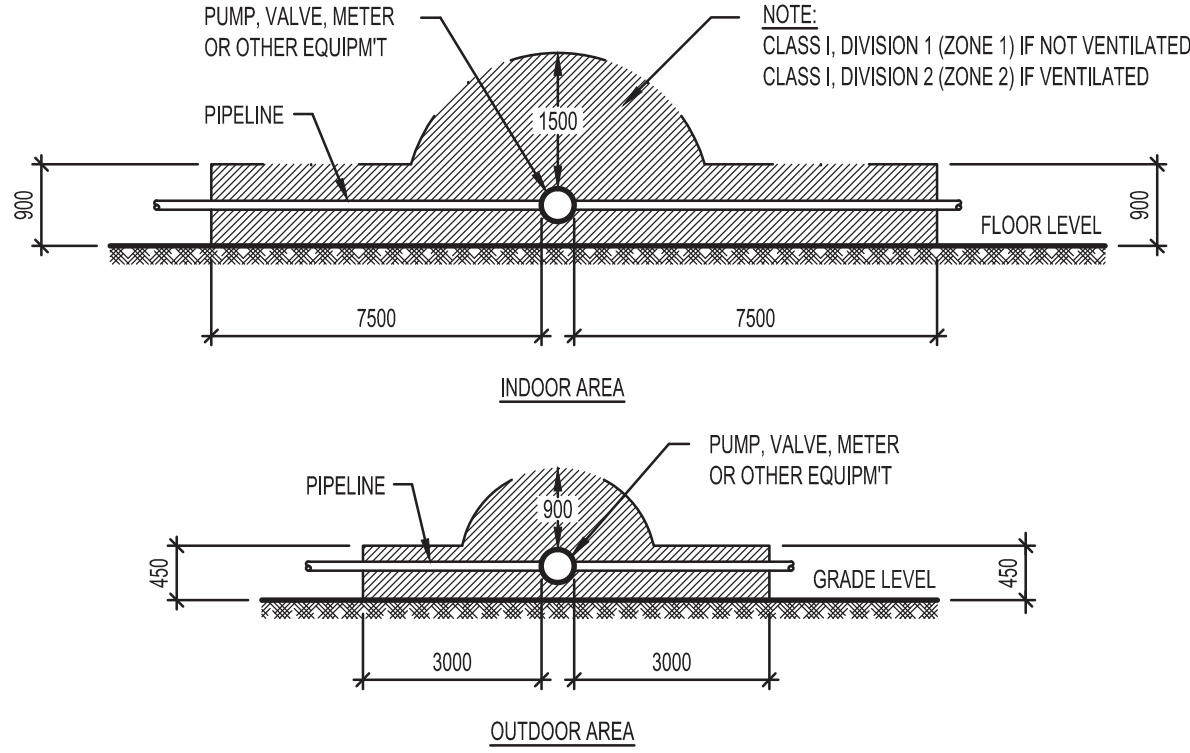
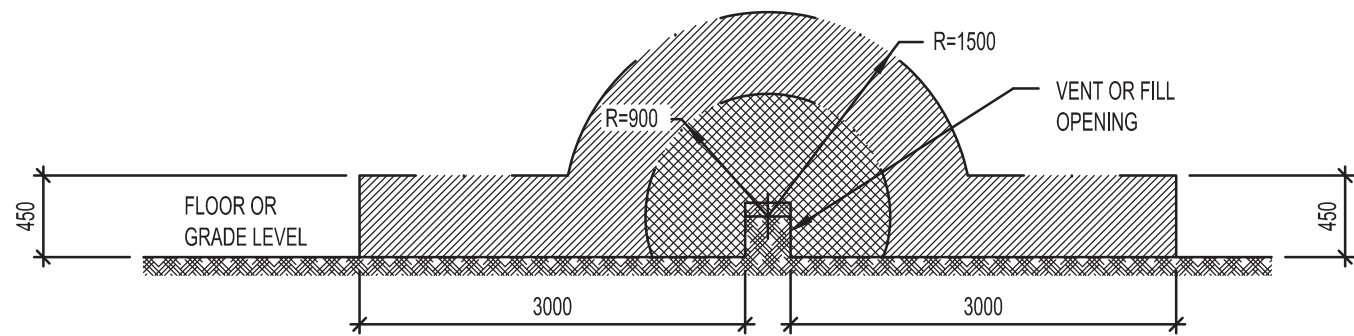


- KEYNOTES:
- SEE DETAIL E06/E5
 - SEE DETAIL 3/E1
 - FOR QUANTITY AND DESCRIPTION OF CABLES AND CONDUIT RUN UNDERGROUND BETWEEN OPERATOR SHELTER AND DISPENSER BUILDINGS, REFER TO SHEETS E8 TO E11. REFER TO DETAIL S06 FOR TRENCH DETAILS
 - LOCATION OF UTILITY TRANSFORMER/POLE AND UNDERGROUND SERVICE IS APPROXIMATE. COORDINATE FINAL LOCATION WITH UTILITY ON SITE
 - 12V DC SOLENOID VALVES PROVIDED BY OTHERS AND WIRED BY DIV 16. REFER TO SHEET E10 FOR DETAILS
 - SEE DETAIL 4/E1



FLAMMABLE LIQUIDS AT BULK FUEL STORAGE FACILITIES

(RULE: 20-302 (1) OF CANADIAN ELECTRICAL CODE)



TRANSFER OF FLAMMABLE LIQUIDS

(OUTDOORS OR INDOORS WITH MECHANICAL VENTILATION)
(RULE: 20-302 (2) (a) OF CANADIAN ELECTRICAL CODE)

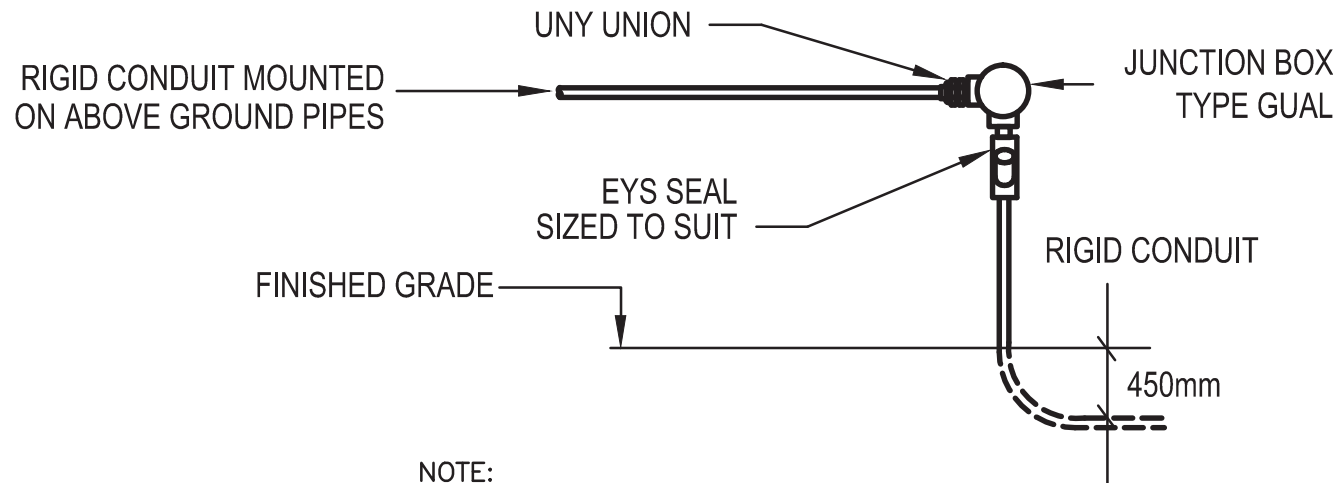
HAZARDOUS AREA CLASSIFICATION:



- NOTE:
- ALL DIMENSIONS ARE IN MILLIMETRES.
 - FOR OTHER NOTES SEE SPECIFICATIONS, DIVISION 16, SECTION 16010.

HAZARDOUS AREA CLASSIFICATIONS FOR ELECTRICAL INSTALLATIONS

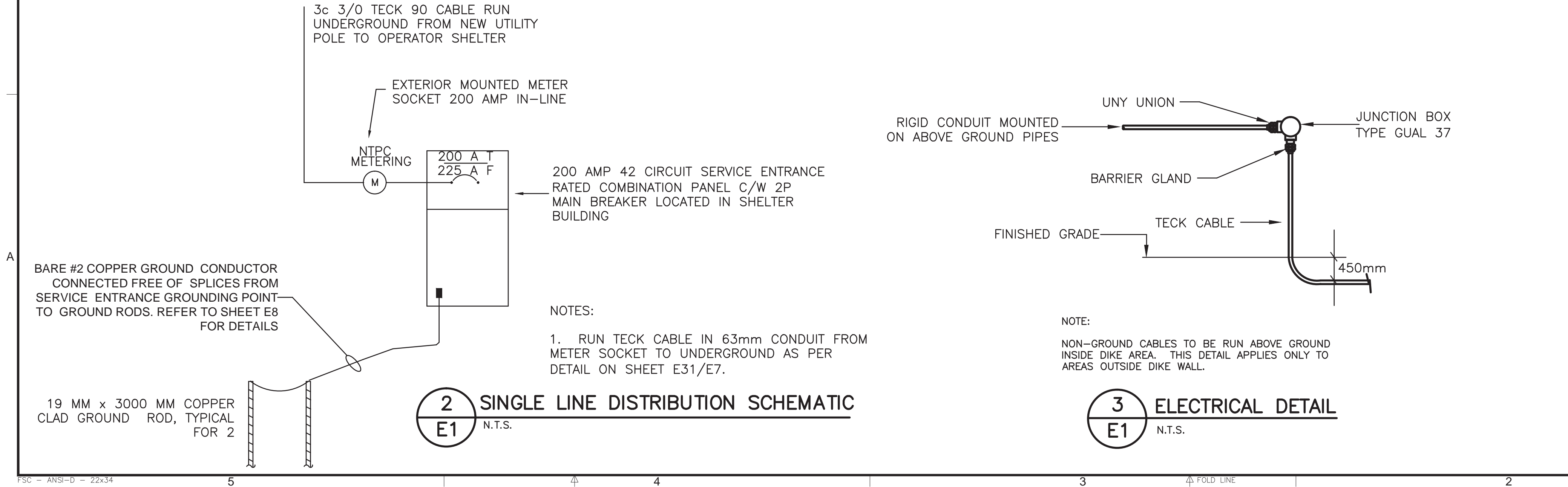
N.T.S.



- NOTE:
- NON-GROUND CABLES TO BE RUN ABOVE GROUND INSIDE DIKE AREA. THIS DETAIL APPLIES ONLY TO AREAS OUTSIDE DIKE WALL.

ELECTRICAL DETAIL

N.T.S.



ELECTRICAL DETAIL

N.T.S.



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E3: E15, E17 TO E19, 3/E3
E4: E23 TO E29
E5: E05, E06, E09, E10
E6: E07, E11, E12, S48, S49
E7: E03, E04, E31

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01	ISSUED FOR 95% REVIEW	2011/04
00	ISSUED FOR 50% REVIEW	2011/02

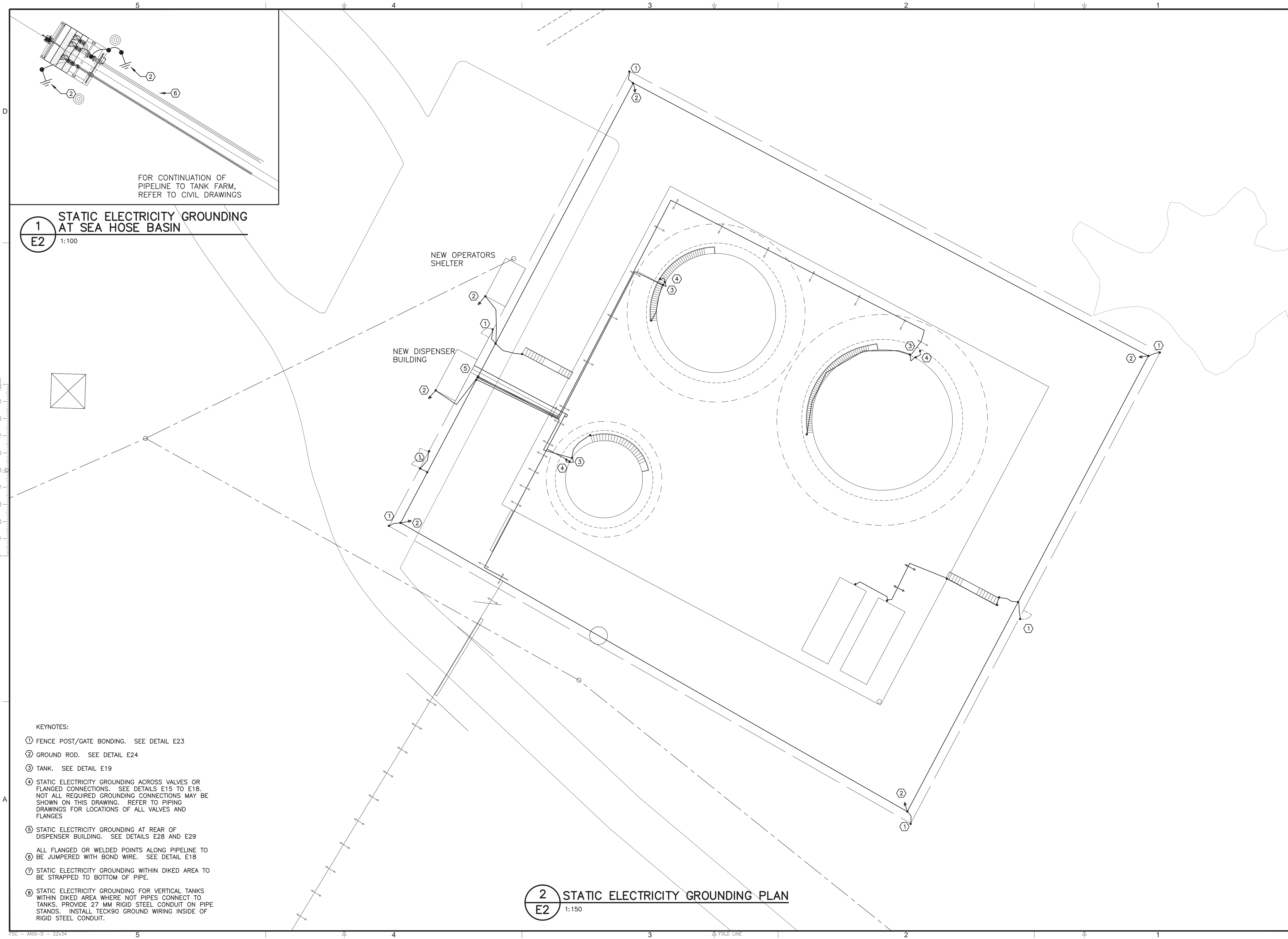
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PROJECT TITLE
FUEL STORAGE FACILITY UPGRADES
LOCATION
CHESTERFIELD INLET, NU
DRAWING TITLE
SITE POWER AND LIGHTING PLAN AND DETAILS

DRAWN BY
njb
SCALE
AS NOTED
CHECKED BY
PM
CLIENT PROJECT NO.
-
FSC PROJECT NO.
2010-1160
DRAWING NO.
E1



FOR CONTINUATION OF
PIPELINE TO TANK FARM,
REFER TO CIVIL DRAWINGS

1
E2 **STATIC ELECTRICITY GROUNDING
AT SEA HOSE BASIN**
1:100

- KEYNOTES:
- ① FENCE POST/GATE BONDING. SEE DETAIL E23
 - ② GROUND ROD. SEE DETAIL E24
 - ③ TANK. SEE DETAIL E19
 - ④ STATIC ELECTRICITY GROUNDING ACROSS VALVES OR FLANGED CONNECTIONS. SEE DETAILS E15 TO E18. NOT ALL REQUIRED GROUNDING CONNECTIONS MAY BE SHOWN ON THIS DRAWING. REFER TO PIPING DRAWINGS FOR LOCATIONS OF ALL VALVES AND FLANGES
 - ⑤ STATIC ELECTRICITY GROUNDING AT REAR OF DISPENSER BUILDING. SEE DETAILS E28 AND E29
 - ⑥ ALL FLANGED OR WELDED POINTS ALONG PIPELINE TO BE JUMPED WITH BOND WIRE. SEE DETAIL E18
 - ⑦ STATIC ELECTRICITY GROUNDING WITHIN DIKED AREA TO BE STRAPPED TO BOTTOM OF PIPE.
 - ⑧ STATIC ELECTRICITY GROUNDING FOR VERTICAL TANKS WITHIN DIKED AREA WHERE NOT PIPES CONNECT TO TANKS. PROVIDE 27 MM RIGID STEEL CONDUIT ON PIPE STANDS. INSTALL TECK90 GROUND WIRING INSIDE OF RIGID STEEL CONDUIT.

2
E2 **STATIC ELECTRICITY GROUNDING PLAN**
1:150



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- E4: E23 TO E29
- E5: E05, E06, E09, E10
- E6: E07, E11, E12, S48, S49
- E7: E03, E04, E31

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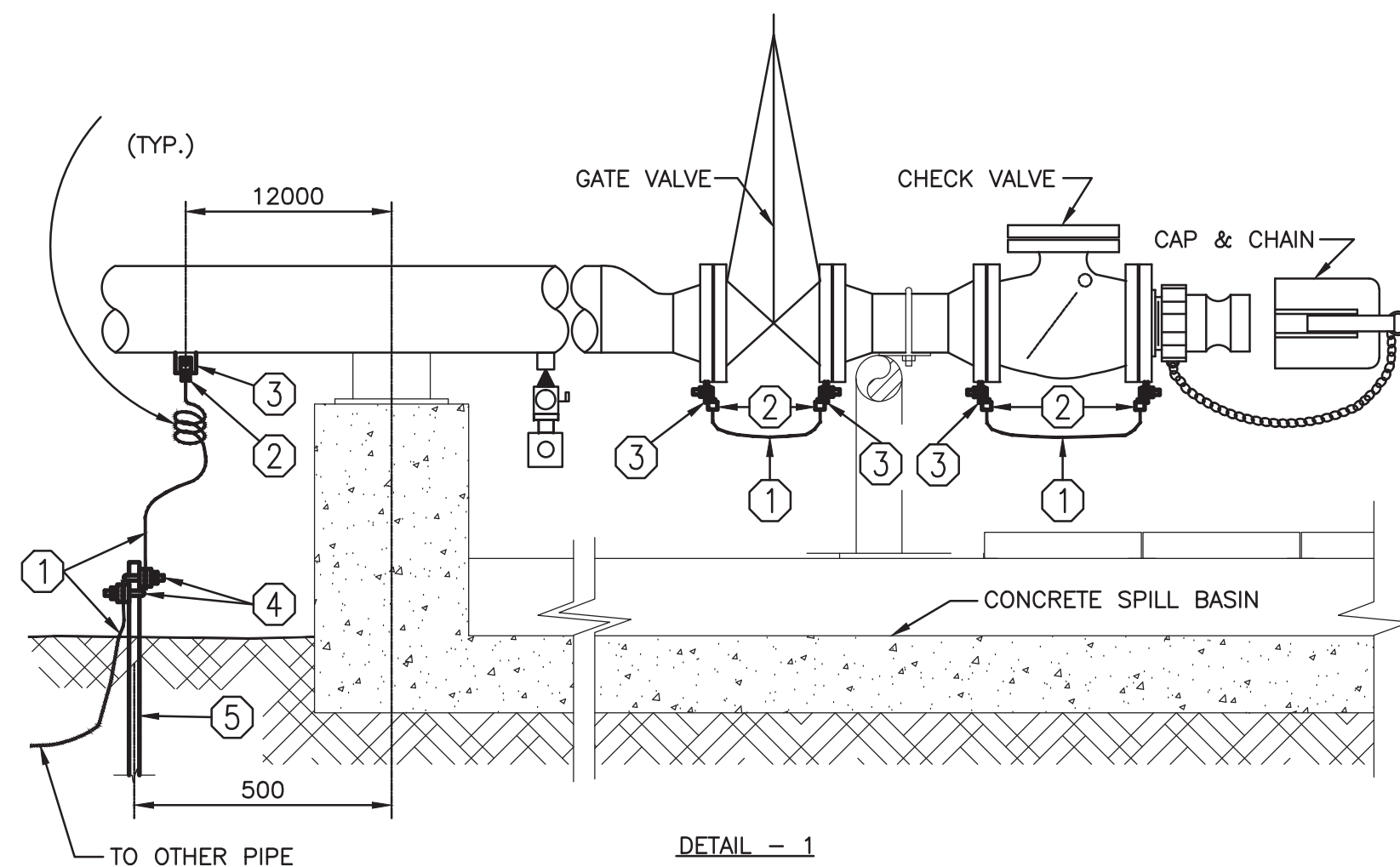
PROJECT TITLE
**FUEL STORAGE
FACILITY
UPGRADES**
LOCATION
CHESTERFIELD INLET, NU

DRAWING TITLE
**SITE GROUNDING
PLAN**

DRAWN BY NJB	SCALE AS NOTED
CHECKED BY PM	CLIENT PROJECT NO. -

FSC PROJECT NO.
2010-1160

DRAWING NO.
E2
OF 45

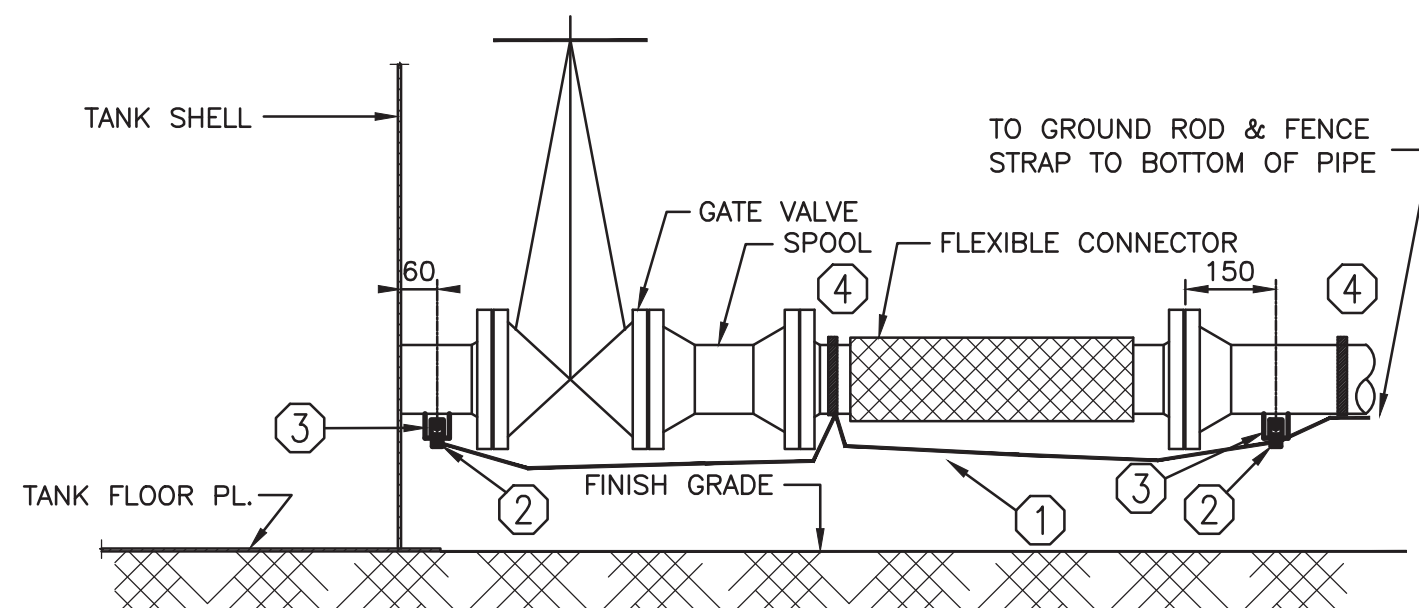


LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 TECK90 STRANDED COPPER GROUND WIRE TO BE CONTINUOUS
②	BURNDY CONNECTOR SCRULUGS TYPE KPA c/w BRASS BOLT & NUTS
③	GROUND LUG PLATE 40 x 40 x 6 TH'K. SEE DETAIL-1 DWG. NT-S49
④	BURNDY GROUND CONNECTOR TYPE GAR
⑤	GROUND ROD 19ø x 3 050 Lg. BLACKBURN #7510 COPPER-CLAD STEEL

3
E3

STATIC ELECTRICITY GROUNDING CONNECTIONS
AT SPILL BASIN AT SEA HOSE CONNECTION POINTS

N.T.S.

