

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

THIS PROJECT TO BE LET TO CONTRACT
WITH FINANCIAL PROJECT ID(S):
238275-3-52-01

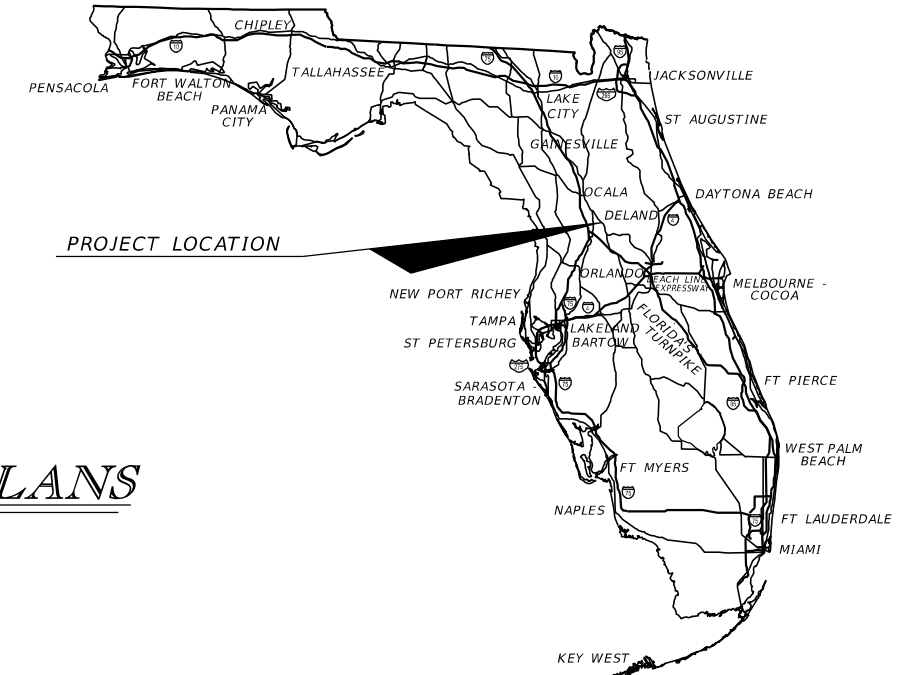
CONTRACT PLANS

FINANCIAL PROJECT ID 238275-2-52-01

LAKE COUNTY (11130)

STATE ROAD NO. 46

INTELLIGENT TRANSPORTATION SYSTEMS PLANS



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KEY SHEET REVISIONS	
DATE	DESCRIPTION
08/18/17	ADDED SHEET IT-2A

INTELLIGENT TRANSPORTATION
SYSTEMS PLANS

ENGINEER OF RECORD:

MICHAEL J. NOESEN, P.E.
P.E. NO.: 42255
BES INC.
11007 N 56TH STREET, SUITE 208
TEMPLE TERRACE, FL 33617
TEL NO. (813) 985 7800
CONTRACT NO. C-9862
VENDOR NO. 20-0242028
CERTIFICATE OF AUTHORIZATION NO. 9835

FDOT PROJECT MANAGER:

CATALINA CHACON, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
T5589	17	IT-1

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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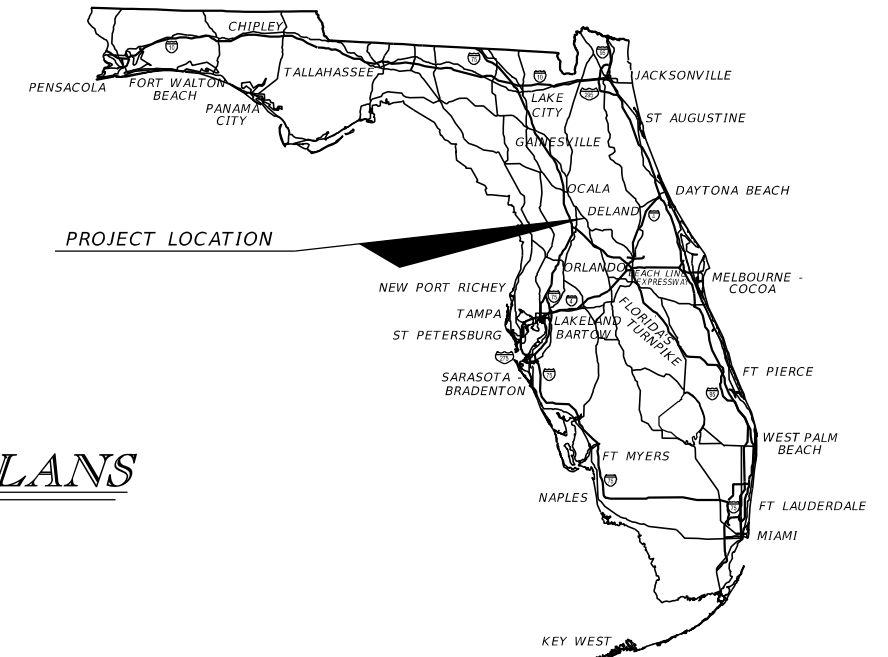
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INTELLIGENT TRANSPORTATION
SYSTEMS PLANS

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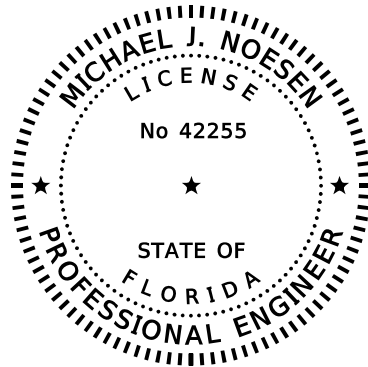
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11007 N 56TH STREET, SUITE 208
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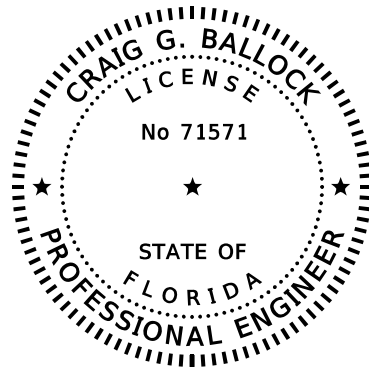
BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
CERTIFICATE OF AUTHORIZATION: 9835
MICHAEL J. NOESEN, P.E. No. 42255

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004. F.A.C.

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IT-48 TO IT-50	WIRING DIAGRAMS



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GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS, INC.
919 LAKE BALDWIN LANE
ORLANDO, FLORIDA 32814
CERTIFICATE OF AUTHORIZATION: 5882
CRAIG G. BALLOCK, P.E. No. 71571

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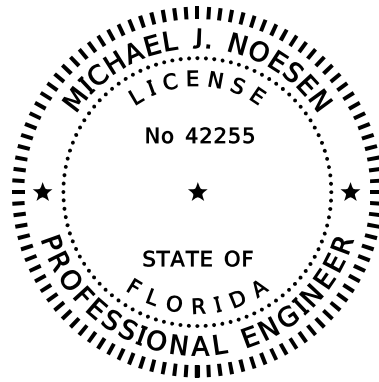
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IT-2	SIGNATURE SHEET
IT-51	REPORT OF SPT BORING RESULTS FOR CCTV POLES

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. IT-2
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 46	LAKE	238275-2-52-01	

SIGNATURE SHEET




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 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
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 MICHAEL J. NOESEN, P.E. No. 42255

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IT-13	ITS PLAN

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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		IT-2A
08/18/17	JLC  ADDED SHEET				SR 46	LAKE	238275-2-52-01		

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																				TOTAL THIS SHEET		GRAND TOTAL		REF SHT
			IT-8		IT-9		IT-10		IT-11		IT-12		IT-13		IT-14		IT-15		IT-16		IT-17		PLAN	FINAL	PLAN	FINAL	
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
630-2-11	CONDUIT, FURNISH & INSTALL, OPEN, OPEN TRENCH	LF	690		1400		640		700		710		820		700		700		700		700		7760				
633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND, 2-12 FIBERS	LF			45		20						195										260				
633-1-123	FIBER OPTIC CABLE, F&I, UNDERGROUND, 49-96 FIBERS	LF	940		1290		690		750		810		750		750		750		750		750		8230				
633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA			168		12						12										192				
633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERMINATION	EA	72																				72				
633-3-11	FIBER OPTIC CONNECTION, INSTALL, SPLICE ENCLOSURE	EA	1		3		1						1										6				
633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICETRAY	EA	1		3		1						1										6				
633-3-15	FIBER OPTIC CONNECT, HARDWARE, F&I, PRETERM PATCH PANEL	EA			2		1						1										4				
635-2-11	PULL & SPLICE BOX, F&I, 13"x24" COVER SIZE	EA			5		1																8				
635-2-13	PULL & SPLICE BOX, F&I, 36" ROUND COVER SIZE	EA	2		3		1		1		2		2		1		1		1				14				
639-1-121	ELEC PWR SERVICE, F&I, UG, METER, FURN BY POWER CO	AS			1										1								2				
639-2-1	ELECTRICAL SERVICE WIRE, F&I	LF			1875		1170								60								3405				
639-3-12	ELECTRICAL SERVICE DISCONNECT, F&I, CABINET	EA			1		1																3				
641-2-12	PRESTRESSED CONC POLE, F&I, TYPE P-II, SERVICE POLE	EA			1																		2				
641-2-13	PRESTRESSED CONC POLE, F&I, TYPE P-III	EA					1																1				
641-3-163	CONCRETE CCTV POLE, F&I, WITH LOWERING DEVICE, 63'	EA													1								1				
641-3-175	CONCRETE CCTV POLE, F&I, WITH LOWERING DEVICE, 75'	EA			1																		1				
660-3-11	VEH DET SYSTEM-MICROWAVE, F&I, CABINET EQUIPMENT	EA													1								2				
660-3-12	VEH DET SYSTEM-MICROWAVE, F&I, ABOVE GRD EQUIP	EA					1								1								2				
676-2-111	ITS FIELD CAB, F&I, POLE MOUNT, 336, 24"WX36"HX20"D	EA			1		1								1								3				
682-1-113	ITS CCTV CAM, F&I, DOME ENCLOS, PRESSURIZED, IP, HD	EA			1										1								2				
684-1-1	MANAGED FIELD ETHERNET SWITCH, F&I	EA			1		1								1								3				
684-2-1	DEVICE SERVER, F&I	EA			2		1								1								4				
684-3-11	DIGITAL VIDEO ENCODER W/ SOFTWARE DECODER, F&I	EA			1										1								2				
685-1-11	UNINTERRUPTIBLE POWER SUPPLY, F&I, LINE INTERACTIVE	EA			1		1								1								3				

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<table border="1"> <thead> <tr> <th colspan="4">REVISIONS</th> </tr> <tr> <th>DATE</th> <th>DESCRIPTION</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				REVISIONS				DATE	DESCRIPTION	DATE	DESCRIPTION					BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 MICHAEL J. NOESEN, P.E. NO. 42255		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION <table border="1"> <tr> <th>ROAD NO.</th> <th>COUNTY</th> <th>FINANCIAL PROJECT ID</th> </tr> <tr> <td>SR 46</td> <td>LAKE</td> <td>238275-2-52-01</td> </tr> </table>			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SR 46	LAKE	238275-2-52-01	TABULATION OF QUANTITIES				SHEET NO. IT-3
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			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
630-2-11	CONDUIT,FURNISH & INSTALL,OPEN, OPEN TRENCH	LF	690		1400		640		700		710		820		700		700		700		700		7760				
633-1-121	FIBER OPTIC CABLE,F&I,UNDERGROUND,2-12 FIBERS	LF			45		20						195										260				
633-1-123	FIBER OPTIC CABLE,F&I,UNDERGROUND,49-96 FIBERS	LF	940		1290		690		750		810		750		750		750		750		750		8230				
633-2-31	FIBER OPTIC CONNECTION,INSTALL,SPLICE	EA			168		12						12										192				
633-2-32	FIBER OPTIC CONNECTION,INSTALL, TERMINATION	EA	72																				72				
633-3-11	FIBER OPTIC CONNECTION,INSTALL,SPLICE ENCLOSURE	EA	1		3		1						1										6				
633-3-12	FIBER OPTIC CONNECTION HARDWARE,F&I,SPLICETRAY	EA	1		3		1						1										6				
633-3-15	FIBER OPTIC CONNECT, HARDWARE, F&I, PRETERM PATCH PANEL	EA			2		1						1										4				
635-2-11	PULL & SPLICE BOX,F&I,13"x24"COVER SIZE	EA			5		1						2										8				
635-2-13	PULL & SPLICE BOX, F&I, 36" ROUND COVER SIZE	EA	2		3		1		1		2		2		1		1		1		1		14				
639-1-121	ELEC PWR SERVICE,F&I,UG,METER, FURN BY POWER CO	AS			1								1										2				
639-2-1	ELECTRICAL SERVICE WIRE, F&I	LF	3		625		1875		390		1170		3		360		120		3		3405		1135				
639-3-12	ELECTRICAL SERVICE DISCONNECT,F&I,CABINET	EA			1		1						1										3				
641-2-12	PRESTRESSED CONC POLE,F&I,TYPE P-II, SERVICE POLE	EA			1								1										2				
641-2-13	PRESTRESSED CONC POLE,F&I,TYPE P-III	EA					1																1				
641-3-163	CONCRETE CCTV POLE,F&I,WITH LOWERING DEVICE, 63'	EA											1										1				
641-3-175	CONCRETE CCTV POLE,F&I,WITH LOWERING DEVICE, 75'	EA			1																		1				
660-3-11	VEH DET SYSTEM-MICROWAVE,F&I, CABINET EQUIPMENT	EA					1						1										2				
660-3-12	VEH DET SYSTEM-MICROWAVE, F&I, ABOVE GRD EQUIP	EA					1						1										2				
676-2-111	ITS FIELD CAB,F&I,POLE MOUNT,336, 24"WX36"HX20"D	EA			1		1						1										3				
682-1-113	ITS CCTV CAM,F&I,DOME ENCLOS,PRESSURIZED,IP,HD	EA			1								1										2				
684-1-1	MANAGED FIELD ETHERNET SWITCH, F& I	EA			1		1						1										3				
684-2-1	DEVICE SERVER, F&I	EA			2		1						1										4				
684-3-11	DIGITAL VIDEO ENCODER W/ SOFTWARE DECODER, F&I	EA			1								1										2				
685-1-11	UNINTERRUPTIBLE POWER SUPPLY, F&I, LINE INTERACTIVE	EA			1		1						1										3				

REVISIONS DATE DESCRIPTION DATE DESCRIPTION				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TABULATION OF QUANTITIES	SHEET NO. IT-3
08/18/17	JLC 3	REVISED QUANTITIES FOR 639-2-1			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				SR 46	LAKE	238275-2-52-01			

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630-2-11	CONDUIT,FURNISH & INSTALL,OPEN, OPEN TRENCH	LF	650		680		660		760		700		700		315							4465	12225				
633-1-121	FIBER OPTIC CABLE,F&I,UNDERGROUND,2-12 FIBERS	LF																				0	260				
633-1-123	FIBER OPTIC CABLE,F&I,UNDERGROUND,49-96 FIBERS	LF	650		730		710		860		750		750		365							4815	13045				
633-2-31	FIBER OPTIC CONNECTION,INSTALL,SPLICE	EA																				0	192				
633-2-32	FIBER OPTIC CONNECTION,INSTALL, TERMINATION	EA	72												72							144	216				
633-3-11	FIBER OPTIC CONNECTION,INSTALL,SPLICE ENCLOSURE	EA	1												1							2	8				
633-3-12	FIBER OPTIC CONNECTION HARDWARE,F&I,SPLICETRAY	EA	1												1							2	8				
633-3-15	FIBER OPTIC CONNECT, HARDWARE, F&I, PRETERM PATCH PANEL	EA																				0	4				
635-2-11	PULL & SPLICE BOX,F&I,13"x24"COVER SIZE	EA																				0	8				
635-2-13	PULL & SPLICE BOX, F&I, 36" ROUND COVER SIZE	EA	1		1		1		2		1		1		1							8	22				
639-1-121	ELEC PWR SERVICE,F&I,UG,METER, FURN BY POWER CO	AS																				0	2				
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676-2-111	ITS FIELD CAB,F&I,POLE MOUNT,336, 24"WX36"HX20"D	EA																				0	3				
682-1-113	ITS CCTV CAM,F&I,DOME ENCLOS,PRESSURIZED,IP,HD	EA																				0	2				
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SR 46	LAKE	238275-2-52-01																													

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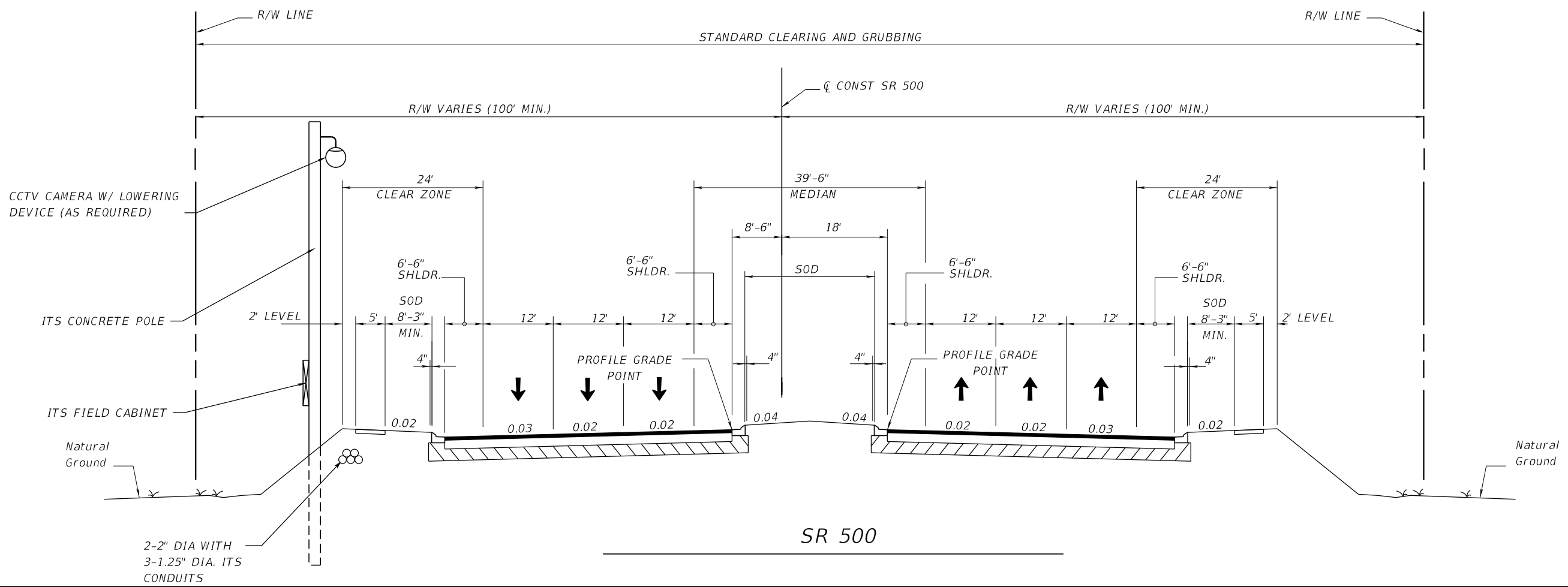
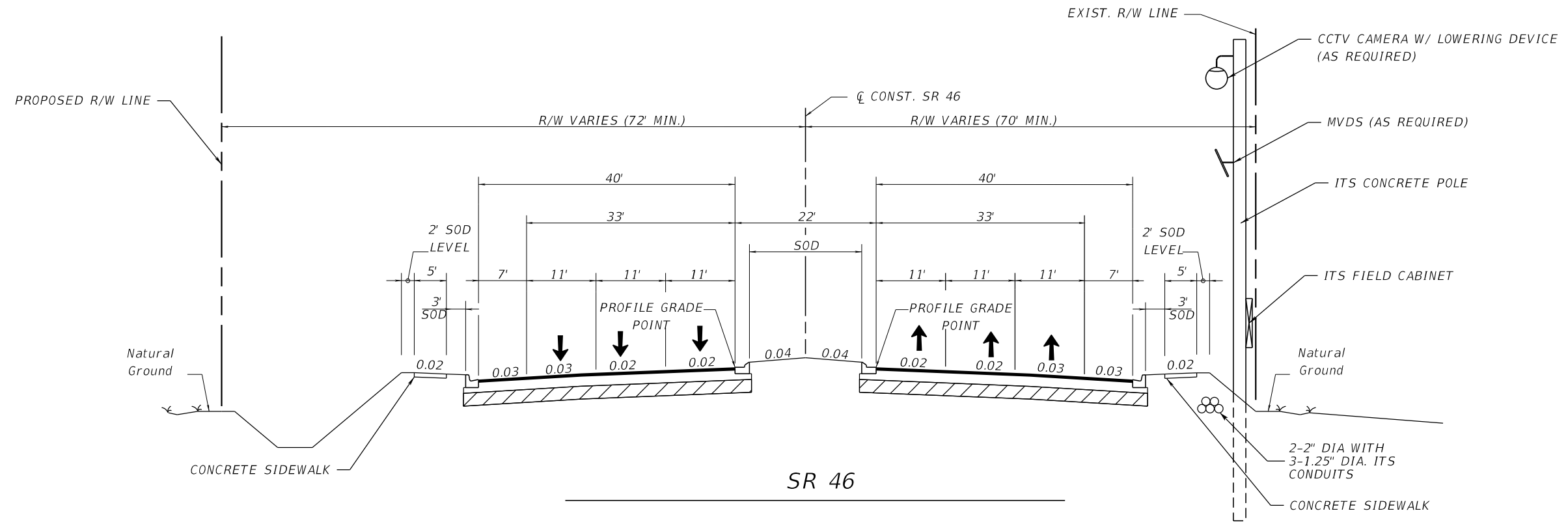
TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS																				TOTAL THIS SHEET		GRAND TOTAL		REF SHEET
			IT-18		IT-19		IT-20		IT-21		IT-22		IT-23		IT-24												
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL			
630-2-11	CONDUIT,FURNISH & INSTALL,OPEN, OPEN TRENCH	LF	650		680		660		760		700		700		315								4465		12225		
633-1-121	FIBER OPTIC CABLE,F&I,UNDERGROUND,2-12 FIBERS	LF																					0		260		
633-1-123	FIBER OPTIC CABLE,F&I,UNDERGROUND,49-96 FIBERS	LF	650		730		710		860		750		750		365								4815		13045		
633-2-31	FIBER OPTIC CONNECTION,INSTALL,SPLICE	EA																					0		192		
633-2-32	FIBER OPTIC CONNECTION,INSTALL, TERMINATION	EA	72												72								144		216		
633-3-11	FIBER OPTIC CONNECTION,INSTALL,SPLICE ENCLOSURE	EA	1												1								2		8		
633-3-12	FIBER OPTIC CONNECTION HARDWARE,F&I,SPLICETRAY	EA	1												1								2		8		
633-3-15	FIBER OPTIC CONNECT, HARDWARE, F&I, PRETERM PATCH PANEL	EA																					0		4		
635-2-11	PULL & SPLICE BOX,F&I,13"x24"COVER SIZE	EA																					0		8		
635-2-13	PULL & SPLICE BOX, F&I, 36" ROUND COVER SIZE	EA	1		1		1		2		1		1		1								8		22		
639-1-121	ELEC PWR SERVICE,F&I,UG,METER, FURN BY POWER CO	AS																					0		2		
639-2-1	ELECTRICAL SERVICE WIRE, F&I	LF																					0		3405	1135	
639-3-12	ELECTRICAL SERVICE DISCONNECT,F&I,CABINET	EA																					0		3		
641-2-12	PRESTRESSED CONC POLE,F&I,TYPE P-II, SERVICE POLE	EA																					0		2		
641-2-13	PRESTRESSED CONC POLE,F&I,TYPE P-III	EA																					0		1		
641-3-163	CONCRETE CCTV POLE,F&I,WITH LOWERING DEVICE, 63'	EA																					0		1		
641-3-175	CONCRETE CCTV POLE,F&I,WITH LOWERING DEVICE, 75'	EA																					0		1		
660-3-11	VEH DET SYSTEM-MICROWAVE,F&I, CABINET EQUIPMENT	EA																					0		2		
660-3-12	VEH DET SYSTEM-MICROWAVE, F&I, ABOVE GRD EQUIP	EA																					0		2		
676-2-111	ITS FIELD CAB,F&I,POLE MOUNT,336, 24"WX36"HX20"D	EA																					0		3		
682-1-113	ITS CCTV CAM,F&I,DOME ENCLOS,PRESSURIZED,1P,HD	EA																					0		2		
684-1-1	MANAGED FIELD ETHERNET SWITCH, F& I	EA																					0		3		
684-2-1	DEVICE SERVER, F&I	EA																					0		4		
684-3-11	DIGITAL VIDEO ENCODER W/ SOFTWARE DECODER, F&I	EA																					0		2		
685-1-11	UNINTERRUPTIBLE POWER SUPPLY, F&I, LINE INTERACTIVE	EA																					0		3		

3
3405 1135

REVISIONS DATE DESCRIPTION DATE DESCRIPTION				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TABULATION OF QUANTITIES	SHEET NO. IT-4
08/18/17	JLC	3	REVISED QUANTITIES FOR 639-2-1		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				SR 46	LAKE	238275-2-52-01			

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

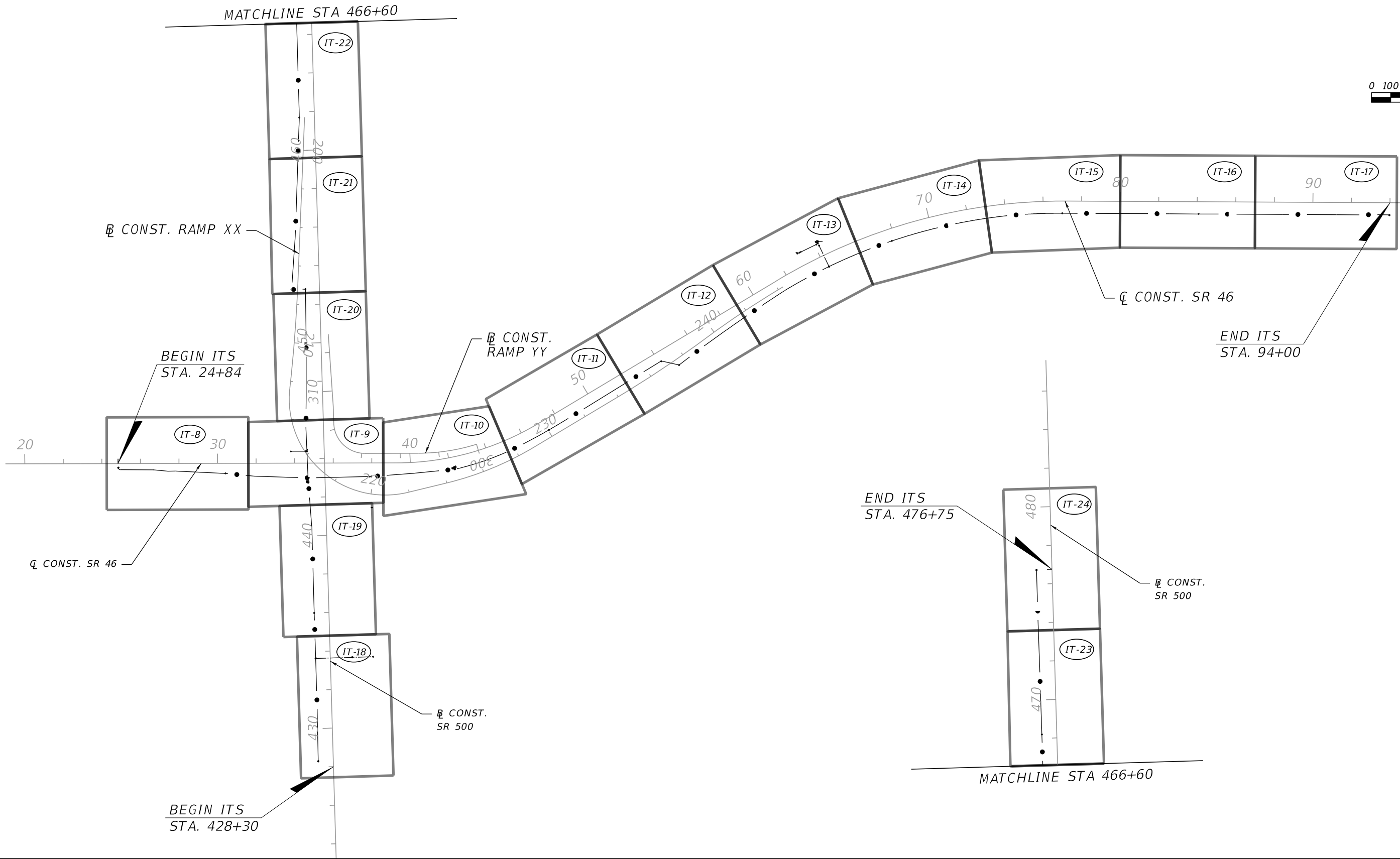
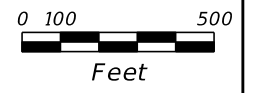
BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
 (813) 985-7800 C.A. NO. 9835
 MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

TYPICAL ITS SECTION

SHEET NO.
IT-5

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
 (813) 985-7800 C.A. NO. 9835
 MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS PROJECT LAYOUT

SHEET NO.
IT-6

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GENERAL NOTES
=====


- COORDINATE DESIGN AND CONSTRUCTION ACTIVITIES AND SCHEDULES WITH ON-GOING OR FUTURE PROJECTS IN THE VICINITY OF THE PROJECT LIMITS. OBTAIN REQUIRED PERMITS AND APPROVAL OF THE CONTRACT ITS PLANS PRIOR TO COMMENCING WORK.
- NOTIFY FDOT DISTRICT 5 ITS AT LEAST 72 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- EXISTING UTILITIES (IF ANY) SHOWN ON PLANS ARE FOR INFORMATION PURPOSES ONLY. VERIFY THE VERTICAL AND HORIZONTAL (VVH) PRESENCE OF ANY EXISTING UTILITIES, PRIOR TO UNDERGROUND OR DIRECTIONAL BORING OF CONDUIT INSTALLATIONS.
- THE LOCATION OF PROPOSED POLE, FOUNDATION, CONDUIT AND PULL BOXES SHOWN IN THESE PLANS IS APPROXIMATE. THEIR LOCATION MAY BE CHANGED TO AVOID CONFLICTS WITH EXISTING /PROPOSED UTILITIES, DRAINAGE STRUCTURES, TREES, SIGNS AND EXISTING CONDUIT. NO PULL BOXES OF ANY TYPE SHALL BE INSTALLED IN DRAINAGE SWALES, DITCHES OR PAVED SHOULDERS.
- INSTALL ONE 2" CONDUIT FOR ELECTRICAL SERVICE WIRES FOR POWER, BETWEEN THE UTILITY POLE AND ITS POLE DISCONNECT.
- COORDINATE WITH DUKE ENERGY PRIOR TO ANY CONSTRUCTION WITHIN 20 FEET OF ENERGIZED ELECTRICAL CONDUCTORS. ALL PRECAUTIONARY MEASURES AND EXTREME CAUTION SHALL BE EXERCISED AROUND HIGH VOLTAGE AREAS.
- ALL CONDUIT TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSING BY THE END OF EACH WORKING DAY OR WHEN THE WORK ZONE BECOMES INACTIVE.
- ALL SPARE CONDUITS (IF ANY) SHALL BE CAPPED USING PLUGS/ CONDUIT CAPS TO AVOID ENTRY OF DUST, DIRT OR MOISTURE.
- WORK SHALL INCLUDE THE FURNISH AND INSTALL OF A UPS. THE UPS AT EACH MICROWAVE TOWER SITE REQUIRES A 120V, NEMA L5-20P TWIST-LOCK PLUG. ("L"-LOCKABLE, "P"- PLUG).

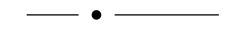
PAY ITEM NOTES
=====

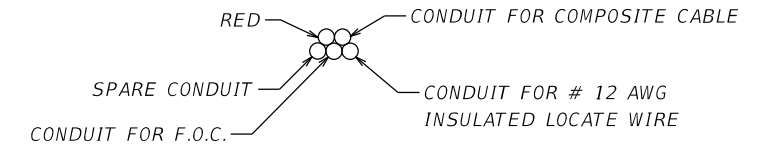
- PAY ITEM NUMBER 633-3-123: THE QUANTITIES INCLUDE 200 FT OF COILED SLACK INSIDE EACH SPLICE BOX AND 50 FT INSIDE EACH FIBER OPTIC PULL BOX.

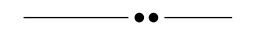
LEGEND

-  CCTV CAMERA
-  MICROWAVE VIDEO DETECTION SYSTEM
-  SPLICE BOX (36" DIA)
-  FO PULL BOX (36" DIA)
-  POWER PULL BOX (13"X24")
-  ITS FIELD CABINET
-  POWER SERVICE POLE
-  CONCRETE ITS POLE

 SCHEDULE 40 PVC DIRECTIONAL BORE CONDUIT WITH FOC CABLES INSIDE (AS SHOWN ON THE PLAN SHEETS).

