

# SUBSET 05 - UTILITIES

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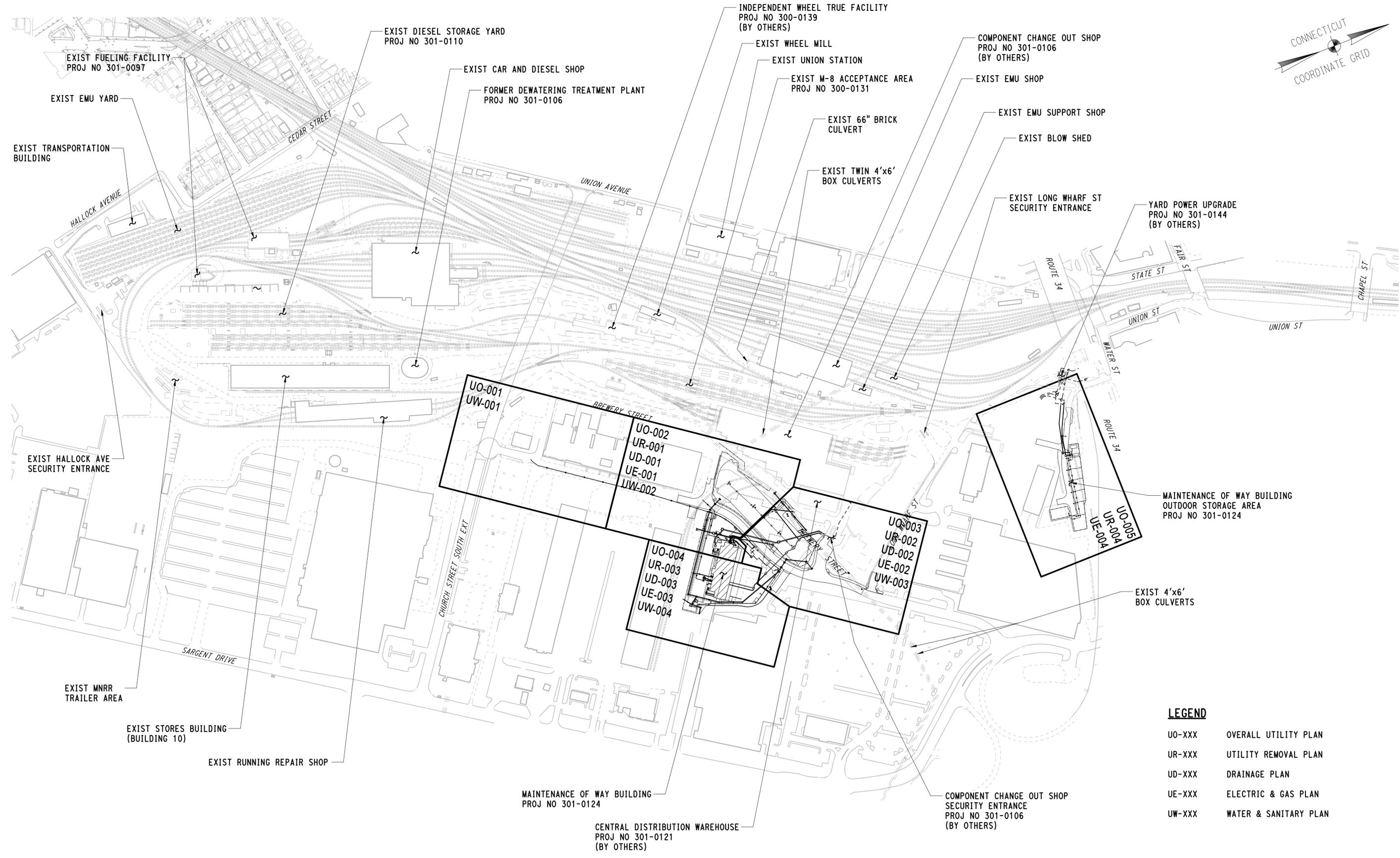
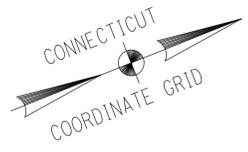
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05.35	WATER AND SANITARY PROFILES		
05.36	WATER AND SANITARY PROFILES		

DESIGNED BY:  
PARSONS BRINCKERHOFF

DESIGNED BY:  
AI ENGINEERS, INC.

3/28/2015 6:52:40 AM T:\18965-NHRY\FIC\DOT\_Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\20\_UIND\_3010088\_UI-000.dgn

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									DRAWING TITLE: <b>UTILITIES SUBSET COVER SHEET</b>	DRAWING NO. <b>UI-000</b>	SHEET NO. <b>05.01</b>



**LEGEND**

UO-XXX	OVERALL UTILITY PLAN
UR-XXX	UTILITY REMOVAL PLAN
UD-XXX	DRAINAGE PLAN
UE-XXX	ELECTRIC & GAS PLAN
UW-XXX	WATER & SANITARY PLAN

4/1/2015 10:29:41 AM T:\18965-NHRY\FIC\DOT\Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\00\_UPLN\_3010088\_UO-000.dgn

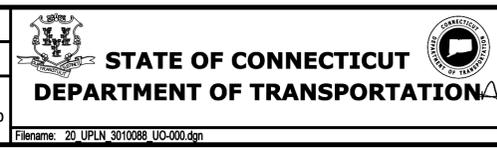
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DESIGNER/DRAFTER:  
**JFK / JLD**

CHECKED BY:  
**WPD**

SCALE IN FEET  
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SCALE 1"=200'



SIGNATURE:  
BLOOMFIELD, CT  
PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**

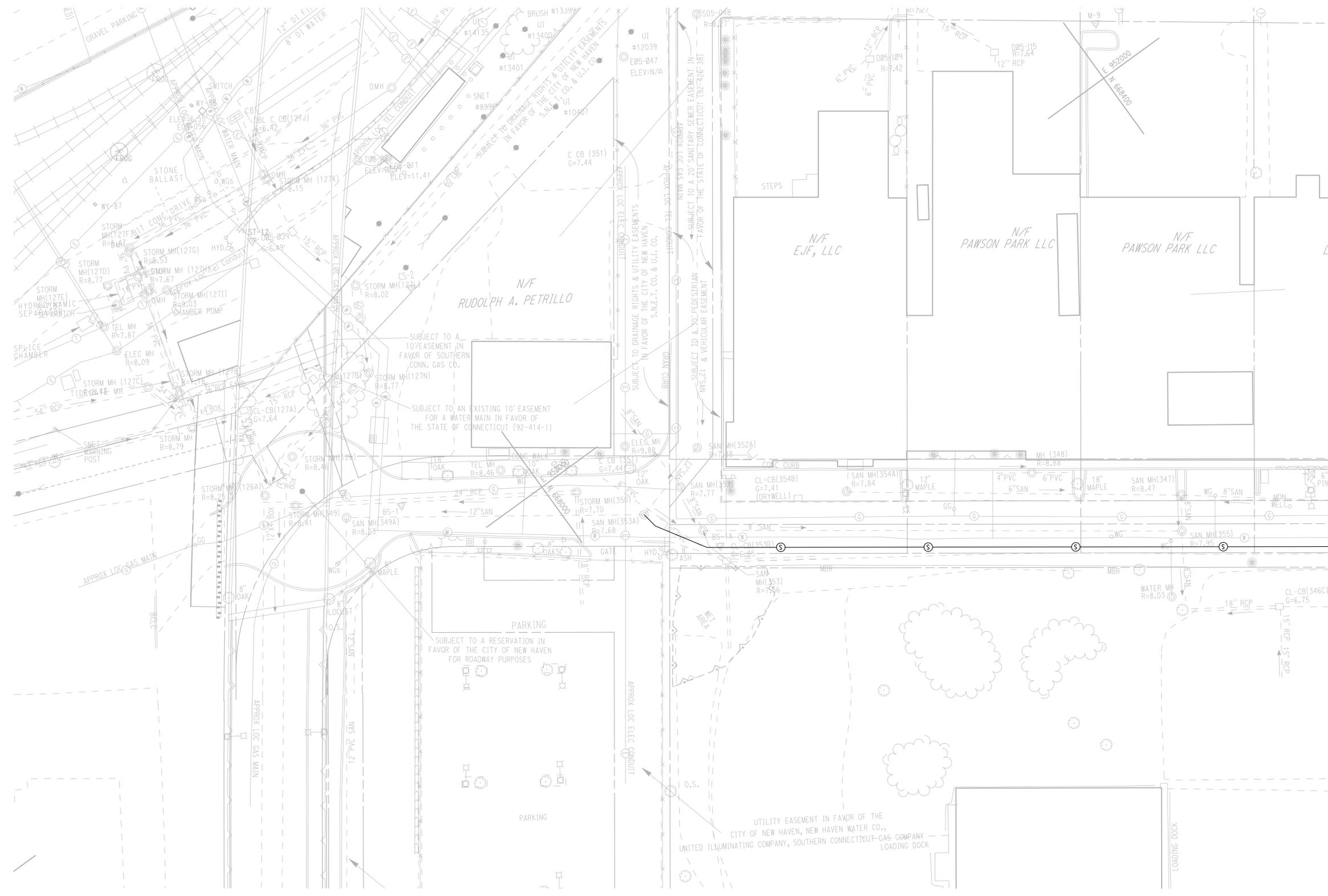
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**UTILITY  
INDEX PLAN**

PROJECT NO.  
**301-0124**

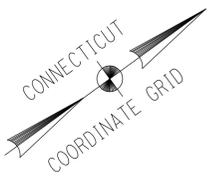
DRAWING NO.  
**UO-000**

SHEET NO.  
**05.02**

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MATCH LINE SEE PLAN-2

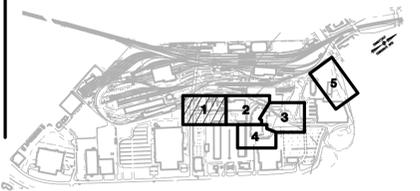


**LEGEND**

- CATCH BASIN
- MANHOLE
- STORM DRAINAGE PIPE
- GAS LINE
- SANITARY SEWER
- WATER LINE
- ELECTRICAL/COMM MANHOLE/VAULT
- ELECTRIC CONDUIT/DUCT BANK
- OVERHEAD ELECTRIC LINE
- ILLUMINATION CONDUIT/DUCT BANK
- ILLUMINATION HANDHOLE
- ROADWAY LIGHT POLE, FOUNDATION AND LUMINAIRE
- WOOD POLE WITH LUMINAIRE
- SITE COMMUNICATIONS CONDUIT/DUCT BANK

**NOTE:**

THE OVERALL UTILITY PLANS DEPICT STORM, SANITARY, LIGHTING, WATER, ELECTRIC, GAS AND SITE COMMUNICATIONS UTILITIES ONLY AND ARE PROVIDED FOR INFORMATION ONLY TO DEPICT A COMPILATION OF UTILITIES PROPOSED FOR THIS PROJECT. SEE SEPARATE UTILITY BREAK-OUT DRAWINGS FOR PROPOSED CONSTRUCTION.



**KEY PLAN**

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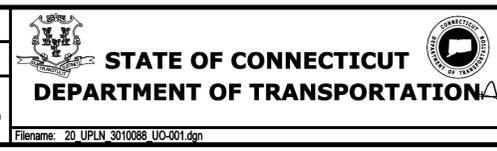
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DESIGNER/DRAFTER:  
**JFK / JLD**

CHECKED BY:  
**WPD**

SCALE IN FEET

SCALE 1"=30'



SIGNATURE OF PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:

**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

TOWN:

**NEW HAVEN**

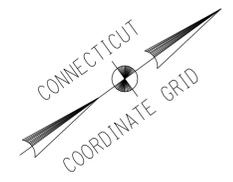
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**OVERALL UTILITY  
PLAN-1**

PROJECT NO.  
**301-0124**

DRAWING NO.  
**UO-001**

SHEET NO.  
**05.03**

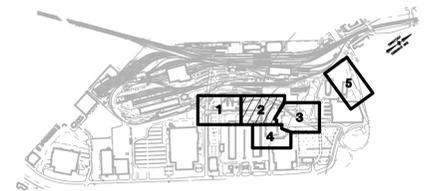


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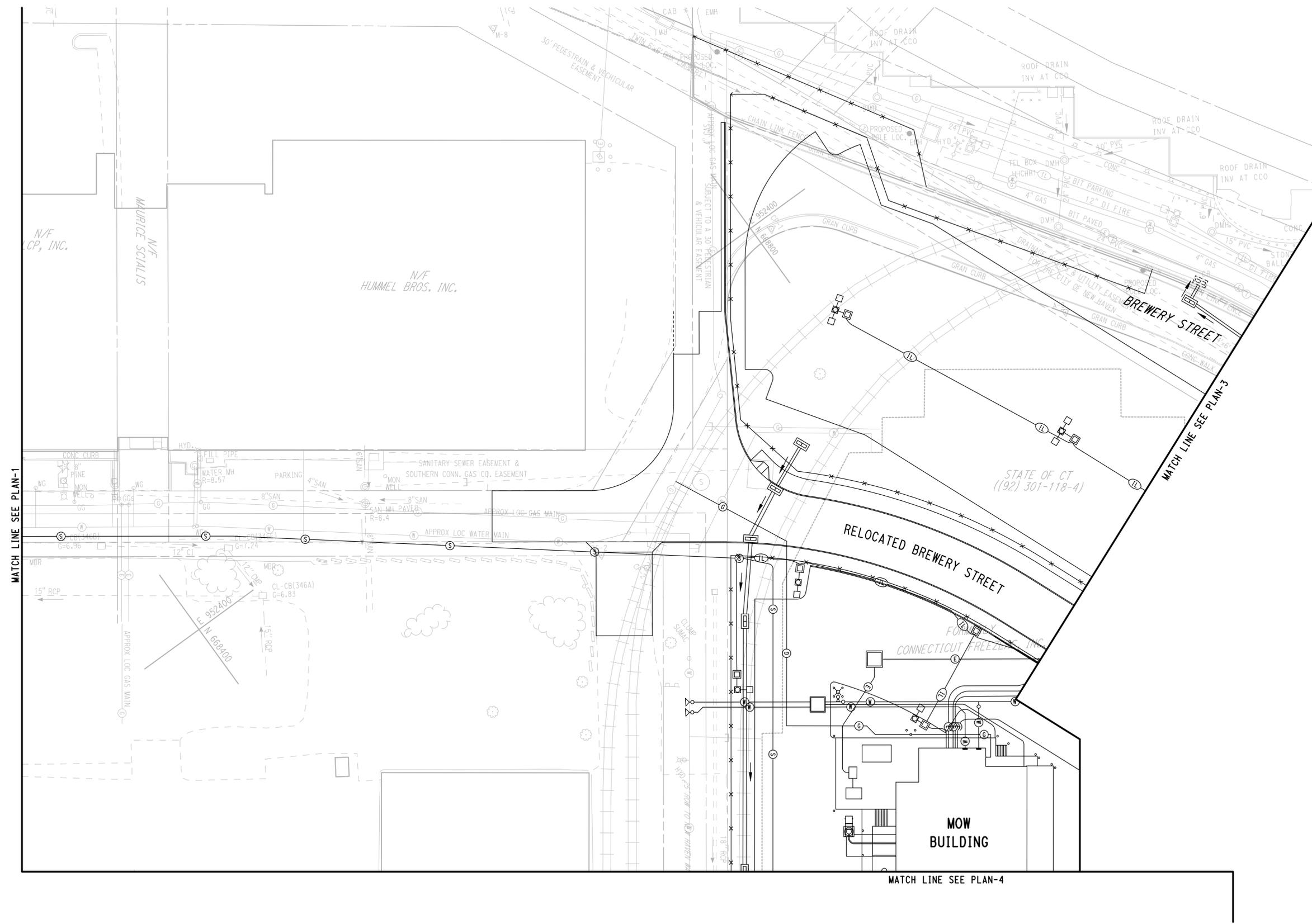
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-  MANHOLE
-  STORM DRAINAGE PIPE
-  GAS LINE
-  SANITARY SEWER
-  WATER LINE
-  ELECTRICAL/COMM MANHOLE/VAULT
-  ELECTRIC CONDUIT/DUCT BANK
-  OVERHEAD ELECTRIC LINE
-  ILLUMINATION CONDUIT/DUCT BANK
-  ILLUMINATION HANDHOLE
-  ROADWAY LIGHT POLE, FOUNDATION AND LUMINAIRE
-  WOOD POLE WITH LUMINAIRE
-  SITE COMMUNICATIONS CONDUIT/DUCT BANK

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**KEY PLAN**



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Plotted Date: 4/1/2015

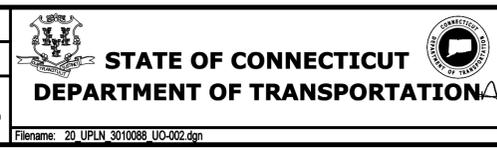
DESIGNER/DRAFTER:  
**JFK / JLD**

CHECKED BY:  
**WPD**

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SCALE 1"=30'



SIGNATURE OF PROFESSIONAL ENGINEER

STATE OF CONNECTICUT

PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:

**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

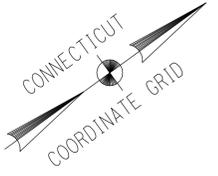
TOWN: **NEW HAVEN**

DRAWING TITLE: **OVERALL UTILITY  
PLAN-2**

PROJECT NO. **301-0124**

DRAWING NO. **UO-002**

SHEET NO. **05.04**

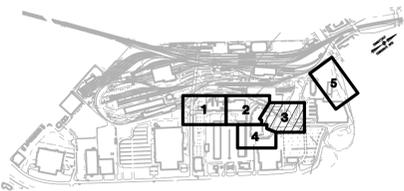


**LEGEND**

-  CATCH BASIN
-  MANHOLE
-  STORM DRAINAGE PIPE
-  GAS LINE
-  SANITARY SEWER
-  WATER LINE
-  ELECTRICAL/COMM MANHOLE/VAULT
-  ELECTRIC CONDUIT/DUCT BANK
-  OVERHEAD ELECTRIC LINE
-  ILLUMINATION CONDUIT/DUCT BANK
-  ILLUMINATION HANDHOLE
-  ROADWAY LIGHT POLE, FOUNDATION AND LUMINAIRE
-  WOOD POLE WITH LUMINAIRE
-  LIGHTING SERVICE CABINET
-  SITE COMMUNICATIONS CONDUIT/DUCT BANK

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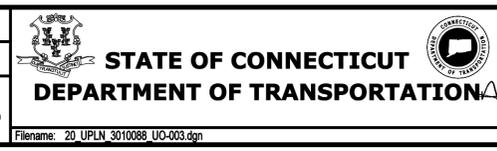
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DESIGNER/DRAFTER:  
**JFK / JLD**

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**WPD**

SCALE IN FEET  
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SCALE 1"=30'



SIGNATURE OF PROFESSIONAL ENGINEER  
*[Signature]*  
PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

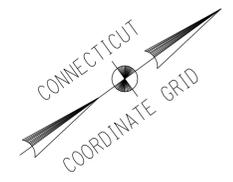
TOWN:  
**NEW HAVEN**

DRAWING TITLE:  
**OVERALL UTILITY  
PLAN-3**

PROJECT NO.  
**301-0124**

DRAWING NO.  
**UO-003**

SHEET NO.  
**05.05**

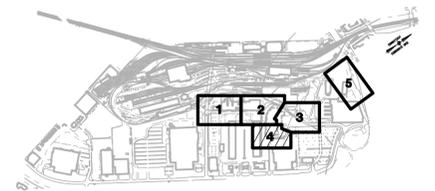


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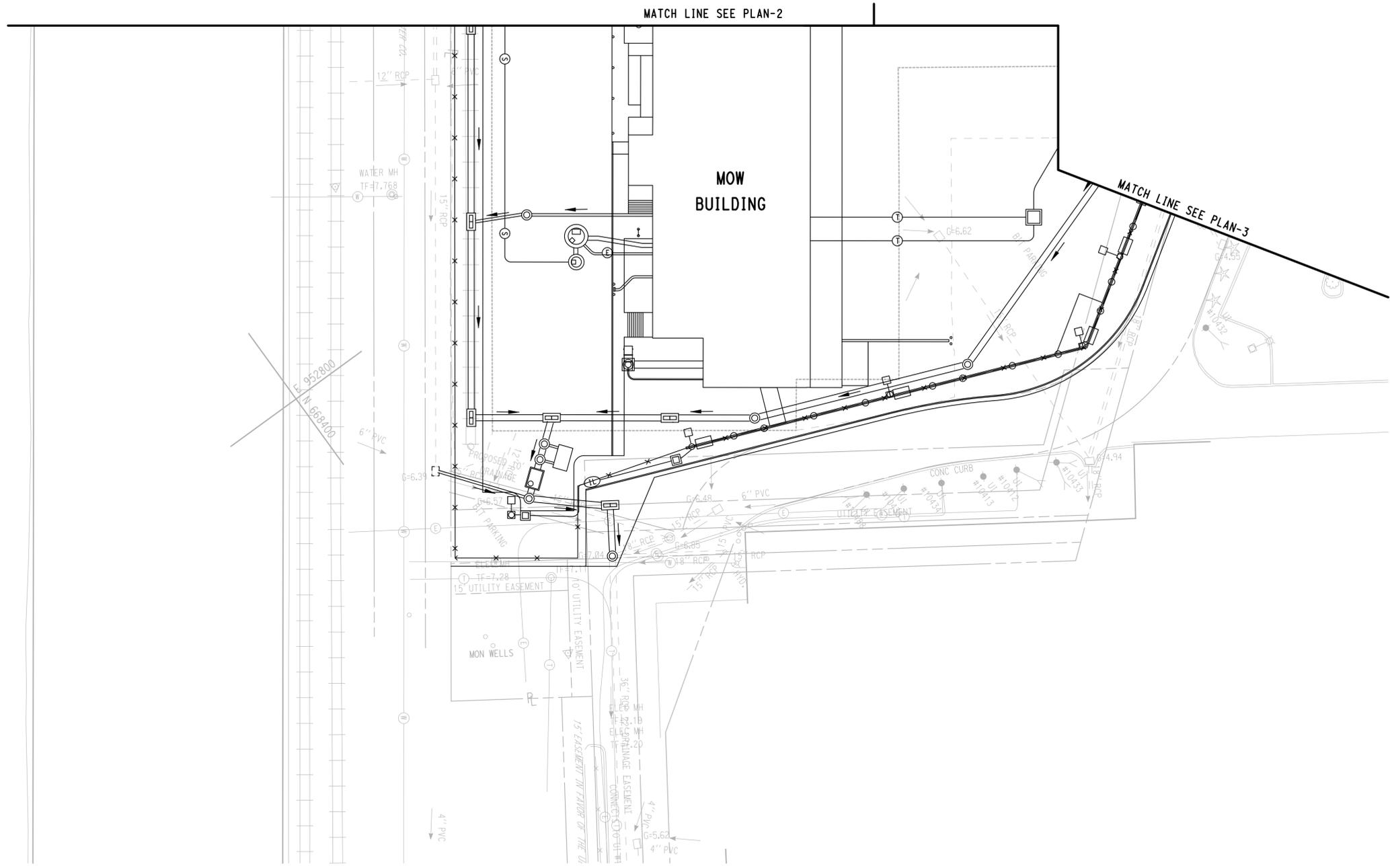
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-  MANHOLE
-  STORM DRAINAGE PIPE
-  GAS LINE
-  SANITARY SEWER
-  WATER LINE
-  ELECTRICAL/COMM MANHOLE/VAULT
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-  OVERHEAD ELECTRIC LINE
-  ILLUMINATION CONDUIT/DUCT BANK
-  ILLUMINATION HANDHOLE
-  ROADWAY LIGHT POLE, FOUNDATION AND LUMINAIRE
-  WOOD POLE WITH LUMINAIRE
-  SITE COMMUNICATIONS CONDUIT/DUCT BANK

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**KEY PLAN**



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DESIGNER/DRAFTER:  
**JFK/JLD**

CHECKED BY:  
**WPD**

SCALE IN FEET

0 30 60

SCALE 1"=30'


**STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**



SIGNATURE: *[Signature]*  
 BLOOMINGDALE, CT  
 LICENSE NO. 10000  
 PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**

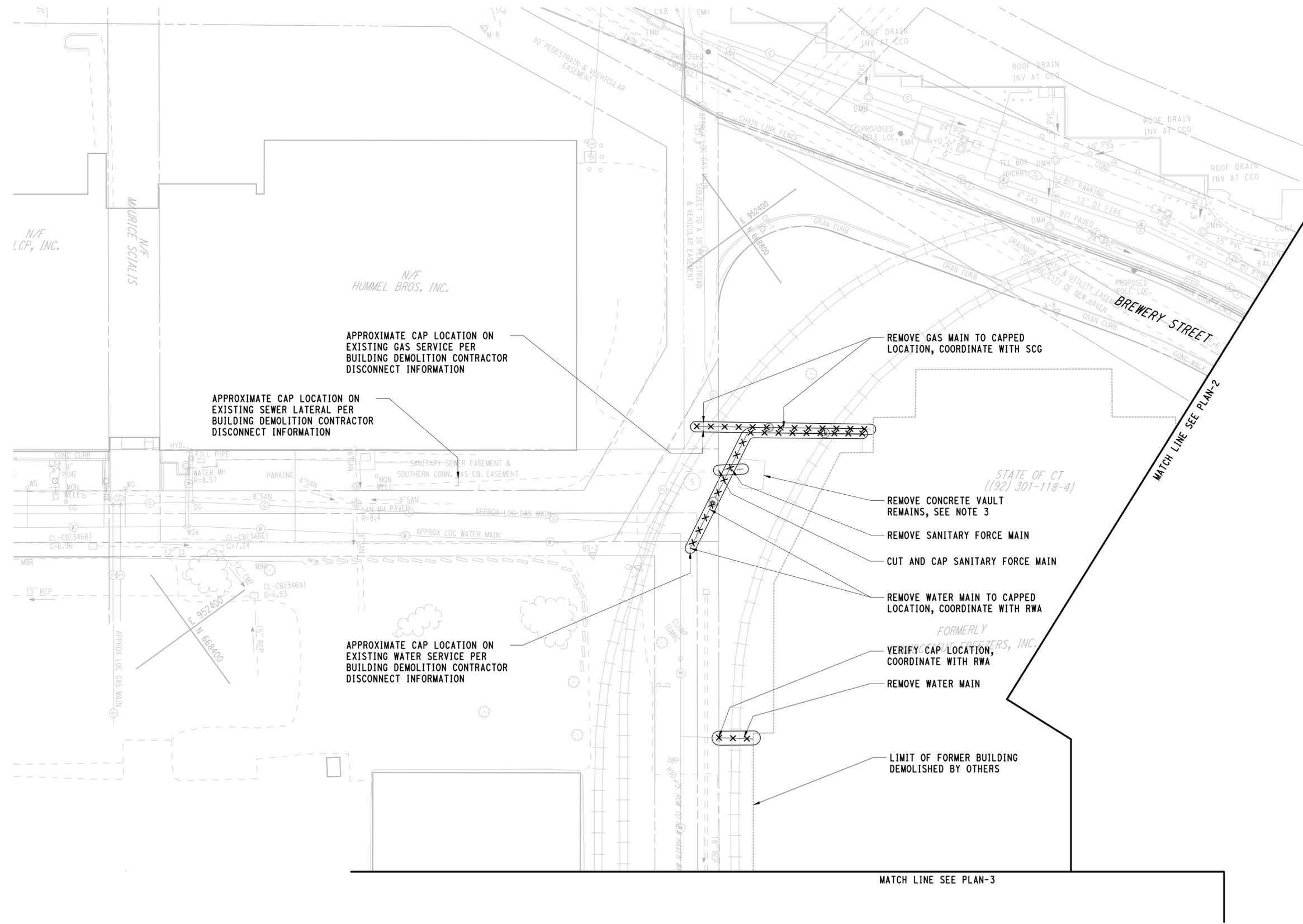
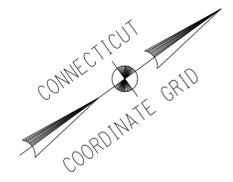
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**OVERALL UTILITY  
PLAN-4**

PROJECT NO.  
**301-0124**

DRAWING NO.  
**UO-004**

SHEET NO.  
**05.06**



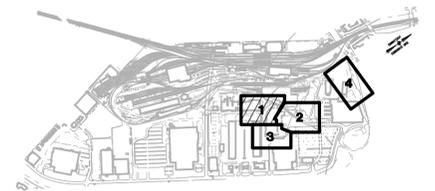


**LEGEND**

X X X REMOVE

**NOTES:**

1. REFER TO GENERAL NOTES SHEET, DWG NO GG-011 FOR GENERAL DEMOLITION NOTES.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS FOR REMOVAL OF EXISTING INFRASTRUCTURE.
3. CONCRETE VAULT CRUSHED AND FILLED IN PLACE PER BUILDING DEMOLITION CONTRACTOR DISCONNECT INFORMATION.



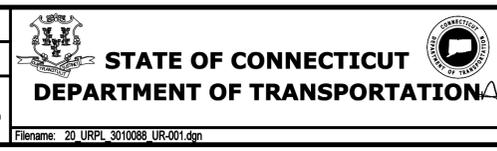
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**JFK/JLD**  
CHECKED BY:  
**WPD**  
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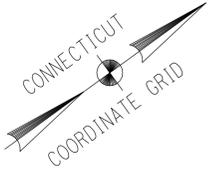


SIGNATURE  
STATE OF CONNECTICUT  
PROFESSIONAL ENGINEER  
PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**  
DRAWING TITLE:  
**UTILITY REMOVAL  
PLAN-1**

PROJECT NO.  
**301-0124**  
DRAWING NO.  
**UR-001**  
SHEET NO.  
**05.08**



MATCH LINE SEE PLAN-1

CONVERT CATCH BASIN TO MANHOLE (REFER TO DRAINAGE PLANS)

PLUG PIPE END  
REMOVE CATCH BASIN AND PIPE

LIMIT OF FORMER BUILDING DEMOLISHED BY OTHERS

REMOVE CATCH BASIN AND PIPES  
REMOVE CATCH BASIN AND PIPES

PLUG PIPE END

CATCH BASIN TO REMAIN

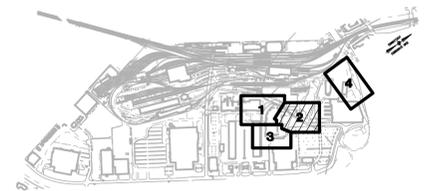
MATCH LINE SEE PLAN-3

**LEGEND**

× × × REMOVE

**NOTES:**

- REFER TO GENERAL NOTES SHEET, DWG NO GG-011 FOR GENERAL DEMOLITION NOTES.
- REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS FOR REMOVAL OF EXISTING INFRASTRUCTURE.



**KEY PLAN**

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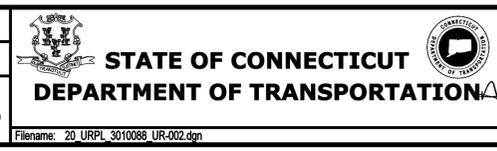
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DESIGNER/DRAFTER:  
**JFK / JLD**

CHECKED BY:  
**WPD**

SCALE IN FEET  
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SCALE 1"=30'



SIGNATURE OF PROFESSIONAL ENGINEER  
**Parsons Brinckerhoff**  
PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

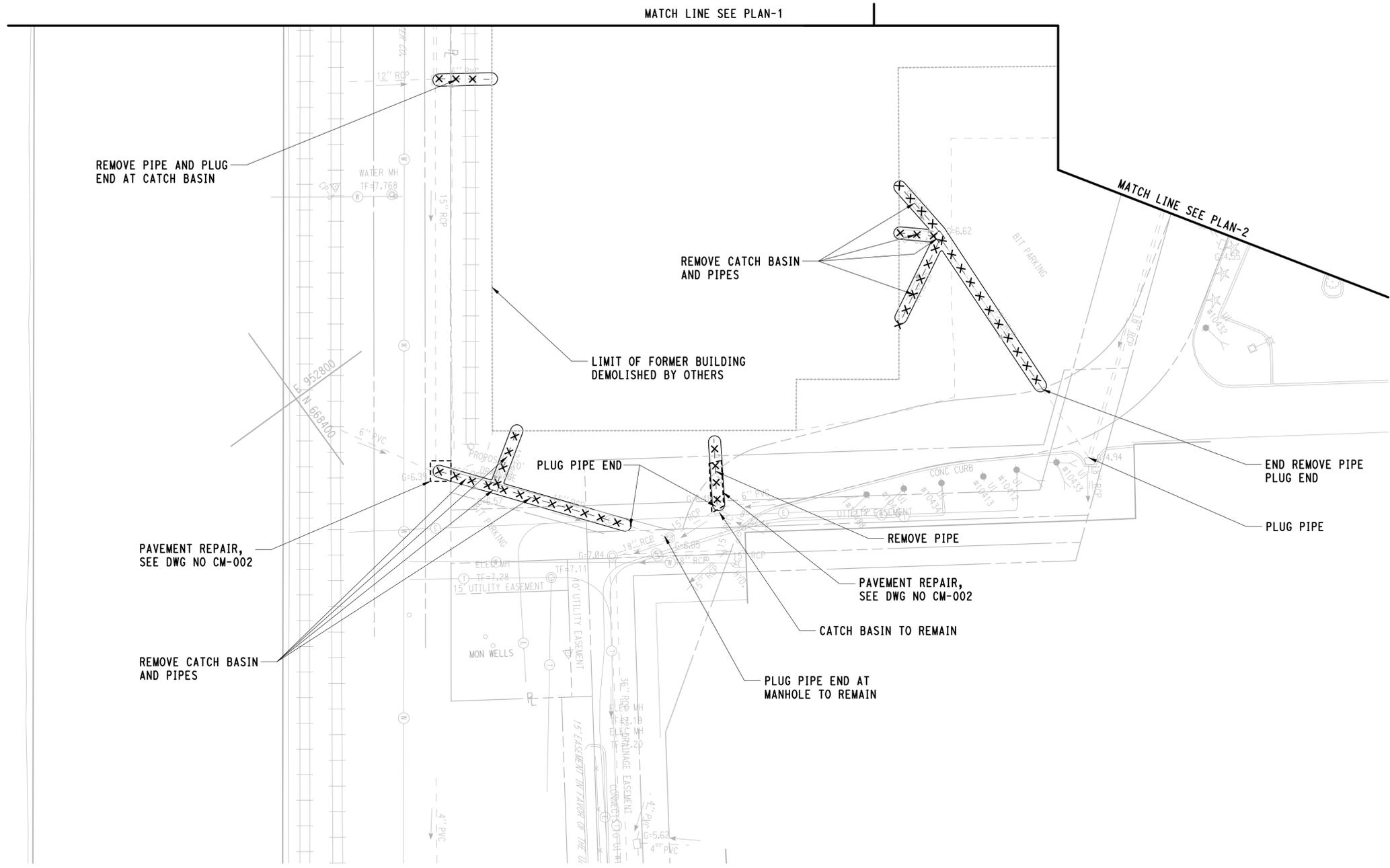
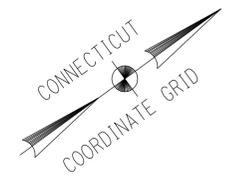
TOWN:  
**NEW HAVEN**

DRAWING TITLE:  
**UTILITY REMOVAL  
PLAN-2**

PROJECT NO.  
**301-0124**

DRAWING NO.  
**UR-002**

SHEET NO.  
**05.09**

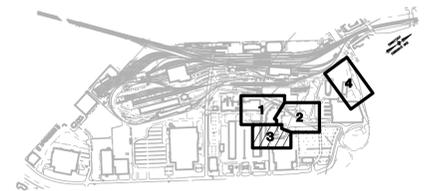


**LEGEND**

× × × REMOVE

**NOTE:**

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2. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS FOR REMOVAL OF EXISTING UTILITY INFRASTRUCTURE.