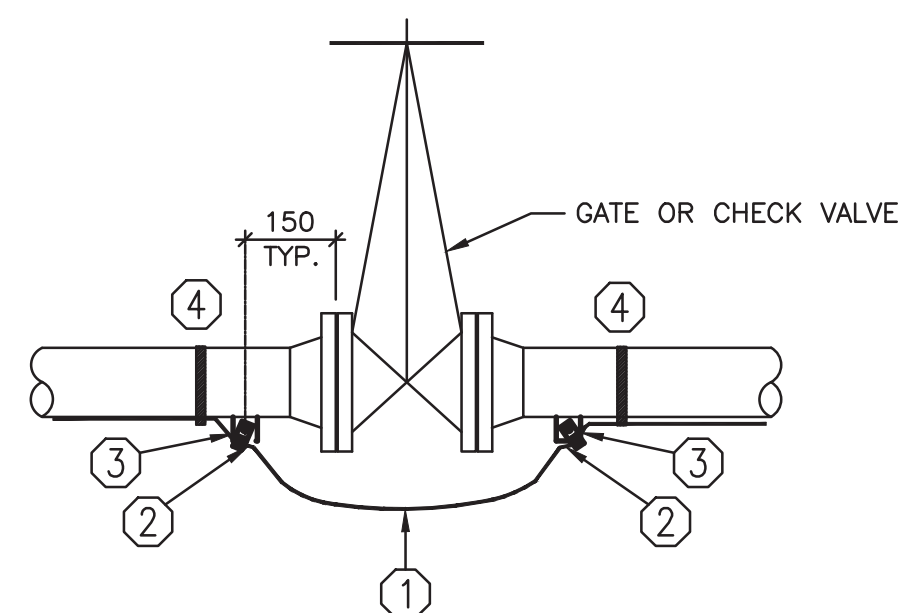


DETAIL - 2

LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 TECK90 STRANDED COPPER GROUND WIRE TO BE CONTINUOUS
②	BURNDY CONNECTOR SCRULUGS TYPE KPA c/w BRASS BOLT & NUTS
③	GROUND LUG PLATE 40 x 40 x 6 TH'K. SEE DETAIL-1 DWG. NT-S49
④	ADJUSTABLE METAL STRAP

STATIC ELECTRICITY GROUNDING
CONNECTIONS ACROSS
TANK VALVES, SPOOL PIECES &
FLEXIBLE CONNECTIONS

E15
E3

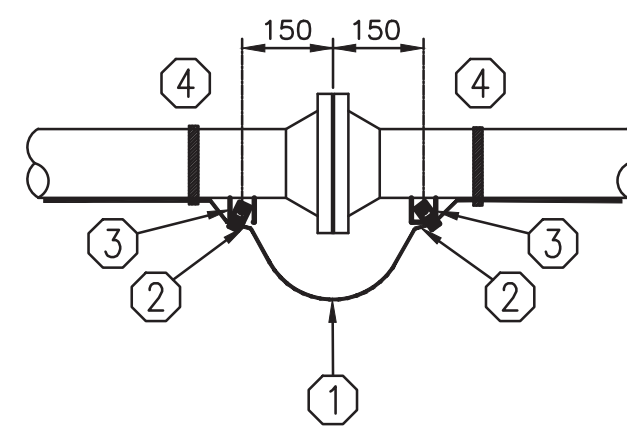


DETAIL - 4

LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 TECK90 STRANDED COPPER GROUND WIRE TO BE CONTINUOUS
②	BURNDY CONNECTOR SCRLUGS TYPE KPA c/w BRASS BOLT & NUTS
③	GROUND LUG PLATE 40 x 40 x 6 TH'K. SEE DETAIL-1 DWG. NT-S49
④	ADJUSTABLE METAL STRAP

STATIC ELECTRICITY GROUNDING CONNECTIONS ACROSS GATE OR CHECK VALVES

E17
E3 N.T.S.

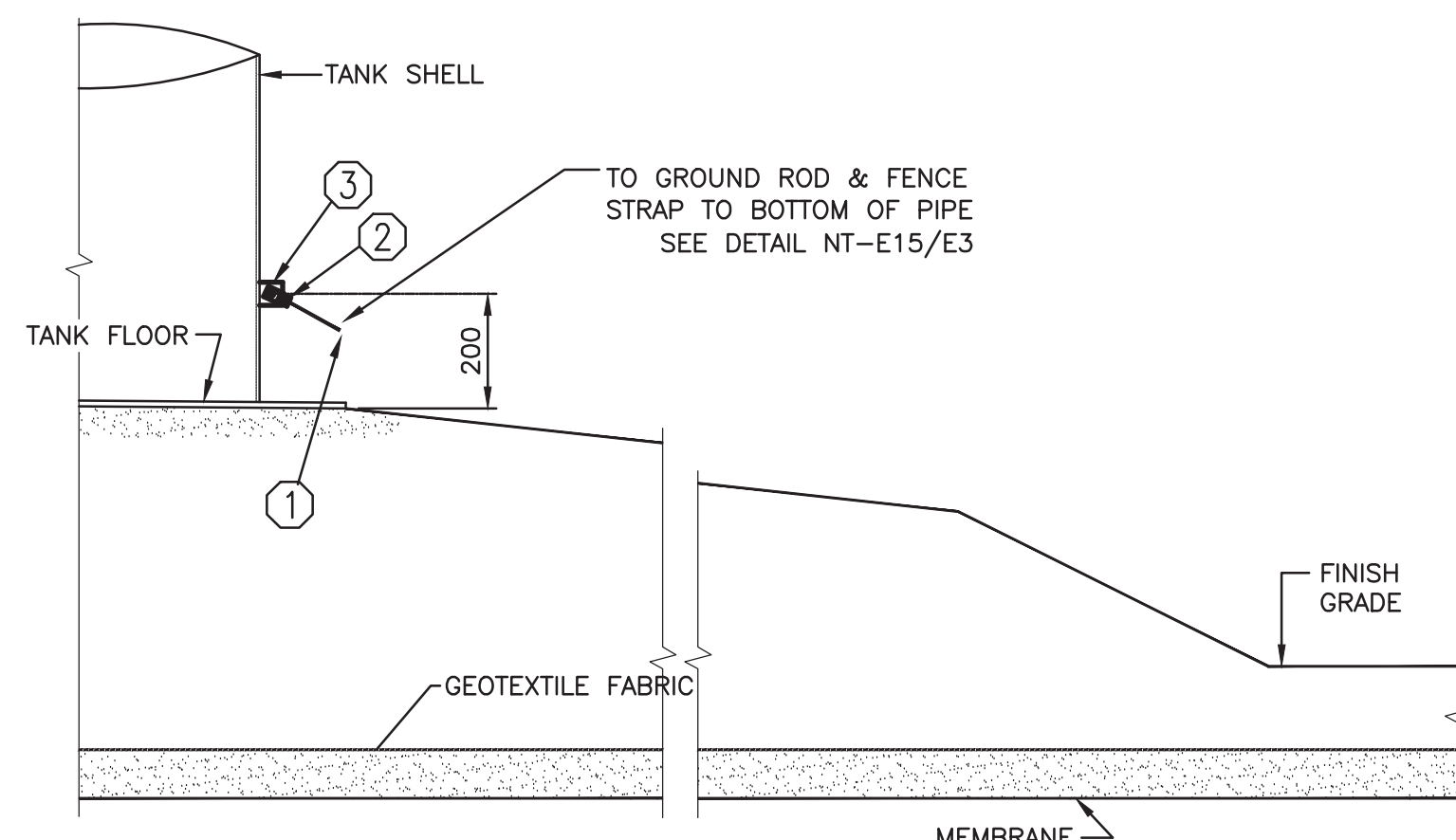


DETAIL - 5

LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 TECK90 STRANDED COPPER GROUND WIRE TO BE CONTINUOUS
②	BURNDY CONNECTOR SCRULLUGS TYPE KPA c/w BRASS BOLT & NUTS
③	GROUND LUG PLATE 40 x 40 x 6 TH'K. SEE DETAIL-1 DWG. NT-S49
④	ADJUSTABLE METAL STRAP

STATIC ELECTRICITY GROUNDING CONNECTIONS AT FLANGED CONNECTIONS





DETAIL - 6

LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 TECK90 STRANDED COPPER GROUND WIRE TO BE CONTINUOUS
②	BURNDY CONNECTOR SCRULUGS TYPE KPA c/w BRASS BOLT & NUTS
③	GROUND LUG PLATE 40 x 40 x 6 TH'K. SEE DETAIL-1 DWG. NT-S49

STATIC ELECTRICITY GROUNDING CONNECTIONS AT VERTICAL TANKS


 S
A
N.T.S.



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E4: E23 TO E29
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E6: E07, E11, E12, S48, S49
E7: E03, E04, E31

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FUEL STORAGE FACILITY UPGRADES

LOCATION CHESTERFIELD INLET, NU

SITE GROUNDING DETAILS SHEET 1

DRAWN BY NJB	SCALE AS NOTED
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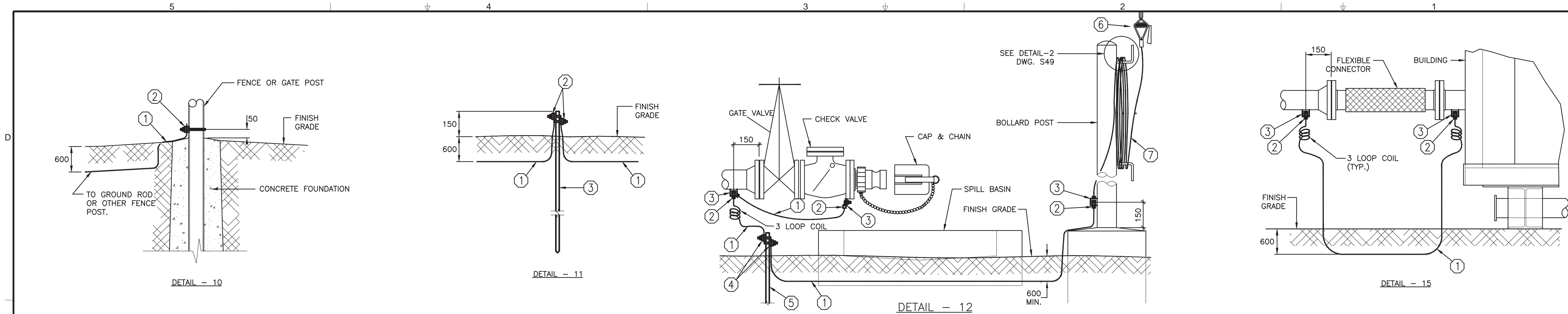
CHECKED BY	CLIENT PROJECT NO.
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FSC PROJECT NO.	
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DRAWING NO.

E3

OF 45



LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 STRANDED TECK90 COPPER GROUND WIRE
②	THOMAS & BETTS HEAVY DUTY GROUND CLAMP #3903 FOR FENCE POST, #3904 FOR GATE POST

LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 STRANDED TECK90 COPPER GROUND WIRE
②	BURNDY GROUND CONNECTOR TYPE GAR
③	GROUND ROD 19ø x 3 050 Lg. BLACKBURN #7510 COPPER-CLAD STEEL

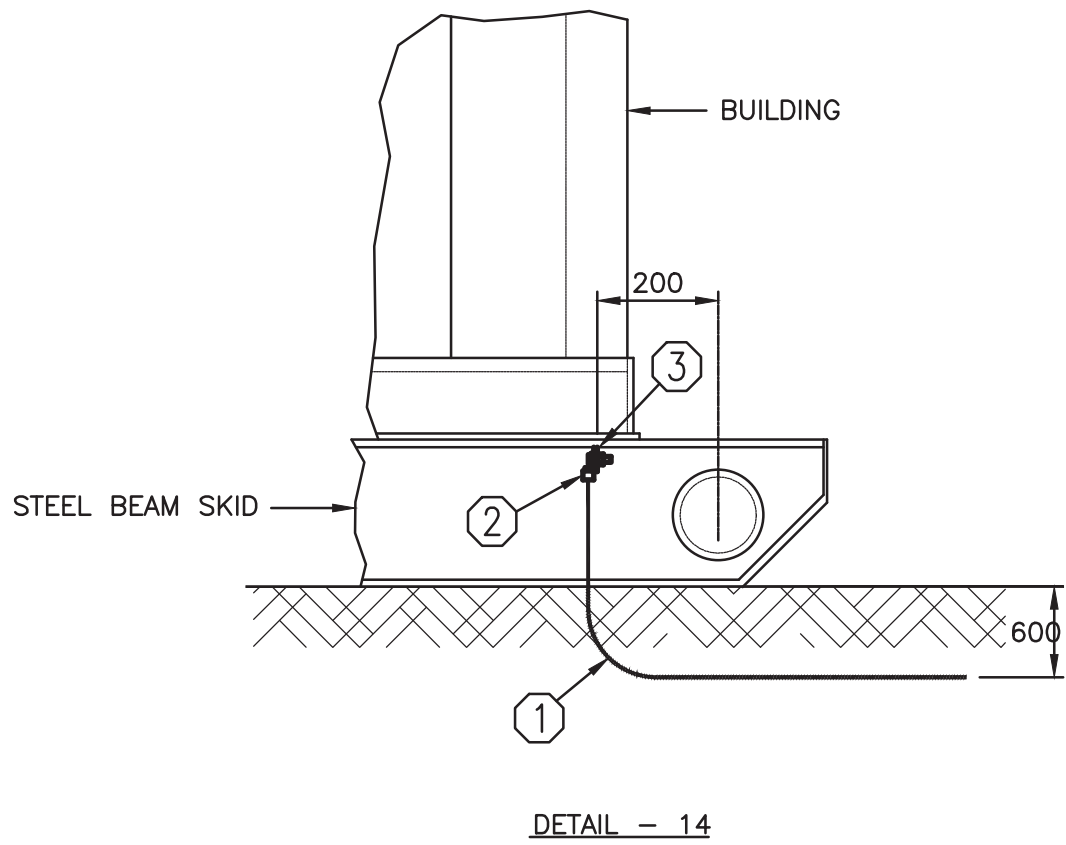
LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 STRANDED TECK90 COPPER GROUND WIRE
②	BURNDY CONNECTOR SCRULUGS TYPE KPA c/w BRASS BOLT & NUTS
③	GROUND LUG PLATE 40 x 40 x 6 TH'K. SEE DETAIL-1 DWG. NT-S49
④	BURNDY GROUND CONNECTOR TYPE GAR
⑤	GROUND ROD 19ø x 3 050 Lg. BLACKBURN #7510 COPPER-CLAD STEEL
⑥	GAMMON GTP-1102-VUD-100, GROUNDING CLAMP.
⑦	GROUND CABLE, #4 STRANDED, SUPER VU-TRON II, JACKETED WELDING CABLE-EXTRA FLEXIBLE 600 V. (-50° C. TO +90° C.) 3 000 mm. Lg.

NOTE:

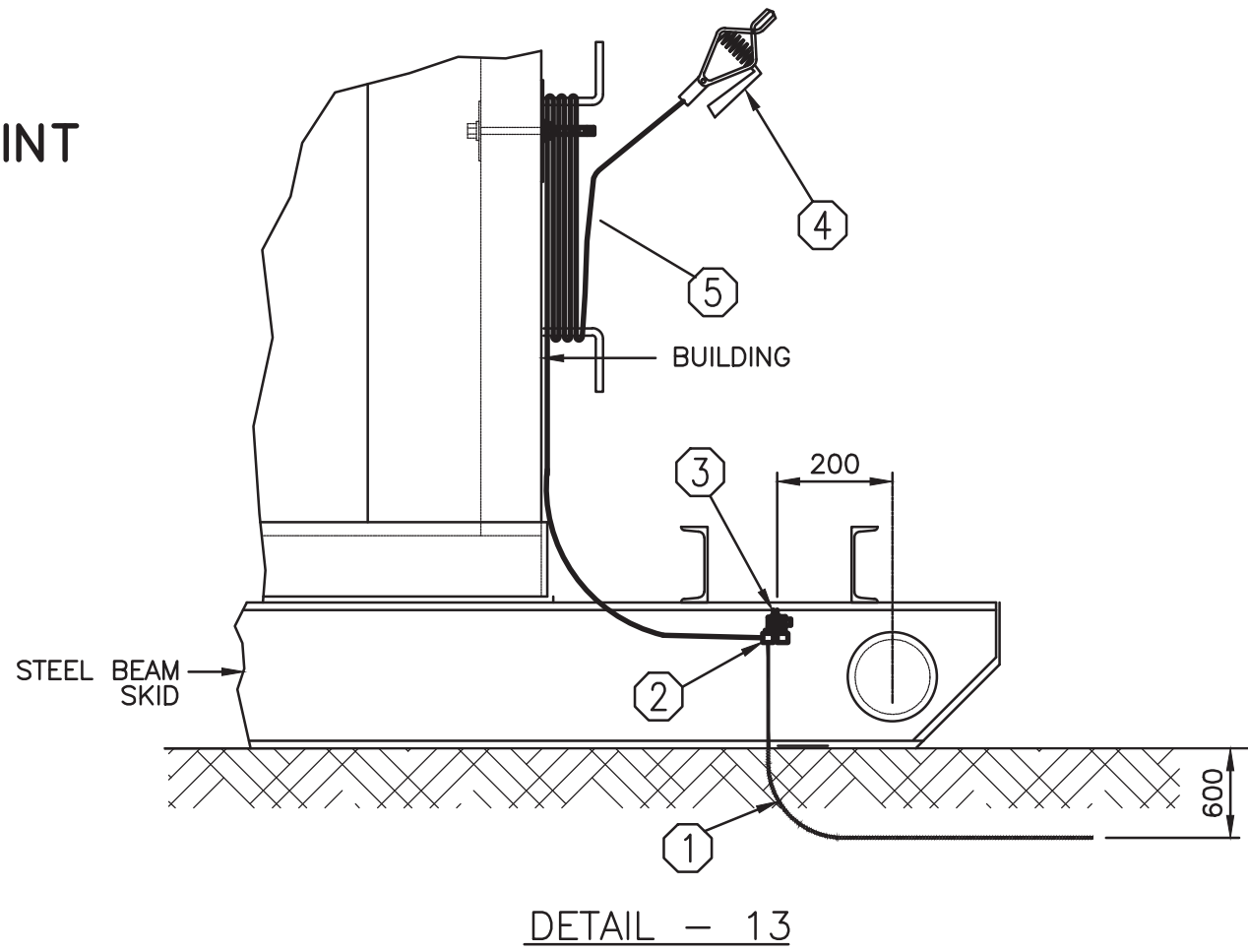
1- FOR MATERIAL SEE SPECIFICATIONS, DIVISION 16, SECTION 16010.

E25 E4	STATIC ELECTRICITY GROUNDING CONNECTIONS AT TRUCK UNLOADING POINT N.T.S.
-------------------------	--

E28 E4	STATIC ELECTRICITY GROUNDING CONNECTIONS ACROSS FLEXIBLE CONNECTOR AT DISPENSER BUILDING N.T.S.
-------------------------	---



LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 STRANDED TECK90 COPPER GROUND WIRE
②	BURNDY CONNECTOR SCRULUGS TYPE KPA c/w BRASS BOLT & NUTS
③	GROUND LUG PLATE 40 x 40 x 6 TH'K. SEE DETAIL-1 DWG. NT-S49



LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 STRANDED TECK90 COPPER GROUND WIRE
②	BURNDY CONNECTOR SCRULUGS TYPE KPA c/w BRASS BOLT & NUTS
③	GROUND LUG PLATE 40 x 40 x 6 TH'K. SEE DETAIL-1 DWG. NT-S49
④	GAMMON GTP-1102-VUD-100, GROUNDING CLAMP
⑤	GROUND CABLE, #4 STRANDED, SUPER VU-TRON II, JACKETED WELDING CABLE-EXTRA FLEXIBLE 600 V. (-50° C. TO +90° C.) 4 000 mm. Lg.

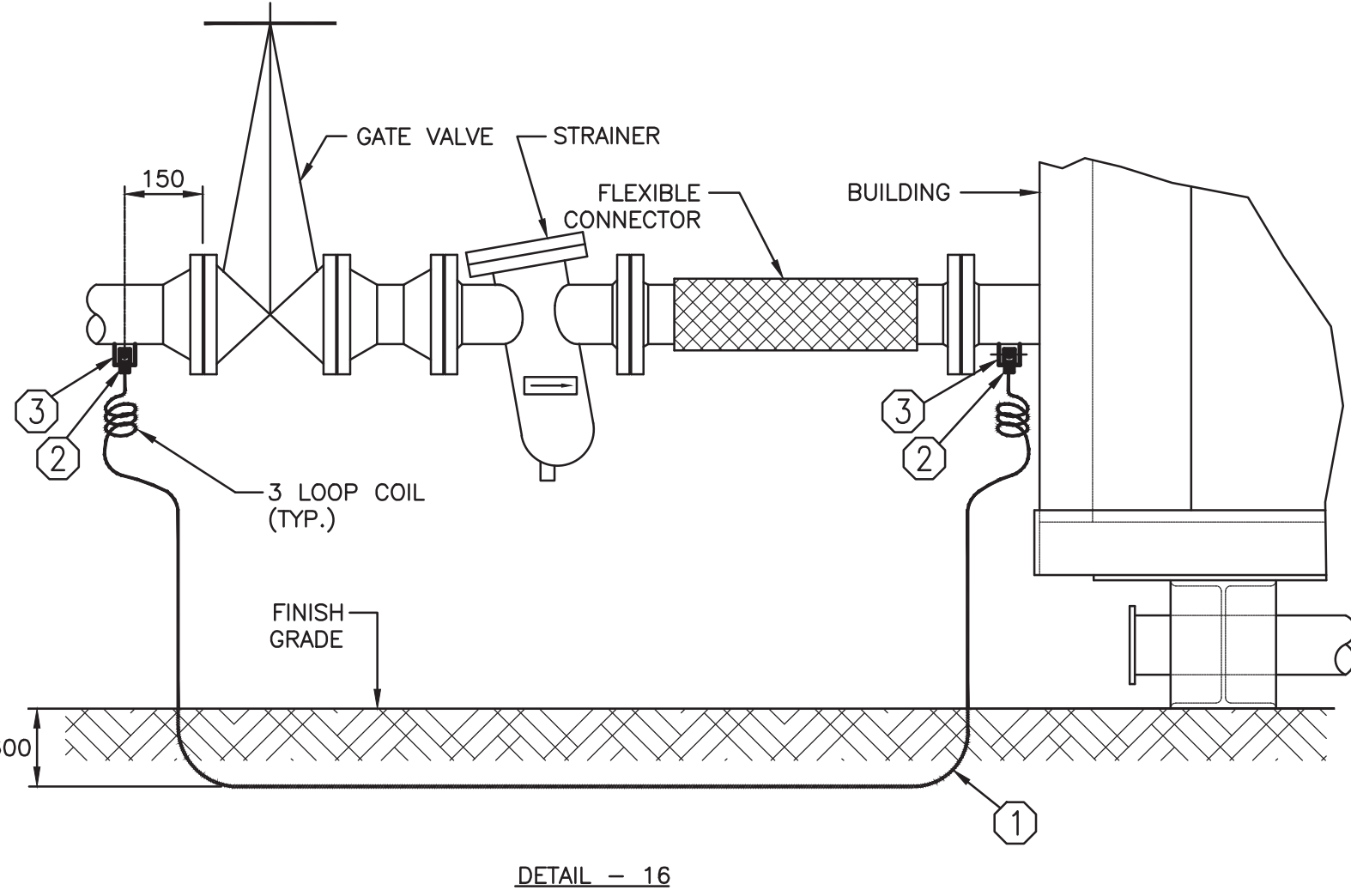
NOTE:

1- FOR MATERIAL SEE SPECIFICATIONS, DIVISION 16, SECTION 16010.

E26 E4	STATIC ELECTRICITY GROUNDING CONNECTIONS AT DISPENSER BUILDING FOR TRUCK GROUNDING CABLE N.T.S.
-------------------------	---

E23 E4	STATIC ELECTRICITY GROUND WIRE CONNECTION AT FENCE OR GATE POSTS N.T.S.
-------------------------	---

E24 E4	STATIC ELECTRICITY GROUNDING CONNECTIONS AT GROUND ROD N.T.S.
-------------------------	---



LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 STRANDED TECK90 COPPER GROUND WIRE
②	BURNDY CONNECTOR SCRULUGS TYPE KPA c/w BRASS BOLT & NUTS
③	GROUND LUG PLATE 40 x 40 x 6 TH'K. SEE DETAIL-1 DWG. NT-S49

E29 E4	STATIC ELECTRICITY GROUNDING CONNECTIONS ACROSS FLEXIBLE CONNECTOR, STRAINER & VALVE BEHIND DISPENSER BUILDING N.T.S.
-------------------------	---

LIST OF MATERIAL	
ITEM	DESCRIPTION
①	#4 STRANDED TECK90 COPPER GROUND WIRE
②	BURNDY CONNECTOR SCRULUGS TYPE KPA c/w BRASS BOLT & NUTS
③	GROUND LUG PLATE 40 x 40 x 6 TH'K. SEE DETAIL-1 DWG. NT-S49



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E4: E23 TO E29
E5: E05, E06, E09, E10
E6: E07, E11, E12, S48, S49
E7: E03, E04, E31

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PROJECT TITLE

FUEL STORAGE FACILITY UPGRADES

LOCATION

CHESTERFIELD INLET, NU

DRAWING TITLE

SITE GROUNDING DETAILS SHEET 2

DRAWN BY

NJB

SCALE

AS NOTED

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PM

CLIENT PROJECT NO.

-

FSC PROJECT NO.

