	1,415			4,245	180	996	30	4,113				2,865	325		1,815		9.19		
E-143							7					2						1,400	1,400			4,200				4,263				4,263			1,500				
E-144			1	1	2		7	2	6			1		380	760	380	380	1,405	1,405			4,215		513	30	4,278			2,985	4,278	125		1,655		6.67		
E-145	1	1				1	9					2				55		1,470	1,405			4,215				4,521			2,985	4,278	125		1,505		2.52		
E-146												1							1,400			4,200							4,521	4,733			1,450				
E-147			2	2	4		10	2	5	1		1		735	525	220	305	1,105	1,405			4,215	170	2,658	30				3,369			320		1,855		6.67	
E-148							8					2						1,465	1,465			4,395					4,467						1,565				
E-149	2	1	1			1	27					2	4			25		2,200	1,540	1,970	1,305	4,620					6,027					1,790		5.98			
E-150			1	1	1		16		2			1	1	210	380	220	190	1,360	1,385	475	4,215	4,155		2,004	30				633			125		1,635		6.67	
E-151			1	1	2		9		2			4	5	130	240	130	120	955	1,450		6,225	4,350		618							125		1,850		3.89		
E-152			2	2	2		5			1		6	3	115	415	115	230		1,425	100	4,665	4,275	350	543	30				1,950			710		1,675	1,690	1.19	
E-153			3	3	2		4				3	1	4	150	340	150	170		1,395	165	4,885	4,185	610	2,640							255	1,800	1,445	2,135	0.49		
E-154			2	2	2		11		2			10	5	665	1,330	665	665	815	1,430		3,840	4,290	160	2,229	30						375	1,550	1,780	1,520	6.67		
E-155							8						3					1,390	1,395		5,620	4,185											1,455		1,495	1,465	
E-156	1	1	4	4	2	1	13		2			1	3	350	570	330	255	1,728	1,435	165	5,770	4,305	280	3,810	2,916		1,002	5,201			375	1,565		1,685	2,070	6.41	
E-157			4	4	2		25		1	2		4	610	435	130	245	1,440	1,420	1,612	5,920	4,260	250	1,884	3,447		4,302			4,902		445	630		1,670	2,075	2.52	
E-158			2	2	2		12			1		1	3	150	620	150		1,140	1,110	250	2,370	3,330	620	648	30		3,480			768				1,235	615	7.51	
TOTAL	7	5	36	36	41	6	293	24	43	8	25	56	38	5,460	10,450	4,850	4,865	37,833	50,598	4,737	44,815	151,794	4,130	29,754	19,704	31,420	42,003	65,147	24,807	16,559	5,145	7,710	290	63,228	11,570	135	

(N) - NOT A SEPARATE BID ITEM

Atifa Feranzy
REGISTERED CIVIL ENGINEER

April 19, 2019
PLANS APPROVAL DATE

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(DIVIDED HIGHWAYS)
See Note



DETAIL 27A DELETED

LEFT EDGE LINES NOTE:

DETAIL 30 DELETED

DETAIL 33 DELETED

MARKERS

 TYPE D

 TYPE H

 TYPE RY

TWO-WAY

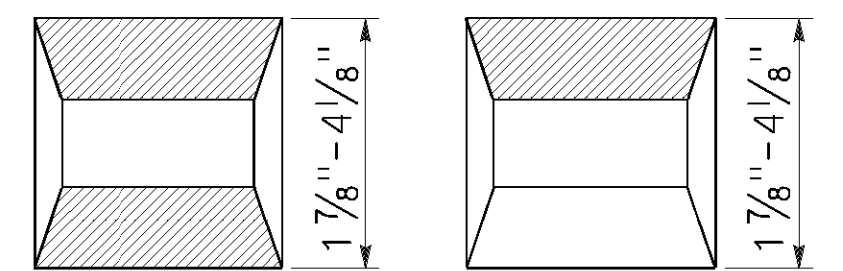
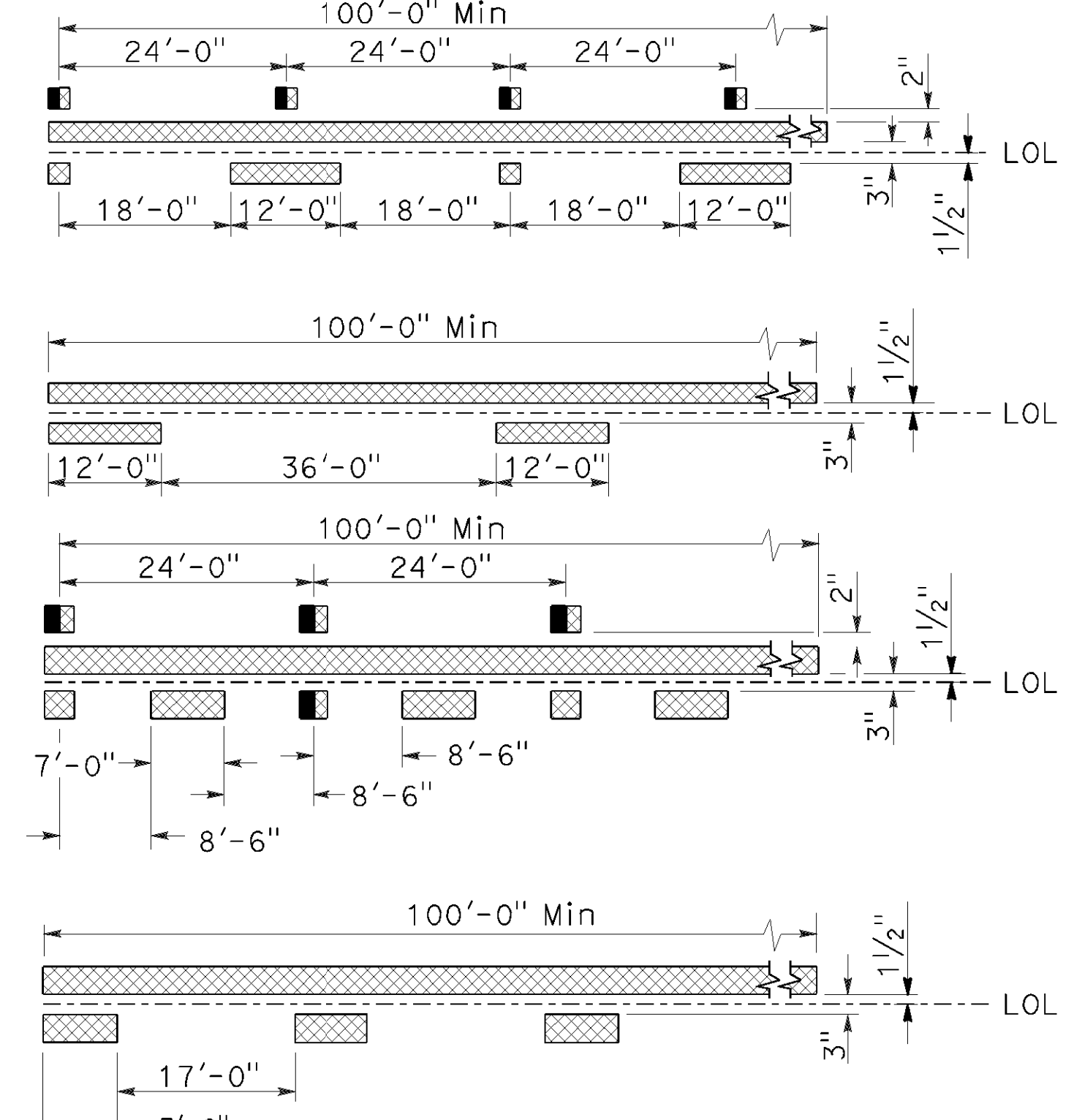
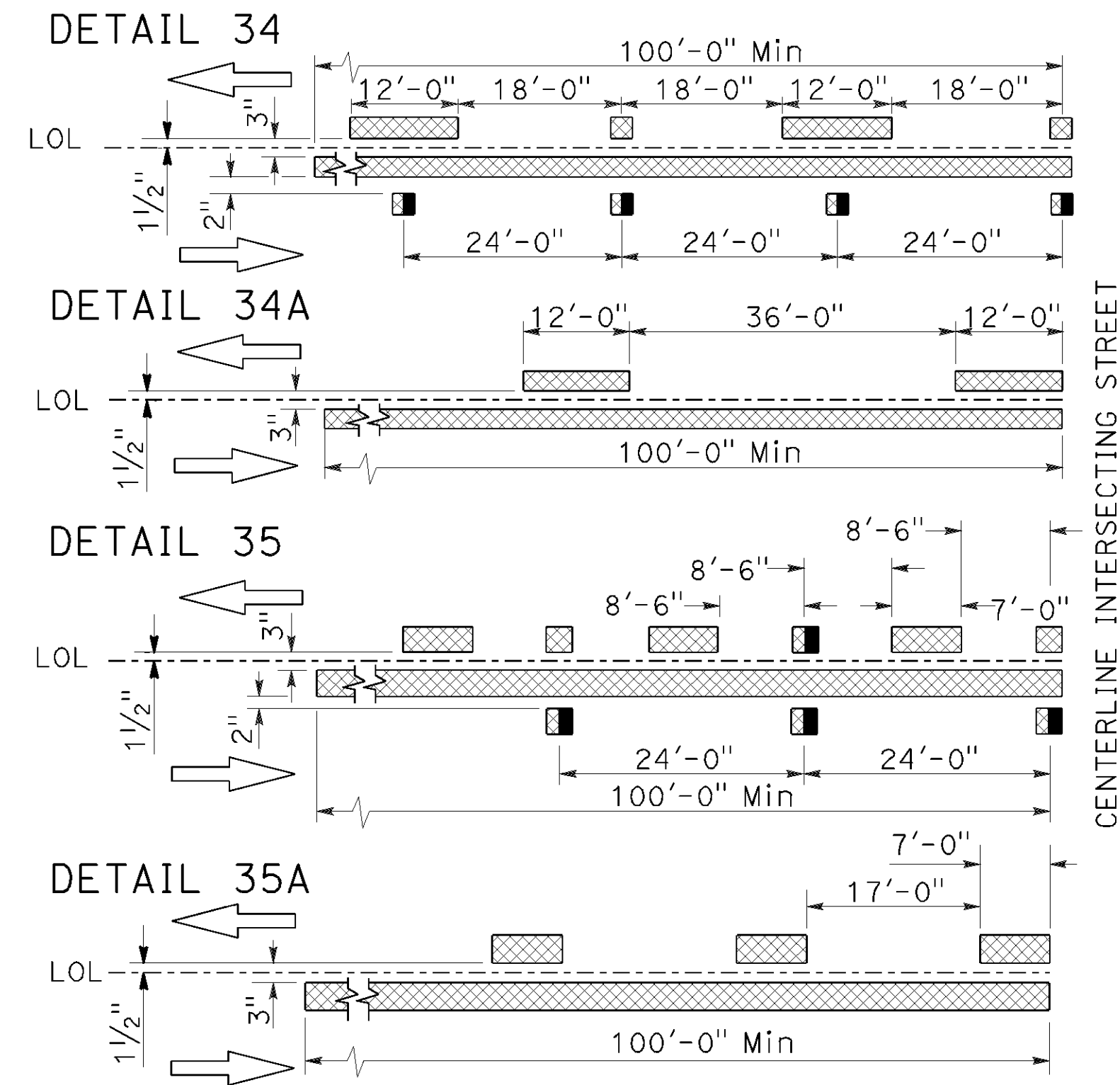
ONE-WAY

RED-YELLOW

 6" WHITE

 6" YELLOW

TO ACCOMPANY PLANS DATED October 8, 2021



TYPE RY TYPE H
AND TYPE D

 RETROREFLECTIVE FACE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

NO SCALE

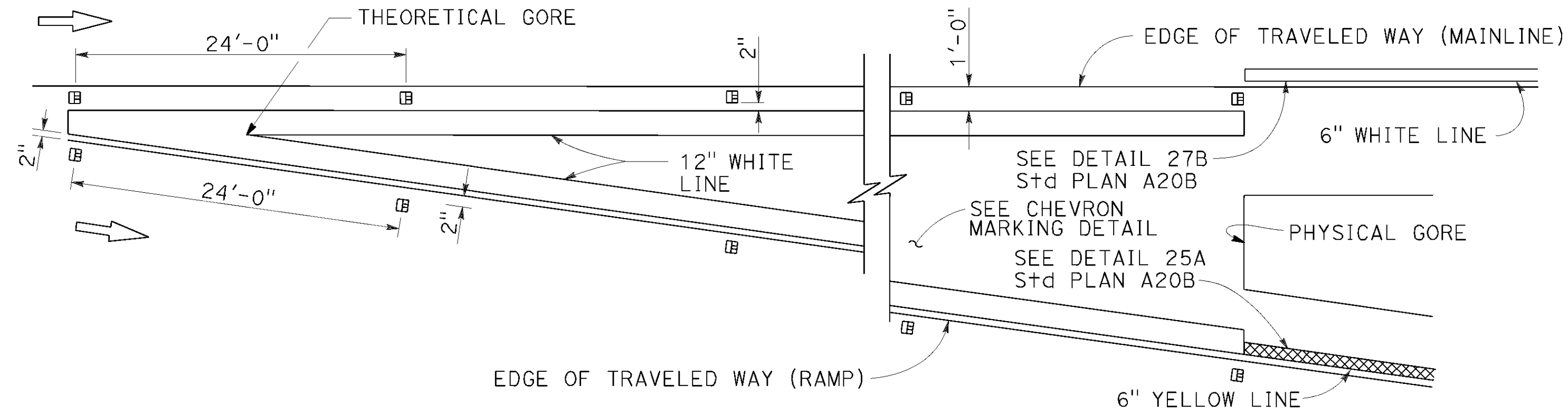
RSP A20B DATED APRIL 19, 2019 SUPERSEDES STANDARD PLAN A20B
DATED MAY 31, 2018 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2018.