**KEY PLAN**

3/29/2015 10:59:49 AM T:\18965-NHRY\FIC\DOT\_P\Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\00\_URPL\_3010088\_UR-003.dgn

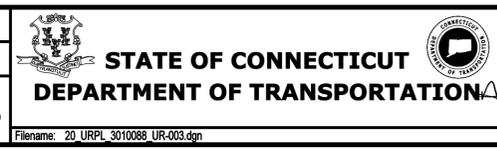
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CHECKED BY:  
**WPD**

SCALE IN FEET  
0 30 60  
SCALE 1"=30'



SIGNATURE OF REGISTERED PROFESSIONAL ENGINEER  
*[Signature]*  
PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**

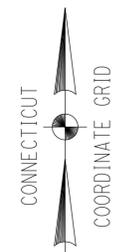
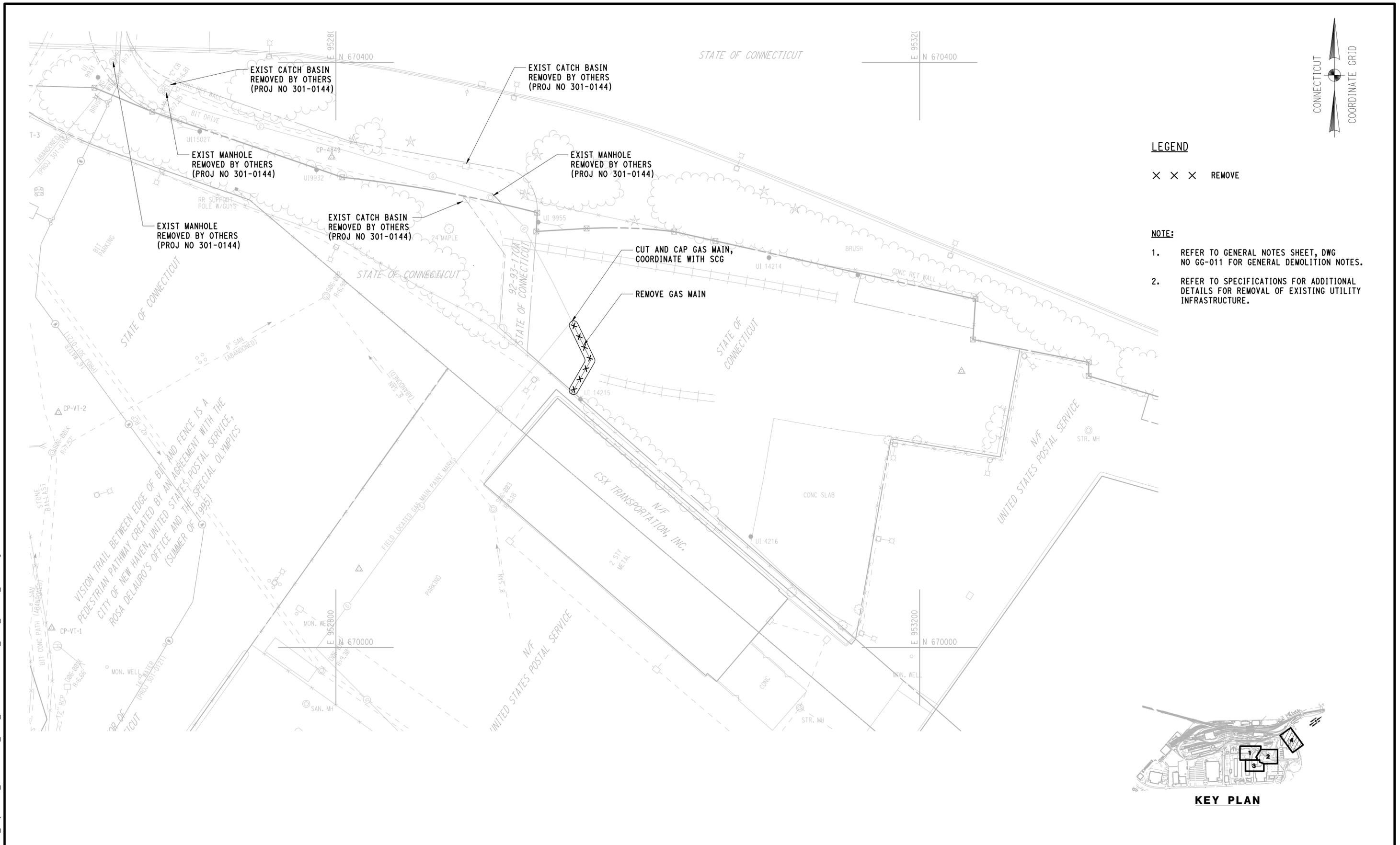
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**UTILITY REMOVAL  
PLAN-3**

PROJECT NO.  
**301-0124**

DRAWING NO.  
**UR-003**

SHEET NO.  
**05.10**

3/28/2015 10:11:06 AM T:\18965-NHRY\FIC\DOT\_Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\20\_URPL\_3010088\_UR-004.dgn

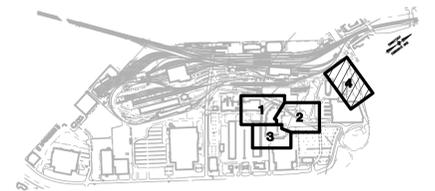


**LEGEND**

X X X REMOVE

**NOTE:**

1. REFER TO GENERAL NOTES SHEET, DWG NO GG-011 FOR GENERAL DEMOLITION NOTES.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS FOR REMOVAL OF EXISTING UTILITY INFRASTRUCTURE.



**KEY PLAN**

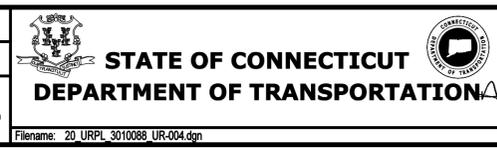
REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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.

DESIGNER/DRAFTER:  
**JFK / JLD**

CHECKED BY:  
**WPD**

SCALE IN FEET  
0 30 60  
SCALE 1"=30'



SIGNATURE:  
BLOOMFIELD, CT  
PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

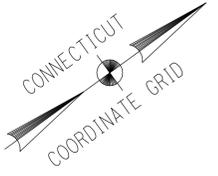
TOWN:  
**NEW HAVEN**

DRAWING TITLE:  
**UTILITY REMOVAL  
PLAN-4**

PROJECT NO.  
**301-0124**

DRAWING NO.  
**UR-004**

SHEET NO.  
**05.11**

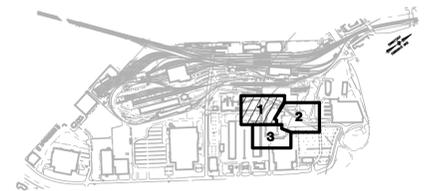


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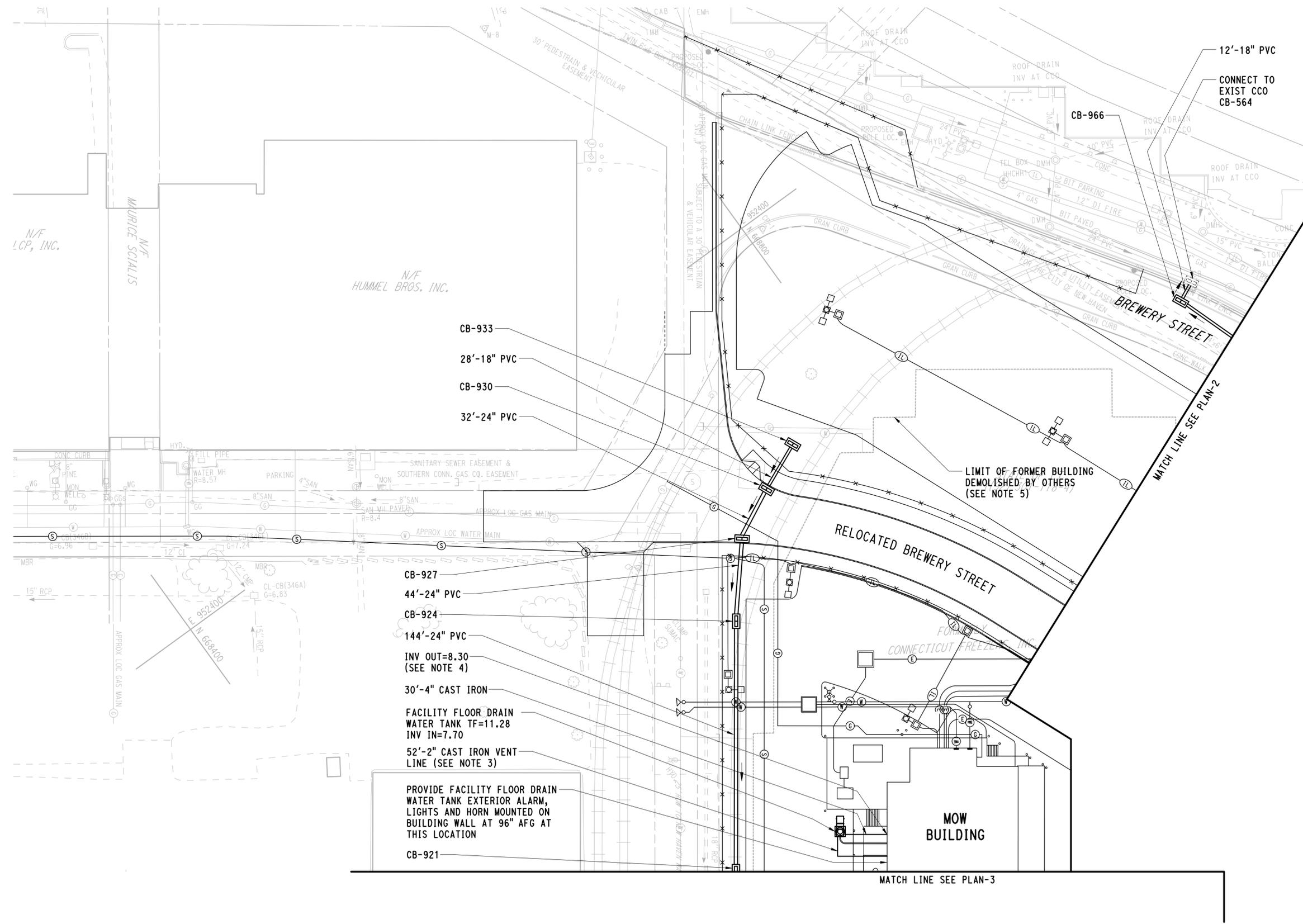
-  CATCH BASIN
-  MANHOLE
-  STORM DRAINAGE PIPE

**NOTES:**

1. REFER TO DRAINAGE DATA TABLE, DRAINAGE PROFILES AND ROADWAY CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. REFER TO GRADING PLANS FOR DRAINAGE STRUCTURE TF ELEVATIONS
3. VENT LINE TO EXTEND TO ABOVE BUILDING FF EL. INSTALL ELBOWS ON END TO PREVENT STORM WATER INFILTRATION AND SECURE TO BUILDING FOUNDATION WITH STAINLESS STEEL HARDWARE AND ANCHORS INTENDED FOR THE PURPOSE.
4. SEE PLUMBING DWG NO P14-101 FOR CONTINUATION OF PIPING WITHIN THE BUILDING.
5. EXISTING PILES REMAIN WITHIN LIMITS OF FORMER BUILDING. REFER TO DEMOLITION NOTE 2 ON DWG NO GG-011.



**KEY PLAN**



PROVIDE FACILITY FLOOR DRAIN WATER TANK EXTERIOR ALARM, LIGHTS AND HORN MOUNTED ON BUILDING WALL AT 96" AFG AT THIS LOCATION

- CB-921
- 52'-2" CAST IRON VENT LINE (SEE NOTE 3)
- INV IN=7.70
- FACILITY FLOOR DRAIN WATER TANK TF=11.28
- 30'-4" CAST IRON
- INV OUT=8.30 (SEE NOTE 4)
- 144'-24" PVC
- CB-924
- 44'-24" PVC
- CB-927
- 32'-24" PVC
- CB-930
- 28'-18" PVC
- CB-933

4/12/2015 10:27:18 AM T:\18965-NHRY\FIC\DOT\Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\00\_UPLN\_3010088\_UD-001.dgn

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.

DESIGNER/DRAFTER:  
**JFK/JLD**

CHECKED BY:  
**WPD**

SCALE IN FEET

0 30 60

SCALE 1"=30'

**STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**




SIGNATURE

PARSONS BRINCKERHOFF  
GLASTONBURY, CT



PROJECT TITLE:

**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

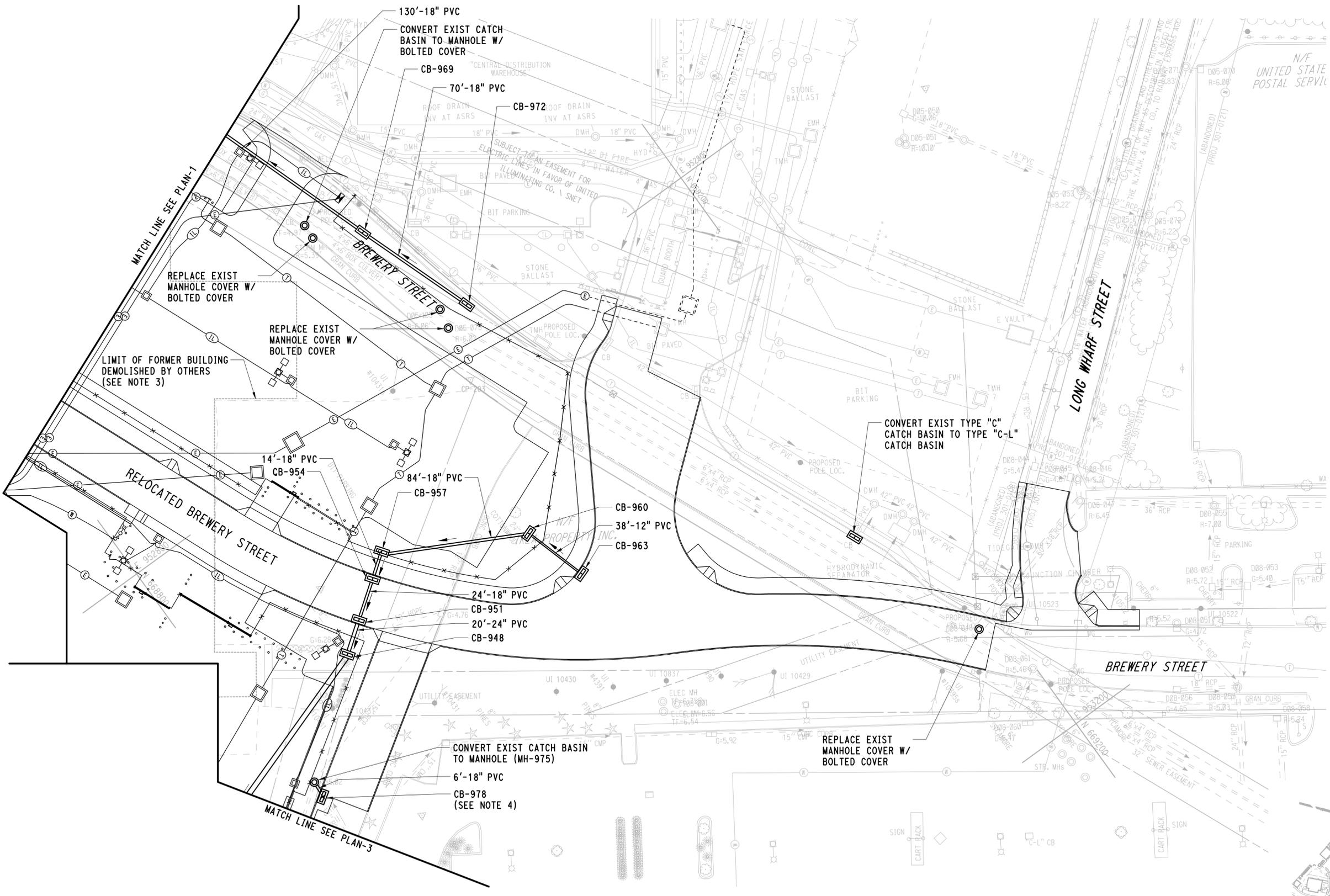
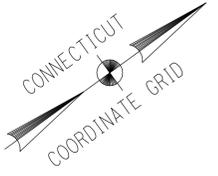
TOWN: **NEW HAVEN**

DRAWING TITLE: **DRAINAGE PLAN-1**

PROJECT NO. **301-0124**

DRAWING NO. **UD-001**

SHEET NO. **05.12**

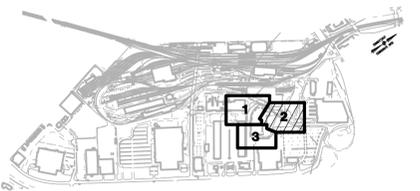


**LEGEND**

-  CATCH BASIN
-  MANHOLE
-  STORM DRAINAGE PIPE

**NOTES:**

1. REFER TO DRAINAGE DATA TABLE, DRAINAGE PROFILES AND ROADWAY CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. REFER TO GRADING PLANS FOR DRAINAGE STRUCTURE TF ELEVATIONS.
3. EXISTING PILES REMAIN WITHIN LIMITS OF FORMER BUILDING. REFER TO DEMOLITION NOTE 2 ON DWG NO GG-011.
4. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT THE PRECAST STRUCTURE OVER THE EXISTING PIPE OR REMOVE A SECTION OF EXISTING PIPE AND REPLACE WITH NEW IN KIND PIPE MATERIAL. THE CONTRACTOR SHALL BYPASS PUMP STORM DRAINAGE FLOWS AROUND THE STRUCTURE DURING ITS REPLACEMENT IN ACCORDANCE WITH SECTION 33 49 00.



**KEY PLAN**

4/1/2015 2:42:36 PM T:\18965-NHRY\FIC\DOT\_Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\20\_UPLN\_3010088\_UD-002.dgn

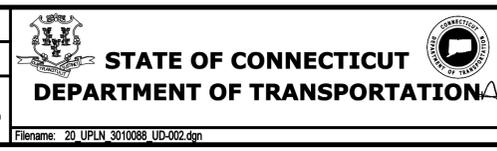
REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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.

DESIGNER/DRAFTER:  
**JFK / JLD**

CHECKED BY:  
**WPD**

SCALE IN FEET  
0 30 60  
SCALE 1"=30'



SIGNATURE OF PROFESSIONAL ENGINEER  
**Parsons Brinckerhoff**  
PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING**

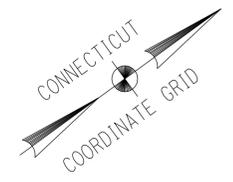
TOWN:  
**NEW HAVEN**

DRAWING TITLE:  
**DRAINAGE PLAN-2**

PROJECT NO.  
**301-0124**

DRAWING NO.  
**UD-002**

SHEET NO.  
**05.13**

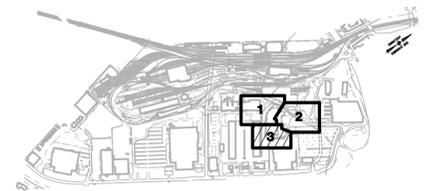


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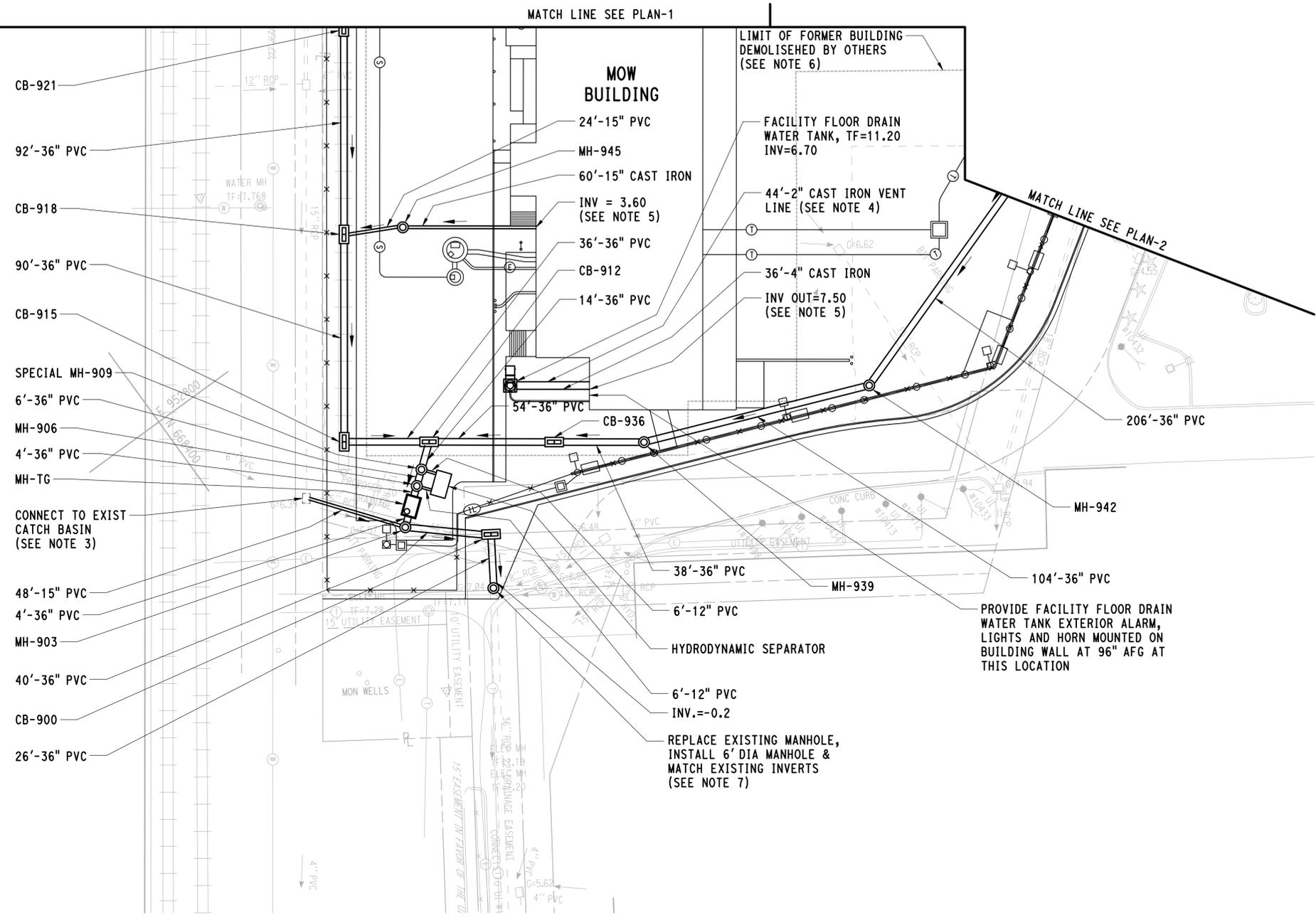
- CATCH BASIN
- MANHOLE
- STORM DRAINAGE PIPE

**NOTES:**

1. REFER TO DRAINAGE DATA TABLE, DRAINAGE PROFILES AND ROADWAY CROSS SECTIONS FOR ADDITIONAL INFORMATION.
2. REFER TO GRADING PLANS FOR DRAINAGE STRUCTURES TF ELEVATIONS.
3. CONNECT TO EXISTING CATCH BASIN MATCHING EXISTING INVERT. IF ORDERED AND APPROVED BY THE ENGINEER, THE CONTRACTOR HAS THE OPTION OF CONNECTING TO EXISTING PIPE WITH A FLEXIBLE WATERTIGHT PIPE WITH A FITTING WITH STAINLESS STEEL BANDS INTENDED FOR THE PURPOSE.
4. VENT LINE TO EXTEND TO ABOVE BUILDING FF EL. INSTALL ELBOWS ON END TO PREVENT STORM WATER INFILTRATION AND SECURE TO BUILDING FOUNDATION WITH STAINLESS STEEL HARDWARE AND ANCHORS INTENDED FOR THE PURPOSE.
5. SEE PLUMBING DWG NO P14-102 FOR CONTINUATION OF PIPING WITHIN THE BUILDING.
6. EXISTING PILES REMAIN WITHIN LIMITS OF FORMER BUILDING. REFER TO DEMOLITION NOTE 2 ON GG-011.
7. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT THE PRECAST STRUCTURE OVER THE EXISTING PIPE OR REMOVE A SECTION OF EXISTING PIPE AND REPLACE A PORTION WITH NEW IN KIND PIPE MATERIAL. THE CONTRACTOR SHALL BYPASS PUMP STORM DRAINAGE FLOWS AROUND THE STRUCTURE DURING ITS REPLACEMENT IN ACCORDANCE WITH SECTION 33 49 00.



**KEY PLAN**



4/1/2015 2:47:09 PM T:\18965-NHRY\FIC\DOT\_Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\20\_UPLN\_3010088\_UD-003.dgn

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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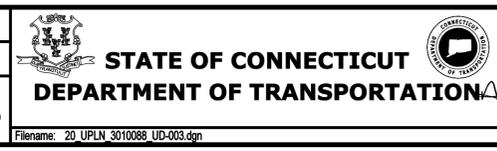
DESIGNER/DRAFTER:  
**JFK/JLD**

CHECKED BY:  
**WPD**

SCALE IN FEET

0 30 60

SCALE 1"=30'



SIGNATURE OF PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:

**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

TOWN:

**NEW HAVEN**

DRAWING TITLE:

**DRAINAGE  
PLAN-3**

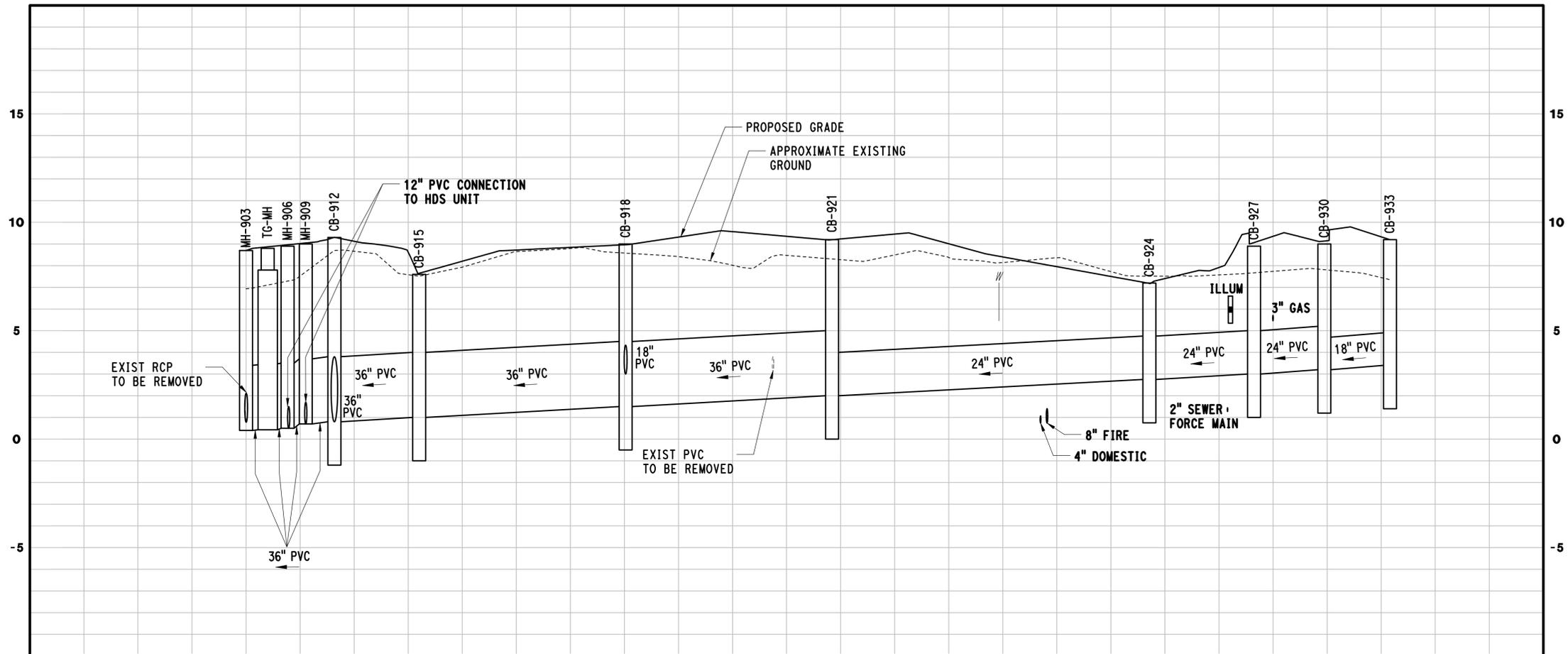
PROJECT NO.  
**301-0124**

DRAWING NO.  
**UD-003**

SHEET NO.  
**05.14**



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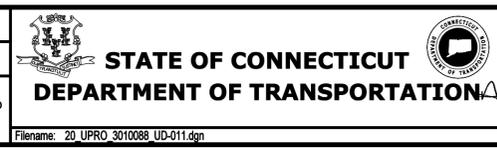


**NOTE:**  
 ELEVATIONS FOR EXISTING PIPING SHOWN IN THE PROFILES ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL LOCATIONS AND ELEVATIONS, FOR POSSIBLE LINE AND GRADE CONFLICTS. ALL REQUIRED TEST PITS SHALL, WITH THE APPROVAL OF THE ENGINEER, BE EXCAVATED BEFORE COMMENCING THE PIPE INSTALLATION. IF REQUIRED, THE ENGINEER SHALL REVISE THE DESIGN AND ISSUE REVISED PLANS, WITHIN TEN (10) DAYS FROM RECEIVING THE TEST PIT INFORMATION.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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DESIGNER/DRAFTER:  
**JFK/DCA**  
 CHECKED BY:  
**WPD**  
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 VERT. SCALE IN FEET  
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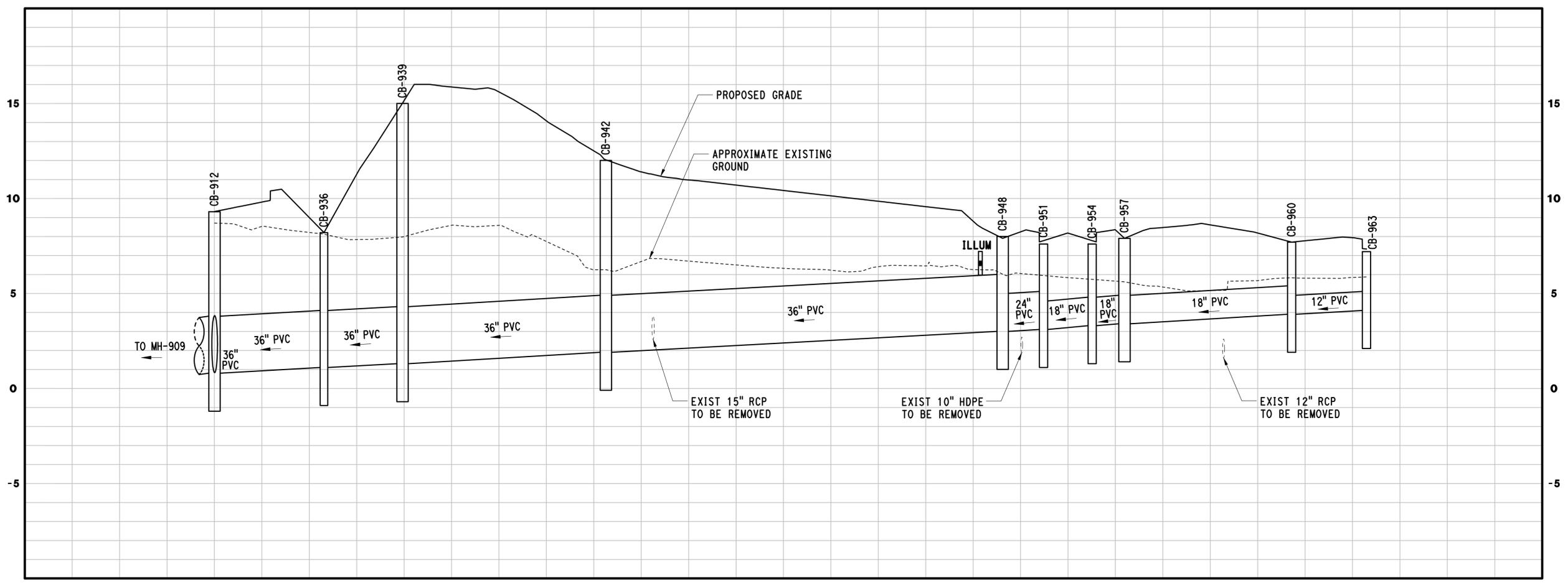
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 BLOOMFIELD, CT  
 PARSONS BRINCKERHOFF  
 GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
 FACILITIES IMPROVEMENTS  
 MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**  
 DRAWING TITLE:  
**DRAINAGE  
 PROFILES**