 2- 2" HDPE CONDUITS WITH 3-1.25" HDPE CONDUITS RED FOR POWER (WITH SEPARATE PULL BOXES)

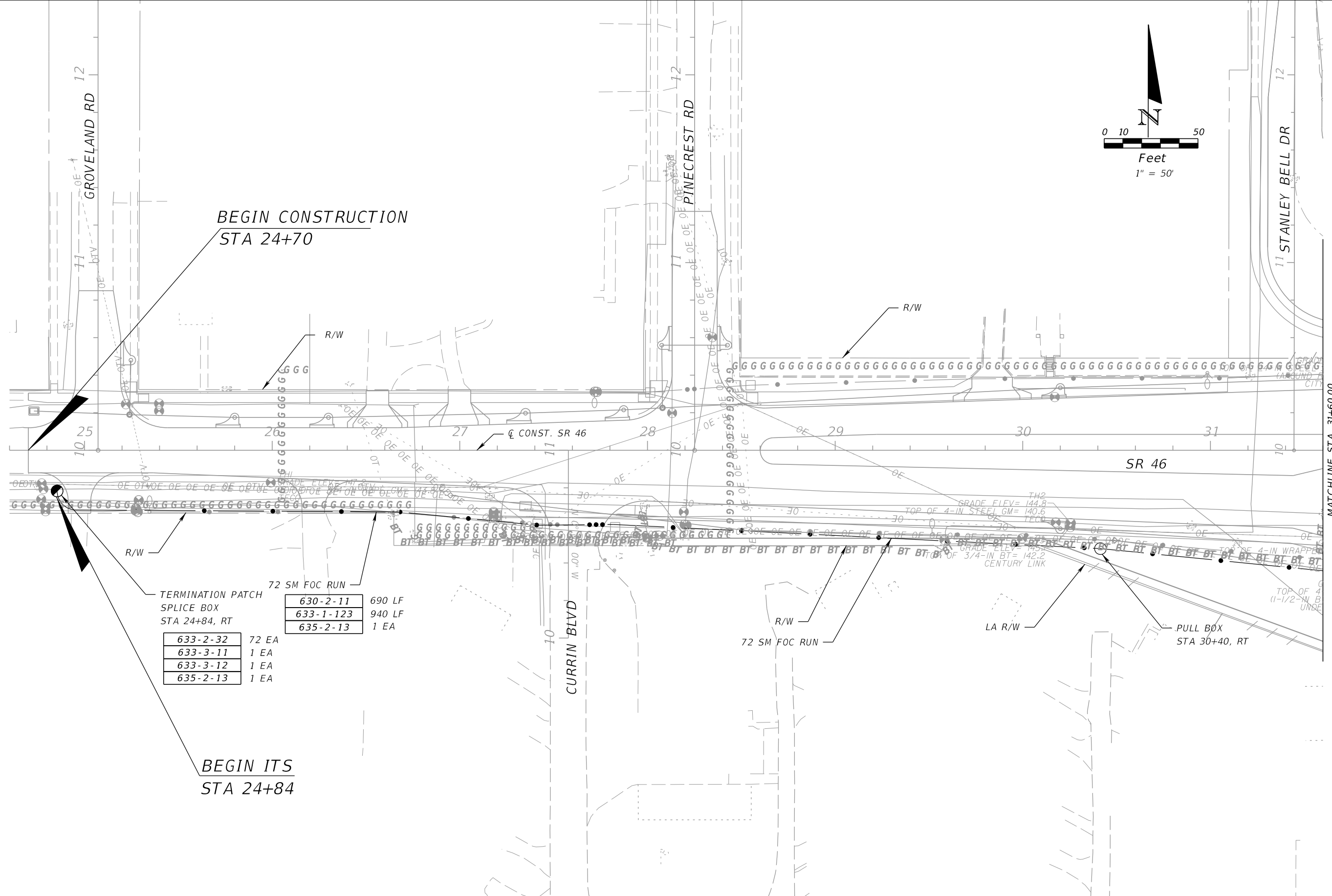
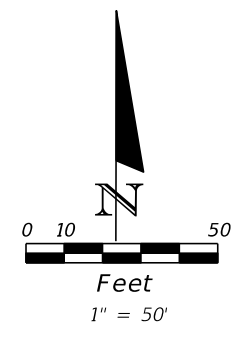


 3 #8 AWG MINIMUM SIZE CONDUCTORS FOR ITS DEVICE POWER AND GROUND INSIDE RED CONDUIT.

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. IT-7
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 46	LAKE	238275-2-52-01	

GENERAL NOTES

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BEGIN CONSTRUCTION
STA 24+70

633-2-32	72 EA
633-3-11	1 EA
633-3-12	1 EA
635-2-13	1 EA

630-2-11	690 LF
633-1-123	940 LF
635-2-13	1 EA

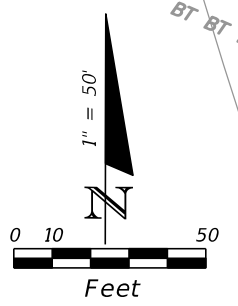
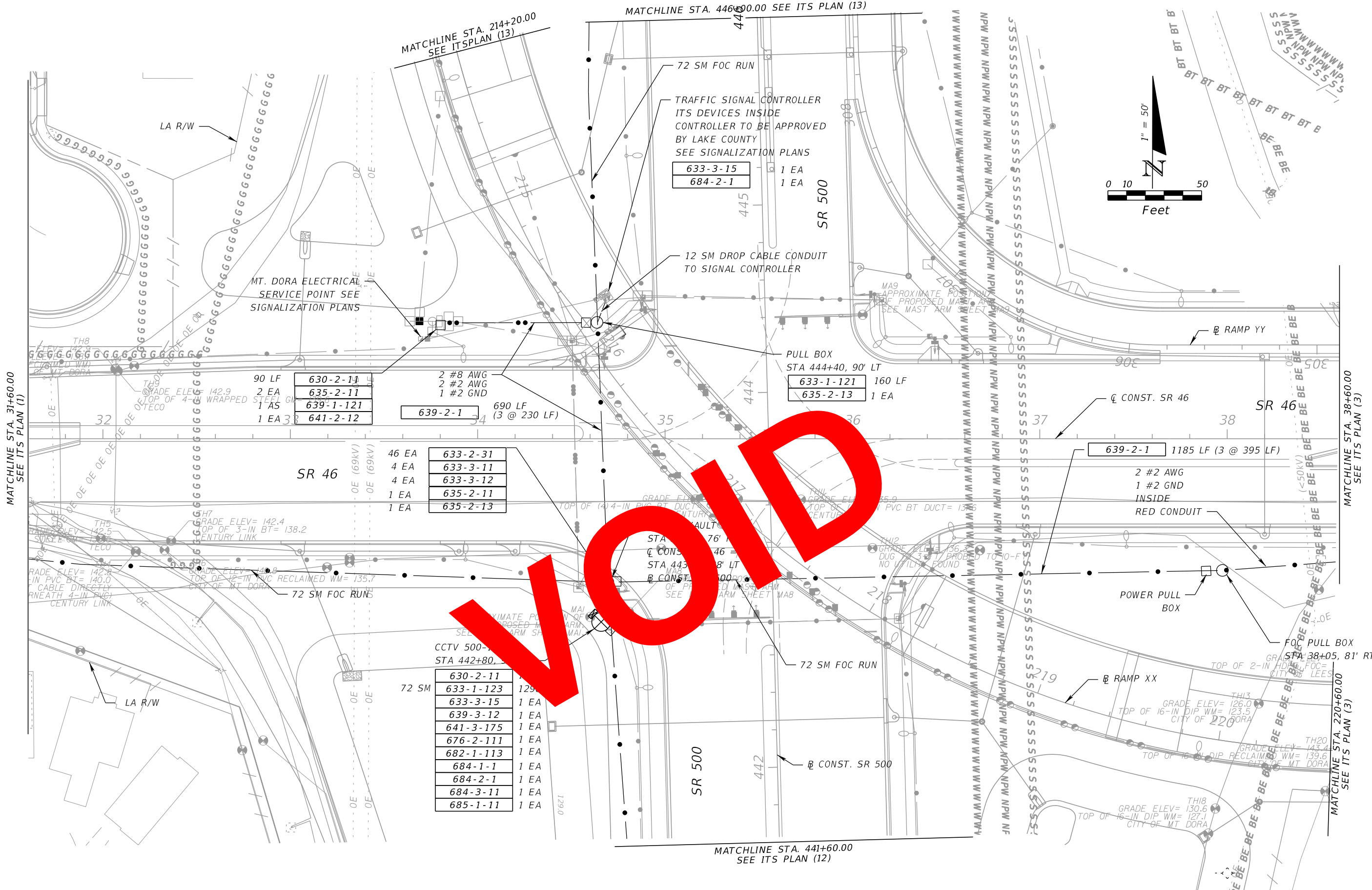
BEGIN ITS
STA 24+84

MATCHLINE STA. 31+60.00
SEE ITS PLAN (2)

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. IT-8
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 46	LAKE	238275-2-52-01	

ITS PLAN (1)

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VOID

MATCHLINE STA. 31+60.00
SEE ITS PLAN (1)

MATCHLINE STA. 38+60.00
SEE ITS PLAN (3)

MATCHLINE STA. 220+60.00
SEE ITS PLAN (3)

MATCHLINE STA. 214+20.00
SEE ITS PLAN (13)

MATCHLINE STA. 446+00.00 SEE ITS PLAN (13)

MATCHLINE STA. 441+60.00
SEE ITS PLAN (12)

630-2-11	1 EA
633-1-123	129 LF
633-3-15	1 EA
639-3-12	1 EA
641-3-175	1 EA
676-2-111	1 EA
682-1-113	1 EA
684-1-1	1 EA
684-2-1	1 EA
684-3-11	1 EA
685-1-11	1 EA

90 LF	630-2-11	2 #8 AWG
2 EA	635-2-11	2 #2 AWG
1 AS	639-1-121	1 #2 GND
1 EA	641-2-12	

46 EA	633-2-31
4 EA	633-3-11
4 EA	633-3-12
1 EA	635-2-11
1 EA	635-2-13

160 LF	633-1-121
1 EA	635-2-13

1185 LF (3 @ 395 LF)	639-2-1
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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

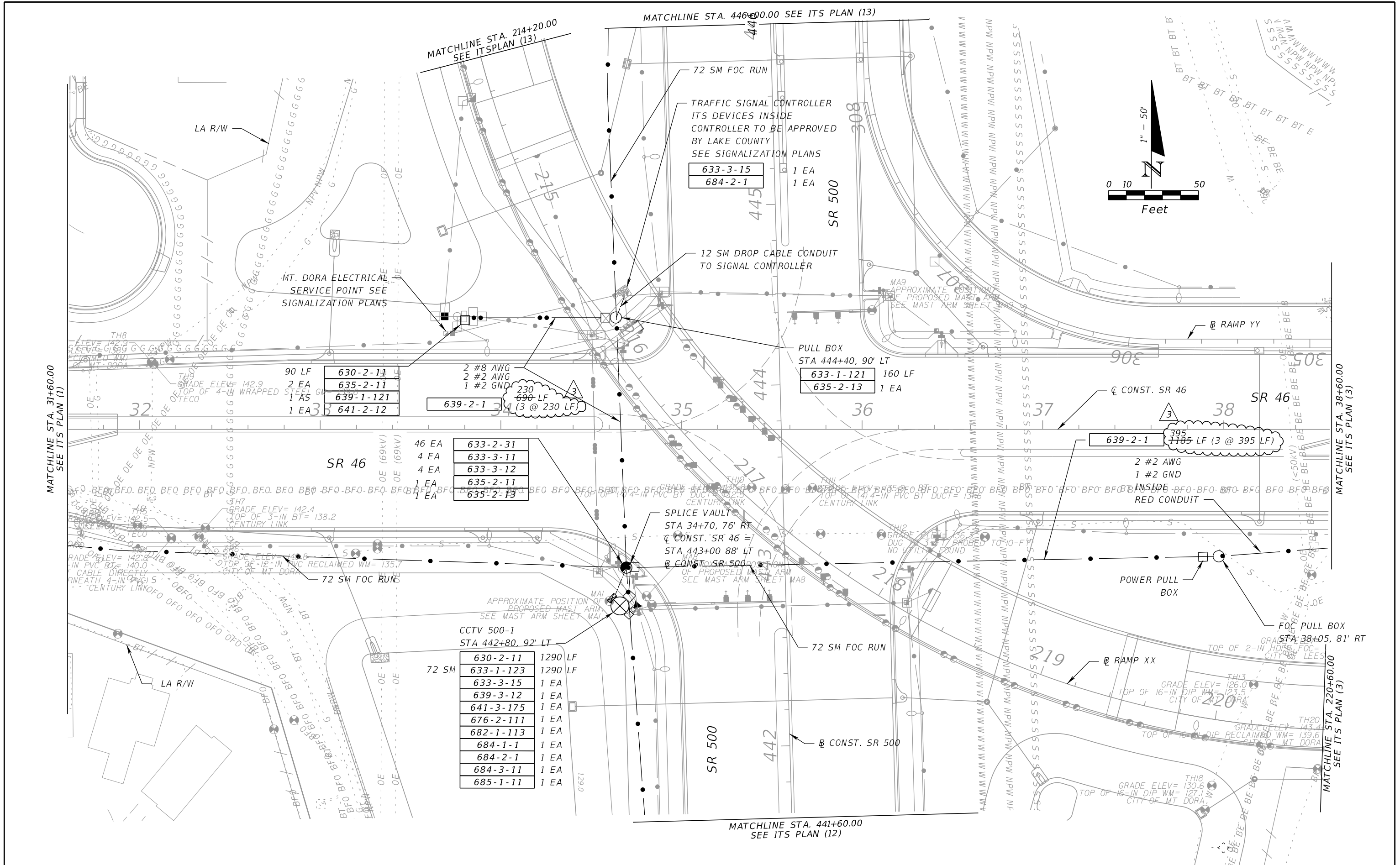
BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
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MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS PLAN (2)

SHEET NO.
IT-9

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
08/18/17	JLC 3 REVISED QUANTITIES FOR 639-2-1		

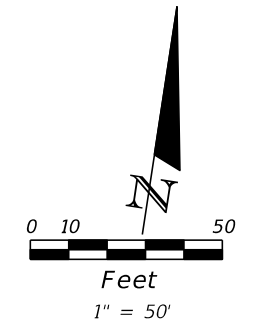
BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
 (813) 985-7800 C.A. NO. 9835
 MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

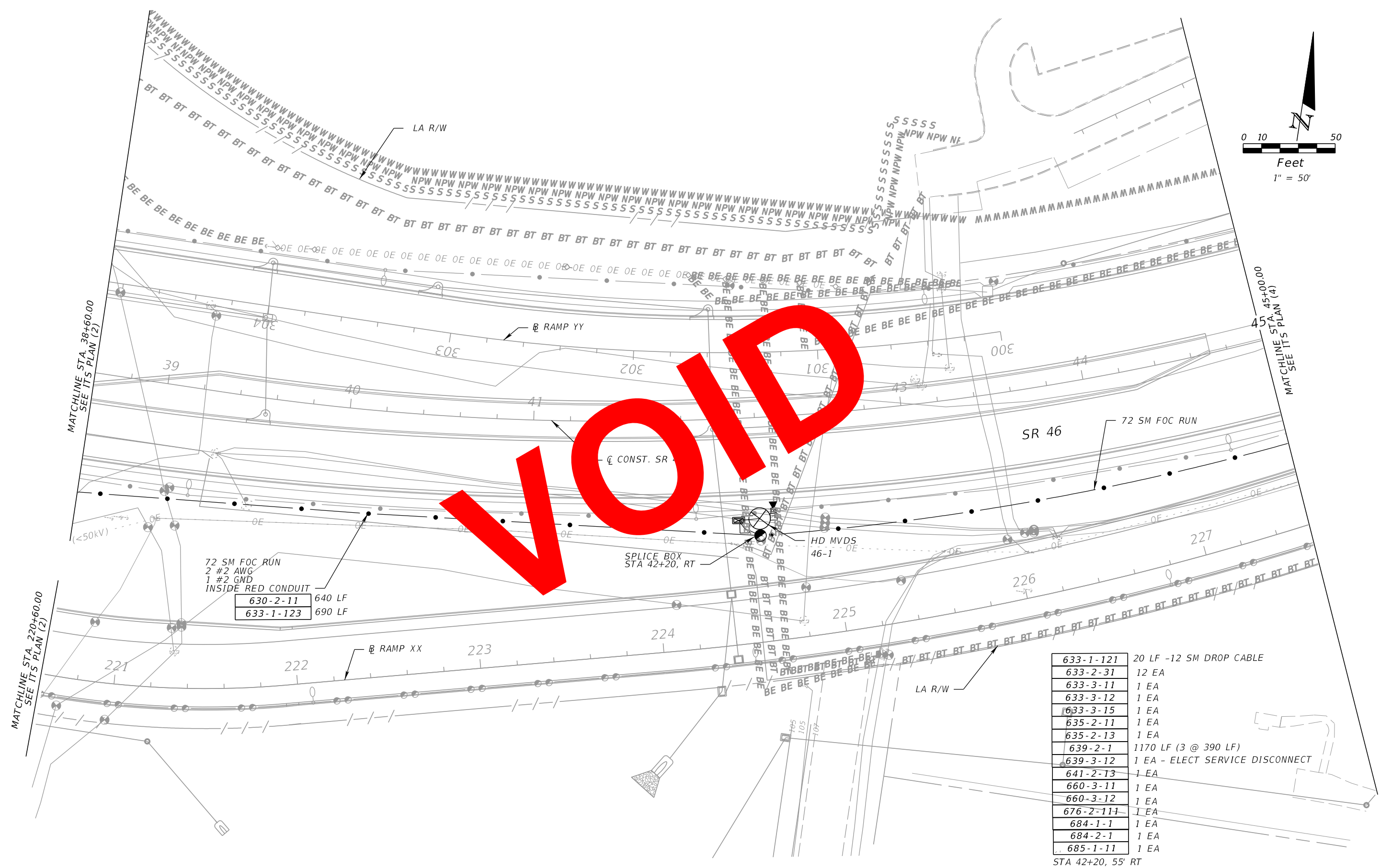
ITS PLAN (2)

SHEET NO.
 IT-9

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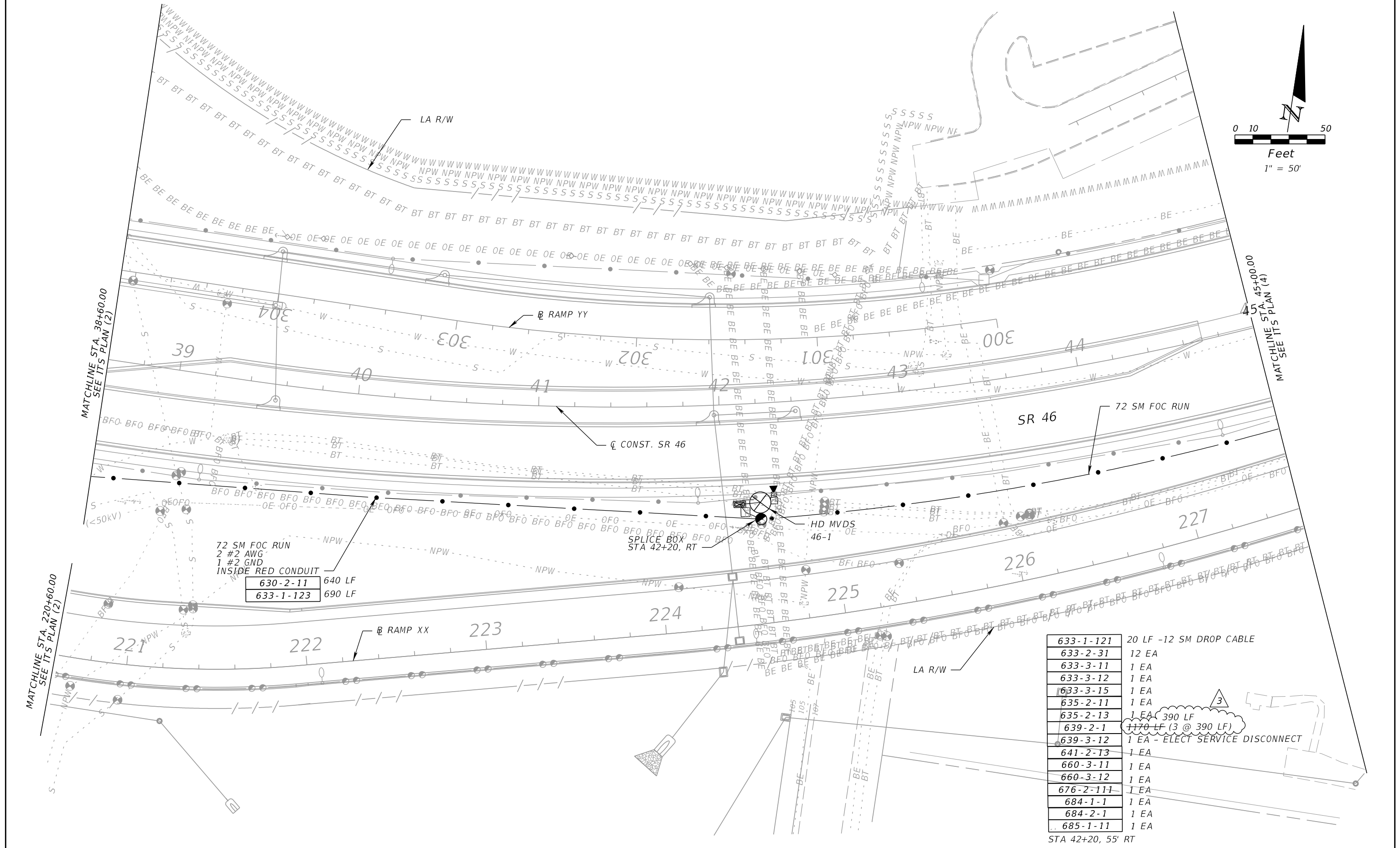
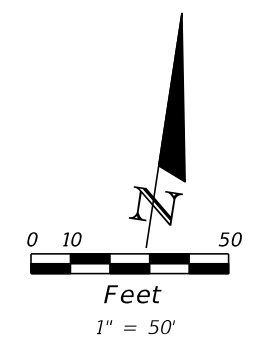
72 SM FOC RUN	2 #2 AWG	1 #2 GND	INSIDE RED CONDUIT
630-2-11	640 LF	633-1-123	690 LF

633-1-121	20 LF -12 SM DROP CABLE
633-2-31	12 EA
633-3-11	1 EA
633-3-12	1 EA
633-3-15	1 EA
635-2-11	1 EA
635-2-13	1 EA
639-2-1	1170 LF (3 @ 390 LF)
639-3-12	1 EA - ELECT SERVICE DISCONNECT
641-2-13	1 EA
660-3-11	1 EA
660-3-12	1 EA
676-2-111	1 EA
684-1-1	1 EA
684-2-1	1 EA
685-1-11	1 EA

STA 42+20, 55' RT

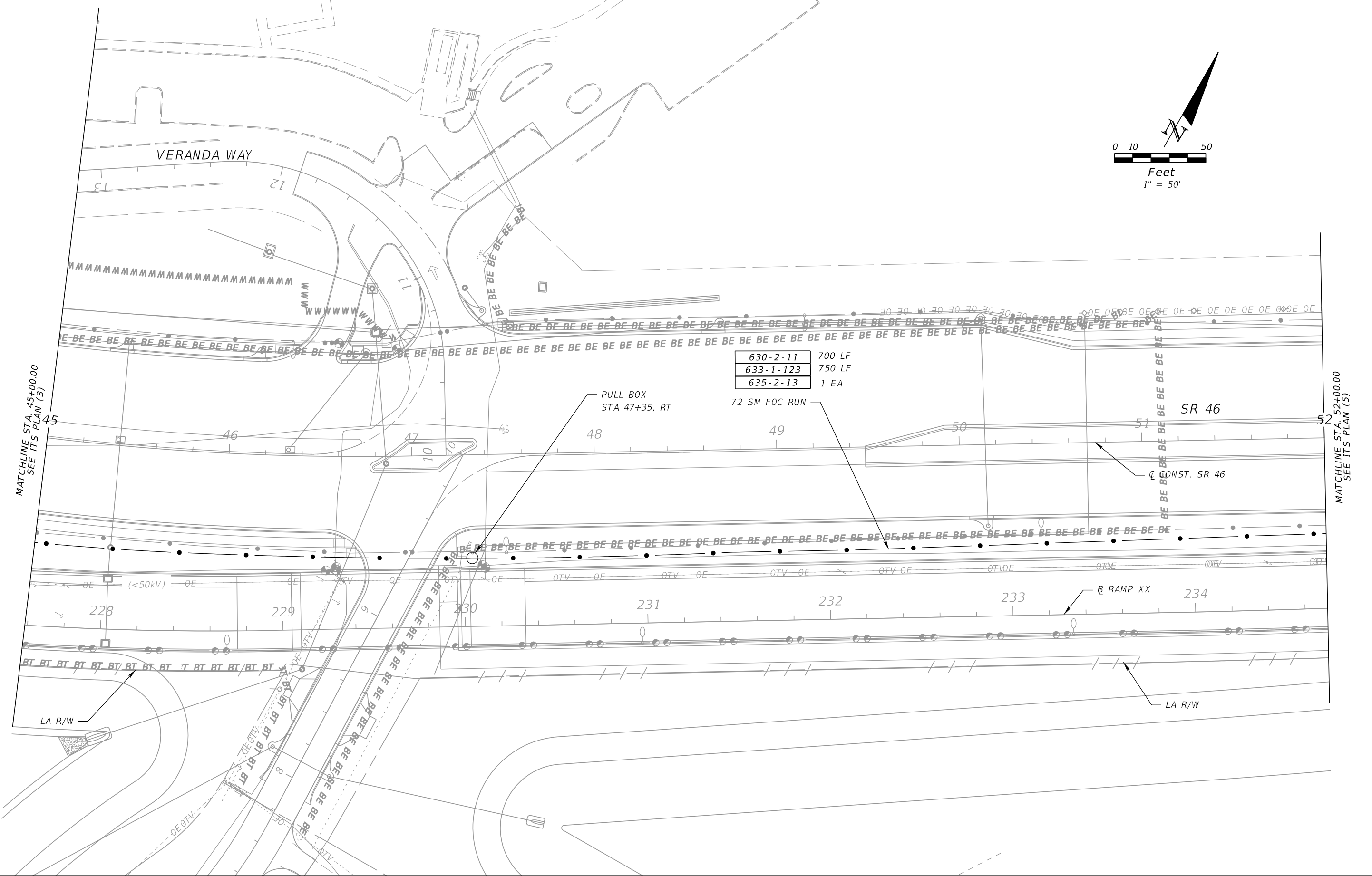
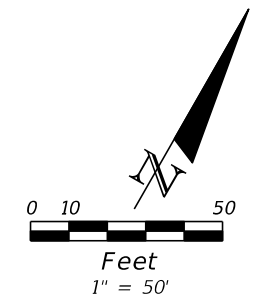
REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<i>ITS PLAN (3)</i>	SHEET NO. IT-10
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 46	LAKE	238275-2-52-01		

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DATE		REVISIONS		DESCRIPTION	DATE	DESCRIPTION	STATE OF FLORIDA			SHEET NO.
DESCRIPTION		DEPARTMENT OF TRANSPORTATION					ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
08/18/17	JLC	3	REVISED QUANTITIES FOR 639-2-1				SR 46	LAKE	238275-2-52-01	ITS PLAN (3)
				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800		C.A. NO. 9835				
				MICHAEL J. NOESEN, P.E. NO. 42255						

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MATCHLINE STA. 45+00.00
SEE ITS PLAN (3)

MATCHLINE STA. 52+00.00
SEE ITS PLAN (5)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

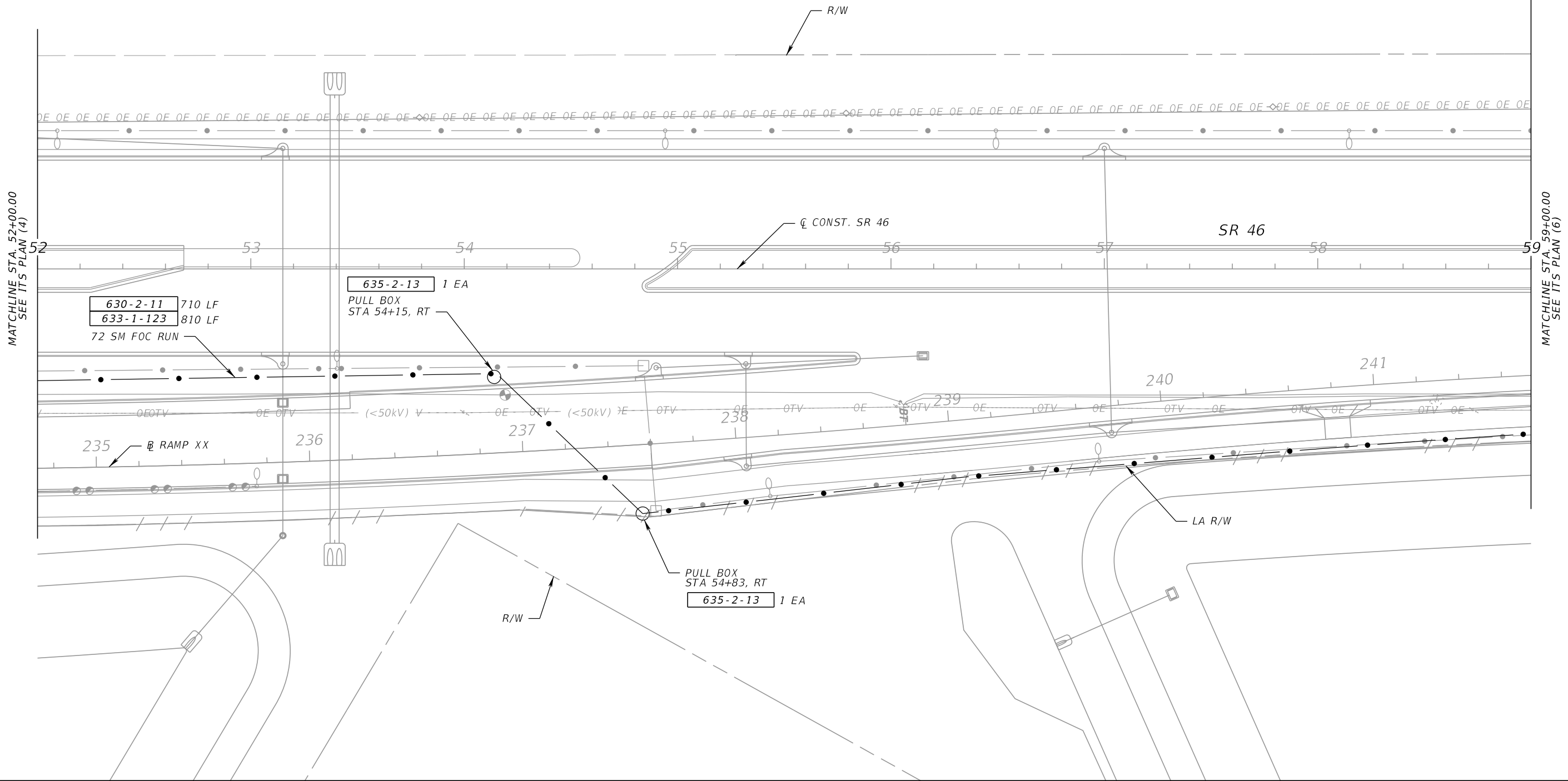
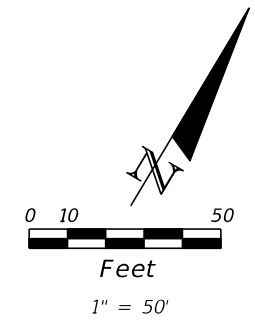
BES INC
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MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS PLAN (4)

SHEET NO.
IT-11

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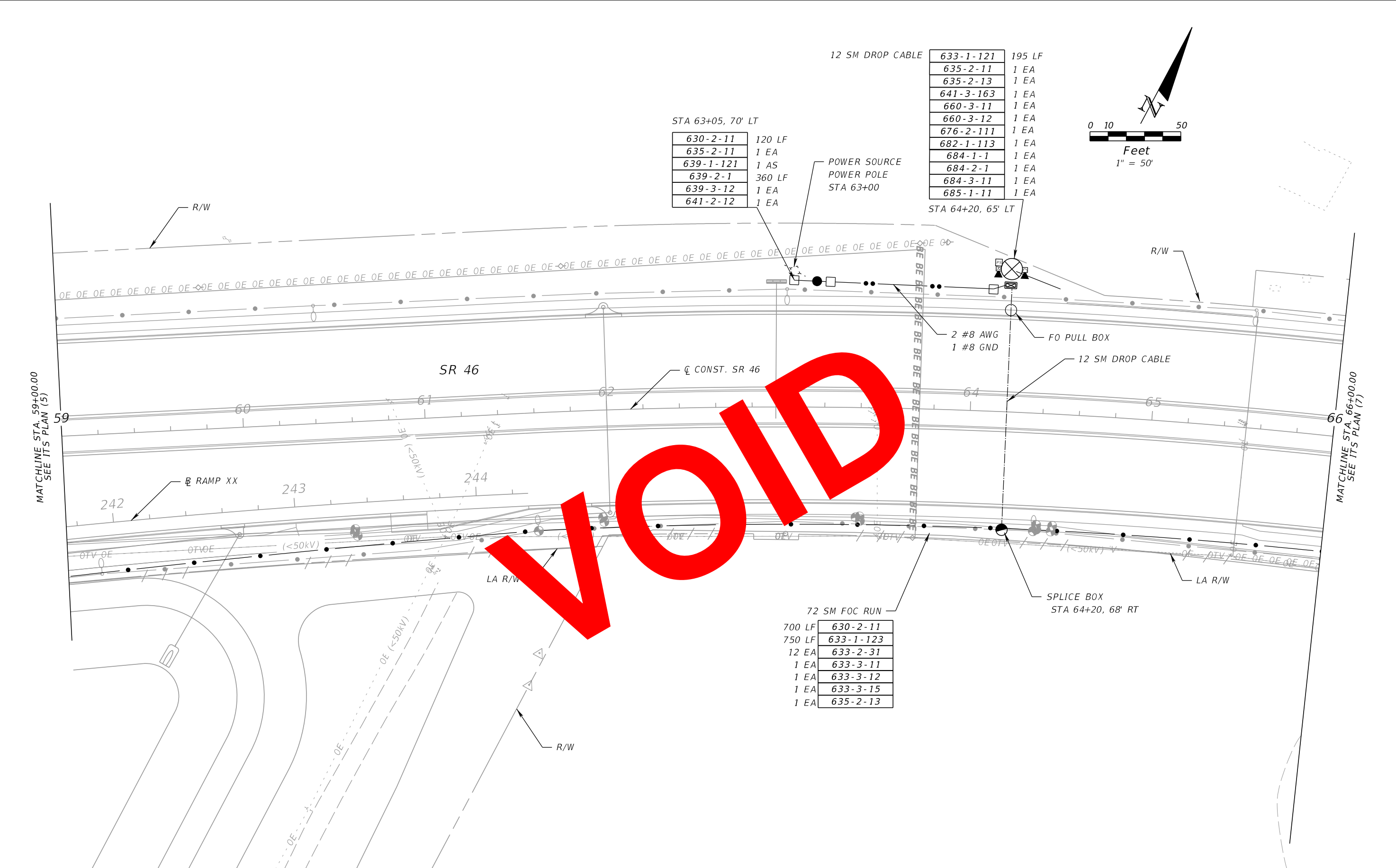
BES INC
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 MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS PLAN (5)

SHEET NO.
IT-12

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STA 63+05, 70' LT

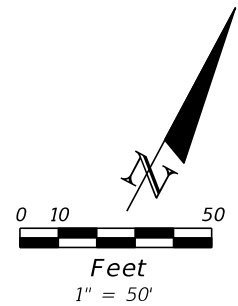
630-2-11	120 LF
635-2-11	1 EA
639-1-121	1 AS
639-2-1	360 LF
639-3-12	1 EA
641-2-12	1 EA

12 SM DROP CABLE

633-1-121	195 LF
635-2-11	1 EA
635-2-13	1 EA
641-3-163	1 EA
660-3-11	1 EA
660-3-12	1 EA
676-2-111	1 EA
682-1-113	1 EA
684-1-1	1 EA
684-2-1	1 EA
684-3-11	1 EA
685-1-11	1 EA

72 SM FOC RUN

700 LF	630-2-11
750 LF	633-1-123
12 EA	633-2-31
1 EA	633-3-11
1 EA	633-3-12
1 EA	633-3-15
1 EA	635-2-13



VOID

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

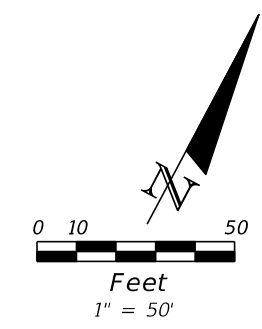
BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
 (813) 985-7800 C.A. NO. 9835
 MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS PLAN (6)

