

A

B

C

D

E

F

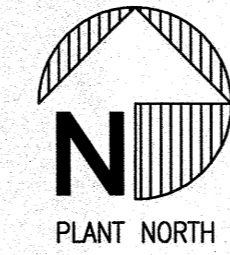
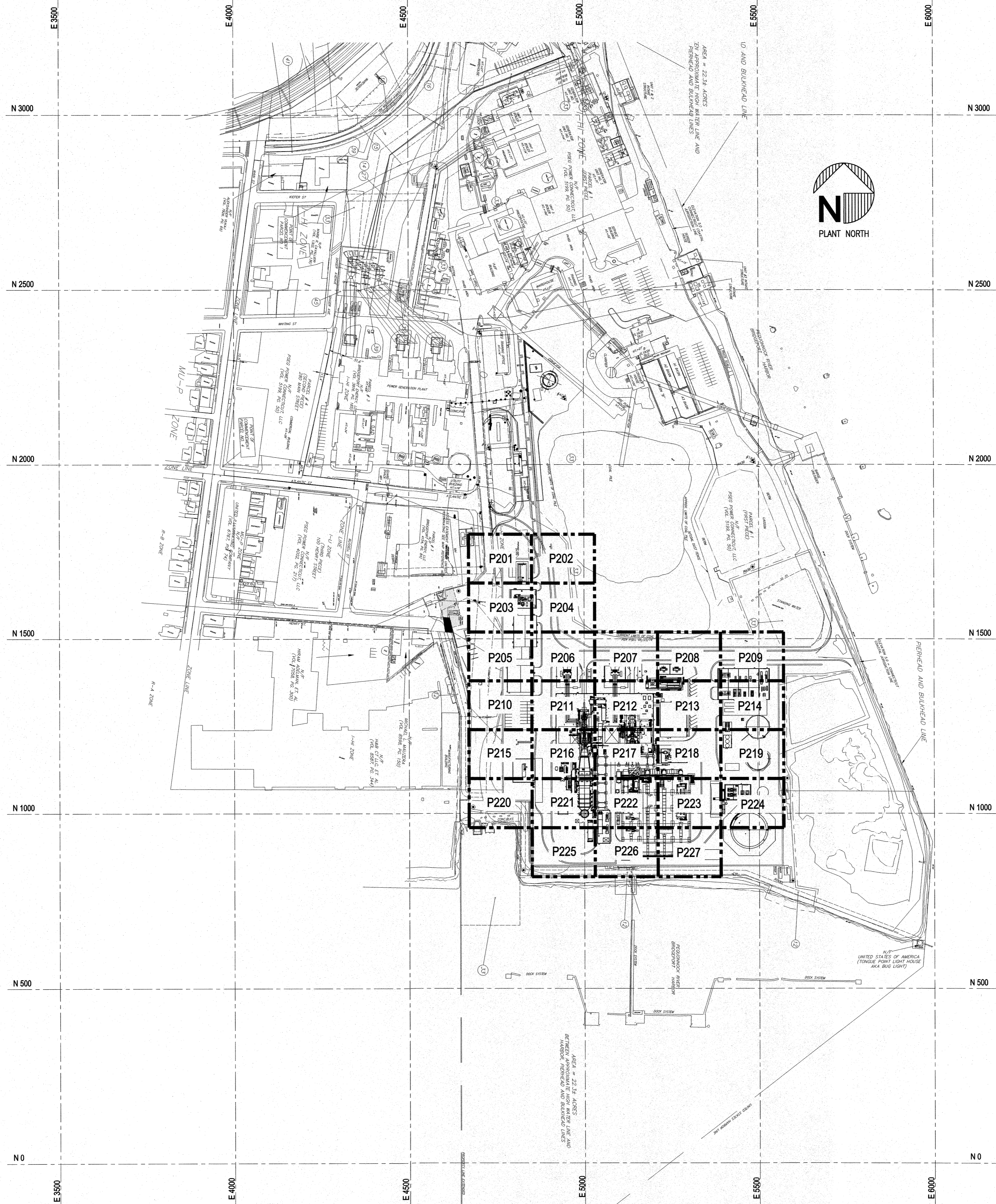
1

2

3

4

5



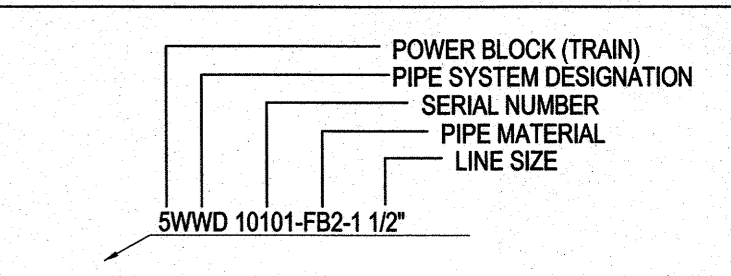
GENERAL NOTES:

- FOR OVERALL SITE GENERAL ARRANGEMENT PLAN SEE DRAWING 644911-GA001-S001.
FOR PLANT GENERAL ARRANGEMENT PLAN SEE DRAWING 644911-GA002-S001.
- UNDERGROUND PIPING AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATIONS 644911-SP-P171.1 AND 644911-SP-P200.
- FOR CLEANOUT AND FLOOR DRAIN DETAILS SEE DWG 644911 P231-S001.
- FOR STUB-UP DETAILS SEE DWG 644911 P231-S001.
- FOR BELL UP (HUB DRAIN) DETAILS SEE DWG 644911 P231-S001.
- FOR CATHODIC PROTECTION AND TEST STATION INSTALLATION DETAILS SEE DRAWING 644911-P232PS001.
- FOR UNDERGROUND FIREWATER PLAN AND DETAILS SEE DWGS 644911 P233-S001 AND S002.
- FOR FOUNDATION LOCATION PLAN SEE DWG 644911 F002-S001.
- FOR INFORMATION ON CITY WATER MAIN (WSD) AND SANITARY WASTE SYSTEM (WWS) TIE-IN LOCATIONS SEE BRIDGEPORT HARBOR UTILITY DRAWINGS.
FOR INFORMATION ON NATURAL GAS SYSTEM (FGA) TIE-IN LOCATION SEE SOUTHERN CONNECTICUT GAS COMPANY (SCGC) DRAWINGS.
- HIGH POINT OF FINISHED GRADE ELEVATION IS EL. 18'-0". SEE FINAL GRADING PLAN DWG 644911 C004-S001.
- TOC FOR POWER TRAIN AND STG AREAS IS HIGH POINT EL. 18'-6 1/2".
- HIGH POINT OF CONC FLOOR ELEVATION IN ALL EXTERNAL BUILDINGS AND ENCLOSURES IS EL. 18'-6". UNLESS NOTED OTHERWISE.
- ALL PIPING AND ELECTRICAL SHOWN IS UNDERGROUND AND IN A SOLID LINE SYMBOL. PIPE ROUTED UNDER EQUIPMENT FOUNDATION, ELECTRICAL TRENCHES AND ACCESS ROADS ARE SHOWN AS HIDDEN LINES FOR CLARITY.
- THE PROJECT PLANT GRID SYSTEM IS BASED ON THE CONNECTICUT STATE PLANE COORDINATE SYSTEM NAD83/2011 FEET.
- ALL ELEVATIONS SHOWN ARE ACTUAL BASED ON NAV88 DATUM.
- ALL UG D.I. PIPE SYSTEMS SHALL BE MECHANICAL JOINTS WITH RETAINER GLANDS.
- FOR STUB-UP WITH INSULATION FOR FREEZE PROTECTION OR INSULATION/HEAT TRACE DETAILS SEE DWG 644911 P231-S001
- FOR UNDERGROUND ELECTRICAL INFORMATION SEE DWG 644911 E300 SERIES FOR DUCKBANK AND 644911 E400 SERIES FOR GROUNDING.

UNDERGROUND SYSTEM IDENTIFIER LIST

SYSTEM CODE	SYSTEM DESCRIPTION	SYSTEM DISCIPLINE
CAB	COMPRESSED AIR	MECH
CGA	COMPRESSED GAS	MECH
CGE	AMMONIA SUPPLY AND STORAGE	MECH
ECA	AUXILIARY COOLING WATER	MECH
ECB	CLOSED CYCLE COOLING WATER	MECH
FGA	FUEL GAS SUPPLY	MECH
FOA	FUEL OIL RECEIVING AND STORAGE	MECH
FOB	FUEL OIL SUPPLY	MECH
FPU	FIRE PROTECTION	MECH
FWC	CONDENSATE	MECH
FWD	CONDENSATE POLISHING	MECH
FWF	CYCLE MAKE UP AND STORAGE	CHEM
STF	STORM WATER	CIVIL
WSC	SERVICE WATER SUPPLY	MECH
WSD	POTABLE WATER	MECH
WTD	DEMINEALIZED WATER	CHEM
WWB	SANITARY DRAINAGE & TREATMENT	CIVIL/CHEM
WWC	WASTEWATER COLLECTION	MECH
WWD	OIL SPILL PREVENTION	MECH

PIPELINE SYSTEM DESIGNATION



ORIGINAL

ISSUED FOR CONSTRUCTION

5/18/17 [Signatures]

ISSUED FOR PERMIT

4/27/17 KDE KC LON LA LP/SF SEO

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.

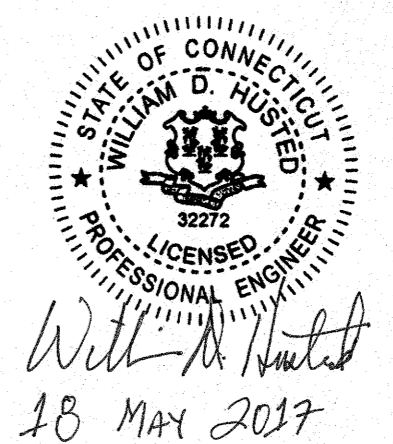
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: NONE
BRIDGEPORT 05

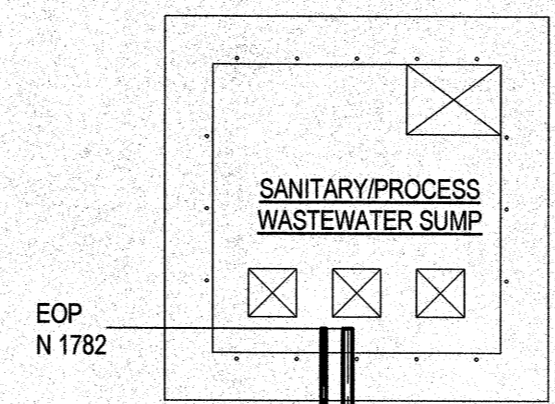
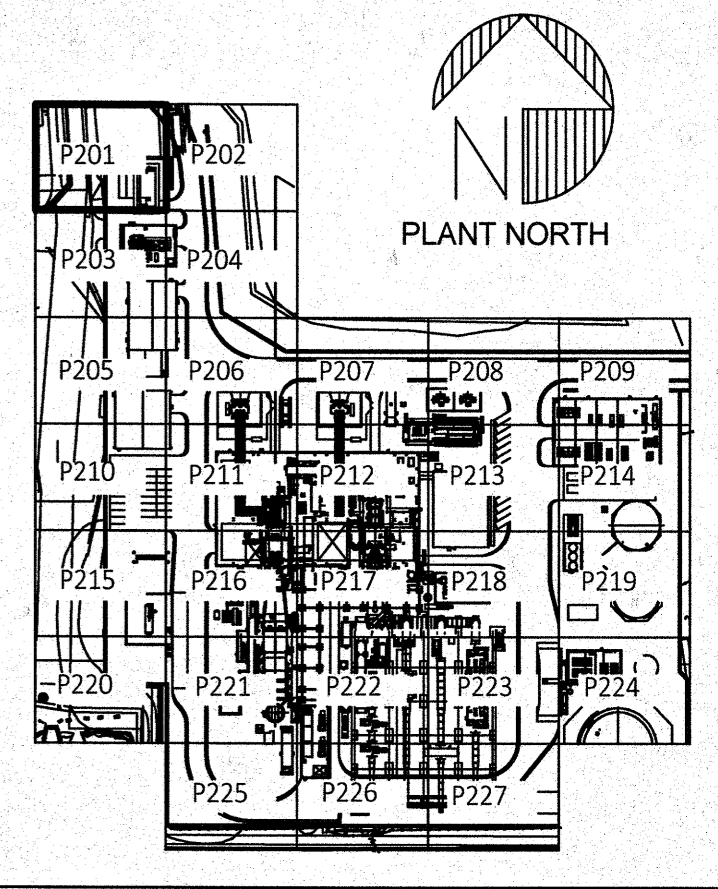
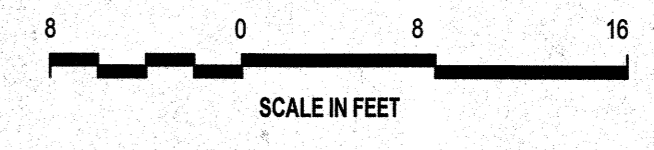
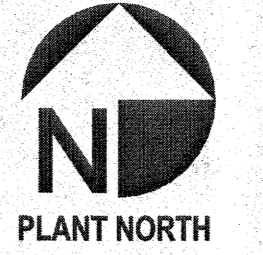
YARD
UNDERGROUND
PIPING PLAN

SITE PLAN
DESIGN-CIVIL GENERAL
644911 P200-S001



AREA LIMITS E 4670' 0"

AREA LIMITS N 1800' 0"



EOP N 1782

DUCTBANK (TYP)

ACCESS ROAD

E 4772.14
N 1750.5
CL EL. 9.784

E 4771.14
N 1749.49
CL EL. 9.699

5WWC-51601-GL1-4"

5WWB-50201-GL-2"

PLANT PERIMETER WALL

MATCHLINE E 4850' 0" 644911 P202-S001

STORMWATER DRAIN

FUEL GAS METERING AREA

MATCHLINE N 1660' 0" 644911 P203-S001

GENERAL NOTES:

1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

LEGEND

- CO - CLEANOUT (SEE NOTE 3)
- FD - FLOOR DRAIN (SEE NOTE 3)
- HD - HUB DRAIN (SEE NOTE 5)
- SU - STUB-UP (SEE NOTE 4)
- (X) [Symbol] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
- (X) [Symbol] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ORIGINAL

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.
	5/24/17	VT	UP				

PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

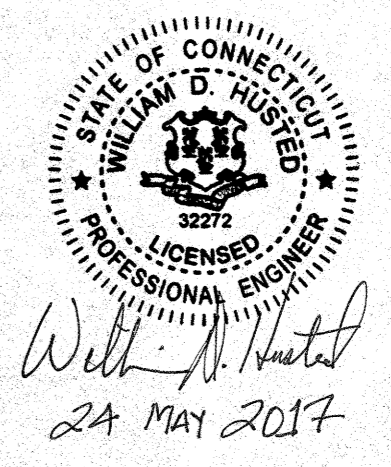
SCALE: 1/8"=1'-0"

BRIDGEPORT 05

YARD UNDERGROUND PIPING PLAN AREA 1

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL

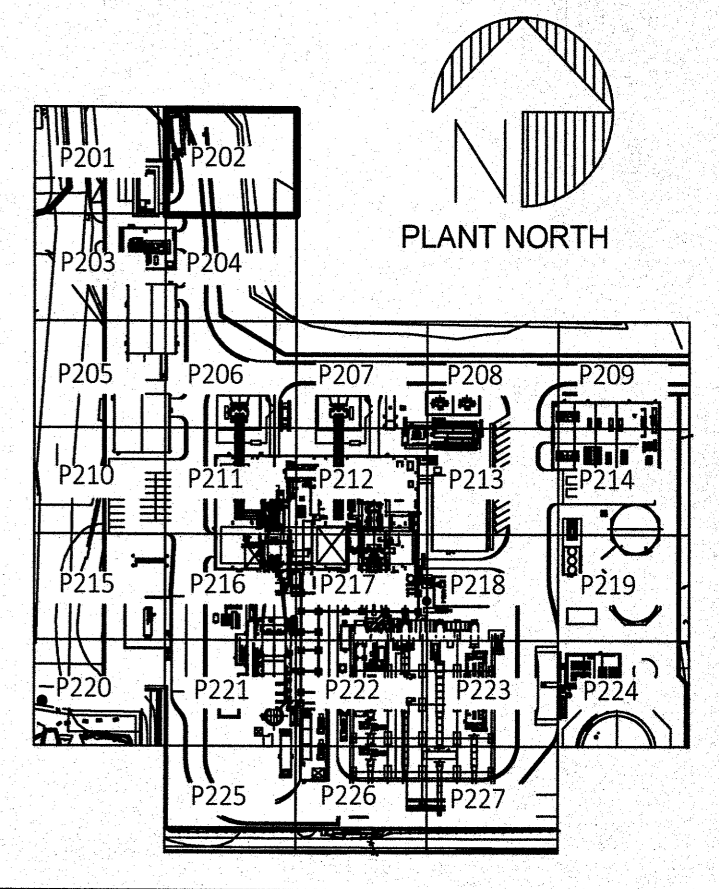
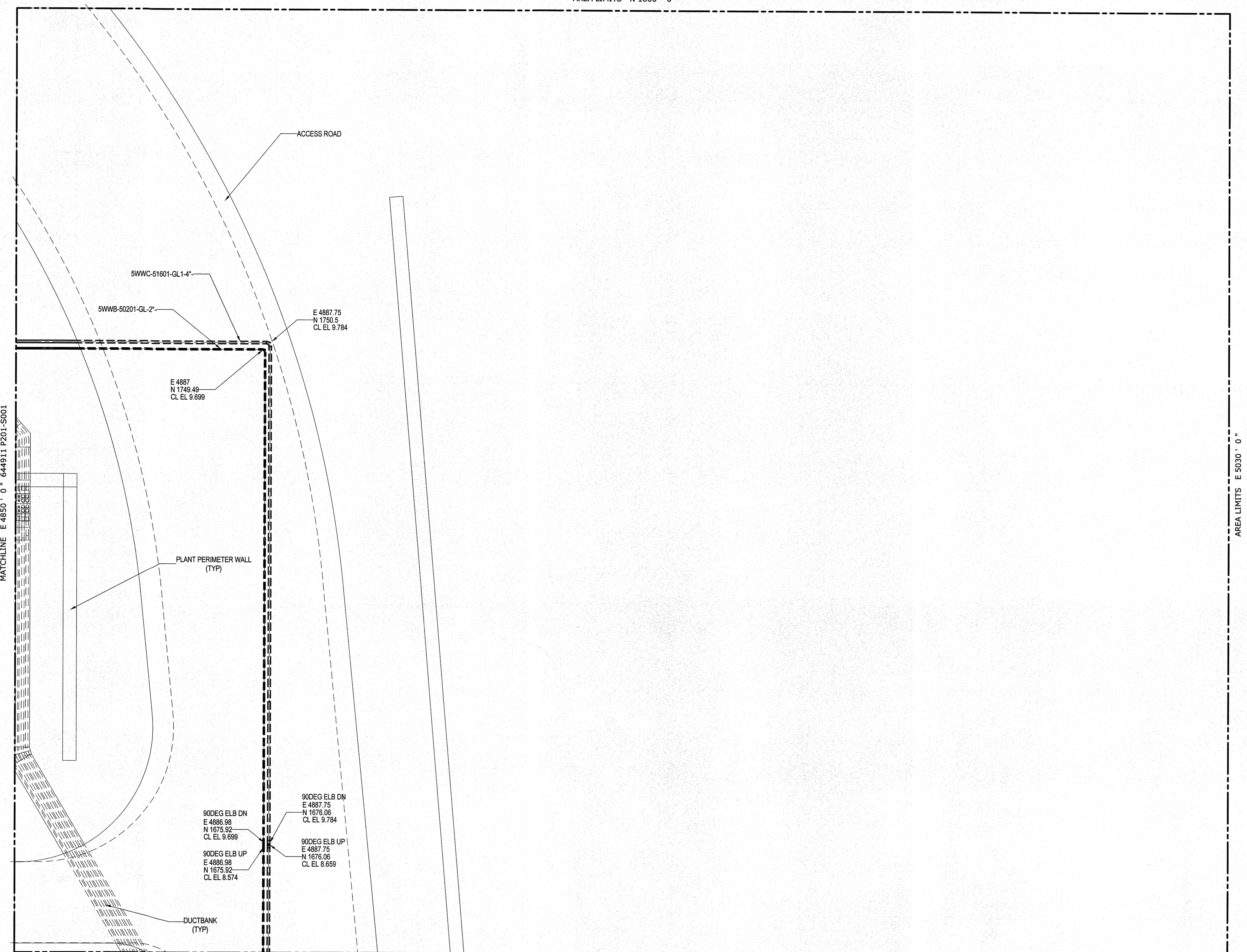
644911 P201-S001



PRINTED DATE: 5/23/2017 1:34:50 PM

A B C D E F

1
2
3
4
5



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.

PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"

BRIDGEPORT 05

YARD UNDERGROUND PIPING PLAN
AREA 2

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL

644911 P202-S001

STATE OF CONNECTICUT
WILLIAM D. HUGGINS
LICENSED PROFESSIONAL ENGINEER
32272
Willie M. Hunt
24 MAY 2017

PRINTED DATE: 5/23/2017 1:45:58 PM

A B C D E F

A

B

C

D

E

F

1

2

3

4

5

1

2

3

4

5

AREALIMITS E 4670' 0"

PLANT PERIMETER WALL

STORMWATER DRAIN

MATCHLINE E 4660' 0" 644811 P204-S001

MATCHLINE N 1660' 0" 644911 P201-S001

MATCHLINE N 1520' 0" 644911 P205-S001

3X2 CONC RDCR & TEE UP
5CAB-50931-FC-3"
N 1654.08
CL EL 9.859

3X2 ECC RDCR
FOB
CPLG

SU FOF EL 19' 0"
HEAT TRACE REQ'D
(NOTE 17)
5WSC-50937-GL5-2"
E 4832.08

SU FOF EL 19' 0"
CPLG
5CAB-50933-FC-2"
E 4832.08
CL EL 10.844

TEE UP
5WSC-50932-GL5-2"
E 4832.08
CL EL 9.812

SU FOF EL 19' 6"
5CAB-50932-FC-2"
E 4825
N 1639
CL EL 9.812

FD TOP EL 18' 6"
5WWD-51802-GB-4"
E 4818.75
N 1636.26
CL EL 16.43

SU FOF EL 19' 6"
HEAT TRACE REQ'D
(NOTE 17)
5WSC-50932-GL5-2"
E 4826.17
N 1639
CL EL 9.812

HD TOP EL 18' 8"
5WWD-51802E-GB-4"
E 4818.75
N 1617.11
CL EL 17.392

LATL UP
N 1615.83
CL EL 16.076

FUEL GAS COMPRESSOR SKID
5FGA-SKD-0008

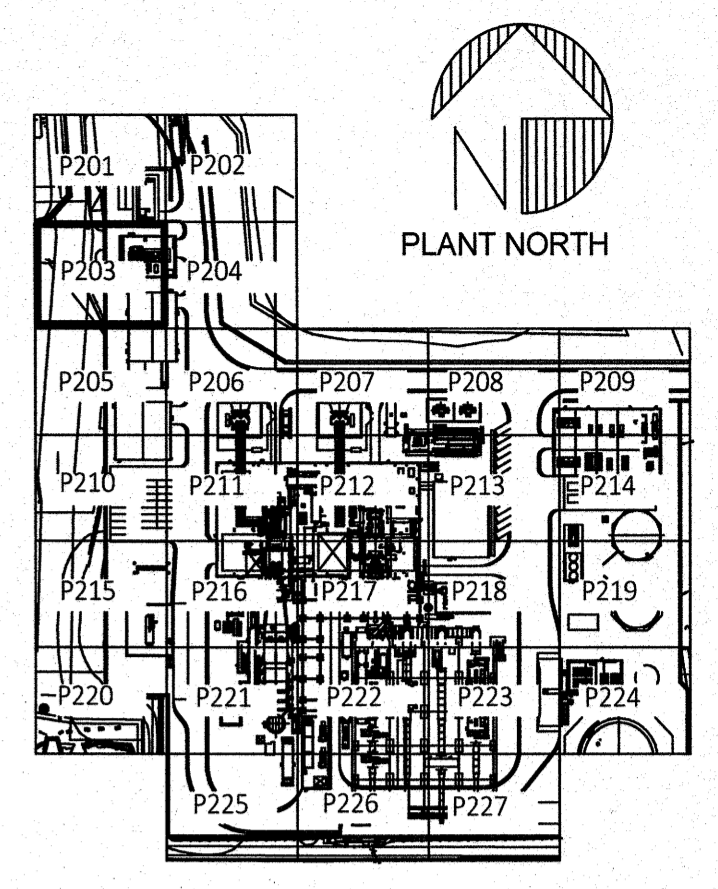
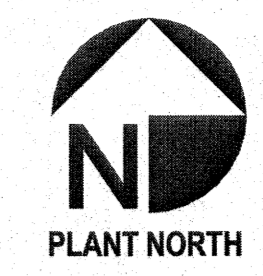
FUEL GAS LUBE OIL SKID
5FGA-SKD-0010

FUEL GAS SUCTION SCRUBBER
5FGA-SCB-0001

FUEL GAS COMPRESSOR ENCLOSURE

DUCTBANK (TYP)

GIS ENCLOSURE



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [A] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [T] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.

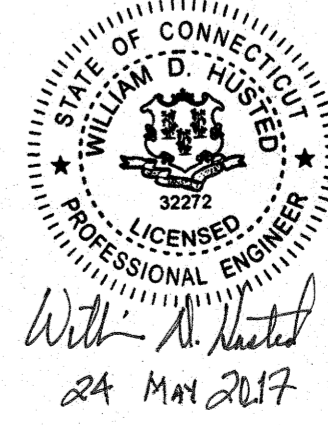
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"
BRIDGEPORT 05

YARD UNDERGROUND PIPING PLAN
AREA 3

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P203-S001



PRINTED DATE: 5/23/2017 1:58:16 PM

A

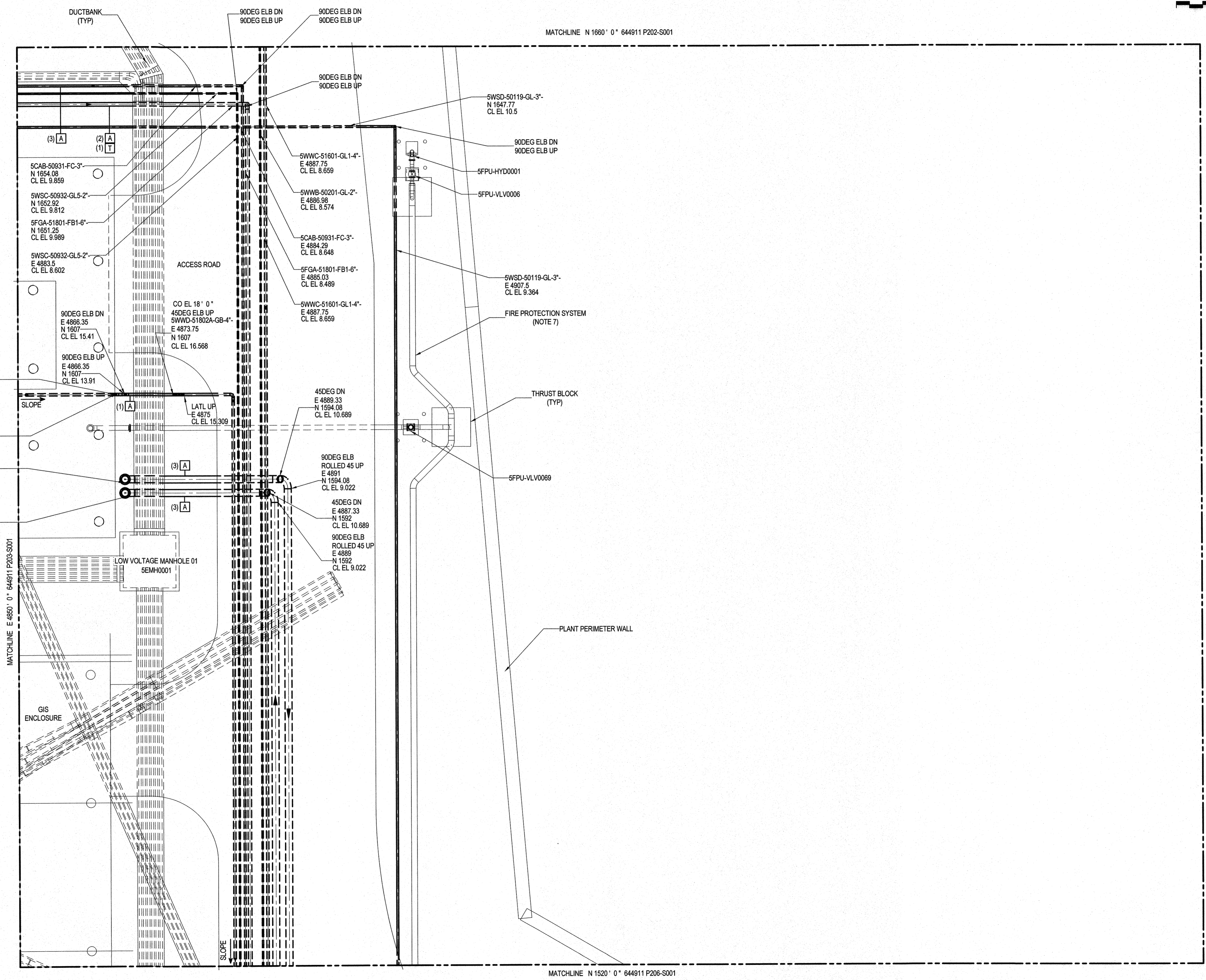
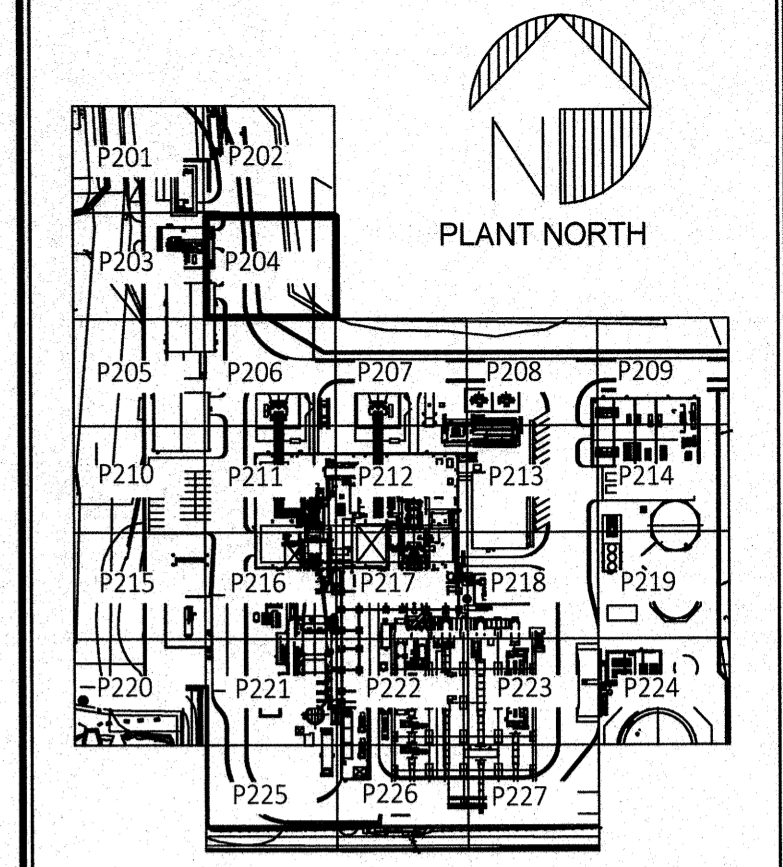
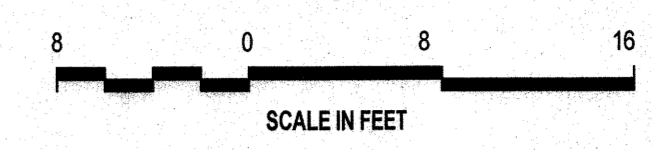
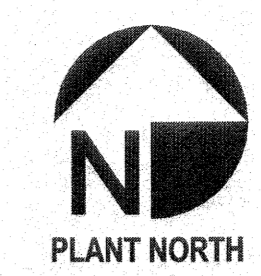
B

C

D

E

F



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [A] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [T] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DTR. TECH.	PROJ. MGR.	INSTR.
0	5/24/17	VT	UP	W	SF			

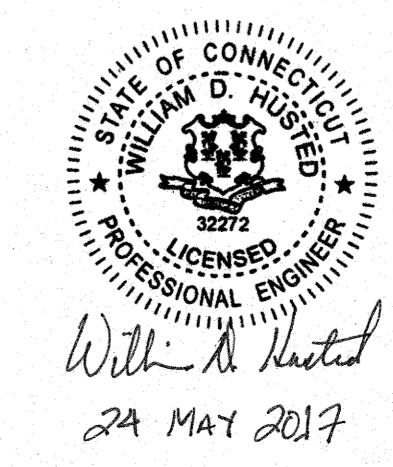
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"
BRIDGEPORT 05

YARD
UNDERGROUND PIPING PLAN
AREA 4

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P204-S001



PRINTED DATE: 5/24/2017 7:41:30 AM

A

B

C

D

E

F

1

2

3

4

5

1

2

3

4

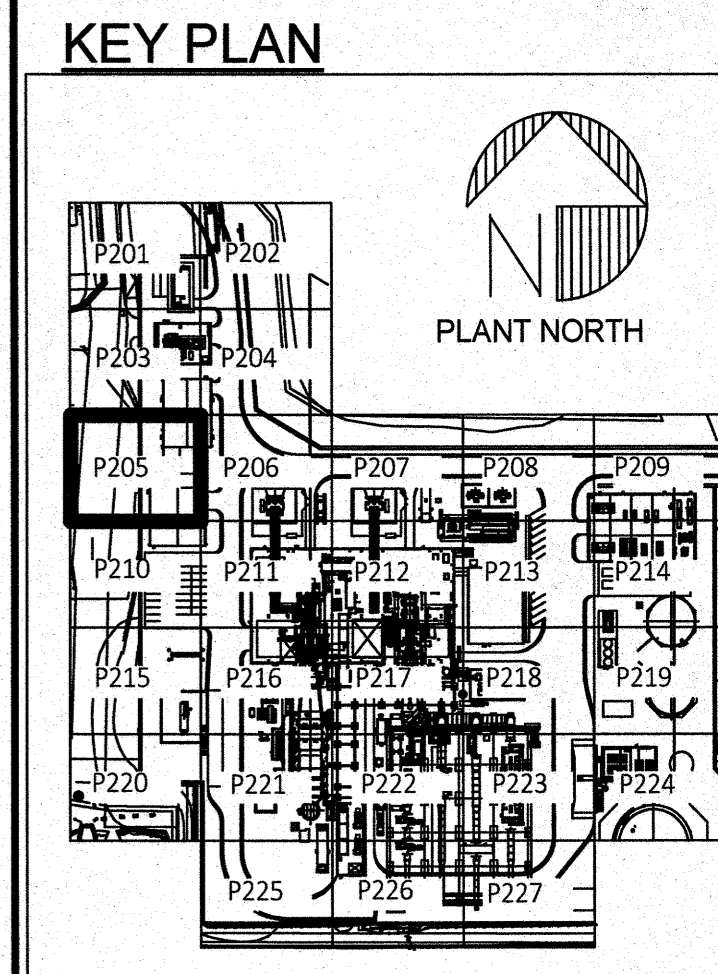
5

AREA LIMITS E 4670' 0"

MATCHLINE N 1520' 0" 644911 P203-S001



8 0 8 16
SCALE IN FEET



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 5)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [A] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [T] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
1	5/24/17	AK	AK	AK	UP	JK	JK	

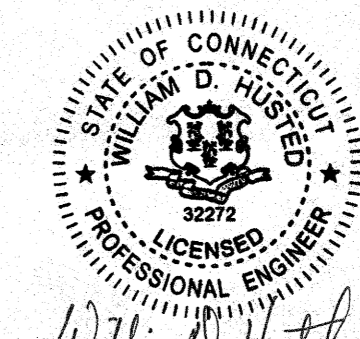
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

