PoDI / NHS

FHWA PROJECT OF
DIVISION INTEREST (PoDI)?

NATIONAL HIGHWAY SYSTEM?

NO • YES

LOCATION

BEGIN PROJECT C 0703-482 APPROX. MP 213.5 DN I-70

END PROJECT C 0703-482 APPROX. MP 215.4 ON I-70

SUMMARY OF PROJECT LENGTH

ROADWAY (NET LENGTH) MAJOR STRUCTURE

PROJECT GROSS LENGTH

STRUCTURE F-13-X JOHNSON TUNNEL
STRUCTURE F-13-Y EISENHOWER TUNNEL

TABULATION OF LENGTH & DESIGN DATA

ROADWAY

FEET

8,959

8,959

DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

Related Projects:
P. E. UNDER PROJECT:
Project Number
Project Code:

C 0703-482 24210

R.O.W. Projects:
R.O.W. Project Description

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED FEDERAL AID PROJECT NO. C 0703-482
EISENHOWER/JOHNSON MEMORIAL TUNNELS DRAINAGE, PLUMBING, HEAT TRACE
CLEAR CREEK COUNTY AND SUMMIT COUNTY
CONSTRUCTION PROJECT CODE NO. 24210

MAJOR STR.	CI	
	_	
8,959		
8,959		
MILES		
0 1.70	-	
1.70		
	-	
	-	

			T	
N				
		/		
		Clear		
+		Creek		
		County		
	,			End Project C 0703-482
	Grand County	 		C 0703-462
				17
Summit County		/)		
	/	/	\setminus	
				2
		EJMT 214		
I-7	0 213		215	US-6
		(Clear Cleek	228
212 2.0eK			Clear	
Straight Creek				27
				1 / 1
Begin Project		1		
Begin Project C 0703-482	,			225
				/(
			`	/ / /
				/ _ \
40 Sec. 202 202				0/
	2,	/		
	nake	\sim / \perp		
	Snake Rive	or \		
		\		
	חחר יבי	OT LOCATION		-
	PRUJE	CT LOCATION	<u>I MAP</u>	

SHEET NO.	INDEX OF SHEETS
1	TITLE SHEET
2	TUNNEL SECTIONS
3	TYPICAL STANDPIPE AND WALL PANEL LAYOUT
4	ROADWAY LEVEL PLAN - WEST
5	LOWER LEVEL PLAN - EAST
6	POTABLE WATER PROCESS FLOW DIAGRAM
7-9	HEAT TRACE POWER PLAN
10-14	ELECTRICAL POWER PLAN
15	ELECTRIAL EQUIPMENT LOCATION

FINAL RFP
DECEMBER 16, 2021

Print	Date: 12/16	5/2021			Sheet Revisions	
File N	lame: 24210D	ES_TitleSht.dgn		Date:	Comments	Init.
Horiz	Scale : 1:1	Vert. Scale: As Note				
Unit I	nformation	XX	$\overline{}$			
ΛT	KINS	7604 Technology Way, Suite 4 Denver, CD 80237 Phone: (303) 221-7275	\bigcirc			
Member of t	he SNC-Lavalin Group	Fax: (303) 221-7275				