PROJECT NO.  
**301-0124**  
 DRAWING NO.  
**UD-011**  
 SHEET NO.  
**05.16**

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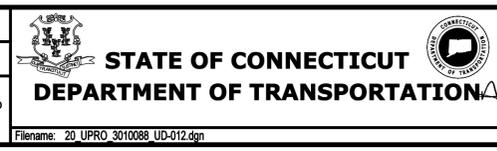


**NOTE:**  
 ELEVATIONS FOR EXISTING PIPING SHOWN IN THE PROFILES ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL LOCATIONS AND ELEVATIONS, FOR POSSIBLE LINE AND GRADE CONFLICTS. ALL REQUIRED TEST PITS SHALL, WITH THE APPROVAL OF THE ENGINEER, BE EXCAVATED BEFORE COMMENCING THE PIPE INSTALLATION. IF REQUIRED, THE ENGINEER SHALL REVISE THE DESIGN AND ISSUE REVISED PLANS, WITHIN TEN (10) DAYS FROM RECEIVING THE TEST PIT INFORMATION.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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DESIGNER/DRAFTER:  
**JFK/DCA**  
 CHECKED BY:  
**WPD**  
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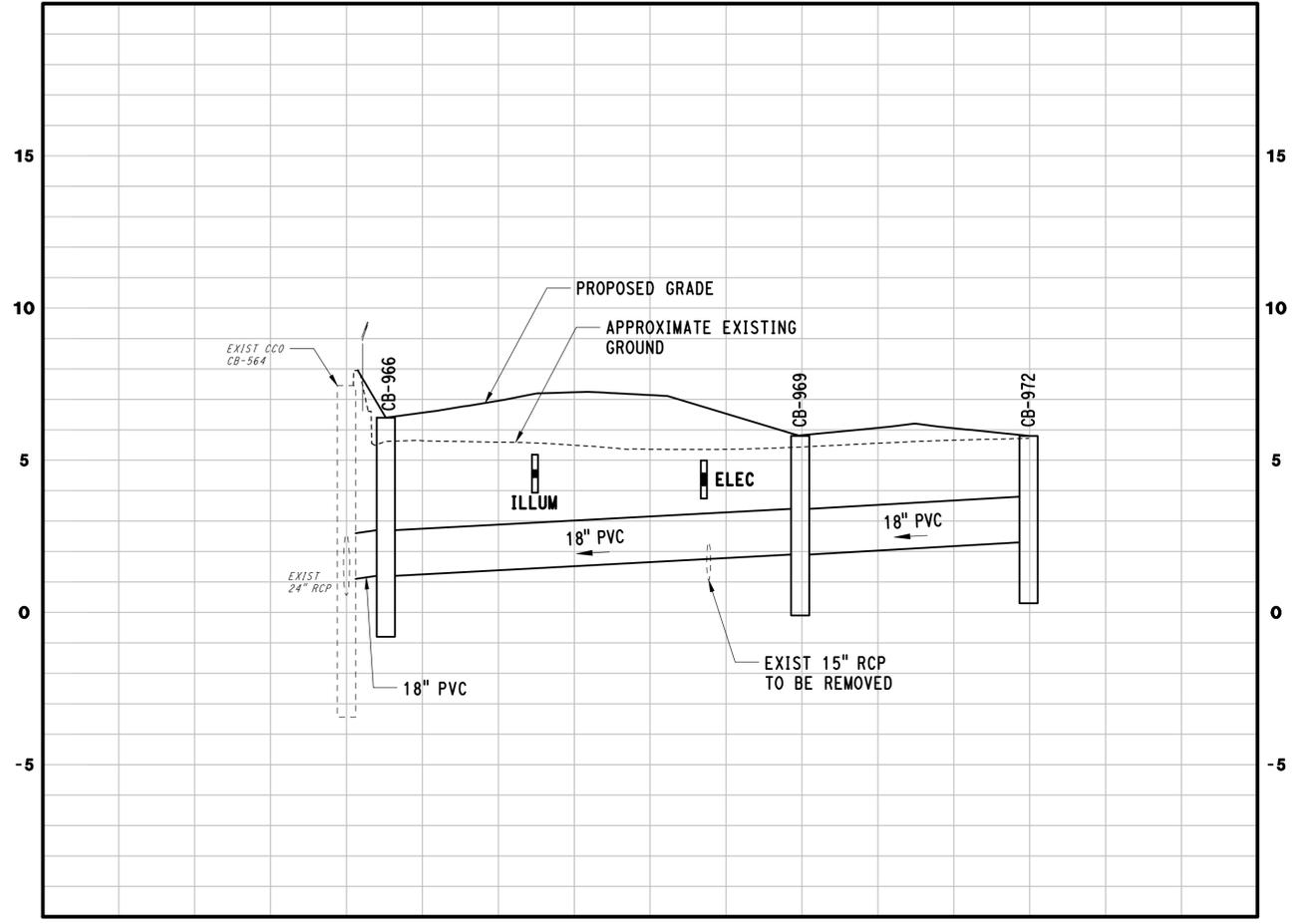


SIGNATURE:  
 BLOCK: [Signature]  
 STATE OF CONNECTICUT  
 REGISTERED PROFESSIONAL ENGINEER  
 PARSONS BRINCKERHOFF  
 GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
 FACILITIES IMPROVEMENTS  
 MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**  
 DRAWING TITLE:  
**DRAINAGE  
 PROFILES**

PROJECT NO.  
**301-0124**  
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**UD-012**  
 SHEET NO.  
**05.17**



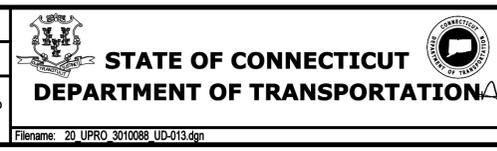
**NOTE:**  
 ELEVATIONS FOR EXISTING PIPING SHOWN IN THE PROFILES ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL LOCATIONS AND ELEVATIONS, FOR POSSIBLE LINE AND GRADE CONFLICTS. ALL REQUIRED TEST PITS SHALL, WITH THE APPROVAL OF THE ENGINEER, BE EXCAVATED BEFORE COMMENCING THE PIPE INSTALLATION. IF REQUIRED, THE ENGINEER SHALL REVISE THE DESIGN AND ISSUE REVISED PLANS, WITHIN TEN (10) DAYS FROM RECEIVING THE TEST PIT INFORMATION.

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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DESIGNER/DRAFTER:  
**JFK/DCA**  
 CHECKED BY:  
**WPD**  
 HORIZ. SCALE IN FEET  
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 VERT. SCALE IN FEET  
 0 3 6



SIGNATURE:  
 BLOOMFIELD, CT  
 STATE OF CONNECTICUT  
 REGISTERED PROFESSIONAL ENGINEER  
 PARSONS BRINCKERHOFF  
 GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
 FACILITIES IMPROVEMENTS  
 MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**  
 DRAWING TITLE:  
**DRAINAGE  
 PROFILES**

PROJECT NO.  
**301-0124**  
 DRAWING NO.  
**UD-013**  
 SHEET NO.  
**05.18**

3/29/2015 4:21:09 PM T:\18965-NHRY\FIC\DOT\_Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\00\_UMTS\_3010088\_UD-020.dgn

STRUCTURE ID	STRUCTURE TYPE	TF ELEV	PIPES				COORDINATES AT CENTER	
			INVERT IN	TYPE	INVERT OUT	TYPE	NORTHING	EASTING
CB-900	TYPE "C-L" CATCH BASIN, DOUBLE GRATE TYPE II	7.10	0.20	36" PVC	0.20	36" PVC	668493.68	952931.95
MH-903	MANHOLE - 6' DIAMETER	8.70	1.40	15" PVC	0.40	36" PVC	668463.58	952906.10
			0.40	36" PVC				
MH-TG	TIDE GATE MANHOLE	8.80	0.45	36" PVC	0.45	36" PVC	668471.42	952899.89
MH-906	MANHOLE - 6' DIAMETER	8.90	0.50	12" PVC	0.50	36" PVC	668479.04	952893.86
			0.50	36" PVC				
MH-909	SPECIAL MANHOLE - 6' DIAMETER	9.00	0.70	36" PVC	0.70	12" PVC	668485.23	952888.96
					0.70	36" PVC		
CB-912	SPECIAL ROUND TYPE "C-L" CATCH BASIN, DOUBLE GRATE TYPE II OVER 10' DEEP	9.30	0.80	36" PVC	0.80	36" PVC	668495.59	952880.71
			0.80	36" PVC				
CB-915	TYPE "C-L" CATCH BASIN, DOUBLE GRATE TYPE II	7.60	1.00	36" PVC	1.00	36" PVC	668463.87	952857.68
CB-918	TYPE "C-L" CATCH BASIN, DOUBLE GRATE TYPE II OVER 10' DEEP	9.00	3.00	15" PVC	1.50	36" PVC	668519.89	952780.33
			1.50	36" PVC				
CB-921	TYPE "C-L" CATCH BASIN, DOUBLE GRATE TYPE II	9.20	2.00	24" PVC	2.00	36" PVC	668575.91	952702.99
CB-924	TYPE "C-L" CATCH BASIN, DOUBLE GRATE TYPE II	7.20	2.75	24" PVC	2.75	24" PVC	668662.23	952584.33
CB-927	SPECIAL ROUND TYPE "C" CATCH BASIN, DOUBLE GRATE TYPE II	8.90	3.00	24" PVC	3.00	24" PVC	668693.32	952547.25
CB-930	TYPE "C" CATCH BASIN, DOUBLE GRATE TYPE II	9.00	3.20	18" PVC	3.20	24" PVC	668722.12	952532.14
CB-933	TYPE "C-L" CATCH BASIN, DOUBLE GRATE TYPE II	9.20	-	-	3.40	18" PVC	668749.95	952520.02
CB-936	TYPE "C-L" CATCH BASIN, DOUBLE GRATE TYPE II	8.20	1.10	36" PVC	1.10	36" PVC	668542.24	952914.69
MH-939	MANHOLE - 6' DIAMETER OVER 10' DEEP	15.00	1.30	36" PVC	1.30	36" PVC	668575.73	952939.08
MH-942	MANHOLE - 6' DIAMETER OVER 10' DEEP	12.00	1.90	36" PVC	1.90	36" PVC	668675.22	952978.97
MH-945	MANHOLE	10.40	3.30	15" CI	3.30	15" PVC	668543.77	952793.61
CB-948	SPECIAL ROUND TYPE "C-L" CATCH BASIN, DOUBLE GRATE TYPE II	8.00	3.00	24" PVC	3.00	36" PVC	668873.48	952912.19

REV	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 3/29/2015

DESIGNER/DRAFTER:  
**JFK / JLD**

CHECKED BY:  
**WPD**



SIGNATURE:  
BLOOMINGTON, CT  
PARSONS BRINCKERHOFF  
GLASTONBURY, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**

DRAWING TITLE:  
**DRAINAGE  
DATA TABLE**

PROJECT NO.  
**301-0124**

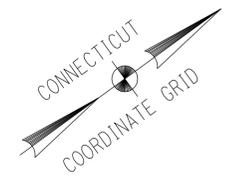
DRAWING NO.  
**UD-020**

SHEET NO.  
**05.19**

Filename: 20\_UMTS\_3010088\_UD-020.dgn







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G-2	668709.57	952560.73
G-3	668645.97	952648.28
G-4	668684.04	952675.93
G-5	668685.15	952682.97
GAS METER	668702.05	952695.25
G-6	668739.99	952722.81
G-7	668732.18	952733.56

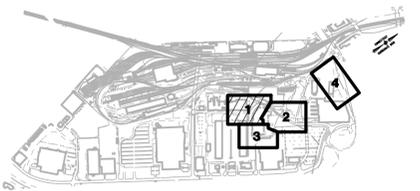
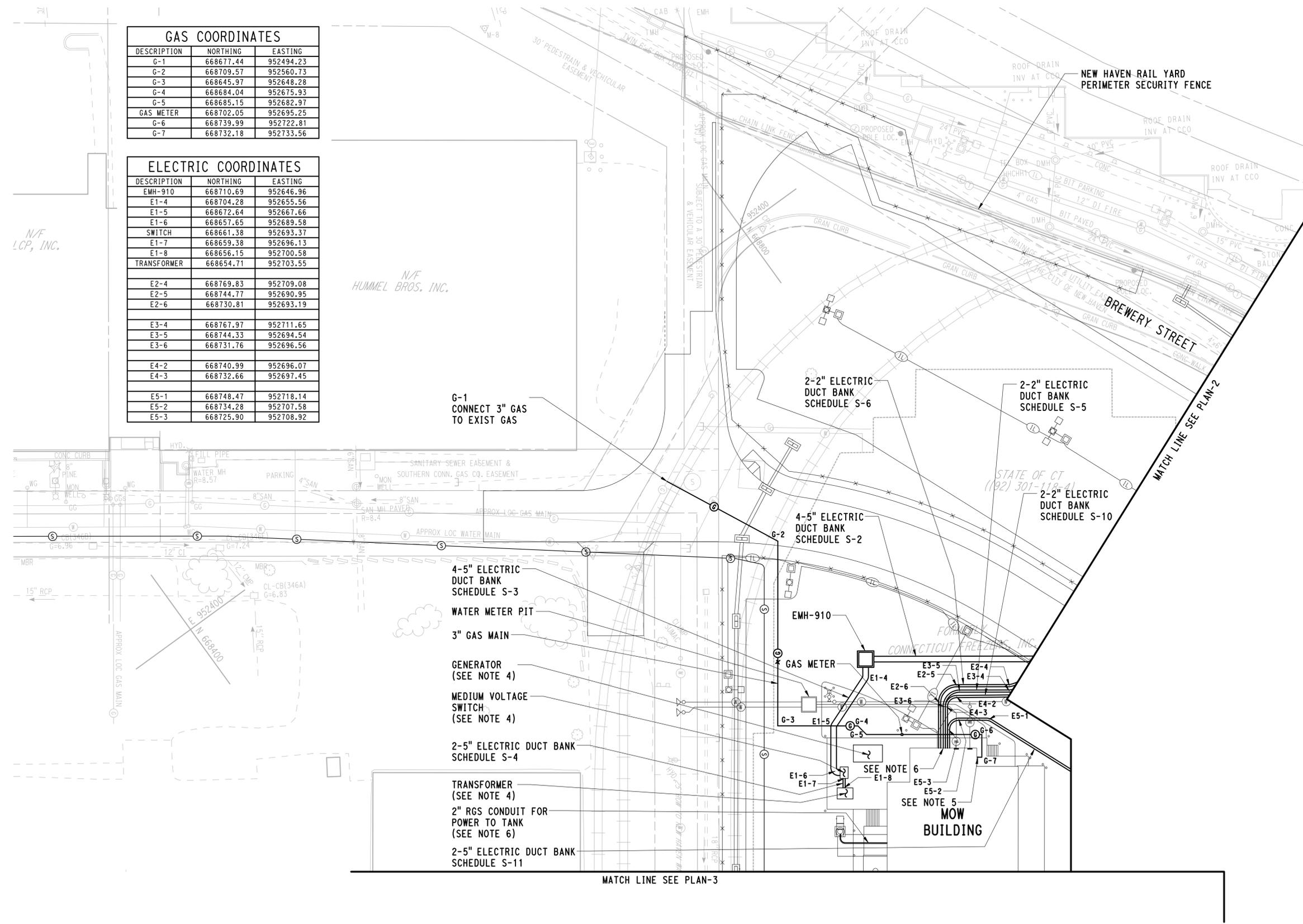
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DESCRIPTION	NORTHING	EASTING
EMH-910	668710.69	952646.96
E1-4	668704.28	952655.56
E1-5	668672.64	952667.66
E1-6	668657.65	952689.58
SWITCH	668661.38	952693.37
E1-7	668659.38	952696.13
E1-8	668656.15	952700.58
TRANSFORMER	668654.71	952703.55
E2-4	668769.83	952709.08
E2-5	668744.77	952690.95
E2-6	668730.81	952693.19
E3-4	668767.97	952711.65
E3-5	668744.33	952694.54
E3-6	668731.76	952696.56
E4-2	668740.99	952696.07
E4-3	668732.66	952697.45
E5-1	668748.47	952718.14
E5-2	668734.28	952707.58
E5-3	668725.90	952708.92

**LEGEND**

- SANITARY SEWER
- WATER LINE
- GAS LINE
- ILLUMINATION LINE
- ELECTRICAL DUCT BANK
- ELECTRICAL OVERHEAD WIRES
- MANHOLE
- ELECTRIC VAULT

**NOTES:**

1. REFER TO DWG NO UE-000 FOR ELECTRIC AND GAS GENERAL NOTES.
2. REFER TO RESPECTIVE UTILITY PLANS FOR PROPOSED SANITARY, WATER, STORM DRAINAGE, SITE ILLUMINATION AND SITE COMMUNICATIONS SYSTEMS.
3. CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS OUTSIDE OF LIMITS OF NEW WORK TO ORIGINAL CONDITIONS. REFER TO CIVIL DRAWINGS.
4. COORDINATE ALL SITE ELECTRICAL WORK WITH BUILDING SYSTEMS ELECTRICAL DRAWINGS.
5. REFER TO DWG NO P14-101 FOR CONTINUATION OF GAS PIPING WITHIN THE BUILDING.
6. REFER TO DWG NO E14-002 FOR CONTINUATION OF ELECTRIC SERVICE WITHIN THE BUILDING.



**KEY PLAN**

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 4/1/2015

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.

DESIGNER/DRAFTER:  
**JL/ MR**

CHECKED BY:  
**RG**

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SCALE 1"=30'



SIGNATURE/BLOCK:  
 AI ENGINEERS, INC  
MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

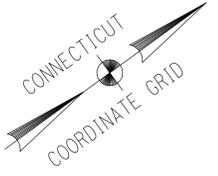
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**NEW HAVEN**

DRAWING TITLE:  
**ELECTRIC AND GAS  
PLAN-1**

PROJECT NO.  
**301-0124**

DRAWING NO.  
**UE-001**

SHEET NO.  
**05.22**

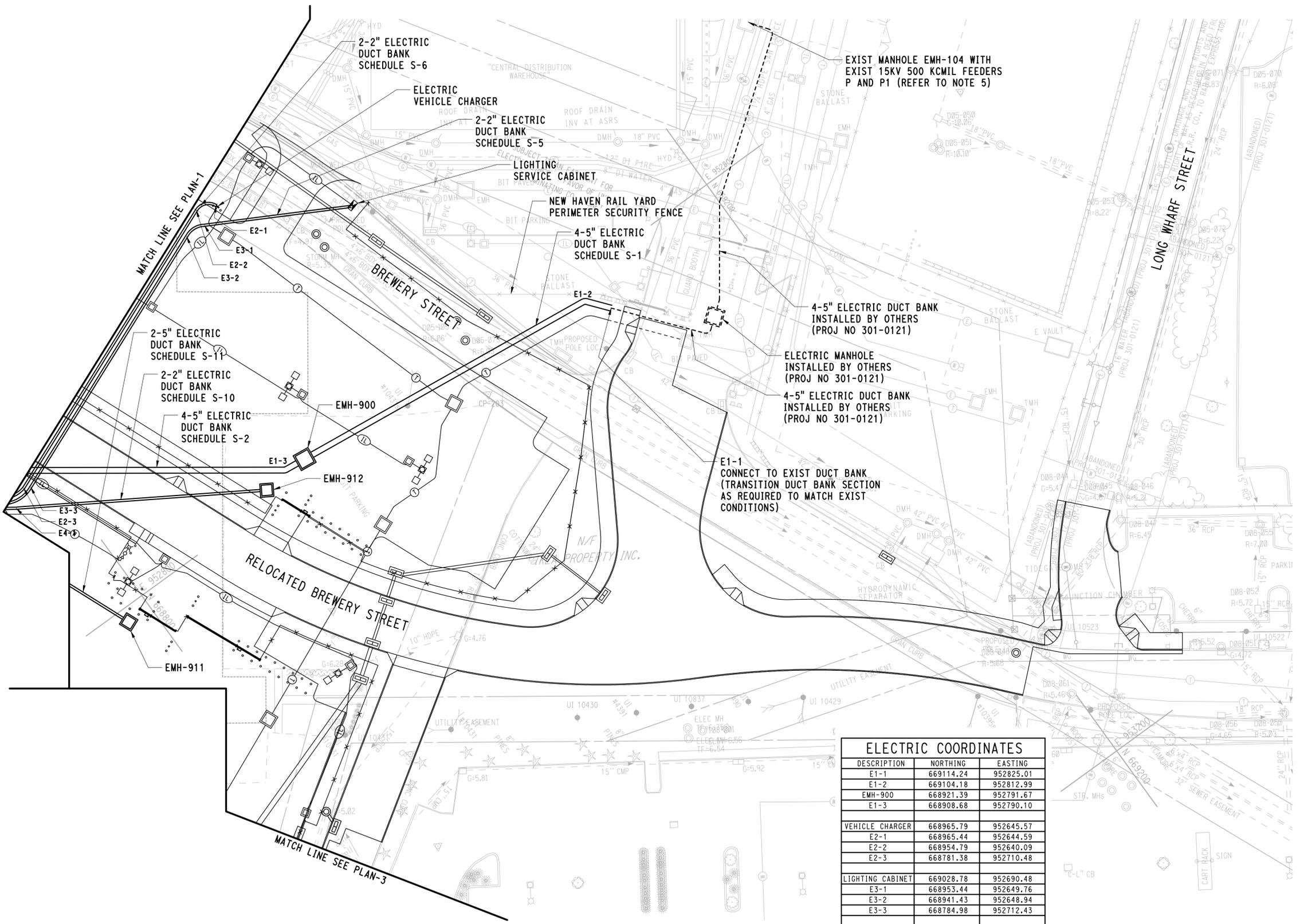


**LEGEND**

- SANITARY SEWER
- WATER LINE
- GAS LINE
- ILLUMINATION LINE
- ELECTRICAL DUCT BANK
- ELECTRICAL OVERHEAD WIRES
- MANHOLE
- ELECTRIC VAULT

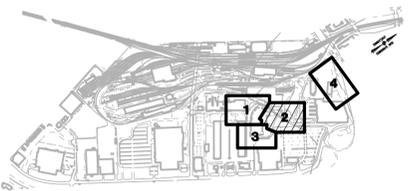
**NOTES:**

1. REFER TO DRAWING UE-000 FOR ELECTRIC AND GAS GENERAL NOTES.
2. REFER TO RESPECTIVE UTILITY PLANS FOR PROPOSED SANITARY, WATER, STORM DRAINAGE, SITE ILLUMINATION AND SITE COMMUNICATIONS SYSTEMS.
3. CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS OUTSIDE OF LIMITS OF NEW WORK TO ORIGINAL CONDITIONS. REFER TO CIVIL DRAWINGS.
4. COORDINATE ALL SITE ELECTRICAL WORK WITH BUILDING SYSTEMS ELECTRICAL DRAWINGS.
5. INTERCEPT EXISTING P AND P1 FEEDERS IN MANHOLE EM-104 WITH SEPARABLE 600A DUCT DEAD BREAK "T" TAPS. PROVIDE NEW 15KV 500 KCMIL FEEDERS FROM TAPS TO MOW MEDIUM VOLTAGE SWITCH. CONTRACTOR SHALL COORDINATE WITH MNRR FOR THIS WORK.



E1-1  
CONNECT TO EXIST DUCT BANK  
(TRANSITION DUCT BANK SECTION  
AS REQUIRED TO MATCH EXIST  
CONDITIONS)

ELECTRIC COORDINATES		
DESCRIPTION	NORTHING	EASTING
E1-1	669114.24	952825.01
E1-2	669104.18	952812.99
EMH-900	668921.39	952791.67
E1-3	668908.68	952790.10
<b>VEHICLE CHARGER</b>		
E2-1	668965.44	952644.59
E2-2	668954.79	952640.09
E2-3	668781.38	952710.48
<b>LIGHTING CABINET</b>		
E3-1	668953.44	952649.76
E3-2	668941.43	952648.94
E3-3	668784.98	952712.43
<b>EMH-912</b>		
E4-1	668893.42	952793.30
EMH-911	668771.07	952711.33



**KEY PLAN**

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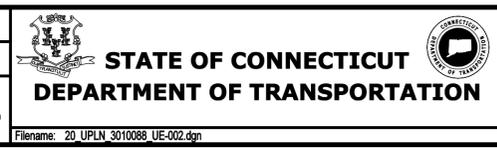
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER:  
**JL/ MR**

CHECKED BY:  
**RG**

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SCALE 1"=30'



SIGNATURE/BLOCK:  
**AI ENGINEERS, INC  
MIDDLETOWN, CT**

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

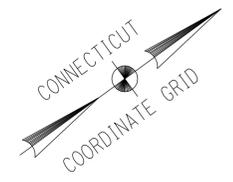
TOWN:  
**NEW HAVEN**

DRAWING TITLE:  
**ELECTRIC AND GAS  
PLAN-2**

PROJECT NO.  
**301-0124**

DRAWING NO.  
**UE-002**

SHEET NO.  
**05.23**



MATCH LINE SEE PLAN-1

2-2" ELECTRIC DUCT BANK (SEE NOTE 6)

ELECTRIC VEHICLE CHARGER

2-2" ELECTRIC DUCT BANK SCHEDULE S-7

MOW BUILDING

SEE NOTE 5  
SEE NOTE 5

MATCH LINE SEE PLAN-2

2" RGS CONDUIT FOR POWER TO TANK (SEE NOTE 5)

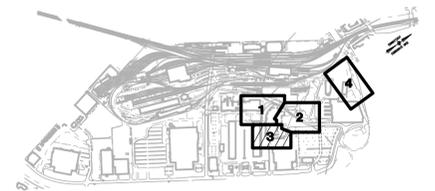
**LEGEND**

	SANITARY SEWER
	WATER LINE
	GAS LINE
	ILLUMINATION LINE
	ELECTRICAL DUCT BANK
	ELECTRICAL OVERHEAD WIRES
	MANHOLE
	ELECTRIC VAULT

- NOTES:**
- REFER TO DRAWING UE-000 FOR ELECTRIC AND GAS GENERAL NOTES.
  - REFER TO RESPECTIVE UTILITY PLANS FOR PROPOSED SANITARY, WATER, STORM DRAINAGE, SITE ILLUMINATION AND SITE COMMUNICATIONS SYSTEMS.
  - CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS OUTSIDE OF LIMITS OF NEW WORK TO ORIGINAL CONDITIONS. REFER TO CIVIL DRAWINGS.
  - COORDINATE ALL SITE ELECTRICAL WORK WITH BUILDING SYSTEMS ELECTRICAL DRAWINGS.
  - REFER TO DWG NO E14-002 FOR CONTINUATION OF ELECTRIC SERVICE WITHIN THE BUILDING.
  - PROVIDE 2-2" ELECTRIC DUCT BANK FROM SANITARY PUMP STATION WET WELL POWER AND CONTROL JUNCTION BOXES TO LIFT CONTROL STATION LOCATED IN ROOM 104. REFER TO DRAWING E14-106 FOR PANEL LOCATION. DUCT BANK ROUTES THRU BUILDING FOUNDATION WALL BELOW GRADE AND SHALL BE INSTALLED UNDER THE FLOOR SLAB TO BELOW ROOM 104. TURN CONDUIT VERTICAL OUT OF CONCRETE ENCASUREMENT AND RISE VERTICALLY UP THRU FLOOR SLAB TO CONTROL PANEL. PROVIDE VERTICAL EXPANSION FITTINGS IN BELOW FLOOR SLAB PENETRATION. TERMINATE DUCT BANK AT OUTER WALL OF WET WELL AND EXTEND CONDUIT THRU WALL TO POWER AND CONTROL JUNCTION BOXES PROVIDED BY PUMP STATION MANUFACTURER. PROVIDE MECHANICAL MODULAR SEAL (LINKSEAL) AT WALL PENETRATIONS. PROVIDE 2 SETS 3#8 + 1#10G FROM PANEL TO POWER JUNCTION BOX FOR PUMP POWER. PROVIDE 2 SETS OF 18/5 CABLE + 10#14 FROM PANEL TO CONTROL JUNCTION BOX FOR CONTROL CONNECTIONS.

**ELECTRIC COORDINATES**

DESCRIPTION	NORTHING	EASTING
E6-1	668558.41	952821.86
E6-2	668559.52	952827.53
VEHICLE CHARGER	668557.18	952848.11
E7-1	668557.56	952848.08
E7-2	668559.35	952849.12
E7-3	668568.03	952848.20



**KEY PLAN**

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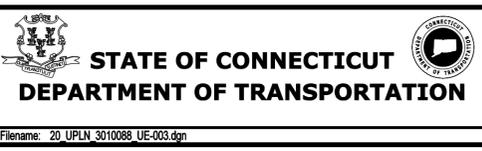
REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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DESIGNER/DRAFTER:  
**JL/ MR**

CHECKED BY:  
**RG**

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SCALE 1"=30'



SIGNATURE/BLOCK:

AI ENGINEERS, INC  
MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**

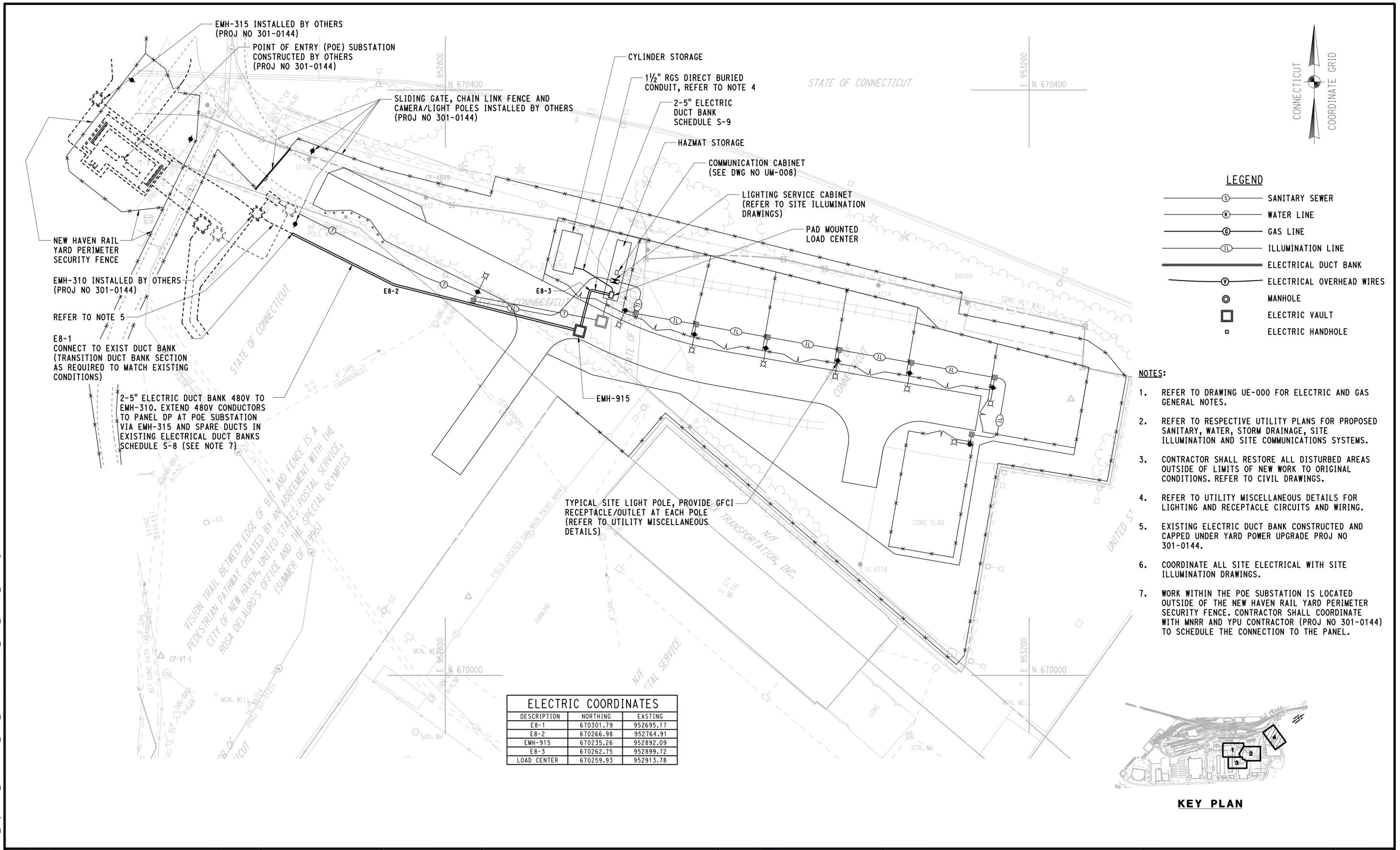
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**ELECTRIC AND GAS PLAN-3**

PROJECT NO.  
**301-0124**

DRAWING NO.  
**UE-003**

SHEET NO.  
**05.24**

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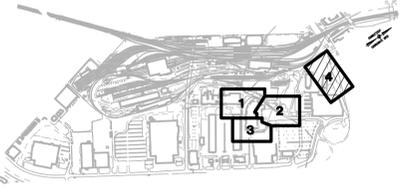
**LEGEND**

	SANITARY SEWER
	WATER LINE
	GAS LINE
	ILLUMINATION LINE
	ELECTRICAL DUCT BANK
	ELECTRICAL OVERHEAD WIRES
	MANHOLE
	ELECTRIC VAULT
	ELECTRIC HANDHOLE

- NOTES:**
- REFER TO DRAWING UE-000 FOR ELECTRIC AND GAS GENERAL NOTES.
  - REFER TO RESPECTIVE UTILITY PLANS FOR PROPOSED SANITARY, WATER, STORM DRAINAGE, SITE ILLUMINATION AND SITE COMMUNICATIONS SYSTEMS.
  - CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS OUTSIDE OF LIMITS OF NEW WORK TO ORIGINAL CONDITIONS. REFER TO CIVIL DRAWINGS.
  - REFER TO UTILITY MISCELLANEOUS DETAILS FOR LIGHTING AND RECEPTACLE CIRCUITS AND WIRING.
  - EXISTING ELECTRICAL DUCT BANK CONSTRUCTED AND CAPPED UNDER YARD POWER UPGRADE PROJ NO 301-0144.
  - COORDINATE ALL SITE ELECTRICAL WITH SITE ILLUMINATION DRAWINGS.
  - WORK WITHIN THE POE SUBSTATION IS LOCATED OUTSIDE OF THE NEW HAVEN RAIL YARD PERIMETER SECURITY FENCE. CONTRACTOR SHALL COORDINATE WITH MNRR AND YPU CONTRACTOR (PROJ NO 301-0144) TO SCHEDULE THE CONNECTION TO THE PANEL.