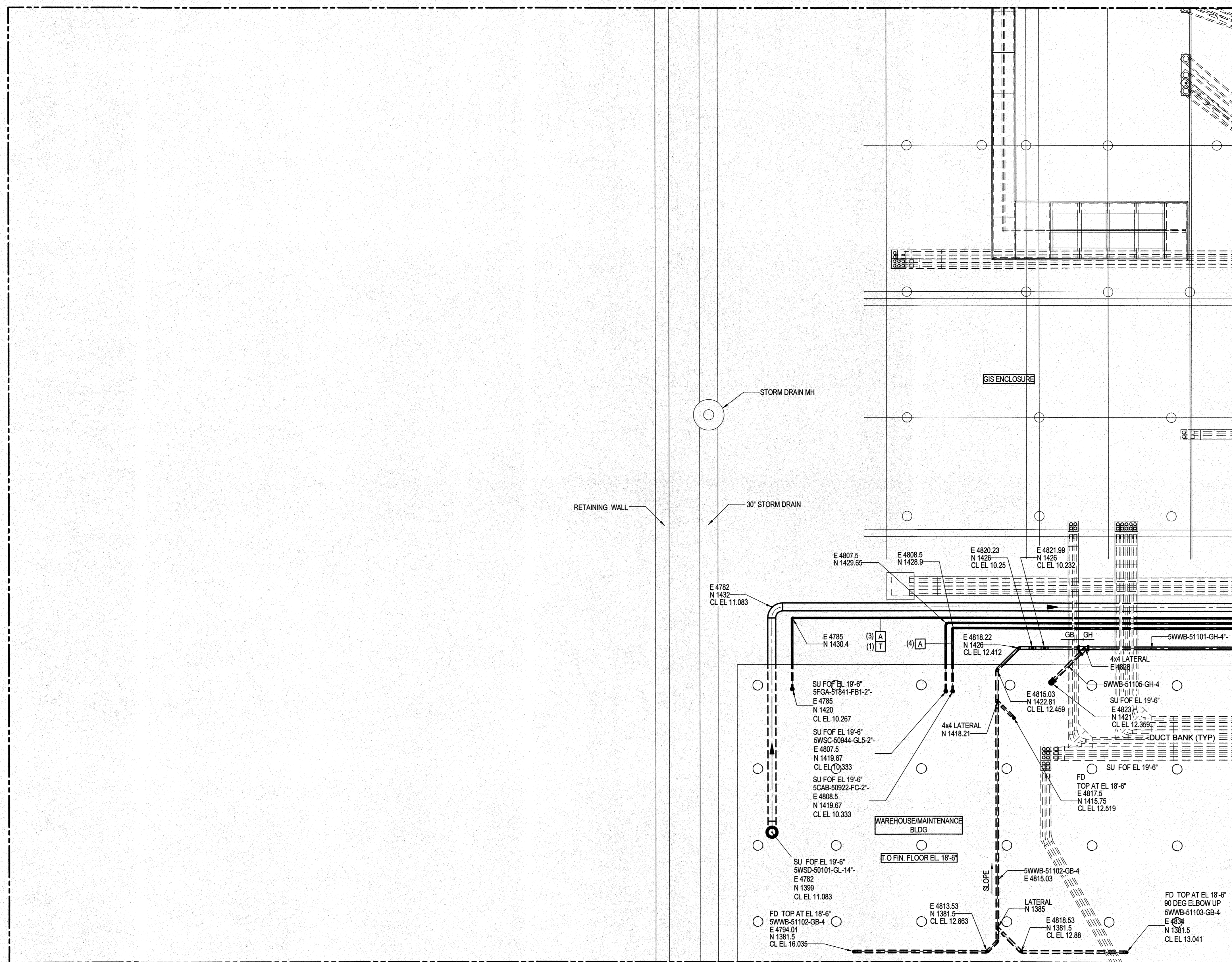
SCALE: 1/8" = 1'-0"
BRIDGEPORT 05

YARD
UNDERGROUND PIPING PLAN
AREA 5

PARTIAL SITE PLAN DESIGN-CIVIL GENERAL
644911 P205-S001



William D. Husted
24 MAY 2017



MATCHLINE N 1380' 0" 644911 P210-S001

PRINTED DATE: 5/24/2017 11:29:25 AM

A

B

C

D

E

F

1

2

3

4

5

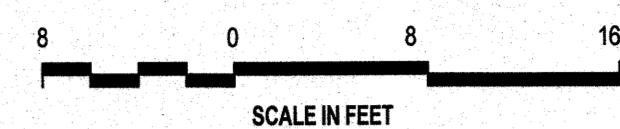
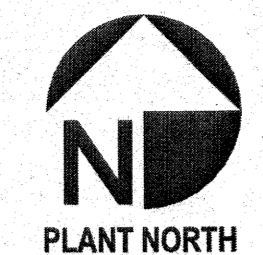
1

2

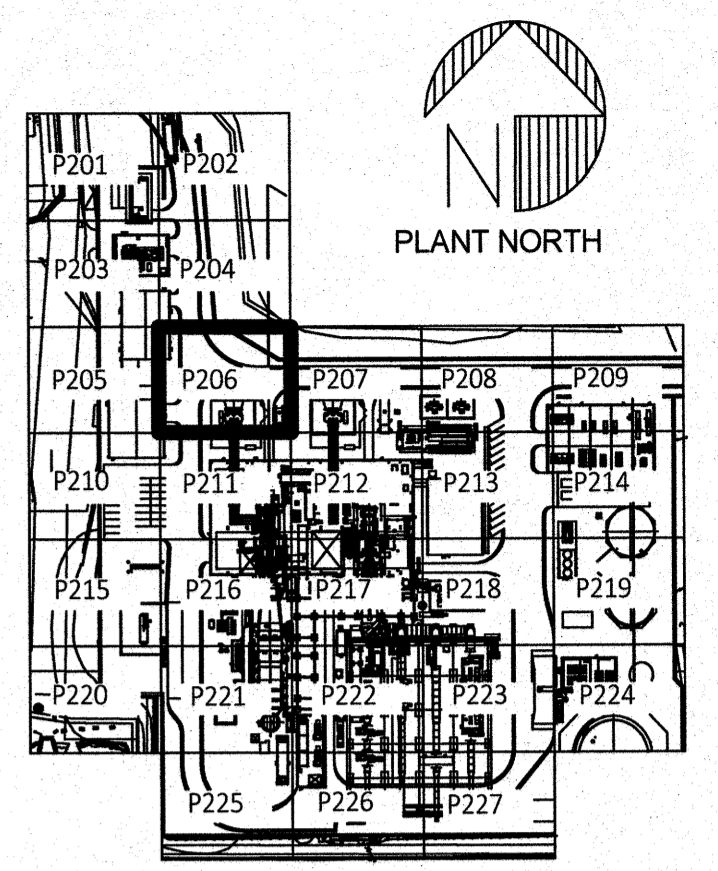
3

4

5



KEY PLAN



GENERAL NOTES:

1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

LEGEND

- CO - CLEANOUT (SEE NOTE 3)
- FD - FLOOR DRAIN (SEE NOTE 3)
- HD - HUB DRAIN (SEE NOTE 5)
- SU - STUB-UP (SEE NOTE 4)
- (X) [Symbol] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
- (X) [Symbol] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
1	5/24/2017	AK	UP	AK	AK	AK	AK	AK

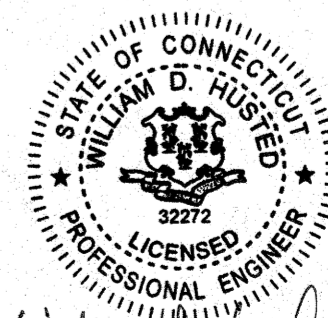
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

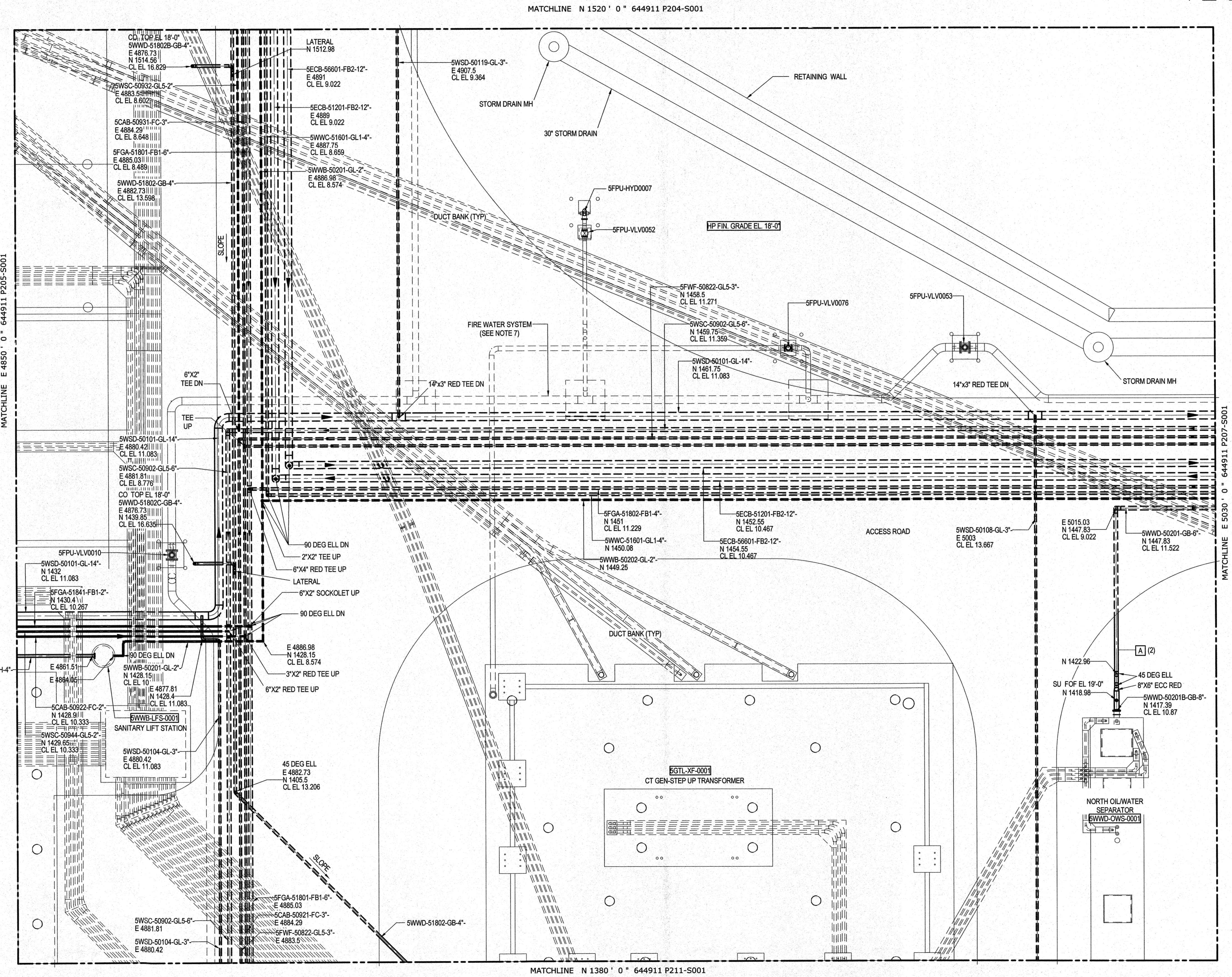
SCALE: 1/8" = 1'-0"
BRIDGEPORT 05

YARD
UNDERGROUND PIPING PLAN
AREA 6

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P206-S001



Will. D. Hester
24 MAY 2017



PRINTED DATE: 5/24/2017 9:41:02 AM

A B C D E F

1

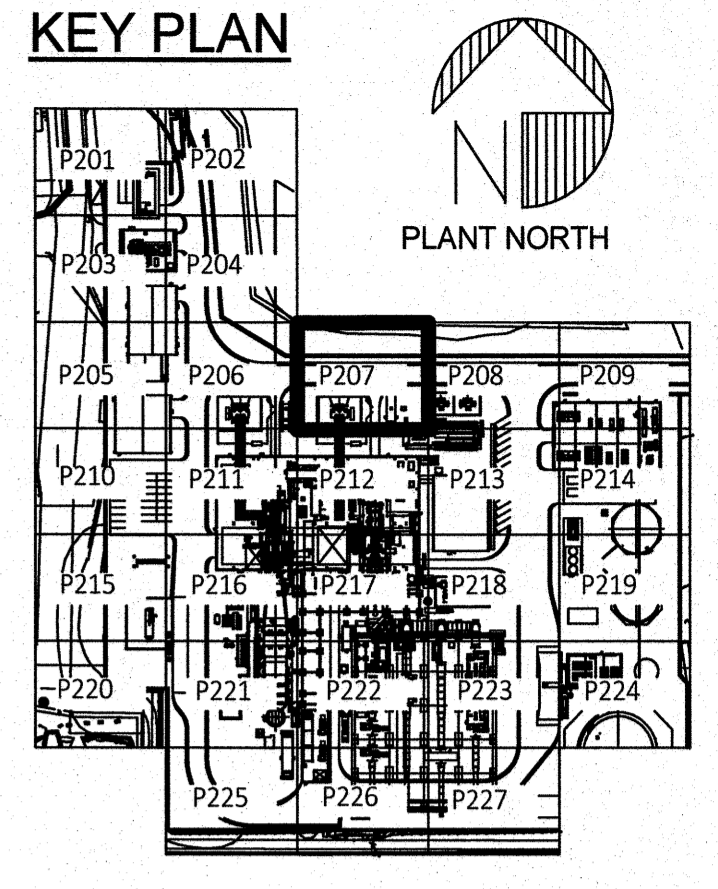
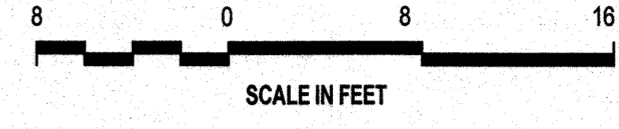
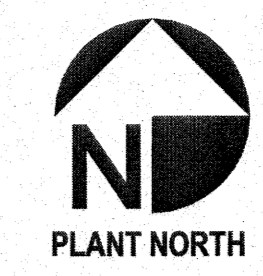
2

3

4

5

AREA LIMITS N 1520' 0"



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [Symbol] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [Symbol] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.
1	5/24/17	AL	DEC	IP	W	SF	G

PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut, LLC

SNC • LAVALIN
CONSTRUCTORS INC.

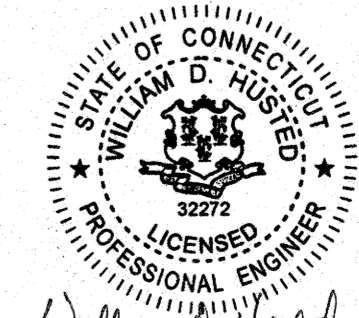
SCALE: 1/8" = 1'-0"

BRIDGEPORT 05

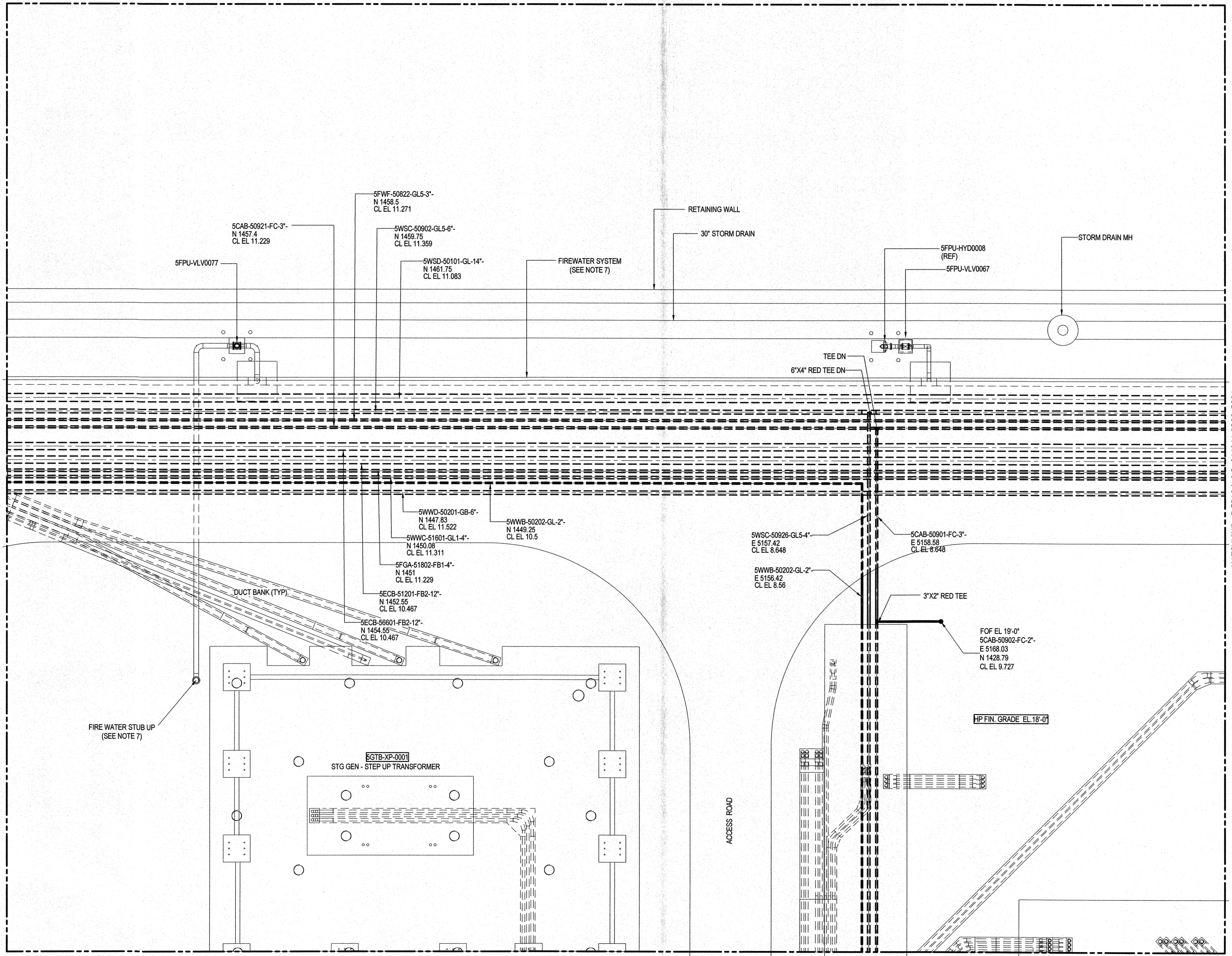
YARD
UNDERGROUND PIPING PLAN
AREA 7

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL

644911 P207-S001



William G. Husted
24 MAY 2017



MATCHLINE E 5030' 0" 644911 P206-S001

MATCHLINE E 5210' 0" 644911 P208-S001

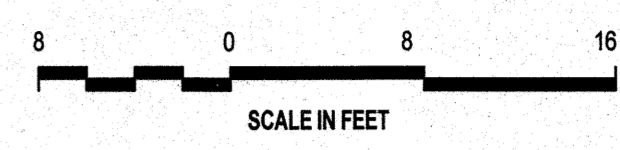
MATCHLINE N 1380' 0" 644911 P212-S001

A B C D E F

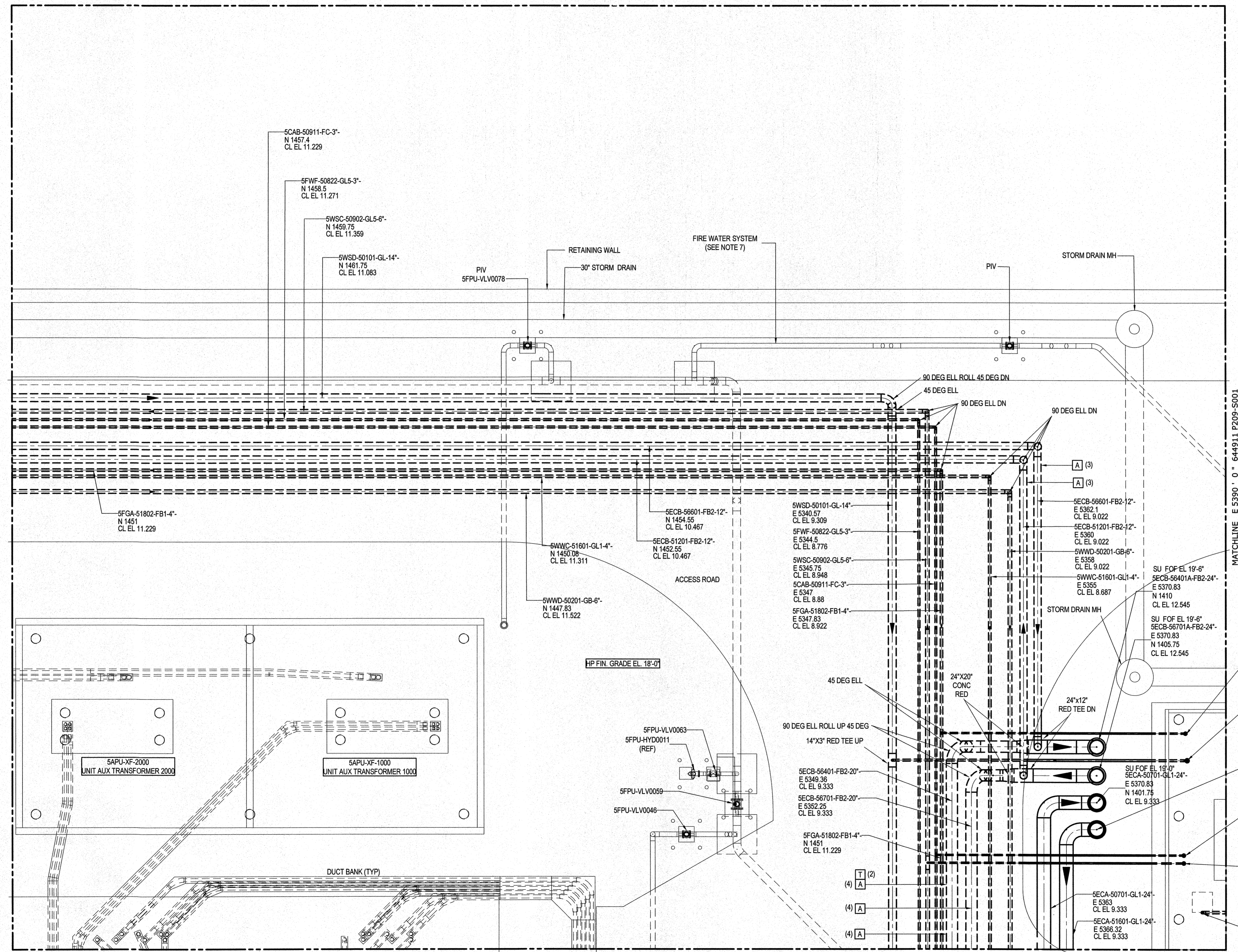
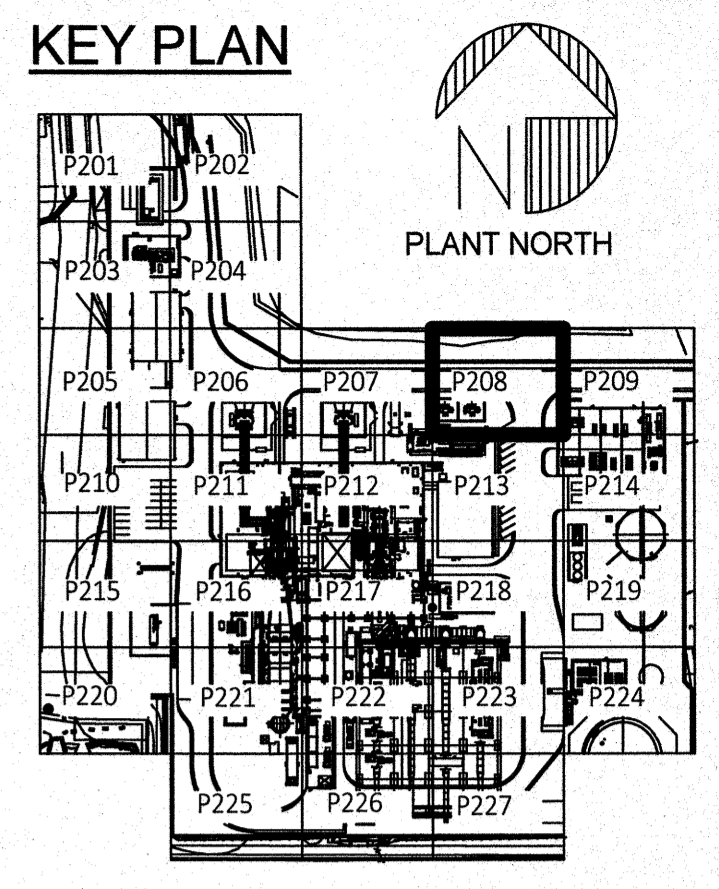
PRINTED DATE: 5/24/2017 10:39:57 AM

A B C D E F

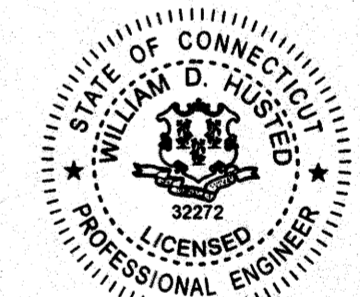
1
2
3
4
5



AREA LIMITS N 1520' 0"



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001



William D. Husted
24 MAY 2017

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [A] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [T] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DJR. TECH.	PROJ. MGR.	INSTR.
1	5/22/17	AV	W	U	2	S		

PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8" = 1'-0"
BRIDGEPORT 05

YARD
UNDERGROUND PIPING PLAN
AREA 8

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P208-S001

PRINTED DATE: 5/22/2017 3:52:37 PM

A B C D E F

A

B

C

D

E

F

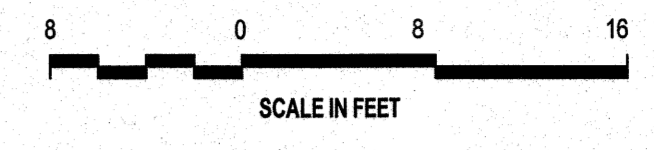
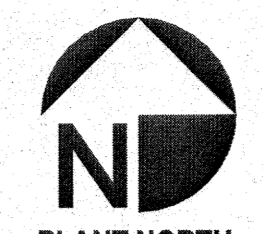
1

2

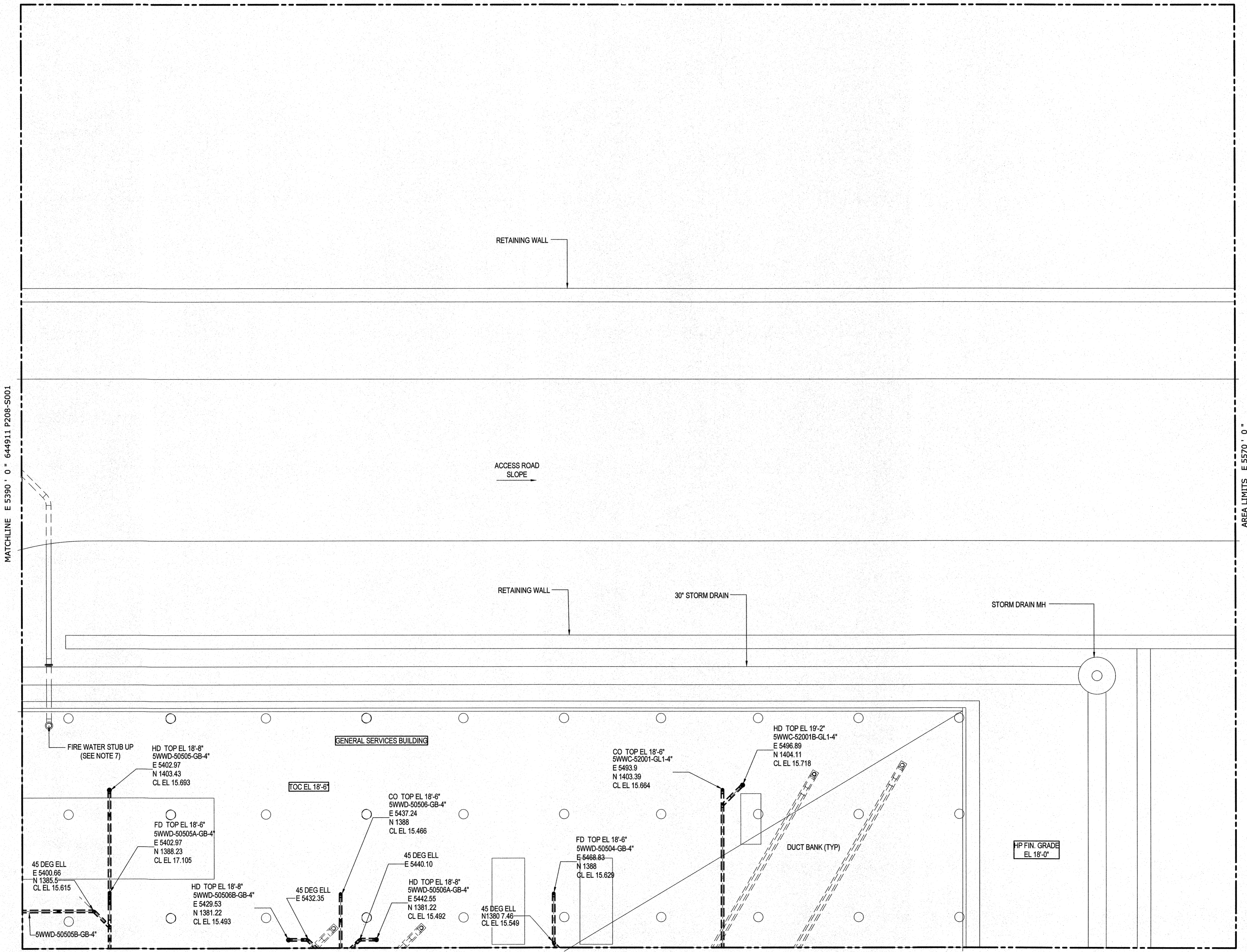
3

4

5



AREA LIMITS N 1520' 0"

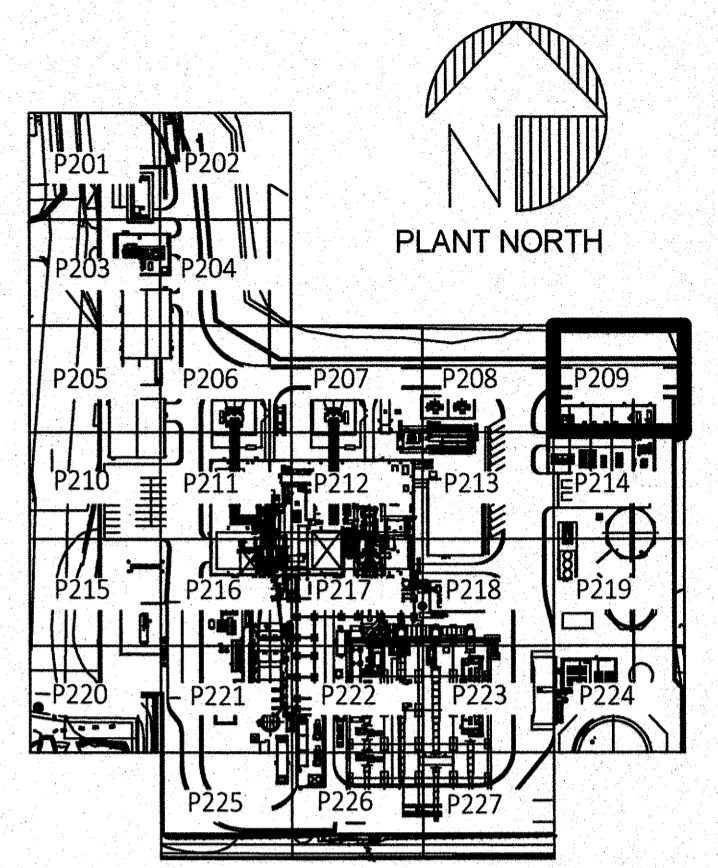


MATCHLINE E 5390' 0" 644911 P208-S001

AREA LIMITS E 5570' 0"

MATCHLINE N 1380' 0" 644911 P214-S001

KEY PLAN



GENERAL NOTES:

1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

LEGEND

- CO - CLEANOUT (SEE NOTE 3)
- FD - FLOOR DRAIN (SEE NOTE 3)
- HD - HUB DRAIN (SEE NOTE 5)
- SU - STUB-UP (SEE NOTE 4)
- (X) [A] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
- (X) [B] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
05/24/17		AL	KU	LP	SM	ST	J	

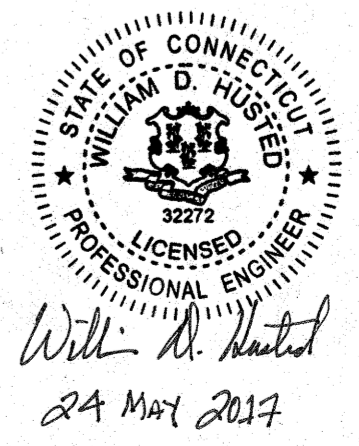
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8" = 1'-0"
BRIDGEPORT 05

YARD
UNDERGROUND PIPING PLAN
AREA 9

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P209-S001



PRINTED DATE: 5/22/2017 3:18:03 PM

A

B

C

D

E

F

1

2

3

4

5

1

2

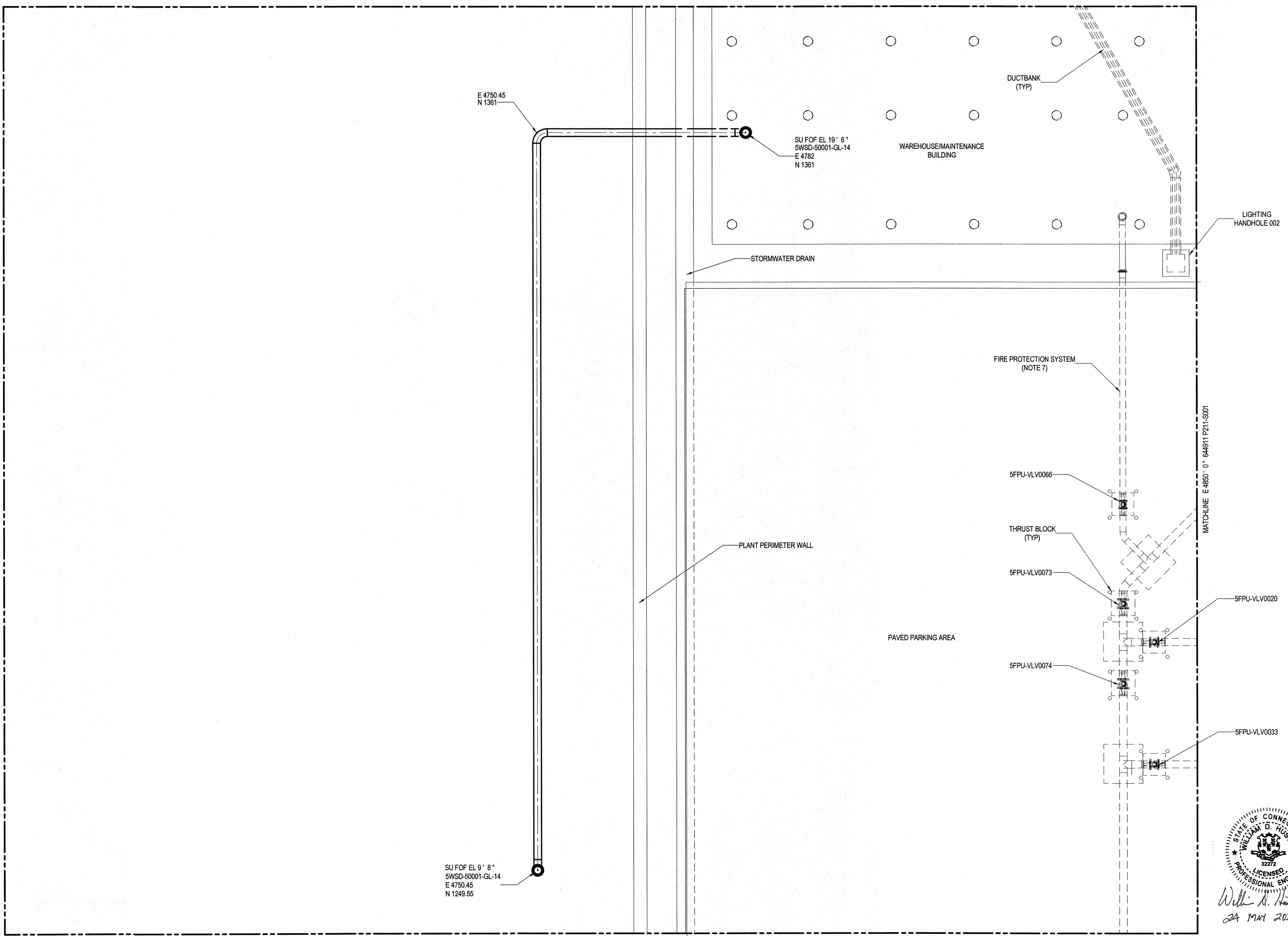
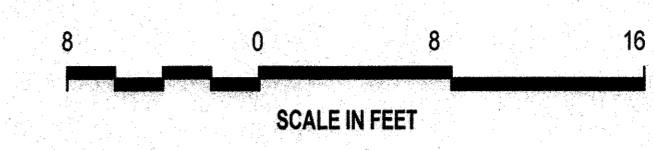
3

4

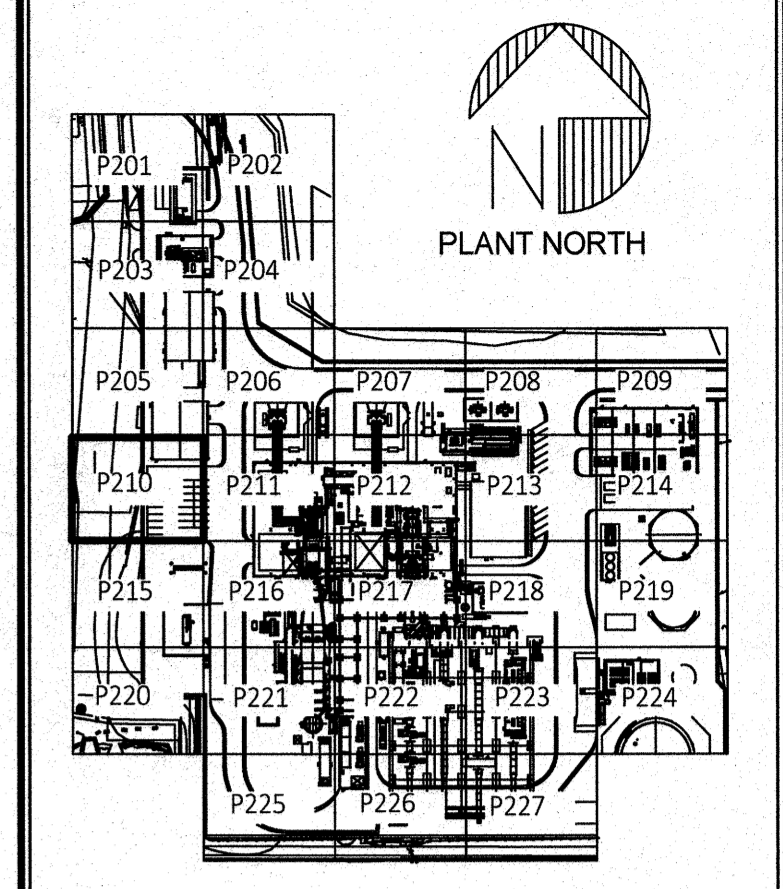
PRINTED DATE: 5/24/2017 8:10:23 AM

AREALIMITS E 4670' 0"