REVISED STANDARD PLAN RSP A20B

2018 REVISED STANDARD PLAN RSP A20B

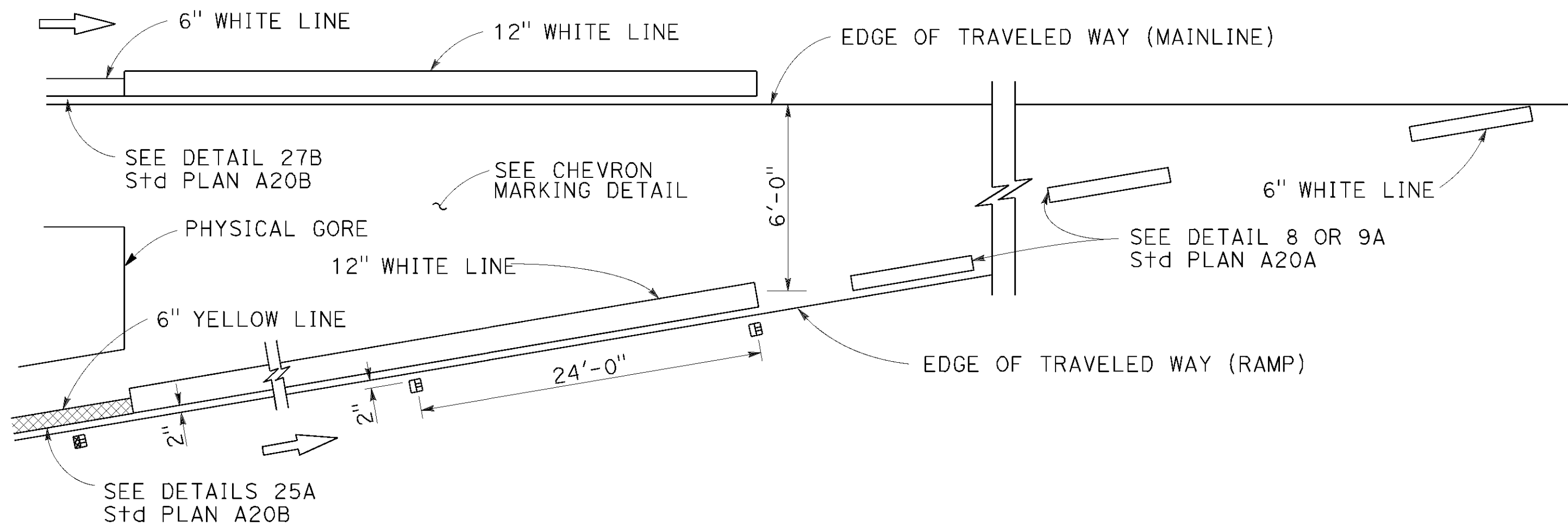
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT

DETAIL 36



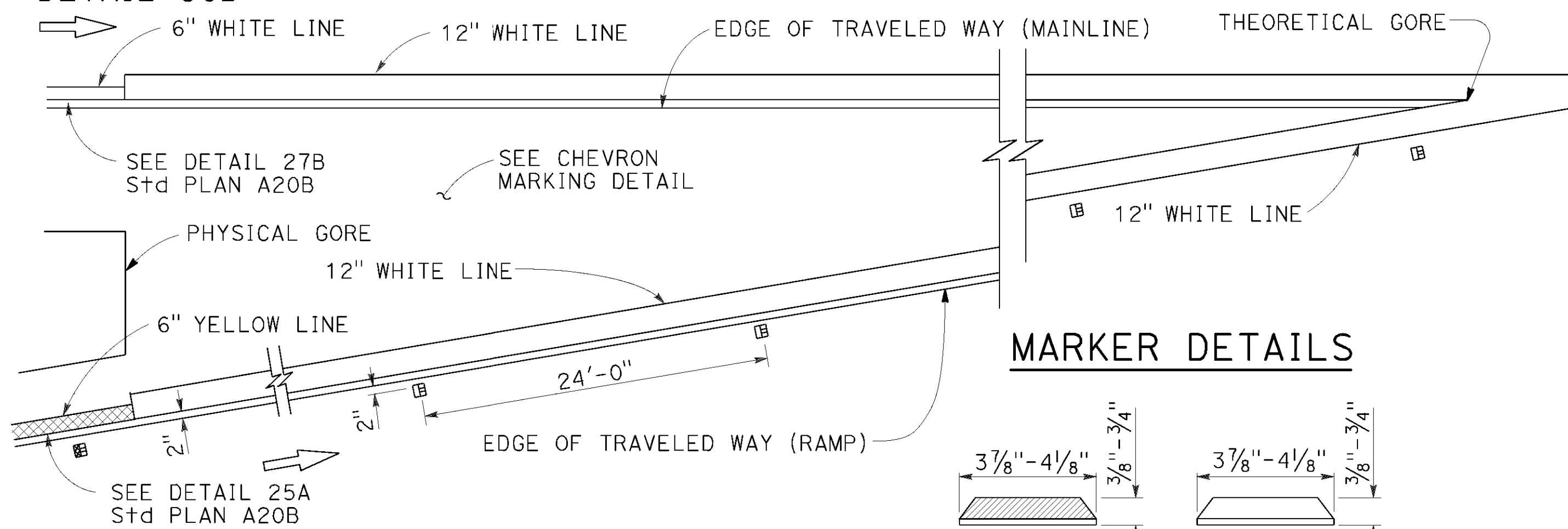
ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT

DETAIL 36A



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

DETAIL 36B

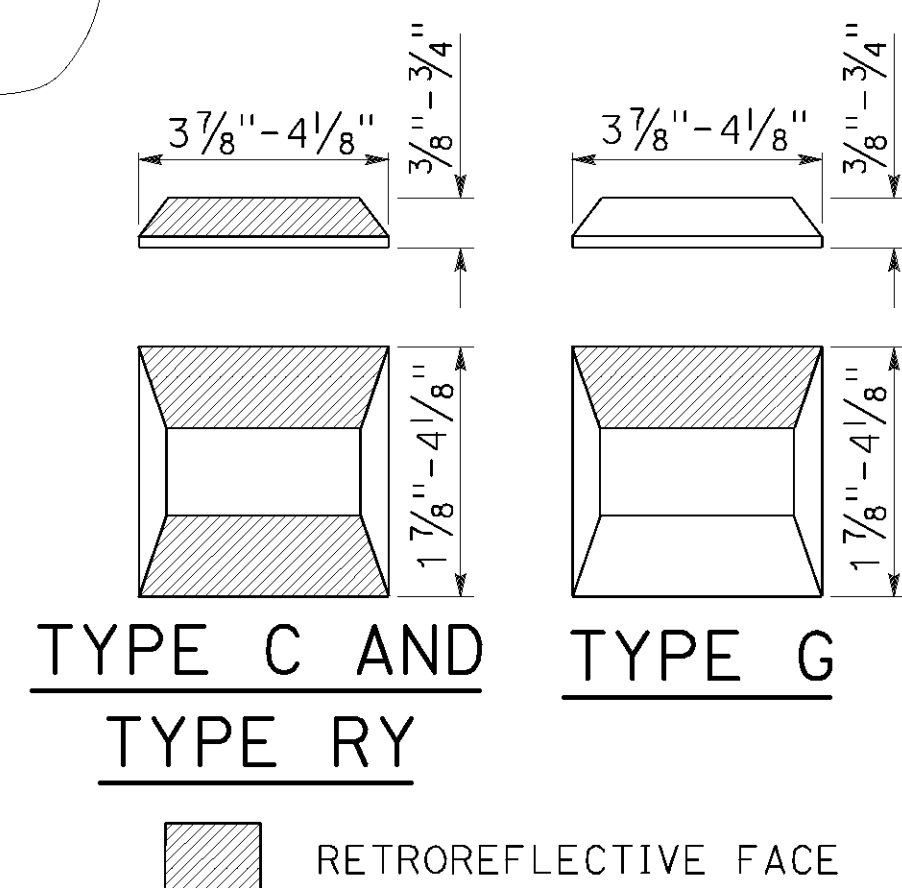


MARKER DETAILS

LEGEND:

MARKERS

- TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE
- TYPE RY RED-YELLOW RETROREFLECTIVE



NOTES:

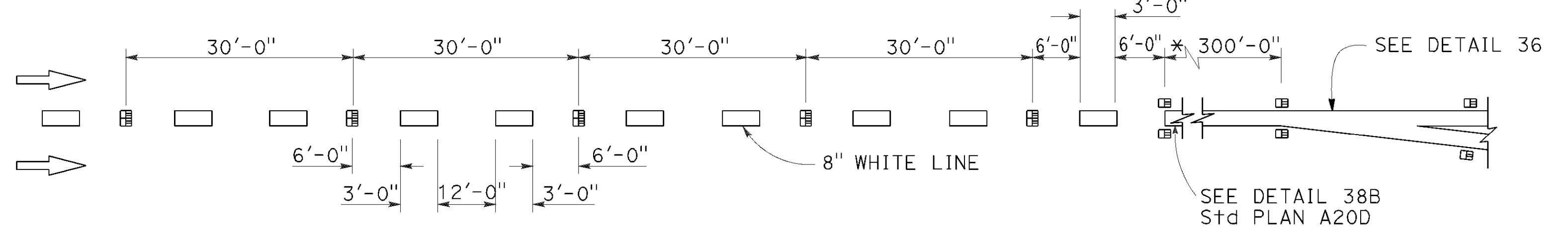
Install a minimum of 1 chevron in the gore area. If at least 1 chevron will not fit into the gore area, do not install chevrons.

Terminate chevron markings at physical gore.

Gore area chevron pavement markings shown. For Exit and Entrance Ramp channelizing lines details, see Details 36, 36A, and 36B.

LANE DROP AT EXIT RAMP

DETAIL 37



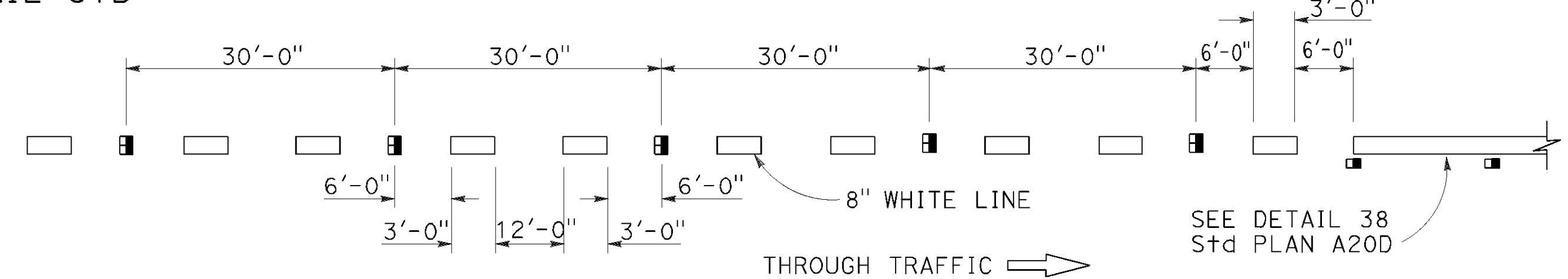
* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

~~DETAIL 37A~~

DETAIL 37A DELETED

LANE DROP AT INTERSECTIONS

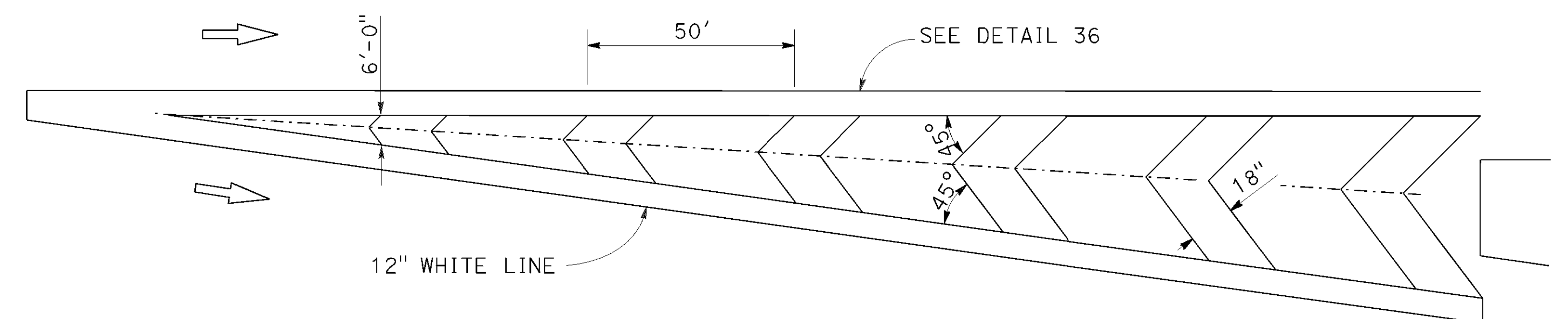
DETAIL 37B



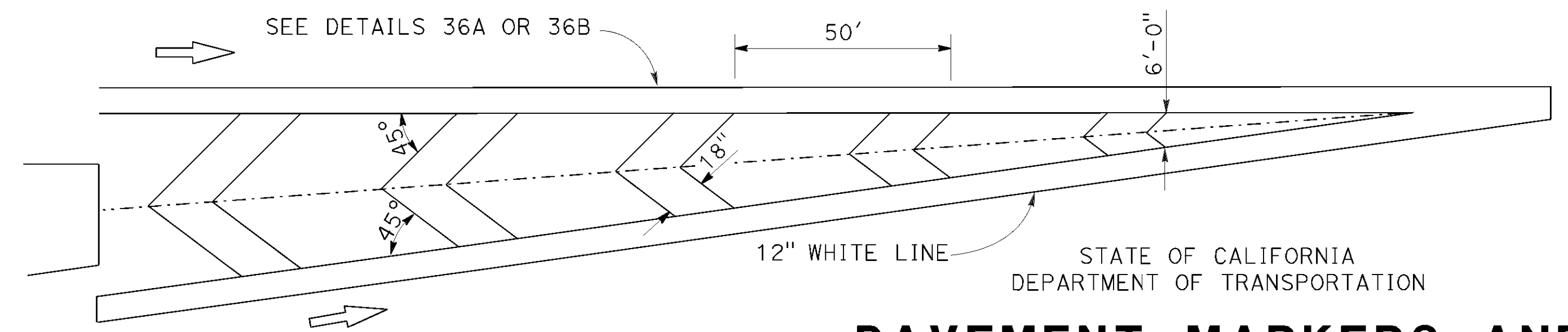
~~DETAIL 37C~~

DETAIL 37C DELETED

CHEVRON PAVEMENT MARKINGS AT EXIT RAMP GORE AREA



CHEVRON PAVEMENT MARKINGS AT ENTRANCE RAMP GORE AREA



PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

NO SCALE

RSP A20C DATED APRIL 17, 2020 SUPERSEDES RSP A20C DATED OCTOBER 19, 2018 AND STANDARD PLAN A20C DATED MAY 31, 2018 - PAGE 14 OF THE STANDARD PLANS BOOK DATED 2018.

