

SWITCHING

- S WALL OUTLET BOX AND SINGLE POLE SWITCH (20 AMP)
- S<sup>3</sup> WALL OUTLET BOX AND THREE-WAY SWITCH (20 AMP)
- S<sup>4</sup> WALL OUTLET BOX AND FOUR-WAY SWITCH (20 AMP)
- S<sup>P</sup> WALL OUTLET BOX AND SINGLE-POLE SWITCH (20 AMP, WITH PILOT LIGHT (20 AMP)
- S<sup>NP</sup> WALL OUTLET BOX AND SINGLE-POLE SWITCH (20 AMP, NON-LOCK, WITH WEATHERPROOF COVER)
- S<sup>F</sup> WALL OUTLET BOX AND FAN CONTROL SWITCH (6 AMP ADJUST)
- S<sup>K</sup> WALL OUTLET BOX SINGLE POLE KEY SWITCH (20 AMP)
- S<sup>K3</sup> WALL OUTLET BOX AND THREE-WAY KEY SWITCH (20 AMP)
- S<sup>K3</sup> WALL OUTLET BOX AND FOUR-WAY KEY SWITCH (20 AMP)
- S<sup>D</sup> WALL OUTLET BOX AND DIMMER SWITCH (AS NOTED)
- S<sup>D3</sup> WALL OUTLET BOX AND THREE-WAY DIMMER SWITCH (AS NOTED)
- S<sup>OS</sup> WALL OUTLET BOX AND OCCUPANCY SWITCH (AS NOTED)
- ◇ LOW VOLTAGE LIGHTING SWITCH
- Ⓢ OCCUPANCY SENSOR
- Ⓢ CEILING MOUNTED OCCUPANCY SENSOR (NO. INDICATES TYPE)

POWER

- 208/120V BRANCH CIRCUIT PANELBOARD
- 480/277V BRANCH CIRCUIT PANELBOARD
- CONTROL PANEL
- MCC MOTOR CONTROL CENTER
- S<sup>M</sup> MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOADS (UNLESS OTHERWISE NOTED)
- S<sup>MP</sup> MANUAL MOTOR STARTER SWITCH WITH PILOT LIGHT AND OVERLOADS (UNLESS OTHERWISE NOTED)
- POKE THRU WITH SURFACE MOUNTED OUTLET BOX WITH DUPLEX RECEPTACLE
- FLUSH MOUNTED OUTLET BOX WITH DOUBLE DUPLEX RECEPTACLE
- WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE
- WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER BACKSPLASH
- WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE TAMPER RESISTANT
- WALL OUTLET BOX AND 20 AMP G.F.I. RECEPTACLE WEATHERPROOF COVER
- WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE WITH LOCKING WEATHERPROOF COVER, PROVIDE TWO KEYS
- WALL OUTLET BOX AND 20 AMP DUPLEX SECURITY RECEPTACLE. MOUNT ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR
- WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE FOR ELECTRICAL WATER COOLER, COORDINATE WITH EWC INSTALLER FOR MOUNTING
- WALL OUTLET BOX AND 20 AMP G.F.I. RECEPTACLE
- TWO GANG WALL OUTLET BOX AND TWO 20 AMP DUPLEX RECEPTACLES
- WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE CONNECTED TO EMERGENCY SYSTEM (RED DEVICE AND COVERPLATE)
- PHOTO CELL
- WALL OUTLET BOX AND SPECIAL PURPOSE RECEPTACLE
- TRANSFORMER
- MOTOR CONNECTION. NUMBER INDICATES HORSEPOWER
- UNFUSED DISCONNECT SWITCH. SIZE AS NOTED
- FUSED DISCONNECT SWITCH, SIZE AS NOTED
- COMBINATION DISCONNECT SWITCH AND MAGNETIC MOTOR CONTROLLER, SIZE AS NOTED
- MAGNETIC MOTOR STARTER OR CONTRACTOR, AS NOTED
- MECHANICAL EQUIPMENT TAG - SEE MECHANICAL DRAWINGS FOR DESCRIPTION
- FLUSH WALL JUNCTION BOX OR JUNCTION BOX ABOVE CEILING
- TIME CLOCK

EQUIPMENT TAG

NUMBER

NAME/TYPE

SPECIAL SYSTEMS

- COMBINATION TELE-DATA WALL OUTLET BOX AND BLANK PLATE WITH MINIMUM 1" C. TO ABOVE ACCESSIBLE FINISHED CEILING. SEE DETAIL AND NOTES DRAWING 1-E5.
- I INTERCOM STATION. PROVIDE WALL OUTLET BOX AND 3/4"C. ( WITH PULLSTRING AND END BUSHING) TO ABOVE ACCESSIBLE CEILING (UNLESS OTHERWISE NOTED)
- TS SPRINKLER SYSTEM TAMPER SWITCH CONNECTION
- FS SPRINKLER SYSTEM FLOW SWITCH CONNECTION
- SA CEILING MOUNTED SMOKE DETECTOR (LETTER 'A' DENOTES AUXILIARY CONTACTS)
- H CEILING MOUNTED HEAT DETECTOR
- D DUCT MOUNTED SMOKE DETECTOR, PHOTOELECTRIC TYPE WITH REMOTE INDICATOR LIGHT WHERE INACCESSIBLE
- DS DUCT DETECTOR - SUPPLY DUCT
- DR DUCT DETECTOR - RETURN DUCT
- R FIRE ALARM SYSTEM REMOTE INDICATOR
- DH DOOR HOLD OPEN DEVICE (ELECTRO-MAGNETIC RELEASE)
- F WALL MOUNTED ADA COMPLIANT FLUSH MANUAL PULL STATION (MOUNT TOP @ 42" AFF)
- AV WALL MOUNTED ADA COMPLIANT AUDIO/VISUAL UNIT (MOUNT TOP 80" AFF)
- V WALL MOUNTED ADA COMPLIANT VISUAL ONLY UNIT (MOUNT TOP 80" AFF)
- FIRE ALARM SYSTEM CONTROL PANEL
- FIRE ALARM SYSTEM TRANSPONDER PANEL
- FIRE ALARM SYSTEM GRAPHIC ANNUNCIATOR PANEL
- FAAP EMERGENCY POWER "OFF" BUTTON
- FJ FIREMAN'S PHONE JACK (MOUNTED 54" AFF)
- P PANIC SWITCH
- BR CONTROLLED ACCESS SYSTEM BADGE READER WITH 3/4"C. TO POWER SOURCE.
- DOOR BUZZER PUSH BUTTON
- DS DOOR STATUS SWITCH
- ES ELECTRIC DOOR STRIKE
- CAMERA
- M MOTION SECURITY SENSOR
- PV POST INDICATOR VALVE LOCATION
- PB PUSH BUTTON CONTROL. PROVIDE WALL BOX AND 3/4"C. TO ABOVE ACCESSIBLE CEILING (U.O.N.)
- DR DOOR RELEASE BUTTON - PROVIDE BOX AND 3/4"C. TO DOOR OPERATOR (U.O.N.)
- A AMPLIFIER/SOUND SYSTEM HEAD END/SHELF MOUNT
- TV TELEVISION CABLE OUTLET FLUSH, WALL MOUNTED
- M MICROPHONE OUTLET FLUSH, FLOOR MOUNTED
- A AUXILIARY LINE LEVEL SIGNAL INPUT JACK FLUSH, WALL MOUNTED
- S CEILING MOUNTED SPEAKER
- VC VOLUME CONTROL FLUSH, WALL MOUNTED
- P PROJECTOR JACK FLUSH, WALL MOUNTED
- P PROJECTOR JACK IN FLUSH FLOOR BOX
- P VIDEO PROJECTOR CEILING MOUNT
- C VIDEO PROJECTOR CONTROL FLUSH, WALL MOUNTED
- S MOTOR OPERATED SCREEN CONTROL FLUSH, WALL MOUNTED

ELECTRICAL EQUIPMENT

- P PULL BOX, SIZE PER N.E.C. ARTICLE 314

ONE-LINE

- FUSE (SIZE AS INDICATED ON DRAWINGS)
- FUSED SWITCH
- CIRCUIT BREAKER
- POWER TRANSFORMER
- CURRENT TRANSFORMER
- RELAY COIL
- RELAY CONTACT (NORMALLY OPEN) (TYPE A)
- RELAY CONTACT (NORMALLY CLOSED) (TYPE B)
- AUTOMATIC TRANSFER SWITCH
- POTENTIAL TRANSFORMERS
- TIME OVERCURRENT RELAY (PHASE)
- AMMETER SWITCH
- AMMETER
- VOLTMETER SWITCH
- VOLTMETER
- SOLENOID OR CIRCUIT BREAKER COIL
- PUMP
- PANEL BOARD
- MOTOR
- SIZE
- LIMIT SWITCH
- LIQUID LEVEL SWITCH (SENSOR)
- ELECTRICAL LINES
- POWER
- CONTROLS

ABBREVIATIONS

- AMP./A. AMPERE
- AC. ALTERNATING CURRENT
- A/C. AIR CONDITION
- AC. ABOVE FINISHED FLOOR
- AFG ABOVE FINISHED GRADE
- A.I.C. AMPERES INTERRUPTING
- AL. CAPACITY
- ARCH. ALUMINUM
- A.R.F. ARCHITECTURAL
- ASY. ABOVE RAISED FLOOR
- A.T.C. ASYMMETRICAL
- CONTROL AUTOMATIC TEMPERATURE CONTROL
- A.T.S. AUTOMATIC TRANSFER SWITCH
- AUX. AUXILIARY
- B.F.C. BELOW FINISHED CEILING
- BLDG. BUILDING
- BKR. BREAKER
- BSMT. BASEMENT
- .C. CENTIGRADE DEGREES
- CLG. CEILING
- CKT. CIRCUIT
- CB CIRCUIT BREAKER
- CB CLOCKWISE
- COL. COLUMN
- CONC. CONCRETE
- CCTV CLOSED CIRCUIT TELEVISION
- C. CONDUIT
- COND. CONDUCTOR
- CU. FT. CUBIC FEET
- CONTR. CONTRACTOR
- CU. COPPER
- CONST. CONSTRUCTION
- COAX. COAXIAL
- COORD. COORDINATE
- CONT. CONTINUATION
- C.T. CURRENT TRANSFORMER
- DISC. DISCONNECT SWITCH
- DIV. DIVISION
- DN. DOWN
- EA. EACH
- E.F. EXHAUST FAN
- ELEC. CL. ELECTRICAL CLOSET
- ELEC. ELECTRICAL
- E.C. ELECTRICAL CONTRACTOR
- ELEV/EL. ELEVATION/ELEVATOR
- E.M.T. ELECTRICAL METALLIC TUBING
- ENT. ENTRANCE
- ENCL. ENCLOSURE
- EQ. EQUAL
- EQUIP. EQUIPMENT
- ETR. EXISTING TO REMAIN
- E.W. EACH WAY
- EXT. EXTERNAL/EXTERIOR
- F.A. FIRE ALARM
- .F. FAHRENHEIT DEGREES
- FC FOOTCANDLE
- FT. FEET
- F.E. FIRE EXTINGUISHER
- FDN. FOUNDATION
- FIN. FINISH/FINISHED
- FIXT. FIXTURE
- FLEX. FLEXIBLE
- FL. FLOOR
- FLA FULL LOAD AMPERES
- FLUOR. FLUORESCENT
- GA. GAGE/GAUGE
- GALV. GALVANIZED
- G.C. GENERAL CONTRACTOR
- GEN. GENERATOR
- GND. GROUND
- G.F.I./GFCI GROUND FAULT INTERRUPTER
- G.R.S.C. GALVANIZED RIGID STEEL CONDUIT
- HT. HEIGHT
- H.I.I. HIGH INTENSITY DISCHARGE
- HORIZ. HORIZONTAL
- H.O.A. HAND OFF AUTO
- HP. HORSEPOWER
- H.P.S. HIGH PRESSURE SODIUM
- HZ. HERTZ
- INC. INCANDESCENT
- IMC INTERMEDIATE CONDUIT
- ISOL. ISOLATED
- INSUL. INSULATION/INSULATED
- JB JUNCTION BOX
- KHZ KILOHERTZ
- KW KILOWATT
- KWH KILOWATT HOUR
- KVA KILOVOLT-AMPERE
- KVAR KILOVAR
- KV KILOVOLT
- LAN LOCAL AREA NETWORK
- LG. LENGTH

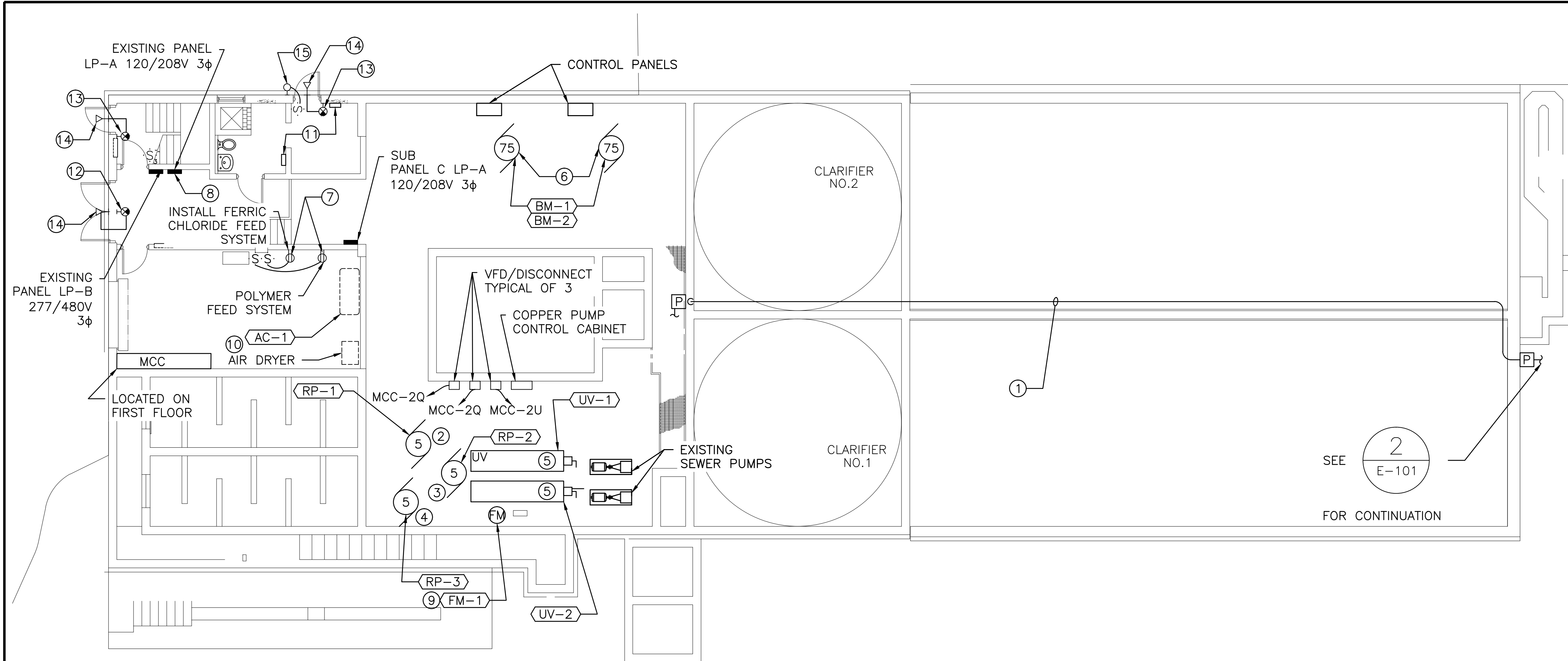
- LF LINEAR FEET
- LT LIGHT
- LTG LIGHTING
- LRA LOCKED ROTOR AMPERES
- LG LONG
- MCC MOTOR CONTROL CENTER
- M.C. MECHANICAL CONTRACTOR
- M/C MULTI-CONDUCTOR
- MDS MAIN DISTRIBUTION SWITCHBOARD
- MDP MAIN DISTRIBUTION PANEL
- MANUF. MANUFACTURER
- MF MAINTENANCE FACTOR
- MAX. MAXIMUM
- MB MAIN BREAKER
- MECH. MECHANICAL
- MCM THOUSAND CIRCULAR MILLS
- MG MOTOR GENERATOR
- MTD. MOUNTED
- MIN. MINIMUM
- M.L.O. MAIN LUGS ONLY
- N. NEUTRAL
- NC NORMAL CLOSED
- N.E.C. NATIONAL ELECTRICAL CODE
- NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
- NIC NOT IN CONTRACT
- NO. NORMALLY OPEN
- NTS NOT TO SCALE
- No./# NUMBER
- % PERCENT
- φ PHASE
- NO.V.C. POLYVINYLCHLORIDE
- PB PULL BOX
- PNL. PANELBOARD
- P.C. PLUMBING CONTRACTOR
- PRI. PRIMARY
- R. RADIUS
- RF RADIO FREQUENCY
- REBAR. REINFORCING BAR
- RECEPT. RECEPTACLE
- REQ'D REQUIRED
- REV. REVISE/REVISION
- REC. RECESSED
- R.C.SW. REMOTE CONTROL SWITCH
- RGS RIGID GALVANIZED STEEL CONDUIT
- RPZ REDUCED PRESSURE ZONE
- SECT. SECTION
- SEC. SECONDARY
- SERV. SERVICE
- 1/C SINGLE CONDUCTOR
- SK. SKETCH
- SQ. SQUARE
- S.F. SPECIFICATIONS
- STA. SQUARE FEET
- SW. STATION
- S.S. SWITCH
- SW'BD STAINLESS STEEL SWITCHBOARD
- SYM. SYMMETRICAL
- SUSP. SUSPENDED
- SEP. SEPARATE
- SHT. SHEET
- SIG. SIGNAL
- SN SOLID NEUTRAL
- SURF. SURFACE
- THRU THROUGH
- TEL. TELEPHONE
- TRANSF./XFMR TRANSFORMER
- TYP. TYPICAL
- U.O.N. UNLESS OTHERWISE NOTED
- U.R.F. UNDER RAISED FLOOR
- VS. VERSUS
- VERT. VERTICAL
- VD VOLTAGE DROP
- VFD VARIABLE FREQUENCY DRIVE
- V. VOLTAGE/VOLTS
- WP WEATHERPROOF
- WD. WIDE
- W/ WITH
- W/O WITHOUT
- W/I WROUGHT IRON