MATCHLINE N 1380' 0" 644911 P205-S001



MATCHLINE N 1240' 0" 644911 P215-S001



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [A] CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [T] CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
	5/24/17	VT	RF	LP	MF	GF		

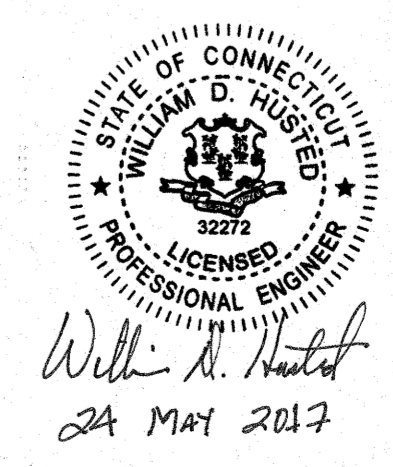
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"

BRIDGEPORT 05
YARD
UNDERGROUND PIPING PLAN
AREA 10

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P210-S001



MECH
SELECT
PIPING
PROCESS

A

B

C

D

E

F

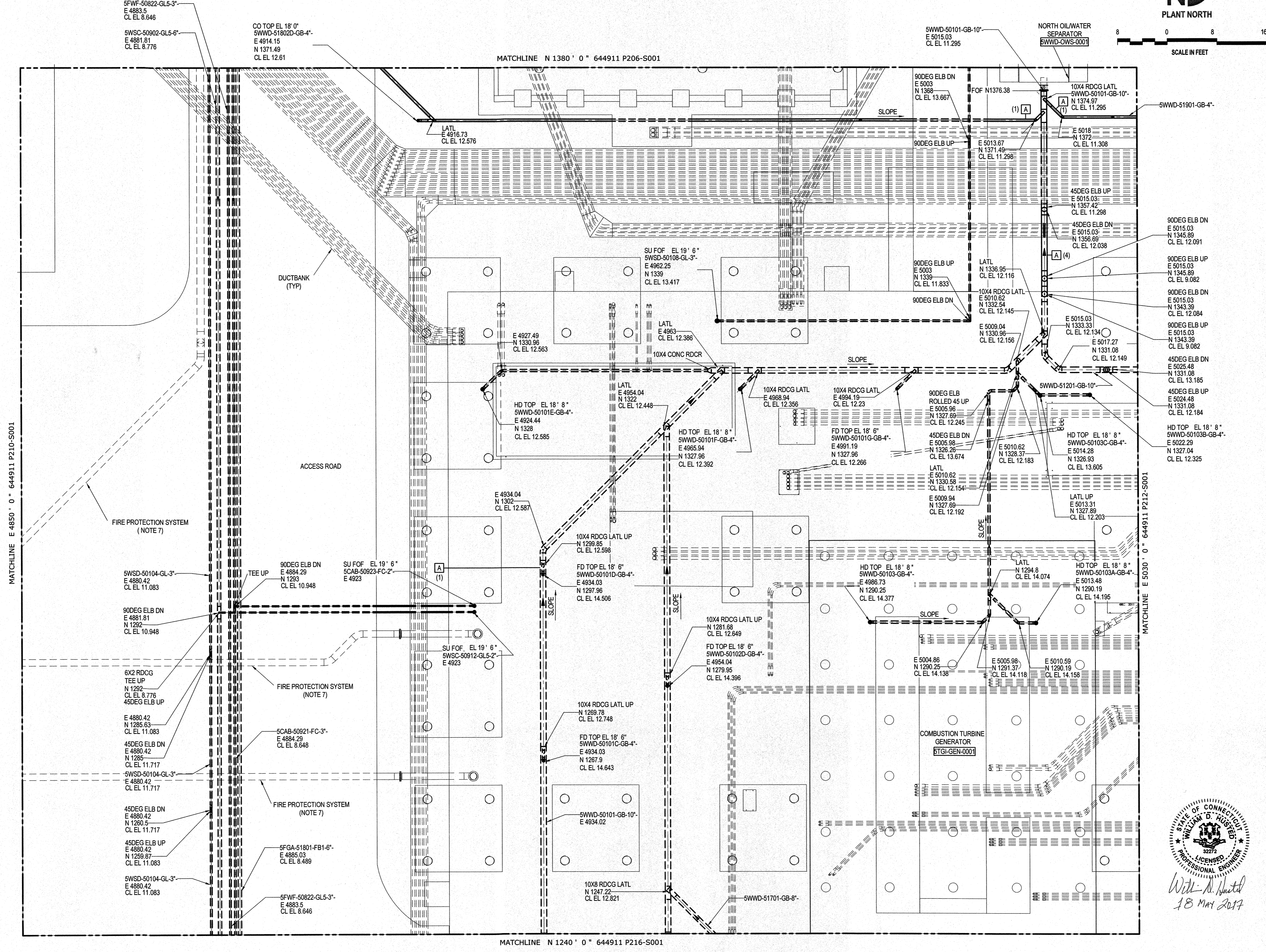
1

2

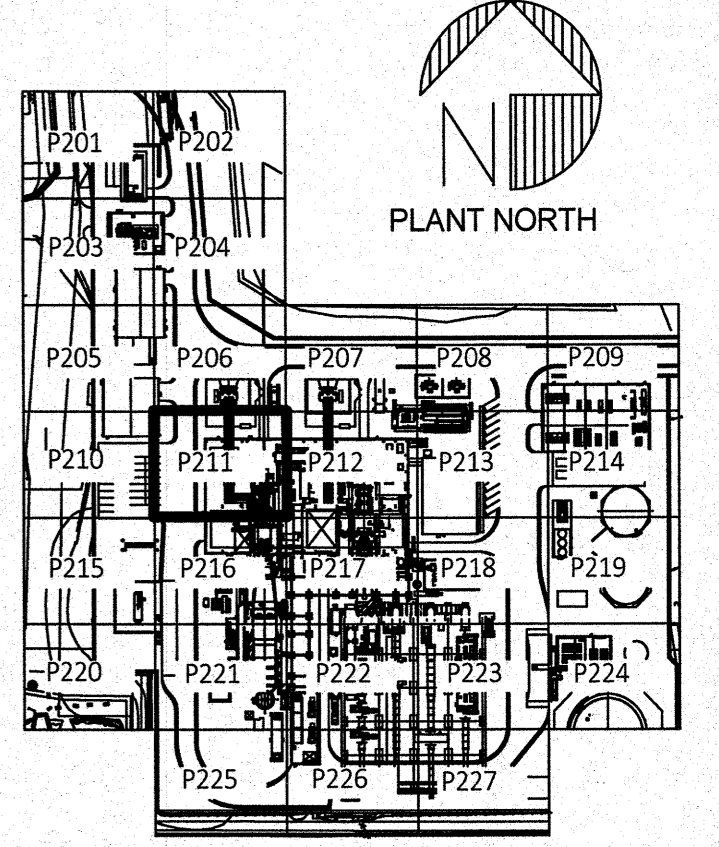
3

4

5



KEY PLAN



GENERAL NOTES:

1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

LEGEND

- CO - CLEANOUT (SEE NOTE 3)
- FD - FLOOR DRAIN (SEE NOTE 3)
- HD - HUB DRAIN (SEE NOTE 5)
- SU - STUB-UP (SEE NOTE 4)
- (X) [Symbol] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
- (X) [Symbol] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

5/19/17 12:10 4 2 5 4

ISSUED FOR PERMIT

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
4	4/27/17	MZ	RET	LON	LA	LP/SF	SO	

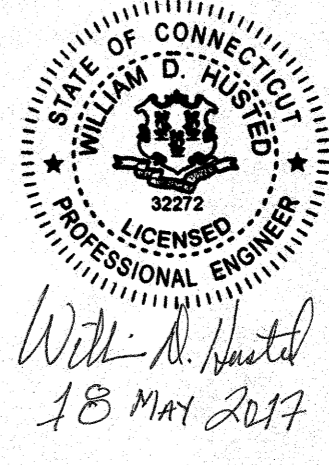
PROJECT ENGINEERING DIVISION
PSEG
 Power Connecticut LLC

SNC • LAVALIN
 CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"

BRIDGEPORT 05
 YARD
 UNDERGROUND PIPING PLAN
 AREA 11

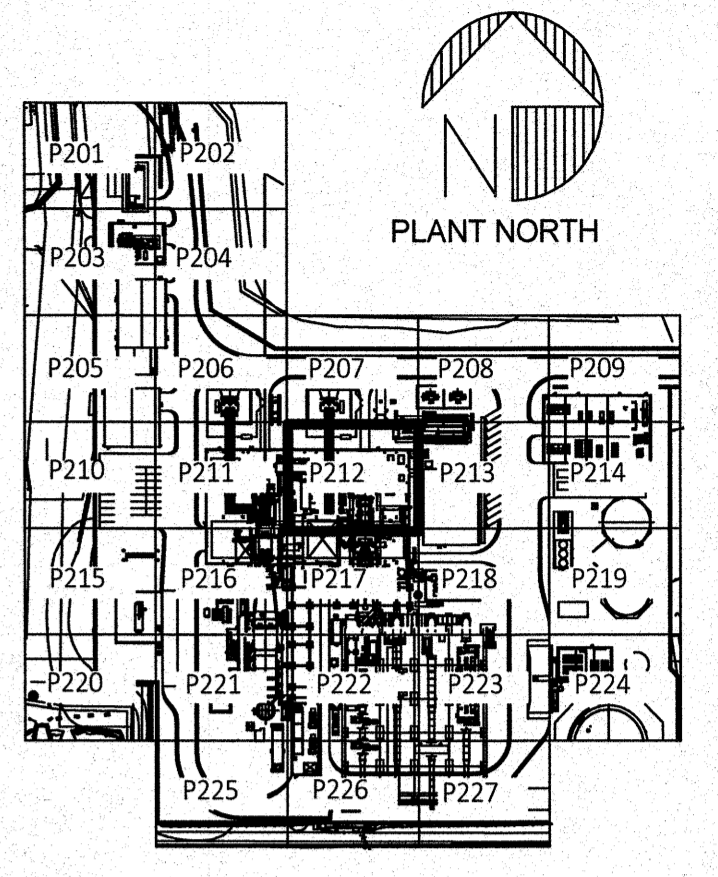
PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P211-S001



PRINTED DATE: 5/17/2017 8:28:10 AM

A B C D E

KEY PLAN



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

LEGEND

- CO - CLEANOUT (SEE NOTE 3)
- FD - FLOOR DRAIN (SEE NOTE 3)
- HD - HUB DRAIN (SEE NOTE 5)
- SU - STUB-UP (SEE NOTE 4)
- (X) [Symbol] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
- (X) [Symbol] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION
 9/18/17 MZ RK LP ZL SF

ISSUED FOR PERMIT

4/27/17	MZ	RK	LON	LA	LP/SF	SO
---------	----	----	-----	----	-------	----

PROJECT ENGINEERING DIVISION
 PSEG
 Power Connecticut LLC

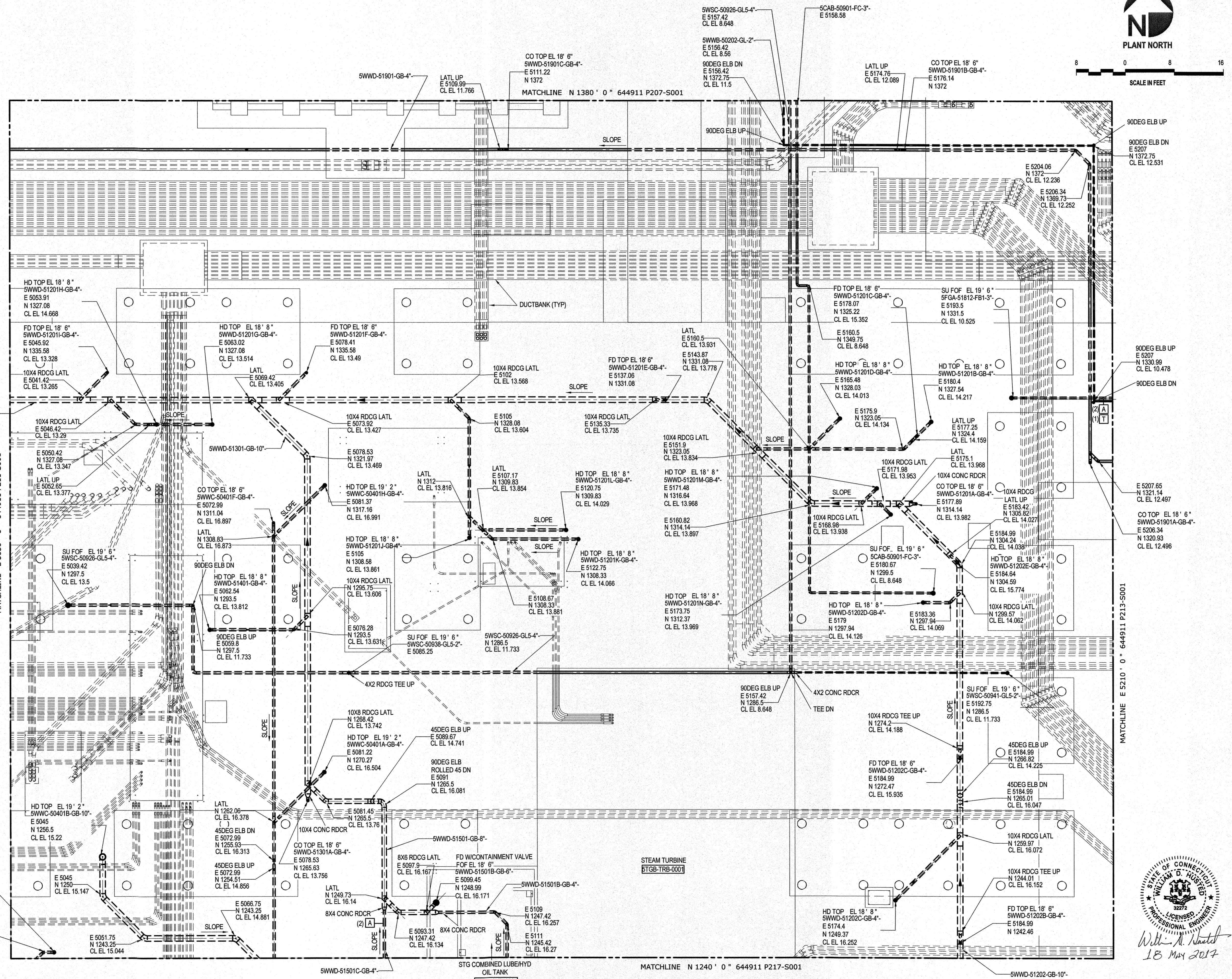
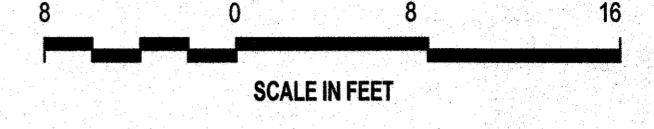
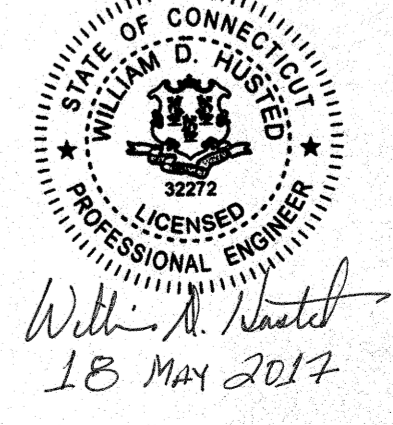
SNC • LAVALIN
 CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"

BRIDGEPORT 05
 YARD
 UNDERGROUND PIPING PLAN
 AREA 12

PARTIAL SITE PLAN
 DESIGN - CIVIL GENERAL

644911 P212-S001

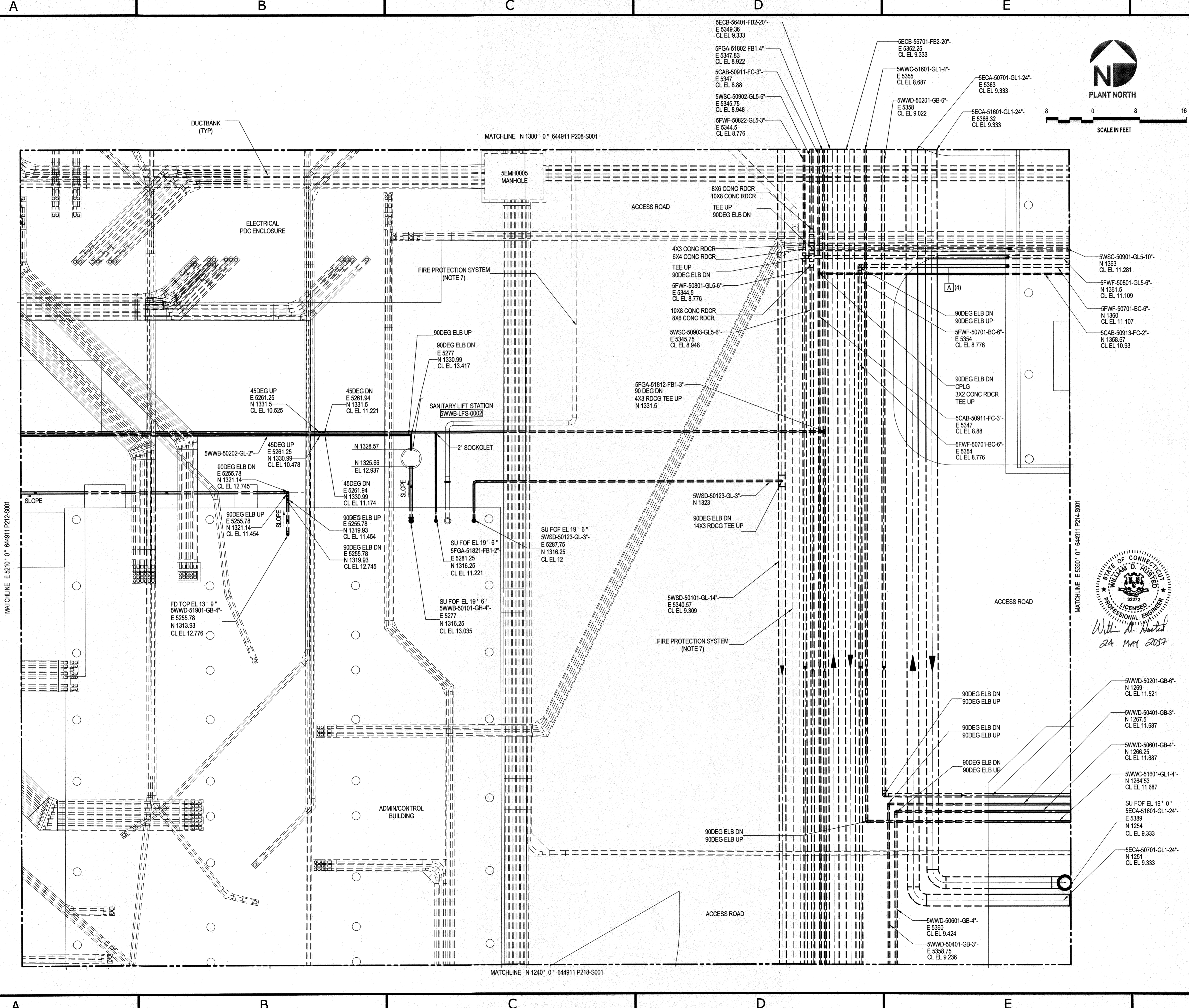


PRINTED DATE: 5/17/2017 8:34:31 AM

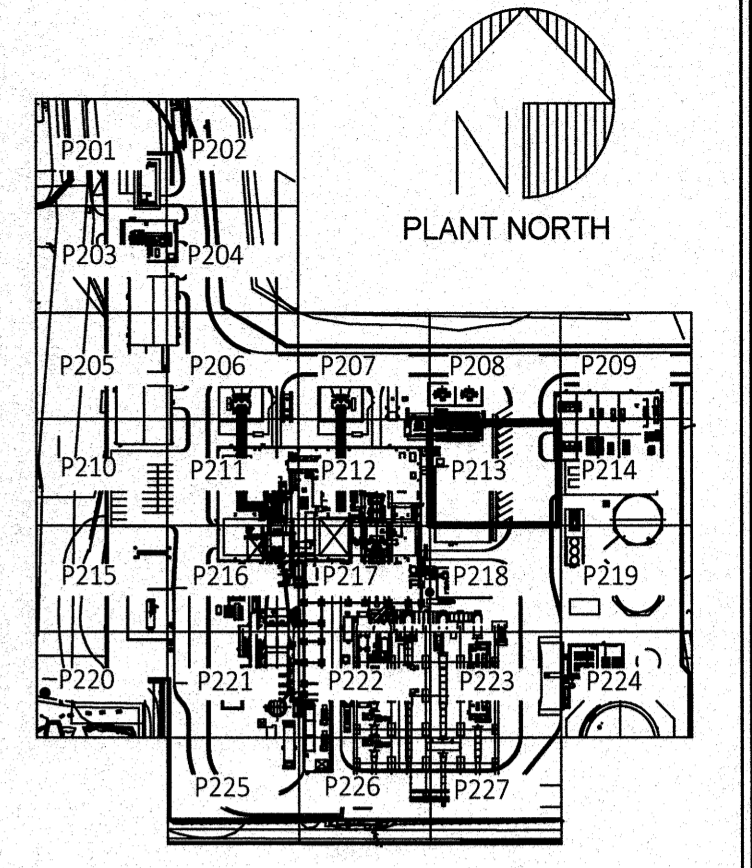
1
2
3
4
5

A B C D E

PRINTED DATE: 5/24/2017 8:24:06 AM



SCALE IN FEET
0 8 16



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

STATE OF CONNECTICUT
WILLIAM D. HUGHES
3272
LICENSED PROFESSIONAL ENGINEER
William D. Hughes
24 MAY 2017

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [A] CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [T] CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
1	5/24/17	VT	RET	4	26	SF		

PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"

BRIDGEPORT 05

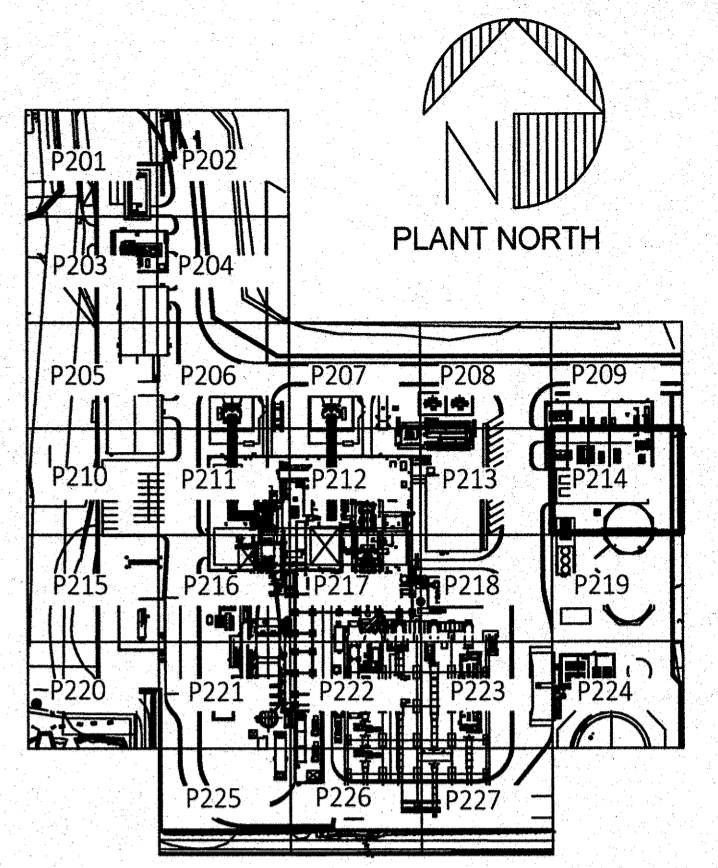
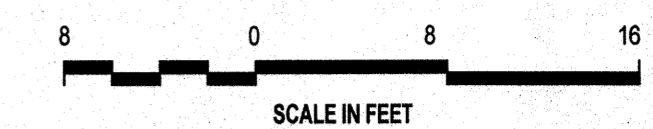
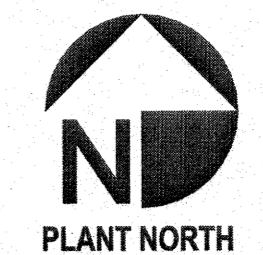
YARD UNDERGROUND PIPING PLAN AREA 13

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL

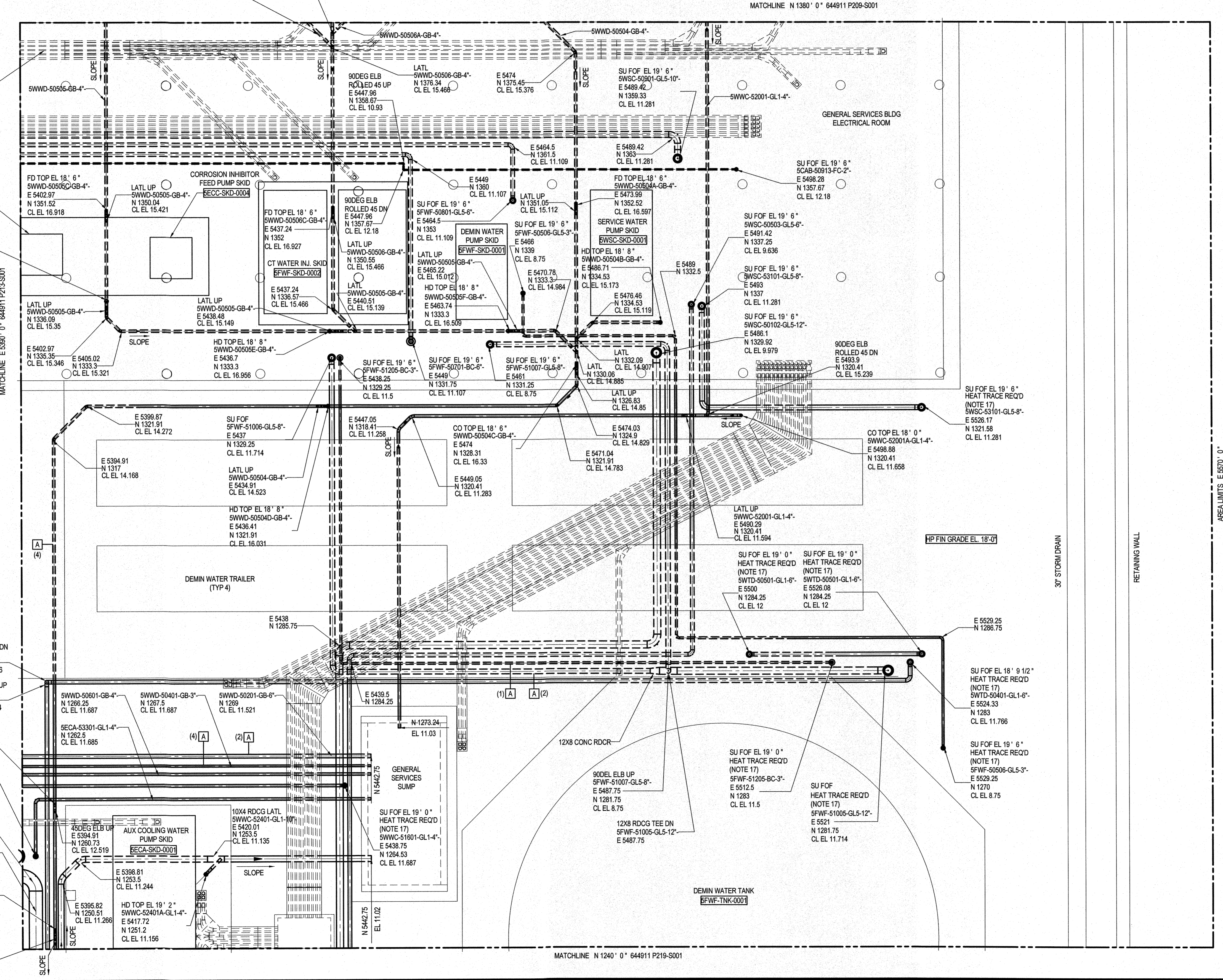
644911 P213-S001

ELECT MECH STRUCT PIPING PROCESS SEWER

A B C D E F



1
2
3
4
5



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [A] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [T] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.
	07/29/17	VT	XU	UP	ZH	SP	SS

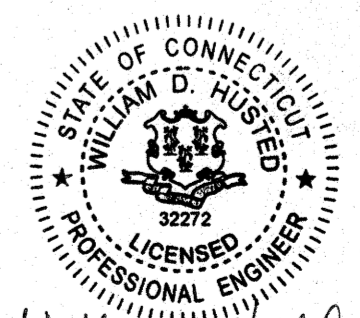
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC-LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"
BRIDGEPORT 05

YARD UNDERGROUND PIPING PLAN
AREA 14

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P214-S001



William D. Husted
24 MAY 2017

PRINTED DATE: 5/23/2017 7:57:43 AM

A

B

C

D

E

F

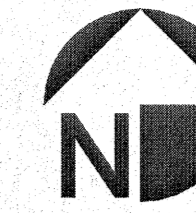
1

2

3

4

5



PLANT NORTH



SCALE IN FEET

MATCHLINE N 1240' 0" 644911 P210-S001

AREALIMITS E 4670' 0"

RETAINING WALL

STORM DRAIN MH

30" STORM DRAIN

HP FIN GRADE EL. 18'-0"

MATCHLINE E 680' 0" 644911 P216-S001

5FPU-VLV0075

5FPU-HYD0003

FIRE PROTECTION SYSTEM (NOTE 7)

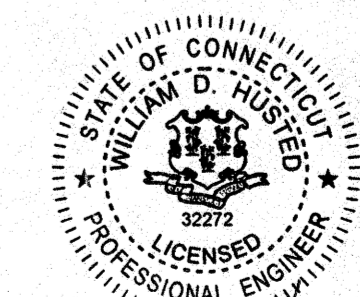
BULK HYDROGEN STORAGE

DUCTBANKS (TYP)

AMMONIA STORAGE TANK (NOTE 17) 5WSD-50115-GL-3" E 4833-53 N 11111

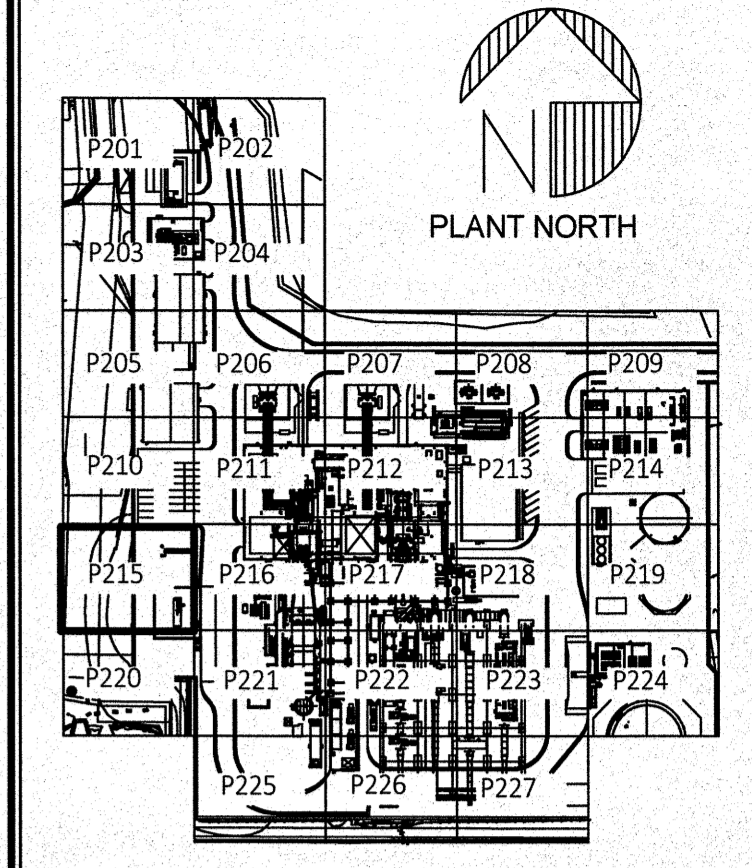
TOC EL. 18'-6"

SU FOF EL 19' 6" HEAT TRACE REQ'D (NOTE 17) 5WSD-50115-GL-3" E 4833-53 N 11111 CL EL. 12.47



Will. D. Husted
24 MAY 2017

MATCHLINE N 1100' 0" 644911 P220-S001



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [Symbol] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [Symbol] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DJR. TECH.	PROJ. MGR.	INSTR.
1	5/24/17	VT	WUP	WUP	WUP	WUP	WUP	WUP

PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"
BRIDGEPORT 05

YARD UNDERGROUND PIPING PLAN
AREA 15

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P215-S001

PRINTED DATE: 5/23/2017 7:59:23 AM

A

B

C

D

E

F

1

2

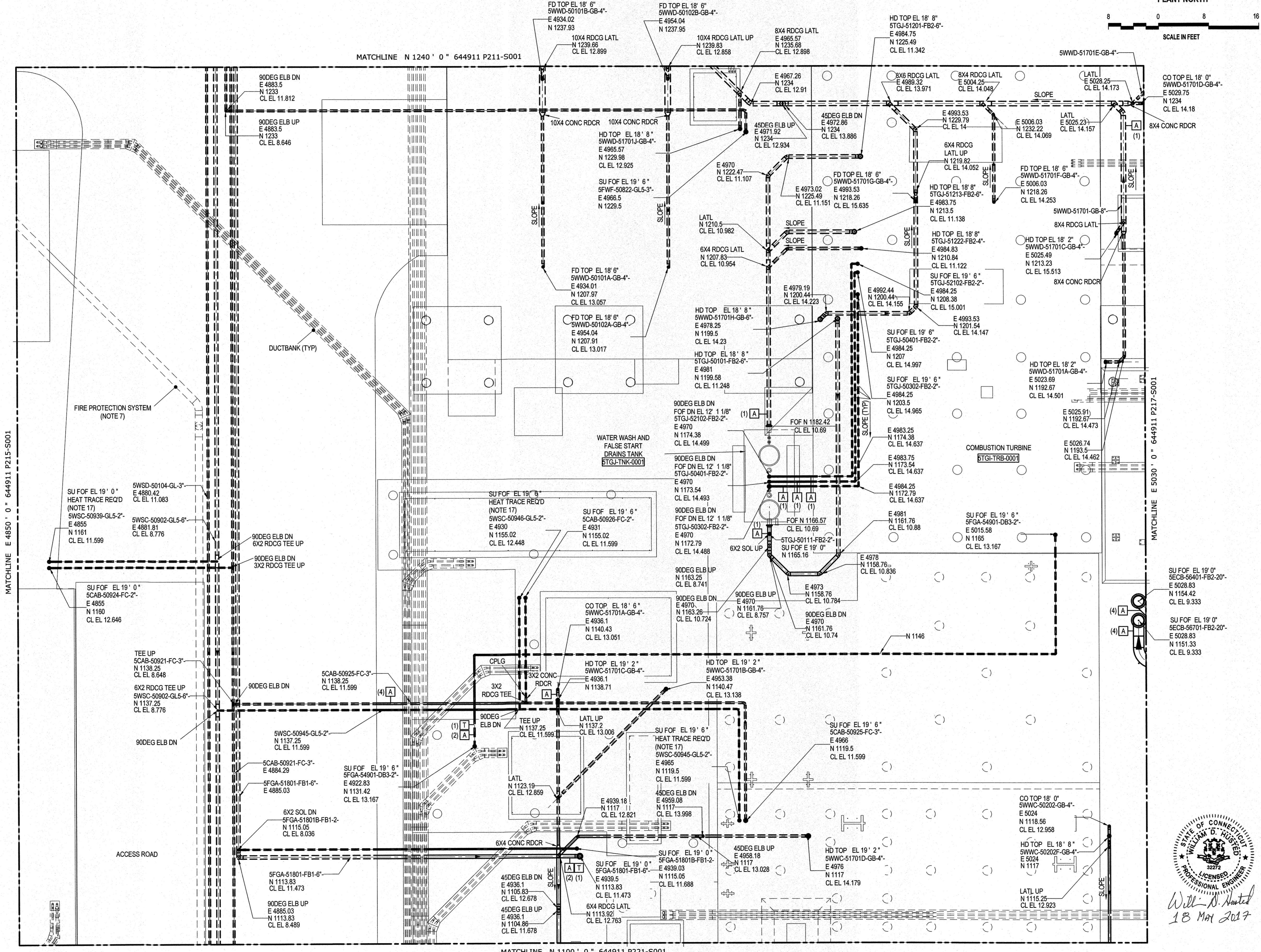
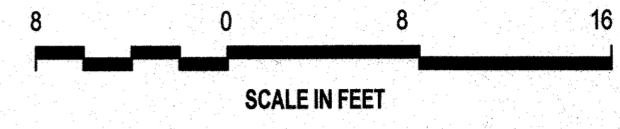
3

