03 - ELECTRICAL
INDEX OF DRAWINGS

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THE DESIGN APPEARS TO CONFORM TO APPLICABLE CRITERIA. APPROVAL IS NOT TO BE CONSTRUED TO MEAN THAT ALL ASPECTS OF THE DESIGN HAVE BEEN PERSONALLY CHECKED BY THE UNDERSIGNED.

Digitally signed by Gregory Dorosh, P.E.
Date: 2016.04.19 16:15:49-04'00'

TRANSPORTATION PRINCIPAL ENGINEER

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD_MSH_ELE_0170_3369_E001INDEX.dgn

SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE:
FACILITIES
GENERATOR REPLACEMENT

TOWN: VARIOUS

DRAWING TITLE:
ELECTRICAL
INDEX SHEET

PROJECT NO. 170-3369
DRAWING NO. E-001
SHEET NO. 03.01

GENERAL NOTES:

1. MINIMUM SIZE WIRE FOR POWER AND LIGHTING PANELS CIRCUITS SHALL BE #12 AWG. BRANCH CIRCUITS EXCEEDING 100 FEET IN LENGTH SHALL BE #10 AWG. WIRING SIZE SHALL BE ADJUSTED AS NECESSARY TO REFLECT AMPACITY DERATING DUE TO NUMBER OF LOADED CONDUCTORS SHARING A PARTICULAR RACEWAY. MINIMUM CONDUIT SIZE SHALL BE $^{3}/_{4}$" AS OUTLINED IN SPECIFICATION SECTION 260533.
2. INTERRUPTING CAPACITY OF ELECTRICAL EQUIPMENT SHALL BE EQUAL TO OR GREATER THAN THE AVAILABLE SHORT-CIRCUIT CURRENT AT ITS SUPPLY TERMINAL.
3. INSTALLERS SHALL, IN A WORKMANLIKE MANNER, PROVIDE COMPLETE OPERABLE SYSTEMS.
4. INSTALLER SHALL COORDINATE ALL WORK WITH OTHER DIVISION TRADES, LOCATE FIXTURES, DEVICES, ETC, IN ORDER TO AVOID INTERFERENCE.
5. ALL FEEDER AND BRANCH CIRCUITS SHALL HAVE AN EQUIPMENT GROUND CONDUCTOR INCLUDED WITH PHASE WIRING.
6. CONDUIT ROUTING SHOWN ON THE PLANS ARE ONLY DIAGRAMMATIC IN NATURE.
7. ALL CIRCUITS SHALL HAVE SEPARATE NEUTRAL CONDUCTOR FROM ELECTRICAL PANELS.
8. ALL PANELBOARDS SHALL BE MOUNTED ON $^{3}/_{4}$" FIRE RETARDANT PLYWOOD, TREATED ON ALL SIDES, AND PAINTED WITH TWO COATS OF BLACK ENAMEL ON ALL SIDES.
9. PATCH AROUND ALL ELECTRICAL CONDUIT PENETRATIONS THROUGH WALLS. INSTALL FIRE STOP AROUND ALL ELECTRICAL CONDUIT PENETRATIONS THROUGH FIRE RESISTANCE RATED WALLS IN ACCORDANCE WITH SPECIFICATION NO. 260544. FIRE STOP MATERIAL SHALL BE APPLIED TO BOTH SIDES OF FIRE RATED WALL PENETRATION.
10. THE SPACE EQUAL TO THE WIDTH AND DEPTH OF SERVICE EQUIPMENT, SWITCHBOARDS, PANEL BOARDS, AND MOTOR CONTROL CENTERS EXTENDING UP FROM THE FLOOR TO A HEIGHT OF 6' ABOVE THE EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICHEVER IS LOWER, SHALL BE DEDICATED TO THE ELECTRICAL INSTALLATION. FOREIGN SYSTEMS (SUCH AS WATER PIPING) INSTALLED DIRECTLY ABOVE THE DEDICATED SPACE MUST INCLUDE PROTECTIVE EQUIPMENT THAT ENSURES THAT OCCURRENCES SUCH AS LEAKS, CONDENSATION, AND BREAKS DO NOT DAMAGE ELECTRICAL EQUIPMENT BELOW. SEE NEC ARTICLE 110.26 FOR FURTHER DETAILS.
11. CONDUCTORS FOR ALL THE ELECTRICAL SYSTEMS SHALL BE RUN IN CONDUIT NO EXPOSED CONDUCTORS SHALL BE ALLOWED UNLESS WHERE SPECIFICALLY NOTED OTHERWISE.
12. ALL WIRING IN BAYS AND SHOPS SHALL BE FED OVERHEAD IN CONDUIT (NO EXPOSED WIRING ALLOWED) - NO CONDUIT ALLOWED IN FLOOR SLAB, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL HANG ALL OVERHEAD CONDUITS IN BAYS WITH BEAM CLAMPS. ALL CONDUIT AND BOXES IN CMU WALLS SHALL BE CONCEALED.
13. MEANS OF MOUNTING SHALL BE PER MANUFACTURER'S SPECIFICATIONS UNLESS OTHERWISE NOTED.
14. ALL EXPOSED CONDUIT INSTALLED IN THE BAY AREAS, ELECTRICAL AND MECHANICAL ROOMS AT FLOOR LEVEL UP TO AND INCLUDING THE UNIFORM HEIGHT OF 10 FEET ABOVE FINISHED FLOOR SHALL BE RGSC. CONDUIT RACEWAYS SPECIFIED TO BE INSTALLED AND EXTENDED BEYOND THE 10 FOOT HEIGHT SHALL BE CONVERTED TO EMT.
15. THE CONTRACTOR SHALL CONTACT EVERSOURCE, UI, AND NPU REPRESENTATIVE TO COORDINATE THE POWER UTILITY'S PORTION OF PROJECT WORK AND DISCONNECTION OF SERVICE. THE CONTRACTOR SHALL GIVE EVERSOURCE, UI, AND NPU A MINIMUM NOTICE OF FOUR WEEKS PRIOR TO REQUIRING THE INITIATION OF ANY WORK TO BE COMPLETED BY THE UTILITY'S FORCES.
16. PARALLEL SETS OF CONDUCTORS SHALL BE RUN IN SEPARATE CONDUITS. SPARE CONDUIT SHALL BE TERMINATED INSIDE THE ELECTRICAL ROOM 12" AFF WITH PULL ROPE CAPPED AT EACH END OR AS INDICATED ON DRAWINGS.
17. SERVICE CONDUITS ENTERING THE BUILDING FROM OUTSIDE THE BUILDING SHALL BE ROUTED SURFACE MOUNTED NO MORE THAN 18" AFG BEFORE PENETRATING THE EXTERIOR WALL. SEE DETAIL NO.1 ON DRAWING NO.E-018.
18. CONDUIT SWEEPS/STUB-UPS IN WALKWAYS AND PAVED AREAS SHALL BE PVC COATED RGSC. CONDUIT SWEEPS/STUB-UPS FOR ALL OTHER AREAS SHALL BE RGSC.
19. SEE DETAIL NO. 4 ON DRAWING NO. E-018 FOR CONDUIT IN TRENCH DETAILS. THE CONTRACTOR SHALL PROVIDE A 12" MINIMUM SEPARATION BETWEEN CROSSINGS OF OTHER UTILITY LINE; GAS LINES, FUEL LINES, ETC. AND ELECTRICAL LINES.
20. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF BOLLARDS WITH THE INSTALLATION OF CONDUIT. THE CONTRACTOR SHALL INSTALL THE BOLLARD FIRST TO ENSURE THAT THE CONDUIT INSTALLATION DOES NOT DISTURB THE BOLLARD FOUNDATION.
21. ALL CONDUIT SLEEVE PENETRATIONS THROUGH FOUNDATION WALLS SHALL BE INSTALLED USING A BORED CYLINDER.
22. THE CONTRACTOR SHALL PROVIDE ASPHALTIC TYPE ELECTRICAL COATING FOR ALL EXOTHERMIC WELDS.
23. ALL RACEWAY AND BOXES INSTALLED IN EXPOSED OR CONCEALED LOCATIONS UNDER METAL-CORRUGATED SHEET ROOF DECKING, SHALL BE INSTALLED AND SUPPORTED SO THERE IS NOT LESS THAN 1 1/2" MEASURED FROM THE LOWEST SURFACE OF THE ROOF DECKING TO THE TOP OF THE RACEWAY OR BOX IN ACCORDANCE TO THE NEC.
24. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING, PLACING, MAINTAINING, AND REMOVING ALL SEDIMENTATION CONTROL SYSTEMS AS SHOWN IN THE DETAILS OR AS DIRECTED BY THE ENGINEER. ALL SEDIMENTATION CONTROL SYSTEMS SHALL BE INCLUDED IN ITEM NO. 0219001.
25. CONDUITS THROUGH OFFICE CORE SHALL BE INSTALLED ABOVE DROP DOWN CEILINGS AND SHALL BE SUPPORTED APPROPRIATELY PER NEC. CONDUIT LAYING ON TOP OF DROP DOWN CEILINGS IS NOT ACCEPTABLE.
26. THE CONTRACTOR SHALL COLOR CODE ALL THE CONDUCTORS INCLUDING EXISTING CONDUCTORS. REFER TO CSI SPECIFICATION NO. 260553.
27. CIRCUIT BREAKERS INSTALLED IN EXISTING PANELS SHALL BE SPECIFIED SO THAT THE KIC RATINGS MATCH THE EXISTING KIC RATING OF PANEL/CIRCUIT BREAKERS. NEW CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH EXISTING PANELS.
28. THE MAIN DISCONNECT INSTALLED ON THE LOAD SIDE OF THE METER SHALL SERVE AS THE MAIN BONDING JUMPER GROUND POINT. THE NEUTRAL AND SERVICE GROUND (GROUND ROD, WATER MAIN CONNECTIONS, METAL FRAME OF THE BUILDING, ETC) SHALL BE BONDED AT THIS POINT PER NEC ARTICLE 250.50. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING/INSTALLING GROUND LUGS, CONDUIT AND GROUNDING CONDUCTORS TO EQUIPMENT AS NECESSARY.
29. CONTRACTOR SHALL PROVIDE COORDINATION DRAWINGS SHOWING NEW ROOM LAYOUTS INDICATING NEW EQUIPMENT INSTALLATIONS/MODIFICATIONS TO SCALE. COORDINATION DRAWINGS SHALL INDICATE PROPER CLEARANCES ARE MET PER NEC. COORDINATION DRAWINGS SHALL BE PROVIDED AFTER EQUIPMENT SUBMITTALS HAVE BEEN APPROVED.
30. CONTRACTOR SHALL NOT ATTACH TO OR UTILIZE ANY EXISTING SUPPORTS WHEN MOUNTING NEW PANELS, ATS, SWITCHES, ETC.
31. NO FACILITY SHALL BE WITHOUT GENERATOR POWER FOR GREATER THAN 30 CALENDAR DAYS WITHOUT WRITTEN AUTHORIZATION FROM THE DEPARTMENT.
32. OPEN TRENCH TO BE PROTECTED BY TRAFFIC CONES AT ALL TIMES AND SHALL BE BACKFILLED AT THE END OF EACH WORK DAY.
33. CONTRACTOR SHALL PROVIDE A TYPED PANEL SCHEDULE LISTING ALL OCCUPIED CIRCUITS FOR ALL NEW PANELBOARDS INSTALLED AND EXISTING PANELBOARDS THAT ARE MODIFIED.

POWER SYMBOLS

200 AF 200 AT	MOLDED CASE CIRCUIT BREAKER 200A FRAME RATING, 200A TRIP RATING (OR CIRCUIT BREAKER SIZE WHERE SHOWN ON CONTRACT DOCUMENTS)
	GROUND CONNECTION
M	METER PER LOCAL UTILITY REQUIREMENTS
	POWER/LIGHTING PANEL
SPD	SURGE PROTECTION DEVICE
	UNDERGROUND CONDUIT
	SURFACE MOUNTED CONDUIT OR CONDUIT ABOVE CEILING
	EXISTING UTILITY POLE
	PROPOSED UTILITY POLE
	EXPLOSION PROOF EY FITTING

ABBREVIATIONS

A	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AUTO	AUTOMATIC
AIC	AMPS INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRING GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BLDG	BUILDING
BRK.	BREAKER
C	CONDUIT
CKT.	CIRCUIT
COL.	COLUMN
CT	CURRENT TRANSFORMER
CU	COPPER
DISC.	DISCONNECT
DF	DRINKING FOUNTAIN
DP1	FUEL POWER PANEL
DWG	DRAWING
EDH	ELECTRICAL DUCT HEATER
EF	EXHAUST FAN
ELEC.	ELECTRICAL
ERV	ROOF VENTILATOR, EXHAUST
EUH	ELECTRICAL UNIT HEATER
FACP	FIRE ALARM CONTROL PANEL
FL	FLOOR
G.C.	GENERAL CONTRACTOR
GEN	GENERATOR
GFI	GROUND-FAULT INTERRUPTER
G, GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HT.	HEIGHT
HTR	HEATER
HZ	HERTZ
IN.	INCH
JB	JUNCTION BOX
kVA	KILOVOLT AMPERE
kW	KILOWATTS
LP	LIGHTING PANEL
MDP	MAIN DISTRIBUTION POWER PANEL
MECH	MECHANICAL
MH	METAL HALIDE
MTG. HT.	MOUNTING HEIGHT
NEC	NATIONAL ELECTRICAL CODE
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
O.C.	ON CENTER
PB	PUSH BUTTON
PF	PADDLE FAN
PIR	PASSIVE INFRARED
PVC	POLYVINYL CHLORIDE
PF	POWER FACTOR
PP	POWER PANEL
PNL	PANEL
RM	ROOM
REC	RECEPTACLE
RGSC	RIGID GALVANIZED STEEL CONDUIT
RP	RECEPTACLE PANEL
RTAC	ROOF TOP AIR CONDITIONER
SB	SWITCHBOARD
SPD	SURGE PROTECTION DEVICE
SPECS	SPECIFICATIONS
S"X"	SWITCH, SINGLE POLE "X" INDICATES SWITCHING CIRCUIT
SW	SWITCH
3PH	THREE PHASE
3P	THREE POLE
TYP.	TYPICAL
UH	UNIT HEATER
UPS	UNINTERUPTABLE POWER SUPPLY
V	VOLT
W	WATT OR WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD_MSH_ELE_0170_3369_E002.dgn

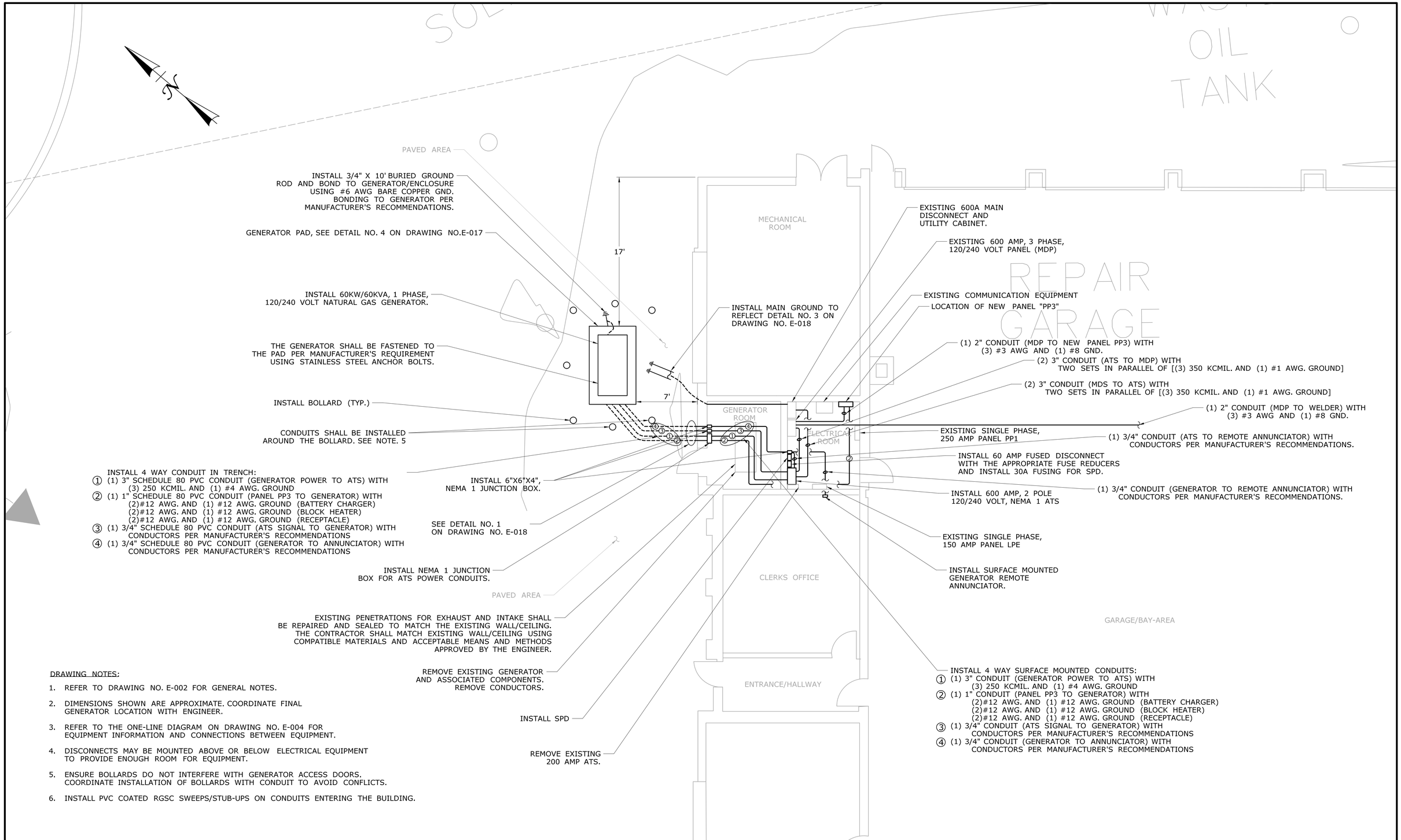
SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