CONSTRUCTION DOCUMENTS

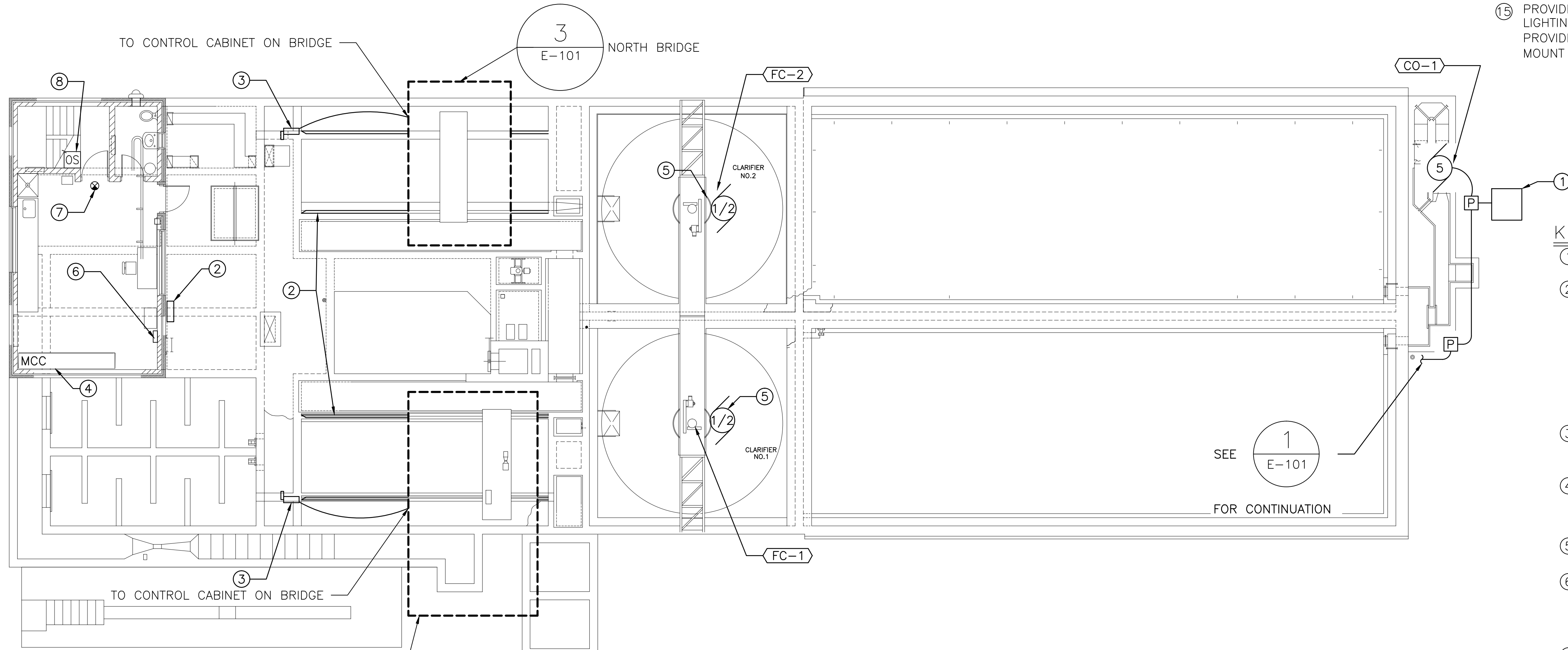
<div>Reilly ASSOCIATES SINCE 1990 ENGINEERING / ENVIRONMENTAL / SURVEYING 49 South Main Street Suite 200 Pittston, PA 16640 tel. 570.654.2473 fax. 570.654.8860 www.reillyengineering.com</div>		<div>NORTH EAST INFRASTRUCTURE, LLC 1100 CHURCH STREET HONESDALE, PA 15431 570-253-0846 OFFICE 570-253-1935 FAX WWW.NEINFRA.COM</div>		<div>ELECTRICAL SYMBOLS, NOTES, AND ABBREVIATIONS</div>		<div>MODERNIZE WASTEWATER TREATMENT PLANT</div>		<div>Project Number 561A4-13-108</div>		<div>Office of Construction and Facilities Management</div>	
<div>Revisions</div>		<div>ARCHITECT/ENGINEERS:</div>		<div>Approved Project Director</div>		<div>Location 151 KNOLL CROFT ROAD, LYONS, NJ</div>		<div>Drawing Number E-001</div>		<div>Department of Veterans Affairs</div>	
<div>Date</div>		<div></div>		<div>-</div>		<div>Date 07/19/2018</div>		<div>Checked D.L.E.</div>		<div>Dwg. 31 of 38</div>	
<div></div>		<div></div>		<div>VA NUHCS PLANNING AND ENGINEERING</div>		<div>Drawn D.J.P.</div>		<div></div>		<div></div>	







PROJECT NORTH  
1  
E-101  
ELECTRICAL BASEMENT FLOOR PLAN  
SCALE: 1/8"=1'-0"



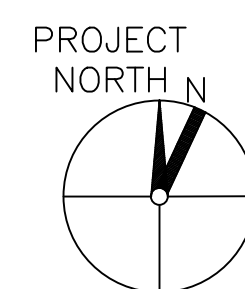
PROJECT NORTH  
3  
E-101  
ELECTRICAL FIRST FLOOR PLAN  
SCALE: 1/8"=1'-0"

CONSTRUCTION NOTES

1. SEE DRAWING E-001 FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
2. SEE ELECTRICAL ONE LINE DRAWING E-201 FOR BRANCH CIRCUITING INFO.
3. SEE ELECTRICAL PANEL SCHEDULES ON DRAWING E-202 FOR PANEL SCHEDULES.
4. REFER TO DRAWING E-202 FOR EQUIPMENT TAG.

KEYED NOTES - DETAIL 1

1. COMMUNICATOR CIRCUITING, PROVIDE NEW PROVIDE 15 AMP 3 POLE CIRCUIT BREAKER IN MCC POSITION 6Q. PROVIDE 3-#10 CONDUCTORS AND #10 GROUND IN 1" CONDUIT.
2. PROVIDE NEW BRANCH CIRCUIT. PROVIDE 15 AMP 3 POLE CIRCUIT BREAKER IN MCC POSITION 2Q. PROVIDE VFD CABLE TO MOTOR, 3-#12 CONDUCTORS AND #12 GROUND IN 1-1/2" CONDUIT.
3. PROVIDE NEW BRANCH CIRCUIT. PROVIDE 15 AMP 3 POLE CIRCUIT BREAKER IN MCC POSITION 2Q. PROVIDE VFD CABLE TO MOTOR, 3-#12 CONDUCTORS AND #12 GROUND IN 1-1/2" CONDUIT.
4. PROVIDE NEW BRANCH CIRCUIT. PROVIDE 15 AMP 3 POLE CIRCUIT BREAKER IN MCC POSITION 2U. PROVIDE VFD CABLE TO MOTOR, 3-#12 CONDUCTORS AND #12 GROUND IN 1-1/2" CONDUIT.
5. PROVIDE 1 20 AMP 3 POLE BREAKER IN SUB PANEL C FOR UV SYSTEM. PROVIDE 2-#12 CONDUCTORS AND #12 GROUND IN 3/4" CONDUIT FOR EACH UV.
6. PROVIDE NEW BRANCH CIRCUIT, 3-#1/0 CONDUCTORS AND #6 GROUND IN 2" CONDUIT FROM MCC.
7. PROVIDE SWITCHED RECEPTACLES FOR FERRIC CHLORIDE FEED SYSTEM, 1-20 AMP SINGLE POLE BREAKER NEW BRANCH CIRCUIT TO SUB PANEL C. PROVIDE 2-#12 CONDUCTORS AND #12 GROUND IN 3/4" CONDUIT. ONE FOR EACH SYSTEM (2).
8. EXISTING PANEL LP-A, PROVIDE NEW 3 POLE 60 AMP BREAKER, #4 CONDUCTORS, #10 GROUND IN 1-1/4" CONDUIT TO SUB PANEL C. USE SPACES FROM EXISTING UV SYSTEM.
9. PROVIDE ONE 20 AMP SINGLE PHASE 120V CIRCUIT BREAKER FROM SUB-PANEL C, #12 CONDUCTORS, #12 GROUND IN 3/4" CONDUIT.
10. PROVIDE ONE 15 AMP SINGLE PHASE 120V CIRCUIT BREAKER FROM SUB-PANEL C, 2-#12 CONDUCTORS, #12 GROUND IN A 3/4" CONDUIT.
11. PROVIDE NEW 4000W, 277V, SURFACE MOUNTED WALL HEATERS. PROVIDE DEDICATED 20 AMP SINGLE POLE CKT. BREAKER 2-#12 CONDUCTORS, #12 GROUND IN A 3/4" CONDUIT. HEATER TO BE FED FROM PANEL LP-B, CKTS 5 AND 7. BASIS OF DESIGN IS A BERKO MODEL NUMBER SSHOWH4007. LOCATE AS SHOWN IN PLAN.
12. REPLACE EXISTING EXIT SIGN, PROVIDE NEW WALL MOUNTED EXIT SIGN. TIE INTO EXISTING LIGHTING CKT. AHEAD OF SWITCHING. BASIS OF DESIGN IS A DUAL LITE "EVC RED4", PROVIDE 2-#12 CONDUCTORS, #12 GROUND IN 3/4" CONDUIT.
13. PROVIDE NEW WALL MOUNTED EXIT SIGN. TIE INTO EXISTING LIGHTING CKT. AHEAD OF SWITCHING. BASIS OF DESIGN IS A DUAL LITE "EVC RED4", PROVIDE 2-#12 CONDUCTORS, #12 GROUND IN 3/4" CONDUIT.
14. PROVIDE EMERGENCY OUTDOOR LIGHT, TIE INTO LOCAL EMERGENCY EXIT SIGN. BASIS OF DESIGN IS A DUAL LITE "EVOSW", PROVIDE 2-#12 CONDUCTORS, #12 GROUND IN 3/4" CONDUIT.
15. PROVIDE NEW WALL MOUNTED OUTDOOR LIGHT, TIE INTO EXISTING LIGHTING CKT. BASIS OF DESIGN IS A LNC2-18LU-4K-3-2, PROVIDE 2-#12 CONDUCTORS, #12 GROUND, IN 3/4" CONDUIT. MOUNT 10' ABOVE FINISHED GRADE.



3  
E-101

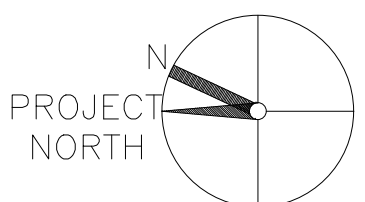
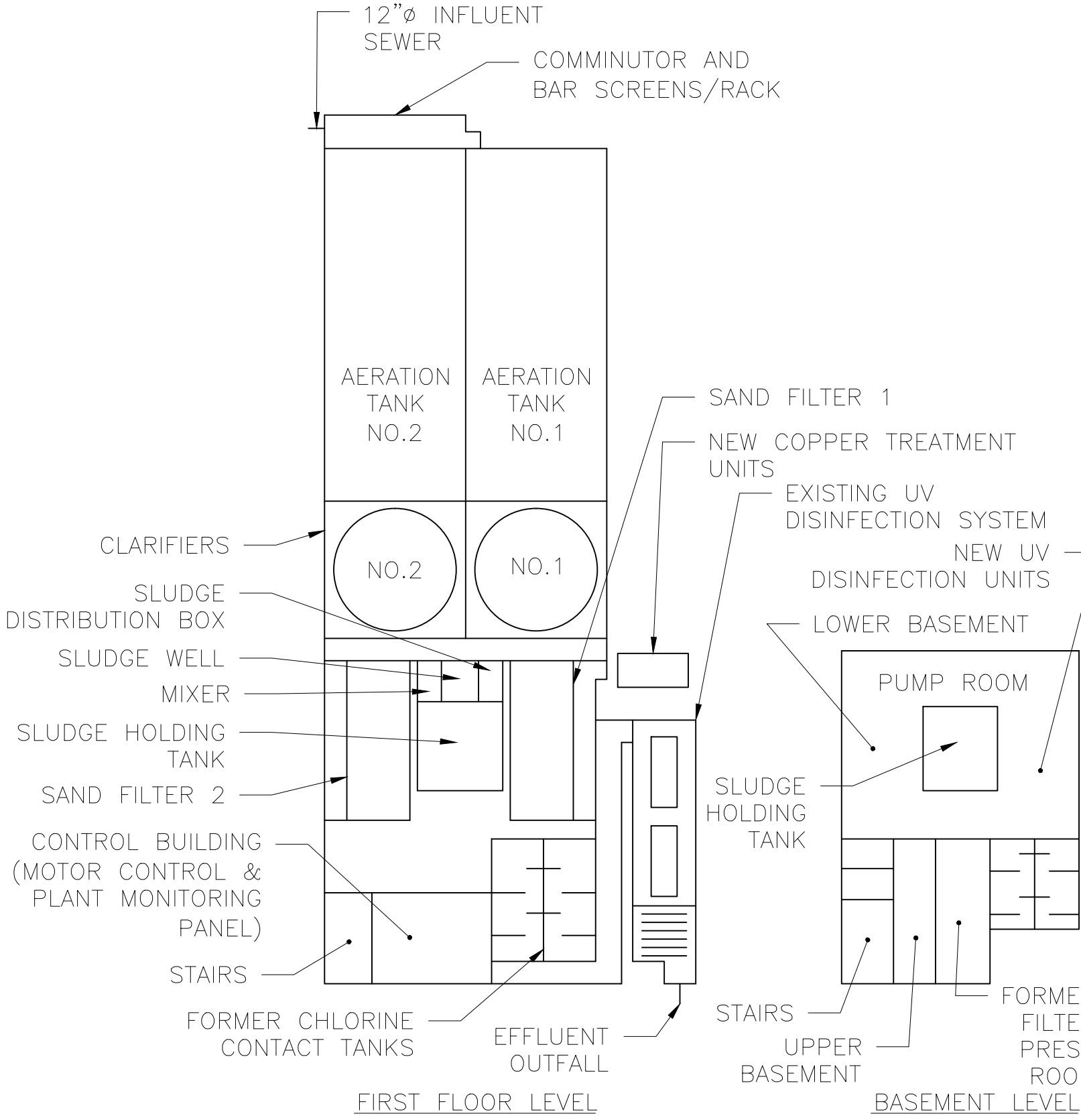
ELECTRICAL SANDFILTER BRIDGE ENLARGED DETAIL  
SCALE: 1/4"=1'-0"