4

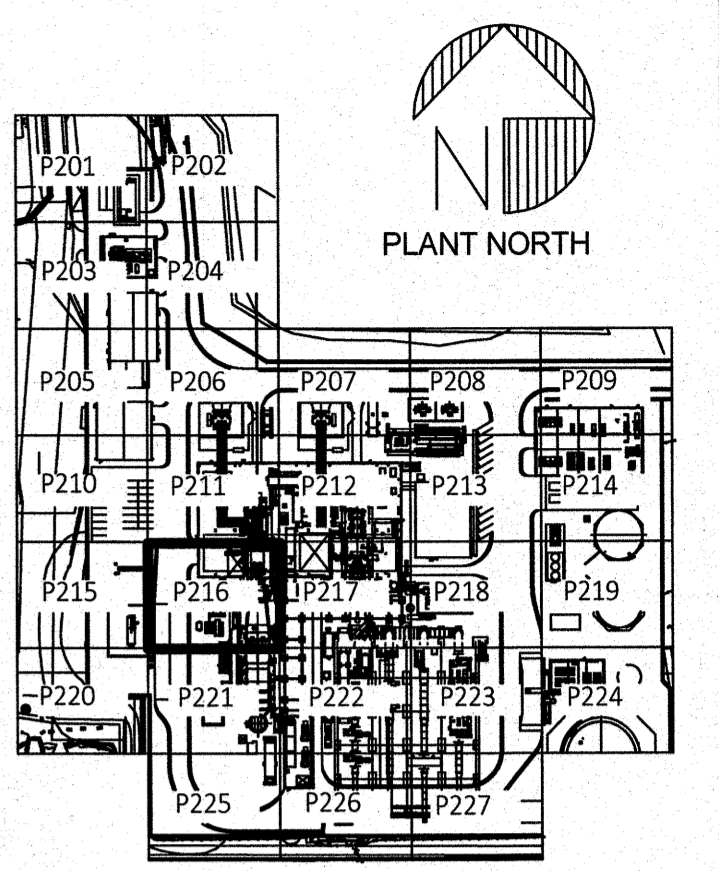
5



PLANT NORTH



KEY PLAN



GENERAL NOTES:

1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

LEGEND

- CO - CLEANOUT (SEE NOTE 3)
- FD - FLOOR DRAIN (SEE NOTE 3)
- HD - HUB DRAIN (SEE NOTE 5)
- SU - STUB-UP (SEE NOTE 4)
- (X) [A] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
- (X) [T] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

5/18/17 [Signature]

ISSUED FOR PERMIT

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DTR. TECH.	PROJ. MGR.	INSTR.
	4/27/17	MZ	RET	LON	LA	LP/SF	SO	

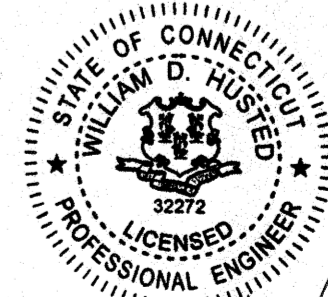
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"

BRIDGEPORT 05
YARD
UNDERGROUND PIPING PLAN
AREA 16

PARTIAL SITE PLAN
644911 P216-S001



Will D. Husted
18 May 2017

A

B

C

D

E

F

1

2

3

4

5

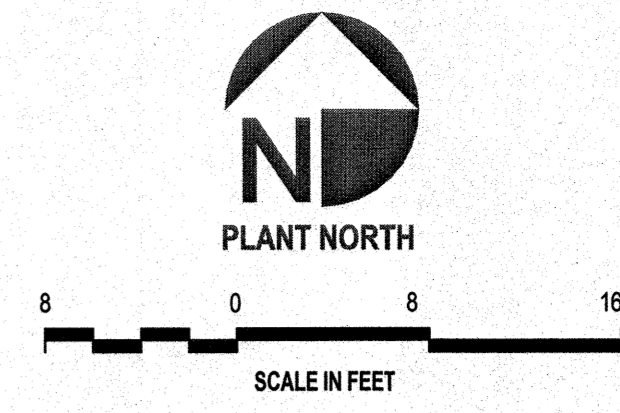
1

2

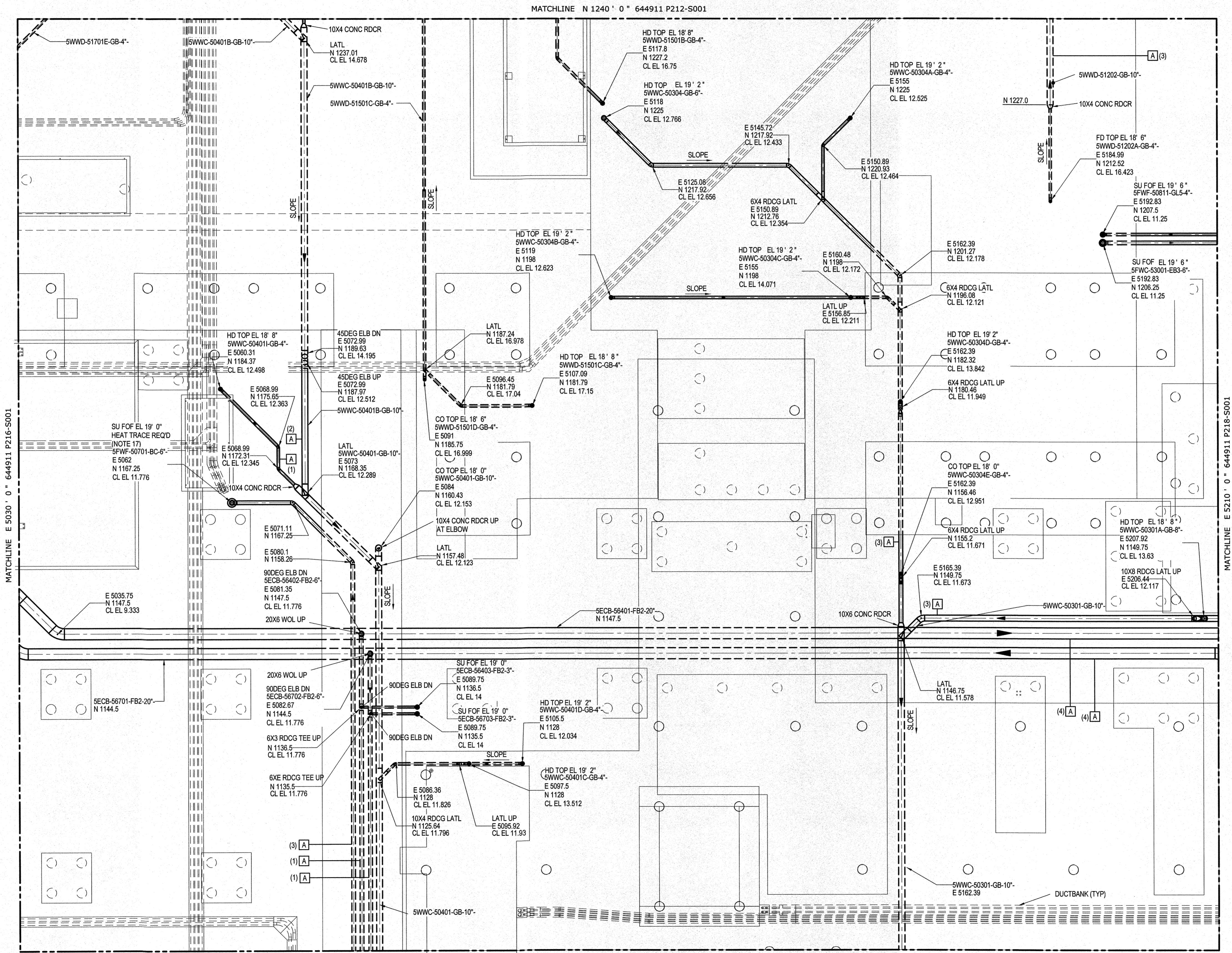
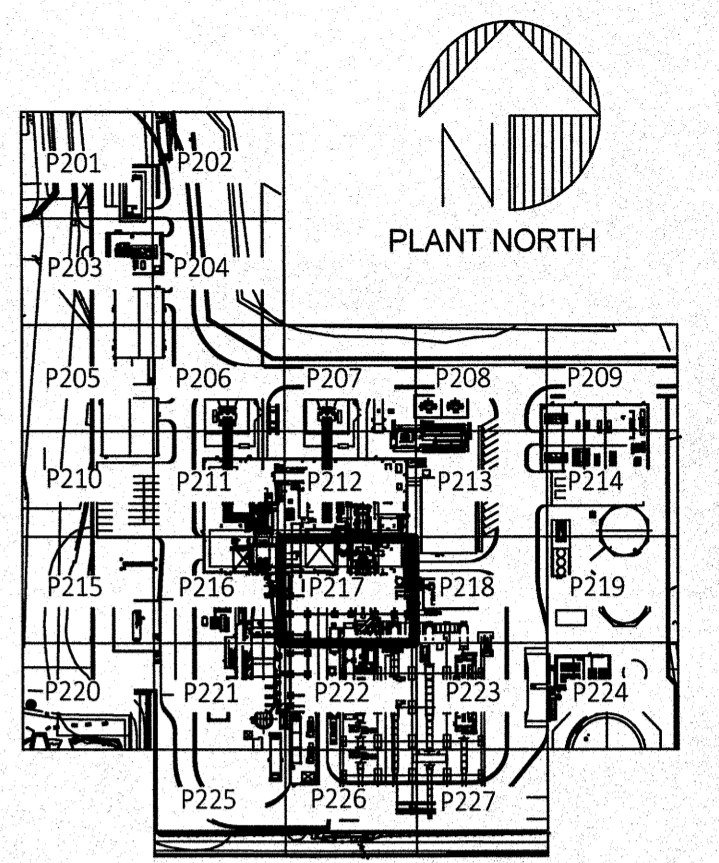
3

4

5



KEY PLAN



GENERAL NOTES:

1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

LEGEND

- CO - CLEANOUT (SEE NOTE 3)
- FD - FLOOR DRAIN (SEE NOTE 3)
- HD - HUB DRAIN (SEE NOTE 5)
- SU - STUB-UP (SEE NOTE 4)
- (X) [A] CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
- (X) [T] CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

5/17/17 [Signature]

ISSUED FOR PERMIT

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
	4/27/17	MZ	J2	LON	LA	LP/SF	SO	

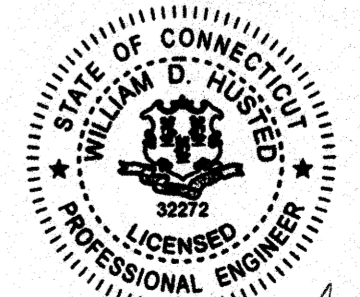
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"
BRIDGEPORT 05

YARD
UNDERGROUND PIPING PLAN
AREA 17

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P217-S001



Will D. Husted
18 MAY 2017

PRINTED DATE: 5/17/2017 8:52:30 AM

A

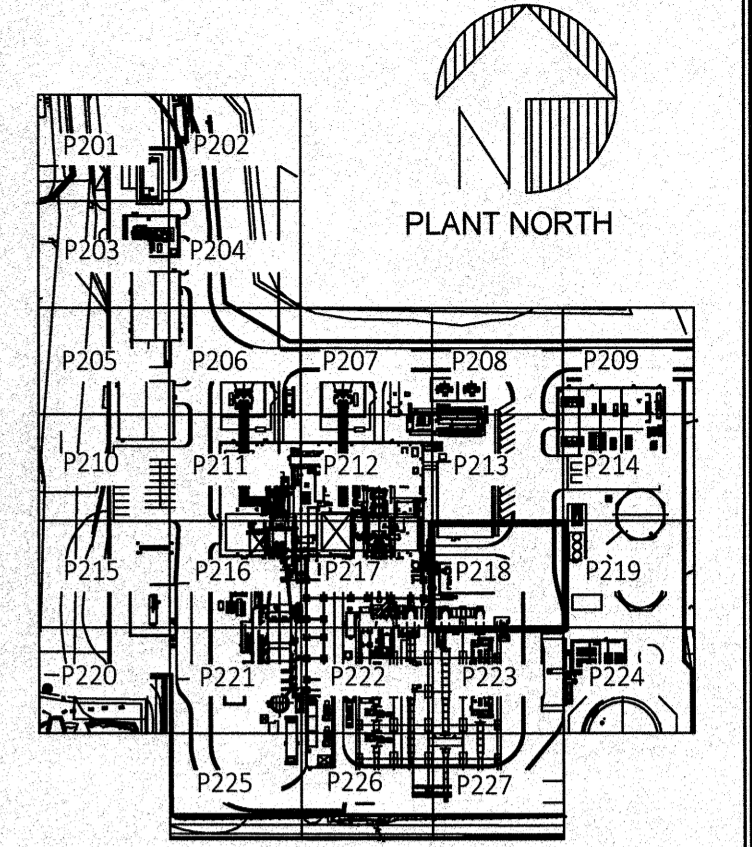
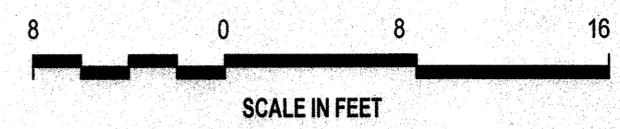
B

C

D

E

F



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [A] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [T] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
1	5/29/17	VT	IBC	UP	2	SP	4	

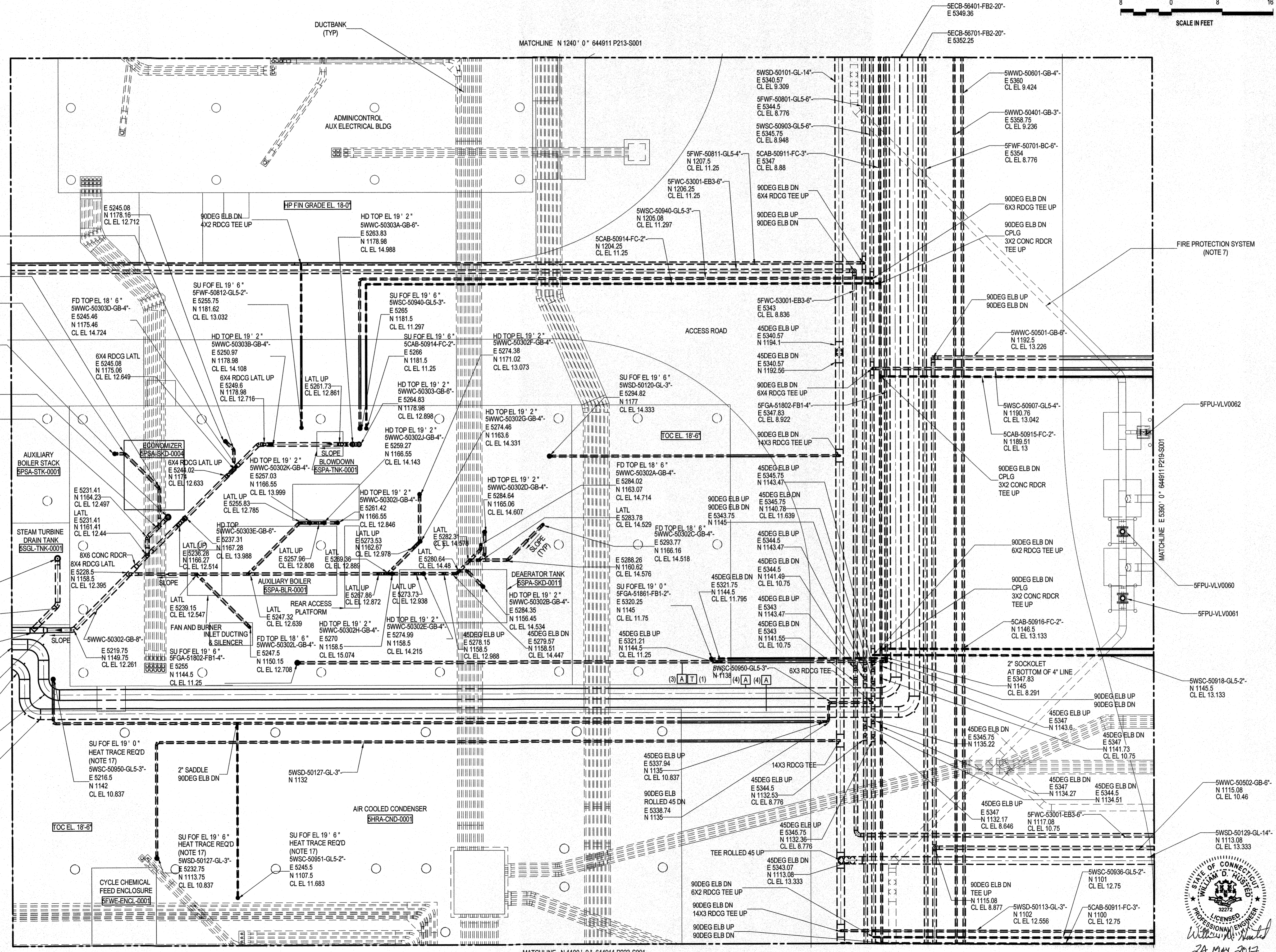
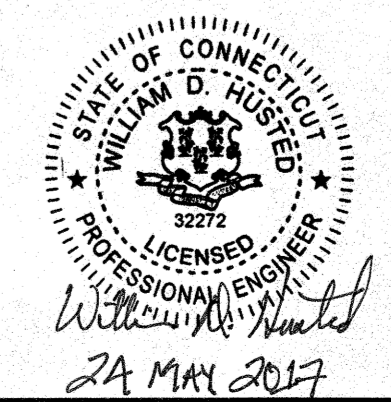
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"

BRIDGEPORT 05
YARD UNDERGROUND PIPING PLAN AREA 18

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P218-S001



1
2
3
4
5
PRINTED DATE: 5/24/2017 9:45:24 AM

1
2
3
4
5
ELECT MECH STRUCT CIVIL PIPING PROCESS SEWER

A

B

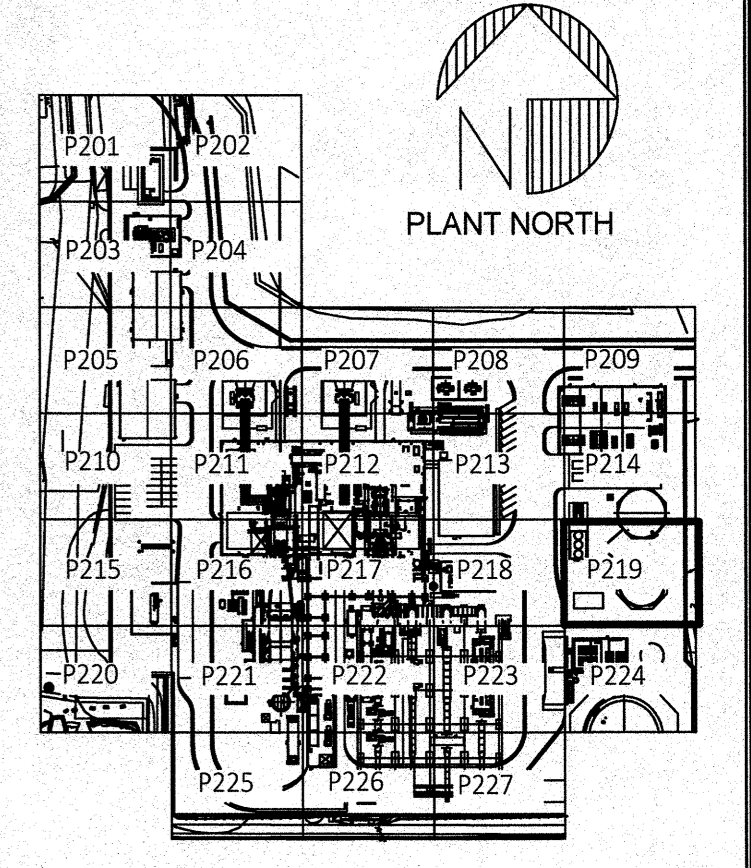
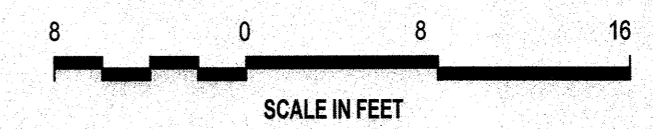
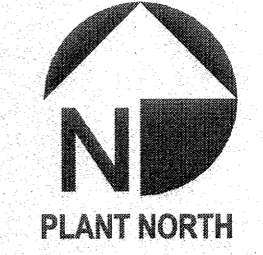
C

D

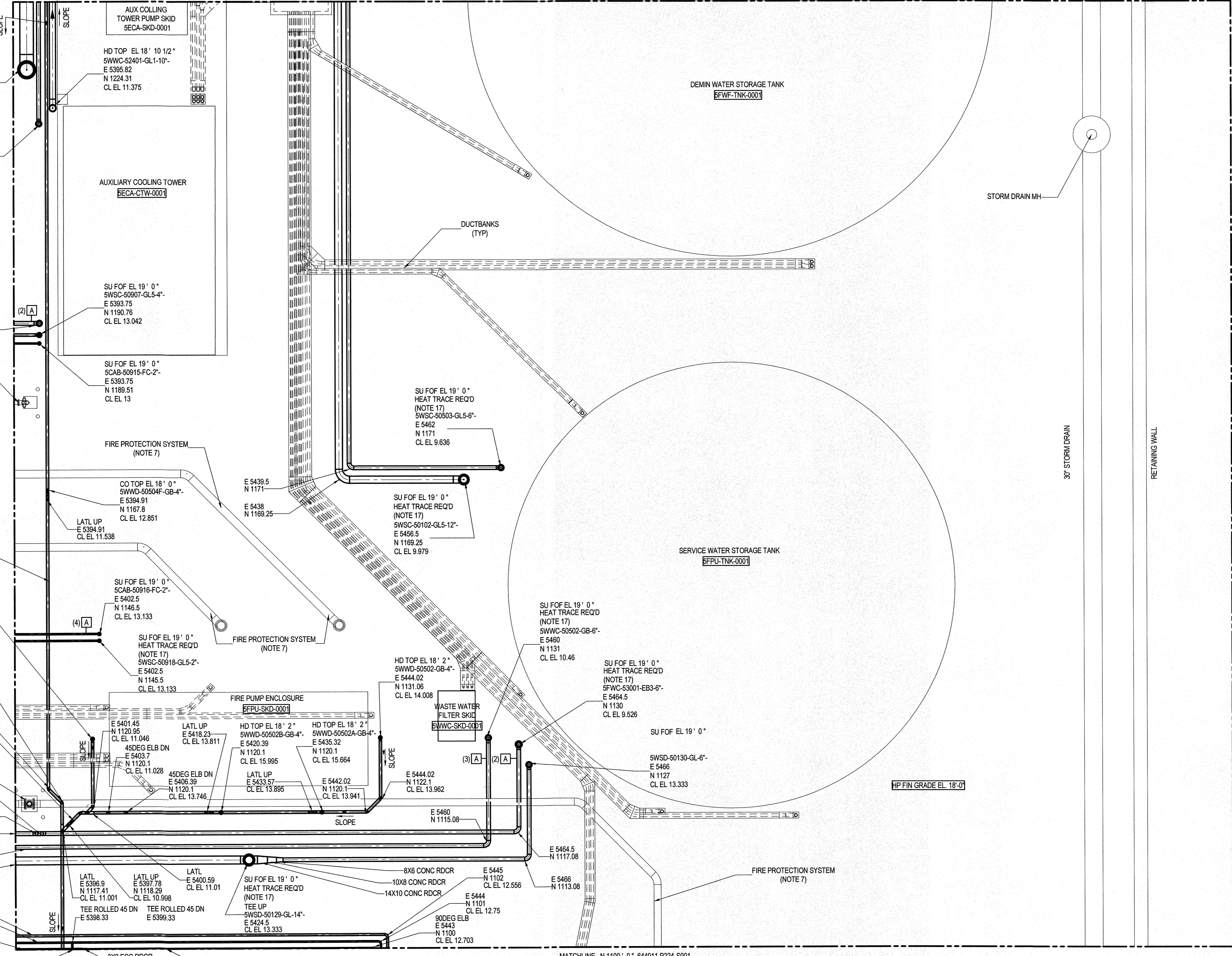
E

F

1
2
3
4
5



MATCHLINE N 1240' 0" 644911 P214-S001



MATCHLINE N 1100' 0" 644911 P224-S001

GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [A] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [T] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
1	07/24/17	VT	SEC	UP	2	5	3	

PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"

BRIDGEPORT 05
YARD UNDERGROUND PIPING PLAN AREA 19

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
644911 P219-S001



PRINTED DATE: 5/24/2017 9:46:27 AM

ELECT
MECH
STRUCT
PIPING
PROCESS
SEWER

A

B

C

D

E

F

1

2

3

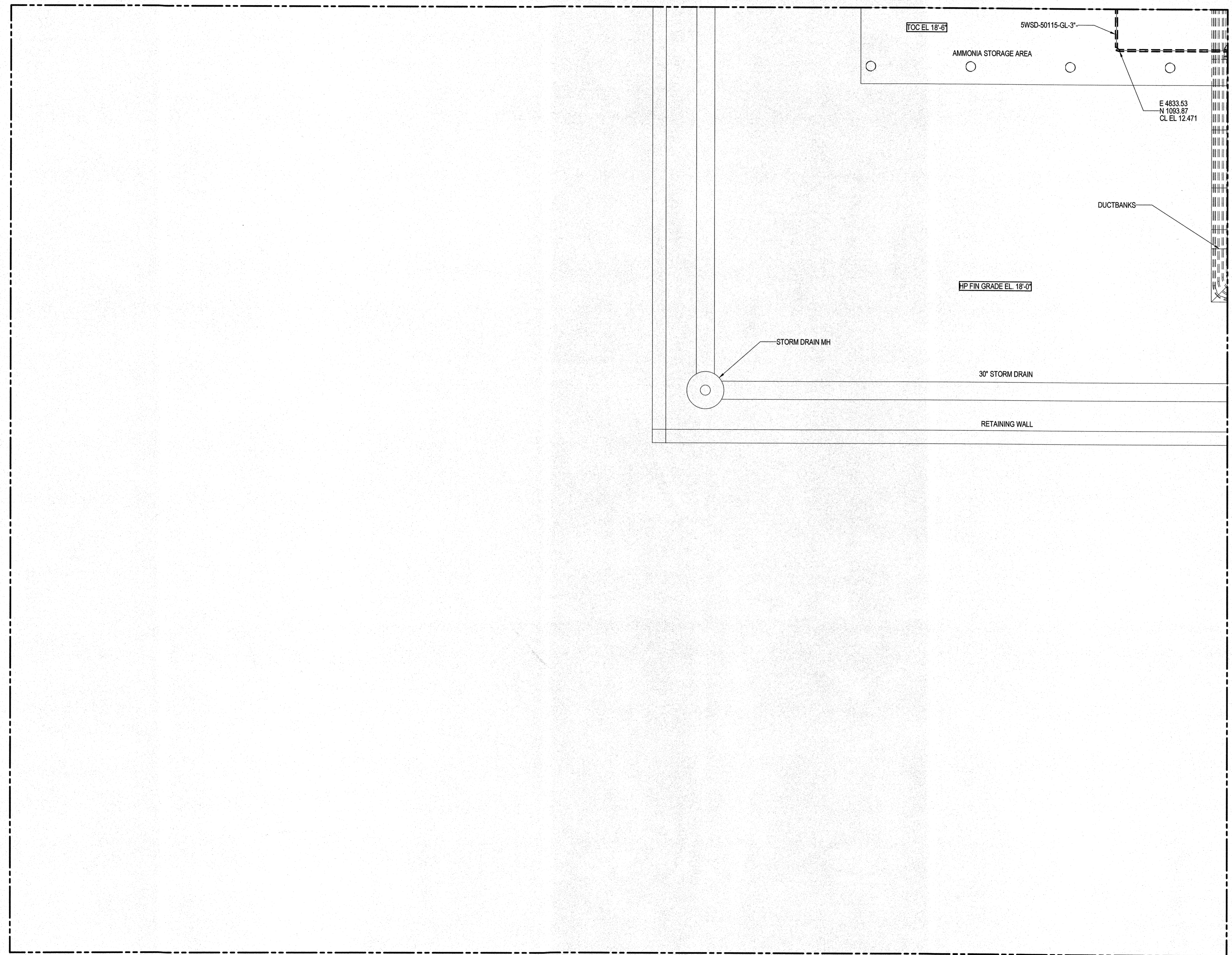
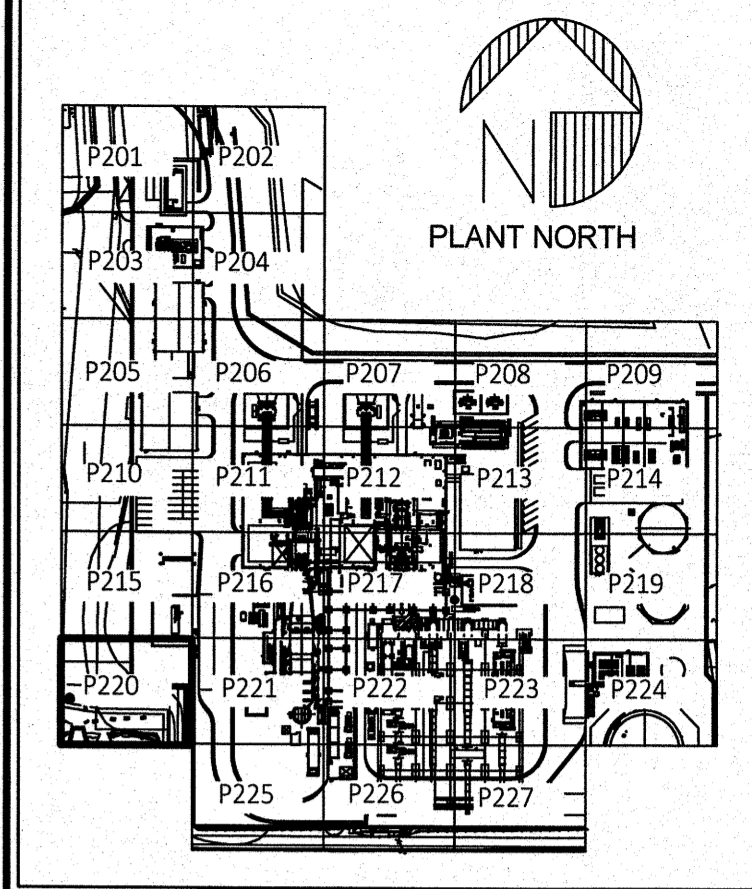
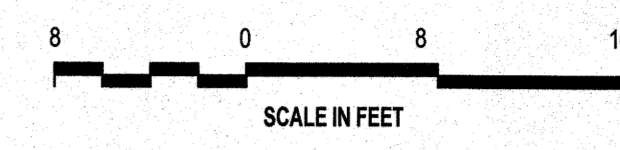
4

5

MATCHLINE N 1100' 0" 644911 P215-S001

AREA LIMITS E 4670' 0"

AREA LIMITS N 960' 0"



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.
	5/24/17	VT	DEC	UP	JL	SE	4

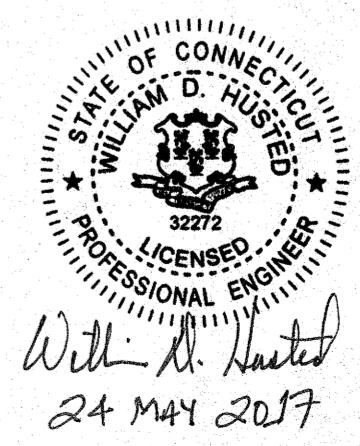
PROJECT ENGINEERING DIVISION
PSEG
Power Constructors LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"
BRIDGEPORT 05

YARD
UNDERGROUND PIPING PLAN
AREA 20

PARTIAL SITE PLAN
DESIGN - CIVIL GENERAL
644911 P220-S001



PRINTED DATE: 5/23/2017 1:14:35 PM

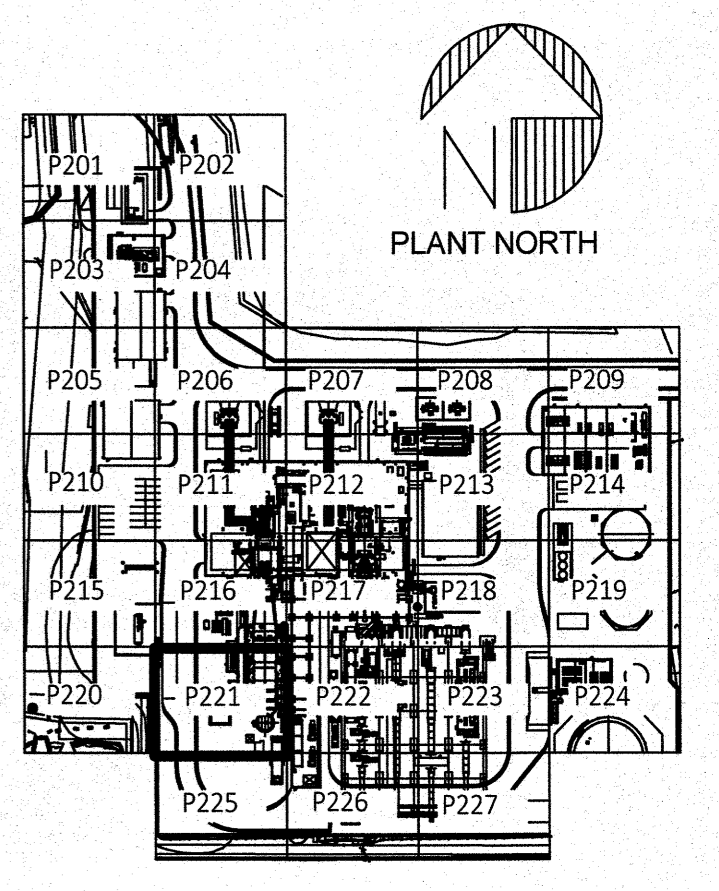
INSTR.
ELECT.
MECH.
STREET
PIPING
PROCESS
REVIEW
SEEN BY

A B C D E F



8 0 8 16
SCALE IN FEET

KEY PLAN



GENERAL NOTES:

1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

LEGEND

- CO - CLEANOUT (SEE NOTE 3)
- FD - FLOOR DRAIN (SEE NOTE 3)
- HD - HUB DRAIN (SEE NOTE 5)
- SU - STUB-UP (SEE NOTE 4)
- (X) [A] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
- (X) [T] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

5/18/17 MZ KC LON LA LP/SF SO

ISSUED FOR PERMIT

4/27/17	MZ	KC	LON	LA	LP/SF	SO
---------	----	----	-----	----	-------	----

PROJECT ENGINEERING DIVISION



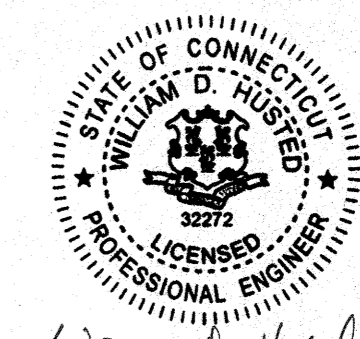
SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"
BRIDGEPORT 05

