

TABLE OF CONTENTS

SHEET NUMBER	DESCRIPTION
1 OF 16	WORK SCOPE AND TABLE OF CONTENTS
2 OF 16	GENERAL NOTES AND MASTER BOM
3 OF 16	LEGEND
4 OF 16	LOCATION PLAN #1
5 OF 16	TIE-IN DETAIL #1 AND BOM
6 OF 16	LOCATION PLAN #2
7 OF 16	TIE-IN DETAIL #2 AND BOM
8 OF 16	LOCATION PLAN #3
9 OF 16	TIE-IN DETAIL #3 AND BOM
10 OF 16	LOCATION PLAN #4
11 OF 16	TIE-IN DETAIL #4 AND BOM
12 OF 16	LOCATION PLAN #5
13 OF 16	TIE-IN DETAIL #5 AND BOM
14 OF 16	LOCATION PLAN #6
15 OF 16	TIE-IN DETAIL #6 AND BOM
16 OF 16	STANDARD CORROSION DETAILS

EVERSOURCE
ENERGY



NOTE:
EXISTING CONDITIONS SHOWN ARE BASED ON GIS, AERIAL AND AVAILABLE RECORD DATA, NO FIELD SURVEY WAS PERFORMED. CONTRACTOR TO VERIFY EXISTING CONDITIONS AS NEEDED IN THE FIELD. PROPOSED MAIN ALIGNMENT AND OFFSETS ARE APPROXIMATE.

WORK SCOPE
NEW BEDFORD, MASSACHUSETTS
(NOT TO SCALE)

MAIN

INSTALLATION: ±3105' OF 4" PLASTIC LIP/35# MAIN

ABANDONMENT: ±1720' OF 4" CAST IRON LP/14" W.C MAIN

ABANDONMENT: ±1200' OF 8" BARE STEEL LIP/35# MAIN

ABANDONMENT: ±115' OF 2" PLASTIC LIP/35# MAIN

AFFECTED STREETS: COUNTY STREET, MOSHER STREET, DIVISION STREET, JOUVETTE STREET, CRAPO STREET AND ACUSHNET AVENUE.

SERVICES

REPLACEMENT: ±1350' OF 0.5" PLASTIC LIP/35# SERVICE

TIE-OVER: ±4500' OF 0.5" PLASTIC LIP/35# SERVICE

TOTAL SERVICES: 117

METER MOVE OUTS: 90

ISSUED FOR
CONSTRUCTION

DIVISION STREET & JOUVETTE STREET & MOSHER STREET, NEW BEDFORD, MA
WO# 7328814

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
EVERSOURCE ENERGY			
COUNTY STREET MAIN RELAY			
NEW BEDFORD, MASSACHUSETTS			
WORK SCOPE AND TABLE OF CONTENTS			
SCALE: AS NOTED		SHEET 1 OF 16	
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-01
			REV. NO.
			0

SEALED BY:

SIGNATURE

SEALED ON:
01/07/2022
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

GENERAL NOTES

- A. 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.

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

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

3. 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.

4. IF A CHANGE IN PIPE SIZE, MATERIAL, OR WALL THICKNESS IS REQUIRED.

5. ALTERNATE FITTINGS THAT ARE ACCEPTABLE FOR ANY TIE-IN DETAIL WILL BE CALLED OUT IN THE DRAWING. FITTING CHANGES NOT SHOWN AS ALTERNATIVES ON THE DRAWING WILL NEED TO FOLLOW THE DRAWING CHANGE PROCESS CONTAINED IN SECTION V.D.
- B. CONSTRUCTION DRAWINGS, LOCATIONS OF EXISTING UTILITIES, UNDERGROUND STRUCTURES AND WORK LOCATIONS ARE BASED ON BEST AVAILABLE INFORMATION BUT HAVE NOT BEEN FIELD VERIFIED.
- C. ALL WORK, MATERIAL AND CONSTRUCTION SHALL BE PERFORMED AND COMPLETED IN COMPLIANCE WITH ALL PERMITS AND APPROVALS PER EVERSOURCE, LOCAL, STATE, OSHA AND FEDERAL REGULATIONS AND STANDARDS.
- D. ALL LIVE GAS WORK EXCEPT SERVICE SIZE TAPS, 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.
- E. EXCAVATOR IS REQUIRED TO PROTECT EXISTING UTILITIES, STRUCTURES, LANDSCAPES FEATURES, SIGNAGE, CURBS, ETC. CARE SHOULD BE TAKEN NOT TO DISTURB OR DAMAGE SUCH ITEMS. 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.
- F. 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.
- G. EXCAVATOR REQUIRED TO CALL DIG-SAFE/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.
- H. IF THE PROJECT IS WITHIN 50 FEET OF A DISTRICT REGULATOR OR GATE STATION, ENSURE THAT A QUALIFIED I&R TECHNICIAN IS ON SITE.
- I. PROPERTY LINES, STRUCTURES AND EXISTING CONDITIONS DEPICTED ON PLANS ARE BASED ON EVERSOURCE GIS INFORMATION AND HAVE NOT BEEN FIELD VERIFIED BY LAND SURVEY UNLESS OTHERWISE NOTED.
- J. 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.
- K. MAINS AND SERVICES SHALL BE PRESSURE TESTED IN ACCORDANCE WITH EVERSOURCE STANDARDS.
- L. ALL PIPE SHALL BE INSTALLED WITH THE MINIMUM DEPTH REQUIRED BY EVERSOURCE STANDARDS AND APPLICABLE REGULATIONS.
- M. MAOP DEFINITIONS:

LP = 14" W.C

LIP = 35 PSIG

IP = 60 PSIG

HP = 90 PSIG
- N. ENSURE ALL SERVICES BEING TRANSFERRED TO A HIGHER PRESSURE SYSTEM HAVE UPGRADED PRESSURE REGULATORS INSTALLED PRIOR TO ACTIVATION.


COUNTY STREET MAIN RELAY - MASTER BOM					
Item #	Size	Quantity	Units	Maximo #	Description
11	4"	6	EA	501002	VALVE,BALL, 4 IN, POLYETHYLENE, SDR 11, BUTT WELD, W/ FULL PORT OPENING, TO BE USED W/ BRAND SADDLE INST, P100
45	4"	1	EA	500855	COUPLING,PIPE, 4 IN IPS, ELECTROFUSION, PLASTIC, P100
55	4"	AS REQUIRED	EA	545341	ELBOW,PIPE, 90 DEG, 4 IN SDR 11, BUTT WELD ENDS, PLASTIC, P100
69	4" X 2"	2	EA	555593	REDUCER,PIPE, 4 X 2 IPS, BUTT ENDS, POLYETHYLENE, P100, SDR11
90	4"	AS REQUIRED	EA	542538	CAP,PIPE, 4 IN IPS SDR 11, BUTT END, POLYETHYLENE, P100
100	2"	1	EA	560705	TEE,PIPE, 2 IN IPS SDR 11, BUTT ENDS, POLYETHYLENE, P100
118	4"	2	EA	546146	FITTING,TRANSITION, 4 IN IPS CS X 4 IN IPS PE4710, SDR 11, STEEL WELD X PLASITC BUTT END
133	2" X 1/2"	4	EA	500866	TEE,PIPE, NON-BLOWING, 2 X 1/2 IN CTS X 0.090 IN THK WALL SDR 7, ELECTROFUSION X COMPRESSION ENDS, LIGHT WALL, POLYETHYLENE, PE3408/PE100
134	4" X 1/2"	1	EA	500867	TEE,PIPE, NON-BLOWING, 4 X 1/2 IN CTS X 0.090 IN THK WALL SDR 7, ELECTROFUSION X COMPRESSION ENDS, LIGHT WALL, POLYETHYLENE, PE3408/PE100, 1
147	2" X 1"	3	EA	560779	TEE,PIPE, NON-BLOWING, 2 X 1 IN IPS SDR 11, ELECTROFUSION X COMPRESSION ENDS, LIGHT WALL, POLYETHYLENE, PE3408/PE100
170	2" X 2"	1	EA	584303	FITTING,TEE, 2 IN IPS X 2 IN IPS, ELECTROFUSION HIGH VOLUME TAPPING WITH BUTT FUSION OUTLET, HDPE, BLACK, WAS ITEM 577624, NSTAR M-140
172	4" X 2"	2	EA	584304	FITTING,TEE, 4 IN IPS X 2 IN IPS, ELECTROFUSION HIGH VOLUME TAPPING WITH BUTT FUSION OUTLET, HDPE, BLACK, WAS ITEM 577621
201	4"	4	EA	578128	FITTING,COUPLING, VENTED, SEAL & RESTRAINT, 4 IN, W/ END CAP , FOR CAST IRON PIPE
220	4" x 2"	11	EA	543028	CLAMP,PIPE, REPAIR, 4 IN IPS, SS, W/2 IN TAP
249	3/4" x 1/2"	6	EA	560709	TEE,PIPE, NON-BLOWING, 3/4 IN X 1/2 IN CTS PLASTIC X 3/8 IN PERF SDR 7, WELDED INLET X COMPRESSION OUTLET, LIGHT WALL, CS, 24/BOX
254	4"	2	EA	578137	FITTING,TEE, SHORTSTOPP, 3-WAY, 4 IN
259	2"	2	EA	578396	FITTING,TEE, SHORTSTOPP, 2 IN, WELDED
264	8"	2	EA	578400	FITTING,TEE, SHORTSTOPP, 8 IN, WELD
349	2"	AS REQUIRED	EA	581633	FITTING,CAP, METFIT, 2 IN IPS X 0.216 IN THK WALL SDR 11, ASTM F1924 , FOR CAPPING PE GAS DISTRIBUTION PIPE AND TUBING, NSTAR M-410
350	2"	AS REQUIRED	EA	579840	FITTING,COUPLING, METFIT, 2 IN X 0.216 IN THK WALL SDR 11
358	2"	ENTER FOOTAGE	LF	554025	PIPE, 2 IN IPS X 0.216 IN THK WALL SDR 11, 2.375 IN OD, 350 FT LG COIL, POLYETHYLENE, PE3408/PE100
359	2"	AS REQUIRED	LF	592668	PIPE, 2 IN IPS SDR 11, 250 FT LG COIL, HDPE PE4710, BLACK, ASTM D2513, 102 PSIG, W/ YELLOW STRIPES, REPLACING ITEM 554007
362	4"	3105	LF	554008	PIPE, 4 IN IPS X 0.409 IN THK WALL SDR 11, 4.5 IN OD, 40 FT LG, POLYETHYLENE, PE3408/PE100, 1200 FT/BUNDLE
369	1/2"	AS REQUIRED	EA	579972	FITTING,CAP, METFIT, 1/2 IN CTS X 0.90 IN THK WALL SDR 7, REPLACED IN 542609
371	1"	AS REQUIRED	EA	583182	FITTING,CAP, METFIT, 1 IN IPS X 0.119 IN THK WALL SDR 11, ASTM F1924 , FOR CAPPING PE GAS DISTRIBUTION PIPE AND TUBING, REPLACED IN 542612
399	2"	1	EA	560572	TEE,PIPE, STREET, 2 IN, THREADED INLET X COMPRESSION OUTLET, W/ ARMORED GASKET, LOCKING END, 8/BOX
521	17 lb.	4	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
727	4"	2	EA	578184	FITTING,COUPLING, VENTED, INSULATED, 4 IN, FOR STEEL PIPE
729	8"	4	EA	578186	FITTING,COUPLING, VENTED, INSULATED, W/ END CAP, FOR 8 IN STEEL PIPE, EZB8VIUMG
738	5 1/4" square	7	EA	577814	BOX VALVE, W/ 5-1/4 IN SQ NON-LOCKING LID, FOR 4 IN VALVES, PAVEMENT RISER RING IN 583488,

*ADDITIONAL ELBOWS MAY BE REQUIRED FOR OFFSETS

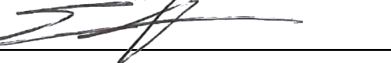
ISSUED FOR
CONSTRUCTION

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
EVERSOURCE ENERGY			
COUNTY STREET MAIN RELAY			
NEW BEDFORD, MASSACHUSETTS			
GENERAL NOTES AND MASTER BOM			
SCALE: NOT TO SCALE		SHEET 2 OF 16	
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-02
			0

SEALED BY:



SIGNATURE



SEALED ON:

01/07/2022

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) 355-7777
WWW.ENENGINEERING.COM

FIELD VERIFY DIMENSIONS
PRIOR TO PIPE FABRICATION


LEGEND

	EXISTING GAS MAIN
	EXISTING GAS MAIN TO BE ABANDONED
	EXISTING GAS MAIN WITH SERVICE TRANSFERS
	EXISTING GAS MAIN WITH PRESSURE INCREASE
	PROPOSED GAS MAIN
	REGULATOR STATION 50' BOUNDARY
	RIGHT OF WAY
	FENCE
	WATER LINE
	FIRE HYDRANT
	SEWER LINE
	SEWER MANHOLE
	DRAIN LINE
	DRAIN MANHOLE
	CATCH BASIN
	UTILITY POLE
	ELECTRIC MANHOLE
	ELECTRIC LINE
	TELEPHONE LINE
	TELEPHONE MANHOLE


ISSUED FOR
CONSTRUCTION

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
EVERSOURCE ENERGY			
COUNTY STREET MAIN RELAY			
NEW BEDFORD, MASSACHUSETTS			
LEGEND			
SCALE: NOT TO SCALE		SHEET 3 OF 16	
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-03
			REV. NO.
			0

SEALED BY:



SIGNATURE



SEALED ON:

01/07/2022

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.



29 BARTLETT STREET
MARLBOROUGH, MA 01752
TEL (630) 353-4000
FAX (630) 535-7777
WWW.ENENGINEERING.COM

FIELD VERIFY DIMENSIONS
PRIOR TO PIPE FABRICATION



LOCATION PLAN #1
(SCALE: 1"=20')

CRAPO STREET

MOSHER STREET

0.5" PL TO #145 CRAPO STREET

0.5" PL TO #149 CRAPO STREET

17' 40' (ROW) 23' EXISTING ROW

UNK SERVICE

2" PL LIP 1995

0.5" PY

103 89 87 85 81 75 73 71 69 65 59 53

0.5" PL 1.0" UNK 1.0" PL 1.25" UNK 1.0" PY 9' 1.25" PL 1.0" ST 1.0" PL 1.25" ST 1.0" ST 9' 1.25" PL

EXISTING ROW

25' 50' (ROW) 25' EXISTING ROW

PLAN SERVICE INTERRUPTION AT #80 MOSHER ST REFER TO TIE-IN DETAIL #1 ON SHEET 5

ABANDON (755') 4" CI LP 1901 (-805') PROPOSED 4" HDPE LIP MAIN

153 155 157 104 102 88 86 80 78 74 70 64 60 56

UNK SERVICE

2" PL LIP 1995

0.5" PY

UNK SERVICE

2" PL LIP 1995

0.5" PY

UNK SERVICE


0.5" PL 1.25" PL 1.25" UNK 1.0" PL 1.25" PD 1.25" PL 1.5" CS 1.25" PL 1.25" ST 1.25" ST 1.25" PD 1.0" PL 0.5" PL 0.5" PY

0.5" PY TO #84 MOSHER STREET


EXISTING ROW

17' 40' (ROW) 23' EXISTING ROW

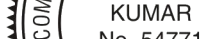
SEE MATCHLINE "AA" SHT # 6

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK	
NO.	DESCRIPTION	DATE	DW/CK/AP	
REVISION STATUS				
				
COUNTY STREET MAIN RELAY				
NEW BEDFORD, MASSACHUSETTS				
LOCATION PLAN #1				
SCALE: 1"=20'			SHEET 4 OF 16	
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER	REV. NO.
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-04	0

SEALED BY:


The seal is circular with a serrated outer edge. Inside the circle, the text "COMMONWEALTH OF MASSACHUSETTS" is written along the top arc, and "REGISTERED PROFESSIONAL ENGINEER" is written along the bottom arc. In the center of the seal, the text "ERIC VINAI KUMAR" is written above "No. 54771".

SIGNATURE _____


A handwritten signature in black ink, appearing to read "Eric Vinai Kumar", is written over the signature line.

