PoDI / NHS FHWA PROJECT OF ■ NO ■ YES DIVISION INTEREST (PoDI)? NATIONAL HIGHWAY SYSTEM? ■ NO ■ YES

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

TABULATION OF LENGTH 8	DES	SIGN	DAT		
LOCATION		ROA	MAJOR		
	I-	-70			STR.
BEGIN PROJECT C 0703-482 APPROX. MP 213.5 ON I-70		0			
STRUCTURE F-13-X JOHNSON TUNNEL					0.050
STRUCTURE F-13-Y EISENHOWER TUNNEL					8,959
END PROJECT C 0703-482 APPROX. MP 215.4 ON I-70		O			
TOTAL	()			8,959
SUMMARY OF PROJECT LENGTH		FE	ΕT		MILES
RDADWAY (NET LENGTH)		(-		0
MAJOR STRUCTURE			959		1.70
PROJECT GROSS LENGTH		8,9	959		1.70

Print Date: 12/16/2021

Jnit Information

File Name: 24210DES_TitleSht.dgn

Horiz. Scale: 1:1 Vert. Scale: As Noted

7604 Technology Way, Suite 400 Denver, CD 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Date:

XXX

N				
		Clear Creek County		End Project C 0703-482
Summit County	Grand County	EJMT		
I- Straight Creek		214	Clear Clear	US-6 228
Begin Project C 0703-482				125
	Snoke Rive	94		22
	PROJE	CT LOCATION	N MAP	<i>*</i>

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



Sheet Revisions		Colorado [
Comments	Init.	00101 440 8
		Pagion 1
		Region 1

Department of Transportation

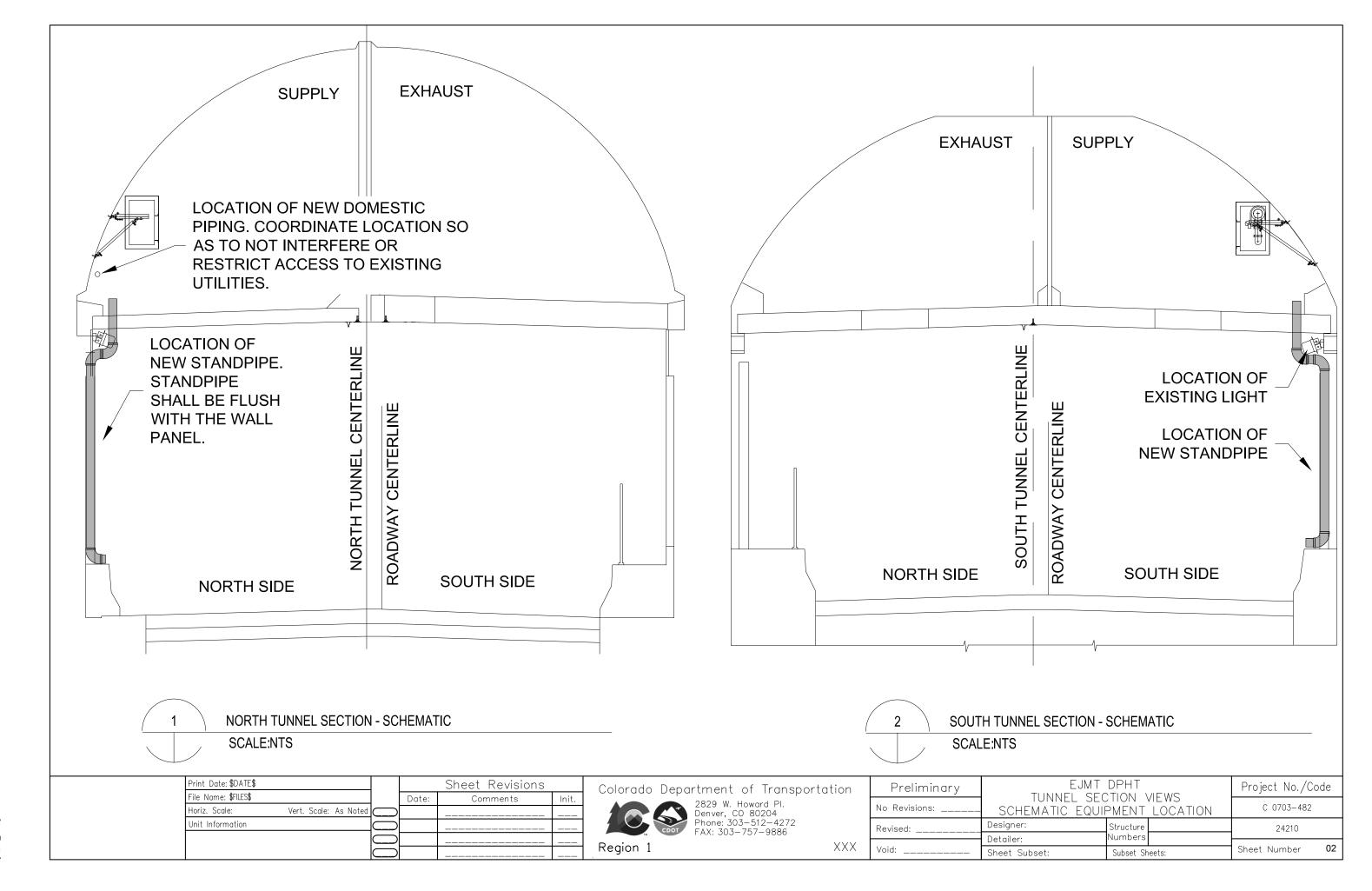
2829 W. Howard Pl. Denver, CD 80204 Phone: 303-512-4272 FAX: 303-757-9886

