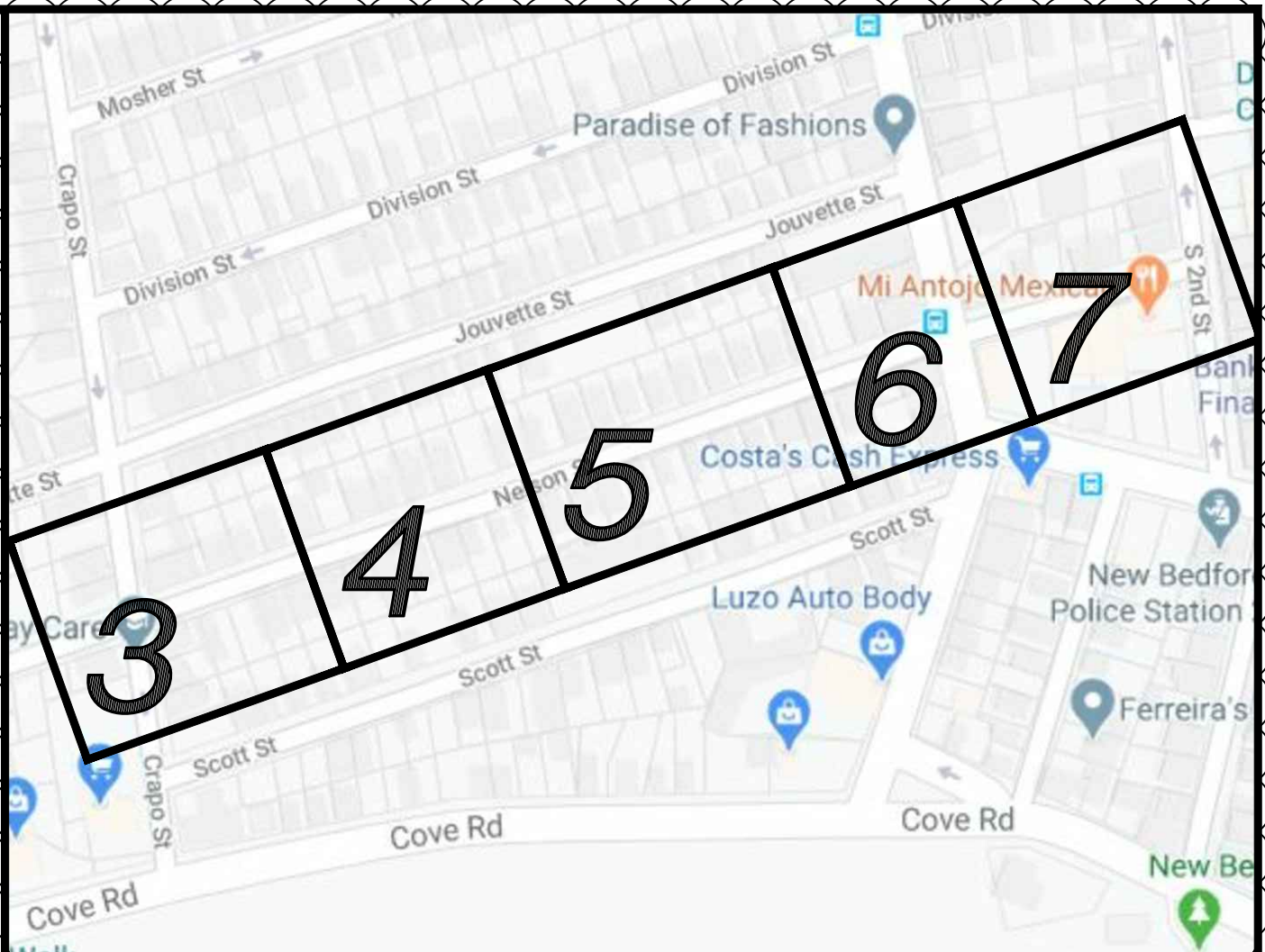
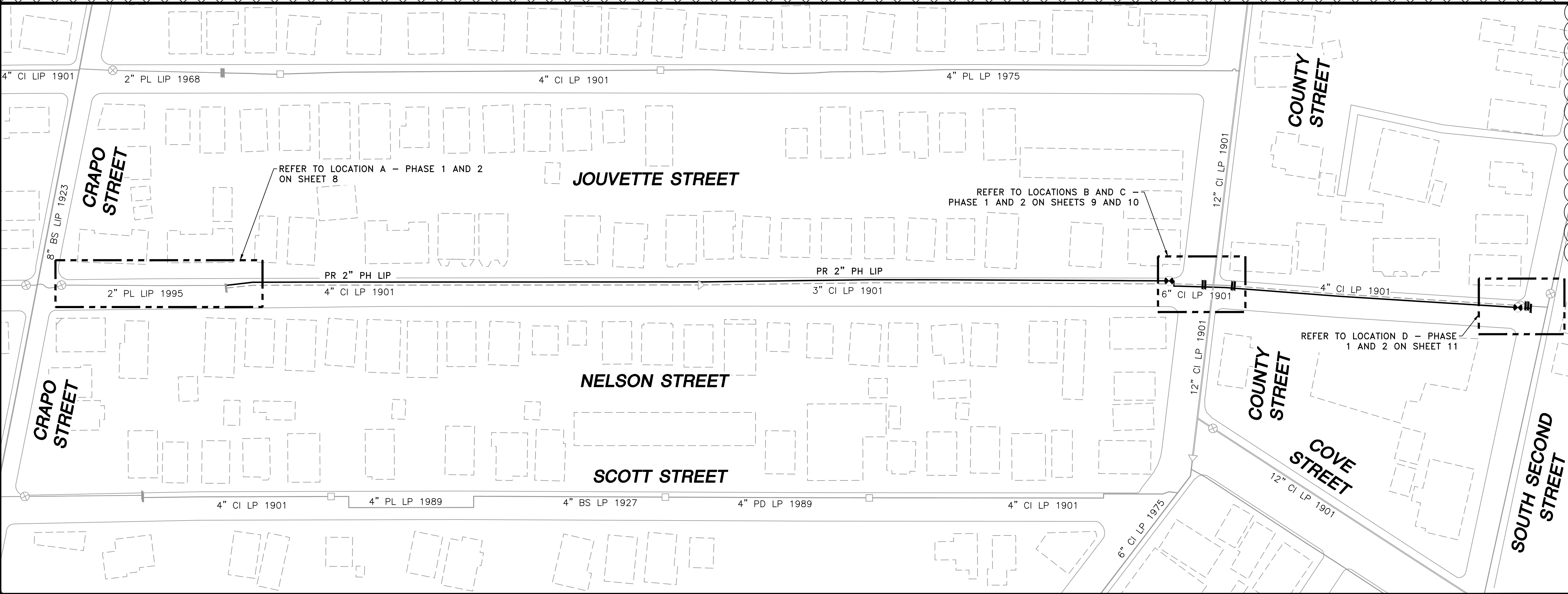


# EVERSOURCE ENERGY

NELSON STREET MAIN RELAY  
INSTALLATION OF 1290' OF 2" PH LIP GAS MAIN  
NELSON STREET  
NEW BEDFORD, MASSACHUSETTS  
ENE PROJECT #: 2005881.33  
EVERSOURCE PROJECT #: 1592785



LOCUS PLAN  
NOT TO SCALE



SHEET INDEX	
SHEET NUMBER	DESCRIPTION
1	SITE PLAN, DRAWING LEGEND AND SHEET INDEX
2	GENERAL NOTES
3	INSTALLATION PLAN
4	INSTALLATION PLAN
5	INSTALLATION PLAN
6	INSTALLATION PLAN
7	INSTALLATION PLAN
8	LOCATION A – PHASE 1, 2 AND SCHEDULE OF MATERIALS
9	LOCATION B – PHASE 1, 2 AND SCHEDULE OF MATERIALS
10	LOCATION C – PHASE 1, 2 AND SCHEDULE OF MATERIALS
11	LOCATION D – PHASE 1, 2 AND SCHEDULE OF MATERIALS
12	STANDARD CORROSION DETAILS

SITE PLAN  
NEW BEDFORD, MASSACHUSETTS  
(SCALE: 1"=60')  
(DO NOT SCALE FROM DRAWINGS)

4	IFC - UPDATED SITE PLAN & SHEET INDEX	02/02/2021	ZS/AB/EK
3	IFC - UPDATED SITE PLAN	01/14/2021	WS/AB/EK
2	IFC - NO CHANGES TO THIS SHEET	12/08/2020	ZS/AB/EK
1	IFC - UPDATED SHEET INDEX	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

REVISION STATUS  
**EVERSOURCE**  
ENERGY

NELSON STREET MAIN RELAY

NEW BEDFORD, MASSACHUSETTS

SITE PLAN, LOCUS PLAN AND SHEET INDEX

SCALE: AS NOTED		SHEET 1 OF 12	
DRAWN BY / DATE AC 12/11/2020	CHECKED BY / DATE AB 02/02/2021	SHEET NUMBER MA-21-PIP-NEB-002-01	REV. NO. 4
APPROVED BY / DATE EK 02/02/2021	MA21PIPNEB002R4		

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02/02/2021

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02/02/2021  
LICENSE  
EXPIRATION:  
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FIELD VERIFY DIMENSIONS  
PRIOR TO PIPE FABRICATION



GENERAL NOTES

1. IF ANY OF THE FOLLOWING OCCUR A DRAWING REVISION IS REQUIRED AND MUST BE APPROVED AND/OR STAMPED BY THE ENGINEER OF RECORD. CHANGES CAN BE APPROVED AND/OR STAMPED BY A PROJECT ENGINEER, BUT THE ENGINEER OF RECORD MUST BE INFORMED.

A. IF THE TIE IN POINT MOVES TO A DIFFERENT SEGMENT OF PIPE THAN SHOWN

B. IF A CHANGE IN THE LOCATION OF VALVES IS REQUIRED

C. IF THERE IS ANY CHANGE TO WHAT IS SHOWN ON THE DRAWING WITHIN 50 FT OF A PRESSURE REGULATING STATION, DISTRICT REGULATOR, OR GATE STATION

D. IF A CHANGE IN PIPE SIZE, MATERIAL, FITTINGS, OR WALL THICKNESS IS REQUIRED.
2. MINOR CHANGES SUCH AS OFFSETS MAY NOT REQUIRE DRAWING CHANGES.
3. EXCAVATOR SHALL CALL DIGSAFE/CALL BEFORE YOU DIG (DIAL 811) AT LEAST 72 HOURS PRIOR TO CONSTRUCTION. SATURDAYS, SUNDAYS, AND HOLIDAYS ARE EXCLUDED FROM THE 72-HOUR TIME SPAN, NOT CONSIDERED BUSINESS WORKDAYS.
4. CONSTRUCTION DRAWINGS ARE BASED ON EVERSOURCE HISTORICAL DOCUMENTATION AND HAVE NOT BEEN FIELD VERIFIED. WHEN THE PIPE IS EXPOSED AND VARIANCES TO THE CERTIFIED DRAWINGS ARE FOUND, CONTACT GAS ENGINEERING TO DETERMINE PATH FORWARD.
5. ALL WORK SHALL BE PERFORMED PER EVERSOURCE, LOCAL, STATE, OSHA, AND FEDERAL REGULATIONS AND STANDARDS.
6. MATERIAL AND CONSTRUCTION SHALL CONFORM TO EVERSOURCE GAS STANDARDS.
7. THE LOCATIONS OF EXISTING UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MUST BE FIELD VERIFIED. ADDITIONAL UNDERGROUND FACILITIES MAY EXIST THAT ARE NOT SHOWN ON THESE DRAWINGS WHICH MAY REQUIRE ADDITIONAL OFFSETS IN THE PIPELINE.
8. WORK LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. EXACT LOCATIONS OF TIE-INS SHALL BE DETERMINED AT THE TIME OF CONSTRUCTION TO SUIT FIELD CONDITIONS AT THE SPECIFIC TIE-IN POINT. VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY TIE-IN WORK.
9. ALL LIVE GAS WORK INCLUDING BUT NOT LIMITED TO TAPPING OF FITTINGS ON LIVE MAINS, STOPPING, MANIPULATING VALVE, ABANDONMENT, SHALL BE PERFORMED BY, OR AT THE DIRECTION AND UNDER THE DIRECT SUPERVISION OF EVERSOURCE GAS PERSONNEL AND IN ACCORDANCE WITH THE WRITTEN PROCEDURE. DRAWING CHANGES MAY ALSO REQUIRE A CHANGE TO THE PROCEDURE.
10. EXCAVATOR IS REQUIRED TO PROTECT EXISTING UTILITIES, STRUCTURES, LANDSCAPE FEATURES, SIGNAGE, CURBS, ETC. CARE SHOULD BE TAKEN NOT TO DISTURB OR DAMAGE SUCH ROADWAY, SIDEWALKS, AND GRASS DISTURBED SHALL BE RESTORED TO THE SATISFACTION OF THE CITY OR TOWN. PLANT BEDS WILL BE RELOCATED TO THEIR EXISTING REGULAR LOCATION.
11. IF THE PROJECT IS WITHIN 50 FEET OF A DISTRICT REGULATOR OR GATE STATION, ENSURE THAT A QUALIFIED I&R TECHNICIAN IS ON SITE.
12. ALL TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), INCLUDING ALL REVISIONS AND ADDENDA. ALL TRAFFIC CONTROL DEVICES WILL BE SUPPLIED BY EXCAVATOR.
13. PROPERTY LINES, STRUCTURES AND EXISTING CONDITIONS DEPICTED ON PLANS ARE BASED ON EVERSOURCE GIS INFORMATION AND HAVE NOT BEEN VERIFIED BY LAND SURVEY UNLESS NOTED.
14. EXISTING SERVICES SHOWN ON PLAN ARE FOR INFORMATION ONLY. PROPOSED SERVICES ARE NOT SHOWN ON PLANS AND ARE TO BE INSTALLED PER EVERSOURCE CONSTRUCTION STANDARDS.
15. PROPOSED WORK SHALL BE PERFORMED AND COMPLETED IN COMPLIANCE WITH ALL PERMITS AND APPROVALS.
16. MAINS AND SERVICES SHALL BE PRESSURE TESTED IN ACCORDANCE WITH EVERSOURCE OM-205.
17. MAOP:

LP = 14" W.C.

LIP = 35 PSIG

IP = 60 PSIG

HP = 90 PSIG
18. ALL WORK SHALL BE PERFORMED PER EVERSOURCE, LOCAL, STATE AND FEDERAL REGULATIONS AND STANDARDS.
19. ALL PIPE WILL BE INSTALLED WITH A MINIMUM DEPTH IN ACCORDANCE WITH EVERSOURCE STANDARDS
20. SQUEEZE OPERATIONS SHOULD BE COMPLETED IN ACCORDANCE WITH OM-233
21. ENSURE ALL SERVICES BEING TRANSFERRED TO A HIGHER PRESSURE SYSTEM HAVE UPGRADED PRESSURE REGULATORS INSTALLED PRIOR TO ACTIVATION.
22. ENSURE VALVES ON EXISTING MAIN, WHERE PROPOSED MAIN WILL BE INSERTED HAVE BEEN MADE INOPERABLE.
23. ADDITIONAL VALVES AND TEES THAT ARE INCLUDED IN THE SCHEDULE OF MATERIALS MAY BE INSTALLED TEMPORARILY WHEN NEEDED TO FACILITATE TIE-INS AND PURGES.
24. METFIT FITTINGS MAY BE SUBSTITUTED FOR ELECTROFUSION FITTINGS WHERE NEEDED.
25. DO NOT SCALE FROM DRAWINGS.

4	IFC - NO CHANGES TO THIS SHEET	02/02/2021	ZS/AB/EK
3	IFC - NO CHANGES TO THIS SHEET	01/14/2021	WS/AB/EK
2	IFC - REMOVED BOM	12/08/2020	ZS/AB/EK
1	IFC - NO CHANGES TO THIS SHEET	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

REVISION STATUS			
EVERSOURCE ENERGY			
NELSON STREET MAIN RELAY			
NEW BEDFORD, MASSACHUSETTS			
GENERAL NOTES			
SCALE: NOT TO SCALE		SHEET 2 OF 12	
DRAWN BY / DATE	CHECKED BY / DATE	SHEET NUMBER	REV. NO.
AC 12/11/2020	AB 02/02/2021	MA-21-PIP-NEB-002-02	4
APPROVED BY / DATE	MA21PIPNEB002R4		
EK 02/02/2021			

ISSUED FOR  
CONSTRUCTION  
02/02/2021

SEALED BY:



SIGNATURE

[Signature]

SEALED ON:

02/02/2021

LICENSE EXPIRATION:

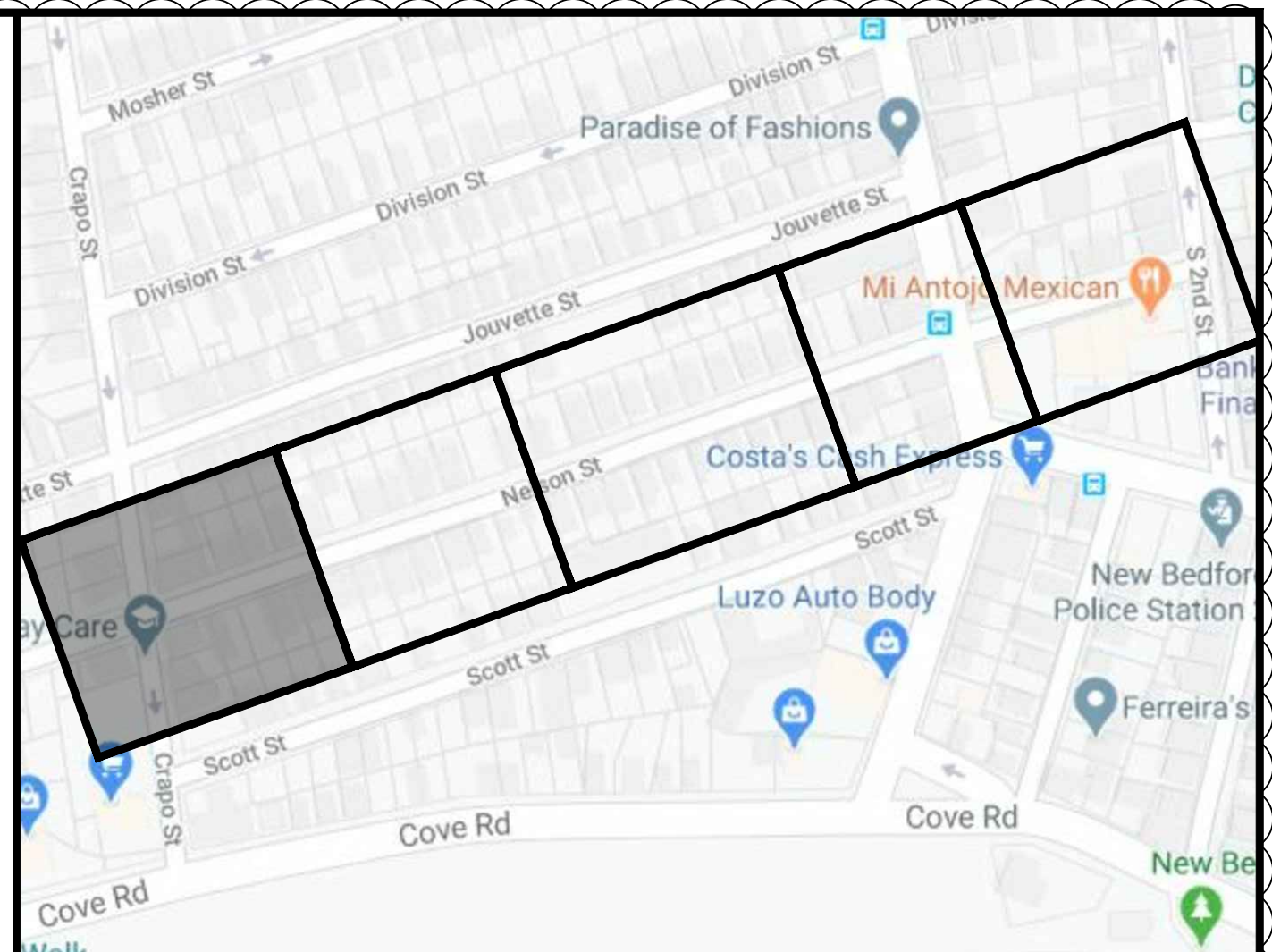
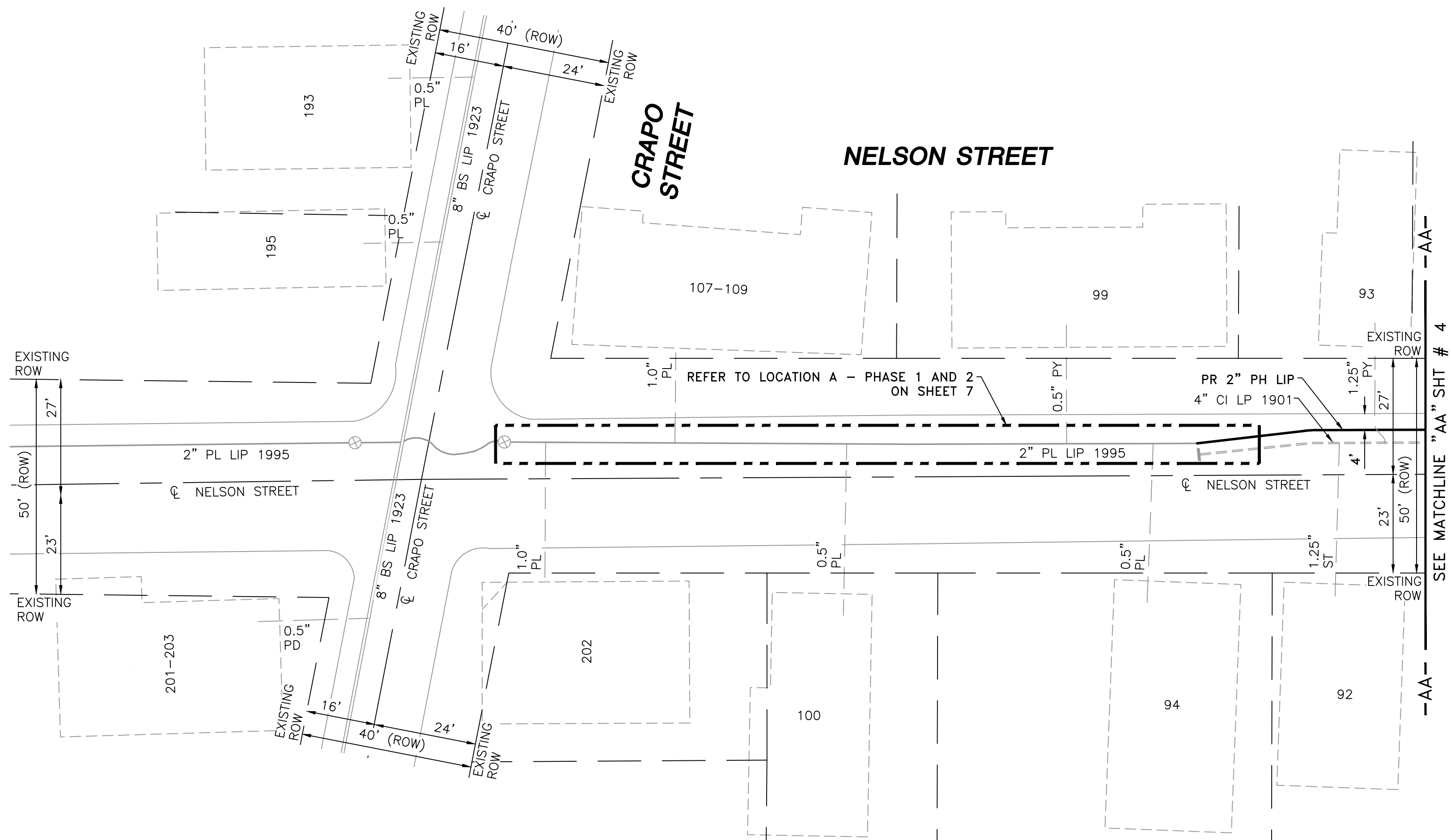
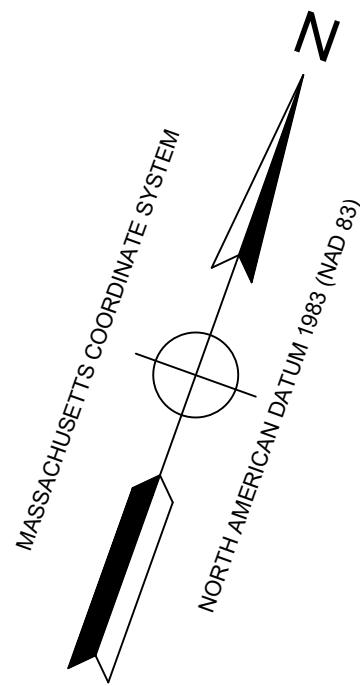
06/30/2022

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FIELD VERIFY DIMENSIONS  
PRIOR TO PIPE FABRICATION



LOCUS PLAN  
NOT TO SCALE

#### DRAWING LEGEND

	UTILITY POLE		EXISTING GAS MAIN
	LIGHT POLE		RETIRED GAS MAIN
	CATCH BASIN		PROPOSED GAS MAIN
	FIRE HYDRANT		EXISTING SERVICE
	UTILITY MANHOLE		RIGHT OF WAY
	ELECTRIC MANHOLE		ELECTRIC
	TELEPHONE MANHOLE		TELEPHONE
	WATER MANHOLE		WATER
	SANITARY MANHOLE		SANITARY SEWER
	STORM MANHOLE		STORM SEWER
	EXISTING REDUCER		PROPOSED REDUCER
	EXISTING CAP		PROPOSED CAP
	EXISTING VALVE		PROPOSED VALVE
	EXISTING COUPLING		PROPOSED ANODE

4	IFC - ADDED THIS PAGE	02/02/2021	ZS/AB/EK
3	IFC - NO CHANGES TO THIS SHEET	01/14/2021	WS/AB/EK
2	IFC - NO CHANGES TO THIS SHEET	12/08/2020	ZS/AB/EK
1	IFC - NO CHANGES TO THIS SHEET	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

#### REVISION STATUS

**EVERSOURCE**  
ENERGY

NELSON STREET MAIN RELAY

NEW BEDFORD, MASSACHUSETTS

INSTALLATION PLAN

SCALE: 1"=20' (DO NOT SCALE FROM DRAWINGS) SHEET 3 OF 12

DRAWN BY / DATE AC 12/11/2020	CHECKED BY / DATE AB 02/02/2021	SHEET NUMBER MA-21-PIP-NEB-002-03	REV. NO. 4
APPROVED BY / DATE EK 02/02/2021	MA21PIPNEB002R4		

#### NOTES:

- REFER TO GENERAL NOTES ON SHEET #2.
- CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.
- HDPE, 4710, SDR 11 ELBOWS TO BE INSTALLED AS REQUIRED TO FACILITATE OFFSETS BASED ON FIELD CONDITIONS.

LENGTH	SIZE	MATERIAL	DESCRIPTION
55'	2"	PH	INSTALL
55'	4"	CI	RETIRE

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CONSTRUCTION  
02/02/2021

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SEALED ON:

02/02/2021

LICENSE  
EXPIRATION:

06/30/2022

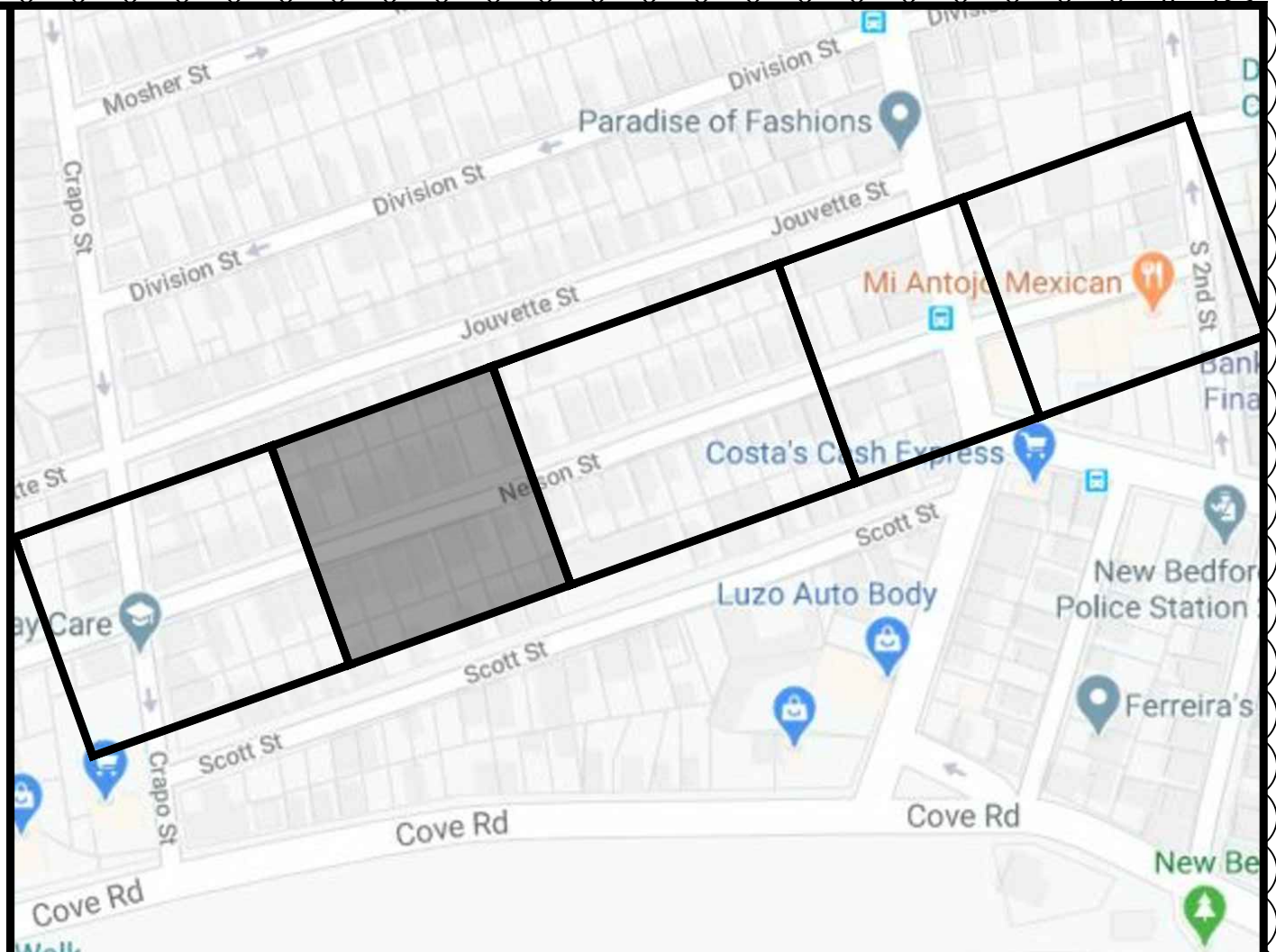
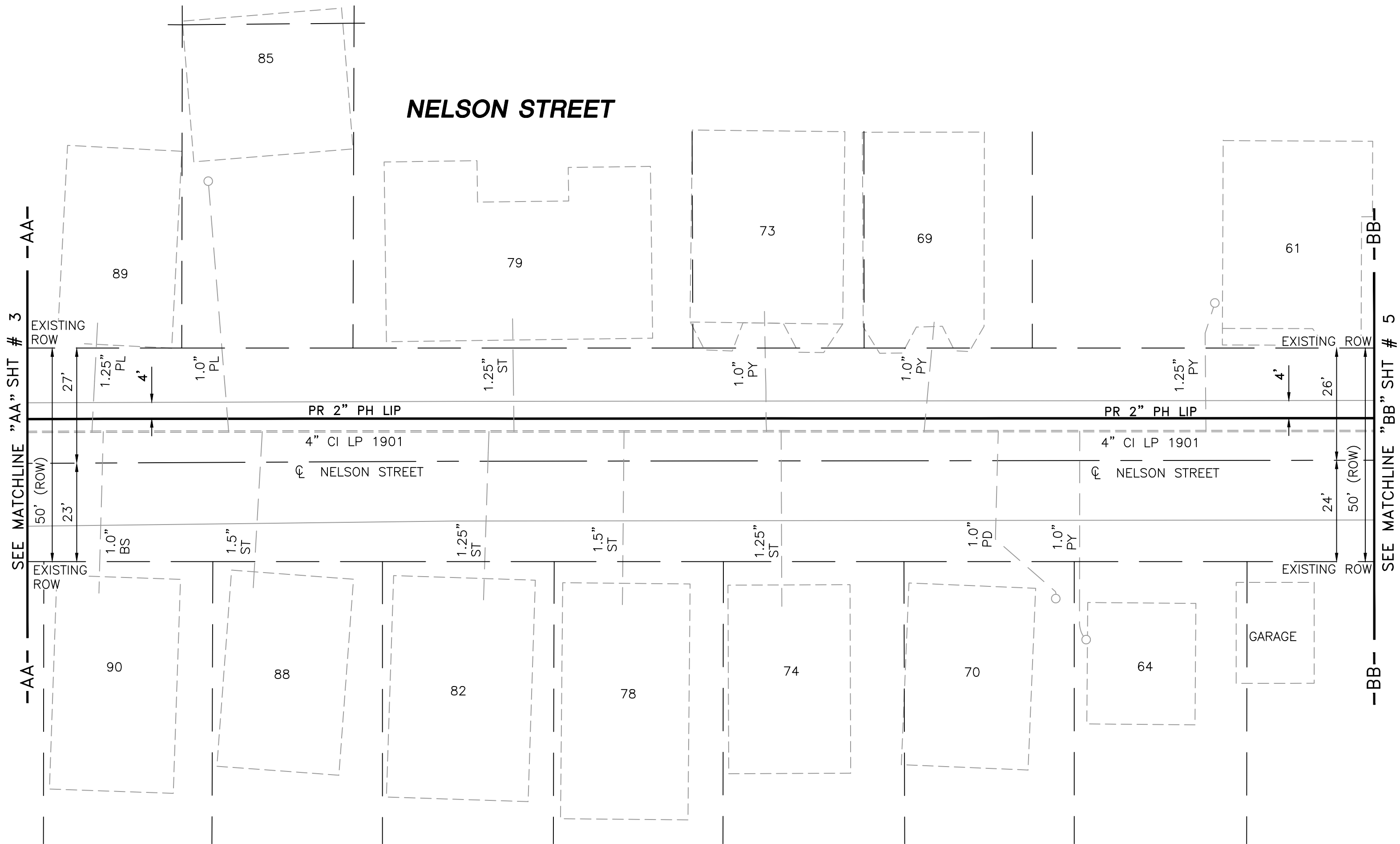
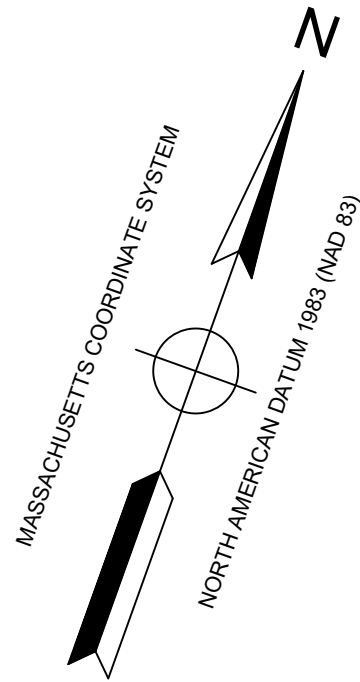
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LOCUS PLAN  
NOT TO SCALE

DRAWING LEGEND

	UTILITY POLE		EXISTING GAS MAIN
	LIGHT POLE		RETIRED GAS MAIN
	CATCH BASIN		PROPOSED GAS MAIN
	FIRE HYDRANT		EXISTING SERVICE
	UTILITY MANHOLE		RIGHT OF WAY
	ELECTRIC MANHOLE		ELECTRIC
	TELEPHONE MANHOLE		TELEPHONE
	WATER MANHOLE		WATER
	SANITARY MANHOLE		SANITARY SEWER
	STORM MANHOLE		STORM SEWER
	EXISTING REDUCER		PROPOSED REDUCER
	EXISTING CAP		PROPOSED CAP
	EXISTING VALVE		PROPOSED VALVE
	EXISTING COUPLING		PROPOSED ANODE

4	IFC - UPDATED INSTALLATION PLAN	02/02/2021	ZS/AB/EK
3	IFC - NO CHANGES TO THIS SHEET	01/14/2021	WS/AB/EK
2	IFC - NO CHANGES TO THIS SHEET	12/08/2020	ZS/AB/EK
1	IFC - NO CHANGES TO THIS SHEET	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

REVISION STATUS

**EVERSOURCE**  
ENERGY

NELSON STREET MAIN RELAY

NEW BEDFORD, MASSACHUSETTS

INSTALLATION PLAN

SCALE: 1"=20' (DO NOT SCALE FROM DRAWINGS) SHEET 4 OF 12

DRAWN BY / DATE AC 12/11/2020	CHECKED BY / DATE AB 02/02/2021	SHEET NUMBER MA-21-PIP-NEB-002-04	REV. NO. 4
APPROVED BY / DATE EK 02/02/2021	MA21PIPNEB002R4		

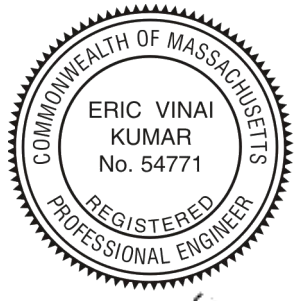
NOTES:

- REFER TO GENERAL NOTES ON SHEET #2.
- CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.
- HDPE, 4710, SDR 11 ELBOWS TO BE INSTALLED AS REQUIRED TO FACILITATE OFFSETS BASED ON FIELD CONDITIONS.