SHEET NO.
IT-13

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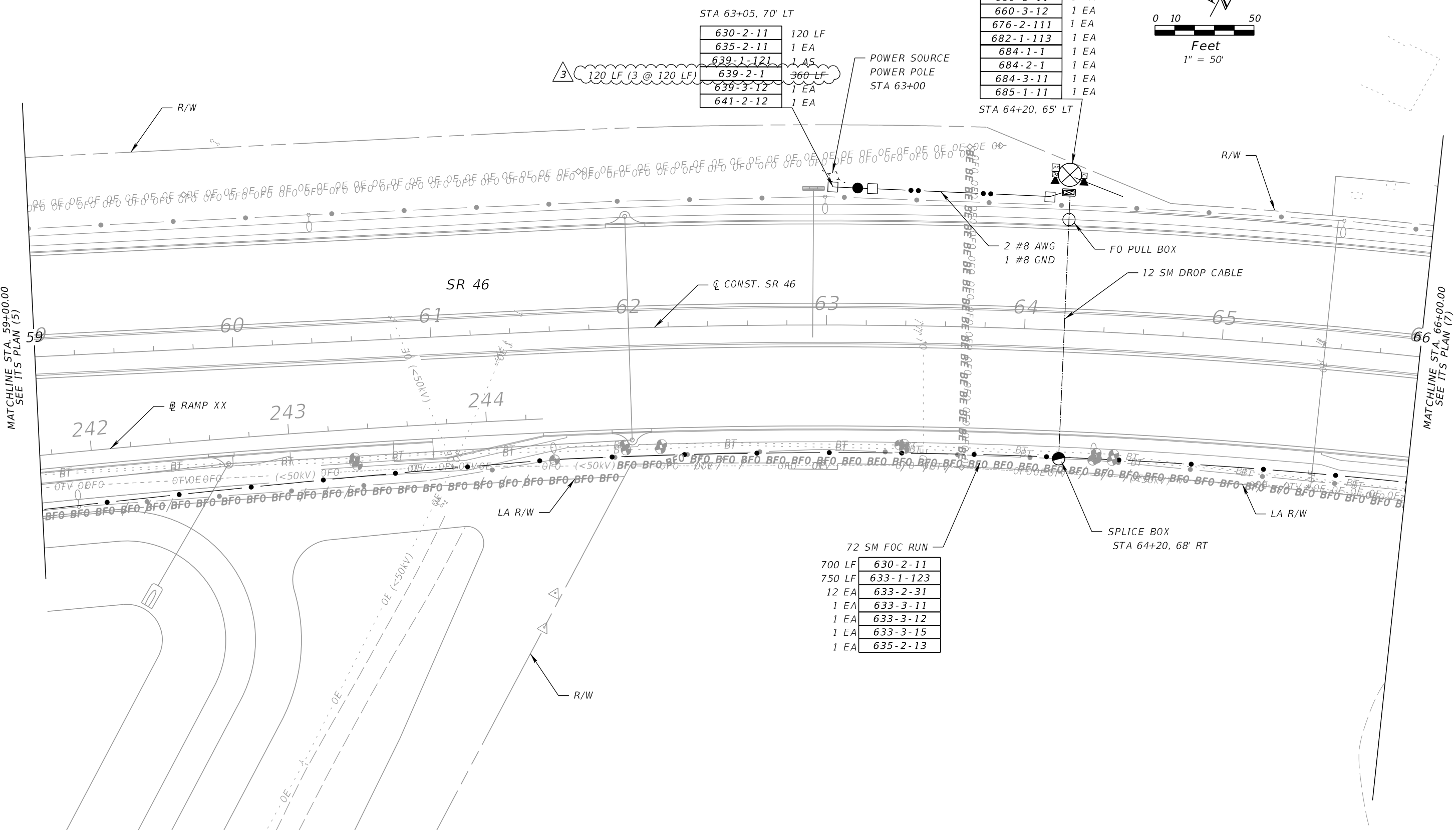


12 SM DROP CABLE

633-1-121	195 LF
635-2-11	1 EA
635-2-13	1 EA
641-3-163	1 EA
660-3-11	1 EA
660-3-12	1 EA
676-2-111	1 EA
682-1-113	1 EA
684-1-1	1 EA
684-2-1	1 EA
684-3-11	1 EA
685-1-11	1 EA

STA 63+05, 70' LT

630-2-11	120 LF
635-2-11	1 EA
639-1-121	1 AS
639-2-1	360 LF
639-3-12	1 EA
641-2-12	1 EA



MATCHLINE STA. 59+00.00
SEE ITS PLAN (5)

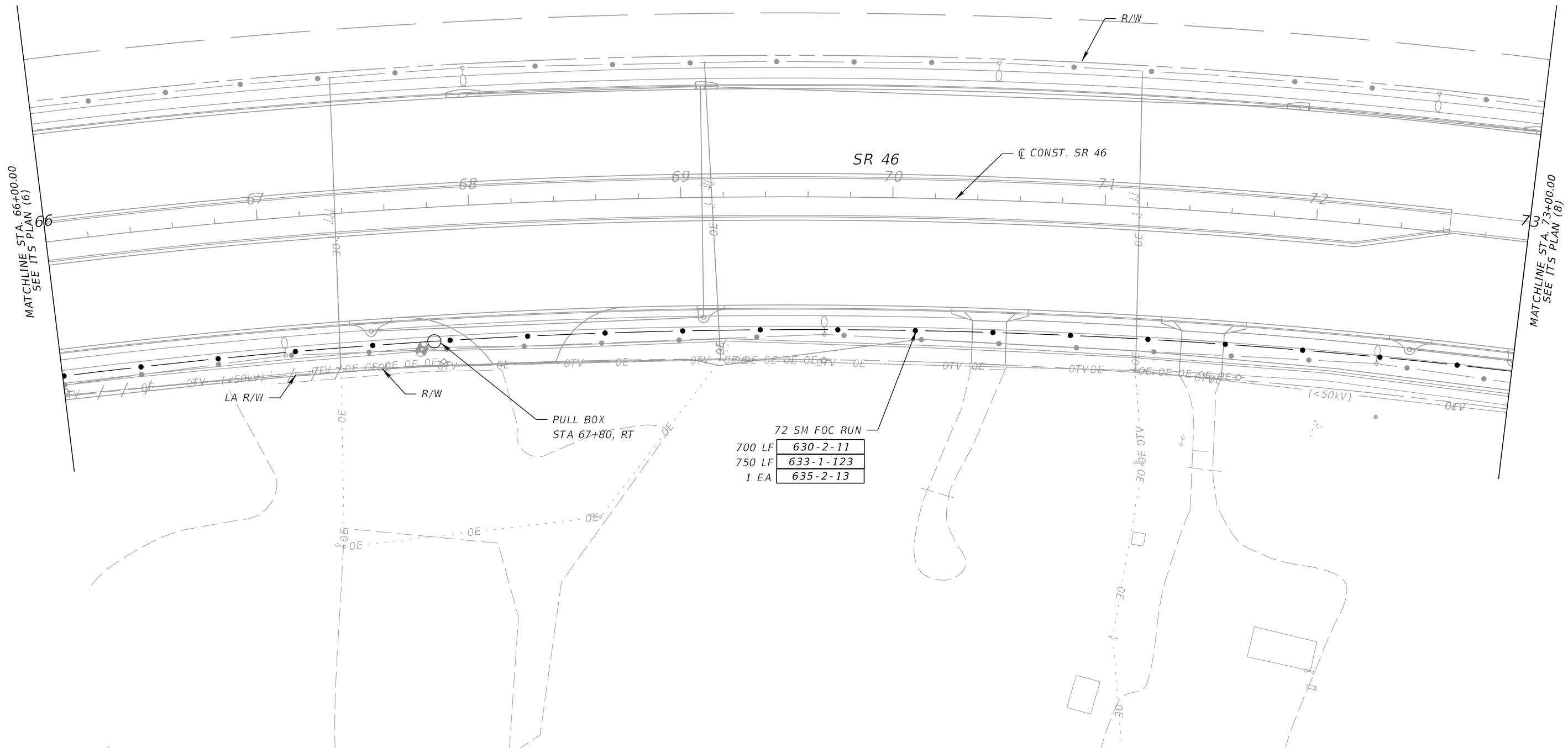
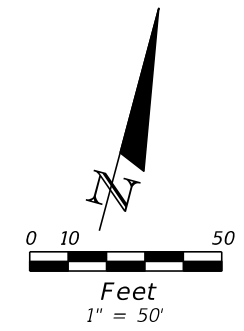
MATCHLINE STA. 66+00.00
SEE ITS PLAN (7)

72 SM FOC RUN

700 LF	630-2-11
750 LF	633-1-123
12 EA	633-2-31
1 EA	633-3-11
1 EA	633-3-12
1 EA	633-3-15
1 EA	635-2-13

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. IT-13
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
08/18/17	JLC 3 REVISED QUANTITIES FOR 639-2-1				SR 46	LAKE	238275-2-52-01	

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



72 SM FOC RUN	
700 LF	630-2-11
750 LF	633-1-123
1 EA	635-2-13

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

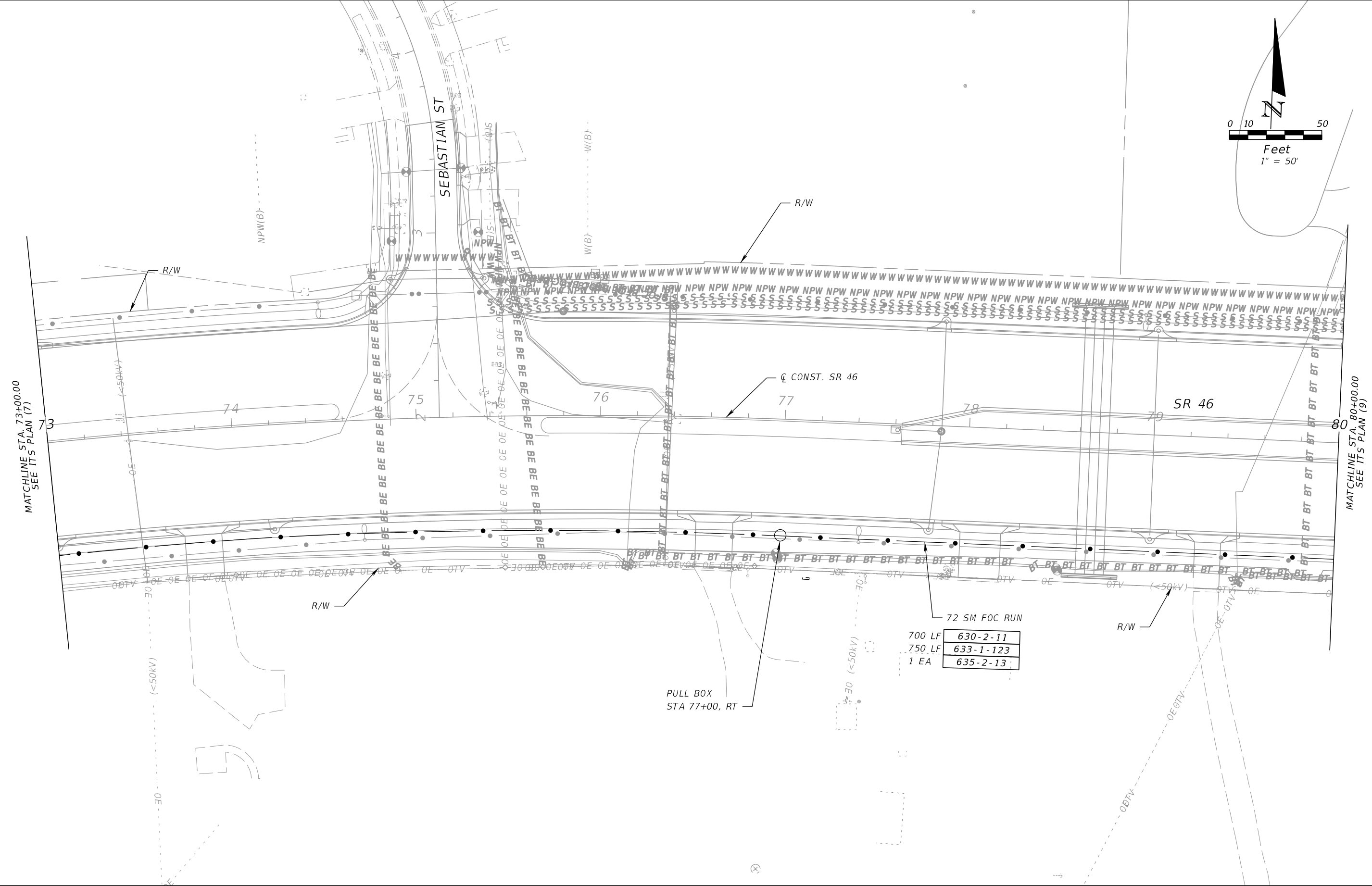
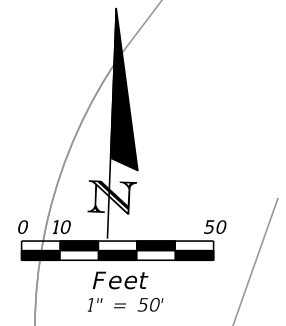
BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
 (813) 985-7800 C.A. NO. 9835
 MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS PLAN (7)

SHEET NO.
IT-14

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REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

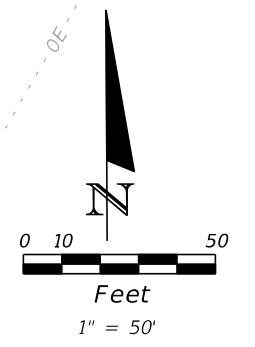
BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
 (813) 985-7800 C.A. NO. 9835
 MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS PLAN (8)

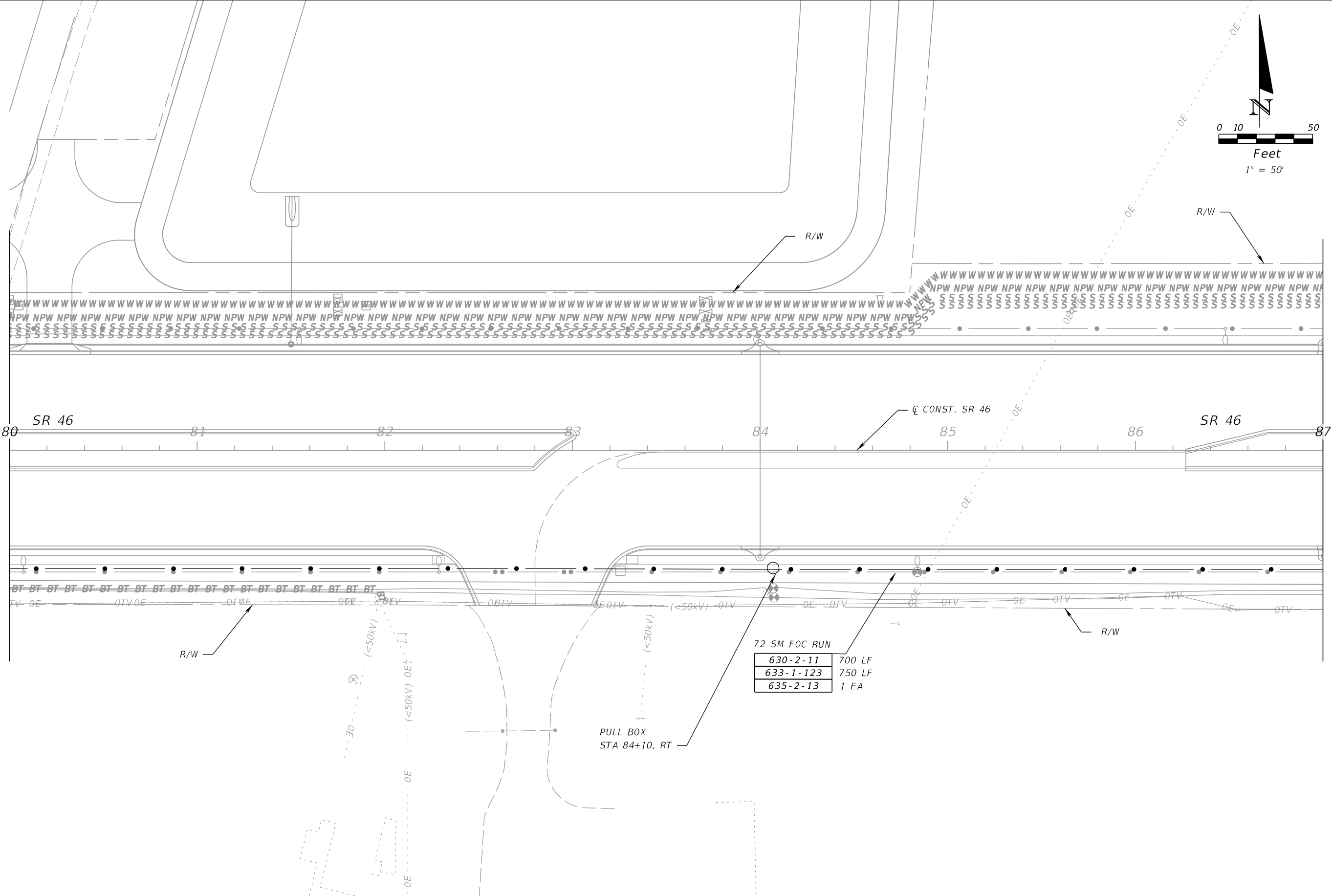
SHEET NO.
IT-15

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



MATCHLINE STA. 80+00.00
SEE ITS PLAN (8)

MATCHLINE STA. 87+00.00
SEE ITS PLAN (10)



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
(813) 985-7800 C.A. NO. 9835
MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

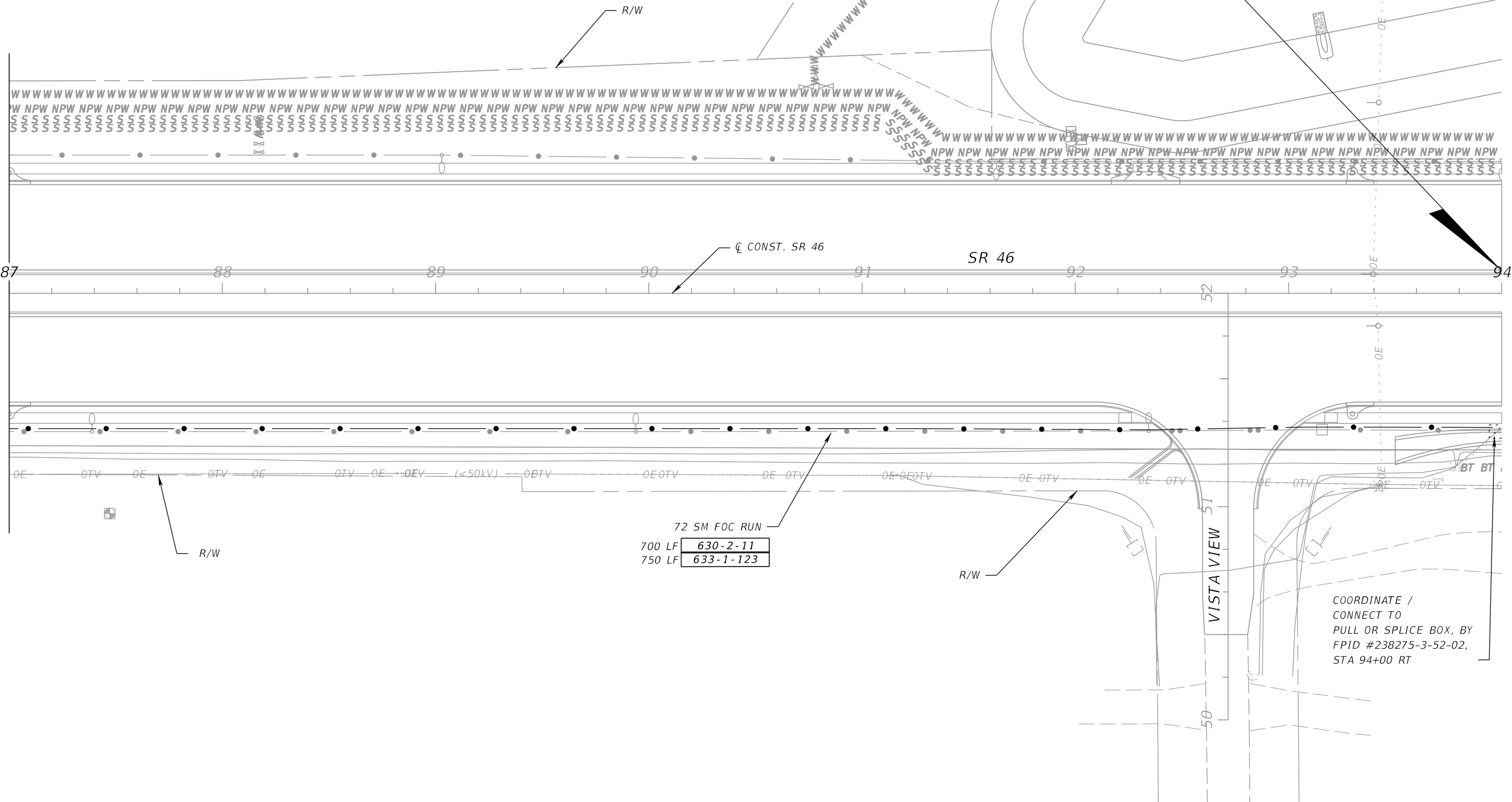
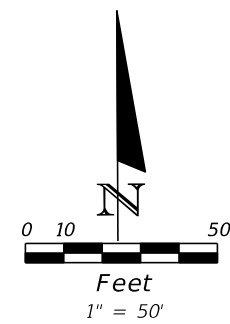
ITS PLAN (9)

SHEET NO.
IT-16

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

MATCHLINE STA. 87+00.00
SEE ITS PLAN (9)

END PROJECT
END ITS
STA 94+00



REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ITS PLAN (10) SHEET NO. IT-17
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 46	LAKE	238275-2-52-01	

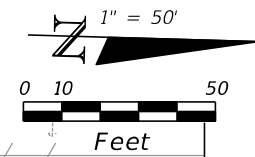
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

633-2-32	72 EA
633-3-11	1 EA
633-3-12	1 EA
635-2-13	1 EA

BEGIN ITS SR 500
STA 428+30

72 SM FOC RUN	534 LF	630-2-11
	534 LF	633-1-123

72 SM FOC RUN	116 LF	630-2-11
	316 LF	633-1-123

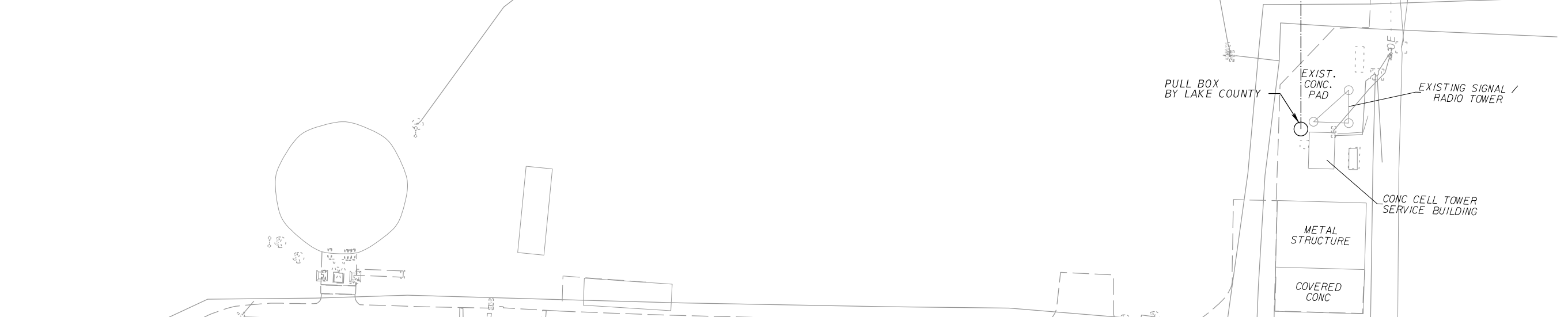
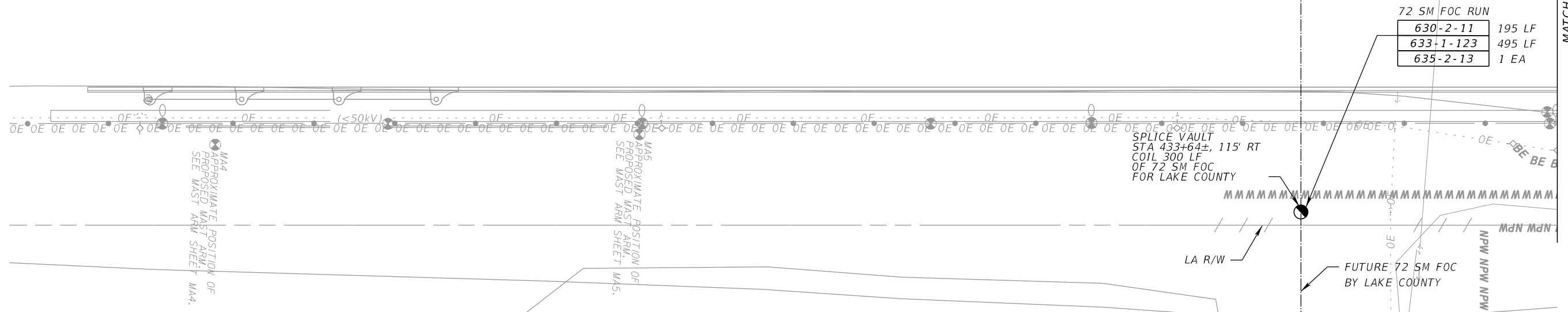
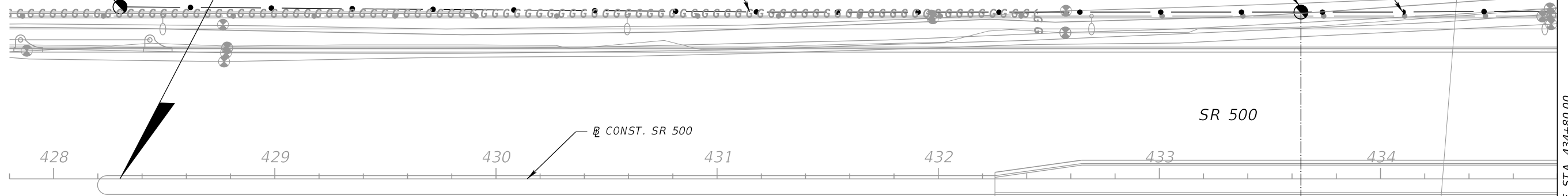


FUTURE LAKE COUNTY ITS
TO CONNECT AT SPLICE BOX

SPLICE BOX
STA 428+30, LT
TERMINAL PATCH

14 EA	633-2-31
2 EA	633-3-11
2 EA	633-3-12
1 EA	635-2-13

SPLICE VAULT
STA 433+64±, LT
COIL 200 LF
OF 72 SM FOC



MATCHLINE STA. 434+80.00
SEE ITS PLAN (12)

M44
APPROXIMATE POSITION OF
PROPOSED MAST ARM.
SEE MAST ARM SHEET M44.

M45
APPROXIMATE POSITION OF
PROPOSED MAST ARM.
SEE MAST ARM SHEET M45.

SPLICE VAULT
STA 433+64±, 115' RT
COIL 300 LF
OF 72 SM FOC
FOR LAKE COUNTY

LA R/W

FUTURE 72 SM FOC
BY LAKE COUNTY

PULL BOX
BY LAKE COUNTY

EXIST.
CONC.
PAD

EXISTING SIGNAL /
RADIO TOWER

CONC CELL TOWER
SERVICE BUILDING

METAL
STRUCTURE

COVERED
CONC

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

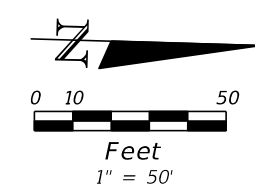
BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
(813) 985-7800 C.A. NO. 9835
MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS PLAN (11)

SHEET NO.
IT-18

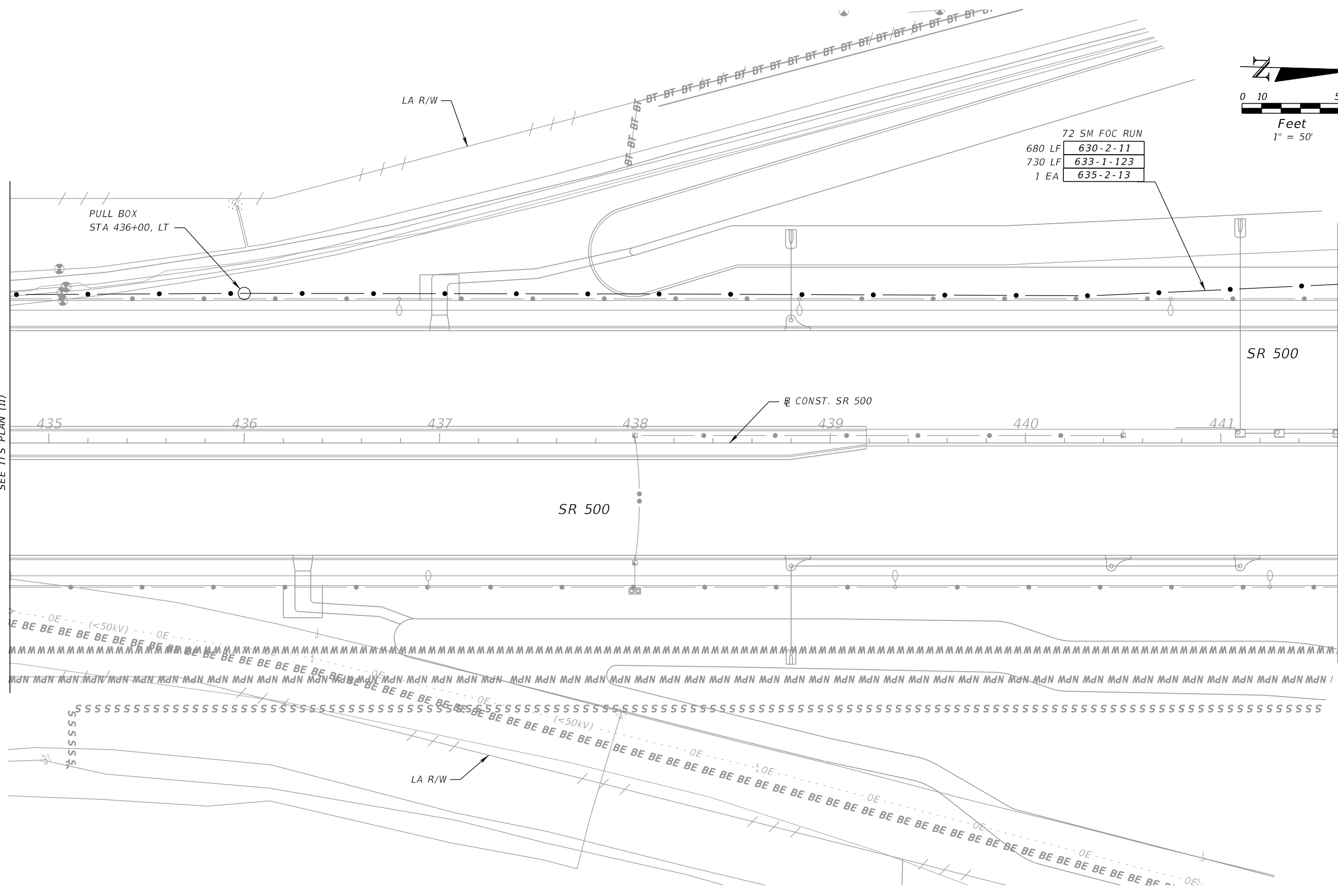
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	72 SM FOC RUN
680 LF	630-2-11
730 LF	633-1-123
1 EA	635-2-13

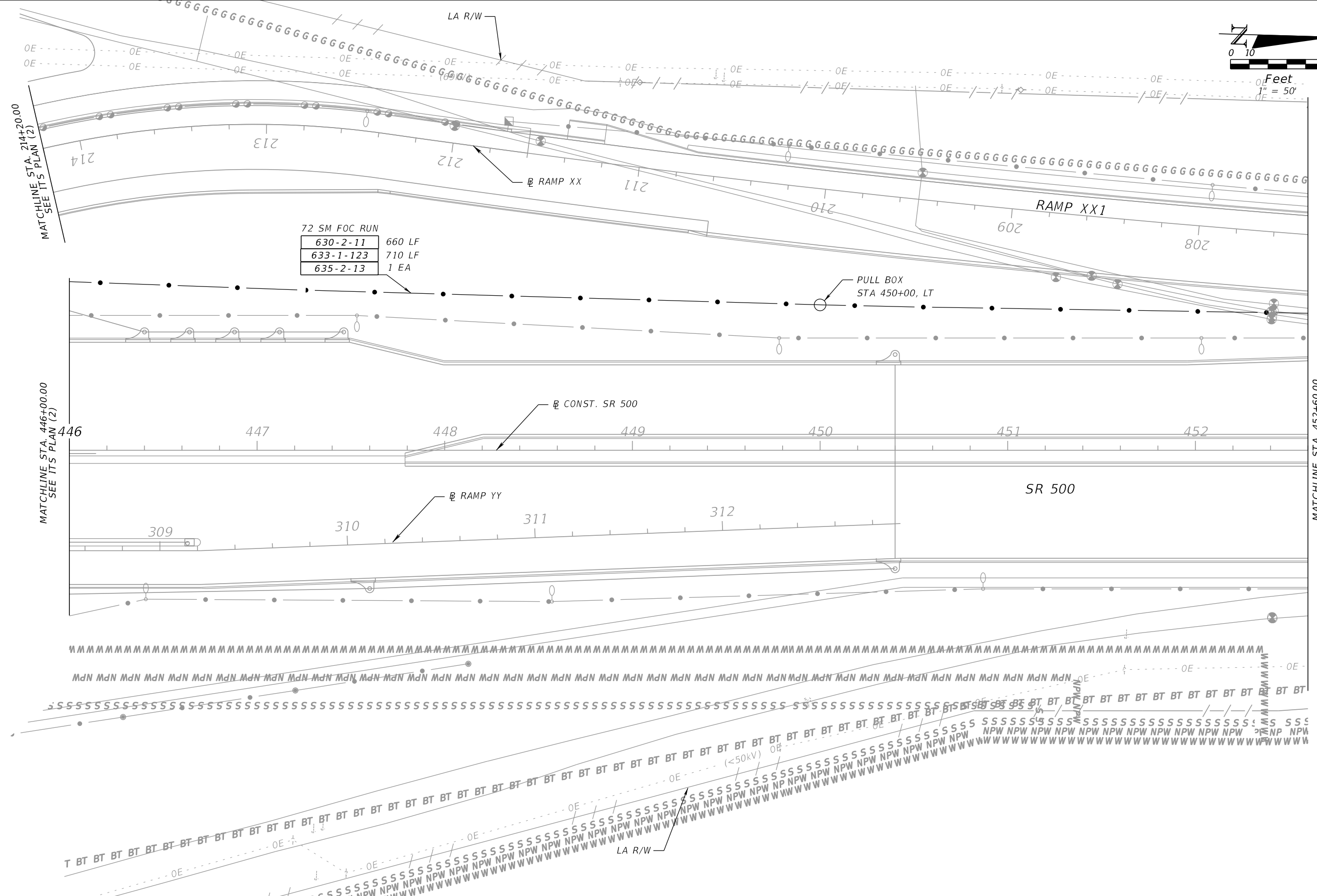
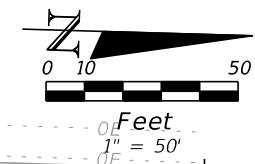
MATCHLINE STA. 434+80.00
SEE ITS PLAN (11)