**ELECTRIC COORDINATES**

DESCRIPTION	NORTHING	EASTING
E8-1	670301.79	952695.17
E8-2	670266.98	952764.91
EMH-915	670235.26	952892.09
E8-3	670262.75	952899.72
LOAD CENTER	670259.93	952913.78



**KEY PLAN**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 3/31/2015

DESIGNER/DRAFTER:  
**JL/MR**

CHECKED BY:  
**RG**

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SCALE 1"=30'

**STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**

Signature/Block:

AI ENGINEERS, INC  
MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**

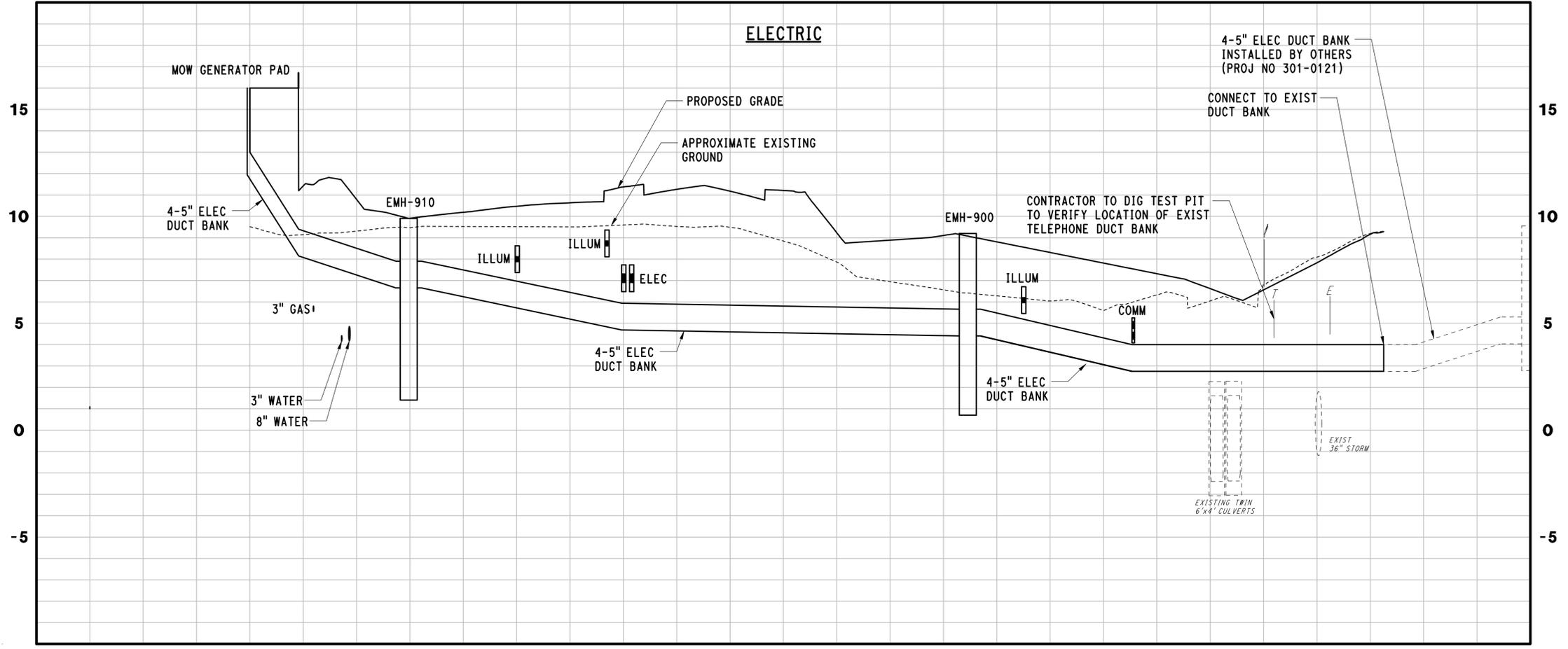
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**ELECTRIC AND GAS PLAN-4**

PROJECT NO.  
**301-0124**

DRAWING NO.  
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SHEET NO.  
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**NOTE:**  
 ELEVATIONS FOR EXISTING PIPING SHOWN IN THE PROFILES ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL LOCATIONS AND ELEVATIONS, FOR POSSIBLE LINE AND GRADE CONFLICTS. ALL REQUIRED TEST PITS SHALL, WITH THE APPROVAL OF THE ENGINEER, BE EXCAVATED BEFORE COMMENCING THE PIPE INSTALLATION. IF REQUIRED, THE ENGINEER SHALL REVISE THE DESIGN AND ISSUE REVISED PLANS, WITHIN TEN (10) DAYS FROM RECEIVING THE TEST PIT INFORMATION.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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DESIGNER/DRAFTER:  
**SG / AF**

CHECKED BY:  
**RG**

HORIZ. SCALE IN FEET  
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SIGNATURE/BLOCK: [Signature]

AI ENGINEERS, INC  
MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**

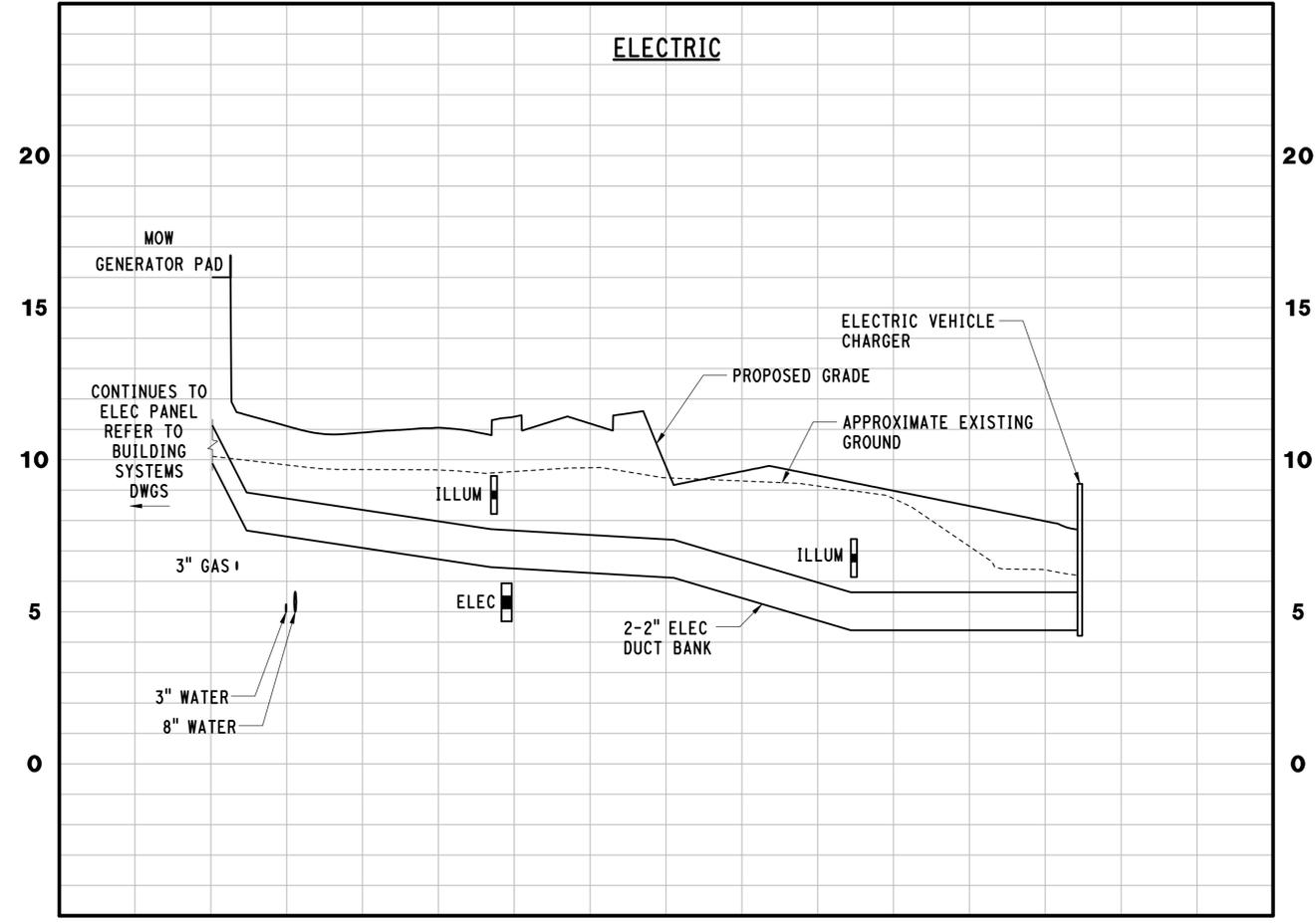
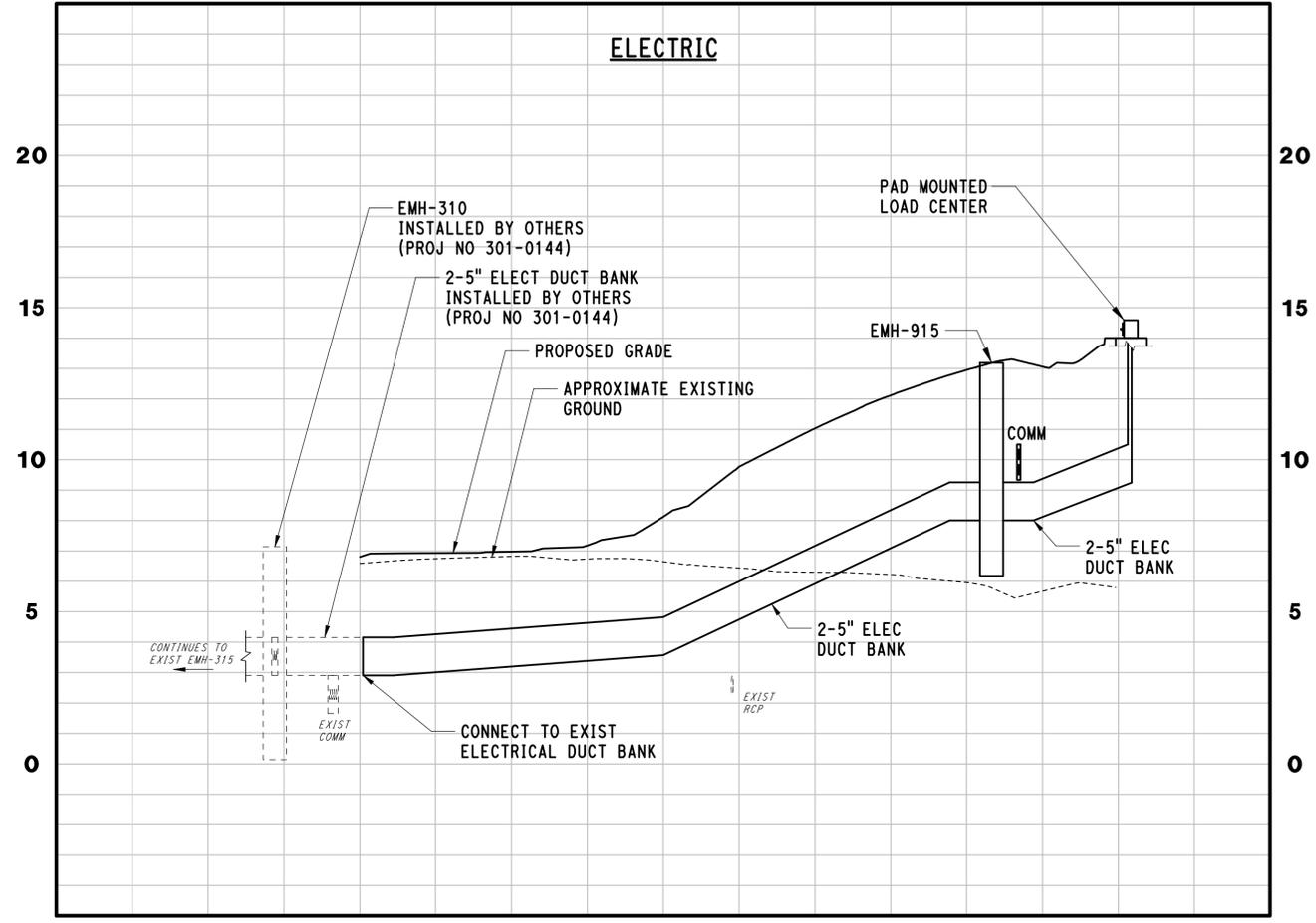
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**ELECTRIC AND GAS  
PROFILES**

PROJECT NO.  
**301-0124**

DRAWING NO.  
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SHEET NO.  
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**SG**

CHECKED BY:  
**RG**

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VERT. SCALE IN FEET  
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AI ENGINEERS, INC  
MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**

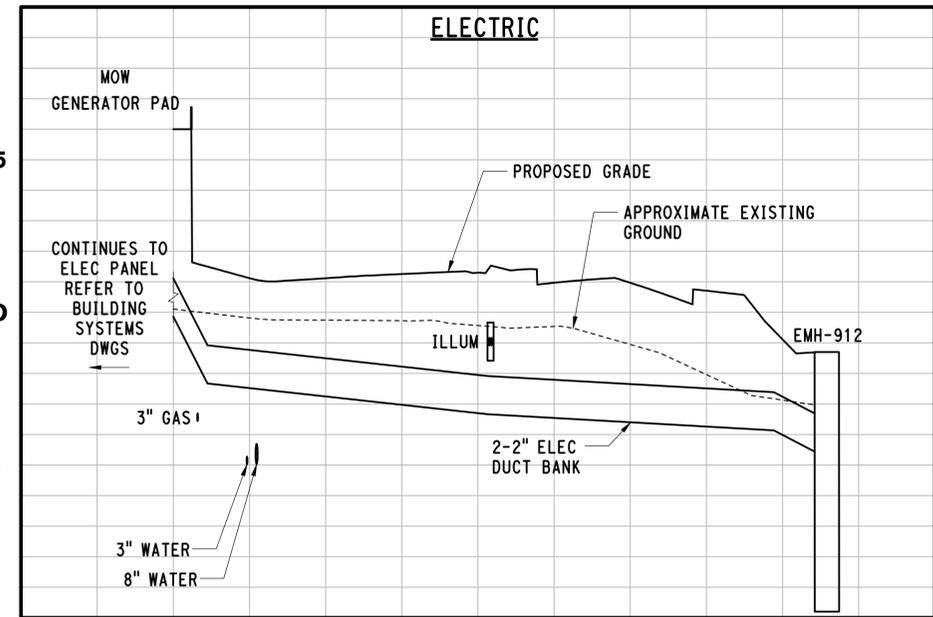
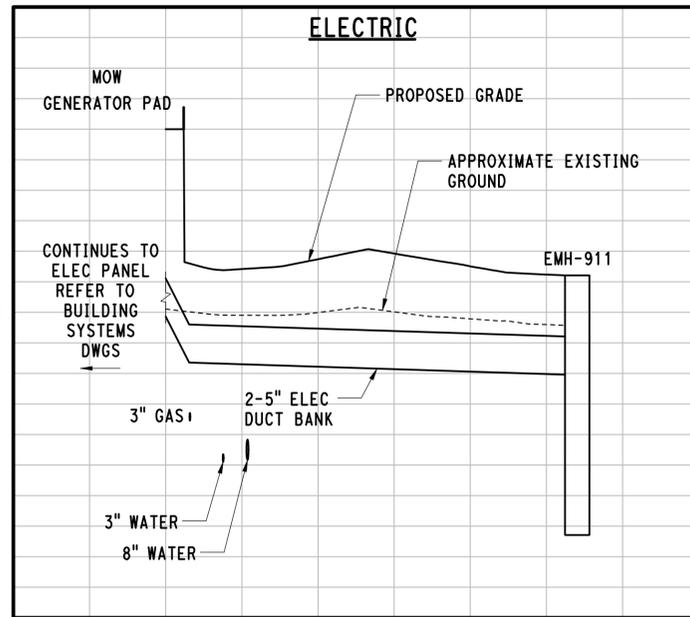
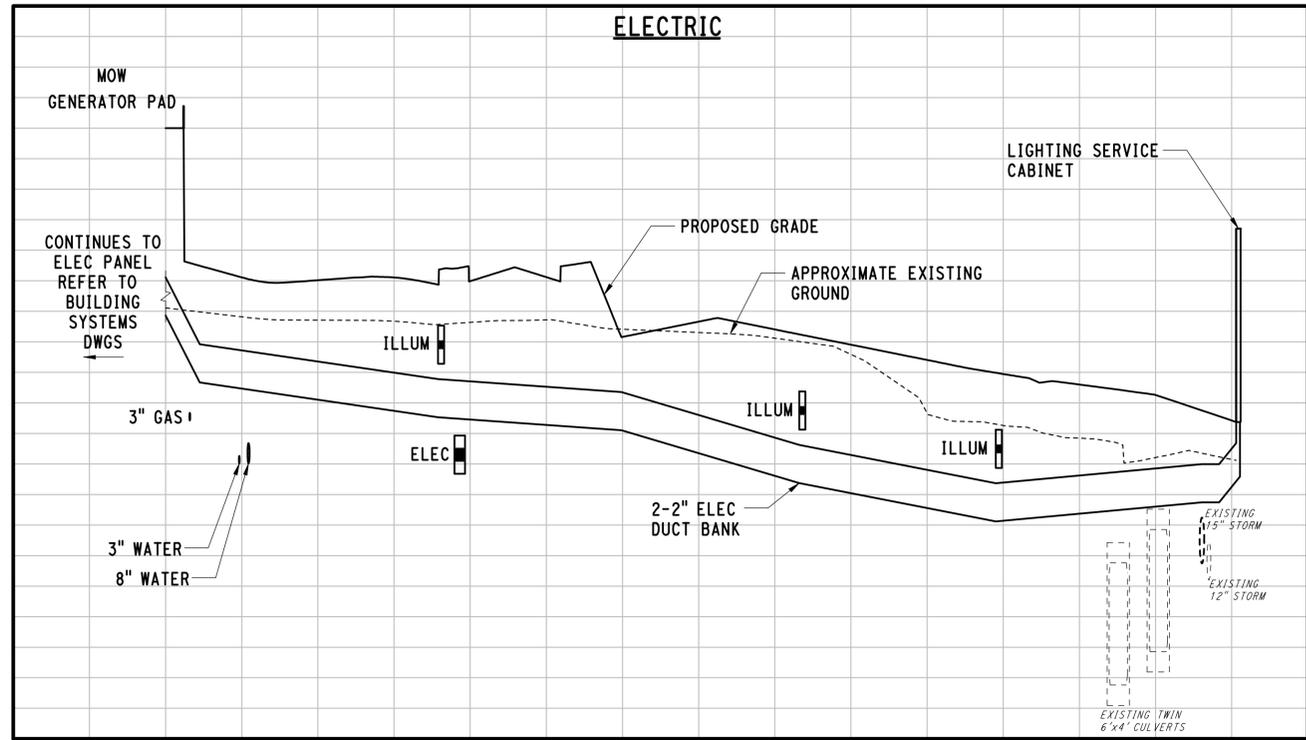
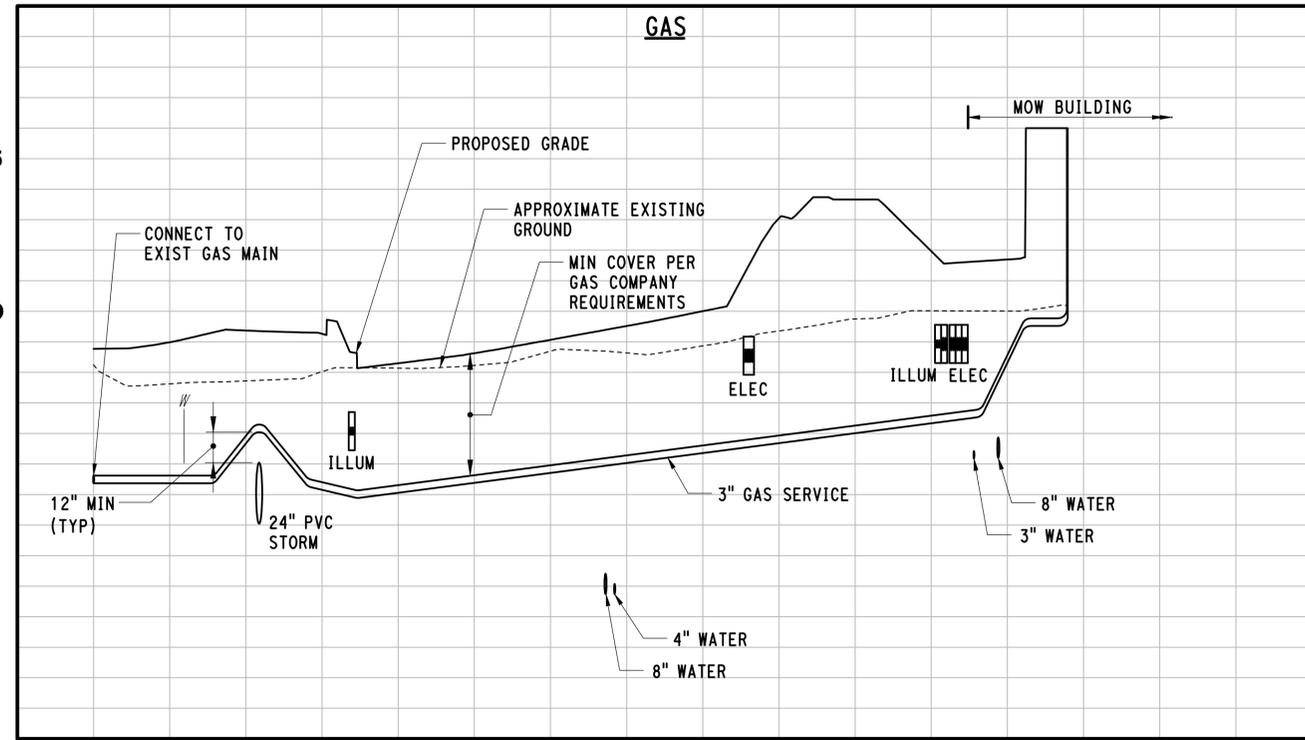
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PROFILES**

PROJECT NO.  
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**05.27**

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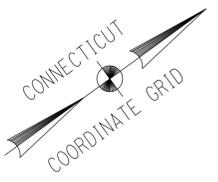
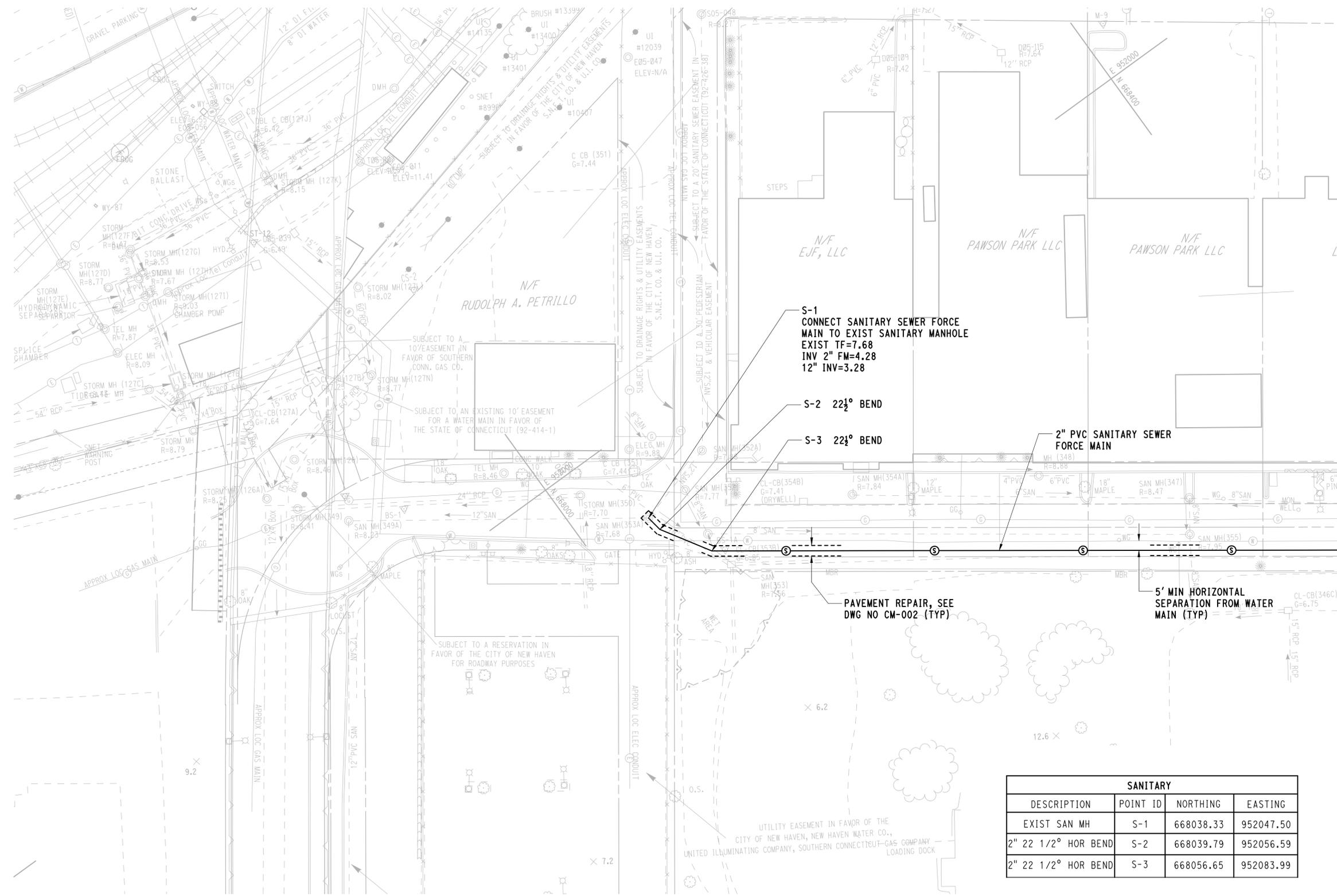


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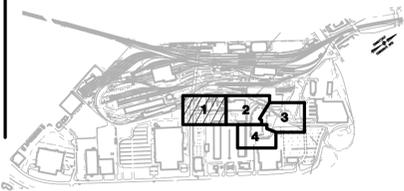


**LEGEND**

	SANITARY SEWER
	WATER LINE
	GAS LINE
	ELECTRICAL DUCT BANK
	ELECTRICAL OVERHEAD WIRES
	MANHOLE

- NOTES:**
- REFER TO DWG NO UW-000 FOR WATER AND SANITARY GENERAL NOTES.
  - REFER TO DWG NOS UW-011 AND UW-012 FOR SANITARY SEWER PROFILES.

SANITARY			
DESCRIPTION	POINT ID	NORTHING	EASTING
EXIST SAN MH	S-1	668038.33	952047.50
2" 22 1/2° HOR BEND	S-2	668039.79	952056.59
2" 22 1/2° HOR BEND	S-3	668056.65	952083.99

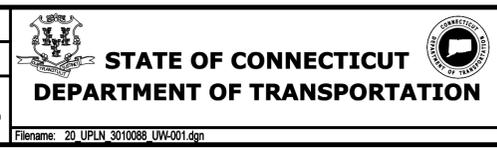


**KEY PLAN**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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DESIGNER/DRAFTER: **MR**  
 CHECKED BY: **RG**  
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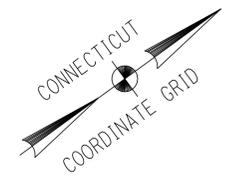
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AI ENGINEERS, INC  
MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
 FACILITIES IMPROVEMENTS  
 MAINTENANCE OF WAY BUILDING**

TOWN: **NEW HAVEN**  
 DRAWING TITLE:  
**WATER AND SANITARY  
 PLAN-1**

PROJECT NO.: **301-0124**  
 DRAWING NO.: **UW-001**  
 SHEET NO.: **05.30**

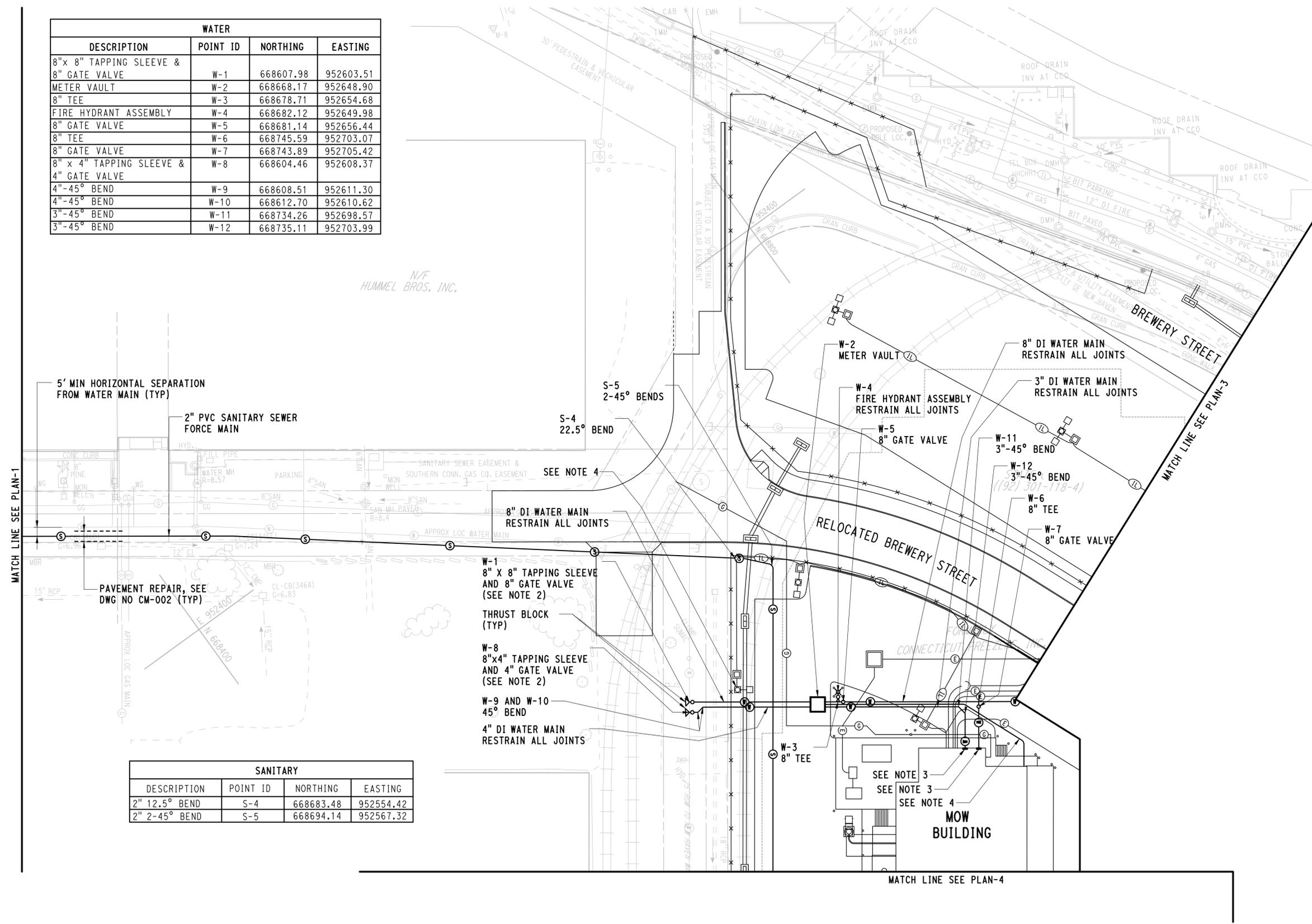


WATER			
DESCRIPTION	POINT ID	NORTHING	EASTING
8" x 8" TAPPING SLEEVE & 8" GATE VALVE	W-1	668607.98	952603.51
METER VAULT	W-2	668668.17	952648.90
8" TEE	W-3	668678.71	952654.68
FIRE HYDRANT ASSEMBLY	W-4	668682.12	952649.98
8" GATE VALVE	W-5	668681.14	952656.44
8" TEE	W-6	668745.59	952703.07
8" GATE VALVE	W-7	668743.89	952705.42
8" x 4" TAPPING SLEEVE & 4" GATE VALVE	W-8	668604.46	952608.37
4"-45° BEND	W-9	668608.51	952611.30
4"-45° BEND	W-10	668612.70	952610.62
3"-45° BEND	W-11	668734.26	952698.57
3"-45° BEND	W-12	668735.11	952703.99

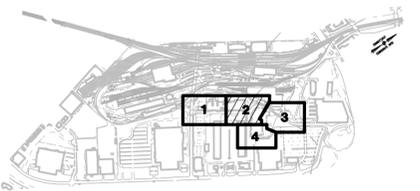
**LEGEND**

	SANITARY SEWER
	WATER LINE
	GAS LINE
	ELECTRICAL DUCT BANK
	ELECTRICAL OVERHEAD WIRES
	MANHOLE
	THRUST BLOCK

- NOTE:**
- REFER TO DRAWING UW-000 FOR WATER AND SANITARY GENERAL NOTES.
  - PRIOR TO START OF THE WATER MAIN INSTALLATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEST PIT EXCAVATIONS TO VERIFY DEPTH, SIZE AND MATERIAL OF THE EXISTING WATER MAIN AND SHALL COORDINATE ACTIVITIES WITH THE ENGINEER AND METRO NORTH REPRESENTATIVES.
  - REFER TO DWG NO P14-101 FOR CONTINUATION OF WATER PIPING WITHIN BUILDING.
  - ROUTE 2" RGS CONDUIT BELOW GRADE WITH MINIMUM COVER OF 36" FROM WATER METER PIT TO MOW BUILDING AT LOCATION INDICATED. EXTEND TO 60" AFF. SUPPORT VERTICAL CONDUIT FROM BUILDING WALL AND PROVIDE ATTACHMENTS AS REQUIRED. PROVIDE THREADED END ON CONDUIT AND THREADED END CAP. PROVIDE PULL LINE IN CONDUIT FOR FUTURE INSTALLATION OF REMOTE METER CONNECTIONS BY WATER AUTHORITY.
  - REFER TO DWG NO UW-010 FOR WATER MAIN PROFILE.
  - REFER TO DWG NOS UW-011 AND UW-012 FOR SANITARY SEWER PROFILE.