KEYED NOTES - DETAIL 3

1. PROVIDE NEW STAINLESS NEMA 4X BRIDGE CONTROL CABINET, PROVIDE NEW CONTROLS AND CONTROL WIRING.

KEYED NOTES - DETAIL 2

1. SEE DRAWING CW-203 FOR DETAIL OF COMMUNICATOR CONTROL PANEL.
2. PROVIDE NEW HEAT TRACE SYSTEM, CONTROLS, CONTROL WIRING AND HEATING CABLE. PROVIDE POWER FROM LP-B (7.9.11) PROVIDE 40AMP 3 PHASE BREAKER 3-#8 CONDUCTORS AND #8 GROUND IN A 1" CONDUIT. VERIFY BREAKER SIZE WITH HEAT TRACE MANUFACTURER PRIOR TO PROVIDING SHOP DRAWINGS TO ENGINEER. PROVIDE STRUT FOR HEAT TRACE CABINET AND RUN CONDUITS UNDER FLOOR TO SAND FILTERS BRIDGE RAILS.
3. BRIDGE POWER DISCONNECT, PROVIDE NEW NEMA 4X STAINLESS DISCONNECT, 3-#10 CONDUCTORS, #10 GROUND IN 3/4" CONDUIT.
4. EXISTING MCC, SIEMENS-ALLIS 480 VOLT, 3Φ, 60Hz, 22KA A.I.C. MCC SERIAL NO. 01-1465-50349-01 MCC PART NO. 9-001-50349-01
5. FINAL CLARIFIER, PROVIDE 3-#12 CONDUCTORS AND #12 GROUND IN A 1" CONDUIT FROM MCC.
6. PROVIDE NEW PLANT MONITORING PANEL AND ALL NEW ALARM WIRING, PROVIDE DEDICATED 120V 20AMP CIRCUIT FROM SUB PANEL C, 2-#12 CONDUCTORS AND #12 GROUND IN 3/4" CONDUIT. SEE DETAIL 4 ON E-203.
7. PROVIDE NEW CEILING MOUNTED EXIT SIGN. TIE INTO EXISTING LIGHTING CKT. AHEAD OF SWITCHING. BASIS OF DESIGN IS A DUAL LITE "EVC RED4", PROVIDE 2-#12 CONDUCTORS, #12 GROUND IN 3/4" CONDUIT.
8. PROVIDE 3-WAY OCCUPANCY SWITCH FOR LIGHTING CONTROLS IN STAIRWELL. (TYPICAL OF 2 SWITCHES, BOTTOM OF STAIRS AND TOP OF STAIRS).

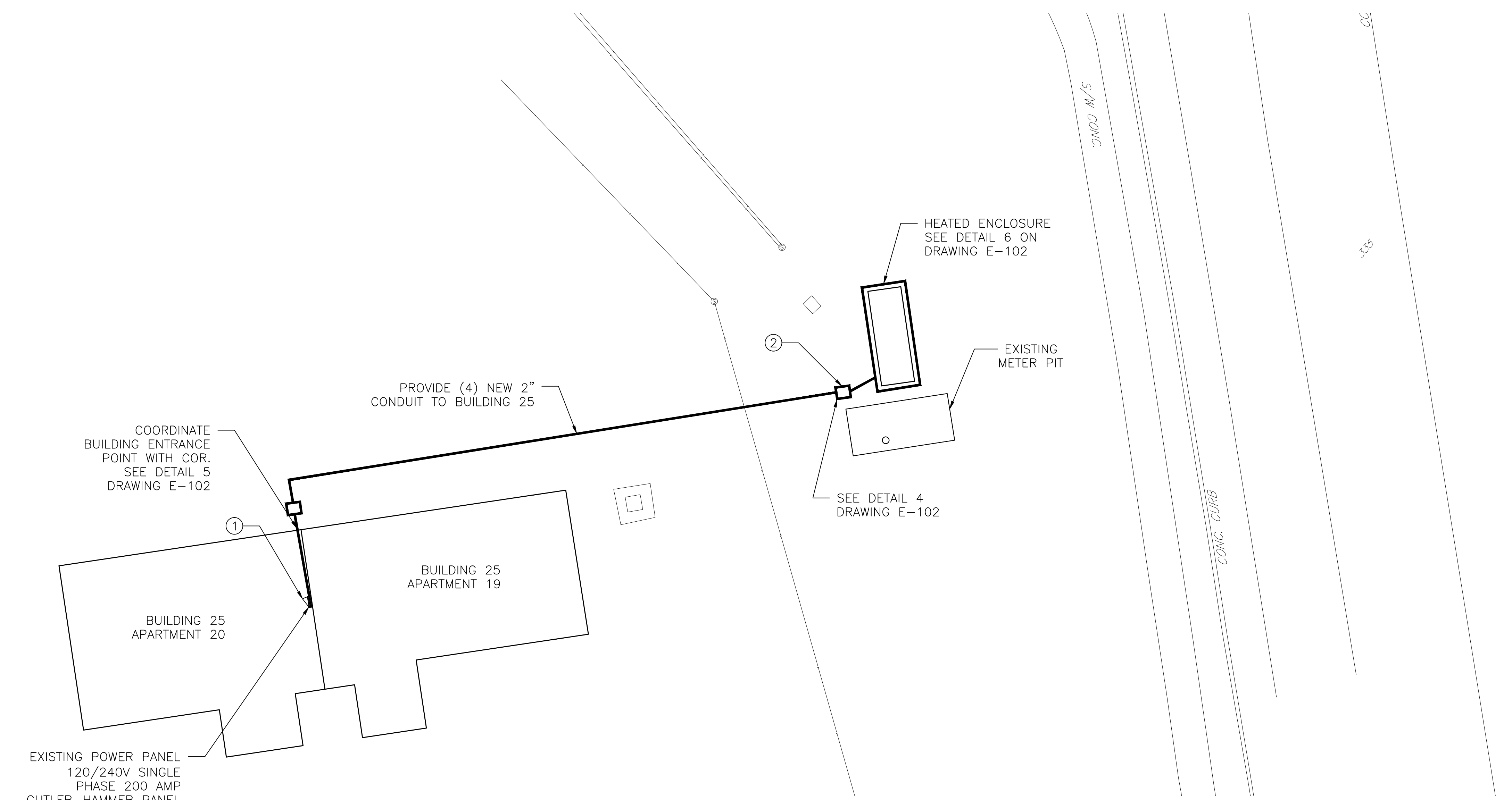


KEY PLAN  
SCALE: NO SCALE

CONSTRUCTION DOCUMENTS

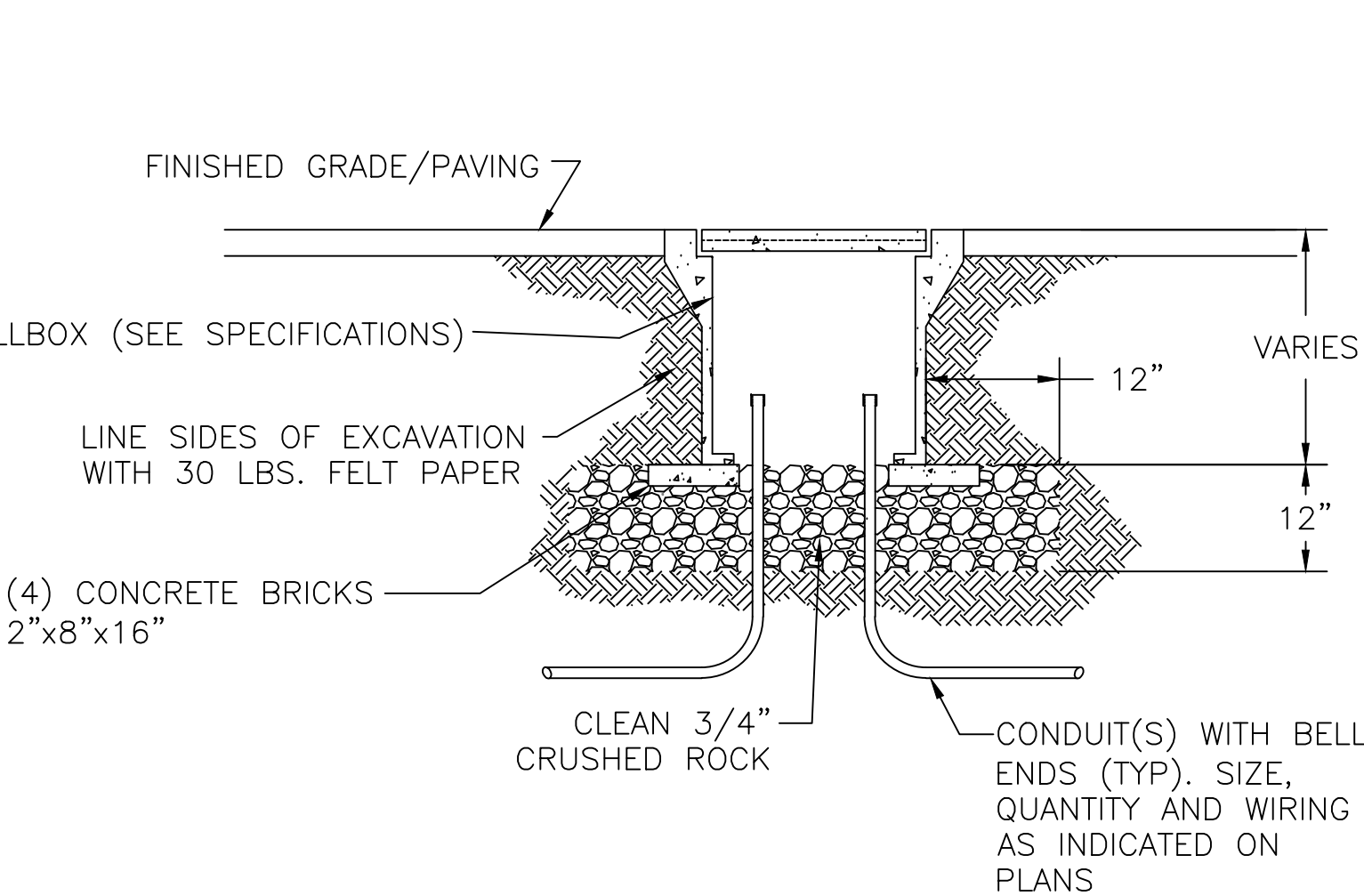
<b>CONSULTANTS:</b>  49 South Main Street Suite 200 Pittston, PA 18640 tel: 570.654.2473 fax: 570.654.0880 www.reillyengineering.com		<b>ARCHITECT/ENGINEERS:</b>  NORTHEAST INFRASTRUCTURE, LLC 1100 CHURCH STREET HONOLULU, HI 96813 570-253-0846 OFFICE 570-253-1935 FAX WWW.NEINFRA.COM		<b>Drawing Title</b> ELECTRICAL WASTEWATER TREATMENT PLANT FLOOR PLANS <b>Approved Project Director</b> VA NJHCS PLANNING AND ENGINEERING		<b>Project Title</b> MODERNIZE WASTEWATER TREATMENT PLANT <b>Location</b> 151 KNOLL CROFT ROAD, LYONS, NJ <b>Date</b> 07/19/2018 <b>Checked</b> D.L.E. <b>Drawn</b> D.J.P.		<b>Project Number</b> 561A4-13-108 <b>Building Number</b>  <b>Drawing Number</b> E-101 Dwg. 33 of 38		<b>Office of Construction and Facilities Management</b> 	
---	--	--	--	--	--	---	--	--	--	---	--

three inches = one foot  
one and one half inches = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot

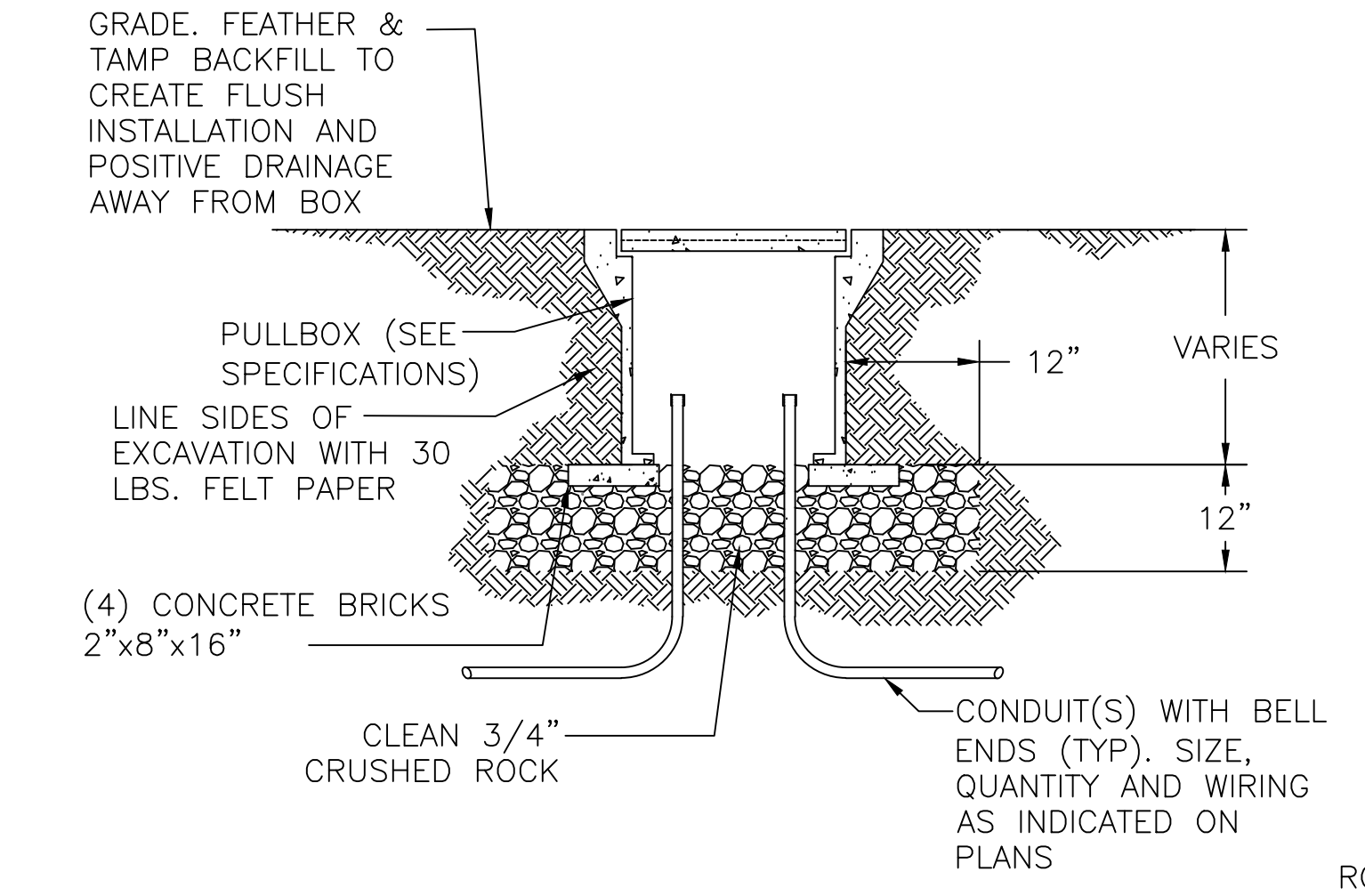


1  
E-102  
SCALE: 1"=10'

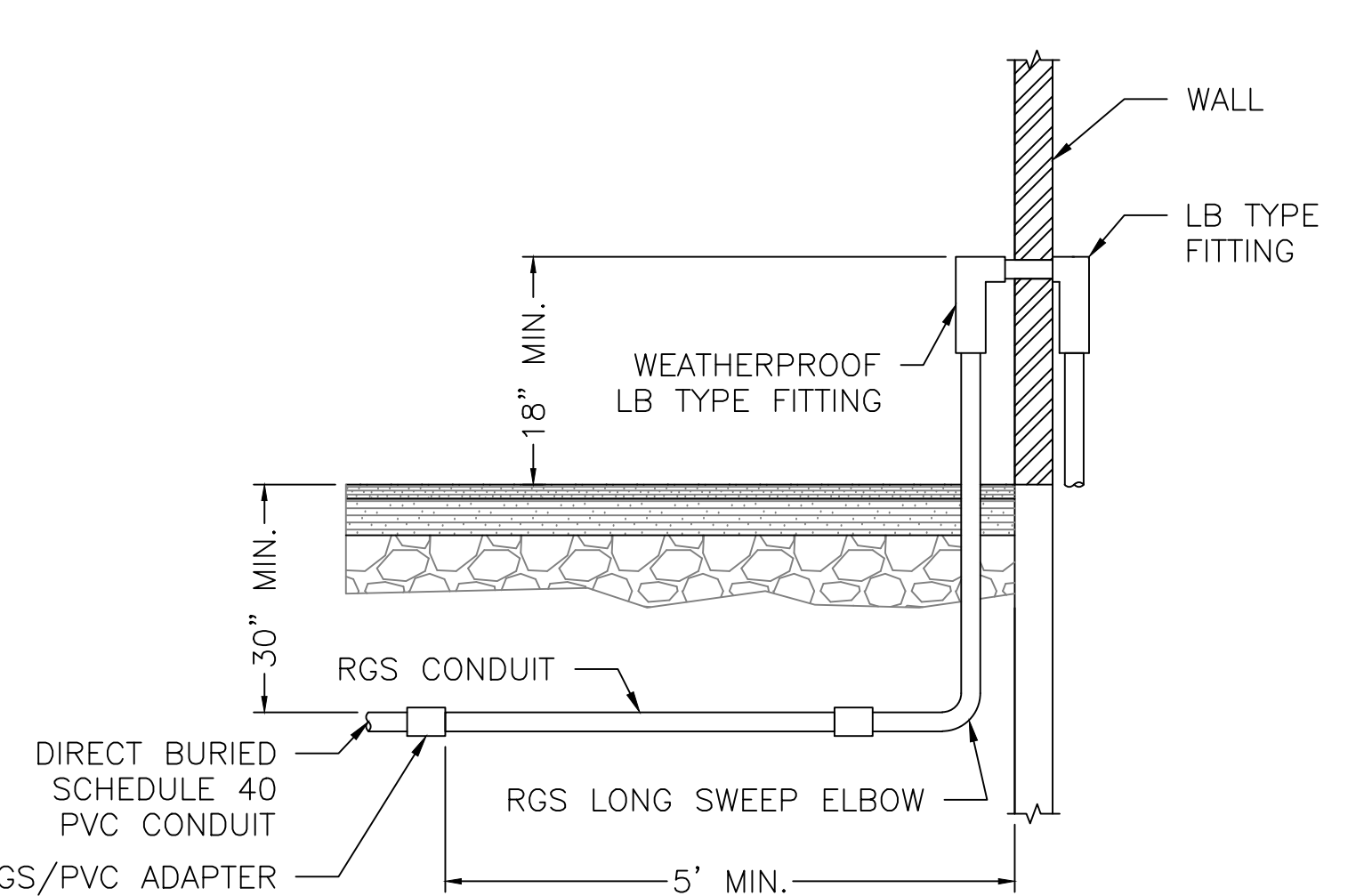
- KEYED NOTES - DETAIL 1
- 1. PROVIDE TWO 25 AMP AND ONE 20 AMP SINGLE POLE BREAKERS #8 CONDUCTORS #8 GROUND FOR HEATERS. PROVIDE ONE 20 AMP SINGLE POLE BREAKER #10 CONDUCTORS #10 GROUND FOR LIGHTING AND RECEPTACLE. PROVIDE ONE 20 AMP SINGLE POLE BREAKER #10 CONDUCTORS #10 GROUND FOR ENCLOSURE ALARM SYSTEM.
  - 2. PROVIDE 2 PULL BOXES MINIMUM, LOCATE 1 PULLBOX WITHIN 1829mm (6') OF THE ENCLOSURE AND 1 PULLBOX WITHIN 1829mm (6') OF ENTERING BUILDING 25.



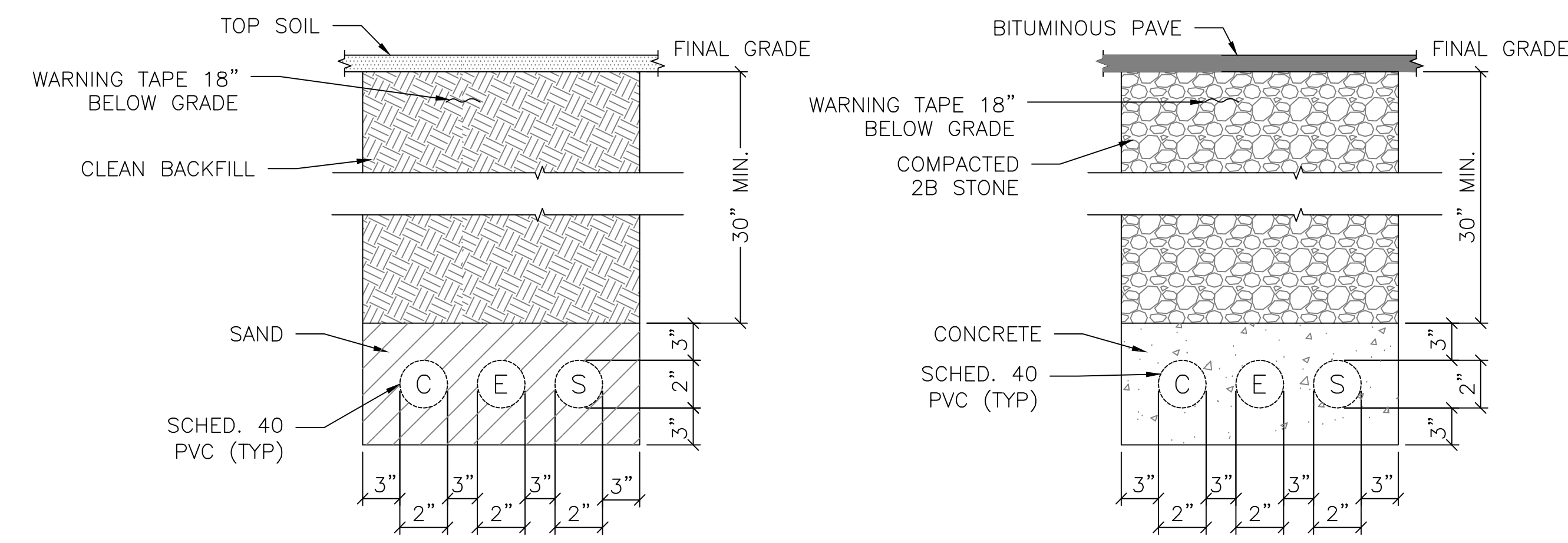
3  
E-102  
SCALE: NOT TO SCALE



4  
E-102  
SCALE: NOT TO SCALE

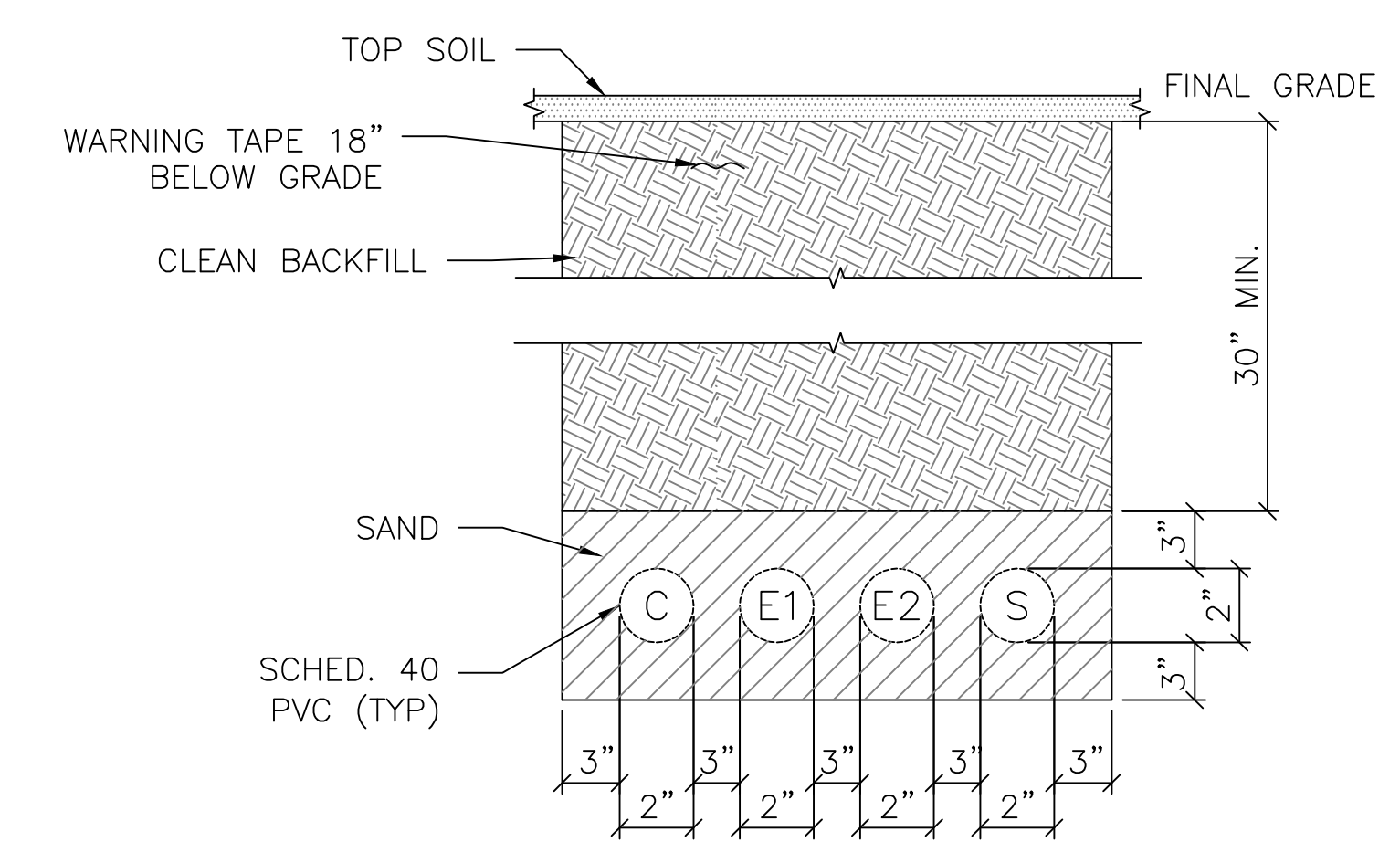


5  
E-102  
SCALE: NOT TO SCALE



- \*\* QUANTITY AND SIZE OF CONDUIT PER PLAN.  
\*\*\* CONDUITS IN SAND FOR GRASS/DIRT AREAS
- \*\* QUANTITY AND SIZE OF CONDUIT PER PLAN.  
\*\*\* CONDUITS IN CONCRETE UNDER ALL PAVED AREAS

CONDUIT RUN FROM BUILDING 54  
SCALE: NOT TO SCALE

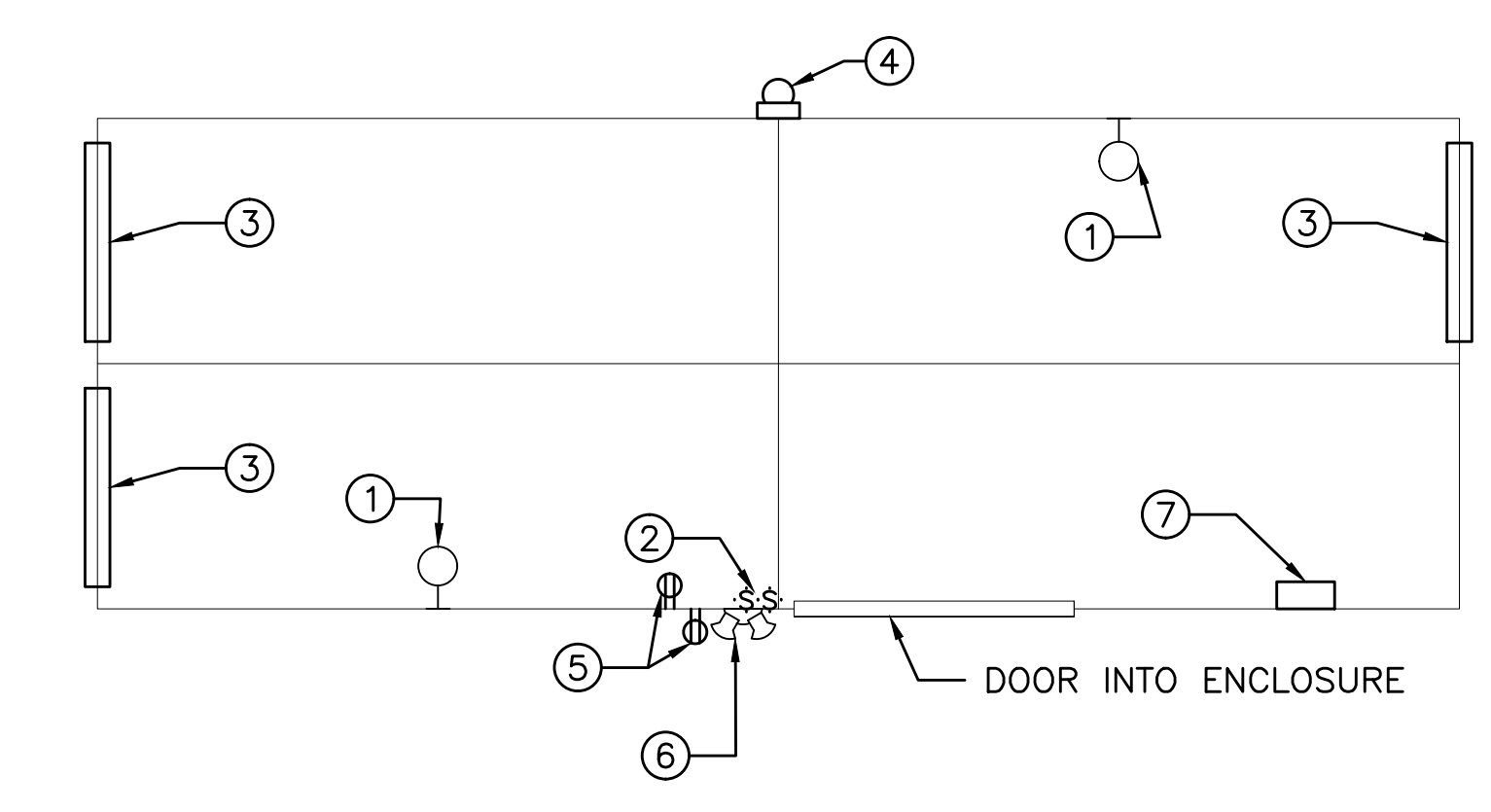


- \*\* QUANTITY AND SIZE OF CONDUIT PER PLAN.  
\*\*\* CONDUITS IN SAND FOR GRASS/DIRT AREAS

CONDUIT RUN FROM BUILDING 25  
SCALE: NOT TO SCALE

- SYMBOLS LIST
- (C) COMMUNICATION
  - (E) POWER
  - (E1) CIRCUITS FOR (2) 1900W HEATERS
  - (E2) CIRCUIT FOR 1000W HEATER
  - (E3) CIRCUIT FOR LIGHTS & RECEPTACLES
  - (S) SPARE