SEALED ON:

01/07/2022

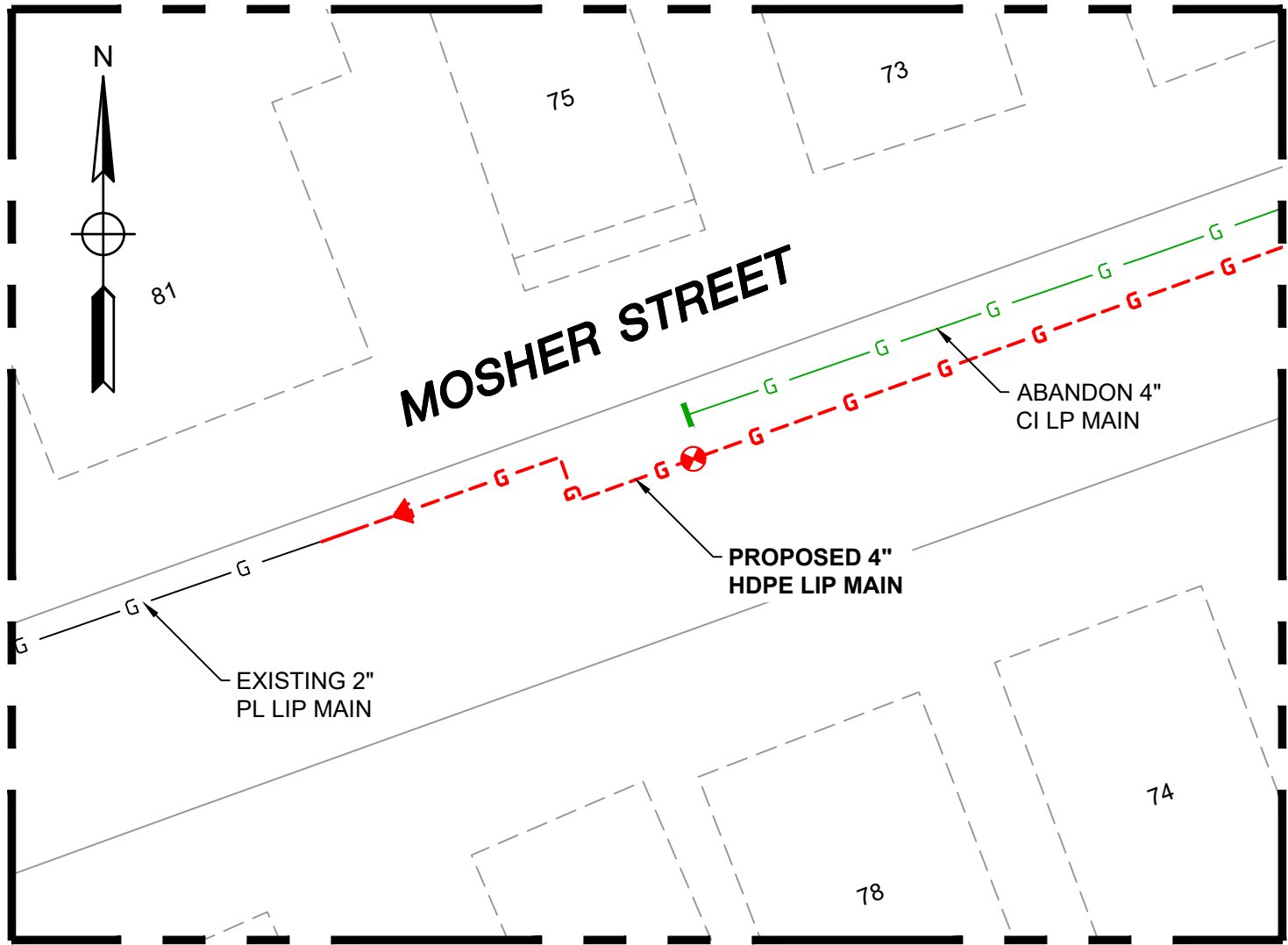
LICENSE
EXPIRATION:

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.

29 BARTLETT STREET
MARLBOROUGH, MA 01752
TEL. (630) 353-4000
FAX (630) 535-7777
WWW.ENENGINEERING.COM

FIELD VERIFY DIMENSIONS
PRIOR TO PIPE FABRICATION



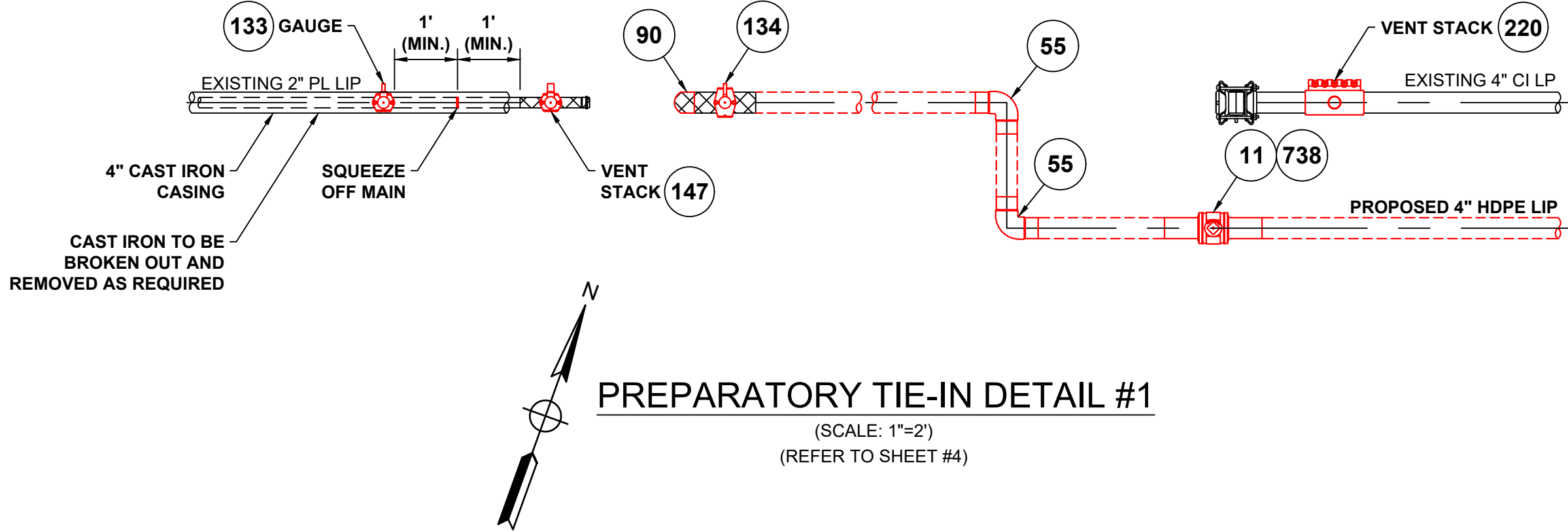
TIE-IN DETAIL #1 - PLAN VIEW

(SCALE: 1"=20")
(REFER TO SHEET #4)

COUNTY STREET, NEW BEDFORD, MA - Tie-in #1: Preparatory					
REQUIRED BILL OF MATERIALS					
ITEM	SIZE	MAXIMO NO.	Description	Quantity	Units
11	4"	501002	VALVE,BALL, 4 IN, POLYETHYLENE, SDR 11, BUTT WELD, W/ FULL PORT OPENING, TO BE USED W/ BRAND SADDLE INST, P100	1	EA
55	4"	545341	ELBOW,PIPE, 90 DEG, 4 IN SDR 11, BUTT WELD ENDS, PLASTIC, P100	2	EA
90	4"	542538	CAP,PIPE, 4 IN IPS SDR 11, BUTT END, POLYETHYLENE, P100	1	EA
133	2" X 1/2"	500866	TEE,PIPE, NON-BLOWING, 2 X 1/2 IN CTS X 0.090 IN THK WALL SDR 7, ELECTROFUSION X COMPRESSION ENDS, LIGHT WALL, POLYETHYLENE, PE3408/PE100	1	EA
134	4" X 1/2"	500867	TEE,PIPE, NON-BLOWING, 4 X 1/2 IN CTS X 0.090 IN THK WALL SDR 7, ELECTROFUSION X COMPRESSION ENDS, LIGHT WALL, POLYETHYLENE, PE3408/PE100, 1	1	EA
147	2" X 1"	560779	TEE,PIPE, NON-BLOWING, 2 X 1 IN IPS SDR 11, ELECTROFUSION X COMPRESSION ENDS, LIGHT WALL, POLYETHYLENE, PE3408/PE100	1	EA
220	4" x 2"	543028	CLAMP,PIPE, REPAIR, 4 IN IPS, SS, W/2 IN TAP	1	EA
738	5 1/4" Square	577814	BOX VALVE, W/ 5-1/4 IN SQ NON-LOCKING LID, FOR 4 IN VALVES, PAVEMENT RISER RING IN 583488,	1	EA

COUNTY STREET, NEW BEDFORD, MA - Tie-in #1: Final					
REQUIRED BILL OF MATERIALS					
ITEM	SIZE	MAXIMO NO.	Description	Quantity	Units
45	4"	500855	COUPLING,PIPE, 4 IN IPS, ELECTROFUSION, PLASTIC, P100	1	EA
69	4" X 2"	555593	REDUCER,PIPE, 4 X 2 IPS, BUTT ENDS, POLYETHYLENE, P100, SDR11	1	EA
90	4"	542538	CAP,PIPE, 4 IN IPS SDR 11, BUTT END, POLYETHYLENE, P100	1	EA
133	2" X 1/2"	500866	TEE,PIPE, NON-BLOWING, 2 X 1/2 IN CTS X 0.090 IN THK WALL SDR 7, ELECTROFUSION X COMPRESSION ENDS, LIGHT WALL, POLYETHYLENE, PE3408/PE100	1	EA
349	2"	581633	FITTING,CAP, METFIT, 2 IN IPS X 0.216 IN THK WALL SDR 11, ASTM F1924 , FOR CAPPING PE GAS DISTRIBUTION PIPE AND TUBING, NSTAR M-410	AS REQUIRED	EA
350	2"	579840	FITTING,COUPLING, METHIT, 2 IN X 0.216 IN THK WALL SDR 11	AS REQUIRED	EA
359	2"	592668	PIPE, 2 IN IPS SDR 11, 250 FT LG COIL, HDPE PE4710, BLACK, ASTM D2513, 102 PSIG, W/ YELLOW STRIPES, REPLACING ITEM 554007	5	LF
362	4"	554008	PIPE, 4 IN IPS X 0.409 IN THK WALL SDR 11, 4.5 IN OD, 40 FT LG, POLYETHYLENE, PE3408/PE100, 1200 FT/BUNDLE	50	LF
369	1/2"	579972	FITTING,CAP, METFIT, 1/2 IN CTS X 0.90 IN THK WALL SDR 7, REPLACED IN 542609	AS REQUIRED	EA

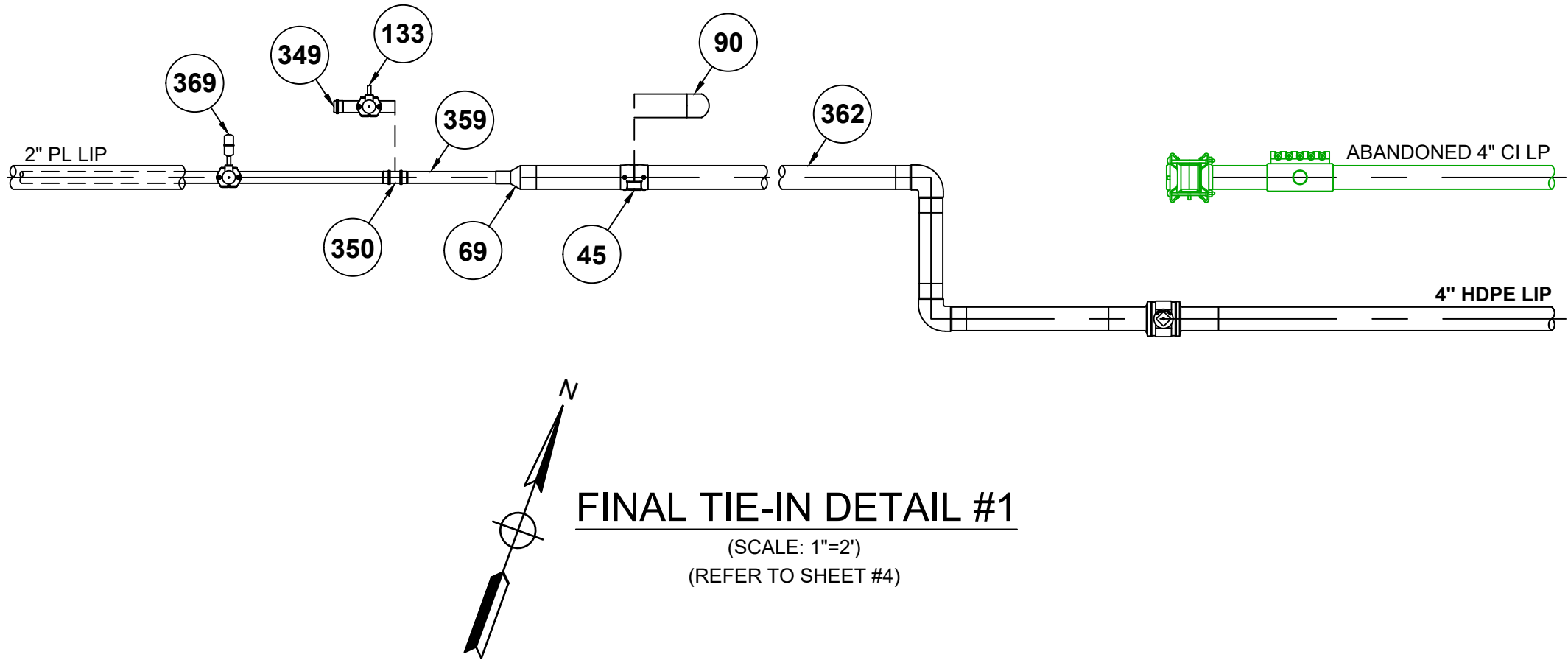
MOSHER STREET



PREPARATORY TIE-IN DETAIL #1

(SCALE: 1"=2")
(REFER TO SHEET #4)

MOSHER STREET



FINAL TIE-IN DETAIL #1

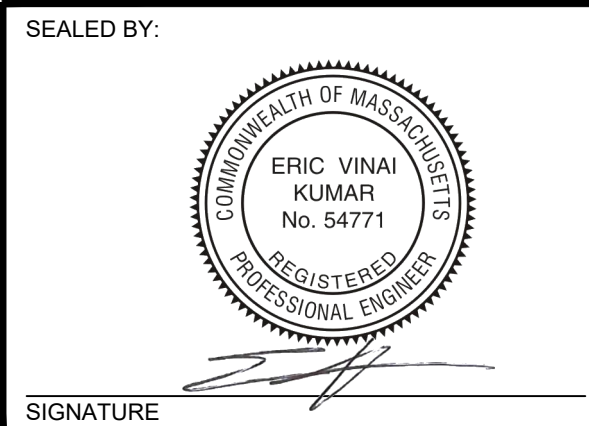
(SCALE: 1"=2")
(REFER TO SHEET #4)

LEGEND

- EXISTING GAS MAIN
- EXISTING GAS MAIN TO BE ABANDONED
- EXISTING GAS MAIN WITH SERVICE TRANSFERS
- EXISTING GAS MAIN WITH PRESSURE INCREASE
- PROPOSED GAS MAIN
- EXISTING FITTING
- PROPOSED FITTING

ISSUED FOR
CONSTRUCTION

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



SEALED ON:

01/07/2022

LICENSE EXPIRATION:

06/30/2022

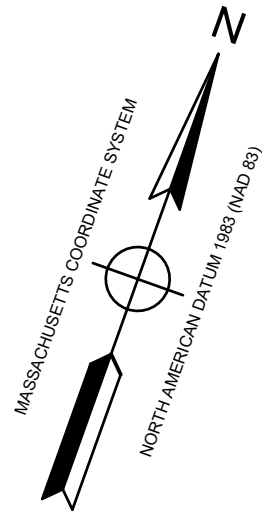
DESIGNED IN ACCORDANCE WITH TITLE 49, PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

ENEngineering

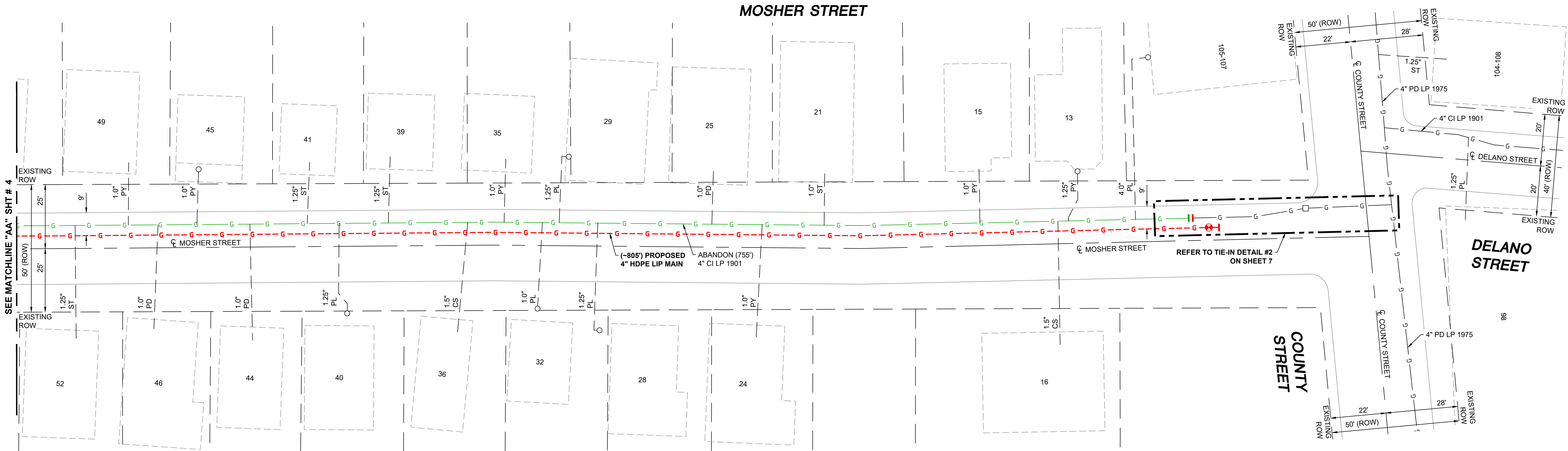
29 BARTLETT STREET
MARLBOROUGH, MA 01752
TEL: (630) 353-4000
FAX: (630) 353-7777
WWW.ENENGINEERING.COM

FIELD VERIFY DIMENSIONS
PRIOR TO PIPE FABRICATION

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK	
NO.	DESCRIPTION	DATE	DW/CK/AP	
REVISION STATUS				
EVERSOURCE ENERGY				
COUNTY STREET MAIN RELAY				
NEW BEDFORD, MASSACHUSETTS				
TIE-IN DETAIL #1 AND BOM				
SCALE: AS NOTED (DO NOT SCALE FROM DRAWINGS)				SHEET 5 OF 16
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER	REV. NO.
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-05	0



KEY MAP
(NOT TO SCALE)



LOCATION PLAN #2
(SCALE: 1"=20')

ISSUED FOR
CONSTRUCTION

- NOTES:
1. REFER TO GENERAL NOTES ON SHEET #2.
 2. CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.