TOWN: VARIOUS

DRAWING TITLE: SYMBOLS,ABBREVIATIONS, AND GENERAL NOTES

PROJECT NO. 170-3369
DRAWING NO. E-002
SHEET NO. 03.02



DRAWING NOTES:

1. REFER TO DRAWING NO. E-002 FOR GENERAL NOTES.
2. DIMENSIONS SHOWN ARE APPROXIMATE. COORDINATE FINAL GENERATOR LOCATION WITH ENGINEER.
3. REFER TO THE ONE-LINE DIAGRAM ON DRAWING NO. E-004 FOR EQUIPMENT INFORMATION AND CONNECTIONS BETWEEN EQUIPMENT.
4. DISCONNECTS MAY BE MOUNTED ABOVE OR BELOW ELECTRICAL EQUIPMENT TO PROVIDE ENOUGH ROOM FOR EQUIPMENT.
5. ENSURE BOLLARDS DO NOT INTERFERE WITH GENERATOR ACCESS DOORS. COORDINATE INSTALLATION OF BOLLARDS WITH CONDUIT TO AVOID CONFLICTS.
6. INSTALL PVC COATED RGSC SWEEPS/STUB-UPS ON CONDUITS ENTERING THE BUILDING.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW
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SCALE 1"=5'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\100% East Granby 2D Site Plan.dgn

SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

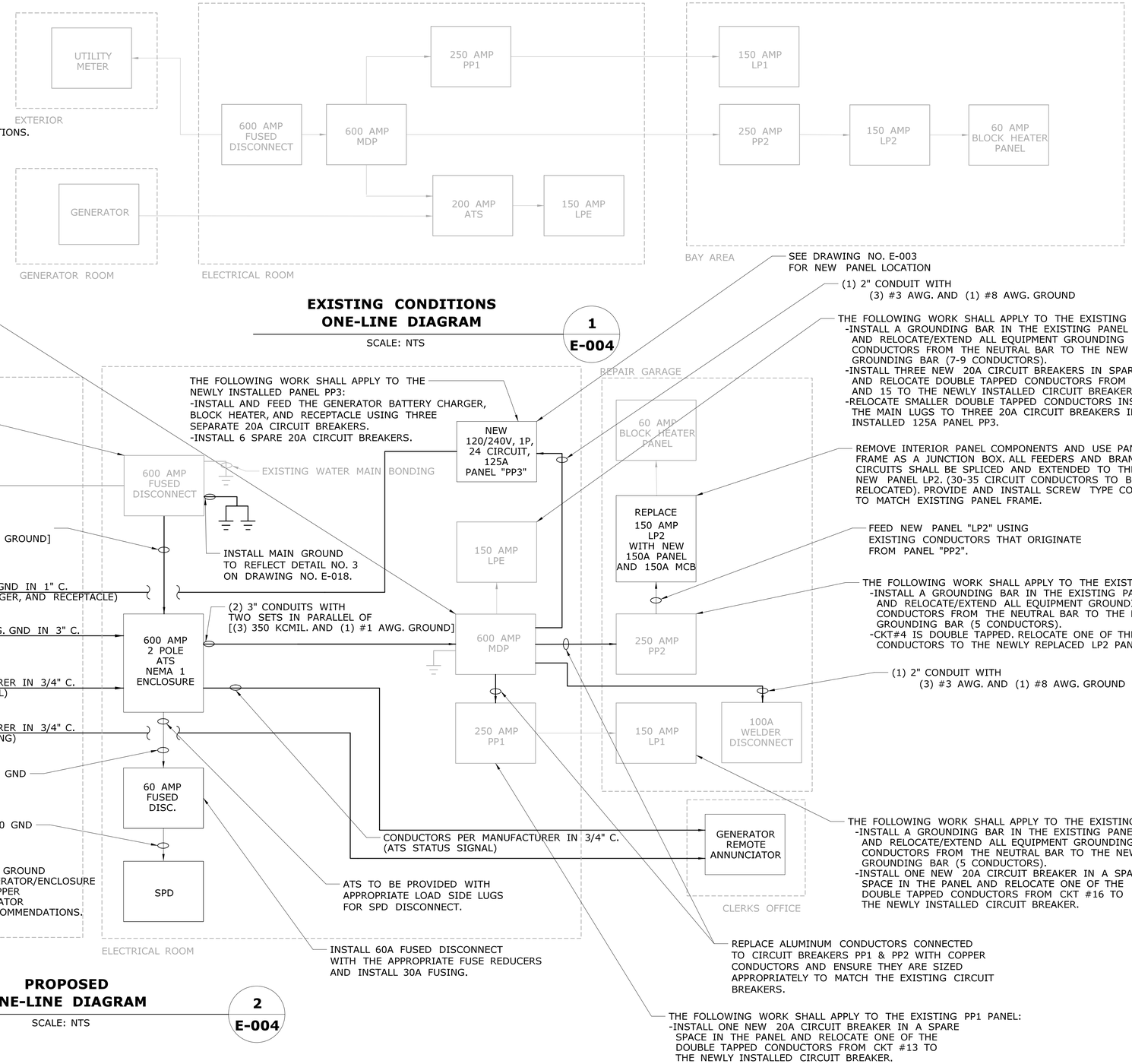
TOWN: EAST GRANBY

DRAWING TITLE: EAST GRANBY SITE PLAN

PROJECT NO. 170-3369
DRAWING NO. E-003
SHEET NO. 03.03

DRAWING NOTES:

1. ALL CONDUIT WITHIN GENERATOR ENCLOSURE SHALL BE MINIMUM ¾".
2. THE CONTRACTOR SHALL PROVIDE MANUAL SHUTDOWN LOCATED EXTERNAL TO THE GENERATOR WEATHER PROOF ENCLOSURE AND SHALL BE APPROPRIATELY IDENTIFIED.
3. EXISTING EQUIPMENT IS SHOWN IN LIGHT FONT.
4. CONDUCTORS WITHIN THE GENERATOR ENCLOSURE SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
5. REFER TO THE EAST GRANBY SITE PLAN ON DRAWING NO. E-003 FOR CONDUCTOR SIZING.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING APPROPRIATE LUGS IN EXISTING EQUIPMENT TO PROPERLY TERMINATE CONDUCTORS.
7. ADD BONDING JUMPER BEFORE AND AFTER WATER METER.



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\100% EAST_GRANBY ONE LINE.dgn

SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

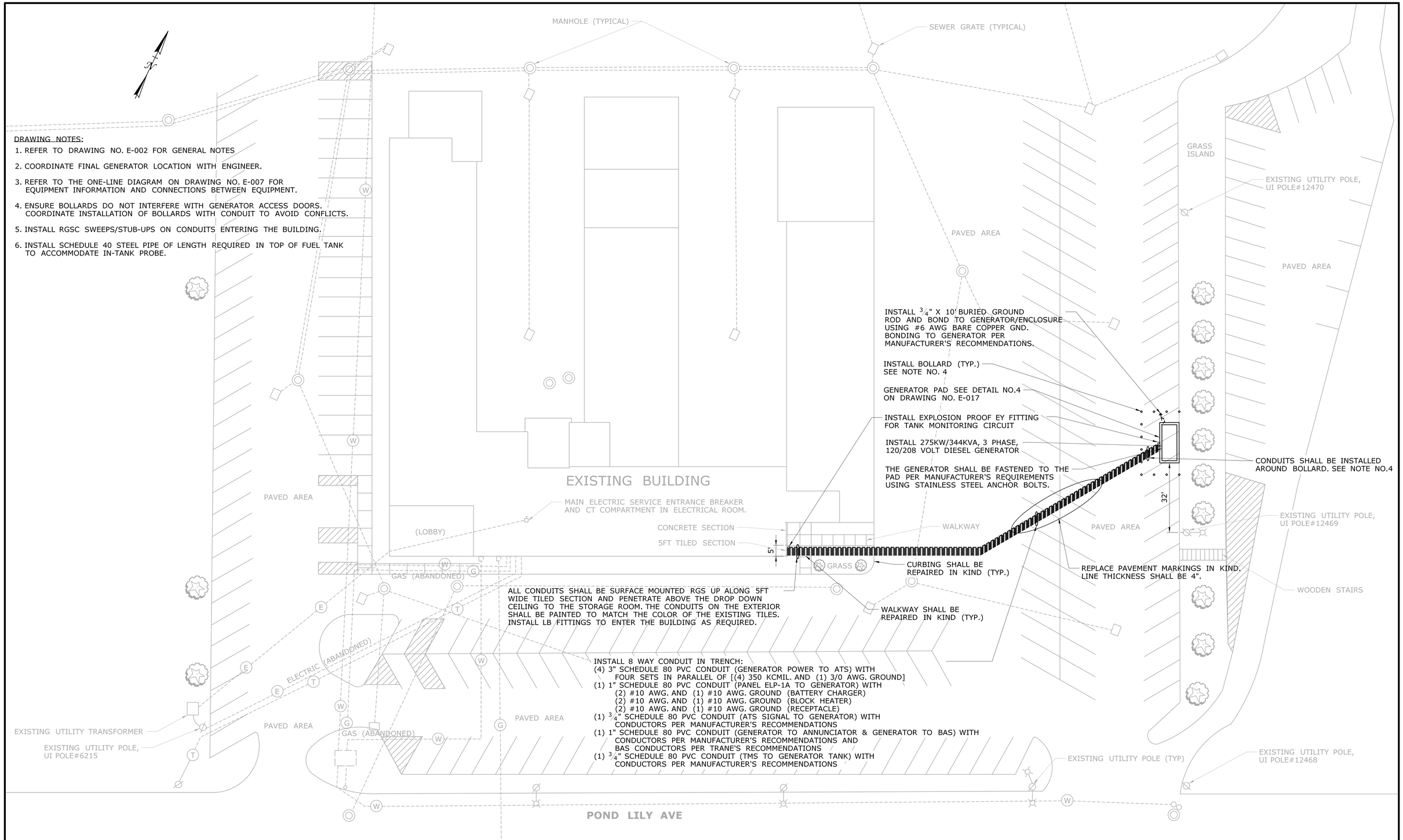
PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

TOWN: EAST GRANBY
DRAWING TITLE: EAST GRANBY DETAILS

PROJECT NO. 170-3369
DRAWING NO. E-004
SHEET NO. 03.04

DRAWING NOTES:

1. REFER TO DRAWING NO. E-002 FOR GENERAL NOTES
2. COORDINATE FINAL GENERATOR LOCATION WITH ENGINEER.
3. REFER TO THE ONE-LINE DIAGRAM ON DRAWING NO. E-007 FOR EQUIPMENT INFORMATION AND CONNECTIONS BETWEEN EQUIPMENT.
4. ENSURE BOLLARDS DO NOT INTERFERE WITH GENERATOR ACCESS DOORS. COORDINATE INSTALLATION OF BOLLARDS WITH CONDUIT TO AVOID CONFLICTS.
5. INSTALL RGSC SWEEPS/STUB-UPS ON CONDUITS ENTERING THE BUILDING.
6. INSTALL SCHEDULE 40 STEEL PIPE OF LENGTH REQUIRED IN TOP OF FUEL TANK TO ACCOMMODATE IN-TANK PROBE.



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Plotted Date: 4/19/2016

DESIGNER/DRAFTER: **RR**

CHECKED BY: **MPW**

SCALE IN FEET

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SCALE 1"=20'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FDP_New Haven Site Plan.dgn

SIGNATURE/BLOCK: **OFFICE OF ENGINEERING**

APPROVED BY:

PROJECT TITLE: **FACILITIES GENERATOR REPLACEMENT**

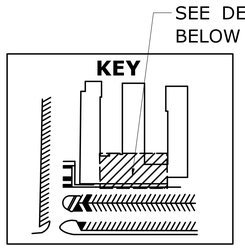
TOWN: **NEW HAVEN**

DRAWING TITLE: **NEW HAVEN SITE PLAN**

PROJECT NO. **170-3369**

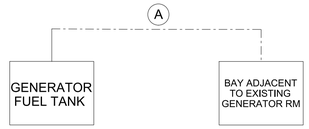
DRAWING NO. **E-005**

SHEET NO. **03.05**



ROUTING OF TMS CABLE FROM GENERATOR FUEL TANK TO TMS

(A) ROUTE TMS CABLE TO THE EXISTING TMS JUNCTION BOX AND SPLICE TO EXISTING TMS CABLE. THE JUNCTION BOX IS WALL MOUNTED AND LOCATED NEXT TO THE EXISTING DIESEL FUEL-TANK IN THE BAY ADJACENT TO THE EXISTING GENERATOR ROOM.

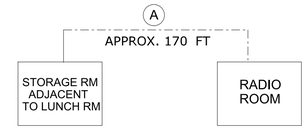


TANK MONTORING SYSTEM ONE-LINE DIAGRAM — 1 / E-006

SCALE: NTS

ROUTING OF ANNUNCIATOR CABLE FROM ATS TO ANNUNCIATOR

(A) THE CONTRACTOR SHALL INSTALL THE REMOTE ANNUNCIATOR IN THE RADIO ROOM AT SPECIFIC LOCATION DIRECTED BY THE ENGINEER. ROUTE ANNUNCIATOR CABLE IN ¾" CONDUIT FROM THE ATS TO THE SURFACE MOUNTED ANNUNCIATOR.

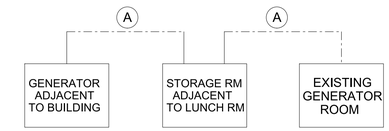


REMOTE ANNUNCIATOR ONE-LINE DIAGRAM — 2 / E-006

SCALE: NTS

ROUTING OF BAS CONDUCTORS FROM GEN SET TO BAS CONTROLLER

(A) THE CONTRACTOR SHALL ROUTE CONDUIT AND CONDUCTORS FROM THE GEN SET TO THE TRANE EQUIPMENT PER TRANE RECOMMENDATIONS. THE CONTRACTOR SHALL HIRE TRANE TO MAKE FINAL CONNECTIONS TO THE BAS SYSTEM, PROGRAM, AND INTEGRATE THE GEN SET TO THE BAS. THE CONTRACTOR SHALL MAKE FINAL BAS CONNECTIONS AT THE ATS AND GENERATOR PER GENERATOR MANUFACTURER'S RECOMMENDATIONS.



BUILDING AUTOMATION SYSTEM ONE-LINE DIAGRAM — 3 / E-006

SCALE: NTS

DRAWING NOTES:

1. SALVAGE EXISTING GENERATOR, ATS, BATTERY CHARGER, AND DIESEL TANK AND ASSOCIATED COMPONENTS. REMOVE EXISTING CONDUCTORS. FUEL SHALL BE SALVAGED AND DELIVERED WITHIN A 50 MILE RADIUS TO A LOCATION DIRECTED BY THE ENGINEER". EXISTING GENERATOR AND BATTERY CHARGER IS LOCATED IN THE GENERATOR ROOM. "EXISTING PENETRATIONS FOR EXHAUST AND INTAKE SHALL BE REPAIRED AND SEALED TO MATCH THE EXISTING WALL/CEILING. THE CONTRACTOR SHALL MATCH EXISTING WALL/CEILING USING COMPATIBLE MATERIALS AND ACCEPTABLE MEANS AND METHODS APPROVED BY THE ENGINEER".

(1) ¾" CONDUIT (ATS/GENERATOR TO ANNUNCIATOR) WITH CONDUCTORS PER MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL NO. 2 (THIS SHEET)

(1) 1" CONDUIT (ATS TO BAS & GENERATOR TO BAS) WITH CONDUCTORS PER TRANE'S RECOMMENDATIONS. SEE DETAIL NO. 3 (THIS SHEET)

SALVAGE BATTERY CHARGER

SALVAGE DIESEL TANK

EXISTING TMS JUNCTION BOX / SPLICE POINT

REMOVE INTAKE SHAFT

REMOVE INTAKE VENT

EXISTING GENERATOR SEE DRAWING NOTES NO. 1

FOUR SETS OF [(4) 350 KCMIL. + (1) 3/0 AWG. GND. IN 3" C.] FOR RUN FROM ATS TO SWITCHBOARD DISTRIBUTION SECTION

FOUR SETS OF [(4) 350 KCMIL. + (1) 3/0 AWG. GND. IN 3" C.] FOR RUN FROM SWITCHBOARD UTILITY SECTION TO ATS

EXISTING BAS EQUIPMENT

INSTALL 1200A, 3-POLE, 120/208 VOLT, NEMA 1 ATS

EXISTING PANELBOARD "EMDPA"

SALVAGE EXISTING 400A ATS AND ACCESSORIES. REMOVE CONDUCTORS.