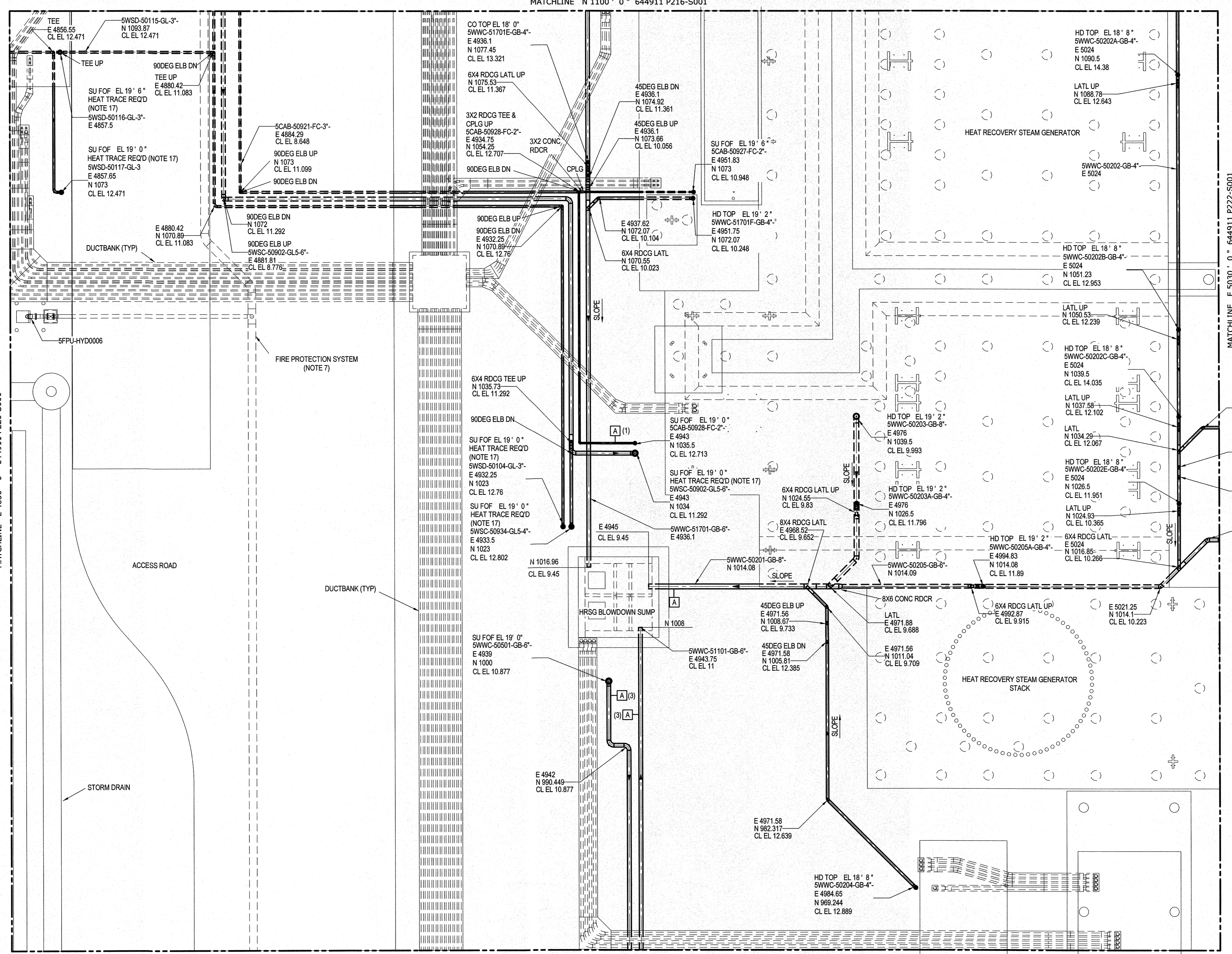
YARD
UNDERGROUND PIPING PLAN
AREA 21

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL

644911 P221-S001



W.D. Nanted
18 MAY 2017



MATCHLINE E 4850' 0" 644911 P220-S001

MATCHLINE N 1100' 0" 644911 P216-S001

MATCHLINE E 5030' 0" 644911 P222-S001

MATCHLINE N 960' 0" 644911 P225-S001

A B C D E F

PRINTED DATE: 5/17/2017 8:58:46 AM

1

2

3

4

5

1

2

3

4

5

A

B

C

D

E

F

1

2

3

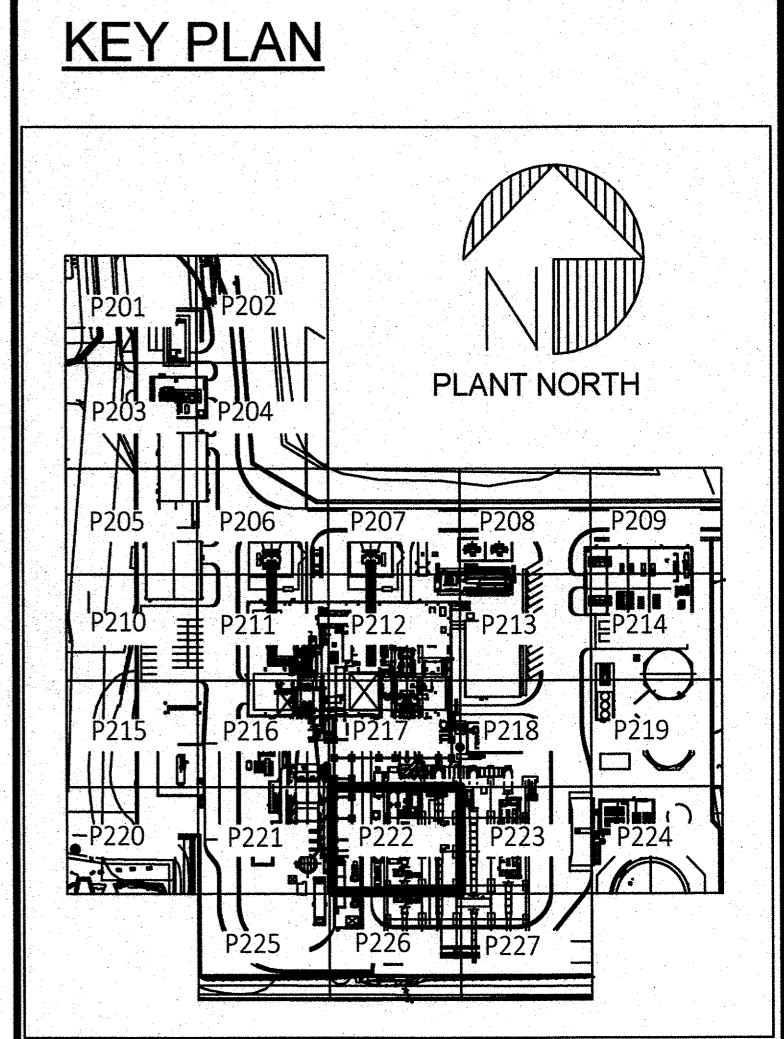
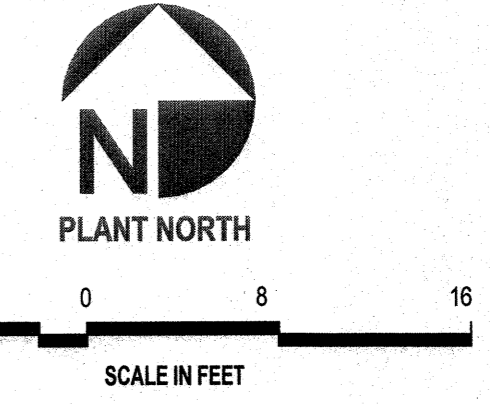
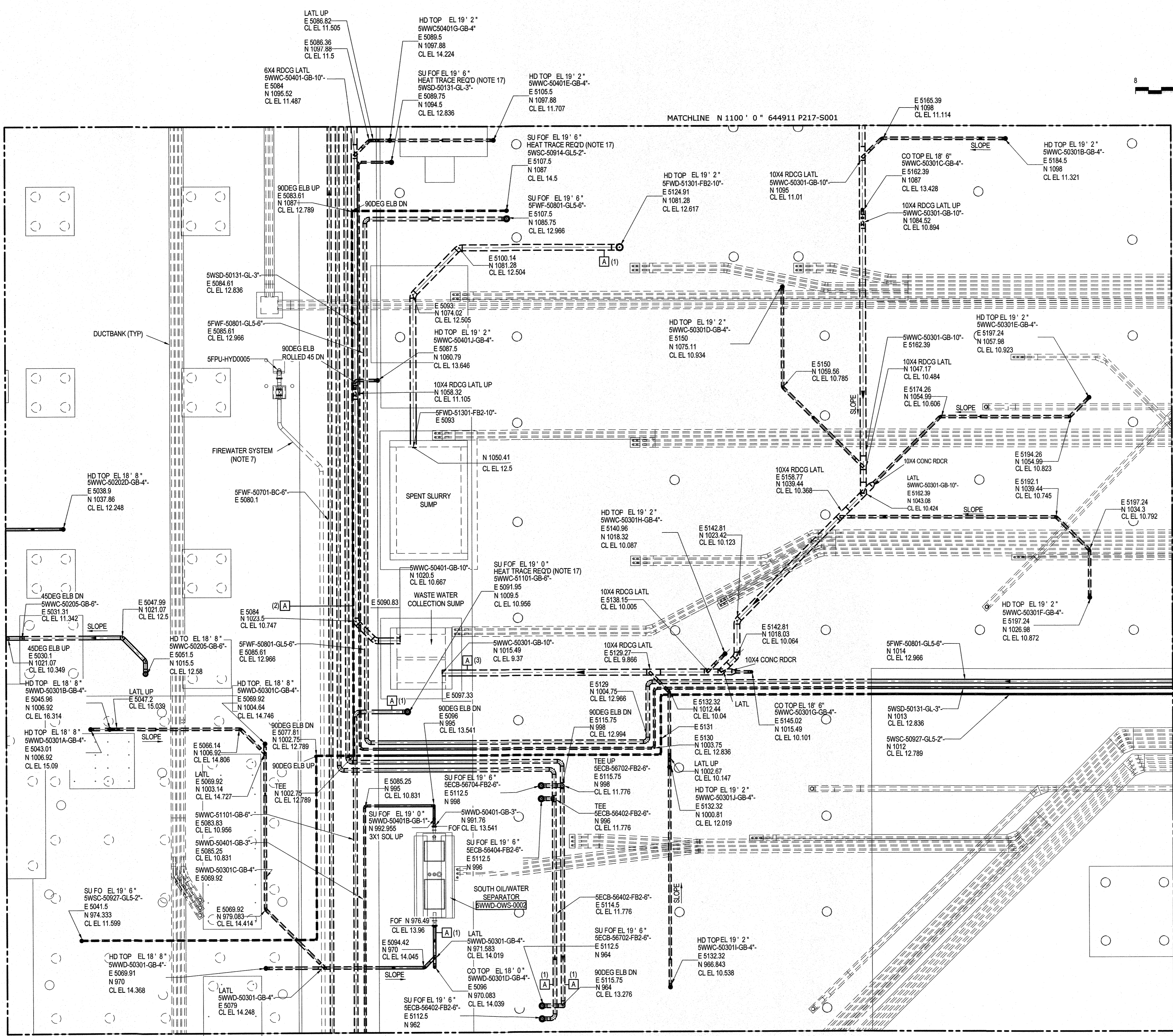
4

5

MATCHLINE E 5030' 0" 644911 P221-S001

MATCHLINE E 5210' 0" 644911 P223-S001

MATCHLINE N 960' 0" 644911 P226-S001



GENERAL NOTES:
 1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [A] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [T] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION
 5/19/17 MZ KC LP SF S

ISSUED FOR PERMIT

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.
0	4/27/17	MZ	KC	LON	LA	LP/SF	SO

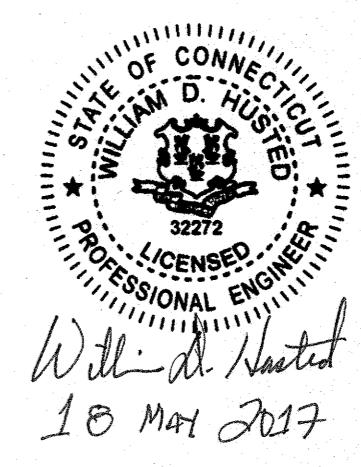
PROJECT ENGINEERING DIVISION
PSEG
 Power Connecticut LLC

SNC • LAVALIN
 CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"
BRIDGEPORT 05

YARD UNDERGROUND PIPING PLAN
 AREA 22

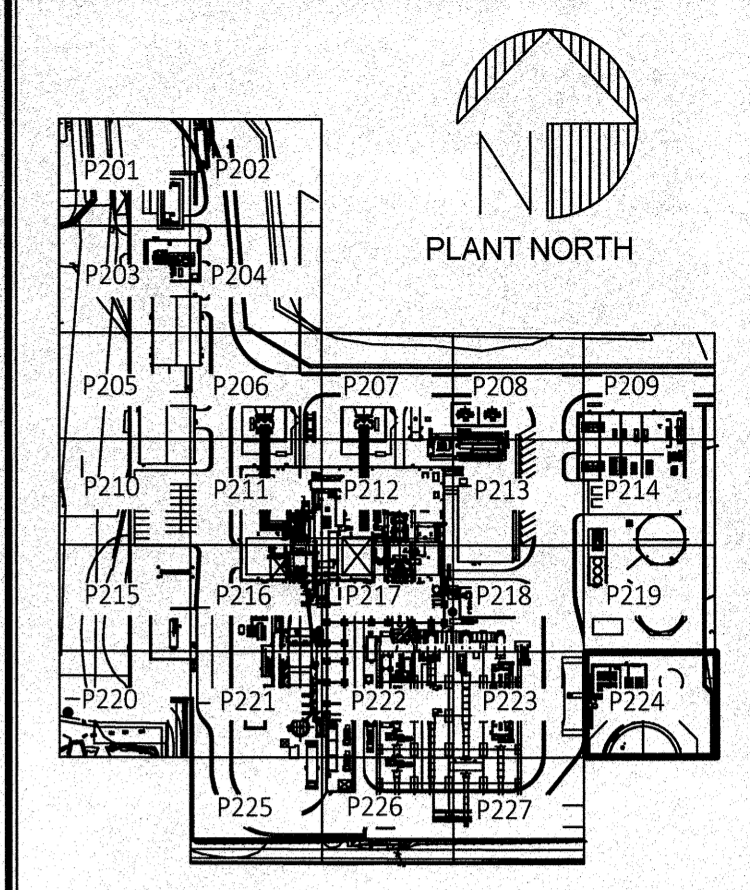
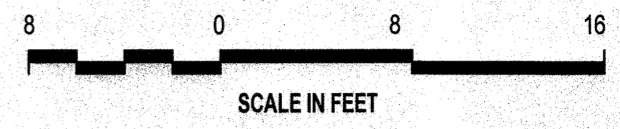
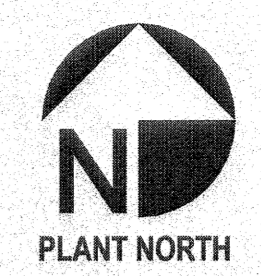
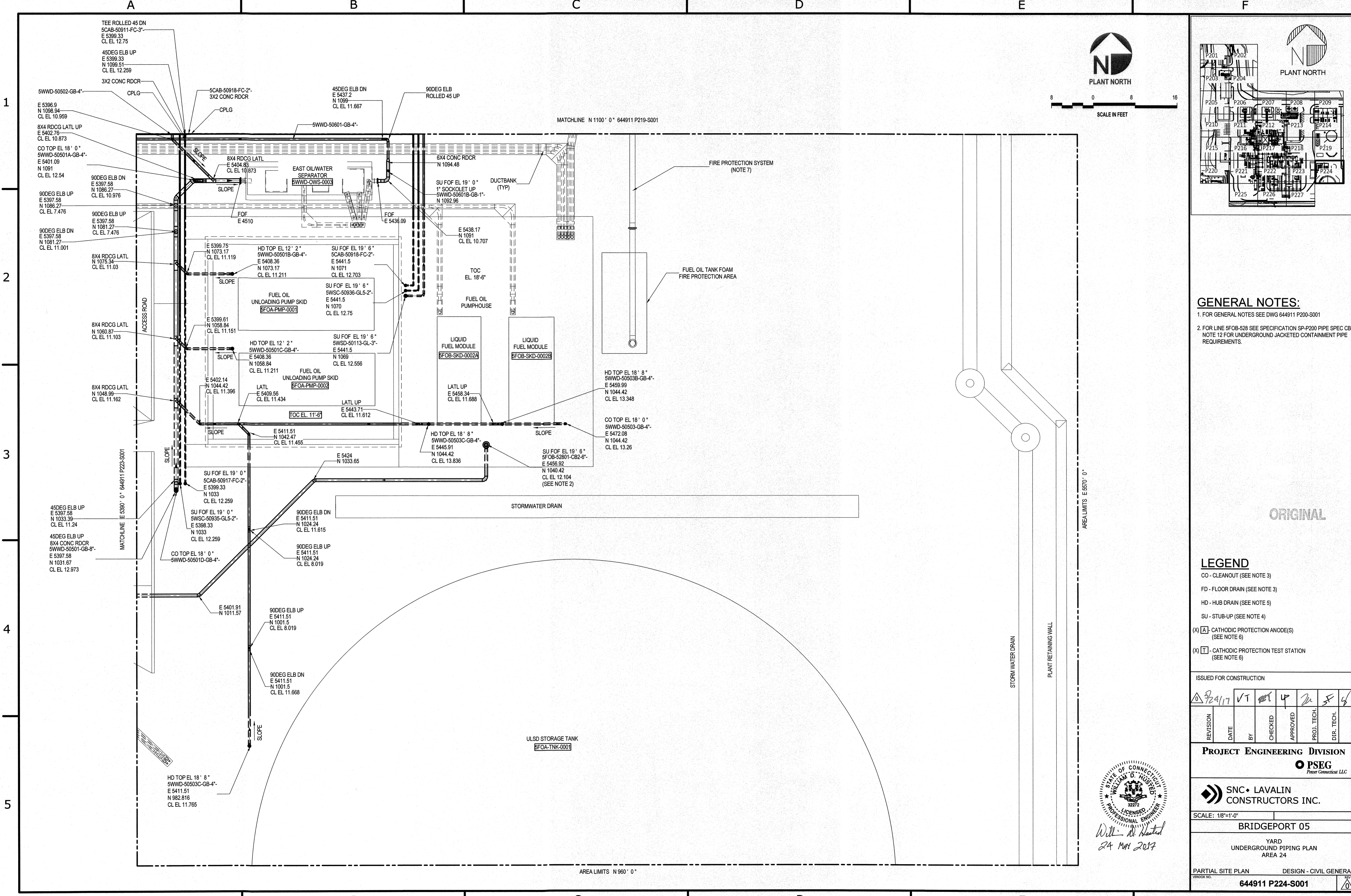
PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
 VENDOR NO. **644911 P222-S001**



William D. Nantel
 10 Mar 2017

PRINTED DATE: 5/18/2017 7:02:36 AM

PRINTED DATE: 5/24/2017 10:55:55 AM



GENERAL NOTES:

- FOR GENERAL NOTES SEE DWG 644911 P200-S001
- FOR LINE 5FOB-528 SEE SPECIFICATION SP-P200 PIPE SPEC CB2 NOTE 12 FOR UNDERGROUND JACKETED CONTAINMENT PIPE REQUIREMENTS.

ORIGINAL

LEGEND

- CO - CLEANOUT (SEE NOTE 3)
- FD - FLOOR DRAIN (SEE NOTE 3)
- HD - HUB DRAIN (SEE NOTE 5)
- SU - STUB-UP (SEE NOTE 4)
- (X) [Symbol] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
- (X) [Symbol] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DJR. TECH.	PROJ. MGR.	INSTR.
	9/24/17	VT	UP					

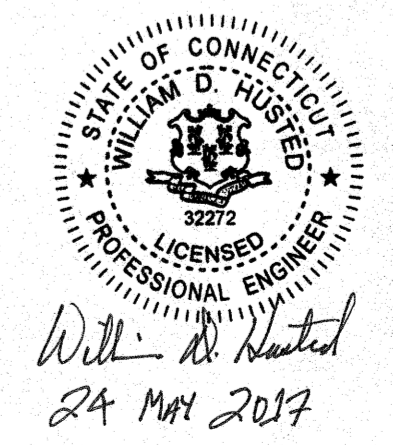
PROJECT ENGINEERING DIVISION
PSEG
 Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8"=1'-0"
BRIDGEPORT 05

YARD
 UNDERGROUND PIPING PLAN
 AREA 24

PARTIAL SITE PLAN
 DESIGN - CIVIL GENERAL
644911 P224-S001



A

B

C

D

E

F

1

2

3

4

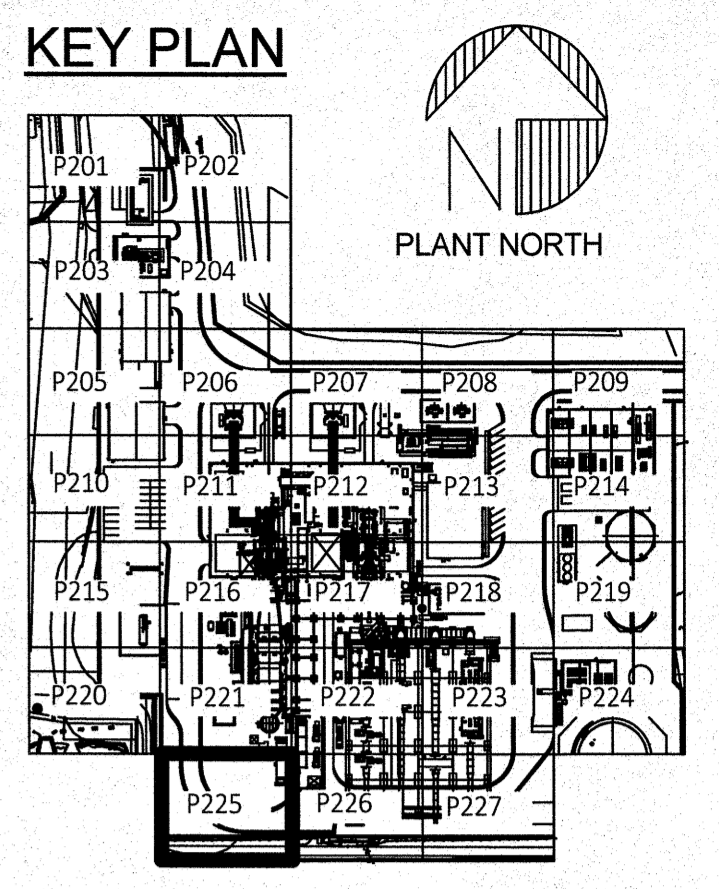
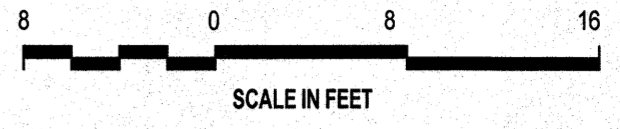
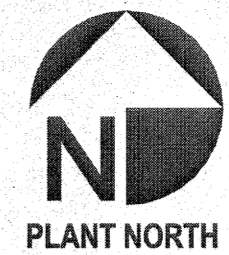
5

1

2

3

4

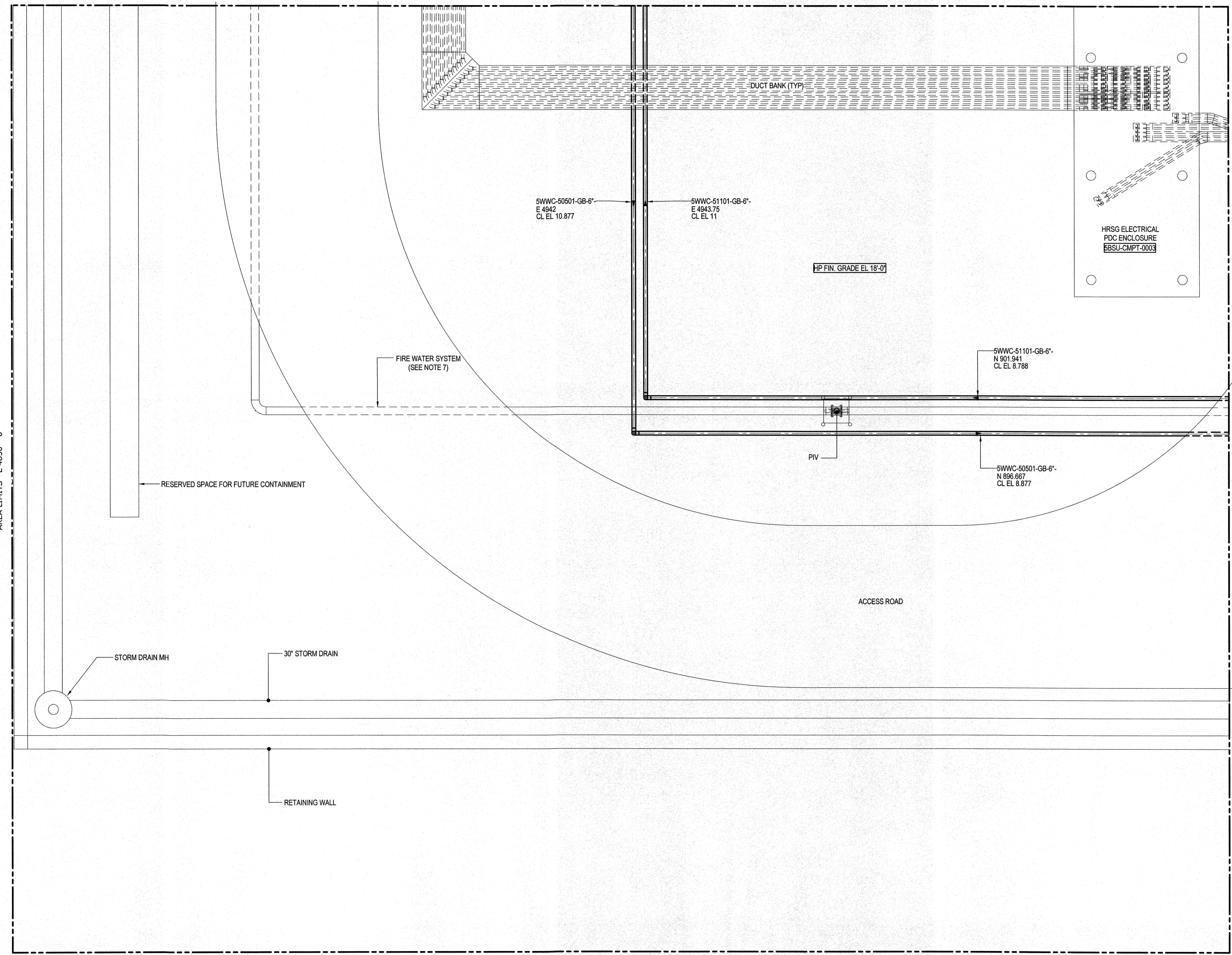


MATCHLINE N 960' 0" 644911 P221-S001

AREA LIMITS E 4850' 0"

MATCHLINE E 5030' 0" 644911 P226-S001

AREA LIMITS N 820' 0"



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [Symbol] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [Symbol] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
1	5/24/17	AL	WLP	AL	SF			

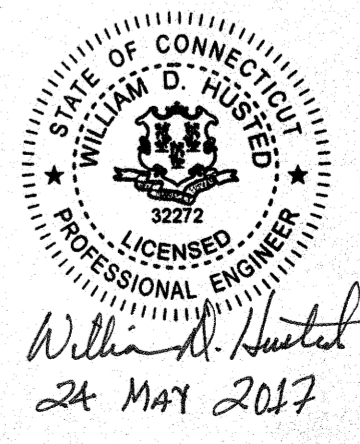
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8" = 1'-0"
BRIDGEPORT 05

YARD
UNDERGROUND PIPING PLAN
AREA 25

PARTIAL SITE PLAN
DESIGN - CIVIL GENERAL
VECTOR NO. **644911 P225-S001**



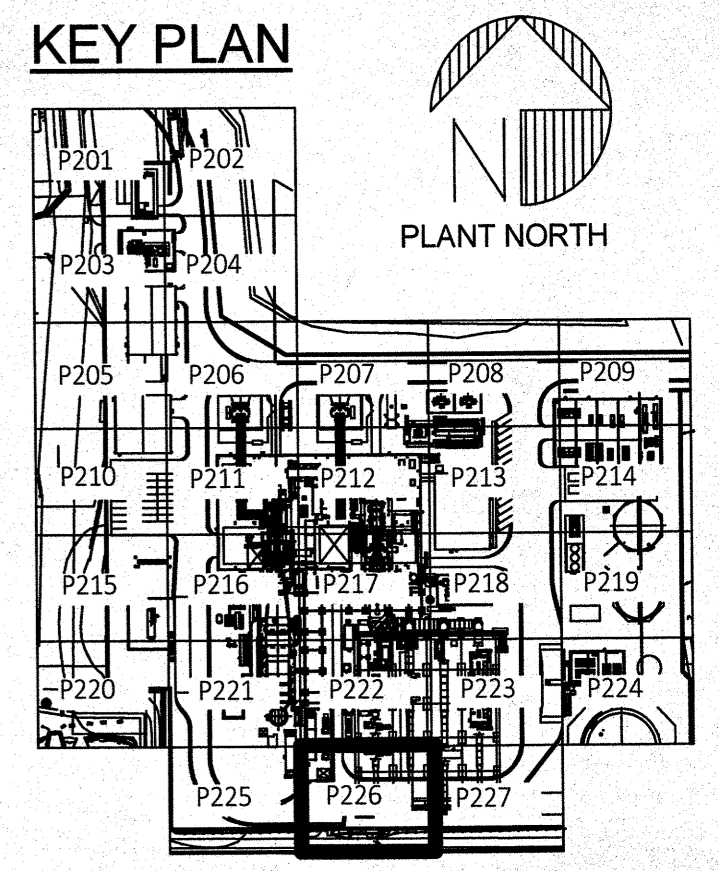
PRINTED DATE: 5/23/2017 7:38:01 AM

A B C D E F

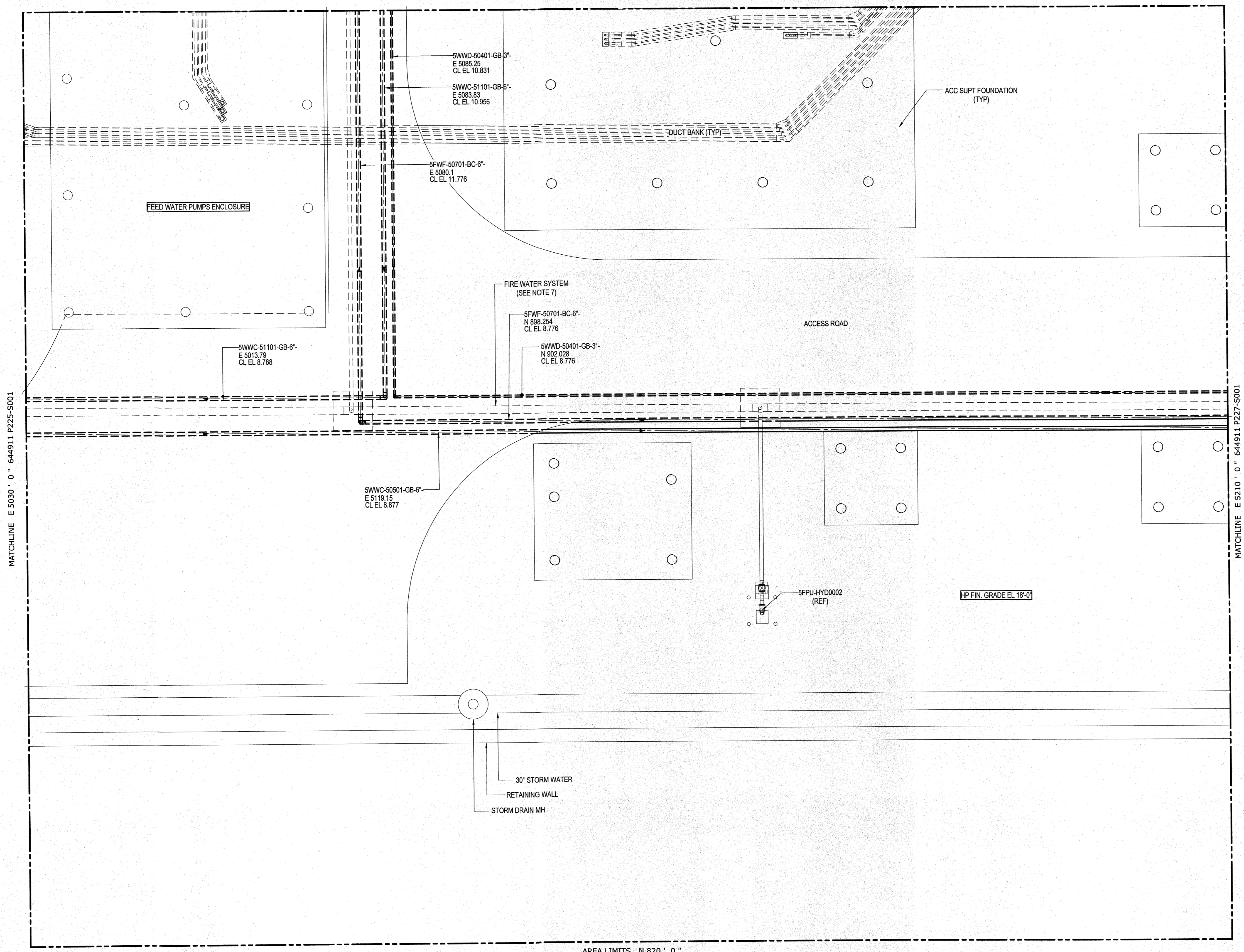
1
2
3
4
5



8 0 8 16
SCALE IN FEET



MATCHLINE N 960' 0" 644911 P222-S001



MATCHLINE E 5030' 0" 644911 P225-S001

MATCHLINE E 5210' 0" 644911 P227-S001

AREA LIMITS N 820' 0"

GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.
1	5/23/17	M	W	Y	Z	S	4

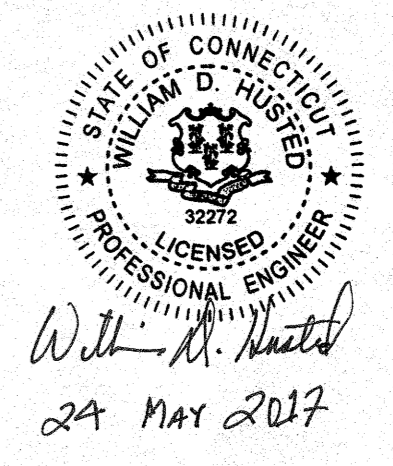
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC-LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8" = 1'-0"
BRIDGEPORT 05

YARD
UNDERGROUND PIPING PLAN
AREA 26

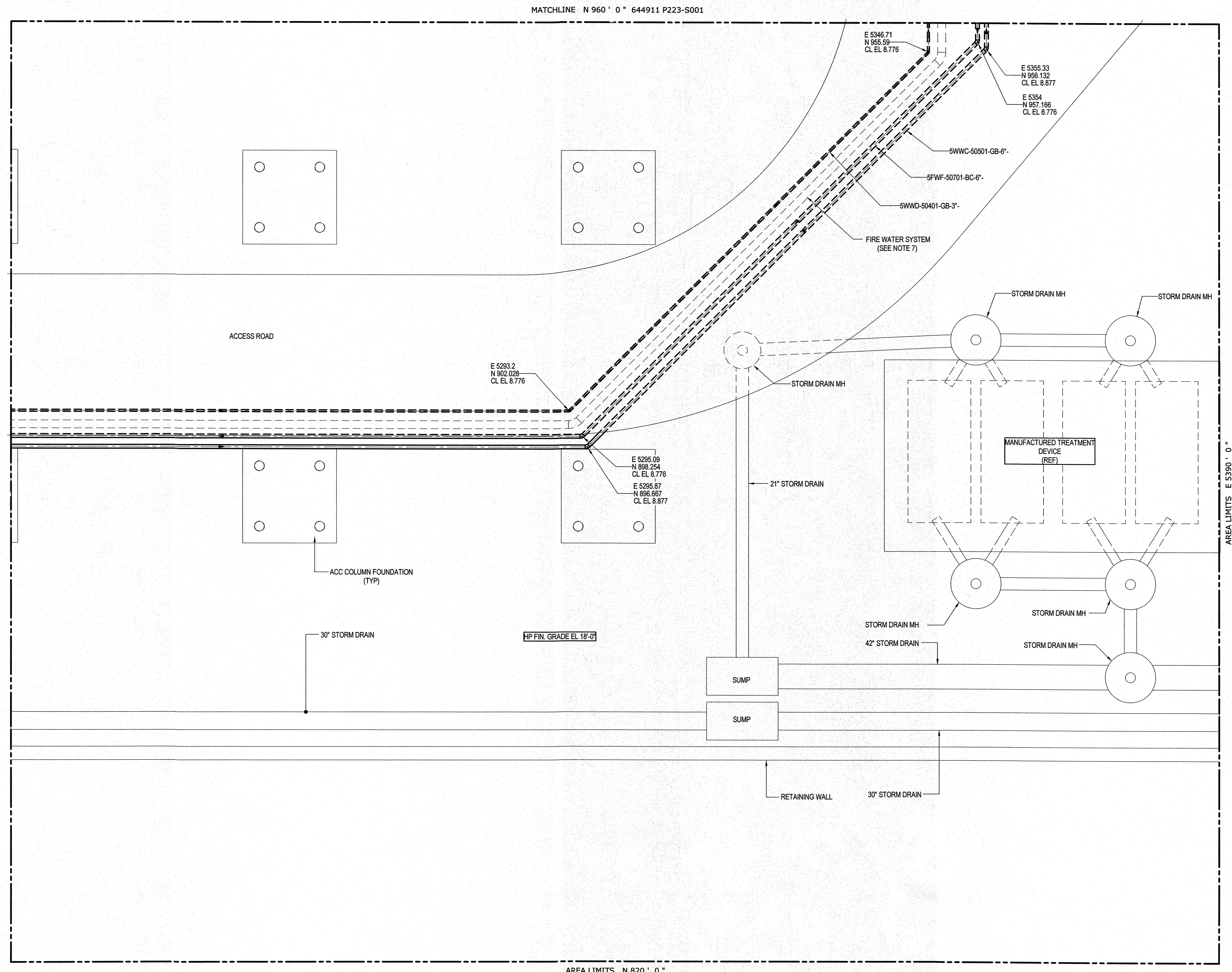
PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
VENDOR NO. **644911 P226-S001**



PRINTED DATE: 5/23/2017 7:40:29 AM

A B C D E F

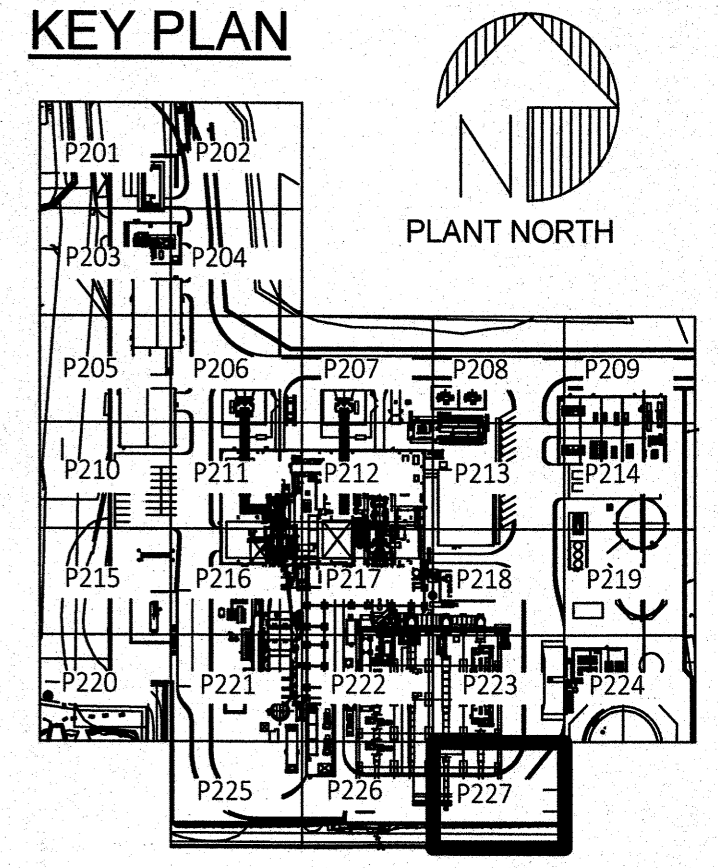
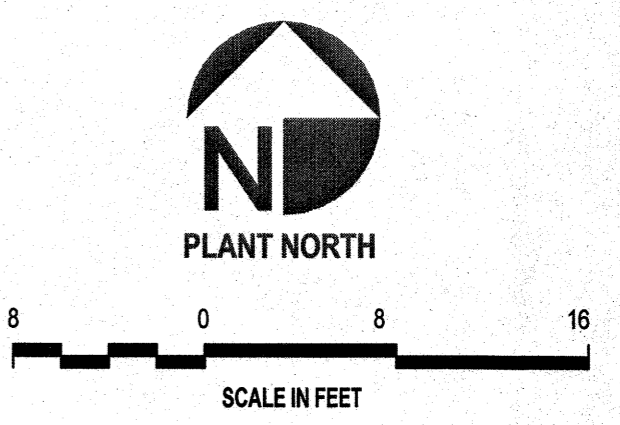
1
2
3
4
5