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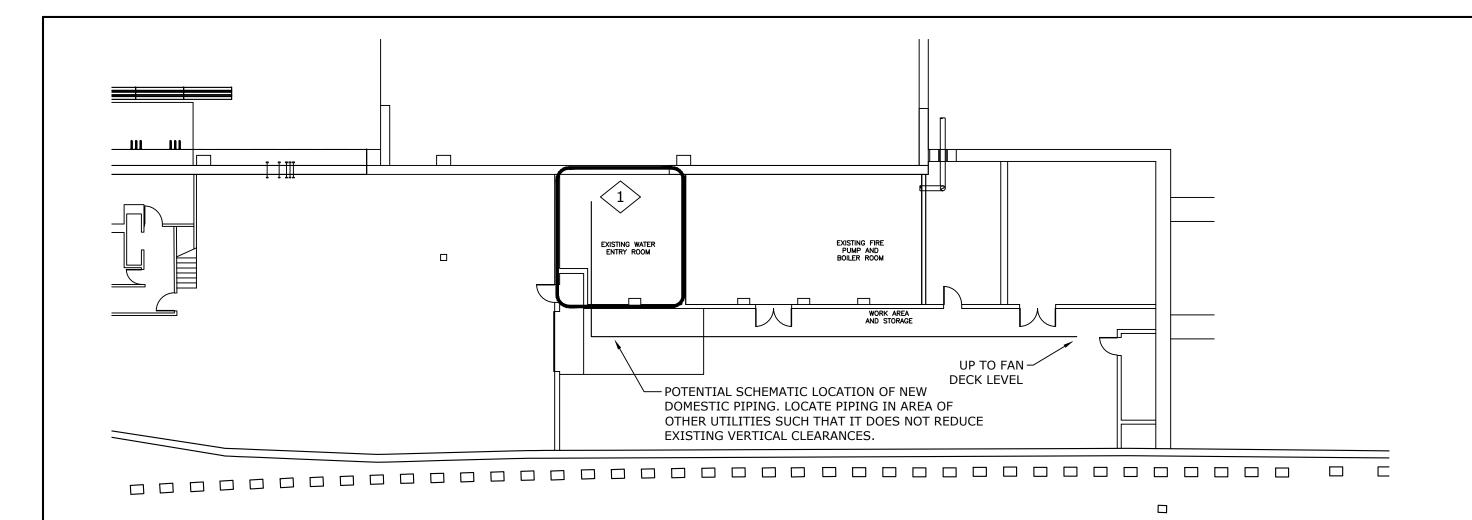
Preliminary	Contract Information	Project No./Code		
,	Contractor:			
No Revisions:	Resident Engineer:	C 0703-482		
Revised:	Project Engineer:	24210		
	PROJECT STARTED: / / ACCEPTED: / /			
Void:	Comments:	Sheet Number 01		

FINAL RFP

DECEMBER 16, 2021



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: \$DATE\$			Sheet Revisions		
File Name: \$FILES\$		Date:	Comments	Init.	
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Unit Information					
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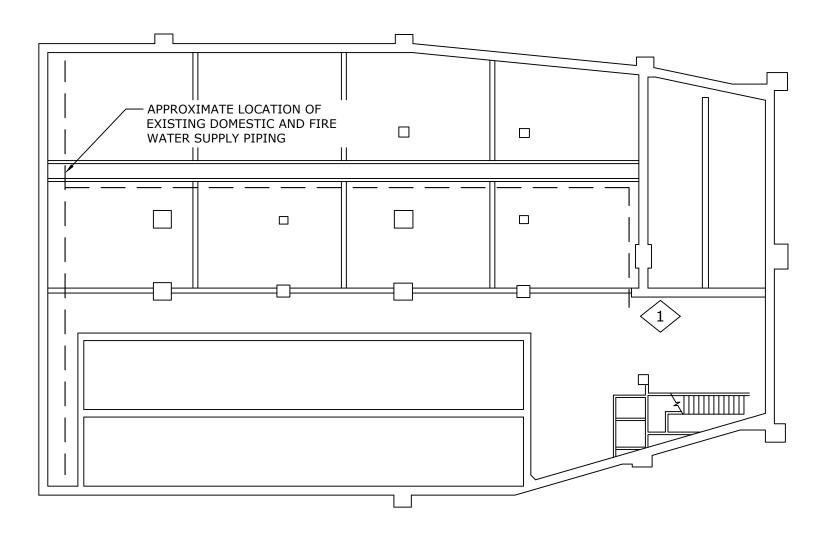
Colorado Department of Transportation



Region 1

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

Preliminary		DPHT EVEL WEST	Project No./Code		
No Revisions:	.,	ROADWAY LEVEL—WEST WATER TREATMENT ROOM LOCATION			
Revised:	Designer:	Structure	24210		
	Detailer:	Numbers			
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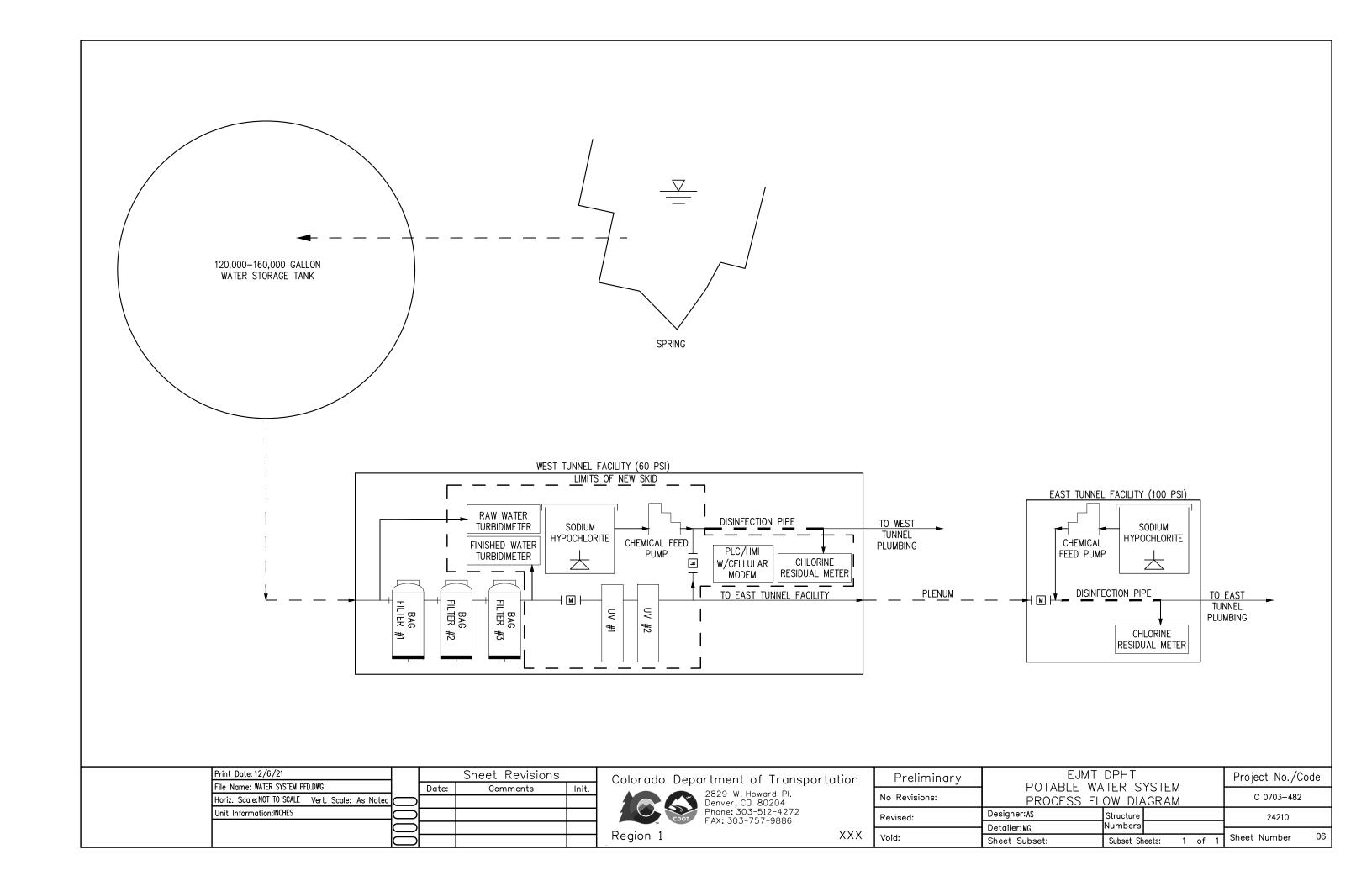
GENERAL NOTES:

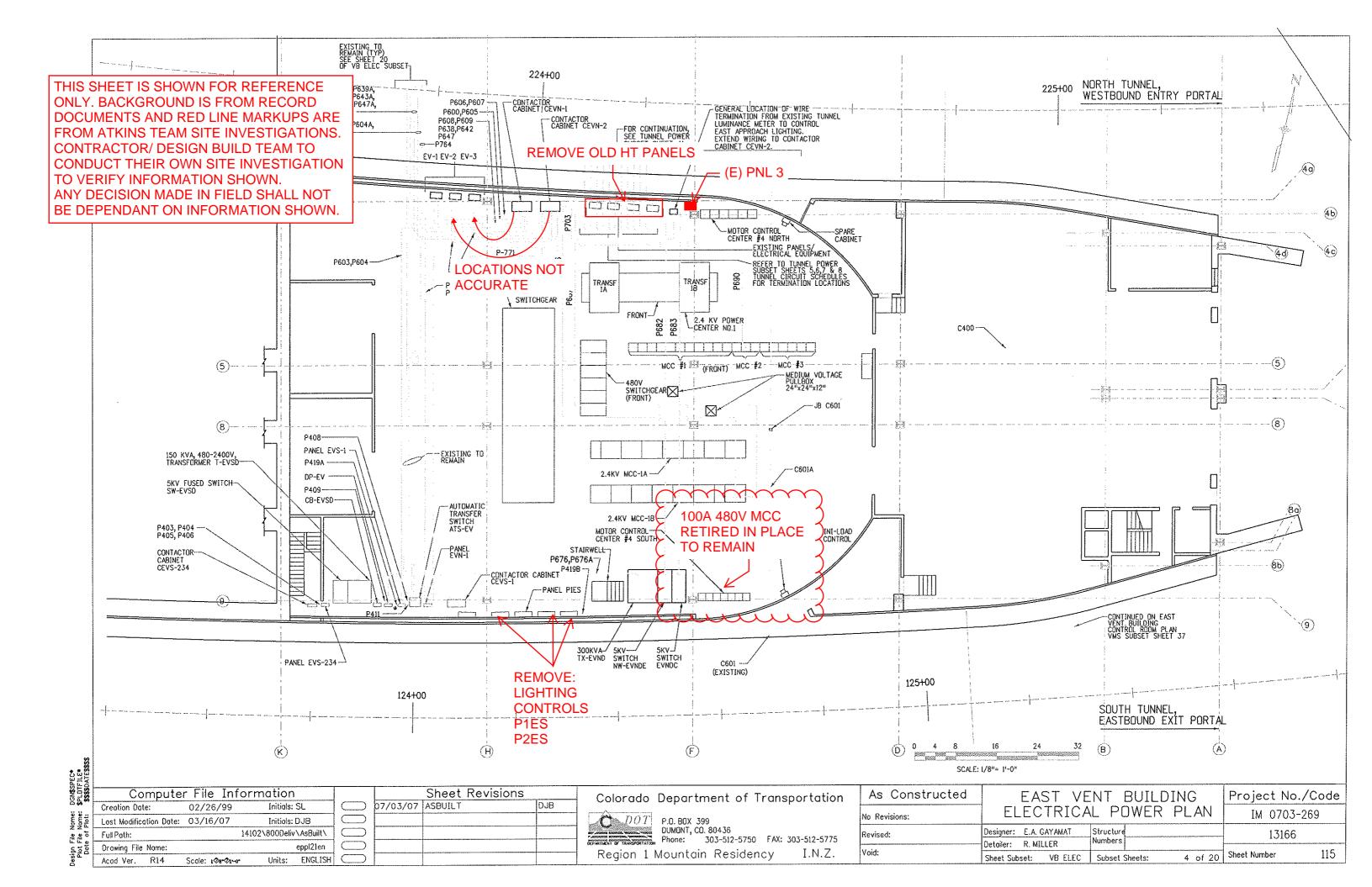
1. DRAWING SHOWS GENERAL LOCATION AND ARRANGEMENT OF THE DOMESTIC PIPING TO THE NEW WATER TREATMENT EQUIPMENT. CONTRACTOR TO DETERMINE FINAL ARRANGEMENT OF ALL PIPING AND EQUIPMENT.

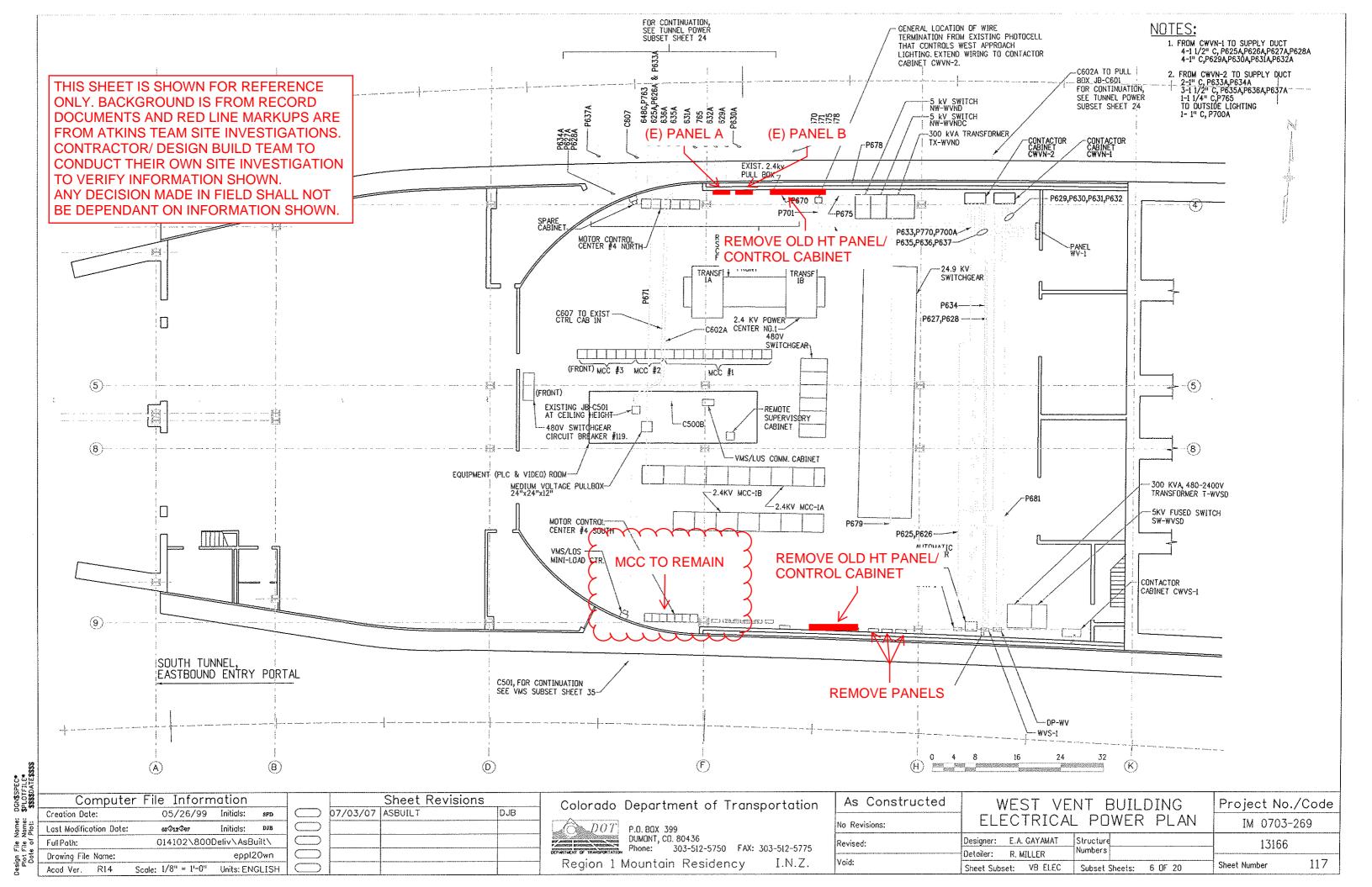
KEY NOTES:

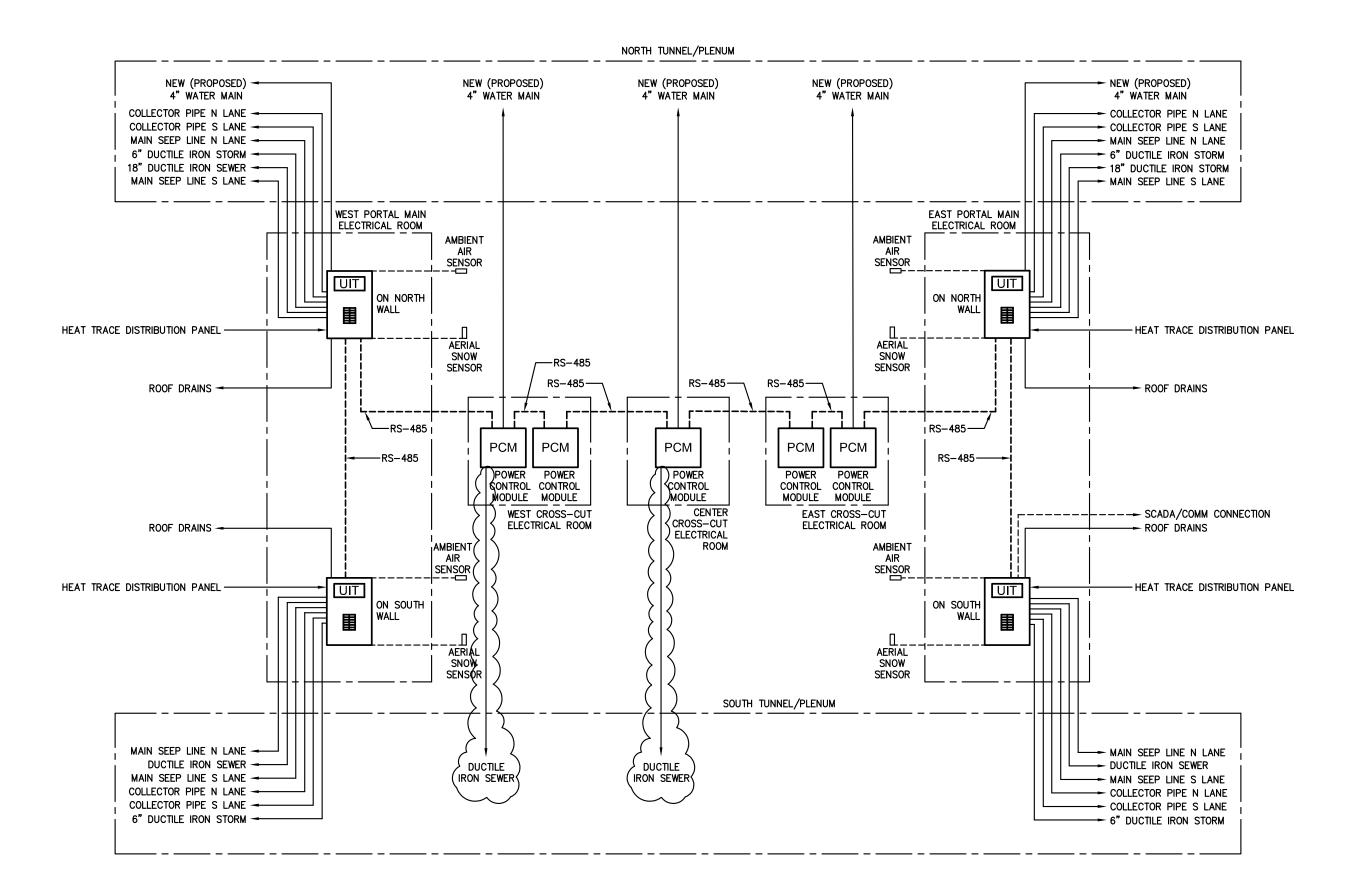
1. LOCATION OF EXISTING DOMESTIC WATER ENTRY AND WATER TREATMENT SYSTEM. CONNECT NEW DOMESTIC PIPING TO NEW WATER TREATMENT EQUIPMENT. PIPING TO BE ROUTED FROM NORTH PLENUM FAN DECK LEVEL TO WATER TREATMENT ROOM. EXISTING DOMESTIC AND FIRE WATER SUPPLY TO BE DISCONNECTED AND PROVIDED WITH A VALVE AND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

Print Date: \$DATE\$	L	Sheet Revisions		Colorado Department of Transportation	Preliminary	EJMT DPHT	Project No./Cod	de
File Name: \$FILES\$ Horiz. Scale: Vert. Scale: As Noted	$\supset \vdash$	Date: Comments -	Init.	2829 W. Howard Pl. Denver, CO 80204	No Revisions:	LOWER LEVEL—EAST WATER TREATMENT ROOM LOCAT	ON C 0703-482	
Unit Information	⊋F			Phone: 303-512-4272 FAX: 303-757-9886	Revised:	Designer: Structure Petailer: Numbers	24210	
	⇉├				Void:	Detailer: Numbers Sheet Subset: Subset Sheets:	Sheet Number	05