LENGTH	SIZE	MATERIAL	DESCRIPTION
315'	2"	PH	INSTALL
315'	4"	CI	RETIRE

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02/02/2021

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LICENSE EXPIRATION:

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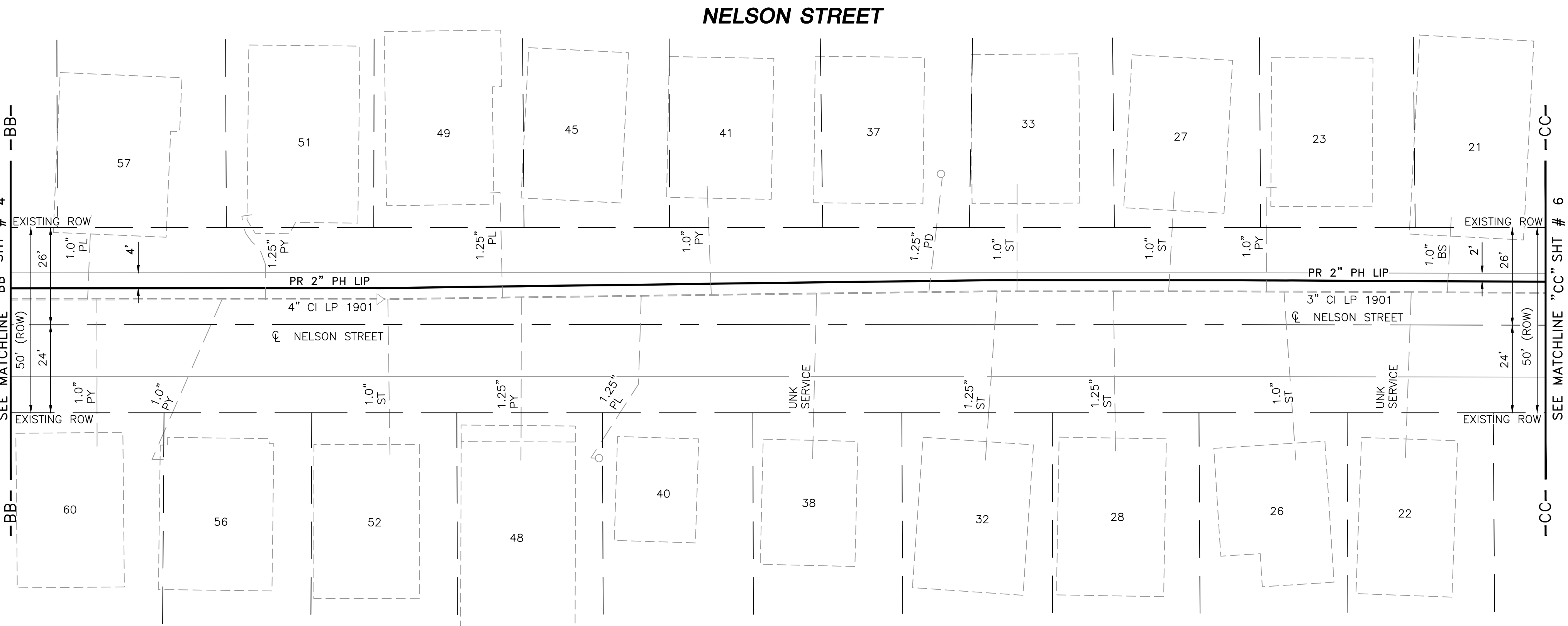
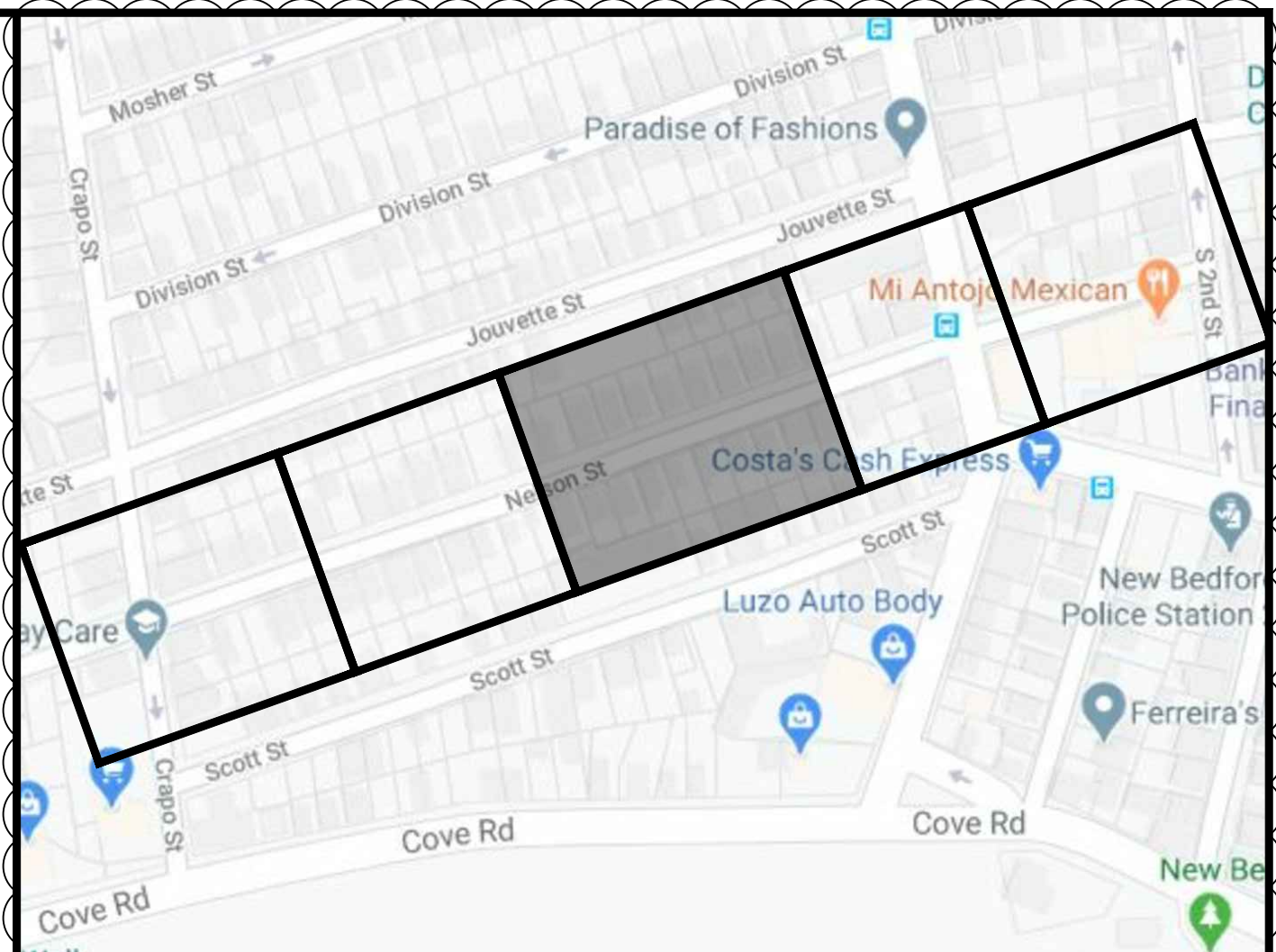
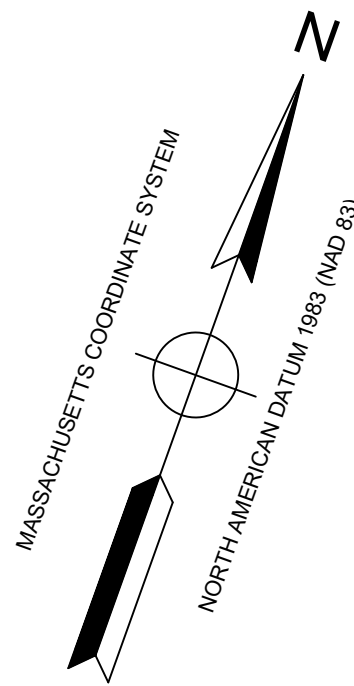
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- NOTES:
1. REFER TO GENERAL NOTES ON SHEET #2.
  2. CONTRACTOR TO POT HOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.
  3. HDPE, 4710, SDR 11 ELBOWS TO BE INSTALLED AS REQUIRED TO FACILITATE OFFSETS BASED ON FIELD CONDITIONS.

LENGTH	SIZE	MATERIAL	DESCRIPTION
415'	2"	PH	INSTALL
310'	3"	CI	RETIRE
100'	4"	CI	RETIRE

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ERIC VINAI  
KUMAR  
No. 54771

SIGNATURE

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02/02/2021

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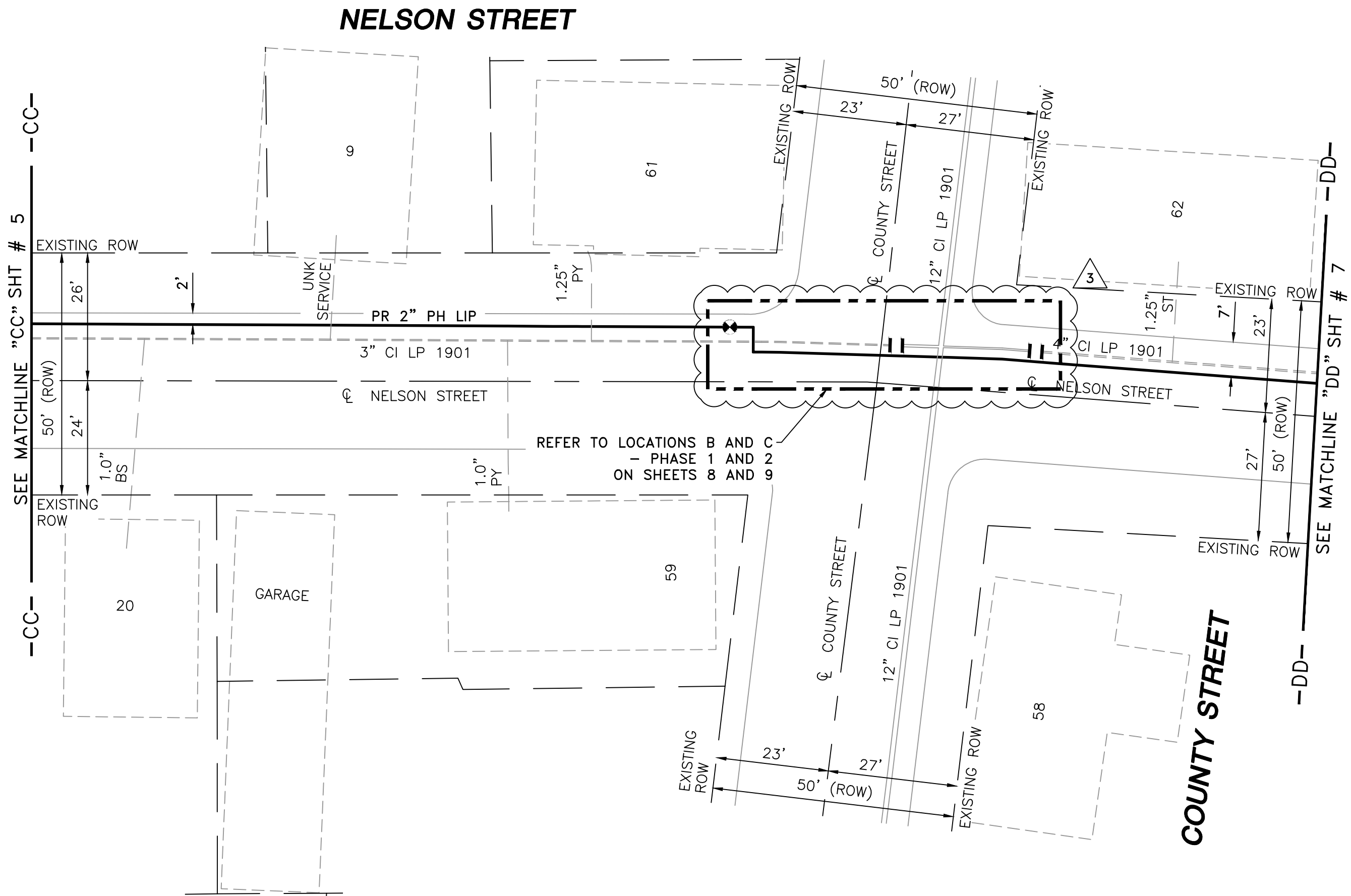
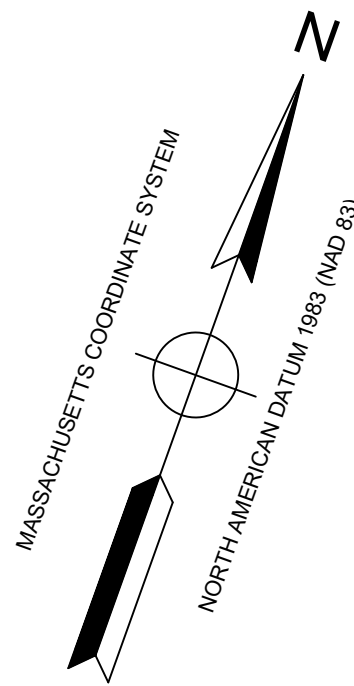
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4	IFC - UPDATED LOCUS MAP	02/02/2021	ZS/AB/EK
3	IFC - UPDATED PIPE TOTALS	01/14/2021	WS/AB/EK
2	IFC - NO CHANGES TO THIS SHEET	12/08/2020	ZS/AB/EK
1	IFC - NO CHANGES TO THIS SHEET	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

REVISION STATUS			
<b>EVERSOURCE</b> ENERGY			
NELSON STREET MAIN RELAY			
NEW BEDFORD, MASSACHUSETTS			
INSTALLATION PLAN			
SCALE: 1"=20' (DO NOT SCALE FROM DRAWINGS)			SHEET 5 OF 12
DRAWN BY / DATE AC 12/11/2020	CHECKED BY / DATE AB 02/02/2021	SHEET NUMBER MA-21-PIP-NEB-002-05	REV. NO. 4
APPROVED BY / DATE EK 02/02/2021	MA21PIPNEB002R4		

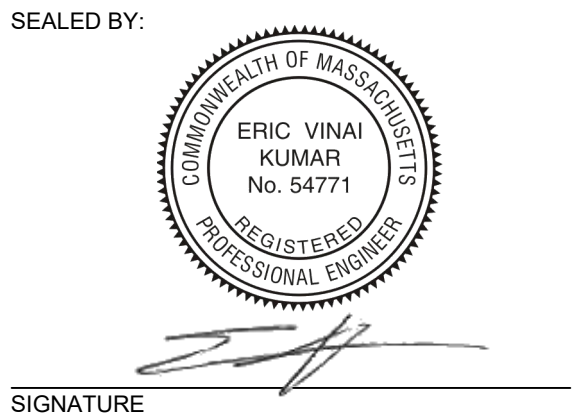




- NOTES:
1. REFER TO GENERAL NOTES ON SHEET #2.
  2. CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.
  3. HDPE, 4710, SDR 11 ELBOWS TO BE INSTALLED AS REQUIRED TO FACILITATE OFFSETS BASED ON FIELD CONDITIONS.

LENGTH	SIZE	MATERIAL	DESCRIPTION
270'	2"	PH	INSTALL
150'	3"	CI	RETIRE
60'	4"	CI	RETIRE
25'	6"	CI	RETIRE

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02/02/2021



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02/02/2021

LICENSE EXPIRATION:  
06/30/2022

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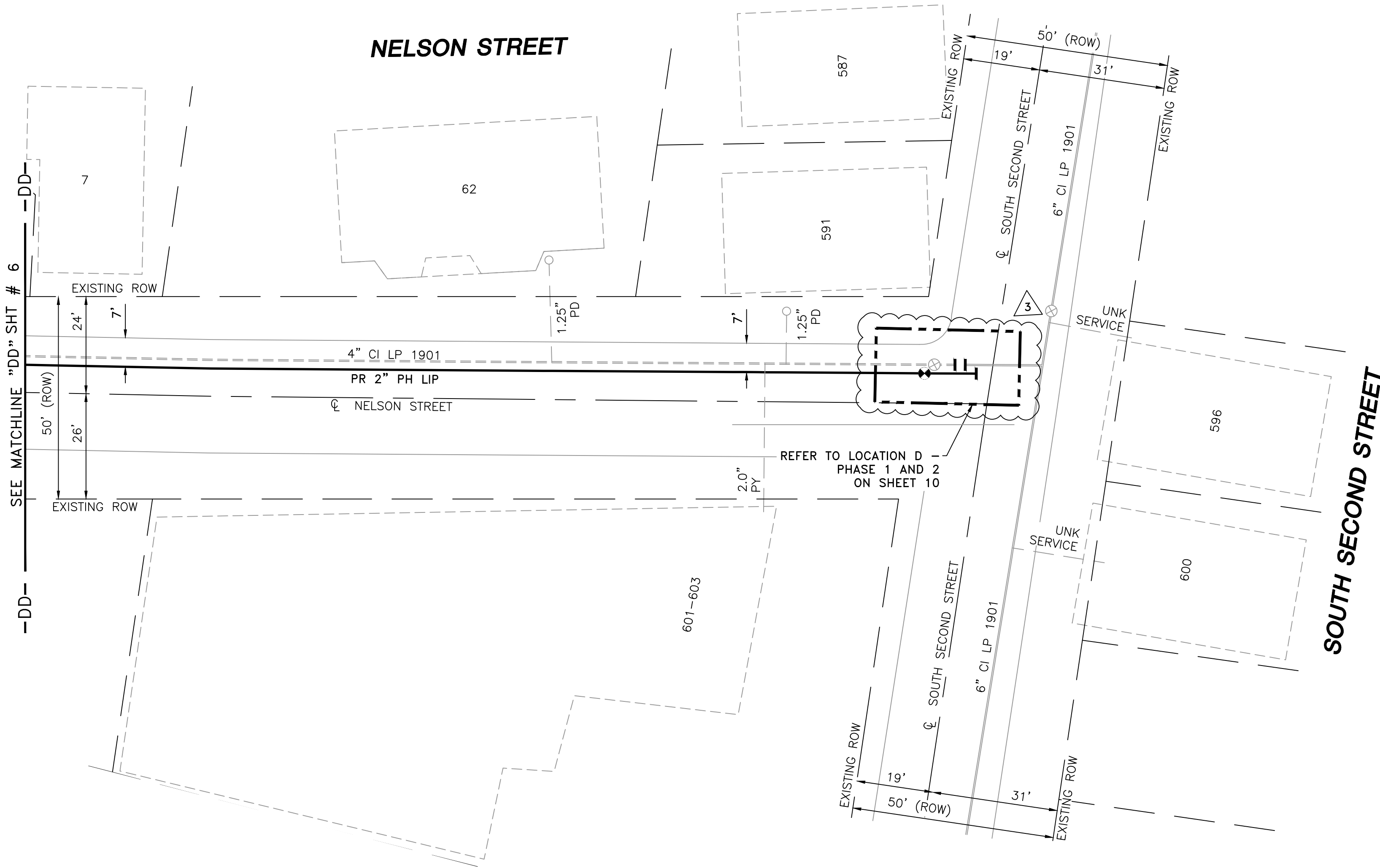
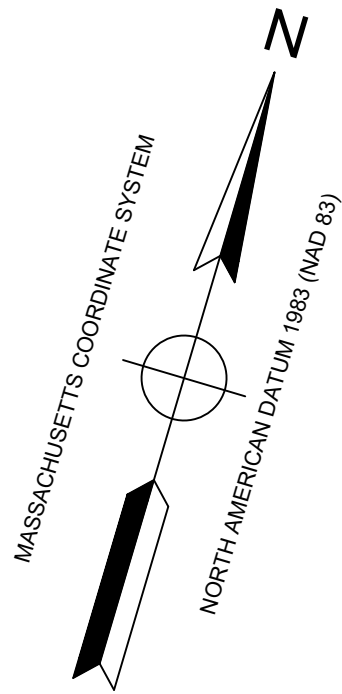
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FIELD VERIFY DIMENSIONS  
PRIOR TO PIPE FABRICATION

4	IFC - UPDATED LOCUS MAP	02/02/2021	ZS/AB/EK
3	IFC - UPDATED/ADDED DETAIL LOCATIONS	01/14/2021	WS/AB/EK
2	IFC - UPDATED LOCATION B DETAIL BOX	12/08/2020	ZS/AB/EK
1	IFC - NO CHANGES TO THIS SHEET	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
<b>EVERSOURCE</b> ENERGY			
NELSON STREET MAIN RELAY			
NEW BEDFORD, MASSACHUSETTS			
INSTALLATION PLAN			
SCALE: 1"=20' (DO NOT SCALE FROM DRAWINGS)			SHEET 6 OF 12
DRAWN BY / DATE AC 12/11/2020	CHECKED BY / DATE AB 02/02/2021	SHEET NUMBER MA-21-PIP-NEB-002-06	REV. NO. 4
APPROVED BY / DATE EK 02/02/2021	MA21PIPNEB002R4		

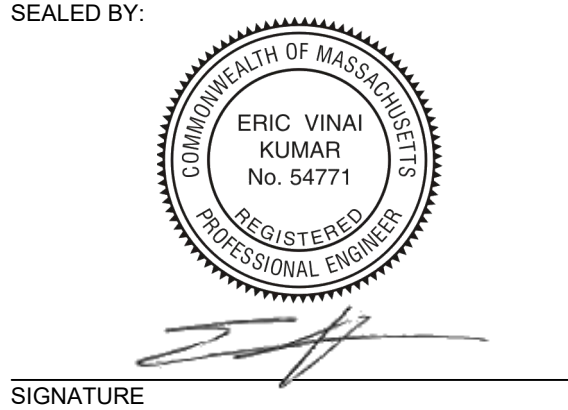




- NOTES:
1. REFER TO GENERAL NOTES ON SHEET #2.
  2. CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.
  3. HDPE, 4710, SDR 11 ELBOWS TO BE INSTALLED AS REQUIRED TO FACILITATE OFFSETS BASED ON FIELD CONDITIONS.