SEALED BY:

ERIC VINAI
KUMAR
No. 54771
REGISTERED
PROFESSIONAL ENGINEER

SIGNATURE

SEALED ON:

01/07/2022

LICENSE EXPIRATION:

06/30/2022

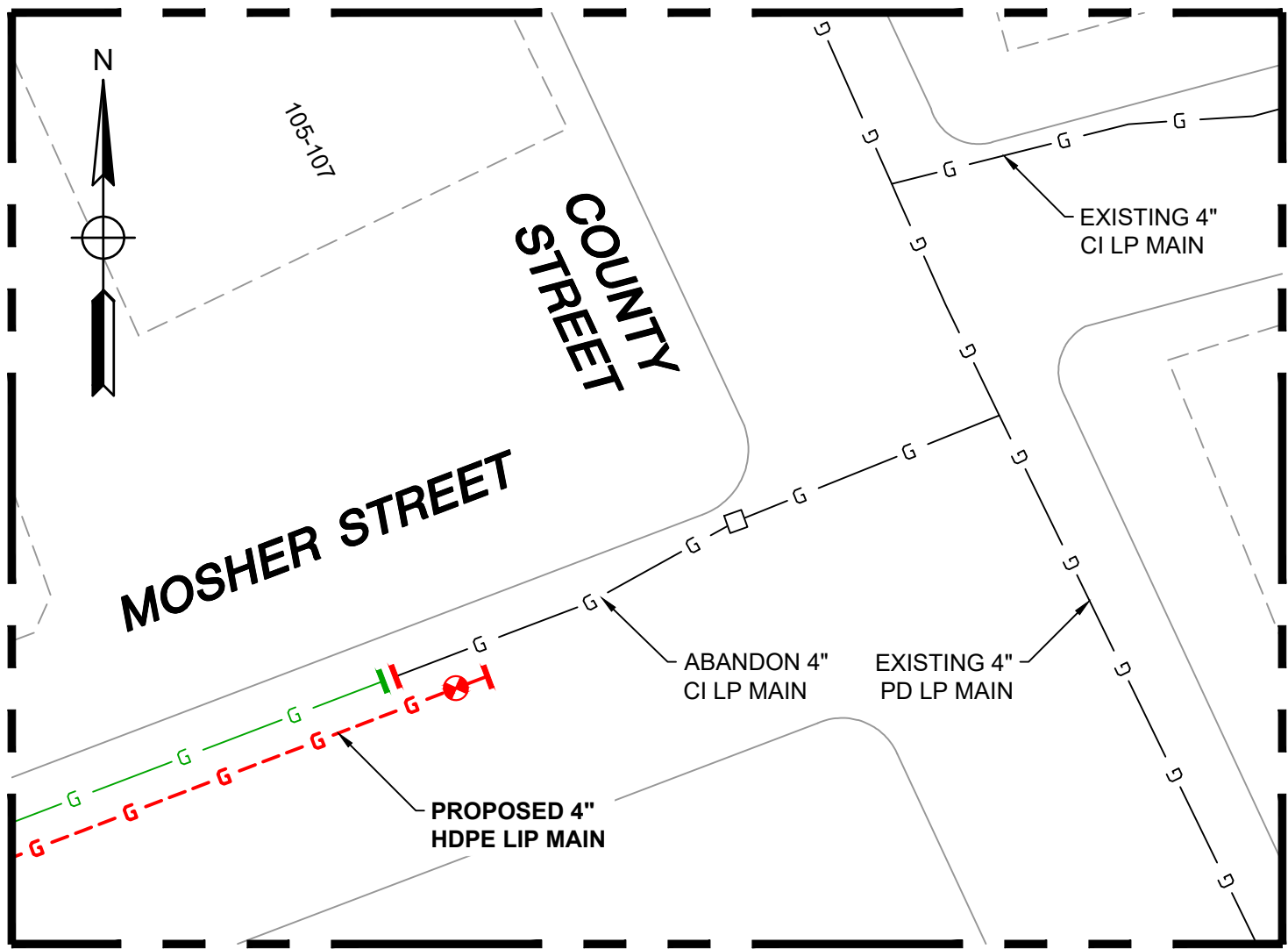
DESIGNED IN ACCORDANCE WITH TITLE 49, PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

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

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK	
NO.	DESCRIPTION	DATE	DW/CK/AP	
REVISION STATUS				
EVERSOURCE ENERGY				
COUNTY STREET MAIN RELAY				
NEW BEDFORD, MASSACHUSETTS				
LOCATION PLAN #2				
SCALE: 1"=20'			SHEET 6 OF 16	
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER	REV. NO.
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-06	0

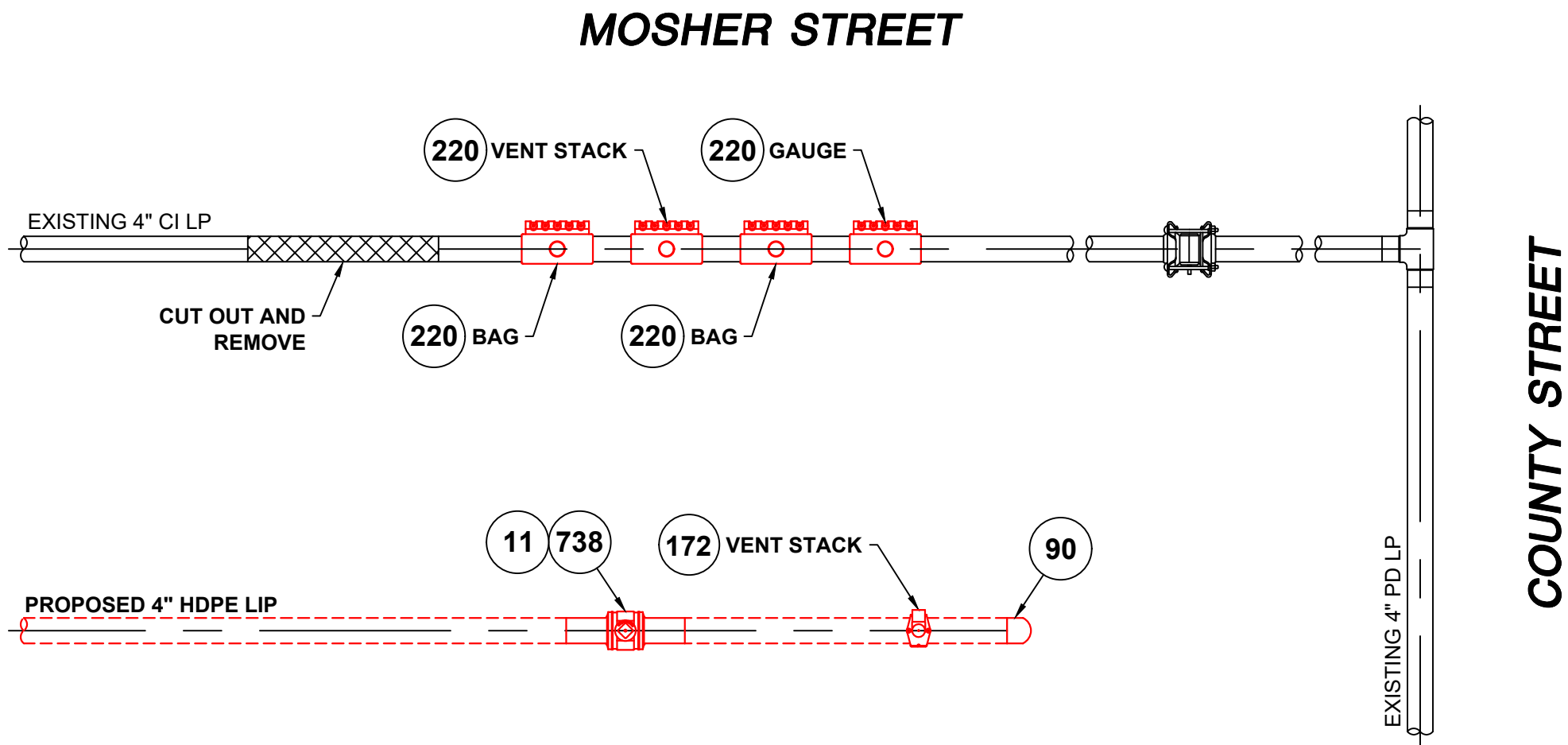


TIE-IN DETAIL #2 - PLAN VIEW

(SCALE: 1"=20")
(REFER TO SHEET #6)

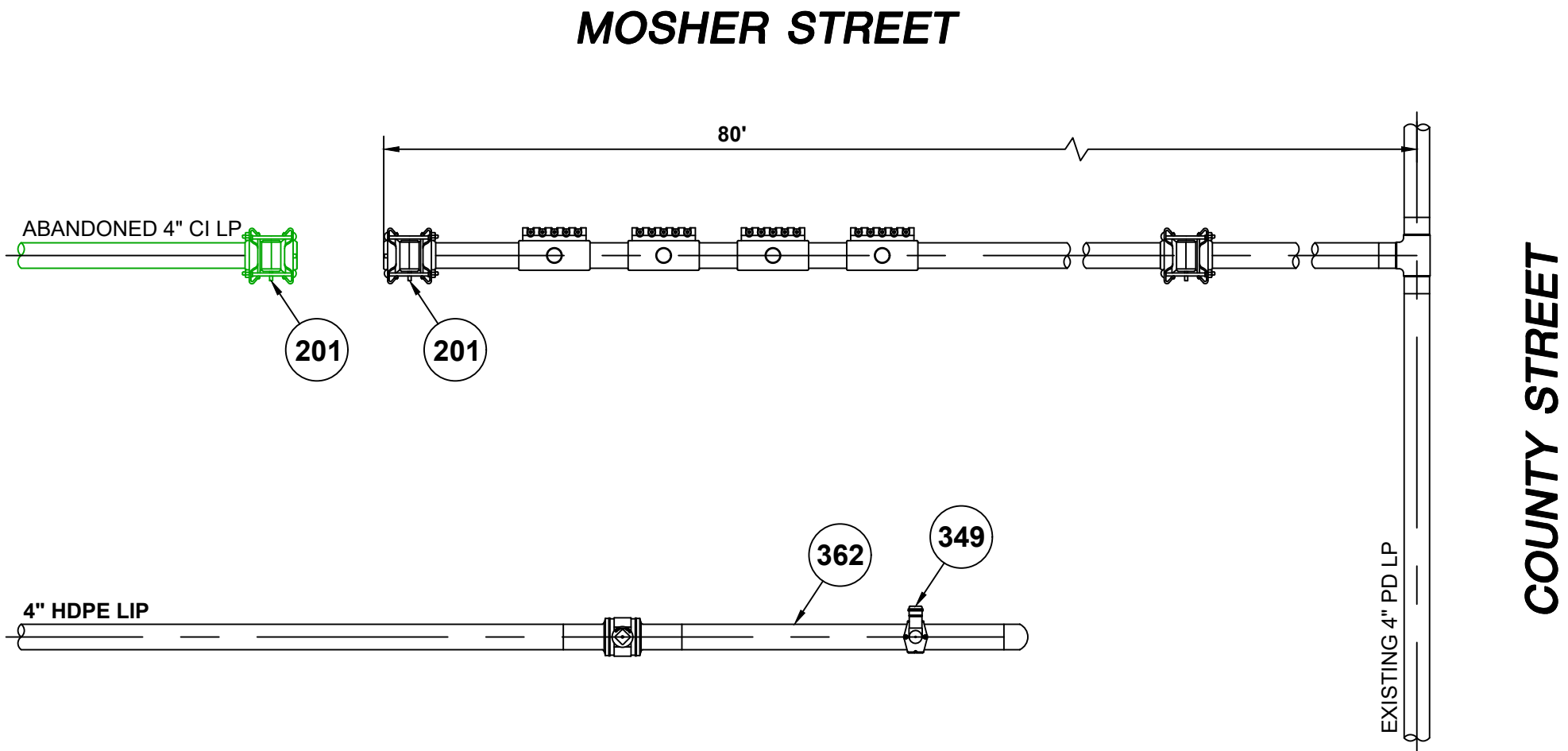
COUNTY STREET, NEW BEDFORD, MA - Tie-in #2: Preparatory					
REQUIRED BILL OF MATERIALS					
ITEM	SIZE	MAXIMO NO.	Description	Quantity	Units
11	4"	501002	VALVE,BALL, 4 IN, POLYETHYLENE, SDR 11, BUTT WELD, W/ FULL PORT OPENING, TO BE USED W/ BRAND SADDLE INST, P100	1	EA
90	4"	542538	CAP,PIPE, 4 IN IPS SDR 11, BUTT END, POLYETHYLENE, P100	AS REQUIRED	EA
172	4" X 2"	584304	FITTING,TEE, 4 IN IPS X 2 IN IPS, ELECTROFUSION HIGH VOLUME TAPPING WITH BUTT FUSION OUTLET, HDPE, BLACK, WAS ITEM 577621	1	EA
220	4" x 2"	543028	CLAMP,PIPE, REPAIR, 4 IN IPS, SS, W/2 IN TAP	4	EA
738	5 1/4" square	577814	BOX VALVE, W/ 5-1/4 IN SQ NON-LOCKING UID, FOR 4 IN VALVES, PAVEMENT RISER RING IN 583488,	1	EA

COUNTY STREET, NEW BEDFORD, MA - Tie-in #2: Final					
REQUIRED BILL OF MATERIALS					
ITEM	SIZE	MAXIMO NO.	Description	Quantity	Units
201	4"	578128	FITTING,COUPLING, VENTED, SEAL & RESTRAINT, 4 IN, W/ END CAP , FOR CAST IRON PIPE	2	EA
349	2"	581633	FITTING,CAP, METFIT, 2 IN IPS X 0.216 IN THK WALL SDR 11, ASTM F1924 , FOR CAPPING PE GAS DISTRIBUTION PIPE AND TUBING, NSTAR M-410	1	EA
362	4"	554008	PIPE, 4 IN IPS X 0.409 IN THK WALL SDR 11, 4.5 IN OD, 40 FT LG, POLYETHYLENE, PE3408/PE100, 1200 FT/BUNDLE	10	LF
727	4"	578184	FITTING,COUPLING, VENTED, INSULATED, 4 IN, FOR STEEL PIPE	2	EA



PREPARATORY TIE-IN DETAIL #2

(SCALE: 1"=2")
(REFER TO SHEET #6)





FINAL TIE-IN DETAIL #2

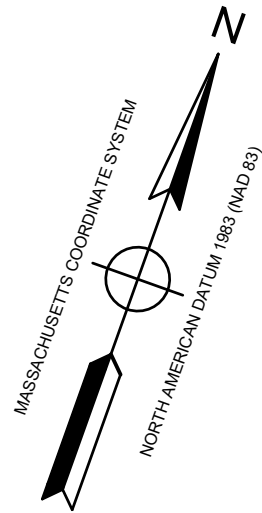
(SCALE: 1"=2")
(REFER TO SHEET #6)