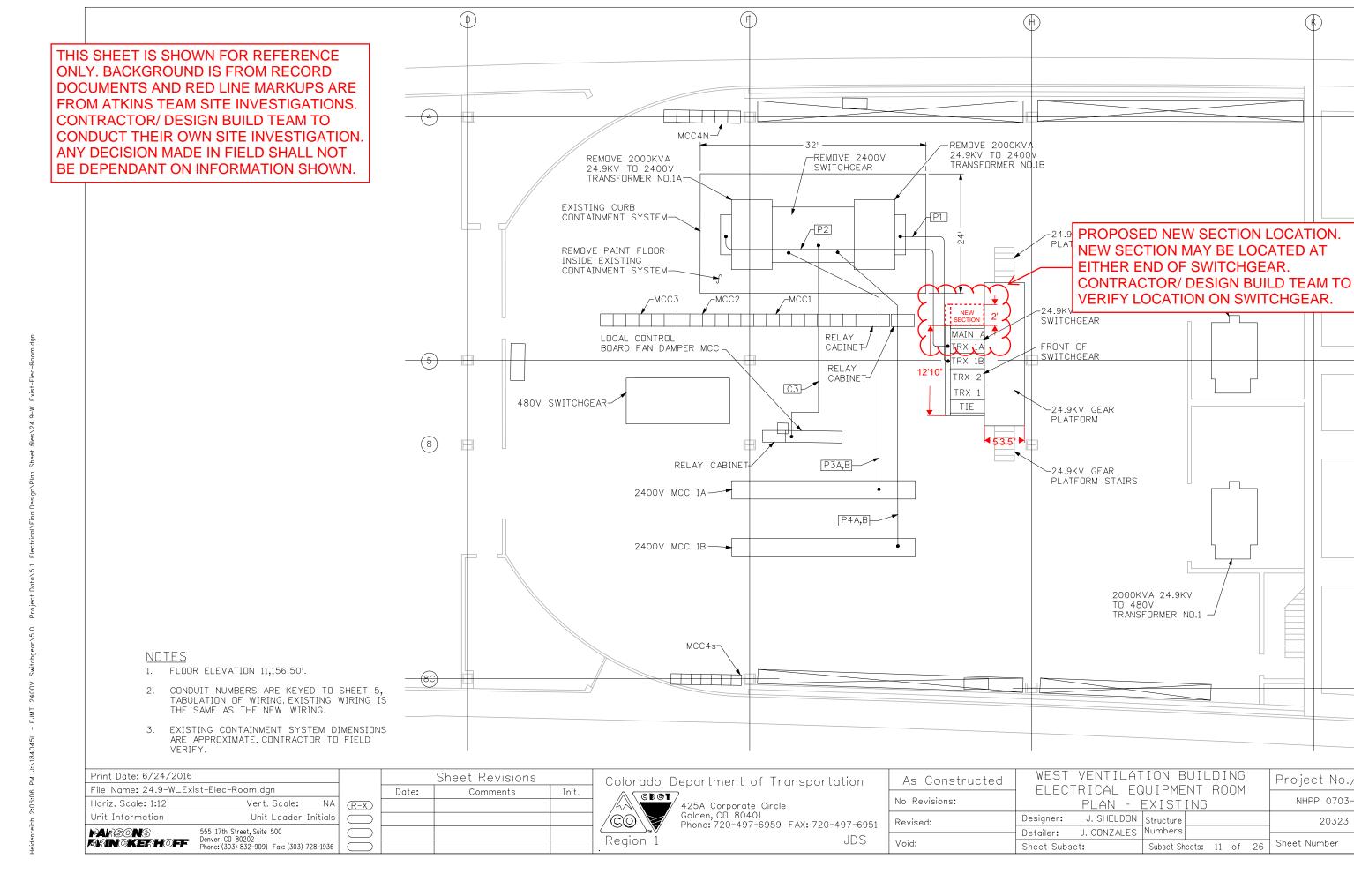






DRAWN:	PKE
CHECKED:	LS
DATE:	11/12/2021
JOB NUMBER:	21047
PROJECT MGR:	AW

EISENHOWER/JOHNSON MEMORIAL TUNNEL PROPOSED HEAT-TRACE BLOCK DIAGRAM

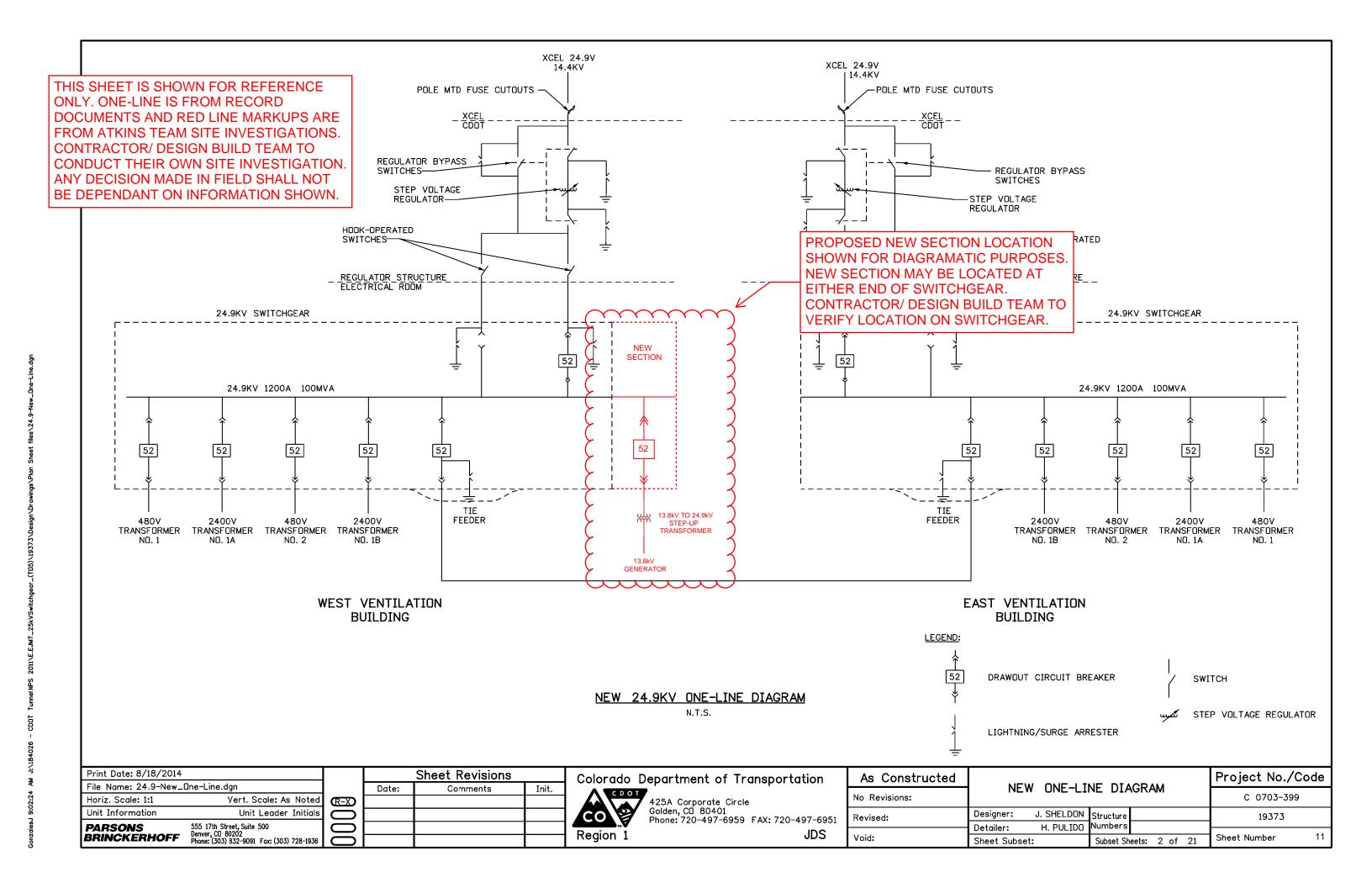


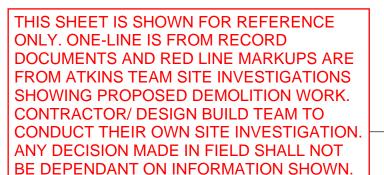
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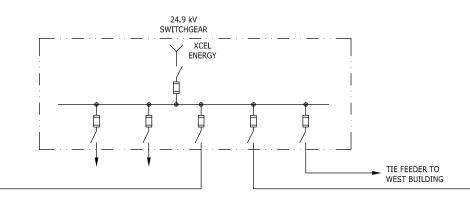
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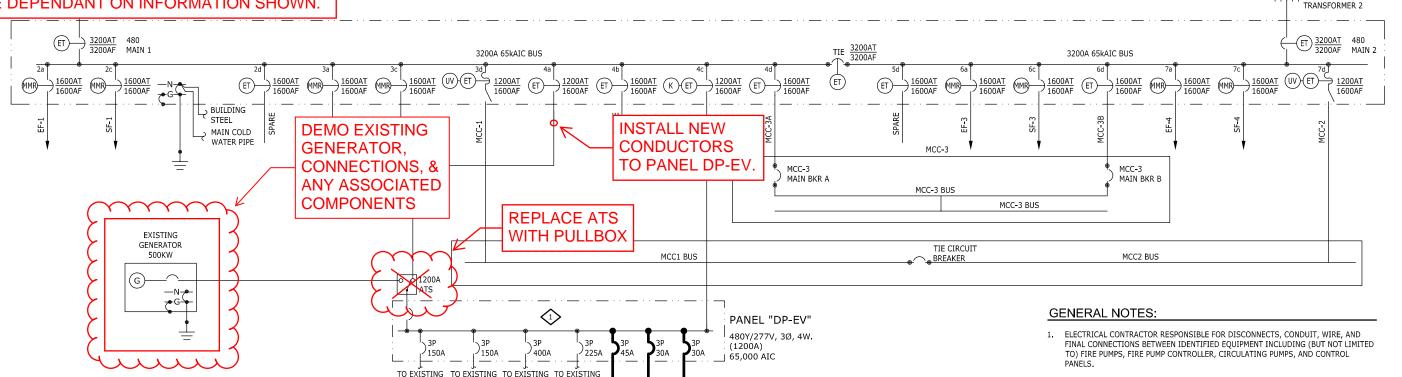