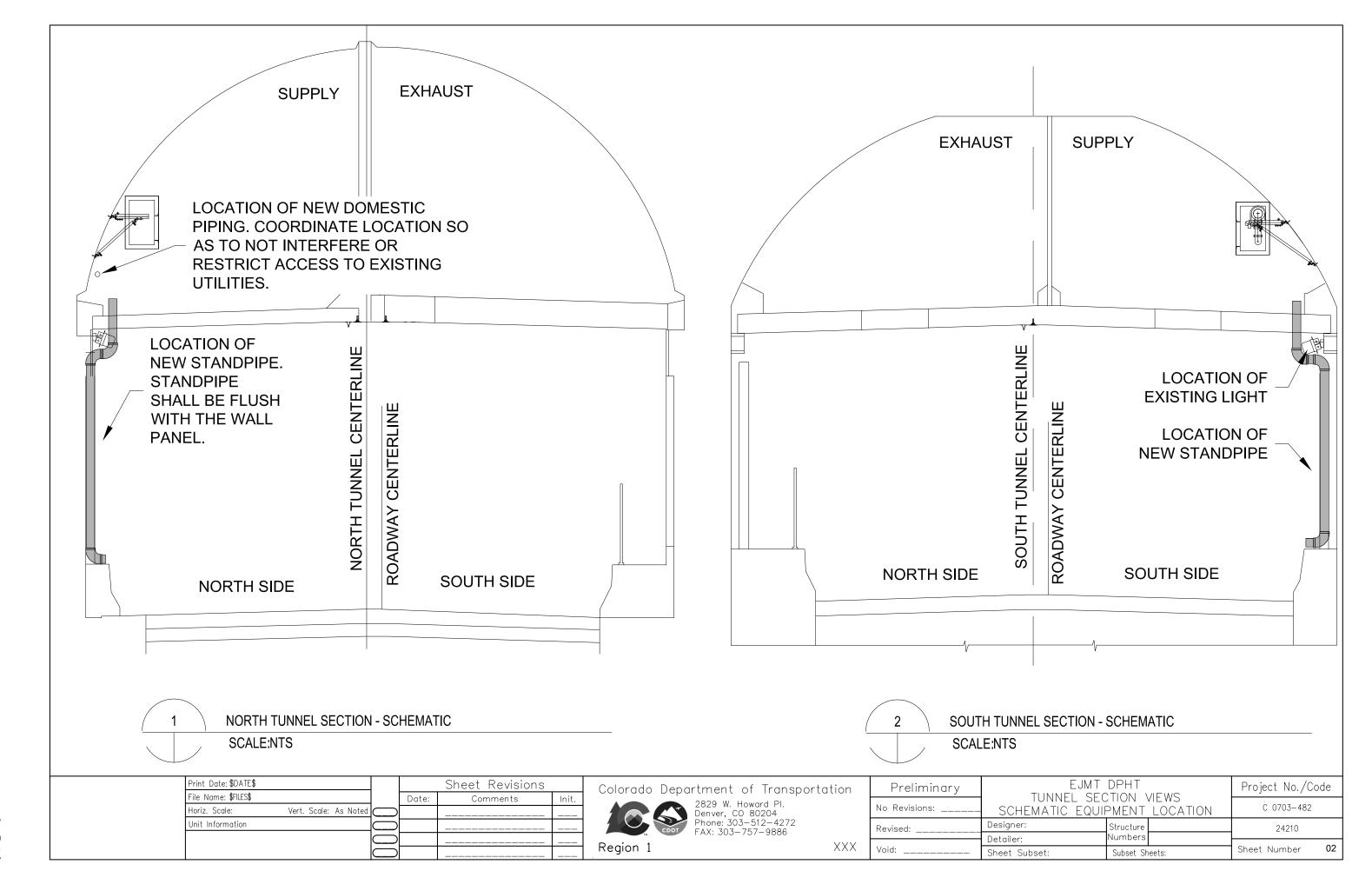
Colorado Department of Transportation

2829 W. Howard Pl.
Denver, CD 80204
Phone: 303-512-4272

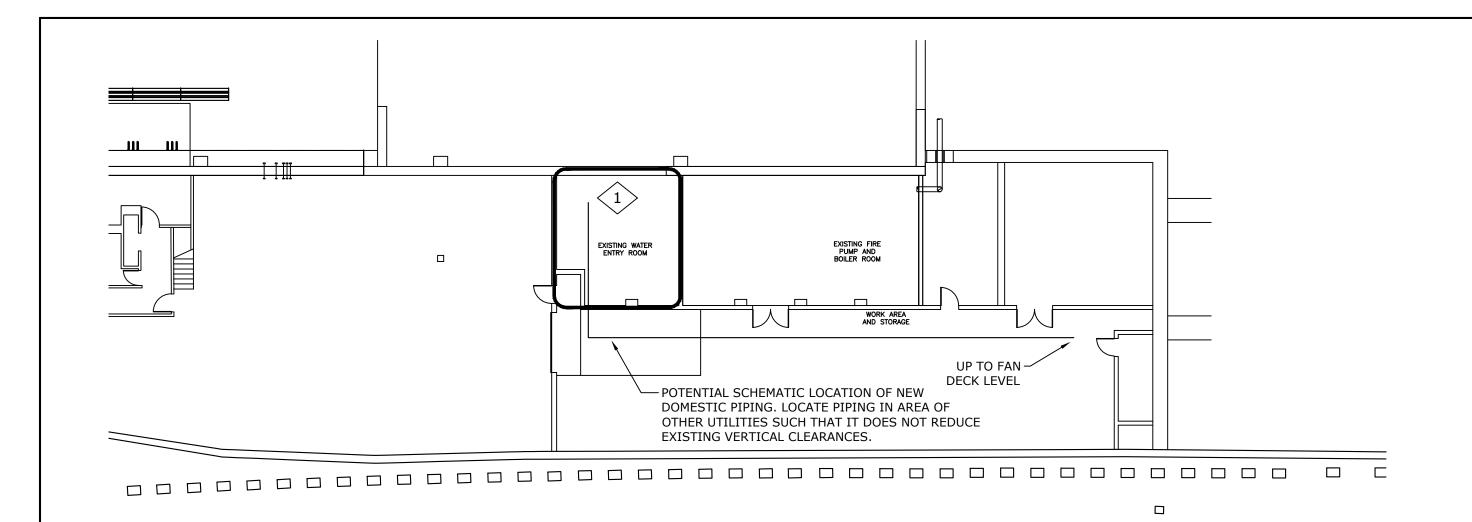
XXX

CDOT	2829 W. Howard Pl. Denver, CD 80204 Phone: 303-512-4272 FAX: 303-757-9886
Region 1	

Preliminary	Contract Information	Project No./Code	
1 1 0 111 111 1 3	Contractor:	C 0703-482	
No Revisions:	Resident Engineer:		
Revised:	Project Engineer:	24210	
	PROJECT STARTED: / / ACCEPTED: / /		
Void:	Comments:	Sheet Number 01	



GENERAL NOTES LOCATE STANDPIPE AT WALL PANEL JOINT ONLY. STANDPIPE SHALL NOT BE LOCATED IN THE CENTER OF THE PANEL. CUT PANEL AS REQUIRED TO ALLOW PENETRATIONS OR RECESSING OF THE PIPE IF IT CAN NOT BE FULLY CONCEALED BEHIND THE PANEL. FRONT OF PIPE SHALL BE FLUSH WITH THE WALL PANEL. 7'-113/4" : 1/4" Width ** 1/4" Joint APPROXIMATE WIDTH SAW CUT PANEL TO PROVIDE CLEARANCE FOR THE PIPE. OF SAW CUT (Typ). 0 ୍ବ୍ର (Cut Away View) × MD19H . 1/1 . 1/6.1-121 TYPICAL WALL PANEL Print Date: \$DATE\$ EJMT DPHT Sheet Revisions Preliminary Project No./Code Colorado Department of Transportation File Name: \$FILES\$ TUNNEL SECTION VIEWS Date: Init. 2829 W. Howard Pl. Denver, CO 80204 Phone: 303-512-4272 FAX: 303-757-9886 C 0703-482 No Revisions: _ SCHEMATIC EQUIPMENT LOCATION Horiz. Scale: Vert. Scale: As Noted Unit Information Designer: Structure 24210 Numbers Detailer: XXXRegion 1 03 Void: Sheet Number Sheet Subset: Subset Sheets:



GENERAL NOTES:

1. DRAWING SHOWS POTENTIAL LOCATION AND ARRANGEMENT OF THE NEW DOMESTIC PIPING FROM THE NEW WATER TREATMENT EQUIPMENT. CONTRACTOR TO DETERMINE FINAL ARRANGEMENT OF ALL PIPING AND EQUIPMENT. NEW DOMESTIC WATER PIPING TO BE ROUTED TO FAN DECK LEVEL AND INTO NORTH SUPPLY PLENUM.

KEY NOTES:

1. LOCATION OF EXISTING DOMESTIC WATER ENTRY AND WATER TREATMENT SYSTEM. COORDINATE CONNECTION OF NEW DOMESTIC PIPING TO NEW WATER TREATMENT SYSTEM. EXISTING DOMESTIC WATER SUPPLY TO BE DISCONNECTED AND PROVIDED WITH A VALVE AND CAP WHERE IT IS DISCONNECTED FROM EXISTING SYSTEM.

Print Date					Sheet Revisions	
File Name	: \$FILES\$			Date:	Comments	Init.
Horiz. Sco	le: Vert	. Scale: As Noted				
Unit Infor	mation		0			

Colorado Department of Transportation

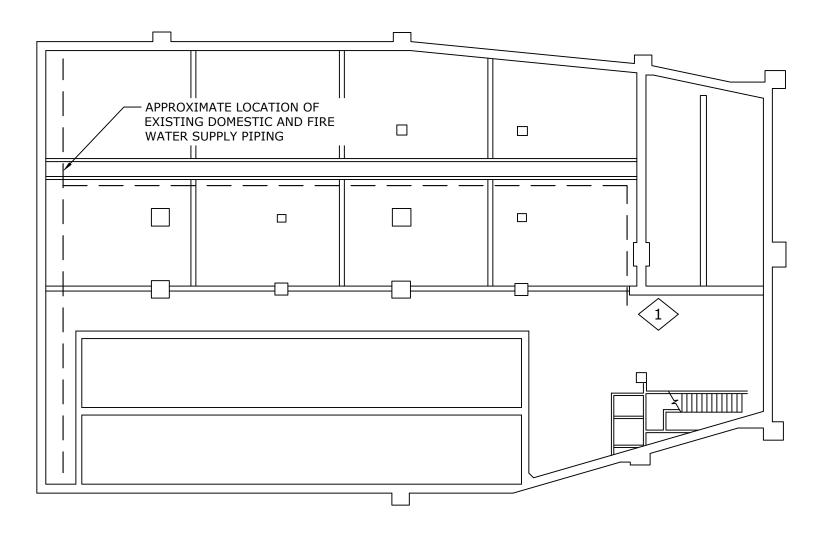


2829 W. Howard Pl. Denver, CO 80204 Phone: 303-512-4272 FAX: 303-757-9886

57-9886

XXX

Preliminary		EJMT DPHT ROADWAY LEVEL-WEST					
No Revisions:	WATER TREATMEN	C 0703-482					
Revised:	Designer:	Structure	24210				
	Detailer:	Numbers					
Void:	Sheet Subset:	Subset Sheets:	Sheet Number 04				