LENGTH	SIZE	MATERIAL	DESCRIPTION
235'	2"	PH	INSTALL
230'	4"	CI	RETIRE

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CONSTRUCTION  
02/02/2021

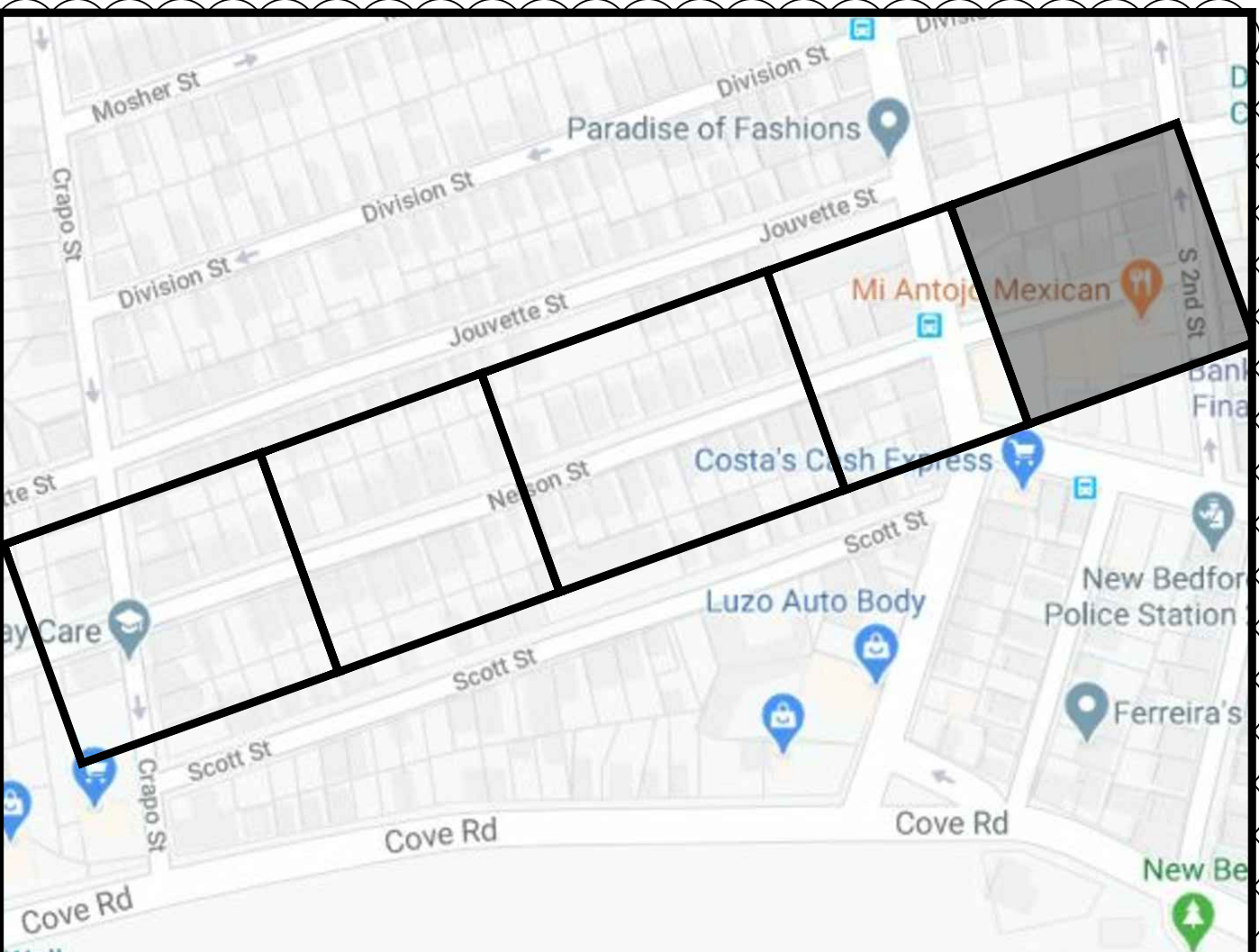


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02/02/2021  
  
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EXPIRATION:  
  
06/30/2022

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FIELD VERIFY DIMENSIONS  
PRIOR TO PIPE FABRICATION



LOCUS PLAN  
NOT TO SCALE

DRAWING LEGEND

	UTILITY POLE		EXISTING GAS MAIN
	LIGHT POLE		RETIRED GAS MAIN
	CATCH BASIN		PROPOSED GAS MAIN
	FIRE HYDRANT		EXISTING SERVICE
	UTILITY MANHOLE		RIGHT OF WAY
	ELECTRIC MANHOLE		ELECTRIC
	TELEPHONE MANHOLE		TELEPHONE
	WATER MANHOLE		WATER
	SANITARY MANHOLE		SANITARY SEWER
	STORM MANHOLE		STORM SEWER
	EXISTING REDUCER		PROPOSED REDUCER
	EXISTING CAP		PROPOSED CAP
	EXISTING VALVE		PROPOSED VALVE
	EXISTING COUPLING		PROPOSED ANODE

4	IFC - UPDATED LOCUS MAP	02/02/2021	ZS/AB/EK
3	IFC - ADDED THIS SHEET	01/14/2021	WS/AB/EK
2	IFC - UPDATED LOCATION B DETAIL BOX	12/08/2020	ZS/AB/EK
1	IFC - NO CHANGES TO THIS SHEET	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

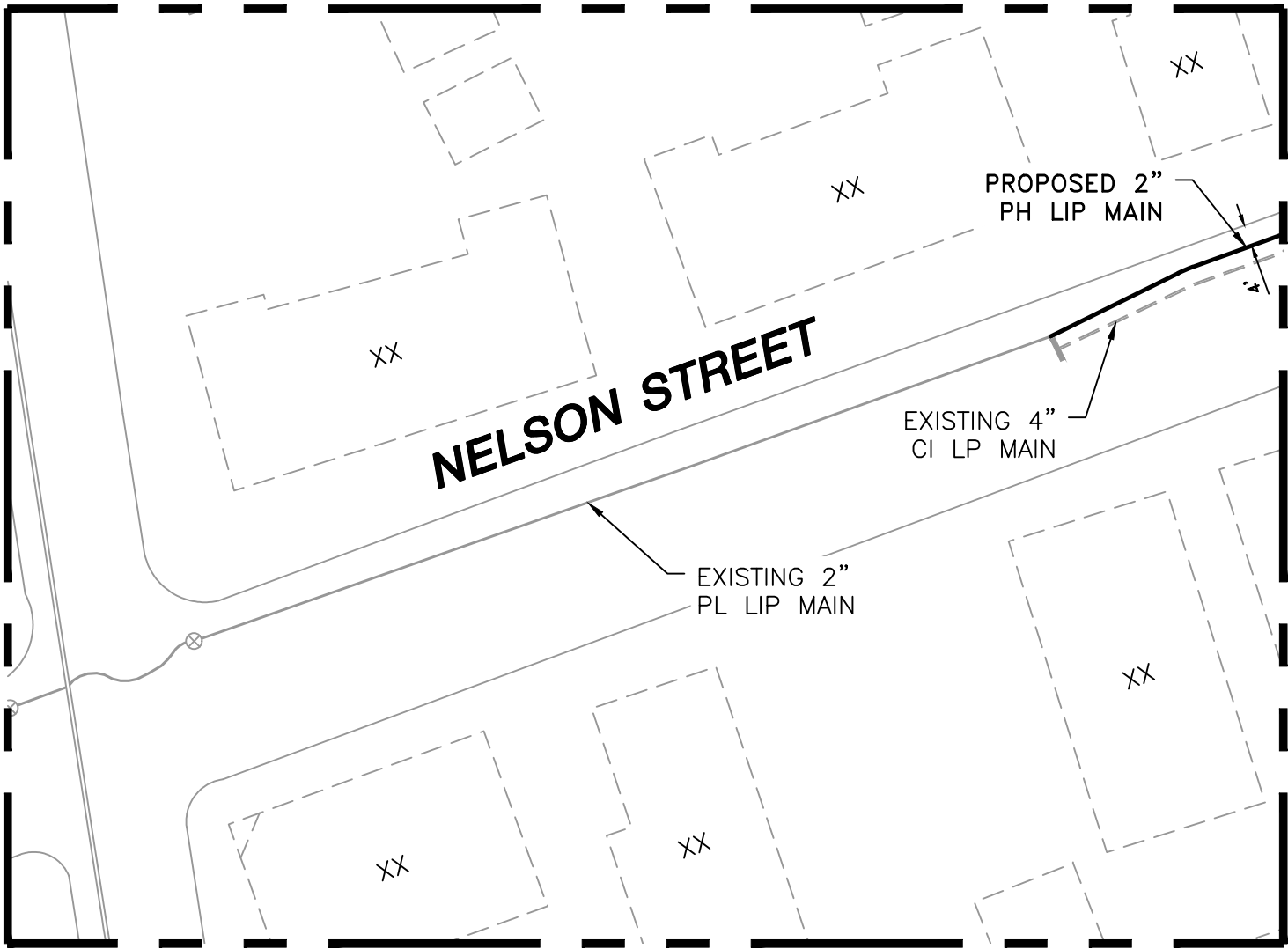
REVISION STATUS  
**EVERSOURCE**  
ENERGY

NELSON STREET MAIN RELAY  
NEW BEDFORD, MASSACHUSETTS

INSTALLATION PLAN

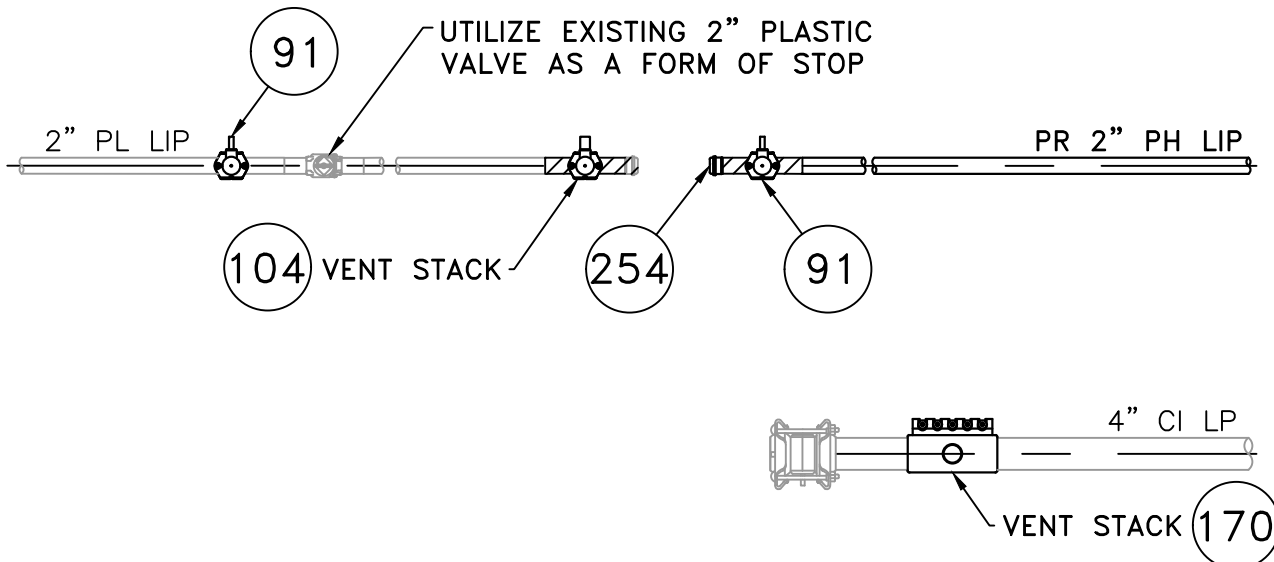
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DRAWN BY / DATE AC 12/11/2020	CHECKED BY / DATE AB 02/02/2021	SHEET NUMBER MA-21-PIP-NEB-002-07	REV. NO. 4
APPROVED BY / DATE EK 02/02/2021	MA21PIPNEB002R4		





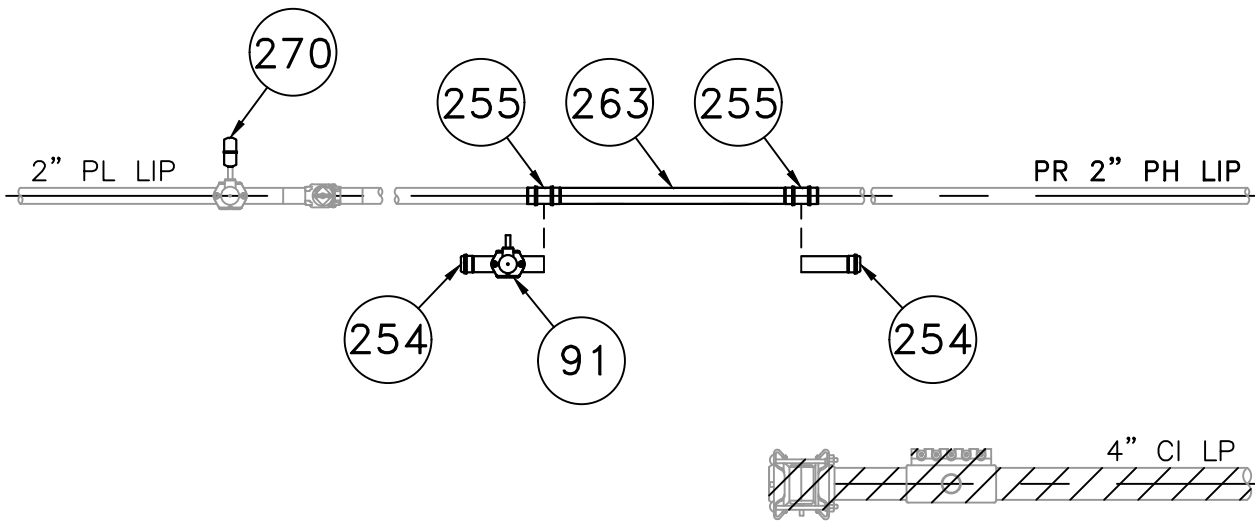
**LOCATION A - PLAN VIEW**  
(SCALE: 1"=30')  
(REFER TO SHEET #3)  
(DO NOT SCALE FROM DRAWINGS)

**NELSON STREET**



**LOCATION A - PHASE 1**  
(SCALE: 1"=2')  
(REFER TO SHEET #3)  
(DO NOT SCALE FROM DRAWINGS)

**NELSON STREET**



**LOCATION A - PHASE 2**  
(SCALE: 1"=2')  
(REFER TO SHEET #3)  
(DO NOT SCALE FROM DRAWINGS)

NELSON STREET MAIN RELAY - LOCATION A - SCHEDULE OF MATERIALS					
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL
91	3	2" X 1/2"	500866	TAPPING TEE, ELECTROFUSION, IPS X CTS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261 ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513
104	1	2" X 1"	560779	TAPPING TEE, ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513
170	1	4" x 2"	543028	BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS WITH TEFLON COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR APPROVED EQUAL. COMPLETE WITH PLUG.	
254	AS REQUIRED	2"	581633	END CAP MECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMPRESSION RING, INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTM D2513
255	AS REQUIRED	2"	579840	COUPLING, MECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMPRESSION RING, INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTM D2513
263	15'	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
270	AS REQUIRED	1/2"	542609	END CAP, MECHANICAL STAB, CTS, HDPE, PE 4710/3408, ASTM D2513, WITH SS GRIPPING SUPPORT RING, ACETAL COLLET AND SPACER RETAINER RING, PE THRUST WASHER, BUNA-N O-RING, ZINC-PLATED CS INSERT STIFFENER, PERFECTION WITH END CAP OR APPROVED EQUAL.	ASTM D2513

NOTE:  
1. REFER TO GENERAL NOTES ON SHEET #2.

ISSUED FOR  
CONSTRUCTION  
02/02/2021

SEALED BY:  
  
SIGNATURE

SEALED ON:  
02/02/2021  
LICENSE  
EXPIRATION:  
06/30/2022

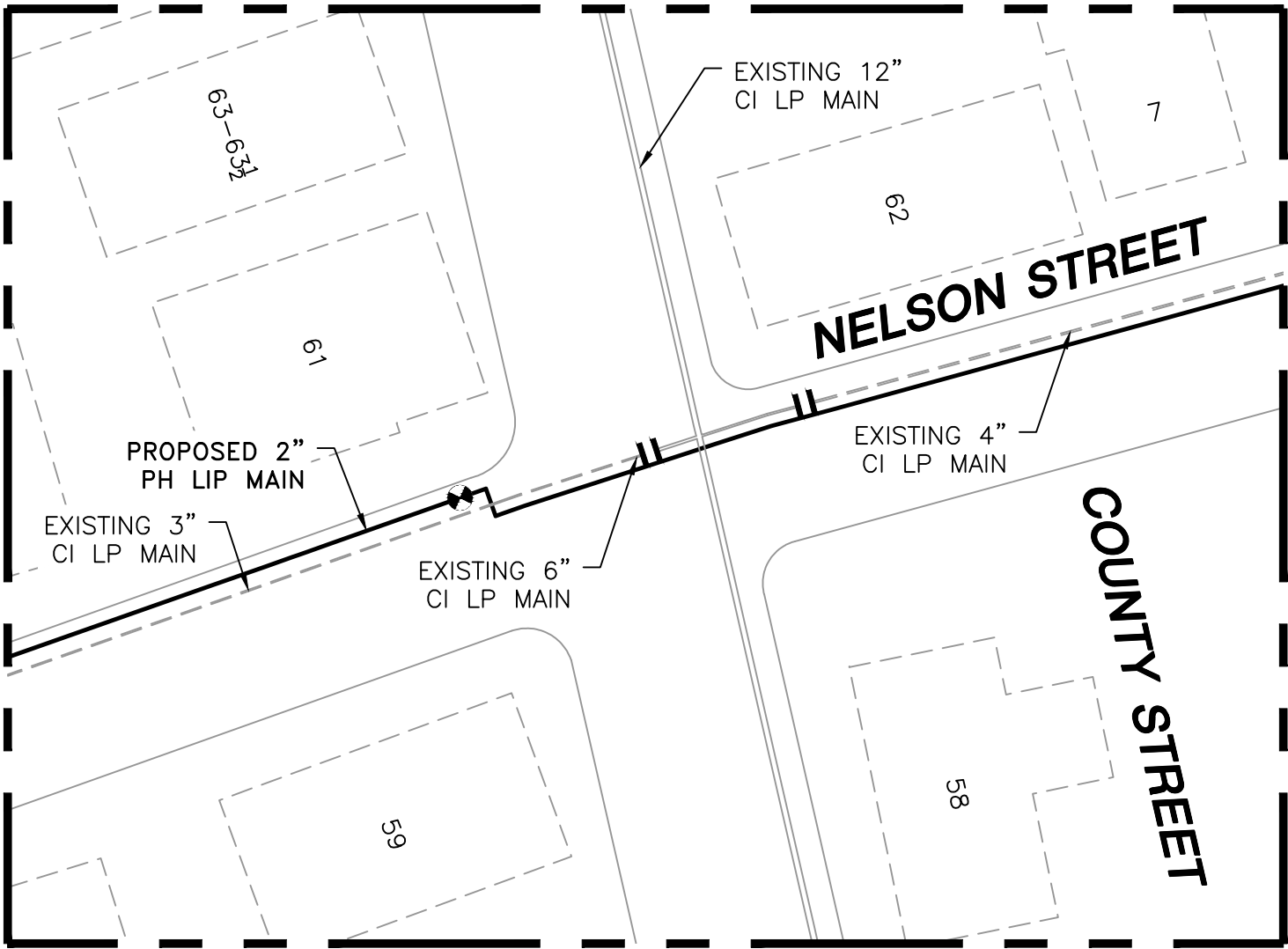
DESIGNED IN ACCORDANCE WITH TITLE  
49, PART 192 OF MINIMUM FEDERAL SAFETY  
STANDARDS AND GPTC GUIDE FOR GAS  
TRANSMISSION AND DISTRIBUTION PIPING  
SYSTEMS, LATEST EDITION.  
**ENEngineering**  
29 BARTLETT STREET  
MARLBOROUGH, MA 01752  
TEL (630) 353-4000  
FAX (630) 353-7777  
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FIELD VERIFY DIMENSIONS  
PRIOR TO PIPE FABRICATION