2  
E-102  
SCALE: NOT TO SCALE



6  
E-102  
SCALE: 1/2"=1'-0"

KEYED NOTES: DETAIL 6

- 1. PROVIDE (2) INTERIOR WALL MOUNTED VAPORTITE LED 11 WATTS, 120-277 VOLT, 757 LUMENS. MOUNT 6'-6" OFF FINISHED FLOOR.
- 2. PROVIDE W.P. SWITCH FOR INTERIOR AND EXTERIOR LIGHTING. LOCATE SWITCH NEAR SERVICE DOOR ENTRANCE.
- 3. PROVIDE DEDICATED CIRCUIT TO (3) ELECTRICAL HEATERS, HEATERS PROVIDED BY BOX SUPPLIER. COORDINATE FINAL LOCATION WITH MANUFACTURER. SEE DRAWING CW-102 DETAIL 3 FOR ADDITIONAL INFORMATION.
- 4. PROVIDE AUDIO/VISUAL ALARM FOR LOW TEMPERATURE CONDITIONS. PROVIDE CIRCUIT, #12 CONDUCTORS, #12 GROUND, IN 3/4" CONDUIT UNLESS SPECIFIED OTHERWISE.
- 5. PROVIDE (2) 20 AMP WHILE IN USE GFCI WEATHER PROOF RECEPTACLES.
- 6. PROVIDE ONE EXTERIOR WALL MOUNTED COMPACT LED WALLPACK, 2000 LUMENS 21 WATTS. MOUNT 6'-8" OFF FINISHED PAD.
- 7. FOR VALLEY ROAD ENCLOSURE, PROVIDE PANEL. COORDINATE LOCATION WITH EQUIPMENT AND RPZ. MAINTAIN MINIMUM 3' CLEARANCE IN FRONT OF PANEL.

- NOTES DETAIL 6:
- 1. REFERENCE DRAWING CW-101 AND CW-102 FOR DIMENSIONS.

- CONSTRUCTION NOTES
- 1. SEE DRAWING E-001 FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.
  - 2. COORDINATE WITH DRAWING CW-102.

CONSTRUCTION DOCUMENTS			
Project Title <b>MODERNIZE WASTEWATER TREATMENT PLANT</b>		Project Number 561A4-13-108	
Location 151 KNOLL CROFT ROAD, LYONS, NJ		Building Number	
Date 07/19/2018	Checked D.L.E.	Drawn D.J.P.	Drawing Number <b>E-102</b>
Dwg. 34 of 38			Office of Construction and Facilities Management Department of Veterans Affairs

CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title		Project Title		Project Number	
 49 South Main Street Suite 200 Pittston, PA 18640 tel: 570.654.2473 fax: 570.654.4880 www.reillyengineering.com		 NORTHEAST INFRASTRUCTURE, LLC 1100 CHURCH STREET HONESDALE, PA 18431 570-253-0846 OFFICE 570-253-1935 FAX WWW.NEINFRA.COM		ELECTRICAL WATER ENTRANCE LOCATED NEAR BUILDINGS 19 AND 25		MODERNIZE WASTEWATER TREATMENT PLANT		561A4-13-108	
Revisions:				Approved Project Director VA NJHCS PLANNING AND ENGINEERING		Location 151 KNOLL CROFT ROAD, LYONS, NJ		Building Number	
Date						Date 07/19/2018		Drawing Number <b>E-102</b>	





three inches = one foot  
one and one half inches = one foot  
one inch = one foot  
one half inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
one eighth inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot  
one eighth inch = one foot

EXISTING MCC SCHEDULE		
SECTION	EXISTING DESCRIPTION	NEW DESCRIPTION
1A	POWER PANEL B C.B. AND BELT FILTER CONTROLS	-
1E	SCUM MIXER	-
1I	EAST LEFT CL. BOOSTER 2	-
1M	WEST RIGHT CHLORINE INJECTOR PUMP BOOSTER 1	-
1Q	SPACE	-
2A	FILTRATE PUMP C.B. AND SPARE C.B.	-
2E	AIR HANDLING UNIT HV-1	-
2I	CL 2 ROOM EXHAUST FAN EF-2	-
2M	CHLORINE STORAGE EXHAUST FAN EX-2	-
2Q	SPACE	RP-1 15 AMP 3 POLE AND RP-2 15 AMP 3 POLE
2U	SPACE	RP-3 15 AMP 3 POLE AND AC-1 30 AMP 3 POLE
3A	INCOMING MAIN DISCONNECT SWITCH	-
4A	SCUM PUMP 15 AMP	-
4E	NORMAL EMERGENCY C.B.	-
4M	NORMAL 14I TS1	-
5A	C.B. SOUTH TRAVELING BRIDGE 1 AND C.B. TRAVELING BRIDGE NORTH EACH 30 AMPS	TRAVELING BRIDGE NORTH, TRAVELING BRIDGE SOUTH (2) 30 AMP 3 POLE CIRCUIT BREAKER
5E	NORTH PLANT SEWER PUMP 7 AMPS	-
5I	FINAL CLARIFIER 2 NORTH	FINAL CLARIFIER 2 NORTH - 15 AMP CIRCUIT BREAKER AND MOTOR STARTER FOR FINAL CLARIFIERS SIZE NEMA 00
5M	SPARE	-
5Q	EMERGENCY DISCONNECT SWITCH	-
6A	TRANSFORMER C.B. 50AMP AND SPARE C.B.	-
6E	SOUTH PLANT SEWER PLANT PUMP 1, 7 AMPS	-
6I	FINAL CLARIFIER 1	FINAL CLARIFIER 1 SOUTH - 15 AMP CIRCUIT BREAKER AND MOTOR STARTER FOR FINAL CLARIFIERS SIZE NEMA 00
6M	WEST RIGHT PLANT WATER PUMP 1	-
6Q	COMMUNUTOR	CO-1, 15 AMP 3 POLE
6U	PLANT WATER PUMP 2	-
7A	PLANT AIR BLOWER 2	PLANT AIR BLOWER 2 - NEW, 125 AMP
8A	PLANT AIR BLOWER 1	PLANT AIR BLOWER 1 - NEW, 125 AMP

KEYED ONE LINE NOTES:

- ① 3-#10 CONDUCTORS, #10 GROUND, AND CONTROL WIRING IN 1" CONDUIT.  
② 3-#12 CONDUCTORS AND #12 GROUND IN 3/4" CONDUIT.  
③ #12 VFD CABLE IN 1-1/2" CONDUIT.  
④ 3-#10 CONDUCTORS AND #10 GROUND IN 1" CONDUIT.  
⑤ 3-#10 CONDUCTORS AND #10 GROUND, PROVIDE FESTOON WIRING.  
⑥ 3-#1/0 CONDUCTORS, #6 GROUND, IN 2" CONDUIT.  
⑦ 3-#8 CONDUCTORS AND #10 GROUND, IN A 1" CONDUIT.  
⑧ 3-#12 CONDUCTORS AND #12 GROUND IN 3/4" CONDUIT.

PROVIDE NEW CIRCUIT BREAKER AND MOTOR STARTER FOR FINAL CLARIFIERS SIZE NEMA 00

PROVIDE NEW CIRCUIT BREAKER AND MOTOR STARTER FOR PLANT AIR BLOWER 2 SIZE NEMA 5

PROVIDE NEW CIRCUIT BREAKER AND MOTOR STARTER FOR PLANT AIR BLOWER 1 SIZE NEMA 5

PROVIDE (2) 15AMP CIRCUIT BREAKERS (1) FOR COMMUNUTOR AND (1) SPARE

EXISTING MCC ELEVATION

E-201

SCALE:NOT TO SCALE

PARTIAL ONE LINE DIAGRAM

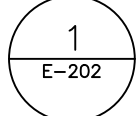
E-201

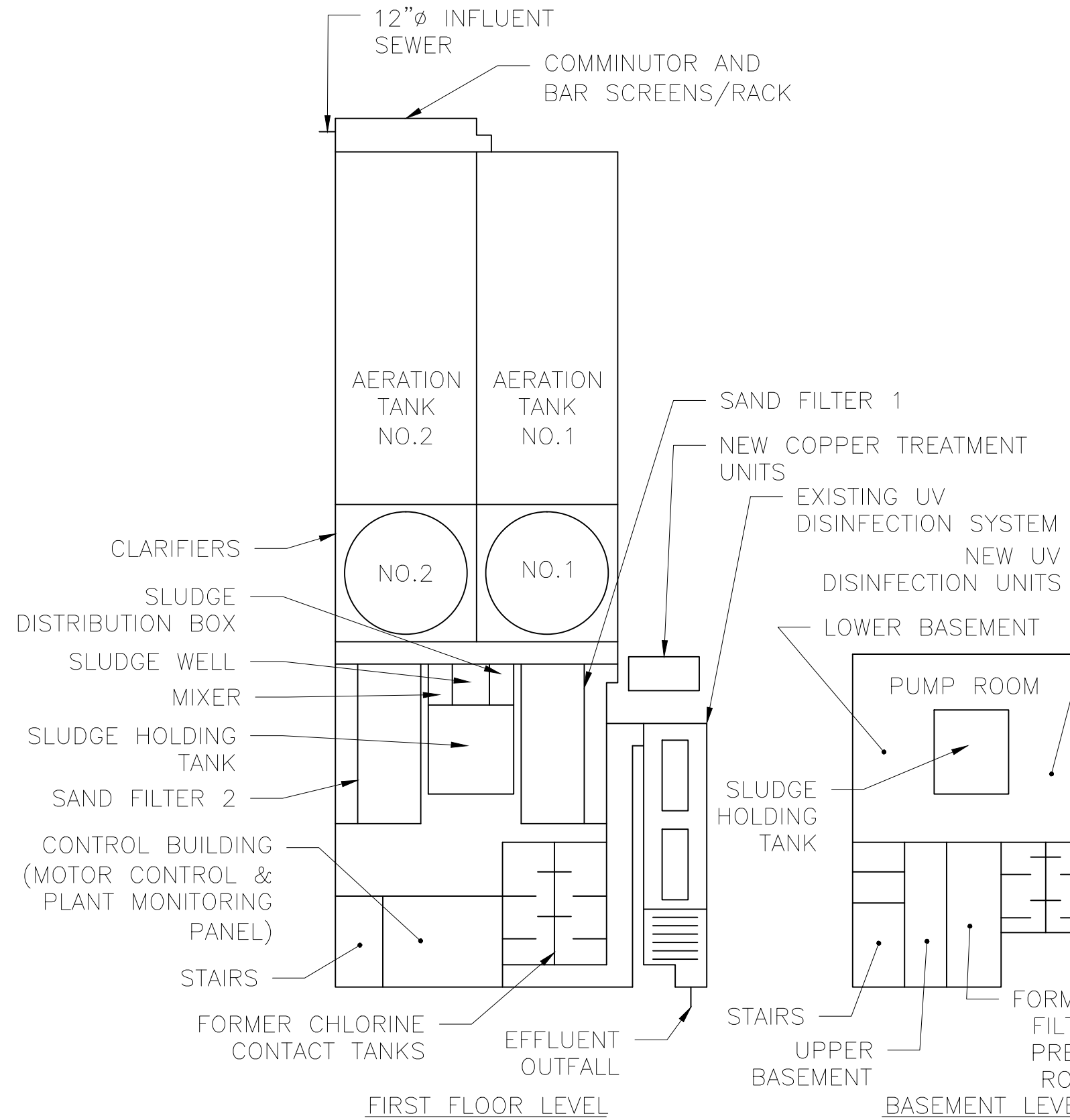
SCALE:NOT TO SCALE

ONE LINE KEY

- POWER  
- - - - - CONTROL

ONE LINE GENERAL NOTE

1. CONTRACTOR SHALL PROVIDE A SHOP DRAWING THAT INCLUDES ALL POWER CONDUCTORS, CONTROL WIRING, CONDUIT AND MCC COMPONENTS. CONTRACTOR MUST INCLUDE ALL CONTROL COMPONENTS AS SPECIFIED AND PROVIDE EQUIPMENT NECESSARY TO PROVIDE SEQUENCE OF OPERATIONS OF EACH PIECE OF EQUIPMENT PER SPECIFICATIONS.  
2. ALL ENCLOSURES SHALL BE NEMA 4X.  
3. SEE  FOR BRIDGE CONTROL DRAWING.



KEY PLAN

SCALE:NO SCALE

CONSTRUCTION DOCUMENTS

-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
Revisions:	Date

CONSULTANTS:



49 South Main Street  
Suite 200  
Pittston, PA 18640  
tel: 570.654.2473  
fax: 570.654.0880  
www.reillyengineering.com

ARCHITECT/ENGINEERS:



NORTHEAST INFRASTRUCTURE, LLC  
1100 CHURCH STREET HONESDALE, PA 18431  
570-253-0846 OFFICE 570-253-1935 FAX  
WWW.NEINFRA.COM

Drawing Title  
ELECTRICAL DETAILS AND SCHEDULES FOR WASTEWATER TREATMENT PLANT

Approved Project Director  
-  
VA NJHCS PLANNING AND ENGINEERING

Project Title  
MODERNIZE WASTEWATER TREATMENT PLANT

Location  
151 KNOLL CROFT ROAD, LYONS, NJ  
Date  
07/19/2018  
Checked  
D.L.E.  
Drawn  
D.J.P.