EXISTING PANELBOARD FEEDS

INSTALL ONE 20A BRANCH CIRCUIT BREAKER IN POSITIONS 29, 31, AND 33 FOR THE GENERATOR BATTERY CHARGER, BLOCK HEATER, AND RECEPTACLE. KIC RATINGS SHALL MATCH EXISTING. NEW CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH THE EXISTING PANEL. RE-PRINT TYPED PANEL SCHEDULE.

WORK PERFORMED IN OFFICE SPACE SHALL BE DONE AFTER WORK HOURS UNLESS APPROVED BY THE ENGINEER (TYP.).

REFEED PANELBOARD EMDPA USING THE EXISTING CIRCUIT BREAKER LABELED AS "TRANSFER SWITCH" AND RENAME AS "EMDPA".

(1) 4" CONDUIT (S.B. TO EMDPA) WITH (4) 500 KCMIL AND (1) #3 AWG. GND

INSTALL 8 WAY SURFACE MOUNTED CONDUITS:

1. (4) 3" CONDUIT (GENERATOR POWER TO ATS) WITH FOUR SETS IN PARALLEL OF [(4) 350 KCMIL. AND (1) 3/0 AWG. GND]
2. (1) 1" CONDUIT (ELP-1A TO GENERATOR) WITH
   (2) #10 AWG. AND (1) #10 AWG. GROUND (BATTERY CHARGER)
   (2) #10 AWG. AND (1) #10 AWG. GROUND (BLOCK HEATER)
   (2) #10 AWG. AND (1) #10 AWG. GROUND (RECEPTACLE)
3. (1) ¾" CONDUIT (ATS SIGNAL TO GENERATOR) WITH CONDUCTORS PER MANUFACTURER'S RECOMMENDATIONS
4. (1) 1" CONDUIT (GENERATOR TO ANNUNCIATOR & GENERATOR TO BAS) WITH CONDUCTORS PER MANUFACTURER'S RECOMMENDATIONS AND BAS CONDUCTORS PER TRANE'S RECOMMENDATIONS
5. (1) ¾" CONDUIT (TMS TO GENERATOR TANK) WITH CONDUCTORS PER MANUFACTURER'S RECOMMENDATIONS

REPLACE THE EXISTING 1600A CIRCUIT BREAKER RATING PLUG WITH A 1200A CIRCUIT BREAKER RATING PLUG.

EXISTING UTILITY METER

REMOVE EXISTING SPLICE BARS TO SEPARATE THE TWO SWITCHBOARD SECTIONS.

INSTALL EXPLOSION PROOF EY FITTING FOR TANK MONITORING CIRCUIT.

INSTALL UL LISTED LUGS AND COMPONENTS FOR THE GE SWITCHBOARD IN ORDER TO PROPERLY TERMINATE FEEDERS.

FOR UNDERGROUND CONDUIT RUN. REFER TO DRAWING NO. E-005.

REFER TO NEW HAVEN SITE PLAN E-005 FOR CONTINUATION

BAY AREA · LUNCH ROOM · STORAGE ROOM · WOMENS RM · MENS RM · BOILER ROOM · EXISTING GENERATOR ROOM · CORRIDOR · COMPUTER ROOM · PRIVATE OFFICE · ELE. ROOM · SURVEYING ROOM · CORRIDOR · STORAGE ROOM · CORRIDOR · STAIRWAY · UP · COPY/STORAGE ROOM · PRIVATE OFFICE · SUPERVISING ENGINEER · COMM. ROOM · MACH. RM

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR

CHECKED BY: MPW

SCALE: 3/16" = 1'-0"

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FDP_FLOOR PLAN.dgn

SIGNATURE/BLOCK: OFFICE OF ENGINEERING

APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

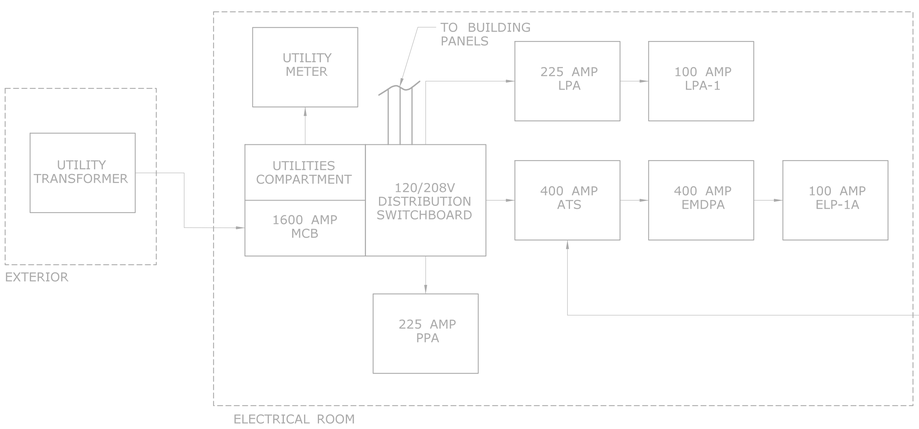
TOWN: NEW HAVEN

DRAWING TITLE: NEW HAVEN FLOOR PLAN

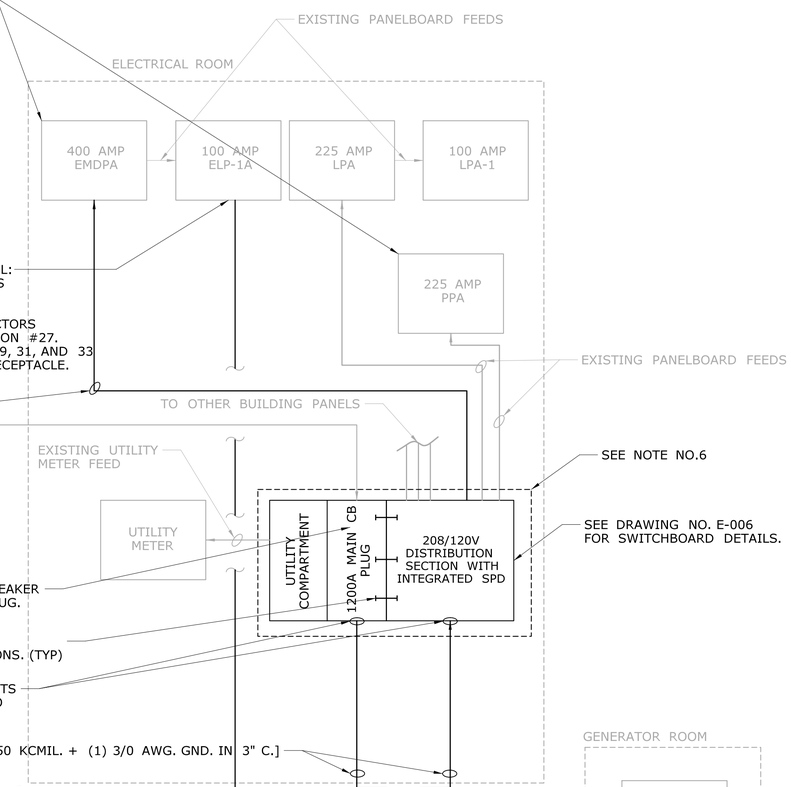
PROJECT NO. 170-3369

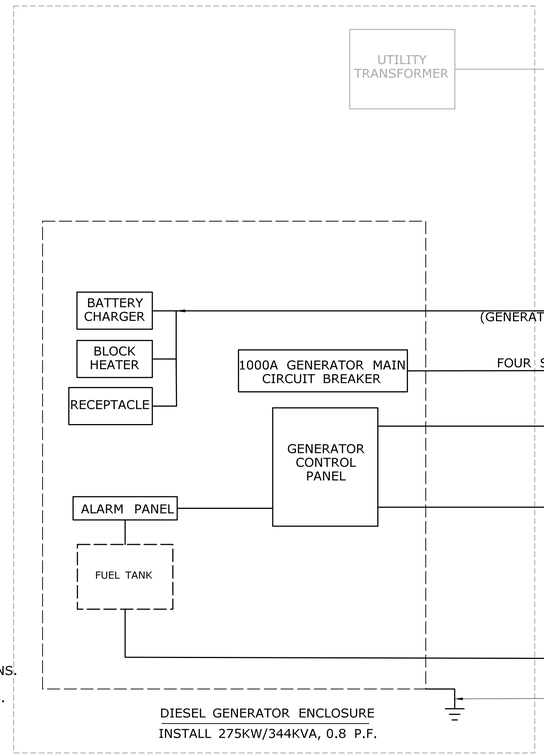
DRAWING NO. E-006

SHEET NO. 03.06



THE FOLLOWING WORK SHALL APPLY TO THE EXISTING EMDPA & PPA PANEL:
-THE CONTRACTOR SHALL COLOR CODE ALL THE CONDUCTORS. IF THE CONDUCTOR IS A GROUNDING CONDUCTOR, THE CONDUCTOR SHALL BE COLOR CODED AT THE TERMINATION AND JUNCTION BOX POINTS WITH GREEN TAPE. IF THE CONDUCTOR IS A NEUTRAL CONDUCTOR, THE CONDUCTOR SHALL BE COLOR CODED AT THE TERMINATION AND JUNCTION BOX POINTS WITH A WHITE TAPE. UNGROUNDED CONDUCTORS SHALL ALSO BE COLOR CODED FOLLOWING THE APPROPRIATE VOLTAGE COLOR CODING SCHEME FOR 120/208 VOLT SYSTEMS. FOR PANEL EMDPA COLOR CODE ONE GROUNDING CONDUCTOR AND TWO NEUTRAL CONDUCTORS. FOR PANEL PPA COLOR CODE ONE GROUNDING CONDUCTOR CONNECTED TO THE UPPER LEFT GROUNDING BAR.





THE FOLLOWING WORK SHALL APPLY TO THE EXISTING ELP-1A PANEL:
-INSTALL A 20A CIRCUIT BREAKER IN POSITION #27. KIC RATINGS SHALL MATCH EXISTING. NEW CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH THE EXISTING PANEL.
-CIRCUIT #23 IS DOUBLE TAPPED. RELOCATE ONE OF THE CONDUCTORS TO THE NEWLY INSTALLED BRANCH CIRCUIT BREAKER IN POSITION #27.
-INSTALL THREE 20A BRANCH CIRCUIT BREAKERS IN POSITIONS 29, 31, AND 33 FOR THE GENERATOR BATTERY CHARGER, BLOCK HEATER, AND RECEPTACLE.

(1) 4" CONDUIT WITH [(4) 500 KCMIL AND (1) #3 AWG. GND]

EXISTING UTILITY FEED FROM TRANSFORMER TO SWITCHBOARD

SEE NOTE NO.6

SEE DRAWING NO. E-006 FOR SWITCHBOARD DETAILS.

REPLACE THE EXISTING 1600A CIRCUIT BREAKER PLUG WITH A 1200A CIRCUIT BREAKER PLUG.

REMOVE EXISTING SPLICE BARS TO SEPARATE THE TWO SWITCHBOARD SECTIONS. (TYP)

INSTALL UL LISTED LUGS AND COMPONENTS FOR THE GE SWITCHBOARD IN ORDER TO PROPERLY TERMINATE FEEDERS.

FOUR SETS OF [(4) 350 KCMIL. + (1) 3/0 AWG. GND. IN 3" C.]

(6) #10 AWG. AND (3) #10 AWG. GND IN 1" C. (GENERATOR BLOCK HEATER, BATTERY CHARGER, AND RECEPTACLE)

FOUR SETS OF [(4) 350 KCMIL AND (1) 3/0 AWG. GND IN 3" C.] (MAIN POWER)

CONDUCTORS PER MANUFACTURER IN 3/4" C. (STARTING SIGNAL)

CONDUCTORS PER MANUFACTURER IN 1" C. (REMOTE MONITORING & BAS CONDUCTORS)

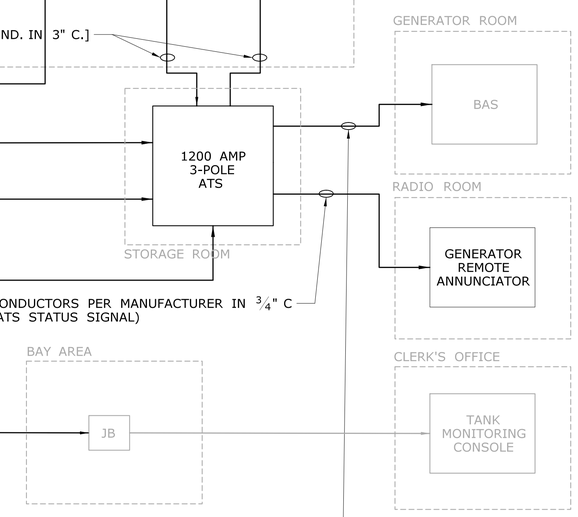
CONDUCTORS PER MANUFACTURER IN 3/4" C (ATS STATUS SIGNAL)

BAS CONDUCTORS PER TRANE'S RECCOMENDATIONS.

CONDUCTORS PER MANUFACTURER IN 3/4" C. (FUEL TANK MONITORING)

INSTALL 3/4" X 10' BURIED GROUND ROD AND BOND TO GENERATOR/ENCLOSURE USING #6 AWG BARE COPPER GND. BONDING TO GENERATOR PER MANUFACTURER'S RECOMMENDATIONS.

(1) 1" CONDUIT (ATS TO BAS & GENERATOR TO BAS) WITH CONDUCTORS PER TRANE RECOMMENDATIONS.



EXISTING CONDITIONS ONE-LINE DIAGRAM — 1 / E-007

SCALE: NTS

PROPOSED ONE-LINE DIAGRAM — 2 / E-007

SCALE: NTS

DRAWING NOTES:

1. ALL CONDUIT WITHIN GENERATOR ENCLOSURE SHALL BE MINIMUM 3/4".
2. THE CONTRACTOR SHALL PROVIDE MANUAL SHUTDOWN LOCATED EXTERNAL TO THE GENERATOR WEATHERPROOF ENCLOSURE AND SHALL BE APPROPRIATELY IDENTIFIED.
3. EXISTING EQUIPMENT IS SHOWN IN LIGHT FONT.
4. CONDUCTORS WITHIN THE GENERATOR ENCLOSURE SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
5. REFER TO THE NEW HAVEN SITE PLAN ON DRAWING NO. E-005 FOR CONDUIT TYPE AND LOCATIONS.
6. THE EXISTING SWITCHBOARD SHALL BE RE-CERTIFIED BY UL (UNDERWRITERS LABORATORIES) AFTER MODIFICATIONS ARE COMPLETE. IT SHALL BE THE CONTRACTOR RESPONSIBILITY TO MODIFY THE EQUIPMENT WITHIN UL GUIDELINES IN ORDER FOR THE EQUIPMENT TO BE RE-CERTIFIED. THE CONTRACTOR SHALL HIRE UL FIELD EVALUATION SERVICE FOR THE RE-LABELING OF EQUIPMENT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING APPROPRIATE LUGS IN EXISTING EQUIPMENT TO PROPERLY TERMINATE CONDUCTORS.
8. PROGRAMMING AND FINAL CONNECTIONS TO THE TANK MONITORING SYSTEM (TMS) SHALL BE DONE BY A TMS CERTIFIED INSTALLER. A TMS CERTIFIED INSTALLER SHALL ENSURE THAT ALL INTRINSICALLY SAFE WIRING IS MAINTAINED AND CONDUIT/CONDUCTORS SERVING THE BASE TANK ARE INSTALLED CORRECTLY.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ..\New Haven One-Line Diagram.dgn