2010-1160

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E4

OF 45

D

A



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PROJECT TITLE

FUEL STORAGE
FACILITY
UPGRADES

LOCATION

CHESTERFIELD INLET, NU

DRAWING TITLE

ELECTRICAL TANK
LIGHTING DETAILS
SHEET 1

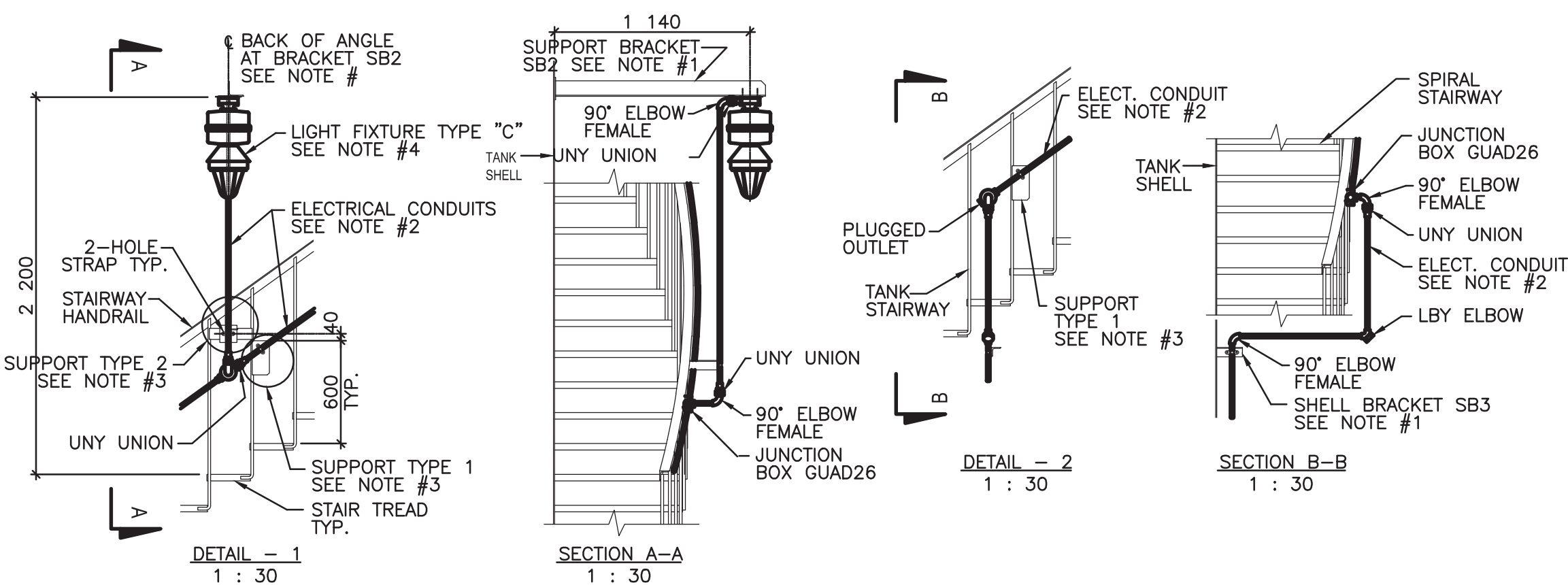
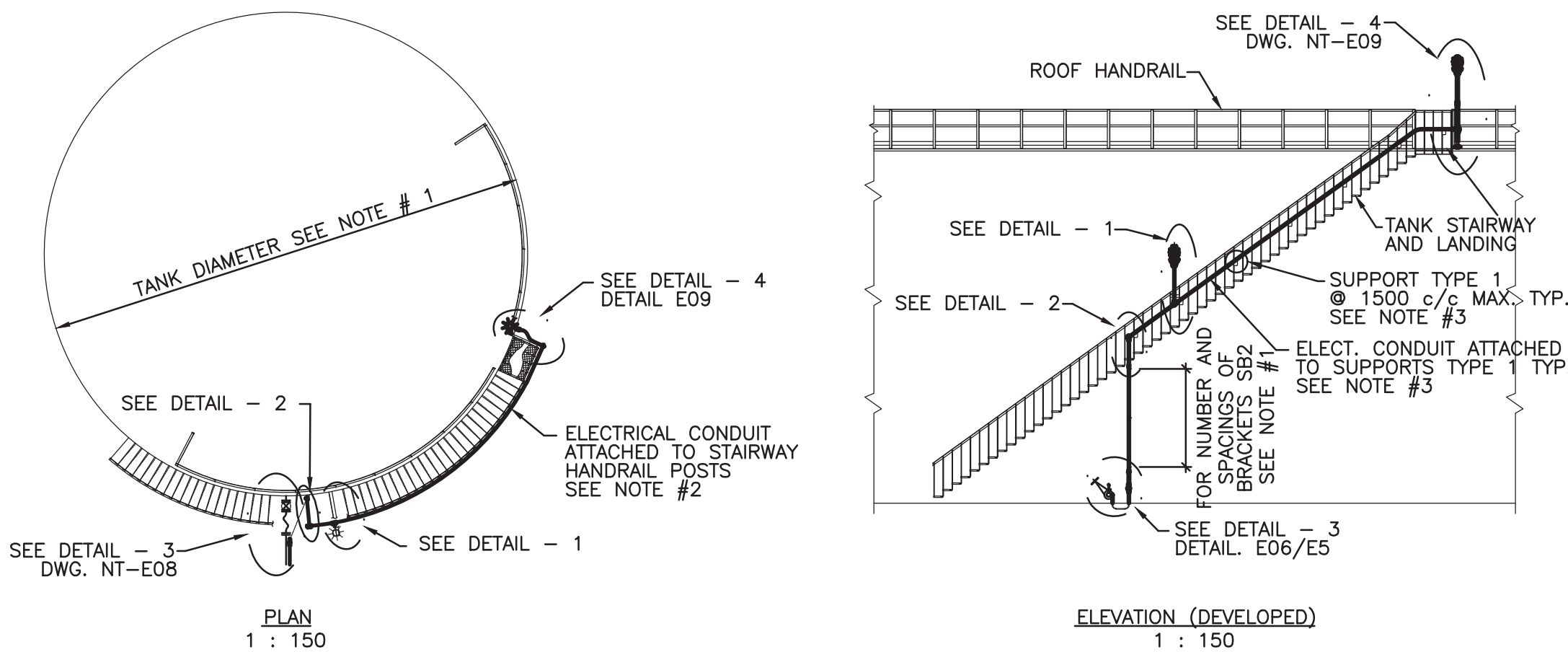
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CHECKED BY PM CLIENT PROJECT NO. -

FSC PROJECT NO. 2010-1160

DRAWING NO.

E5



TYPICAL LIGHTING ARRANGEMENT AT
VERTICAL TANKS - ALTERNATIVE 1

NOTES:

1- FOR SIZE OF TANK, ORIENTATION, NUMBER AND LOCATION OF BRACKETS SB2 AND SB3 REFER TO DRAWINGS C3, M8, AND M1.

2- ALL CONDUITS TO BE RIGID METAL 21Ø WITH 2-#8 WIRES, UNLESS OTHERWISE SPECIFIED ON PARTICULAR PROJECT DRAWINGS.

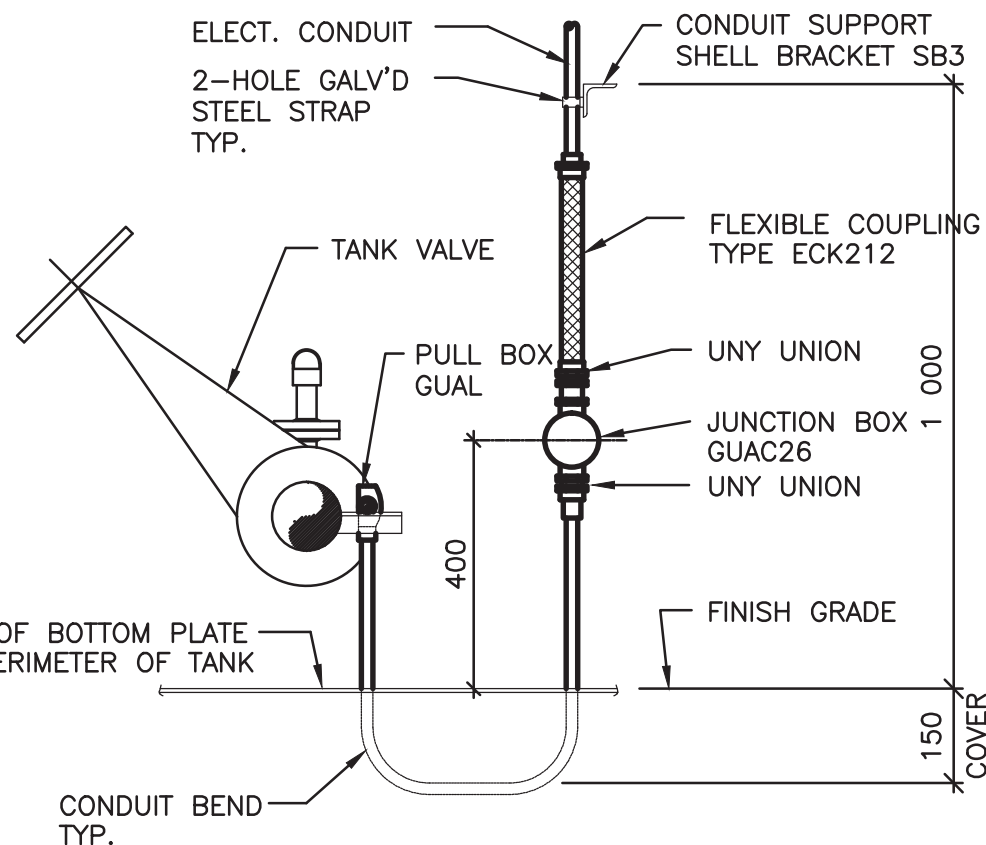
3- FOR DETAILS OF SUPPORTS TYPE 1 AND TYPE 11 REFER TO DWG. S48.

4- FOR MATERIALS REFER TO SPECIFICATIONS.

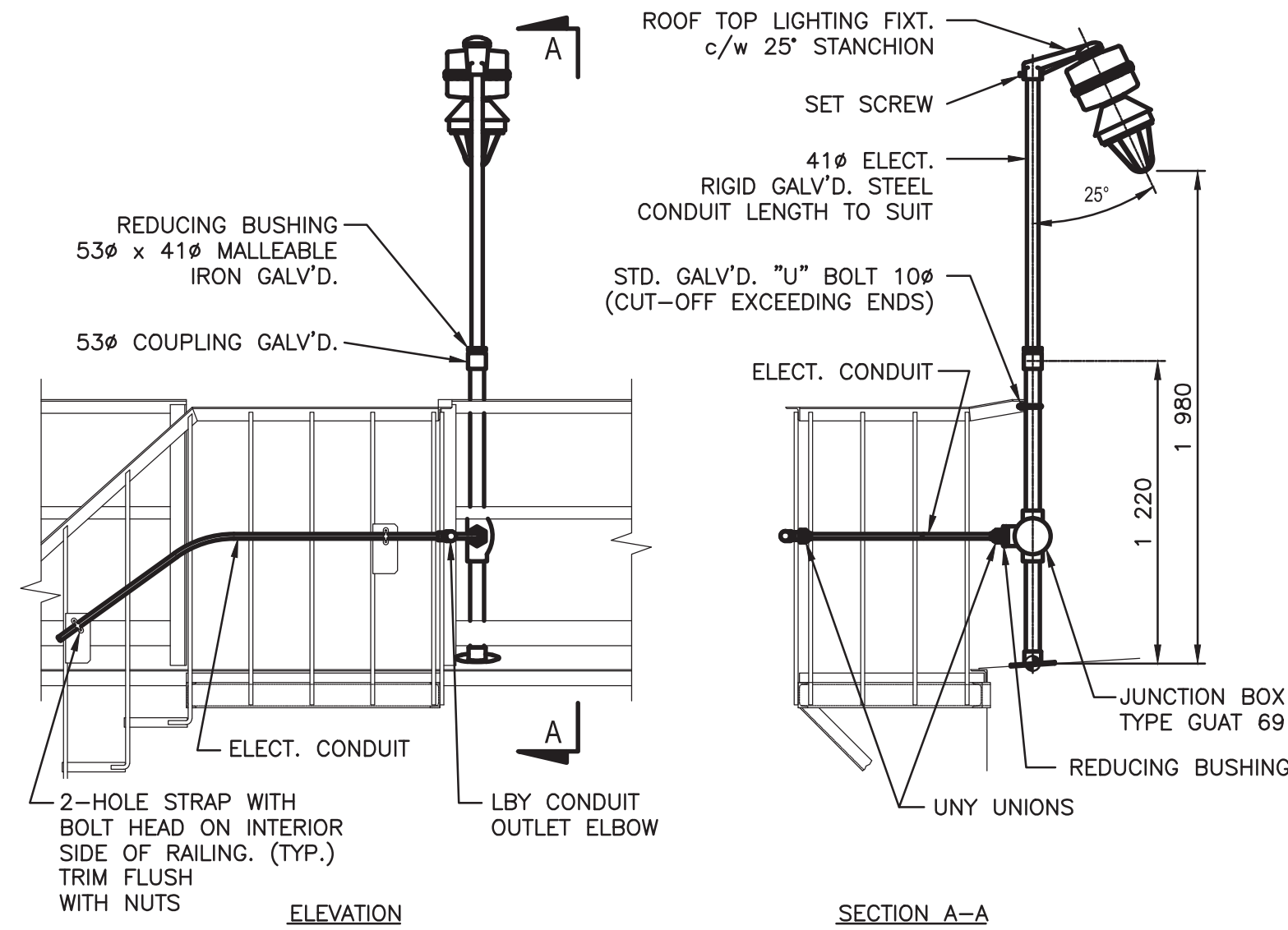
NOTES:

SIZES OF CONDUITS, BOXES & WIRING AS INDICATED ARE FOR AVERAGE CONDITIONS. REFER TO PARTICULAR PROJECT DRAWINGS FOR SPECIAL CASES. FOR LEFT HAND INSTALLATION, RISER CONDUIT AND BRACKETS LOCATED ON OTHER SIDE OF VALVE (MIRROR IMAGE) ABOUT CENTER LINE OF PRODUCT

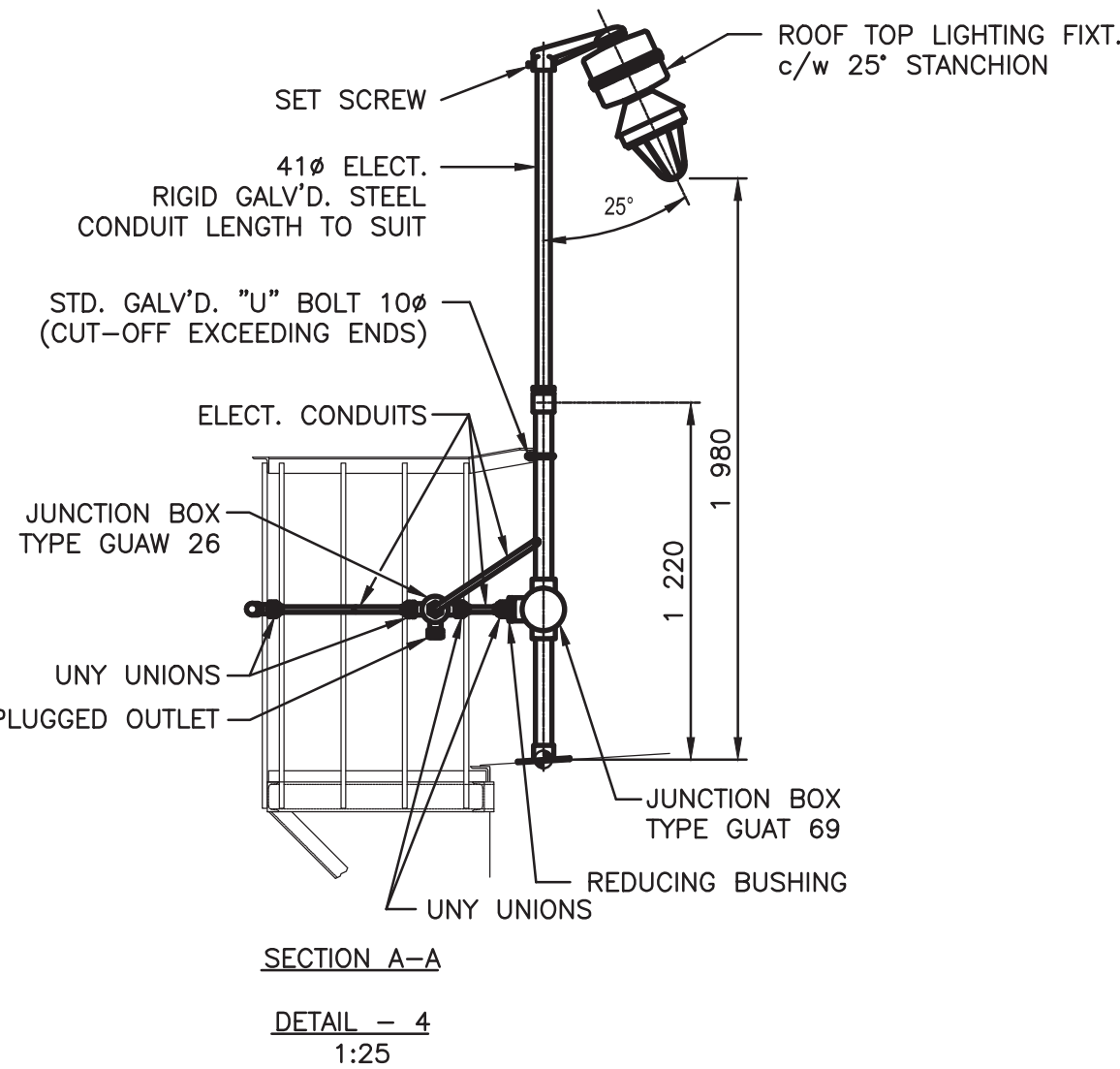
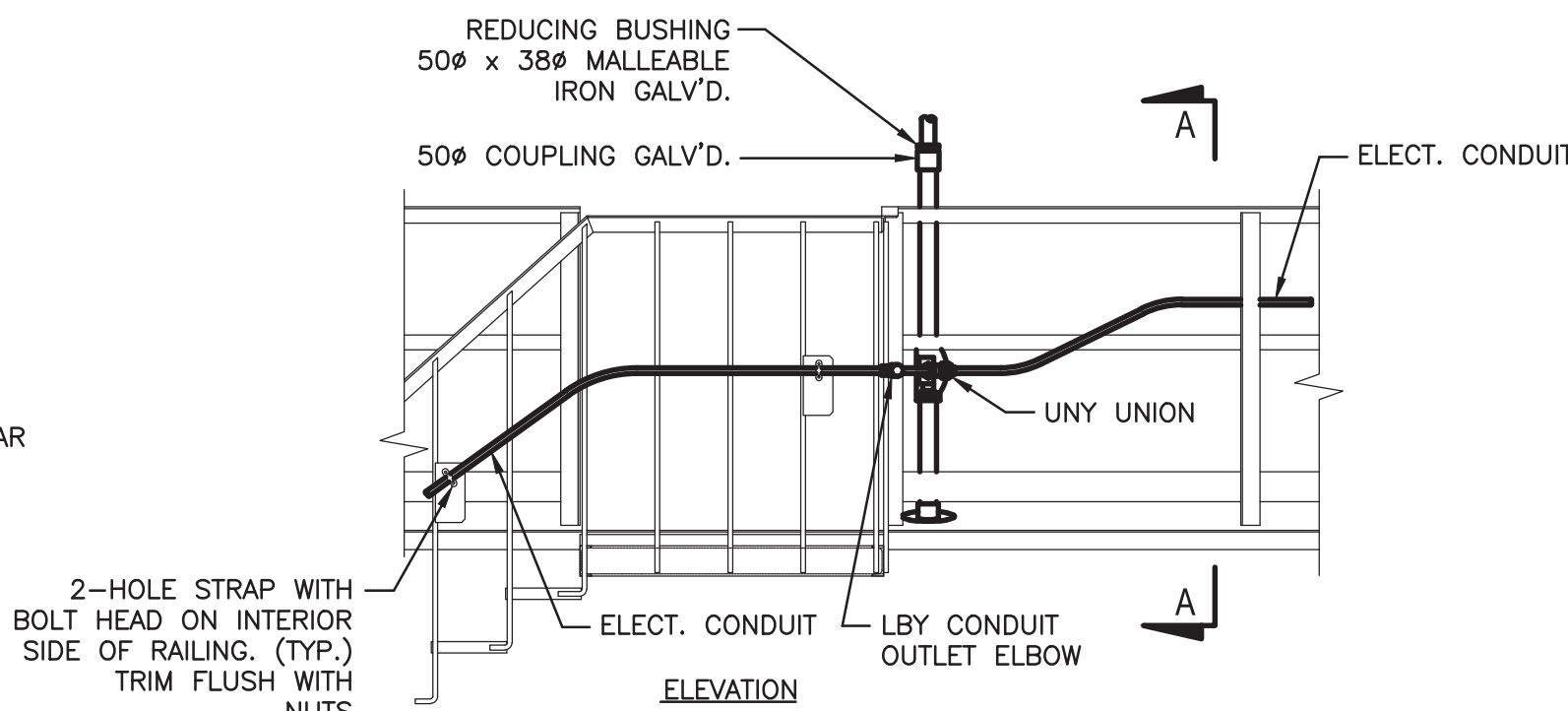
FOR SIZE OF TANK, ORIENTATION, NUMBER AND LOCATION OF BRACKETS SB2 AND SB3 REFER TO PARTICULAR PROJECT DRAWINGS. ALL CONDUITS TO BE RIGID METAL 19Ø WITH 2-#12 WIRES, UNLESS OTHERWISE SPECIFIED ON PARTICULAR PROJECT DRAWINGS. FOR DETAILS OF SUPPORTS TYPE 1 AND TYPE 11 REFER TO DWG. NT-S48. FOR MATERIALS REFER TO SPECIFICATIONS.



SECTION A-A
(RISER CONDUIT SHOWN RIGHT HAND SEE NOTE #2)
DETAIL - 3



TYPICAL LIGHTING AND CONDUIT ARRANGEMENT
AT ROOF OF VERTICAL TANKS
DETAIL-4 (ALTERNATIVE 1)

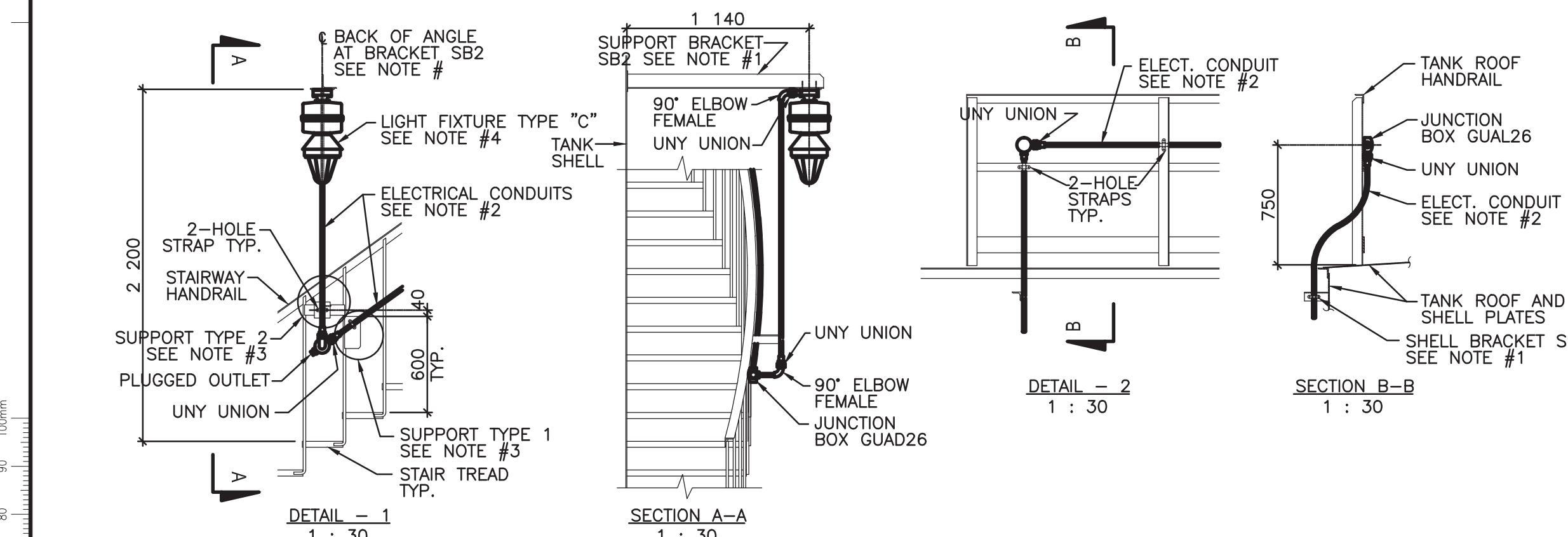
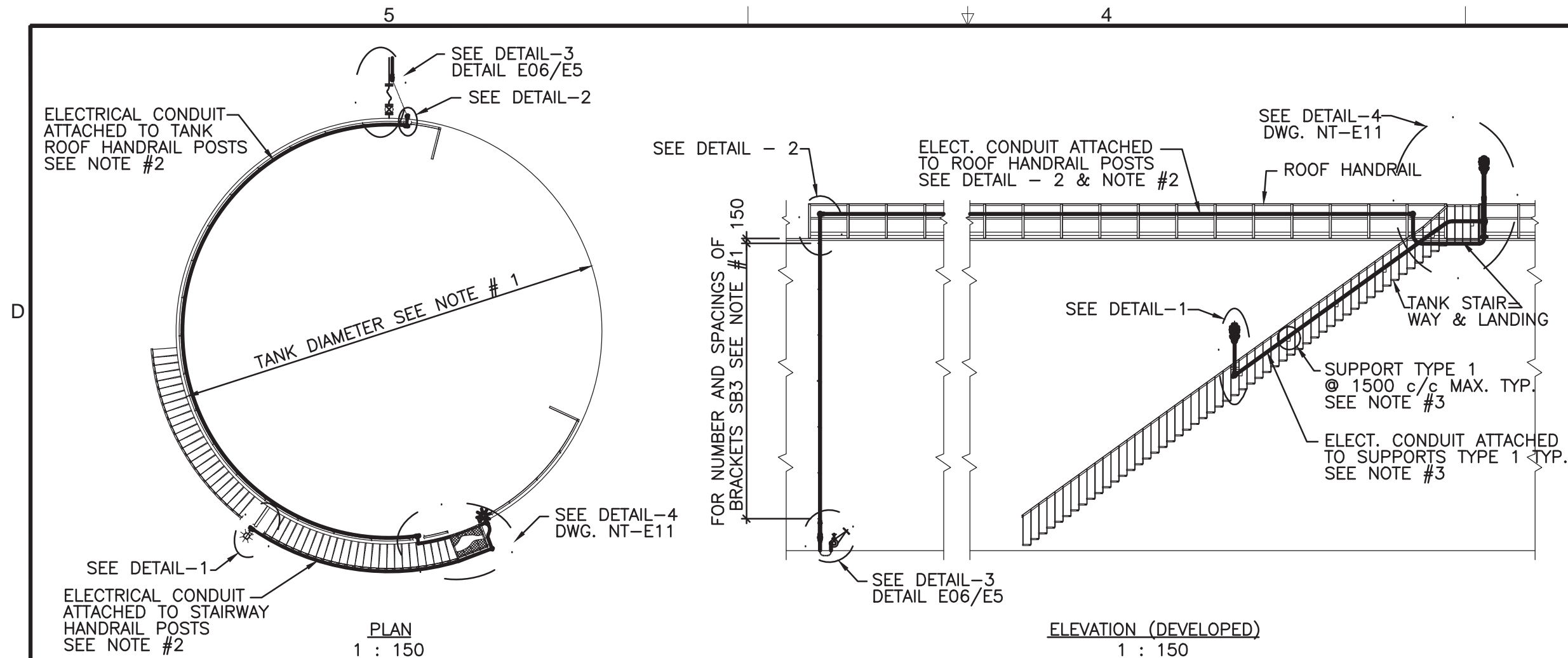