LEGEND	
	EXISTING GAS MAIN
	EXISTING GAS MAIN TO BE ABANDONED
	EXISTING GAS MAIN WITH SERVICE TRANSFERS
	EXISTING GAS MAIN WITH PRESSURE INCREASE
	PROPOSED GAS MAIN
	EXISTING FITTING
	PROPOSED FITTING

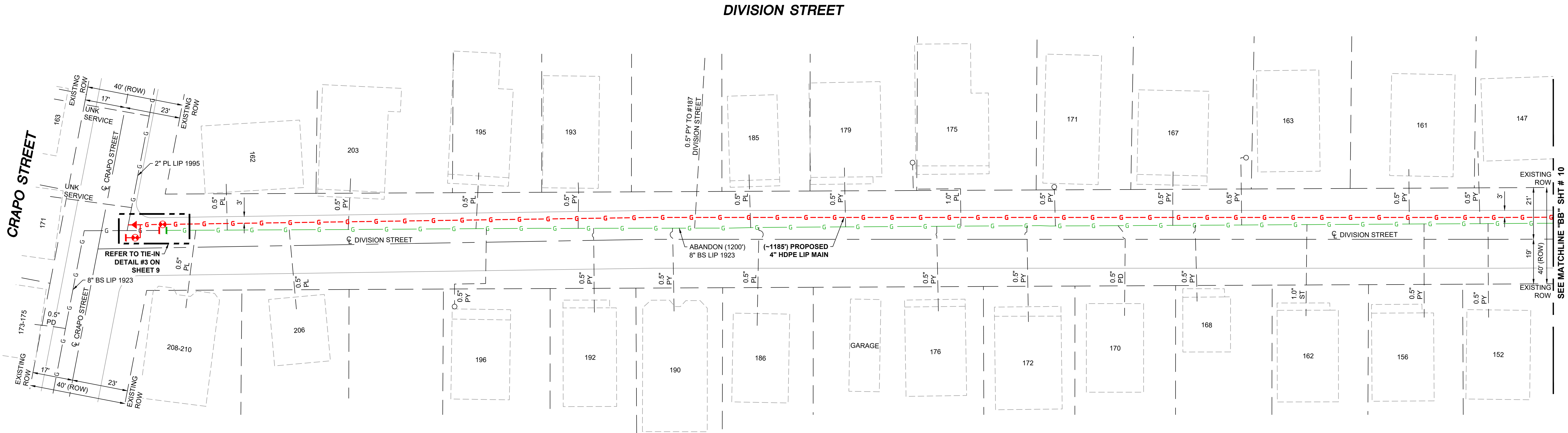
ISSUED FOR
CONSTRUCTION

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

SEALED BY: <div></div> SIGNATURE 	SEALED ON: 01/07/2022	DESIGNED IN ACCORDANCE WITH TITLE 49, PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.	FIELD VERIFY DIMENSIONS PRIOR TO PIPE FABRICATION					EVERSOURCE ENERGY									
	LICENSE EXPIRATION: 06/30/2022	ENEngineering 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL: (630) 353-4000 FAX: (630) 353-7777 WWW.ENENGINEERING.COM						COUNTY STREET MAIN RELAY NEW BEDFORD, MASSACHUSETTS TIE-IN DETAIL #2 AND BOM									
				SCALE: AS NOTED (DO NOT SCALE FROM DRAWINGS) SHEET 7 OF 16					DRAWN BY / DATE		CHECKED BY / DATE		APPROVED BY / DATE		SHEET NUMBER		REV. NO.
								ZS 12/09/2021		AB 01/07/2022		EK 01/07/2022		MA-NEB-22-PIP-004-07		0	



KEY MAP
(NOT TO SCALE)



LOCATION PLAN #3
(SCALE: 1"=20')

ISSUED FOR
CONSTRUCTION

- NOTES:
1. REFER TO GENERAL NOTES ON SHEET #2.
 2. CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK	
NO.	DESCRIPTION	DATE	DW/CK/AP	
REVISION STATUS				
EVERSOURCE ENERGY				
COUNTY STREET MAIN RELAY				
NEW BEDFORD, MASSACHUSETTS				
LOCATION PLAN #3				
SCALE: 1"=20'				SHEET 8 OF 16
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER	REV. NO.
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-08	0

SEALED BY:

SIGNATURE

SEALED ON:

01/07/2022

LICENSE EXPIRATION:

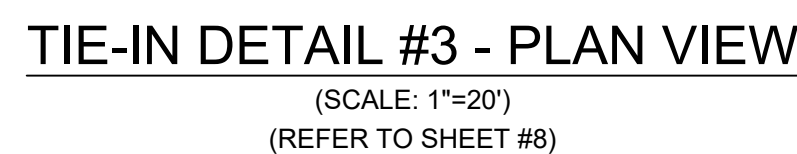
06/30/2022

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.

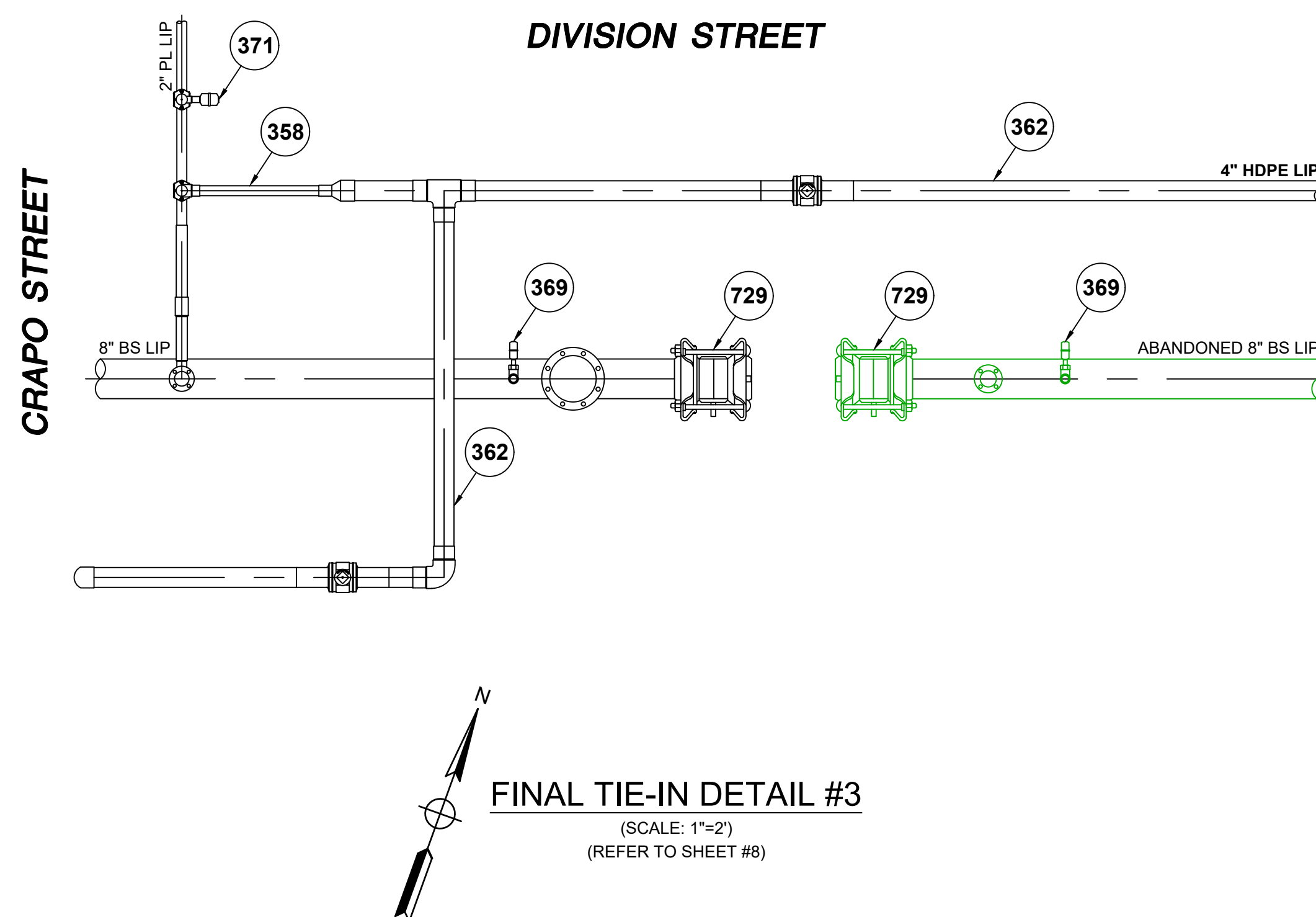
ENEngineering

29 BARTLETT STREET
MARLBOROUGH, MA 01752
TEL: (630) 353-4000
FAX: (630) 353-7777
WWW.ENENGINEERING.COM








FIELD VERIFY DIMENSIONS
PRIOR TO PIPE FABRICATION




COUNTY STREET, NEW BEDFORD, MA - Tie-in #3: Final					
REQUIRED BILL OF MATERIALS					
ITEM	SIZE	MAXIMO NO.	Description	Quantity	Units
358	2"	554025	PIPE, 2 IN IPS X 0.216 IN THK WALL SDR 11, 2.375 IN OD, 350 FT LG COIL, POLYETHYLENE, PE3408/PE100	5	LF
362	4"	554008	PIPE, 4 IN IPS X 0.409 IN THK WALL SDR 11, 4.5 IN OD, 40 FT LG, POLYETHYLENE, PE3408/PE100, 1200 FT/BUNDLE	25	LF
369	1/2"	579972	FITTING,CAP, METFIT, 1/2 IN CTS X 0.90 IN THK WALL SDR 7, REPLACED IN 542609	AS REQUIRED	EA
371	1"	583182	FITTING,CAP, METFIT, 1 IN IPS X 0.119 IN THK WALL SDR 11, ASTM F1924 , FOR CAPPING PE GAS DISTRIBUTION PIPE AND TUBING, REPLACED IN 542612	AS REQUIRED	EA
729	8"	578186	FITTING,COUPLING, VENTED, INSULATED, W/ END CAP, FOR 8 IN STEEL PIPE, EZB8VIUMG	2	EA



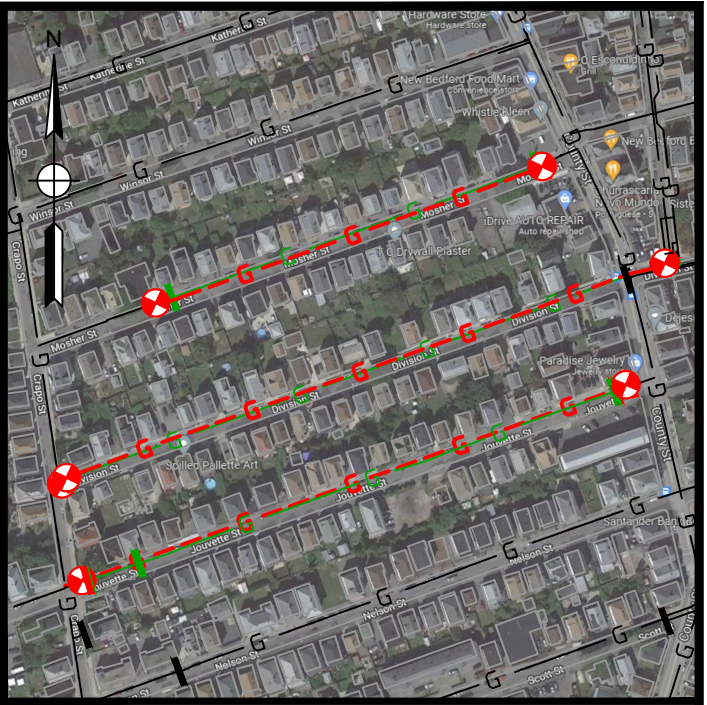
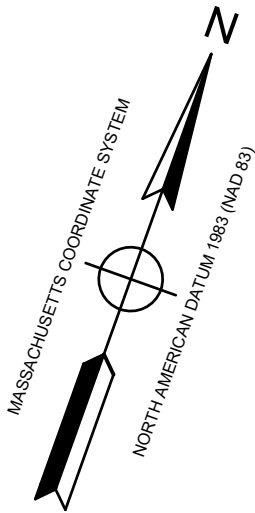
LEGEND

	EXISTING GAS MAIN
	EXISTING GAS MAIN TO BE ABANDONED
	EXISTING GAS MAIN WITH SERVICE TRANSFERS
	EXISTING GAS MAIN WITH PRESSURE INCREASE
	PROPOSED GAS MAIN
	EXISTING FITTING
	PROPOSED FITTING

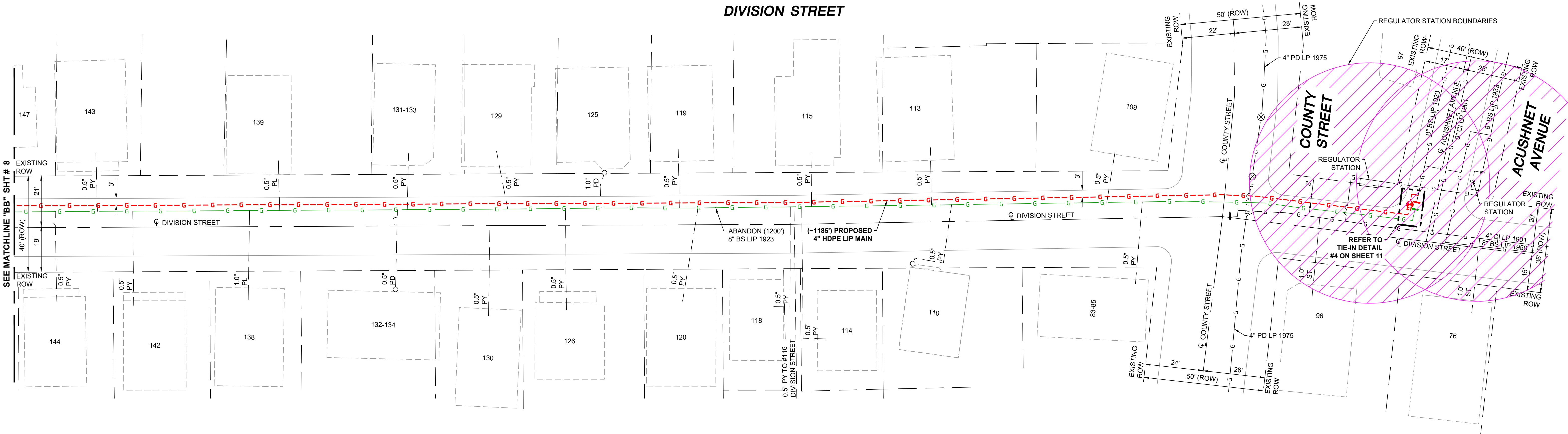
ISSUED FOR
CONSTRUCTION

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK	
NO.	DESCRIPTION	DATE	DW/CK/AL	
REVISION STATUS				
<div style="text-align: center;">  </div>				
COUNTY STREET MAIN RELAY				
NEW BEDFORD, MASSACHUSETTS				
TIE-IN DETAIL #3 AND BOM				
SCALE: AS NOTED (DO NOT SCALE FROM DRAWINGS) SHEET 9 OF 16				
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER	REV. NO.
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-09	0

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



KEY MAP
(NOT TO SCALE)



LOCATION PLAN #4
(SCALE: 1"=20')

ISSUED FOR
CONSTRUCTION

- NOTES:
- REFER TO GENERAL NOTES ON SHEET #2.
 - CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.