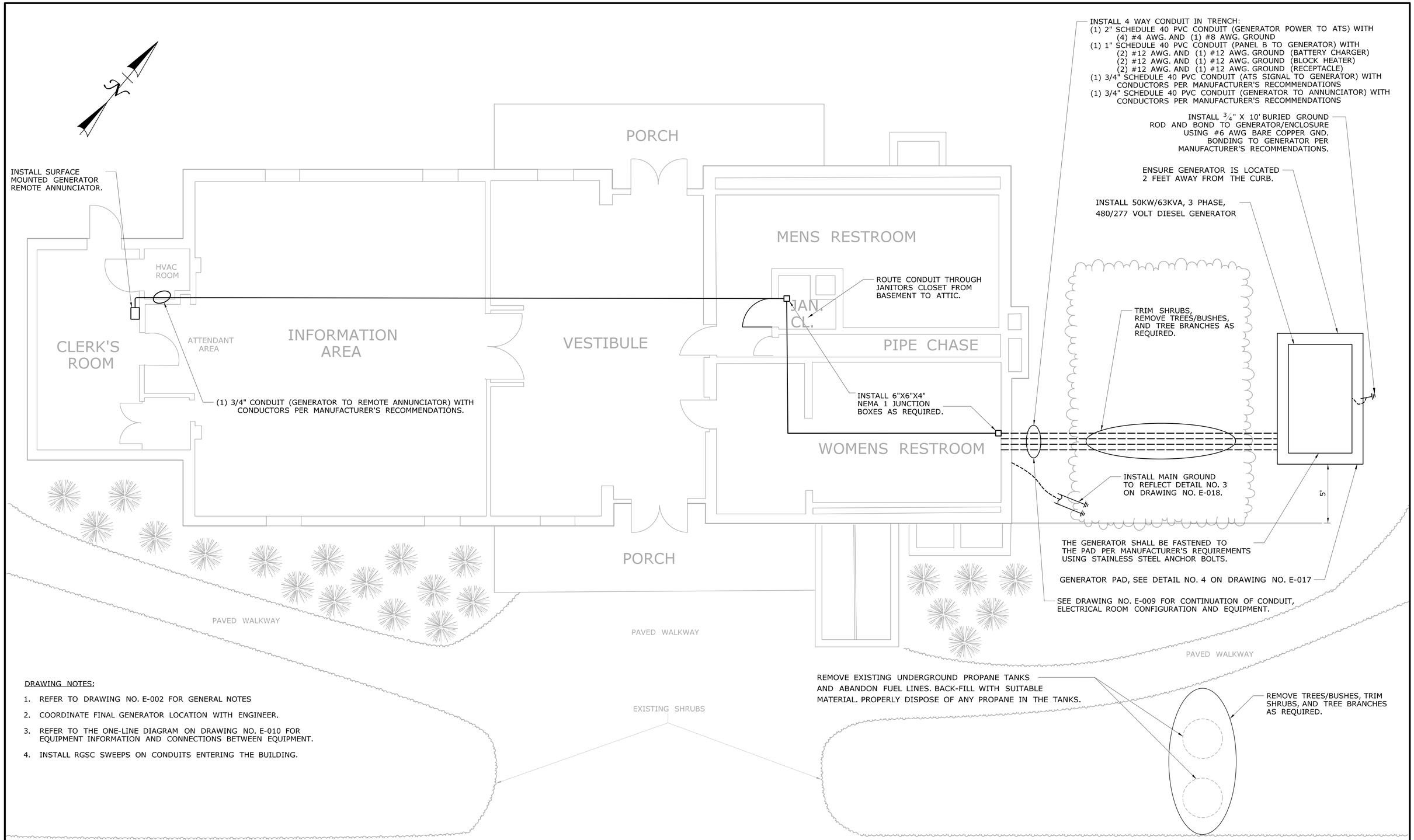
SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

TOWN: NEW HAVEN

DRAWING TITLE: NEW HAVEN DETAILS

PROJECT NO. 170-3369
DRAWING NO. E-007
SHEET NO. 03.07



DRAWING NOTES:

1. REFER TO DRAWING NO. E-002 FOR GENERAL NOTES
2. COORDINATE FINAL GENERATOR LOCATION WITH ENGINEER.
3. REFER TO THE ONE-LINE DIAGRAM ON DRAWING NO. E-010 FOR EQUIPMENT INFORMATION AND CONNECTIONS BETWEEN EQUIPMENT.
4. INSTALL RGSC SWEEPS ON CONDUITS ENTERING THE BUILDING.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR

CHECKED BY: MPW

SCALE: 1/4" = 1'-0"

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\NorthStonington_SitePlan_1STPART.dgn

SIGNATURE/BLOCK:
OFFICE OF ENGINEERING

APPROVED BY:

PROJECT TITLE:
FACILITIES GENERATOR REPLACEMENT

TOWN: NORTH STONINGTON

DRAWING TITLE: NORTH STONINGTON SITE PLAN

PROJECT NO. 170-3369

DRAWING NO. E-008

SHEET NO. 03.08

INSTALL 4 WAY CONDUIT IN TRENCH:
1. (1) 2" SCHEDULE 40 PVC CONDUIT (GENERATOR POWER TO ATS) WITH (4) #4 AWG. AND (1) #8 AWG. GROUND
2. (1) 1" SCHEDULE 40 PVC CONDUIT (PANEL B TO GENERATOR) WITH (2) #12 AWG. AND (1) #12 AWG. GROUND (BATTERY CHARGER) (2) #12 AWG. AND (1) #12 AWG. GROUND (BLOCK HEATER) (2) #12 AWG. AND (1) #12 AWG. GROUND (RECEPTACLE)
3. (1) 3/4" SCHEDULE 40 PVC CONDUIT (ATS SIGNAL TO GENERATOR) WITH CONDUCTORS PER MANUFACTURER'S RECOMMENDATIONS
4. (1) 3/4" SCHEDULE 40 PVC CONDUIT (GENERATOR TO ANNUNCIATOR) WITH CONDUCTORS PER MANUFACTURER'S RECOMMENDATIONS

INSTALL MAIN GROUND TO REFLECT DETAIL NO. 3 ON DRAWING NO. E-018.

INSTALL NEMA 1 JUNCTION BOX FOR THE POWER CONDUITS

REMOVE IN TAKE SHAFT

BOTTOM OF ATS SHALL BE MINIMUM OF 12" ABOVE FINISHED FLOOR.

INSTALL 225 AMP, 3 POLE, 480/277 VOLT, NEMA 1 ATS

SALVAGE EXISTING ATS AND REMOVE CONDUCTORS

RELOCATE DUPLEX RECEPTACLE DOWNWARD APPROXIMATELY 3 FEET

INSTALL 30 AMP FUSED DISCONNECT FOR SPD

EXISTING PUMP HOUSE DISCONNECT

INSTALL SPD

EXISTING TRANSFORMER DISCONNECT

EXISTING PANELBOARDS

SEE ONE LINE DIAGRAM ON DRAWING NO. E-010 FOR TRANSFORMER WORK/CONNECTIONS

(1) 1" CONDUIT (PANEL B TO GENERATOR) WITH (2) #12 AWG. AND (1) #12 AWG. GROUND (BATTERY CHARGER) (2) #12 AWG. AND (1) #12 AWG. GROUND (BLOCK HEATER) (2) #12 AWG. AND (1) #12 AWG. GROUND (RECEPTACLE)

(1) $2\frac{1}{2}$" CONDUIT (MDS TO ATS) WITH (4) 4/0 AWG. AND (1) #4 AWG. GROUND

EXISTING 225 AMP MDS

EXISTING UTILITY COMPARTMENT

EXISTING UTILITY METER

EXISTING 225 AMP MDP

EXISTING LIGHTING CONTACTOR

EXISTING 30A DISCONNECT

EXISTING 1 KVA XFMR

EXISTING ROADWAY LIGHTING PANEL

INSTALL 6"X6"X4", NEMA 1 JUNCTION BOX

INSTALL 6"X6"X4", NEMA 1 JUNCTION BOX

EXISTING PENETRATIONS FOR EXHAUST AND INTAKE SHALL BE REPAIRED AND SEALED TO MATCH THE EXISTING WALL/ CEILING. THE CONTRACTOR SHALL MATCH EXISTING WALL/CEILING USING COMPATIBLE MATERIALS AND ACCEPTABLE MEANS AND METHODS APPROVED BY THE ENGINEER.

REMOVE EXISTING GENERATOR AND ACCESSORIES. REMOVE CONDUCTORS. SALVAGE BATTERY CHARGER.

INSTALL 4 WAY SUFACE MOUNTED CONDUIT:
1. (1) 2" CONDUIT (GENERATOR POWER TO ATS) WITH (4) #4 AWG. AND (1) #8 AWG. GROUND
2. (1) 1" CONDUIT (PANEL B TO GENERATOR) WITH (2) #12 AWG. AND (1) #12 AWG. GROUND (BATTERY CHARGER) (2) #12 AWG. AND (1) #12 AWG. GROUND (BLOCK HEATER) (2) #12 AWG. AND (1) #12 AWG. GROUND (RECEPTACLE)
3. (1) 3/4" CONDUIT (ATS SIGNAL TO GENERATOR) WITH CONDUCTORS PER MANUFACTURER'S RECOMMENDATIONS
4. (1) 3/4" CONDUIT (GENERATOR TO ANNUNCIATOR) WITH CONDUCTORS PER MANUFACTURER'S RECOMMENDATIONS

(1) 3/4" CONDUIT (GENERATOR/ATS TO REMOTE ANNUNCIATOR) WITH CONDUCTORS PER MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL NO. 1 (THIS SHEET) AND DRAWING NO. E-010.

(1) $2\frac{1}{2}$" CONDUIT (ATS TO MDP) WITH (4) 4/0 AWG. AND (1) #4 AWG. GROUND

BASEMENT

ATS

PANEL A

PANEL B

XFMR

MDS

M

MDP

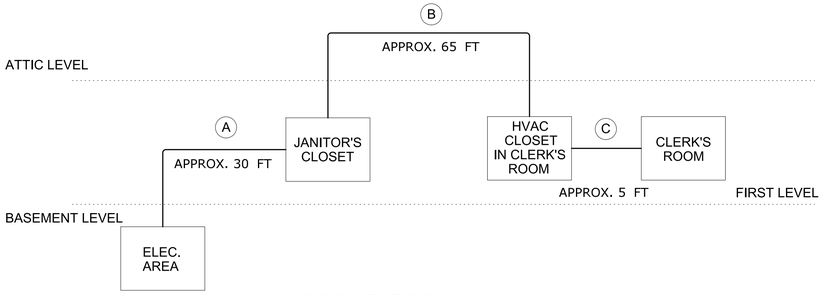
PANEL RL

ROUTING OF COMMUNICATION CABLE FROM GENERATOR/ATS TO CLERK'S ROOM

A. ROUTE COMMUNICATION CABLE FROM GENERATOR/ATS IN THE BASEMENT/ELECTRICAL AREA IN 3/4" CONDUIT UP THROUGH THE JANITOR'S IN THE MEN'S ROOM AND UP TO THE ATTIC.

B. ROUTE CABLE IN THE ATTIC HORIZONTALLY ACROSS IN 3/4" CONDUIT DOWN TO THE CLOSET IN THE CLERK'S ROOM, WHICH HOUSES HVAC DUCT WORK.

C. ROUTE CABLE IN 3/4" CONDUIT FROM CLOSET TO THE OUTSIDE WALL OF THE HVAC CLOSET. CONNECT CABLE/CONDUIT TO SURFACE MOUNTED ANNUNCIATOR.



ANNUNCIATOR ONE-LINE DIAGRAM

SCALE: NTS

1
E-009

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW
SCALE: $\frac{1}{2}$" = 1'-0"

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\NorthStonington_FLOOR PLAN.dgn

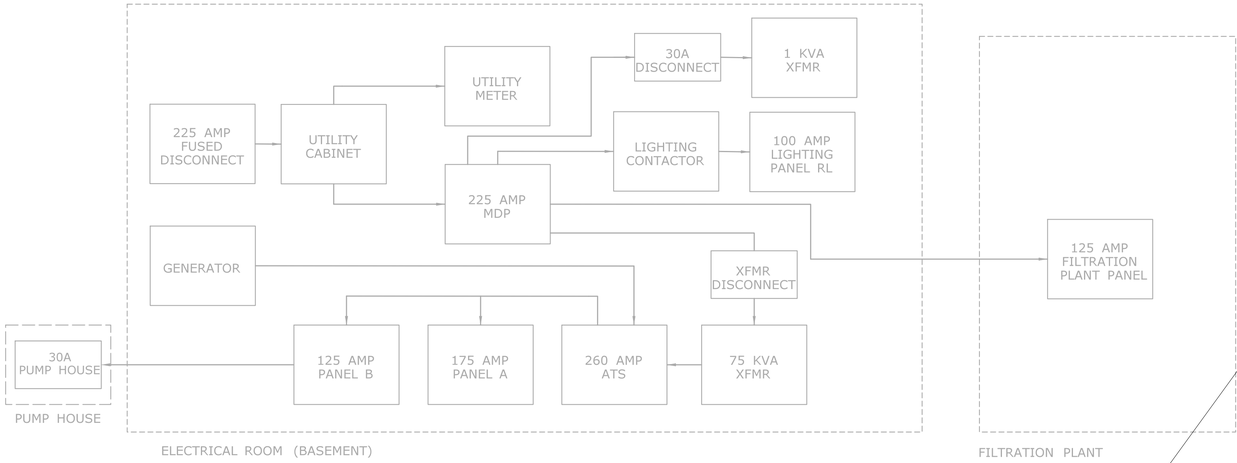
SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

TOWN: NORTH STONINGTON

DRAWING TITLE: NORTH STONINGTON FLOOR PLAN

PROJECT NO. 170-3369
DRAWING NO. E-009
SHEET NO. 03.09



EXISTING CONDITIONS ONE-LINE DIAGRAM

SCALE: NTS

1
E-010

THE FOLLOWING WORK SHALL APPLY TO THE EXISTING MDS:
-INSTALL A GROUNDING CONDUCTOR IN CONDUIT FROM THE NEUTRAL BAR TO THE EXISTING GROUND ROD LOCATED NEXT TO THE 75 KVA TRANSFORMER. ADD NEUTRAL LUGS/CONNECTION KITS AS REQUIRED.
-INSTALL A NEUTRAL BAR IN THE INTERIOR OF THE MDS AND RELOCATE NEUTRAL CONDUCTOR FROM THE GROUND BAR TO THE NEWLY INSTALLED NEUTRAL BAR.
-INSTALL A MAIN SYSTEM JUMPER BETWEEN THE GROUND AND NEWLY INSTALLED NEUTRAL BAR.
-TAPE NEUTRAL CONDUCTORS WHITE.

THE FOLLOWING WORK SHALL APPLY TO THE EXISTING PANEL A:
-CKT#13 IS DOUBLE TAPPED. RELOCATE ONE OF THE CONDUCTORS TO SPARE CIRCUIT BREAKER POSITION 7.
-CKT#18 IS DOUBLE TAPPED. RELOCATE/EXTEND ONE OF THE CONDUCTORS TO SPARE CIRCUIT BREAKER POSITION 26.
- A GREEN GROUNDING CONDUCTOR APPEARS TO BE CONNECTED TO THE NEUTRAL BAR. INVESTIGATE WHETHER THIS IS A GROUNDING CONDUCTOR AND RELOCATE IT TO THE GROUNDING BAR IF IT IS.

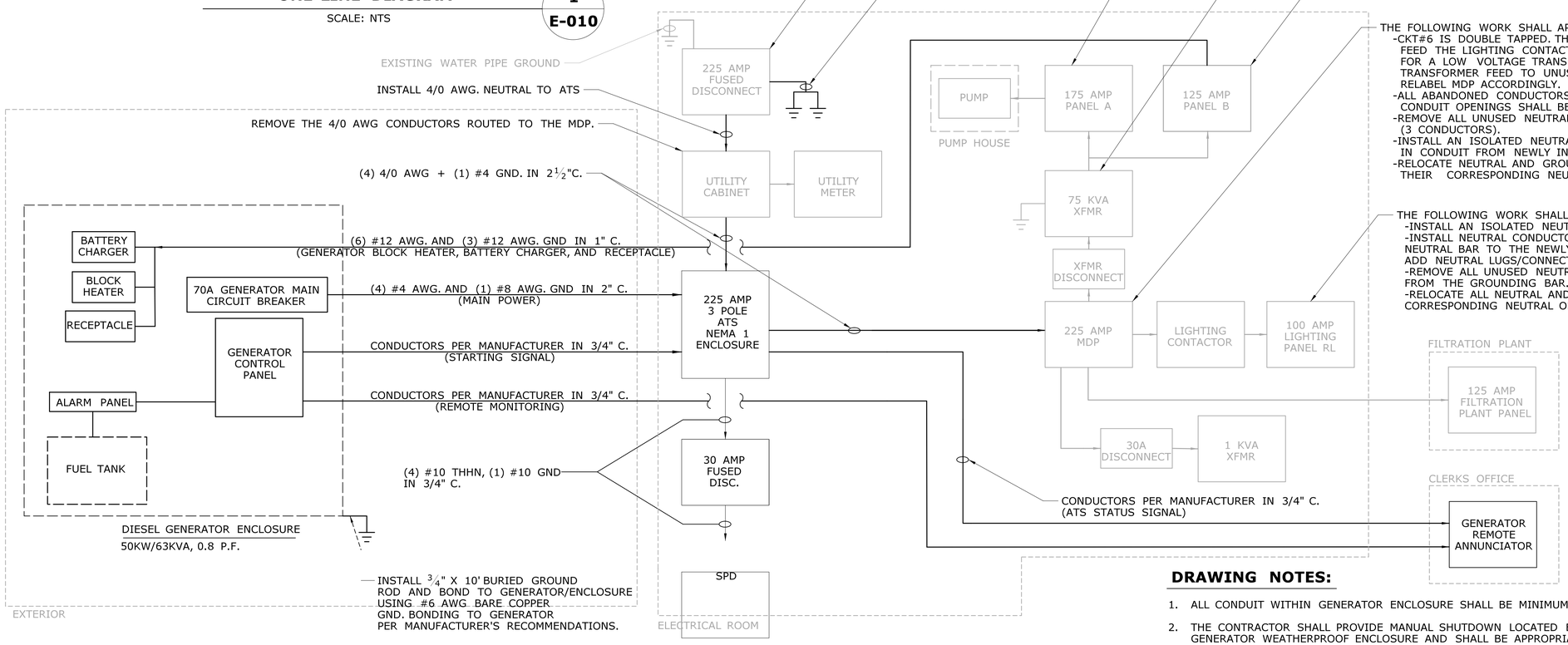
THE EXISTING CONDUCTORS FROM THE 75 KVA TRANSFORMER FEEDING THE EXISTING ATS SHALL BE REUSED AND SHALL BE IN THE TROUGH BELOW PANELS A AND B AND TAPPED TO PANELS A AND B USING NEW ISOLATED MULTI-TAP CONNECTION BLOCKS.
THE CONDUCTORS SHALL BE REINSTALLED IN CONDUIT. THE CONTRACTOR SHALL CLOSE ALL UNUSED CONDUIT OPENINGS FROM THE TRANSFORMER.