TYPICAL LIGHTING AND CONDUIT ARRANGEMENT
AT ROOF OF VERTICAL TANKS
DETAIL-4 (ALTERNATIVE 2)

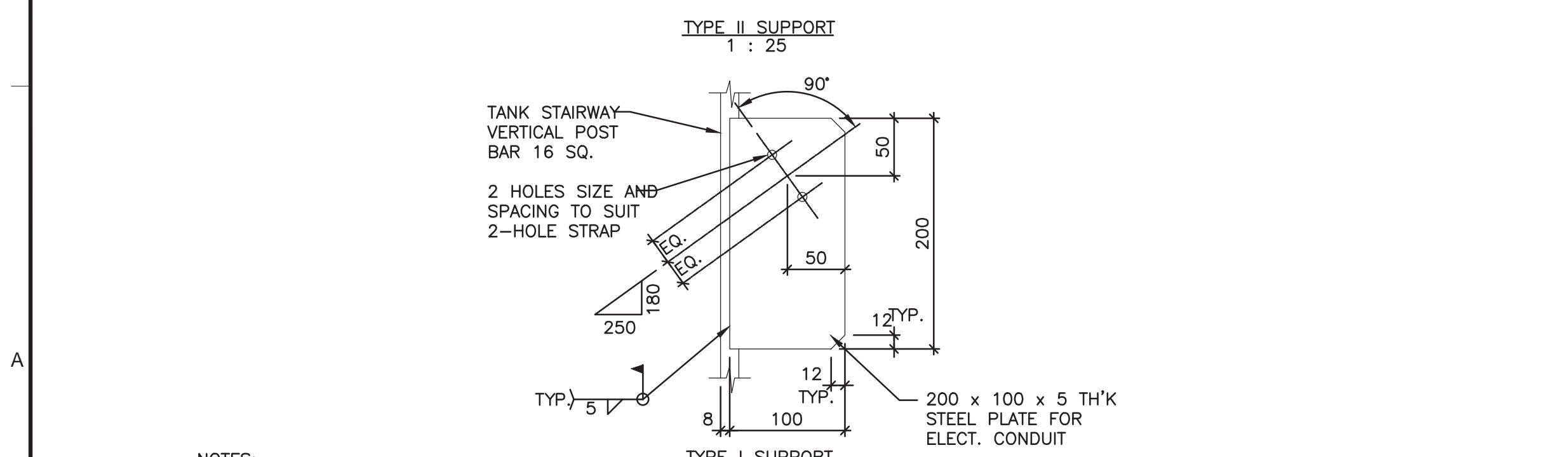
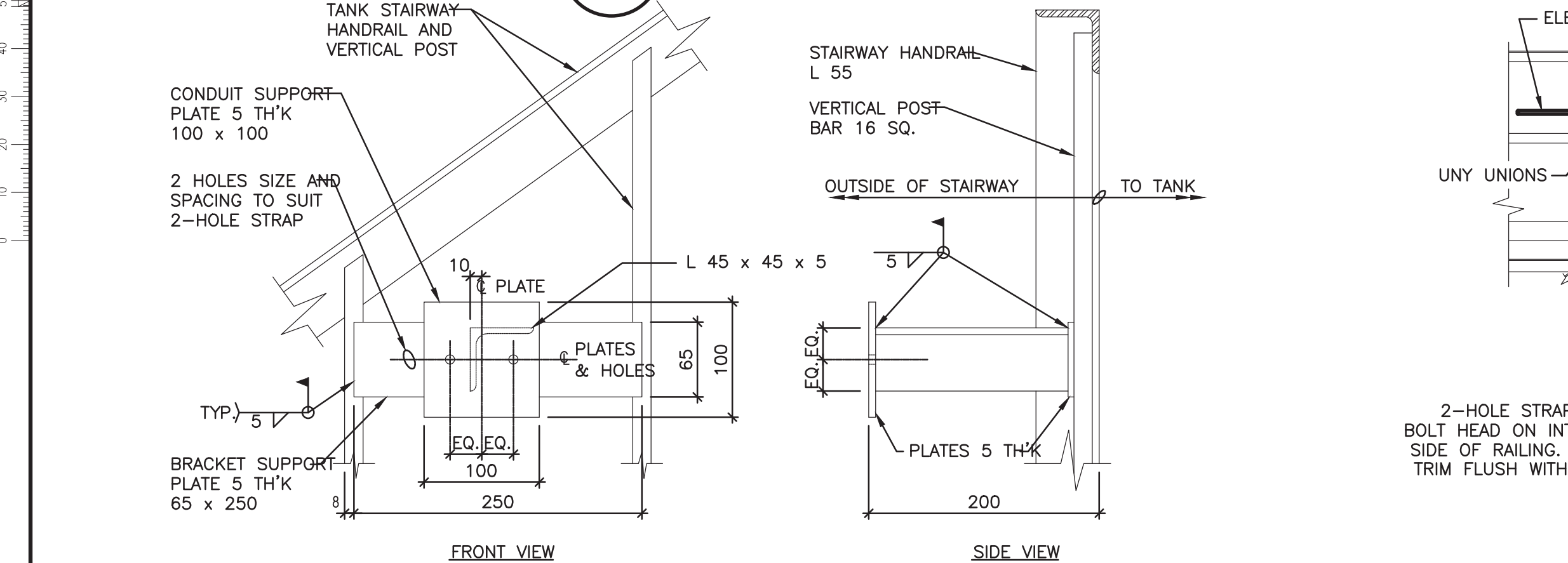
E10
E5

E06
E5

TYPICAL LIGHTING ARRANGEMENT AT
VERTICAL TANKS - ALTERNATIVE 2



TYPICAL LIGHTING ARRANGEMENT AT VERTICAL TANKS - ALTERNATIVE 3

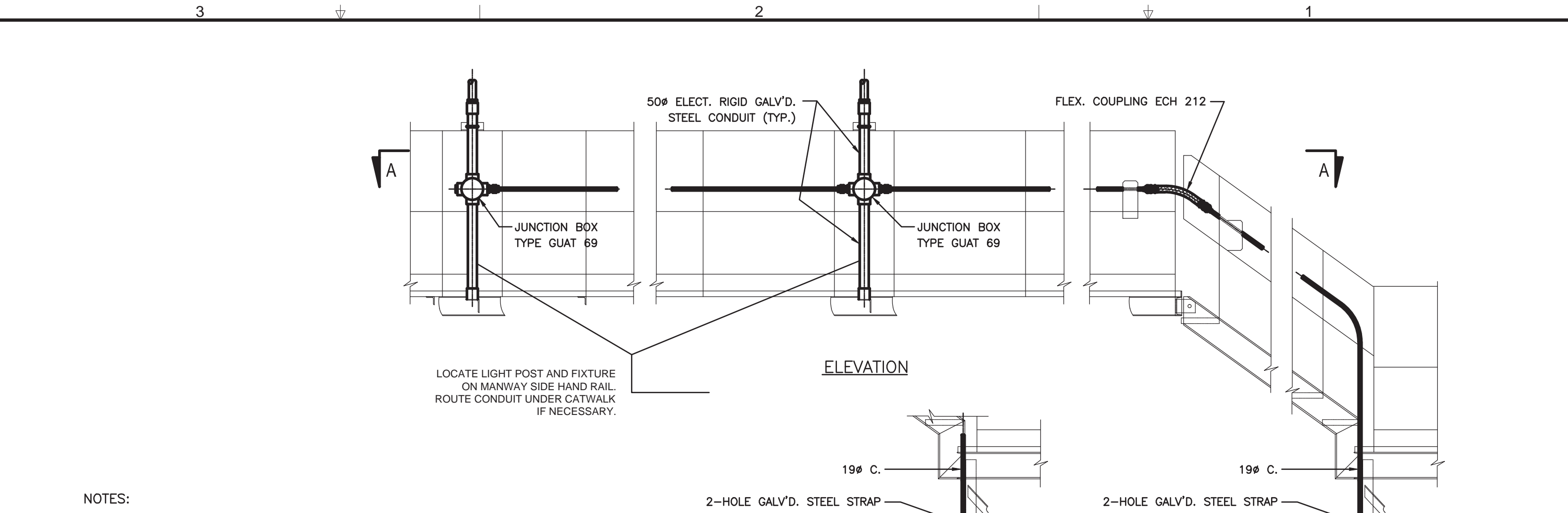


NOTES:

- 1- TYPE I SUPPORT PLATE IS SIZED TO SUPPORT TWO CONDUITS. WHEN ONLY ONE CONDUIT IS REQUIRED, SAME IS INSTALLED AT THE UPPER HALF OF SUPPORT PLATE.
- 2- FOR POSITION OF PLATES REFER TO DWG. NT-E04 OR NT-E05 OR NT-E06 AND TO PARTICULAR PROJECT DRAWINGS.
- 3- FOR MATERIALS REFER TO SPECIFICATIONS.

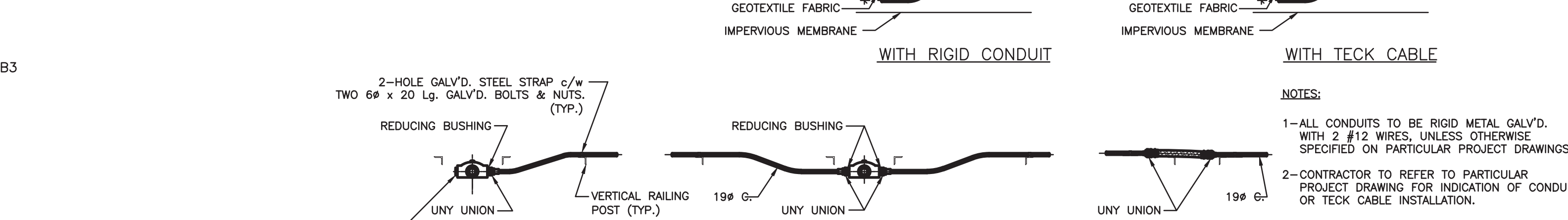
TYPE I AND TYPE II SUPPORTS FOR ELECTRICAL CONDUITS AT VERTICAL TANK STAIRWAY DETAILS

S48 E6

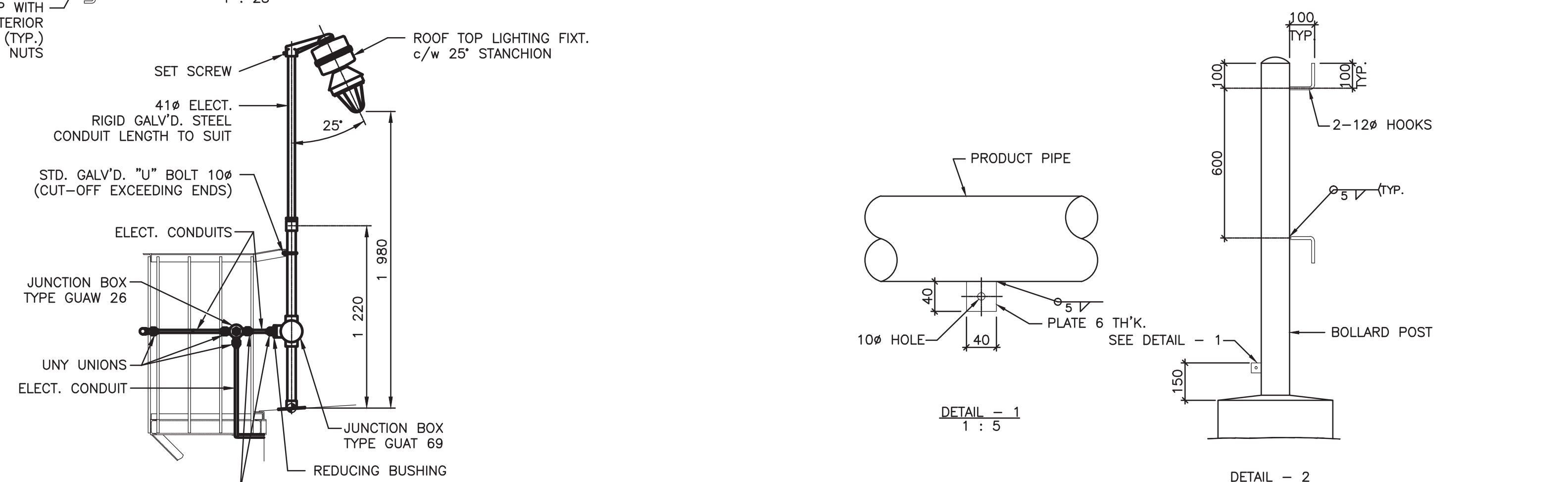
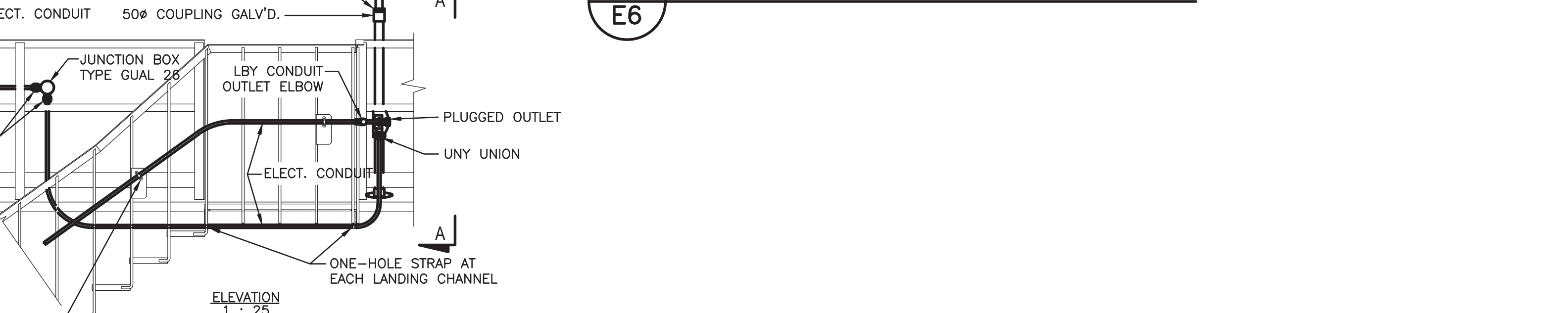


NOTES:

- 1- FOR SIZE OF TANK, ORIENTATION, NUMBER AND LOCATION OF BRACKETS SB2 AND SB3 REFER TO PARTICULAR PROJECT DRAWINGS.
- 2- ALL CONDUITS TO BE RIGID METAL 21Ø WITH 2-#8 WIRES, UNLESS OTHERWISE SPECIFIED ON PARTICULAR PROJECT DRAWINGS.
- 3- FOR DETAILS OF SUPPORTS TYPE 1 AND TYPE 11 REFER TO DWG. S48.
- 4- FOR MATERIALS REFER TO SPECIFICATIONS.



TYPICAL LIGHTING AND CONDUIT ARRANGEMENT AT ROOF OF VERTICAL TANKS DETAIL-4 (ALTERNATIVE 3)



NOTES:

- 1- TYPE I SUPPORT PLATE IS SIZED TO SUPPORT TWO CONDUITS. WHEN ONLY ONE CONDUIT IS REQUIRED, SAME IS INSTALLED AT THE UPPER HALF OF SUPPORT PLATE.
- 2- FOR POSITION OF PLATES REFER TO DWG. NT-E04 OR NT-E05 OR NT-E06 AND TO PARTICULAR PROJECT DRAWINGS.
- 3- FOR MATERIALS REFER TO SPECIFICATIONS.

TYPICAL LIGHTING AND CONDUIT ARRANGEMENT AT ROOF OF VERTICAL TANKS DETAIL-4 (ALTERNATIVE 3)

E11 E6



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E5: E05, E06, E09, E10
E6: E07, E11, E12, S48, S49
E7: E03, E04, E31

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FUEL STORAGE FACILITY UPGRADES

CHESTERFIELD INLET, NU

ELECTRICAL TANK LIGHTING DETAILS SHEET 2

DRAWN BY	NJB	SCALE	AS NOTED
CHECKED BY	PM	CLIENT PROJECT NO.	-
FSC PROJECT NO.	2010-1160		
DRAWING NO.	E6		

D

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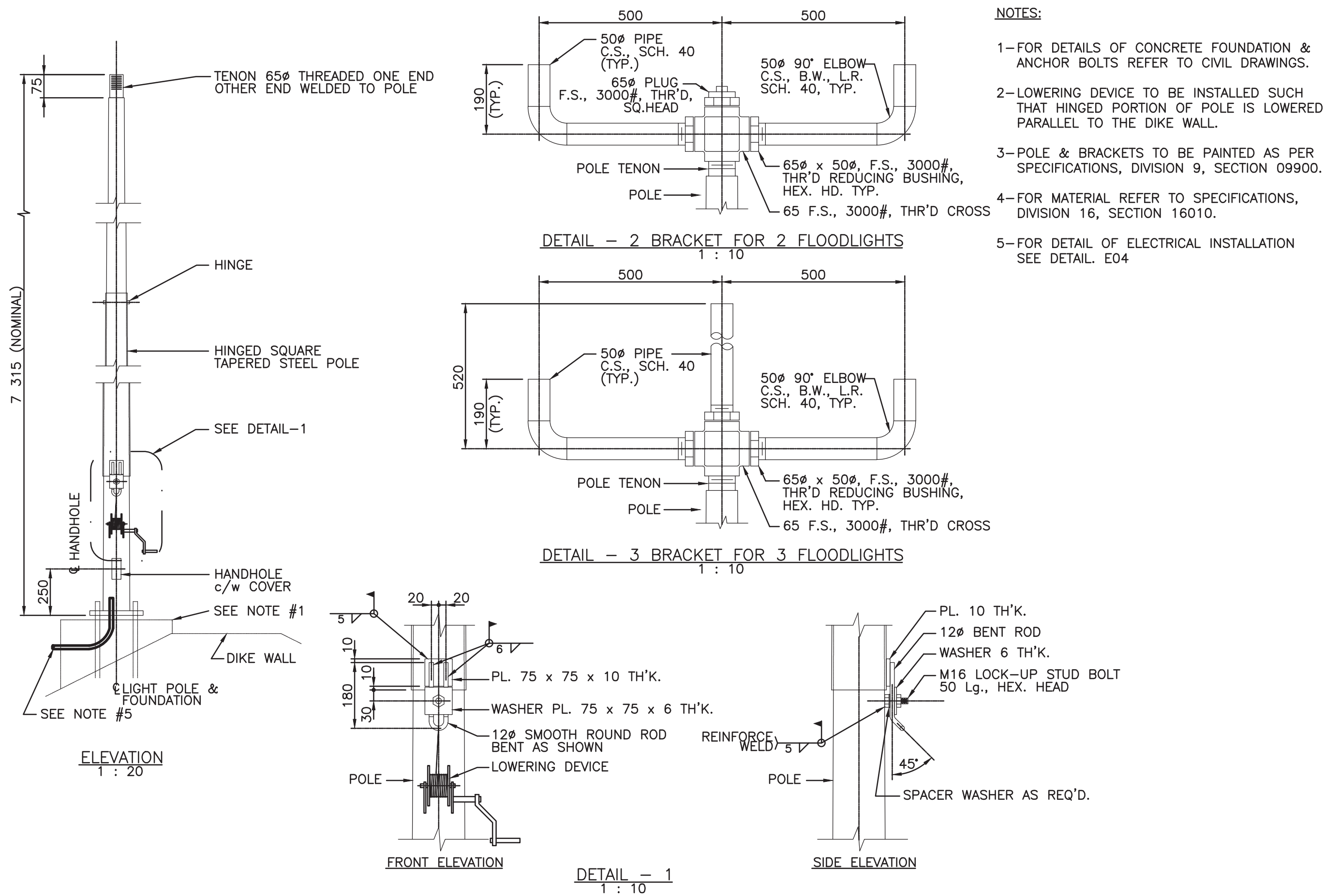
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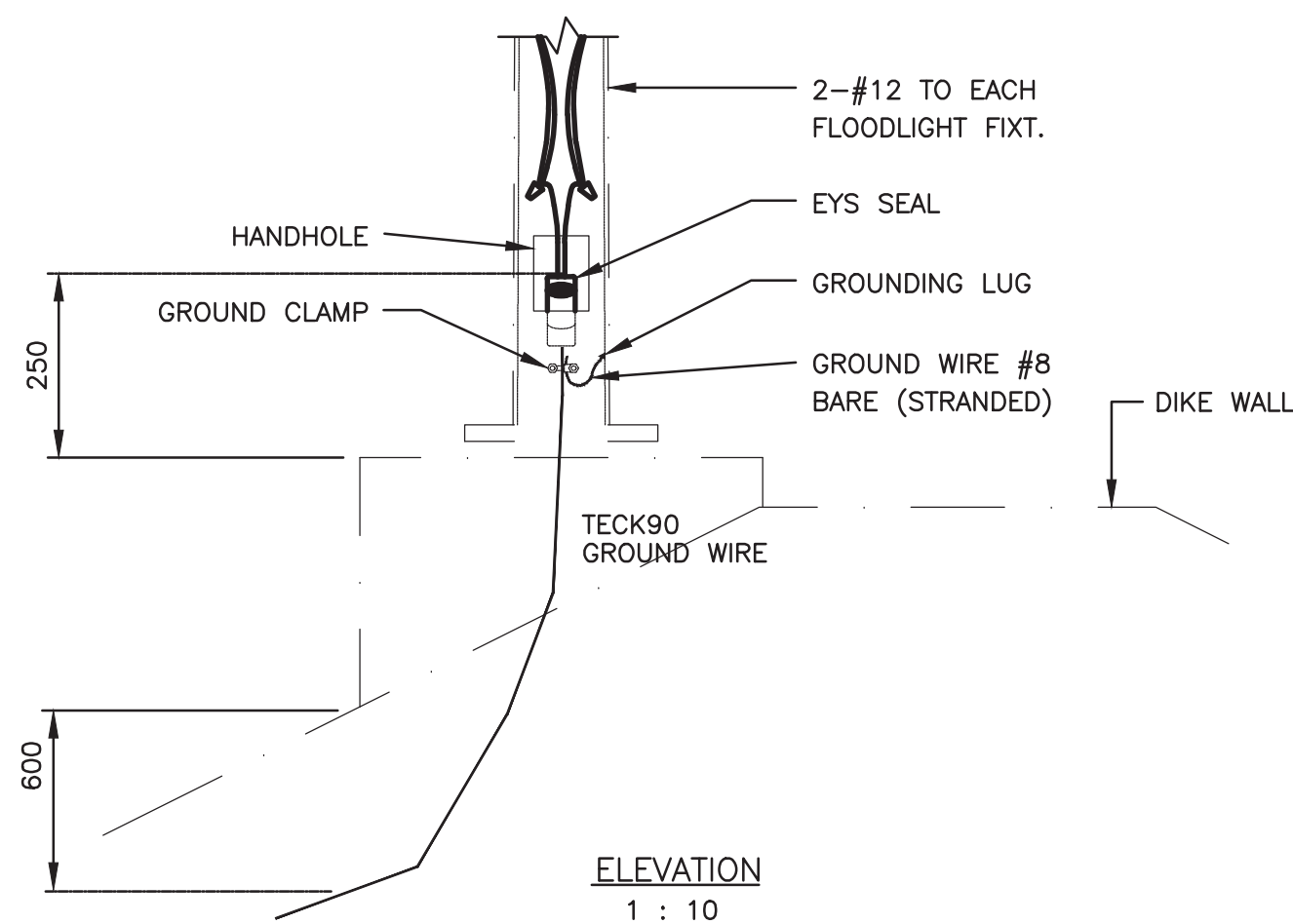
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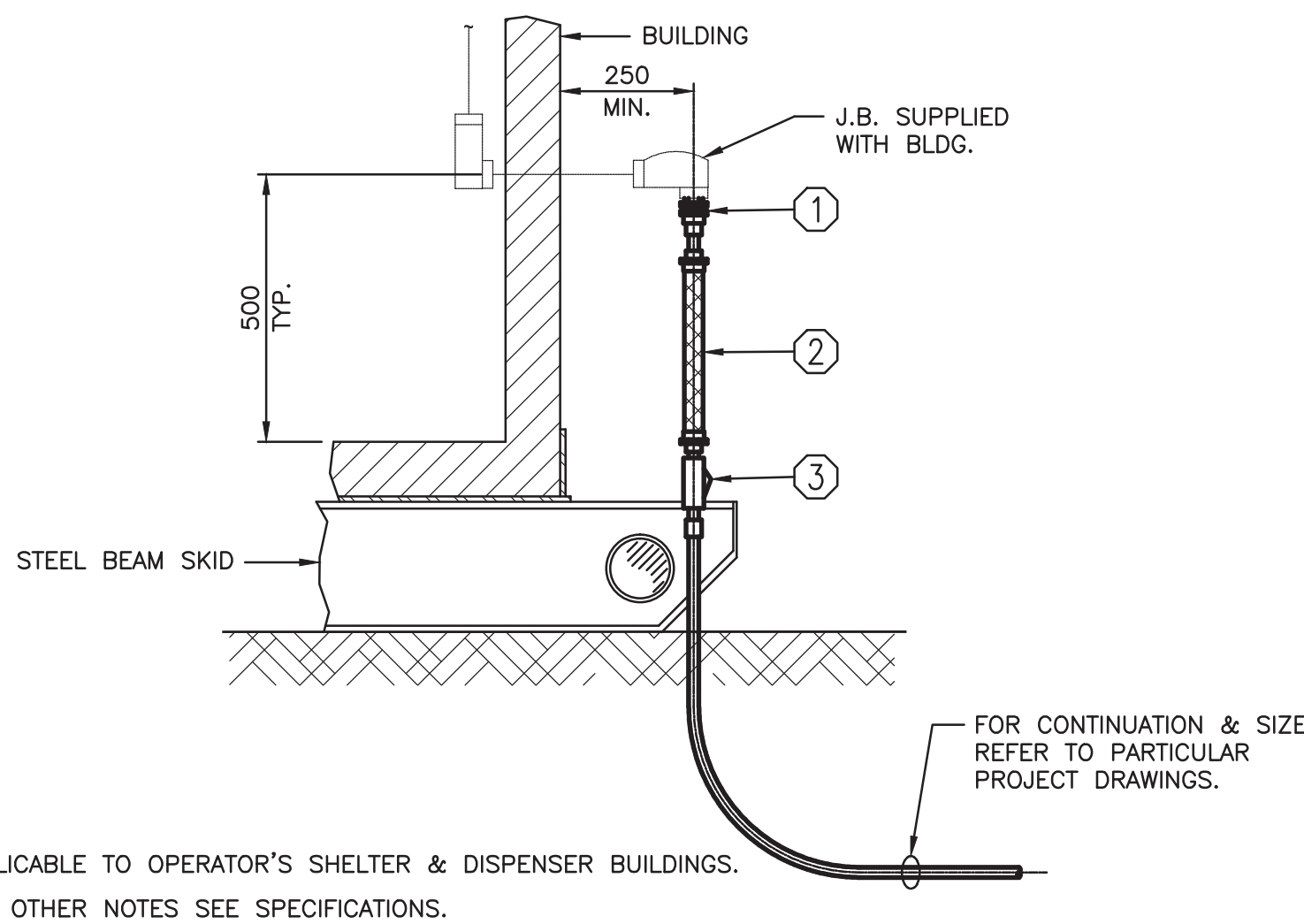
**E03
E7**