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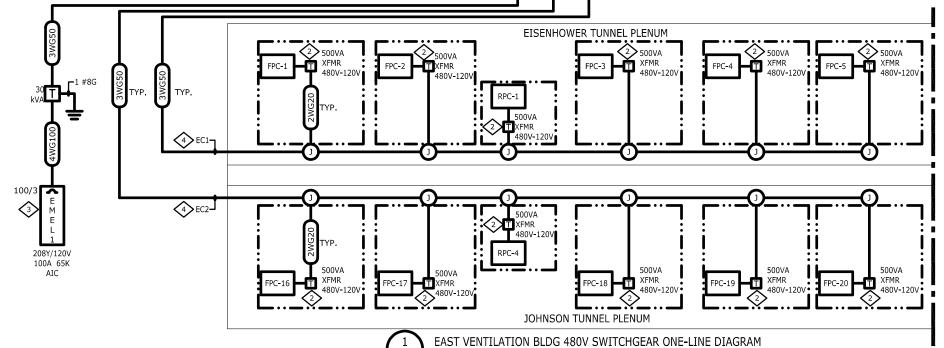
10











TX-EVND

EVN-1

- 2. REFER TO DRAWING E1.0 FOR FEEDER SCHEDULE.
- 3. REFER TO DRAWING E1.3 FOR "EMEL1" LOAD INFORMATION.
- 4. 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 BREAKERS

24.9kV TO 480/277V

- 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 DISPLAYS POWERED FROM THE EAST PORTAL.
- 4 ROUTE POWER FOR TUNNEL FIRE ALARM SYSTEM PANELS WITH CONDUITS SHOWN ON SYSTEMS GROUP DRAWINGS.