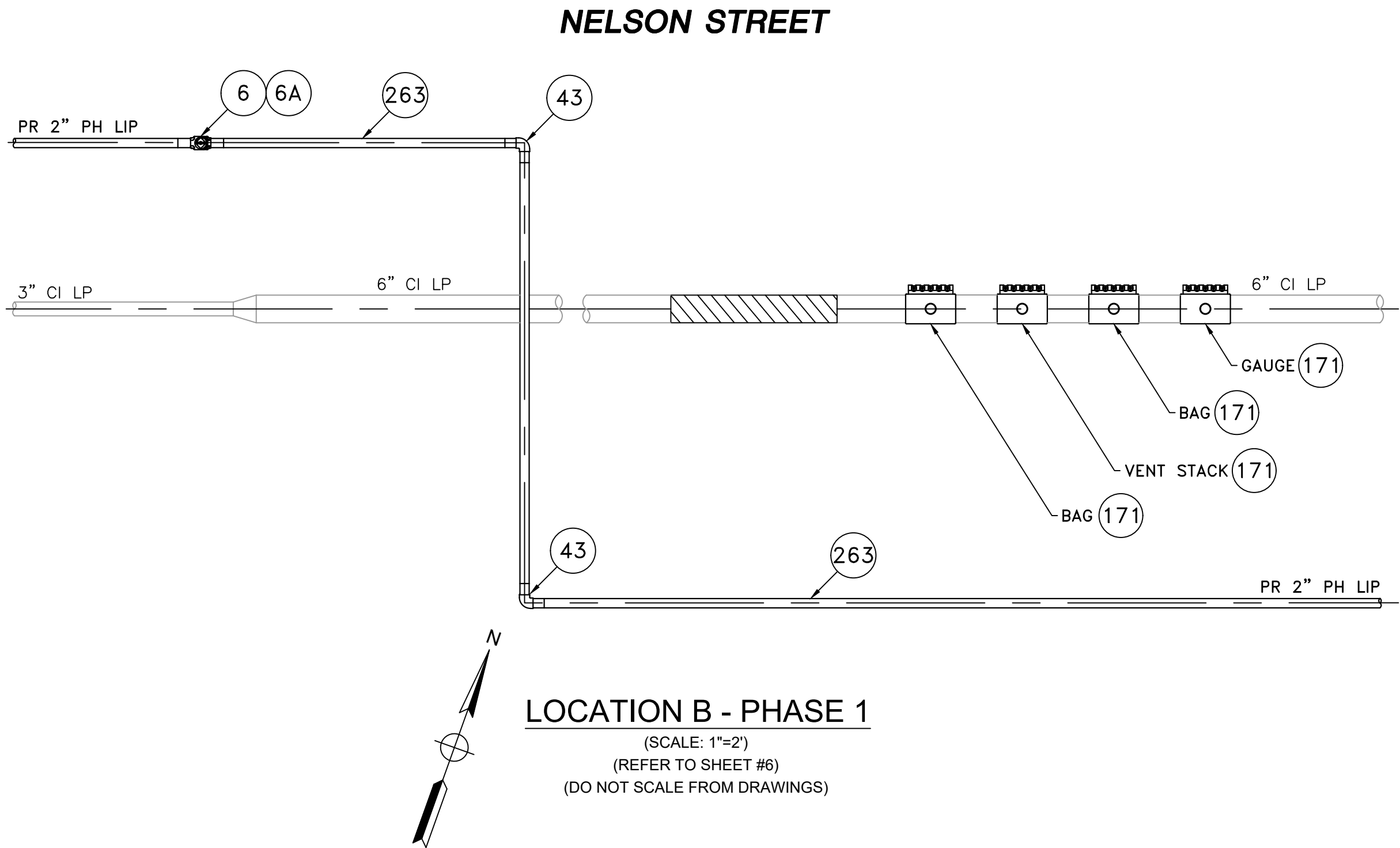
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3	IFC - UPDATED DETAIL AND BOM	01/14/2021	WS/AB/EK
2	IFC - NO CHANGES TO THIS SHEET	12/08/2020	ZS/AB/EK
1	IFC - NO CHANGES TO THIS SHEET	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

REVISION STATUS			
<b>EVERSOURCE</b> ENERGY			
NELSON STREET MAIN RELAY NEW BEDFORD, MASSACHUSETTS			
LOCATION A - PHASE 1, 2 AND SCHEDULE OF MATERIALS			
SCALE: AS NOTED		SHEET 8 OF 12	
DRAWN BY / DATE AC 12/11/2020	CHECKED BY / DATE AB 02/02/2021	SHEET NUMBER MA-21-PIP-NEB-002-08	REV. NO. 4
APPROVED BY / DATE EK 02/02/2021	MA21PIPNEB002R4		

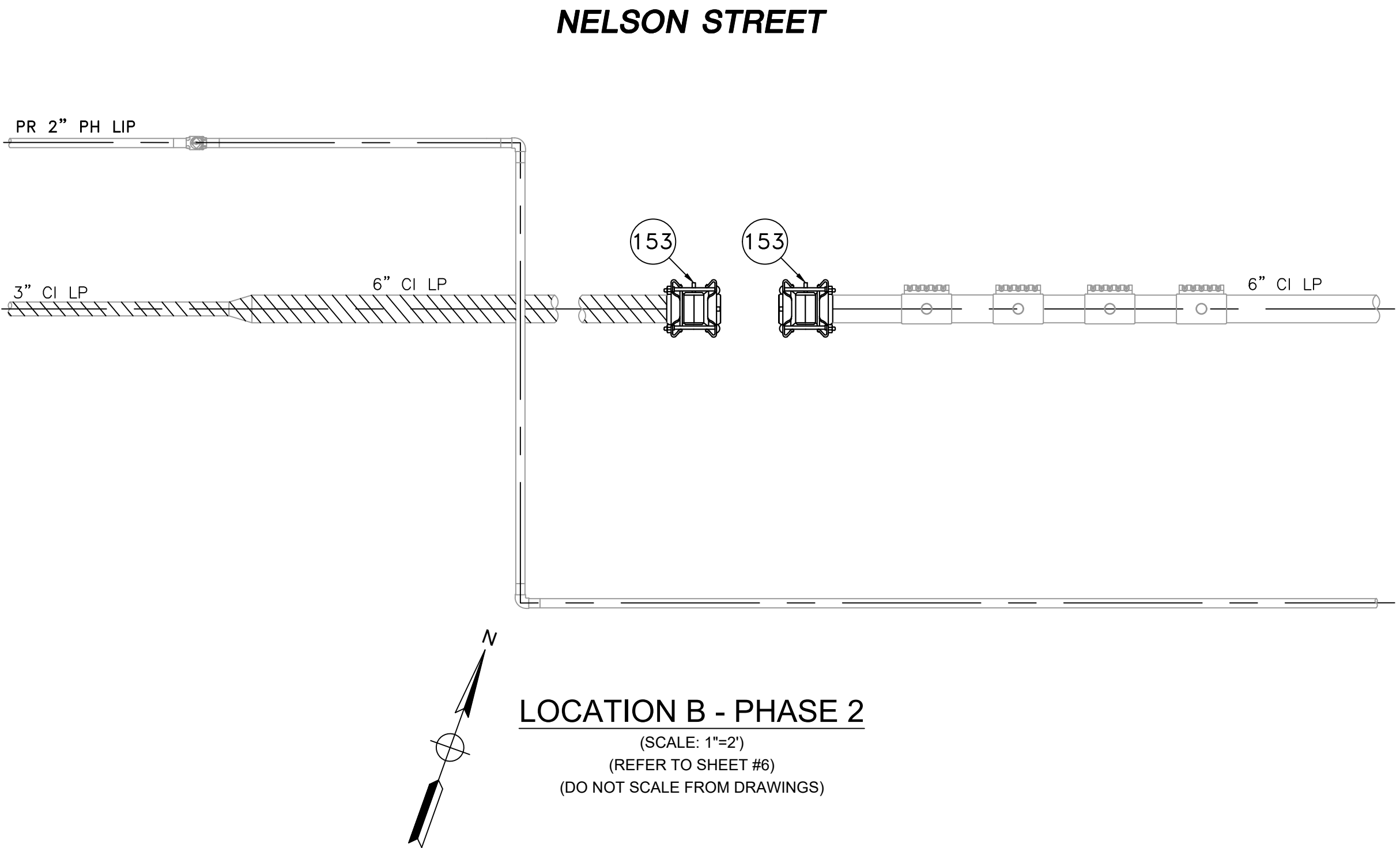




**LOCATION B - PLAN VIEW**  
(SCALE: 1"=30')  
(REFER TO SHEET #6)  
(DO NOT SCALE FROM DRAWINGS)



**LOCATION B - PHASE 1**  
(SCALE: 1"=2')  
(REFER TO SHEET #6)  
(DO NOT SCALE FROM DRAWINGS)


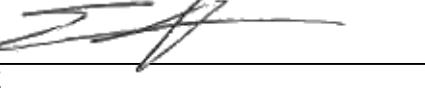


**LOCATION B - PHASE 2**  
(SCALE: 1"=2')  
(REFER TO SHEET #6)  
(DO NOT SCALE FROM DRAWINGS)

NELSON STREET MAIN RELAY - LOCATION B - SCHEDULE OF MATERIALS					
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL
6	1	2"	562087	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D2513
6A	1	2"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	PLASTIC
43	AS REQUIRED	2"	545367	ELBOW, 90 DEG, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2513
153	2	6"	578129	END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
171	4	6" x 2"	578021	BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS BANDS AND GAP BRIDGES, SS STUDS WITH TEFLON COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR APPROVED EQUAL. COMPLETE WITH PLUG.	
263	35'	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513

**NOTE:**  
1. REFER TO GENERAL NOTES ON SHEET #2.

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CONSTRUCTION  
02/02/2021

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SIGNATURE  


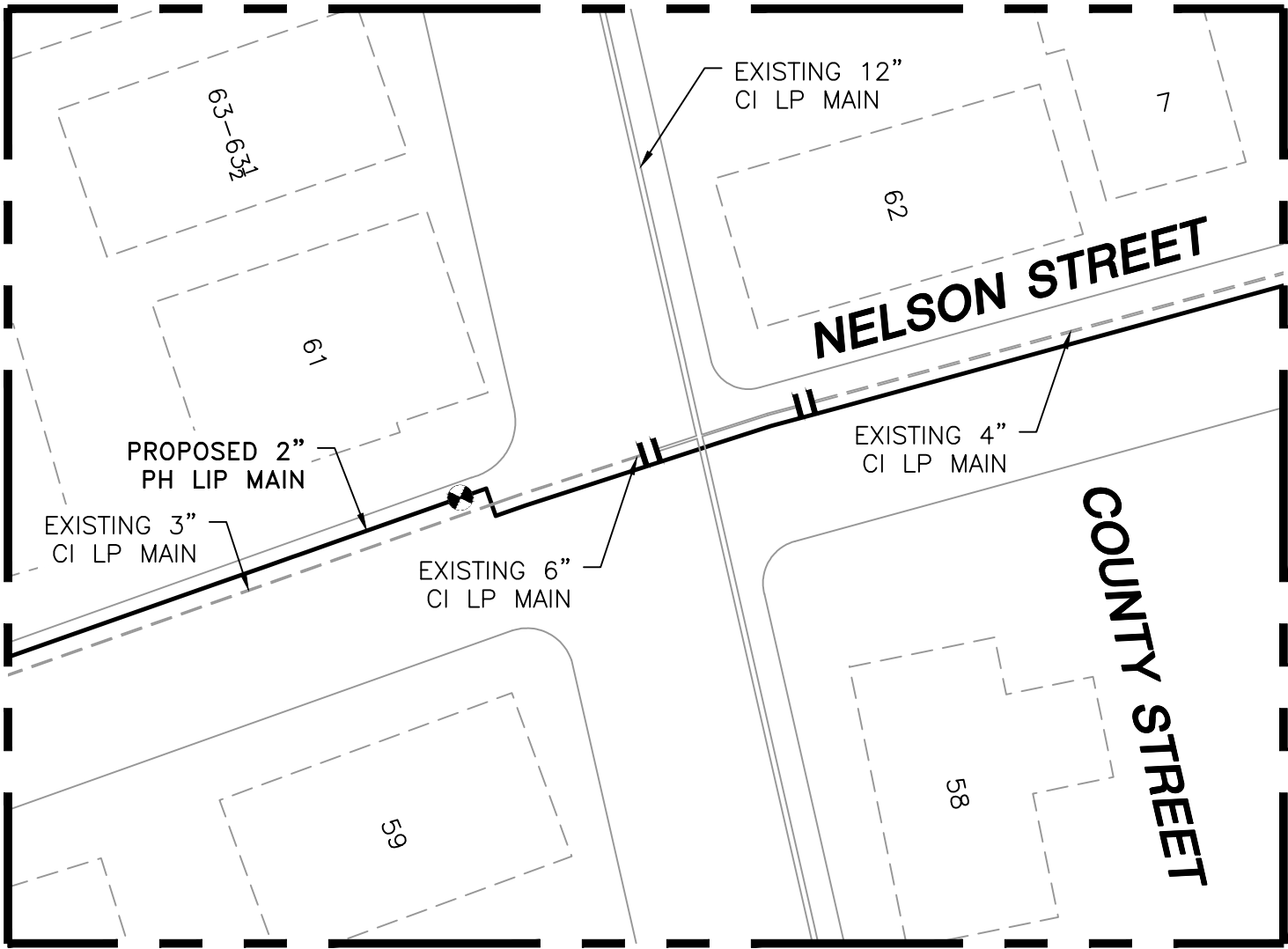
SEALED ON:  
02/02/2021  
LICENSE  
EXPIRATION:  
06/30/2022

DESIGNED IN ACCORDANCE WITH TITLE  
49, PART 192 OF MINIMUM FEDERAL SAFETY  
STANDARDS AND GPTC GUIDE FOR GAS  
TRANSMISSION AND DISTRIBUTION PIPING  
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WWW.ENENGINEERING.COM

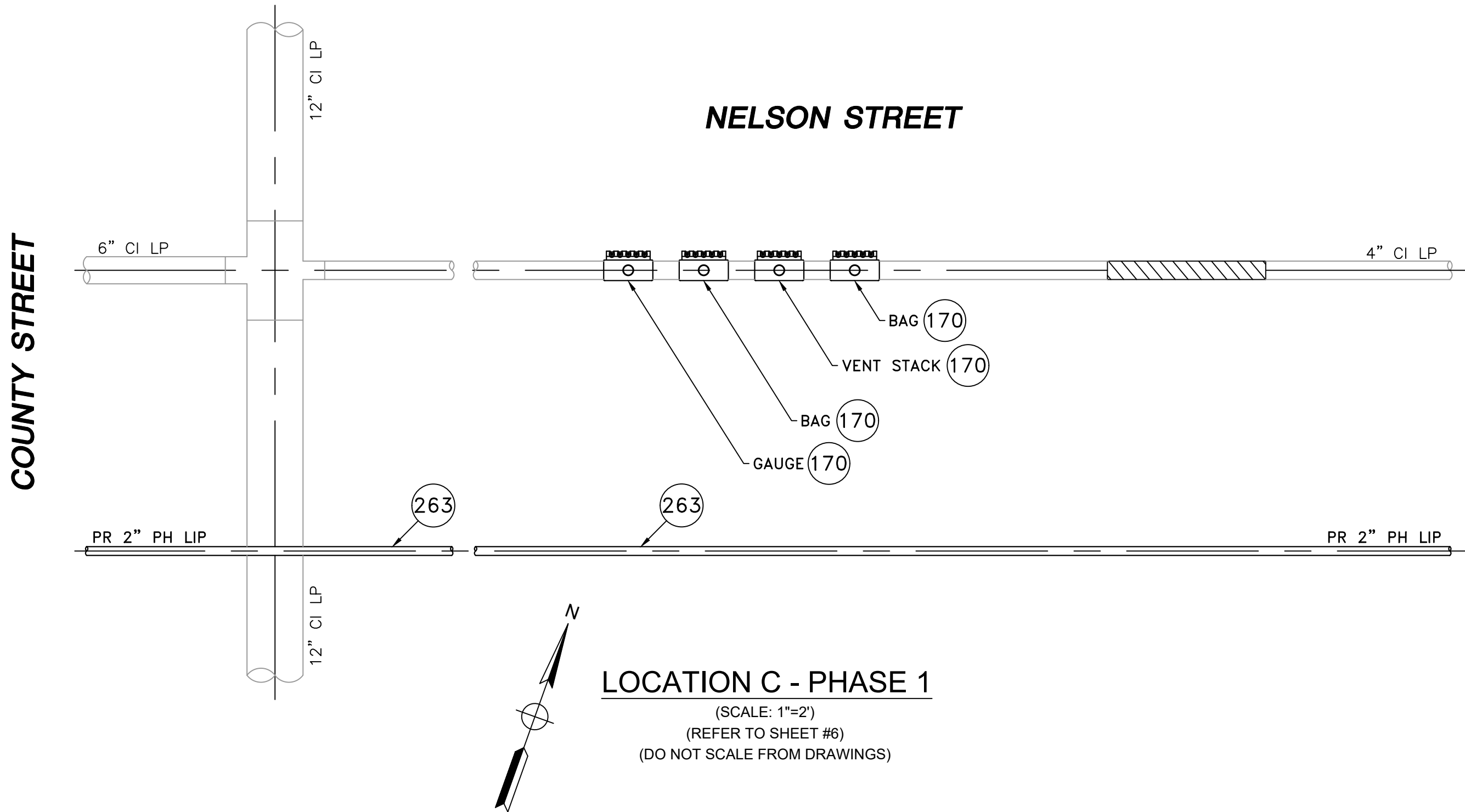
FIELD VERIFY DIMENSIONS  
PRIOR TO PIPE FABRICATION

4	IFC - NO CHANGES TO THIS SHEET	02/02/2021	ZS/AB/EK
3	IFC - UPDATED DETAIL AND BOM	01/14/2021	WS/AB/EK
2	IFC - UPDATED DETAIL AND BOM	12/08/2020	ZS/AB/EK
1	IFC - NO CHANGES TO THIS SHEET	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
<b>EVERSOURCE</b> ENERGY			
NELSON STREET MAIN RELAY NEW BEDFORD, MASSACHUSETTS			
LOCATION B - PHASE 1, 2 AND SCHEDULE OF MATERIALS			
SCALE: AS NOTED		SHEET 9 OF 12	
DRAWN BY / DATE AC 12/11/2020	CHECKED BY / DATE AB 02/02/2021	SHEET NUMBER MA-21-PIP-NEB-002-09	REV. NO. 4
APPROVED BY / DATE EK 02/02/2021	MA21PIPNEB002R4		

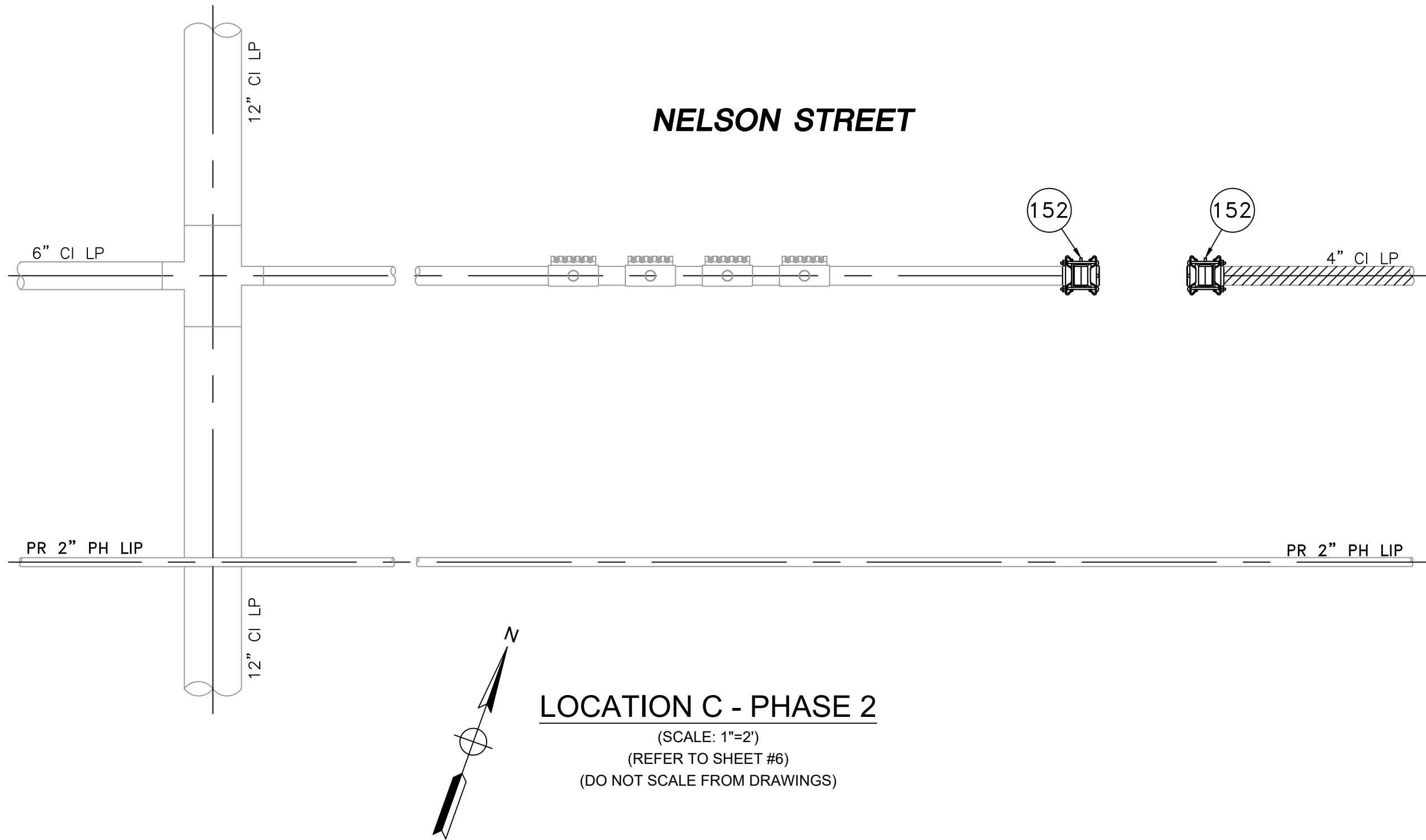




**LOCATION C - PLAN VIEW**  
(SCALE: 1"=30')  
(REFER TO SHEET #6)  
(DO NOT SCALE FROM DRAWINGS)



**LOCATION C - PHASE 1**  
(SCALE: 1"=2')  
(REFER TO SHEET #6)  
(DO NOT SCALE FROM DRAWINGS)


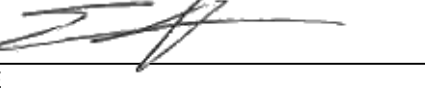


**LOCATION C - PHASE 2**  
(SCALE: 1"=2')  
(REFER TO SHEET #6)  
(DO NOT SCALE FROM DRAWINGS)

NELSON STREET MAIN RELAY - LOCATION C - SCHEDULE OF MATERIALS					
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL
152	2	4"	578128	END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
170	4	4" x 2"	543028	BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS WITH TEFLON COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR APPROVED EQUAL. COMPLETE WITH PLUG.	
263	25'	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513

NOTE:  
1. REFER TO GENERAL NOTES ON SHEET #2.