HINGED FLOODLIGHT POLE & BRACKETS FOR DIKE AREA LIGHTING DETAILS



**E04
E7**

ELECTRICAL & GROUNDING INSTALLATION AT BASE OF FLOODLIGHT POLE



LIST OF MATERIAL	
ITEM	DESCRIPTION
①	UNION TYPE CROUSE-HINDS "UNY" SERIES, SIZE TO SUIT
②	FLEXIBLE COUPLING 305 Lg. TYPE CROUSE-HINDS "ECH" SERIES, SIZE TO SUIT
③	SEAL TYPE CROUSE-HINDS "EYS" SERIES, SIZE TO SUIT

**E31
E7**

ELECTRICAL CONDUIT ARRANGEMENT AT ENTRY OF BUILDING



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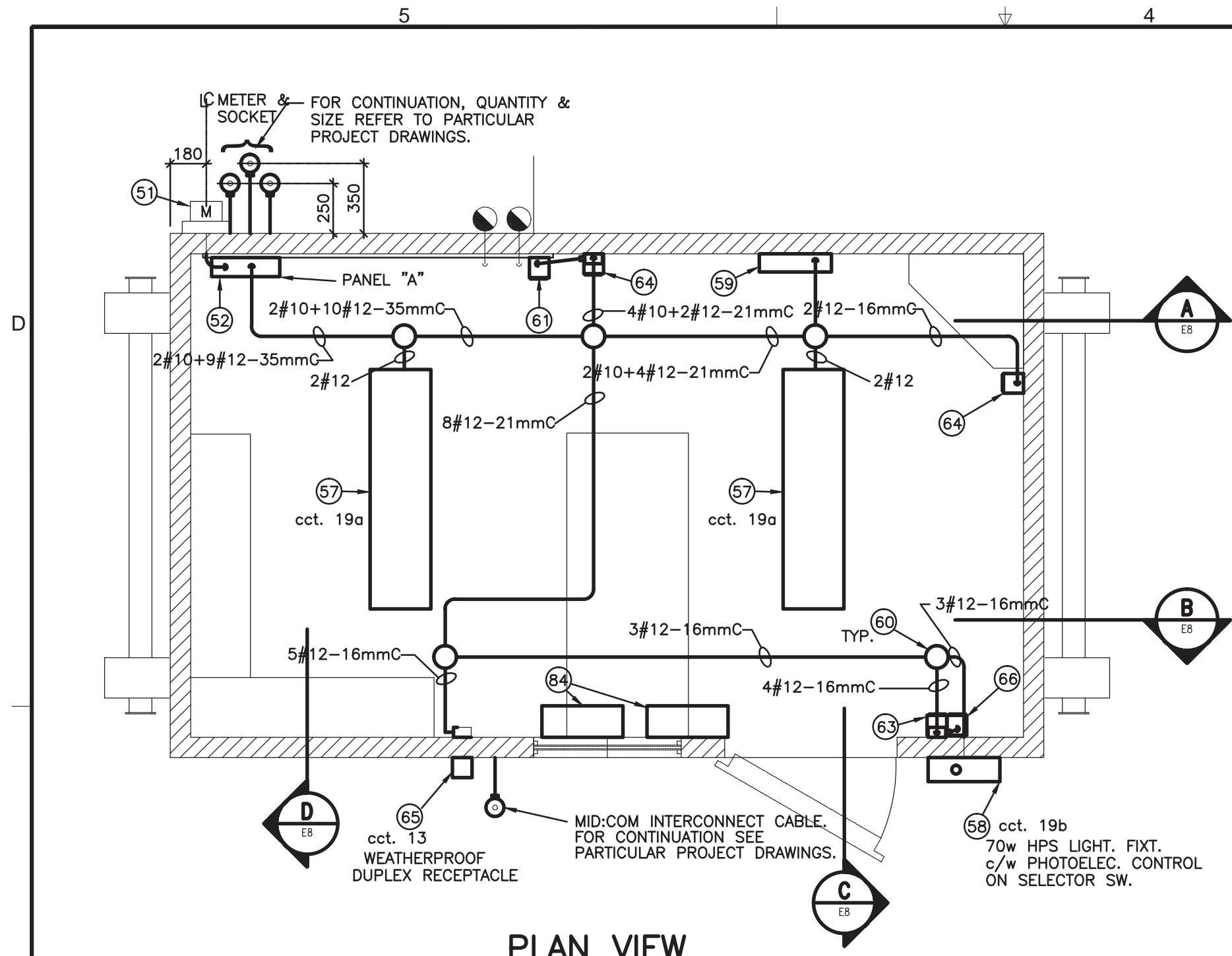
LOCATION
CHESTERFIELD INLET, NU

ELECTRICAL TANK LIGHTING DETAILS SHEET 3

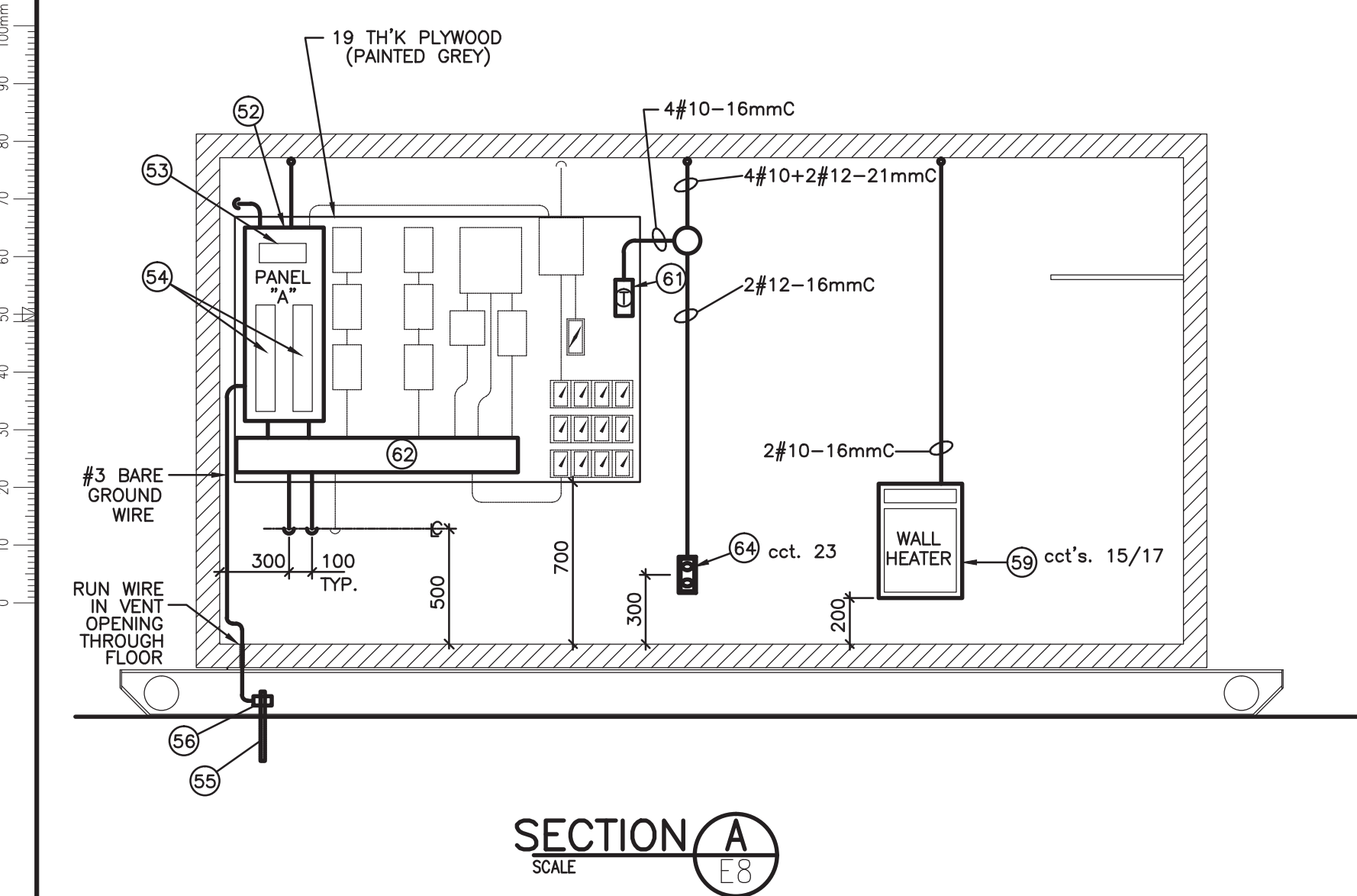
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CHECKED BY PM	CLIENT PROJECT NO. -
FSC PROJECT NO. 2010-1160	

DRAWING NO.

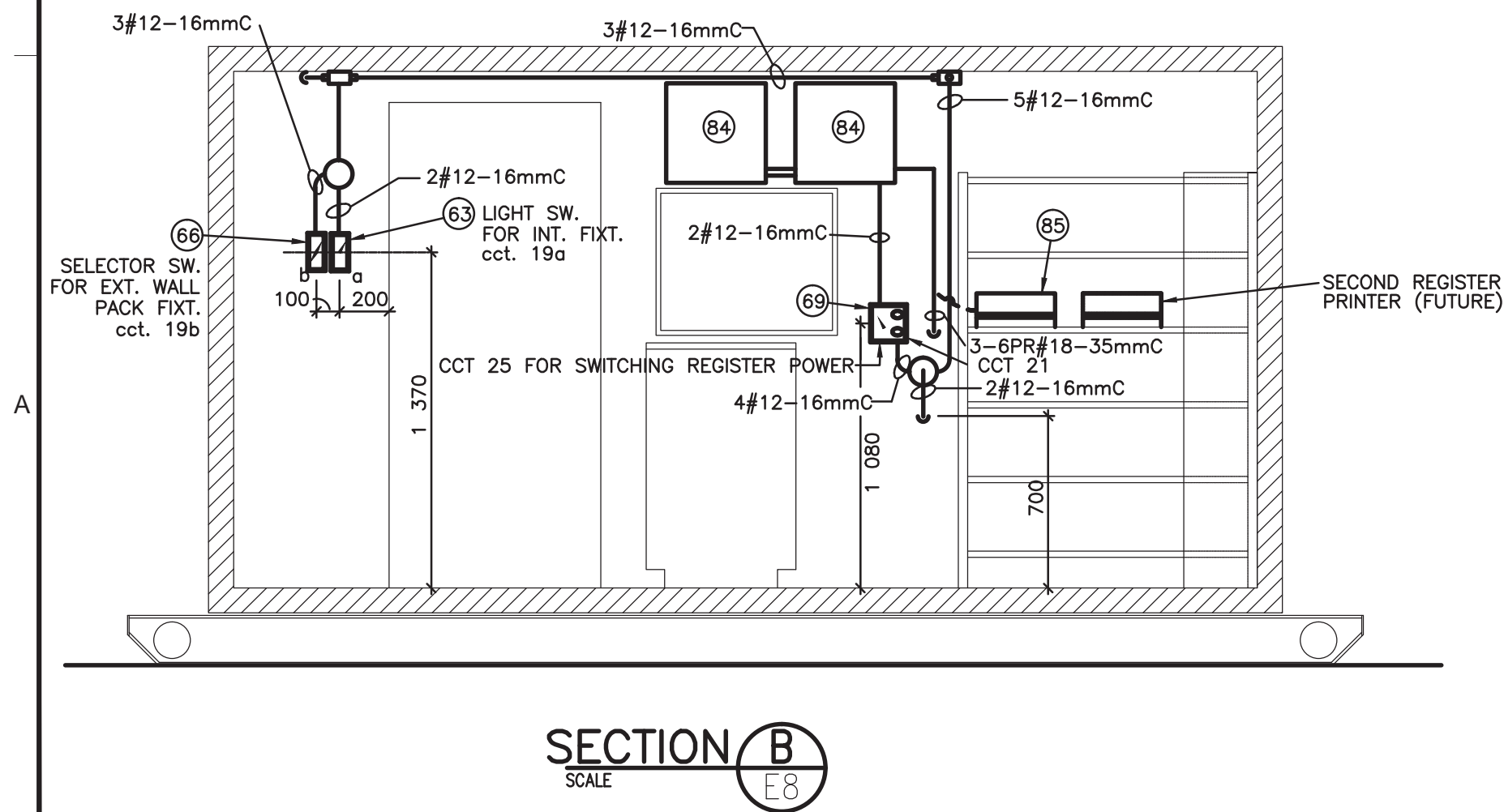
E7



PLAN VIEW

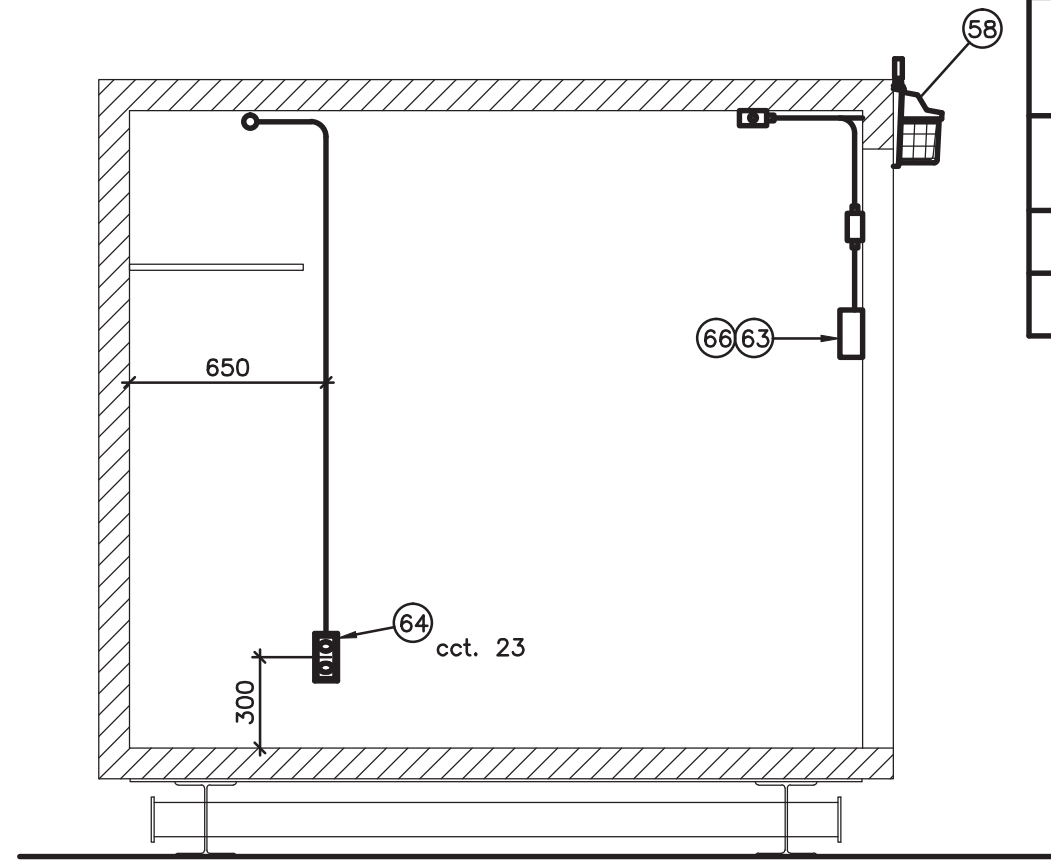


SECTION A (E8)
SCALE

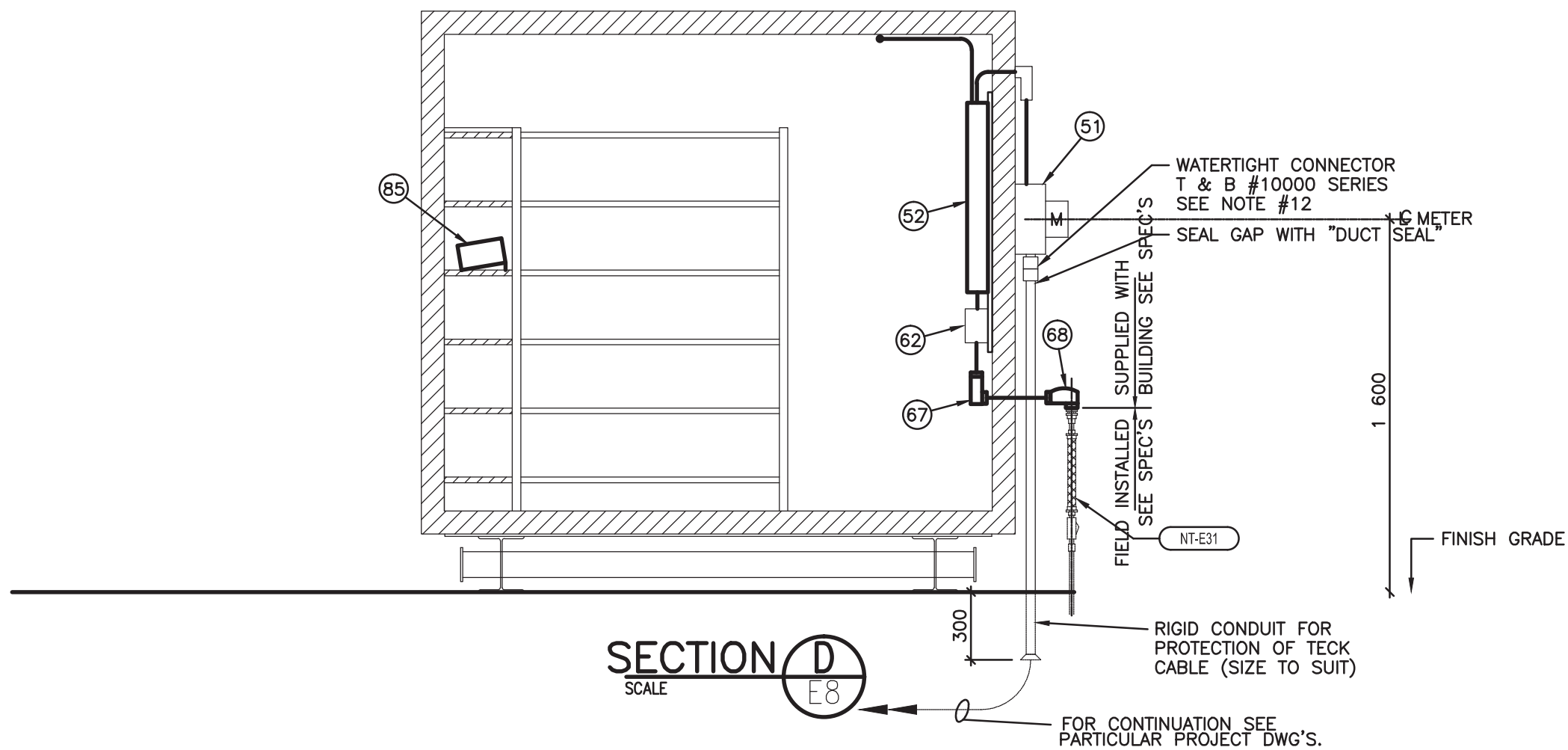


SECTION B (E8)
SCALE

PANEL: A									
VOLTS:120/240 LOCATION: OPERATOR SHELTER					BUSSING: 225				
PHASE: 1 FEEDER: REFER TO SINGLE LINE					MTG: SURFACE				
WIRE: 3									
CIRC.	BRKR	WATTS		DESCRIPTION	DESCRIPTION	WATTS		BRKR	CIRC.
		A	B			A	B		
	11P15	300		TANK LIGHTING	FLOODLIGHTING	800		1P15	2
	31P15		300	TANK LIGHTING	FLOODLIGHTING		800	1P15	4
	51P15	300		TANK LIGHTING	FLOODLIGHTING	400		1P15	6
	71P15			SPARE	SPARE			1P15	8
	91P15			SPARE	SPARE			1P15	10
	111P15			SPARE	SPARE			1P15	12
	131P15	250		EXT. REC -- SHELTER BLDG	EXT. LIGHTING CONTROL	50		1P15	14
	152P30		2000	HEATER -- SHELTER BLDG	FUEL OIL PUMP		1120	2P40	16
	17	2000					1120		18
	191P15		285	LIGHTING -- SHELTER BLDG	GASOLINE PUMP		280	2P15	20
	211P15	250		INT. REC -- SHELTER BLDG			280		22
	231P15		500	INT. REC -- SHELTER BLDG	LSDL PUMP		280	2P15	24
	251P15	250		MID:COM REGISTER			280		26
	271P15		1200	LIGHTING -- DISP BLDG	FUEL OIL, LSDL, & GAS CTRLS	150		1P15	28
	291P15	200		LIGHT STORAGE BLDG	SPARE			1P15	30
	31			SPACE	SPARE			1P15	32
	33			SPACE	POLYGAS SYSTEM	100		1P15	34
	35			SPACE	DISP BLDG VENTILATION		250	1P20	36
	37			SPACE	DISP BLDG HEAT	1500		1P20	38
	39			SPACE	DISP BLDG HEAT		1500	1P20	40
	41			SPACE	SPACE				42
TOTAL		3350	5035			4680	5330	TOTAL	
PHASE A TOTAL = 8030									
PHASE B TOTAL = 10365									
PANEL TOTAL = 18395 @ 120/240 VOLTS 1 PHASE									
76.6 AMPS									
REMARKS									