E2.2 EAST ELECTRICAL ONE-LINE DIAGRAM

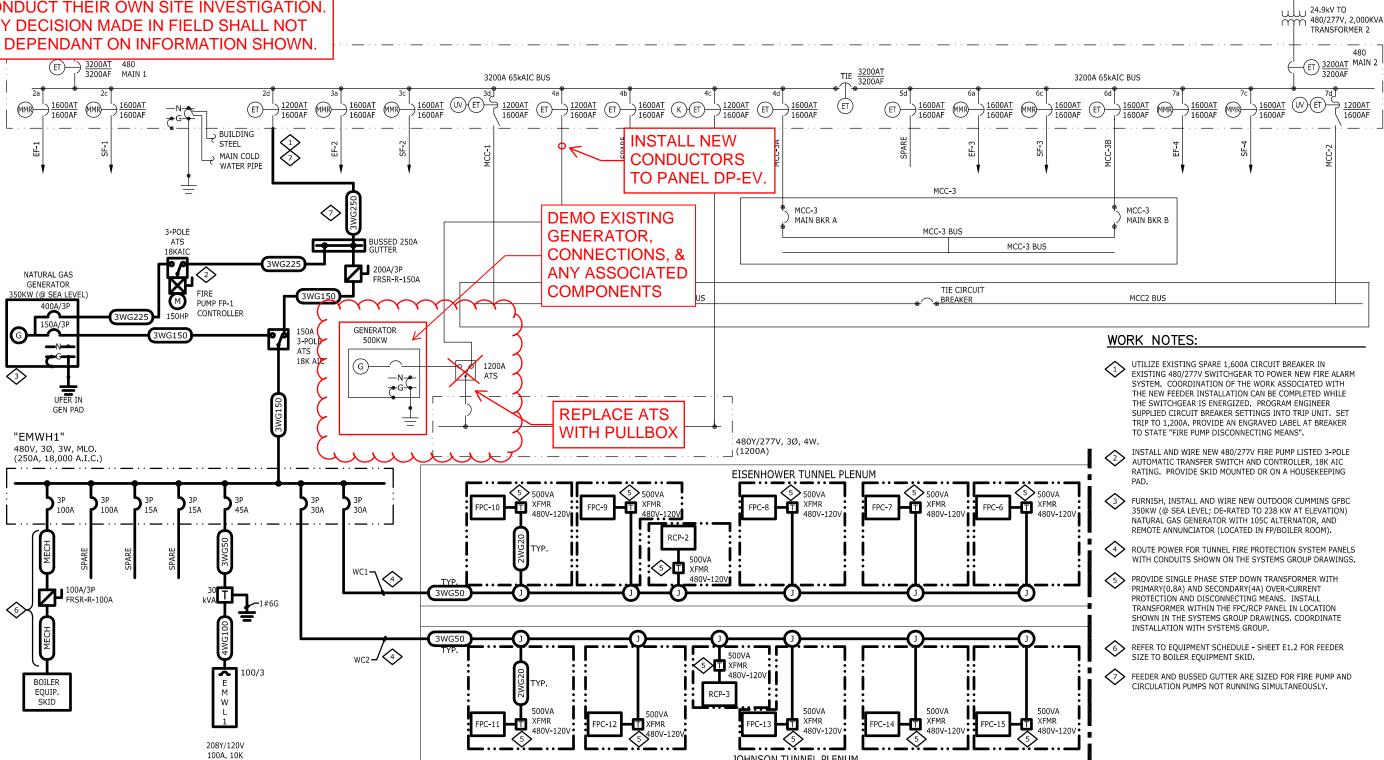
12

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

XCEL 24.9 kV ENERGY SWITCHGEAR EAST BUILDING

GENERAL NOTES:

- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR DISCONNECTS, CONDUIT, WIRE, AND FINAL CONNECTIONS BETWEEN IDENTIFIED EOUIPMENT 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"