THE FOLLOWING WORK SHALL APPLY TO THE EXISTING PANEL B:
-INSTALL THREE 20A CIRCUIT BREAKERS FOR THE GENERATOR BLOCK HEATER, RECEPTACLE, AND BATTERY CHARGER. KIC RATINGS SHALL MATCH EXISTING. NEW CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH THE EXISTING PANEL.

INSTALL MAIN GROUND TO REFLECT DETAIL NO. 3 ON DRAWING NO. E-018.

THE FOLLOWING WORK SHALL APPLY TO THE EXISTING MDP:
-CKT#6 IS DOUBLE TAPPED. THIS CIRCUIT IS USED TO FEED THE LIGHTING CONTACTOR AND A DISCONNECT FOR A LOW VOLTAGE TRANSFORMER. RELOCATE LOW VOLTAGE TRANSFORMER FEED TO UNUSED 20A CIRCUIT BREAKER NO.5. RELABEL MDP ACCORDINGLY.
-ALL ABANDONED CONDUCTORS SHALL BE REMOVED AND ALL UNUSED CONDUIT OPENINGS SHALL BE CLOSED.
-REMOVE ALL UNUSED NEUTRAL CONDUCTORS FROM THE GROUNDING BAR (3 CONDUCTORS).
-INSTALL AN ISOLATED NEUTRAL BAR AND A NEUTRAL CONDUCTOR IN CONDUIT FROM NEWLY INSTALLED NEUTRAL BAR TO ATS NEUTRAL BAR
-RELOCATE NEUTRAL AND GROUNDING CONDUCTORS TO THEIR CORRESPONDING NEUTRAL OR GROUNDING BARS.

THE FOLLOWING WORK SHALL APPLY TO EXISTING PANEL RL:
-INSTALL AN ISOLATED NEUTRAL BAR.
-INSTALL NEUTRAL CONDUCTOR IN EXISTING CONDUIT FROM MDP NEUTRAL BAR TO THE NEWLY INSTALLED NEUTRAL BAR IN PANEL RL. ADD NEUTRAL LUGS/CONNECTION KITS AS REQUIRED AT THE MDP.
-REMOVE ALL UNUSED NEUTRAL CONDUCTORS FROM THE GROUNDING BAR.
-RELOCATE ALL NEUTRAL AND GROUNDING CONDUCTORS TO THEIR CORRESPONDING NEUTRAL OR GROUNDING BARS.



PROPOSED ONE-LINE DIAGRAM

SCALE: NTS

2
E-010

DRAWING NOTES:

1. ALL CONDUIT WITHIN GENERATOR ENCLOSURE SHALL BE MINIMUM ¾".
2. THE CONTRACTOR SHALL PROVIDE MANUAL SHUTDOWN LOCATED EXTERNAL TO THE GENERATOR WEATHERPROOF ENCLOSURE AND SHALL BE APPROPRIATELY IDENTIFIED.
3. EXISTING EQUIPMENT IS SHOWN IN LIGHT FONT.
4. CONDUCTORS WITHIN THE GENERATOR ENCLOSURE SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
5. REFER TO THE NORTH STONINGTON SITE PLAN ON DRAWING NO. E-008 FOR CONDUIT TYPE AND LOCATIONS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING APPROPRIATE LUGS IN EXISTING EQUIPMENT TO PROPERLY TERMINATE CONDUCTORS.
7. ADD BONDING JUMPER BEFORE AND AFTER WATER METER.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

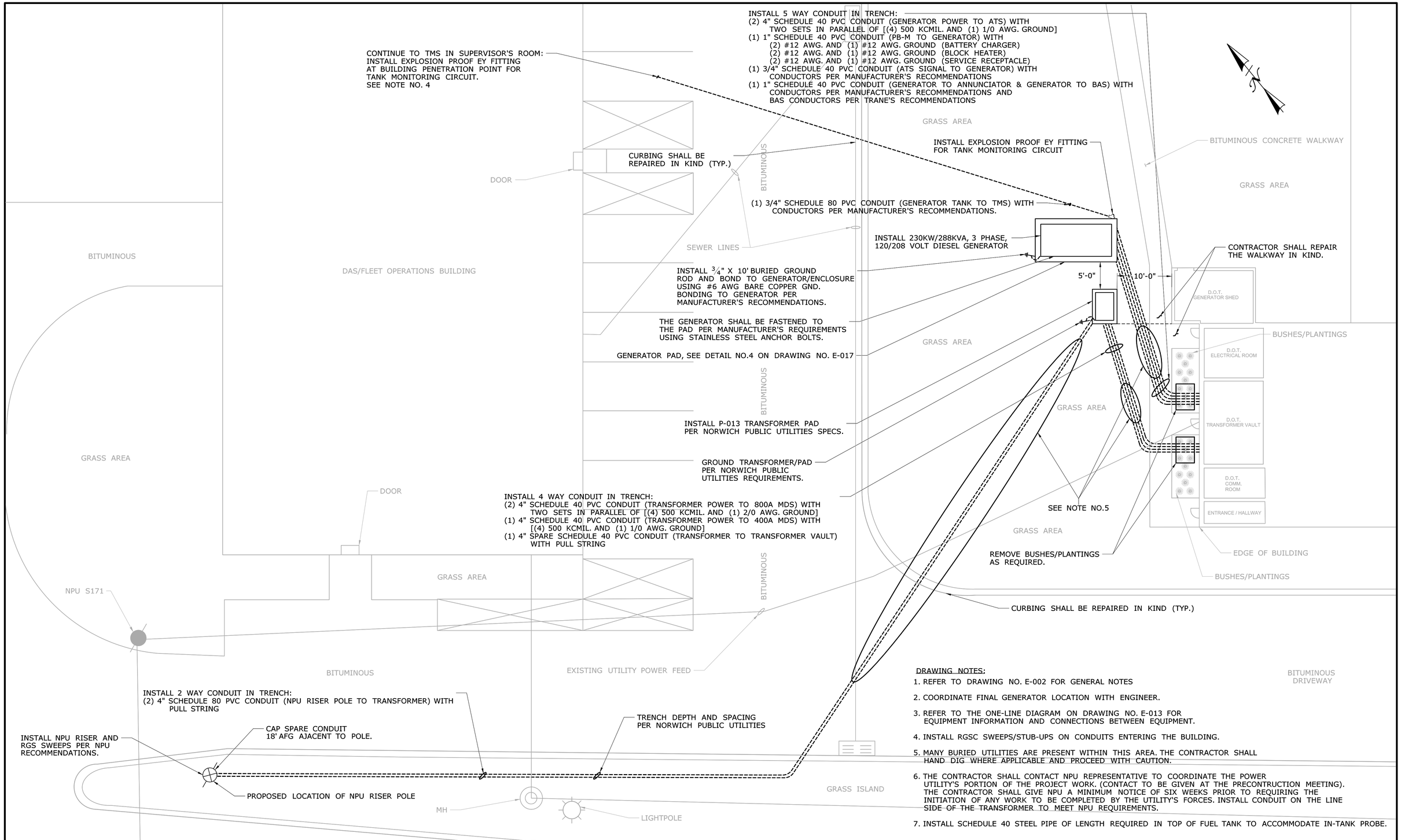
Filename: ...\NorthStonington.OneLineDiagram.dgn

SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

TOWN: NORTH STONINGTON
DRAWING TITLE: NORTH STONINGTON DETAILS

PROJECT NO. 170-3369
DRAWING NO. E-010
SHEET NO. 03.10



DRAWING NOTES:

1. REFER TO DRAWING NO. E-002 FOR GENERAL NOTES
2. COORDINATE FINAL GENERATOR LOCATION WITH ENGINEER.
3. REFER TO THE ONE-LINE DIAGRAM ON DRAWING NO. E-013 FOR EQUIPMENT INFORMATION AND CONNECTIONS BETWEEN EQUIPMENT.
4. INSTALL RGSC SWEEPS/STUB-UPS ON CONDUITS ENTERING THE BUILDING.
5. MANY BURIED UTILITIES ARE PRESENT WITHIN THIS AREA. THE CONTRACTOR SHALL HAND DIG WHERE APPLICABLE AND PROCEED WITH CAUTION.
6. THE CONTRACTOR SHALL CONTACT NPU REPRESENTATIVE TO COORDINATE THE POWER UTILITY'S PORTION OF THE PROJECT WORK. (CONTACT TO BE GIVEN AT THE PRECONTRUCTION MEETING). THE CONTRACTOR SHALL GIVE NPU A MINIMUM NOTICE OF SIX WEEKS PRIOR TO REQUIRING THE INITIATION OF ANY WORK TO BE COMPLETED BY THE UTILITY'S FORCES. INSTALL CONDUIT ON THE LINE SIDE OF THE TRANSFORMER TO MEET NPU REQUIREMENTS.
7. INSTALL SCHEDULE 40 STEEL PIPE OF LENGTH REQUIRED IN TOP OF FUEL TANK TO ACCOMMODATE IN-TANK PROBE.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW
SCALE: 1/8" = 1'-0"

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

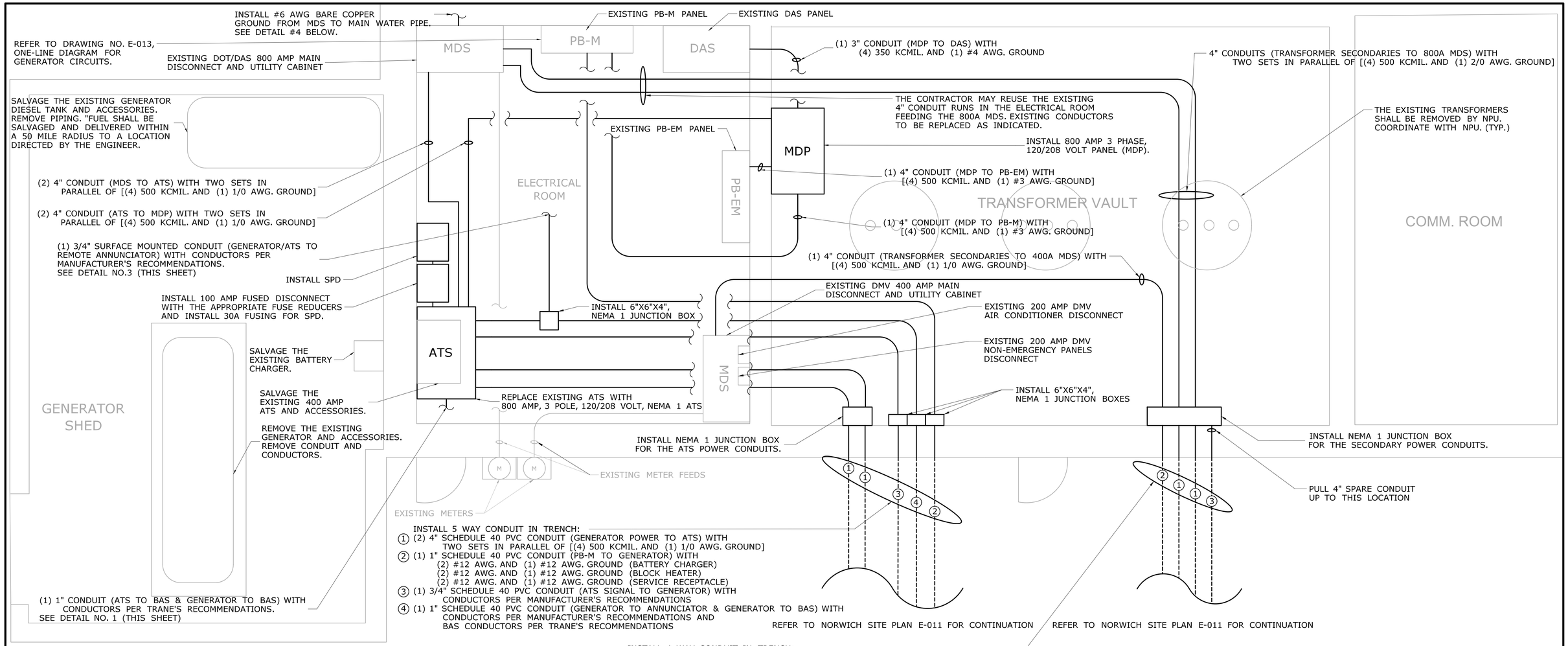
Filename: ..\100% Site Plan B.dgn

SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

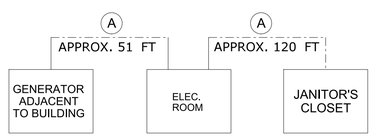
TOWN: NORWICH
DRAWING TITLE: NORWICH SITE PLAN

PROJECT NO. 170-3369
DRAWING NO. E-011
SHEET NO. 03.11



A ROUTING OF BAS CONDUCTORS FROM GEN SET TO BAS CONTROLLER

THE CONTRACTOR SHALL ROUTE CONDUIT AND CONDUCTORS FROM THE GEN SET TO THE TRANE EQUIPMENT PER TRANE RECOMMENDATIONS. THE CONTRACTOR SHALL HIRE TRANE TO MAKE FINAL CONNECTIONS TO THE BAS SYSTEM, PROGRAM, AND INTEGRATE THE GEN SET TO THE BAS. THE CONTRACTOR SHALL MAKE FINAL BAS CONNECTIONS AT THE ATS AND GENERATOR PER GENERATOR MANUFACTURER'S RECOMMENDATIONS.

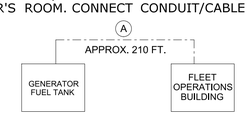


BUILDING AUTOMATION SYSTEM ONE-LINE DIAGRAM — 1 / E-012

SCALE: NTS

ROUTING OF TMS CABLE FROM GENERATOR FUEL TANK TO TMS

A INSTALL TMS CABLE FROM GENERATOR FUEL TANK IN 3/4" CONDUIT TO THE FLEET OPERATIONS BUILDING. PENETRATE BUILDING AND ROUTE CONDUIT SURFACE MOUNTED ABOVE DROP DOWN CEILING TO THE SUPERVISOR'S ROOM. ROUTE CABLE IN 3/4" CONDUIT BELOW THE DROP CEILING AT THE SUPERVISOR'S ROOM. CONNECT CONDUIT/CABLE TO EXISTING TMS.

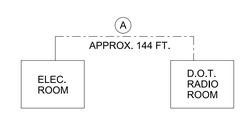


TANK MONITORING SYSTEM ONE-LINE DIAGRAM — 2 / E-012

SCALE: NTS

ROUTING OF ANNUNCIATOR CABLE FROM ATS TO RADIO ROOM

A THE CONTRACTOR SHALL INSTALL THE REMOTE ANNUNCIATOR IN THE D.O.T. RADIO ROOM AT SPECIFIC LOCATION DIRECTED BY THE ENGINEER. ROUTE ANNUNCIATOR CABLE IN ¾" CONDUIT FROM THE ATS TO THE SURFACE MOUNTED ANNUNCIATOR.

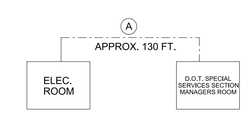


REMOTE ANNUNCIATOR ONE-LINE DIAGRAM — 3 / E-012

SCALE: NTS

ROUTING OF GROUNDING CONDUCTOR FROM MDS TO BUILDING MAIN WATER PIPE

A ROUTE GROUNDING CONDUCTOR IN 3/4" CONDUIT FROM DOT/DAS 800A MDS IN THE ELECTRICAL ROOM TO THE D.O.T. SPECIAL SERVICES SECTION MANAGERS ROOM. ROUTE CABLE IN 3/4" CONDUIT TO BUILDING MAIN WATER PIPE, WHICH IS LOCATED BEHIND A REMOVABLE ENCLOSED PANEL BY THE WINDOW IN THE ROOM. BOND GROUNDING CONDUCTOR TO WATER MAIN.