Project Number  
561A4-13-108

Building Number

Drawing Number

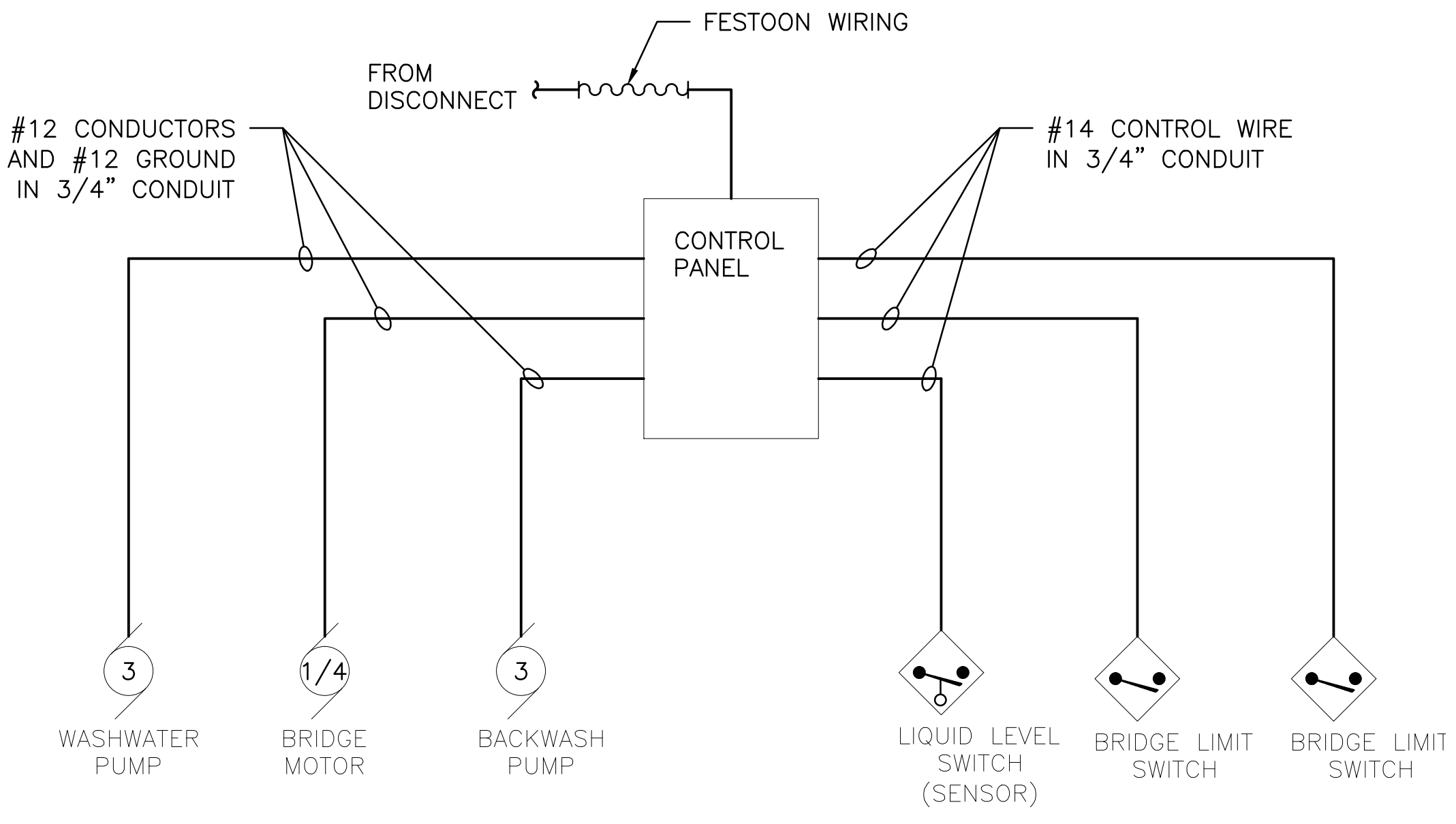
E-201

Dwg. 36 of 38

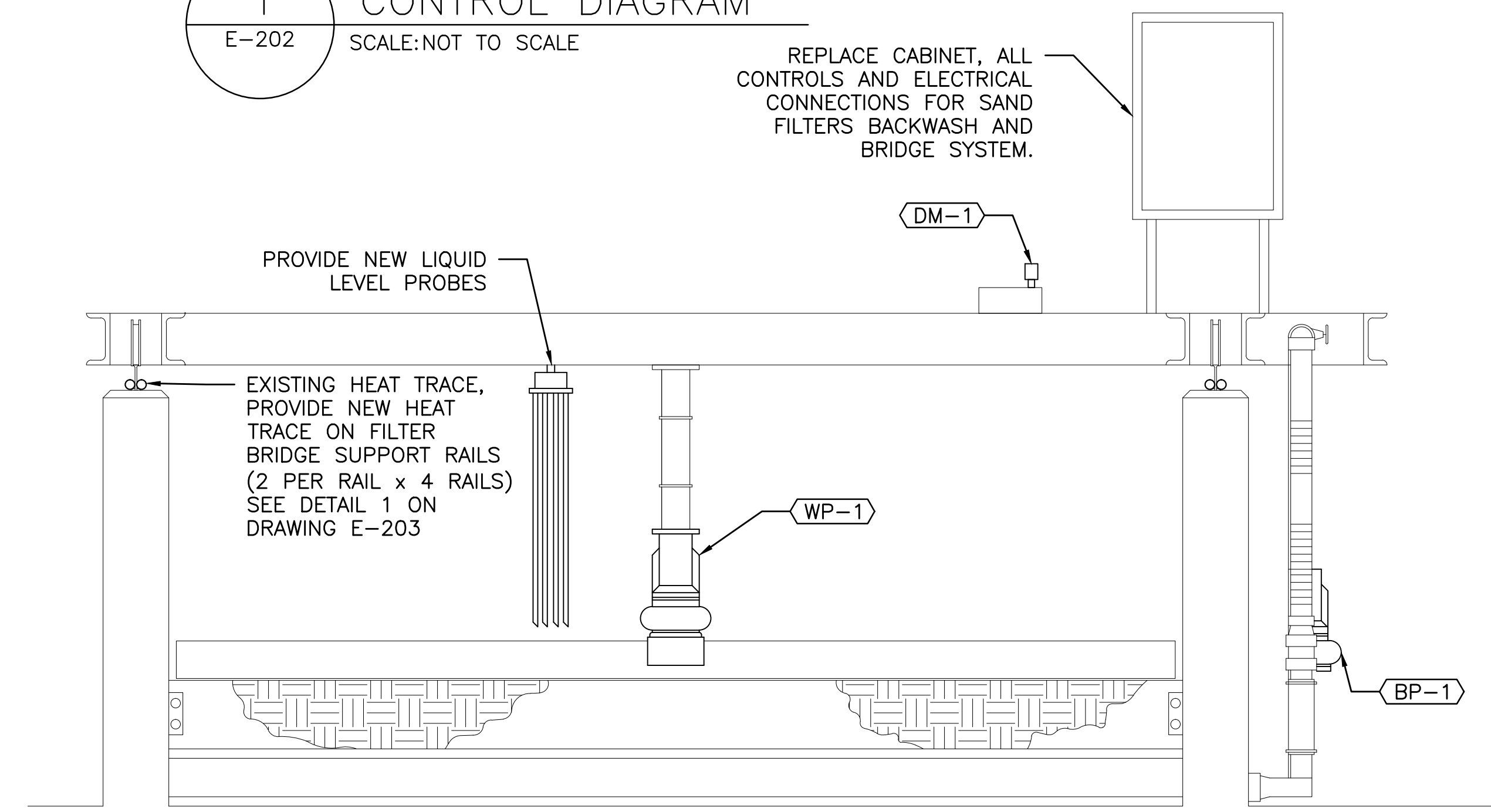
Office of  
Construction  
and Facilities  
Management



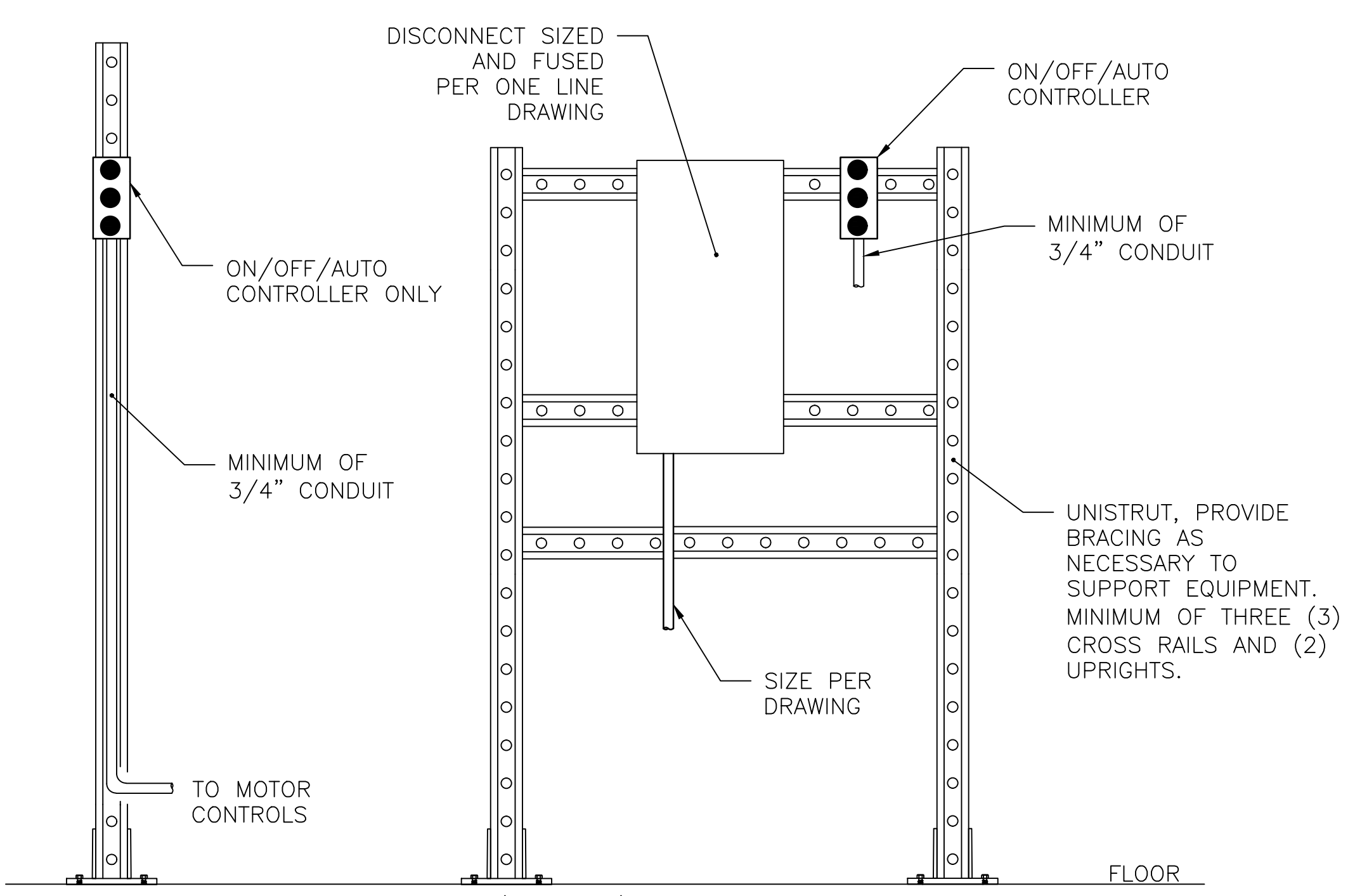
A  
three inches = one foot  
1  
one and one half inches = one foot  
6"  
B  
one inch = one foot  
0  
6"  
C  
one inch = one foot  
0  
6"  
three quarters inch = one foot  
2  
0  
6"  
D  
one half inch = one foot  
0  
6"  
E  
three eighths inch = one foot  
4  
0  
6"  
F  
one quarter inch = one foot  
8  
0  
6"  
one eighth inch = one foot  
16  
0  
6"



1  
E-202  
SAND FILTER BRIDGE  
CONTROL DIAGRAM  
SCALE: NOT TO SCALE



2  
E-202  
ELECTRICAL  
SECTION A-A  
SCALE: NOT TO SCALE  
GENERAL NOTE  
1. SEE ELECTRICAL DRAWING E-101  
DETAIL 2 OF SAND FILTER.



3  
E-202  
TYPICAL ON/OFF/AUTO AND  
DISCONNECT/CONTROLS - SUPPORT SYSTEM  
SCALE: NOT TO SCALE

PANELBOARD SCHEDULE																											
DESIGNATION:					BUS: 100A CU					VOLTAGE: 208 / 120 V 3ø 4W					LOCATION: BASEMENT												
SUB PANEL C					MAIN: 60A BREAKER					INTERRUPTING RATING: MATCH PANEL A					FED BY: MOUNTING: SURFACE												
					TYPE: SQUARE D NF DOOR ON DOOR OR EQUAL					ENCLOSURE: NEMA 1																	
CKT NO	POLE	TRIP	WIRE	G	LOAD	KVA ~ A	KVA ~ B	KVA ~ C	LOAD	G	WIRE	TRIP	POLE	CKT NO													
1	1	20	12	12	CHEMICAL FEEDER CF-1	0.70	0.95	---	UV DISINFECTION UV-1	12	12	20	3	2													
3	1	20	12	12	CHEMICAL FEEDER CF-2	---	---	0.70	0.95	---	/	/	12	/	4												
5	1	15	12	12	COMPRESSOR DRYER CD-1	---	---	---	0.50	0.95	/	/	12	/	6												
7	1	20	12	12	COMPRESSOR CONTROL PANEL	0.50	0.95	---	UV DISINFECTION UV-2	12	12	20	3	8													
9	1	20	12	12	PLANT MONITORING PANEL	---	0.50	0.95	---	/	/	12	/	10													
11	1	20	\	\	SPARE	---	---	0.00	0.95	/	/	12	/	12													
13	1	20	\	\	SPARE	0.00	0.18	---	---	FLOW METER	12	12	20	1	14												
15	1	20	\	\	SPARE	---	0.00	0.00	---	SPARE	/	/	20	1	16												
17	1	20	\	\	SPARE	---	---	0.00	0.00	SPARE	/	/	20	1	18												
19	\	\	\	\	SPACE	0.00	0.00	---	---	SPACE	/	/	/	/	20												
21	\	\	\	\	SPACE	---	0.00	0.00	---	SPACE	/	/	/	/	22												
23	\	\	\	\	SPACE	---	---	0.00	0.00	SPACE	/	/	/	/	24												
CONNECTED KVA PER PHASE						3.28	3.10	2.40																			
TOTAL CONNECTED KVA										8.78		TOTAL DEMAND AMPERES										19.50					
TOTAL DEMAND KVA 80 %										7.02																	

PANELBOARD SCHEDULE																				
DESIGNATION: VALLEY ROAD PANEL					BUS: 100A CU MAIN: 60A BREAKER TYPE: SQUARE D NF DOOR ON DOOR OR EQUAL					VOLTAGE: 208 / 120 V 3ø 4W INTERRUPTING RATING: ENCLOSURE: NEMA 3R					LOCATION: FED BY: BUILDING 54 MOUNTING: SURFACE					
CKT NO	POLE	TRIP	WIRE	G	LOAD	KVA ~ A	KVA ~ B	KVA ~ C	LOAD	G	WIRE	TRIP	POLE	CKT NO						
1	1	20	10	10	1000W -- HEATER 1	1.00	0.54	----	RECEPTACLES AND LIGHTING	12	12	20	1	2						
3	1	25	10	10	1900W -- HEATER 2	----	1.90	0.03	----	SPARE	/	/	20	1	4					
5	1	25	10	10	1900W -- HEATER 3	----	----	1.90	0.00	SPARE	/	/	20	1	6					
7	1	20	12	12	ALARM	0.50	0.00	----	SPACE	/	/	/	/	8						
9	\	\	\	\	SPACE	----	0.00	0.00	SPACE	/	/	/	/	10						
11	\	\	\	\	SPACE	----	----	0.00	0.00	SPACE	/	/	/	12						
CONNECTED KVA PER PHASE						2.04	1.93	1.90												
TOTAL CONNECTED KVA									5.87	TOTAL DEMAND AMPERES										13.03
TOTAL DEMAND KVA 80 %									4.70											