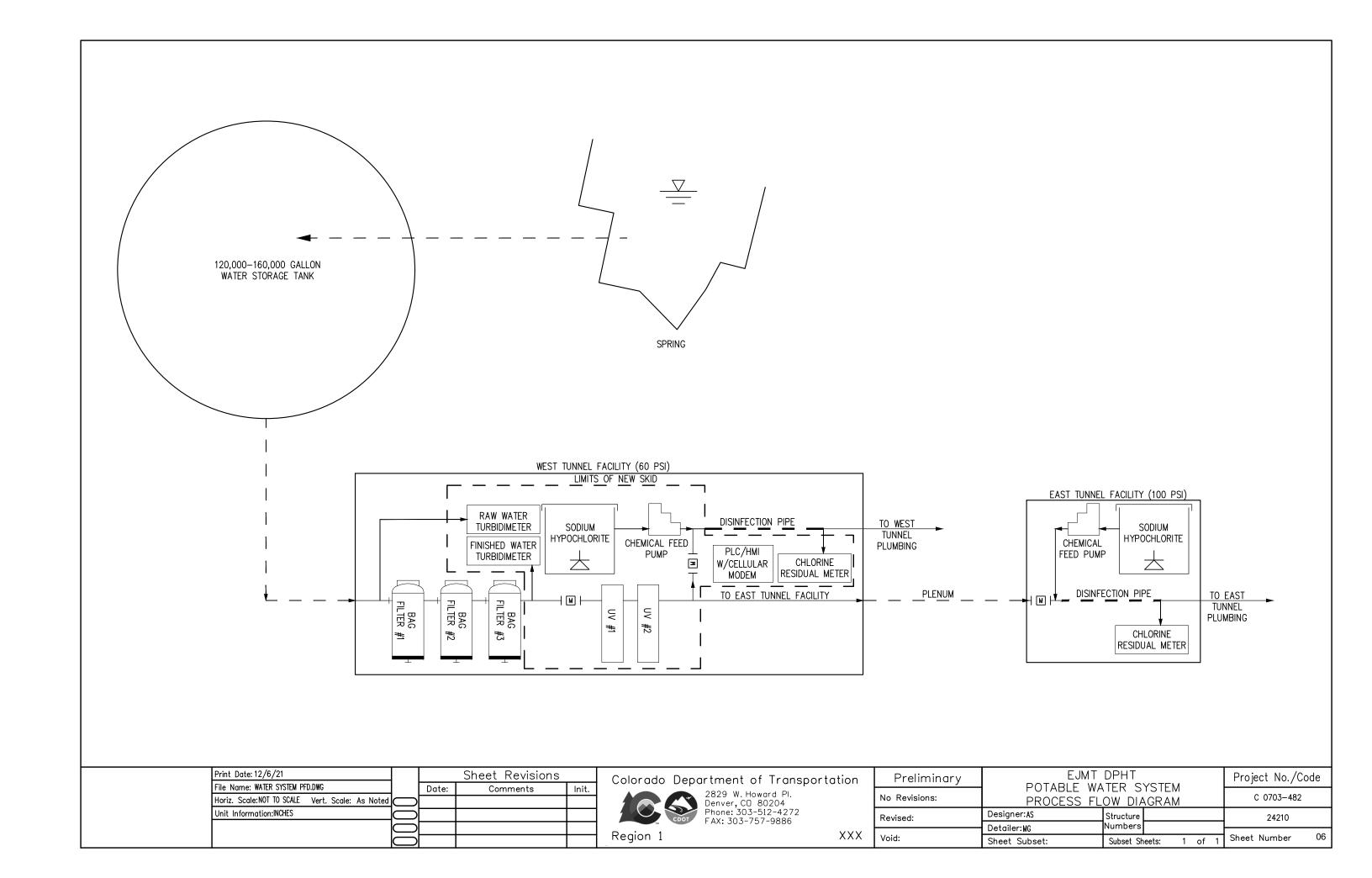
GENERAL NOTES:

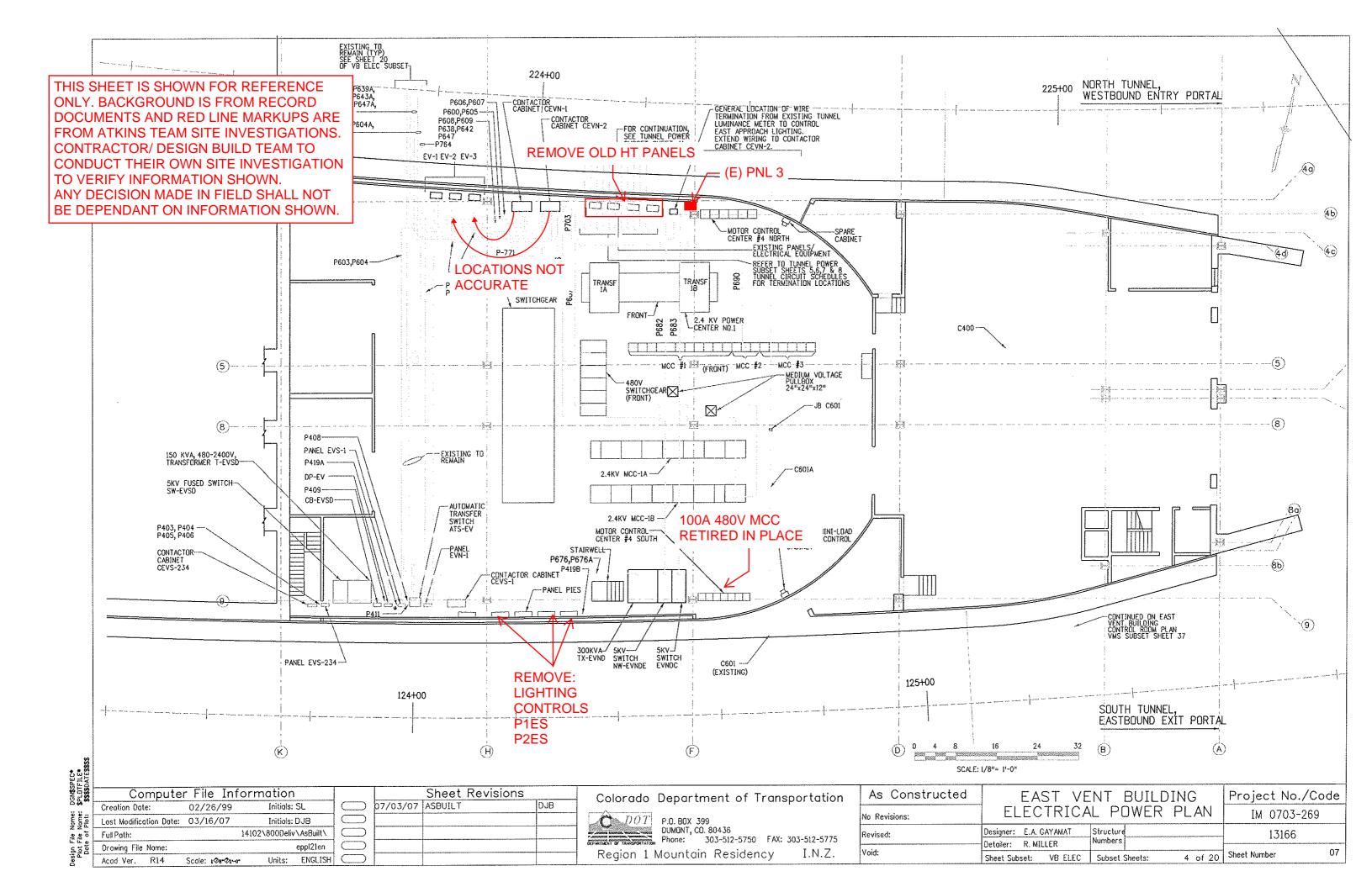
1. DRAWING SHOWS GENERAL LOCATION AND ARRANGEMENT OF THE DOMESTIC PIPING TO THE NEW WATER TREATMENT EQUIPMENT. CONTRACTOR TO DETERMINE FINAL ARRANGEMENT OF ALL PIPING AND EQUIPMENT.