SECTION C (E8)
SCALE



SECTION D (E8)
SCALE

LIST OF SHELTER BLDG ELECTRICAL & GROUNDING EQUIPMENT

NO.	QTY.	DESCRIPTION
50	1	ENTRANCE CAP (AT ELECTRICAL POWER SERVICE POLE)
51	1	METER SOCKET OUTDOOR TYPE KING SIZE 200 AMP, 120/240V, 1ph, 3 WIRE, UNDERGROUND SERVICE AND AS PER LOCAL REQUIREMENTS. METER BY UTILITY CO.
52	1	COMBINATION SERVICE ENTRANCE PANELBOARD AS SHOWN, CUTLER-HAMMER TYPE POW-R-LINE1, CAT.# P1B1A2-42ED, SURFACE MOUNT c/w DOOR
53	1	MAIN BREAKER BOLT-ON TYPE, 2 POLE, CUTLER-HAMMER CAT.# EDH2225 FOR ITEM 52 (AMPS. AS PER P.P.D.)
54	PER PNL SCHED	DISTRIBUTION BREAKERS, 10,000 A.I.C., BOLT-ON TYPE, AMP. RATING AND No. OF POLES AS PER DISTRIBUTION PANEL DETAILS, CUTLER-HAMMER TYPE POW-R-LINE FOR ITEM 52
55	1	GROUND ROD. 19# X 3000 LG. C.L.M. COPPER-CLAD STEEL # 9960-K
56	1	BURNDY GROUND CONNECTOR, TYPE GAR
57	2	FLUORESCENT LIGHTING FIXTURE, ANTI-VANDALISM, POLYCARBONATE LENS FAIL-SAFE CAT. No FSRC-64A-120V c/w 2 x 32 WATT FLUORESCENT LAMPS, SURFACE MOUNTED
58	1	HIGH PRESSURE SODIUM EXTERIOR LIGHTING FIXTURE GREY, WALL PACKETTE, 70 W, 120 V c/w BALLAST, PHOTOELECTRIC CONTROL, POLYCARBONATE COVER AND PROTECTION GRILLE, HOLOPHANE MODEL WP2 WALL PACKETTE c/w 70 W, H.P.S. LAMP
59	1	WALL HEATER 4 KW SEE SPEC'S.
60	AS REQ'D.	CAST JUNCTION BOX, TYPE CROUSE-HINDS "VXF" SERIES, SIZE TO SUIT c/w COVER.
61	1	LINE VOLTAGE THERMOSTAT, SET AT 15' C., CL. AT 1500 mm ABOVE FLOOR, SEE SPEC'S.
62	1	TROUGH GENERAL PURPOSE 150 H. x 100 D. x 914 Lg., TYPE BEL CAT.# T373 (NO LUGS)
63	1	LIGHT SWITCH, FS BOX WITH SPECIFICATION GRADE QUIET A.C. SWITCH, SINGLE POLE, BROWN, 15 A., 120 V., SIDE WIRED, HUBBELL CAT. # 1201 AND FS TYPE COVER.
64	2	FS BOX WITH SPECIFICATION GRADE, 125 V., 2 POLES, 3 WIRES, 15 A., DUPLEX RECEPTACLE, BROWN, SIDE WIRED, HUBBELL CAT. # 5262 AND FS TYPE COVER.
65	1	FS BOX WITH SPECIFICATION GRADE, 125 V., 2 POLES, 3 WIRES, 15 A., DUPLEX RECEPTACLE, BROWN, SIDE WIRED, HUBBELL CAT.# 5262 AND WEATHERPROOF COVER WITH SPRING DOORS & GASKET, CROUSE-HINDS CAT.# DS70G
66	1	SELECTOR SWITCH, 3 POSITIONS, HAND-OFF-AUTO, TYPE 1, GENERAL PURPOSE ENCLOSURE, ALLEN-BRADLEY CAT. # 800S-R3SX
67	AS REQ'D	ELBOW TYPE CROUSE-HINDS "LB" SERIES SIZE TO SUIT
68	AS REQ'D	JUNCTION BOX TYPE CROUSE-HINDS "GUJB" SERIES, SIZE TO SUIT
69	1	DOUBLE GANG FS BOX WITH SPECIFICATION GRADE, QUIET AC SWITCH, SINGLE POLE, BROWN, 15A, 120V, SIDE WIRED, HUBBLE CAT #1201; 125 V., 2 POLE, 3 WIRE, 15 A., DUPLEX RECEPTACLE, BROWN, SIDE WIRED, HUBBELL CAT. # 5262 AND FS TYPE COVER.
70	1	ALLEN-BRADLEY BULLETIN 500 AC CONTACTOR, HP RATED, 3 POLE, 240 VOLT, W/ AUXILIARY CONTACT. TYPE 1 GENERAL ENCLOSURE. CAT#500-AA930
71	2	MID:COM 8000 XP INTERCONNECT PANEL
72	1	MID:COM REGISTER PRINTER

- ALL DIMENSIONS ARE SHOWN IN MILLIMETRES.
- SHELTER BLDG TO BE CLASSIFIED ORDINARY LOCATION. ALL SURFACE WIRING TO BE INSTALLED IN EMT OR RIGID CONDUIT. WIRING TO BE RW90-XLPE, COPPER, 600 V. INSULATION, MIN. SIZE #12 OR AS INDICATED. CONDUCTORS #8 AND LARGER SHALL BE STRANDED.
- MOUNT ALL ELECTRICAL EQUIPMENT SO THAT CONNECTIONS CAN BE EASILY EXPOSED FOR SERVICE.
- PROVIDE UNIONS, COUPLINGS, PLUGS AND BUSHINGS AS REQUIRED.
- ALL WIRES SHALL BE IDENTIFIED AT EQUIPMENT AND AT PANEL
- ALL SWITCHES, STARTERS, THERMOSTAT, RELAYS, CONTACTORS TIMER, ETC. SHALL BE IDENTIFIED WITH LAMICOID LABELS FASTENED TO BOXES.
- BOXES & ACCESSORIES SHALL BE AS PER CROUSE-HINDS MANUFACTURE OR APPROVED EQUIVALENT
- FOR OTHER NOTES AND DETAILS REFER TO SUBSEQUENT PROJECT DRAWINGS AND SPECIFICATIONS, DIVISION 13, SECTION 13229.
- BUILDING SKID SHALL BE GROUNDED AT SITE SEPARATELY FROM THE ELECTRICAL NEUTRAL GROUNDING INSTALLATION.
- TO ALL NUMBER OF WIRES SHOWN IN CONDUITS, ADD ONE GROUND WIRE AS PER CODE REQUIREMENTS.
- FOR SIZES OF CONDUITS & SIZE, NUMBER & TYPE OF WIRING FOR SERVICE ENTRANCE, REFER TO DRAWING E1 & SPECIFICATIONS, DIVISION 13, SECTION 13229.



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FUEL STORAGE FACILITY UPGRADES

LOCATION
CHESTERFIELD INLET, NU

OPERATORS SHELTER ELECTRICAL PLAN, ELEVATIONS, SCHEMATICS AND DETAILS

DRAWN BY
NJB

CHECKED BY
PM

SCALE
AS NOTED

CLIENT PROJECT NO.
-

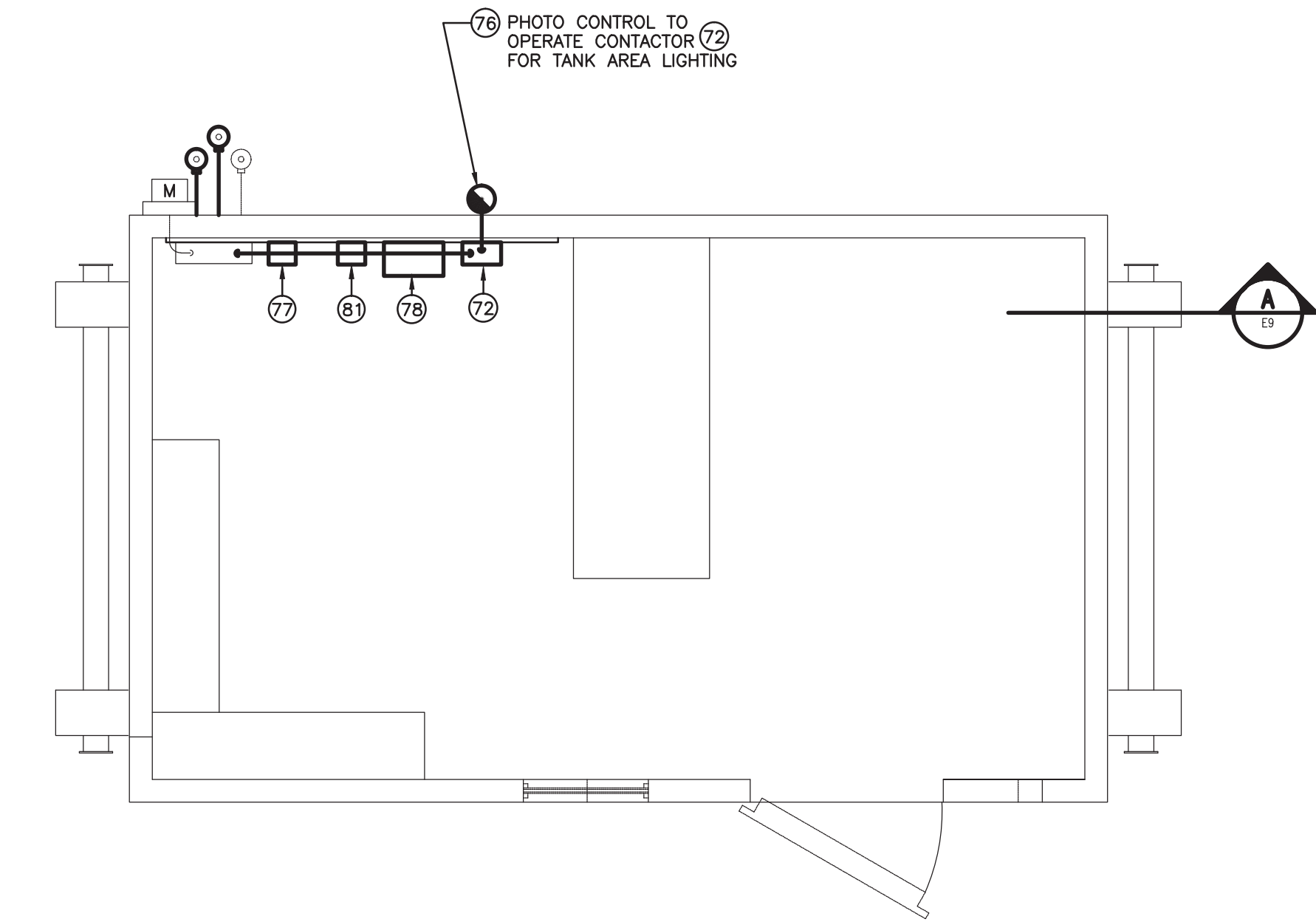
FSC PROJECT NO.
2010-1160

DRAWING NO.
E8

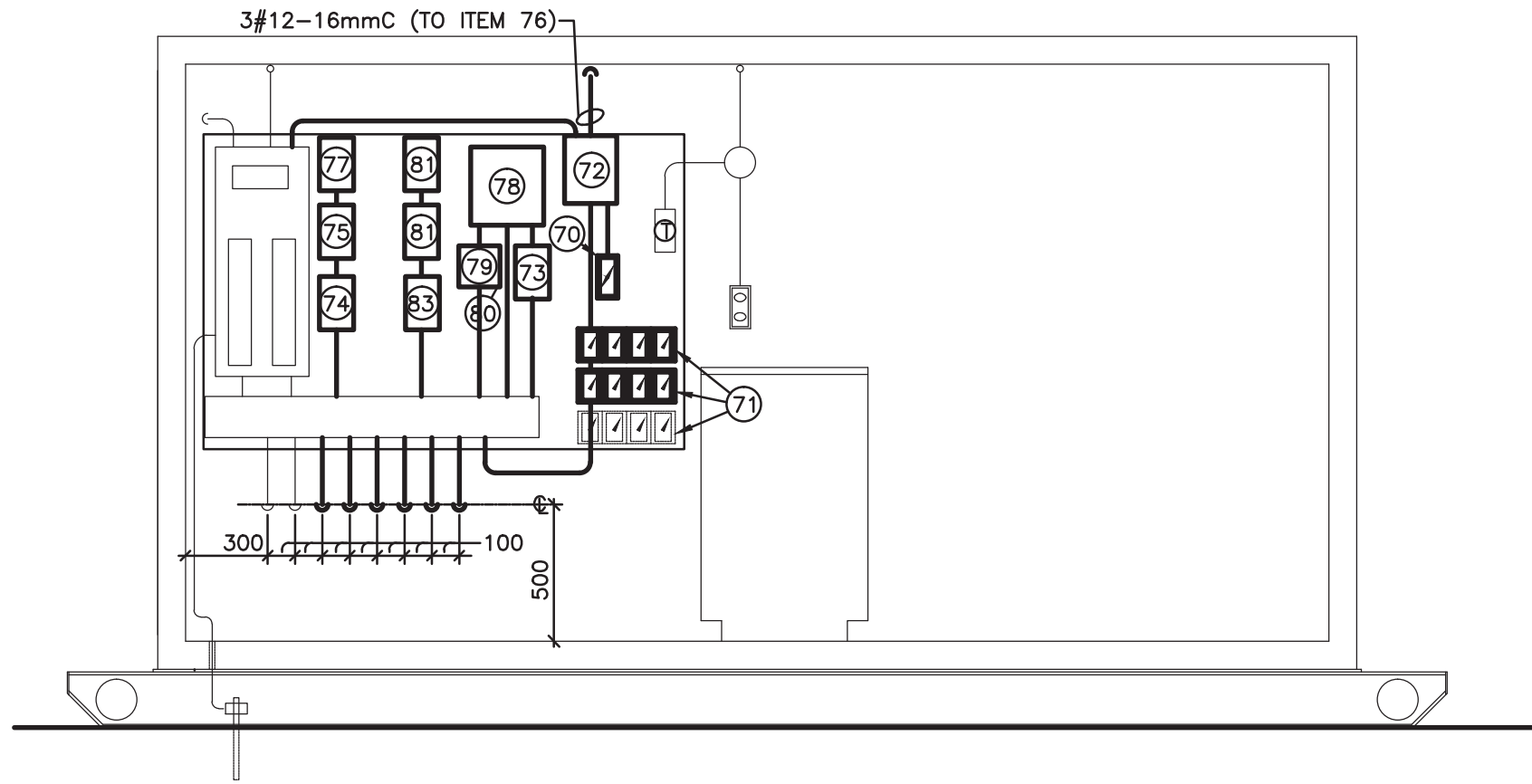
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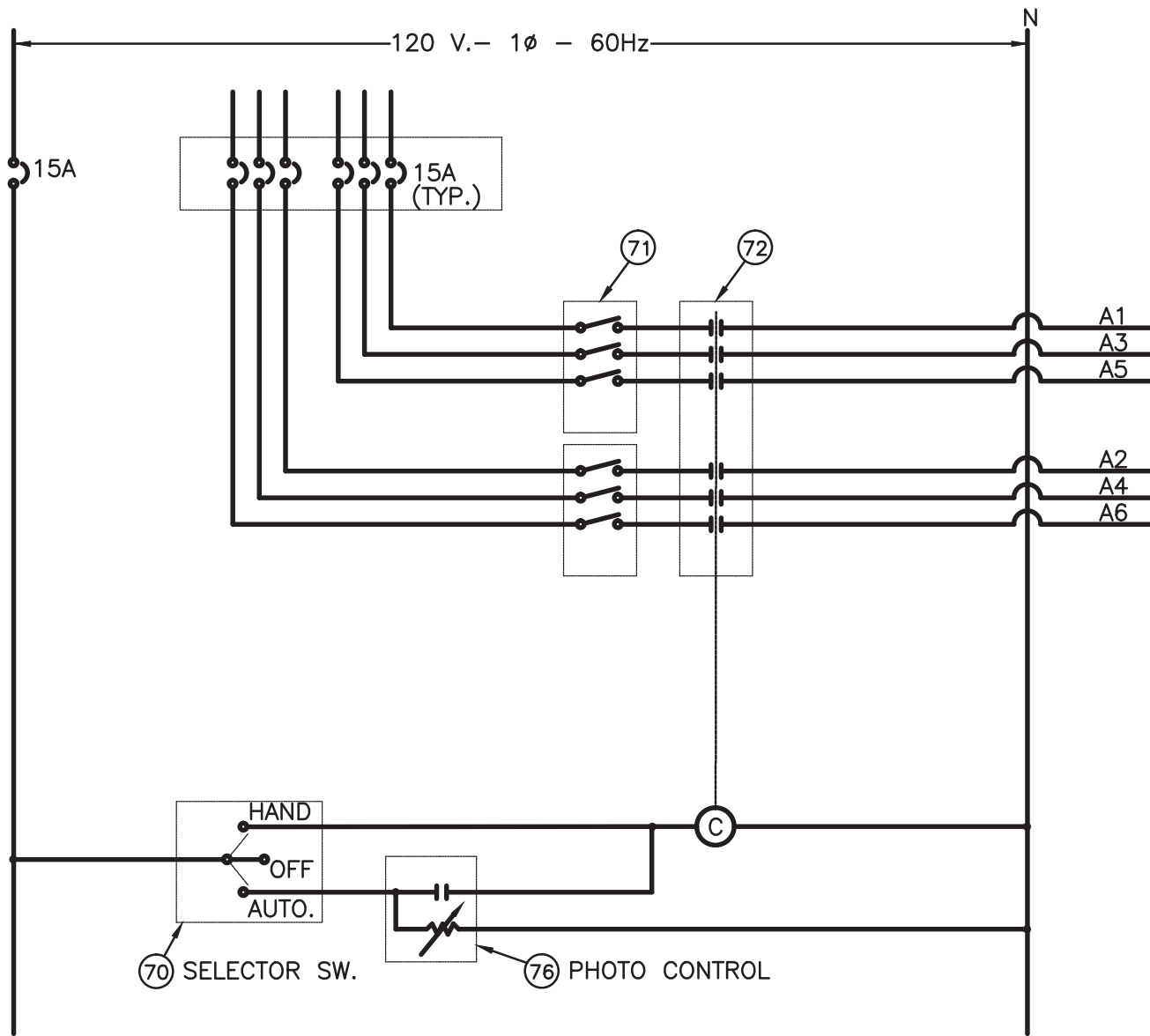
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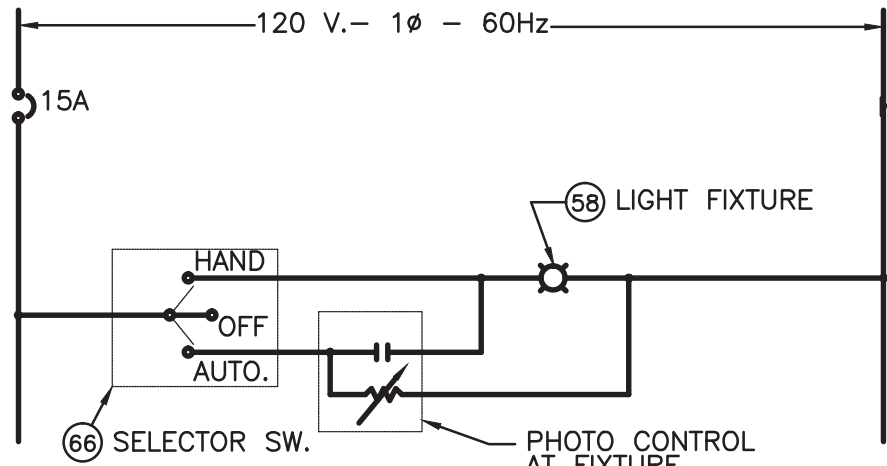
PLAN VIEW



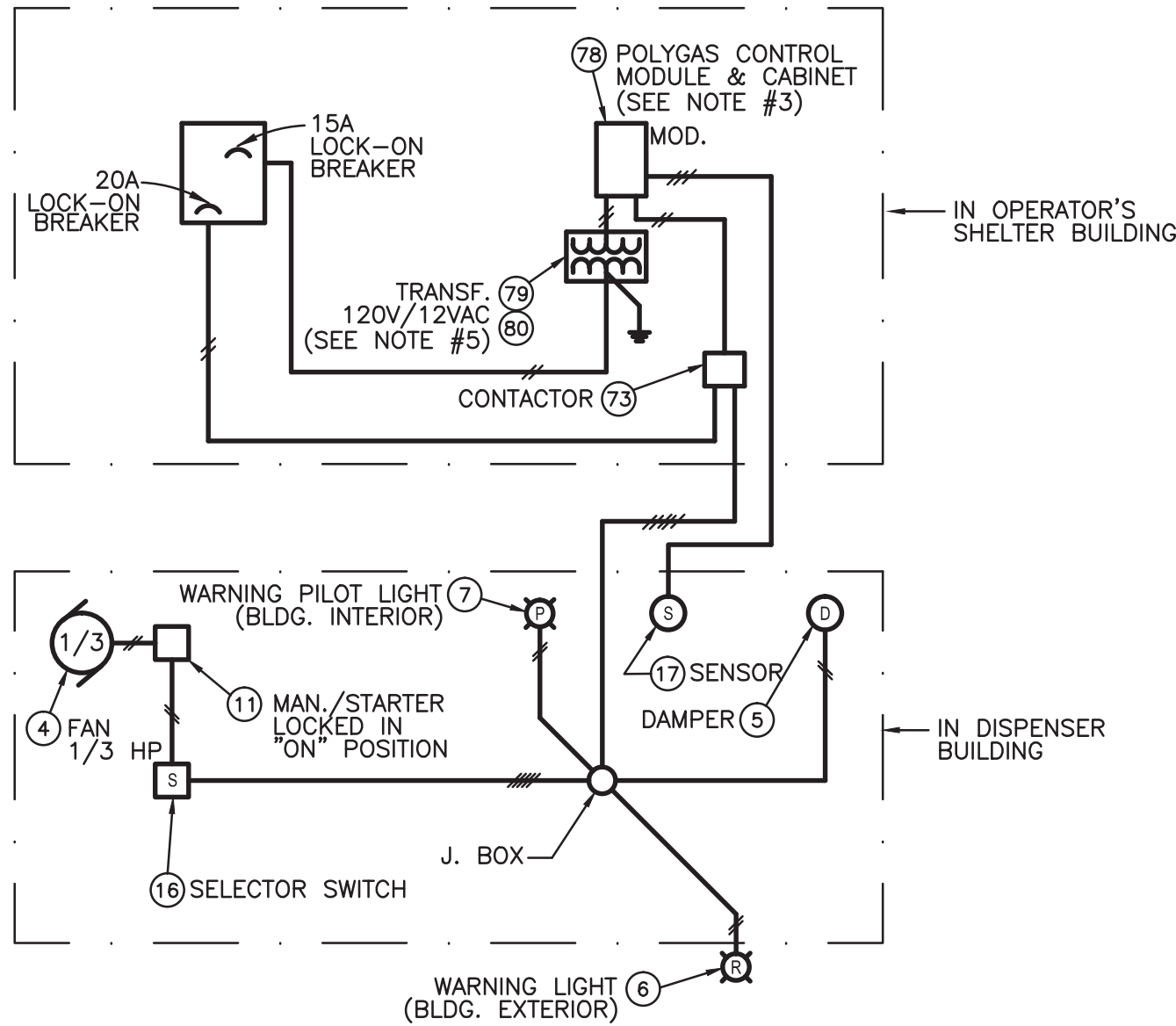
SECTION A-E8



SCHEMATIC CONTROL DIAGRAM
LIGHTING IN TANK AREA
(SEE NOTE #2)



SCHEMATIC CONTROL DIAGRAM
EXTERIOR LIGHTING AT SHELTER BLDG.