NEW WASTE WATER TREATMENT ELECTRICAL EQUIPMENT SCHEDULE											
EQUIPMENT INFORMATION			POWER REQUIREMENTS					CONTROLS			
TAG	DESCRIPTION	LOCATION	H.P. / WATTAGE	AMPS	VOLTAGE / PHASE	CONNECTION TYPE	FEED FROM	CONTROL TYPE	CONTROL LOCATION(S)	CONTROL VOLTAGE	FAIL SIGNAL TO ANNUNCIATOR PANEL
BP-1	BACKWASH PUMP	SAND FILTER 1	3 H.P.	4.8 AMPS	480V/3ø	CIRCUIT BREAKER IN MCC, LOCAL CONTROL PANEL	MCC-5A	CONTROL PANEL	LOCAL	120V	YES
WP-1	WASHWATER PUMP		3 H.P.	4.8 AMPS	480V/3ø						
DM-1	BRIDGE DRIVE MOTOR		1/4 H.P.	0.65 AMPS	480V/3ø						
HT-1	HEAT TRACE	SAND FILTER 1 AND 2	7.2 KW	8.66 AMPS	480V/3ø	CIRCUIT BREAKER	LP-B	CONTROL PANEL	LOCAL	24V	YES
BP-2	BACKWASH PUMP	SAND FILTER 2	3 H.P.	4.8 AMPS	480V/3ø	CIRCUIT BREAKER IN MCC, LOCAL CONTROL PANEL	MCC-5A	CONTROL PANEL	LOCAL	120V	YES
WP-2	WASHWATER PUMP		3 H.P.	4.8 AMPS	480V/3ø						
DM-2	BRIDGE DRIVE MOTOR		1/4 H.P.	0.65 AMPS	480V/3ø						
CF-1	COPPER FILTER	SOUTHSIDE OF PLANT - OUTSIDE	/	/	/	/	/	PNEUMATIC	LOCAL	LOCAL	NO
RP-1	COPPER REMOVAL PUMP	BASEMENT - COPPER REMOVAL TANK PUMPS	5 H.P.	7.6 AMPS	480V/3ø	CIRCUIT BREAKER IN MCC, V.F.D. CONTROL CABINET AT PUMPS	MCC-1Q	CONTROL PANEL	LOCAL	120V	YES
RP-3	COPPER REMOVAL PUMP		5 H.P.	7.6 AMPS	480V/3ø		MCC-2Q				
RP-3	COPPER REMOVAL PUMP		5 H.P.	7.6 AMPS	480V/3ø		MCC-2U				
CO-1	COMMUNUTOR	FRONT OF PLANT - BAR SCREEN	5 H.P.	7.6 AMPS	480V/3ø	CIRCUIT BREAKER IN MCC, LOCAL CONTROL PANEL	MCC-6Q	CONTROL PANEL	LOCAL - WITH MOTOR STARTER	120V	YES
UV-1	UV DISINFECTION	BASEMENT	2.8 KW	14.4 AMPS	277V/1ø	CIRCUIT BREAKER IN PANEL, LOCAL CONTROL PANEL	SUB PANEL C	CONTROL PANEL	LOCAL	120V	YES
UV-2	UV DISINFECTION	BASEMENT	2.8 KW	14.4 AMPS	277V/1ø		SUB PANEL C				
CF-1	CHEMICAL FEEDER	GROUND FLOOR/OLD FILTER PRESS ROOM	1/5 H.P.	5.8 AMPS	110V/1ø	CIRCUIT BREAKER IN PANEL, LOCAL CONTROL PANEL	SUB PANEL C	CONTROL PANEL	LOCAL	120V	NO
CF-2	CHEMICAL FEEDER	GROUND FLOOR/OLD FILTER PRESS ROOM	1/5 H.P.	5.8 AMPS	110V/1ø		SUB PANEL C	CONTROL PANEL	LOCAL	120V	NO
AC-1	AIR COMPRESSOR	GROUND FLOOR/OLD FILTER PRESS ROOM	(2) 5 H.P.	(1) @ 7.6 AMPS	480V/3ø	CIRCUIT BREAKER IN PANEL, LOCAL CONTROL PANEL	MCC-2U	LOCAL	LOCAL- WITH MOTOR STARTER	120V	NO
BM-1	BLOWER MOTOR	BASEMENT	75 H.P.	96 AMPS	480V/3ø	MOTOR STARTER IN MCC AND LOCAL CONTROLS	MCC-7A	PUSH BUTTON	MCC - PUSH BUTTON AT UNIT	120V	YES
BM-2	BLOWER MOTOR	BASEMENT	75 H.P.	96 AMPS	480V/3ø	MOTOR STARTER IN MCC AND LOCAL CONTROLS	MCC-8A	PUSH BUTTON	MCC - PUSH BUTTON AT UNIT	120V	YES
FC-1	FINAL CLARIFIER	FIRST FLOOR	1/2 H.P.	2.1 AMPS	480V/3ø	MOTOR STARTER IN MCC AND LOCAL CONTROLS	MCC-5I	CONTROL PANEL	LOCAL - WITH MOTOR STARTER	120V	YES
FC-2	FINAL CLARIFIER	FIRST FLOOR	1/2 H.P.	2.1 AMPS	480V/3ø	MOTOR STARTER IN MCC AND LOCAL CONTROLS	MCC-6I	CONTROL PANEL	LOCAL - WITH MOTOR STARTER	120V	YES
FM-1	MAGNETIC FLOW METER	BASEMENT	180W	1.5 AMPS	120V/1ø	CIRCUIT IN PANEL	SUB PANEL C	SIGNAL OUT TO COPPER SYSTEM ONLY.	LOCAL	120V	YES

CONSTRUCTION NOTES  
1. SEE DRAWING E-001 FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

CONSTRUCTION DOCUMENTS

Drawing Title  
ELECTRICAL DETAILS AND SCHEDULES FOR WASTEWATER TREATMENT PLANT

Approved Project Director  
-  
VA NUHCS PLANNING AND ENGINEERING

Project Title  
MODERNIZE WASTEWATER TREATMENT PLANT

Location  
151 KNOLL CROFT ROAD, LYONS, NJ

Date  
07/19/2018

Checked  
D.L.E.

Drawn  
D.J.P.

Project Number  
561A4-13-108

Building Number

Drawing Number  
E-202

Dwg 37 of 38

Office of Construction and Facilities Management

Department of Veterans Affairs

Reilly ASSOCIATES, INC. ENGINEERING / ENVIRONMENTAL / SURVEYING  
49 South Main Street  
Suite 200  
Pittston, PA 18640  
tel: 570.654.2473  
fax: 570.654.0880  
www.reillyengineering.com

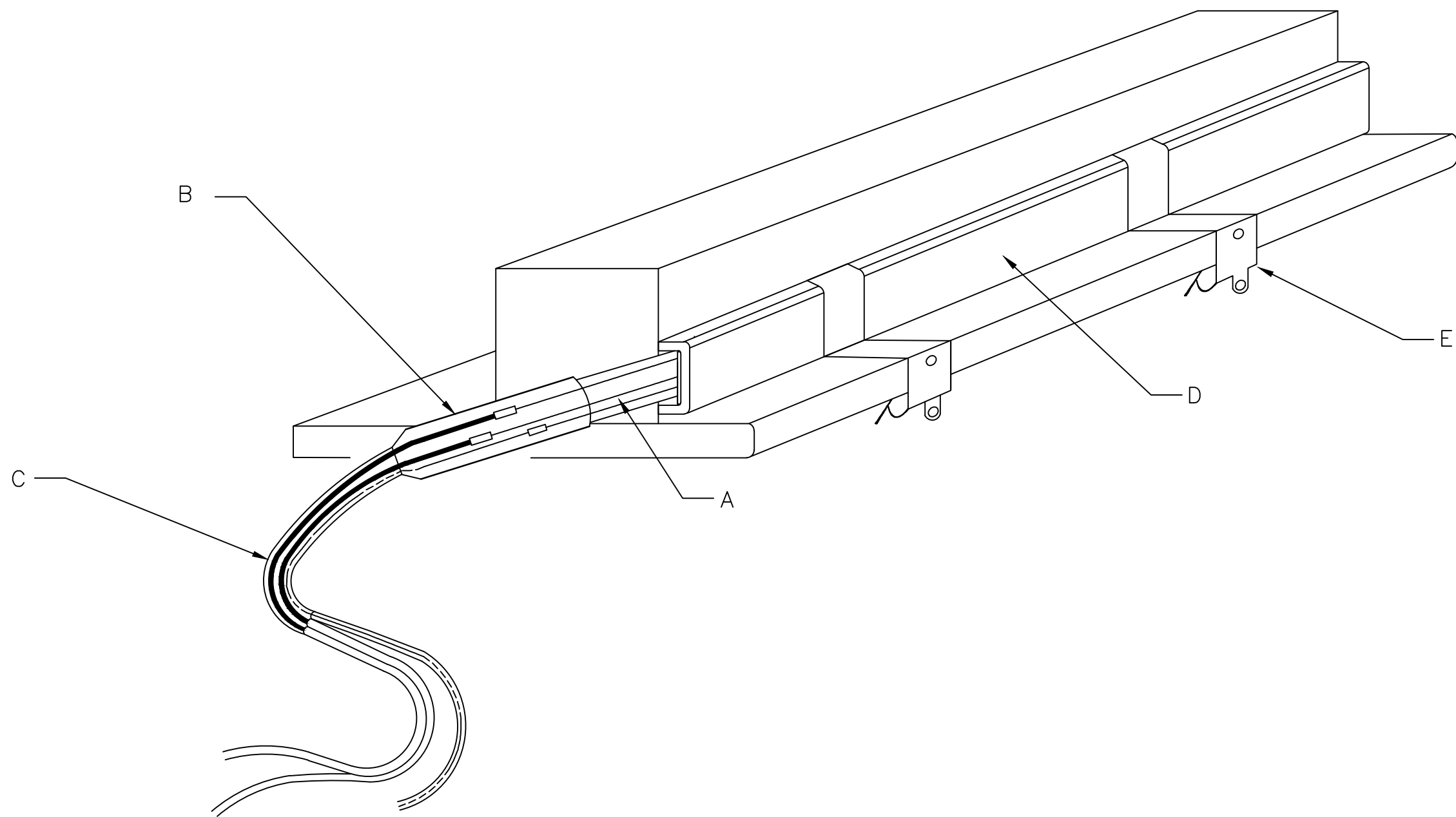
ARCHITECT/ENGINEERS:  
ONEI  
NORTHEAST INFRASTRUCTURE, LLC  
1100 CHURCH STREET HONESDALE, PA 18431  
570-253-0846 OFFICE 570-253-1935 FAX  
WWW.NEINFRA.COM

VA FORM 08-6231



three inches = one foot  
one and one half inches = one foot  
one inch = one foot  
one half inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot  
one eighth inch = one foot