SANITARY			
DESCRIPTION	POINT ID	NORTHING	EASTING
2" 12.5° BEND	S-4	668683.48	952554.42
2" 2-45° BEND	S-5	668694.14	952567.32



**KEY PLAN**

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 4/12/2015

DESIGNER/DRAFTER: **MR**  
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 SCALE 1"=30'

**STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**

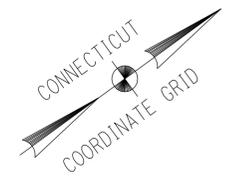
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AI ENGINEERS, INC  
 MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD**  
**FACILITIES IMPROVEMENTS**  
**MAINTENANCE OF WAY BUILDING**

TOWN: **NEW HAVEN**  
 DRAWING TITLE:  
**WATER AND SANITARY**  
**PLAN-2**

PROJECT NO. **301-0124**  
 DRAWING NO. **UW-002**  
 SHEET NO. **05.31**



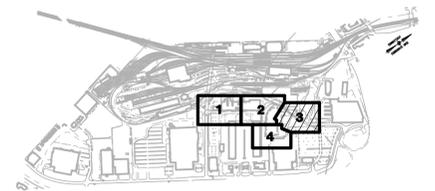
WATER MAIN			
UTILITY	POINT ID	NORTH	EAST
8"-22 1/2° BEND	W-15	668776.35	952725.32
8"-90° BEND	W-16	668801.71	952776.62
8" x 6" REDUCER	W-17	668803.91	952775.76
FIRE HYDRANT ASSEMBLY	W-18	668810.19	952773.37

**LEGEND**

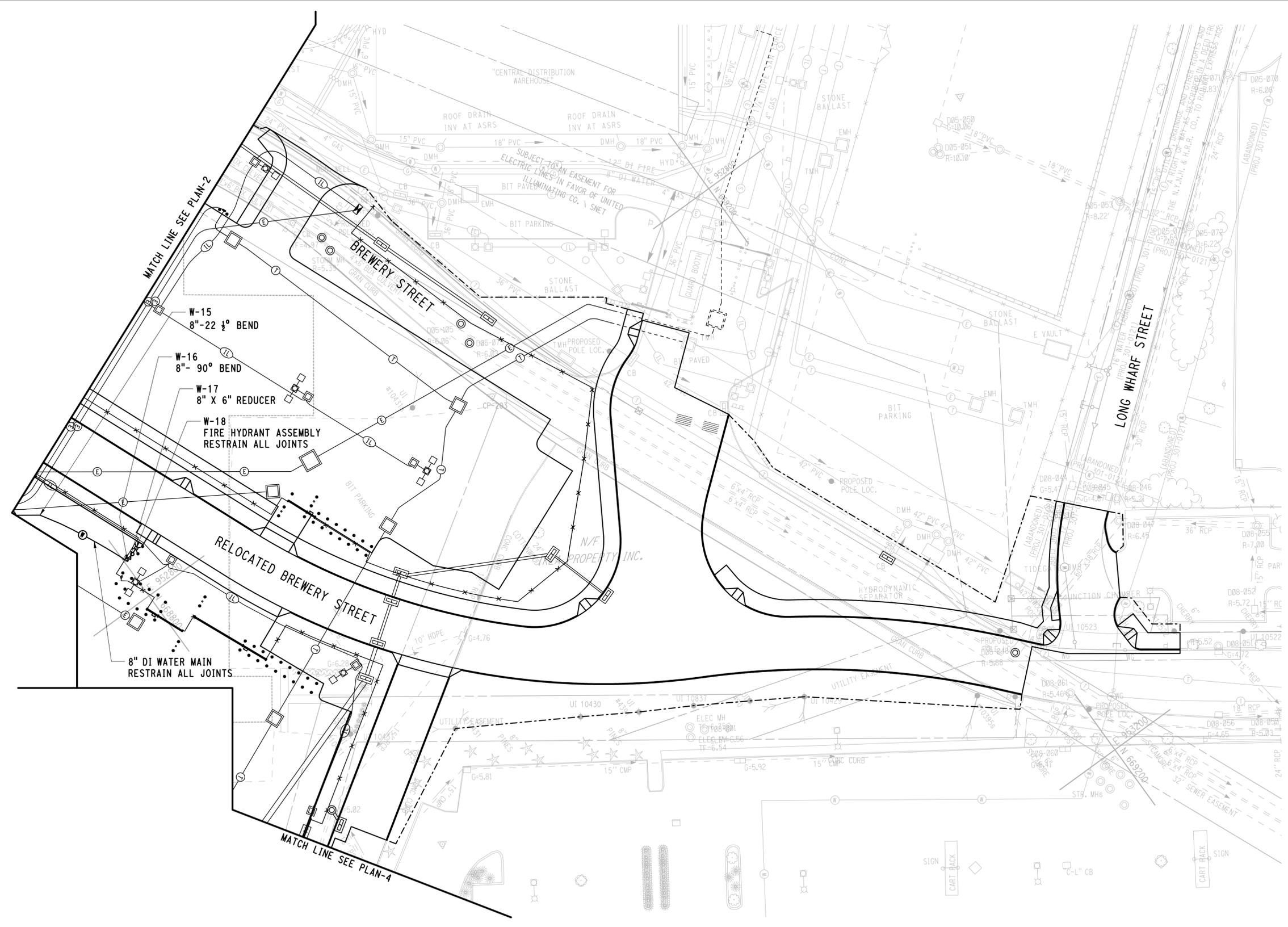
- SANITARY SEWER
- WATER LINE
- GAS LINE
- ELECTRICAL DUCT BANK
- ELECTRICAL OVERHEAD WIRES
- MANHOLE

**NOTES:**

1. REFER TO DWG NO UW-000 FOR WATER AND SANITARY GENERAL NOTES.
2. REFER TO DWG NO UW-010 FOR WATER MAIN PROFILE.



**KEY PLAN**

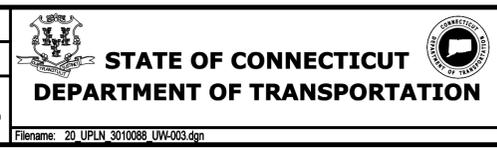


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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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DESIGNER/DRAFTER: **MR**  
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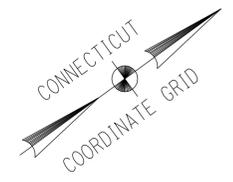


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 AI ENGINEERS, INC  
MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
 FACILITIES IMPROVEMENTS  
 MAINTENANCE OF WAY BUILDING**

TOWN: **NEW HAVEN**  
 DRAWING TITLE:  
**WATER AND SANITARY  
 PLAN-3**

PROJECT NO. **301-0124**  
 DRAWING NO. **UW-003**  
 SHEET NO. **05.32**



PROVIDE PUMP STATION EXTERIOR ALARM LIGHTS AND HORN MOUNTED ON BUILDING WALL AT 96" AFG AT THIS LOCATION. REFER TO SPECIFICATION SECTION 33 FOR ADDITIONAL INFORMATION

2" PVC SANITARY SEWER FORCE MAIN

S-8 PUMP STATION - WET WELL

S-6 45° BEND

S-7 45° BEND

S-9 PUMP STATION - VALVE CHAMBER

4" CAST IRON VENT INV=6.94

4" CAST IRON VENT

MATCH LINE SEE PLAN-2

MATCH LINE SEE PLAN-3

6" CAST IRON SANITARY SEWER INV=6.94

S-10 6" CAST IRON SANITARY SEWER

MOW BUILDING

S-11 CONNECT TO BUILDING SYSTEM SANITARY INV=7.50 (SEE NOTE 2)

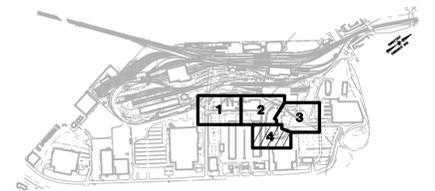
S-13 CONNECT TO BUILDING SYSTEM VENT INV=7.50 (SEE NOTE 2)

**LEGEND**

	SANITARY SEWER
	WATER LINE
	GAS LINE
	ELECTRICAL DUCT BANK
	ELECTRICAL OVERHEAD WIRES
	MANHOLE

- NOTE:**
- REFER TO DWG NO UW-000 FOR WATER AND SANITARY GENERAL NOTES.
  - REFER TO DWG NO P14-102 FOR CONTINUATION OF SANITARY AND VENT PIPING WITHIN THE BUILDING.
  - REFER TO DWG NOS UW-011 AND UW-012 FOR SANITARY SEWER PROFILES.

SANITARY			
DESCRIPTION	POINT ID	NORTHING	EASTING
45° BEND	S-6	668523.44	952803.42
45° BEND	S-7	668524.07	952807.65
PUMP STATION-WET WELL	S-8	668557.27	952816.22
6" PUMP STATION - VALVE CHAMBER	S-9	668549.87	952826.40
SANITARY BEND	S-10	668565.96	952822.53
SANITARY BEND	S-11	668581.33	952838.01
VENT BEND	S-12	668564.66	952824.06
VENT BEND	S-13	668580.03	952839.53



**KEY PLAN**

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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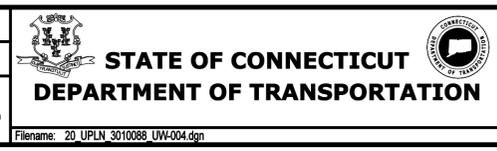
DESIGNER/DRAFTER:  
**MR**

CHECKED BY:  
**RG**

SCALE IN FEET

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SCALE 1"=30'



SIGNATURE/BLOCK:

AI ENGINEERS, INC  
MIDDLETOWN, CT

PROJECT TITLE:

**NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING**

TOWN: **NEW HAVEN**

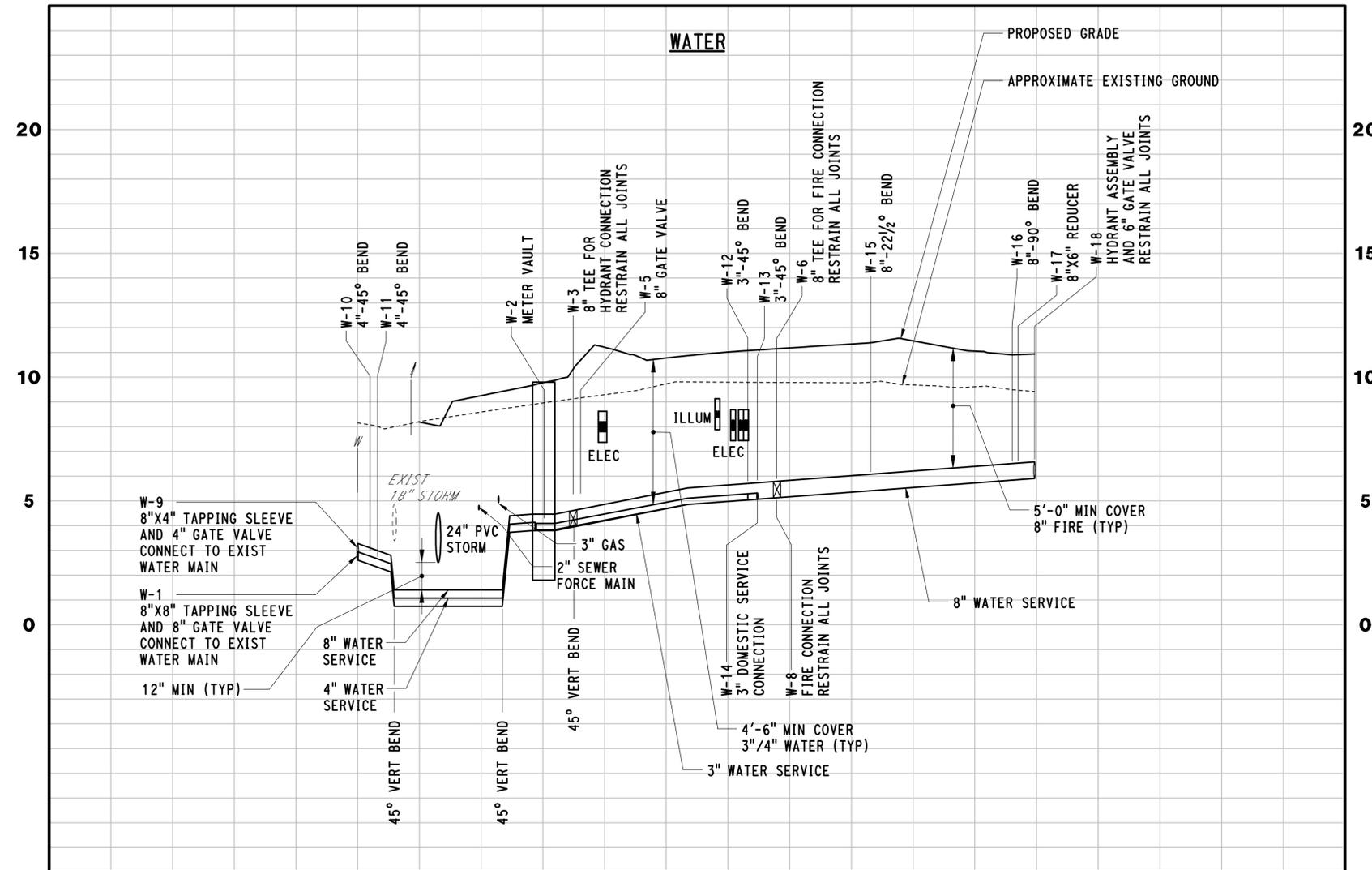
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PROJECT NO. **301-0124**

DRAWING NO. **UW-004**

SHEET NO. **05.33**

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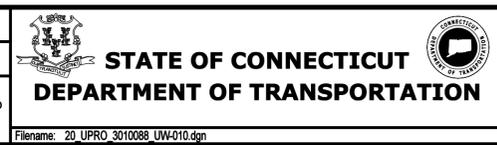


**NOTE:**  
ELEVATIONS FOR EXISTING PIPING SHOWN IN THE PROFILES ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL LOCATIONS AND ELEVATIONS, FOR POSSIBLE LINE AND GRADE CONFLICTS. ALL REQUIRED TEST PITS SHALL, WITH THE APPROVAL OF THE ENGINEER, BE EXCAVATED BEFORE COMMENCING THE PIPE INSTALLATION. IF REQUIRED, THE ENGINEER SHALL REVISE THE DESIGN AND ISSUE REVISED PLANS, WITHIN TEN (10) DAYS FROM RECEIVING THE TEST PIT INFORMATION.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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DESIGNER/DRAFTER:  
**SG / AF**  
CHECKED BY:  
**RG**  
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VERT. SCALE IN FEET  
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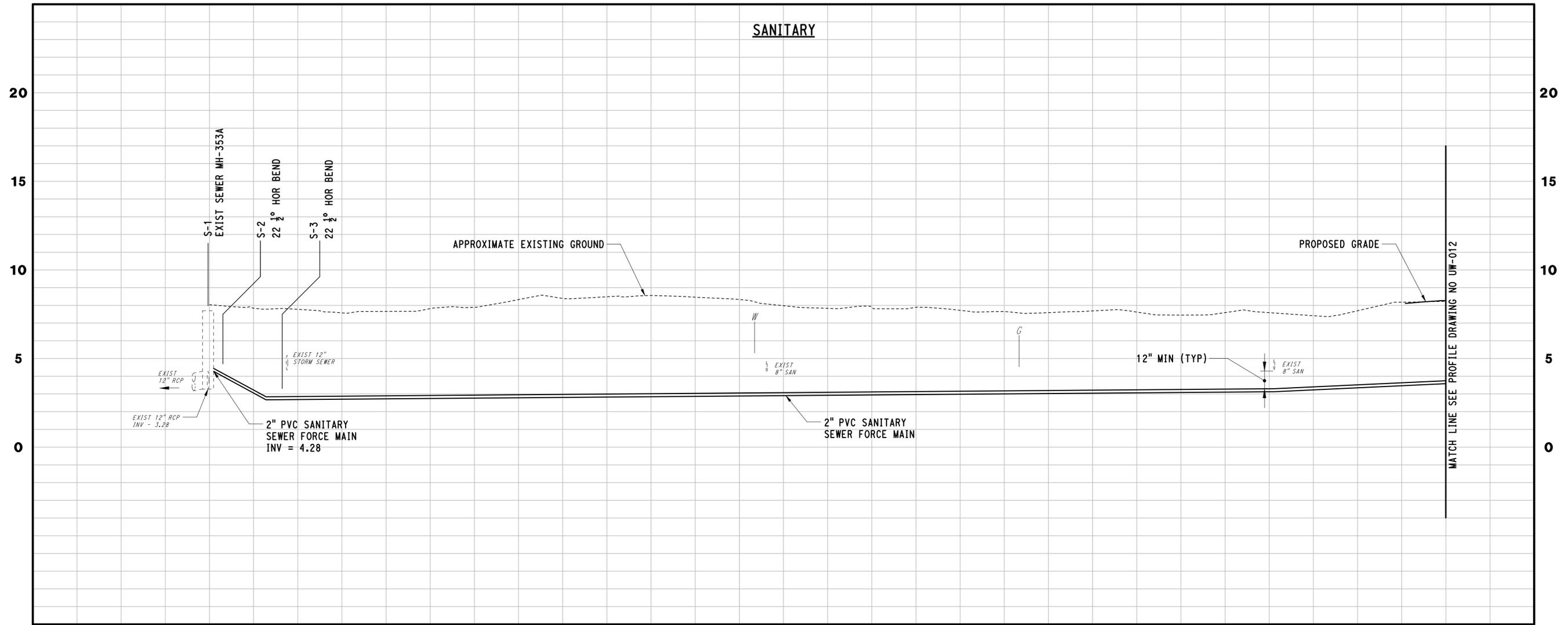
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AI ENGINEERS, INC  
MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**  
DRAWING TITLE:  
**WATER AND SANITARY  
PROFILES**

PROJECT NO.  
**301-0124**  
DRAWING NO.  
**UW-010**  
SHEET NO.  
**05.34**

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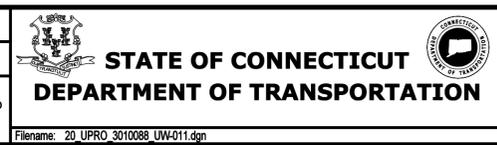


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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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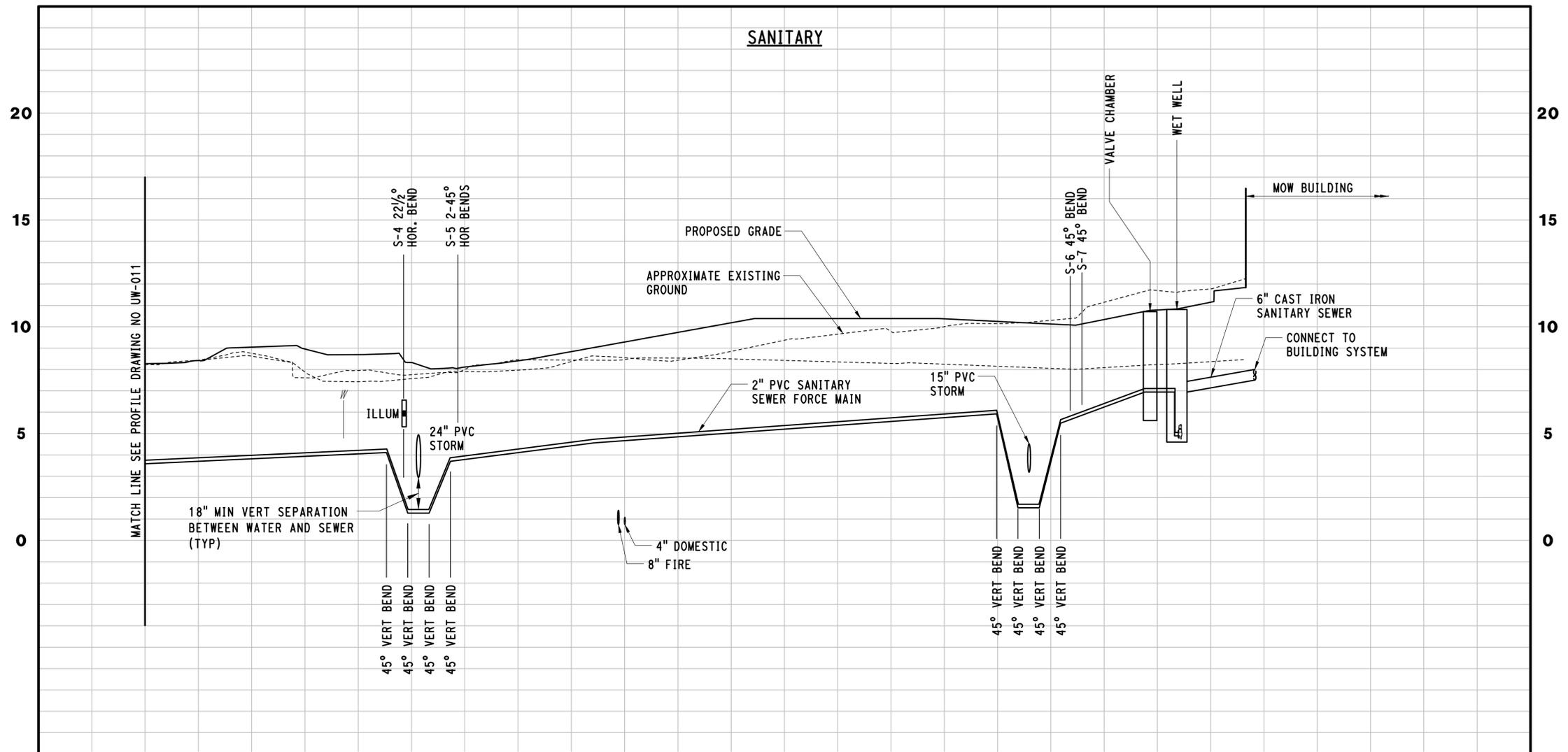
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 MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
 FACILITIES IMPROVEMENTS  
 MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**  
 DRAWING TITLE:  
**WATER AND SANITARY  
 PROFILES**

PROJECT NO.  
**301-0124**  
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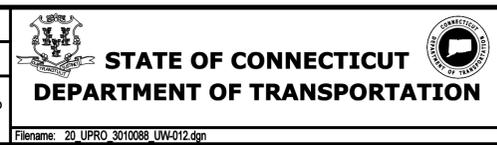


**NOTE:**  
 ELEVATIONS FOR EXISTING PIPING SHOWN IN THE PROFILES ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL LOCATIONS AND ELEVATIONS, FOR POSSIBLE LINE AND GRADE CONFLICTS. ALL REQUIRED TEST PITS SHALL, WITH THE APPROVAL OF THE ENGINEER, BE EXCAVATED BEFORE COMMENCING THE PIPE INSTALLATION. IF REQUIRED, THE ENGINEER SHALL REVISE THE DESIGN AND ISSUE REVISED PLANS, WITHIN TEN (10) DAYS FROM RECEIVING THE TEST PIT INFORMATION.

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.

DESIGNER/DRAFTER:  
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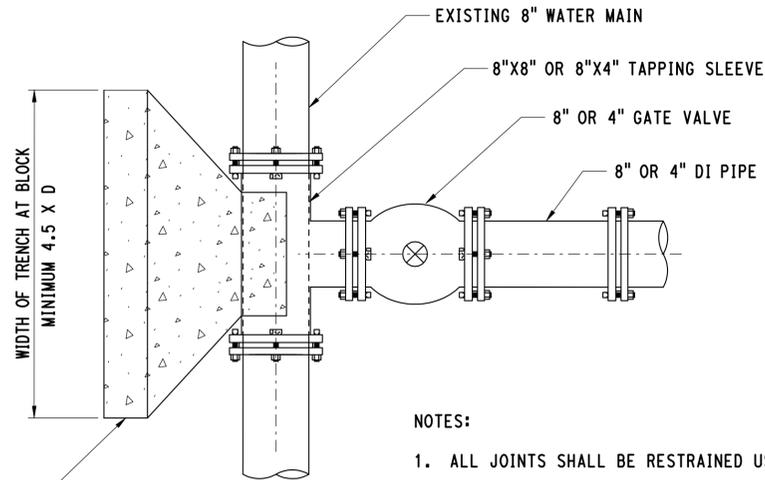


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 AI ENGINEERS, INC  
 MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
 FACILITIES IMPROVEMENTS  
 MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**  
 DRAWING TITLE:  
**WATER AND SANITARY  
 PROFILES**

PROJECT NO.  
**301-0124**  
 DRAWING NO.  
**UW-012**  
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**05.36**

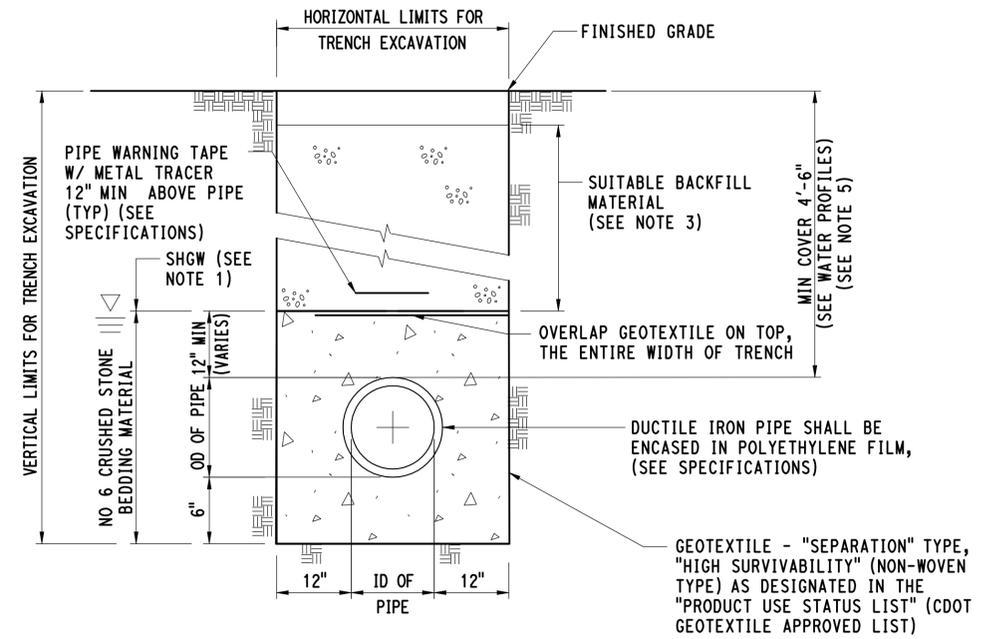


CONCRETE THRUST BLOCK TO BEAR AGAINST UNDISTURBED TRENCH WALL (SEE NOTES)

**NOTES:**

1. ALL JOINTS SHALL BE RESTRAINED USING "MEGALUGS" OR APPROVED EQUAL.
2. THE USE OF CONCRETE THRUST BLOCKS SHALL BE ONLY AS SHOWN ON THE PLANS OR AT THE DIRECTION OF THE DESIGNER/ENGINEER.
3. ANCHORS FOR THE CONCRETE THRUST BLOCKS BASED ON A MAXIMUM ALLOWABLE WATER PRESSURE OF 125 PSI.
4. 3000 PSI CLASS "C" CONCRETE SHALL BE USED FOR CONCRETE THRUST BLOCKS UNLESS OTHERWISE NOTED.

**CONNECTION TO EXISTING 8" WATER MAIN**



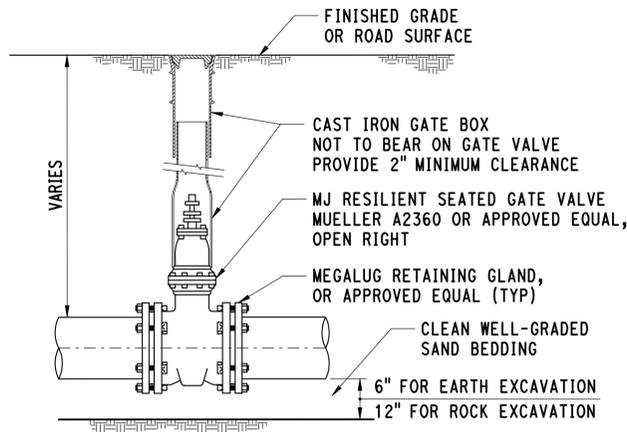
**NOTES:**

1. PLACE NO 6 CRUSHED STONE TO SEASONAL HIGH GROUND WATER ELEVATION 5.0.
2. SEE DEWATERING SPECIFICATION.
3. SUITABLE BACKFILL MATERIAL SHALL BE ANY MATERIAL EXCAVATED FROM THE RESPECTIVE TRENCH THAT IS ACCEPTABLE TO THE ENGINEER. GRANULAR FILL SHOULD BE USED IN THE ABSENCE OF SUITABLE BACKFILL MATERIAL AS DIRECTED BY THE ENGINEER.
4. PLACE CONCRETE WATERSTOP FULL WIDTH OF TRENCH FROM BOTTOM OF TRENCH TO 12" ABOVE PIPE EVERY 100' OR AS DIRECTED BY THE ENGINEER. A MINIMUM WIDTH OF 6" IS REQUIRED FOR EACH WATERSTOP. COST TO BE INCLUDED IN THE COST OF THE PIPE.
5. COVER OVER 8" FIRE LINE SHALL BE MINIMUM OF 5'-0".