SCHEMATIC CONNECTION DIAGRAM
OF POLYGAS DETECTION SYSTEM

LIST OF ITEMS FOR REMOTE ELECTRICAL EQUIPMENT

NO.	QTY.	DESCRIPTION
4	1	1/3 HP. FAN MOTOR, 115 V. 1 Ph. 60 Hz., SEE SPEC'S.
5	1	DAMPER ACTUATOR MOTOR, SEE SPEC'S.
6	1	HAZARD WARNING LIGHT FIXTURE, SEE SPESC'S.
7	1	HAZARD WARNING RED PILOT LIGHT, SEE SPEC'S.
11	1	MANUAL STARTER SWITCH, FOR HOSE REEL & EXHAUST SEE SPEC'S.
16	1	SELECTOR SWITCH HAND-AUTO, c/w ENCLOSURE,TYPE ALLEN-BRADLEY CAT.# 800H-R2HA7
17	1	SENSOR & CROUSE-HINDS GUJT26 MOUNTING BOX, SEE SPEC'S.
70	1	SELECTOR SWITCH, 3 POSITIONS, HAND - OFF - AUTO, TYPE 1, GENERAL PURPOSE ENCLOSURE, ALLEN-BRADLEY CAT. # 800S-R3SX
71	2	FOUR-GANG SWITCHES, FS BOX WITH SPECIFICATION GRADE, SINGLE POLE SWITCH, 15 A., 120 V., HUBBELL CAT.#1201 + FS BOX CROUSE-HINDS, CAT. #FD04 + COVER CAT. #DS32
72	1	A.C. CONTACTOR FOR TANK AREA LIGHTING, 120 V, 20 A., ELECTRICALLY HELD, TYPE 1 GENERAL PURPOSE ENCLOSURE, ALLEN-BRADLEY BULLETIN 500L (NO. OF POLES AS PER PARTICULAR PROJECT DWG'S.
73	1	AC. CONTACTOR FOR REMOTE VENTILATION SYSTEM c/w OVERLOAD HEATER 120 V., 1 ph., 2 POLES, SIZE 0, ELECTRICALLY HELD TYPE ALLEN-BRADLEY CAT.# 500-AAD920 c/w ONE N.O. AUXILIARY CONTACT
74	1	AC. CONTACTOR FOR REMOTE HEATER, 120 V., 1 ph., 2 POLES, 20 A., ELECTRICALLY HELD TYPE 1, GENERAL PURPOSE ENCLOSURE, ALLEN-BRADLEY CAT.# 500L-AAD92
75	1	CONTROL RELAY FOR REMOTE HEATER, ELECTRICALLY HELD AC., c/w 4 CONTACTS N.O. TYPE ALLEN-BRADLEY CAT.# 700-P400-A1 c/w EEMAC ENCLOSURE CAT.# 700-N31S
76	1	WEATHERPROOF PHOTO CONTROL, TURN LOCK, TYPE TORK CAT.# 2005, 120 V., 1000 W. c/w RECEPTACLE AND MOUNTING BRACKET MODEL # 2421
77	1	AUTOMATIC RESET TIMER FOR REMOTE HEATER, INTERVAL USE TYPE 500 SERIES, 120 VAC. RANGE 0 TO 5 HRS., 5 MIN. GRADUATION PARAGON ELECTRIC CO. MODEL# 501-142-00 c/w MOISTURE AND DUST RESISTANT CASE MODEL 500 AND EDP.# 41150 ENCLOSURE TIMER SET AT 1 HR.
78	1	POLYGAS SURVEILLANCE & DETECTION SYSTEM WITH CONTROL MODULE, c/w CONNECTION BLOCKS, RELAY & DUSTPROOF CABINET. SEE SPEC'S. & NOTE #4
79	1	CONTROL TRANSFORMER 120 VAC. / 12 VAC., SUPPLIED WITH ITEM 78
80	1	METAL ENCLOSURE, 150 Lg. x 150 H. x 100 D., CGE STANDARD TYPE "D"
81	2	FULL VOLTAGE MAGNETIC STARTER FOR REMOTE PUMP MOTOR, SIZE 1, 600 V. MAX. RATING, 1 ph., 60 Hz WITH 2 POLES WITH ONE TYPE W, OVERLOAD RELAY HEATER ELEMENT, COIL AT 120 V., c/w ONE N.O. AUXILIARY CONTACT & GREEN PILOT LIGHT IN DOOR OF ENCLOSURE, TYPE 1 GENERAL PURPOSE ENCLOSURE. ALLEN-BRADLEY CAT.# 509-BAXD WITH ACCESORIES.
83	1	ALLEN-BRADLEY BULLETIN 500 AC CONTACTOR, HP RATED, 3 POLE, 240 VOLT, W/ AUXILLIARY CONTACT. TYPE 1 GENERAL ENCLOSURE. CAT#500-AAA930

* - ITEMS SUPPLIED WITH DISPENSER BUILDING(S) & INSTALLED BY CONTRACTOR IN OPERATOR'S SHELTER BUILDING.

NOTES:

- FOR NOTES REFER TO DRAWING E8.
- FOR NUMBER & TYPE OF LIGHTING FIXTURES AT DISPENSER ISLAND & TANK AREA REFER TO DRAWING E1.
- ONE POLYGAS CONTROL MODULE 78 REQUIRED FOR EACH DISPENSER. WHEN MORE THAN ONE DISPENSER BLDG. IS INSTALLED AT SAME SITE THE REQUIRED NUMBER OF CONTROL MODULES CAN BE PURCHASED WITH ALL MODULES IN SAME CABINET. ONLY ONE TRANSFORMER 79 AND BOX 80 REQUIRED PER SITE.
- FOR OTHER NOTES AND DETAILS REFER TO PROJECT DRAWINGS AND SPECIFICATIONS, DIVISION 13, SECTION 13229.



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E7: E03, E04, E31

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NO.	REVISION DESCRIPTION	DATE ISSUED
03	RECORD DRAWINGS	2013/11
02	ISSUED FOR TENDER	2011/06
01	ISSUED FOR 95% REVIEW	2011/04
00	ISSUED FOR 50% REVIEW	2011/02

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PROJECT TITLE

FUEL STORAGE FACILITY UPGRADES

LOCATION

CHESTERFIELD INLET, NU

DRAWING TITLE

OPERATORS SHELTER ELECTRICAL PLAN, ELEVATION, SCHEMATICS

DRAWN BY

NJB

SCALE

AS NOTED

CHECKED BY

PM

CLIENT PROJECT NO.

-

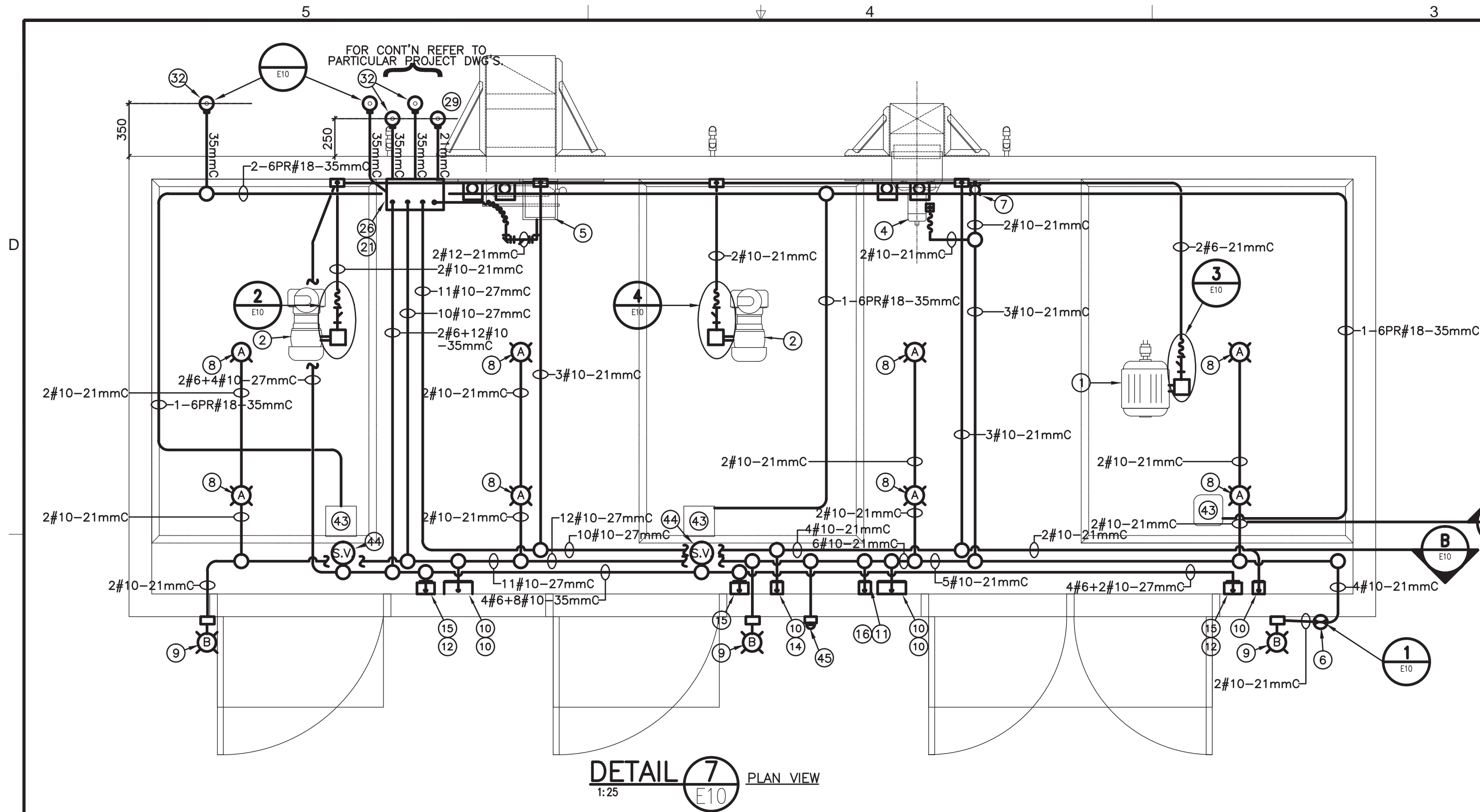
FSC PROJECT NO.

2010-1160

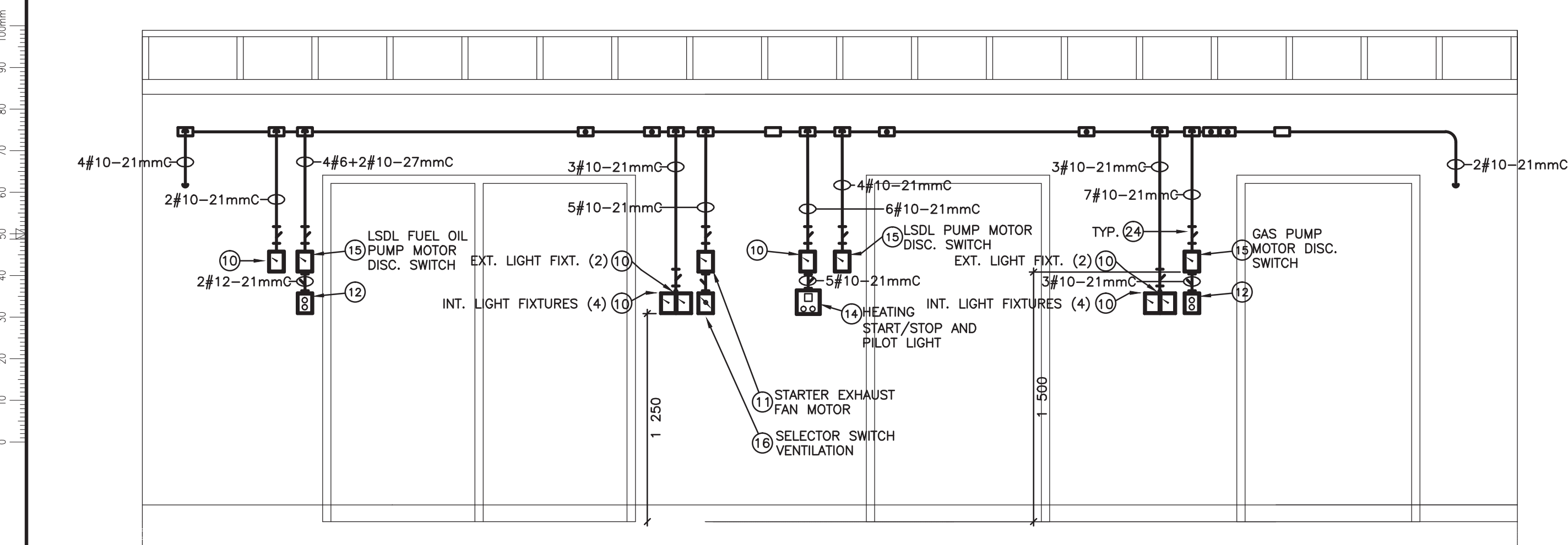
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E9

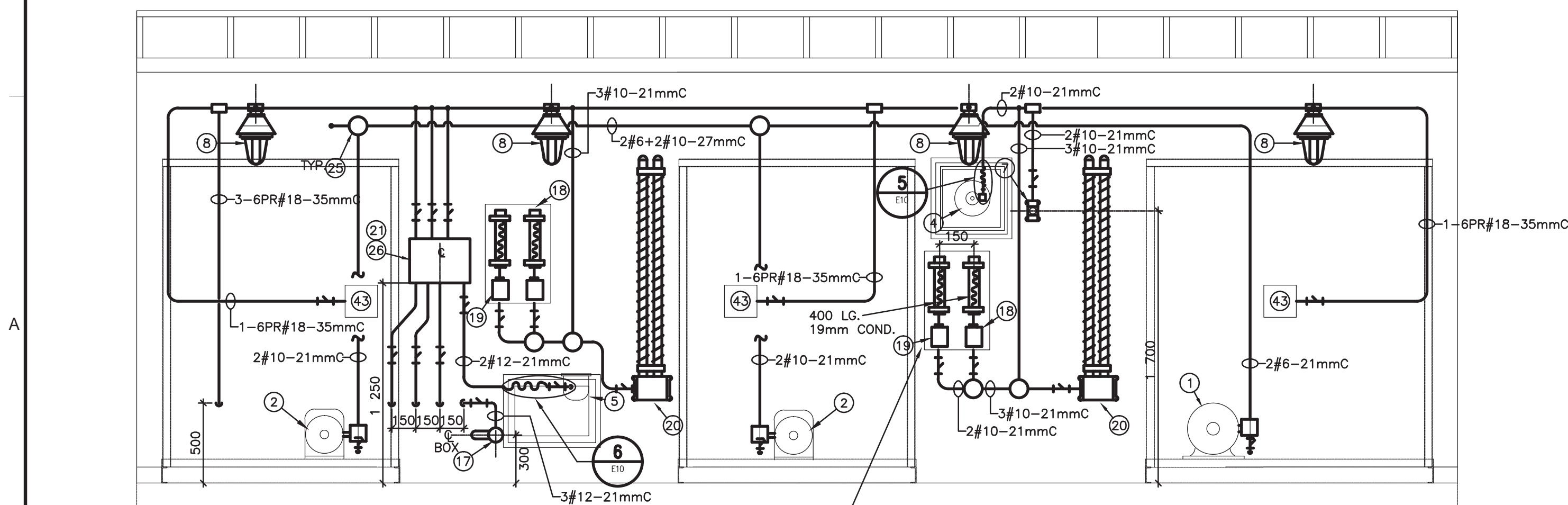
OF 45



DETAIL 7 E10 PLAN VIEW
1:25



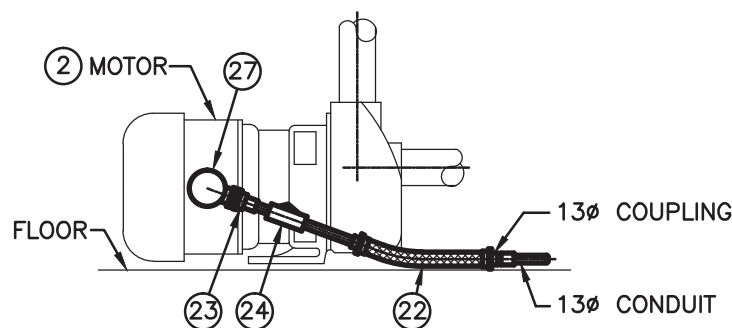
SECTION B E10



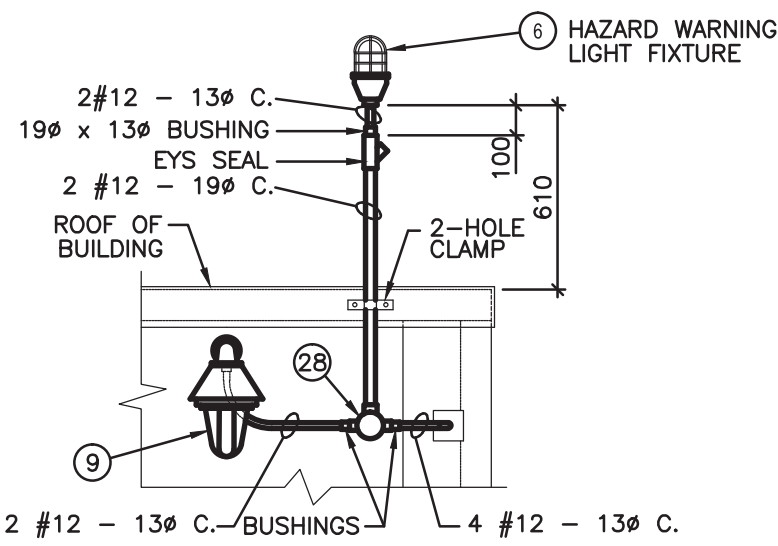
SECTION A E10

NOTES:

1. ALL DIMENSIONS ARE SHOWN IN MILLIMETRES.
2. CONDUITS SHALL BE RIGID, GALVANIZED STEEL.
3. TO ALL NUMBER OF WIRES SHOWN IN CONDUITS, ADD ONE GROUND WIRE AS PER CODE REQUIREMENTS.
4. MOUNT ALL ELECTRICAL EQUIPMENT SO THAT CONNECTIONS CAN BE EASILY EXPOSED FOR SERVICE.
5. ALL SWITCHES, STARTERS, THERMOSTATS, RELAYS, CONTACTORS, TIMERS, ETC.... SHALL BE IDENTIFIED WITH STAINLESS STEEL LABELS FASTENED TO BOXES.
6. FOR WIRING DIAGRAMS SEE DWG. E11.
7. AVAILABLE POWER SUPPLY TO THIS DISPENSER BUILDING SHALL BE 120/240V. 1 PHASE, 60 CY.
8. NOT USED.
9. OVERLOAD HEATER ELEMENT NOT REQUIRED IN MANUAL STARTER ITEM 11 FOR FAN MOTOR.
10. THESE DRAWINGS HAVE BEEN DESIGNED AROUND THE DIVISION METHOD FOR HAZARDOUS LOCATIONS AS SPECIFIED WITHIN SECTION 18 OF THE CANADIAN ELECTRICAL CODE.
11. LSDL IS LOW SULPHUR DIESEL.

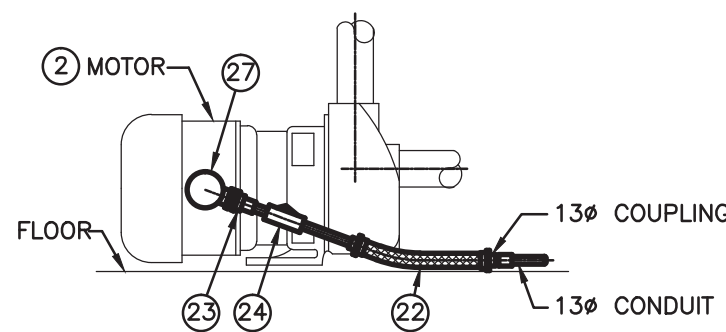


DETAIL 2 E10 CONNECTION AT GASOLINE PUMP MOTOR
1:12.5



N.B.: FOR LOCATION OF EQUIPMENT SEE DWG. A-GP-01

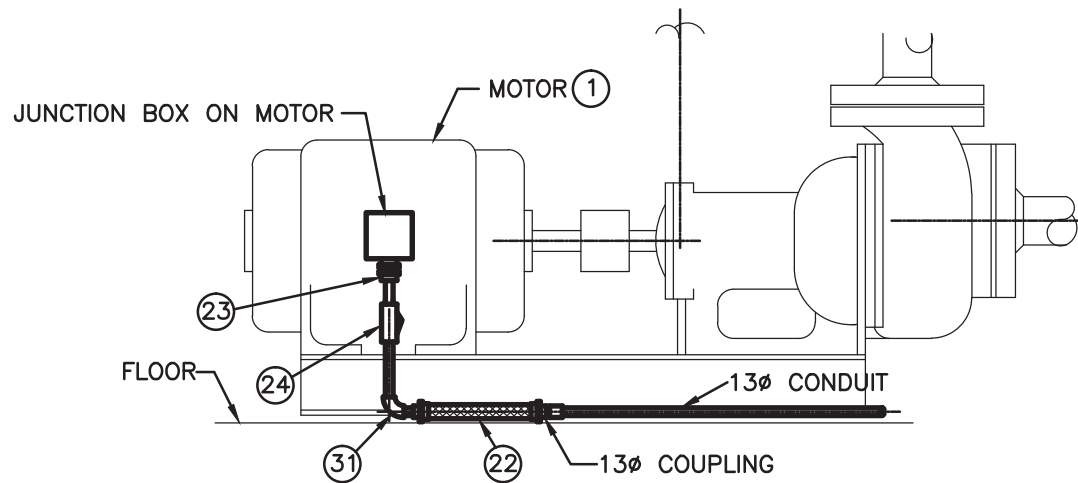
DETAIL 1 E10 ARRANGEMENT OF EXTERIOR LIGHT FIXTURES ABOVE SERVICE DOOR
1:25



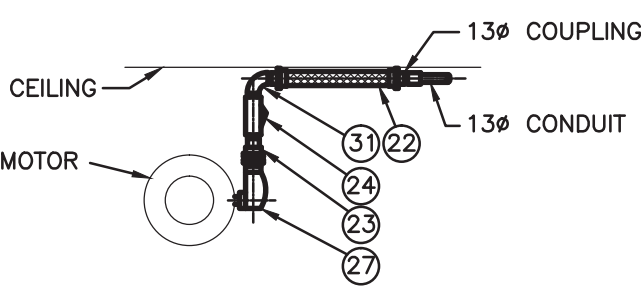
DETAIL 4 E10 CONNECTION AT LSDL PUMP MOTOR
1:12.5

LIST OF GAS./LSDL BUILDING ELECTRICAL EQUIPMENT

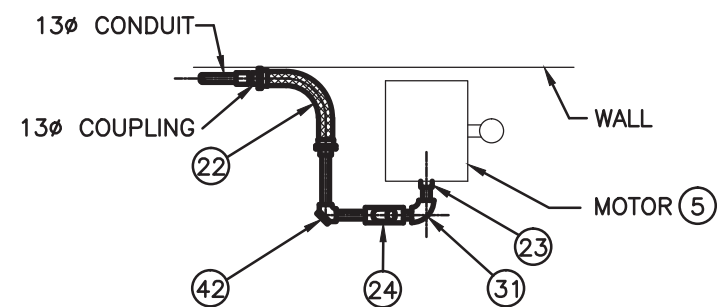
NO.	QTY.	DESCRIPTION
1	1	3 HP. PUMP MOTOR, 230 V., 1 ph., 60 Hz. (LSDL FUEL OIL) SEE SPEC'S.
2	2	3/4 HP. PUMP MOTOR, 230 V. 1 ph., 60 Hz. (GASOLINE/LSDL) SEE SPEC'S.
4	1	1/3 HP. FAN MOTOR, 115 V. 1 Ph. 60 Hz., SEE SPEC'S.
5	1	DAMPER ACTUATOR MOTOR, SEE SPEC'S.
6	1	HAZARD WARNING LIGHT FIXTURE, SEE SPEC'S.
7	1	HAZARD WARNING RED PILOT LIGHT, SEE SPEC'S.
8	8	LIGHT FIXTURE TYPE "A", SEE SPEC'S.
9	3	LIGHT FIXTURE TYPE "B", SEE SPEC'S.
10	4	TUMBLER SWITCHES, SEE SPEC'S.
11	1	MANUAL STARTER SWITCH, FOR EXHAUST SEE SPEC'S. & NOTE #9
12	2	MAINTAINED CONTACT START/STOP PUSH BUTTON STATION, FOR LSDL FUEL OIL PUMP, ALLEN-BRADLEY CAT.# 800H-2HAM7.
14	1	MOMENTARY PUSH BUTTON START/STOP & RED PILOT LIGHT c/w ENCLOSURE, TYPE ALLEN-BRADLEY CAT.# 800H-2HAD10R7
15	3	DISCONNECT THUMBLER SWITCHES, EEMAC TYPE 7 CD, 2 POLES, RATING 3 HP. @ 240 VAC. APPLETON CAT.# ECS-175 c/w ECKS-2MS
16	1	SELECTOR SWITCH HAND-AUTO, c/w ENCLOSURE,TYPE ALLEN-BRADLEY CAT.# 800H-R2HA7
17	1	SENSOR & CROUSE-HINDS GUJT26 MOUNTING BOX, SEE SPEC'S.
18	2	THERMOSTAT, (HIGH TEMPERATURE) SET AT 10° C. SEE SPEC'S.
19	2	THERMOSTAT, (LOW TEMPERATURE) SET AT -18° C. SEE SPEC'S.
20	2	HEATER, SEE SPEC'S.
21	AS REQ'D.	TERMINAL BLOCKS c/w MOUNTING RAIL & END ANCHORS TYPE ALLEN-BRADLEY CAT.# 1492-STYLE "J" MOUNTED IN J.BOX (TYPE AND NUMBER AS PER PARTICULAR PROJECT DRAWINGS)
22	5	FLEXIBLE COUPLING, CROUSE-HINDS "ECH" SERIES (305 Lg.), SIZE TO SUIT
23	AS REQ'D.	UNION, TYPE CROUSE-HINDS "UNY" SERIES, SIZE TO SUIT
24	AS REQ'D.	SEAL, TYPE CROUSE-HINDS "EYS", SIZE TO SUIT
25	AS REQ'D.	JUNCTION BOX, TYPE CROUSE-HINDS "GUA" SERIES, SIZE TO SUIT
26	1	JUNCTION BOX, CROUSE-HINDS CAT.# EJB 1284-SA
27	3	JUNCTION BOX, CROUSE-HINDS CAT.# GUAB16
28	1	JUNCTION BOX, TYPE CROUSE-HINDS "GUF" CAT.# GUFT26
29	1	JUNCTION BOX, CROUSE-HINDS CAT.# GUJB-26
30	-	JUNCTION BOX, CROUSE-HINDS CAT.# GUJB-36
31	AS REQ'D.	ELBOW 90°, TYPE CROUSE-HINDS "EL" SERIES. SIZE TO SUIT
32	-	JUNCTION BOX, CROUSE-HINDS CAT.# GUJB-47
42	AS REQ'D.	ELBOW 90°, TYPE CROUSE-HINDS "LBV" SERIES. SIZE TO SUIT
43	3	MID-COM FLOWMETER UNIT, SEE SPEC'S.
44	2	SOLENOID VALVE, TWO-WAY, NORMALLY CLOSED, 120 V., DC, SUPPLIED & INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR, SEE SPEC'S.
45	1	JUMBO MUSHROOM HEAD EMERGENCY STOP BUTTON. ALLEN BRADLEY CAT # 800H-DP6D2 MOUNTED IN A ALLEN- BRADLEY CAT#800H-1HVX7M2 GANG BOX WITH A ALLEN-BRADLEY CAT# 800H-NP30 COVER.