MATCHLINE STA. 441+60.00
SEE ITS PLAN (2)



REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ITS PLAN (12)	SHEET NO. IT-19
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 46	LAKE	238275-2-52-01		

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



MATCHLINE STA. 214+20.00
SEE ITS PLAN (2)

MATCHLINE STA. 446+00.00
SEE ITS PLAN (2)

MATCHLINE STA. 452+60.00
SEE ITS PLAN (14)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

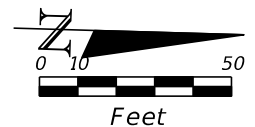
BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
(813) 985-7800 C.A. NO. 9835
MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

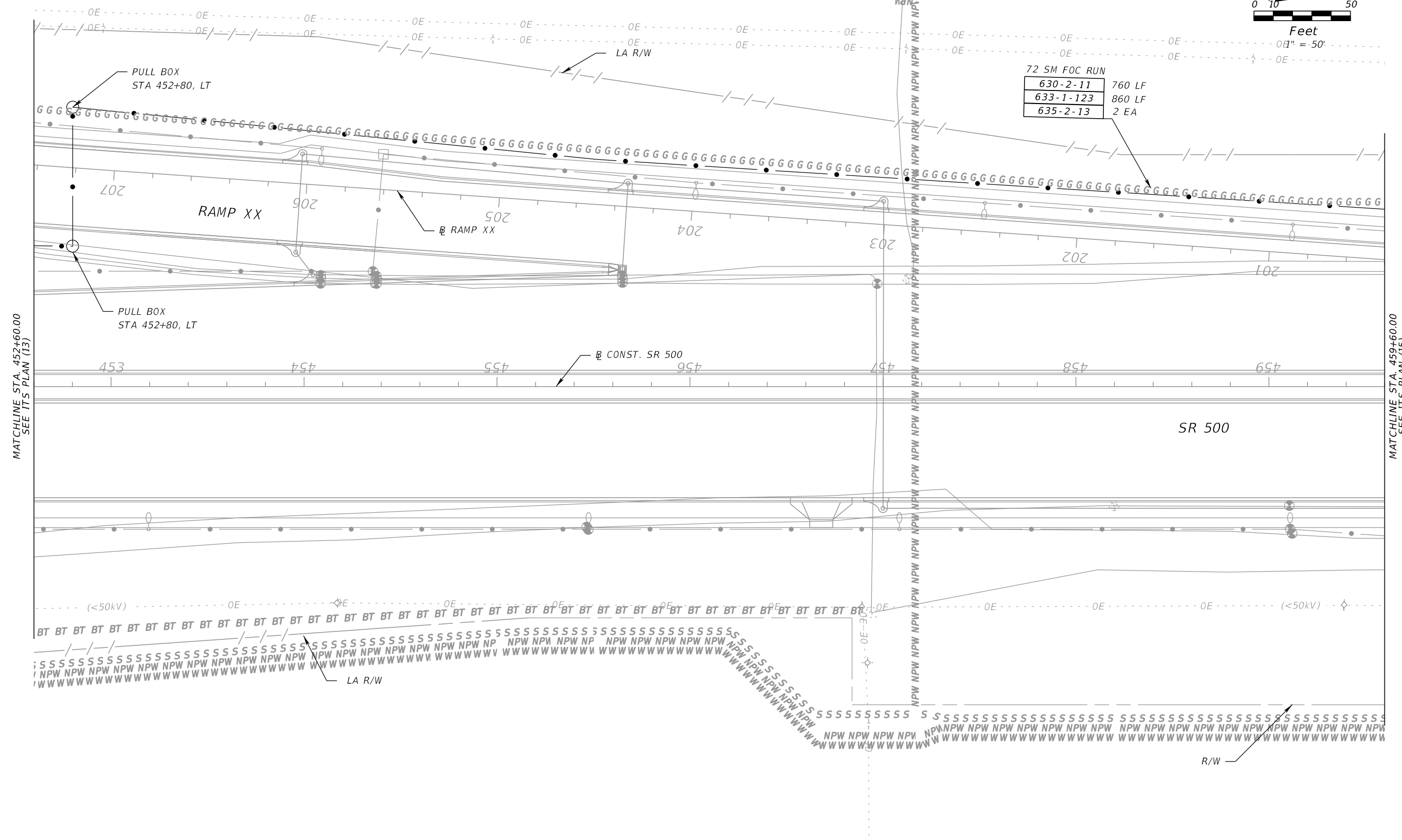
ITS PLAN (13)

SHEET NO.
IT-20

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72 SM FOC RUN	
630-2-11	760 LF
633-1-123	860 LF
635-2-13	2 EA

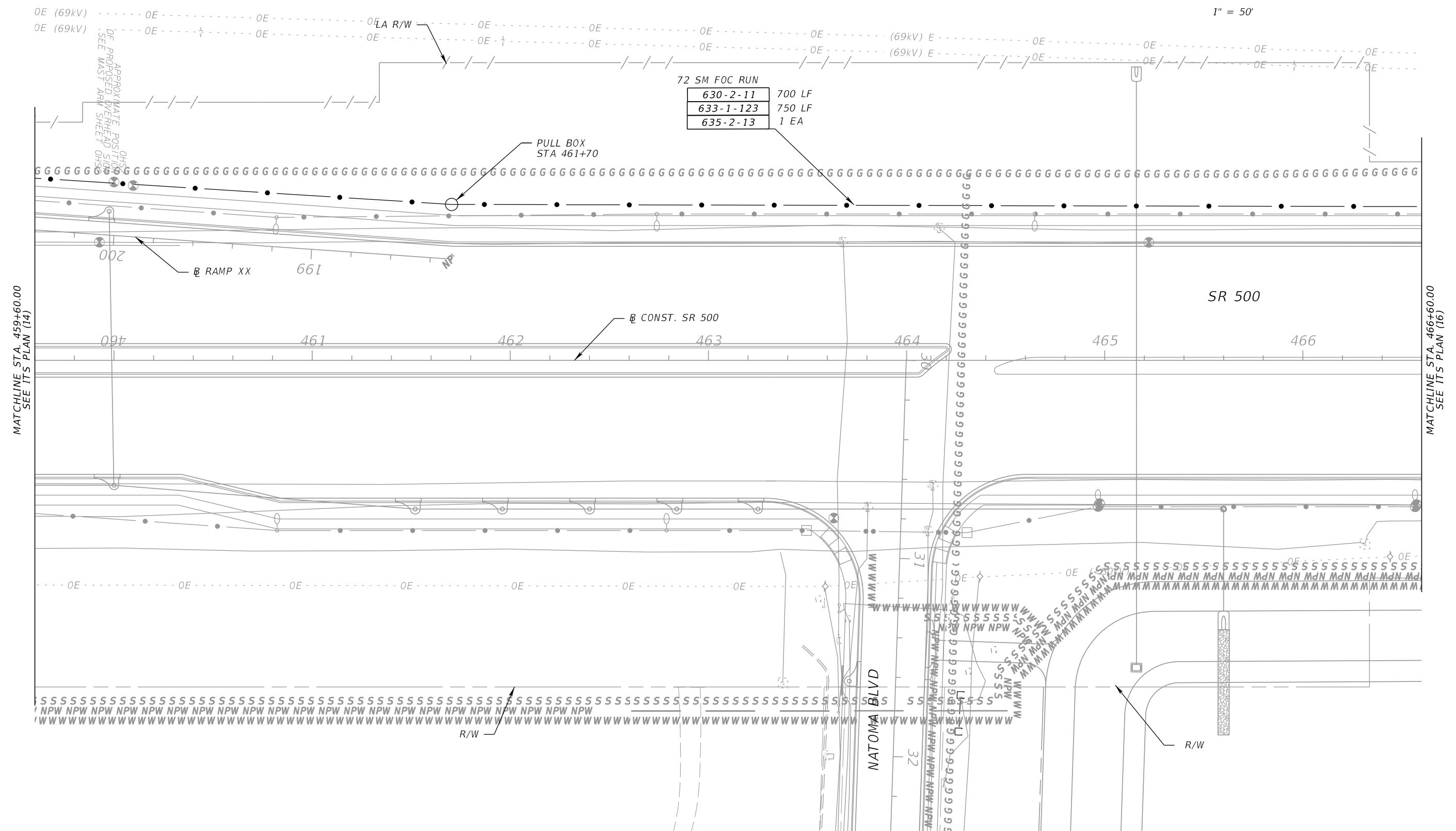
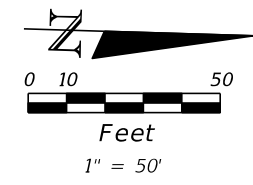


MATCHLINE STA. 452+60.00
SEE ITS PLAN (13)

MATCHLINE STA. 459+60.00
SEE ITS PLAN (15)

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<i>ITS PLAN (14)</i>	SHEET NO. IT-21
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				C.A. NO. 9835	SR 46	LAKE	238275-2-52-01		

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MATCHLINE STA. 459+60.00
SEE ITS PLAN (14)

MATCHLINE STA. 466+60.00
SEE ITS PLAN (16)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
(813) 985-7800 C.A. NO. 9835
MICHAEL J. NOESEN, P.E. NO. 42255

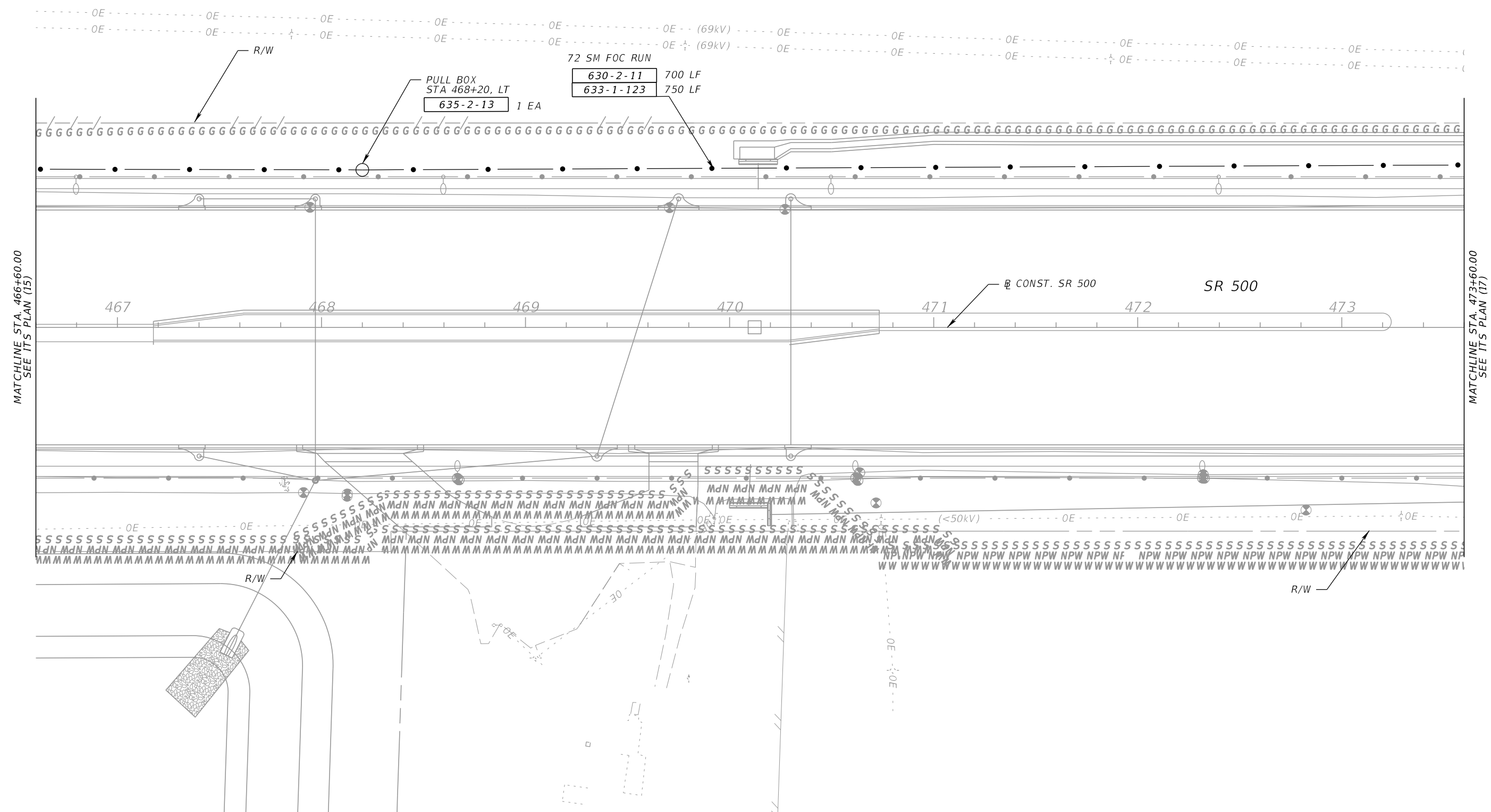
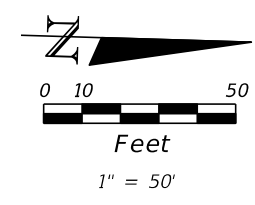
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS PLAN (15)

SHEET
NO.

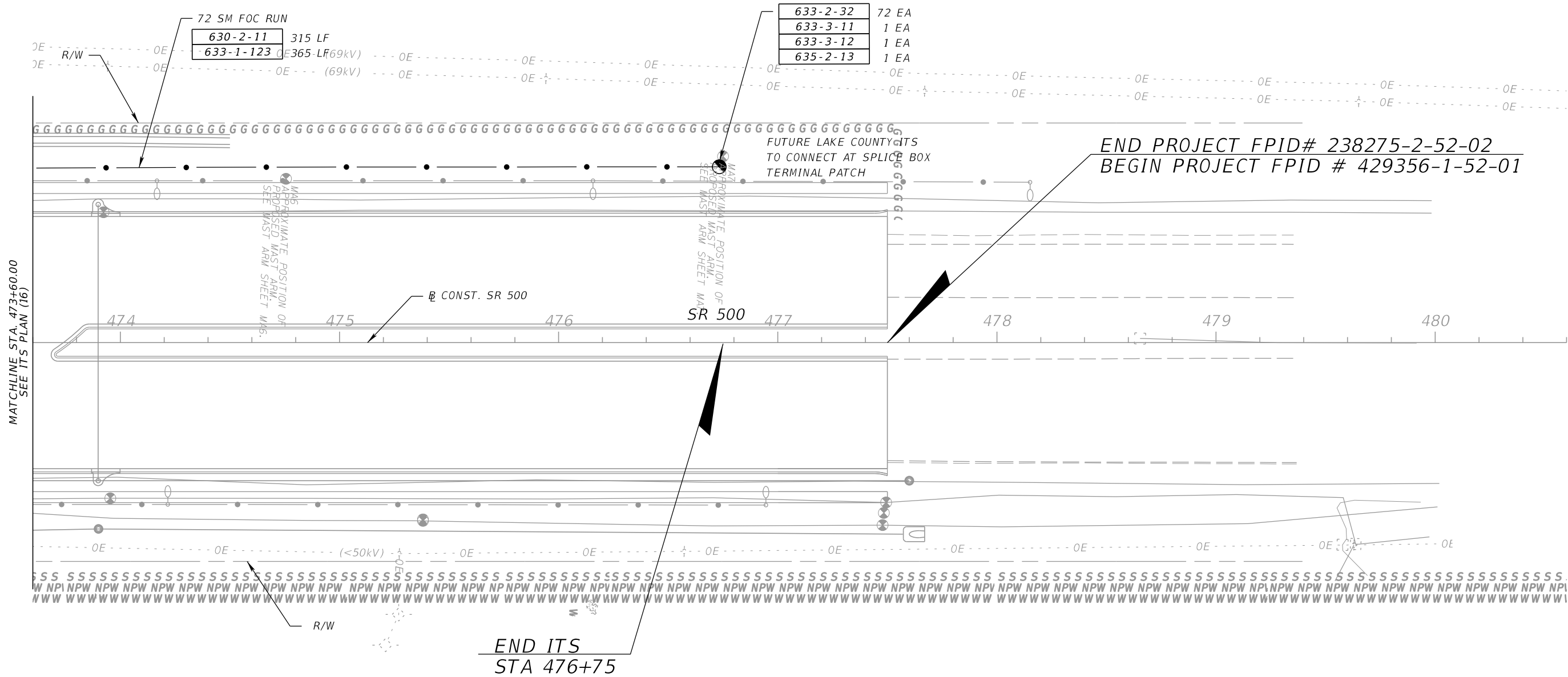
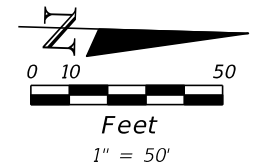
IT-22

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REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ITS PLAN (16)	SHEET NO. IT-23
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				C.A. NO. 9835	SR 46	LAKE	238275-2-52-01		

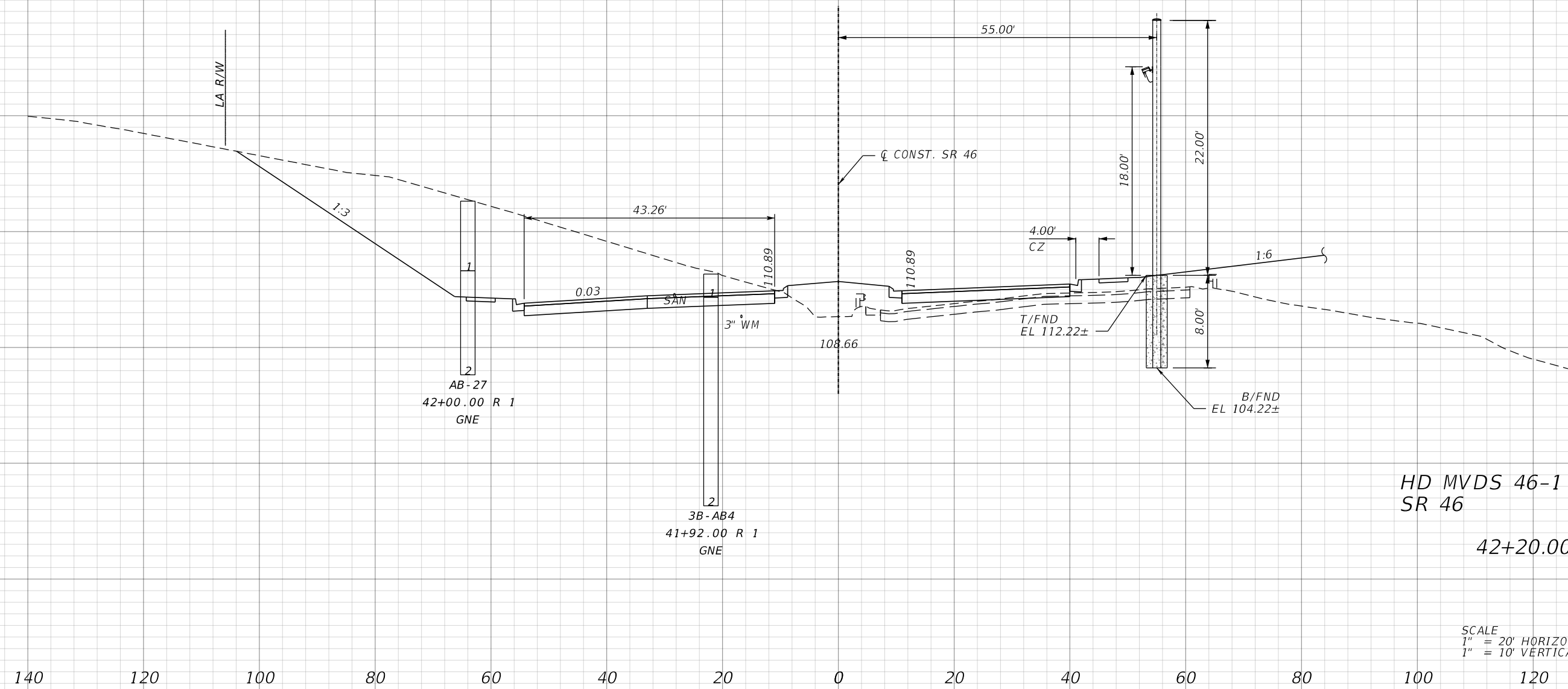
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REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ITS PLAN (17)	SHEET NO. IT-24
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				C.A. NO. 9835	SR 46	LAKE	238275-2-52-01		

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92
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88
86



HD MVDS 46-1
SR 46
42+20.00

SCALE
1" = 20' HORIZONTAL
1" = 10' VERTICAL

140 120 100 80 60 40 20 0 20 40 60 80 100 120

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

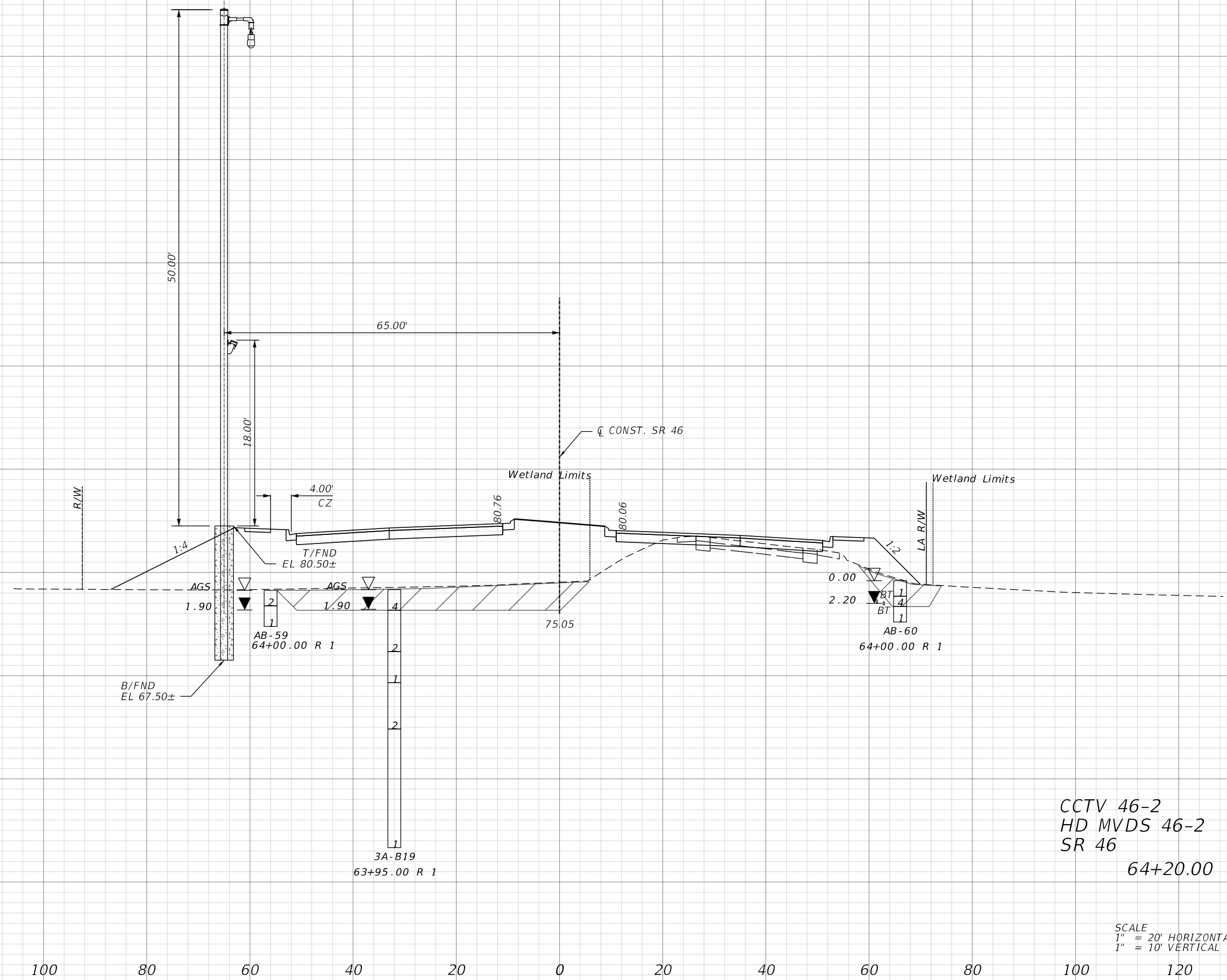
BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
(813) 985-7800 C.A. NO. 9835
MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS CROSS SECTION
SHEET NO.
IT-25

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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CCTV 46-2
HD MVDS 46-2
SR 46
64+20.00

SCALE
1" = 20' HORIZONTAL
1" = 10' VERTICAL

140 120 100 80 60 40 20 0 20 40 60 80 100 120

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

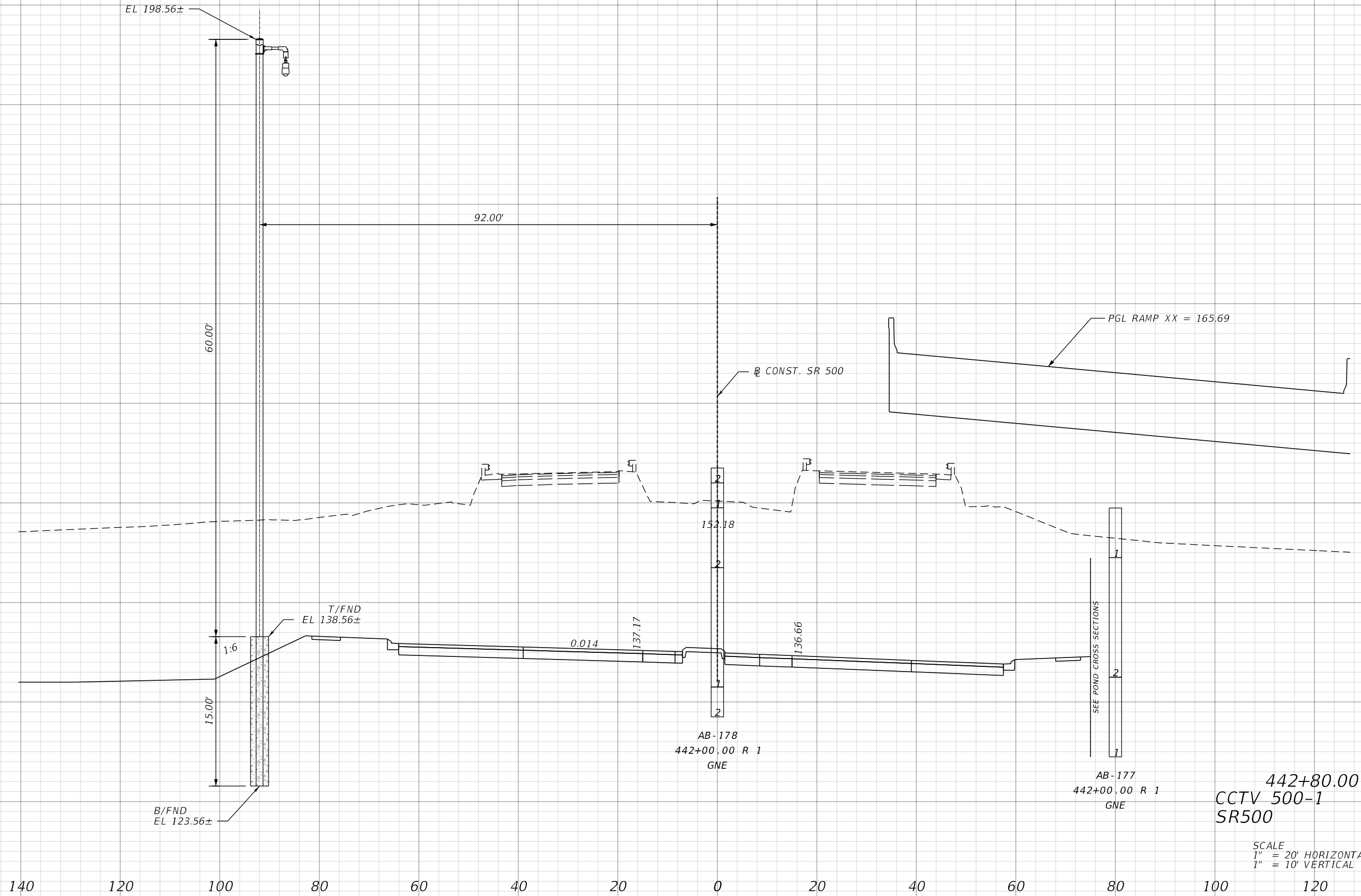
BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
(813) 985-7800 C.A. NO. 9835
MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS CROSS SECTION
SHEET NO.
IT-26

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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128
126
124
122



442+80.00
CCTV 500-1
SR500

SCALE
1" = 20' HORIZONTAL
1" = 10' VERTICAL

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
(813) 985-7800 C.A. NO. 9835
MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

ITS CROSS SECTION

SHEET NO.
IT-27

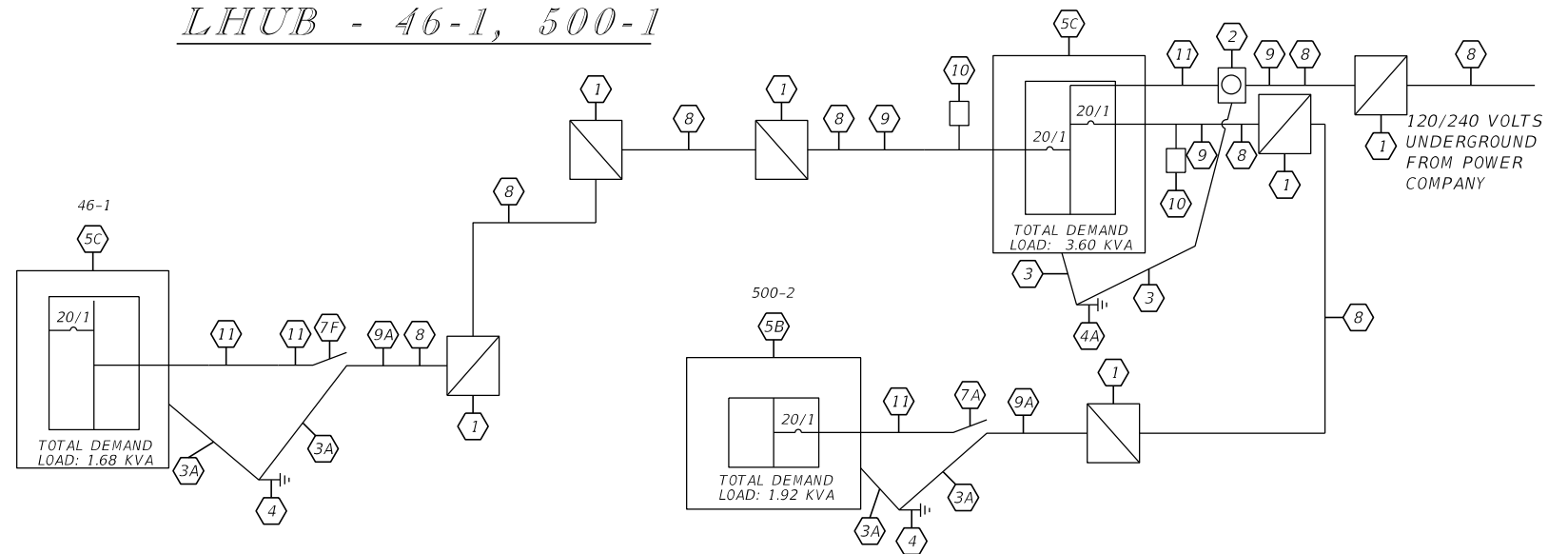
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

KEYED NOTES:

- 1 PULL BOX
- 2 METER SOCKET BY CONTRACTOR
- 3 #6 INSULATED COPPER GROUND WIRE IN 1/2" RIGID GALVANIZED STEEL OR BARE WIRE IF UNDERGROUND
- 3A #2 TIN-PLATED BARE SOLID COPPER GROUNDING WIRE COPPER CLAD GROUND ROD 5/8" DIA. MEETING REQUIREMENTS PER ITS DETAILS, THIS SHEET AND THE SPECS.
- 4 COPPER CLAD GROUND ROD 5/8" DIA. 40' LONG
- 4A TYPE 336S CABINET W/CIRCUIT BREAKER
- 5A NEMA 3R ENCLOSURE
- 5C PANELBOARD WITH MAIN BREAKER (SIZE PER NEC REQUIREMENT)
- 5D TYPE 334 CABINET WITH CIRCUIT BREAKER
- 6A XFMR (3 KVA) (120/240V PRIMARY, 240/480V SECONDARY)
- 6B XFMR (5 KVA) (120V PRIMARY, 240/480V SECONDARY)
- 6BB XFMR (7.5 KVA) (120/240V PRIMARY, 240/480V SECONDARY)
- 6C XFMR (10 KVA) (120/240V PRIMARY, 240/480V SECONDARY)
- 6D XFMR (15 KVA) (120/240V PRIMARY, 240/480V SECONDARY)
- 6E XFMR (7.5 KVA) (600V PRIMARY, 120/240V SECONDARY)
- 6F XFMR (3 KVA) (240/480V PRIMARY, 120V SECONDARY)
- 6G XFMR (5 KVA) (240/480V PRIMARY, 120V SECONDARY)
- 6H XFMR (7.5 KVA) (240/480V PRIMARY, 120/240 SECONDARY)
- 6I XFMR (15 KVA) (240/480V PRIMARY, 120/240 SECONDARY)
- 6J XFMR (15 KVA) (120/240V PRIMARY, 600V SECONDARY)
- 6K XFMR (3 KVA) (600V PRIMARY, 120/240 SECONDARY)
- 6L XFMR (15 KVA) (600V PRIMARY, 120/240 SECONDARY)
- 6M XFMR (15 KVA) (120/240V PRIMARY, 600V SECONDARY)
- 6N XFMR (25 KVA) (600V PRIMARY, 120/240 SECONDARY)
- 6O XFMR (25 KVA) (120/240V PRIMARY, 600V SECONDARY)
- 7A 15A, 120V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7AA 20A, 120V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7AB 15A, 240/480V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7B 20A, 240/480V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7C 40A, 120V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7D 30A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7E 40A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7F 40A, 240/480V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7G 60A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7H 80A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7I 80A, 240/480V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7J 180A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7K 30A, 600V NON-FUSED DISCONNECT
- 7L 60A, 600V NON-FUSED DISCONNECT
- 7M 80A, 600V NON-FUSED DISCONNECT
- 7O 60A, 600V FUSED DISCONNECT
- 7P 20A, 600V CIRCUIT BREAKER METALLIC ENCLOSURE
- 8 2" SCHEDULE 40 PVC CONDUIT / HDPE CONDUIT
- 9 2" RIGID GALVANIZED STEEL CONDUIT
- 9A 1.5" RIGID GALVANIZED STEEL CONDUIT
- 10 SURGE ARRESTOR
- 11 1" FLEX CONDUIT

NOTES:
 1. CONDUCTOR SIZE AND QUANTITY VARIES. SEE PLAN SHEETS.
 2. DISCONNECT MAY NOT BE VISIBLE ON SERVICE DETAIL IF MOUNTED ON THE BACK OF THE POLE.
 3. PULL BOXES LOCATION AND QUANTITY VARIES. SEE PLAN SHEETS.