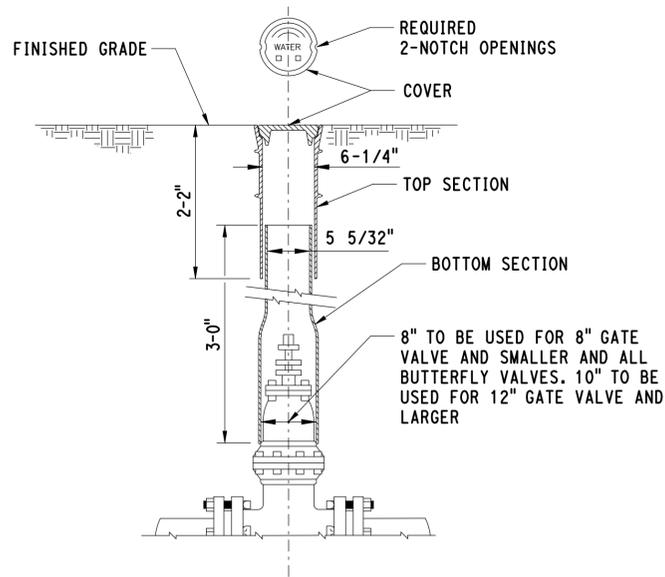
**TYPICAL WATER MAIN TRENCH**

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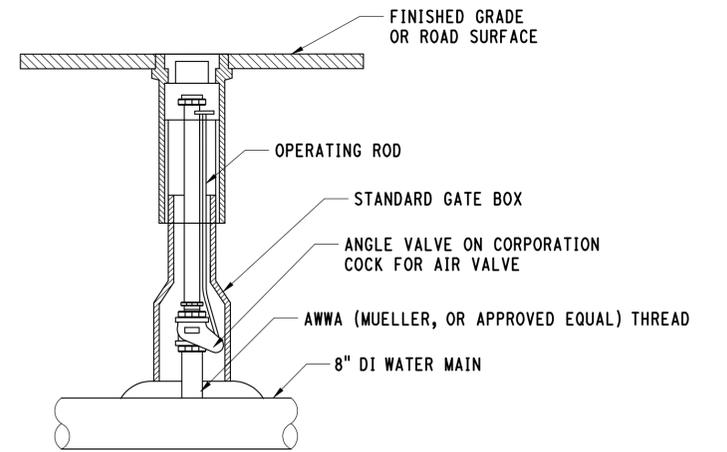
THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>MR</b>	 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>	SIGNATURE/BLOCK:  AI ENGINEERS, INC MIDDLETOWN, CT	PROJECT TITLE: <b>NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING</b>	TOWN: <b>NEW HAVEN</b>	PROJECT NO. <b>301-0124</b>
CHECKED BY: <b>RG</b>		NOT TO SCALE					
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 3/27/2015	Filename: 20_UMDS_3010088_UM-001.dgn	DRAWING TITLE: <b>UTILITY MISCELLANEOUS DETAILS-WATER</b>	SHEET NO. <b>05.37</b>



MJ GATE VALVE INSTALLATION

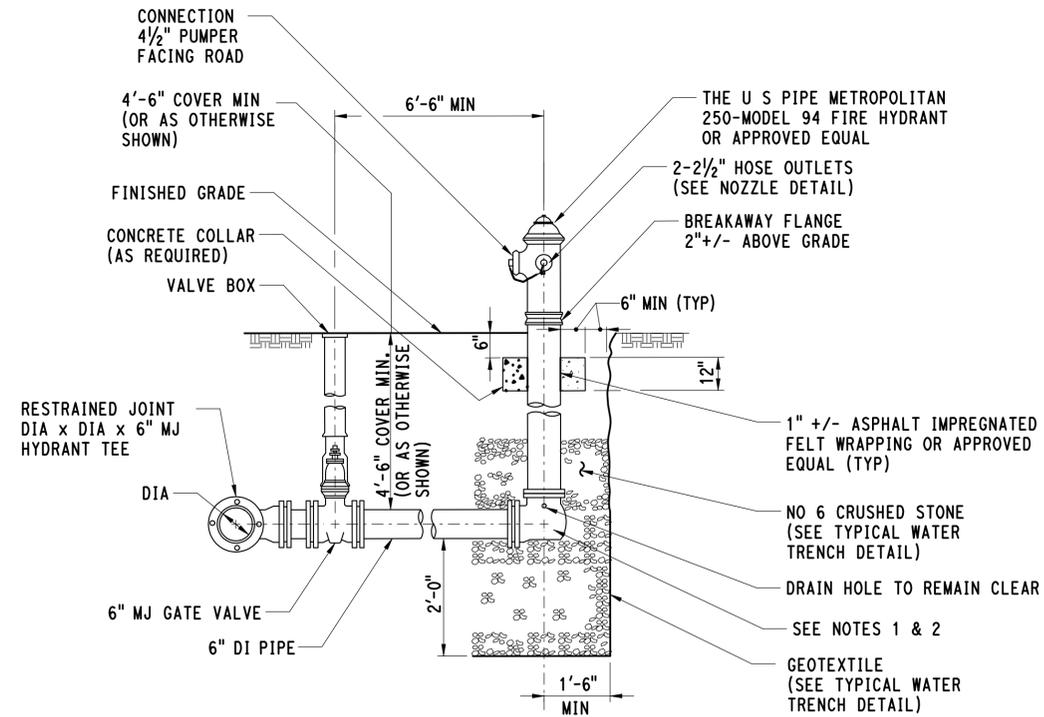


STANDARD GATE BOX

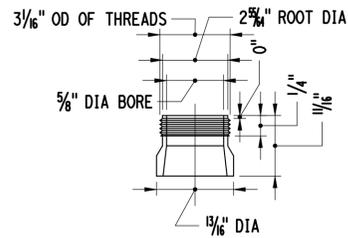


DIA OF MAIN	MIN SIZE AIR VALVE	CORPORATION COCK	ANGLE VALVE SIZE
TO 12" (INCL)	3/4"	3/4" x 1"	1"

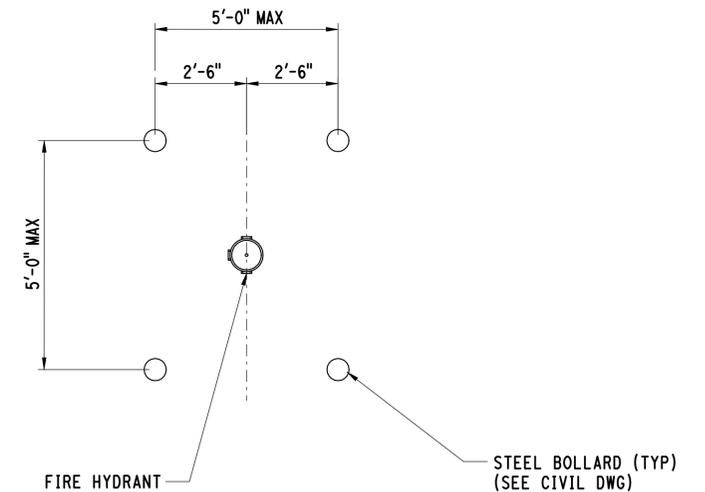
AIR VENT/ CHLORINATION ASSEMBLY



TYPICAL FIRE HYDRANT ASSEMBLY DETAIL AND BOLLARD PROTECTION



2 1/2" HOSE NOZZLE DETAIL



NOTES:

- ALL MECHANICAL JOINTS (MJ) SHALL BE RESTRAINED WITH MEGALUG RETAINER GLANDS, OR APPROVED EQUAL.
- FIRE HYDRANTS SHALL HAVE (2) 2-1/2" HOSE NOZZLES, (1) 4-1/2" PUMPER NOZZLE, AND A 6" MJ INLET SHOE.
- FIRE HYDRANTS SHALL HAVE 5-1/4" MAIN VALVE OPENING.
- BOLLARD SPACING AND CONFIGURATION MAY BE MODIFIED AS DIRECTED BY ENGINEER.
- REFER TO GENERAL SITE PLANS FOR LOCATION OF HYDRANTS AND NUMBER OF BOLLARDS.

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 3/27/2015

DESIGNER/DRAFTER: <b>MR</b>
CHECKED BY: <b>RG</b>
<b>NOT TO SCALE</b>


**STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**

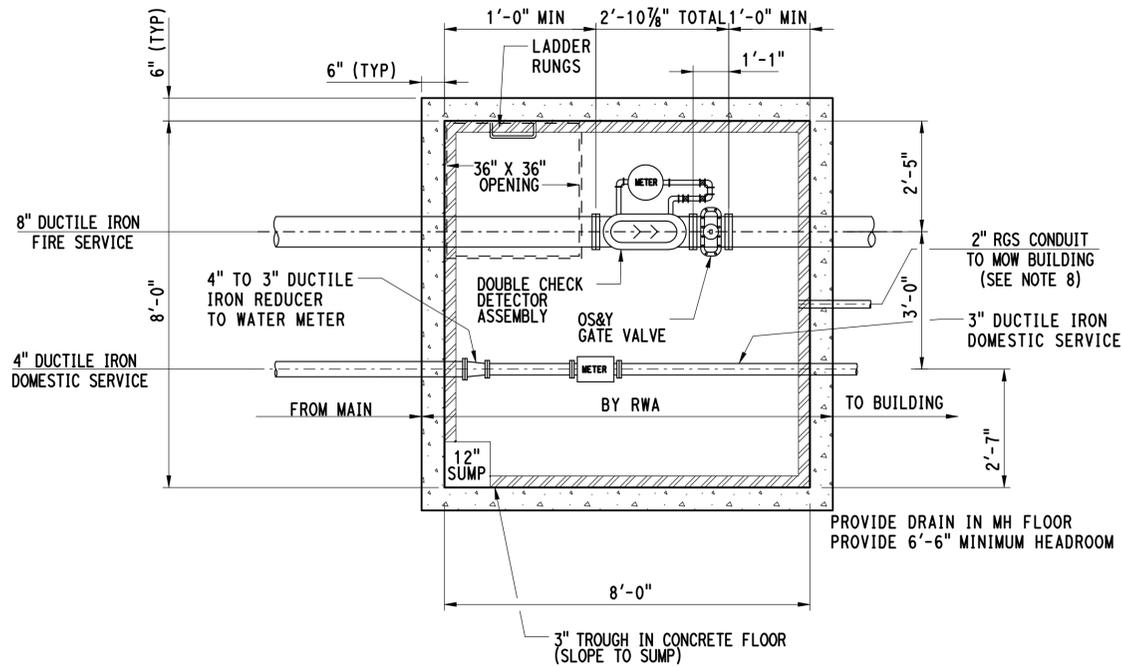
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 AI ENGINEERS, INC  
 MIDDLETOWN, CT

PROJECT TITLE:  
**NEW HAVEN RAIL YARD**  
**FACILITIES IMPROVEMENTS**  
**MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**  
 DRAWING TITLE:  
**UTILITY MISCELLANEOUS**  
**DETAILS-WATER**

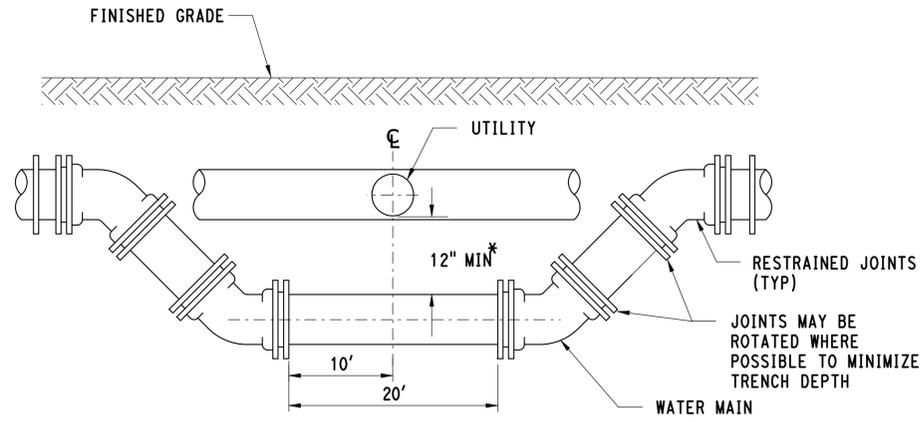
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**301-0124**  
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**UM-002**  
 SHEET NO.  
**05.38**



PLAN

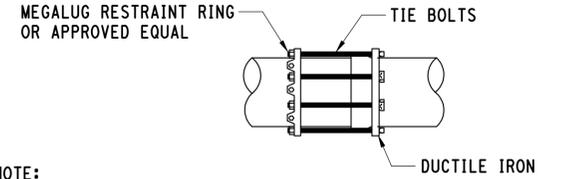
1. ALL WATER PIPE IN VAULT SHALL BE FLANGED JOINT DUCTILE IRON, CLASS 53 MINIMUM.
2. ALL CONNECTIONS IN VAULT SHALL BE FLANGED, EXCEPT FOR SLIDING WATER PIPE COUPLING. FLANGE ADAPTERS WITH SET SCREWS ARE NOT TO BE USED.
3. ALL WATER PIPE OUTSIDE OF VAULT SHALL BE MECHANICAL OR PUSH-ON JOINT DUCTILE IRON PIPE, CLASS 52 MINIMUM. JOINTS ON ALL WATER PIPE, FITTINGS AND VALVES BE RESTRAINED USING APPROVED MECHANICAL JOINT RESTRAINT DEVICES.
4. VAULTS LOCATED IN PAVED AREAS SHALL BE FURNISHED WITH ALUMINUM ACCESS HATCH, OR CAST IRON FRAME AND COVER, DESIGNED TO SUPPORT HS-20 LOADING.
5. VAULT STRUCTURE SHALL BE PRECAST CONCRETE DESIGNED TO SUPPORT HS-20 WHEEL LOADING.
6. EXTERIOR SURFACE OF VAULT WALLS ARE TO BE COATED WITH BITUMINOUS MATERIAL.
7. VAULT JOINTS SHALL BE SEALED WITH RUBBER GASKET, AND EXTERIOR OF JOINT COATED WITH JOINT COMPOUND MATERIAL.
8. REFER TO NOTE 4 ON DWG NO UW-002 FOR ADDITIONAL INFORMATION AND CONDUIT ROUTING.

**WATER METER VAULT NOTES AND DETAIL**



\* FOR SANITARY SEWER CROSSING, THIS DISTANCE SHALL BE INCREASED TO 18".

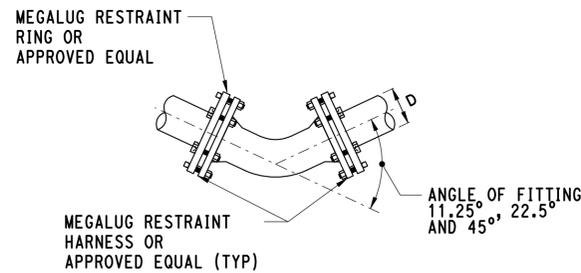
**LOWERING PROPOSED WATER MAIN AT UTILITY CROSSINGS**



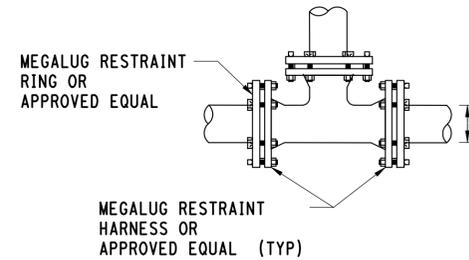
NOTE:

1. USE FIELD LOCK GASKETS FOR ALL PUSH-ON ASSEMBLIES. RESTRAIN HARNESS FOR DUCTILE IRON PIPE PUSH-ON BELLS. ALL SHALL BE INSTALLED IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.

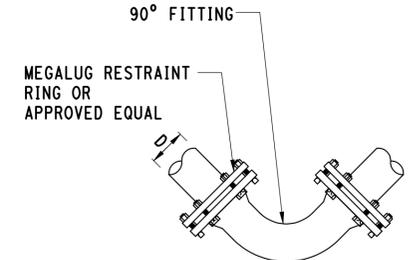
**RESTRAINT HARNESS (DUCTILE IRON PIPE BELLS)**



PLAN



PLAN

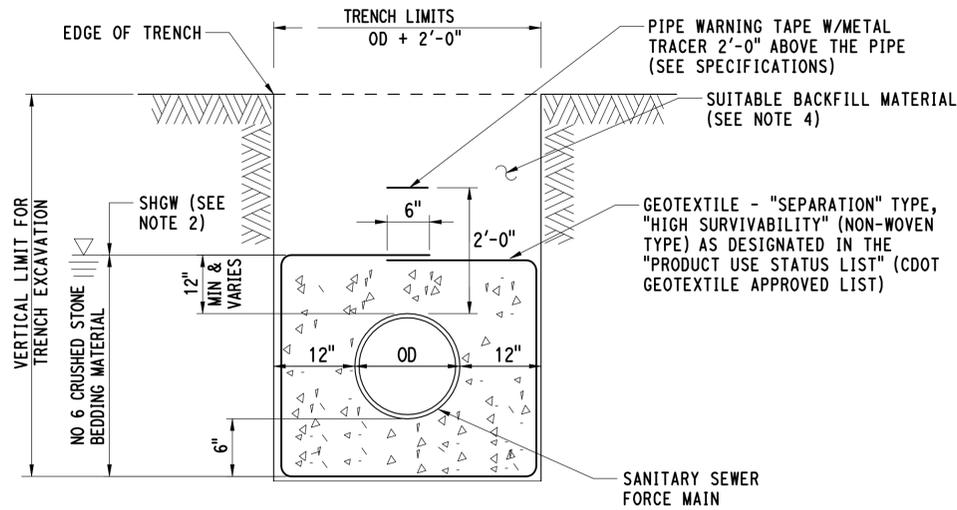


PLAN

**MECHANICAL JOINT RESTRAINT**

3/31/2015 9:28:03 AM T:\18965-NHRY\FIC\DOT\_P\Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\20\_UMDS\_3010088\_UM-003.dgn

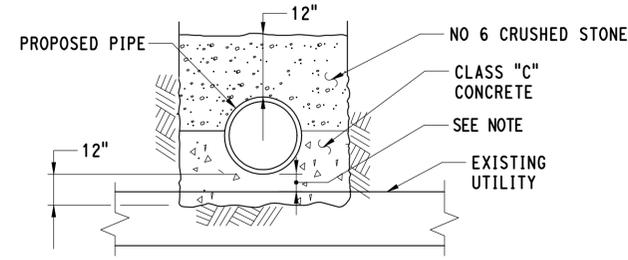
THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>MR</b>	<b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>	SIGNATURE/BLOCK: AI ENGINEERS, INC MIDDLETOWN, CT	PROJECT TITLE: <b>NEW HAVEN RAIL YARD</b> <b>FACILITIES IMPROVEMENTS</b> <b>MAINTENANCE OF WAY BUILDING</b>	TOWN: <b>NEW HAVEN</b>	PROJECT NO. <b>301-0124</b>
CHECKED BY: <b>RG</b>		NOT TO SCALE					
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 3/31/2015	Filename: 20_UMDS_3010088_UM-003.dgn	DRAWING TITLE: <b>UTILITY MISCELLANEOUS</b> <b>DETAILS-WATER</b>	SHEET NO. <b>05.39</b>



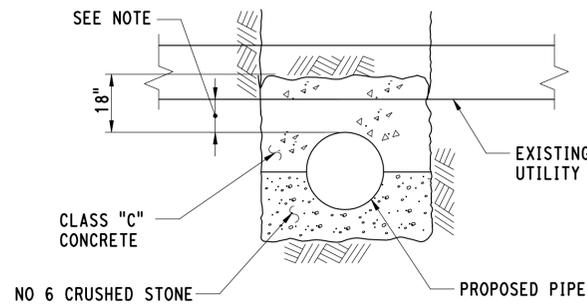
**NOTES:**

1. SEE DEWATERING SPECIFICATION.
2. PLACE NO 6 CRUSHED STONE TO SEASONAL HIGH GROUND WATER ELEVATION 5.0.
3. PLACE CLASS "C" CONCRETE WATERSTOP FULL WIDTH OF TRENCH FROM BOTTOM OF TRENCH TO 12" ABOVE PIPE AT THE MIDPOINT OF EACH RUN THAT IS GREATER THAN 100' BETWEEN STRUCTURES OR AS DIRECTED BY THE ENGINEER. A MINIMUM WIDTH OF 6" IS REQUIRED FOR EACH WATERSTOP. WATERSTOPS ARE NOT REQUIRED FOR RUNS LESS THAN 100' BETWEEN STRUCTURES. COST TO BE INCLUDED IN THE COST OF THE PIPE.
4. SUITABLE BACKFILL MATERIAL SHALL BE ANY MATERIAL EXCAVATED FROM THE RESPECTIVE TRENCH THAT IS ACCEPTABLE TO THE ENGINEER. GRANULAR FILL SHOULD BE USED IN THE ABSENCE OF SUITABLE BACKFILL MATERIAL AS DIRECTED BY THE ENGINEER.

**SANITARY SEWER FORCE MAIN TRENCH DETAIL**



**PROPOSED OVER EXISTING SECTION**

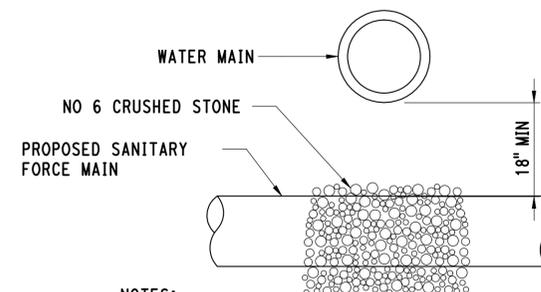


**EXISTING OVER PROPOSED SECTION**

**NOTE:**

THE CRADLE SHALL BE PLACED AT ALL LOCATIONS WHERE THE PROPOSED PIPE PASSES OVER AN EXISTING UTILITY AND THERE IS LESS THAN 6" VERTICAL CLEARANCE, OR PASSES UNDER AN EXISTING UTILITY AND THERE IS LESS THAN 12" VERTICAL CLEARANCE.

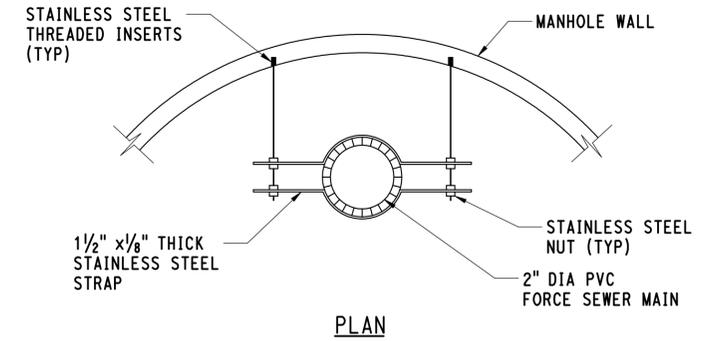
**CRADLE DETAILS**



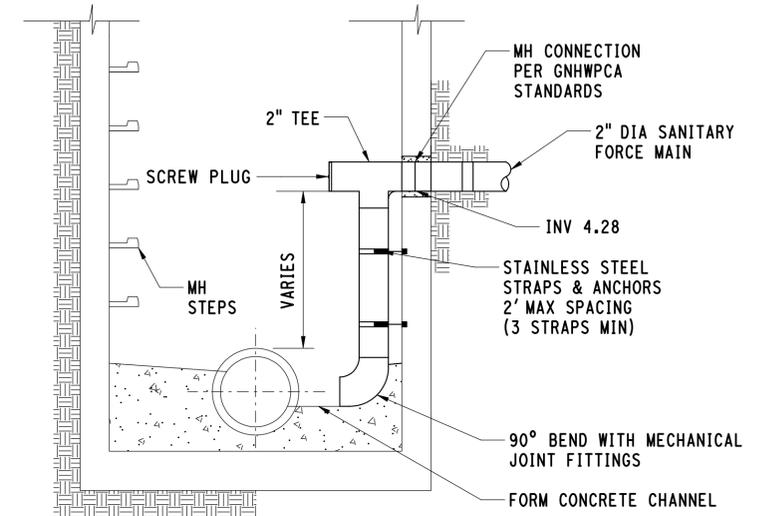
**NOTES:**

1. SOIL REPLACED UNDER THE WATER MAIN SHALL BE COMPACTED AS PER RWA GUIDELINES FOR WATER MAIN INSTALLATION.
2. IF CLEARANCE IS LESS THAN 18", DUCTILE IRON PIPE SHALL BE USED IN PLACE OF PVC. THE DIP SHALL BE CENTERED UNDER THE WATER LINE, WITH PIPE JOINTS EQUIDISTANT FROM CROSSING.

**SANITARY FORCE MAIN CROSSING UNDER WATER LINE**



**PLAN**



**ELEVATION**

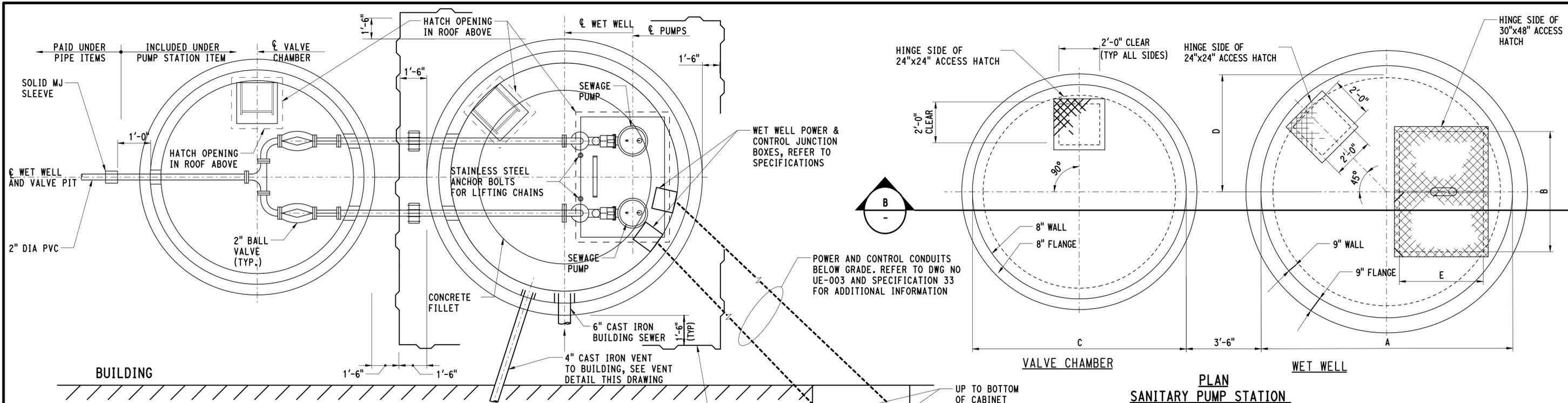
**NOTES:**

1. CONNECTION TO EXISTING MANHOLES SHALL BE CORE-DRILLED AND MADE USING A FLEXIBLE RUBBER CONNECTOR AS MANUFACTURED BY PRESS-SEAL GASKET CORPORATION OR APPROVED EQUAL.
2. REFER TO UTILITY PLANS FOR DETAILS OF NEW SANITARY, WATER, STORM, TELEPHONE AND SITE LIGHTING SYSTEMS.

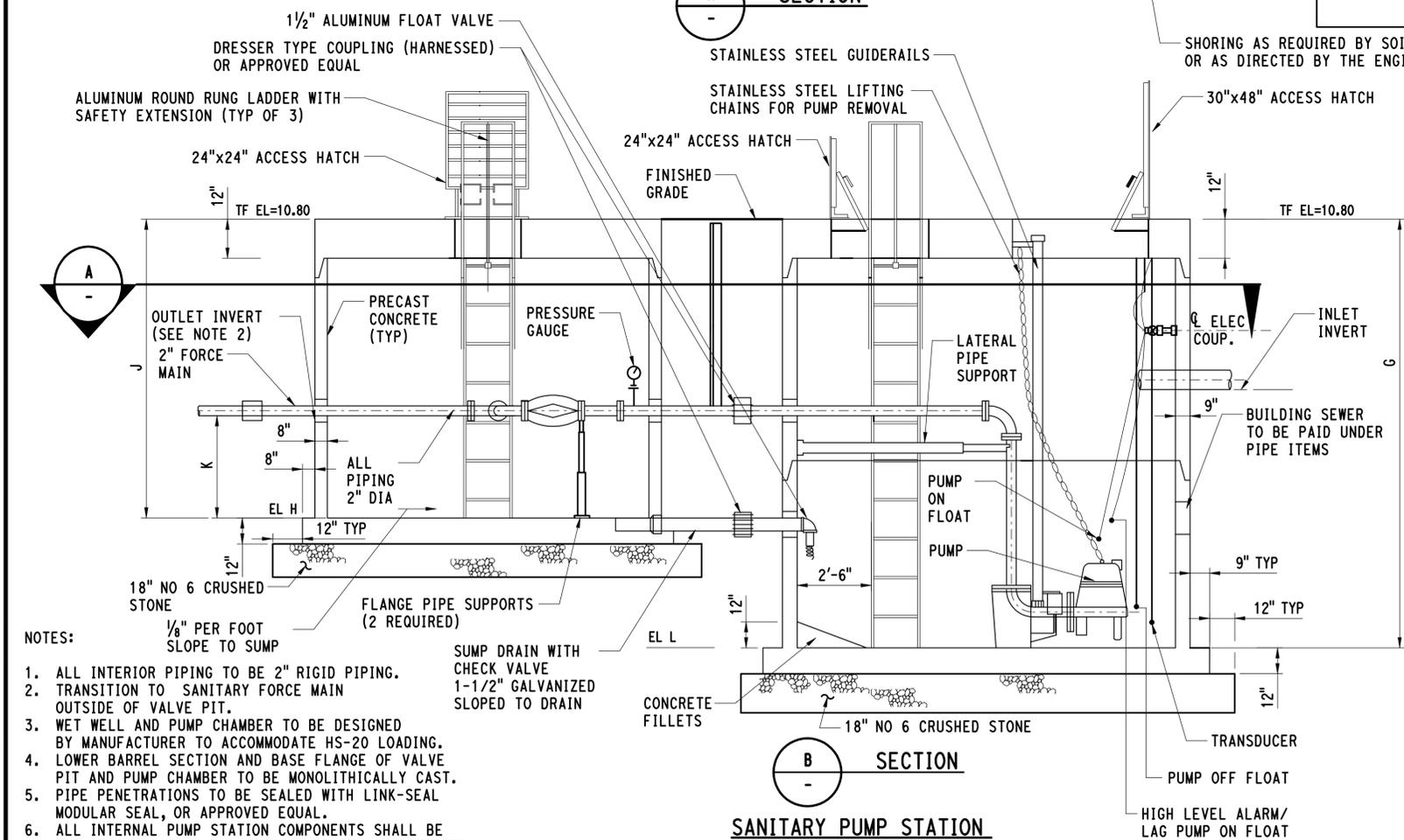
**SANITARY FORCE MAIN CONNECTION TO EXISTING MANHOLE**

3/27/2015 1:05:22 PM T:\18965-NHRY\FIC\DOT\_Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\00\_UMDS\_3010088\_UM-004.dgn

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CHECKED BY: <b>RG</b>		NOT TO SCALE					
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 3/27/2015	Filename: 20_UMDS_3010088_UM-004.dgn		



**SECTION**



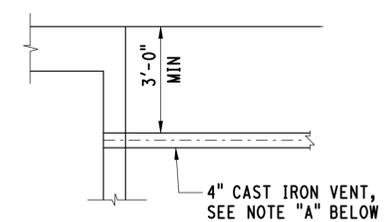
**SANITARY PUMP STATION**

- NOTES:**
1. ALL INTERIOR PIPING TO BE 2" RIGID PIPING.
  2. TRANSITION TO SANITARY FORCE MAIN OUTSIDE OF VALVE PIT.
  3. WET WELL AND PUMP CHAMBER TO BE DESIGNED BY MANUFACTURER TO ACCOMMODATE HS-20 LOADING.
  4. LOWER BARREL SECTION AND BASE FLANGE OF VALVE PIT AND PUMP CHAMBER TO BE MONOLITHICALLY CAST.
  5. PIPE PENETRATIONS TO BE SEALED WITH LINK-SEAL MODULAR SEAL, OR APPROVED EQUAL.
  6. ALL INTERNAL PUMP STATION COMPONENTS SHALL BE EXPLOSION PROOF AND CORROSION PROOF AS SPECIFIED.

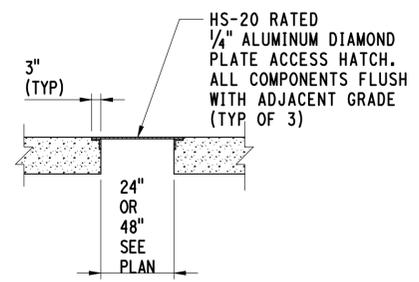
UP TO BOTTOM OF CABINET  
INTERIOR PUMP CONTROL PANEL, SEE NOTE "B" BELOW. CONTRACTOR SHALL VERIFY FINAL LOCATION IN FIELD, REFER TO SPECIFICATIONS.



**RUBBER SEAL DETAIL**



**VENT DETAIL**



**ACCESS HATCH DETAIL**

- NOTE "A"**  
EXTEND VENT PIPE BELOW GRADE TO VENT CONNECTION AT BUILDING FOUNDATION WALL. REFER TO DWG NO P14-102 FOR ADDITIONAL INFORMATION.
- NOTE "B"**  
CONTROL PANEL IS MOUNTED INSIDE BUILDING IN ROOM 104. REFER TO DWG NO E14-106 FOR LOCATION.
- NOTE "C"**  
THE INVERT ELEVATION "L" ON BOTTOM OF THE WELL SHALL BE CALCULATED AS A DIFFERENCE OF OPERATIONAL DEPTH HEIGHT (PUMP OFF) WITH THE HEIGHT OF THE PUMP.