DETAIL 3 E10 CONNECTION AT LSDL FUEL OIL PUMP MOTOR
1:12.5



DETAIL 5 E10 CONNECTION AT FAN MOTOR
1:12.5



DETAIL 6 E10 CONNECTION AT DAMPER MOTOR
1:12.5



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STANDARD DRAWINGS INCLUSIONS:

E1: E33
E3: E15, E17 to E19, 3/E3
E4: E23 to E29
E5: E05, E06, E09, E10
E6: E07, E11, E12, S48, S49
E7: E03, E04, E31

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00	ISSUED FOR 50% REVIEW	2011/02

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FUEL STORAGE FACILITY UPGRADES

CHESTERFIELD INLET, NU

DRAWING TITLE

GASOLINE/LSDL
DISPENSER BUILDING
ELECTRICAL PLAN,
SECTION AND DETAILS

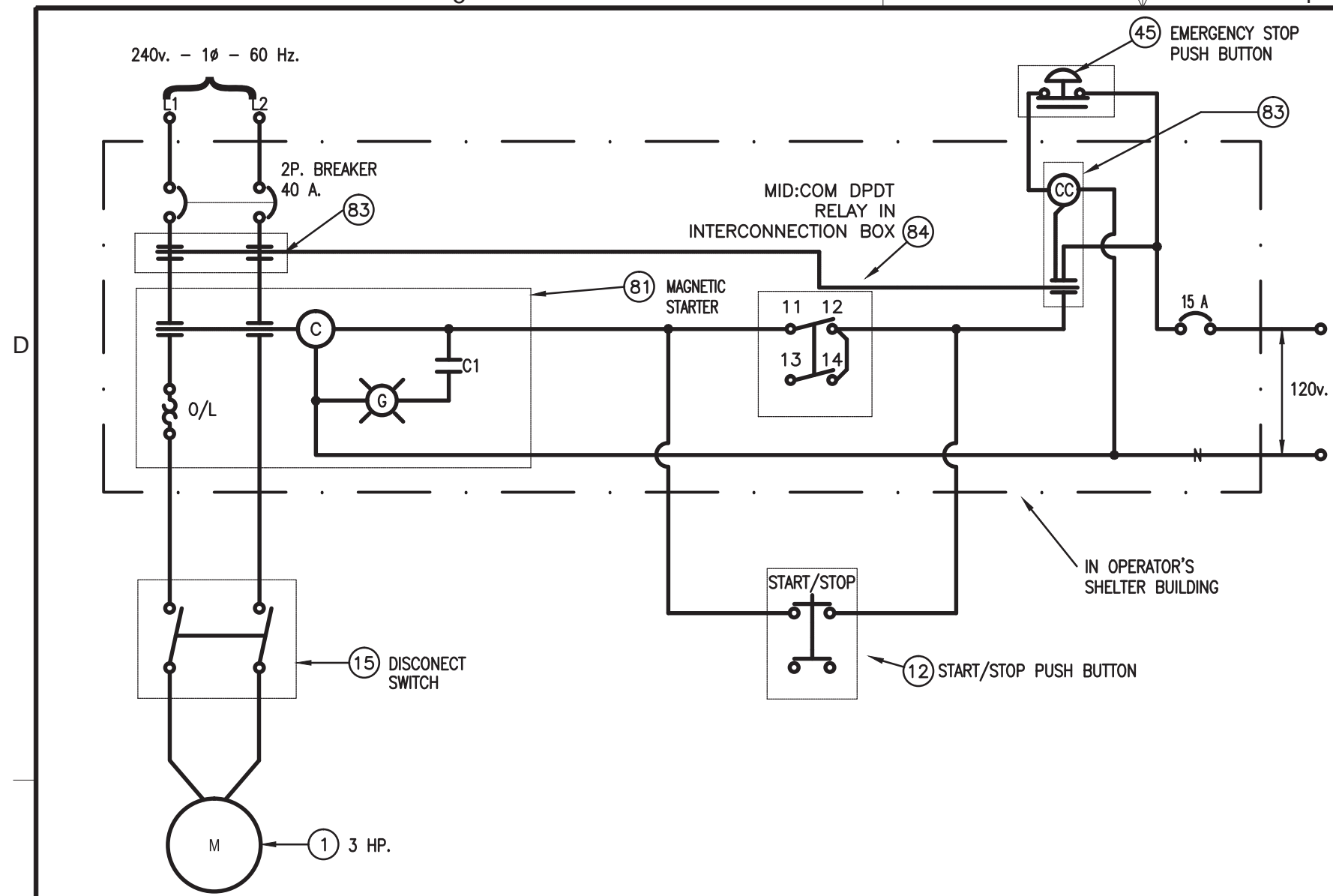
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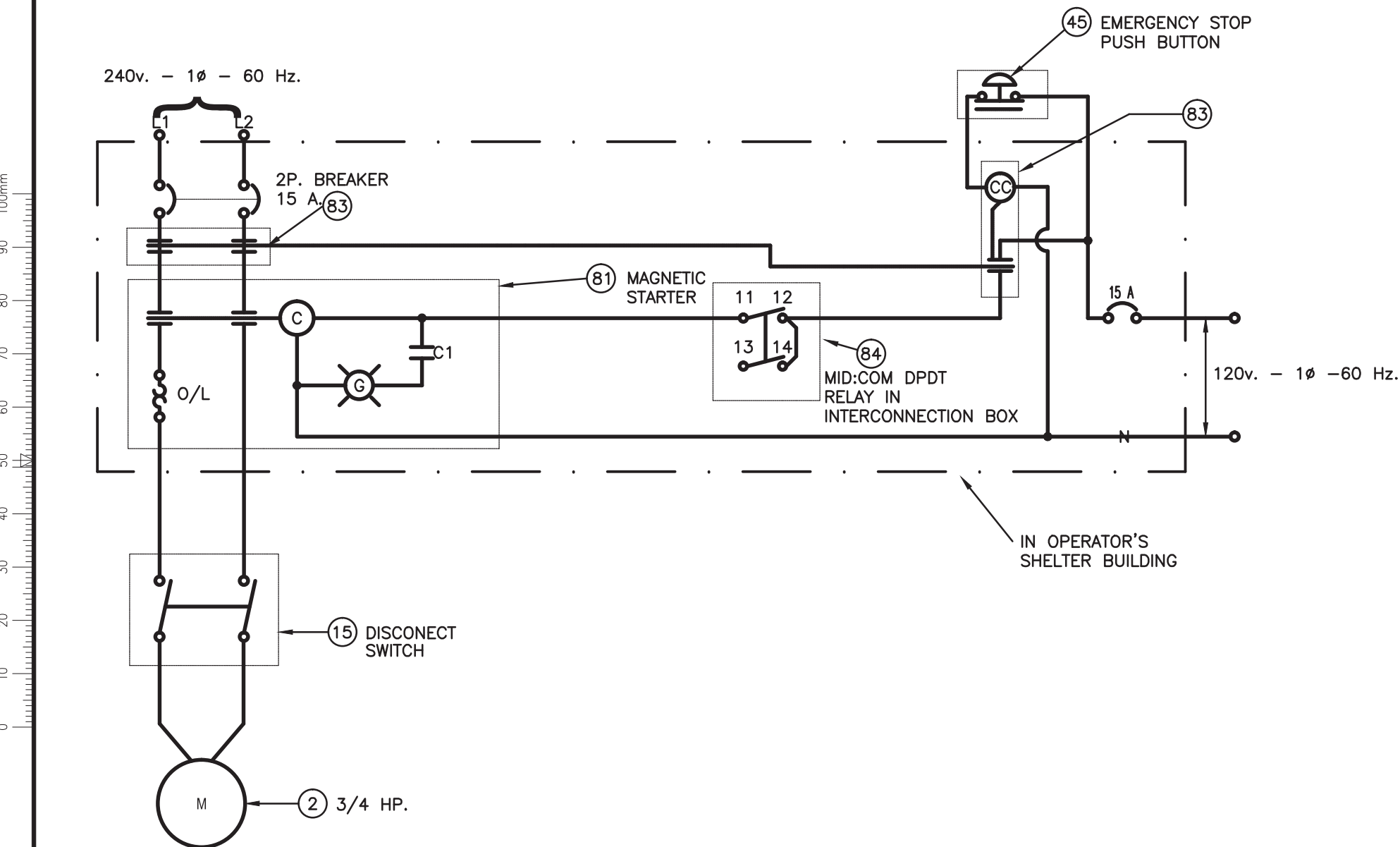
FSC PROJECT NO. 2010-1160

DRAWING NO.

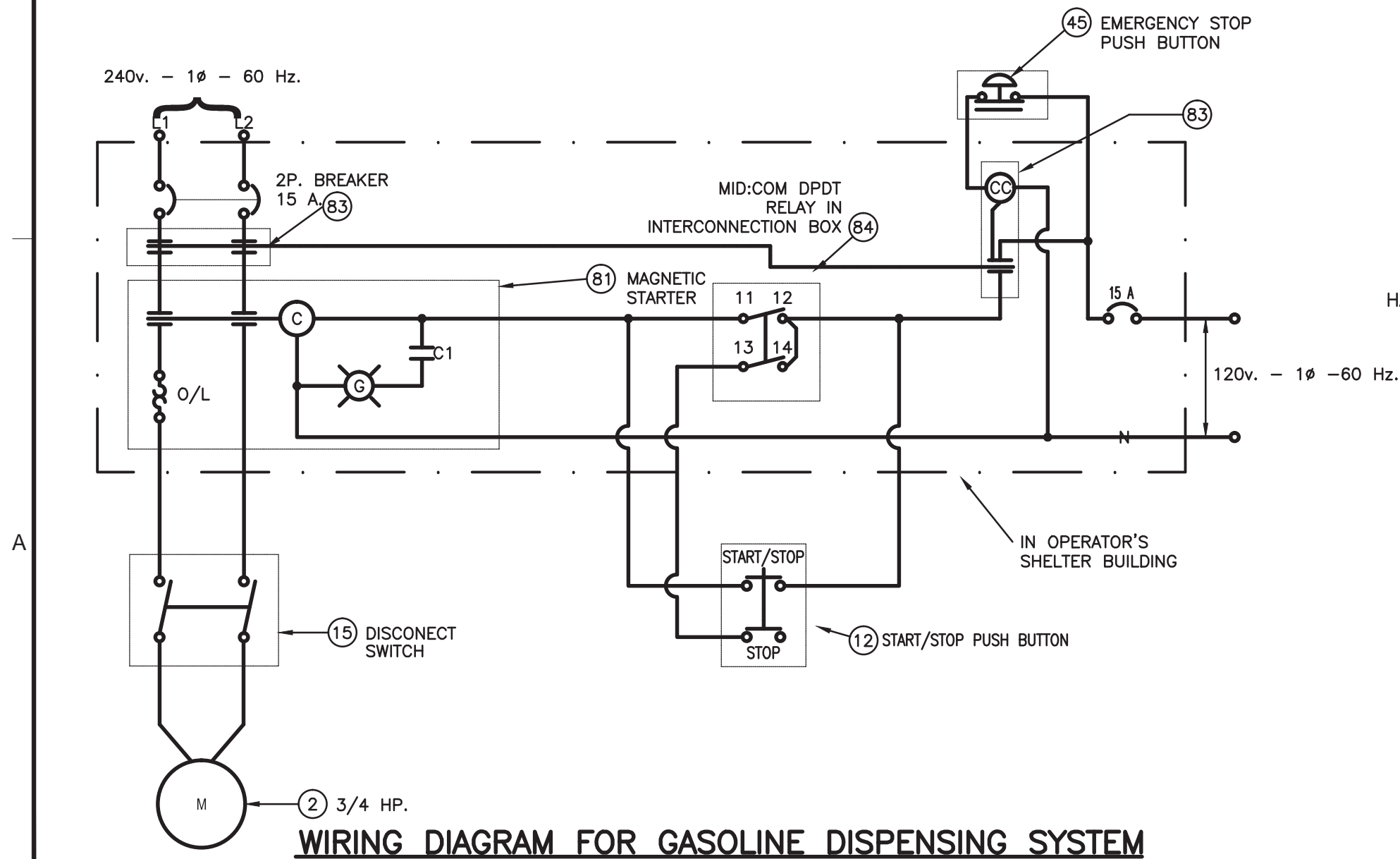
E10



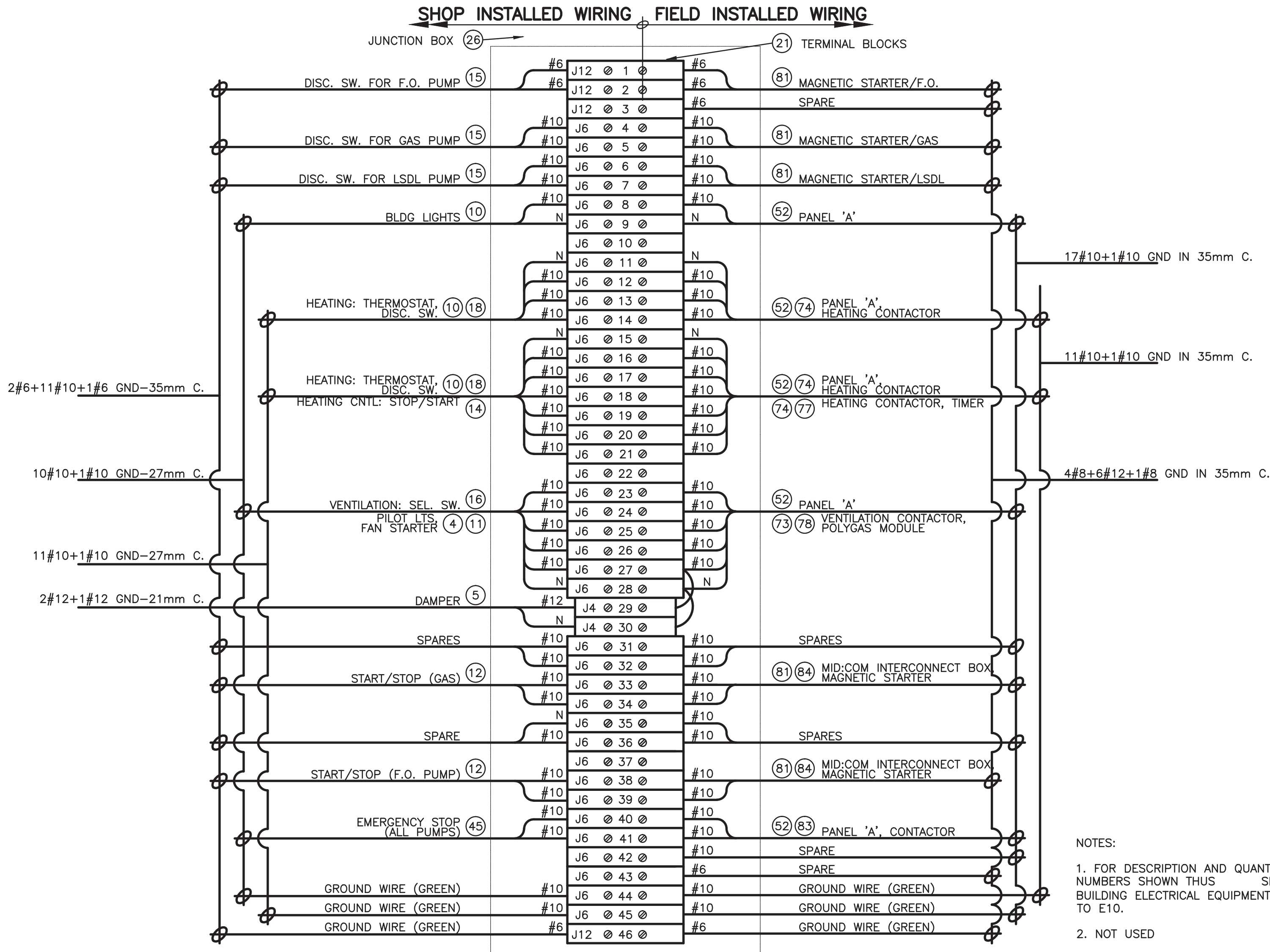
WIRING DIAGRAM FOR LSDL FUEL OIL DISPENSING SYSTEM



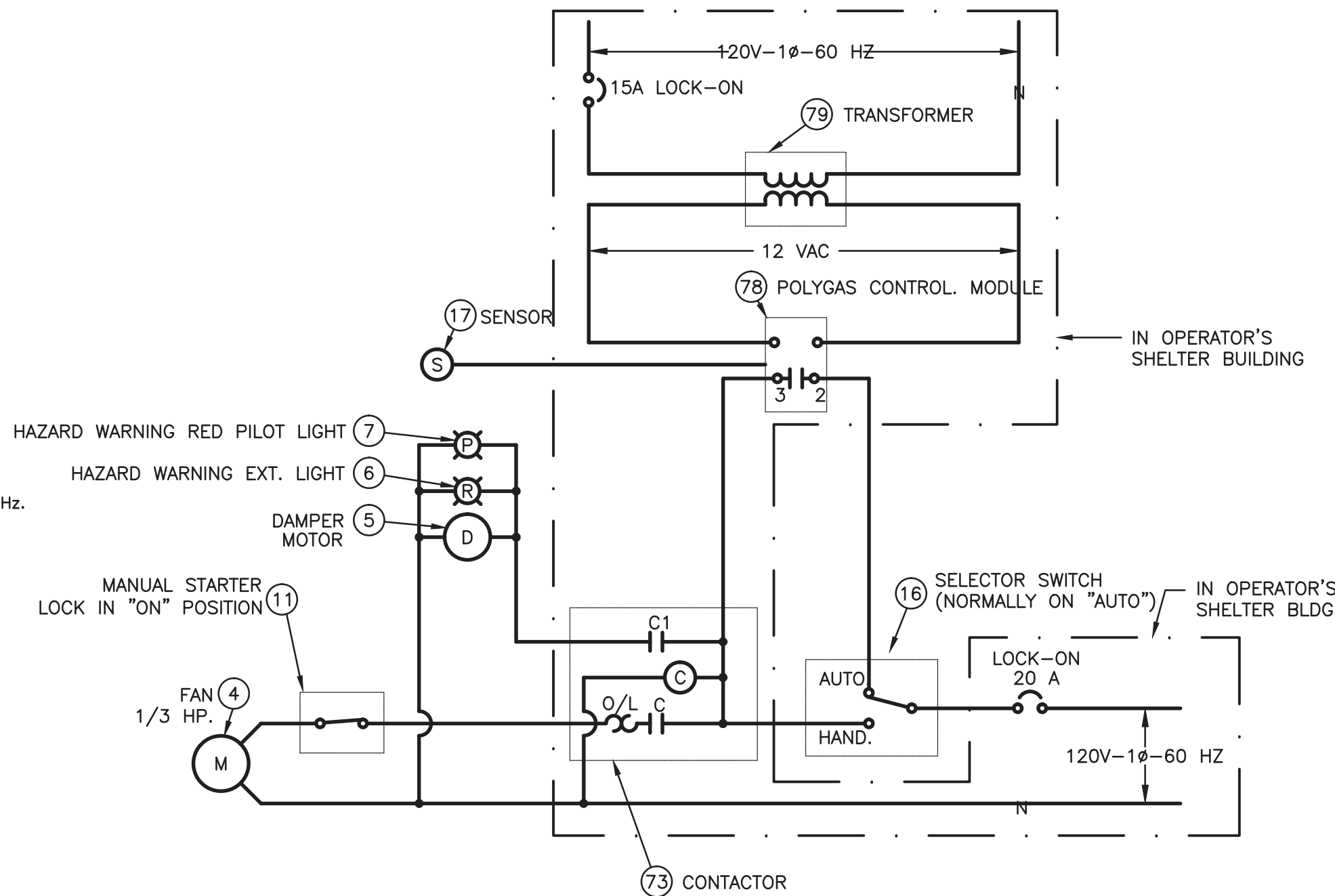
WIRING DIAGRAM FOR LSDL DISPENSING SYSTEM



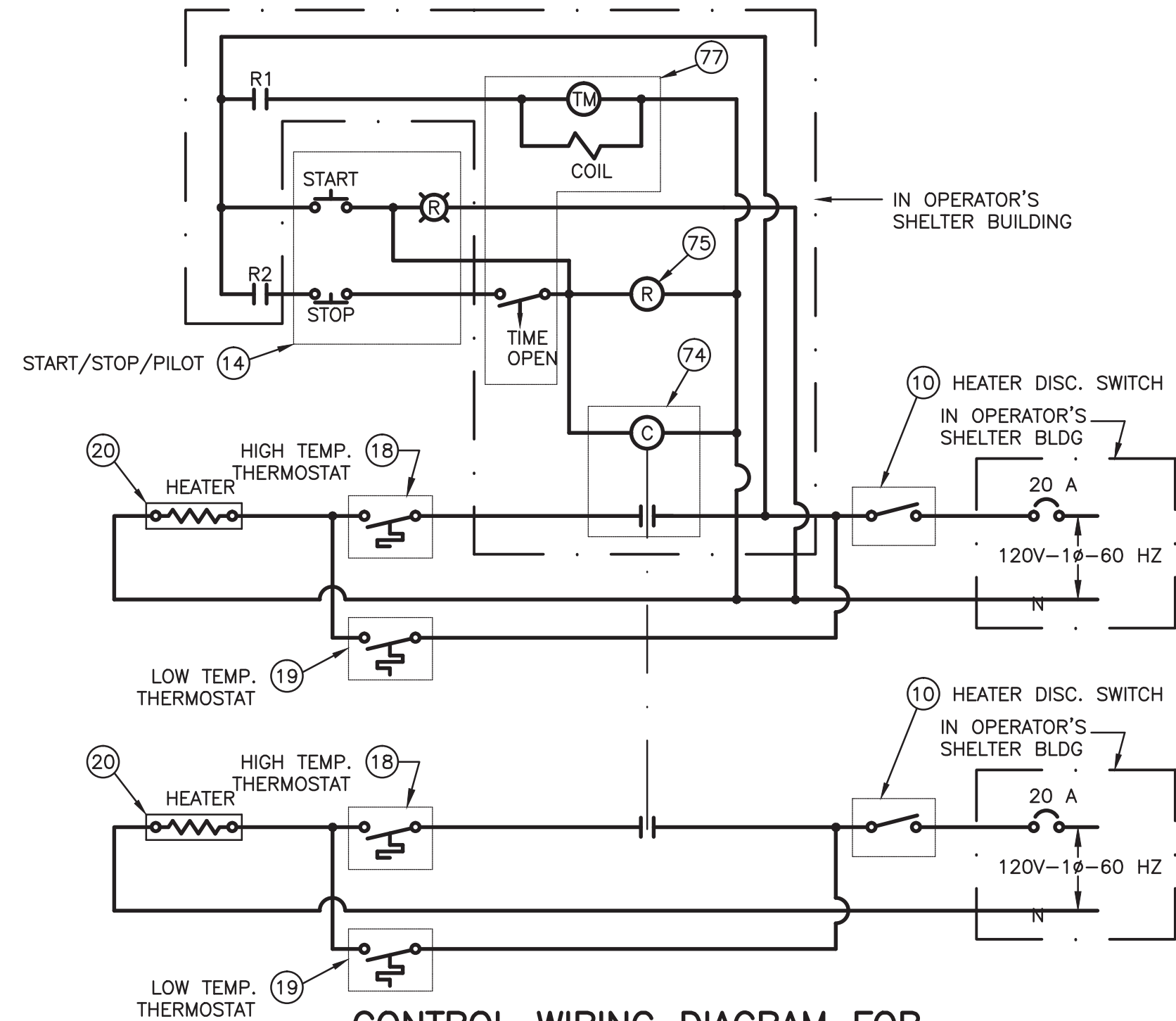
WIRING DIAGRAM FOR GASOLINE DISPENSING SYSTEM



NEW TERMINAL BLOCKS AT MAIN JUNCTION BOX
AT ENTRANCE TO BUILDING



CONTROL WIRING DIAGRAM FOR
POLYGAS DETECTION & VENTILATION SYSTEMS



CONTROL WIRING DIAGRAM FOR
HEATING IN DISPENSER BUILDING



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FUEL STORAGE
FACILITY
UPGRADES

LOCATION
CHESTERFIELD INLET, NU

DRAWING TITLE
GASOLINE/LSDL
DISPENSER BUILDING
ELECTRICAL DIAGRAMS
AND TERMINAL BLOCKS

DRAWN BY NJB	SCALE AS NOTED
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DRAWING NO.
E11