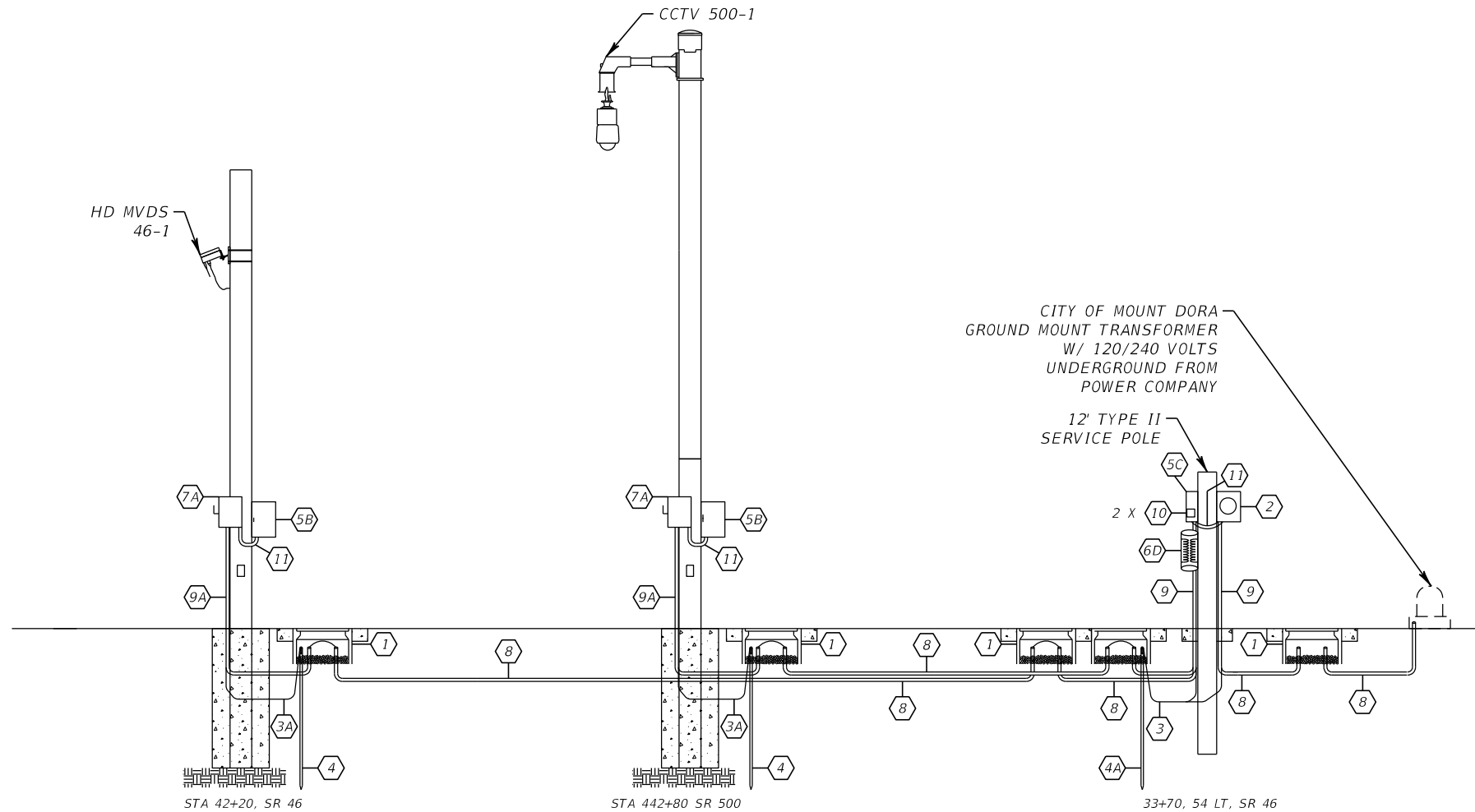
LHUB - 46-1, 500-1



ONE LINE DIAGRAM

LOAD ANALYSIS HD MVDS 46-1 STA 42+20	
ITEM	AMPS @ 120 VAC
ETHERNET SWITCH	1.0
HD MVDS	1.0
UPS	2.0
CONVENIENCE OUTLET	10.0
TOTAL	14.0

LOAD ANALYSIS CCTV 500-1 STA 442+80 SR 500	
ITEM	AMPS @ 120 VAC
ETHERNET SWITCH	1.0
CCTV / VIDEO ENCODER	2.0
UPS	2.0
TERMINAL SERVER	1.0
CONVENIENCE OUTLET	10.0
TOTAL	16.0



SERVICE DETAIL

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
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 MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

**POWER SERVICE DETAILS
WITH CCTV AND MVDS POLE**

SHEET NO.
IT-28

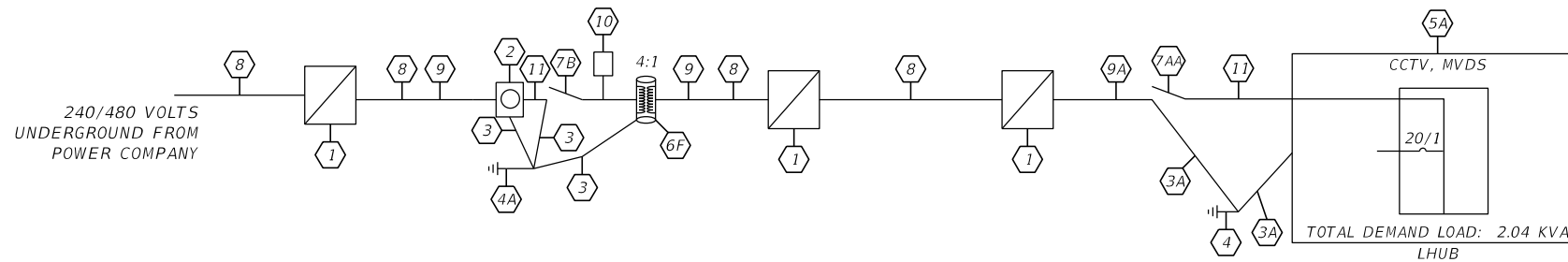
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

KEYED NOTES:

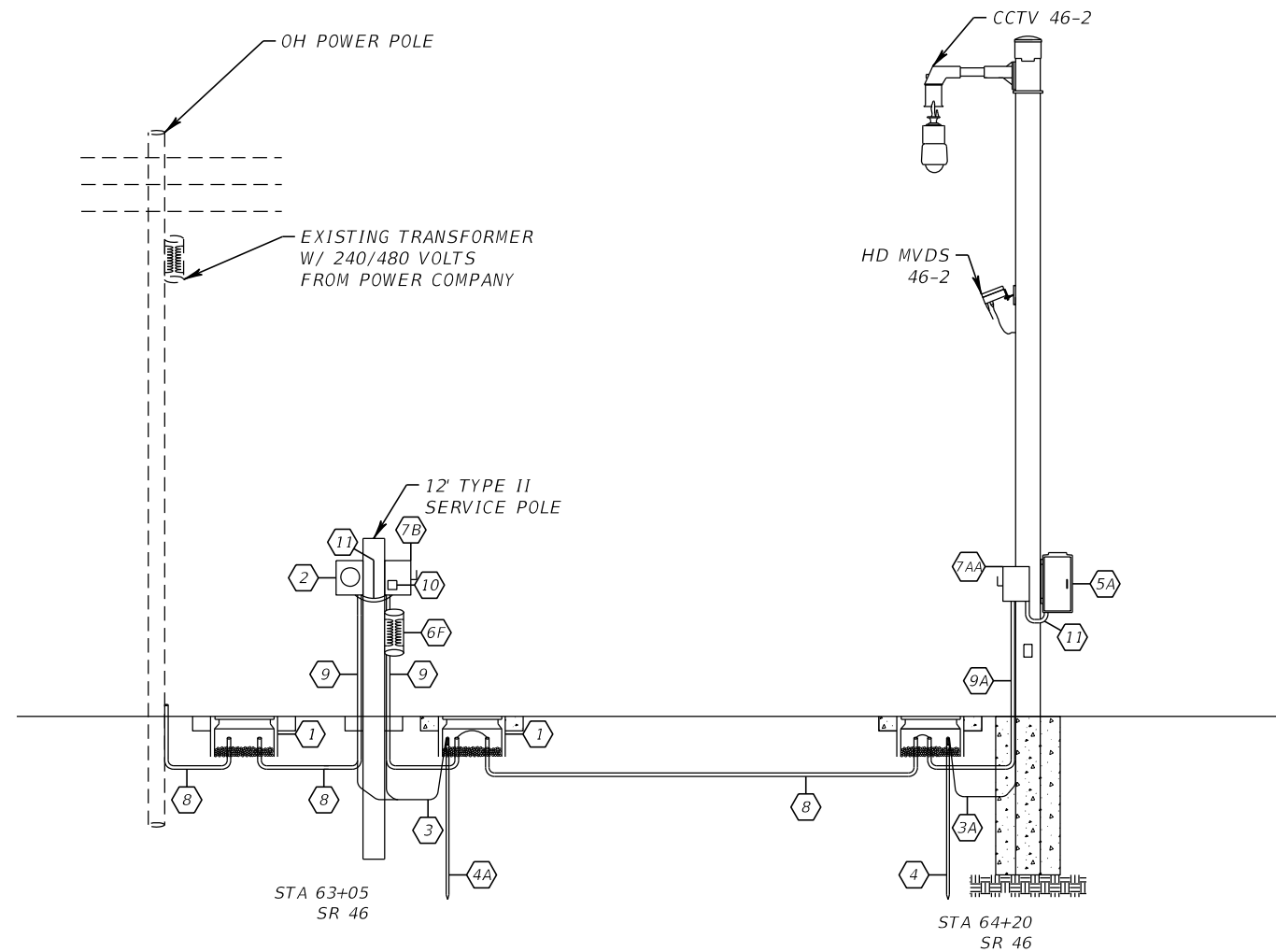
- 1 PULL BOX
- 2 METER SOCKET BY CONTRACTOR
- 3 #6 INSULATED COPPER GROUND WIRE IN 1/2" RIGID GALVANIZED STEEL OR BARE WIRE IF UNDERGROUND
- 3A #2 TIN-PLATED BARE SOLID COPPER GROUNDING WIRE COPPER CLAD GROUND ROD 5/8" DIA. MEETING REQUIREMENTS PER ITS DETAILS, THIS SHEET AND THE SPECS.
- 4 COPPER CLAD GROUND ROD 5/8" DIA. 40' LONG
- 4A TYPE 336S CABINET W/CIRCUIT BREAKER
- 5A NEMA 3R ENCLOSURE
- 5B PANELBOARD WITH MAIN BREAKER (SIZE PER NEC REQUIREMENT)
- 5D TYPE 334 CABINET WITH CIRCUIT BREAKER
- 6A XFMR (3 KVA) (120/240V PRIMARY, 240/480V SECONDARY)
- 6B XFMR (5 KVA) (120V PRIMARY, 240/480V SECONDARY)
- 6BB XFMR (7.5 KVA) (120/240V PRIMARY, 240/480V SECONDARY)
- 6C XFMR (10 KVA) (120/240V PRIMARY, 240/480V SECONDARY)
- 6D XFMR (15 KVA) (120/240V PRIMARY, 240/480V SECONDARY)
- 6E XFMR (7.5 KVA) (600V PRIMARY, 120/240V SECONDARY)
- 6F XFMR (3 KVA) (240/480V PRIMARY, 120V SECONDARY)
- 6G XFMR (5 KVA) (240/480V PRIMARY, 120V SECONDARY)
- 6H XFMR (7.5 KVA) (240/480V PRIMARY, 120/240 SECONDARY)
- 6I XFMR (15 KVA) (240/480V PRIMARY, 120/240 SECONDARY)
- 6J XFMR (15 KVA) (120/240V PRIMARY, 600V SECONDARY)
- 6K XFMR (3 KVA) (600V PRIMARY, 120/240 SECONDARY)
- 6L XFMR (15 KVA) (600V PRIMARY, 120/240 SECONDARY)
- 6M XFMR (15 KVA) (120/240V PRIMARY, 600V SECONDARY)
- 6N XFMR (25 KVA) (600V PRIMARY, 120/240 SECONDARY)
- 6O XFMR (25 KVA) (120/240V PRIMARY, 600V SECONDARY)
- 7A 15A, 120V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7AA 20A, 120V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7AB 15A, 240/480V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7B 20A, 240/480V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7C 40A, 120V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7D 30A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7E 40A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7F 40A, 240/480V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7G 60A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7H 80A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7I 80A, 240/480V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7J 180A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7K 30A, 600V NON-FUSED DISCONNECT
- 7L 60A, 600V NON-FUSED DISCONNECT
- 7M 80A, 600V NON-FUSED DISCONNECT
- 7O 60A, 600V FUSED DISCONNECT
- 7P 20A, 600V CIRCUIT BREAKER METALLIC ENCLOSURE
- 8 2" SCHEDULE 40 PVC CONDUIT/ HDPE CONDUIT
- 9 2" RIGID GALVANIZED STEEL CONDUIT
- 9A 1.5" RIGID GALVANIZED STEEL CONDUIT
- 10 SURGE ARRESTOR
- 11 1" FLEX CONDUIT

NOTES:
 1. CONDUCTOR SIZE AND QUANTITY VARIES. SEE PLAN SHEETS.
 2. DISCONNECT MAY NOT BE VISIBLE ON SERVICE DETAIL IF MOUNTED ON THE BACK OF THE POLE.
 3. PULL BOXES LOCATION AND QUANTITY VARIES. SEE PLAN SHEETS.

LHUB - 46-2



ONE LINE DIAGRAM



SERVICE DETAIL

LOAD ANALYSIS CCTV 46-2 HD MVDS 46-2 STA 64+20, SR 46	
ITEM	AMPS @ 120 VAC
ETHERNET SWITCH	1.0
CCTV / VIDEO ENCODER	2.0
HD MVDS	1.0
UPS	2.0
TERMINAL SERVER	1.0
CONVENIENCE OUTLET	10.0
TOTAL	17.0

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
 (813) 985-7800 C.A. NO. 9835
 MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

**POWER SERVICE DETAILS
 WITH CCTV AND MVDS POLE**

SHEET NO.
 IT-29

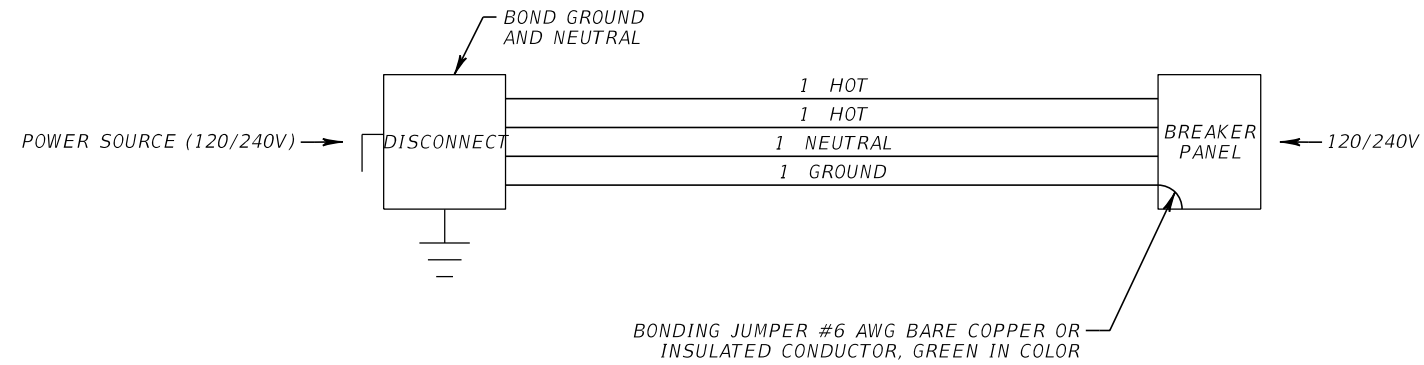
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KEYED NOTES:

- 1 PULL BOX
- 2 METER SOCKET BY CONTRACTOR
- 3 #6 INSULATED COPPER GROUND WIRE IN 1/2" RIGID GALVANIZED STEEL OR BARE WIRE IF UNDERGROUND
- 3A #2 TIN-PLATED BARE SOLID COPPER GROUNDING WIRE COPPER CLAD GROUND ROD 5/8" DIA. MEETING REQUIREMENTS PER ITS DETAILS, THIS SHEET AND THE SPECS.
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- 6BB XFMR (7.5 KVA) (120/240V PRIMARY, 240/480V SECONDARY)
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- 6D XFMR (15 KVA) (120/240V PRIMARY, 240/480V SECONDARY)
- 6E XFMR (7.5 KVA) (600V PRIMARY, 120/240V SECONDARY)
- 6F XFMR (3 KVA) (240/480V PRIMARY, 120V SECONDARY)
- 6G XFMR (5 KVA) (240/480V PRIMARY, 120V SECONDARY)
- 6H XFMR (7.5 KVA) (240/480V PRIMARY, 120/240 SECONDARY)
- 6I XFMR (15 KVA) (240/480V PRIMARY, 120/240 SECONDARY)
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- 6K XFMR (3 KVA) (600V PRIMARY, 120/240 SECONDARY)
- 6L XFMR (15 KVA) (600V PRIMARY, 120/240 SECONDARY)
- 6M XFMR (15 KVA) (120/240V PRIMARY, 600V SECONDARY)
- 6N XFMR (25 KVA) (600V PRIMARY, 120/240 SECONDARY)
- 6O XFMR (25 KVA) (120/240V PRIMARY, 600V SECONDARY)
- 7A 15A, 120V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7AA 20A, 120V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7AB 15A, 240/480V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7B 20A, 240/480V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7C 40A, 120V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7D 30A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7E 40A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7F 40A, 240/480V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7G 60A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
- 7H 80A, 120/240V CIRCUIT BREAKER METALLIC ENCLOSURE
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- 10 SURGE ARRESTOR
- 11 1" FLEX CONDUIT

- NOTES:
1. CONDUCTOR SIZE AND QUANTITY VARIES. SEE PLAN SHEETS.
 2. DISCONNECT MAY NOT BE VISIBLE ON SERVICE DETAIL IF MOUNTED ON THE BACK OF THE POLE.
 3. PULL BOXES LOCATION AND QUANTITY VARIES. SEE PLAN SHEETS.

NOTE:
1. DIAGRAM REPRESENTS CONNECTION AFTER METER.

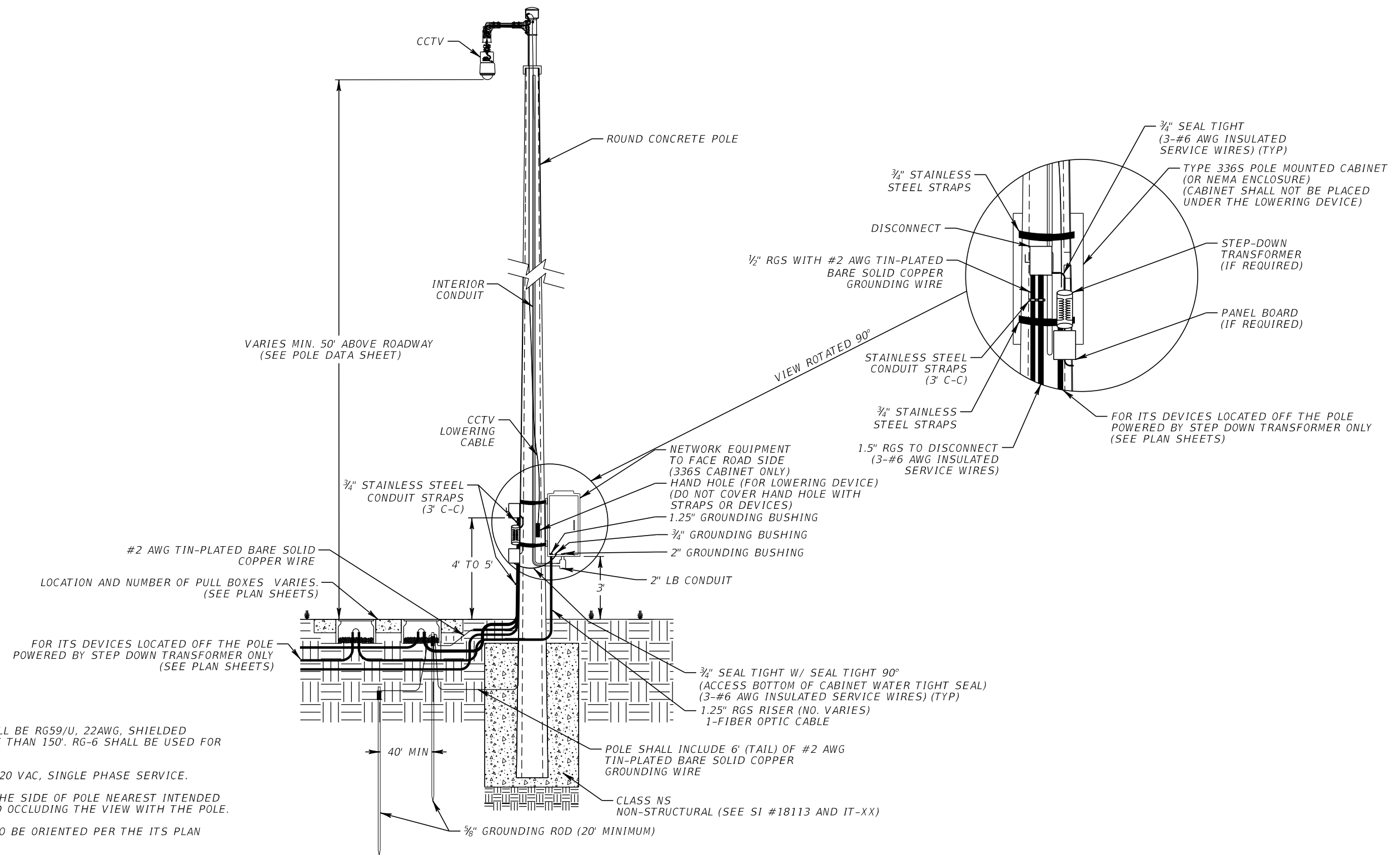


REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			POWER SERVICE SCHEMATICS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		IT-30
					SR 46	LAKE	238275-2-52-01		

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TYPICAL CCTV INSTALLATION DETAILS

NTS



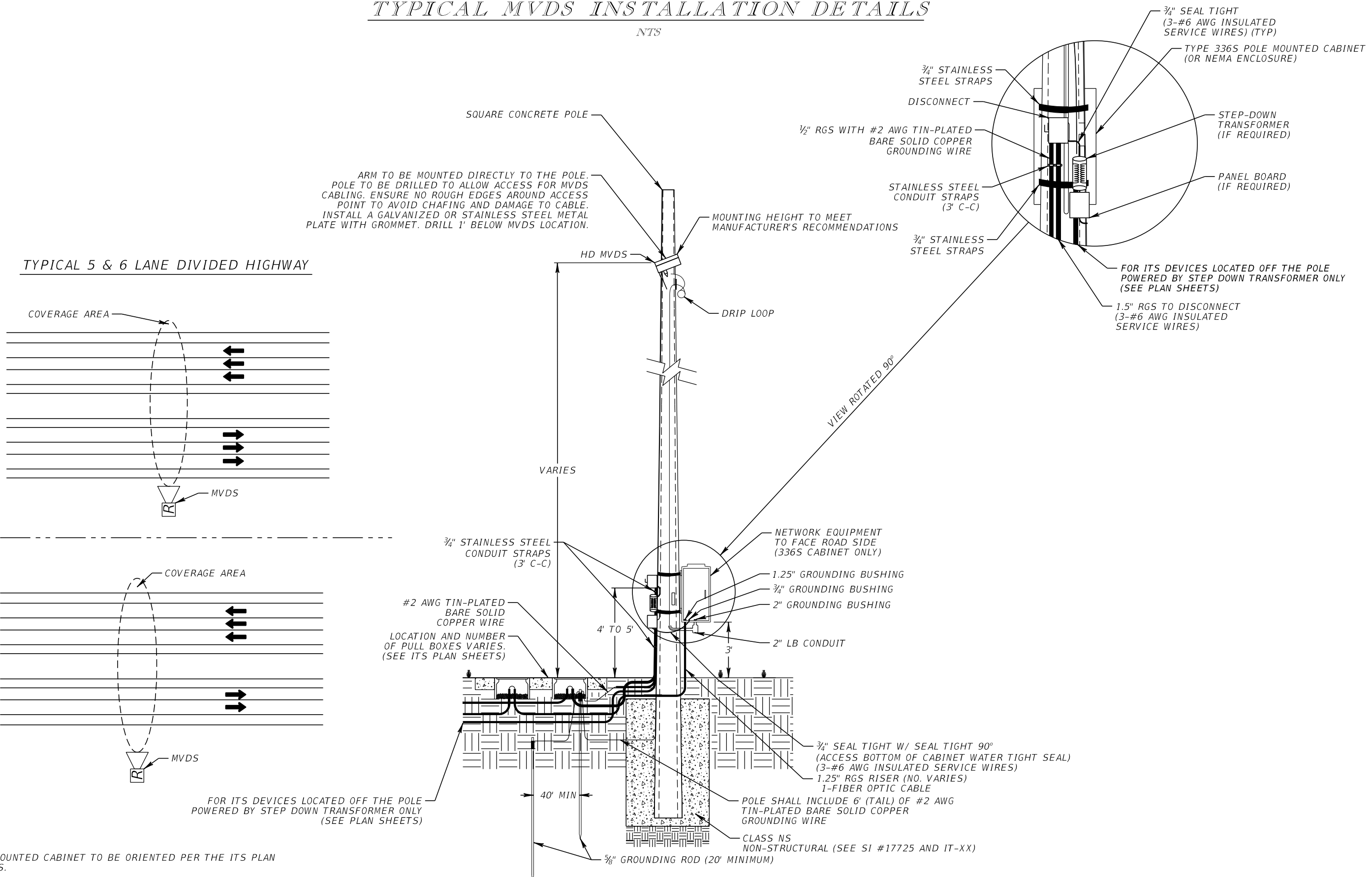
- NOTES:
1. CCTV (VIDEO) CABLE SHALL BE RG59/U, 22AWG, SHIELDED (MIN) FOR SEGMENTS LESS THAN 150'. RG-6 SHALL BE USED FOR RUNS LONGER THAN 150'.
 2. POWER CABLE SHALL BE 120 VAC, SINGLE PHASE SERVICE.
 3. MOUNT CCTV CAMERA ON THE SIDE OF POLE NEAREST INTENDED FIELD OF VIEW AND AVOID OCCLUDING THE VIEW WITH THE POLE.
 4. POLE MOUNTED CABINET TO BE ORIENTED PER THE ITS PLAN SHEETS.

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CCTV MOUNTING DETAILS	SHEET NO. IT-31
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 46	LAKE	238275-2-52-01		

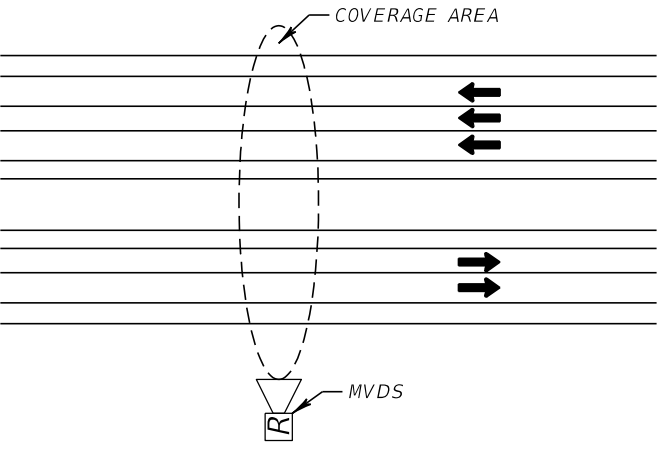
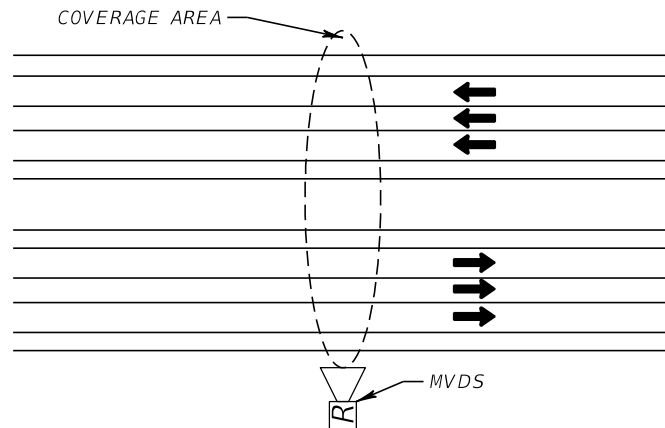
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TYPICAL MVDS INSTALLATION DETAILS

NTS



TYPICAL 5 & 6 LANE DIVIDED HIGHWAY

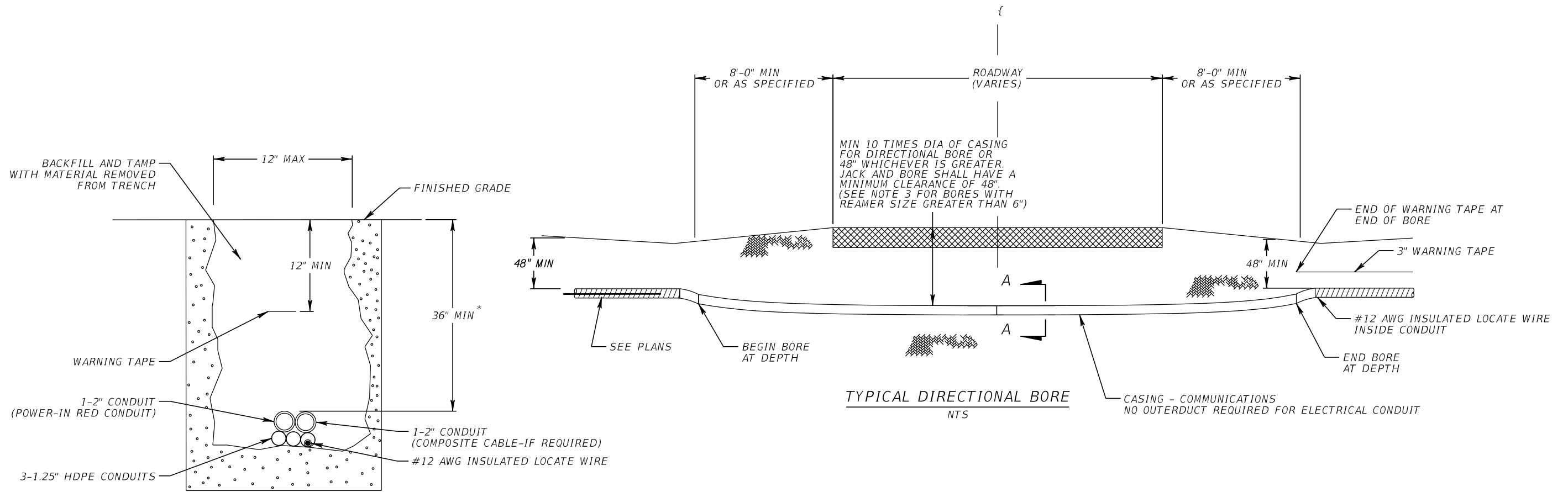


NOTES:
 1. POLE MOUNTED CABINET TO BE ORIENTED PER THE ITS PLAN SHEETS.