MATCHLINE N 960' 0" 644911 P223-S001

MATCHLINE E 5210' 0" 644911 P226-S001

AREA LIMITS N 820' 0"



GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001

ORIGINAL

- LEGEND**
- CO - CLEANOUT (SEE NOTE 3)
 - FD - FLOOR DRAIN (SEE NOTE 3)
 - HD - HUB DRAIN (SEE NOTE 5)
 - SU - STUB-UP (SEE NOTE 4)
 - (X) [Symbol] - CATHODIC PROTECTION ANODE(S) (SEE NOTE 6)
 - (X) [Symbol] - CATHODIC PROTECTION TEST STATION (SEE NOTE 6)

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DUR. TECH.	PROJ. INGR.	INSTR.
5/24/17		AV						

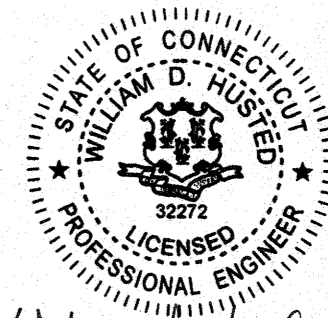
PROJECT ENGINEERING DIVISION
PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: 1/8" = 1'-0"
BRIDGEPORT 05

YARD
UNDERGROUND PIPING PLAN
AREA 27

PARTIAL SITE PLAN DESIGN - CIVIL GENERAL
REVISION/PROCESS/SEEN BY
644911 P227-S001

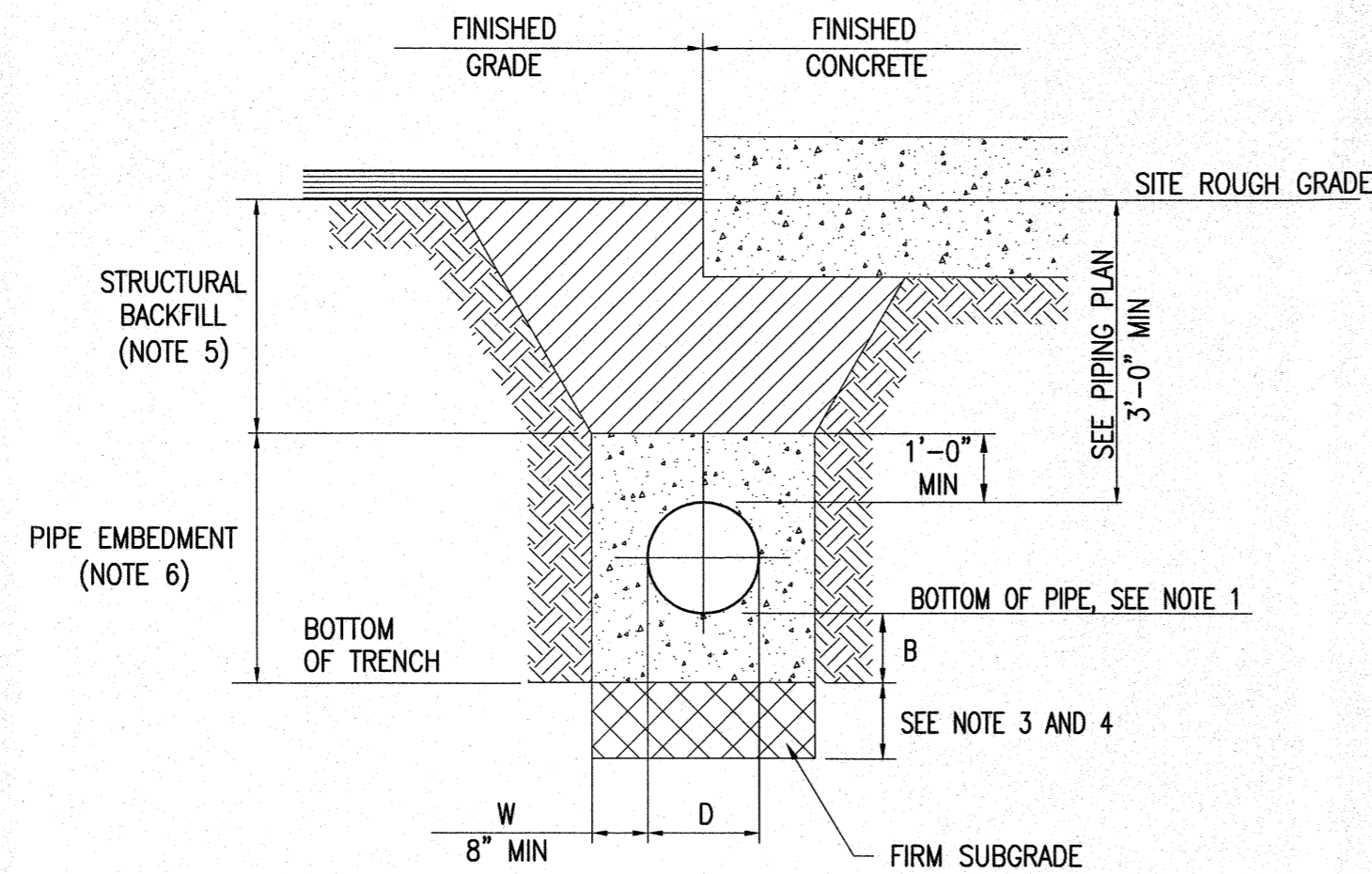


William D. Husted
24 MAY 2017

PRINTED DATE: 5/22/2017 3:43:29 PM

A B C D E F

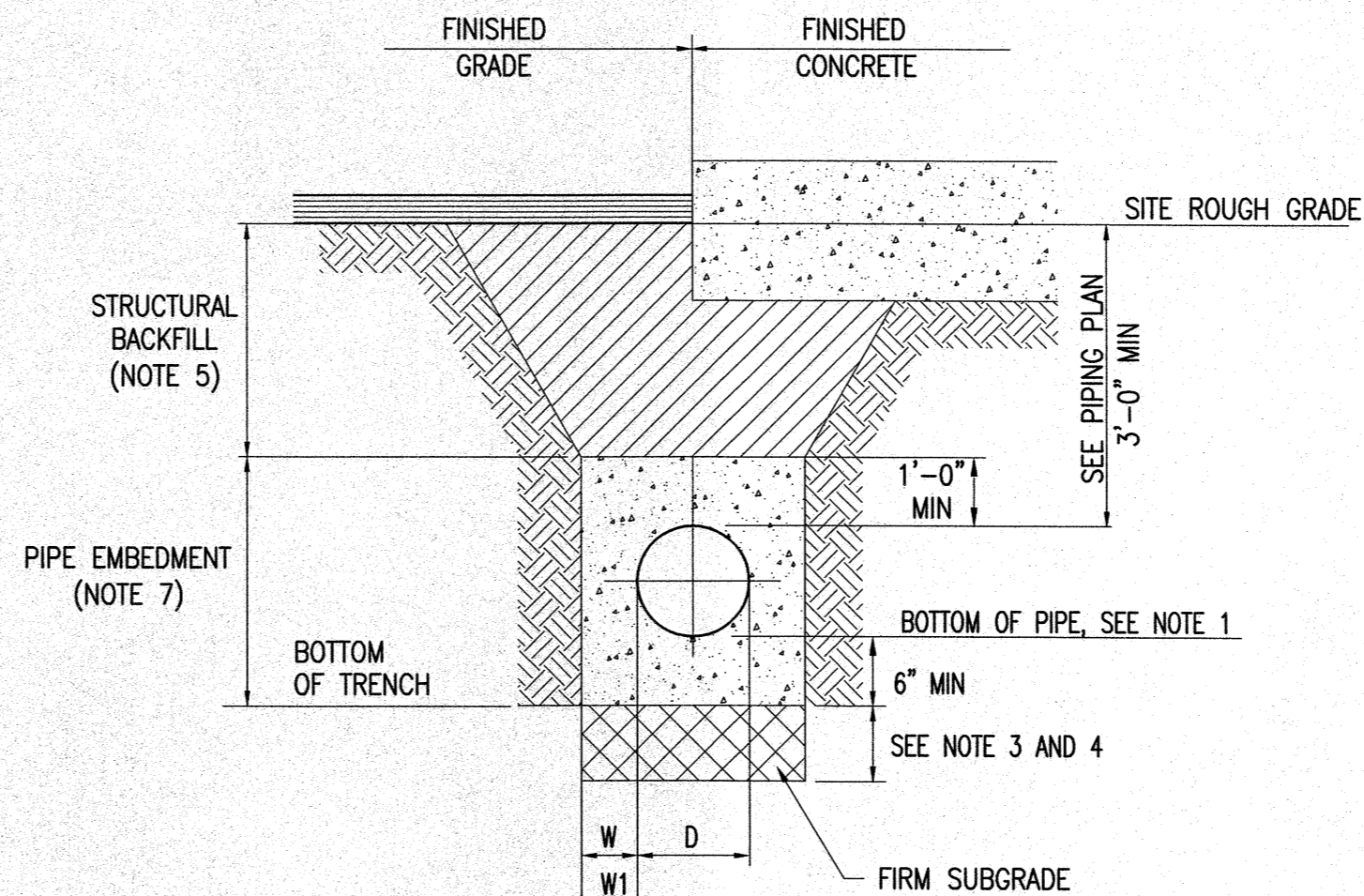
D	W	B
3" & 4"	12"	6"
6"	11"	6"
8"	10"	6"
10"	9"	6"
12"	8"	6"
15"	8"	6"
16" & 18"	8"	6"
20" & 21"	8"	6"
24"	12"	6"
27"	12"	6"
30"	12"	6"
33"	15"	6"
36"	15"	6"
42"	15"	6"
48"	18"	6"
54"	18"	6"
60"	18"	6"
66"	18"	6"
72"	18"	6"
78"	18"	6"
84"	18"	6"
90"	18"	6"
96"	18"	12"
102"	18"	12"
108"	18"	12"
114"	24"	12"
120"	24"	12"



TYPICAL TRENCH/BEDDING FOR STEEL AND IRON PIPING
SCALE: NONE

NOTES:

- ELEVATIONS AND ALIGNMENT OF THE PIPING SHALL BE AS SHOWN ON THE DRAWINGS.
- THE TRENCH WIDTH SHALL BE SUFFICIENT TO PROVIDE ADEQUATE ROOM FOR JOINING THE PIPING IN THE TRENCH, INSPECTION OF PIPING JOINTS, AND PLACEMENT AND COMPACTION OF THE PIPE ZONE BEDDING AND BACKFILL MATERIALS.
- IF HARD UNYIELDING MATERIALS OR ORGANIC MATERIALS ARE ENCOUNTERED IN THE TRENCH BOTTOM, THE TRENCH SHALL BE OVEREXCAVATED AN ADDITIONAL 4" BELOW THE BEDDING ZONE AND THE MATERIAL REPLACED WITH BEDDING MATERIAL COMPACTED TO A MINIMUM DENSITY OF 98% OF THE STANDARD PROCTOR DENSITY.
- IF THE TRENCH BOTTOM IS UNSTABLE, THE TRENCH SHALL BE OVEREXCAVATED TO A DEPTH DETERMINED BY THE GEOTECHNICAL ENGINEER AND THE MATERIAL REPLACED WITH CLEAN COARSE-GRAINED MATERIAL "GRANULAR FILL" AS NOTED IN THE SOILS REPORT AND APPROVED BY THE SOILS ENGINEER, COMPACTED TO A MINIMUM DENSITY OF 98% OF THE STANDARD PROCTOR DENSITY.
- BACKFILL SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% OF THE STANDARD PROCTOR DENSITY WITHIN (±3%) OF OPTIMUM MOISTURE CONTENT. HAND TAMPERS OR VIBRATORY COMPACTORS SHALL BE USED FOR EMBEDMENT COMPACTION.
- THE EMBEDMENT (BEDDING) MATERIALS SHALL BE THE FOLLOWING SOIL:
FOR DUCTILE IRON PIPING:
GRANULAR BEDDING ATSM C33 #67 CRUSHED STONE
FOR CARBON STEEL AND STAINLESS STEEL PIPING:
CLEAN COARSE GRAINED SOILS (AS DEFINED ABOVE) WITH 5% OR LESS PASSING THROUGH A #200 SIEVE.
THE MAXIMUM PARTICLE SIZE FOR EMBEDMENT MATERIALS SHALL BE AS FOLLOWS
1/2" DIA FOR PIPE SIZES 4" NPS AND SMALLER
3/4" DIA FOR PIPE SIZES 6" NPS TO 8" NPS
1" DIA FOR PIPE SIZES 10" NPS TO 16" NPS
1 1/2" DIA FOR PIPE SIZES LARGER THAN 16" NPS



TYPICAL TRENCH/BEDDING FOR PLASTIC PIPING
SCALE: NONE

NOTES:

- ELEVATIONS AND ALIGNMENT OF THE PIPING SHALL BE AS SHOWN ON THE DRAWINGS.
- THE TRENCH WIDTH SHALL BE SUFFICIENT TO PROVIDE ADEQUATE ROOM FOR JOINING THE PIPING IN THE TRENCH, INSPECTION OF PIPING JOINTS, AND PLACEMENT AND COMPACTION OF THE PIPE ZONE BEDDING AND BACKFILL MATERIALS.
- IF HARD UNYIELDING MATERIALS OR STONES LARGER THAN 1 1/2" Ø ARE ENCOUNTERED IN THE TRENCH BOTTOM, THE TRENCH SHALL BE OVEREXCAVATED AN ADDITIONAL 4" BELOW THE BEDDING ZONE AND THE MATERIAL REPLACED WITH BEDDING MATERIAL COMPACTED TO A MINIMUM DENSITY OF 98% OF THE STANDARD PROCTOR DENSITY.
- IF THE TRENCH BOTTOM IS UNSTABLE, THE TRENCH SHALL BE OVEREXCAVATED TO A DEPTH DETERMINED BY THE GEOTECHNICAL ENGINEER AND BACKFILLED WITH "GRANULAR FILL" MEETING THE REQUIREMENTS FOR "GRANULAR FILL" AS NOTED IN THE SOILS REPORT AND APPROVED BY THE SOILS ENGINEER, COMPACTED TO A MINIMUM DENSITY OF 98% OF THE STANDARD PROCTOR DENSITY.
- BACKFILL SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% OF THE STANDARD PROCTOR DENSITY WITHIN (±3%) OF OPTIMUM MOISTURE CONTENT. HAND TAMPERS OR VIBRATORY COMPACTORS SHALL BE USED FOR EMBEDMENT COMPACTION.
- THIS DETAIL DOES NOT APPLY TO STORM WATER SYSTEM. REFER TO CIVIL GRADING PLANS.
- THE EMBEDMENT (BEDDING) MATERIALS SHALL BE THE FOLLOWING SOIL:
FOR FRP PIPING:
GRANULAR BEDDING ATSM C33 #67 CRUSHED STONE
FOR HDPE AND PVC PIPING:
CLEAN COARSE GRAINED SOILS (AS DEFINED ABOVE) WITH 5% OR LESS PASSING THROUGH A #200 SIEVE.
THE MAXIMUM PARTICLE SIZE FOR EMBEDMENT MATERIALS SHALL BE AS FOLLOWS
1/2" DIA FOR PIPE SIZES 4" NPS AND SMALLER
3/4" DIA FOR PIPE SIZES 6" NPS TO 8" NPS
1" DIA FOR PIPE SIZES 10" NPS TO 16" NPS
1 1/2" DIA FOR PIPE SIZES LARGER THAN 16" NPS

PLASTIC	
D	W
8"	10"
10"	9"
12"-21"	8"

FRP	
D	W1
<60"	20"
60"	22"
78"	32"

GENERAL NOTES:
1. FOR GENERAL NOTES SEE DWG 644911 P200-S001.

ORIGINAL

REFERENCE SPECS:

644911-SP-P200 PIPING MATERIALS
644911-SP-P171 UNDERGROUND PIPING FABRICATION AND INSTALLATION.

ISSUED FOR CONSTRUCTION

4/28/17 [Signatures]

ISSUED FOR PERMIT

4/28/17 KDE KC LON LA LP/SF SEO

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.

PROJECT ENGINEERING DIVISION



SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: NONE

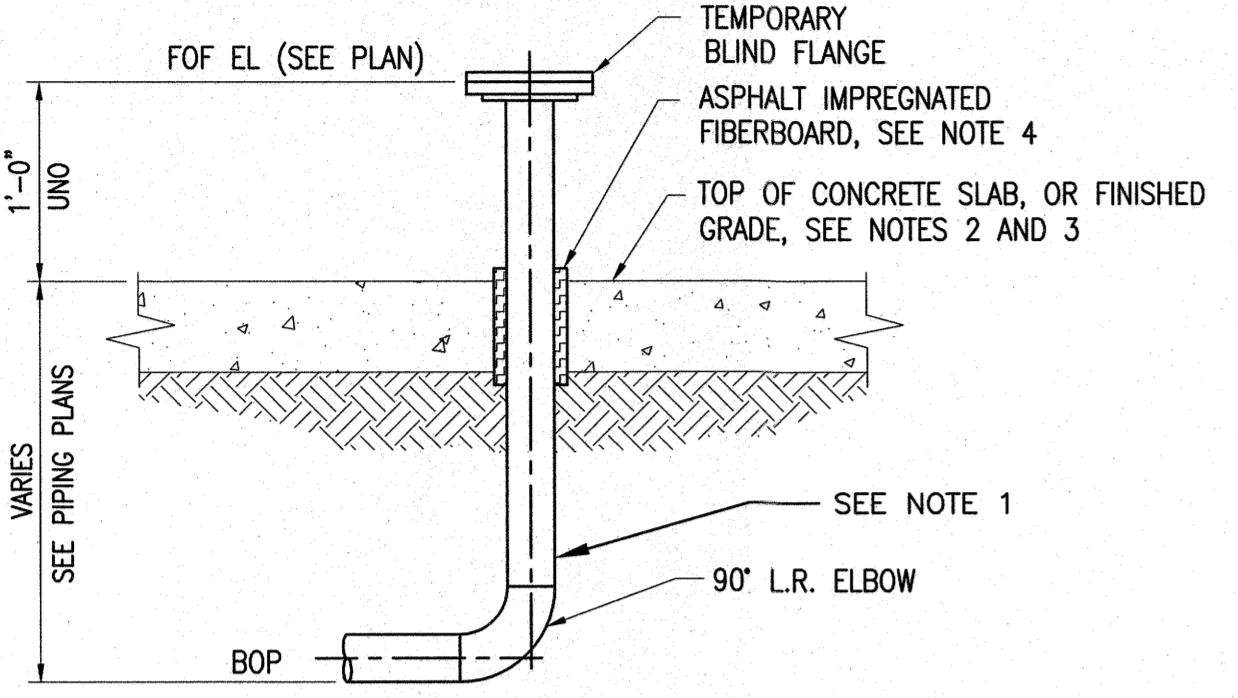
BRIDGEPORT 05

UNDERGROUND PIPING
BEDDING DETAILS

STANDARDS DESIGN-PIPING

644911 P230-S001

STATE OF CONNECTICUT
WILLIAM D. HUSTED
3279
LICENSED PROFESSIONAL ENGINEER
Will. D. Husted
18 May 2017



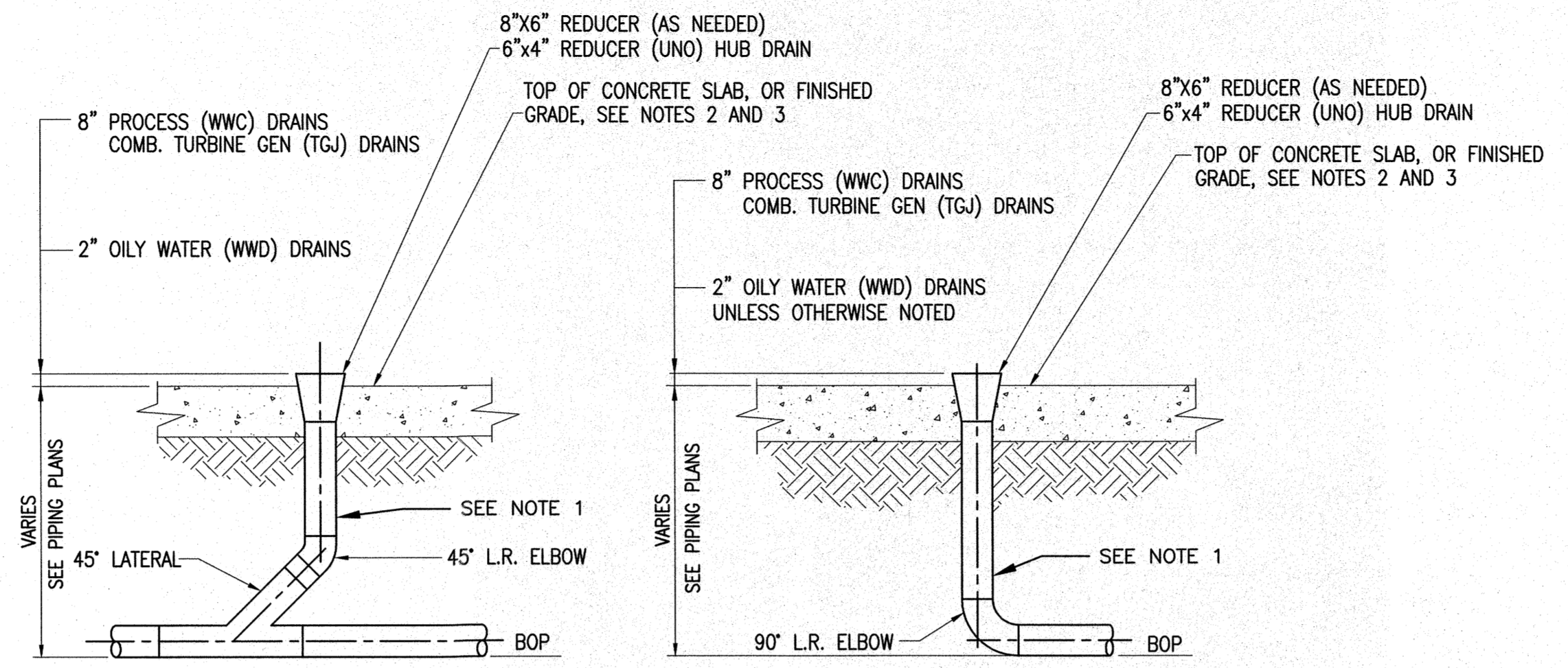
ELEVATION

TYPICAL STUB-UP DETAIL

SCALE: NONE

NOTES:

- METALLIC PIPING SHALL BE COATED AND WRAPPED UP TO THE ABOVEGROUND FLANGE IN ACCORDANCE WITH THE PIPING MATERIAL SPECIFICATION.
- METALLIC PIPING SHALL BE ELECTRICALLY ISOLATED FROM ANY SLAB OR FOUNDATION REINFORCING STEEL OR OTHER CONDUCTIVE MATERIALS.
- IF STUB-UPS 4" NPS AND SMALLER OF HDPE MATERIAL ARE LOCATED OUTSIDE SLABS OR FOUNDATIONS, CONCRETE COLLARS 2'-6" IN DIAMETER (OR SQUARE) BY 12" THICK SHALL BE INSTALLED AROUND THE PIPING AT GRADE.
- IF STUB-UPS ARE LOCATED OUTSIDE SLABS, FOUNDATIONS, OR CONCRETE COLLARS, INSTALLATION OF FIBERBOARD IS NOT REQUIRED.
- GUARD POSTS SHALL BE INSTALLED AROUND STUB-UPS IN HEAVY TRAFFIC AREAS. SEE DETAIL. 644911-P232-S001.



IN LINE ELEVATION

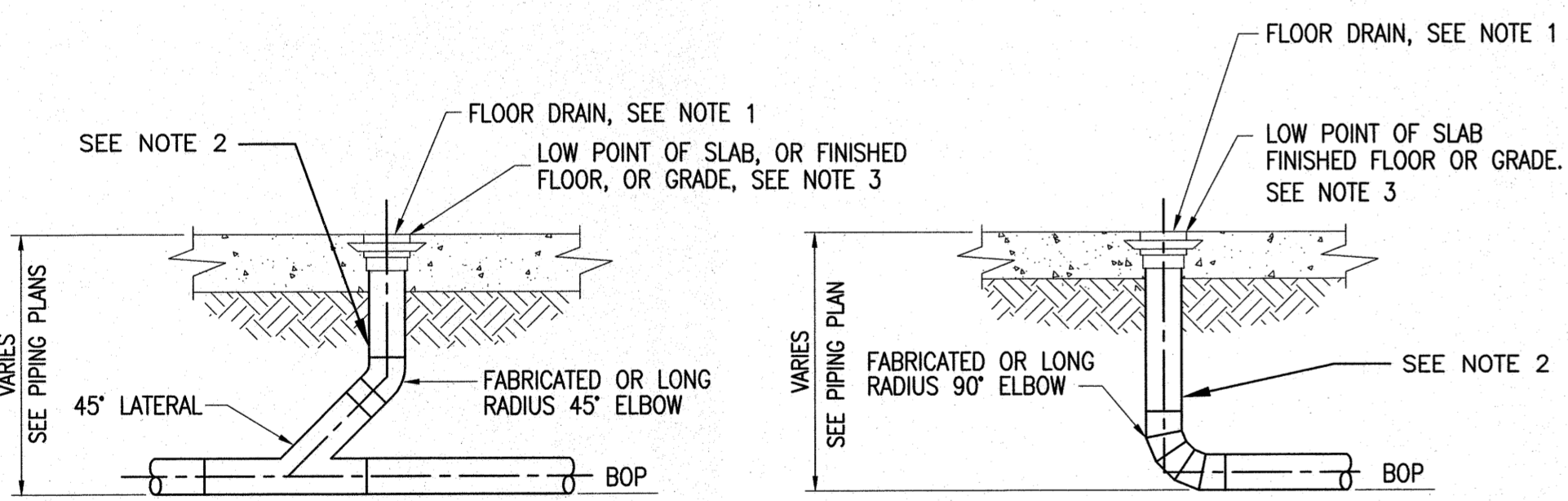
END OF RUN ELEVATION

TYPICAL BELL UP (HUB DRAIN) DETAIL

SCALE: NONE

NOTES:

- METALLIC PIPING SHALL BE COATED AND WRAPPED IN ACCORDANCE WITH THE PIPING MATERIAL SPECIFICATION.
- METALLIC PIPING SHALL BE ELECTRICALLY ISOLATED FROM ANY SLAB OR FOUNDATION REINFORCING STEEL OR OTHER CONDUCTIVE MATERIALS.
- IF HUB DRAINS ARE LOCATED OUTSIDE SLABS OR FOUNDATIONS, CONCRETE COLLARS 2'-6" IN DIAMETER (OR SQUARE) BY 12" THICK SHALL BE INSTALLED AROUND THE PIPING AT GRADE.



IN LINE ELEVATION

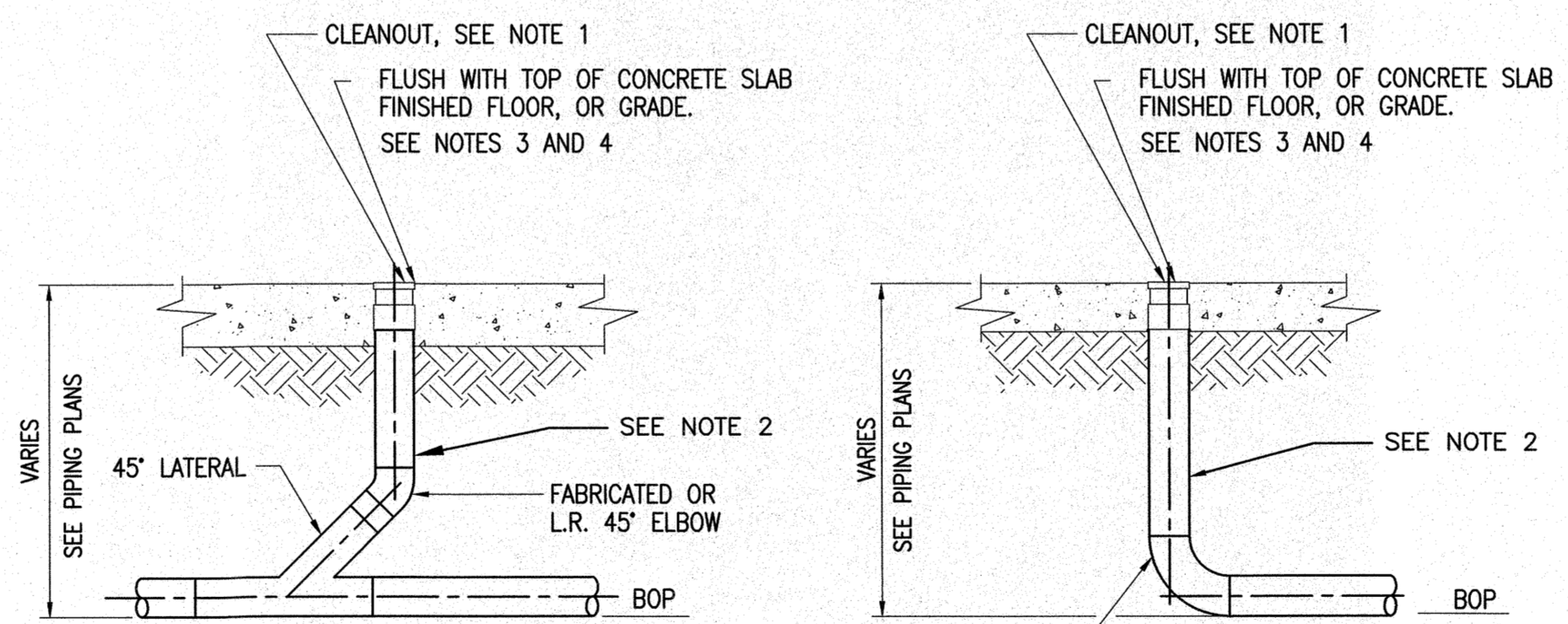
END OF RUN ELEVATION

TYPICAL FD (FLOOR DRAIN) DETAIL OR CONTAINMENT DRAIN

SCALE: NONE

NOTES:

- FLOOR DRAINS SHALL BE ZURN MODEL Z-610-4NL-H OR EQUAL.
- METALLIC PIPING SHALL BE COATED AND WRAPPED IN ACCORDANCE WITH THE PIPING MATERIAL SPECIFICATION.
- METALLIC PIPING SHALL BE ELECTRICALLY ISOLATED FROM ANY SLAB OR FOUNDATION REINFORCING STEEL OR OTHER CONDUCTIVE MATERIALS.



IN LINE ELEVATION

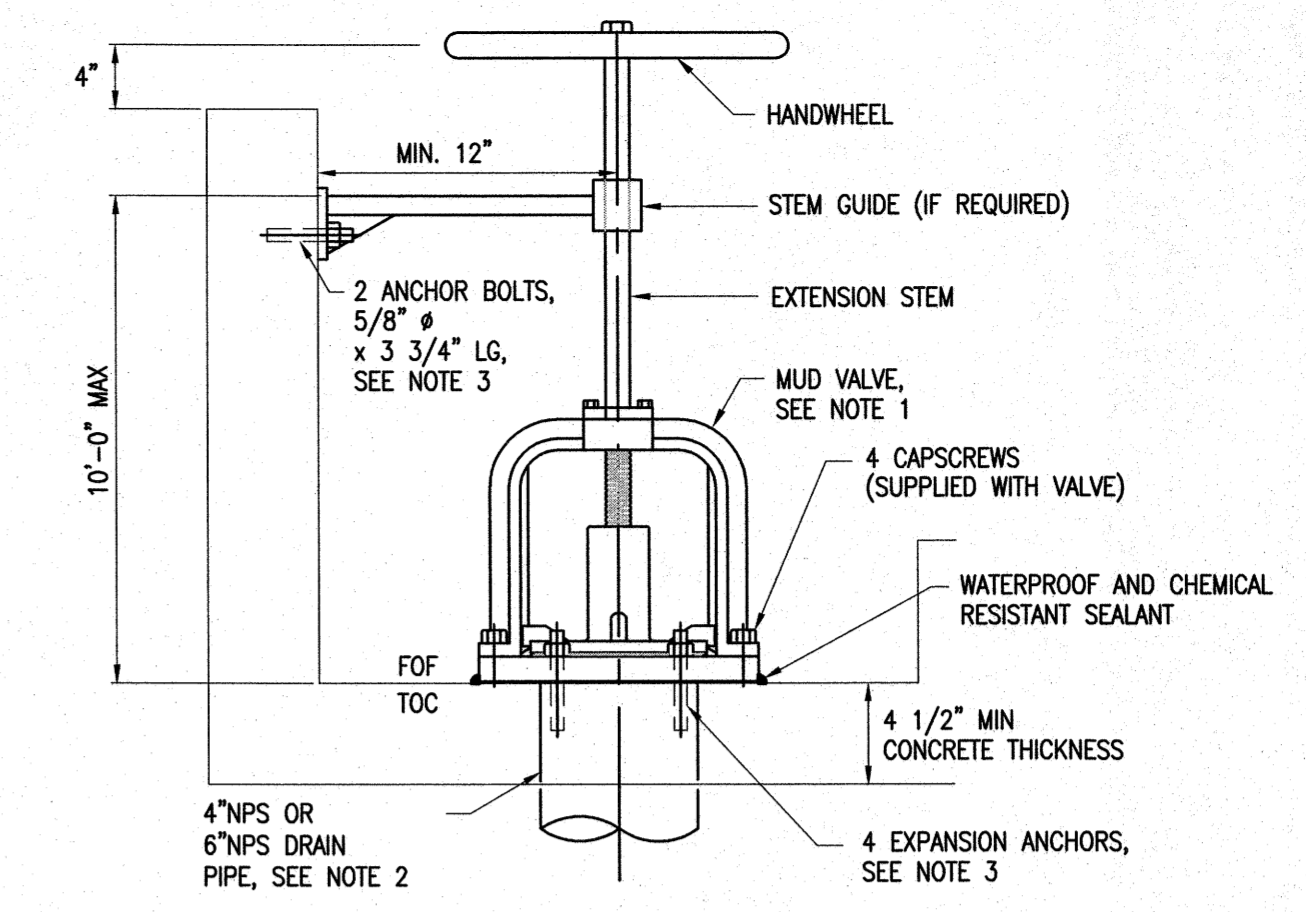
END OF RUN ELEVATION

TYPICAL CO (CLEANOUT) DETAIL

SCALE: NONE

NOTES:

- CLEANOUTS SHALL BE ZURN MODEL Z-1400-4NL-HD OR EQUAL.
- METALLIC PIPING SHALL BE COATED AND WRAPPED IN ACCORDANCE WITH THE PIPING MATERIAL SPECIFICATION.
- METALLIC PIPING SHALL BE ELECTRICALLY ISOLATED FROM ANY SLAB OR FOUNDATION REINFORCING STEEL OR OTHER CONDUCTIVE MATERIALS.
- IF CLEANOUTS ARE LOCATED OUTSIDE SLABS OR FOUNDATIONS, CONCRETE COLLARS 2'-6" IN DIAMETER (OR SQUARE) BY 12" THICK SHALL BE INSTALLED AROUND THE PIPING AT GRADE.