SEALED BY:

ERIC VINAI
KUMAR
No. 54771
REGISTERED
PROFESSIONAL ENGINEER

SIGNATURE:

SEALED ON:

01/07/2022

LICENSE EXPIRATION:

06/30/2022

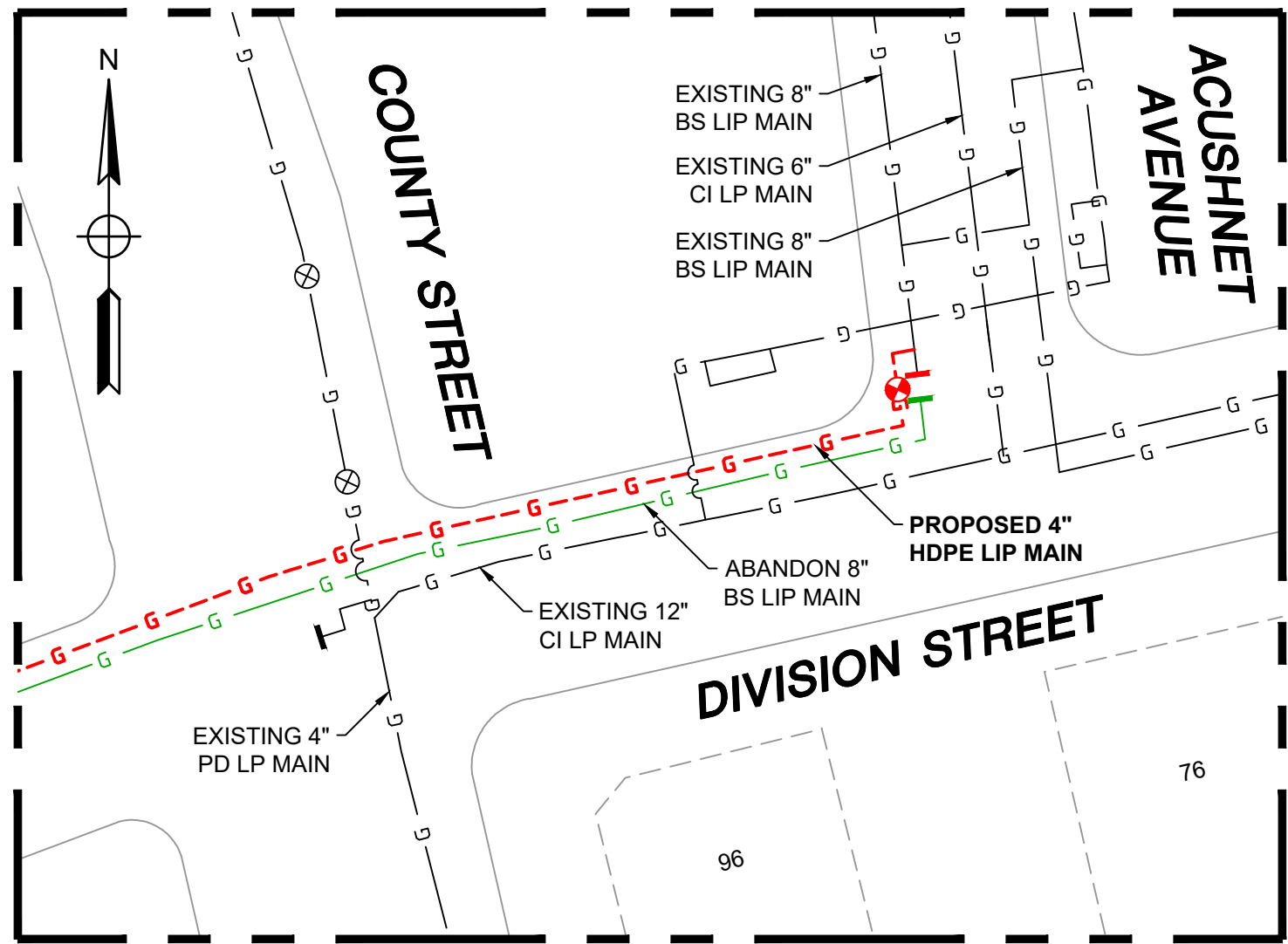
DESIGNED IN ACCORDANCE WITH TITLE 49, PART 192, OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

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

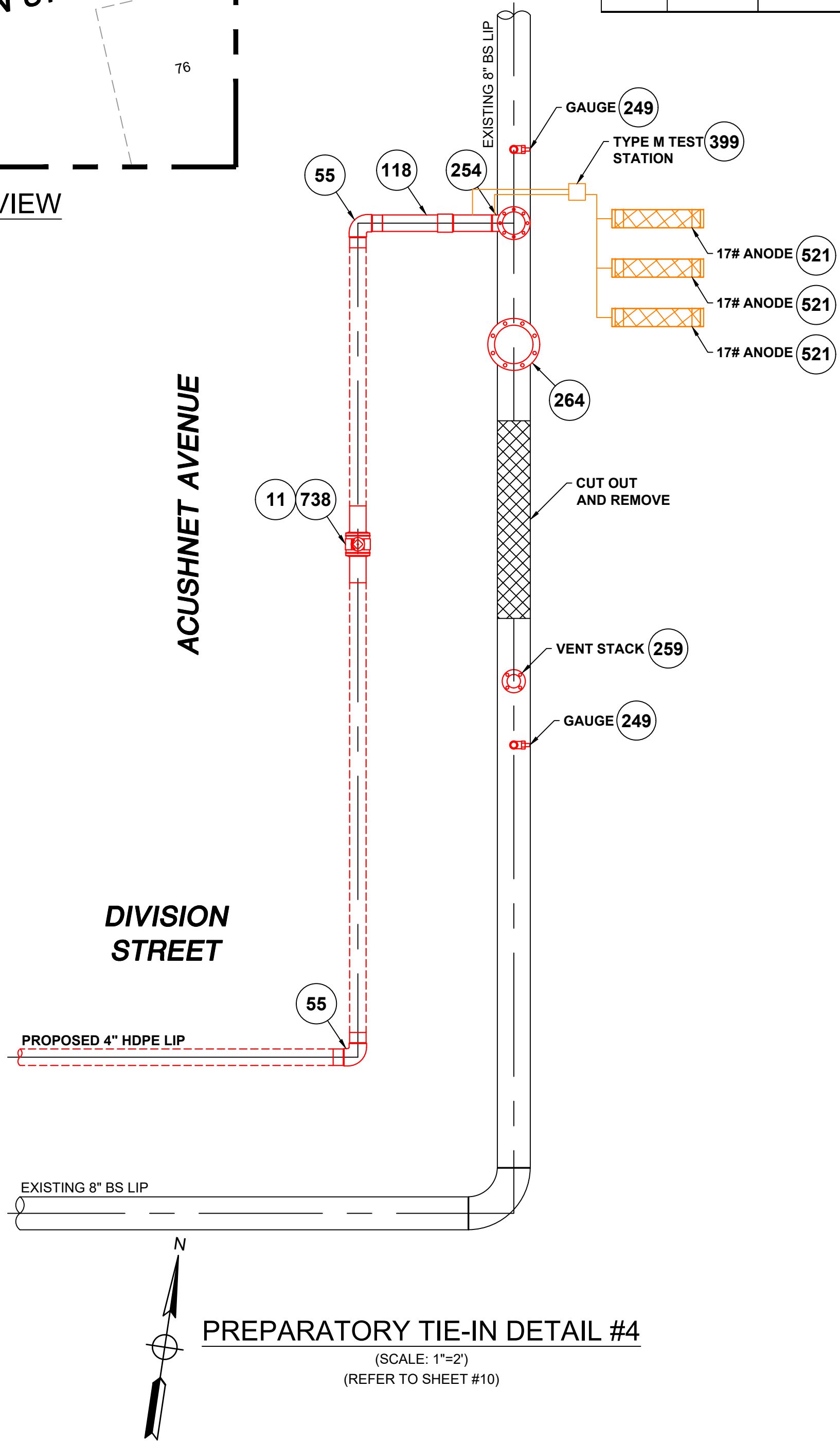
0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK	
NO.	DESCRIPTION	DATE	DW/CK/AP	
REVISION STATUS				
EVERSOURCE ENERGY				
COUNTY STREET MAIN RELAY				
NEW BEDFORD, MASSACHUSETTS				
LOCATION PLAN #4				
SCALE: 1"=20'			SHEET 10 OF 16	
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER	REV. NO.
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-10	0



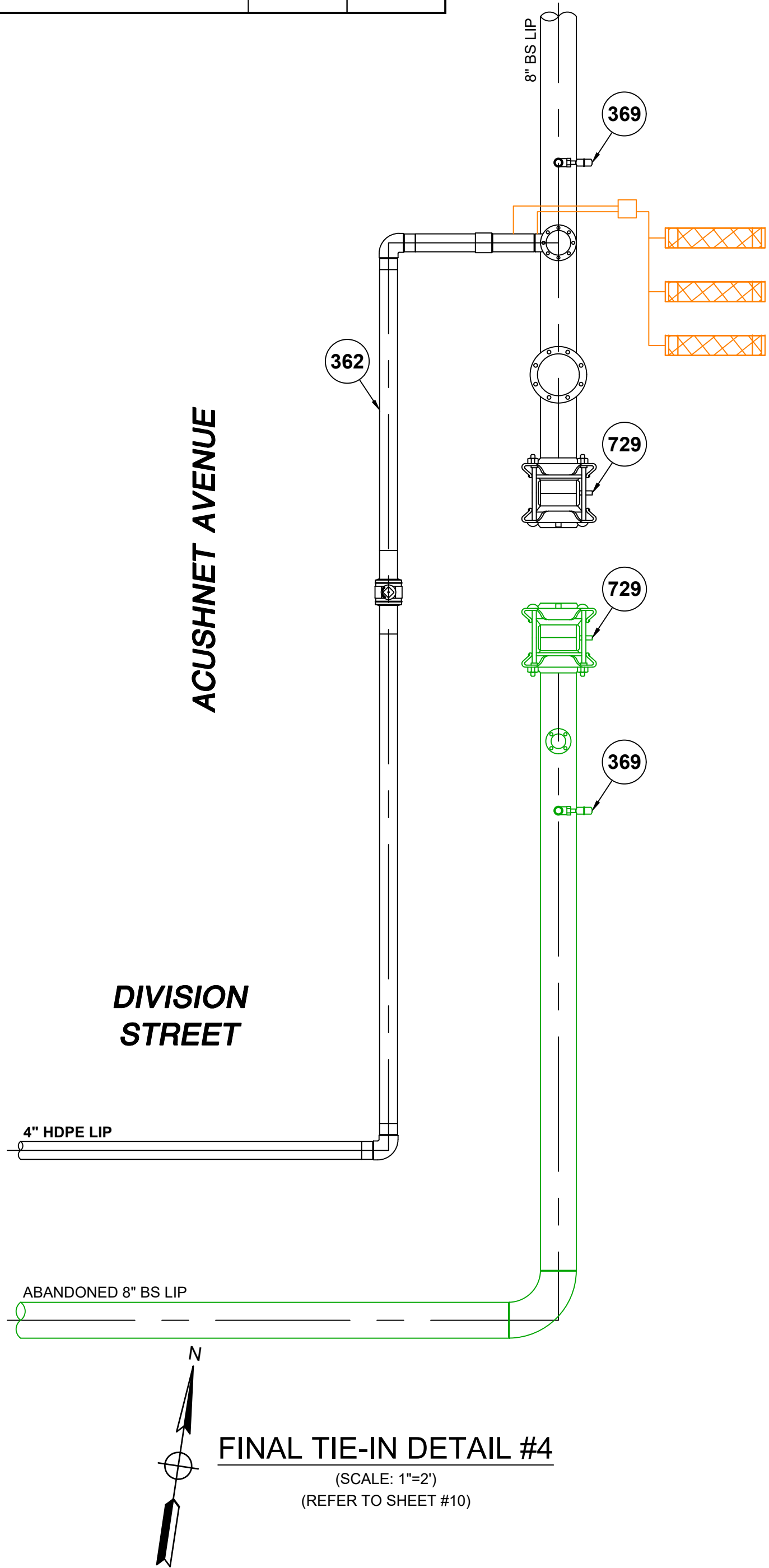
TIE-IN DETAIL #4 - PLAN VIEW
(SCALE: 1"=20")
(REFER TO SHEET #10)

COUNTY STREET, NEW BEDFORD, MA - Tie-in #4: Preparatory					
REQUIRED BILL OF MATERIALS					
ITEM	SIZE	MAXIMO NO.	Description	Quantity	Units
11	4"	501002	VALVE,BALL, 4 IN, POLYETHYLENE, SDR 11, BUTT WELD, W/ FULL PORT OPENING, TO BE USED W/ BRAND SADDLE INST, P100	1	EA
55	4"	545341	ELBOW,PIPE, 90 DEG, 4 IN SDR 11, BUTT WELD ENDS, PLASTIC, P100	AS REQUIRED	EA
118	4"	546146	FITTING,TRANSITION, 4 IN IPS CS X 4 IN IPS PE4710, SDR 11, STEEL WELD X PLASITC BUTT END	1	EA
249	3/4" x 1/2"	560709	TEE,PIPE, NON-BLOWING, 3/4 IN X 1/2 IN CTS PLASTIC X 3/8 IN PERF SDR 7, WELDED INLET X COMPRESSION OUTLET, LIGHT WALL, CS, 24/BOX	2	EA
254	4"	578137	FITTING,TEE, SHORTSTOPP, 3-WAY, 4 IN	1	EA
259	2"	578396	FITTING,TEE, SHORTSTOPP, 2 IN, WELDED	1	EA
264	8"	578400	FITTING,TEE, SHORTSTOPP, 8 IN, WELD	1	EA
399	2"	560572	TEE,PIPE, STREET, 2 IN., THREADED INLET X COMPRESSION OUTLET, W/ ARMORED GASKET, LOCKING END, 8/BOX	1	EA
521	17 lb.	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	3	EA
738	5 1/4" square	577814	BOX VALVE, W/ 5-1/4 IN SQ NON-LOCKING LID, FOR 4 IN VALVES, PAVEMENT RISER RING IN 583488,	1	EA

COUNTY STREET, NEW BEDFORD, MA - Tie-in #4: Final					
REQUIRED BILL OF MATERIALS					
ITEM	SIZE	MAXIMO NO.	Description	Quantity	Units
362	4"	554008	PIPE, 4 IN IPS X 0.409 IN THK WALL SDR 11, 4.5 IN OD, 40 FT LG, POLYETHYLENE, PE3408/PE100, 1200 FT/BUNDLE	15	LF
369	1/2"	579972	FITTING,CAP, METFIT, 1/2 IN CTS X 0.90 IN THK WALL SDR 7, REPLACED IN 542609	AS REQUIRED	EA
729	8"	578186	FITTING,COUPLING, VENTED, INSULATED, W/ END CAP, FOR 8 IN STEEL PIPE, EZB8VIUMG	2	EA



PREPARATORY TIE-IN DETAIL #4
(SCALE: 1"=2")
(REFER TO SHEET #10)



FINAL TIE-IN DETAIL #4
(SCALE: 1"=2")
(REFER TO SHEET #10)

LEGEND	
	EXISTING GAS MAIN
	EXISTING GAS MAIN TO BE ABANDONED
	EXISTING GAS MAIN WITH SERVICE TRANSFERS
	EXISTING GAS MAIN WITH PRESSURE INCREASE
	PROPOSED GAS MAIN
	EXISTING FITTING
	PROPOSED FITTING

ISSUED FOR
CONSTRUCTION

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

SEALED BY:

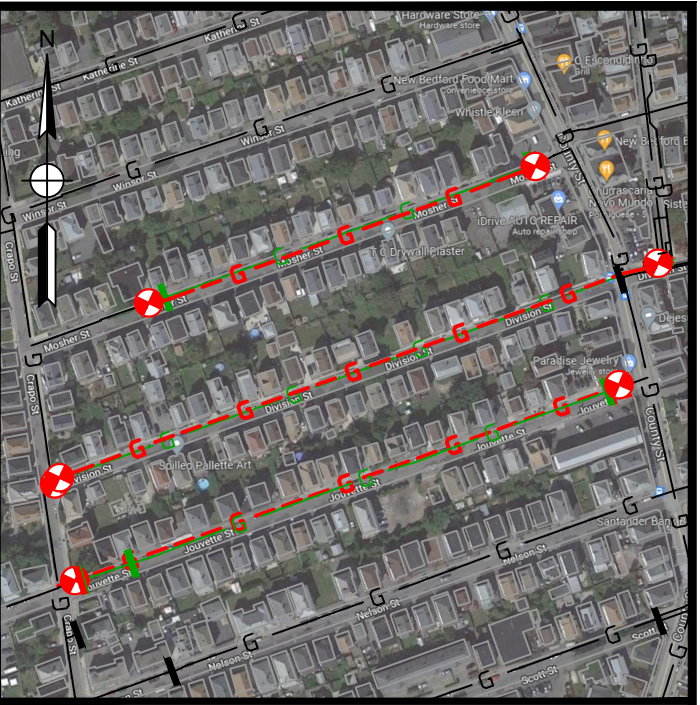
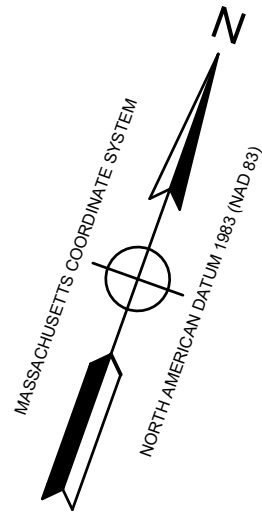
SIGNATURE:

SEALED ON:
01/07/2022
LICENSE EXPIRATION:
06/30/2022

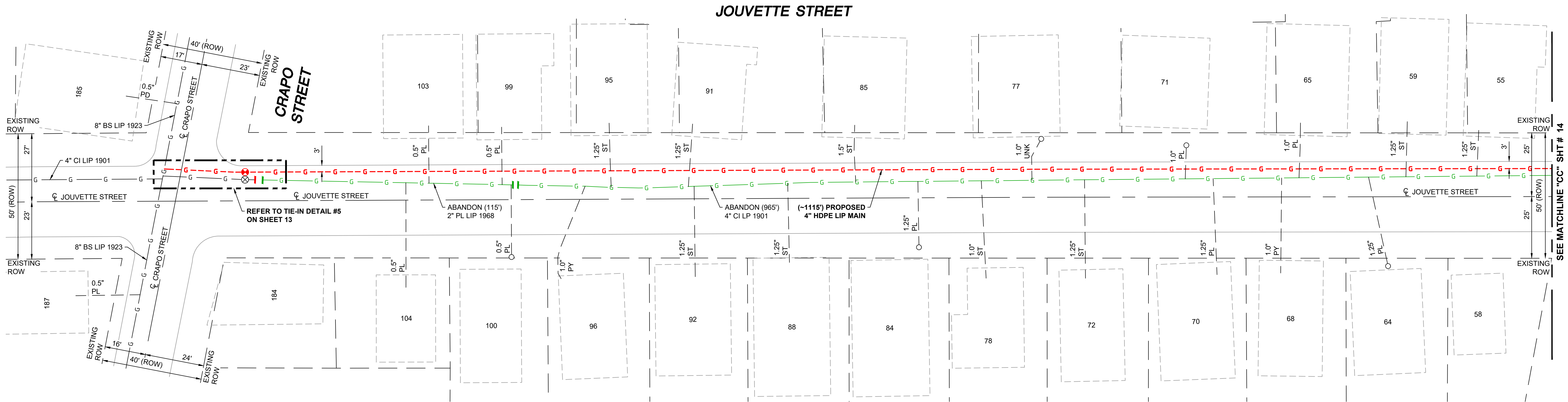
DESIGNED IN ACCORDANCE WITH TITLE 49, PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.
ENEngineering
29 BARTLETT STREET
MARLBOROUGH, MA 01752
TEL (630) 353-4000
FAX (630) 353-7777
WWW.ENENGINEERING.COM

FIELD VERIFY DIMENSIONS
PRIOR TO PIPE FABRICATION

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP
REVISION STATUS			
EVERSOURCE ENERGY			
COUNTY STREET MAIN RELAY			
NEW BEDFORD, MASSACHUSETTS			
TIE-IN DETAIL #4 AND BOM			
SCALE: AS NOTED (DO NOT SCALE FROM DRAWINGS)			SHEET 11 OF 16
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-11
			0



KEY MAP
(NOT TO SCALE)



LOCATION PLAN #5
(SCALE: 1"=20')

ISSUED FOR
CONSTRUCTION

- NOTES:
1. REFER TO GENERAL NOTES ON SHEET #2.
 2. CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.

SEALED BY:

ERIC VINAI
KUMAR
No. 54771
REGISTERED
PROFESSIONAL ENGINEER

SIGNATURE

SEALED ON:

01/07/2022

LICENSE
EXPIRATION:

06/30/2022

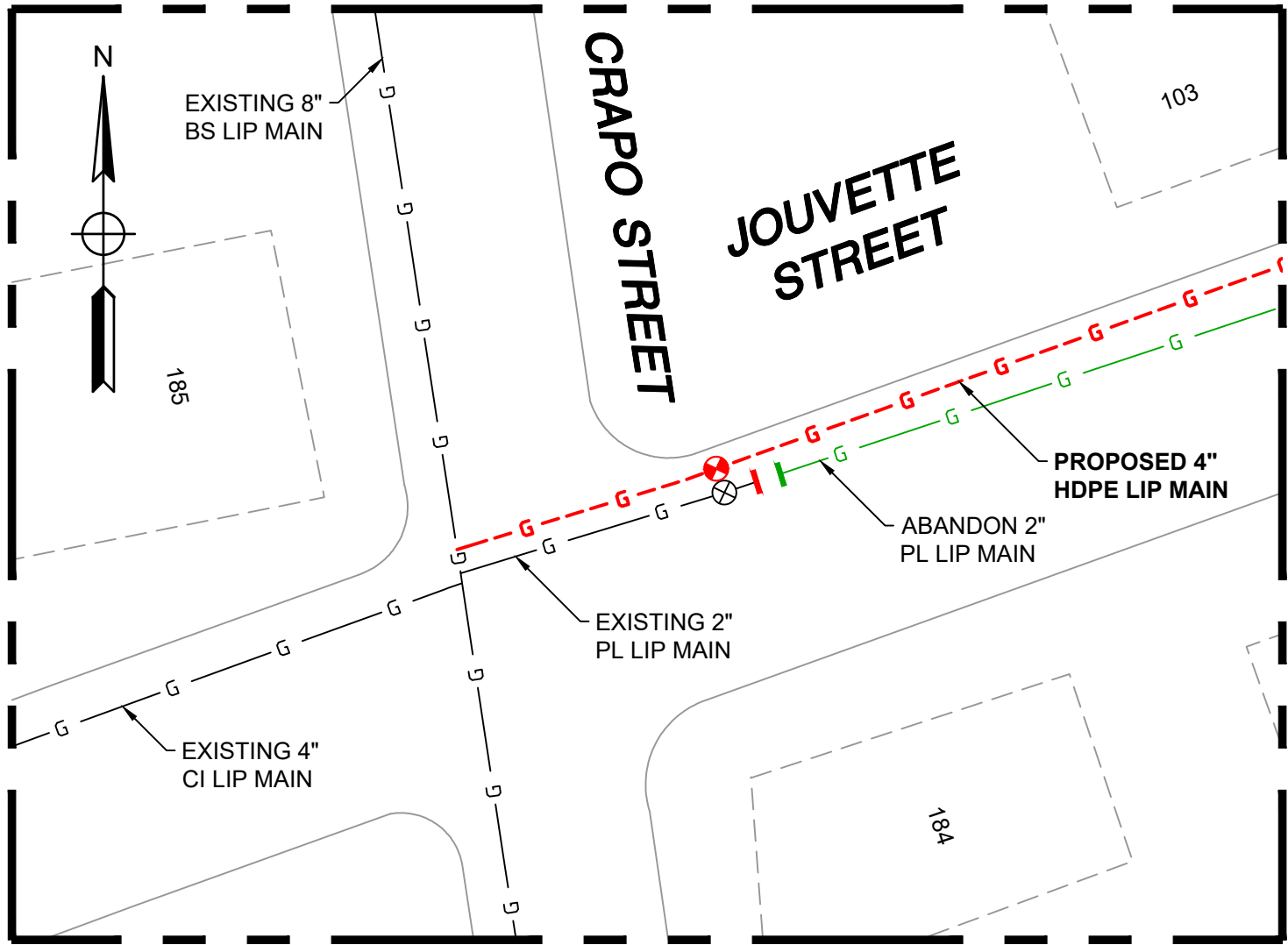
DESIGNED IN ACCORDANCE WITH TITLE 49, PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

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

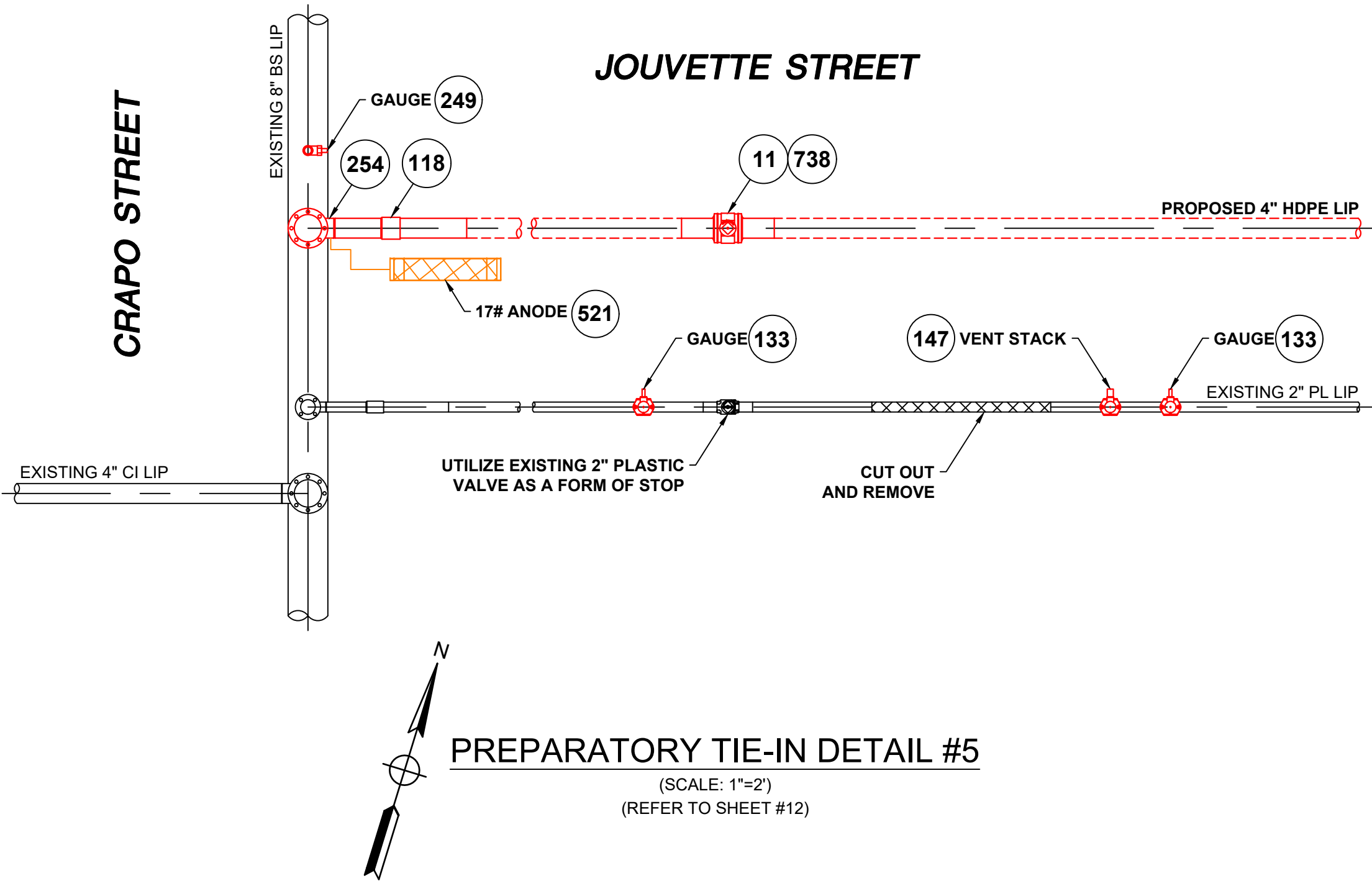
0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK	
NO.	DESCRIPTION	DATE	DW/CK/AP	
REVISION STATUS				
EVERSOURCE ENERGY				
COUNTY STREET MAIN RELAY				
NEW BEDFORD, MASSACHUSETTS				
LOCATION PLAN #5				
SCALE: 1"=20'			SHEET 12 OF 16	
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER	REV. NO.
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-12	0



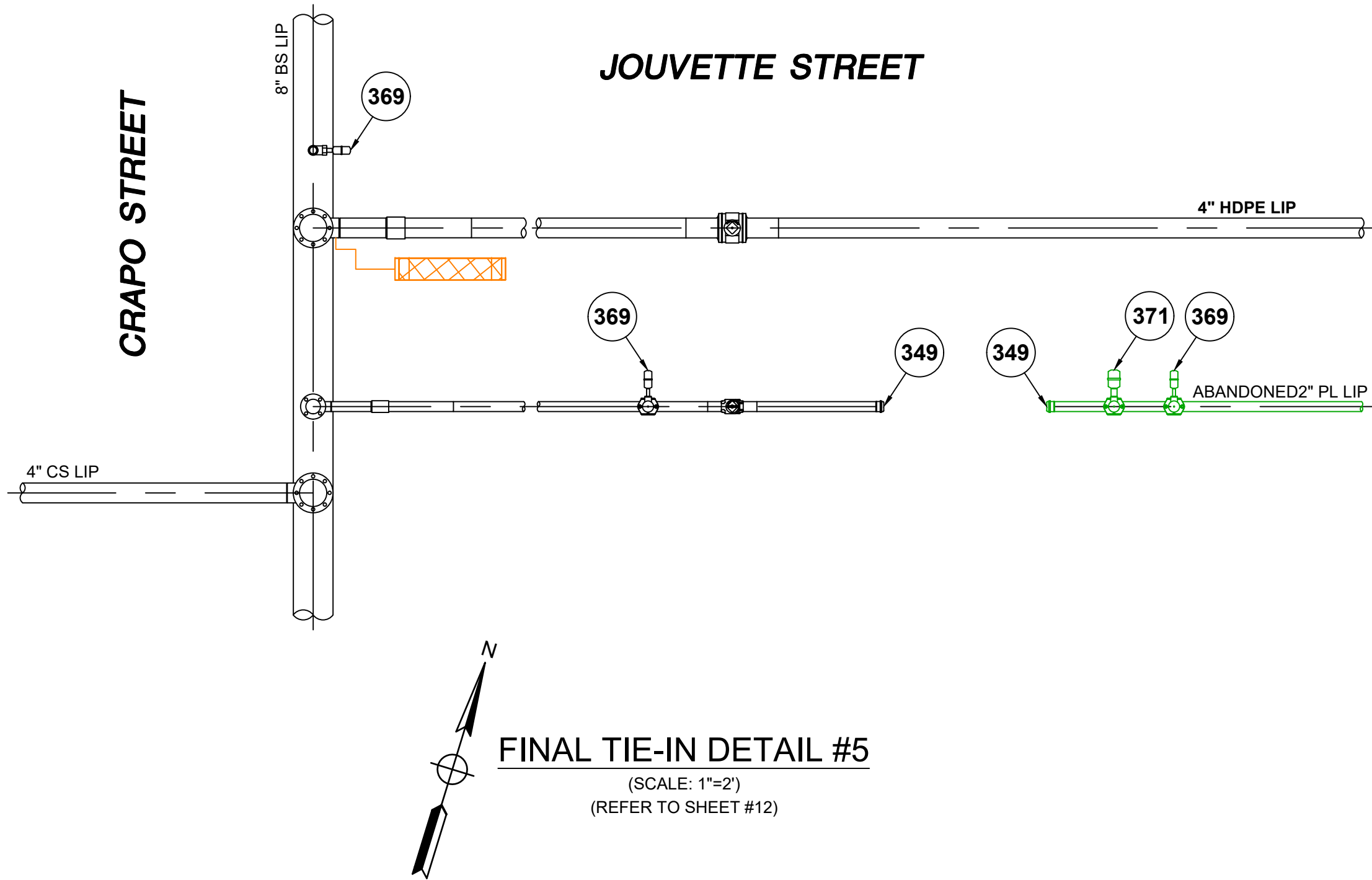
TIE-IN DETAIL #5 - PLAN VIEW
(SCALE: 1"=20')
(REFER TO SHEET #12)

COUNTY STREET, NEW BEDFORD, MA - Tie-in #5: Preparatory					
REQUIRED BILL OF MATERIALS					
ITEM	SIZE	MAXIMO NO.	Description	Quantity	Units
11	4"	501002	VALVE,BALL, 4 IN, POLYETHYLENE, SDR 11, BUTT WELD, W/ FULL PORT OPENING, TO BE USED W/ BRAND SADDLE INST, P100	1	EA
118	4"	546146	FITTING,TRANSITION, 4 IN IPS CS X 4 IN IPS PE4710, SDR 11, STEEL WELD X PLASITC BUTT END	1	EA
133	2" X 1/2"	500866	TEE,PIPE, NON-BLOWING, 2 X 1/2 IN CTS X 0.090 IN THK WALL SDR 7, ELECTROFUSION X COMPRESSION ENDS, LIGHT WALL, POLYETHYLENE, PE3408/PE100	2	EA
147	2" X 1"	560779	TEE,PIPE, NON-BLOWING, 2 X 1 IN IPS SDR 11, ELECTROFUSION X COMPRESSION ENDS, LIGHT WALL, POLYETHYLENE, PE3408/PE100	1	EA
249	3/4" x 1/2"	560709	TEE,PIPE, NON-BLOWING, 3/4 IN X 1/2 IN CTS PLASTIC X 3/8 IN PERF SDR 7, WELDED INLET X COMPRESSION OUTLET, LIGHT WALL, CS, 24/BOX	1	EA
254	4"	578137	FITTING,TEE, SHORTSTOPP, 3-WAY, 4 IN	1	EA
521	17 lb.	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	1	EA
738	5 1/4" square	577814	BOX VALVE, W/ 5-1/4 IN SQ NON-LOCKING LID, FOR 4 IN VALVES, PAVEMENT RISER RING IN 583488,	1	EA