REVISED STANDARD PLAN RSP A20C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/R0.9	1498	1710
Atifa Ferouz REGISTERED CIVIL ENGINEER April 17, 2020 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. Atifa Ferouz No. C80402 Exp. 3-31-21 REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA					

TO ACCOMPANY PLANS DATED October 8, 2021

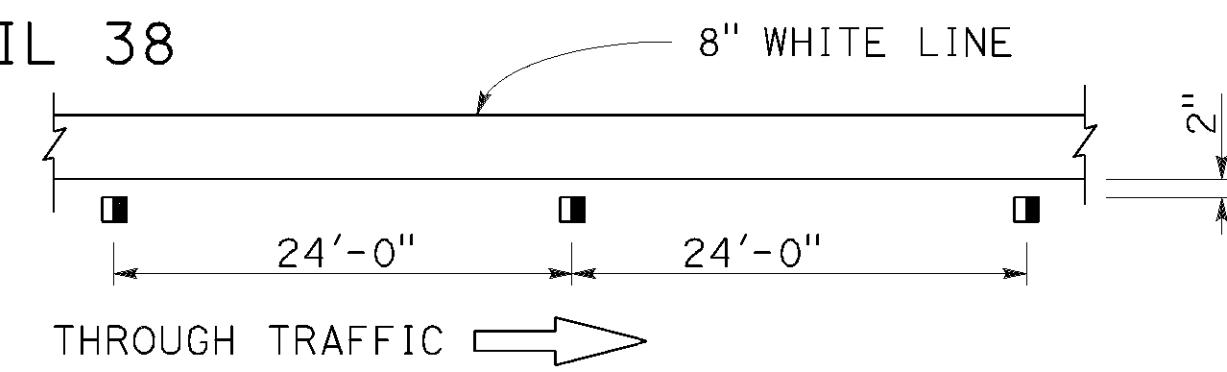
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/R0.9	1499	1710
Atifa Ferouz REGISTERED CIVIL ENGINEER October 19, 2018 PLANS APPROVAL DATE THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET. Atifa Ferouz No. C80402 Exp. 3-31-19 CIVIL STATE OF CALIFORNIA					

TO ACCOMPANY PLANS DATED October 8, 2021

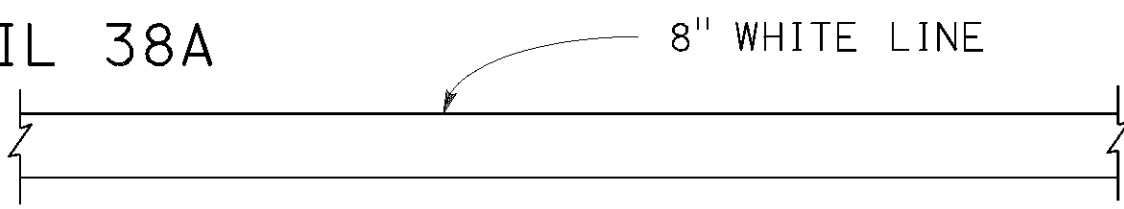
2018 REVISED STANDARD PLAN RSP A20D

CHANNELIZING LINE

DETAIL 38



DETAIL 38A



DETAIL 38B

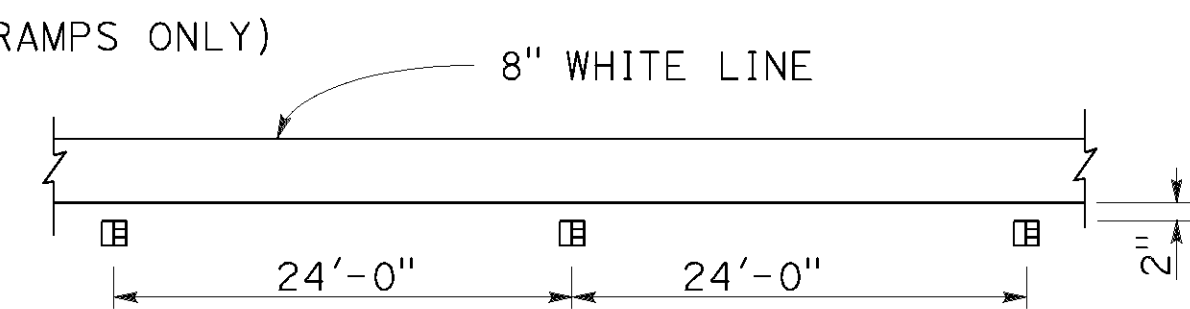


~~DETAIL 38C~~

~~DETAIL 38C DELETED~~

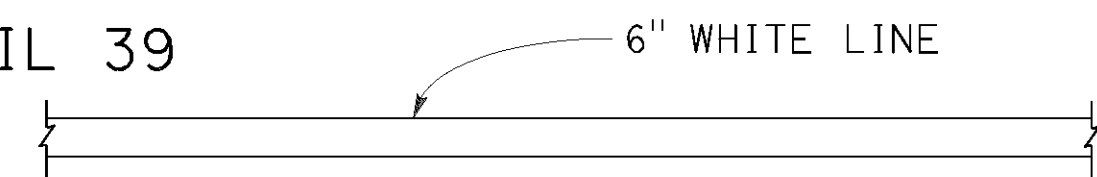
DETAIL 38D

(EXIT RAMP ONLY)