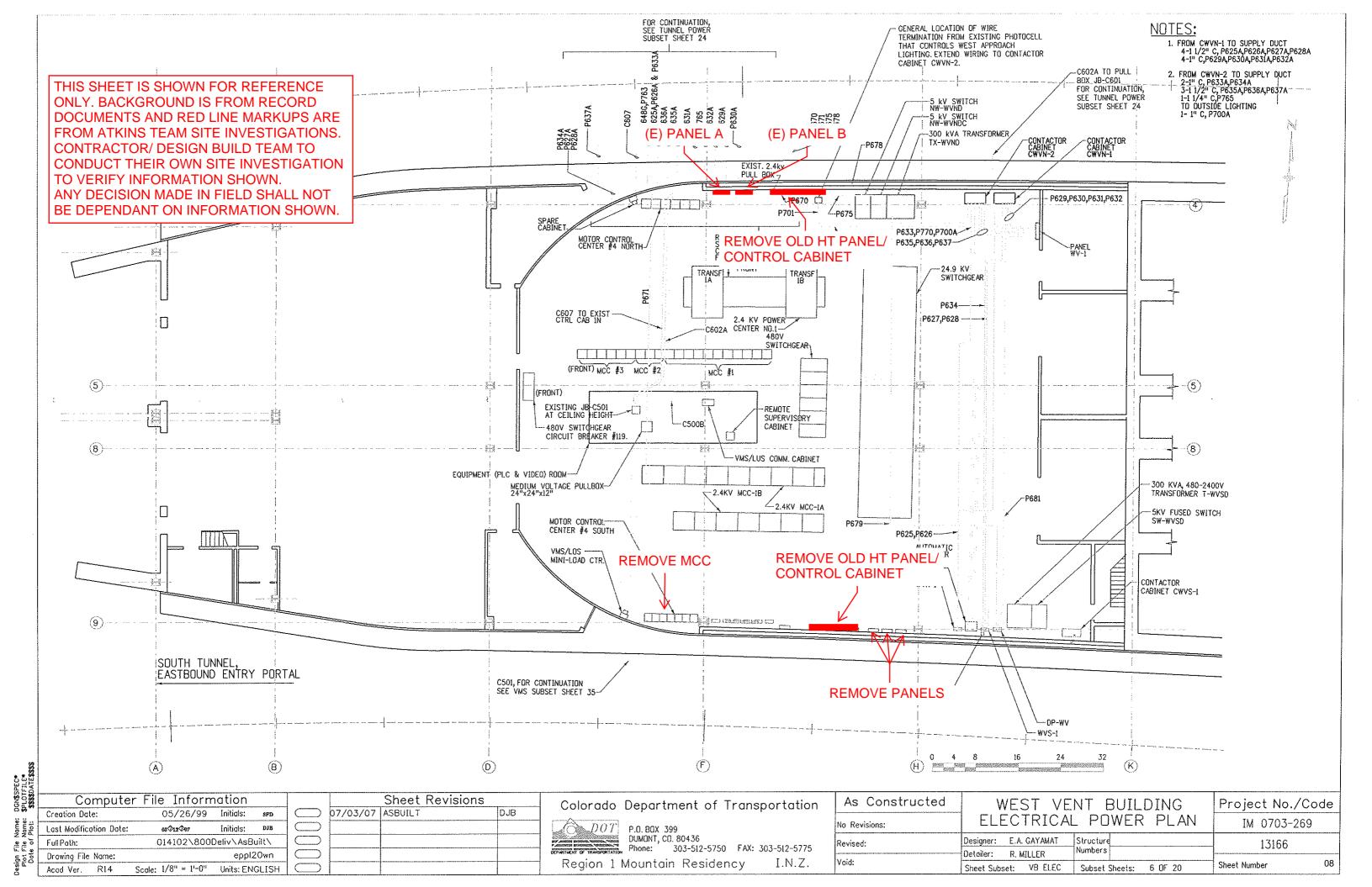
KEY NOTES:

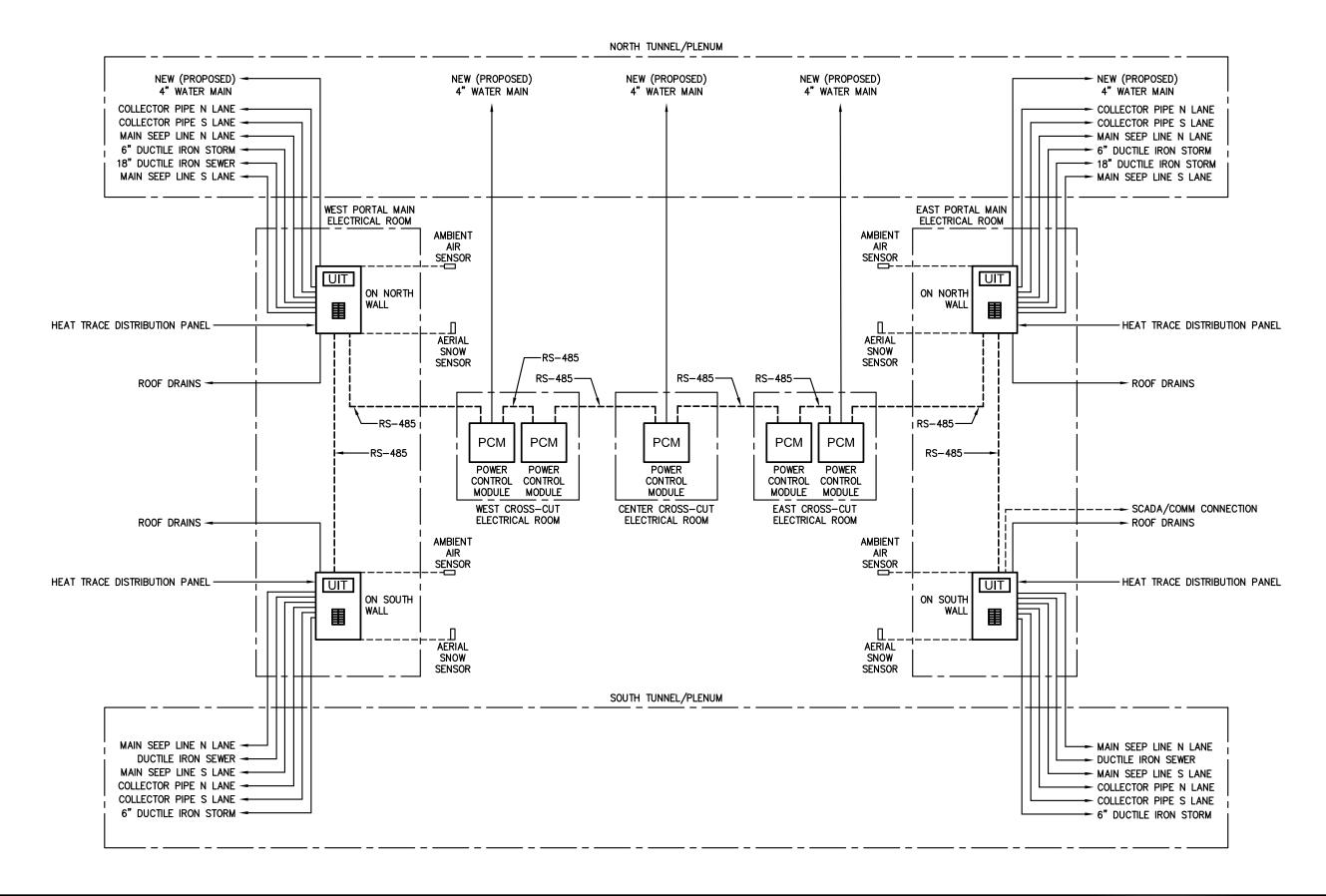
1. LOCATION OF EXISTING DOMESTIC WATER ENTRY AND WATER TREATMENT SYSTEM. CONNECT NEW DOMESTIC PIPING TO NEW WATER TREATMENT EQUIPMENT. PIPING TO BE ROUTED FROM NORTH PLENUM FAN DECK LEVEL TO WATER TREATMENT ROOM. EXISTING DOMESTIC AND FIRE WATER SUPPLY TO BE DISCONNECTED AND PROVIDED WITH A VALVE AND CAP WHERE IT IS DISCONNECTED FROM EXISTING SYSTEM.