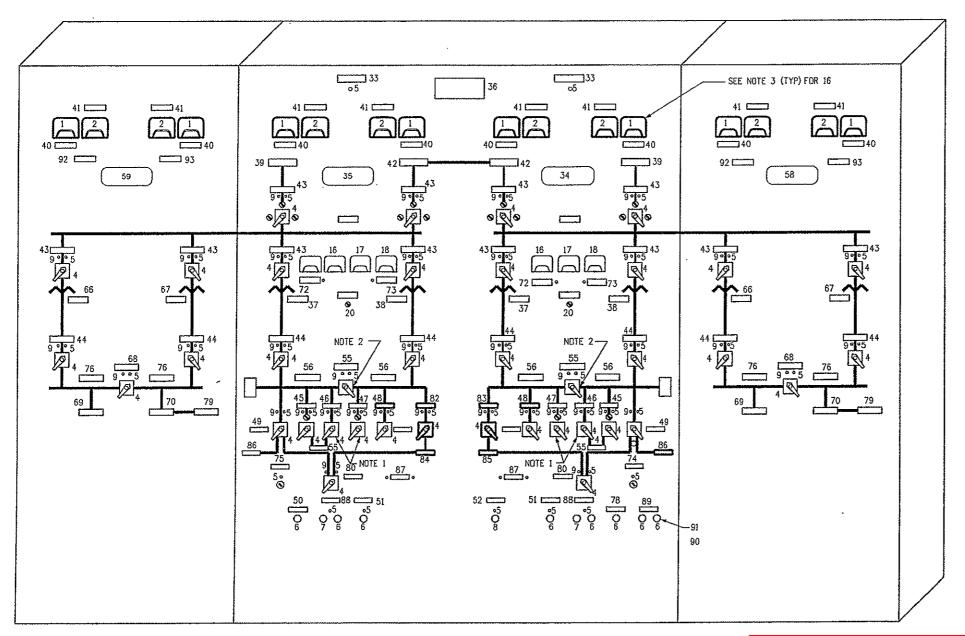
JOHNSON TUNNEL PLENUM

WEST VENTILATION BLDG 480V SWITCHGEAR ONE-LINE DIAGRAM

E2.1 WEST ELECTRICAL ONE-LINE DIAGRAM

13

Xref xx-tb.dwa



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-LS 2. VOLTMETER TYPE 171-031 3. SWITCH TYPE S81, 2 STA 4. SWITCH TYPE S81, 2 STA 4. SWITCH TYPE S81, 2 STA 5. INDICATING LIGHTS, TYPE 6. CR2940UA202B PUSH BUT 7. CR2940UA202B PUSH BUT 8. CR2940UB202A SELECTOR 9. INDICATING LIGHT, TYPE 10. 0-5 MILLIAMMETER, TYPE 11. 0-5 MILLIAMMETER, TYPE 12. TERMINAL BDARD, (NOT SH 13. TRANSFORMER #1. 14. TRANSFORMER #2. 15. SWITCH, TYPE SB1, WITH H 16. AMP METER. 17. HERTZ METER. 18. VOLT METER. 19. APPROACH LOW OIL PRESS 20. GOVERNER CONTROL. 21. APPROACH LOW OIL PRESS 20. GOVERNER CONTROL. 21. APPROACH HIGH WATER TI 22. AMMETER, AC 0-800AMP 23. VOLT METER, AC 0-3000 V 24. 0-5 MILLIAMMETER WITH 25. 0-5 MILLIAMMETER WITH 26. 0-5 MILLIAMMETER WITH 27. 0-5 MILLIAMMETER WITH 28. 0-5 MILLIAMMETER WITH 29. INDICATING LIGHT, RED 12 30. PUSHBUTTON RESET. 31. SELECTOR SWITCH, SPRING FAST-OFF-SLOW,	SURE LIGHT. EMPERATURE. OLT. 0-800 AMP SCALE. 0-3000 VDLT SCALE. 0-1000 AMP SCALE. 5-65-65 HERTZ SCALE. 0-600 VAC SCALE. S RETURN TO CENTER F -STOP.	85P4. ROM LEFT & RIGHT	
NAME!	<u>PLATE SCHEDULE</u>	=	
FIRST LINE	SECOND LINE	THIRD LINE	<u>DETAIL</u>
33.POWER	ON DIVIS		2 1
34.EAST 35.WEST	BUILDING	00.400	į
36. POWER 37. TRANSFORMER	CONTROL NO. 2	BOARD SECONDARY SECONDARY	2
37. TRANSFORMER 38. TRANSFORMER 39. PUBLIC SERVICE	NO.1 INCOMING	SECONDARY LINE	2
40. AMMETER	5,700,011		2
40. AMMETER 41. VOLTMETER 42.24.9 K.V. 43.LUAD	EMERGENCY	TIE	2
	BREAK CIRCUIT	SWITCH BREAKER	2
45.MCC #1	CIRCUIT FEEDER FEEDER	BREAKER BREAKER BREAKER	2 2
47.MCC #3	FEEDER	BREAKER A	2
45.MCC #1 46.MCC #2 47.MCC #3 48.MCC #3 49.EMERGENCY 50. TUNNEL & BUILDING 51. PUIL DING	FEEDER GENERATOR	BREAKER	2
50. TÜNNEL & BUILDING 51. BUILDING 52. SEDIMENTATION 53. TÜNNEL & BUILDING 54. EMERGENCY 55. 460 VOLT 56. 460 VOLT 57. 24.9 K.V. 58. EAST 59. WEST 60. TRANSFORMER	NORMAL LIGHTS POWER PANELS	BREAKER A BREAKER B BREAKER RESET RESET VENT. FAN	
52. SEDIMENTATION	POWER PANELS TANKS NORMAL LIGHTS GENERATOR	VENT. FAN RESET	2 2
54. EMERGENCY	GENERATOR	CONTROL	2
55,460 VULT 56,460 VULT	TIE BREAKER BUSS BUSS		2
57.24.9 K.V.	BUSS BUILDING	SOUTH TUNNEL	i
59. WEST	BUILDING	NORTH TUNNEL SECONDARY	1,
60. TRANSFORMER 61. TRANSFORMER 62. AMMETER 63. VOLTMETER	NO. 1A NO. 18	SECONDARY	2
62. AMMETER 63. VOLTMETER			2
	BREAK CIRCUIT	SWITCH BREAKER	2 2
65. AIR 65. TRANSFORMER 67. TRANSFORMER 68. 2400 VOLT 69. MCCIA	NO 14	OH WITH THE T	2
67. TRANSFURMER 68.2400 VOLT	TIE TIE	BREAKER	2 2
	NO. 1B TIE EXHAUST SUPPLY GENERATOR		2 2
71 FMFRCENCY	GENERATOR	BREAKER PRESS	2
72. APPROACHING 73. APPROACHING			. 2
74 EMERGENCY 75 FMFRGENCY	GENERATOR GENERATOR	GOVERNOR CONTRO CONTROL	2 2
76. 2400 VOLT	BUSS EMERGENCY GENERATO	R	2
78. NORTH TUNNEL	BLDG. & LIGHTS	NORMAL RESET	2
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	PEAK SHAVING		2222222222222233242222
81. WEST	PEAK SHAVING TRANSFER	SWITCH	ა 3
83. AUTOMATIC	TRANSFER	SWITCH ATS-WV	24
84. IKANSFER 85. TRANSFER	SWITCH	ATS-EV	2
85. HANSTER 86. EMERGENCY 87. EAST D.C. 88. TUNNEL & BLDG. 89. NORTH TUNNEL	GENERATOR UNDER VOLTAGE		2
88. TUNNEL & BLDG.	D.C. LIGHTS	CONTROL ON ENGAGE ONE ONLY	2 2
89.NURTH TUNNEL 90.SOUTH (PUSHBUTTON)	OLUMIA DOI	FIREWOOD DUTE ONE!	-

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

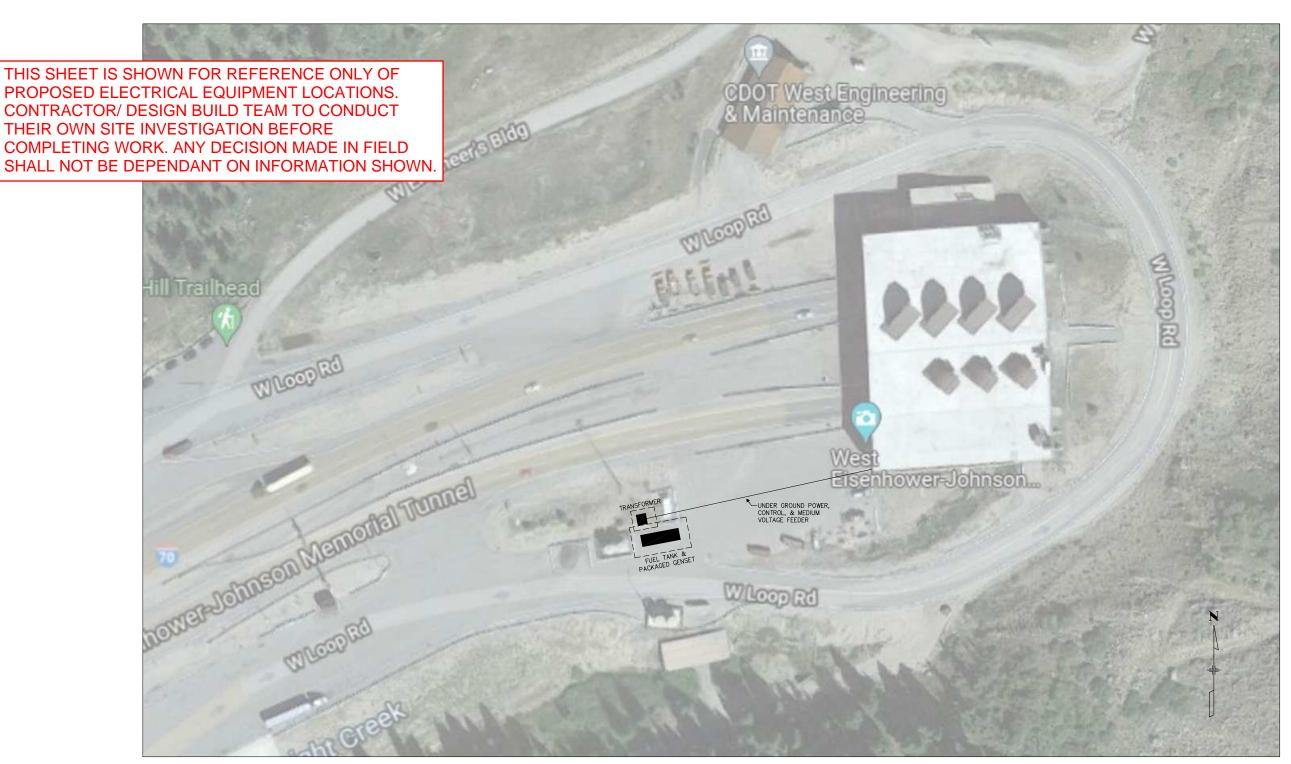
Colorado Department of Transportation

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			IM~0703~31			
ner:	J. SHELDON			16096		
ler:	R. KWONG	Numbers				
t Subset:		Subset Sh	neets:	Sheet Number	14	



NOTE: NOT TO SCALE



PKF		
- PKE		
LS		
11/12/2021		
21047		
AW		

EISENHOWER/JOHNSON MEMORIAL TUNNEL ELECTRICAL EQUIPMENT LOCATIONS OPTION #1