BIKE LANE LINE

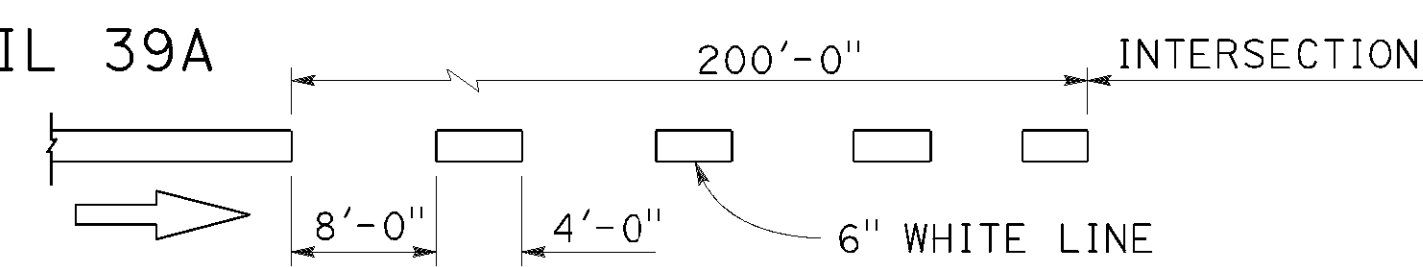
DETAIL 39



INTERSECTION LINE

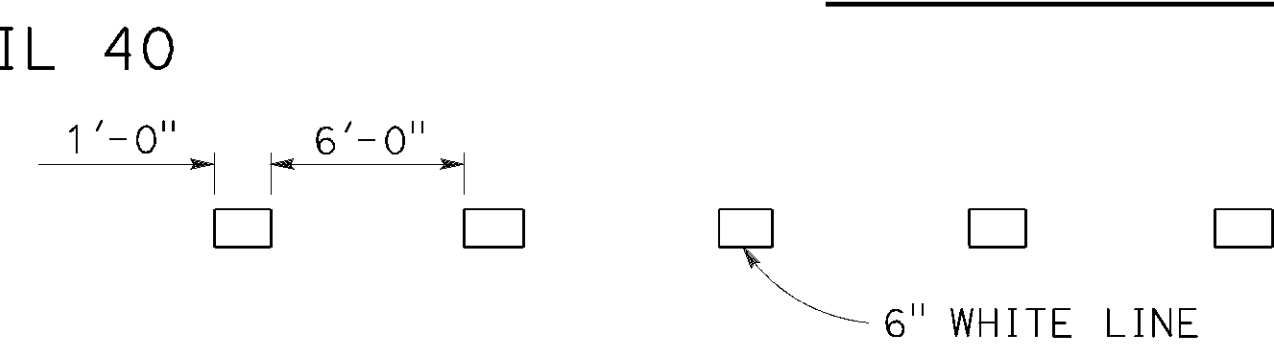
BIKE LANE

DETAIL 39A



LANE LINE EXTENSIONS THROUGH INTERSECTIONS

DETAIL 40

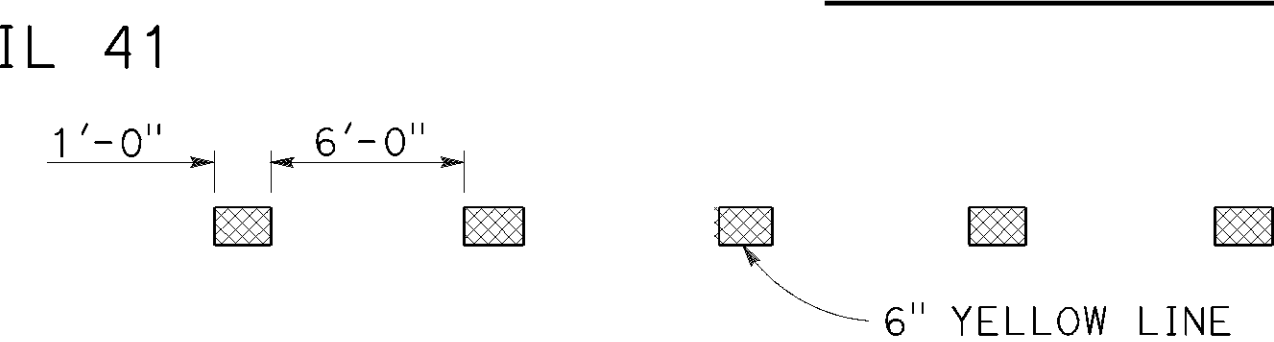


~~DETAIL 40A~~

~~DETAIL 40A DELETED~~

CENTER LINE EXTENSIONS THROUGH INTERSECTIONS

DETAIL 41

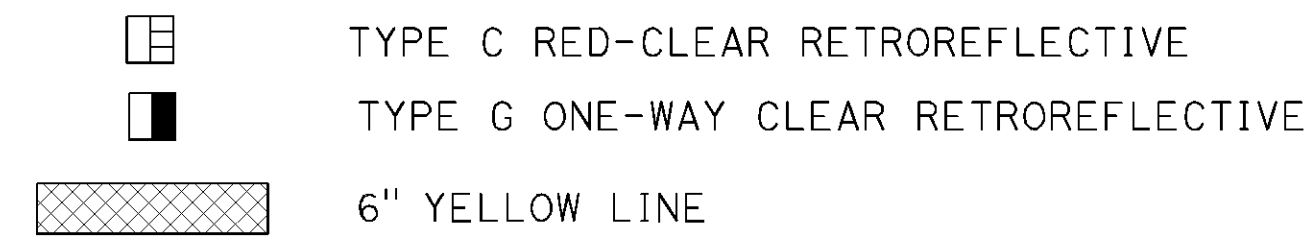


~~DETAIL 41A~~

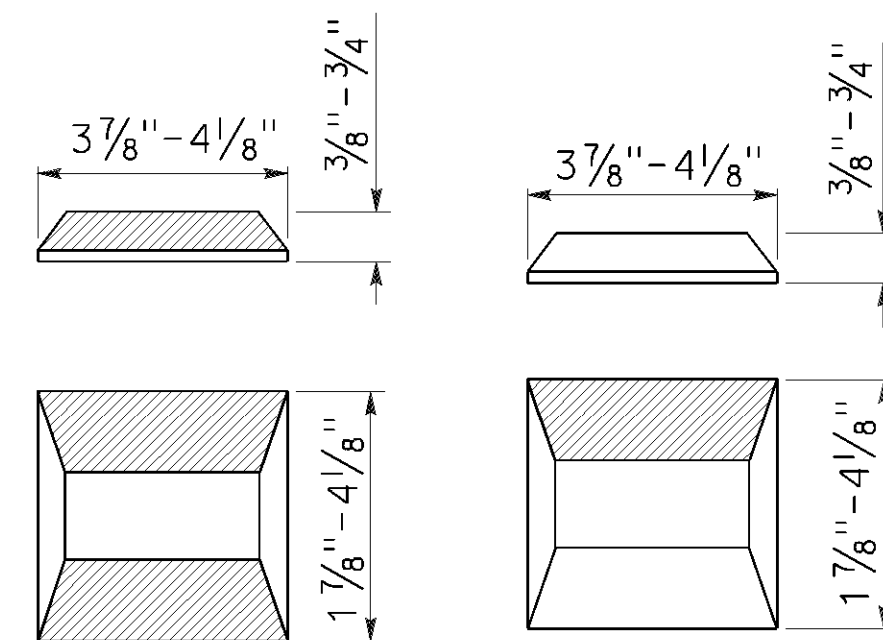
~~DETAIL 41A DELETED~~