SANITARY PUMP STATION	
A	9'-6" DIA
B	4'-0"
C	6'-4" DIA
D	4'-0"
E	2'-6"
F	4'-0"
G	7'-0"
H	4.80
I	N/A
J	6'-0"
K	1'-4"
L	3.80
Inlet Invert	EL 6.94
Outlet Invert	EL 6.13
High Level Alarm/ Lag Pump On	EL 6.80
Lead Pump On	EL 5.50
Pumps Off	EL 5.00
Pumps	GRINDER PUMPS 30 GPM @ 27'TDH

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 3/29/2015

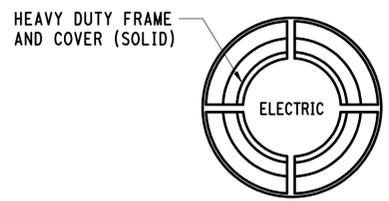
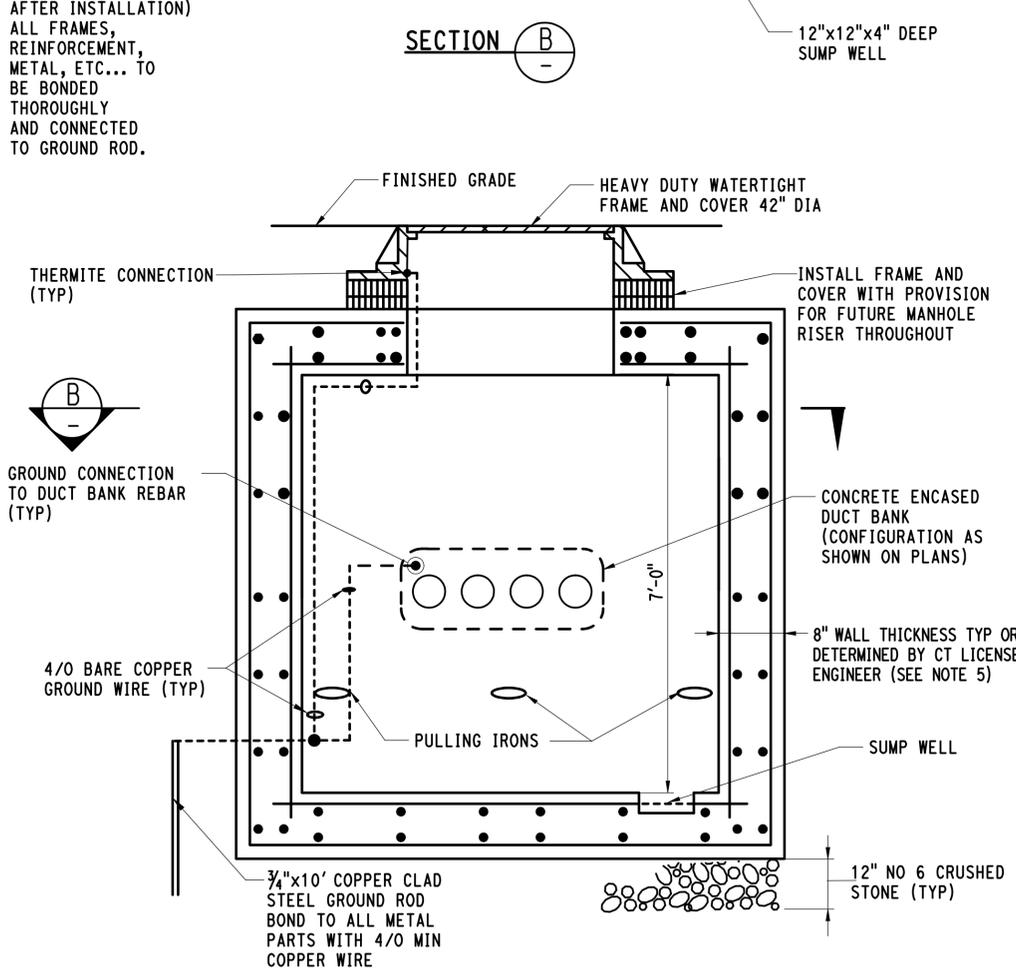
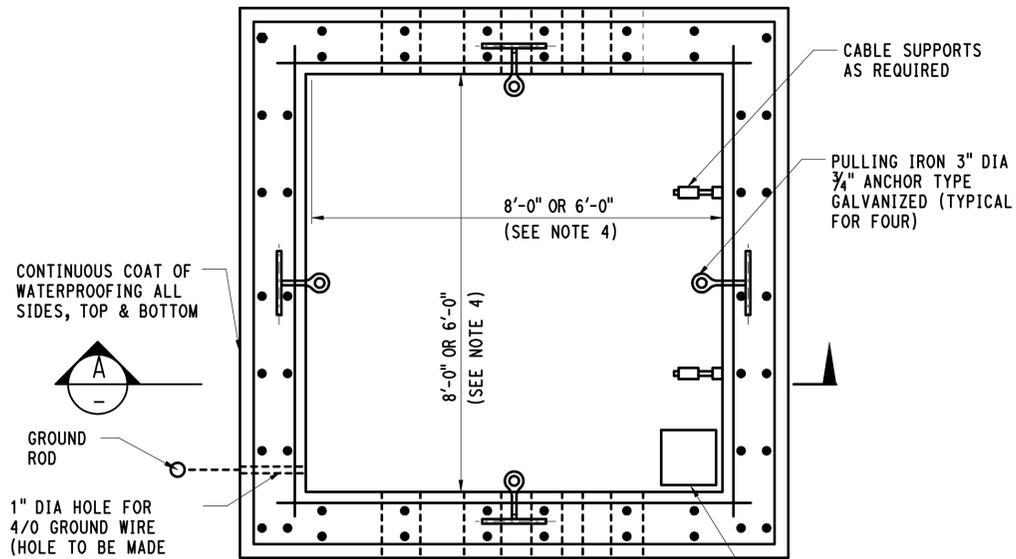
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CHECKED BY: **RG**  
**NOT TO SCALE**

**STATE OF CONNECTICUT**  
**DEPARTMENT OF TRANSPORTATION**

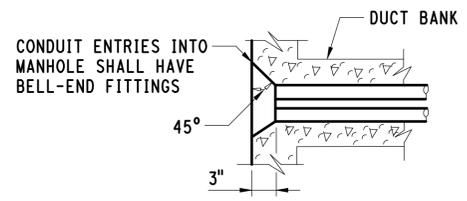
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PROJECT TITLE:  
**NEW HAVEN RAIL YARD**  
**FACILITIES IMPROVEMENTS**  
**MAINTENANCE OF WAY BUILDING**

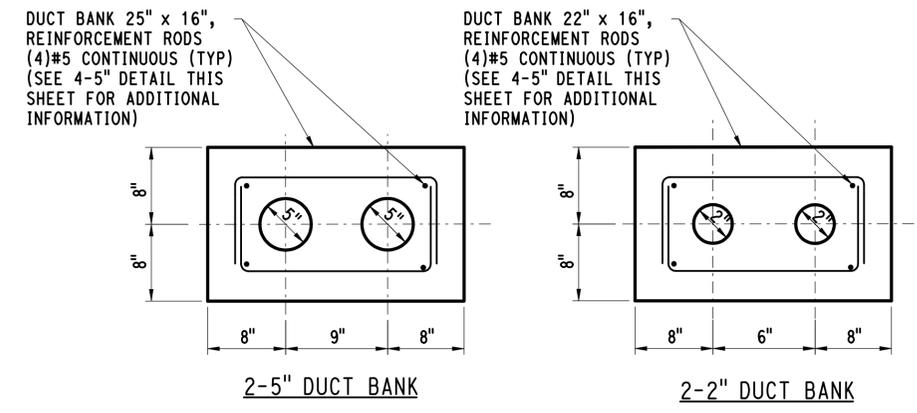
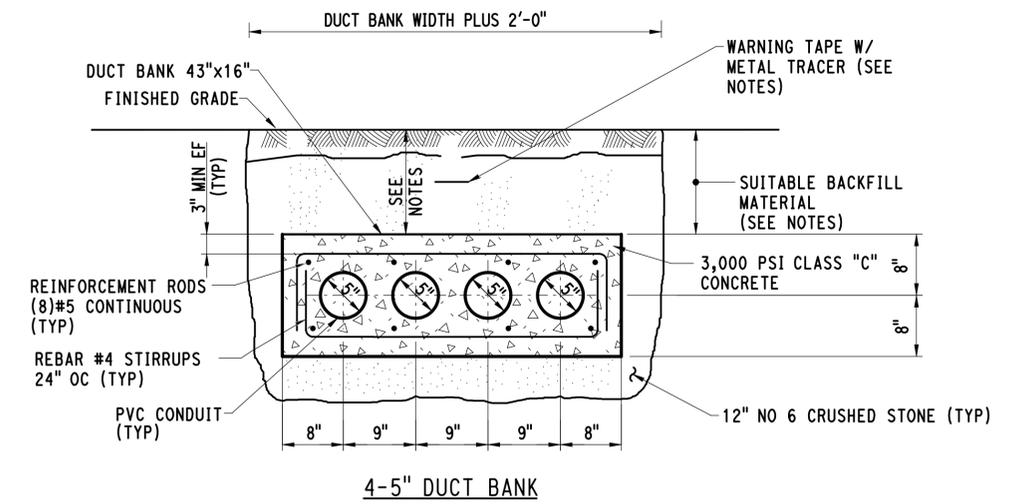
TOWN: **NEW HAVEN**  
PROJECT NO. **301-0124**  
DRAWING NO. **UM-005**  
DRAWING TITLE: **UTILITY MISCELLANEOUS**  
**DETAILS-SANITARY PUMP STATION**  
SHEET NO. **05.41**



TOP VIEW - ELECTRIC  
MANHOLE FRAME AND COVER DETAIL



CONNECTION DETAIL



ELECTRIC CONCRETE DUCT BANK DETAILS

DUCT BANK NOTES:

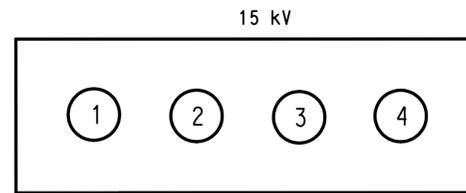
- FOR GENERAL CONDITIONS, THE MINIMUM BURIAL DEPTH FROM FINISHED GRADE TO TOP OF CONCRETE IS 18". REFER TO UTILITY PROFILES FOR ADDITIONAL INFORMATION.
- SEE DEWATERING SPECIFICATIONS FOR DEWATERING REQUIREMENT.
- PLACE SUITABLE BACKFILL MATERIAL ABOVE SEASONAL HIGH GROUND WATER ELEVATION 5.0. SUITABLE BACKFILL MATERIAL SHALL BE ANY SUITABLE BACKFILL MATERIAL EXCAVATED FROM THE RESPECTIVE TRENCH THAT IS ACCEPTABLE TO THE ENGINEER. GRANULAR FILL SHOULD BE USED IN ABSENCE OF SUITABLE BACKFILL MATERIAL AS DIRECTED BY THE ENGINEER.
- PLACE NO 6 CRUSHED STONE TO SEASONAL HIGH GROUND WATER ELEVATION 5.0.
- WARNING TAPE WITH METAL TRACER SHALL BE LAID 12" BELOW GRADE. REFER TO SPECIAL PROVISIONS.
- ALL EMPTY OR UNUSED CONDUITS SHALL HAVE PLASTIC PULL ROPES INSTALLED.
- DUCT BANK REINFORCEMENT SHALL BE CONNECTED TO BUILDING FOUNDATION WALL AS INDICATED ON THE STRUCTURAL DRAWINGS.

ELECTRIC MANHOLE NOTES:

- ALL MANHOLES SHALL BE WATERTIGHT, FLOOD PROOFED USING GASKETED COVERS & CABLE SEALS AT CONDUIT ENTRANCES TO MANHOLES.
- ALL CABLES IN MANHOLE SHALL BE SUPPORTED BY CABLE RACKS, FIRE WRAPPED, AND MARKED WITH BRASS TAG WITH CIRCUIT IDENTIFICATION.
- ALL THE SPLICES SHALL BE OF THE SUBMERSIBLE TYPE.
- ALL ELECTRIC MANHOLES SHALL BE 8'x8' INTERIOR, EXCEPT EMH-911 & EMH-912 WHICH SHALL BE 6'x6' INTERIOR.
- ALL MANHOLES SHALL BE DESIGNED BY A CT LICENSED ENGINEER FOR HS-20 LOADINGS.
- CONDUIT ENTRIES INTO MANHOLE SHALL HAVE BELL ENDS FLUSH WITH INSIDE WALL OF THE MANHOLE.

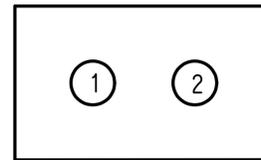
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 4/1/2015	DESIGNER/DRAFTER: <b>JL/MR</b>	CHECKED BY: <b>RG</b>	NOT TO SCALE	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	<p>AI ENGINEERS, INC MIDDLETOWN, CT</p>	PROJECT TITLE: <b>NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING</b>	TOWN: <b>NEW HAVEN</b>	PROJECT NO. <b>301-0124</b>
										DRAWING TITLE: <b>UTILITY MISCELLANEOUS DETAILS-ELECTRIC</b>	DRAWING NO. <b>UM-006</b>	SHEET NO. <b>05.42</b>



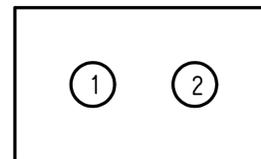
4-5" CONCRETE ELECTRIC DUCT BANK, S-1, S-2, S-3

NO	CIRCUIT (CABLE)
1	15KV FEEDER
2	SPARE
3	15KV FEEDER
4	SPARE



2-2" CONCRETE ELECTRIC DUCT BANK, S-5, S-6, S-7, S-10

NO	CIRCUIT (CABLE)
1	LIGHTING SERVICE CABINET/GATE CONTROLLER/CAR CHARGERS
2	SPARE



2-5" CONCRETE ELECTRIC DUCT BANK, S-4, S-8, S-9, S-11

NO	CIRCUIT (CABLE)
1	TRANSFORMER/LOAD CENTER/GATE CONTROLLERS
2	SPARE

NO	SIZE & KIND	FROM	TO	CABLE			USED FOR
				NO	CONDUCTOR SIZE	INSULATION	
S-1	5" PVC	EXIST EMH-104	EMH-900	3 1/C TRIPLEXED	500 kcmil 15KV	OKOGUARD-EPR	
S-2	5" PVC	EMH-900	EMH-910	3 1/C TRIPLEXED	500 kcmil 15KV	OKOGUARD-EPR	
S-3	5" PVC	EMH-910	MV SWITCH	3 1/C TRIPLEXED	500 kcmil 15KV	OKOGUARD-EPR	
S-4	5" PVC	MV SWITCH	TRANSFORMER	3 1/C TRIPLEXED	500 kcmil 15KV	OKOGUARD-EPR	
S-5	2" PVC	LTG SVC CAB	ROOM 135	4 1	#4 #10 grnd	RHW RHW	
S-6	2" PVC	CAR CHARGER	ROOM 135	3 1	#8 #10 grnd	RHW RHW	
S-7	2" PVC	CAR CHARGER	ROOM 135	3 1	#8 #10 grnd	RHW RHW	
S-8	5" PVC	EXIST DUCT BANK	EMH-915	3 1	#4 #6	RHW RHW	
S-9	5" PVC	EMH-915	LOAD CENTER	3 1	#4 #6	RHW RHW	
S-10	2" PVC	EMH-912	ROOM 135	3 1	#8 #10 grnd	RHW RHW	
S-11	5" PVC	EMH-911	ROOM 135	6 2	#8 #10 grnd	RHW RHW	

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DESIGNER/DRAFTER: **MR**  
 CHECKED BY: **JL**  
 NOT TO SCALE



SIGNATURE/BLOCK: [Signature]  
 AI ENGINEERS, INC  
 MIDDLETOWN, CT

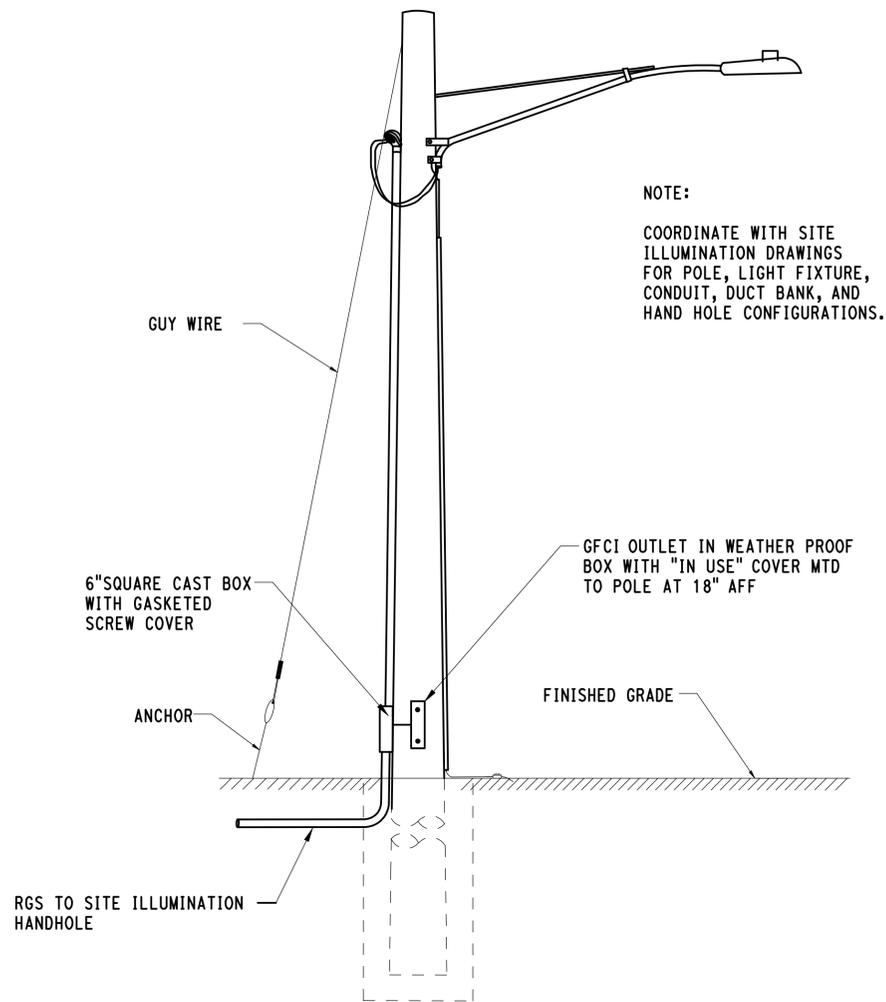
PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
 FACILITIES IMPROVEMENTS  
 MAINTENANCE OF WAY BUILDING**

TOWN: **NEW HAVEN**  
 DRAWING TITLE:  
**UTILITY MISCELLANEOUS  
 DETAILS-ELECTRIC**

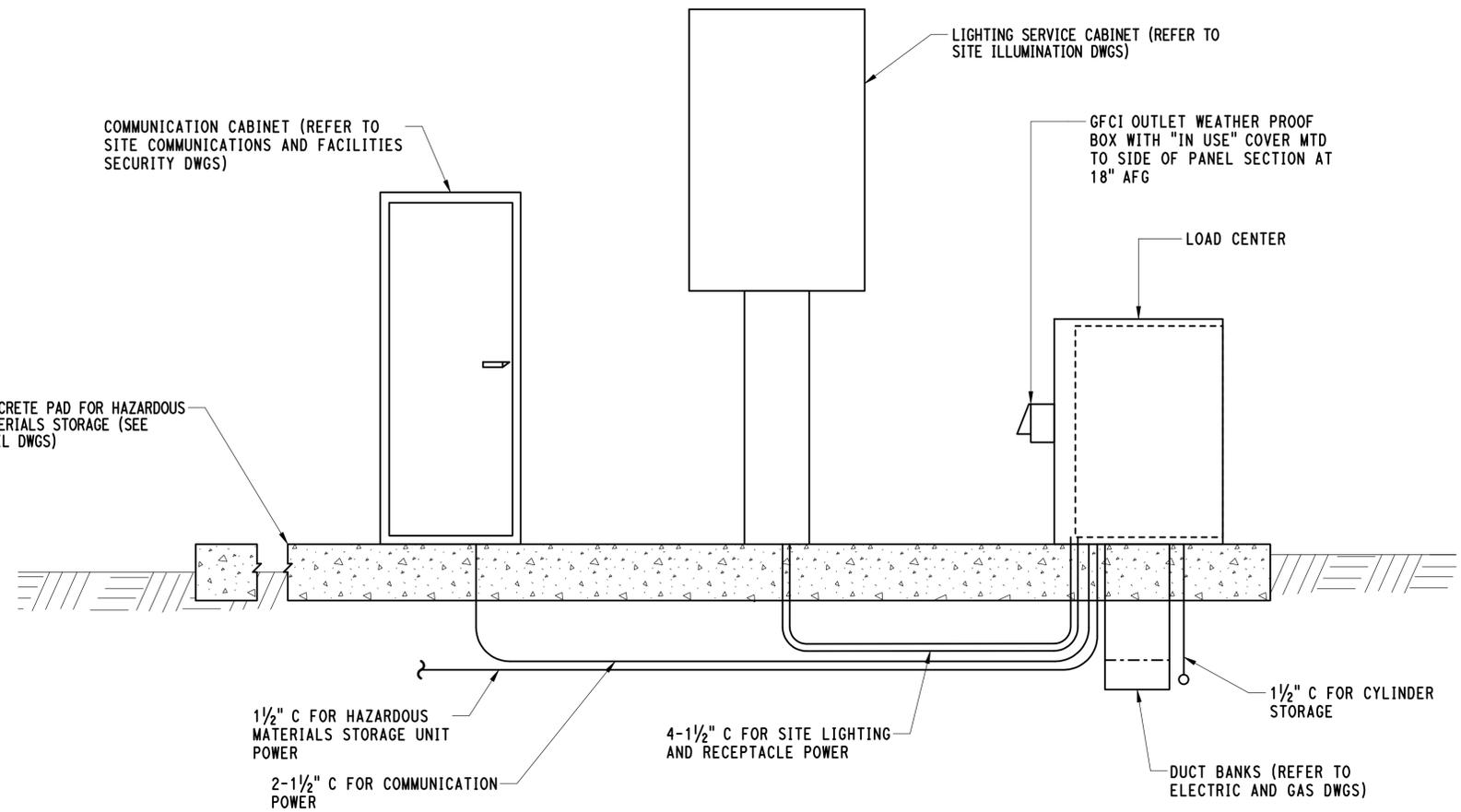
PROJECT NO. **301-0124**  
 DRAWING NO. **UM-007**  
 SHEET NO. **05.43**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 4/1/2015

Filename: 20\_UMDS\_3010088\_UM-007.dgn



NOTE:  
 COORDINATE WITH SITE ILLUMINATION DRAWINGS FOR POLE, LIGHT FIXTURE, CONDUIT, DUCT BANK, AND HAND HOLE CONFIGURATIONS.



**ELECTRIC LOAD CENTER DETAIL**

**TYPICAL ILLUMINATION POLE RECEPTACLE POWER**

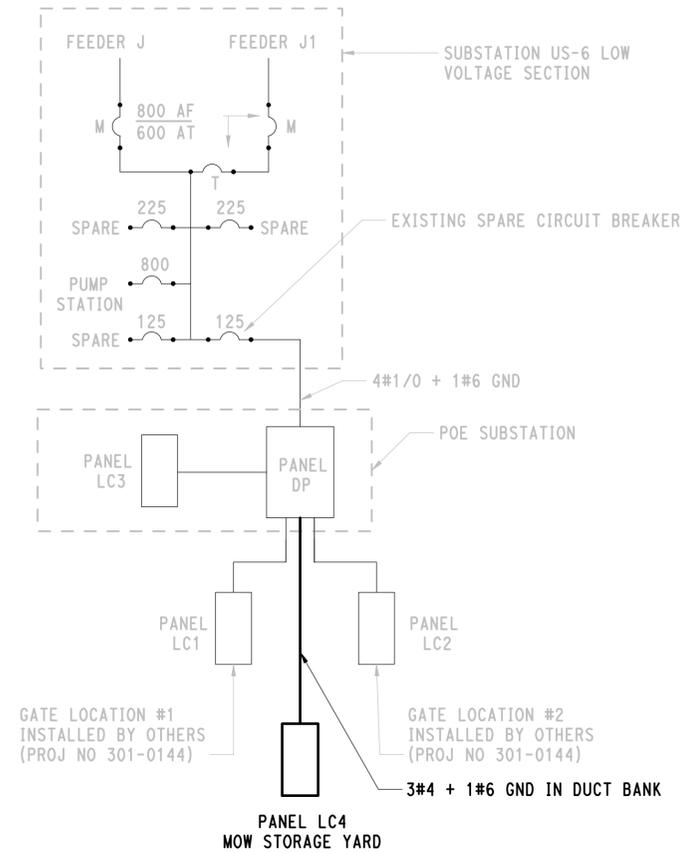
NOTE:  
 120V GFCI RECEPTACLE POWER RUNS FROM LOAD CENTER TO ILLUMINATION HAND HOLES IN EMPTY 2" DUCT IN SITE ILLUMINATION DUCT BANK. REFER TO SITE ILLUMINATION DRAWINGS FOR LOCATIONS AND CONFIGURATION. REFER TO TO DWG NO UM-009 FOR CIRCUIT INFORMATION.

3/27/2015 1:35:10 PM T:\18965-NHRY\FIC\DOT\_Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\00\_UMDS\_3010088\_UM-008.dgn

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CHECKED BY: <b>JL</b>	NOT TO SCALE	DRAWING NO. <b>UM-008</b>					
REV. DATE REVISION DESCRIPTION SHEET NO. Plotted Date: 3/27/2015	FILENAME: 20_UMDS_3010088_UM-008.dgn	DRAWING TITLE: <b>UTILITY MISCELLANEOUS DETAILS-ELECTRIC</b>		SHEET NO. <b>05.44</b>			

VOLTAGE:		480 PHASE:		3	WIRE:	4	VA, L1	12,700	PANEL NAME:	DP							
MAIN BUS:		225	AMPS	---	MLO	VA, L2	15,050	LOC.	EXTERIOR - POE SWGR PLATFORM								
MAIN BREAKER:		125	A FRAME	---	125 A TRIP	VA, L3	13,050	NOTES:	EXTERIOR STAINLESS STEEL ENCLOSURE								
MOUNTING:		SURFACE		KAIC:	22	TOT. VA	40,800										
PHASE/POLE	WIRE SIZE	CONDUIT SIZE	DIRECTORY	VA LOAD			CKT.	AMPS	AMPS	CKT.	VA LOAD			DIRECTORY	CONDUIT SIZE	WIRE SIZE	PHASE/POLE
				L1	L2	L3					L1	L2	L3				
1	2#4 & 1#10G	1 1/2"	LC3 - 15 KVA	4,800			1	60	45	2	2,150			LC2 - 15 KVA	1 1/2"	3#4 & 1#6G	3
-	-	-	I		3,000		3	I	I	4		1,150		I	-	-	-
3	3#6 & 1#6G	1 1/2"	LC1 - 15 KVA			2,150	5	45	I	6			1,200	I	-	-	-
-	-	-	I	1,150			7	I	90	8	4,600			LC4 - 30 KVA	1 1/2"	3#4 & 1#6g	3
-	-	-	I		1,200		9	I	I	10		9,700		I	-	-	-
-	-	-	Space				11	-	I	12			9,700	I	-	-	-
-	-	-	Space				13	-	-	14				Space	-	-	-
-	-	-	Space				15	-	-	16				Space	-	-	-
-	-	-	Space				17	-	-	18				Space	-	-	-
-	-	-	Space				19	-	-	20				Space	-	-	-
SUBTOTAL				5,950	4,200	2,150					6,750	10,850	10,900	SUBTOTAL			

VOLTAGE:		208 PHASE:		3	WIRE:	4	VA, L1	4,600	PANEL NAME:	LC4							
MAIN BUS:		125	AMPS	---	MLO	VA, L2	9,700	LOC.	MOW OUTDOOR STORAGE YARD								
MAIN BREAKER:		100	A FRAME	---	A TRIP	VA, L3	9,700	NOTES:	30KVA INTEGRAL XFMR & LOAD CENTER								
MOUNTING:		SURFACE		KAIC:	10	TOT. VA	24,000	EXTERIOR PAD MOUNT									
PHASE/POLE	WIRE SIZE	CONDUIT SIZE	DIRECTORY	VA LOAD			CKT.	AMPS	AMPS	CKT.	VA LOAD			DIRECTORY	CONDUIT SIZE	WIRE SIZE	PHASE/POLE
				L1	L2	L3					L1	L2	L3				
1	2#4 & 1#10G	1 1/2"	Pole Lighting (5 fixt.)	550			1	20	20	2	500			Ext. outlet 120V	3/4"	2#12 & 1#12G	1
-	-	-	I		550		3	I	70	4		8,400		Hazmat Bldg	1 1/2"	2#4 & 1#8G	1
1	2#4 & 1#10G	1 1/2"	Pole Lighting (4 fixt.)			550	5	20	I	6			8,400	I	-	-	-
-	-	-	I	550			7	I	20	8	750			Comm. Cabinet	1 1/2"	2#12 & 1#12G	1
-	-	-	Space				9	20	20	10		750		Comm. Cabinet	1 1/2"	2#12 & 1#12G	1
1	2#8 & 1#12G	1 1/2"	Cyl. Storage (120V)			750	11	20	20	12				Spare	-	-	-
1	2#8 & 1#12G	1 1/2"	EHH-3 120V outlets	1,000			13	20	20	14	750			EHH-2 120V outlets	1 1/2"	2#8 & 1#12G	1
-	-	-	Space				15		20	16				Spare	-	-	-
-	-	-	Space				17		20	18				Spare	-	-	-
-	-	-	Space				19		20	20	500			EHH-1 120V outlets	1 1/2"	2#8 & 1#12G	1
-	-	-	Space				21			22				Space	-	-	-
-	-	-	Space				23			24				Space	-	-	-
SUBTOTAL				2,100	550	1,300					2,500	9,150	8,400	SUBTOTAL			



LOW VOLTAGE ONE LINE DIAGRAM  
(MOW STORAGE YARD)

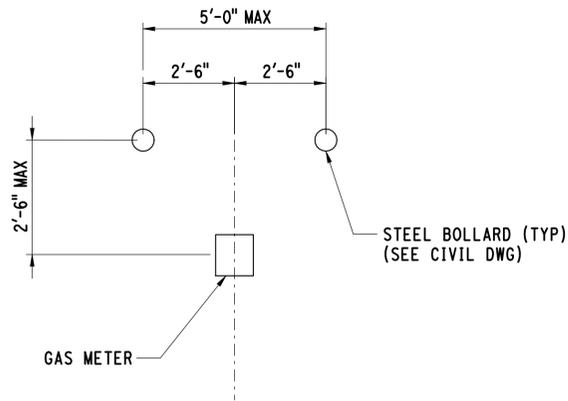
NOTE:

WIRE SIZES SHOWN ON THE ONE LINE DIAGRAM AND IN THE PANEL BOARD SCHEDULES INCLUDE VOLTAGE DROP CALCULATIONS. PROVIDE LUGS AND ADAPTERS AS REQUIRED TO TERMINATE WIRING AS SHOWN.

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REV	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 3/31/2015	DESIGNER/DRAFTER: <b>SG/SK</b>	CHECKED BY: <b>JL</b>	<p><b>STATE OF CONNECTICUT</b> DEPARTMENT OF TRANSPORTATION</p>	<p>AI ENGINEERS, INC MIDDLETOWN, CT</p>	PROJECT TITLE: <b>NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING</b>	TOWN: <b>NEW HAVEN</b>	PROJECT NO. <b>301-0124</b>
									DRAWING TITLE: <b>UTILITY MISCELLANEOUS DETAILS-ELECTRIC</b>	DRAWING NO. <b>UM-009</b>	SHEET NO. <b>05.45</b>

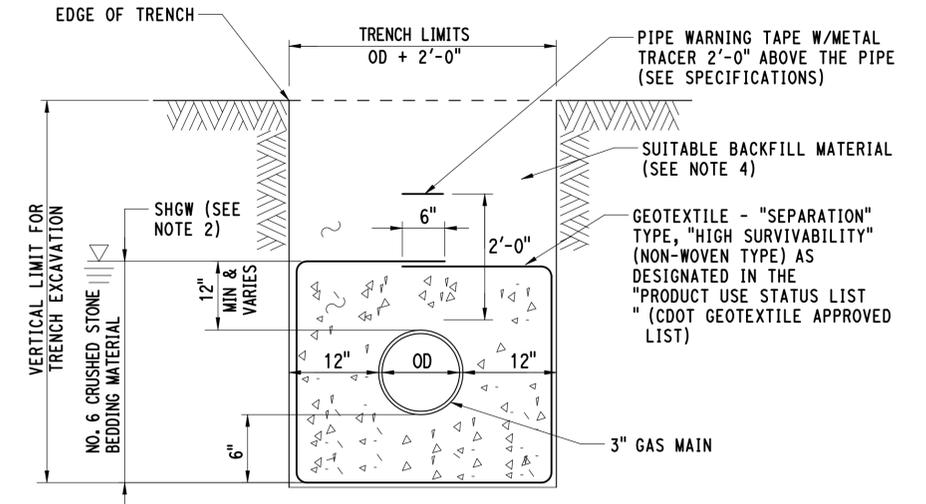




**NOTES:**

1. BOLLARD SPACING AND CONFIGURATION MAY BE MODIFIED AS DIRECTED BY ENGINEER.
2. REFER TO GENERAL SITE PLANS FOR LOCATION OF GAS METER AND NUMBER OF BOLLARDS.
3. CONTRACTOR TO COORDINATE BOLLARD LOCATIONS WITH APPROVED GAS METER ASSEMBLY SIZE.

**TYPICAL GAS METER BOLLARD LAYOUT PLAN**



**NOTES:**

1. SEE DEWATERING SPECIFICATION.
2. PLACE NO 6 CRUSHED STONE TO SEASONAL HIGH GROUND WATER ELEVATION 5.0.
3. PLACE CLASS "C" CONCRETE WATERSTOP FULL WIDTH OF TRENCH FROM BOTTOM OF TRENCH TO 12" ABOVE PIPE AT THE MIDPOINT OF EACH RUN THAT IS GREATER THAN 100' BETWEEN STRUCTURES OR AS DIRECTED BY THE ENGINEER. A MINIMUM WIDTH OF 6" IS REQUIRED FOR EACH WATERSTOP. WATERSTOPS ARE NOT REQUIRED FOR RUNS LESS THAN 100' BETWEEN STRUCTURES.
4. SUITABLE BACKFILL MATERIAL SHALL BE ANY MATERIAL EXCAVATED FROM THE RESPECTIVE TRENCH THAT IS ACCEPTABLE TO THE ENGINEER. GRANULAR FILL SHOULD BE USED IN THE ABSENCE OF SUITABLE BACKFILL MATERIAL AS DIRECTED BY THE ENGINEER.