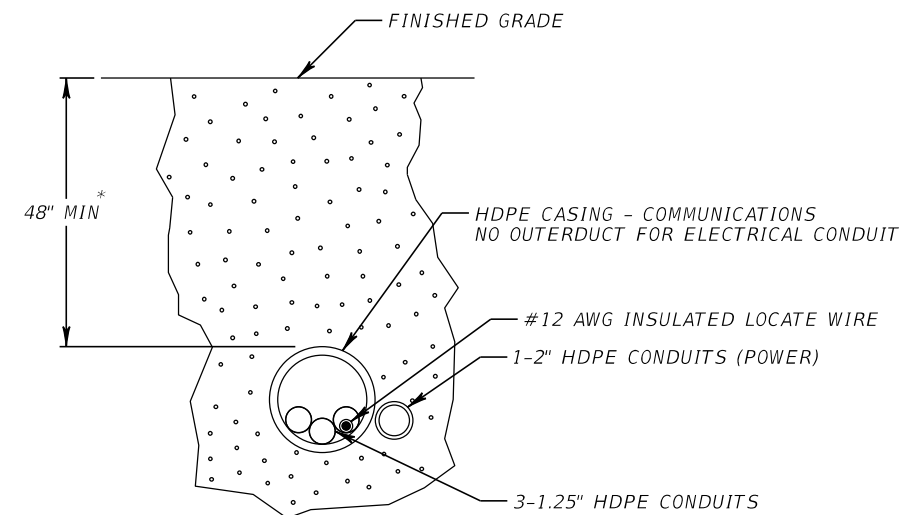
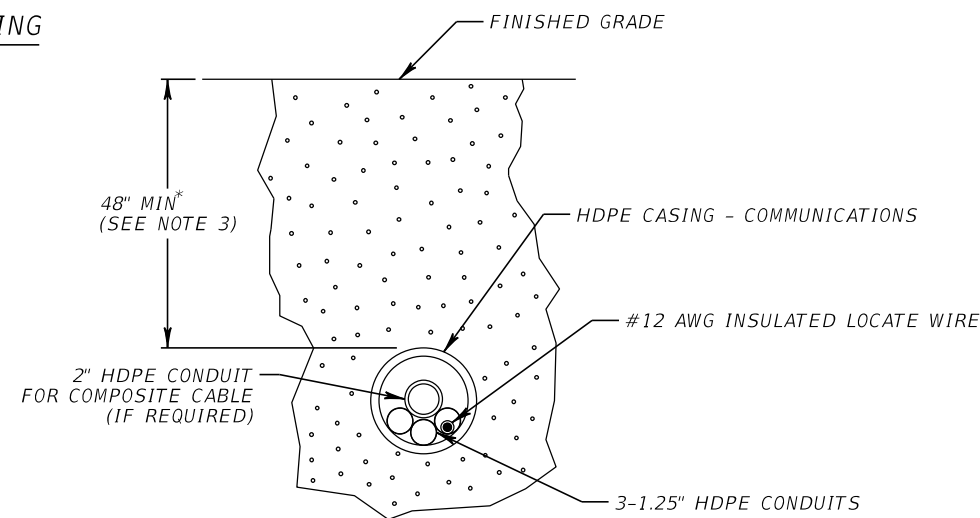
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REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. IT-32
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 46	LAKE	238275-2-52-01	

MVDS MOUNTING DETAILS



TYPICAL TRENCHING
NTS



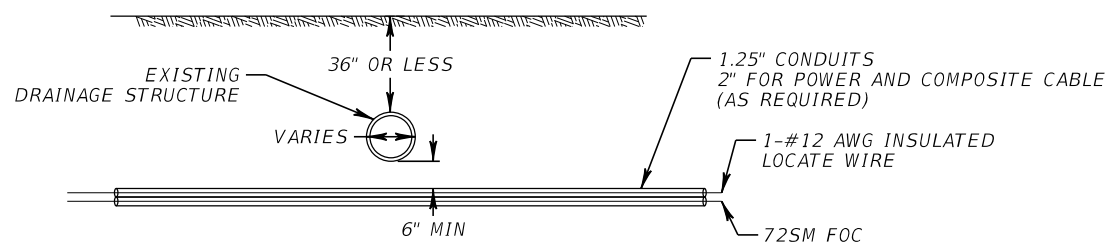
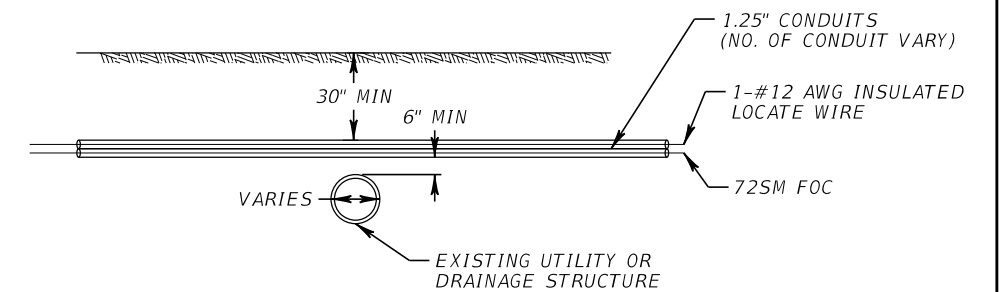
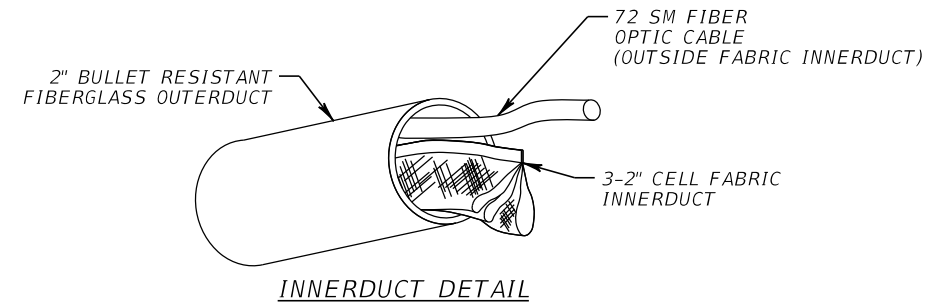
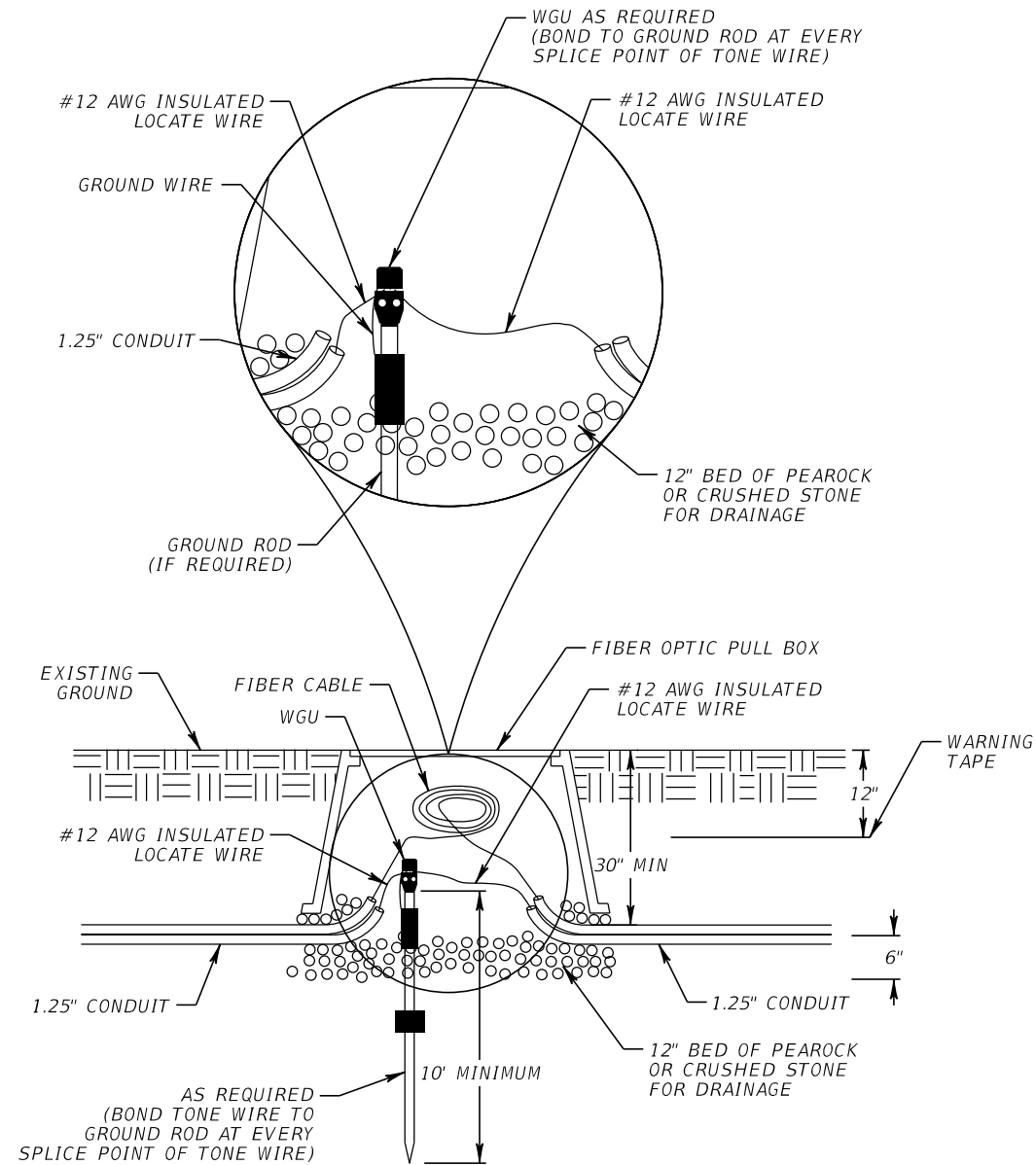
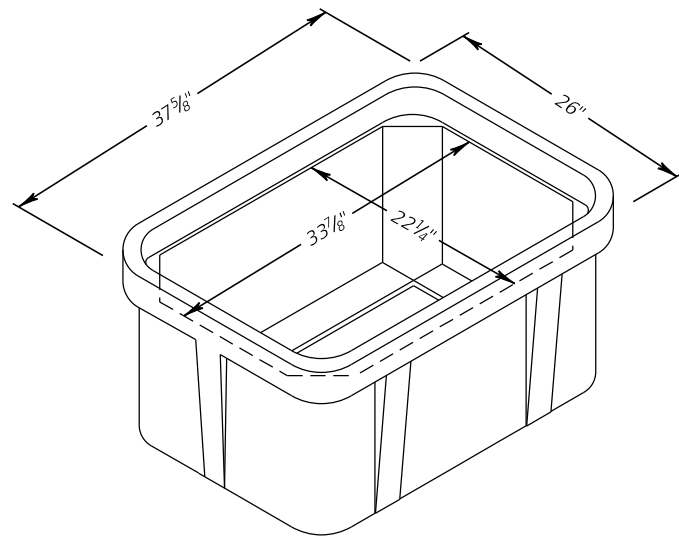
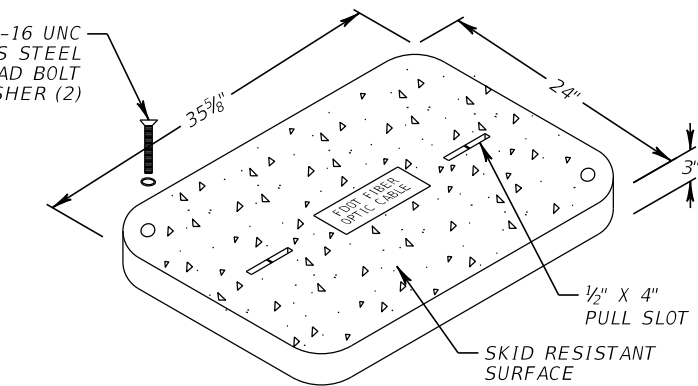
GENERAL NOTES:

- UTILITY IN THE PATH OF THE BORE SHALL BE LOCATED AND THE DEPTH OF THE BORE CROSSING SHALL BE DELINEATED TO CROSS UNDER OR OVER UTILITY WITH 6" MINIMUM SEPARATION.
- FOR BORES WITH REAMER SIZE GREATER THAN 6", THE DEPTH FOR ROADWAY CROSSINGS SHALL BE MAINTAINED AT A DEPTH EQUAL TO 10 TIMES THE BORE REAMER SIZE. SEE 4.3.11.1 OF THE 2010 FDOT UTILITY ACCOMODATION MANUAL FOR ADDITIONAL INFORMATION. THIS WILL AFFECT THE REQUIRED SETBACK DISTANCES IN ORDER TO MEET PROPER DRILL ENTRY AND EXIT ANGLE CRITERIA (NOT TO EXCEED A 1:4 OR 25% SLOPE).

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DIRECTIONAL BORE AND TRENCHING DETAILS	SHEET NO. IT-34
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 46	LAKE	238275-2-52-01		

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3/8 -16 UNC
STAINLESS STEEL
HEX HEAD BOLT
W/ WASHER (2)



FIBER OPTIC PULL BOX NOTES:

1. FIBER OPTIC PULL BOX LENGTH (LONG SIDE) SHALL BE PARALLEL TO THE CONDUIT RUN. WHEN THE CONDUIT RUN IS PERPENDICULAR AT THE JUNCTION POINT, THE PULL BOX SHALL BE PARALLEL TO THE ROADWAY.
2. #2 STRANDED COPPER GROUNDING WIRES SHALL BE EXOTHERMICALLY WELDED TO GROUND RODS (AS REQUIRED).

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

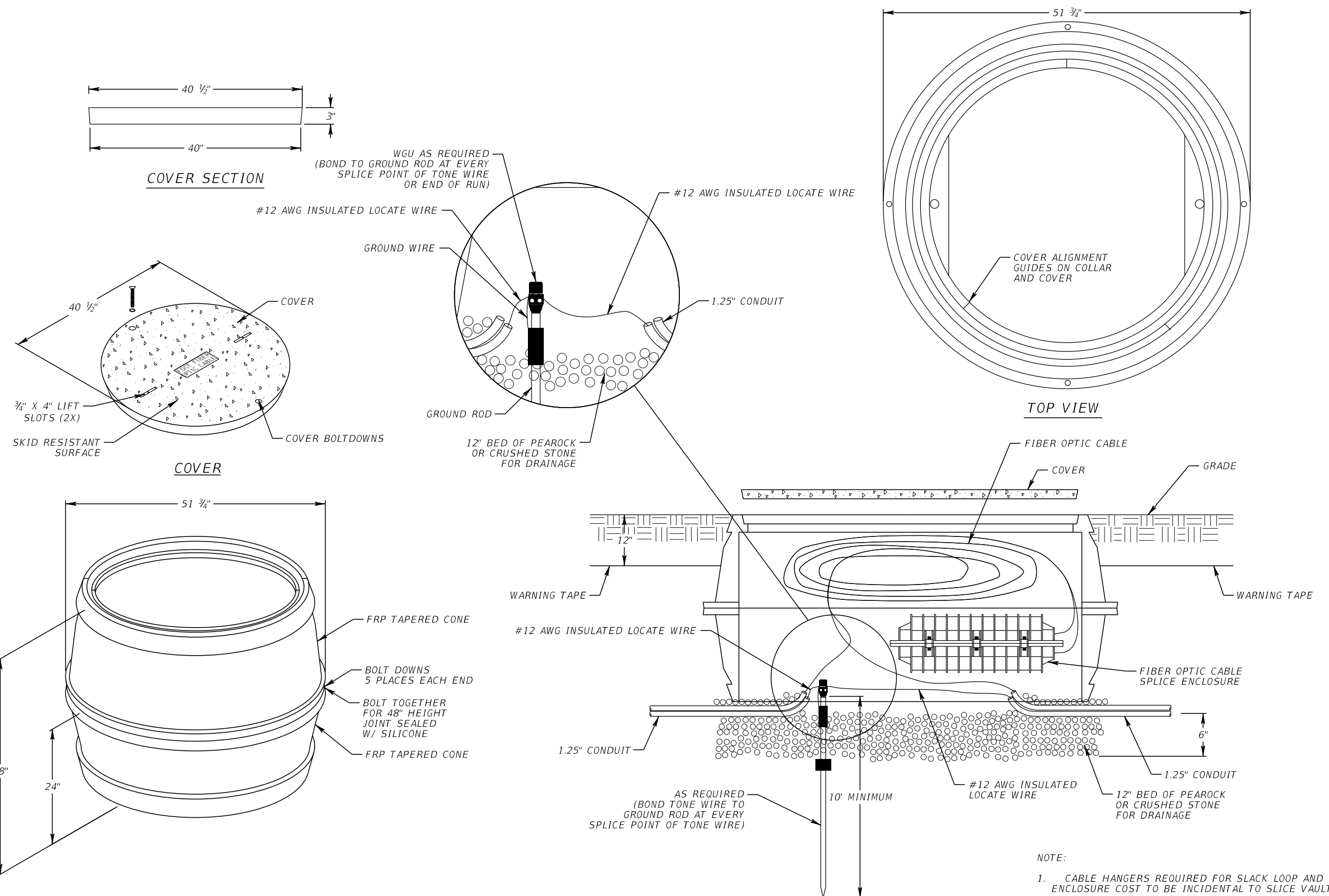
BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
(813) 985-7800 C.A. NO. 9835
MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

PULL BOX AND
CONDUIT DETAILS

SHEET
NO.
IT-35

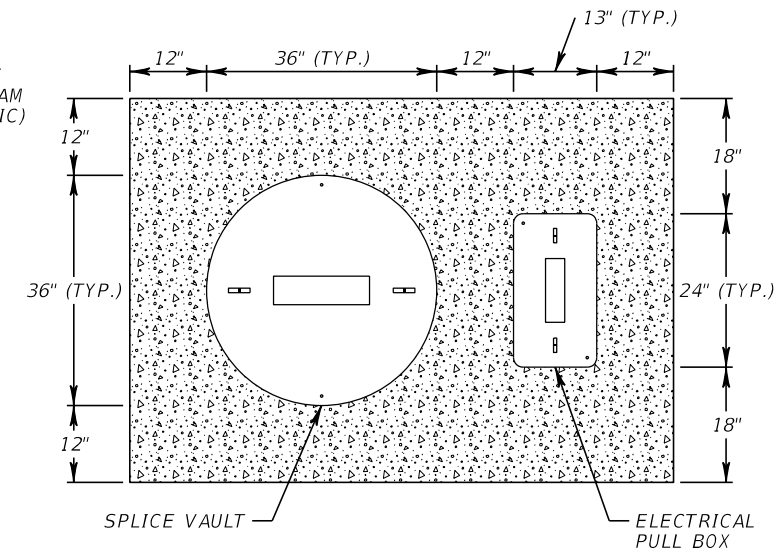
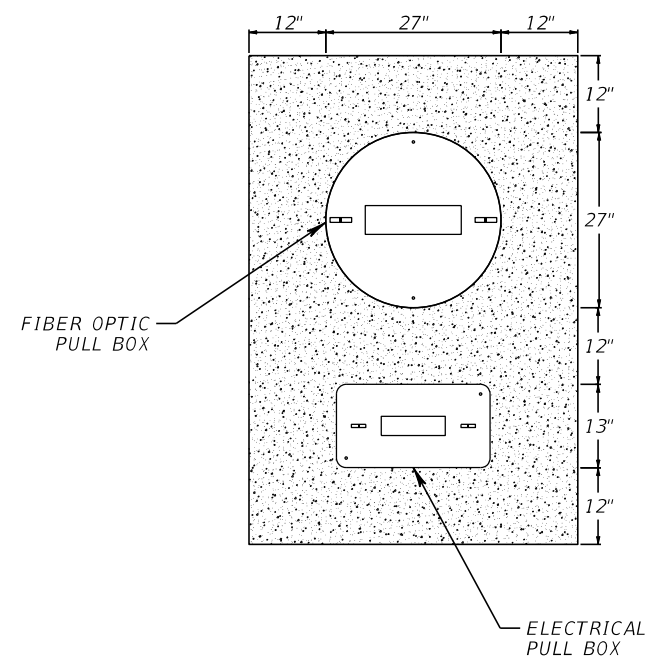
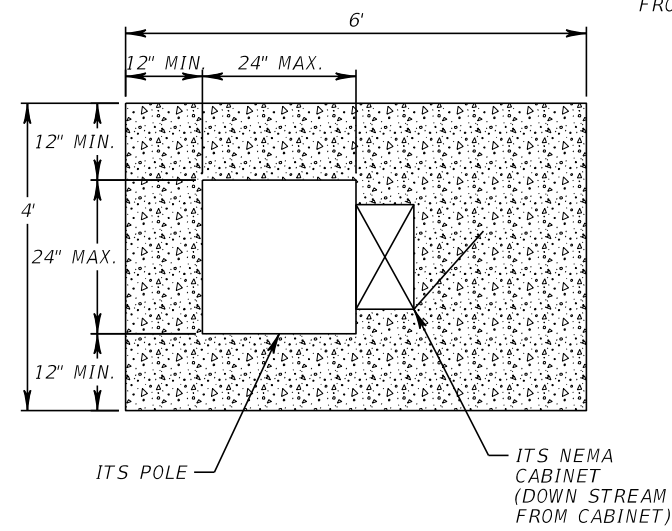
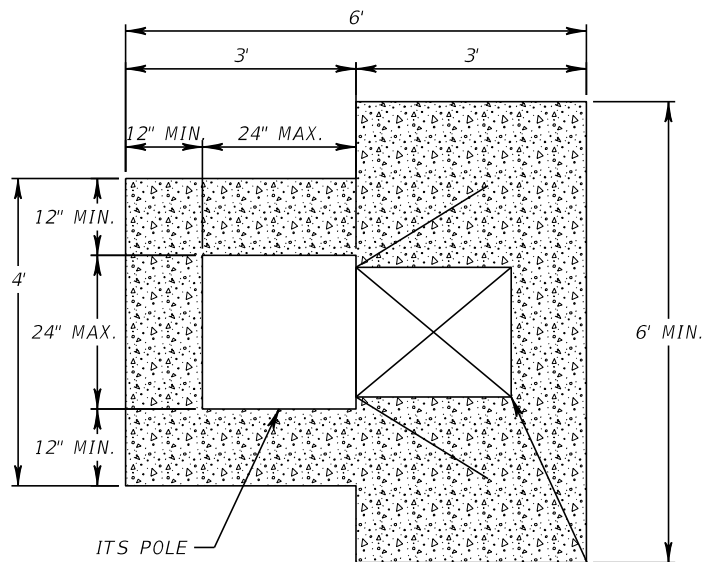
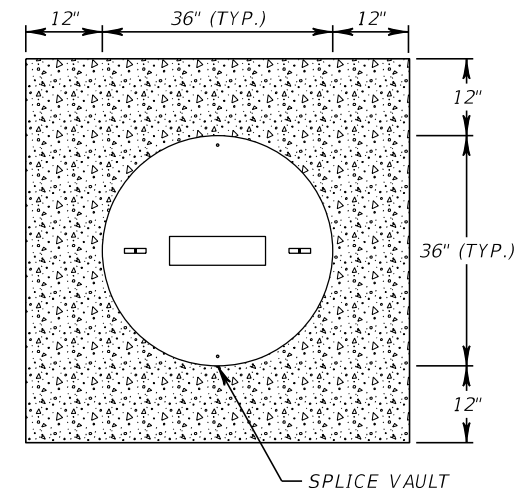
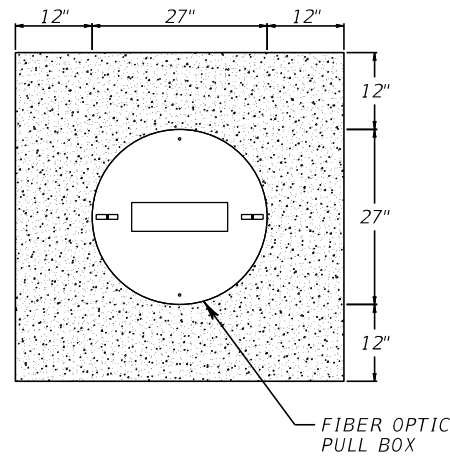
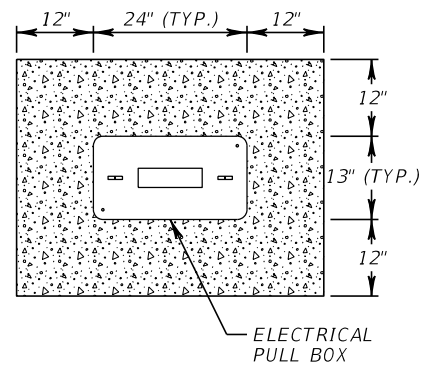
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



NOTE:
 1. CABLE HANGERS REQUIRED FOR SLACK LOOP AND ENCLOSURE COST TO BE INCIDENTAL TO SLICE VAULT.

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SPLICE VAULT DETAILS SHEET NO. IT-36
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					C.A. NO. 9835	SR 46	LAKE	

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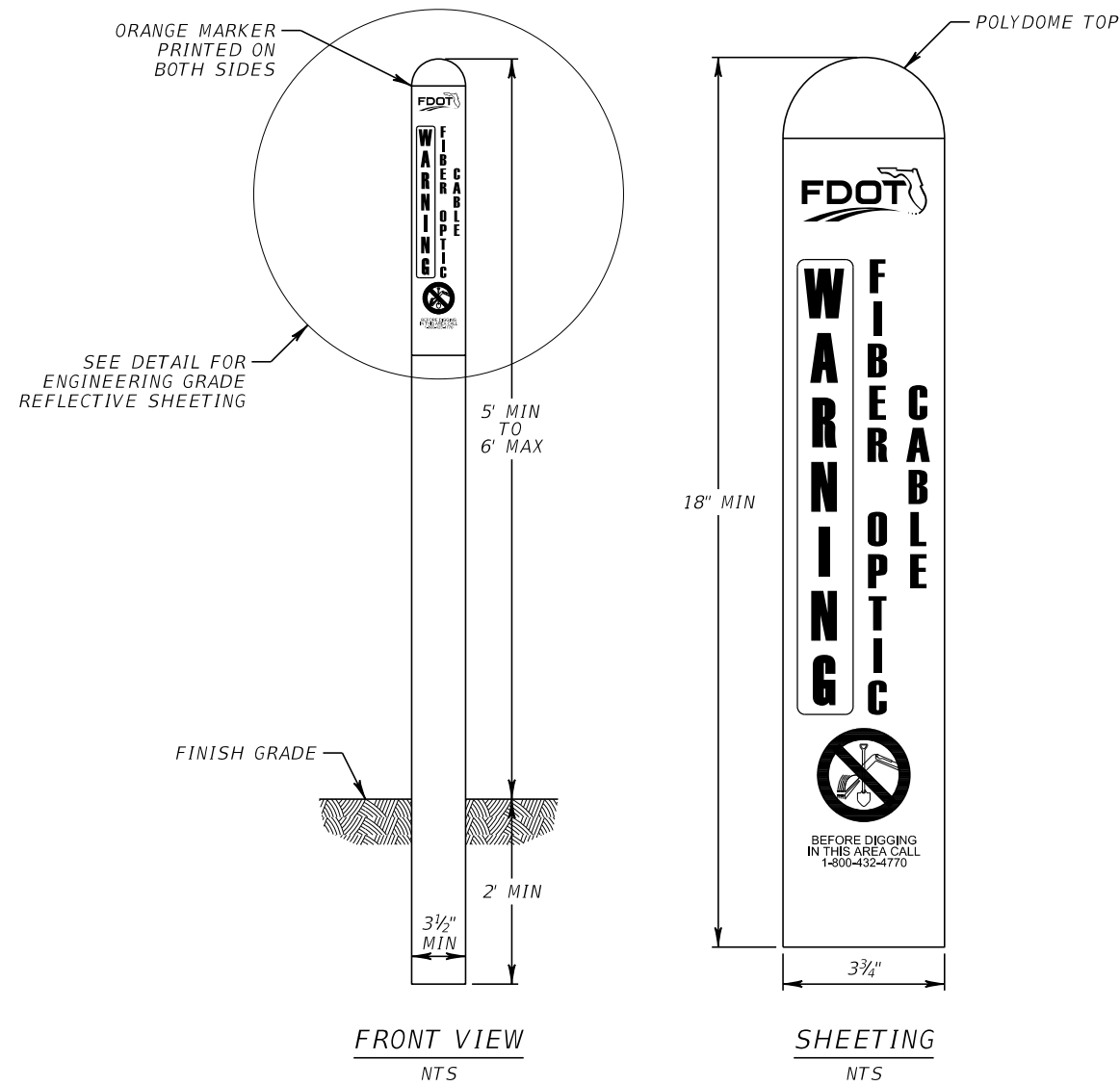


NOTES:
 1. COST OF CONCRETE PADS SHALL BE INCLUSIVE TO THE DEVICES/EQUIPMENT THAT THE PADS ARE BEING INSTALLED FOR.

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CONCRETE APRON DETAIL	SHEET NO. IT-37
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					C.A. NO. 9835	SR 46	LAKE		

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FIBER OPTIC CABLE ROUTE MARKER
NTS

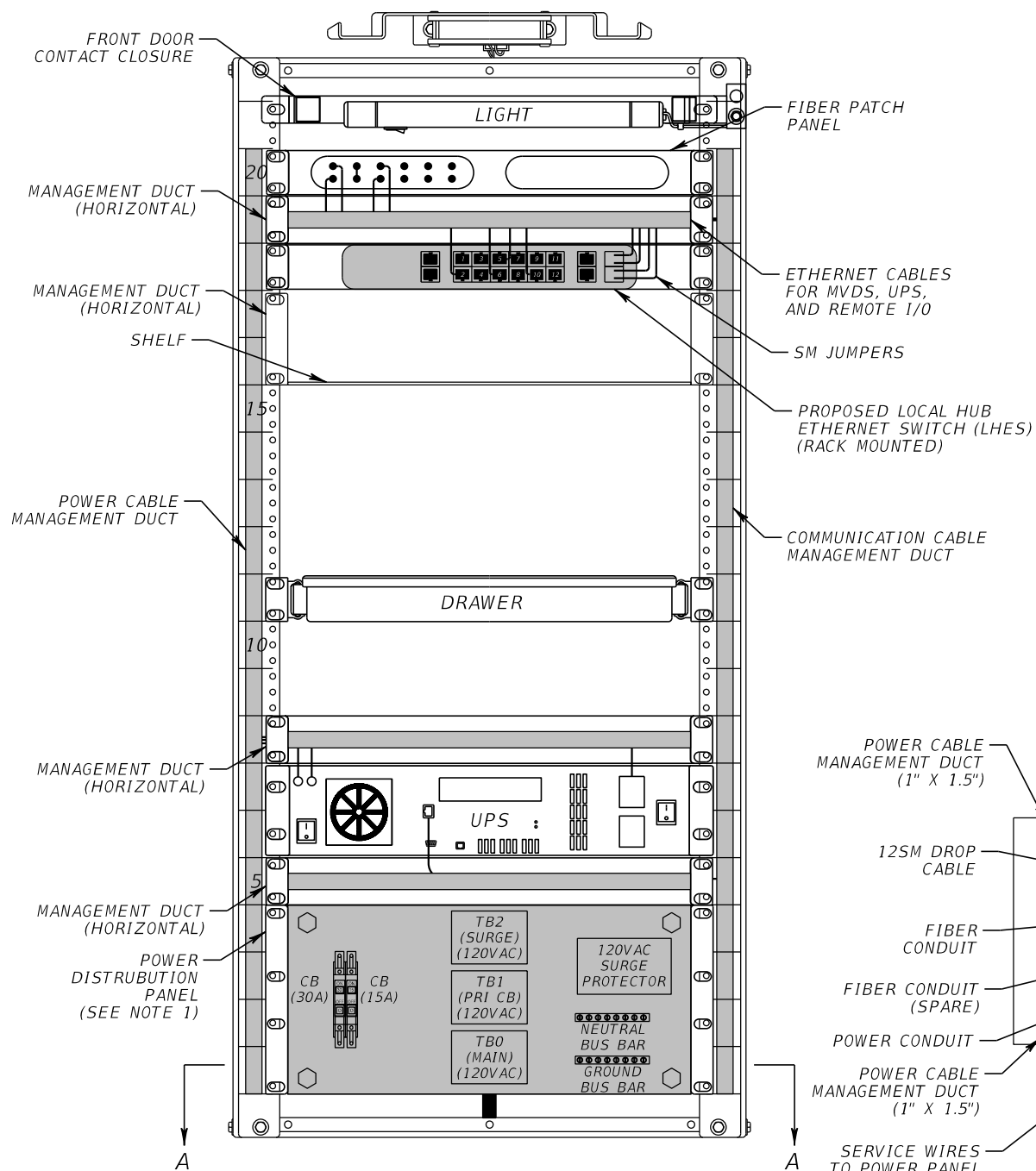


NOTES:

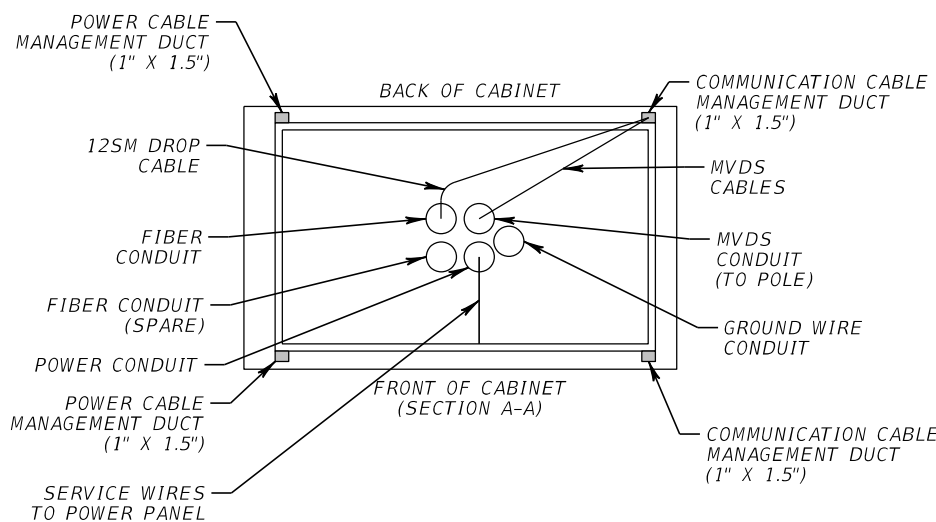
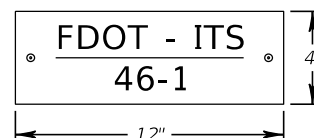
1. AN ORANGE POLYDOME TOP SHALL BE INSTALLED ON EACH MARKER.