LEGEND

MARKERS

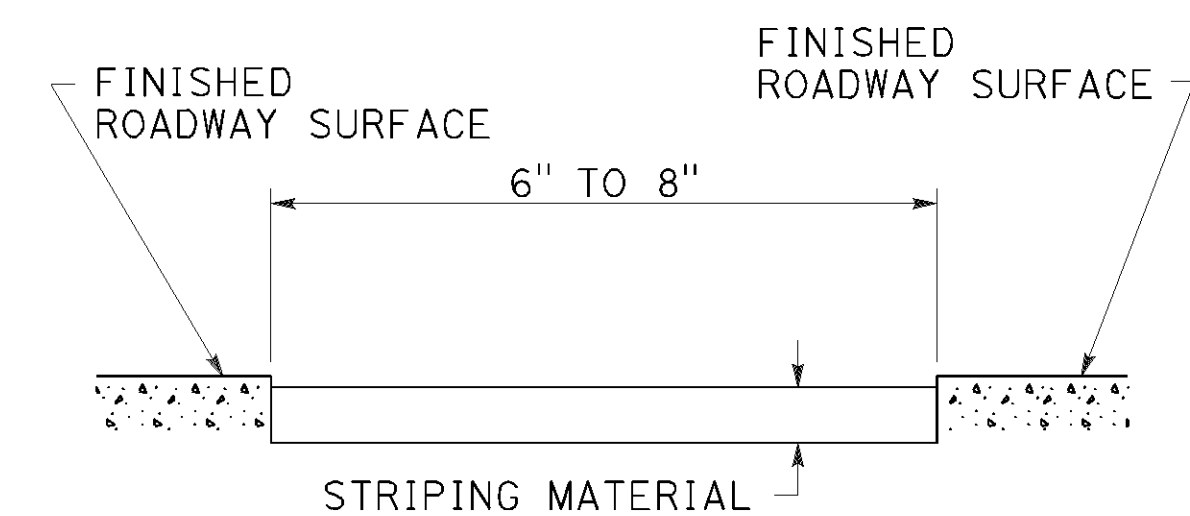


MARKER DETAILS



TYPE C

TYPE G

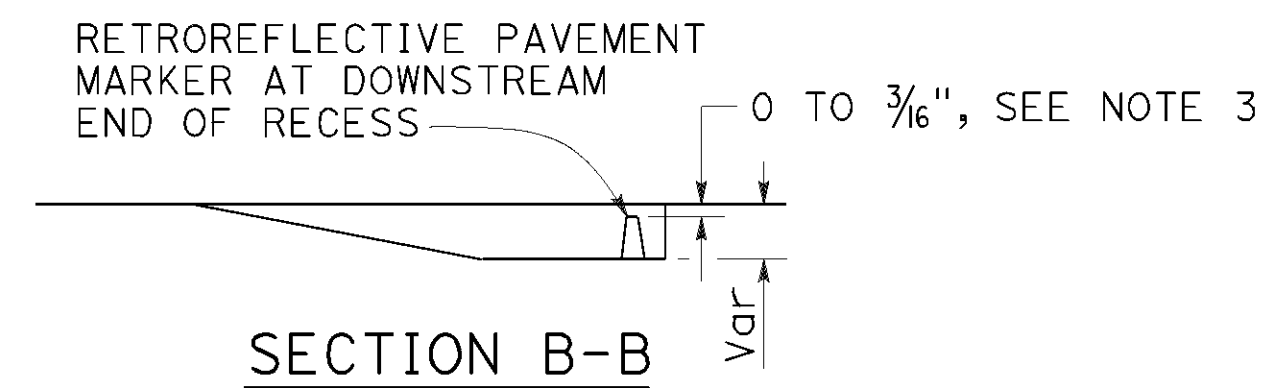


DETAIL FOR RECESSED TRAFFIC STRIPE

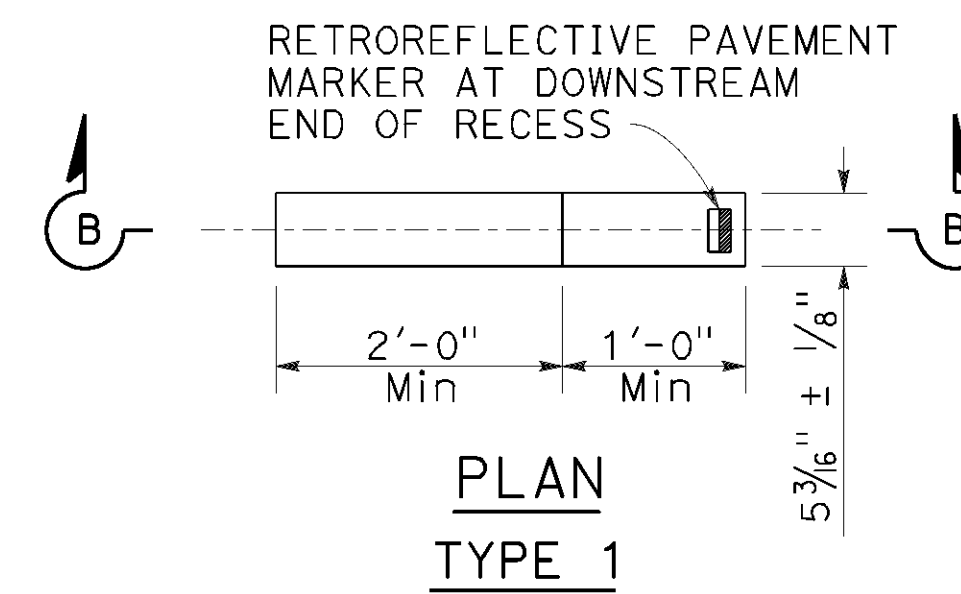
See Notes A and B.

RECESSED NOTES:

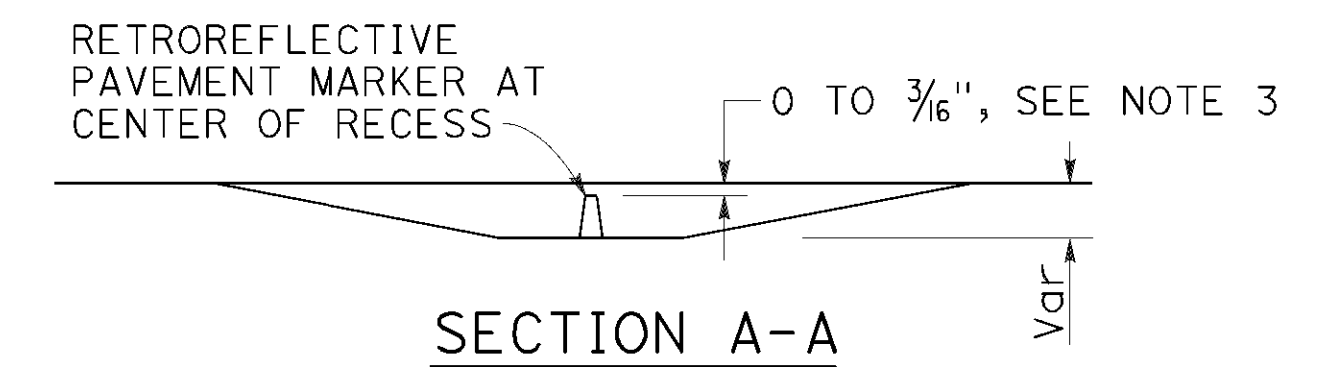
- A. See typical traffic line details for pavement marking patterns.
- B. See standard specifications for recess depth and recess striping material thickness.