WATER PIPE GROUNDING ONE-LINE DIAGRAM — 4 / E-012

SCALE: NTS

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW
SCALE: ¾" = 1'-0"

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\100% Floor Plan.dgn

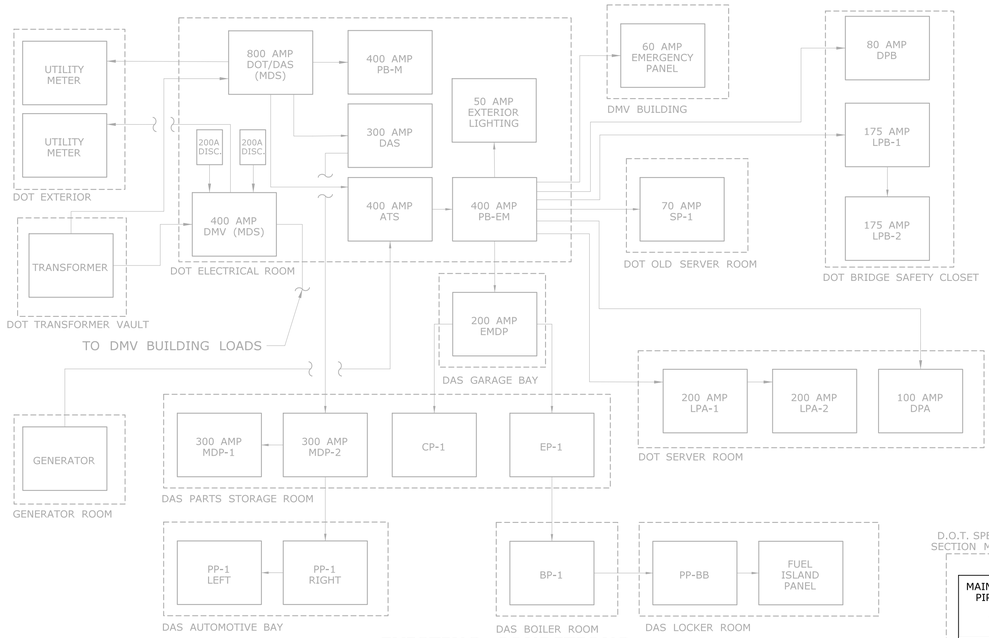
SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

TOWN: NORWICH

DRAWING TITLE: NORWICH FLOOR PLAN

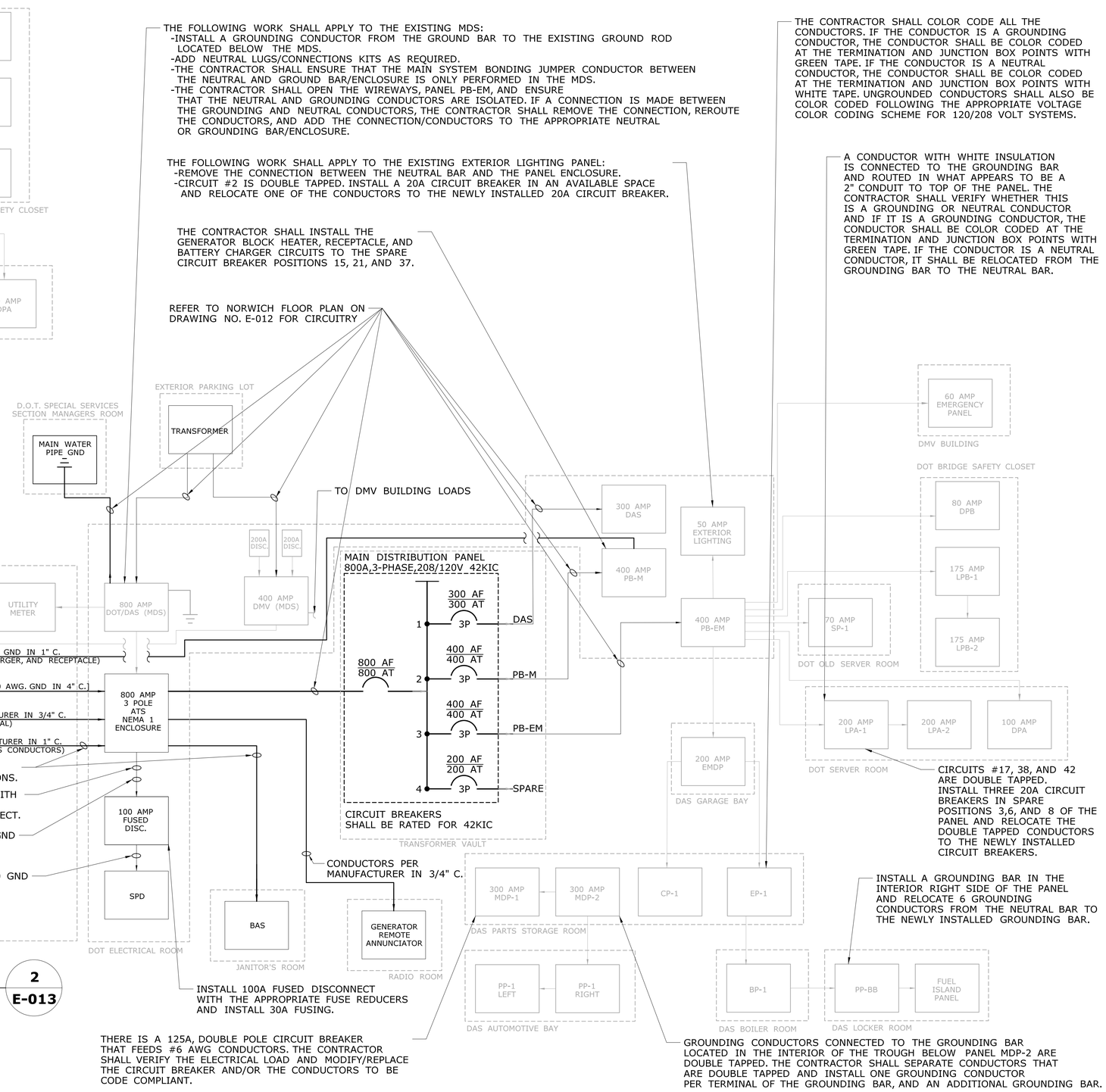
PROJECT NO. 170-3369
DRAWING NO. E-012
SHEET NO. 03.12



EXISTING CONDITIONS ONE-LINE DIAGRAM

SCALE: NTS

1 / E-013



PROPOSED ONE-LINE DIAGRAM

SCALE: NTS

2 / E-013

DRAWING NOTES:

1. ALL CONDUIT WITHIN GENERATOR ENCLOSURE SHALL BE MINIMUM 3/4".
2. THE CONTRACTOR SHALL PROVIDE MANUAL SHUTDOWN LOCATED EXTERNAL TO THE GENERATOR WEATHERPROOF ENCLOSURE AND SHALL BE APPROPRIATELY IDENTIFIED.
3. EXISTING EQUIPMENT IS SHOWN IN LIGHT FONT.
4. CONDUCTORS WITHIN THE GENERATOR ENCLOSURE SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
5. REFER TO THE NORWICH SITE PLAN ON DRAWING NO. E-011 FOR CONDUIT TYPE AND LOCATIONS.
6. PROGRAMMING AND FINAL CONNECTIONS TO THE TANK MONITORING SYSTEM (TMS) SHALL BE DONE BY A TMS CERTIFIED INSTALLER. A TMS CERTIFIED INSTALLER SHALL ENSURE THAT ALL INTRINSICALLY SAFE WIRING IS MAINTAINED AND CONDUIT/CONDUCTORS SERVING THE BASE TANK ARE INSTALLED CORRECTLY.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING APPROPRIATE LUGS IN EXISTING EQUIPMENT TO PROPERLY TERMINATE CONDUCTORS.
8. ADD BONDING JUMPER BEFORE AND AFTER WATER METER.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\Norwich One-Line Diagram.dgn

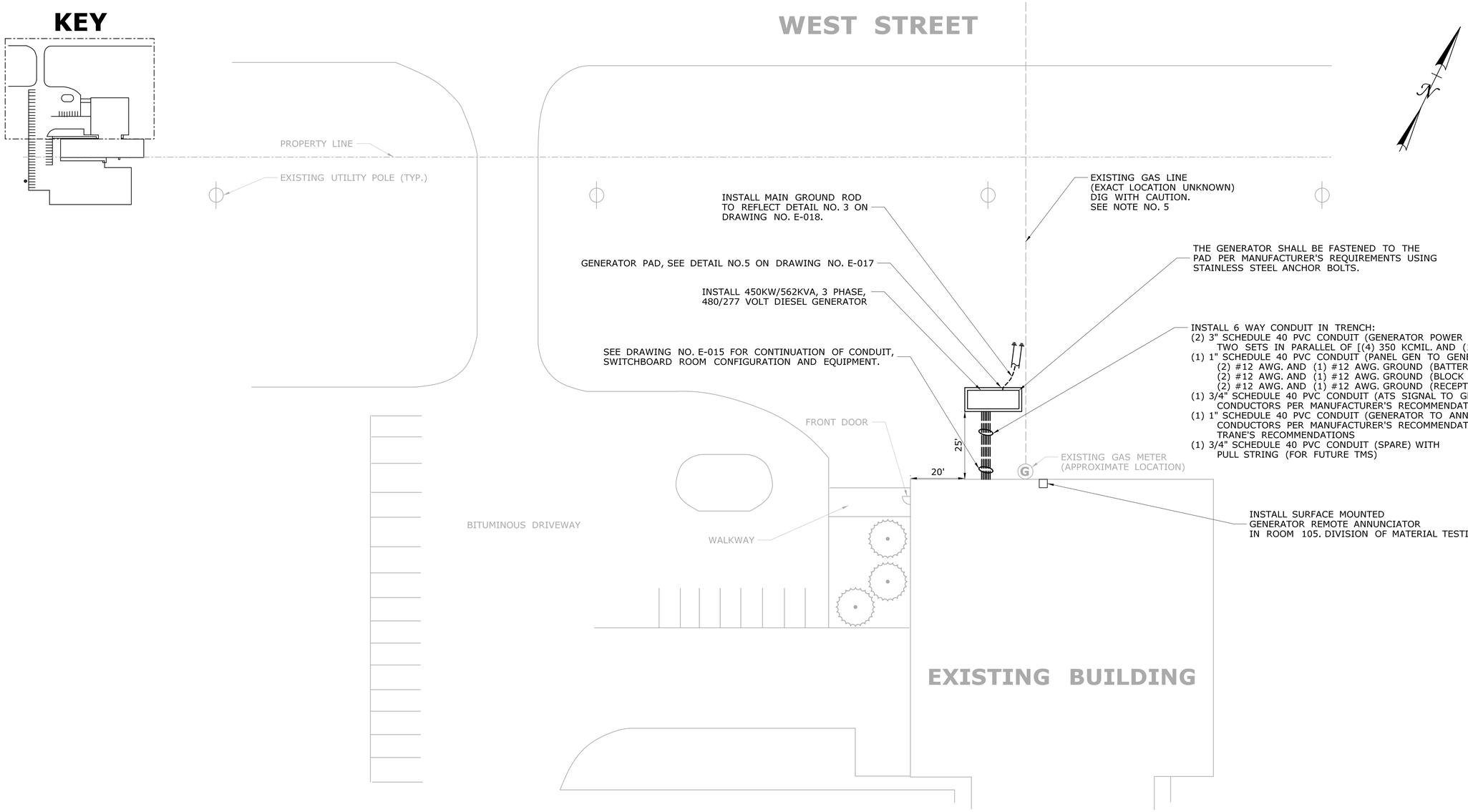
SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

TOWN: NORWICH

DRAWING TITLE: NORWICH DETAILS

PROJECT NO. 170-3369
DRAWING NO. E-013
SHEET NO. 03.13



DRAWING NOTES:

1. REFER TO DRAWING NO. E-002 FOR GENERAL NOTES
2. COORDINATE FINAL GENERATOR LOCATION WITH ENGINEER.
3. REFER TO THE ONE-LINE DIAGRAM ON DRAWING NO. E-016 FOR EQUIPMENT INFORMATION AND CONNECTIONS BETWEEN EQUIPMENT.
4. INSTALL PVC COATED RGSC SWEEPS ON CONDUITS ENTERING THE BUILDING.
5. UTILITIES ARE PRESENT WITHIN THE AREA. THE CONTRACTOR SHALL HAND DIG WHERE APPLICABLE AND PROCEED WITH CAUTION.
6. TERMINATE TMS CONDUIT INSIDE THE GENERATOR ENCLOSURE ADJACENT TO THE FUEL TANK OPENING FOR FUTURE IN TANK PROBE. PROBE AND SCHEDULE 40 STEEL PIPE SLEEVE SHALL BE INSTALLED BY OTHERS.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
-	-	-	-
-	-	-	-
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW
SCALE IN FEET
0 20 40
SCALE 1"=20'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\Rocky Hill site plan.dgn

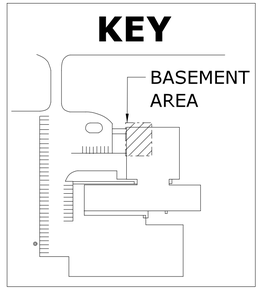
SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE:
FACILITIES GENERATOR REPLACEMENT

TOWN: ROCKY HILL

DRAWING TITLE: ROCKY HILL SITE PLAN

PROJECT NO. 170-3369
DRAWING NO. E-014
SHEET NO. 03.14



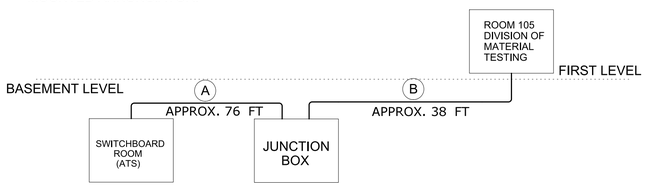
DRAWING NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POSITIONING THE NEW SWITCHBOARD EQUIPMENT TO ALIGN WITH THE EXISTING CONDUIT TRENCHES. THE TRENCHES SHALL BE FILLED OR EXPANDED AS NEEDED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXTENDING CIRCUITRY TO THE NEW CIRCUIT BREAKERS. SOME SPLICING OF CONDUCTORS MAY BE REQUIRED. THE CONTRACTOR SHALL USE LISTED SPLICING KITS AND SHALL MATCH CONDUCTORS IN KIND.
3. THE CONTRACTOR SHALL ADJUST CIRCUIT BREAKER TRIP SETTINGS PER COORDINATION STUDY. REFER TO SPECIFICATION NO. 260573.16.
4. THE CONTRACTOR SHALL SALVAGE THE EXISTING ATS AND REMOVE THE EXISTING GENERATOR ALONG WITH ITS ASSOCIATED COMPONENTS/CONDUCTORS. EXISTING GENERATOR AND ATS ARE LOCATED IN THE BOILER ROOM IN THE BASEMENT. EXISTING PENETRATIONS FOR EXHAUST AND INTAKE SHALL BE REPAIRED AND SEALED TO MATCH THE EXISTING WALL/CEILING. THE CONTRACTOR SHALL MATCH EXISTING WALL/CEILING USING COMPATIBLE MATERIALS AND ACCEPTABLE MEANS AND METHODS APPROVED BY THE ENGINEER.

ROUTING OF ANNUNCIATOR CABLE FROM ATS TO ANNUNCIATOR

(A) INSTALL ANNUNCIATOR CABLE IN 3/4" CONDUIT FROM ATS IN THE SWITCHBOARD ROOM TO THE ANNUNCIATOR VIA JUNCTION BOX CONNECTION POINT IN THE BASEMENT.

(B) THE CONTRACTOR SHALL INSTALL THE REMOTE ANNUNCIATOR IN ROOM 105 DIVISION OF MATERIAL TESTING ON THE FIRST FLOOR AT SPECIFIC LOCATION DIRECTED BY THE ENGINEER. INSTALL ANNUNCIATOR CABLE IN 3/4" CONDUIT TO FROM THE 6"X6"X4" JUNCTION BOX TO SURFACE MOUNTED ANNUNCIATOR.