COUNTY STREET, NEW BEDFORD, MA - Tie-in #5: Final					
REQUIRED BILL OF MATERIALS					
ITEM	SIZE	MAXIMO NO.	Description	Quantity	Units
349	2"	581633	FITTING,CAP, METFIT, 2 IN IPS X 0.216 IN THK WALL SDR 11, ASTM F1924 , FOR CAPPING PE GAS DISTRIBUTION PIPE AND TUBING, NSTAR M-410	AS REQUIRED	EA
369	1/2"	579972	FITTING,CAP, METFIT, 1/2 IN CTS X 0.90 IN THK WALL SDR 7, REPLACED IN 542609	AS REQUIRED	EA
371	1"	583182	FITTING,CAP, METFIT, 1 IN IPS X 0.119 IN THK WALL SDR 11, ASTM F1924 , FOR CAPPING PE GAS DISTRIBUTION PIPE AND TUBING, REPLACED IN 542612	AS REQUIRED	EA



PREPARATORY TIE-IN DETAIL #5
(SCALE: 1"=2')
(REFER TO SHEET #12)



FINAL TIE-IN DETAIL #5
(SCALE: 1"=2')
(REFER TO SHEET #12)

LEGEND	
	EXISTING GAS MAIN
	EXISTING GAS MAIN TO BE ABANDONED
	EXISTING GAS MAIN WITH SERVICE TRANSFERS
	EXISTING GAS MAIN WITH PRESSURE INCREASE
	PROPOSED GAS MAIN
	EXISTING FITTING
	PROPOSED FITTING

ISSUED FOR
CONSTRUCTION

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

SEALED BY:

SIGNATURE:

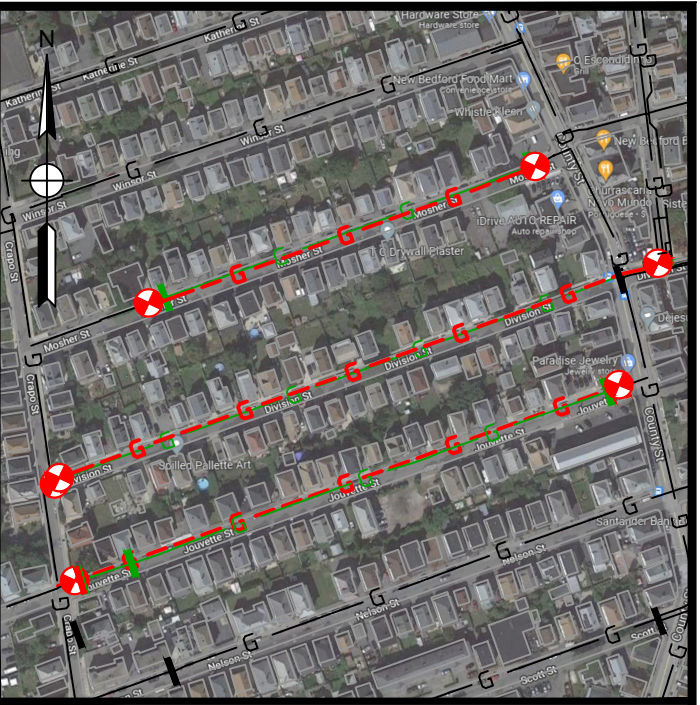
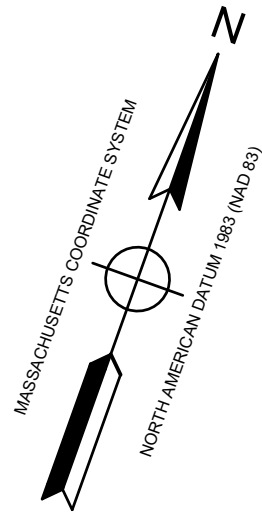
SEALED ON:
01/07/2022
LICENSE EXPIRATION:
06/30/2022

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.

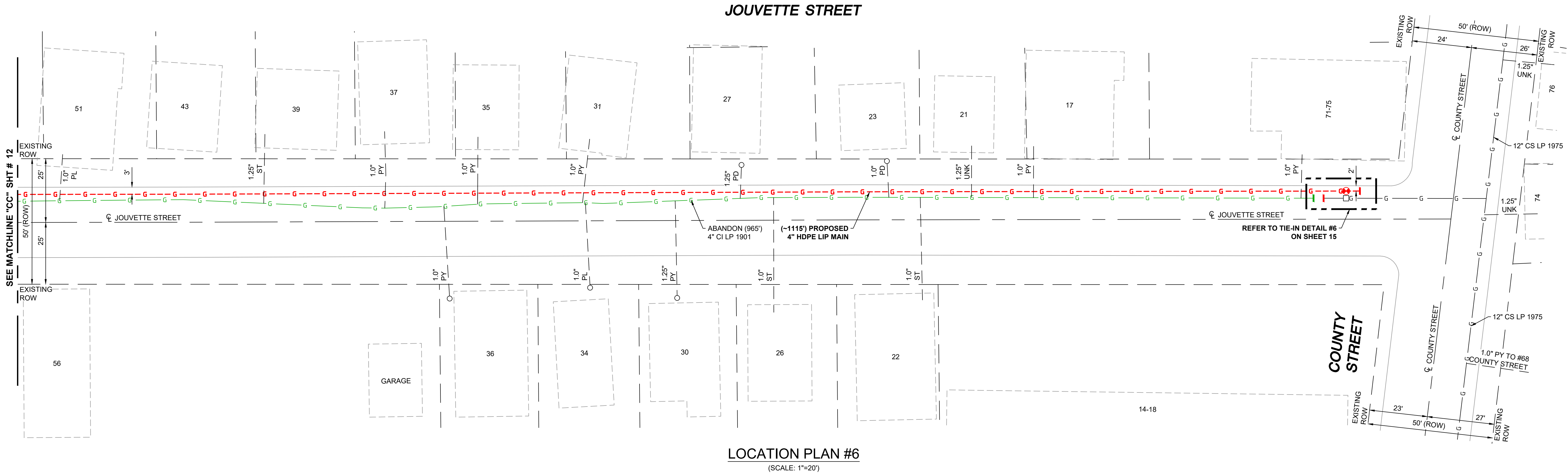
ENEngineering
29 BARTLETT STREET
MARLBOROUGH, MA 01752
TEL (630) 353-4000
FAX (630) 353-7777
WWW.ENENGINEERING.COM

FIELD VERIFY DIMENSIONS
PRIOR TO PIPE FABRICATION

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK	
NO.	DESCRIPTION	DATE	DW/CK/AP	
REVISION STATUS				
EVERSOURCE ENERGY				
COUNTY STREET MAIN RELAY				
NEW BEDFORD, MASSACHUSETTS				
TIE-IN DETAIL #5 AND BOM				
SCALE: AS NOTED (DO NOT SCALE FROM DRAWINGS)				SHEET 13 OF 16
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER	REV. NO.
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-13	0



KEY MAP
(NOT TO SCALE)





LOCATION PLAN #6
(SCALE: 1"=20')

ISSUED FOR
CONSTRUCTION

- NOTES:
- REFER TO GENERAL NOTES ON SHEET #2.
 - CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.

SEALED BY:



SIGNATURE: 

SEALED ON:

01/07/2022

LICENSE EXPIRATION:

06/30/2022

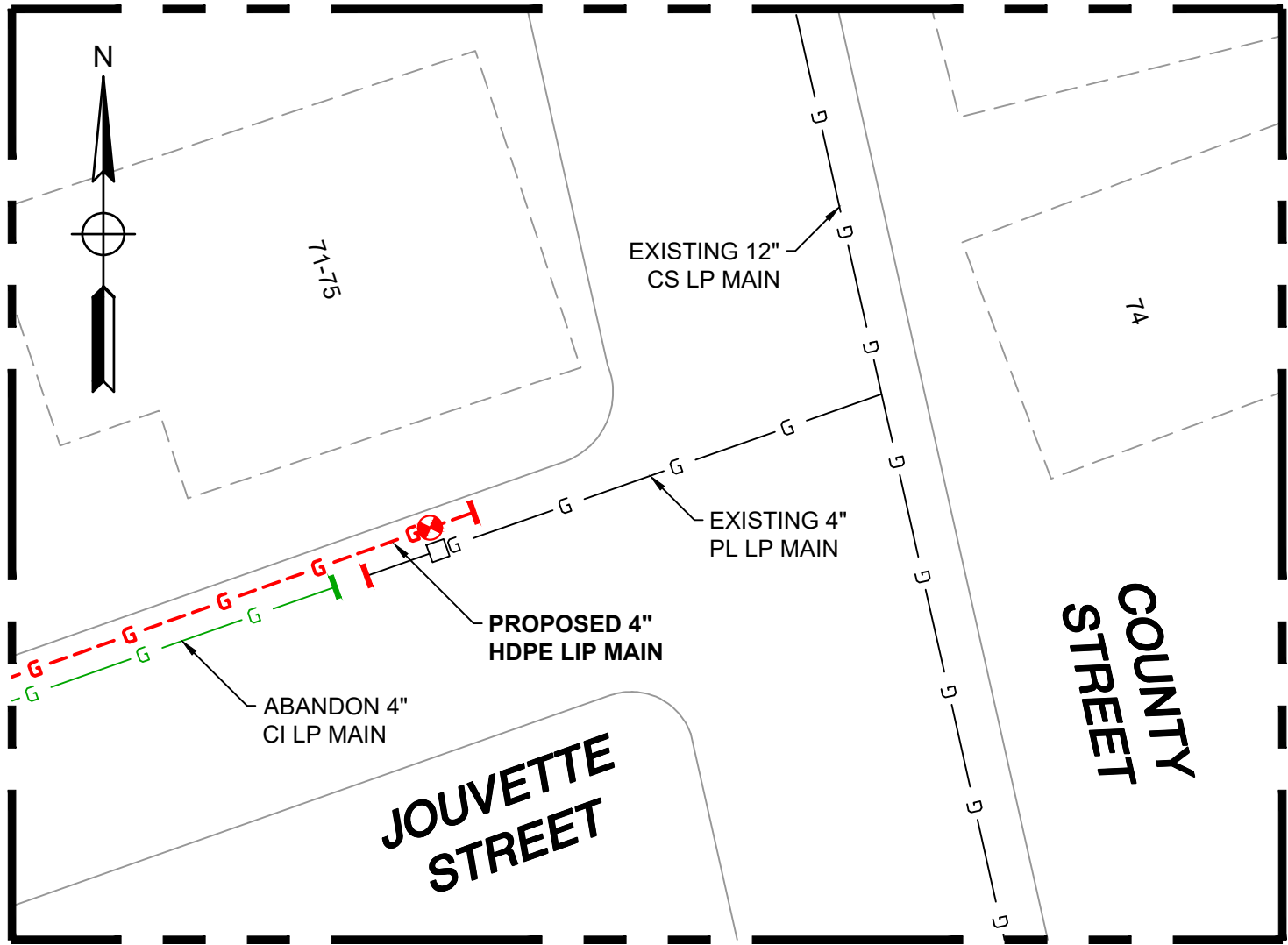
DESIGNED IN ACCORDANCE WITH TITLE 49, PART 192, OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

EN Engineering

29 BARTLETT STREET
MARLBOROUGH, MA 01752
TEL: (630) 353-4000
FAX: (630) 353-7777
WWW.ENENGINEERING.COM

FIELD VERIFY DIMENSIONS
PRIOR TO PIPE FABRICATION

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK	
NO.	DESCRIPTION	DATE	DW/CK/AP	
REVISION STATUS				
EVERSOURCE ENERGY				
COUNTY STREET MAIN RELAY				
NEW BEDFORD, MASSACHUSETTS				
LOCATION PLAN #6				
SCALE: 1"=20'			SHEET 14 OF 16	
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER	REV. NO.
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-14	0

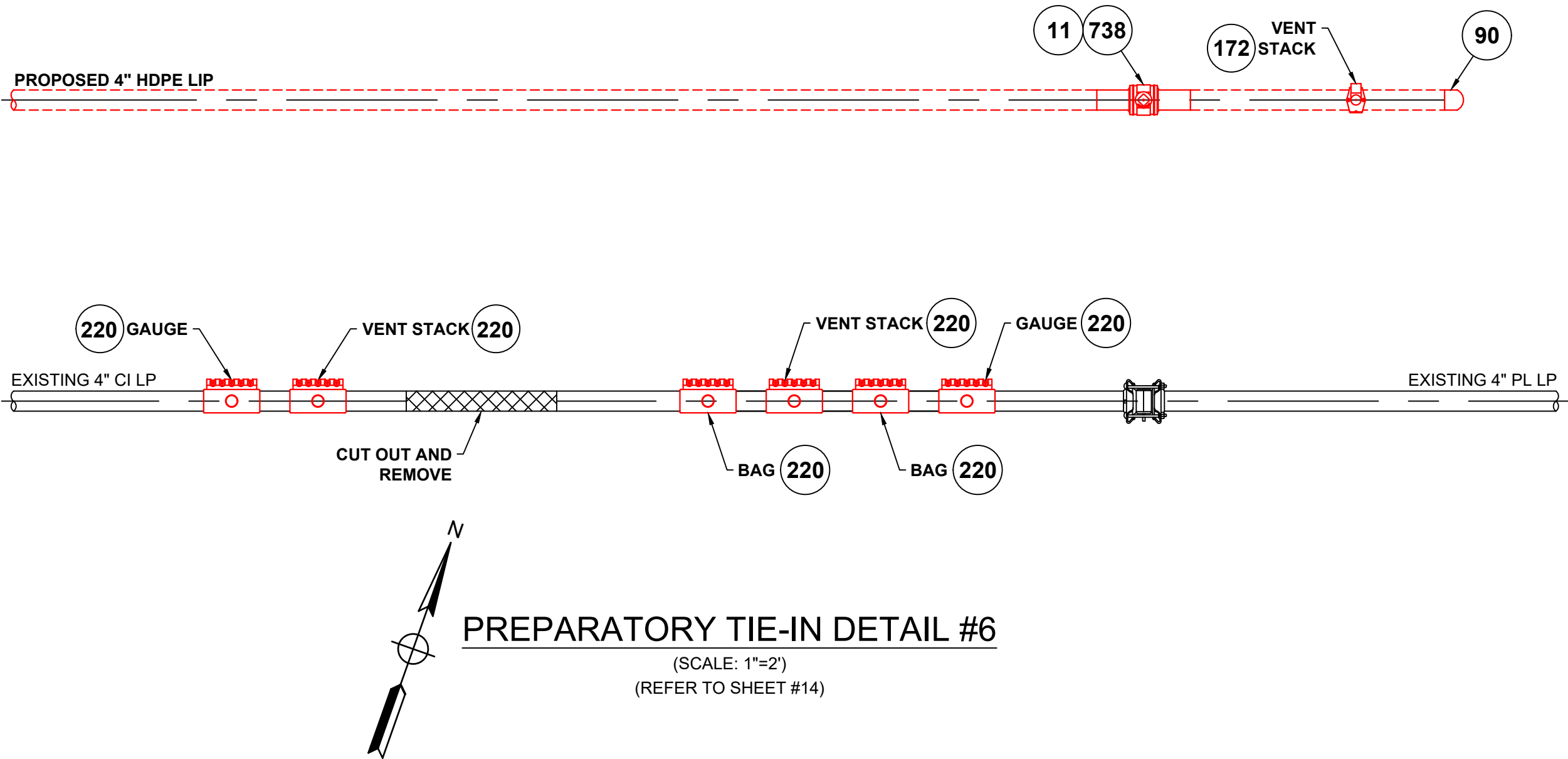


TIE-IN DETAIL #6 - PLAN VIEW
(SCALE: 1"=20")
(REFER TO SHEET #14)

COUNTY STREET, NEW BEDFORD, MA - Tie-in #6: Preparatory					
REQUIRED BILL OF MATERIALS					
ITEM	SIZE	MAXIMO NO.	Description	Quantity	Units
11	4"	501002	VALVE,BALL, 4 IN, POLYETHYLENE, SDR 11, BUTT WELD, W/ FULL PORT OPENING, TO BE USED W/ BRAND SADDLE INST, P100	1	EA
90	4"	542538	CAP,PIPE, 4 IN IPS SDR 11, BUTT END, POLYETHYLENE, P100	1	EA
172	4" X 2"	584304	FITTING,TEE, 4 IN IPS X 2 IN IPS, ELECTROFUSION HIGH VOLUME TAPPING WITH BUTT FUSION OUTLET, HDPE, BLACK, WAS ITEM 577621	1	EA
220	4" x 2"	543028	CLAMP,PIPE, REPAIR, 4 IN IPS, SS, W/2 IN TAP	6	EA
738	5 1/4" square	577814	BOX VALVE, W/ 5-1/4 IN SQ NON-LOCKING LID, FOR 4 IN VALVES, PAVEMENT RISER RING IN 583488,	1	EA