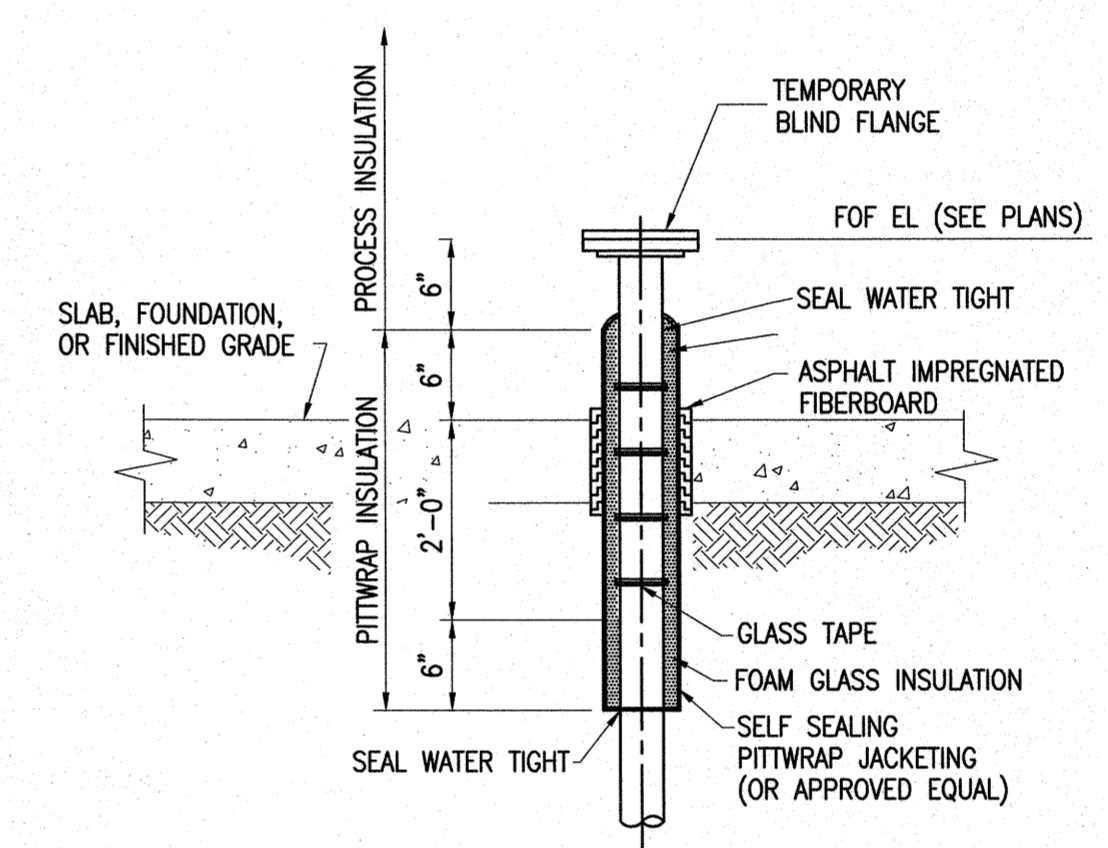


CONTAINMENT MUD VALVE

NO SCALE

NOTES:

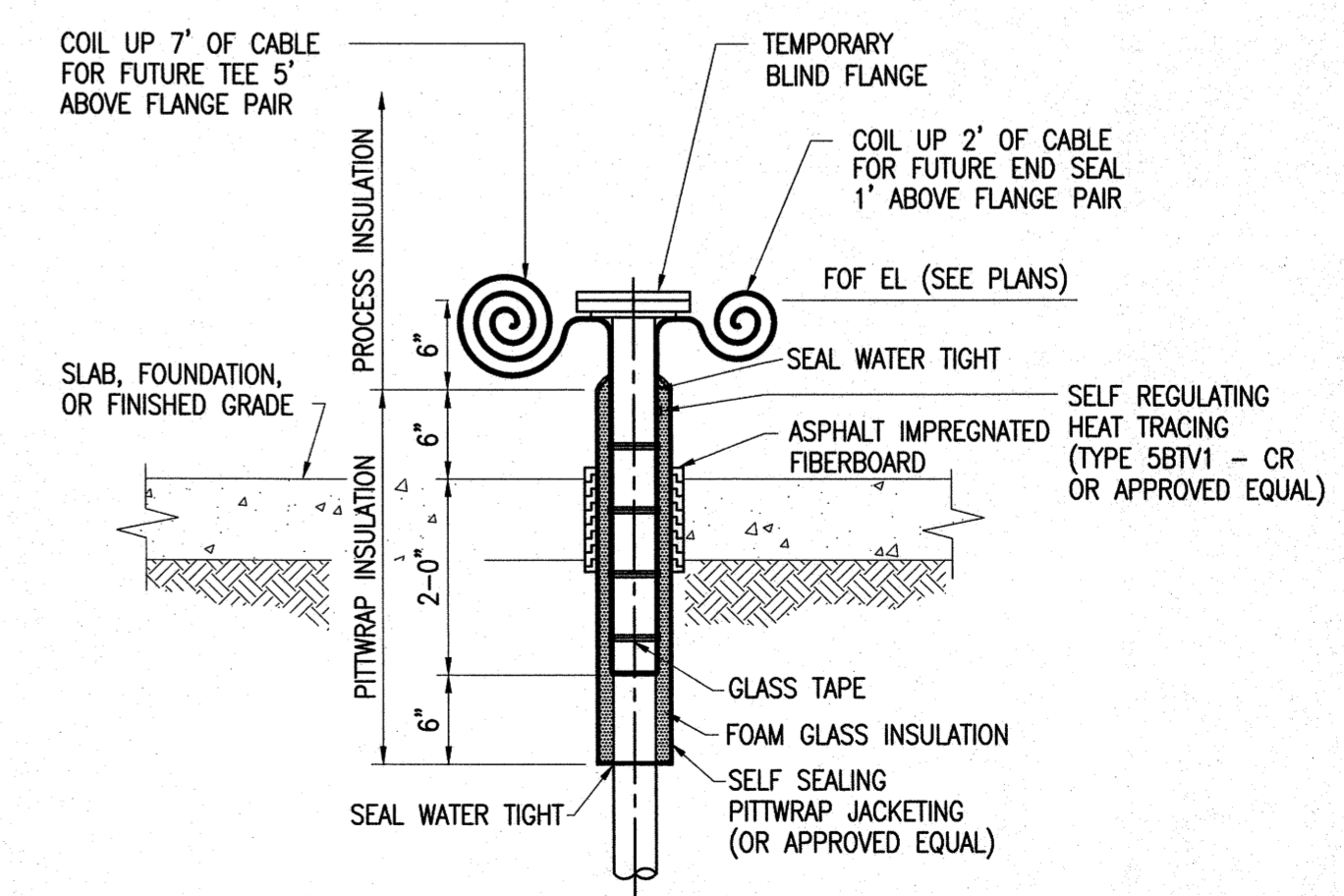
- MUD VALVE SHALL BE M&H VALVE STYLE 140-02 WITH HANDWHEEL, EXTENSION STEM, AND STEM GUIDE, OR EQUAL.
- DRAIN PIPE SHALL BE PLAIN CUT FLUSH WITH THE TOP OF CONCRETE.
- EXPANSION ANCHORS SHALL BE HILTI KWIK II, OR EQUAL, AND SIZED AS FOLLOWS:
FOR 4" NPS VALVES, 5/8" ϕ x 5" LG, MIN EMBED = 2 3/4"
FOR 6" NPS VALVES, 3/4" ϕ x 6" LG, MIN EMBED = 3 1/4"



TYPICAL STUB-UP WITH FREEZE PROTECTION INSULATION

NO SCALE

SEE UNDERGROUND PIPING PLAN FOR LOCATIONS IDENTIFIED BY "FREEZE PROTECTION REQ'D" LABEL



TYPICAL STUB-UP WITH INSULATION/HEAT TRACE

NO SCALE

TYPICAL FOR ALL STUB UP LOCATIONS THAT REQUIRE INSULATION AND HEAT TRACE. SEE UNDERGROUND PIPING PLAN FOR LOCATIONS IDENTIFIED BY "HEAT TRACE REQ'D" LABEL

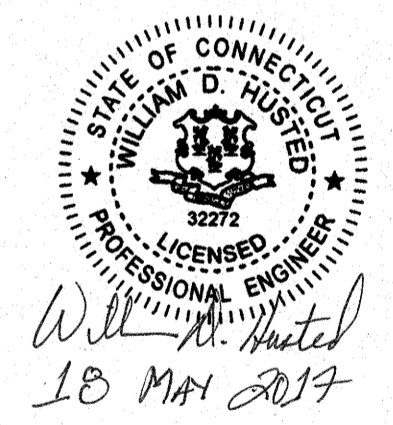
GENERAL NOTES:

- FOR GENERAL NOTES SEE DWG 644911 P200-S001.

ORIGINAL

REFERENCE SPECS:

644911-SP-P200 PIPING MATERIALS
644911-SP-P171 UNDERGROUND PIPING FABRICATION AND INSTALLATION.



ISSUED FOR CONSTRUCTION

ISSUED FOR PERMIT

4/27/17

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.
1	4/27/17	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]

PROJECT ENGINEERING DIVISION



SNC-LAVALIN CONSTRUCTORS INC.

SCALE: NONE

BRIDGEPORT 05

UNDERGROUND PIPING DETAILS

STANDARDS

644911 P231-S001

DESIGN PIPING



A

B

C

D

E

F

1

2

3

4

5

1

2

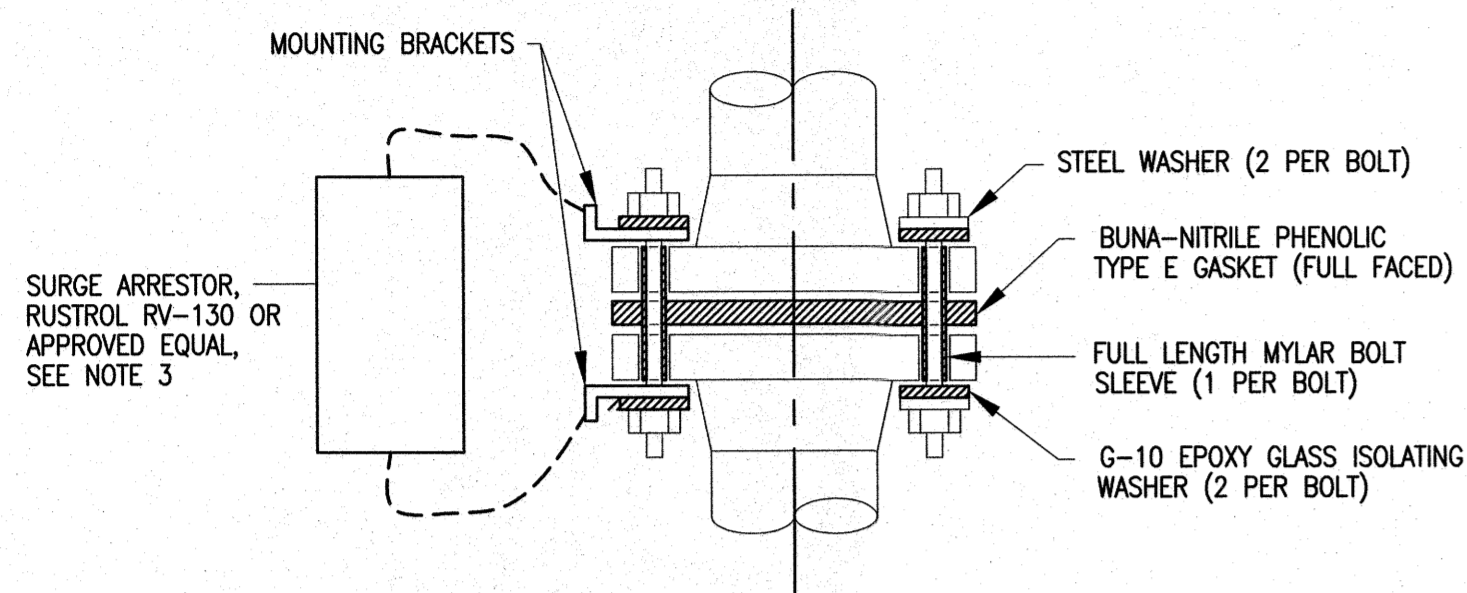
3

4

5

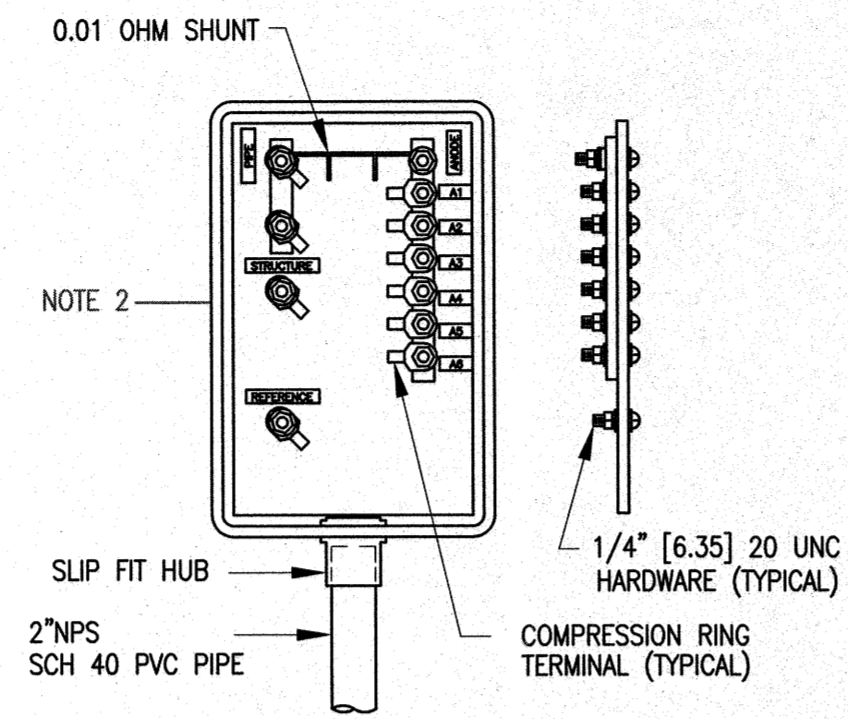
GENERAL NOTES:
 1. FOR GENERAL NOTES SEE DWG 644911 P200-S001.

- NOTES:**
- THE CATHODIC PROTECTION SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH SPECIFICATION 644911-SP-P171.
 - ALL PIPING SHALL BE ELECTRICALLY ISOLATED FROM ALL OTHER CONDUCTIVE PIPING, STRUCTURES, GROUND WIRES, AND HEAT TRACING. PIPING PASSING THROUGH CONCRETE SHALL BE ELECTRICALLY ISOLATED FROM ANY REINFORCING STEEL OR OTHER CONDUCTIVE MATERIAL.
 - SACRIFICIAL ANODES AND TEST STATIONS SHALL BE INSTALLED AS SHOWN ON THE PLANS. THEY INDICATE THE NUMBER OF ANODES AND TEST STATIONS REQUIRED TO PROTECT THE ENTIRE LINE OR SYSTEM. ANODES CAN BE GROUPED INTO BEDSWITH MULTIPLE ANODES IN ONE LOCATION. TEST STATIONS ARE SHOWN IN GENERAL AREAS AND CAN BE FIELD LOCATED AS NECESSARY TO BE INSTALLED WITH A MINIMUM OF 2 ADJACENT ANODES AND A REFERENCE CELL AS SHOWN ON THE DETAIL.
 - ANODES AND REFERENCE CELLS SHALL BE LOCATED AT APPROXIMATELY THE SAME ELEVATION AS THE BOTTOM OF PIPING TO BE PROTECTED.
 - BACKFILL AROUND THE ANODES AND REFERENCE CELLS SHALL BE FREE OF ROCKS, CLODS, OR OTHER FOREIGN MATERIALS. BACKFILL SHALL BE PLACED IN 6" LIFTS AND THEN WELL COMPACTED. WHEN SOIL HAS BEEN PLACED TO THE TOP OF THE ANODES OR CELLS, WATER SHALL BE POURED INTO THE TRENCH TO SATURATE THE ANODES, CELLS, AND SURROUNDING SOIL.
 - ISOLATING FLANGE KITS SHALL BE INSTALLED BETWEEN FLANGES ON EACH PIPE WHERE IT RISES ABOVEGROUND. ISOLATING FLANGE KITS SHALL BE INSTALLED AFTER THE CATHODIC PROTECTION SYSTEM IS COMMISSIONED.
 - FOR UNDERGROUND PIPING AND ANODE AND TEST STATION LOCATION SEE DWG 644911 P201-S001 THROUGH 644911 P227-S001.
 - ALL STEEL FIREWATER RISERS SHALL BE PROVIDED WITH A GALVANIC ANODE.
 - PROVIDE CATHODIC PROTECTION FOR THE FOLLOWING UNDERGROUND PIPING SYSTEMS:
 - WWD (OILY WATER SYSTEM)
 - WWC (WASTE WATER DRAINS)
 - TGJ (WATER WASH DRAINS)
 - FPV (FIRE WATER RISERS)
 - FGA (NATURAL GAS)
 - ECB (CLOSED COOLING WATER)
 - CAB (COMPRESSED AIR)
 - WWB (SANITARY SEWER)



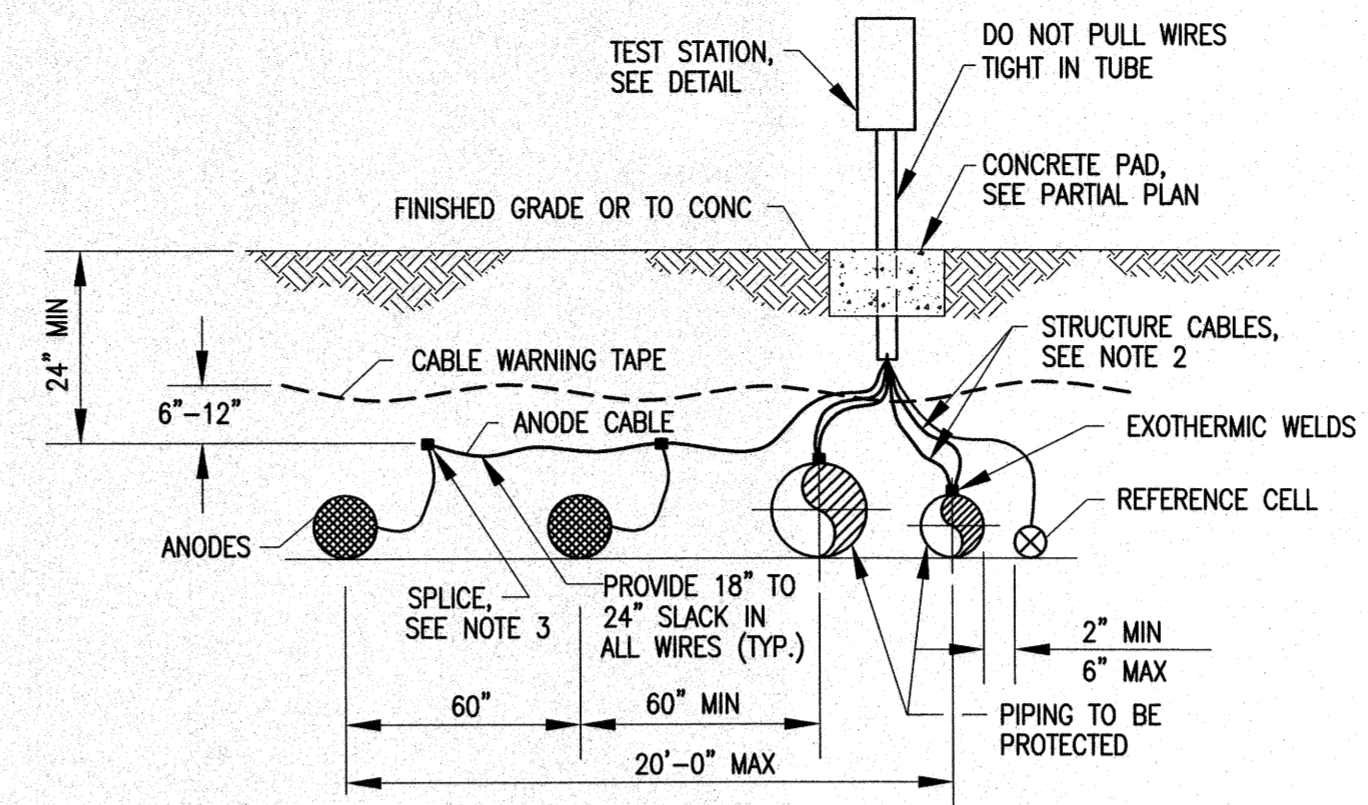
TYPICAL ISOLATING FLANGED JOINT
NO SCALE

- NOTES:**
- ISOLATING FLANGE KITS SHALL BE INSTALLED AFTER THE CATHODIC PROTECTION SYSTEM HAS BEEN TESTED AND COMMISSIONED.
 - ALL COMPONENTS SHALL BE COMPATIBLE WITH THE PRESSURE RATING AND DIMENSIONS OF THE MATING FLANGES AND THE FLUID DESIGN TEMPERATURE.
 - SURGE ARRESTORS ARE REQUIRED FOR NATURAL GAS PIPING SYSTEMS ONLY. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REPLACE STEEL WASHERS FOR ONE FLANGE BOLT WITH MOUNTING BRACKETS.



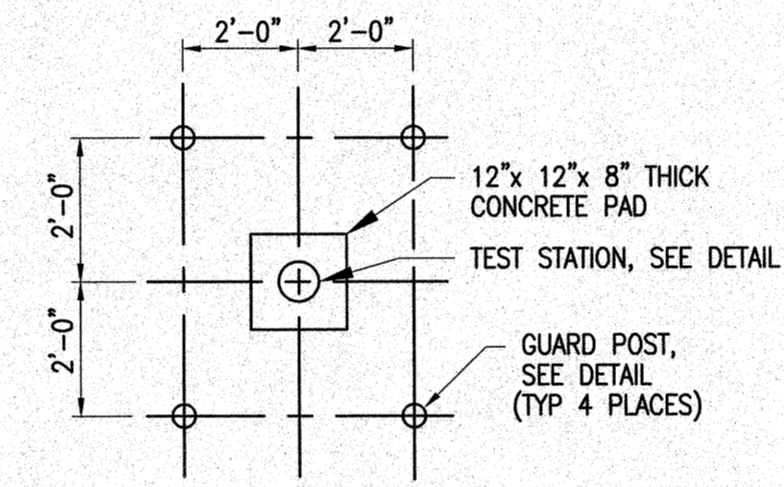
TYPICAL TEST STATION
NO SCALE

- NOTES:**
- EACH ANODE INSTALLED FOR NATURAL GAS PIPING SHALL BE CONNECTED TO A TEST STATION. NO MORE THAN 6 ANODES SHALL BE CONNECTED TO A SINGLE TEST STATION. 2 CABLES SHALL CONNECT THE PIPING (STRUCTURE) TO EACH TEST STATION.
 - TEST STATION JUNCTION BOXES SHALL HAVE NEMA GRADE C PHENOLIC PANELS AND NEMA TYPE 4X FIBERGLASS ENCLOSURES.
 - TEST STATION CABLE CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S WIRING DIAGRAMS. ANODE AND REFERENCE CELL CONNECTIONS SHOULD NOT BE COMPLETED UNTIL INITIAL SYSTEM TESTING.

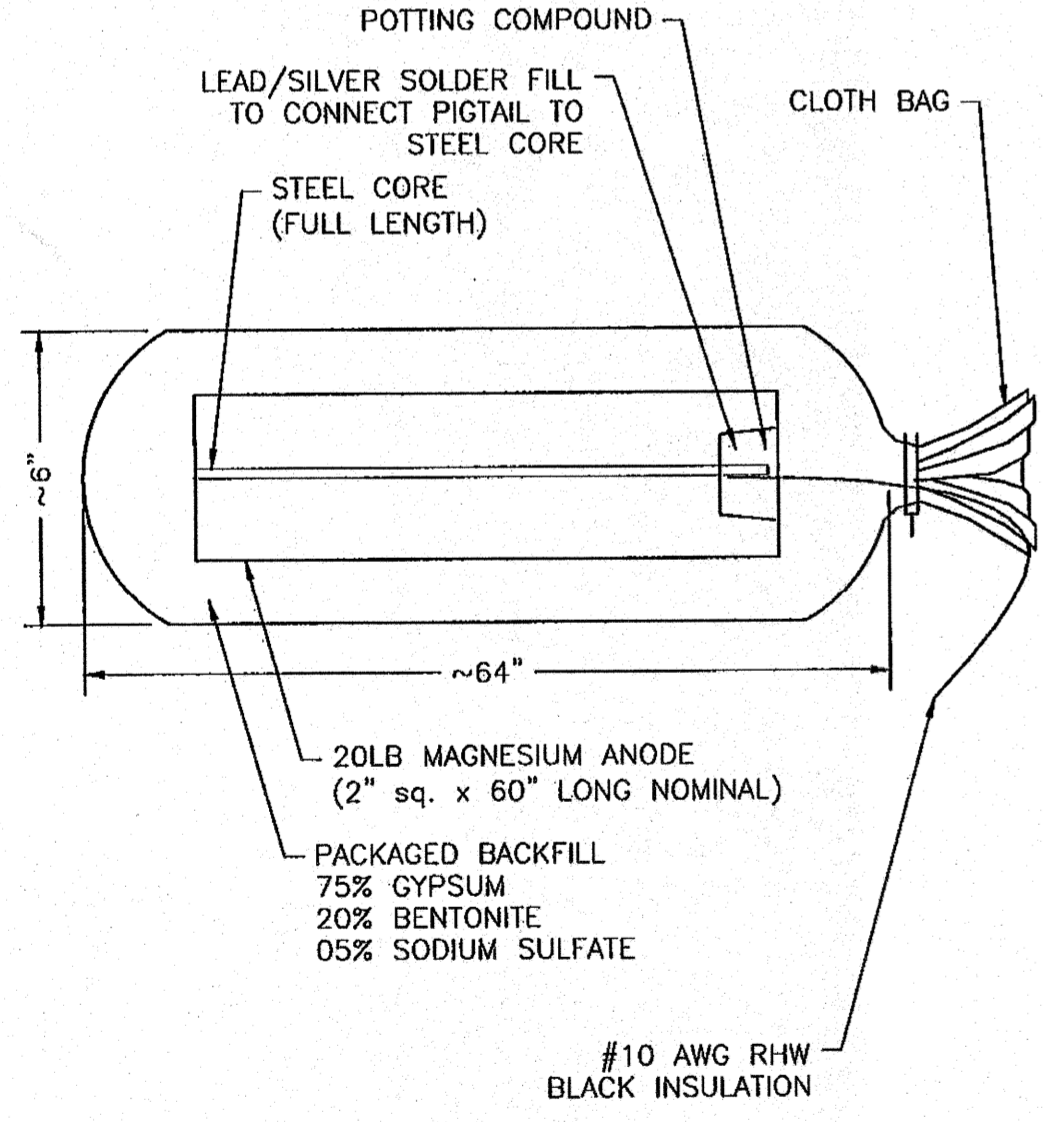


TYPICAL ANODE AND TEST STATION INSTALLATION
NO SCALE

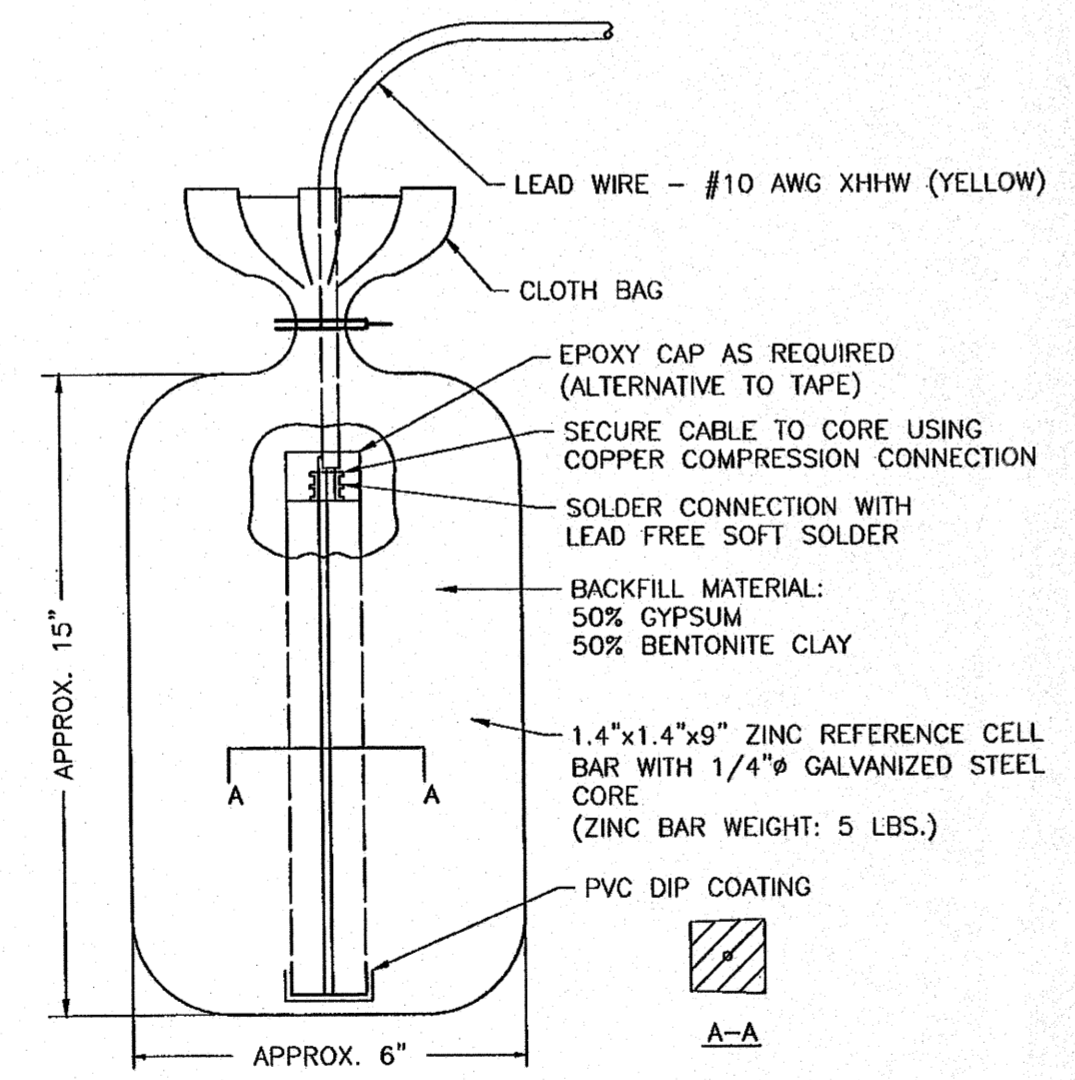
- NOTES:**
- SEE BILL OF MATERIALS FOR COMPLETE COMPONENT DESCRIPTIONS.
 - STRUCTURE CABLES SHALL BE PERMANENTLY LABELED TO IDENTIFY THE PIPING TO WHICH IT IS CONNECTED.
 - THE USE OF SPLICES SHALL BE KEPT TO A MINIMUM. IF THE CABLE SUPPLIED WITH THE ANODE IS OF SUFFICIENT LENGTH TO CONNECT DIRECTLY TO THE TEST STATION, NO SPLICE SHALL BE USED.



TYPICAL TEST STATION AREA PARTIAL PLAN
NO SCALE

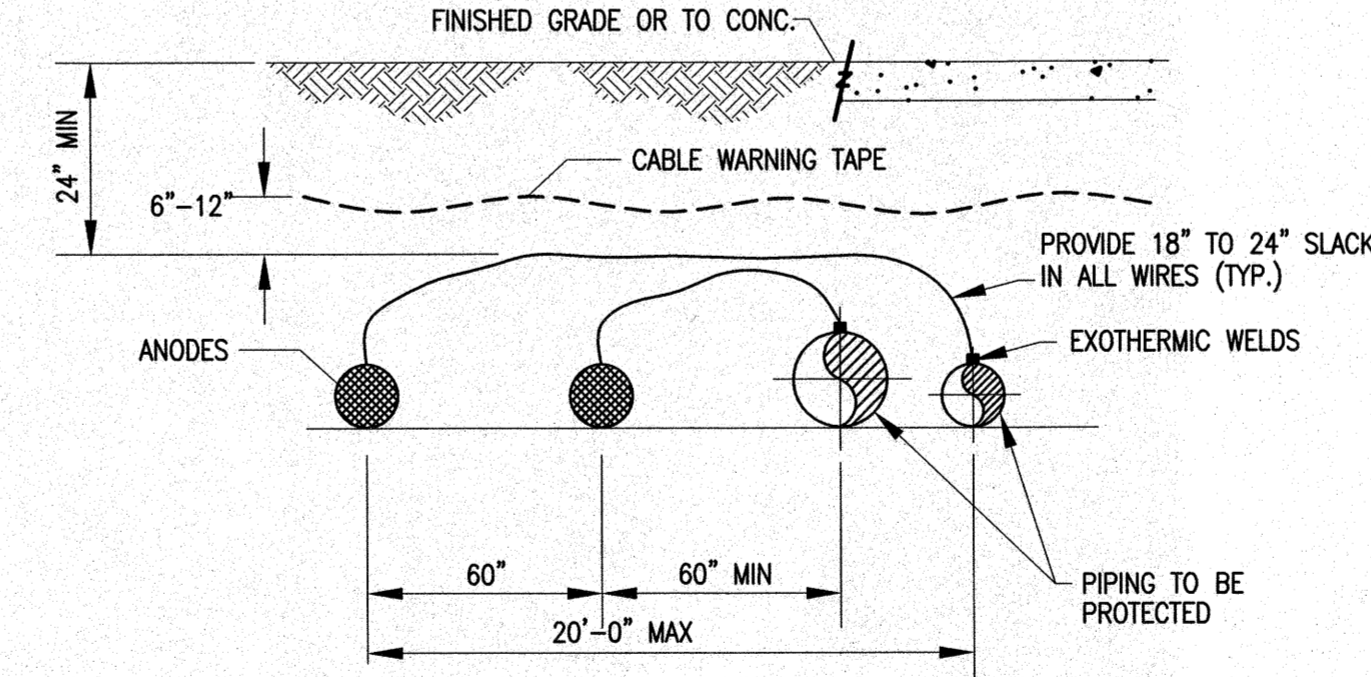


PREPACKAGED GALVANIC ANODE
NO SCALE



REFERENCE CELL
NO SCALE

ELECTRONICALLY PURE ZINC: 99.99%
 ELECTRODE SURFACE AREA: 50 SQ. IN.
 APPROXIMATE WEIGHT: 16 LBS.



TYPICAL ANODE INSTALLATION
NO SCALE

- NOTES:**
- SEE BILL OF MATERIALS FOR COMPLETE COMPONENT DESCRIPTIONS.

CATHODIC PROTECTION SYSTEM
BILL OF MATERIALS
 NO SCALE

DESCRIPTION
PREPACKAGED 20 LB MAGNESIUM ANODE WITH #12 AWG SINGLE CONDUCTOR, STRANDED COPPER, BLACK HMM PE INSULATED CABLE
TEST STATION JUNCTION BOX
PREPACKAGED ZINC REFERENCE CELL WITH #14 AWG SINGLE CONDUCTOR, STRANDED COPPER, YELLOW HMM PE INSULATED CABLE
#12 AWG SINGLE CONDUCTOR, STRANDED COPPER, BLACK HMM PE INSULATED ANODE CABLE
#12 AWG SINGLE CONDUCTOR, STRANDED COPPER, WHITE RHW PE INSULATED STRUCTURE CABLE
EXOTHERMIC WELDER FOR CONNECTIONS ON HORIZONTAL PIPING SMALLER THAN 4" NPS, CADWELD PART NUMBER CAHAA-1HA
EXOTHERMIC WELDER FOR CONNECTIONS ON HORIZONTAL PIPING 4" NPS AND LARGER, CADWELD PART NUMBER CAHAA-1H
EXOTHERMIC WELDER FOR CONNECTIONS ON VERTICAL PIPING SMALLER THAN 4" NPS, CADWELD PART NUMBER CAVST-1HA
EXOTHERMIC WELDER FOR CONNECTIONS ON VERTICAL PIPING BETWEEN 4" NPS AND 10" NPS, CADWELD PART NUMBER CAVST-1HB
EXOTHERMIC WELDER FOR CONNECTIONS ON VERTICAL PIPING 12" NPS AND LARGER, CADWELD PART NUMBER CAVST-1H
EXOTHERMIC WELD METAL, CADWELD PART NUMBER CA-15
EXOTHERMIC WELD SLEEVE FOR #12 CONDUCTOR, CADWELD PART NUMBER CAB-133-1H OR APPROVED EQUAL
TAPECOAT QUICK PATCH EXOTHERMIC WELD SEALER
6" WIDE RED CABLE WARNING TAPE
GAS ELECTRONICS INSULATION TESTER, MODEL 601

REFERENCE SPECS:

644911-SP-P200 PIPING MATERIALS
 644911-SP-P171 UNDERGROUND PIPING FABRICATION AND INSTALLATION.

ORIGINAL

ISSUED FOR CONSTRUCTION

5/18/17	W	U	U	U	U	U	U	U	U
---------	---	---	---	---	---	---	---	---	---

ISSUED FOR PERMIT

4/27/17	KDE	KC	LON	LA	LP/SF	SEO
---------	-----	----	-----	----	-------	-----

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.