Print Date: \$DATE\$			Sheet Revisions		Colorado Department of Transportation	Preliminary	EJMT		Project No./Code
File Name: \$FILES\$		Date:	Comments	Init.	. 2020 W Haward DI	No Revisions:	LOWER LE		C 0703-482
Horiz. Scale: Vert. Scale: As Noted					Denver, CO 80204	NO Nevisions	WATER TREATMEN	I ROOM LOCATION	0 0703 402
Unit Information	0				Phone: 303-512-4272 FAX: 303-757-9886	Revised:	Designer:	Structure	24210
	0						Detailer:	Numbers	
	0				Region 1 XXX	Void:	Sheet Subset:	Subset Sheets:	Sheet Number 05





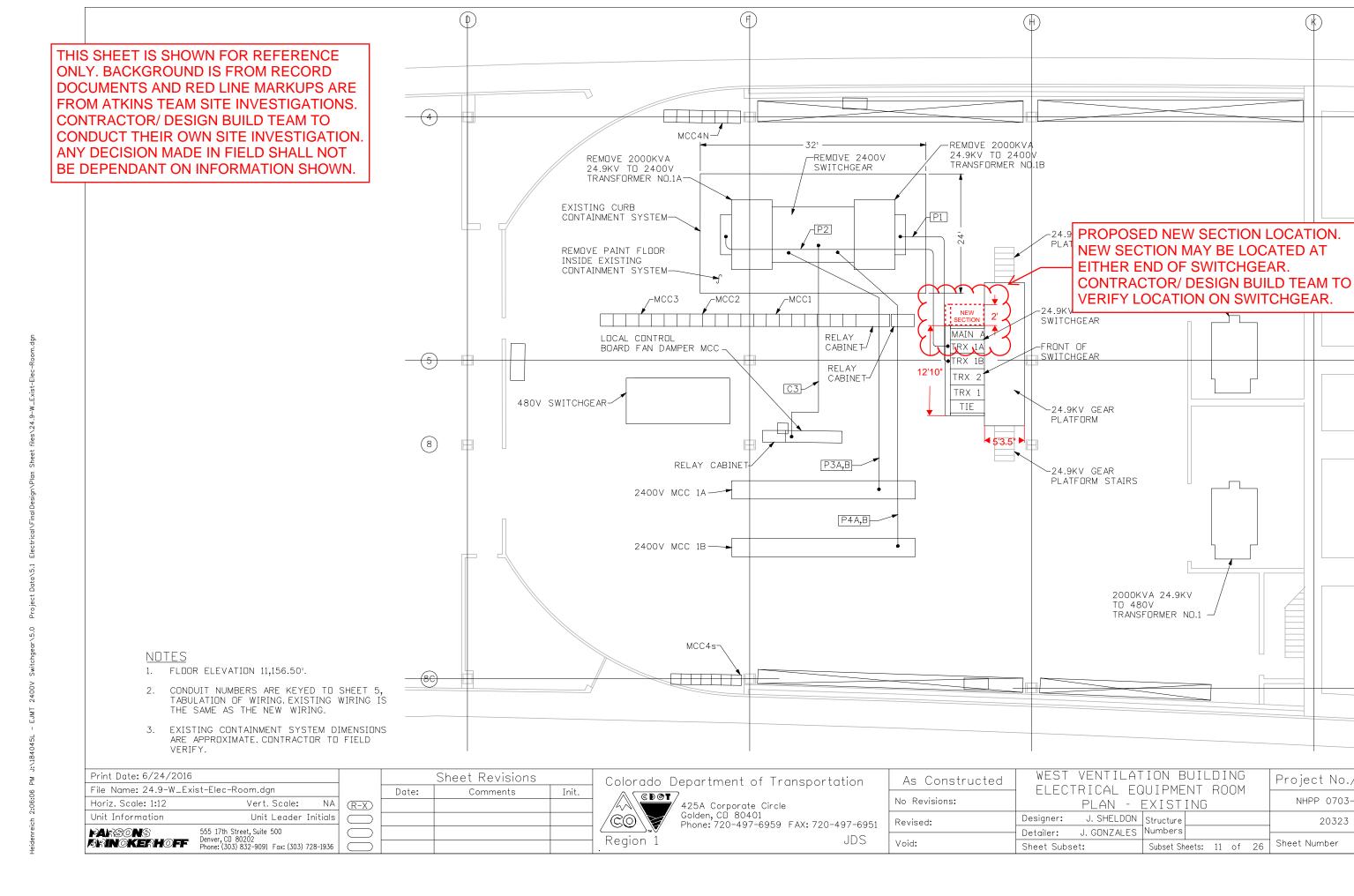






DRAWN:	PKE
CHECKED:	LS
DATE:	10/13/2021
JOB NUMBER:	21047
PROJECT MGR:	AW

EISENHOWER/JOHNSON MEMORIAL TUNNEL PROPOSED HEAT-TRACE BLOCK DIAGRAM

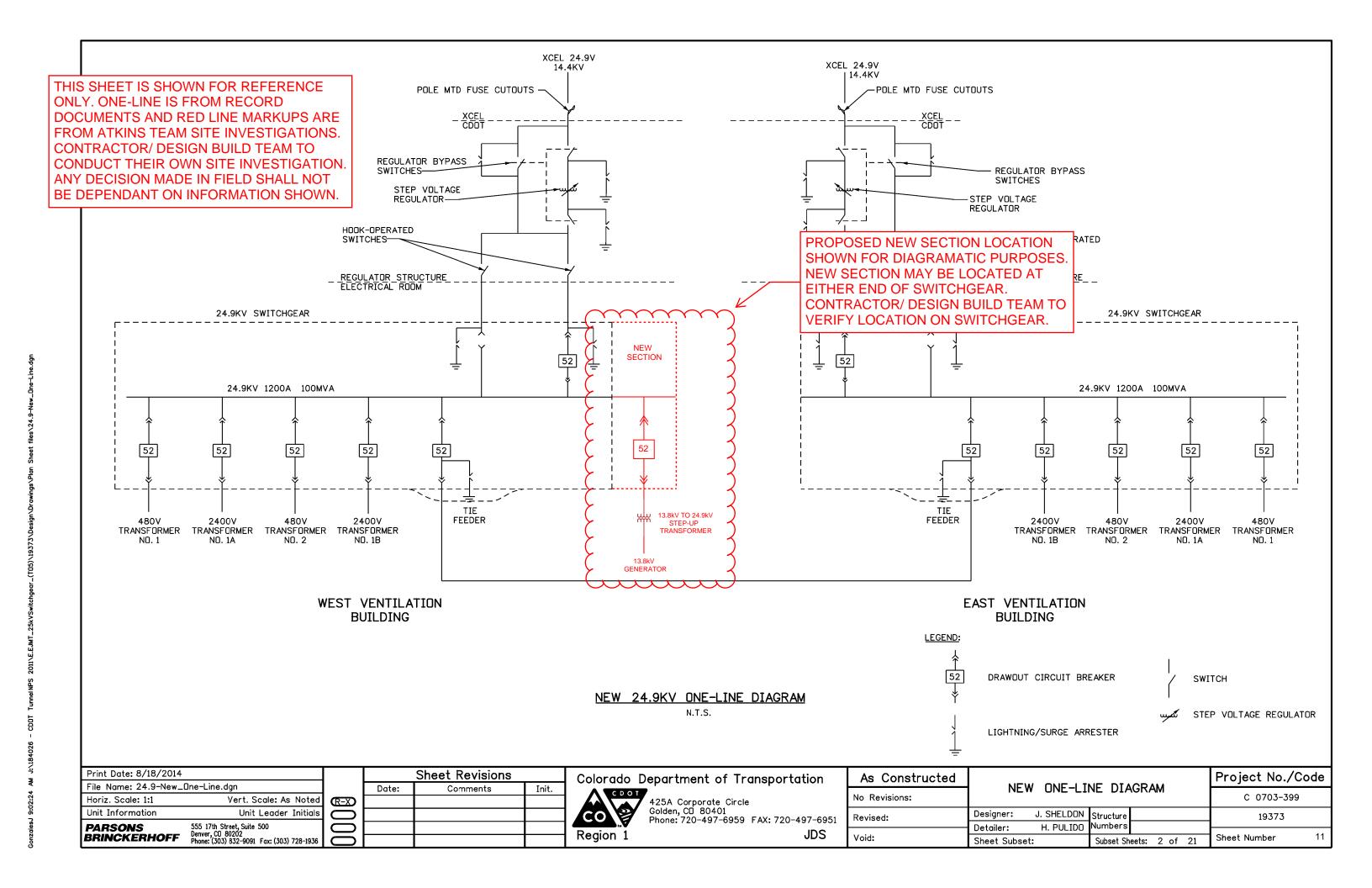


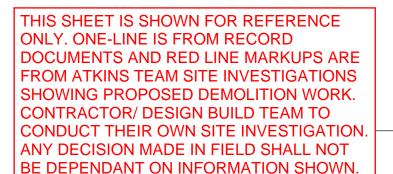
Project No./Code

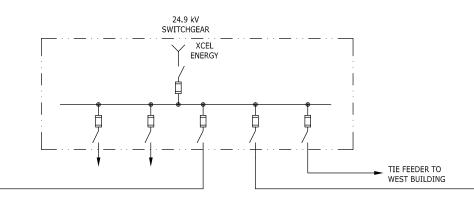
NHPP 0703-420

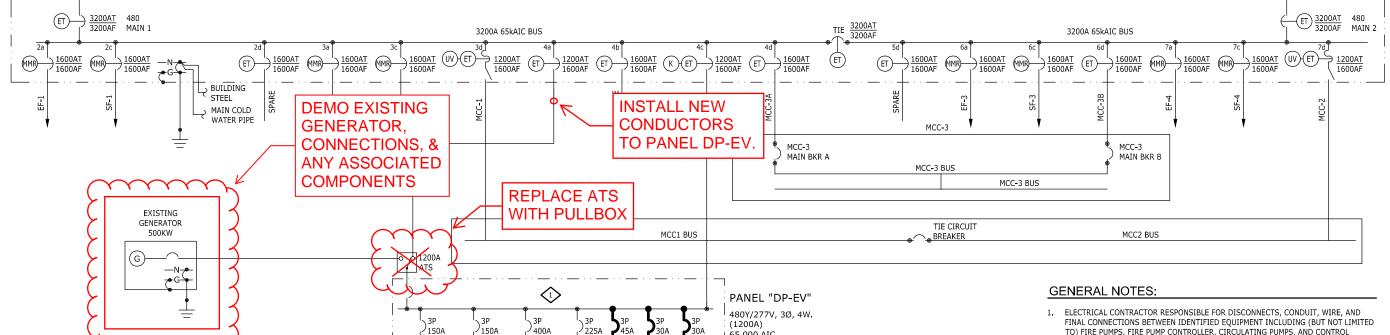
20323

10

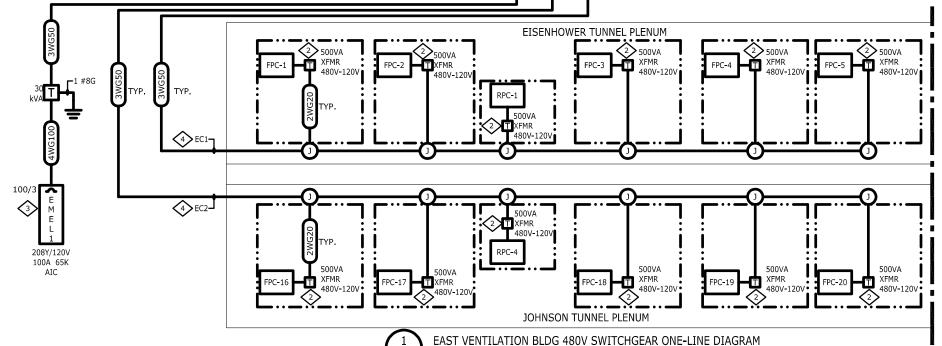








__ 65,000 AIC



150A

EVN-1

TO EXISTING TO EXISTING TO EXISTING TO EXISTING

150A

400A

TX-EVND

) 225A

45A

FINAL CONNECTIONS BETWEEN IDENTIFIED EQUIPMENT INCLUDING (BUT NOT LIMITED TO) FIRE PUMPS, FIRE PUMP CONTROLLER, CIRCULATING PUMPS, AND CONTROL

24.9kV TO 480/277V

TRANSFORMER 2

- 2. REFER TO DRAWING E1.0 FOR FEEDER SCHEDULE.