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ROUTE MARKER DETAIL	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						SR 46	LAKE		238275-2-52-01

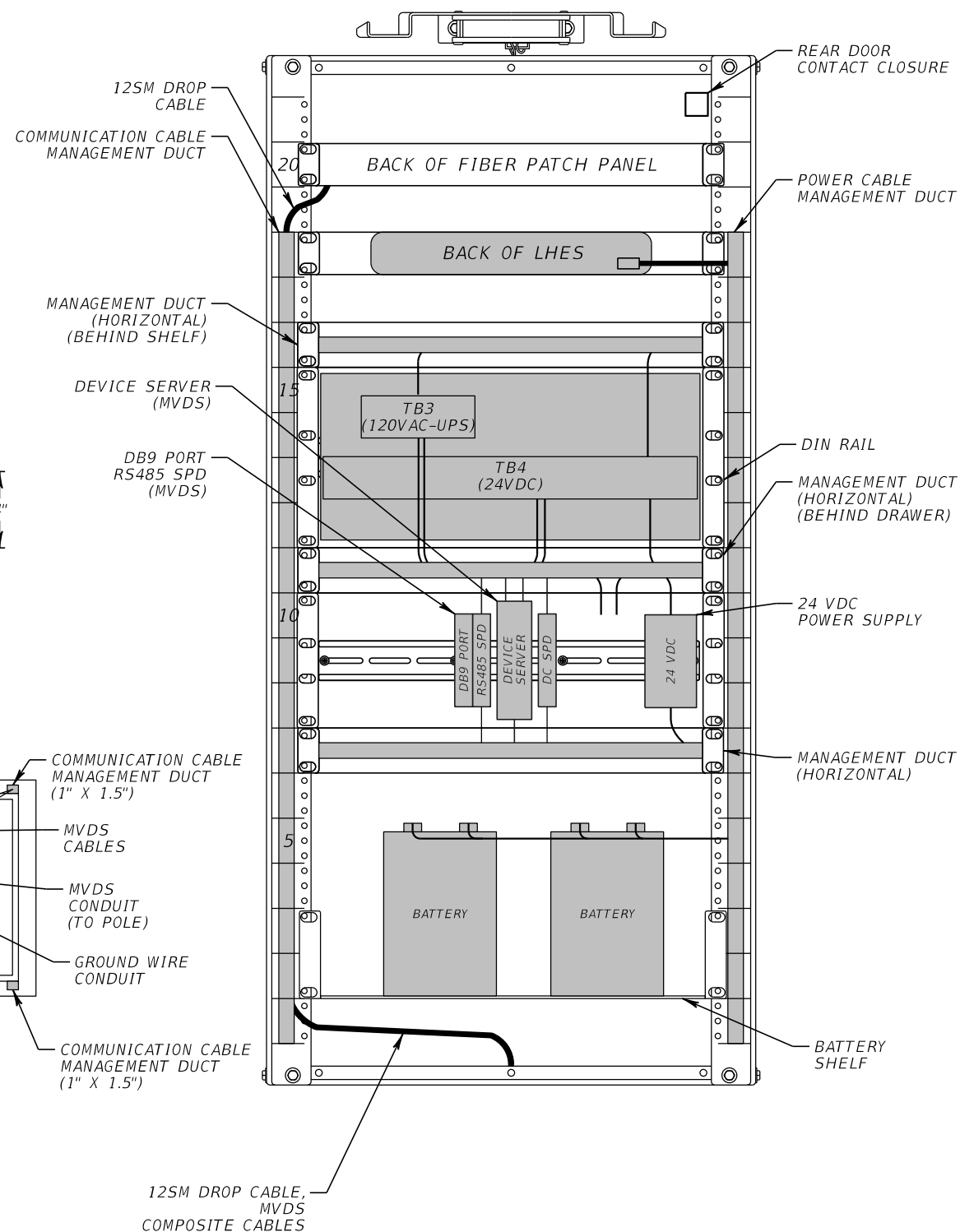
FRONT VIEW



CABINET TAG
(SEE NOTE 2)



BACK VIEW



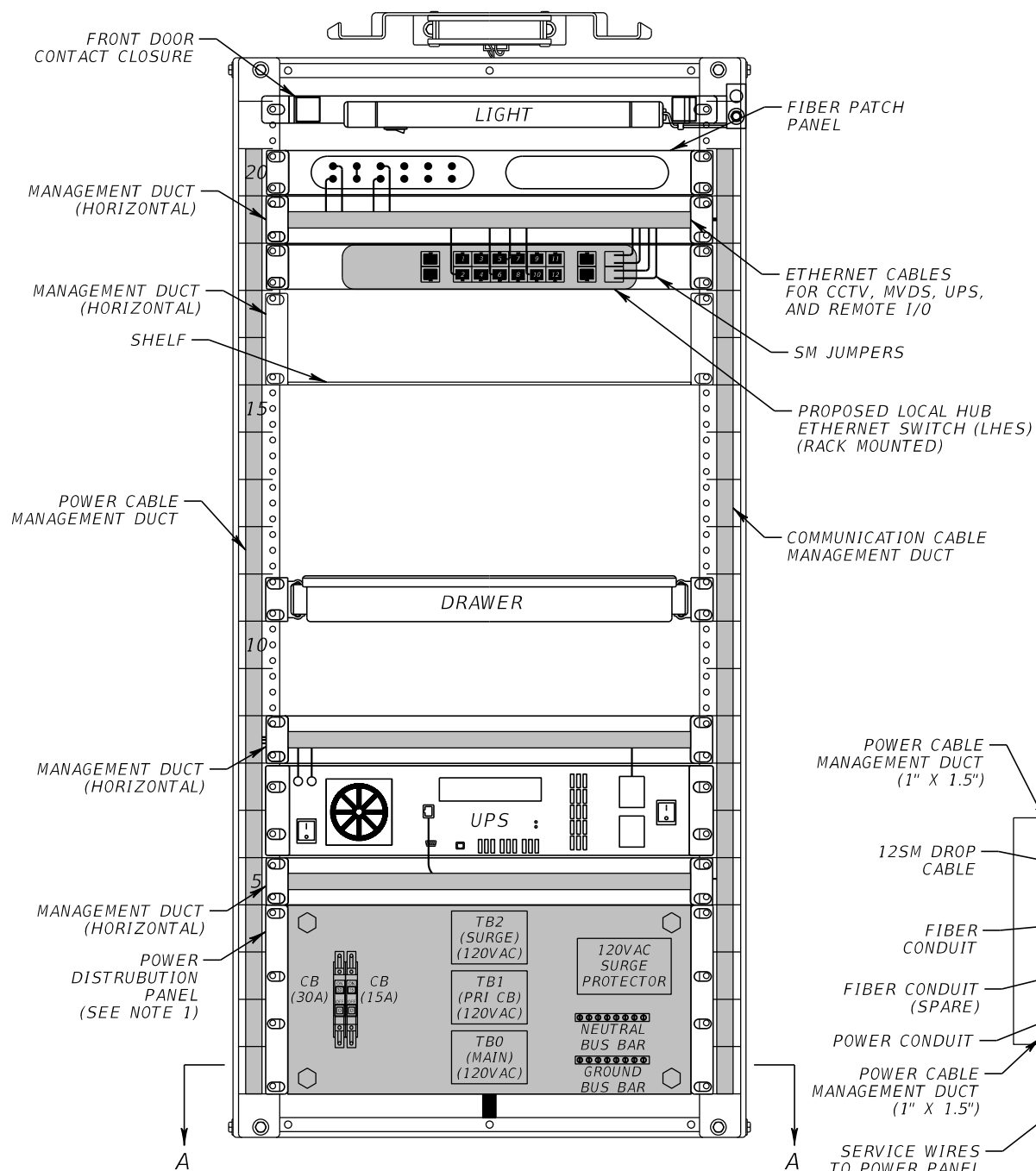
NOTES:

- SEE WIRING DIAGRAMS FOR DETAILED WIRING SCHEMATIC.
- CABINET IDENTIFICATION TAG SHALL BE MADE OF ALUMINUM GRADE HIGH INTENSITY PRISMATIC (HIP), GAUGE .080 WITH SQUARE CORNERS. THE TAG SHALL HAVE A GREEN BACKGROUND WITH WHITE 1 1/4" LETTERING AND SHALL BE SECURELY FASTENED TO THE CABINET IN LOCATION OPTIMAL FOR VIEWING FROM THE ROADWAY.

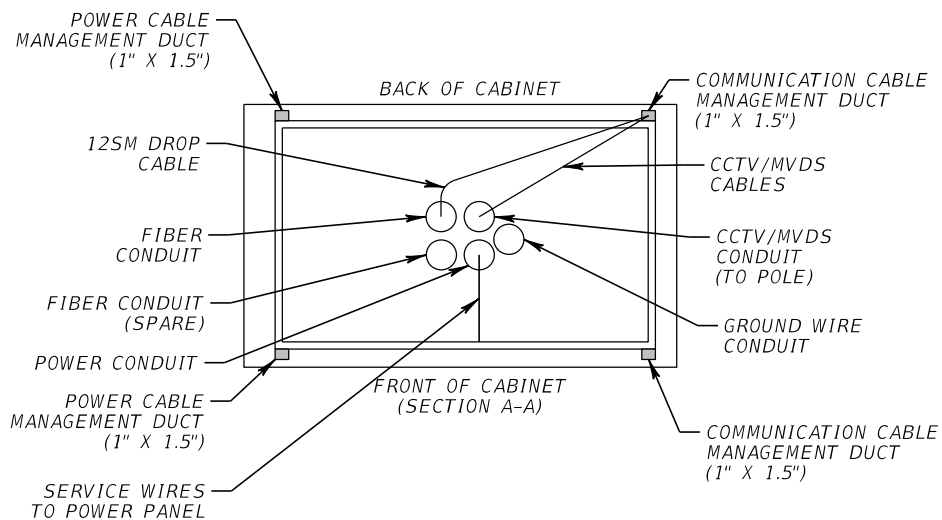
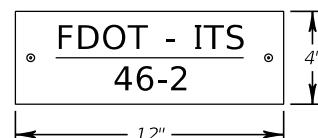
LHUB 46-1
(HD MVDS)

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			LOCAL HUB CABINET DETAILS	SHEET NO. IT-39
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 46	LAKE	238275-2-52-01		

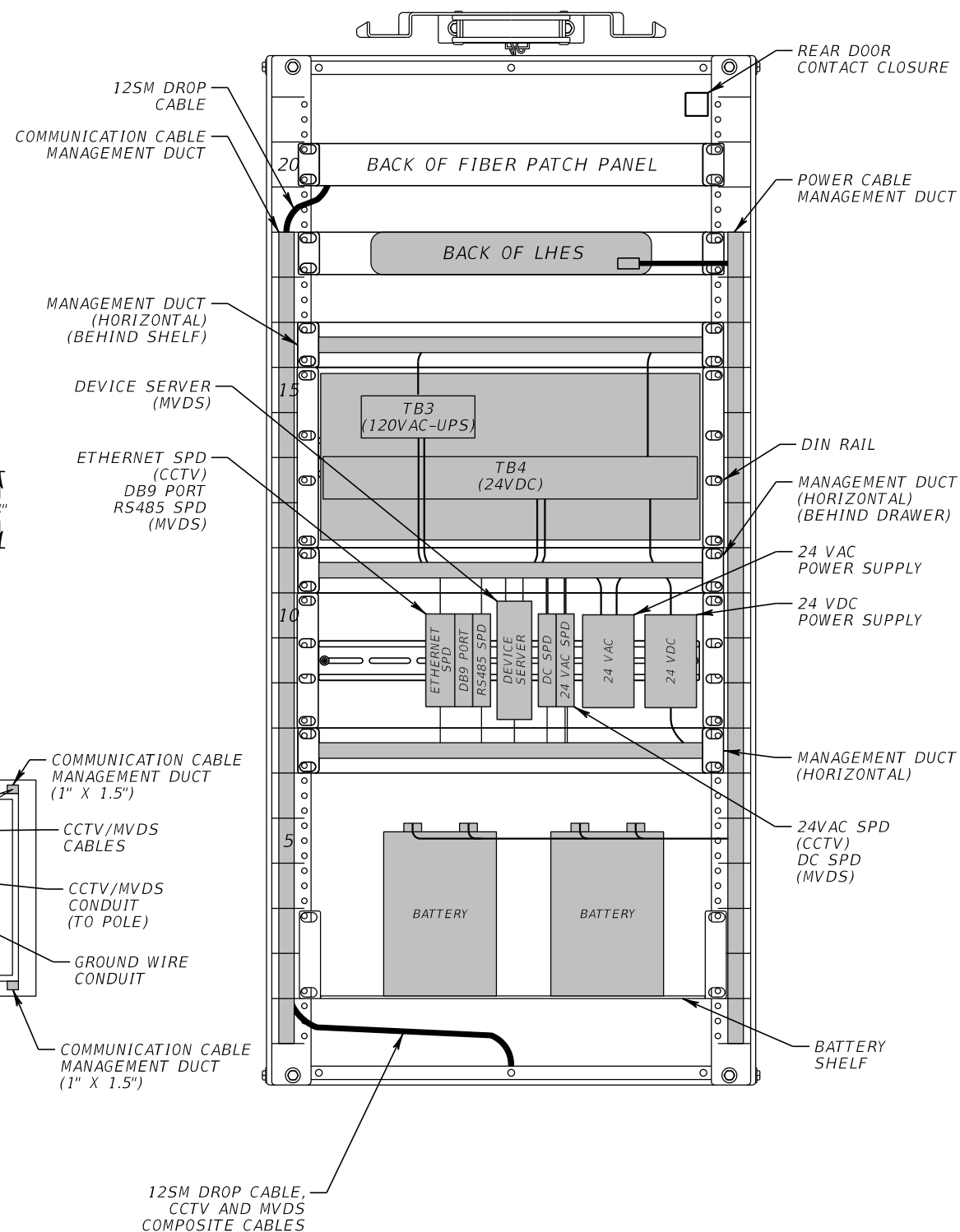
FRONT VIEW



CABINET TAG
(SEE NOTE 2)



BACK VIEW



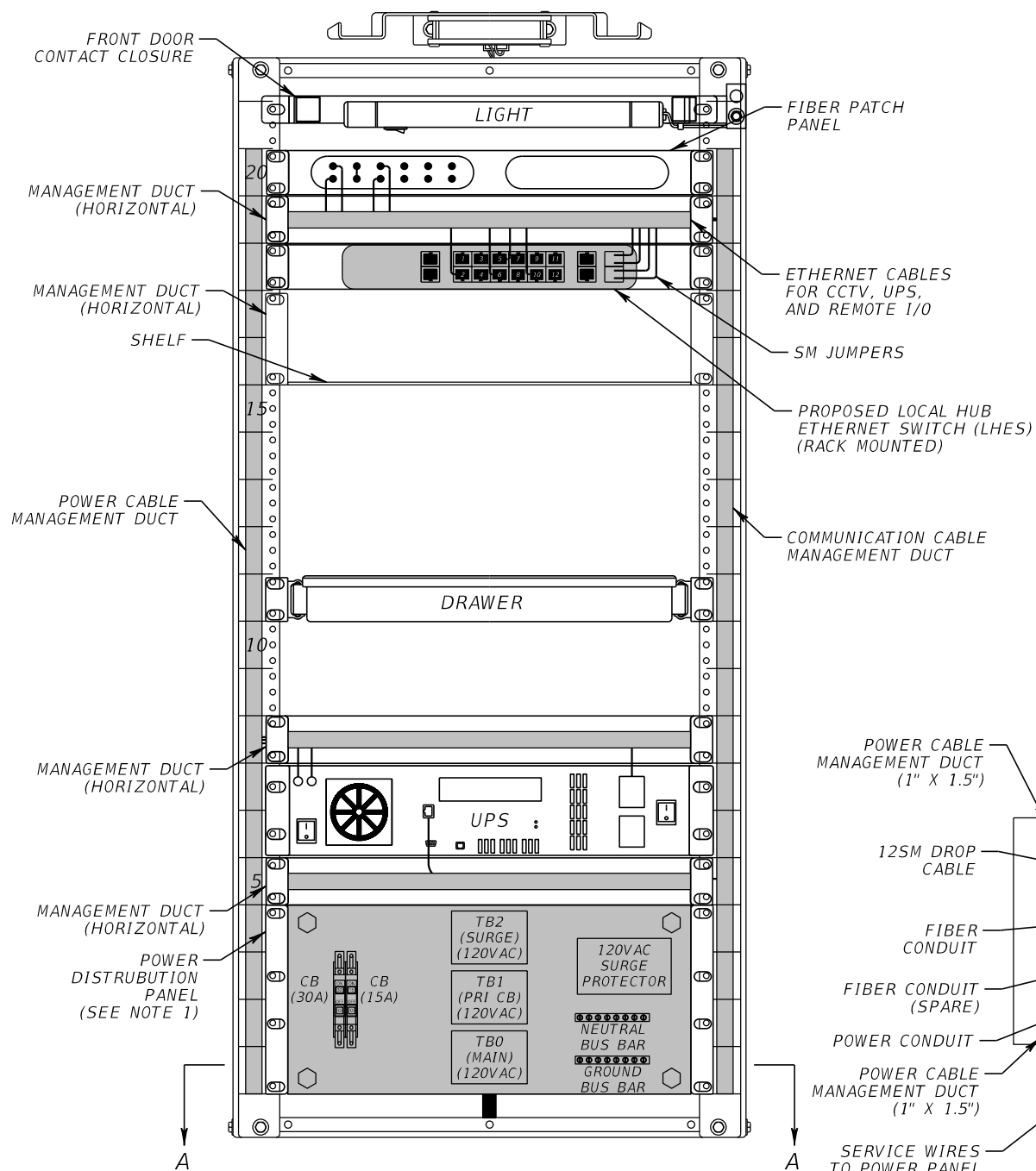
NOTES:

- SEE WIRING DIAGRAMS FOR DETAILED WIRING SCHEMATIC.
- CABINET IDENTIFICATION TAG SHALL BE MADE OF ALUMINUM GRADE HIGH INTENSITY PRISMATIC (HIP), GAUGE .080 WITH SQUARE CORNERS. THE TAG SHALL HAVE A GREEN BACKGROUND WITH WHITE 1 1/4" LETTERING AND SHALL BE SECURELY FASTENED TO THE CABINET IN LOCATION OPTIMAL FOR VIEWING FROM THE ROADWAY.

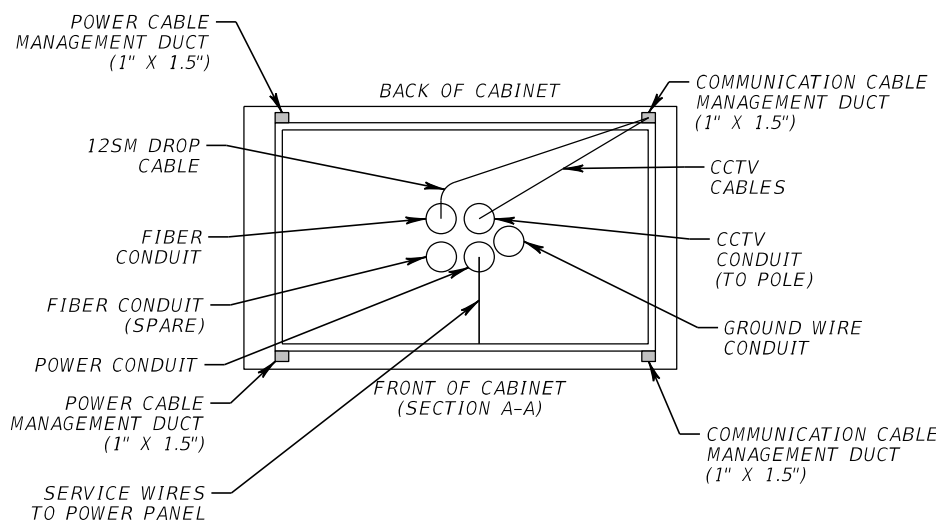
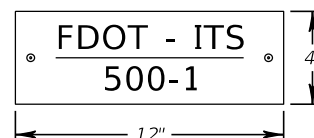
LHUB 46-2
(CCTV & HD MVDS)

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			LOCAL HUB CABINET DETAILS	SHEET NO. IT-40
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				C.A. NO. 9835	SR 46	LAKE	238275-2-52-01		

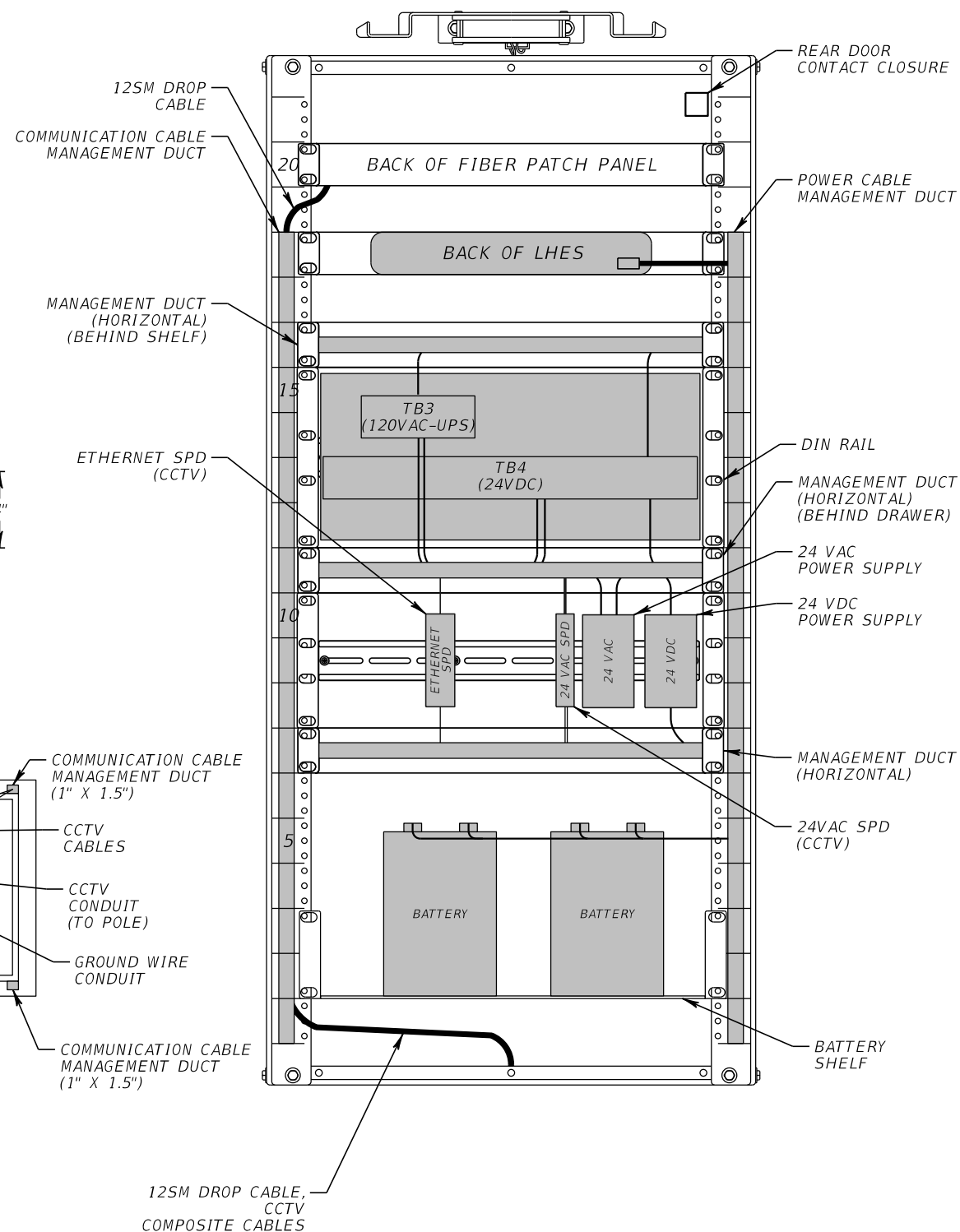
FRONT VIEW



CABINET TAG
(SEE NOTE 2 & 3)



BACK VIEW



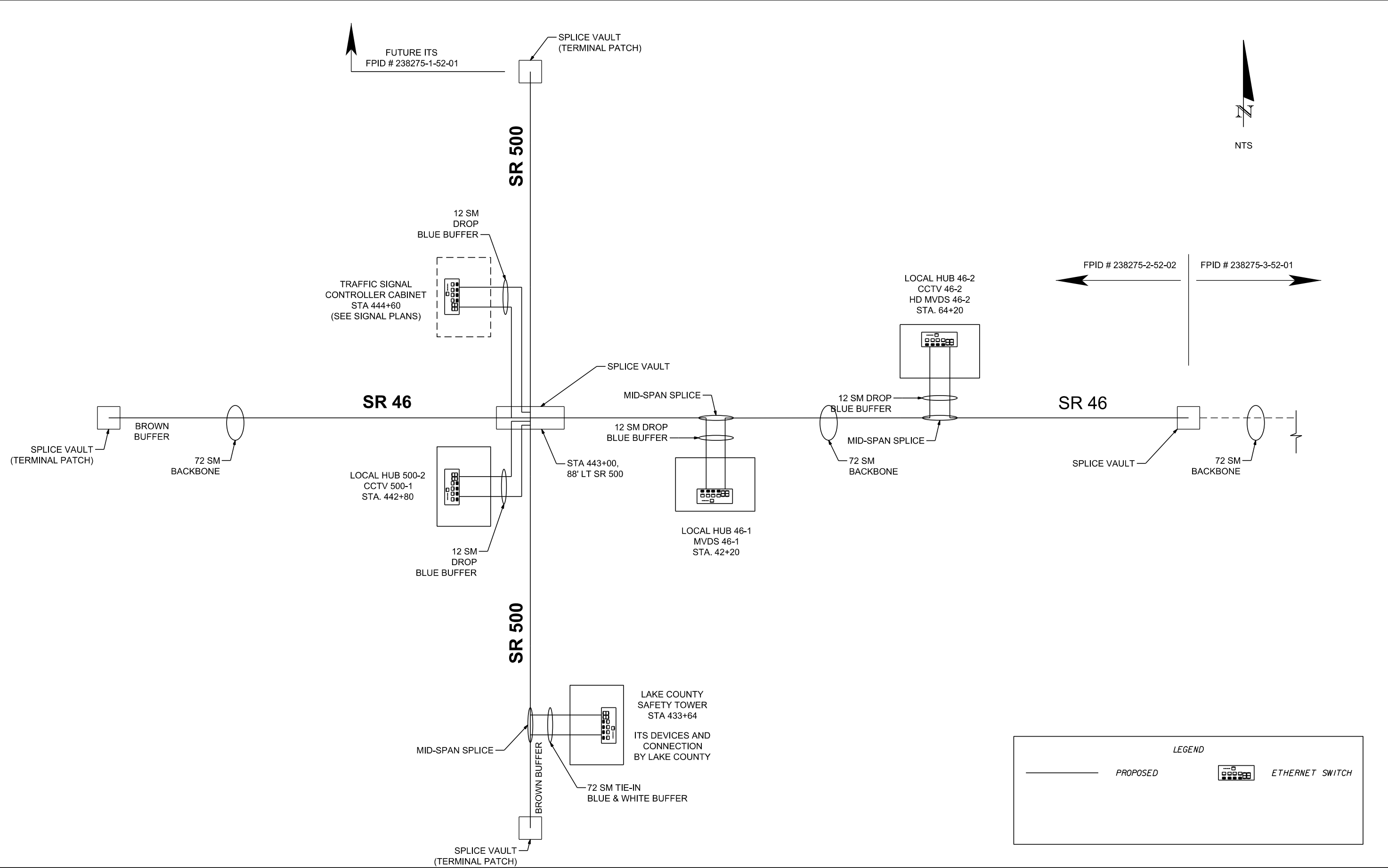
NOTES:

- SEE WIRING DIAGRAMS FOR DETAILED WIRING SCHEMATIC.
- CABINET IDENTIFICATION TAG SHALL BE MADE OF ALUMINUM GRADE HIGH INTENSITY PRISMATIC (HIP), GAUGE .080 WITH SQUARE CORNERS. THE TAG SHALL HAVE A GREEN BACKGROUND WITH WHITE 1 1/4" LETTERING AND SHALL BE SECURELY FASTENED TO THE CABINET IN LOCATION OPTIMAL FOR VIEWING FROM THE ROADWAY.

LHUB 500-1
(CCTV)


REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			LOCAL HUB CABINET DETAILS	SHEET NO. IT-41
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				C.A. NO. 9835	SR 46	LAKE	238275-2-52-01		

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LEGEND

— PROPOSED

 ETHERNET SWITCH

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
 (813) 985-7800 C.A. NO. 9835
 MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

LOGICAL NETWORK DIAGRAM

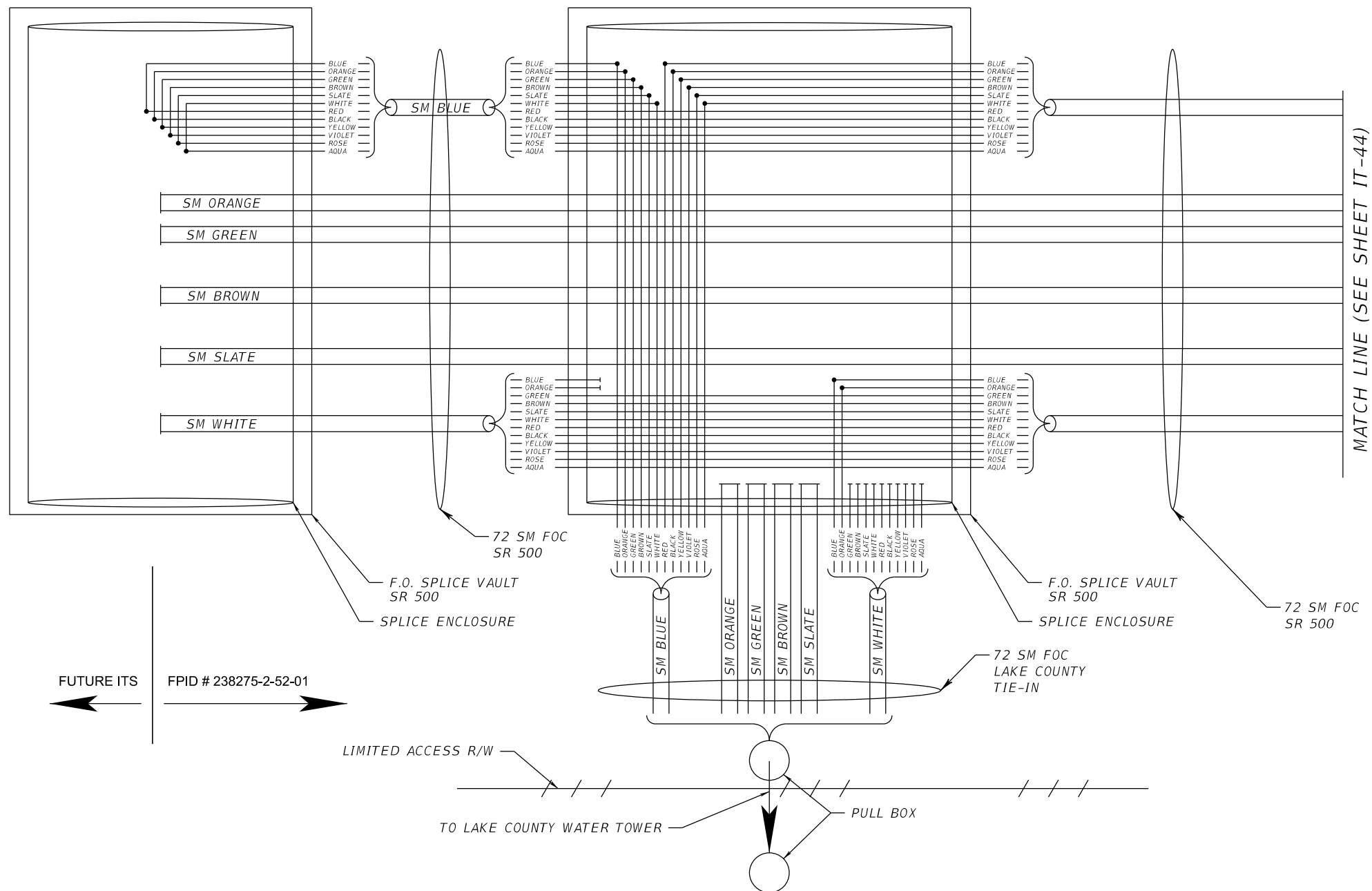
SHEET NO.
IT-42

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

LEGEND	
□	CONNECTOR
•	FUSION SPLICE
└	TERMINATED
SM	SINGLE MODE

TERMINAL PATCH
SPLICE VAULT
SR 500 STA 428+30

SPLICE VAULT
SR 500 STA 433+64



FUTURE ITS
FPID # 238275-2-52-01

LIMITED ACCESS R/W

TO LAKE COUNTY WATER TOWER

PULL BOX

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
(813) 985-7800 C.A. NO. 9835
MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

SPLICE DIAGRAM SHEET
SR 500

SHEET NO.
IT-43

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

LEGEND	
□	CONNECTOR
●	FUSION SPLICE
└	TERMINATED
SM	SINGLE MODE

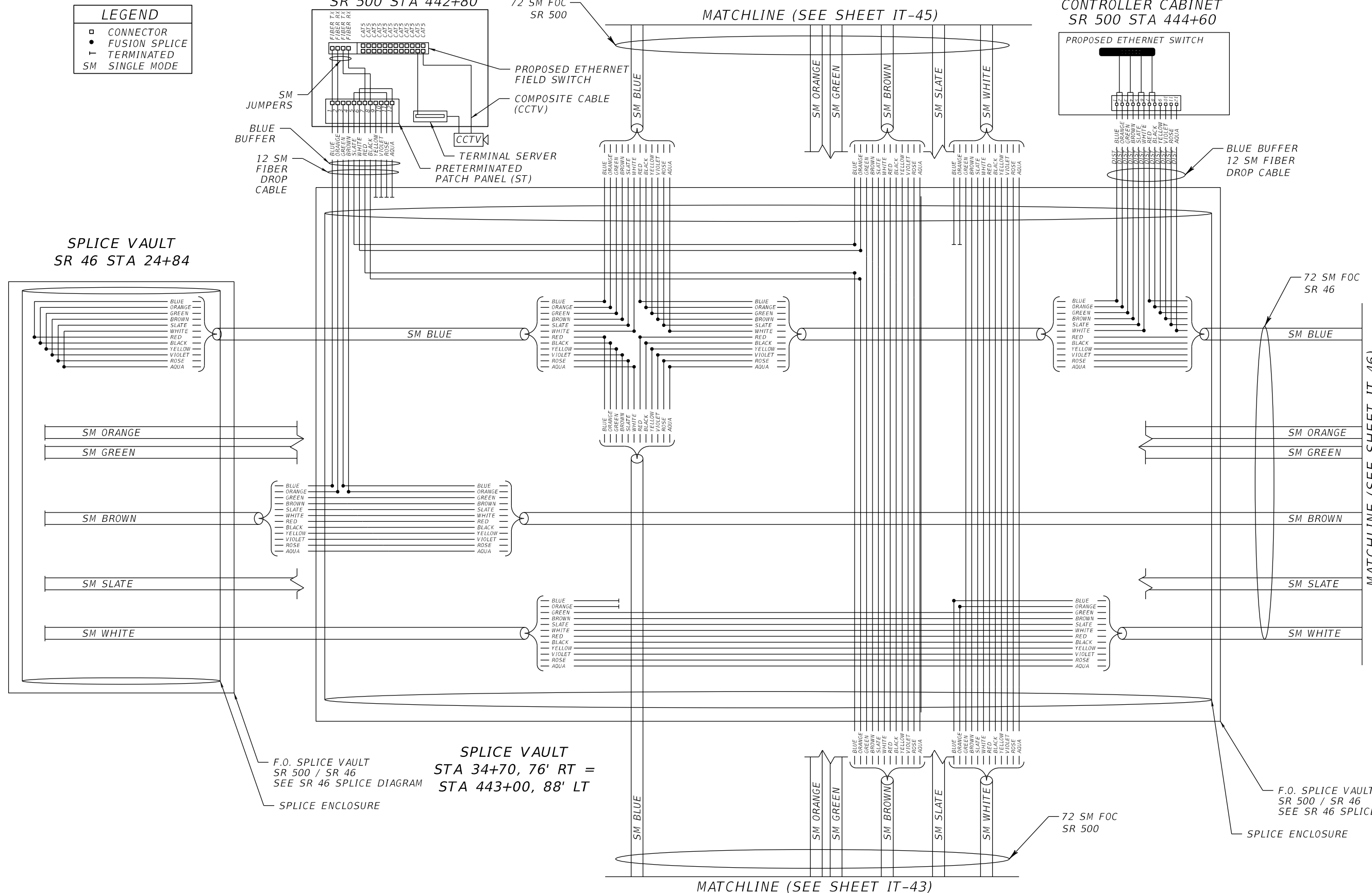
CCTV 500-1 CABINET
SR 500 STA 442+80

MATCHLINE (SEE SHEET IT-45)

TRAFFIC SIGNAL
CONTROLLER CABINET
SR 500 STA 444+60

SPLICE VAULT
SR 46 STA 24+84

SPLICE VAULT
STA 34+70, 76' RT =
STA 443+00, 88' LT



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BES INC
11007 N. 56TH ST., #208
TEMPLE TERRACE, FL 33617
(813) 985-7800 C.A. NO. 9835
MICHAEL J. NOESEN, P.E. NO. 42255