ISSUED FOR  
CONSTRUCTION  
02/02/2021

SEALED BY:  
  
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SEALED ON:  
02/02/2021  
LICENSE  
EXPIRATION:  
06/30/2022

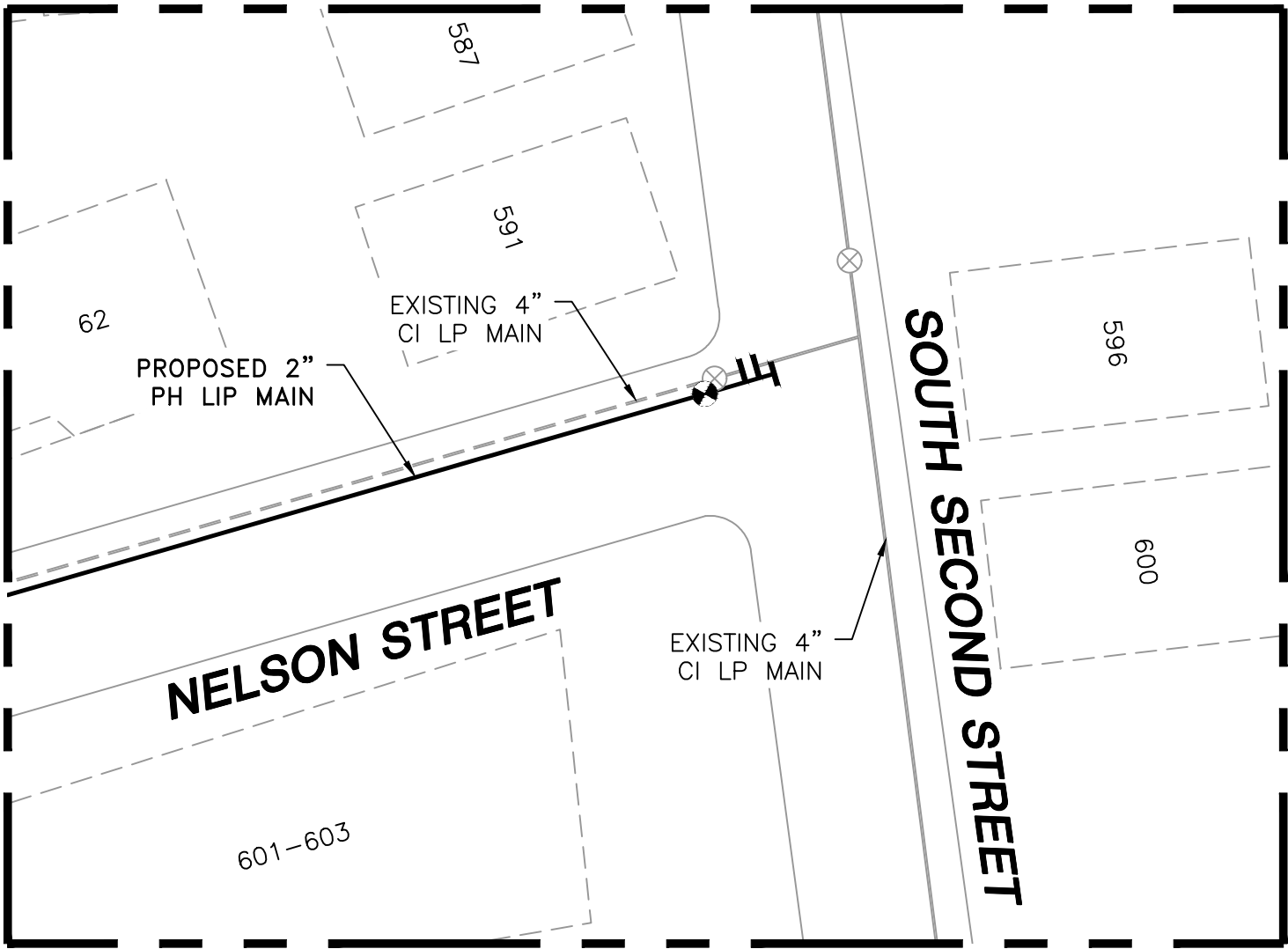
DESIGNED IN ACCORDANCE WITH TITLE  
49-PART 192 OF MINIMUM FEDERAL SAFETY  
STANDARDS AND GPTC GUIDE FOR GAS  
TRANSMISSION AND DISTRIBUTION PIPING  
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FIELD VERIFY DIMENSIONS  
PRIOR TO PIPE FABRICATION

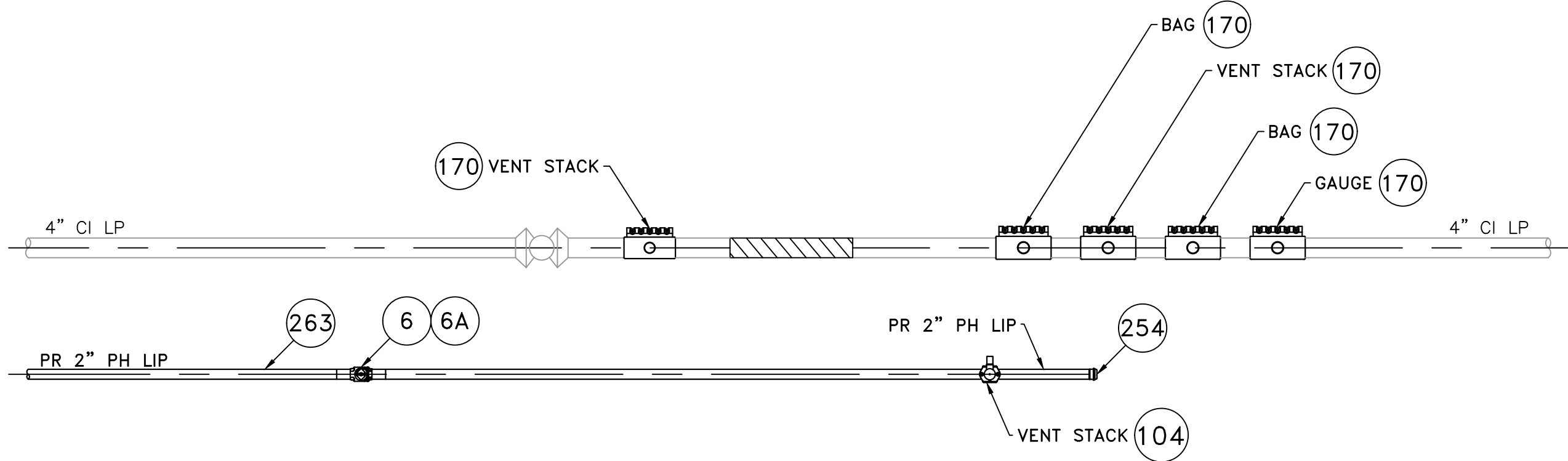
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3	IFC - ADDED CUT AND CAP LOCATION	01/14/2021	WS/AB/EK
2	IFC - UPDATED DETAIL AND BOM	12/08/2020	ZS/AB/EK
1	IFC - NO CHANGES TO THIS SHEET	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

REVISION STATUS			
<b>EVERSOURCE</b> ENERGY			
NELSON STREET MAIN RELAY NEW BEDFORD, MASSACHUSETTS			
LOCATION C - PHASE 1, 2 AND SCHEDULE OF MATERIALS			
SCALE: AS NOTED		SHEET 10 OF 12	
DRAWN BY / DATE AC 12/11/2020	CHECKED BY / DATE AB 02/02/2021	SHEET NUMBER MA-21-PIP-NEB-002-10	REV. NO. 4
APPROVED BY / DATE EK 02/02/2021	MA21PIPNEB002R4		



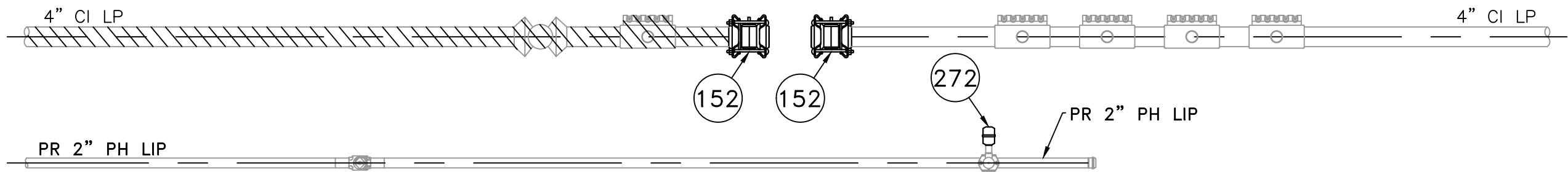


LOCATION D - PLAN VIEW  
(SCALE: 1"=30')  
(REFER TO SHEET #7)  
(DO NOT SCALE FROM DRAWINGS)



LOCATION D - PHASE 1  
(SCALE: 1"=2')  
(REFER TO SHEET #7)  
(DO NOT SCALE FROM DRAWINGS)

NELSON STREET MAIN RELAY - LOCATION D - SCHEDULE OF MATERIALS					
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL
6	1	2"	562087	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D2513
6A	1	2"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	PLASTIC
104	1	2" X 1"	560779	TAPPING TEE, ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513
152	2	4"	578128	END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
170	5	4" x 2"	543028	BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS WITH TEFLON COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR APPROVED EQUAL. COMPLETE WITH PLUG.	
254	AS REQUIRED	2"	581633	END CAP MECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMPRESSION RING, INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTM D2513
263	15'	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
272	AS REQUIRED	1"	542612	END CAP, MECHANICAL STAB, IPS, HDPE, PE 4710/3408, ASTM D2513, WITH SS GRIPPING SUPPORT RING, ACETAL COLLET AND SPACER RETAINER RING, PE THRUST WASHER, BUNA-N O-RING, ZINC-PLATED CS INSERT STIFFENER, PERFECTION WITH END CAP OR APPROVED EQUAL.	ASTM D2513



LOCATION D - PHASE 2  
(SCALE: 1"=2')  
(REFER TO SHEET #7)  
(DO NOT SCALE FROM DRAWINGS)

NOTE:  
1. REFER TO GENERAL NOTES ON SHEET #2.

ISSUED FOR  
CONSTRUCTION  
02/02/2021

SEALED BY:  
  