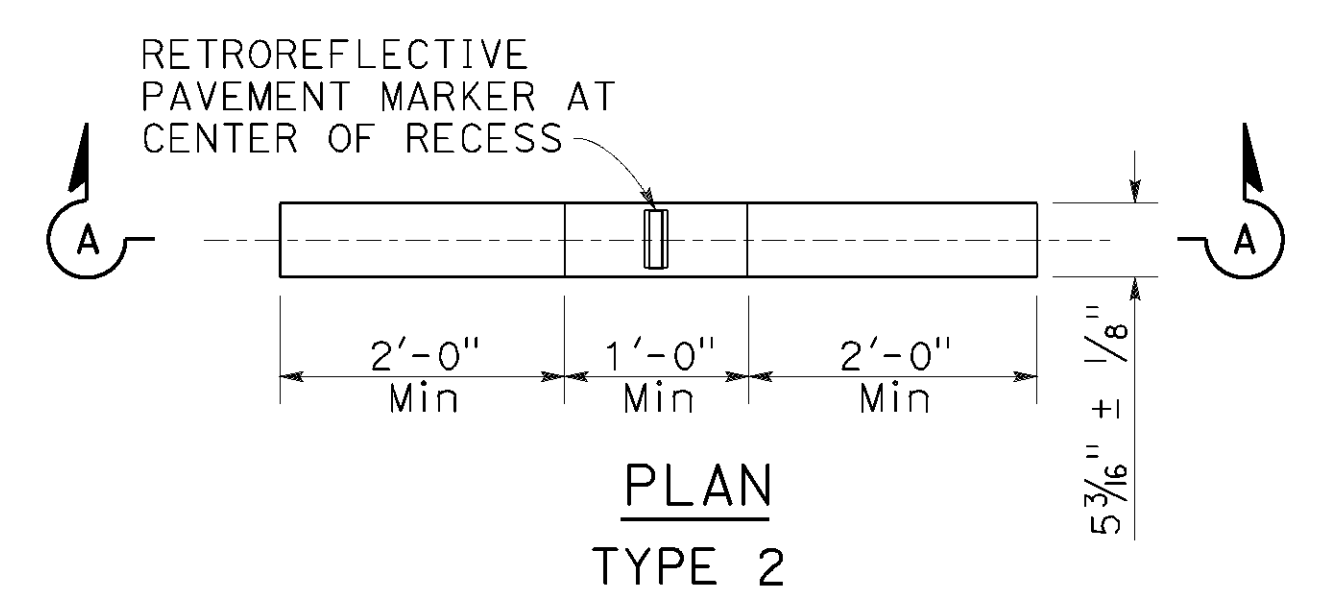
SECTION B-B



PLAN
TYPE 1



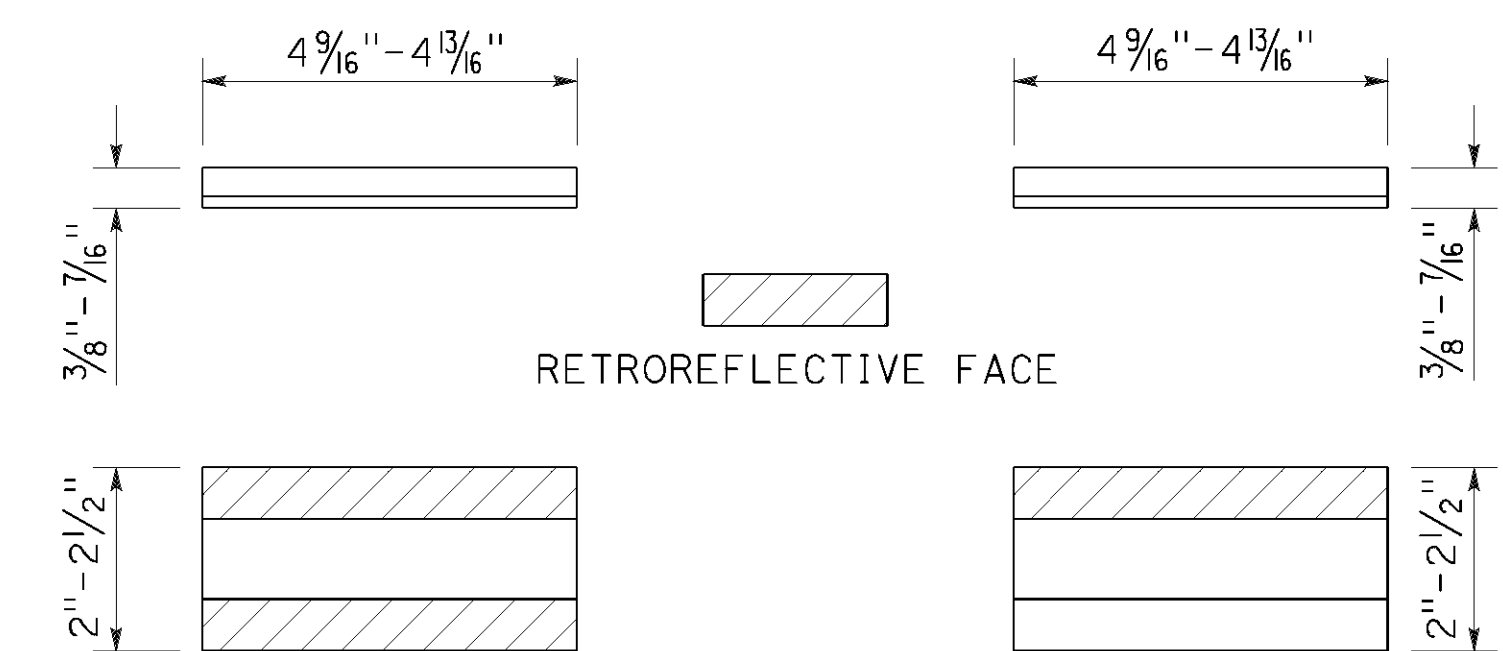
SECTION A-A



PLAN
TYPE 2

RECESS DETAIL FOR RETROREFLECTIVE PAVEMENT MARKER

See Note 4



TYPE C, TYPE RY,
AND TYPE D

TYPE G, TYPE R,
AND TYPE H

RETROREFLECTIVE PAVEMENT MARKER FOR RECESSED INSTALLATION

See Notes 1 and 2.

RECESSED MARKER NOTES:

1. See typical traffic line details for marker patterns to be used with recessed pavement markers.
2. The retroreflective pavement markers shown for recessed installations are not to be used for non-recessed installations.
3. The top of pavement markers installed in recesses shall be 0 to 3/16 inch below the pavement surface.
4. Use Type 1 recess for pavement markers with one-way retroreflective face. Use Type 2 recess for pavement markers with two-way retroreflective face.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

NO SCALE

RSP A20D DATED OCTOBER 19, 2018 SUPERSEDES STANDARD PLAN A20D
DATED MAY 31, 2018 - PAGE 15 OF THE STANDARD PLANS BOOK DATED 2018.

REVISED STANDARD PLAN RSP A20D

NOTE:

1. See Standard Plans A20A, A20B, A20C, A20D, and A20F for pavement markers and traffic lines typical details.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala, CC	680	R11.0/R21.9, R0.0/R0.9	1500	1710
Atifa Ferouz REGISTERED CIVIL ENGINEER			REGISTERED PROFESSIONAL ENGINEER Atifa Ferouz No. C80402 Exp. 3-31-21 CIVIL STATE OF CALIFORNIA		
April 19, 2019					
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.					

TO ACCOMPANY PLANS DATED October 8, 2021



TYPICAL LANE LINE OR RIGHT EDGE LINE CONTRAST DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKERS
AND TRAFFIC LINES**

TYPICAL DETAIL FOR CONTRAST STRIPING

NO SCALE

RSP A20E DATED APRIL 19, 2019 SUPERSEDES STANDARD PLAN A20E
DATED MAY 31, 2018 - PAGE 16 OF THE STANDARD PLANS BOOK DATED 2018.

REVISED STANDARD PLAN RSP A20E

2018 REVISED STANDARD PLAN RSP A20E