- 3. REFER TO DRAWING E1.3 FOR "EMEL1" LOAD INFORMATION.
- EXISTING 500KW GENERATOR LOAD IS LESS THAN 200KW

WORK NOTES:

- IN EXISTING 480/277V PANEL "DP-EV" FURNISH AND INSTALL NEW CIRCUIT BREAKERS AS SHOWN TO POWER NEW FIRE ALARM SYSTEM, RE-ARRANGE EXISTING CIRCUIT BREAKERS IN "DP-EV" AS NECESSARY TO ACCOMMODATE SPACE FOR NEW
- PROVIDE SINGLE PHASE STEP DOWN TRANSFORMER WITH PRIMARY(0.8A) AND SECONDARY(4A) OVER-CURRENT PROTECTION AND DISCONNECTING MEANS. INSTALL TRANSFORMER WITHIN THE FPC/RCP PANEL IN LOCATION SHOWN IN THE SYSTEMS GROUP DRAWINGS. COORDINATE INSTALLATION WITH SYSTEMS GROUP.
- FURNISH, INSTALL AND WIRE NEW TRANSFORMER AND 208/120V PANEL. THIS PANEL WILL POWER THE FIRE ALARM PANELS, FIBER OPTIC LINEAR HEAT DETECTION SYSTEM, SOLENOID VALVES, VIDEO CAMERAS, WORK STATIONS, AND FLAT SCREEN
- ROUTE POWER FOR TUNNEL FIRE ALARM SYSTEM PANELS WITH CONDUITS SHOWN ON SYSTEMS GROUP DRAWINGS.

E2.2 EAST ELECTRICAL ONE-LINE DIAGRAM

12

THIS SHEET IS SHOWN FOR REFERENCE ONLY. ONE-LINE IS FROM RECORD DOCUMENTS AND RED LINE MARKUPS ARE FROM ATKINS TEAM SITE INVESTIGATIONS SHOWING PROPOSED DEMOLITION WORK. CONTRACTOR/ DESIGN BUILD TEAM TO CONDUCT THEIR OWN SITE INVESTIGATION ANY DECISION MADE IN FIELD SHALL NOT BE DEPENDANT ON INFORMATION SHOWN.