SIGNATURE

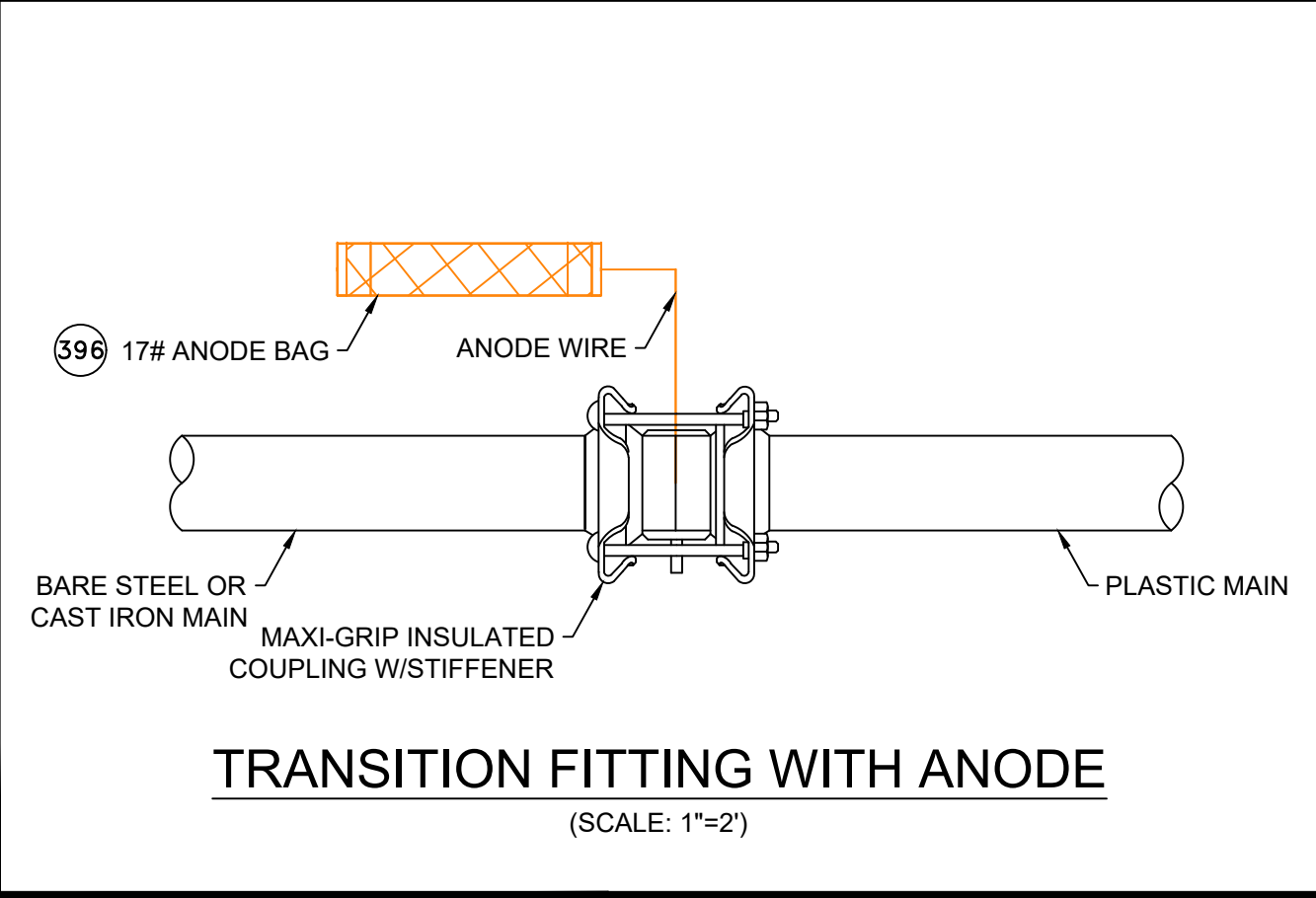
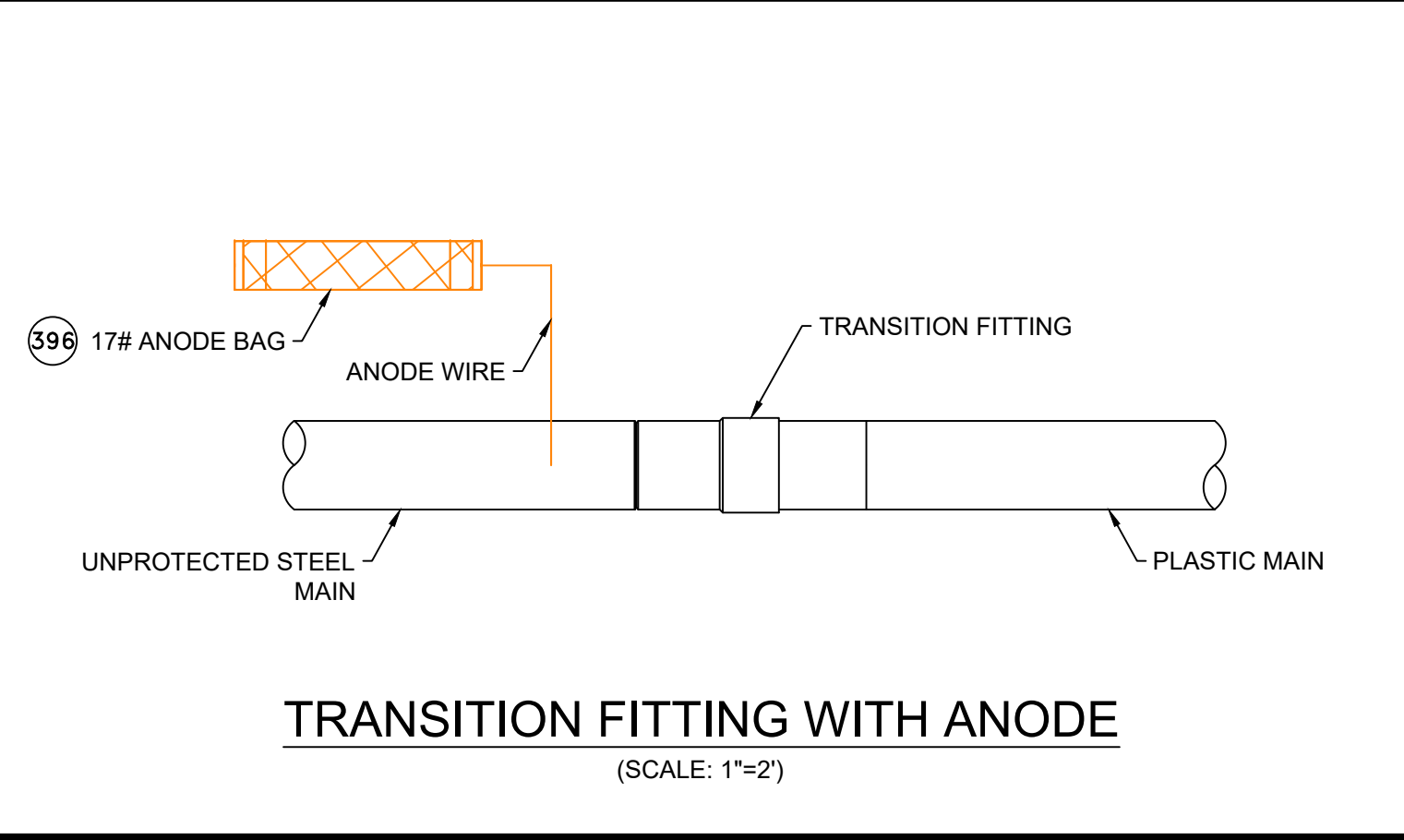
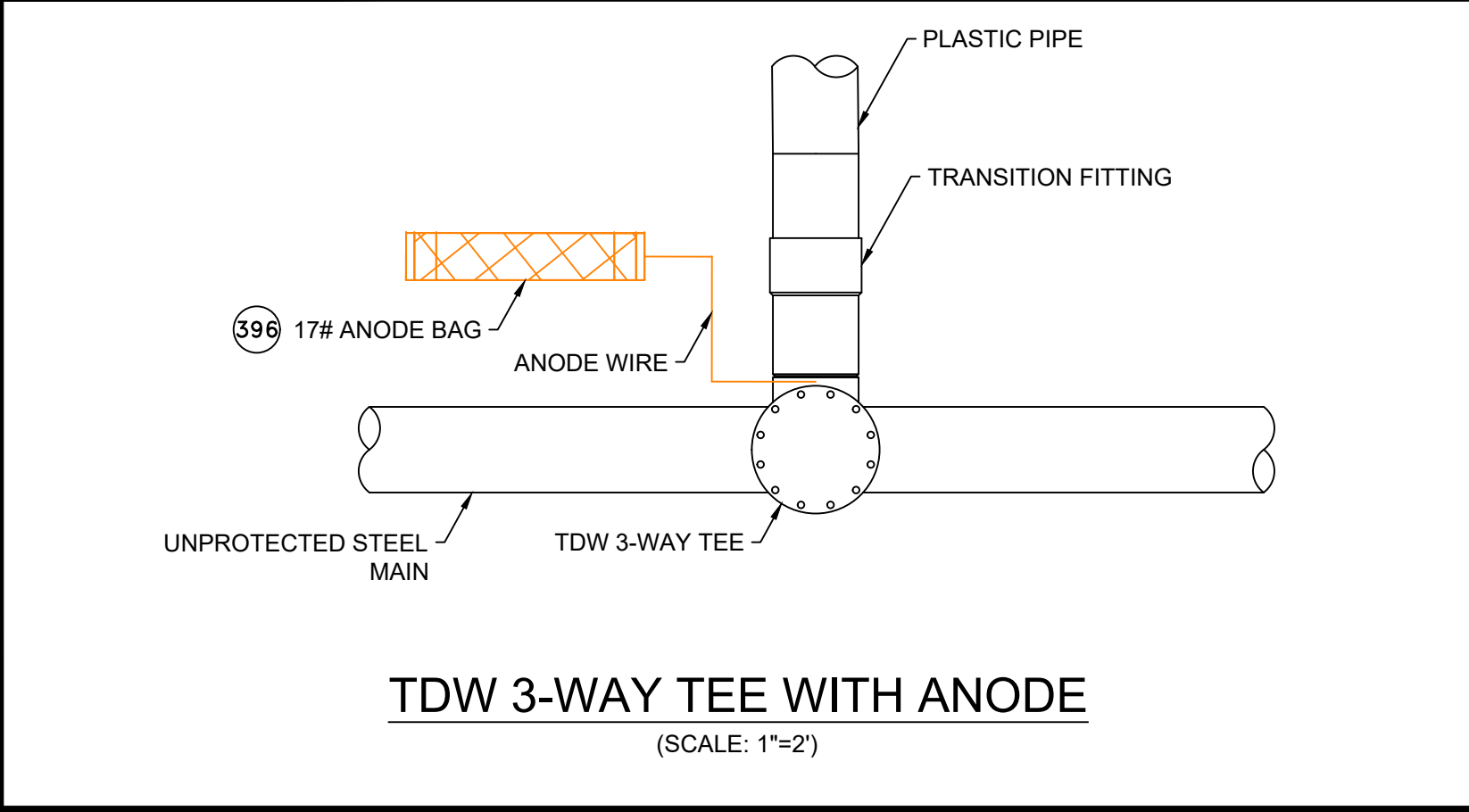
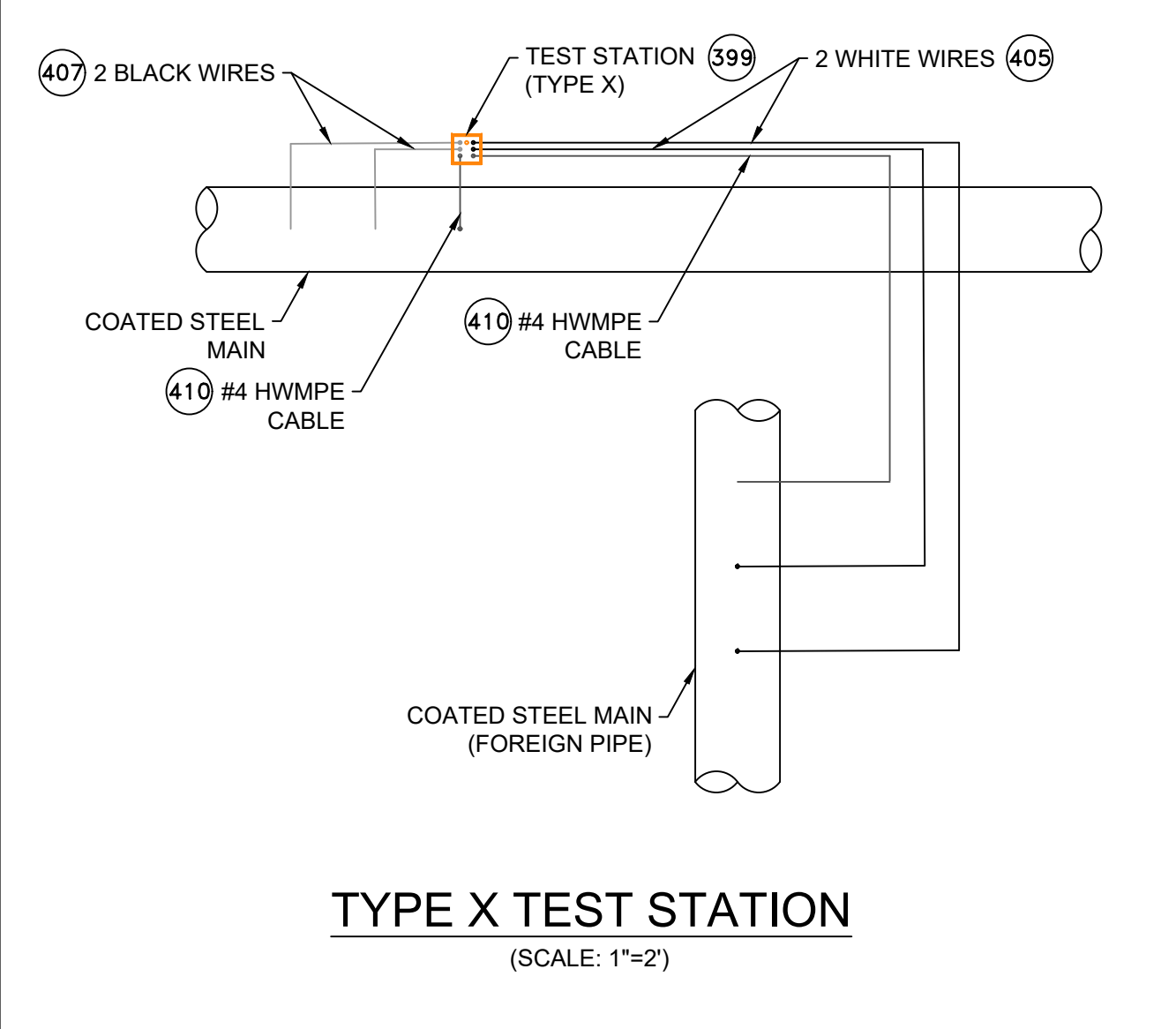
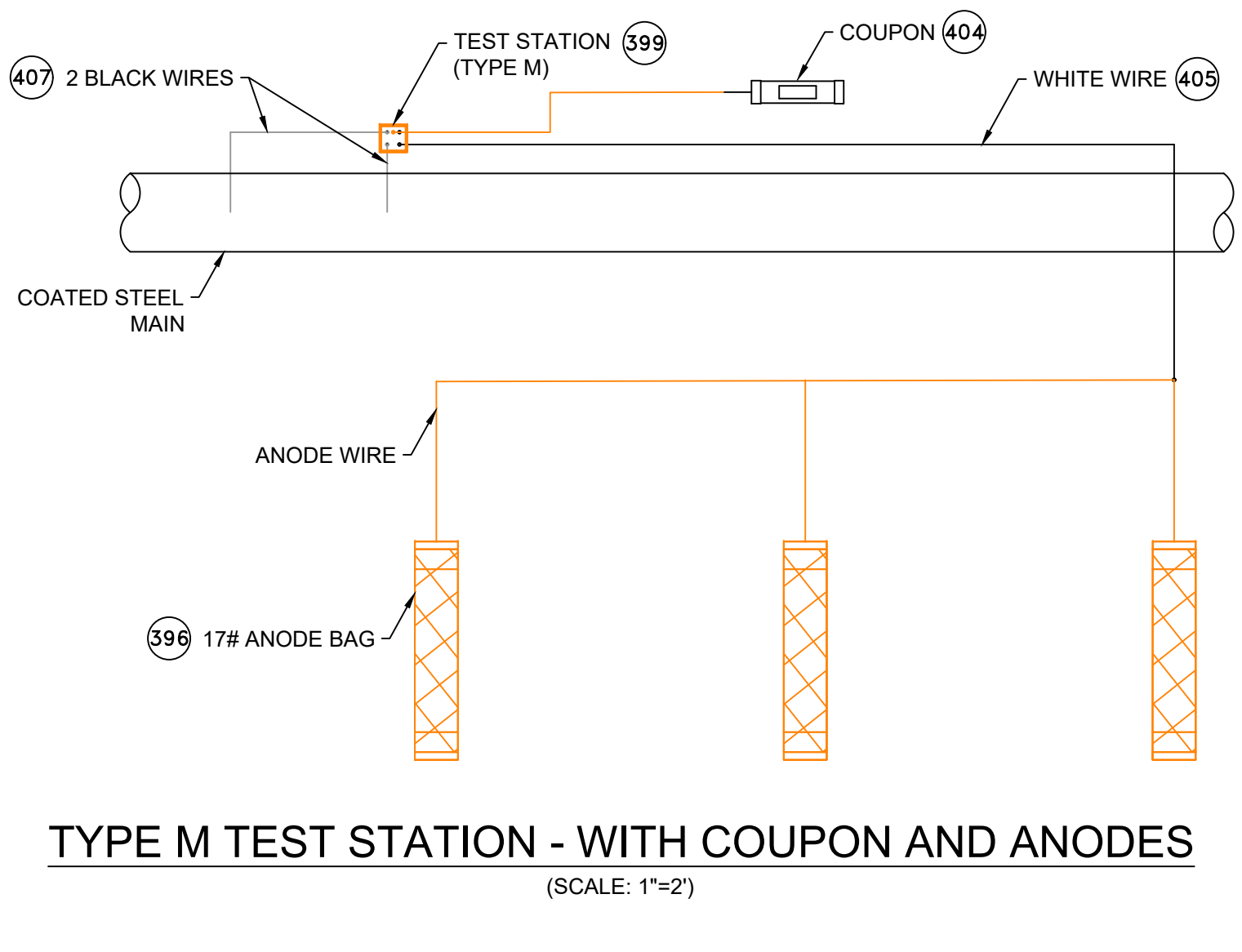
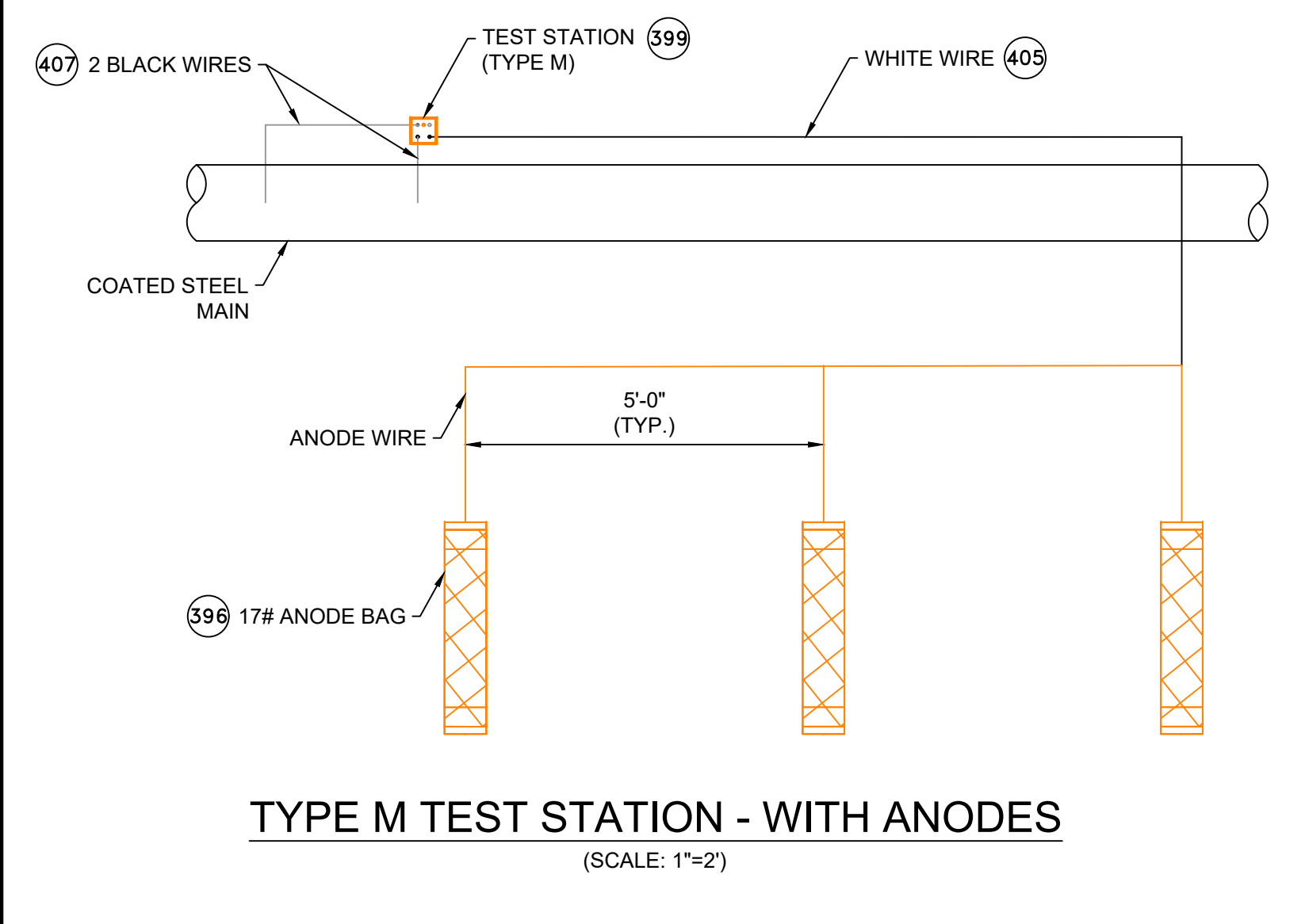
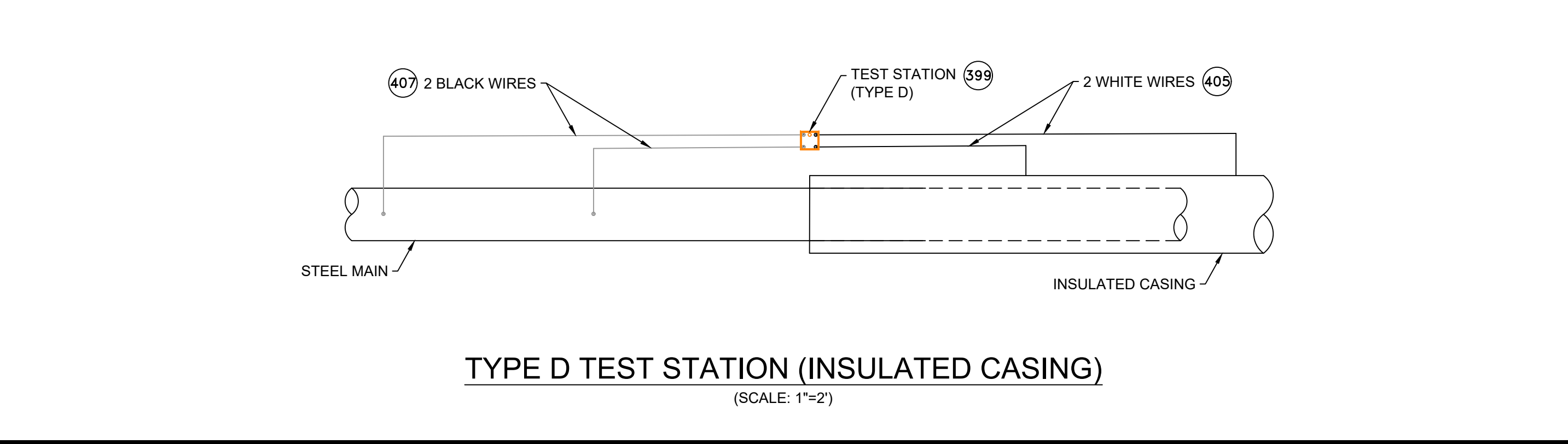
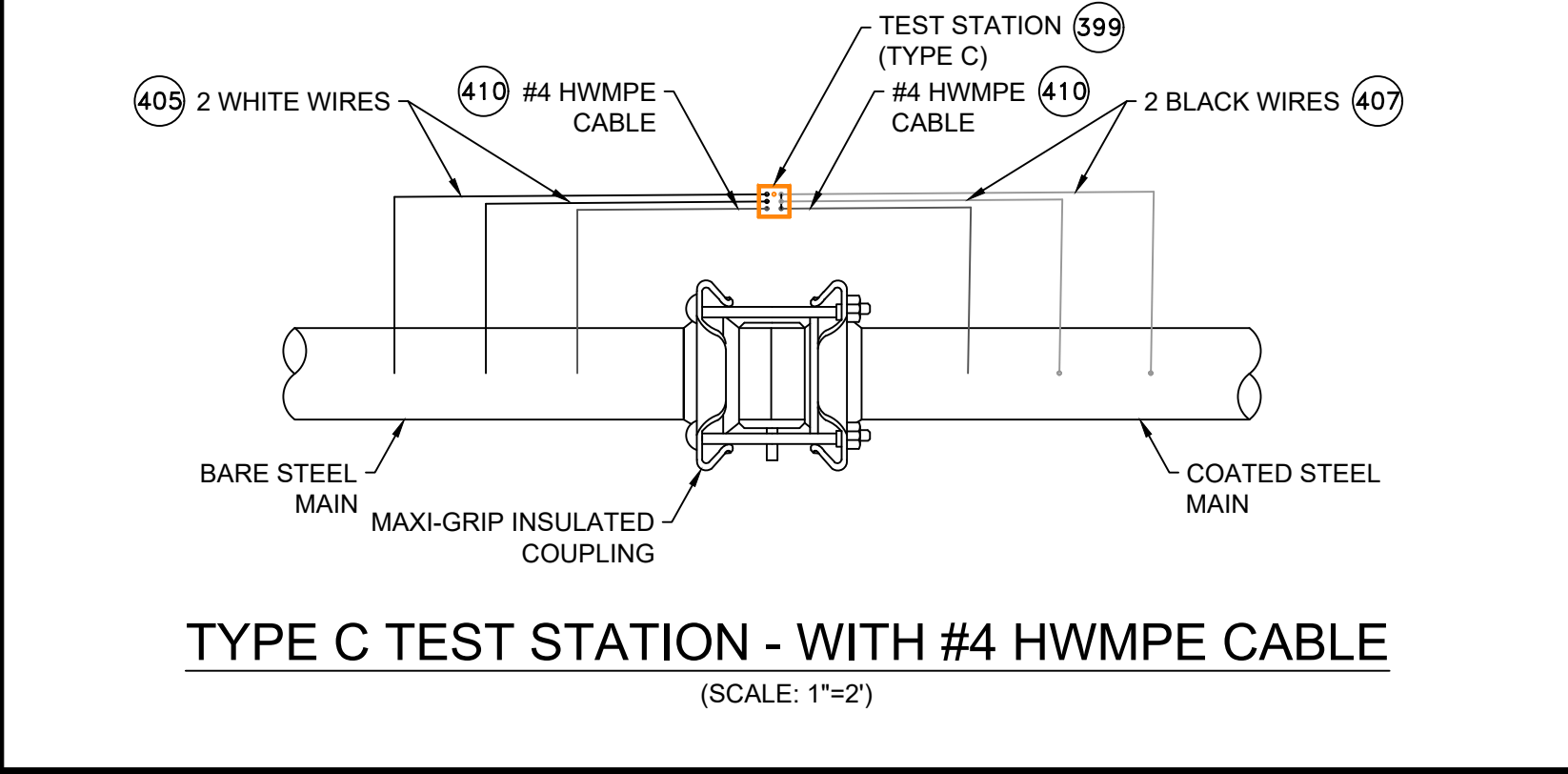
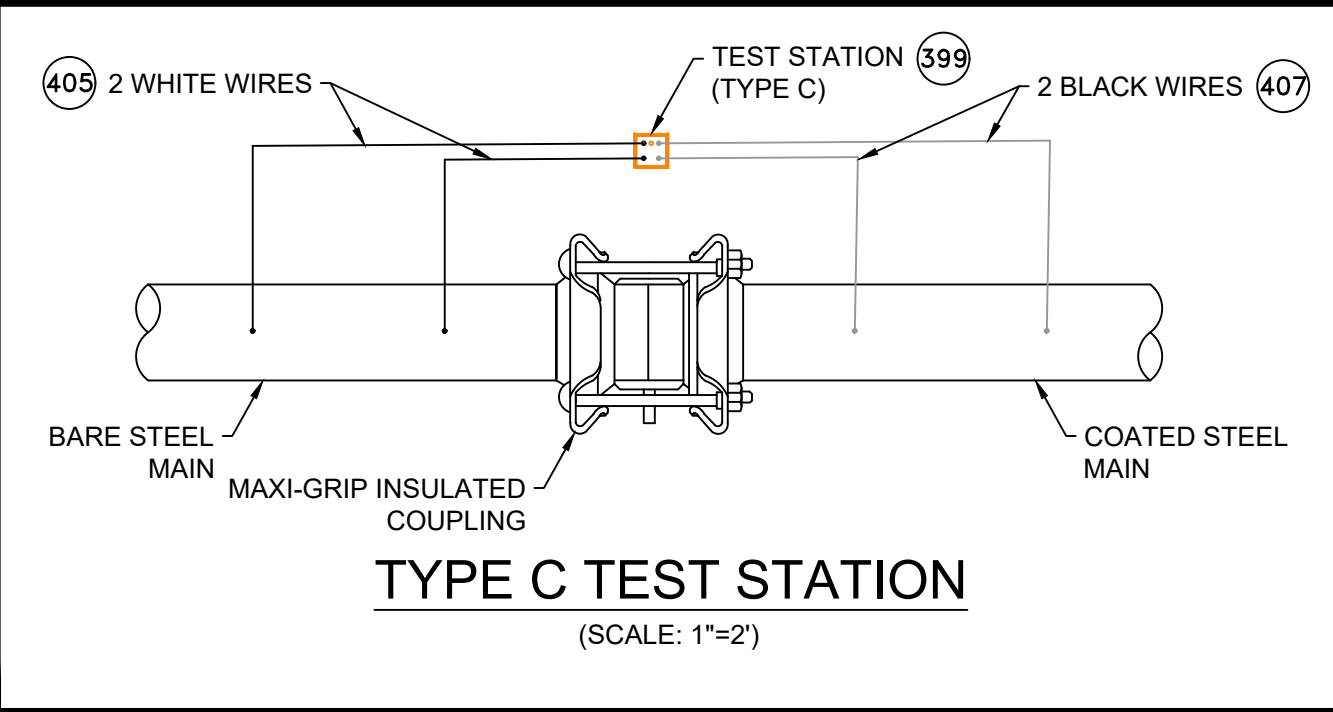
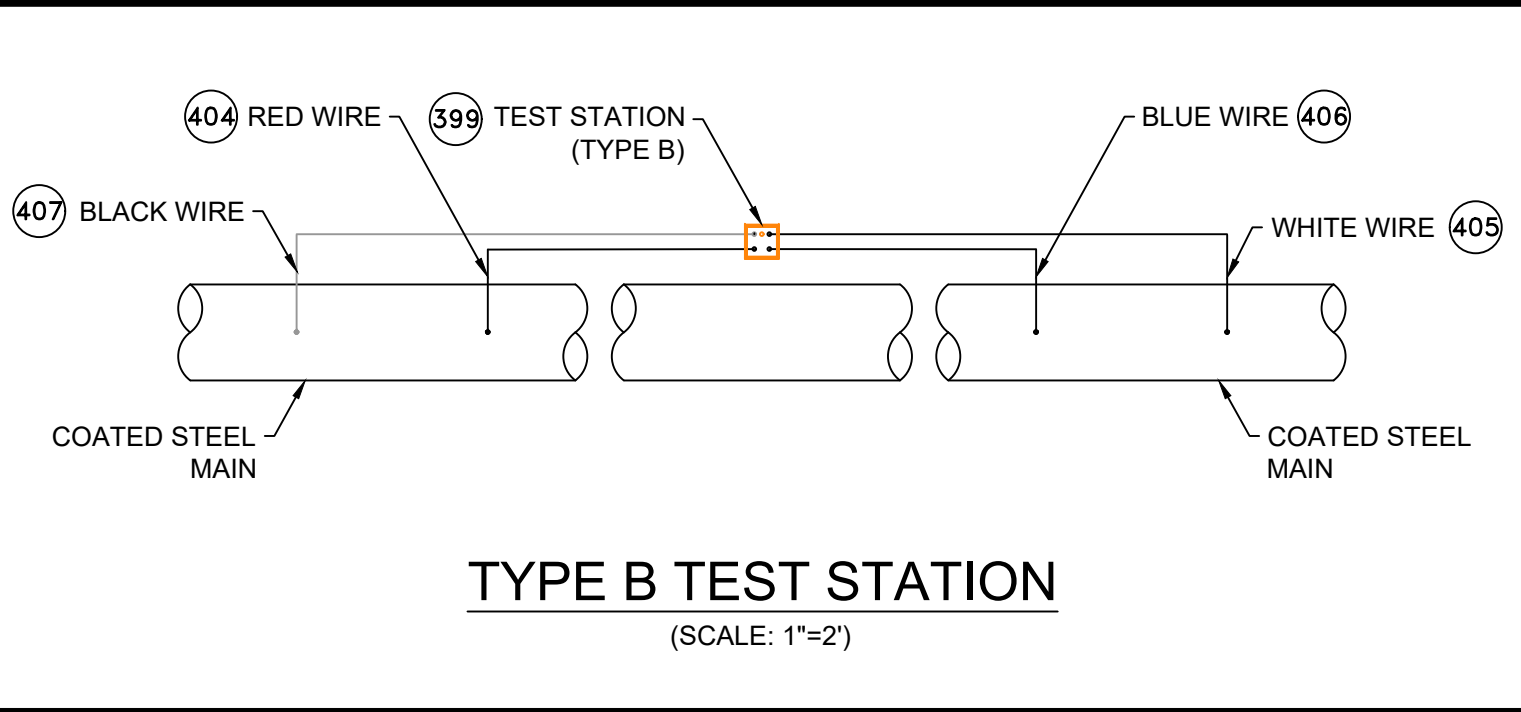
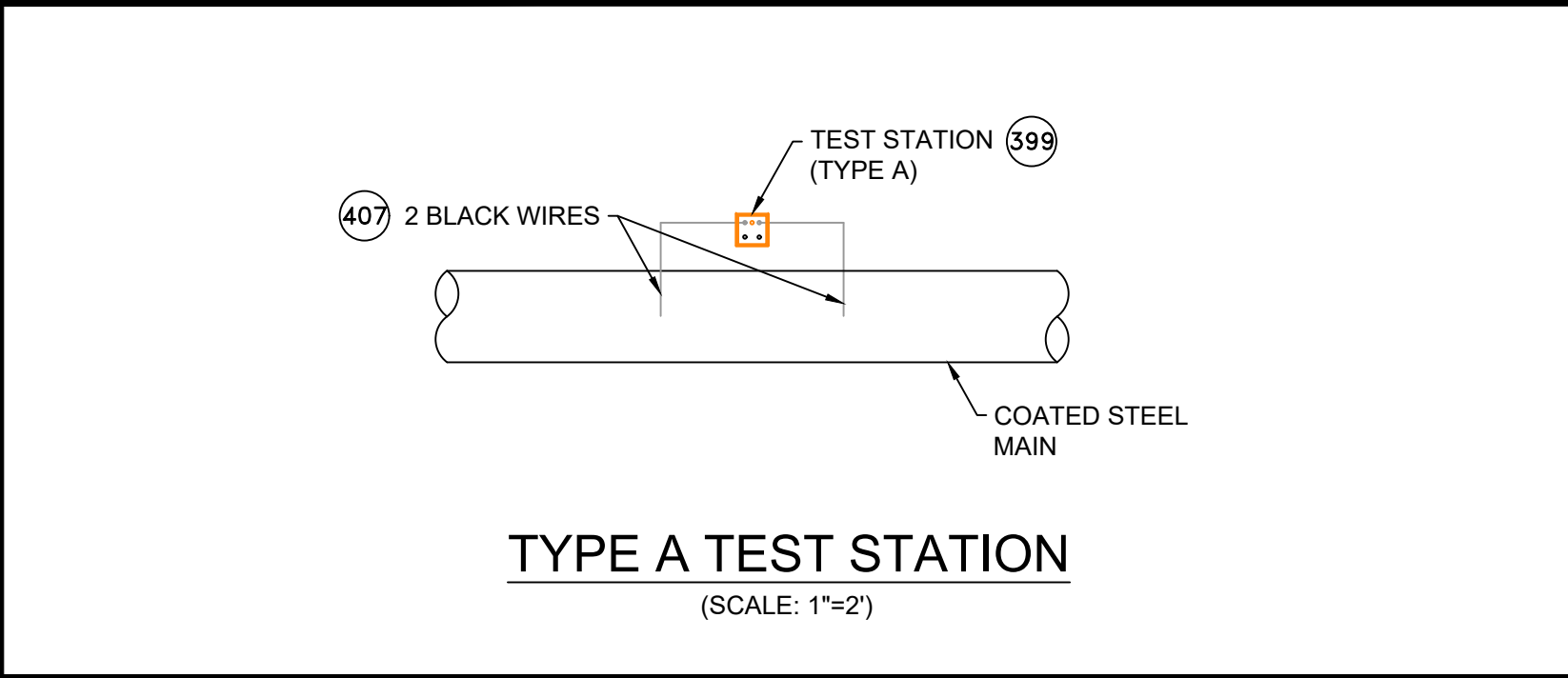
SEALED ON:  
02/02/2021  
LICENSE EXPIRATION:  
06/30/2022