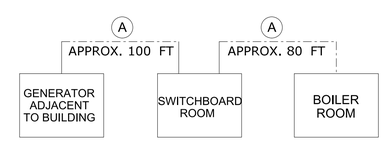


REMOTE ANNUNCIATOR ONE-LINE DIAGRAM — 1 / E-015

SCALE: NTS

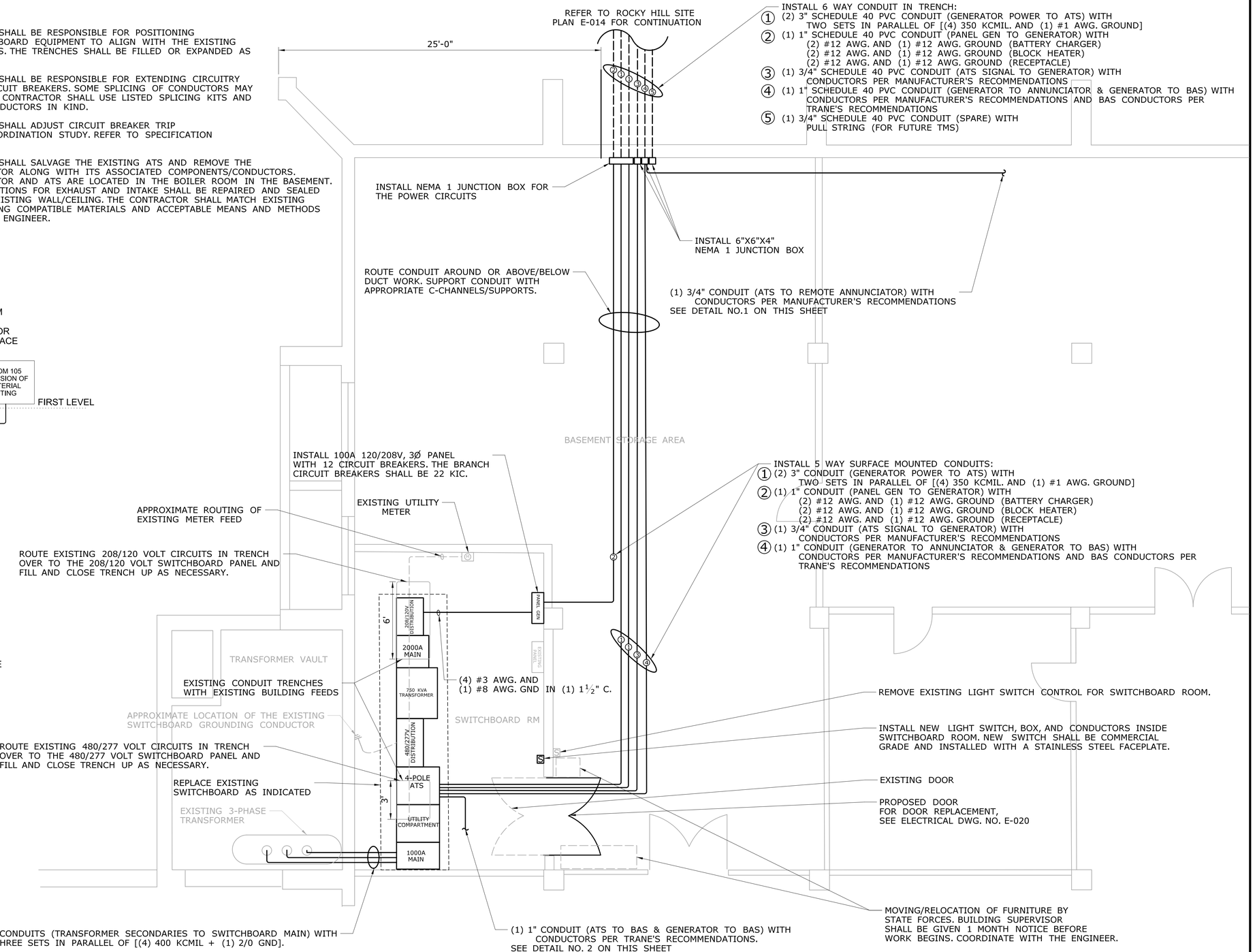
ROUTING OF BAS CONDUCTORS FROM GEN SET TO BAS CONTROLLER

(A) THE CONTRACTOR SHALL ROUTE CONDUIT AND CONDUCTORS FROM THE GEN SET TO THE TRANE EQUIPMENT PER TRANE RECOMMENDATIONS. THE CONTRACTOR SHALL HIRE TRANE TO MAKE FINAL CONNECTIONS TO THE BAS SYSTEM, PROGRAM, AND INTEGRATE THE GEN SET TO THE BAS. THE CONTRACTOR SHALL MAKE FINAL BAS CONNECTIONS AT THE ATS AND GENERATOR PER GENERATOR MANUFACTURER'S RECOMMENDATIONS.



BUILDING AUTOMATION SYSTEM ONE-LINE DIAGRAM — 2 / E-015

SCALE: NTS



REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	
-	-	-	-
-	-	-	-
-	-	-	-
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR

CHECKED BY: MPW

SCALE: ¼" = 1'-0"

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\Rocky Hill Floor Plan.dgn

SIGNATURE/BLOCK: OFFICE OF ENGINEERING

APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

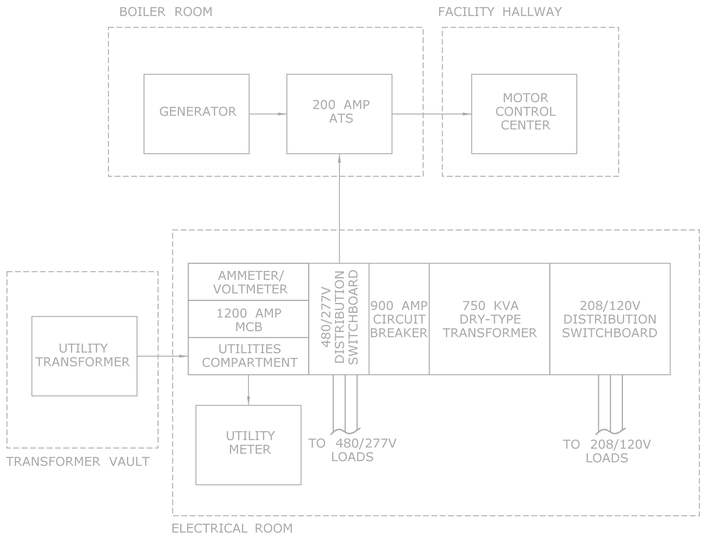
TOWN: ROCKY HILL

DRAWING TITLE: ROCKY HILL FLOOR PLAN

PROJECT NO. 170-3369

DRAWING NO. E-015

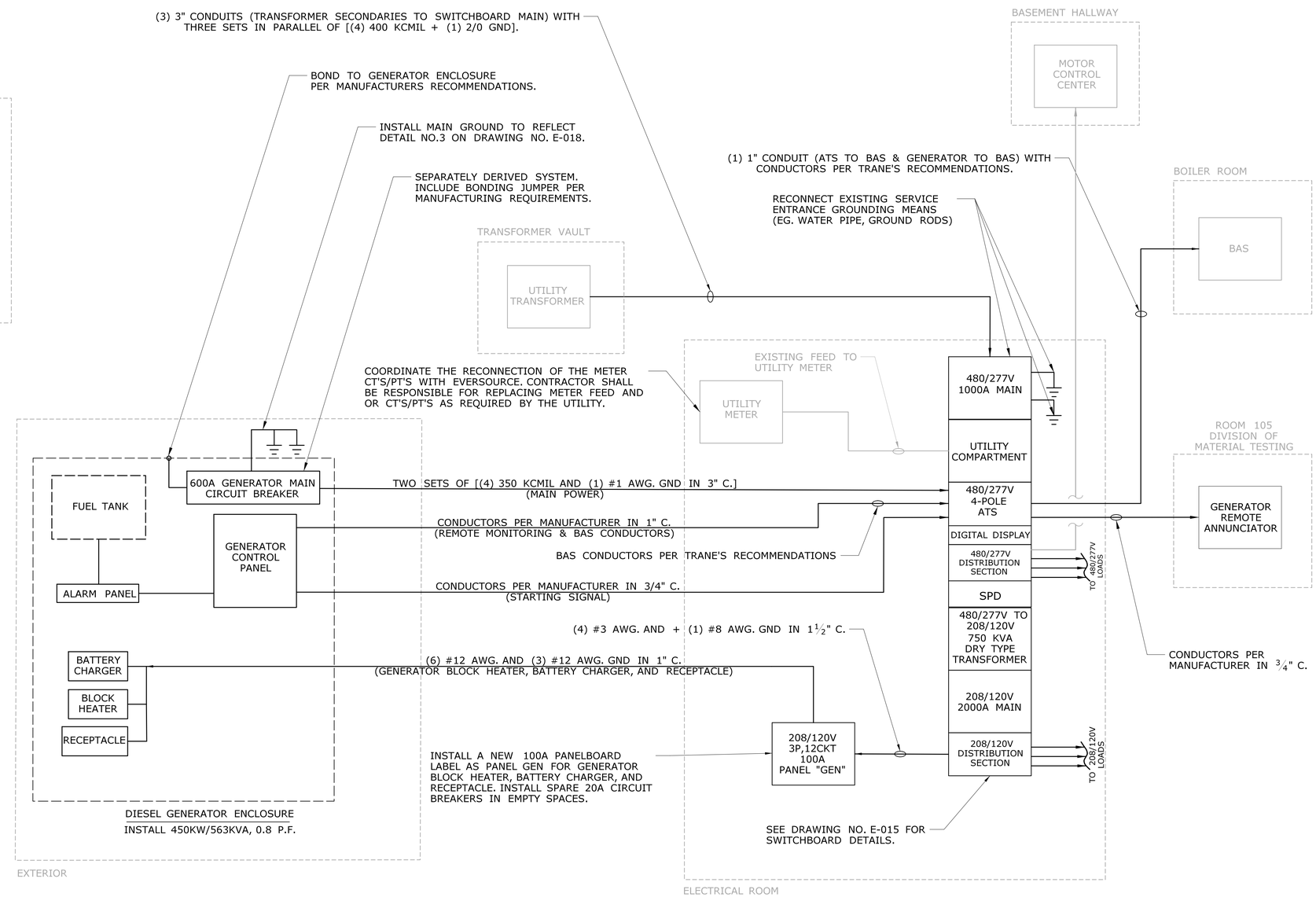
SHEET NO. 03.15



EXISTING CONDITIONS ONE-LINE DIAGRAM

SCALE: NTS

1
E-016



PROPOSED ONE-LINE DIAGRAM

SCALE: NTS

2
E-016

DRAWING NOTES:

1. ALL CONDUIT WITHIN GENERATOR ENCLOSURE SHALL BE MINIMUM 3/4".
2. THE CONTRACTOR SHALL PROVIDE MANUAL SHUTDOWN LOCATED EXTERNAL TO THE GENERATOR WEATHERPROOF ENCLOSURE AND SHALL BE APPROPRIATELY IDENTIFIED.
3. EXISTING EQUIPMENT IS SHOWN IN LIGHT FONT.
4. CONDUCTORS WITHIN THE GENERATOR ENCLOSURE SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
5. REFER TO THE ROCKY HILL SITE PLAN ON DRAWING NO. E-014 FOR CONDUIT TYPE AND LOCATIONS.
6. REFER TO DRAWING NOTES ON DRAWING NO. E-015 FOR REFEEDING/EXTENDING CIRCUITRY.
7. ADD BONDING JUMPER BEFORE AND AFTER WATER METER.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\Rocky Hill One-Line Diagram.dgn

SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

TOWN: ROCKY HILL
DRAWING TITLE: ROCKY HILL DETAILS

PROJECT NO. 170-3369
DRAWING NO. E-016
SHEET NO. 03.16

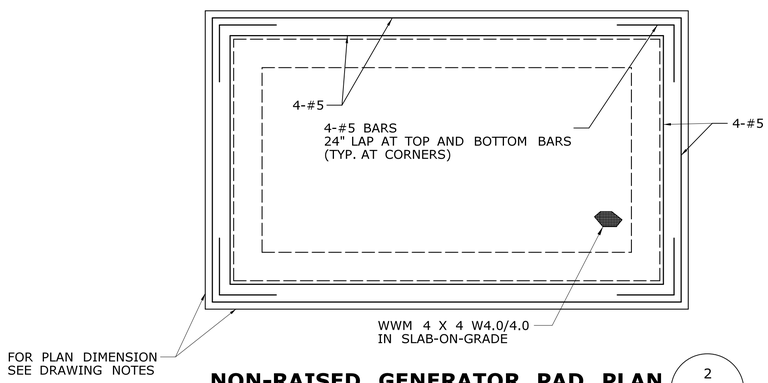
	EAST GRANBY	NEW HAVEN	NORTH STONINGTON	NORWICH	ROCKY HILL
GENERATOR SIZE	60KW/60KVA	275KW/344KVA	50KW/63KVA	230KW/288KVA	450KW/563KVA
SERVICE SIZE/VOLTAGE	600A 120/240V	1200A 120/208V	225A 277/480V	800A 120/208V	1000A 277/480V
PHASE	1	3	3	3	3
ENCLOSURE	SOUND	SOUND+	SOUND	SOUND	SOUND
ATS ENCLOSURE	NEMA 1	NEMA 1	NEMA 1	NEMA 1	NEMA 1
ATS RATING*	600A 2 POLE	1200A 3 POLE	225A 3 POLE	800A 3 POLE	INTEGRAL TO SWITCHBOARD
FUEL TYPE	NATURAL GAS	DIESEL	DIESEL	DIESEL	DIESEL
TANK SIZE	NONE	1470 GALLON	340 GALLON	956 GALLONS	1700 GALLONS
SPD CATALOG#	EATON: PSPD160 240S 2 K	N/A	EATON: PSPD160 480Y 2 K	EATON: PSPD160 208Y 2 K	INTEGRAL TO SWITCHBOARD
SPD DISCONNECT SIZE/CATALOG #	60A GE (TH3222)	N/A	30A SQUARE D (H361N)	100A GE (TH4323)	INTEGRAL TO SWITCHBOARD
ANNUNCIATOR	YES	YES	YES	YES	YES
BLOCK HEATER	YES	YES	YES	YES	YES

+ INDICATES MORE STRINGENT SOUND ATTENUATION. SEE SPECIFICATION NO. 263213, SECTION 1.5 (LETTER M - NOISE EMISSION) FOR ENCLOSURE DECIBEL LEVEL REQUIREMENTS.

* THE CONTRACTOR MAY USE 3 POLE ATS FOR THE 600 AMP 2 POLE ATS SHOWN ABOVE.

EQUIPMENT SCHEDULE

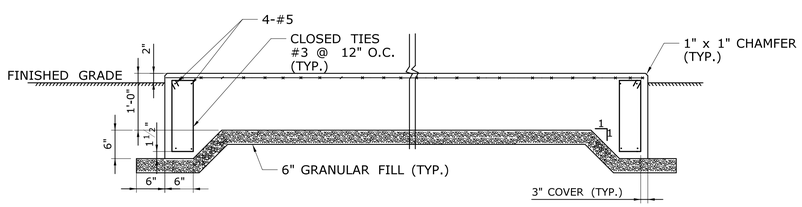
1 / E-017



NON-RAISED GENERATOR PAD PLAN

N.T.S.

2 / E-017



NON-RAISED GENERATOR PAD SECTION

N.T.S.

3 / E-017

CONCRETE PAD NOTES:

1. DIMENSIONS FOR GENERATOR PAD/ENCLOSURE SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS. REFER TO THE GENERATOR PAD/ENCLOSURE SCHEDULE TABLE BELOW FOR GENERATOR PAD DIMENSIONS BASED ON THE BASIS OF DESIGN. CONSULT WITH THE MANUFACTURER FOR FINAL DIMENSIONS. THERE SHALL BE NO ADDITIONAL COST IF THE DIMENSION SHOWN FOR BOTH THE PAD/ ENCLOSURE IS DETERMINED TO BE LARGER.

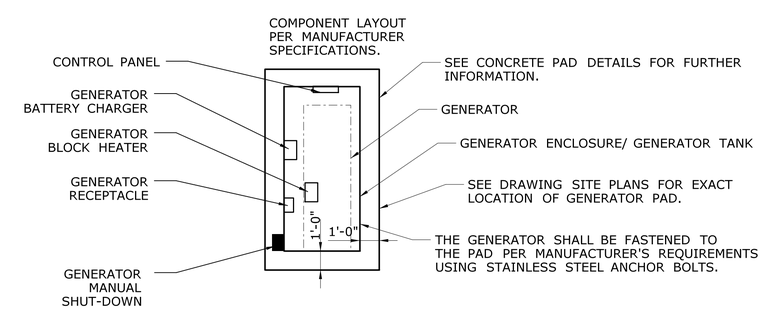
2. CONCRETE SHALL BE CLASS F. REBAR REINFORCING SHALL BE EPOXY-COATED ASTM A615 GRADE 60. CONCRETE PAD AND TESTING SHALL BE PAID FOR UNDER ITEM NO. 0601365A. REFER TO SPECIAL PROVISION NO. 0601365A FOR MATERIAL AND TESTING FOR THE CONCRETE PAD.

	STANDARD ENCLOSURE				
TOWN	EAST GRANBY	* NEW HAVEN	* NORTH STONINGTON	* NORWICH	* ROCKY HILL
GENERATOR SIZE	60KW/60KVA	275KW/344KVA	50KW/63KVA	230KW/288KVA	450KW/563KVA
GENERATOR ENCLOSURE	83"L x 40"W x 72"H	222"L x 82"W x 92"H	86"L x 40"W x 72"H	108"L x 40"W x 74"H	188"L x 82"W x 92"H
GENERATOR PAD	107"L x 64"W x 18"H	221"L x 106"W x 18"H	142"L x 93"W x 18"H	179"L x 95"W x 18"H	246"L x 106"W x 18"H

* GENERATOR PAD SIZE REFLECTS THE SIZE OF THE GENERATOR TANK

GENERATOR PAD/ENCLOSURE SCHEDULE

4 / E-017



STANDARD ENCLOSURE GENERATOR LAYOUT

N.T.S.