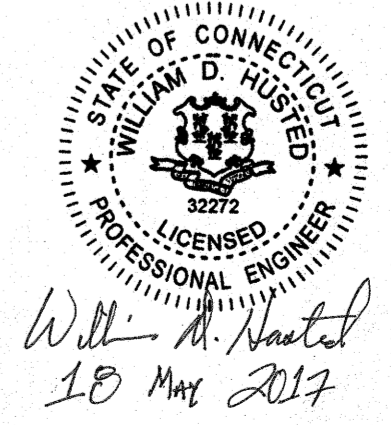
PROJECT ENGINEERING DIVISION
PSEG
 Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: NONE
BRIDGEPORT 05

UNDERGROUND PIPING
 CATHODIC PROTECTION
 DETAILS

STANDARDS
 VENDOR NO. **644911 P232-S001**



William D. Huster
 10 May 2017

A

B

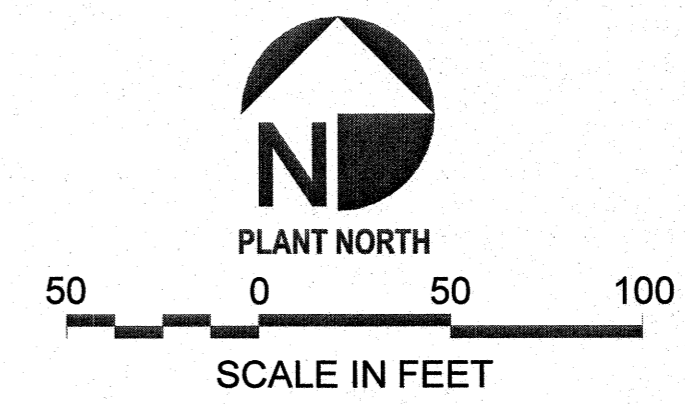
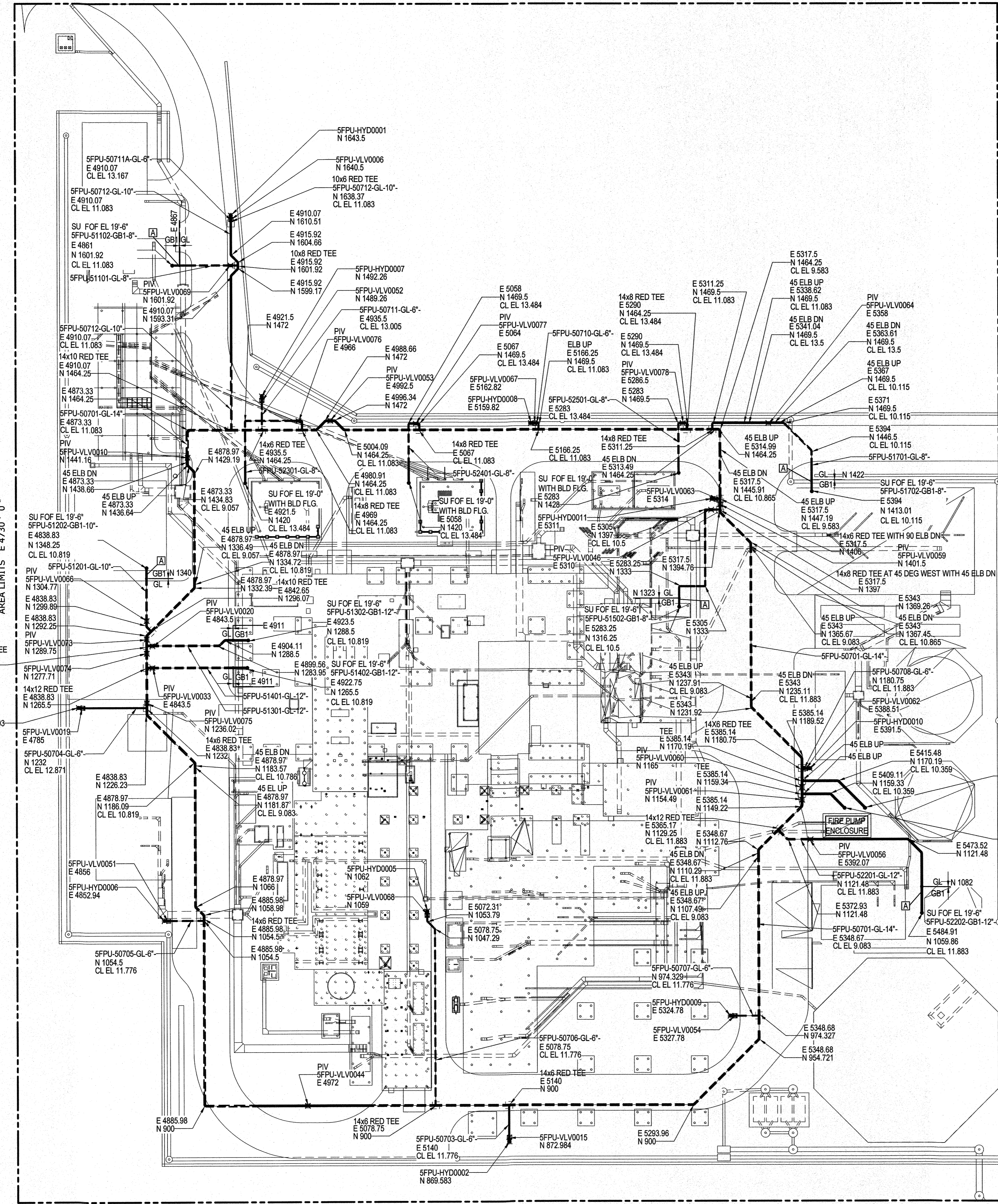
C

D

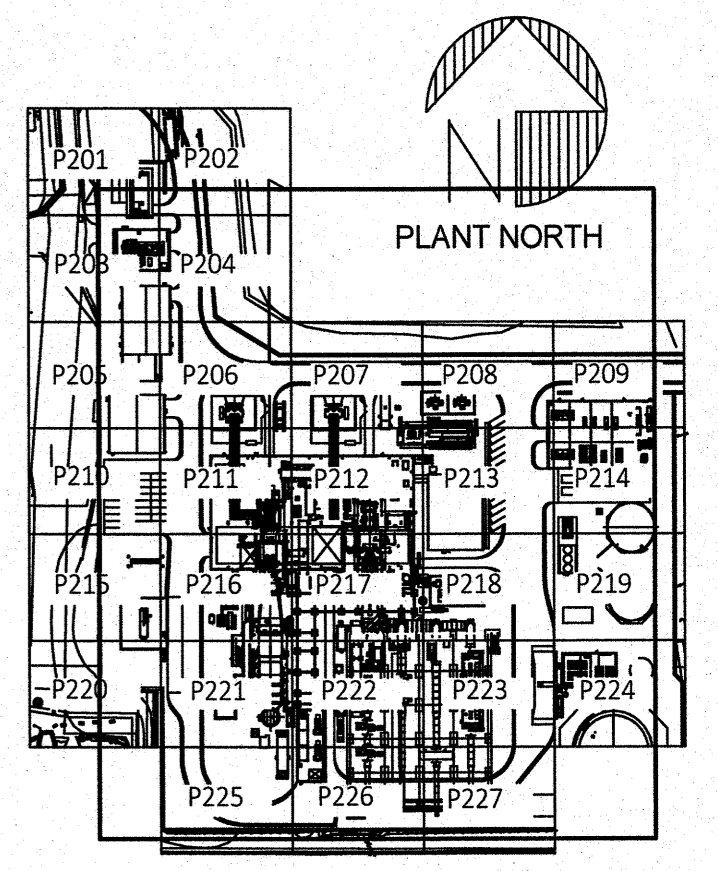
E

F

AREA LIMITS N 1820' 0"



KEY PLAN:



GENERAL NOTES:

1. FIREWATER PIPING AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 24 AND SPECIFICATIONS:
SP-P170 - SHOP FABRICATED PIPING,
SP-P171 - UNDERGROUND PIPING FABRICATION AND INSTALLATION.
2. ALL UNDERGROUND FIREWATER SHALL HAVE A MINIMUM OF 3'-6" COVER.
3. FOR TYPICAL UNDERGROUND FIREWATER PIPING DETAILS SEE DWG 644911 P233-S002.
4. FOR OTHER UNDERGROUND PIPING PLANS SEE DWG 644911 P200 THROUGH P221.
5. FOR UNDERGROUND PIPING STANDARDS DETAILS SEE DWG 644911 P230 THROUGH P232.
6. FOR FOUNDATION LOCATION PLAN SEE DWG 644911 F002-S001.
7. FOR UNDERGROUND ELECTRICAL INFORMATION SEE DWG 644911 E300 SERIES FOR DUCTBANK AND 644911 E400 SERIES FOR GROUNDING.
8. FOR STORM WATER DRAINAGE PLAN, SEE DWG 644911 C003-S001 THROUGH C003-S006.
9. HIGH POINT OF FINISHED GRADE IS EL 18'-0". SEE FINAL GRADING PLAN DWG 644911 C004-S001.
10. HIGH POINT OF CONCRETE FLOOR FOR TURBINE BUILDING IS EL 18'-6".
11. HIGH POINT OF CONCRETE FLOOR UNDER FIREWATER PUMP BUILDING IS EL 18'-6".
12. FOR STUB-UP WITH INSULATION / HEAT TRACE DETAIL SEE DRAWING 644911 P233-S002.
13. FOR STUB-UP WITH INSULATION FOR FREEZE PROTECTION OR INSULATION / HEAT TRACE DETAILS SEE DRAWING 644911 P233-S002.

LEGEND

- - STUB-UP (SU)
- ⊗ - FIRE HYDRANT
- ⊗ - POST INDICATOR VALVE
- ⊗ - VALVE IN BOX
- ⊗ - CATHODIC ANODE LOCATION

ORIGINAL

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.

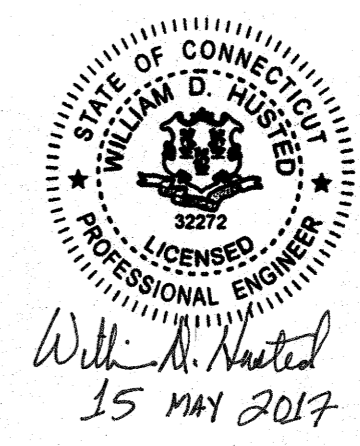
PROJECT ENGINEERING DIVISION
PSEG
 Power Connecticut LLC

SNC • LAVALIN
 CONSTRUCTORS INC.

SCALE: 1" = 50'-0"
BRIDGEPORT 05

UNDERGROUND FIRE PROTECTION PIPING
 FIREWATER LOOP
 SHT 1 OF 2

SITE PLAN
 VENDOR NO. **644911 P233-S001**
 DESIGN - CIVIL GENERAL



William G. Husted
 15 MAY 2017

PRINTED DATE: 5/15/2017 10:35:53 AM

A

B

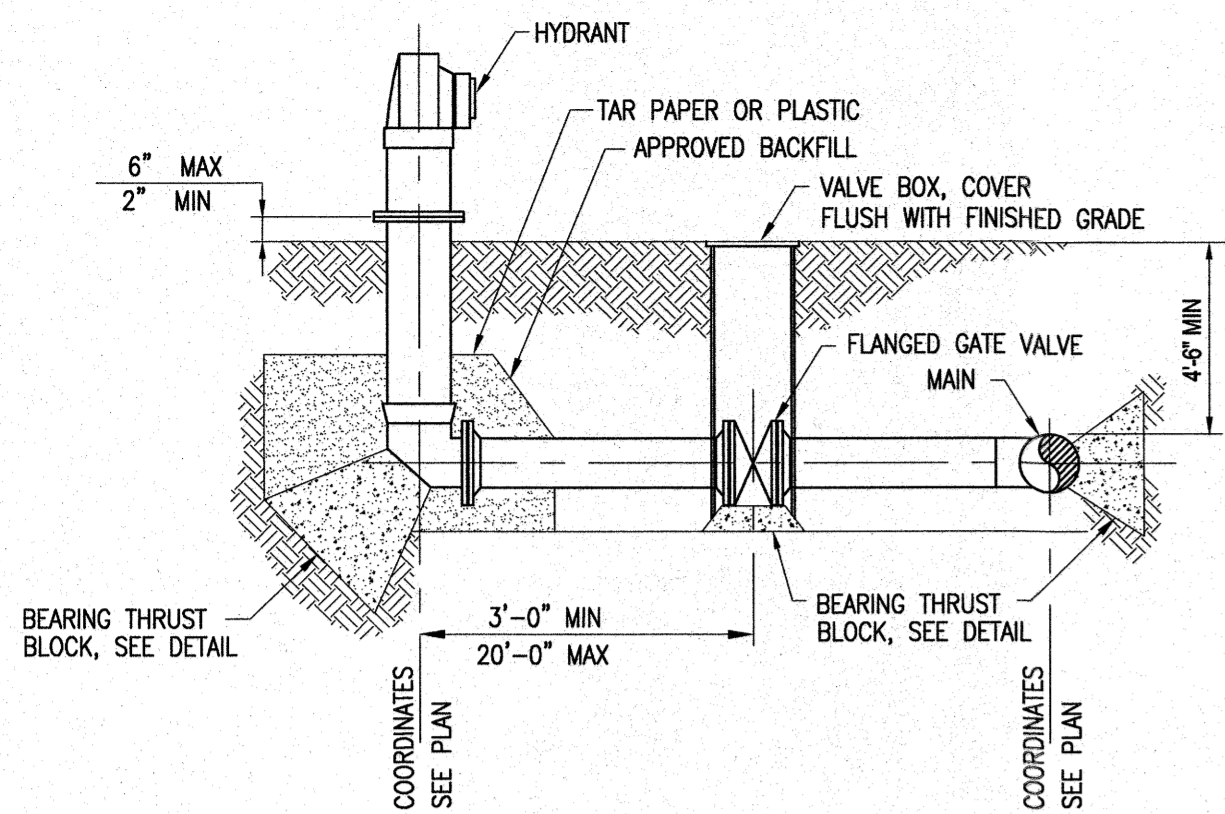
C

D

E

F

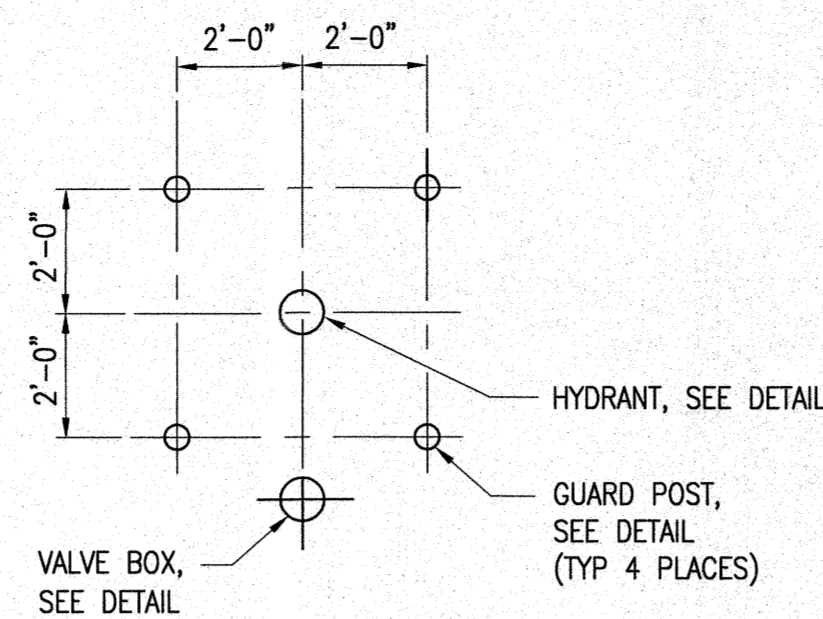
AREA LIMITS N 820' 0"



TYPICAL HYDRANT INSTALLATION

NOTES: SCALE: NTS

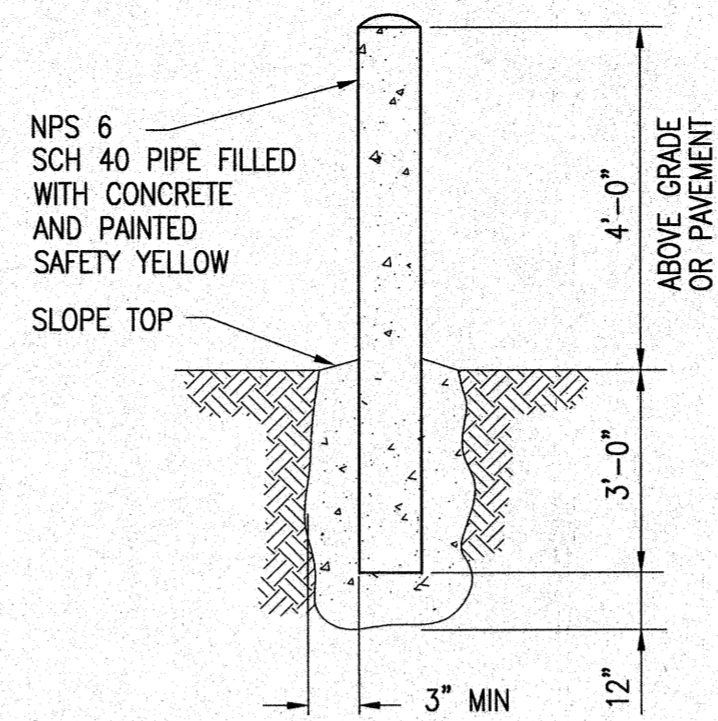
- AFTER INSTALLATION, ALL RODS, NUTS, BOLTS, WASHERS, CLAMPS, AND OTHER RESTRAINING DEVICES (EXCEPT THRUST BLOCKS) SHALL BE CLEANED AND THOROUGHLY COATED WITH A BITUMINOUS OR OTHER ACCEPTABLE CORROSION RETARDING MATERIAL.
- GUARD POSTS SHALL BE INSTALLED AROUND HYDRANT. SEE PARTIAL PLAN.



TYPICAL HYDRANT AREA PARTIAL PLAN

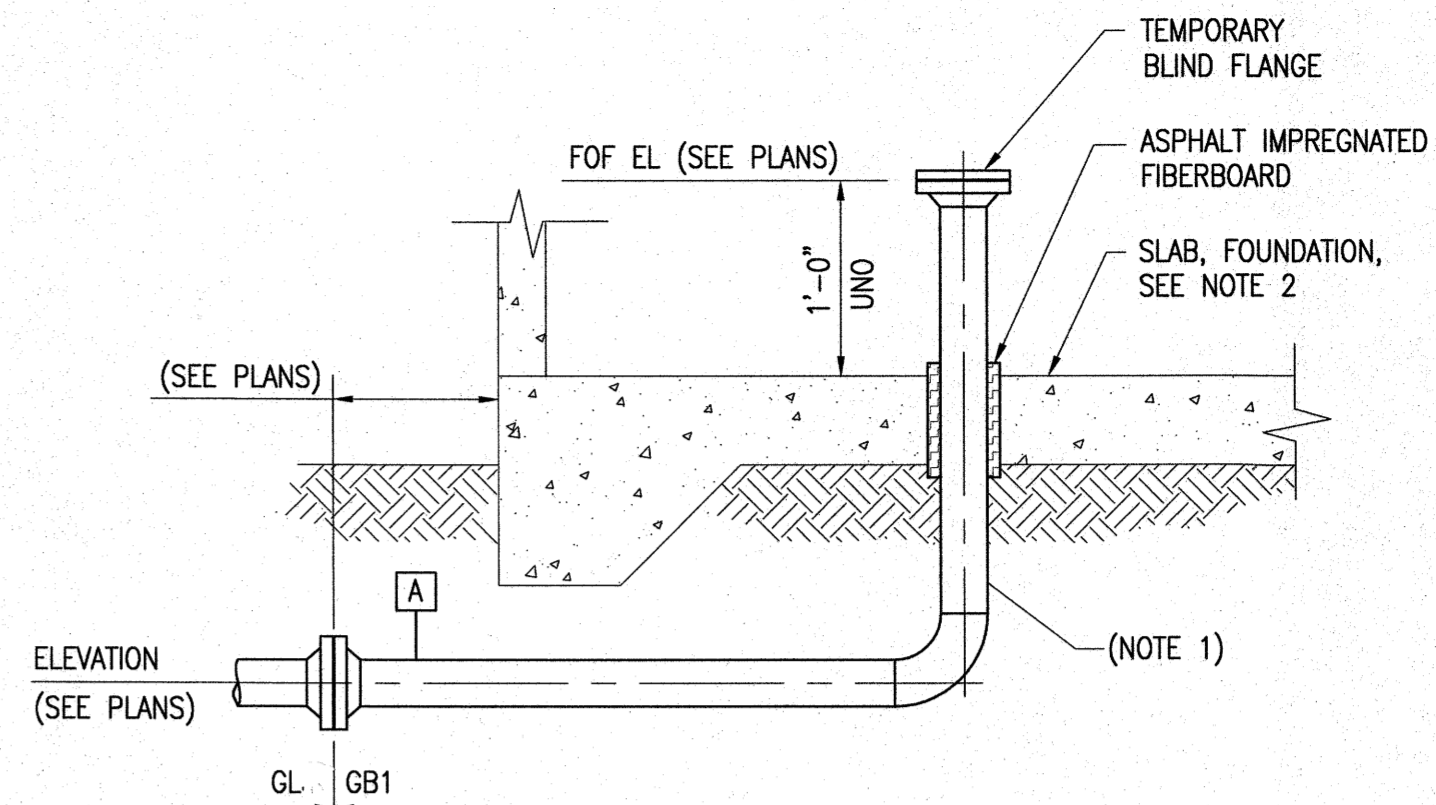
SCALE: NTS

NOTE: COORDINATE THE NORTH HYDRANTS AND PIV LOCATIONS OF BOLLARDS WITH CIVIL DRAINAGE PLACEMENT.



TYPICAL GUARD POST

SCALE: NTS



TYPICAL FIREWATER STUB-UP IN BLDG.

SCALE: NTS

NOTES:

- METALLIC PIPING SHALL BE COATED AND WRAPPED UP TO THE ABOVEGROUND FLANGE IN ACCORDANCE WITH THE PIPING MATERIAL SPECIFICATION.
- METALLIC PIPING SHALL BE ELECTRICALLY ISOLATED FROM ANY SLAB OR FOUNDATION REINFORCING STEEL OR OTHER CONDUCTIVE MATERIALS.

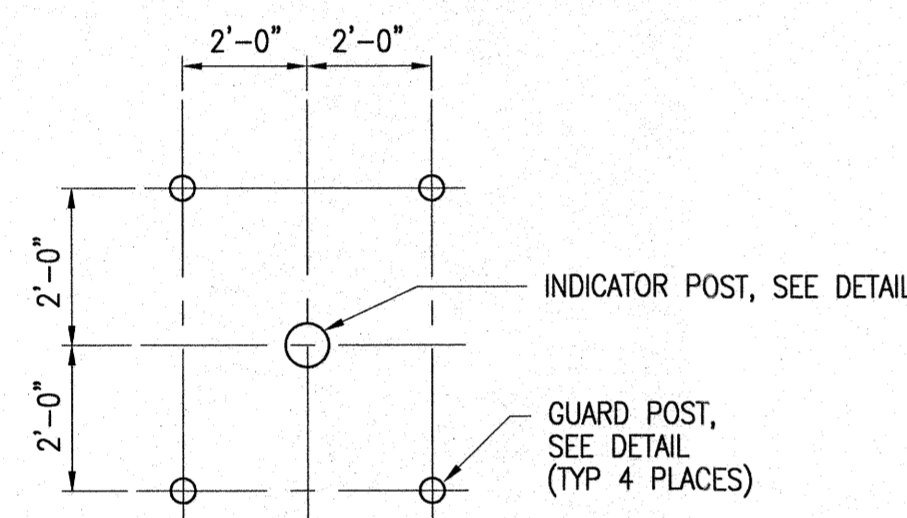
TYPICAL BEARING THRUST BLOCKS

NOTES:

- THRUST BLOCKS SHALL BE CONSTRUCTED OF CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
- THRUST BLOCKS SHALL BE PLACED AT EACH VALVE, HYDRANT, AND TEE AT A HYDRANT. THRUST BLOCKS ARE NOT REQUIRED ELSEWHERE.
- THRUST BLOCKS SHALL BE PLACED SUCH THAT PIPE JOINTS WILL BE ACCESSIBLE FOR INSPECTION AND REPAIR.
- BEARING SURFACES SHOULD BE PLACED AGAINST UNDISTURBED SOIL. WHERE THIS IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL SHALL BE COMPACTED TO AT LEAST 90% OF THE STANDARD PROCTOR DENSITY.
- BLOCK HEIGHT (h) SHOULD BE EQUAL TO OR LESS THAN 1/2 THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK (H), BUT NOT LESS THAN THE PIPE DIAMETER.
- BLOCK HEIGHT (h) SHOULD BE CHOSEN SUCH THAT THE CALCULATED BLOCK WIDTH (b) VARIES BETWEEN 1 AND 2 TIMES THE HEIGHT. b x h EQUALS AREA OF BEARING FACE (SQ FT).
- BLOCK BEARING AREAS ARE FOR PIPING 4"-9" OR MORE BELOW GRADE AND ARE BASED ON SOIL ALLOWABLE PASSIVE PRESSURE OF 504 PSF/FT.

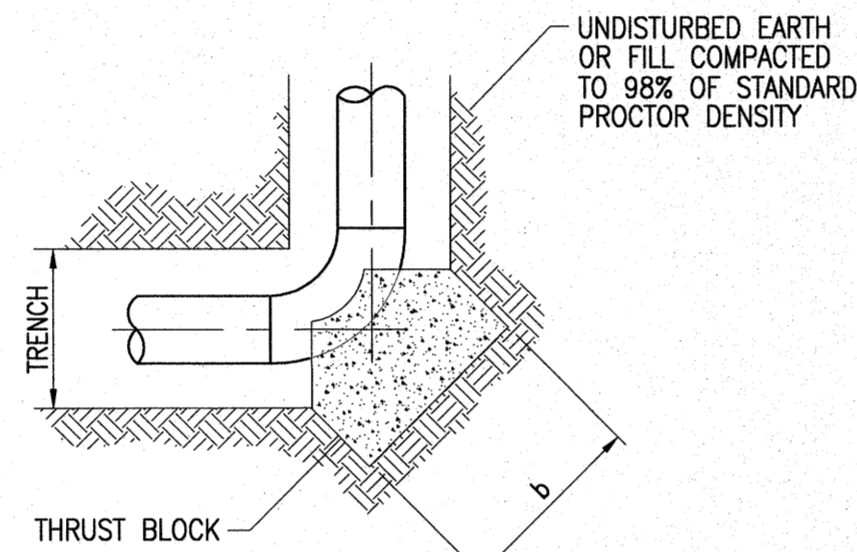
PIPE DIA	AREA OF BEARING FACE (SQ FT)			VOLUME CU.FT	LAT. AREA SQ.FT.	REBAR SIZE	EMBEDMENT
	90	45	DEAD END				
6"	22.82	12.35	16.13	38.03	3.16	#3	5 IN
8"	38.67	20.93	27.34	64.45	5.34	#4	7 IN
10"	60.07	32.51	42.48	100.12	8.29	#5	10 IN
12"	84.50	45.73	59.75	140.84	11.67	#6	15 IN
14"	101.88	55.14	72.04	169.81	14.07	#6	15 IN

GRAVITY THRUST BLOCK



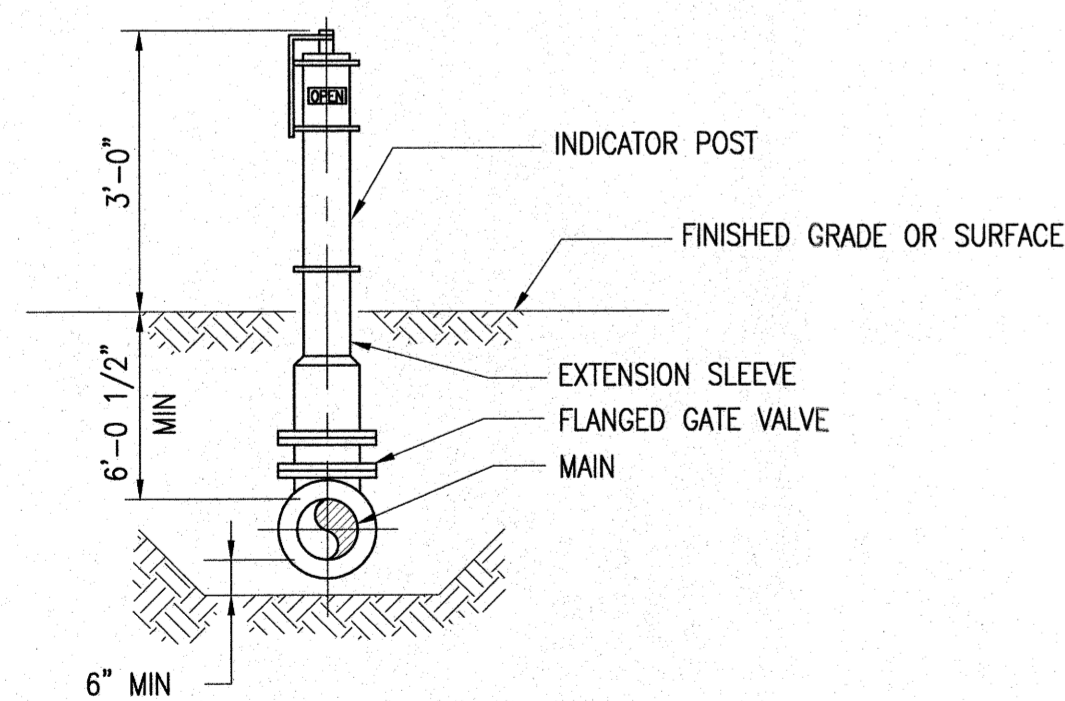
TYPICAL POST INDICATOR AREA PARTIAL PLAN

SCALE: NTS



ELEVATION AT HYDRANT RISER

SCALE: NTS

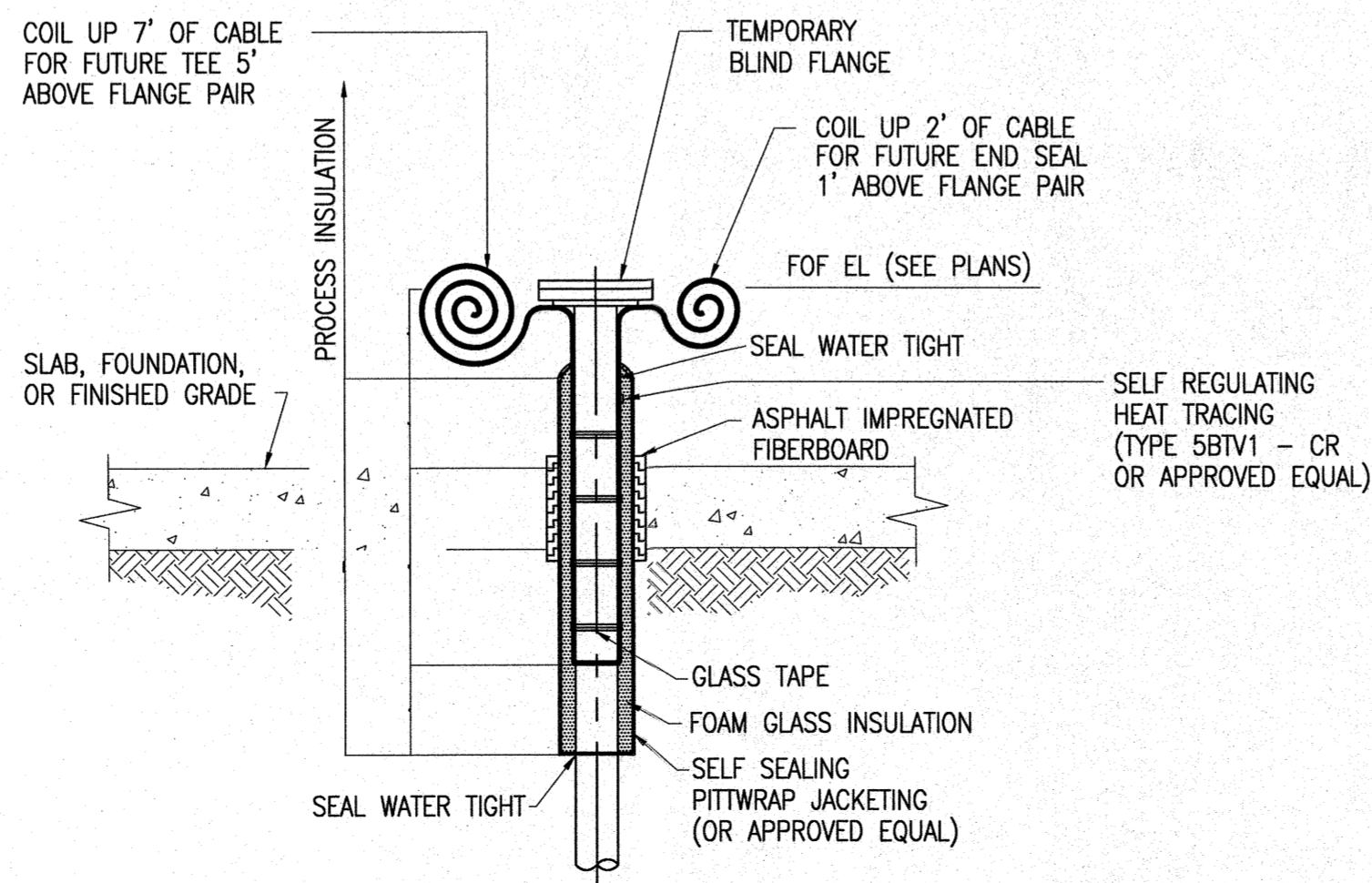


TYPICAL POST INDICATOR VALVE (PIV)

SCALE: NTS

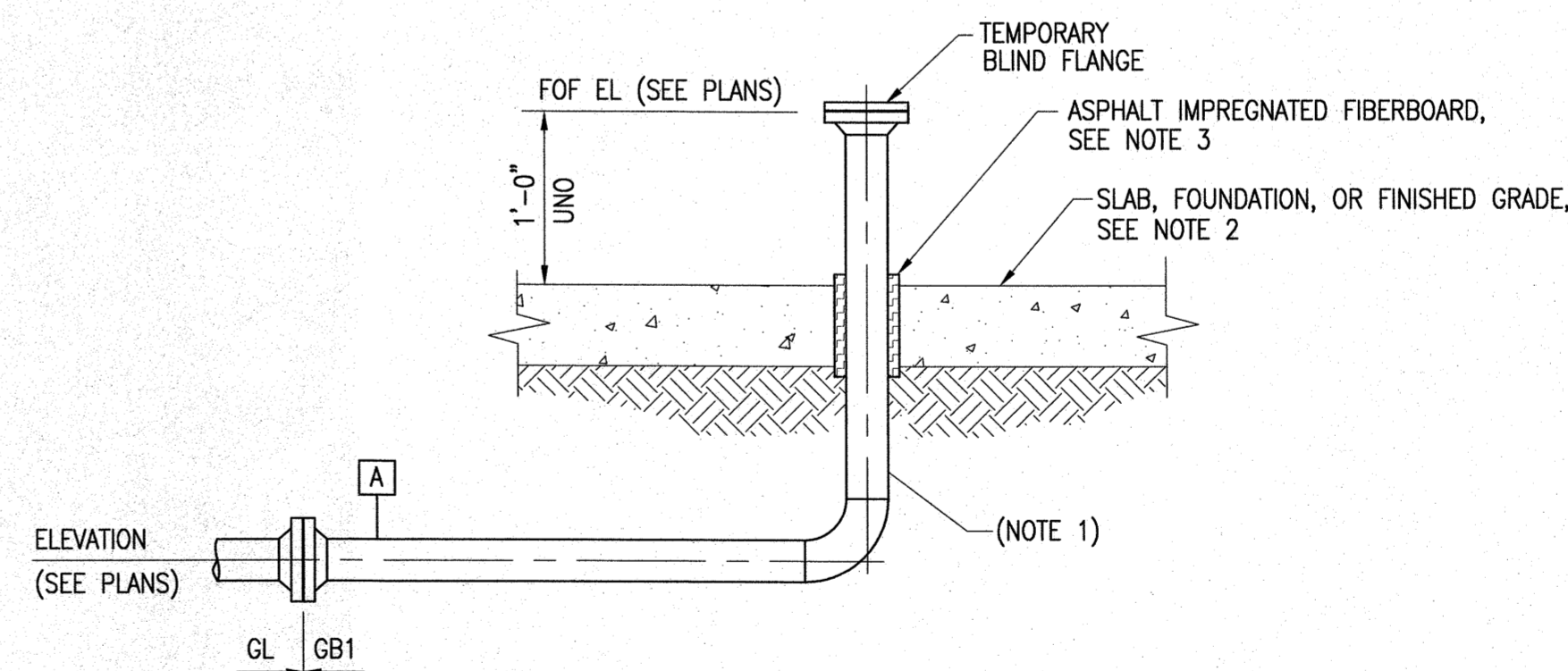
NOTES:

- INSTALL INDICATOR FACING TOWARD NEAREST ROADWAY.
- GUARD POSTS SHALL BE INSTALLED AROUND INDICATOR POST. SEE TYPICAL POST INDICATOR AREA PARTIAL PLAN.



TYPICAL STUB-UP WITH INSULATION

SCALE: NTS



TYPICAL STUB-UP

SCALE: NTS

NOTES:

- METALLIC PIPING SHALL BE COATED AND WRAPPED UP TO THE ABOVEGROUND FLANGE IN ACCORDANCE WITH THE PIPING MATERIAL SPECIFICATION.
- METALLIC PIPING SHALL BE ELECTRICALLY ISOLATED FROM ANY SLAB OR FOUNDATION REINFORCING STEEL OR OTHER CONDUCTIVE MATERIALS.
- IF STUB-UPS ARE LOCATED OUTSIDE SLABS OR FOUNDATIONS, INSTALLATION OF FIBERBOARD IS NOT REQUIRED.
- AFTER INSTALLATION, ALL RODS, NUTS, BOLTS, WASHERS, CLAMPS, AND OTHER RESTRAINING DEVICES (EXCEPT THRUST BLOCKS) SHALL BE CLEANED AND THOROUGHLY COATED WITH A BITUMINOUS OR OTHER ACCEPTABLE CORROSION RETARDING MATERIAL.
- GUARD POSTS SHALL BE INSTALLED AROUND STUB-UPS IN HEAVY TRAFFIC AREAS. SEE DETAIL.

GENERAL NOTES:

- FOR GENERAL NOTES SEE DWG 644911 P200-S001.

REFERENCE SPECS:

644911-SP-P200 PIPING MATERIALS
644911-SP-P171 UNDERGROUND PIPING FABRICATION AND INSTALLATION.

ORIGINAL

ISSUED FOR CONSTRUCTION

REVISION	DATE	BY	CHECKED	APPROVED	PROJ. TECH.	DIR. TECH.	PROJ. MGR.	INSTR.
5/15/17								

PROJECT ENGINEERING DIVISION

PSEG
Power Connecticut LLC

SNC • LAVALIN
CONSTRUCTORS INC.

SCALE: NONE

BRIDGEPORT 05

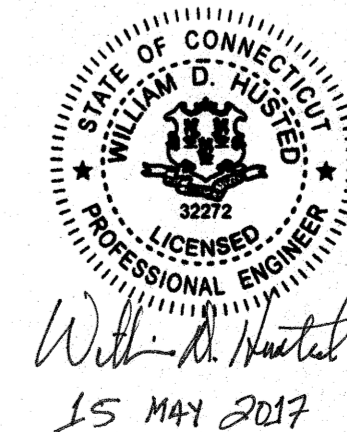
UNDERGROUND FIRE PROTECTION PIPING SECTIONS AND DETAILS

SHT 2 OF 2

STANDARDS

DESIGN-PIPING

644911 P233-S002



15 MAY 2017