**GAS MAIN TRENCH DETAIL**

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DESIGNER/DRAFTER: **MR**  
 CHECKED BY: **RG**  
**NOT TO SCALE**



SIGNATURE/BLOCK: AI ENGINEERS, INC  
MIDDLETOWN, CT

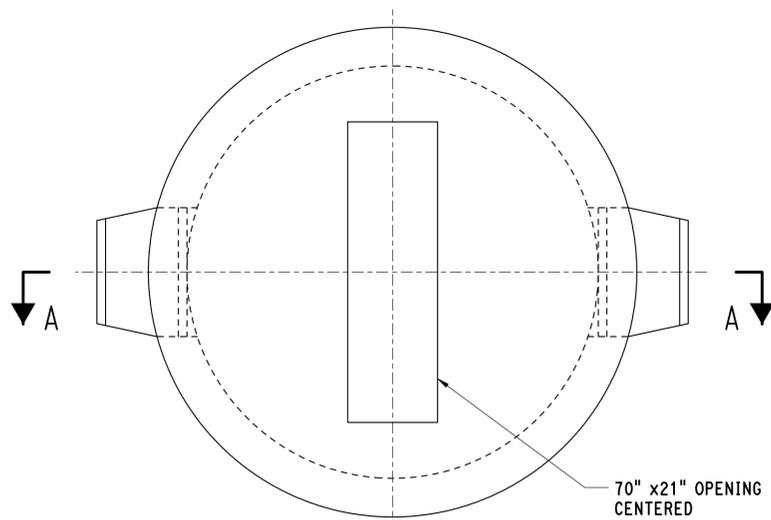
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TOWN: **NEW HAVEN**  
 DRAWING TITLE: **UTILITY MISCELLANEOUS DETAILS-GAS**

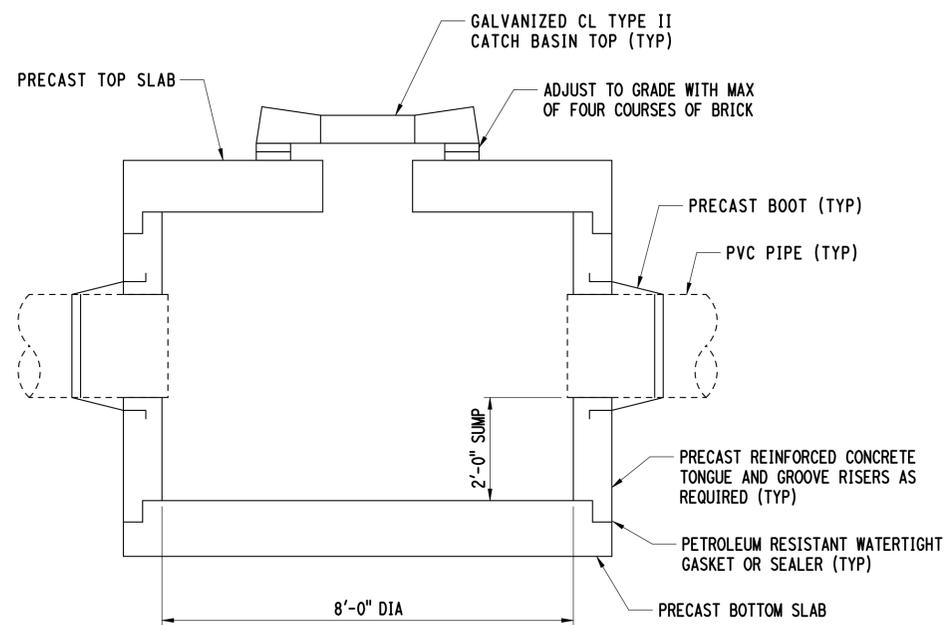
PROJECT NO. **301-0124**  
 DRAWING NO. **UM-011**  
 SHEET NO. **05.47**

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PLAN

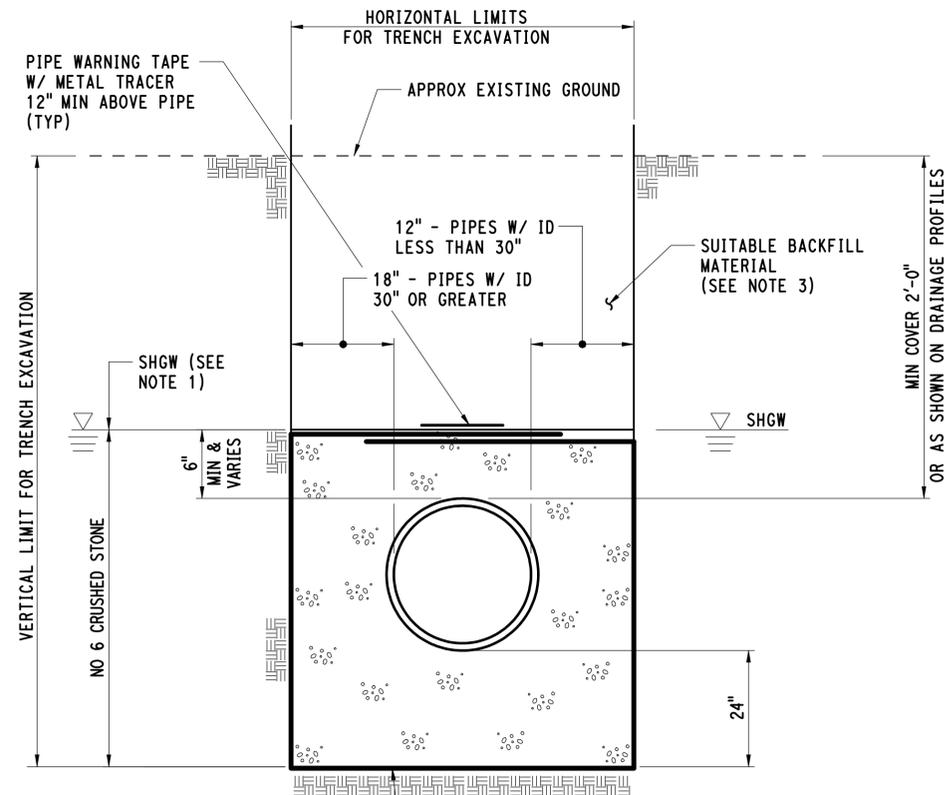


SECTION A-A

NOTES:

1. THE CATCH BASIN SHALL BE DESIGNED BY A CT LICENSED ENGINEER FOR HS-20 LOADINGS.
2. CONTRACTOR TO SUBMIT STAMPED SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.
3. CATCH BASIN EXTERIOR SURFACES SHALL RECEIVE WATERPROOFING COATING.
4. REINFORCING STEEL WELDED WIRE FABRIC SHALL CONFORM TO LATEST ASTM SPECIFICATION A185.
5. REINFORCING STEEL DEFORMED BARS SHALL CONFORM TO LATEST ASTM SPECIFICATION A615, GRADE 60.
6. MINIMUM CONCRETE COMPRESSIVE STRENGTH  $F_c = 5000$  PSI SHALL BE OBTAINED BEFORE SHIPPING.

SPECIAL ROUND TYPE 'C-L' CATCH BASIN



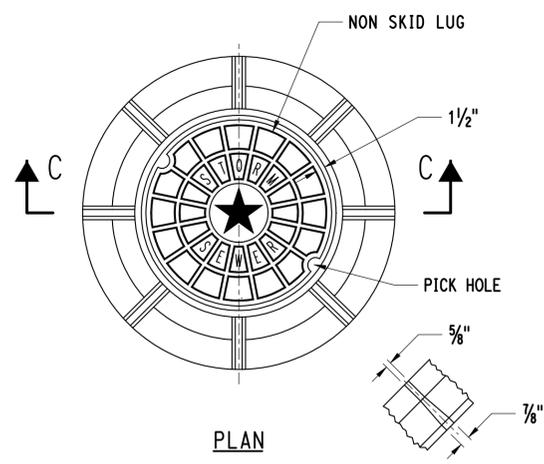
NOTES:

1. PLACE NO 6 CRUSHED STONE TO SEASONAL HIGH GROUND WATER ELEV 5.0.
2. SEE DEWATERING SPECIFICATION.
3. SUITABLE BACKFILL MATERIAL SHALL BE ANY MATERIAL EXCAVATED FROM THE RESPECTIVE TRENCH THAT IS ACCEPTABLE TO THE ENGINEER. GRANULAR FILL SHOULD BE USED IN THE ABSENCE OF SUITABLE BACKFILL MATERIAL AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR WILL BE ALLOWED TO BACKFILL A TRENCH WITH EXCAVATED MATERIAL FROM THE SAME TRENCH PROVIDED THE BACKFILLING IS ACCOMPLISHED ON THE SAME DAY IT WAS EXCAVATED AND IT IS PLACED ABOVE THE SEASONAL HIGH GROUNDWATER ELEVATION (5.0). EXCAVATION FROM ONE TRENCH CAN NOT BE USED AS BACKFILL IN A SEPARATE TRENCH.
5. PLACE CONCRETE WATERSTOP FULL WIDTH OF TRENCH FROM BOTTOM OF TRENCH TO 12" ABOVE PIPE AT THE MIDPOINT OF EACH RUN THAT IS GREATER THAN 100' BETWEEN STRUCTURES OR AS DIRECTED BY THE ENGINEER. A MINIMUM WIDTH OF 6" IS REQUIRED FOR EACH WATERSTOP. WATERSTOPS ARE NOT REQUIRED FOR RUNS LESS THAN 100' BETWEEN STRUCTURES. COST TO BE INCLUDED IN THE COST OF THE PIPE.

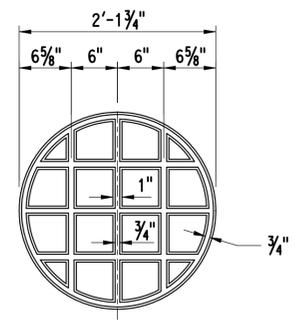
TYPICAL STORM DRAIN PIPE TRENCH

3/27/2015 1:37:24 PM T:\18965-NHRY\FIC\DOT\_Projects\301\_0088\Contract\_Sheet\_Files\20105-Utilities\20\_UMDS\_3010088\_UM-015.dgn

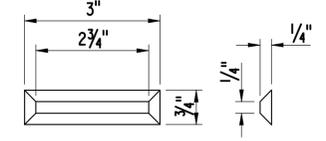
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 3/27/2015	File Name: 20_UMDS_3010088_UM-015.dgn		



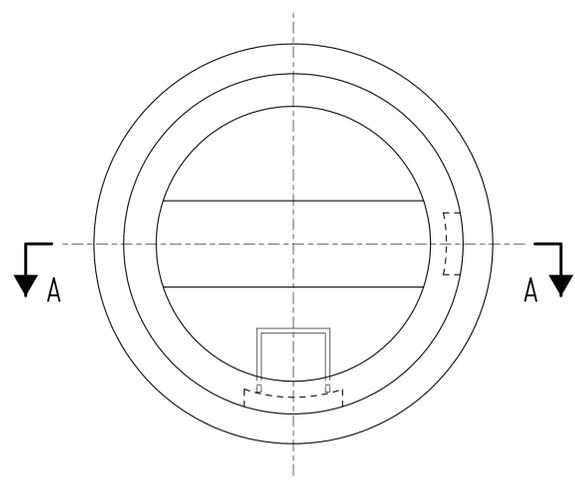
PLAN



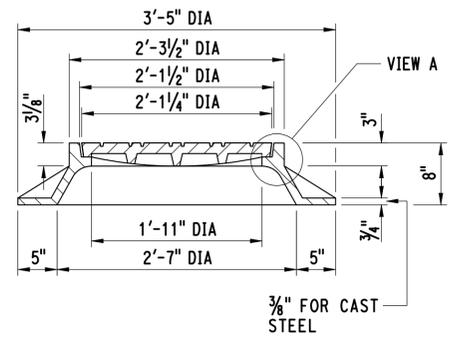
UNDERSIDE OF COVER



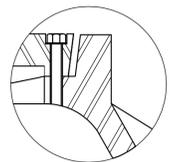
DETAIL OF NON SKID LUG



SECTION A-A

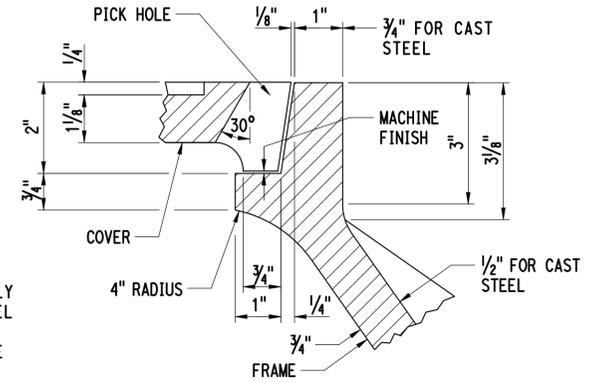


SECTION C-C



BOLTED COVER VERSION OF MH & COVER ASSEMBLY. ASSEMBLY CONSISTS OF 3 STAINLESS STEEL BOLTS & INSERTS, 1 SOLID (NO VENT HOLES) COVER & 1 SQUARE NEOPRENE GASKET.

VIEW A

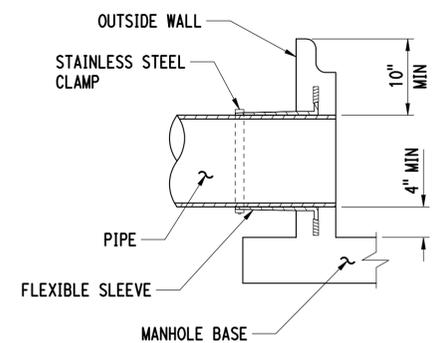


DETAIL OF SEAT

MATERIAL	CAST IRON	CAST STEEL
APPROXIMATE WEIGHT OF COVER	184 LB	134 LB
APPROXIMATE WEIGHT OF FRAME	312 LB	227 LB

ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES

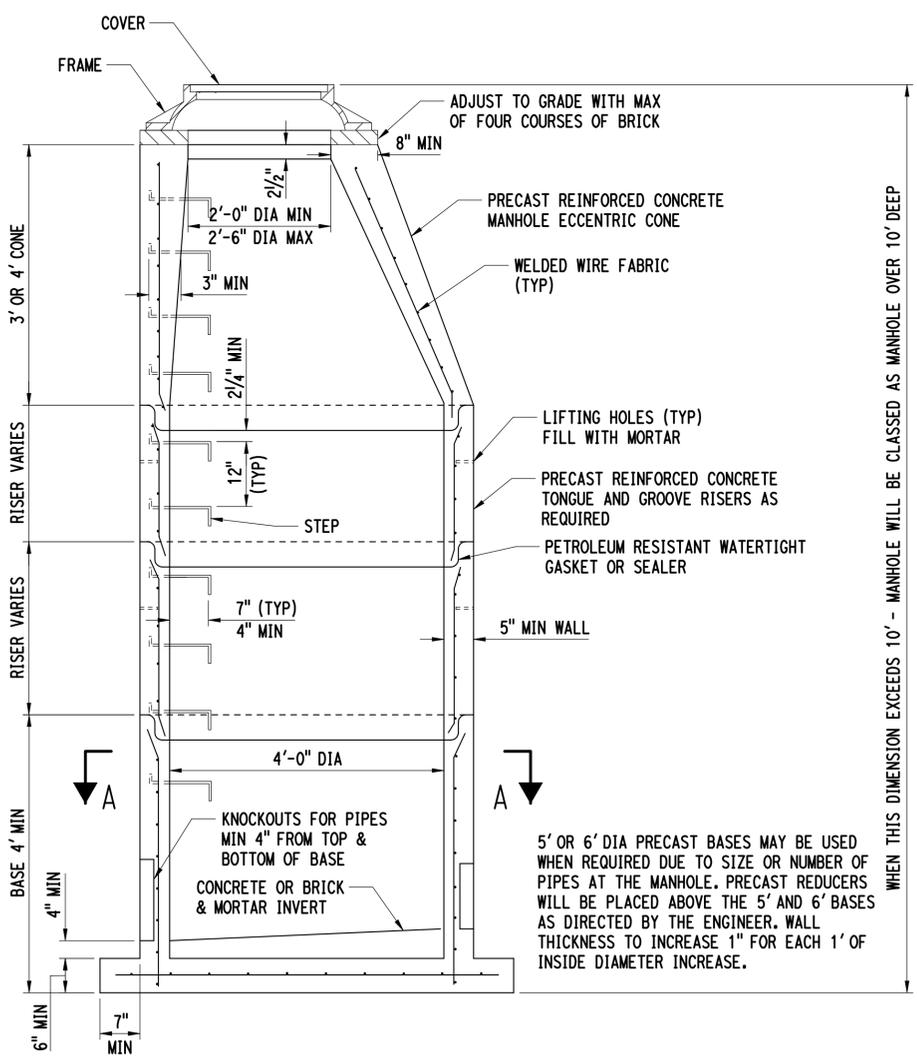
**STORM MANHOLE FRAME AND COVER**



**NOTE:**

CAST IN PLACE SLEEVES SHALL BE USED AT ALL STORM SEWER MANHOLES AND ALL CATCH BASINS EXCEPT AT MANHOLES WHERE FORCE MAIN ENTERS OR EXITS WHICH SHALL HAVE LINK SEAL TYPE WALL PENETRATIONS OR APPROVED EQUAL. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF CTDOT STANDARD STRUCTURES WITH CAST IN PLACE SLEEVES TO THE ENGINEER FOR APPROVAL.

**CAST IN PLACE SLEEVE**



**VERTICAL SECTION  
MANHOLE**

- MANHOLE NOTES:**
- MANHOLES SHALL BE DESIGNED BY A CT LICENSED ENGINEER FOR HS-20 LOADINGS.
  - CONTRACTOR TO SUBMIT STAMPED SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.
  - AT KNOCKOUTS FOR FUTURE PIPE, A CAST IN PLACE SLEEVE PLUS A STUB PIECE OF PIPE SHALL BE INSTALLED. THE STUB PIECE SHALL BE PLUGGED AND BE WATERTIGHT.
  - MANHOLES EXTERIOR SURFACES SHALL RECEIVE WATERPROOFING COATING.
  - A STANDARD RISER SECTION WITH A PRECAST FLAT TOP DESIGNED FOR COOPER E-80 LOADINGS SHALL BE PROVIDED FOR SHALLOW MANHOLES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
  - MINIMUM CONCRETE COMPRESSIVE STRENGTH  $F_c = 5000$  PSI SHALL BE OBTAINED BEFORE SHIPPING.

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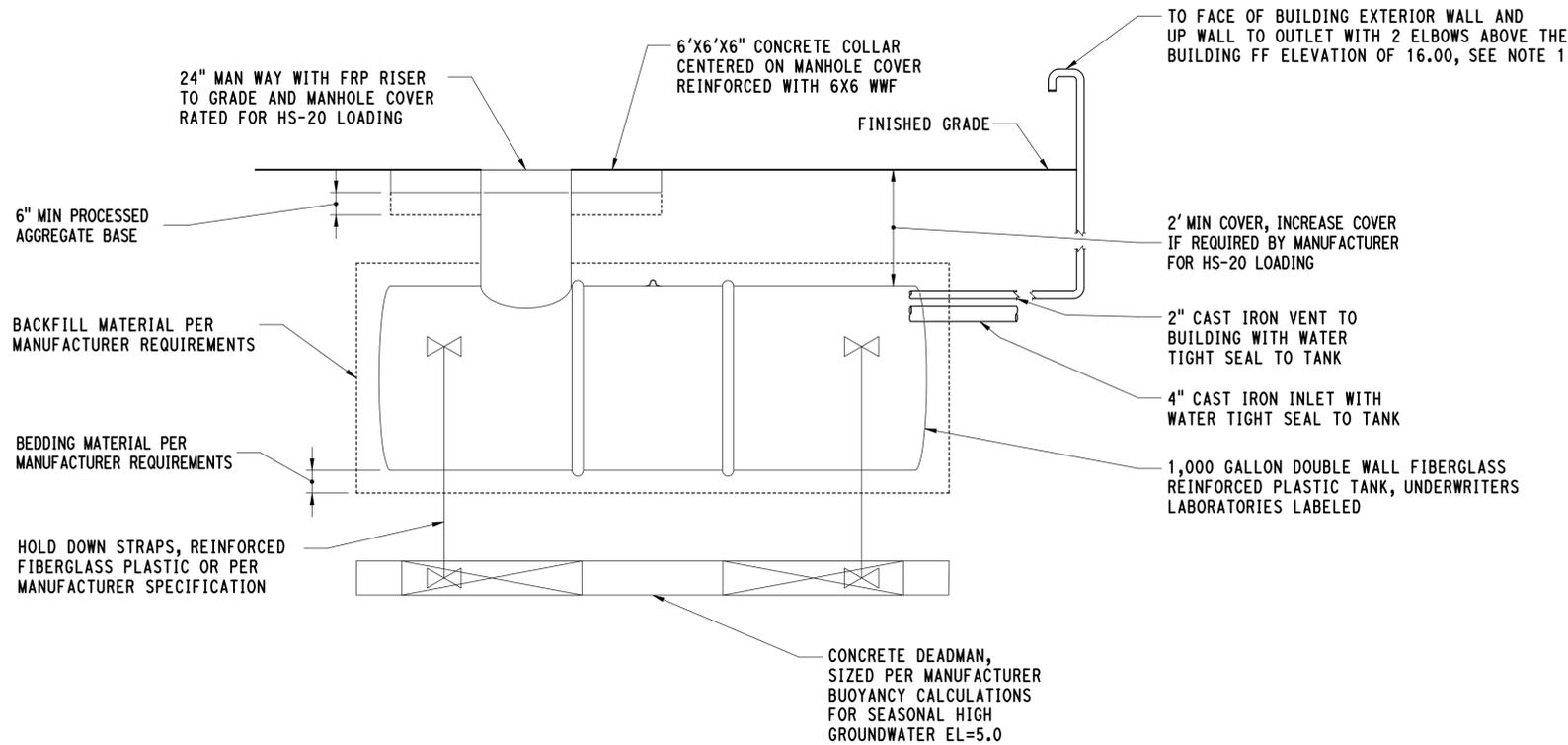
**STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION**

SIGNATURE OF REGISTERED PROFESSIONAL ENGINEER: *[Signature]*  
**PARSONS BRINCKERHOFF  
GLASTONBURY, CT**

PROJECT TITLE:  
**NEW HAVEN RAIL YARD  
FACILITIES IMPROVEMENTS  
MAINTENANCE OF WAY BUILDING**

TOWN: **NEW HAVEN**  
 DRAWING TITLE:  
**UTILITY MISCELLANEOUS  
DETAILS - STORM**

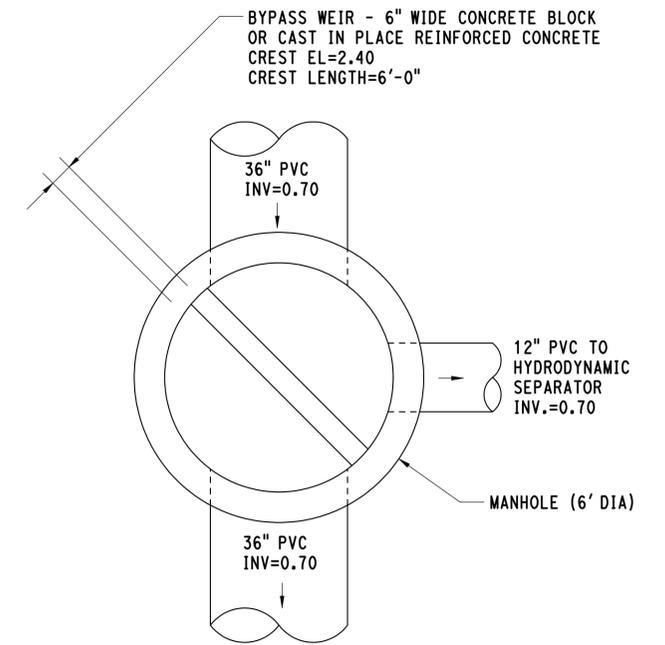
PROJECT NO.: **301-0124**  
 DRAWING NO.: **UM-016**  
 SHEET NO.: **05.49**



NOTES:

1. ATTACH 2" VENT PIPE TO EXTERIOR WALL OF MAINTENANCE OF WAY BUILDING WITH STAINLESS STEEL BRACKETS AND HARDWARE.
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR TANK ASSEMBLY WITH CALCULATIONS TO ENGINEER FOR REVIEW AND APPROVAL.
3. TANKS SHALL INCLUDE A COMPLETE ELECTRONIC LEVEL AND LEAK ALARM SYSTEM. CONTRACTOR TO SUBMIT DESIGN OF SYSTEM TO ENGINEER FOR REVIEW AND APPROVAL. REFER TO SPECIFICATION SECTION 22 13 73 FOR ADDITIONAL INFORMATION.
4. REFER TO DWG NOS UE-001 & UE-003 FOR RGS CONDUIT LOCATIONS FOR POWER TO BUILDING.
5. REFER TO DWG NOS SC-001 & SC-003 FOR RGS CONDUIT LOCATIONS FOR COMM TO BUILDING.

**FACILITY FLOOR DRAIN WATER TANKS**



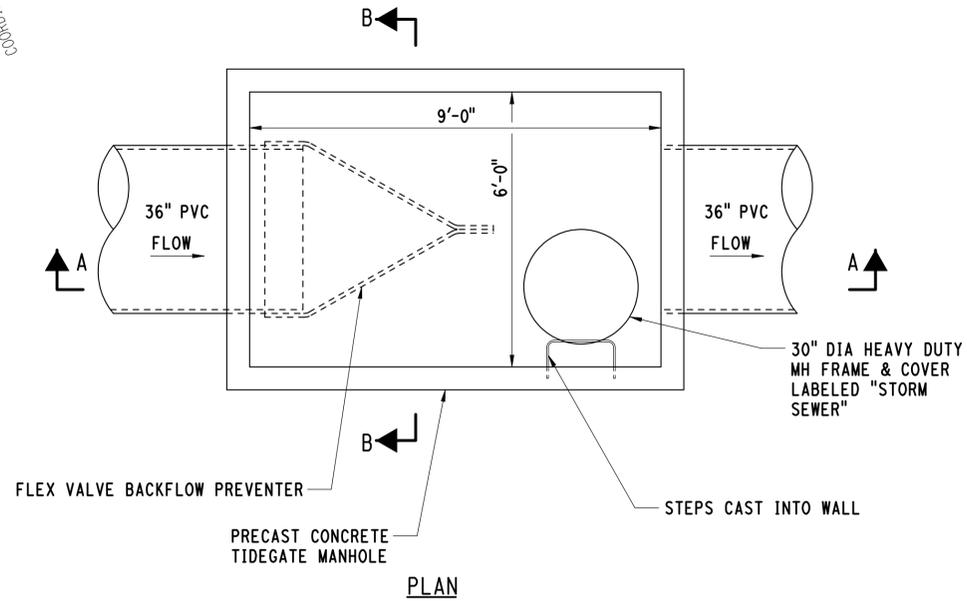
NOTE:

REFER TO DWG NO UM-016 FOR MANHOLE DETAILS AND SPECIFICATIONS 33 49 00 STORM DRAIN STRUCTURES AND 33 44 19.21 HYDRODYNAMIC SEPARATOR.

**SPECIAL MANHOLE (MH-909)**

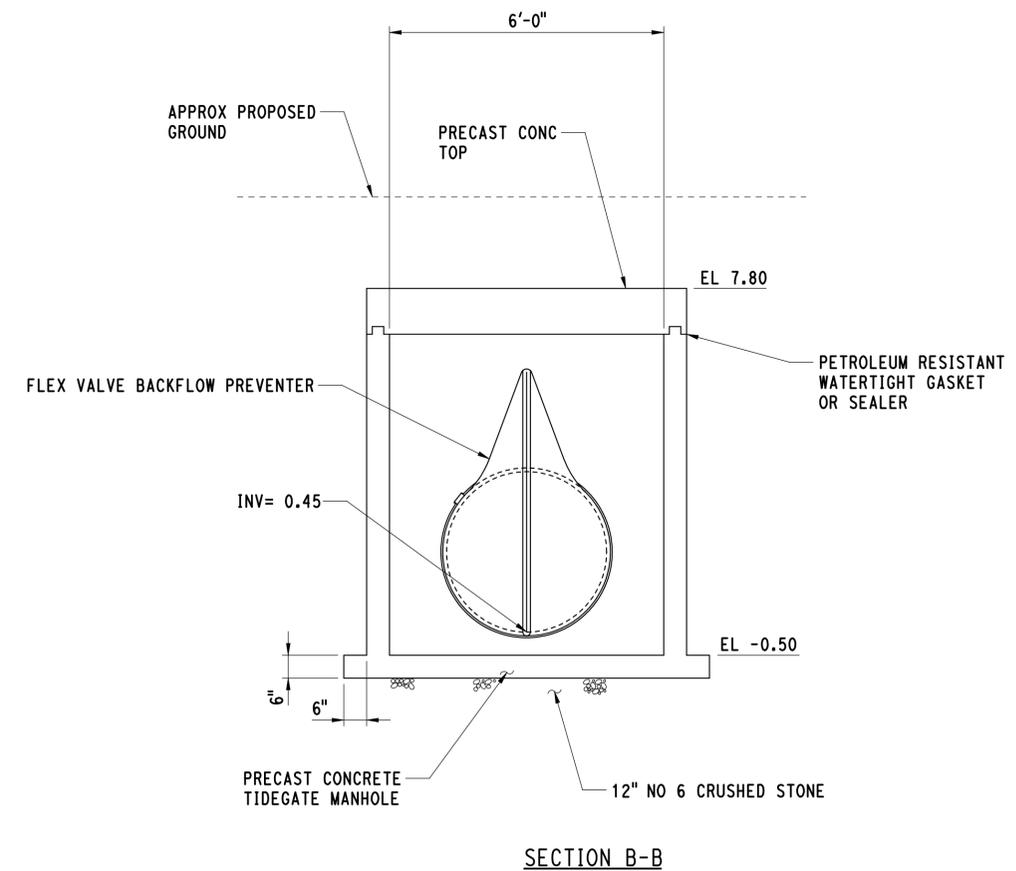
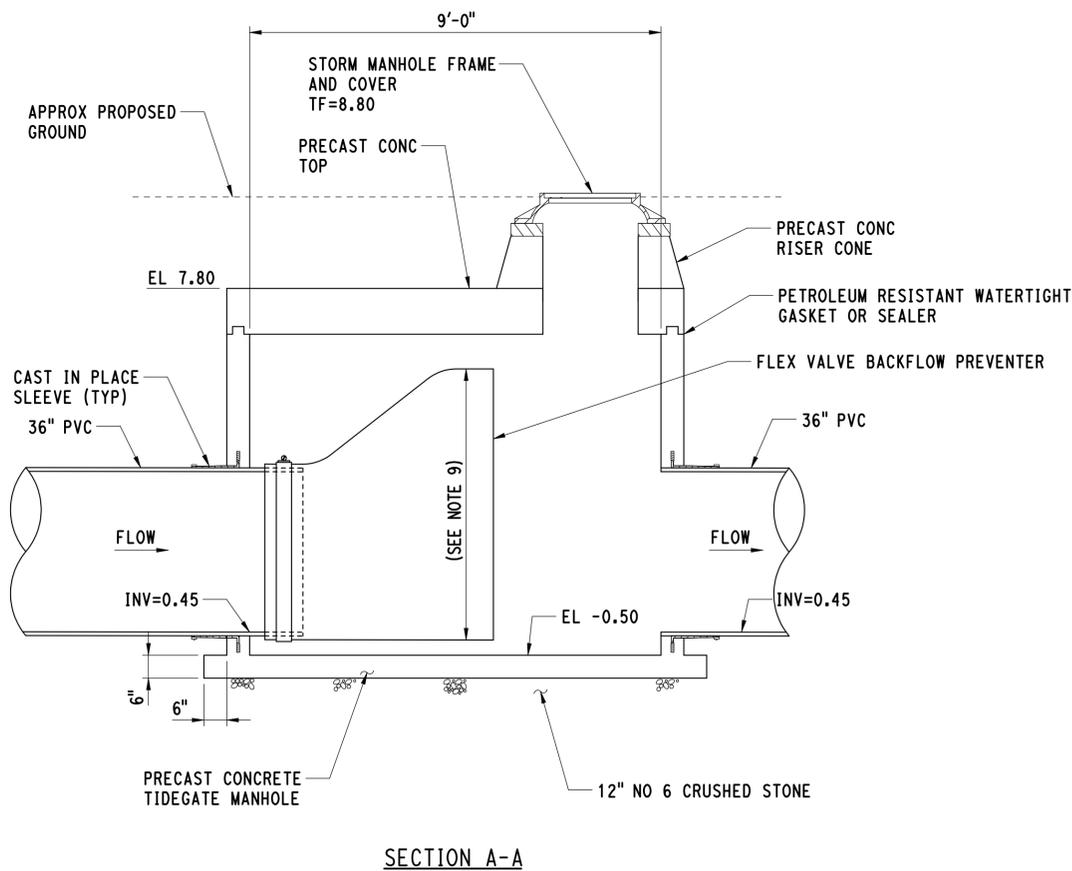
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 3/31/2015				



**TIDEGATE MANHOLE NOTES:**

1. TIDEGATE MANHOLE SHALL BE DESIGNED BY A CT LICENSED ENGINEER FOR HS20 LOADING.
2. CONTRACTOR TO SUBMIT STAMPED SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.
3. CONCRETE TO BE CLASS "C".
4. TIDEGATE MANHOLE SECTIONS AND ALL REINFORCING TO MEET REQUIREMENTS OF CURRENT ASTM SPECIFICATION C-478.
5. ALL EXTERIOR SURFACES SHALL RECEIVE DAMP-PROOFING.
6. PROVIDE 6" MIN CLEARANCE BETWEEN BASE OF MANHOLE AND INVERT OF PVC PIPES.
7. TIDEGATE MANHOLE SHALL BE PLACED ON A 12" LAYER OF NO 6 CRUSHED STONE.
8. FOR ADDITIONAL DETAILS INCLUDING MANHOLE FRAME & COVER, STEPS AND CAST-IN-PLACE SLEEVES, SEE DWG NO UM-016.
9. CONTRACTOR IS TO SUBMIT SHOP DRAWING OF TIDEGATE TO VERIFY DIMENSIONS. AT THE TIDEGATE MANHOLE THE DRAINAGE SYSTEM 10 YR HGL ELEVATION = 2.20 AND 10 YR FLOW RATE IS 12.53 CFS.



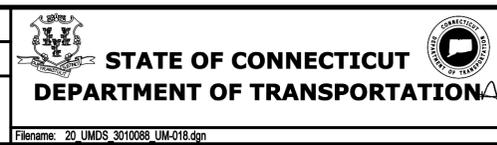
**TIDEGATE MANHOLE**

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**WPD**  
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SIGNATURE:  
*[Signature]*  
BLOOMINGTON, CT  
STATE OF CONNECTICUT  
LICENSED PROFESSIONAL ENGINEER

PROJECT TITLE:  
**NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING**

TOWN:  
**NEW HAVEN**  
DRAWING TITLE:  
**UTILITY MISCELLANEOUS DETAILS - STORM**

PROJECT NO.  
**301-0124**  
DRAWING NO.  
**UM-018**  
SHEET NO.  
**05.51**