5 / E-017

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR

CHECKED BY: MPW

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD_MSH_ELE_0170_3369_E017.dgn

SIGNATURE/ BLOCK: OFFICE OF ENGINEERING

APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

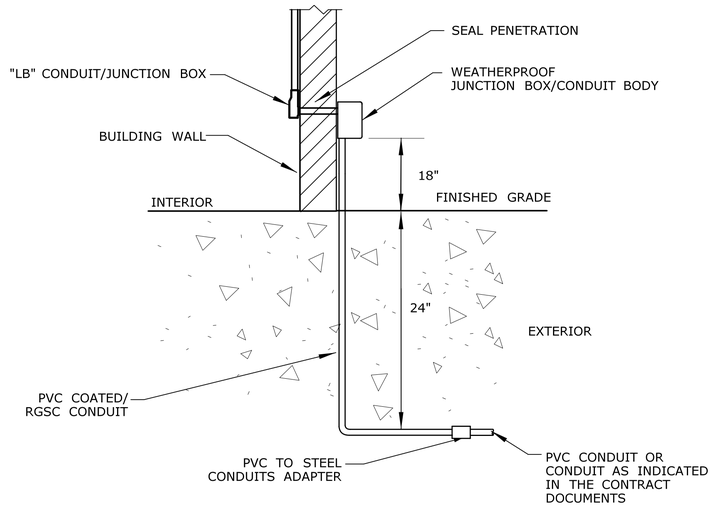
TOWN: VARIOUS

DRAWING TITLE: ELECTRICAL DETAILS 1

PROJECT NO. 170-3369

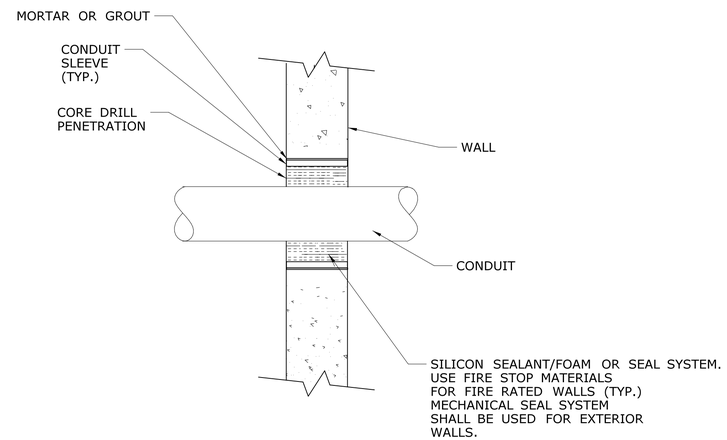
DRAWING NO. E-017

SHEET NO. 03.17



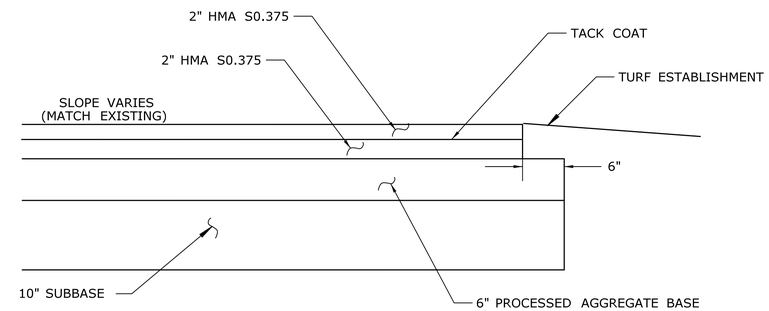
TYPICAL CONDUIT STUB-UP DETAIL (1 / E-018)

NOT TO SCALE



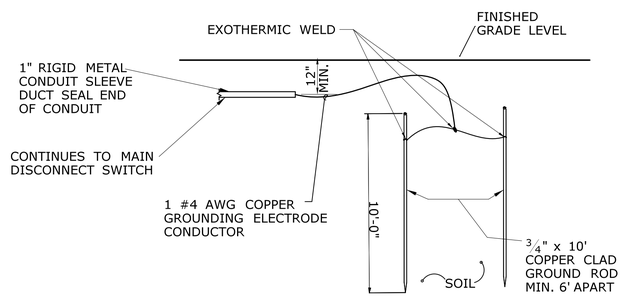
PENETRATION DETAIL (2 / E-018)

NOT TO SCALE



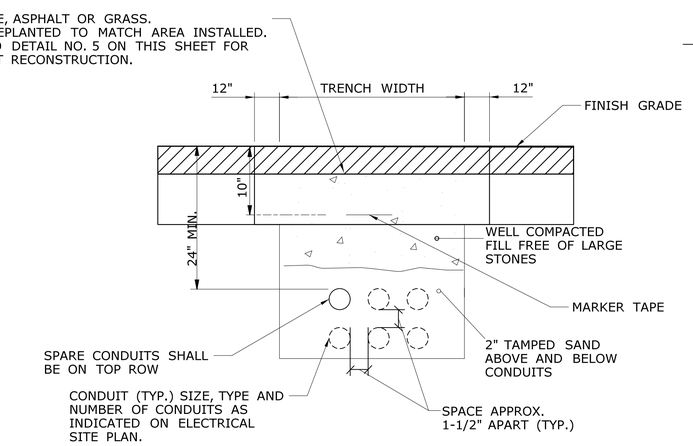
BITUMINOUS CONCRETE PAVEMENT - FACILITY - FULL DEPTH (5 / E-018)

NOT TO SCALE



GROUNDING ELECTRODE DETAIL (3 / E-018)

NOT TO SCALE



CONDUIT IN TRENCH (4 / E-018)

NOT TO SCALE

NOTES:

1. THE CONTRACTOR SHALL PROVIDE ASPHALTIC TYPE ELECTRICAL COATING FOR ALL EXOTHERMIC WELDS.
2. THE CONTRACTOR SHALL PROVIDE A 12" MINIMUM SEPARATION BETWEEN ELECTRICAL LINES AND CROSSINGS OF OTHER UTILITY LINE (GAS LINES, FUEL LINES, ETC.)
3. ALL CONDUIT SLEEVES PENETRATIONS THROUGH FOUNDATION WALLS SHALL BE INSTALLED USING A BORED CYLINDER.
4. PATCH AROUND ALL ELECTRICAL CONDUIT PENETRATIONS THROUGH WALLS. INSTALL FIRE STOP AROUND ALL ELECTRICAL CONDUIT PENETRATIONS THROUGH FIRE RESISTANCE RATED WALLS IN ACCORDANCE WITH SPECIFICATION NO. 260544. FIRE STOP MATERIAL SHALL BE APPLIED TO BOTH SIDES OF FIRE RATED WALL PENETRATION.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR

CHECKED BY: MPW

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD_MSH_ELE_0170_3369_E018.dgn

SIGNATURE/ BLOCK: OFFICE OF ENGINEERING

APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

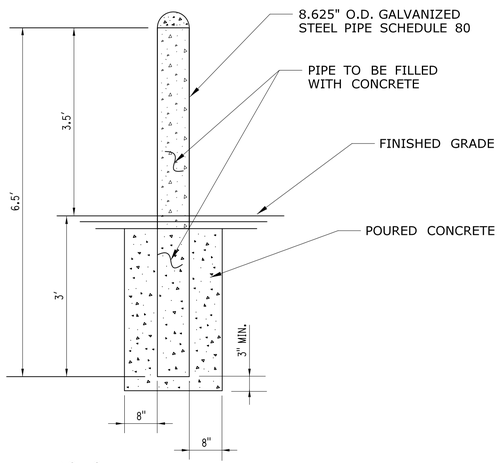
TOWN: VARIOUS

DRAWING TITLE: ELECTRICAL DETAILS 2

PROJECT NO. 170-3369

DRAWING NO. E-018

SHEET NO. 03.18



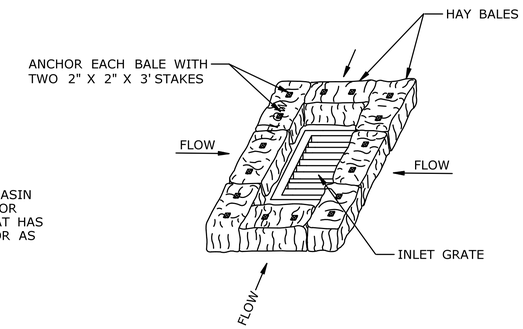
NOTES:

1. BOLLARDS SHALL BE COVERED WITH $\frac{1}{4}$" YELLOW POLYETHYLENE COVER.
2. TRIM BOLLARD COVER TO FIT.

BOLLARD 1 / E-019

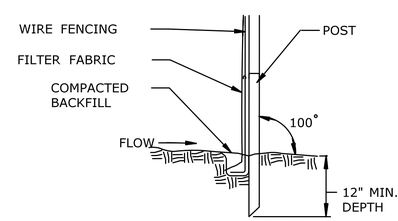
NOT TO SCALE

GENERAL NOTE:
1. PROVIDE HAY BALES AT ALL CATCH BASIN LOCATED WITHIN THE PROJECT LIMITS OR THAT ARE IMPACTED BY ANY WORK THAT HAS TO BE PERFORMED FOR THE PROJECT OR AS DIRECTED BY THE ENGINEER.



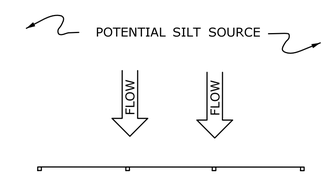
HAY BALE INSTALLATION AT CATCH BASIN 2 / E-019

NOT TO SCALE

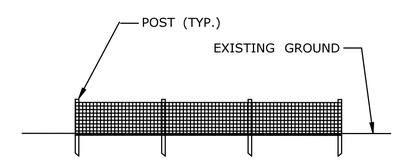


1. SET POSTS AS SHOWN AND EXCAVATE A 6" X 6" TRENCH ON UPSLOPE OF POST LINE
2. STAPLE THE WIRE MESH FENCING TO POSTS.
3. ATTACH FILTER FABRIC TO THE WIRE FENCING AND EXTEND THE FABRIC INTO THE TRENCH AS SHOWN.
4. BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL.

DETAIL



PLAN VIEW



ELEVATION VIEW

FILTER FABRIC SYSTEM FOR SEDIMENTATION CONTROL ON SLOPES 3 / E-019

NOT TO SCALE

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 4/19/2016

DESIGNER/DRAFTER: RR
CHECKED BY: MPW
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD_MSH_ELE_0170_3369_E019.dgn

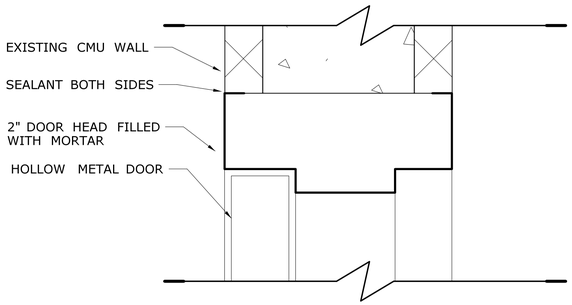
SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE:
FACILITIES GENERATOR REPLACEMENT

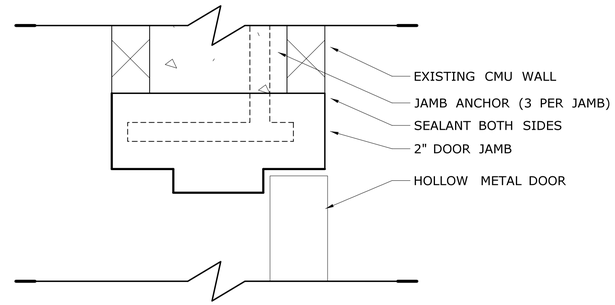
TOWN: VARIOUS

DRAWING TITLE: CIVIL DETAILS

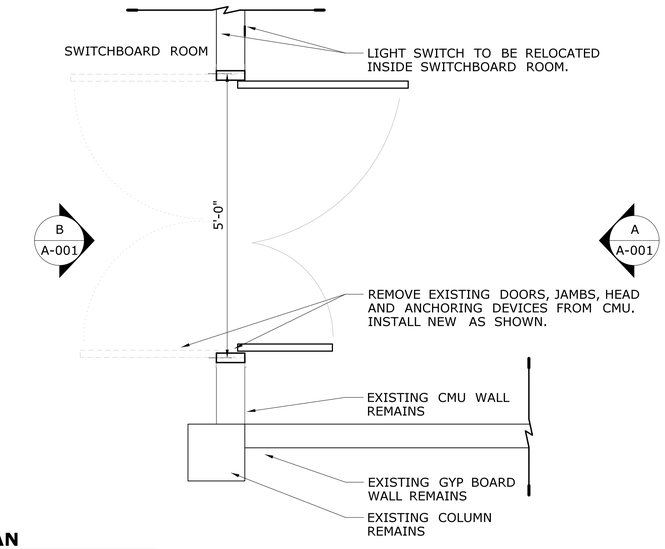
PROJECT NO. 170-3369
DRAWING NO. E-019
SHEET NO. 03.19



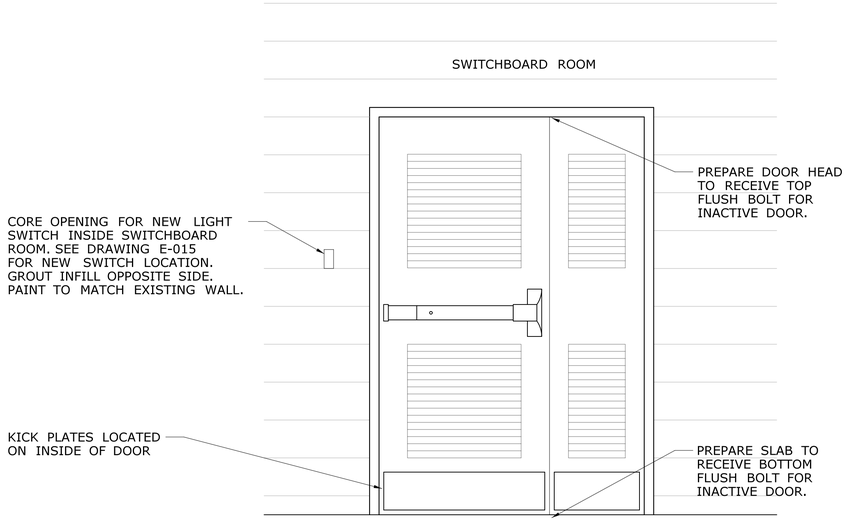
HEADER DETAIL (2 / A-001)
SCALE: 6" = 1'-0"



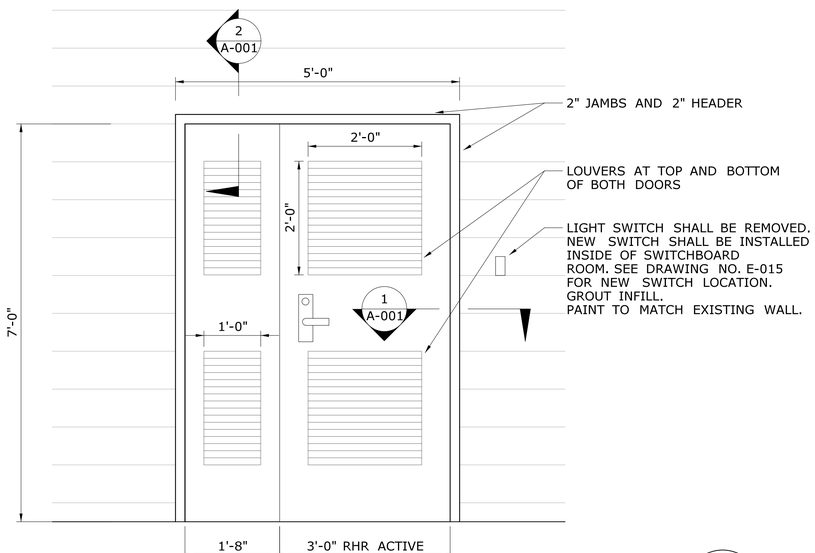
JAMB DETAIL (1 / A-001)
SCALE: 6" = 1'-0"



PLAN
SCALE: 3/4" = 1'-0"



SWITCHBOARD ROOM INTERIOR ELEVATION (B / A-100)
SCALE: 3/4" = 1'-0"



SWITCHBOARD ROOM EXTERIOR ELEVATION (A / A-100)
SCALE: 3/4" = 1'-0"

NOTES

1. CONTRACTOR SHALL VERIFY IN THE FIELD ALL DIMENSIONS AND CONDITIONS.
2. INSTALL HOLLOW METAL WORK PLUMB, RIGID, PROPERLY ALIGNED, AND SECURELY FASTENED IN PLACE.
3. DOOR HARDWARE SHALL BE INSTALLED AS SPECIFIED.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 4/12/2016

DESIGNER/DRAFTER: AEM
CHECKED BY: SLM
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD_MSH_ARC_0170_3369_A001.dgn

SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FACILITIES GENERATOR REPLACEMENT

TOWN: ROCKY HILL

DRAWING TITLE: SWITCHBOARD ROOM DOOR REPLACEMENT

PROJECT NO. 170-3369
DRAWING NO. E-020
SHEET NO. 03.20