DESIGNED IN ACCORDANCE WITH TITLE 49, PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.  
**ENEngineering**  
29 BARTLETT STREET  
MARLBOROUGH, MA 01752  
TEL: (630) 353-4000  
FAX: (630) 353-7777  
WWW.ENENGINEERING.COM

FIELD VERIFY DIMENSIONS  
PRIOR TO PIPE FABRICATION

4	IFC - NO CHANGES TO THIS SHEET	02/02/2021	ZS/AB/EK
3	IFC - NEW PROPOSED TIE IN L,OCATION D	01/14/2021	WS/AB/EK
2	IFC - UPDATED DETAIL AND BOM	12/08/2020	ZS/AB/EK
1	IFC - NO CHANGES TO THIS SHEET	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
<b>EVERSOURCE</b> ENERGY			
NELSON STREET MAIN RELAY NEW BEDFORD, MASSACHUSETTS			
LOCATION D - PHASE 1, 2 AND SCHEDULE OF MATERIALS			
SCALE: AS NOTED		SHEET 11 OF 12	
DRAWN BY / DATE AC 12/11/2020	CHECKED BY / DATE AB 02/02/2021	SHEET NUMBER MA-21-PIP-NEB-002-11	REV. NO. 4
APPROVED BY / DATE EK 02/02/2021	MA21PIPNEB002R4		





CATHODIC PROTECTION BILL OF MATERIALS					
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	
396	X	EA	577776	ANODE,BAG, 17 LB NET, HIGH POTENTIAL MAGNESIUM, W/ 10 FT #10 AWG TW ORANGE LEAD WIRE, PACKED IN CARDBOARD BOX 42 LB TOTAL WEIGHT	
397	X	EA	517626	CONNECTOR, SPLIT BOLT, 12 SOLID - 10 STRANDED, CU TO CU, HOUSING (COVER) MATE IN 590389,	
398	X	EA	590389	HOUSING, 50 V MAX, 10 AWG MAX, FOR PROTECTING TRACER WIRE SPLICES, USED WITH CONNECTOR IN 517626. 10/BAG	
399	X	EA	590871	BOX VALVE, TEST STATION, CP TEST #178, 10-1/4 IN DIA, LID, 8-3/8 IN I.D. 16 IN H., ASTM A48 CL 25 CAST IRON, FOR OFF-ROAD USE ONLY	
400	X	BOX	508567	POWDER, CARTRIDGE, TYPE IS F-33, ALLOY , CAP COLOR CLEAR, 15 GM CHARGE, 20/PAC, FOR STEEL PIPE	
401	X	EA	559168	SLEEVE,ELECTRICAL, #14 TO 10 AWG, W/ THERMITE WELDER, FOR CATHODIC PROTECTION	
402	X	ES	584045	EDI CONCENTRIC COUPON ASSEMBLY INCLUDING UCB-ZIN-LW010, 10 FT OF CABLE	
403	X	ES	603126	EDI CONCENTRIC COUPON ASSEMBLY INCLUDING UCB-ZIN-LW025, 25 FT OF CABLE	
404	X	ROLL	603140	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, RED, INSULATED, CU, 500 FT SPOOL, WIRE	
405	X	ROLL	578415	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, WHITE, INSULATED, CU, 500 FT SPOOL, WIRE	
406	X	ROLL	603141	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, BLUE INSULATED, CU, 500 FT SPOOL, WIRE	
407	X	ROLL	603139	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, BLACK, INSULATED, CU, 500 FT SPOOL,WIRE	
408	X	EA	500804	WELDER,THERMITE, THERMITE, FOR GAS PIPE, #12 CABLE,HORIZONTAL STEEL PIPE 4 IN AND LARGER DIAMETER	
409	X	EA	500805	WELDER,THERMITE, THERMITE, FOR GAS PIPE, #12 CABLE, HORIZONTAL STEEL PIPE 3/4 - 3-1/2 IN DIAMETER	
410	X	FT	513850	CABLE, INSULATED, CATHODIC PROTECTION, 1/C, #4 AWG, 7 STR, 600 V, BLACK, HWMPE, CU, 1000 FT ROLLS	

- NOTES:**
- ALL TEST STATION BOXES SHOULD BE INSTALLED IN A SAFE LOCATION WHERE ONE INDIVIDUAL CAN SAFELY OPEN AND ACCESS THE TEST WIRES. ALL TEST WIRES INSIDE THE BOX SHOULD HAVE ENOUGH SLACK ON THE WIRES SO THEY CAN EXTEND A MINIMUM OF 12" ABOVE GRADE.
  - FOR TYPE A TEST STATIONS, THE TWO WIRES SHOULD BE THERMITE WELDED TO THE COATED STEEL MAIN AND BE THE SAME COLOR. (COUPONS COULD BE ADDED TO THE TEST STATION TYPE).
  - FOR TYPE B TEST STATIONS, EACH OF THE FOUR WIRES SHOULD BE A DIFFERENT COLOR AND DOCUMENTED
  - FOR TYPE C TEST STATIONS, THE WIRES SHOULD BE THE SAME COLOR ON EACH SIDE OF THE INSULATED COUPLING. (ANODES AND/OR COUPONS COULD BE ADDED TO THIS TEST STATION TYPE).
  - FOR TYPE D TEST STATIONS WHICH ARE AT A CASING, WHITE WIRES ARE NORMALLY INSTALLED ON THE STEEL CASING AND BLACK WIRES ON INSTALLED ON THE CARRIER PIPE. (ANODES AND/OR COUPONS COULD BE ADDED TO THIS TEST STATION TYPE).
  - FOR TYPE M TEST STATIONS, THE TWO WIRES THERMITE WELDED TO THE CARRIER PIPE SHOULD BE THE SAME COLOR WIRE. THERE IS ALSO MAGNESIUM ANODE(S) WIRE(S) LOCATED INSIDE THE TEST STATION BOX.THE WIRE COLOR (TYPICALLY ORANGE) FOR THE ANODES. IF THE ANODE WIRES ARE SPliced TO A COMMON ANODE HEADER CABLE, THE ANODE HEADER CABLE SHOULD BE A (WHITE OR RED) DIFFERENT COLOR WIRE THAN THE WIRE THAT WAS THERMITE WELDED TO THE CARRIER PIPE. AT A TYPE M TEST STATION, NO MAGNESIUM ANODES SHOULD BE DIRECTLY THERMITE WELDED TO THE CARRIER PIPE OR IN CONTACT WITH THE CARRIER PIPE. THE ANODE HEADER WIRE OR INDIVIDUAL ANODE WIRES SHOULD TERMINATE INSIDE THE TEST STATION BOX. ANODES SHOULD BE SPACED A MINIMUM OF 5' ON CENTER FROM EACH OTHER AND A MINIMUM OF 12" AWAY AND BELOW THE BOTTOM OF THE STEEL MAIN.
  - IF COUPONS ARE TO BE INSTALLED , FIRST REMOVE THE PROTECTIVE LABEL COVERING THE STEEL COUPON AND THE RED STICKERS COVERING EACH SENSING PORT. CLEAN THE ENTIRE STEEL COUPON SURFACE WITH ALCOHOL TO REMOVE THE CORROSION INHIBITOR .PLACE THE COUPON ASSEMBLY APPROXIMATELY 12" FROM THE GAS MAIN BEING MONITORED WITH THE SENSING PORTS FACING THE GAS MAIN. THE COUPON ASSEMBLY SHOULD BE LOCATED ADJACENT TO THE BOTTOM PORTION OF THE GAS MAIN, ANYWHERE BETWEEN 3 O'CLOCK AND 9 O'CLOCK. THE SOIL BETWEEN THE COUPON AND THE MAIN SHOULD BE WELL COMPACTED AND CONTAIN NO ROCKS LARGER THAN A CENTIMETER IN DIAMETER OR FOREIGN MATERIAL.

\*THESE DETAILS WERE PROVIDED BY EVERSOURCE FOR TYPICAL INSTALLATIONS AND ARE FOR REFERENCE USE ONLY.

ISSUED FOR  
CONSTRUCTION  
02/02/2021

SEALED BY:  
ERIC VINAI  
KUMAR  
No. 54771  
SIGNATURE

SEALED ON:  
02/02/2021  
LICENSE  
EXPIRATION:  
06/30/2022

DESIGNED IN ACCORDANCE WITH TITLE  
49,PART 192 OF MINIMUM FEDERAL SAFETY  
STANDARDS AND GPTC GUIDE FOR GAS  
TRANSMISSION AND DISTRIBUTION PIPING  
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**ENEngineering**  
29 BARTLETT STREET  
MARLBOROUGH, MA 01752  
TEL (603) 353-4000  
FAX (603) 353-7777  
WWW.ENENGINEERING.COM

FIELD VERIFY DIMENSIONS  
PRIOR TO PIPE FABRICATION

4	IFC - NO CHANGES TO THIS SHEET	02/02/2021	ZS/AB/EK
3	IFC - NO CHANGES TO THIS SHEET	01/14/2021	WS/AB/EK
2	IFC - NO CHANGES TO THIS SHEET	12/08/2020	ZS/AB/EK
1	IFC - ADDED SHEET	10/29/2020	LR/AB/EK
0	ISSUED FOR CONSTRUCTION	10/14/2020	LR/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

REVISION STATUS			
<b>EVERSOURCE</b> ENERGY			
NELSON STREET MAIN RELAY			
NEW BEDFORD, MASSACHUSETTS			
STANDARD CORROSION DETAILS			
SCALE: 1"=2' (DO NOT SCALE FROM DRAWINGS)			SHEET 12 OF 12
DRAWN BY / DATE AC 12/11/2020	CHECKED BY / DATE AB 02/02/2021	SHEET NUMBER MA-21-PIP-NEB-002-12	REV. NO. 4