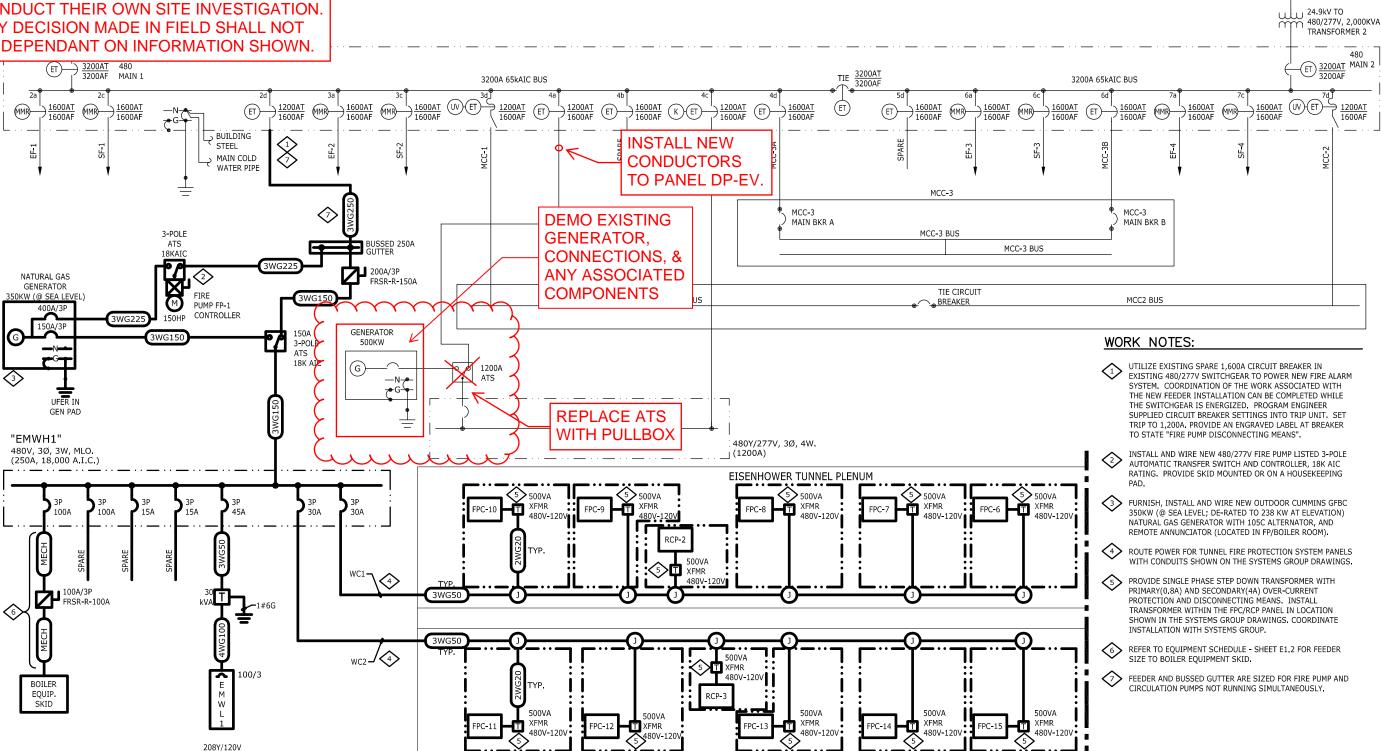
100A. 10K

XCEL 24.9 kV SWITCHGEAR

TIE FEEDER TO EAST BUILDING

GENERAL NOTES:

- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR DISCONNECTS, CONDUIT, WIRE, AND FINAL CONNECTIONS BETWEEN IDENTIFIED EQUIPMENT INCLUDING (BUT NOT LIMITED TO) FIRE PUMPS, FIRE PUMP CONTROLLER, CIRCULATING PUMPS, AND CONTROL PANELS.
- 2. REFER TO DRAWING E1.0 FOR FEEDER SCHEDULE.
- REFER TO DRAWING E1.2 FOR GENERATOR, "EMWH1" AND "EMWL1" LOAD INFORMATION.

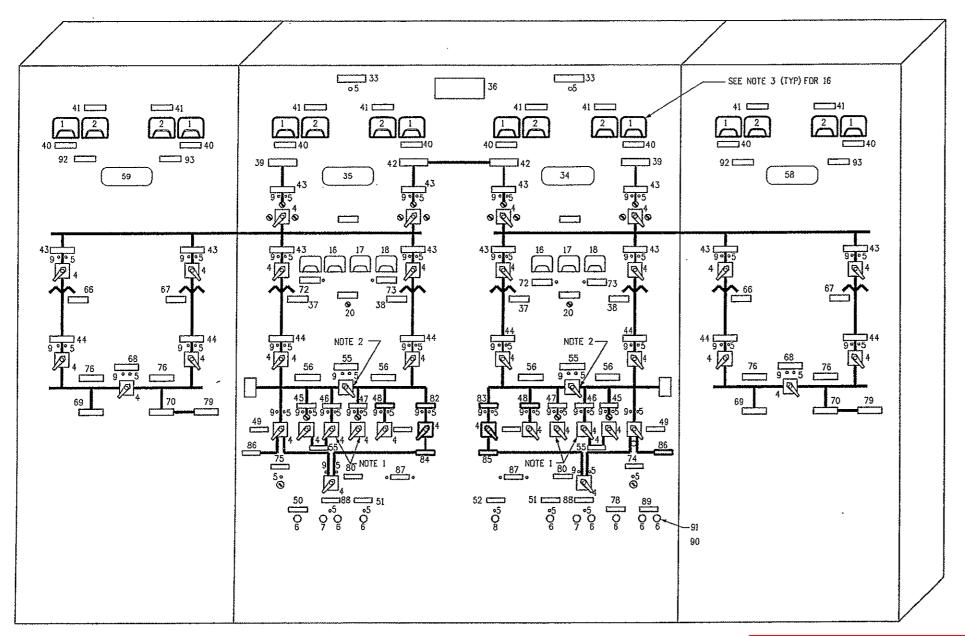


JOHNSON TUNNEL PLENUM

WEST VENTILATION BLDG 480V SWITCHGEAR ONE-LINE DIAGRAM

E2.1 WEST ELECTRICAL ONE-LINE DIAGRAM

13



NOTES:

- 1. REWIRE TO EXCHANGE MCC#2 AND MCC #3 BREAKER CONTROL.
- 2. ADD NEW TIE BREAKER CONTROL SWITCH, TYPE 4.
- 3. PROVIDE NEW METER IN PLACE OF EXISTING METER.
- 4. NAMEPLATES SHALL BE ADHESIVE TYPE.
- 5. INDICATING LIGHTS SHALL BE MBI20 BULB TYPE , NOT LED TYPE.
- 6. ALL MODIFICATIONS TO POWER BOARD TO BE PAID FOR AS ITEM 210-00478, MODIFY POWER CONTROL BOARD WITH THE FOLLOWING QUANTITIES:

EXISTING POWER CONTROL BOARD N.T.S.

REFERENCE ONLY AND IS FROM RECORD DOCUMENTS. CONTRACTOR/ DESIGN BUILD TEAM TO CONDUCT THEIR OWN SITE INVESTIGATION TO VERIFY INFORMATION SHOWN. ANY DECISION MADE IN FIELD INFORMATION SHOWN.