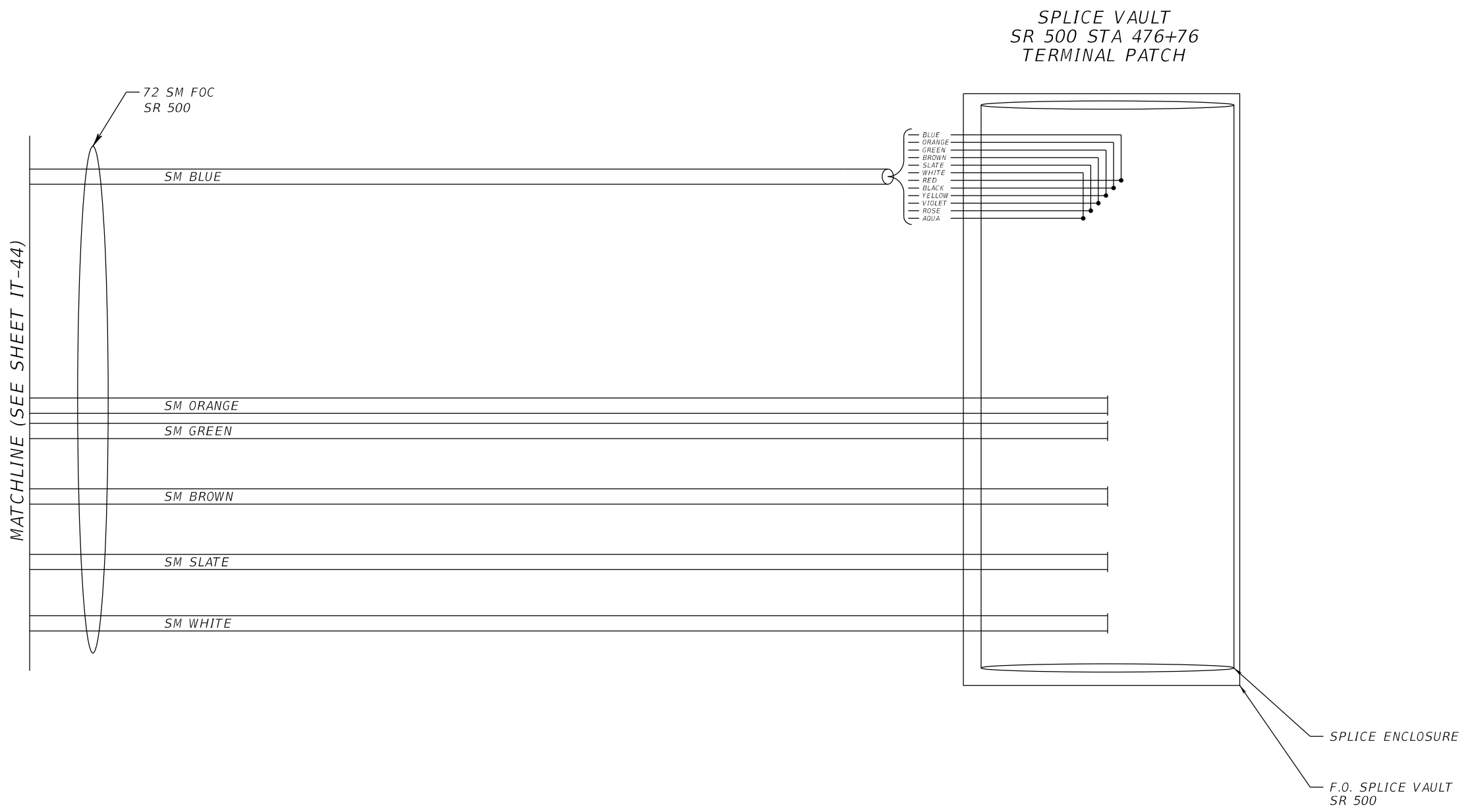
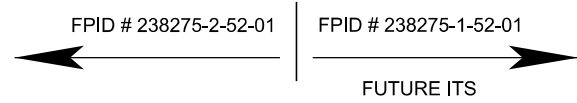
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

SPLICE DIAGRAM SHEET
SR 46 / SR 500

SHEET NO.
IT-44

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

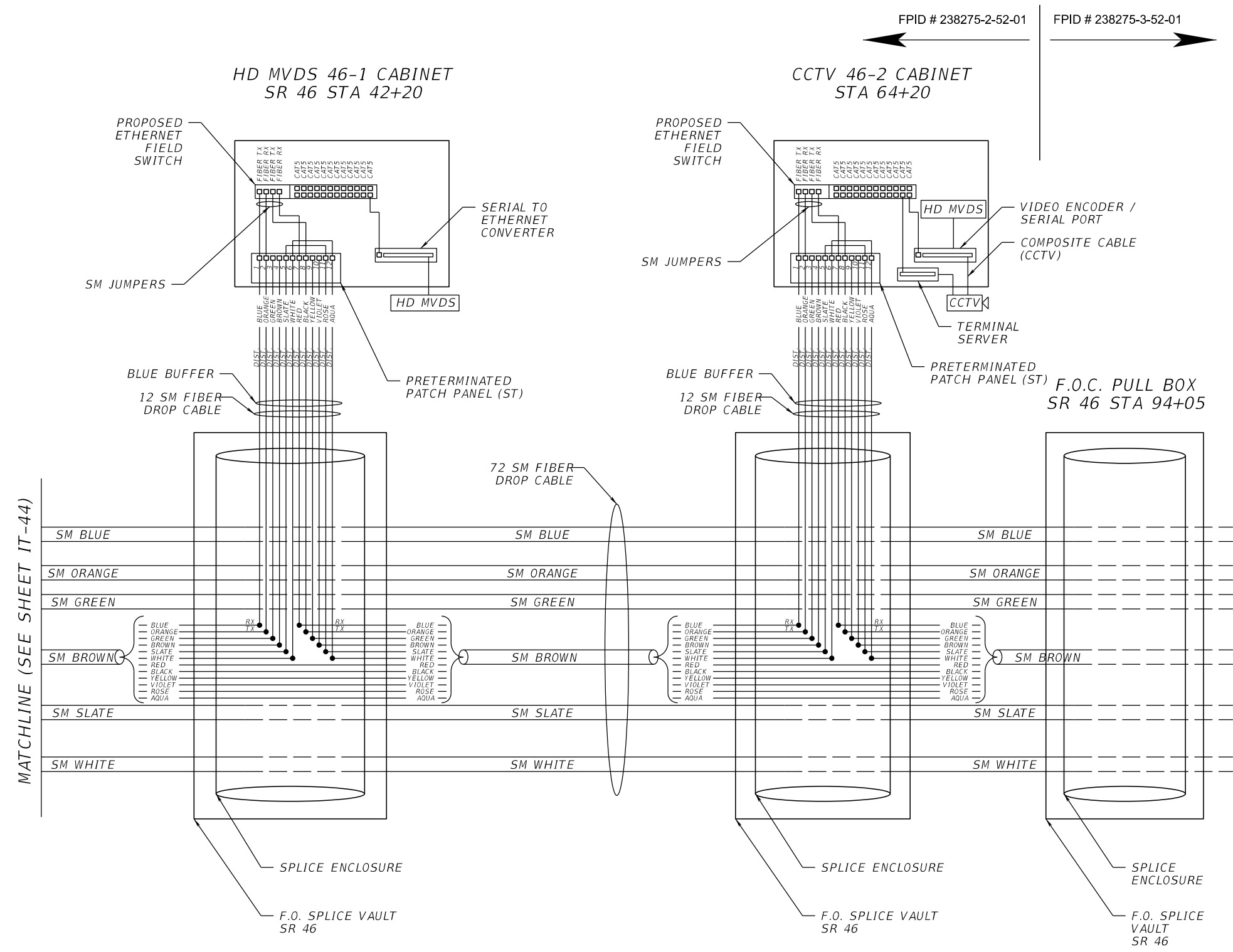
LEGEND	
□	CONNECTOR
•	FUSION SPLICE
├	TERMINATED
SM	SINGLE MODE



REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SPLICE DIAGRAM SHEET SR 500	SHEET NO. IT-45
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						SR 46	LAKE		238275-2-52-01

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LEGEND	
□	CONNECTOR
●	FUSION SPLICE
└	TERMINATED
SM	SINGLE MODE

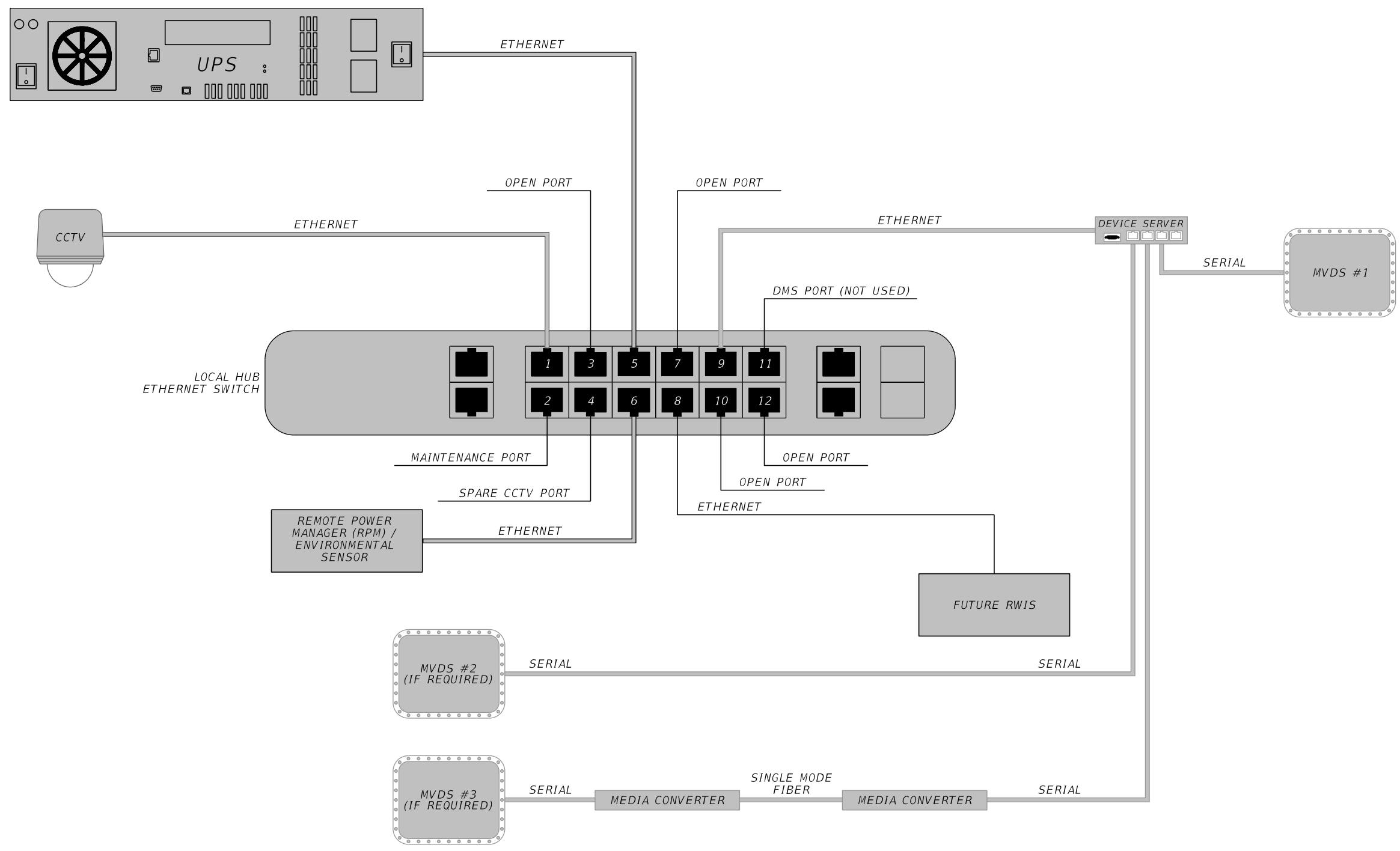


FPID # 238275-2-52-01 ←
 → FPID # 238275-3-52-01

MATCHLINE (SEE SHEET IT-44)

REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SPLICE DIAGRAM SHEET SR 46	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						SR 46	LAKE		238275-2-52-01

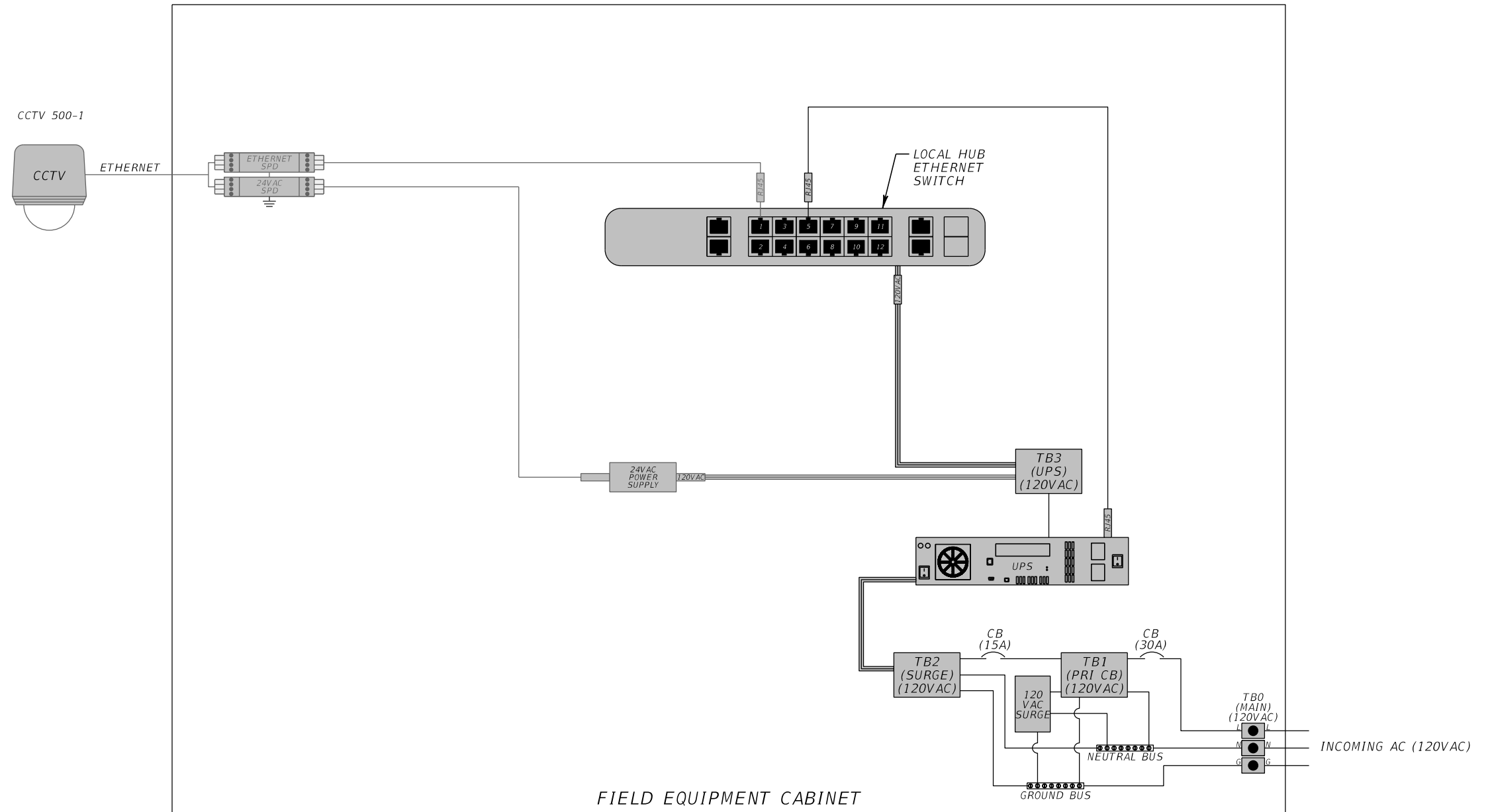
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS				BES INC 11007 N. 56TH ST., #208 TEMPLE TERRACE, FL 33617 (813) 985-7800 C.A. NO. 9835 MICHAEL J. NOESEN, P.E. NO. 42255	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			LOCAL HUB ETHERNET SWITCH DETAIL	SHEET NO. IT-47
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 46	LAKE	238275-2-52-01		

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LHUB 500-1



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
 (813) 985-7800 C.A. NO. 9835
 MICHAEL J. NOESEN, P.E. NO. 42255

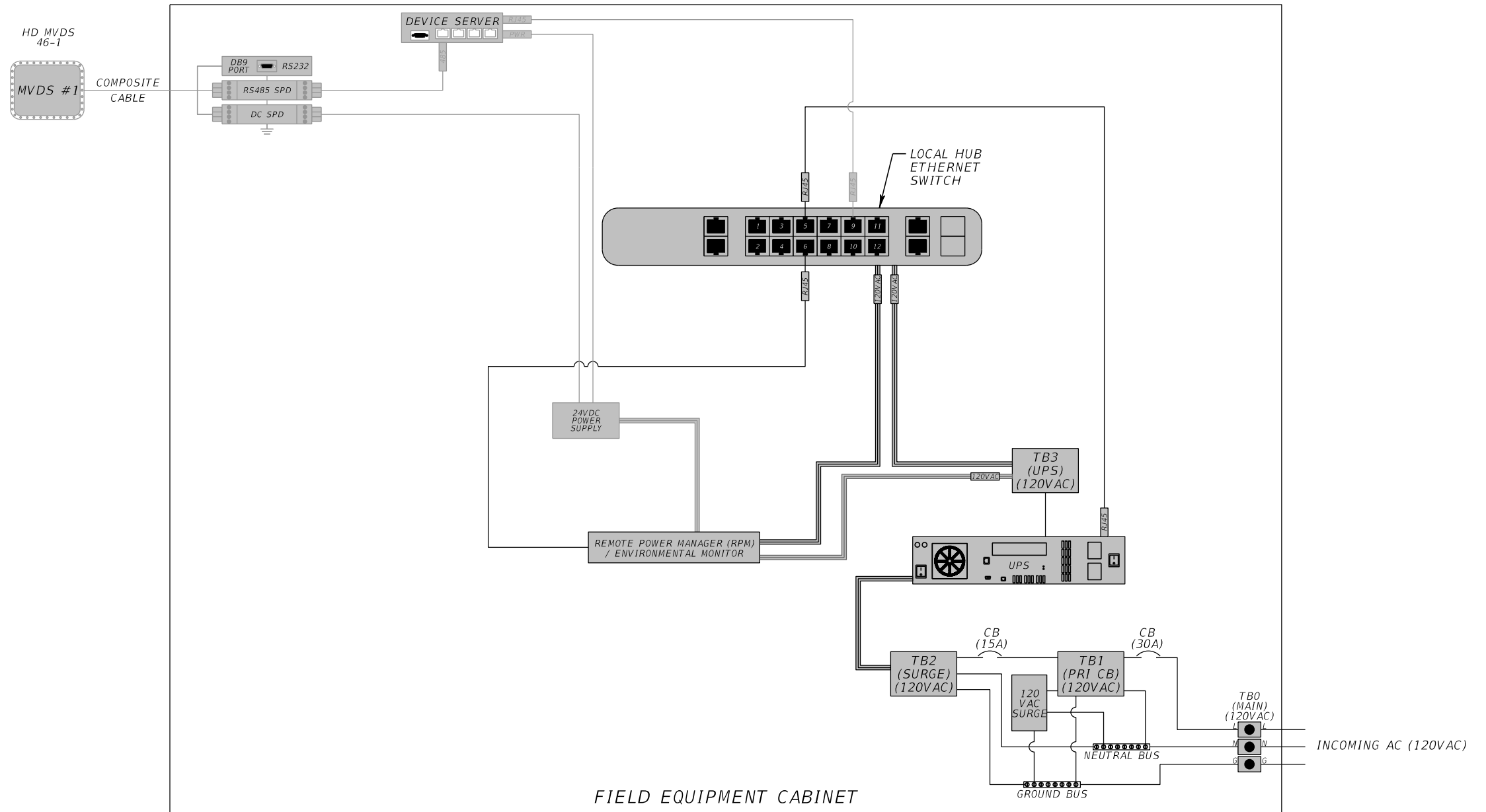
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

WIRING DIAGRAMS

SHEET NO.
IT-48

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LHUB 46-1



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
 (813) 985-7800 C.A. NO. 9835
 MICHAEL J. NOESEN, P.E. NO. 42255

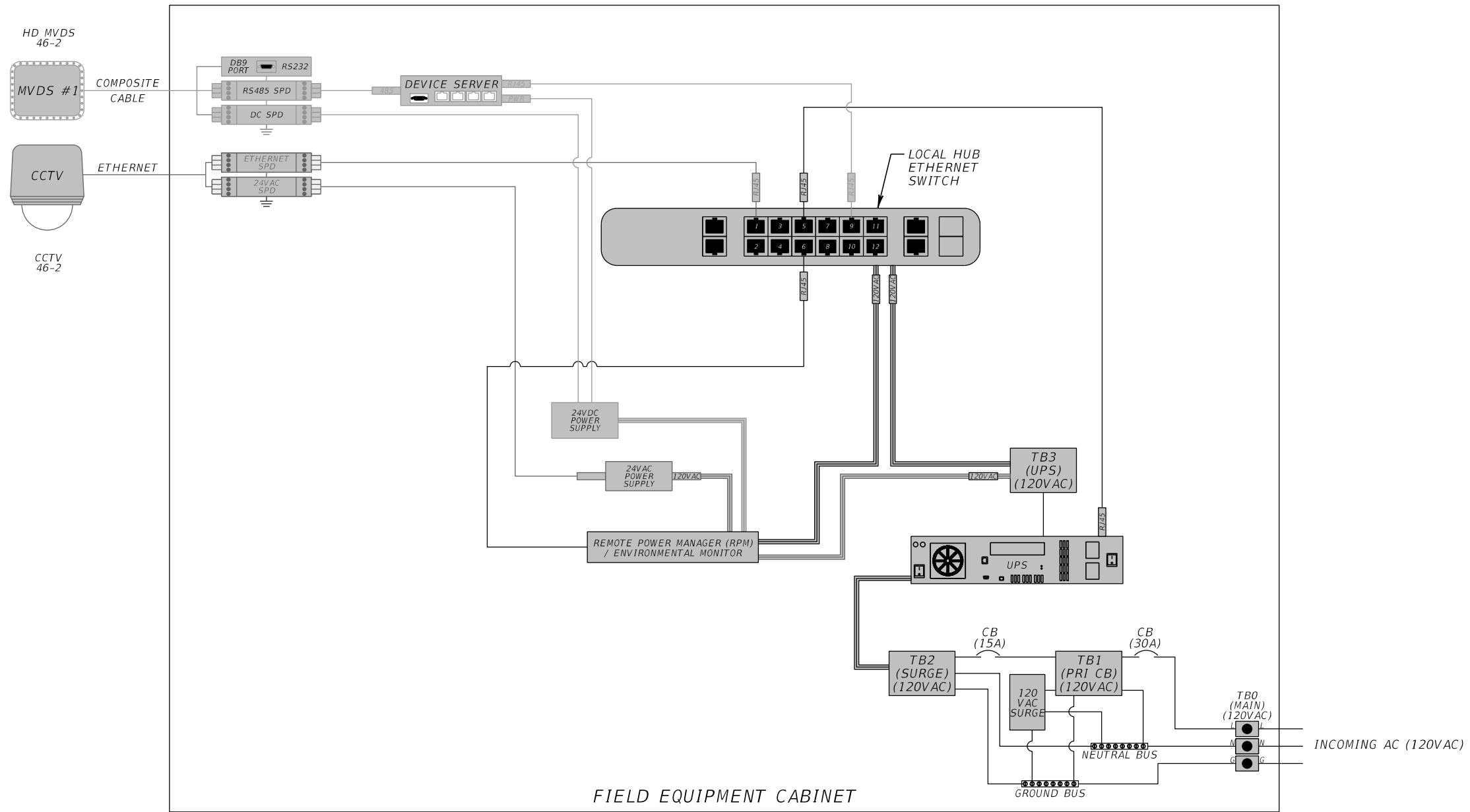
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

WIRING DIAGRAMS

SHEET NO.
IT-49

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LHUB 46-2



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

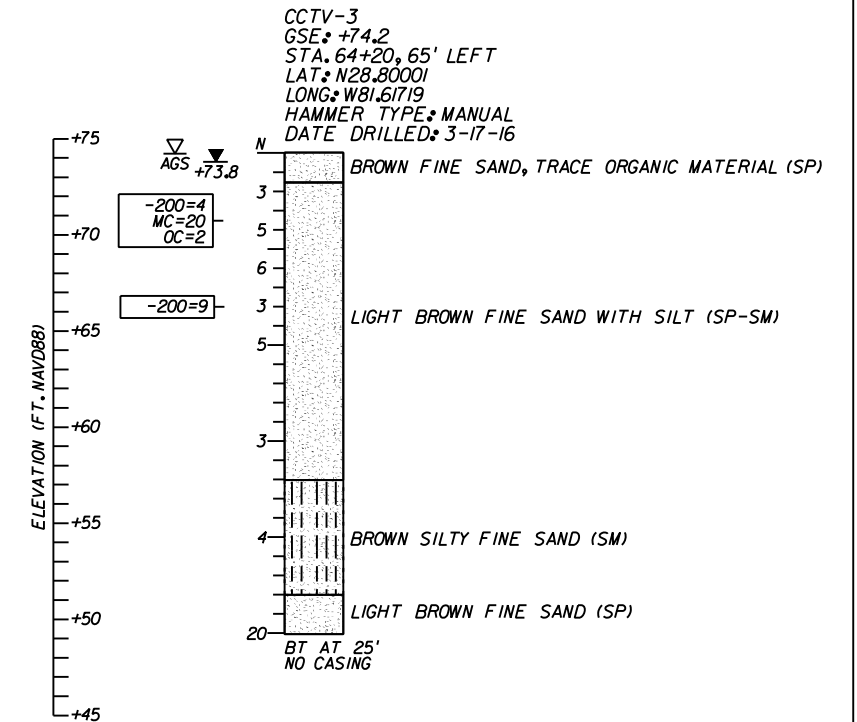
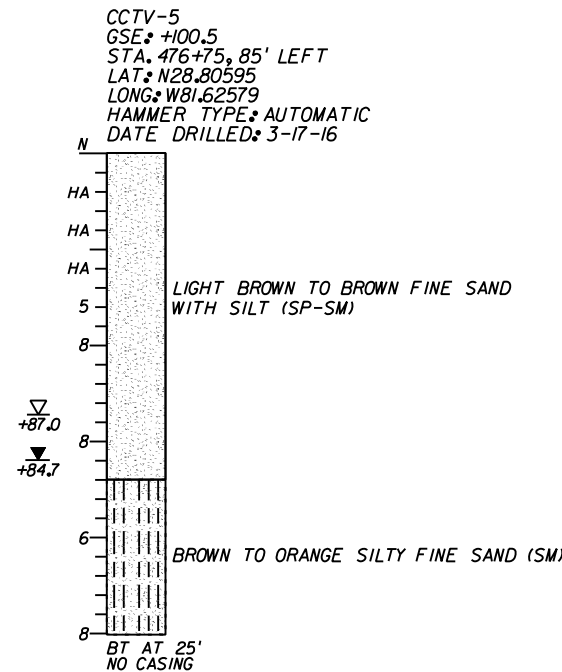
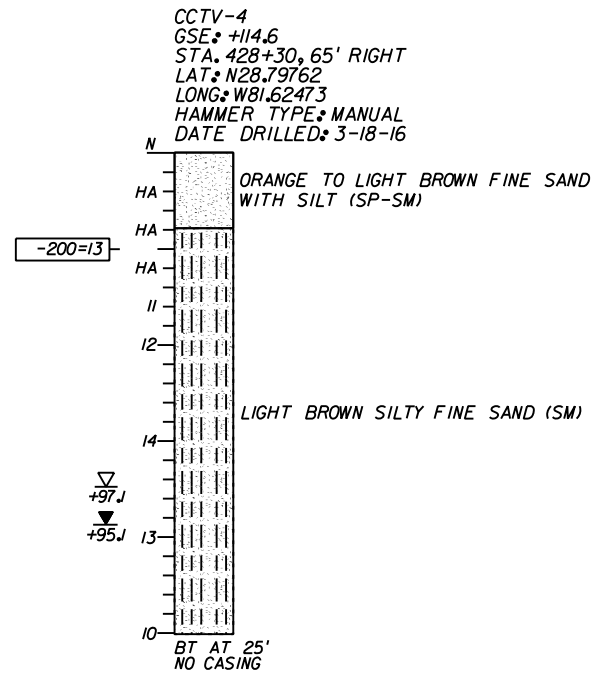
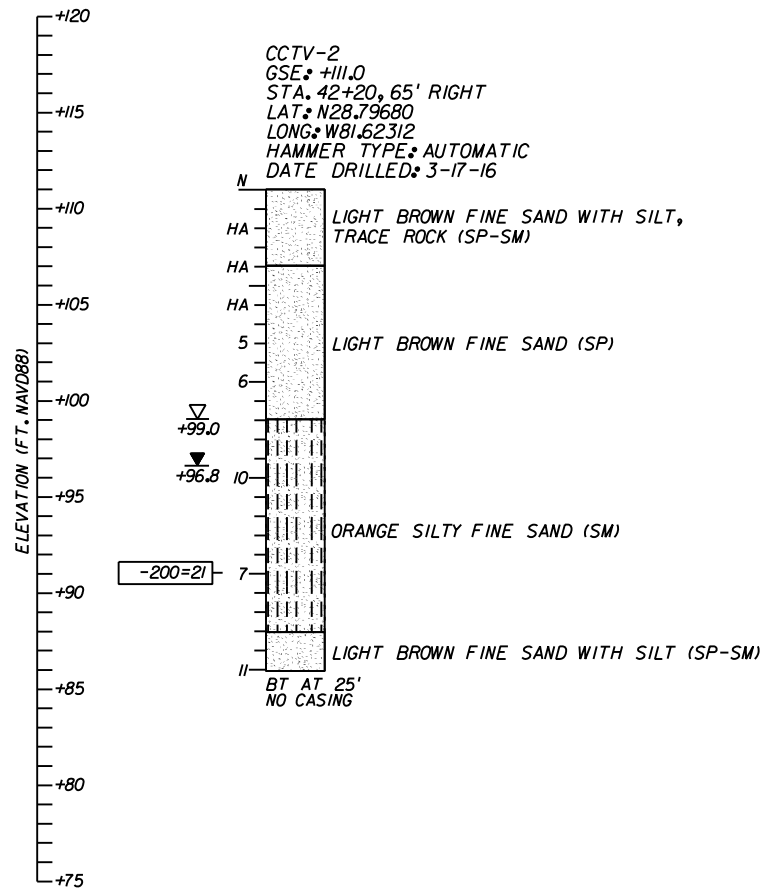
BES INC
 11007 N. 56TH ST., #208
 TEMPLE TERRACE, FL 33617
 (813) 985-7800 C.A. NO. 9835
 MICHAEL J. NOESEN, P.E. NO. 42255

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 46	LAKE	238275-2-52-01

WIRING DIAGRAMS

SHEET NO.
IT-50

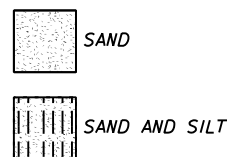
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



LEGEND

- ▽ AGS ESTIMATED SEASONAL HIGH WATER LEVEL ABOVE GROUND SURFACE
- ▽ +97.0 ESTIMATED SEASONAL HIGH GROUNDWATER ELEVATION (FT. NAVD88)
- ▽ +95.0 ENCOUNTERED GROUNDWATER ELEVATION (FT. NAVD88) 24 HRS. AFTER DRILLING BORING
- GSE GROUND SURFACE ELEVATION (FT. NAVD88)
- N STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT
- HA HAND AUGERED FOR UTILITY CLEARANCE
- (SP) UNIFIED SOIL CLASSIFICATION SYMBOL
- BT BORING TERMINATED AT SPECIFIED DEPTH (FEET) INDICATED
- 200= PERCENT PASSING NO. 200 U.S. STANDARD SIEVE (FM I-T 088)
- MC= PERCENT NATURAL MOISTURE CONTENT (FM I-T 265)
- OC= PERCENT ORGANIC CONTENT (FM I-T 267)

SOILS LEGEND



GENERAL NOTES

STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORINGS AT THE TEST DEPTHS IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND THE LABORATORY TESTING SHOWN.

THE BORING LOCATIONS WERE NOT SURVEYED. BORING LOCATIONS WERE ESTABLISHED IN THE FIELD USING A SUB-METER ACCURACY GPS UNIT (TRIMBLE 7X) FOR HORIZONTAL AND VERTICAL CONTROL. GROUND SURFACE ELEVATIONS ESTIMATED FROM PROJECT CROSS SECTIONS. BORING LOCATIONS (CCTV-2 AND CCTV-3) REFERENCES SR 46 CENTERLINE. BORING LOCATIONS (CCTV-4 AND CCTV-5) REFERENCES US 441 CENTERLINE.

BASED ON REVIEW OF THE U.S. GEOLOGICAL SURVEY MAP ENTITLED "POTENTIOMETRIC SURFACE OF THE UPPER FLORIDAN AQUIFER IN ST. JOHNS RIVER WATER MANAGEMENT DISTRICT AND VICINITY, FLORIDA, SEPTEMBER 2008" FOR THE PROJECT AREA, THE MAXIMUM ELEVATION OF THE ARTESIAN HEAD IS ESTIMATED TO BE +55 FT. NAVD88. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN HEAD LEVELS UP TO +55 FT. NAVD88.

SPLIT SPOON SAMPLER: AVERAGE HAMMER DROP: 30 IN.
 INSIDE DIAMETER: 1.375 IN. HAMMER WEIGHT: 140 LBS.
 OUTSIDE DIAMETER: 2.0 IN. HAMMER TYPE: SEE BORING

CORRELATION OF STANDARD PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY OF SOIL

GRANULAR SOILS	MANUAL N VALUE (blows per foot)	AUTOMATIC N VALUE (blows per foot)	RELATIVE DENSITY
SANDS	0-4	0-3	VERY LOOSE
	4-10	3-8	LOOSE
	10-30	8-24	MEDIUM DENSE
	30-50	24-40	DENSE
	OVER 50	OVER 40	VERY DENSE
NON-GRANULAR SOILS	MANUAL N VALUE (blows per foot)	AUTOMATIC N VALUE (blows per foot)	CONSISTENCY
SILTS, CLAYS, MUCK, PEAT	0-2	0-1	VERY SOFT
	2-4	1-3	SOFT
	4-8	3-6	FIRM
	8-15	6-12	STIFF
	15-30	12-24	VERY STIFF
	OVER 30	OVER 24	HARD

REVISIONS				GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC. (GEC) 919 Lake Baldwin Lane Orlando, FL 32814 T 407-898-1818 F 407-898-1837 Certificate of Authorization No. 5882 CRAIG G. BALLOCK P.E. 71571	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			REPORT OF SPT BORING RESULTS FOR CCTV POLES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 46	LAKE	238275-2-52-02		IT-51