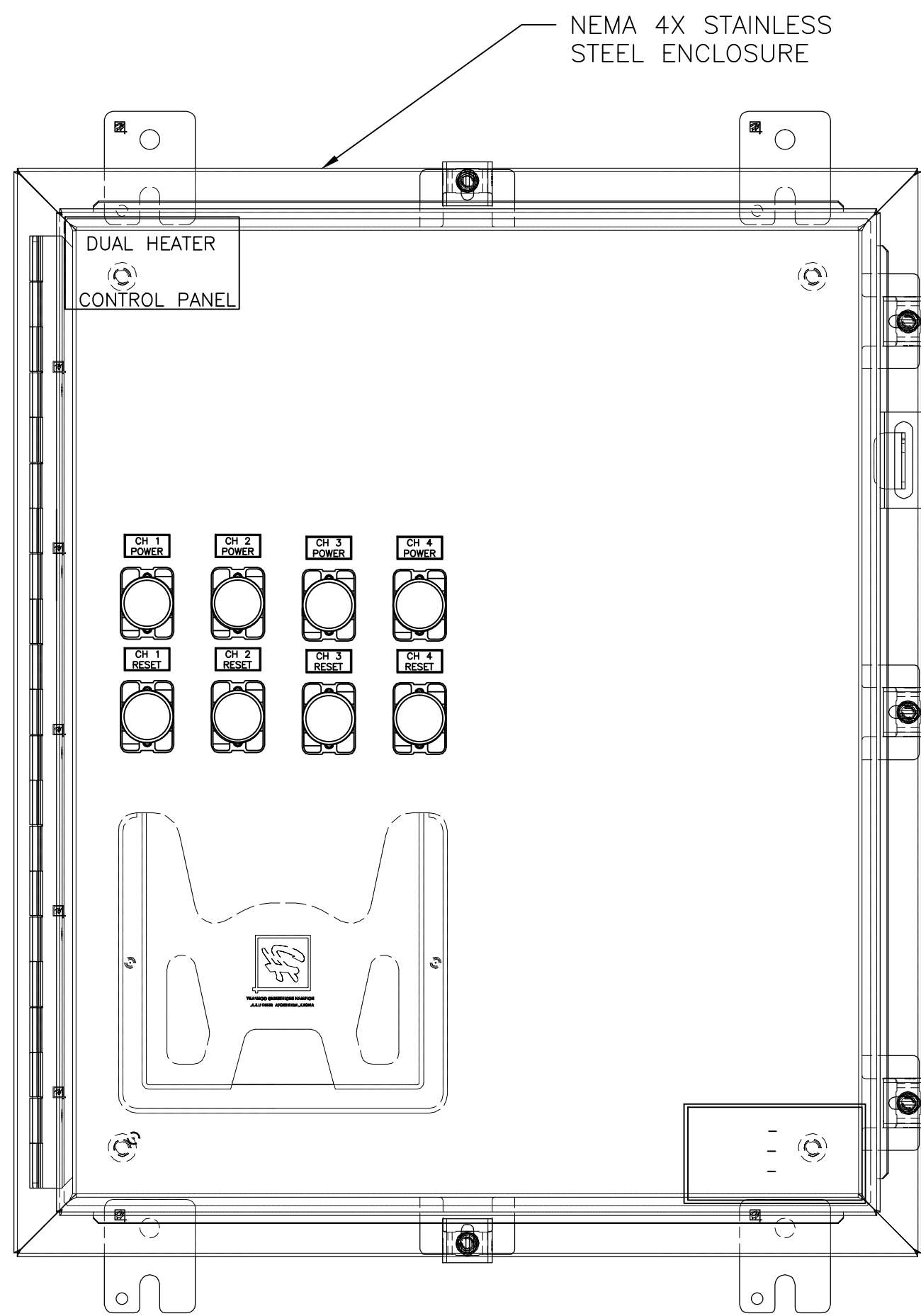
A  
B  
C  
D  
E  
F



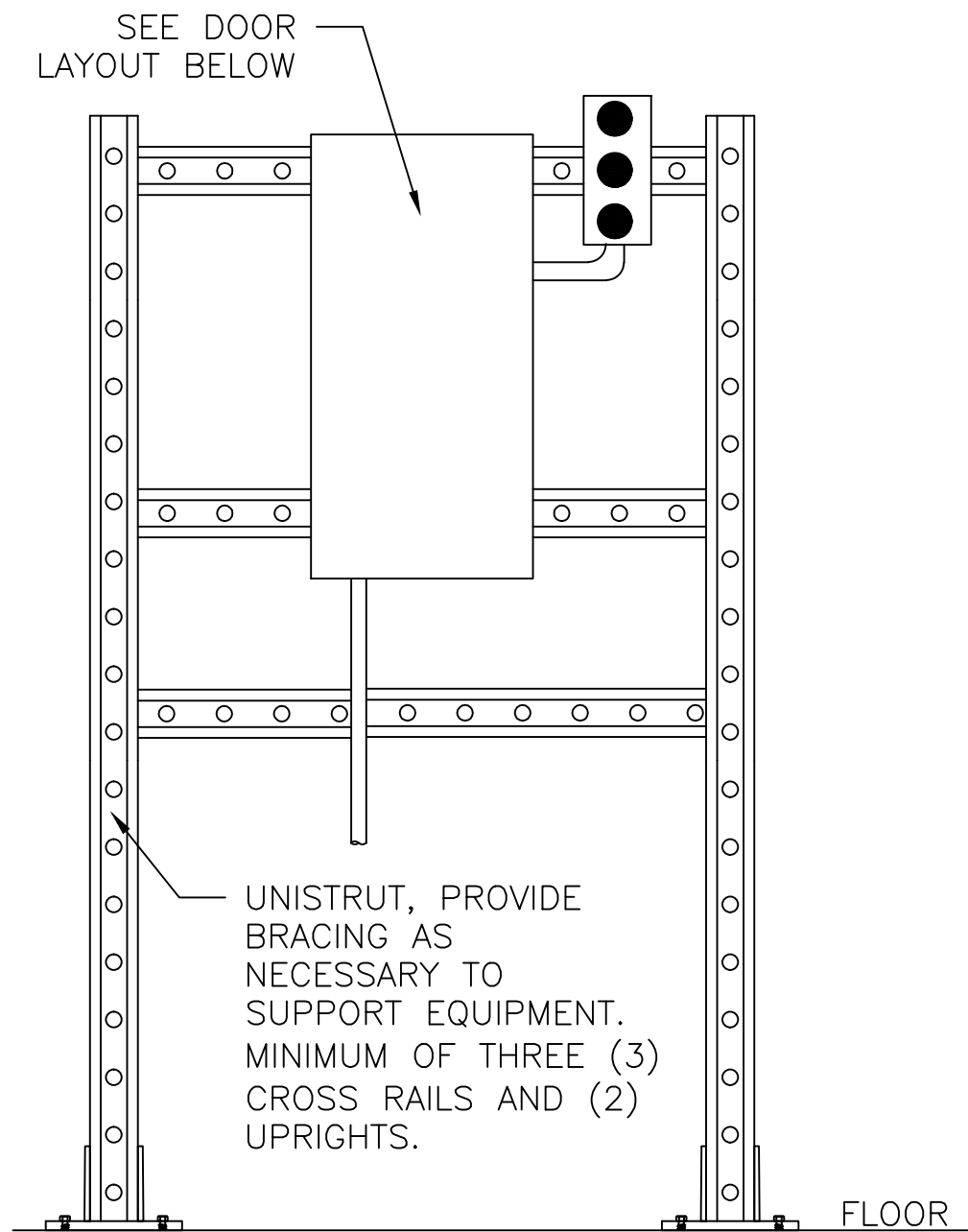
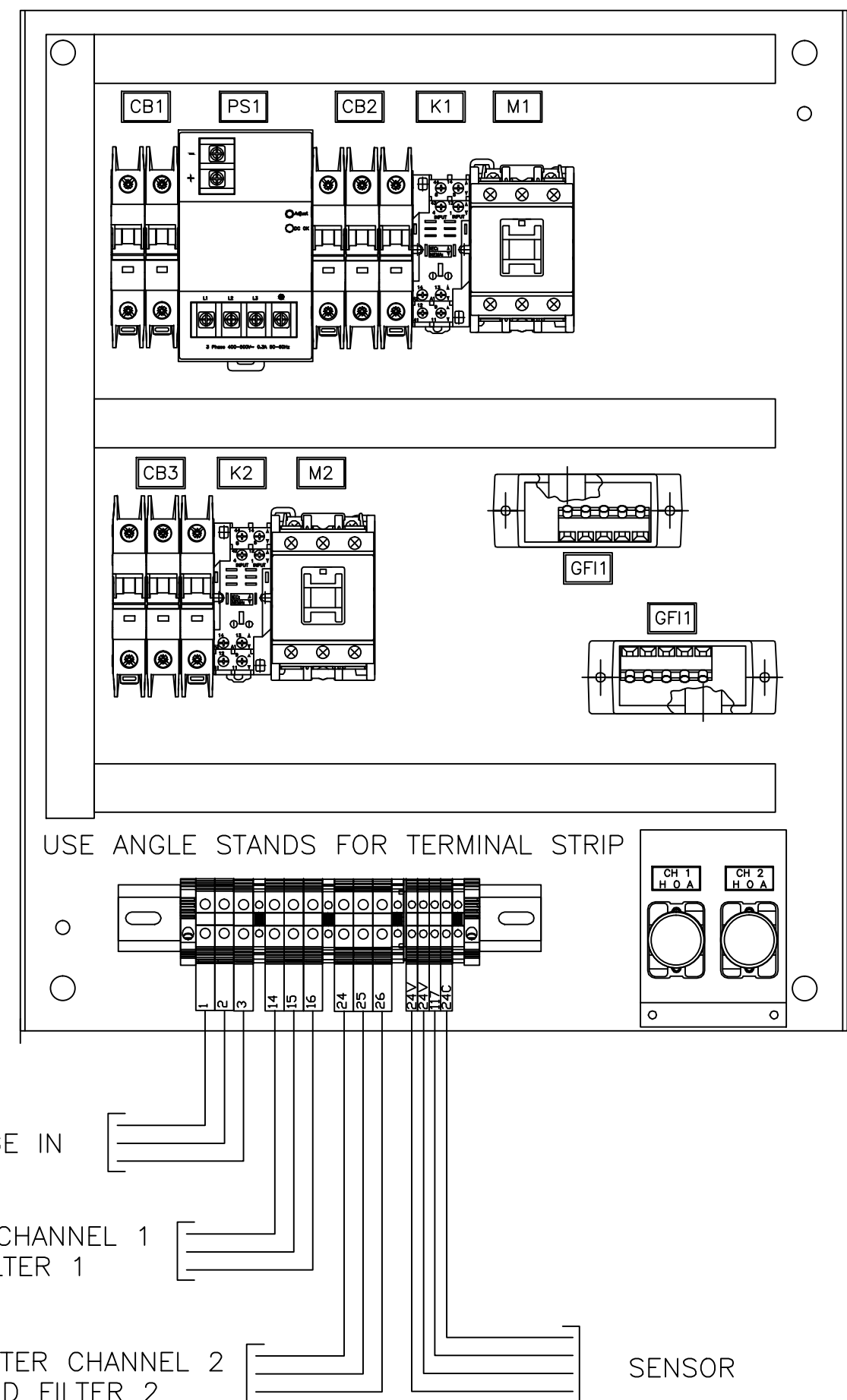
HEATER ASSEMBLY DRAWING NOTES:

- (A) CONSTANT WATTAGE HEATING CABLE 25 OR 30 WATTS PER FOOT @ SPECIFIED VOLTAGE.
- (B) FACTORY TERMINATED AND HEAT SHRINK SEALED TO POWER LEAD WITH END CAP AT OPPOSITE END
- (C) SUPPLIED WITH 12/3 500W POWER LEAD 10'
- (D) HIGH TEMPERATURE FIBERGLASS HEAT RETAINING CHANNEL 0.680"x0.380"x0.125 HIGH CARBON STEEL TONG TYPE BANG ON RETAINER CLIPS

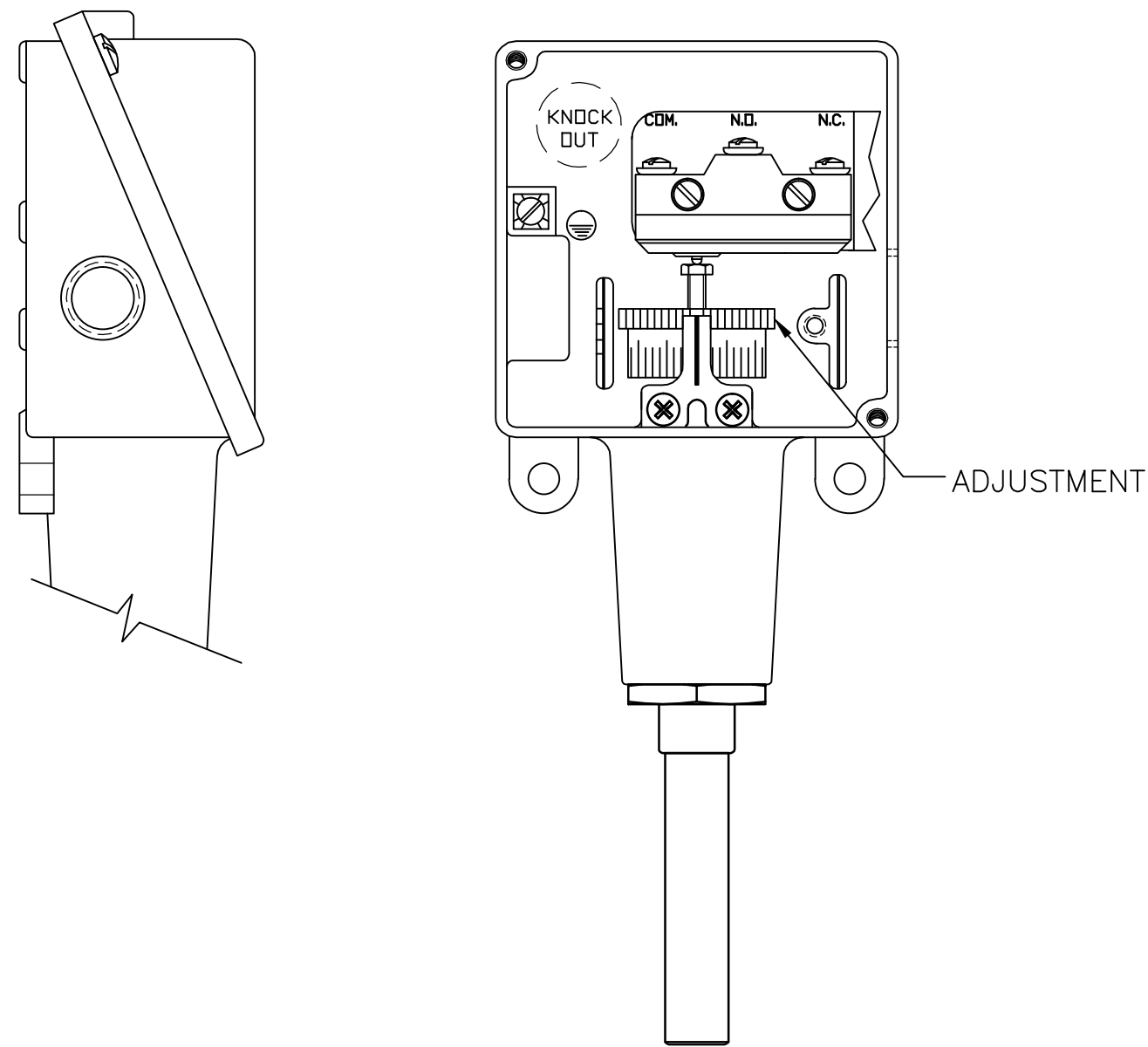
1 RAIL DE-ICING ATTACHMENT DETAILS  
E-203 SCALE:N.T.S



3 HEAT TRACE CONTROL PANEL DETAILS  
E-203 SCALE:N.T.S



5 NEW COMMINUTOR CONTROL PANEL  
E-203 SCALE:N.T.S



2 HEAT TRACE TEMPERATURE SWITCH DETAILS  
E-203 SCALE:N.T.S

NOTES:

RANGE: 15F TO 140F  
ELECTRICAL RATING, 22A  
480 VAC #304 ST/ST  
STEM (NO THREADS) UL  
LISTED, CSA CERTIFIED.  
SET & CALIBRATE @  
40F +/-1F ON  
FALLING TEMPERATURE.

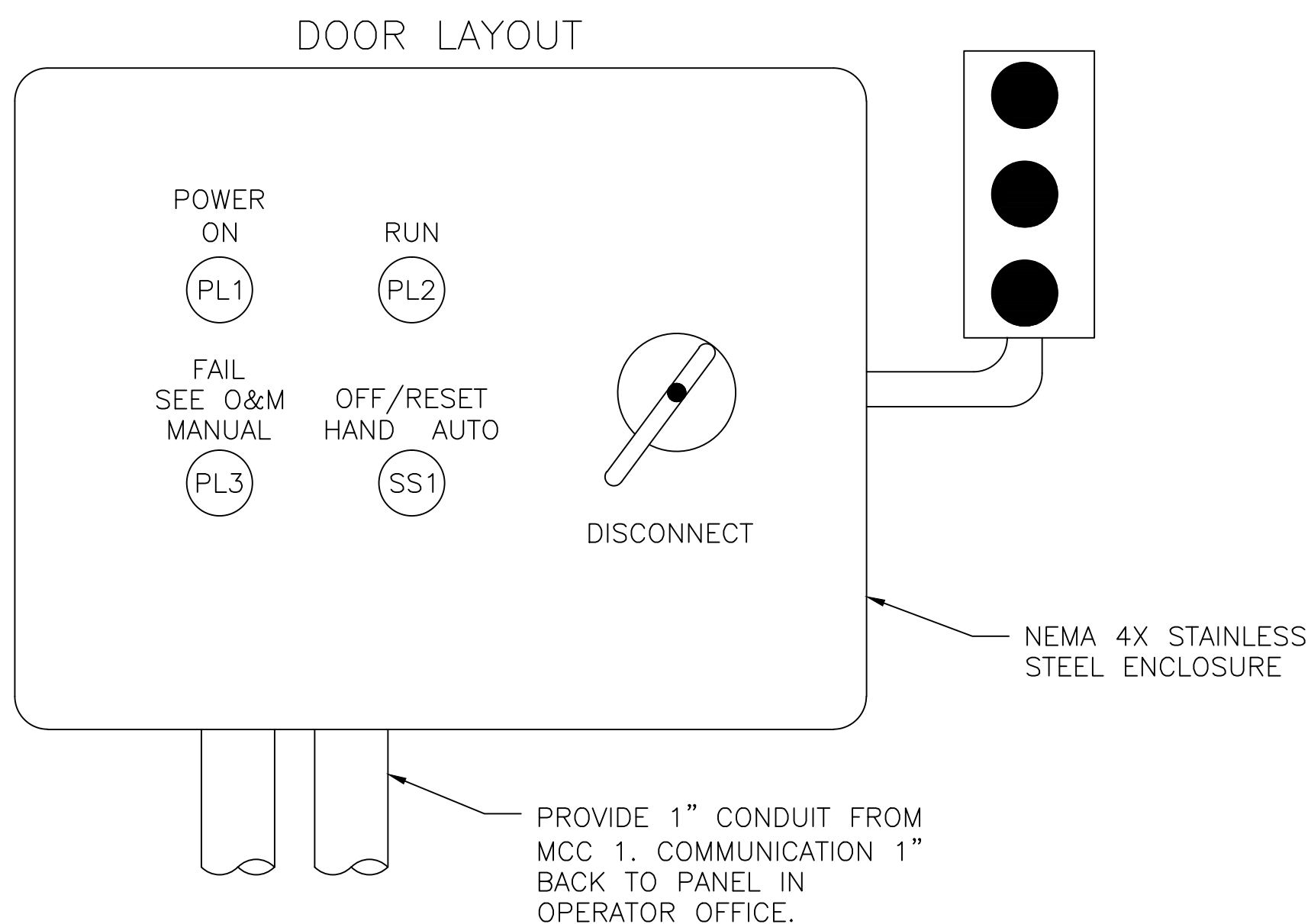
STATUS LEDs  
VISUAL NOTIFICATION ONLY  
(TYP.)

NEW ANNUNCIATOR PANEL FOR  
MONITORING, NEMA 1 ENCLOSURE

FAIL	SYSTEM
	COMMINUTOR
	BLOWER NO. 1
	BLOWER NO. 2
	CLARIFIER NO. 1
	CLARIFIER NO. 2
	FILTER NO. 1
	FILTER NO. 2
	PLANT SEWER HIGH
	UV BANK SYSTEM
	PUMP
	FILTER
	FLOW METER FROM COPPER SYSTEM
	PLANT AERATION HIGH

4 NEW PLANT MONITORING PANEL  
SEWER PLANT OFFICE  
E-203 SCALE:N.T.S

NOTE: PROVIDE SHOP DRAWING OF MONITORING  
PANEL AND ALL ASSOCIATED ALARM WIRING FROM  
EACH DEVICE. ALL ALARM WIRING SHALL BE 120V.



6 NEW COMMINUTOR MAIN CONTROL PANEL  
E-203 SCALE:N.T.S

CONSTRUCTION NOTES

- 1. SEE DRAWING E-001 FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

CONSTRUCTION DOCUMENTS

																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				</	
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----	--