THIS SHEET IS SHOWN FOR SHALL NOT BE DEPENDANT ON

EQUIPMENT LIST			
1. AMMETER TYPE 171-141 2. VOLTMETER TYPE 171-3. SWITCH TYPE S81, 2.5 4. SWITCH TYPE S81, 2.5 5. INDICATING LIGHTS, TY 6. CR294GUA202B PUSH 17. CR294GUA202B PUSH 17. CR294GUB202A SELECTOR STANDICATING LIGHT, TYP 10. 0-5 MILLIAMMETER, TYP 11. 0-5 MILLIAMMETER, TYP 12. TERMINAL BOARD, (NOT 13. TRANSFORMER #1. 14. TRANSFORMER #2. 15. SWITCH, TYPE S81, WIT 16. AMP METER. 17. HERTZ METER. 18. VOLT METER. 19. APPROACH LOW OIL PR 20. GOVERNER CONTROL. 21. APPROACH LOW OIL PR 22. AMMETER, AC 0-800AM 23. VOLTMETER, AC 0-800AM 23. VOLTMETER, AC 0-800AM 23. VOLTMETER, AC 0-800AM 24. 0-5 MILLIAMMETER WI 25. 0-5 MILLIAMMETER WI 26. 0-5 MILLIAMMETER WI 27. 0-5 MILLIAMMETER WI 28. 0-5 MILLIAMMETER WI 29. INDICATING LIGHT, REC 30. PUSHBUTTON RESET. 31. SELECTOR SWITCH, SPE FAST-OFF-SLOW. 32. SELECTOR SWITCH, STANDAMETER, STANDAM	H KIRK KEYLOCK, 55- RESSURE LIGHT. R. P. D. VOLT. TH 0-800 AMP SCALE TH 0-3000 VOLT SCA TH 0-1000 AMP SCALE TH 55-65 HERTZ SCA TH 0-600 VAC SCALE O 125 V.D.C. RING RETURN TO CENT	LE. LE. LER FROM LEFT & RIGHT	
NAM	MEPLATE SCHEE	<u> ULE</u>	
FIRST LINE	SECOND LINE	THIRD LINE	DETAIL
33. POWER	ON BUILDING		2 1
34. EAST 35. WEST	BUILDING CONTROL	80 ARD	1
36. POWER 37. TRANSFORMER	NO. 2	SECONDARY SECONDARY	THE
37 TRANSFORMER 38 TRANSFORMER 39 PUBLIC SERVICE	NO.1 INCOMING	LINE	2 2
40. AMMETER 41. VOLTMETER			2
40. AMMETER 41. VOLTMETER 42.24.9 K.V. 43. LOAD	EMERGENCY BREAK	TIE SWITCH	2 2
	CIRCUIT	BREAKER BREAKER BREAKER	2
45.MCC #1 46.MCC #2	CIRCUIT FEEDER FEEDER	BREAKER	2
47.MCC #3 48.MCC #3	FEEDER FEEDER	BREAKER B	ź
45. MCC #1 46. MCC #2 47. MCC #3 48. MCC #3 49. EMERGENCY 50. TUNNEL & BUILDING	GENERATOR	BREAKER A BREAKER B BREAKER RESET RESET VENT. FAN	2 2
50. TUNNEL & BUILDING 51. BUILDING 52. SEDIMENTATION 53. TUNNEL & BUILDING 54. EMERGENCY 55. 460 VOLT 56. 460 VOLT 57. 24.9 K.V. 58. EAST 59. WEST	POWER PANELS TANKS NORMAL LIGHTS GENERATOR	RESET	2
53. TUNNEL & BUILDING	NORMAL_LIGHTS	IVE'SE'I	2
54.EMERGENCY 55.460 VOLT	GENERATUR TIE BREAKER	CONTROL.	2
56.460 VOLT	TIE BREAKER BUSS BUSS		2 2
58.EAST	BUILDING BUILDING	SOUTH TUNNEL	1
60. TRANSFORMER 61. TRANSFORMER 62. AMMETER 63. VOLTMETER	NO. 1A NO. 18	NORTH TUNNEL NORTH TUNNEL SECONDARY	2
61. TRANSFURMER 62. AMMETER	NU. 18	SECONDARY	2
	BREAK	SWITCH	2 2
65. AIR 66. TRANSFORMER 67. TRANSFORMER 68. 2400 VOLT 69. MCCIA	CIRCUIT NO. 1A	BREAKER	2 2
67. TRANSFORMER	NO. 1A	DDC AVEO	Ž
68,2400 VDLT 69,MCC1A	NO. 1B TIE EXHAUST SUPPLY GENERATOR	BREAKER	2
70, MCC1B 71, EMERGENCY	SUPPLY GENERATOR	BREAKER	2 2
72. APPRUACHING	LUW CIL	BREAKER PRESS	2
73. APPROACHING 74. EMERGENCY	GENERATOR	TEMP GOVERNOR CONTRO	JL Ž
75 EMERGENCY	GENERATOR BUSS	CONTROL	2
77 WEST VENT BUILDING	EMERGENCY GENE	RATOR NORMAL RESET	2 2
79. SOUTH TUNNEL	LIGHTS LIGHTS	Hamme Moore	2
80. LAST 81. WEST	PEAK SHAVING		3
73. APPROACHING 74. EMERGENCY 75. EMERGENCY 76. 2400 VOLT 77. WEST VENT BUILDING 78. NORTH TUNNEL 79. SOUTH TUNNEL 80. EAST 81. WEST 82. AUTOMATIC 83. AUTOMATIC 84. TRANSFER 85. TRANSFER 86. FMFRGENCY	TRANSFER TRANSFER	SWITCH	2
84. TRANSFER	SWITCH	ATS-WV ATS-EV	4 2
86. EMERGENCY	GENERATOR	AID EV	2
85. TRANSPER 86. EMERGENCY 87. EAST D.C. 88. TUNNEL & BLDG. 89. NORTH TUNNEL	UNDER VULTAGE D.C. LIGHTS	CONTROL ON ENGAGE DNE ONLY	222222222222222222332422222
89 NORTH TUNNEL 90 SOUTH (PUSHBUTTON)	8ROWN DUT	ENGAGE DNE ONLY	2

EQUIPMENT LIST

ITEM	QUANTITY	TINU
MODIFY POWER CONTROL BOARD	1	LS

Print Date: 10/2/2007 Sheet Revisions Drawing File Name: 16096ELEDiagram01.dgn Date: Comments Init. Horiz. Scole: Vert. Scale: (R-X) Unit Information Unit Leader Initials

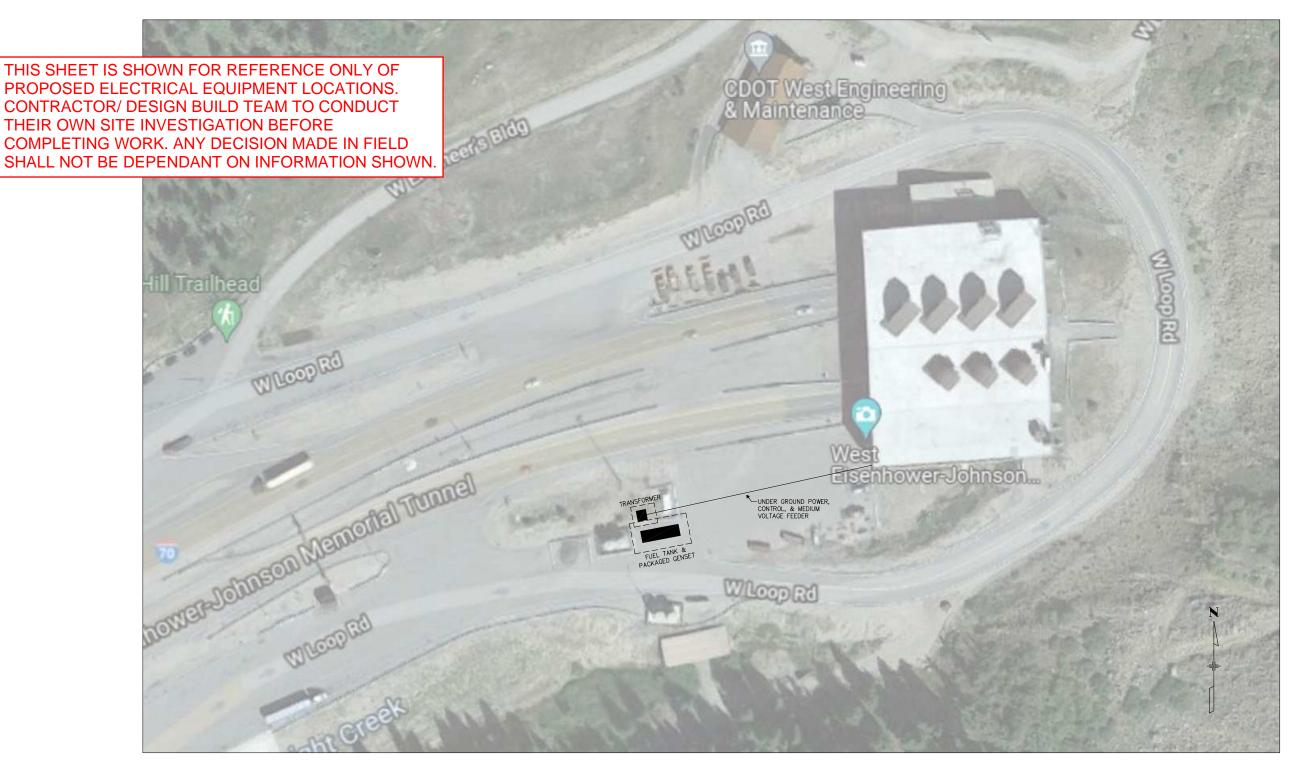
Colorado Department of Transportation

Region 1

Mountain Residency P.O. Box 399 Dumont, CD 80436 Phone: 303-512-5750 FAX: 303-512-5775 INZ

	As Constructed	
	No Revisions: 11/23/09 .	
	Revised:	Designe
		Detailer
	Void:	Sheet S

JOI 1 L 1						
POWER CONTROL BOARD			Project No./	Project No./Code		
LAYOUT AND DETAILS						
ner:	J. SHELDON			16096		
ler:	R. KWONG	Numbers				
t Subset:		Subset Sheets:		Sheet Number	14	



NOTE: NOT TO SCALE



PKE
LS
11/12/2021
21047
AW

EISENHOWER/JOHNSON MEMORIAL TUNNEL ELECTRICAL EQUIPMENT LOCATIONS OPTION #1