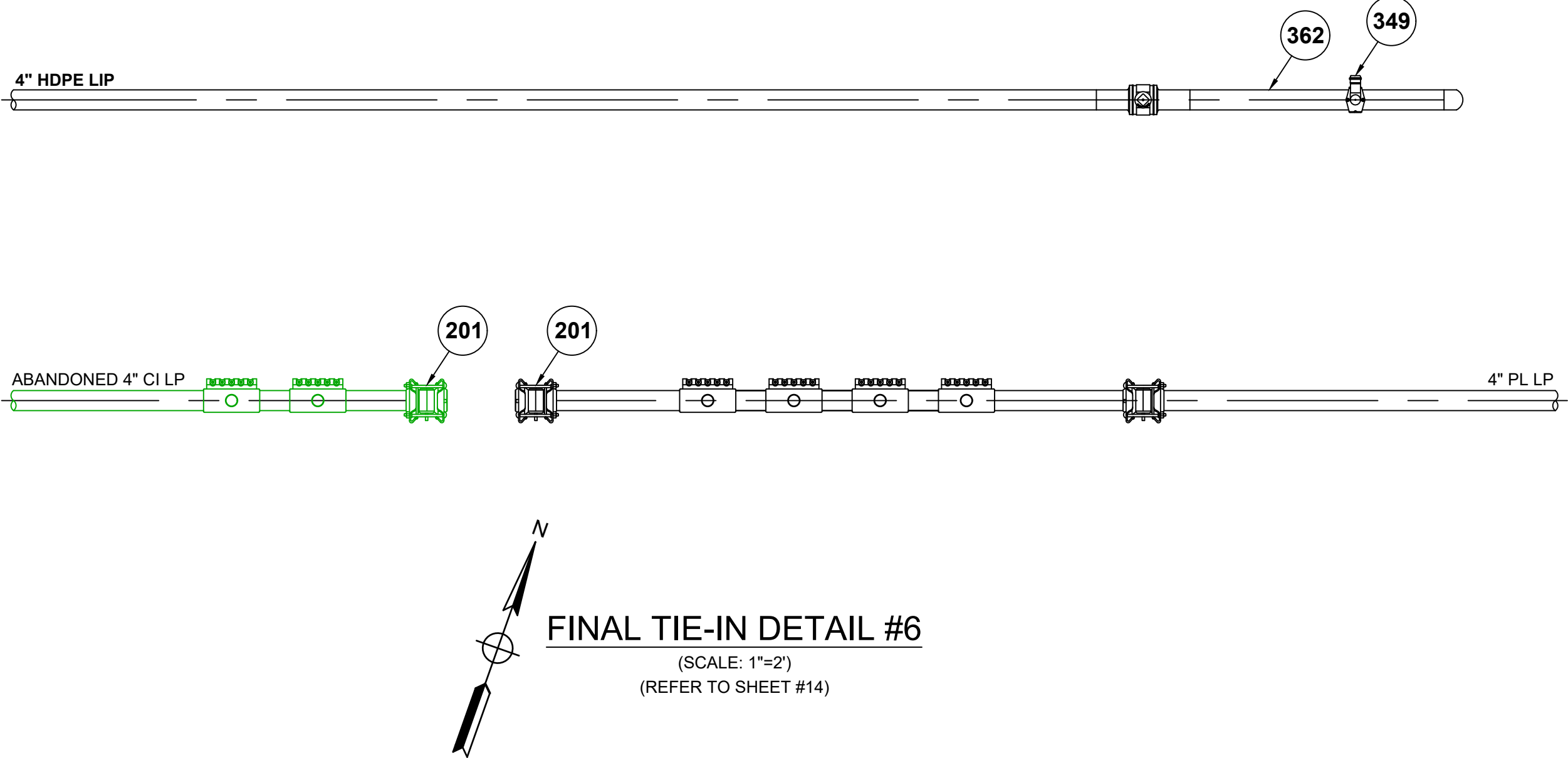
COUNTY STREET, NEW BEDFORD, MA - Tie-in #6: Final					
REQUIRED BILL OF MATERIALS					
ITEM	SIZE	MAXIMO NO.	Description	Quantity	Units
201	4"	578128	FITTING,COUPLING, VENTED, SEAL & RESTRAINT, 4 IN, W/ END CAP , FOR CAST IRON PIPE	2	EA
362	4"	554008	PIPE, 4 IN IPS X 0.409 IN THK WALL SDR 11, 4.5 IN OD, 40 FT LG, POLYETHYLENE, PE3408/PE100, 1200 FT/BUNDLE	20	LF
369	1/2"	579972	FITTING,CAP, METFIT, 1/2 IN CTS X 0.90 IN THK WALL SDR 7, REPLACED IN 542609	AS REQUIRED	EA

JOUVETTE STREET



PREPARATORY TIE-IN DETAIL #6
(SCALE: 1"=2")
(REFER TO SHEET #14)

JOUVETTE STREET



FINAL TIE-IN DETAIL #6
(SCALE: 1"=2")
(REFER TO SHEET #14)

LEGEND

- EXISTING GAS MAIN
- EXISTING GAS MAIN TO BE ABANDONED
- EXISTING GAS MAIN WITH SERVICE TRANSFERS
- EXISTING GAS MAIN WITH PRESSURE INCREASE
- PROPOSED GAS MAIN
- EXISTING FITTING
- PROPOSED FITTING

ISSUED FOR
CONSTRUCTION

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

SEALED BY:

SIGNATURE

SEALED ON:

01/07/2022

LICENSE EXPIRATION:

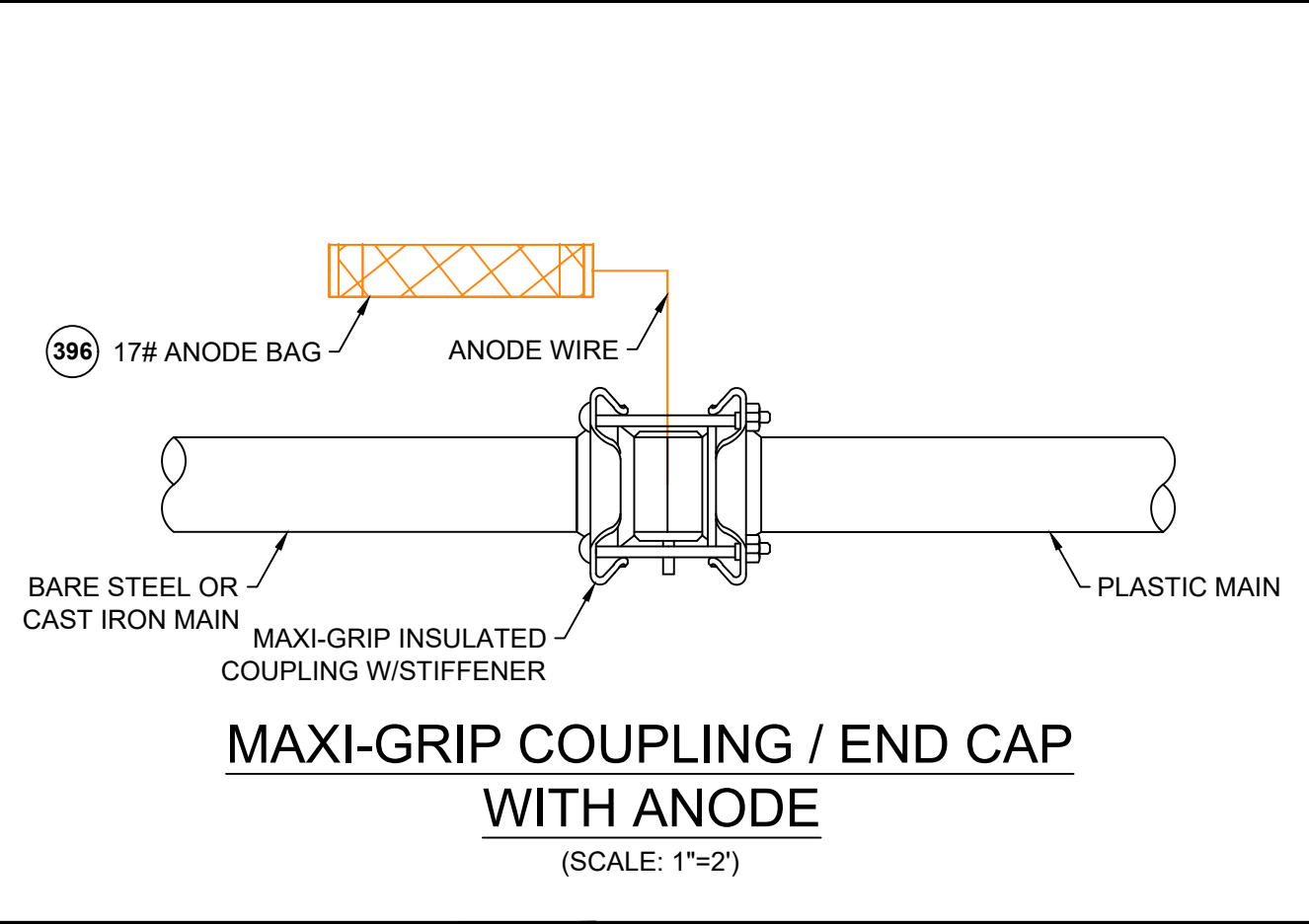
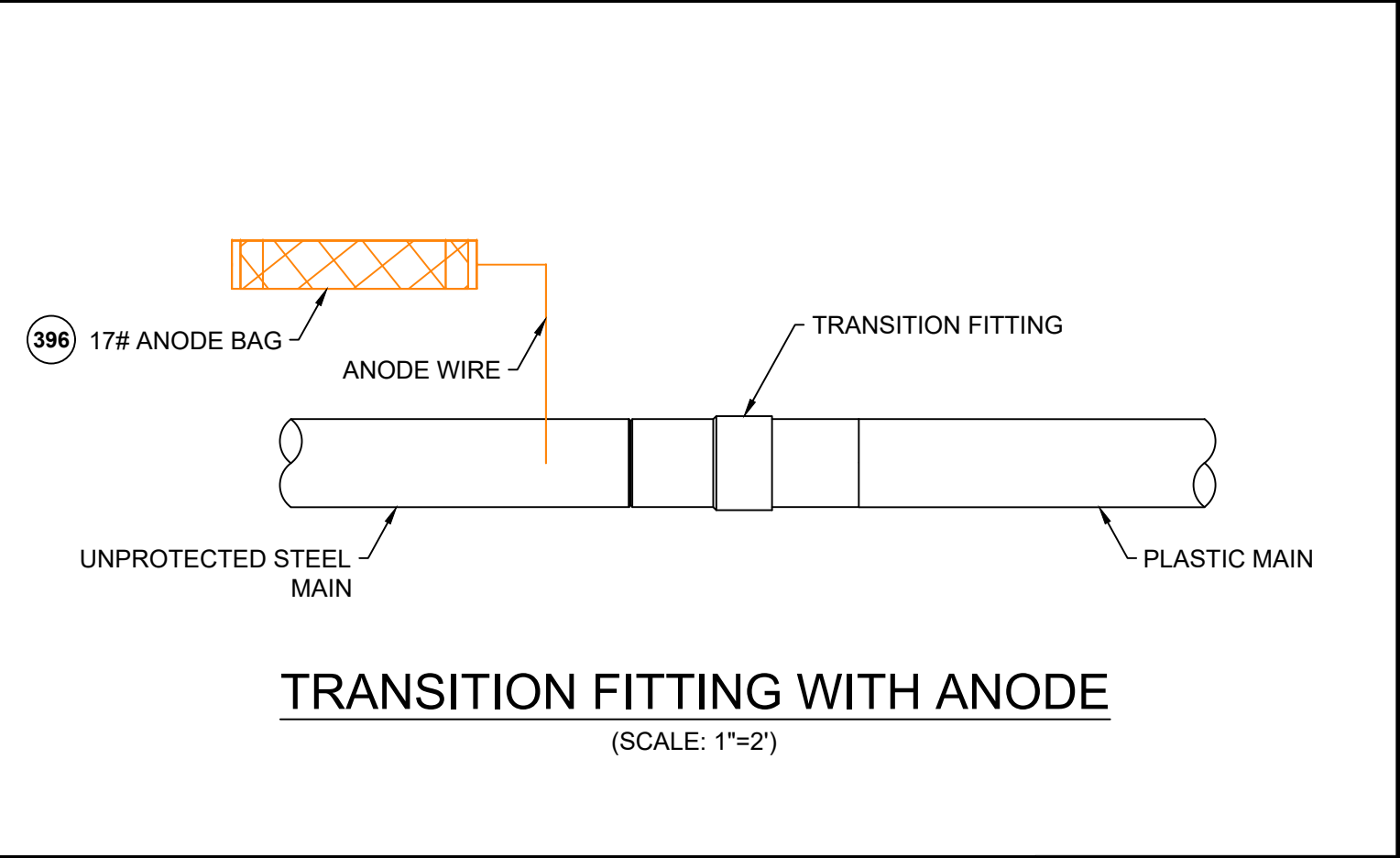
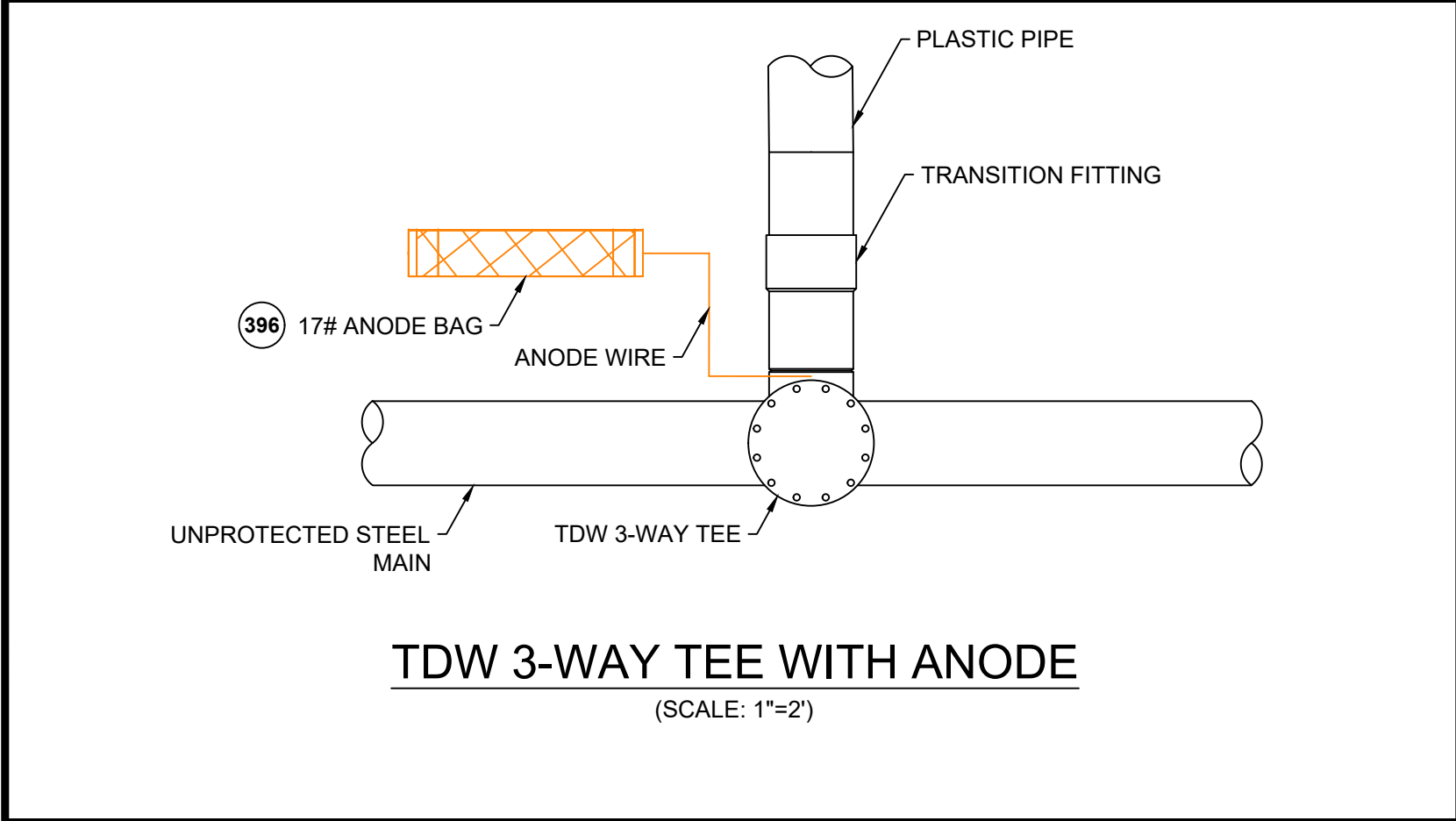
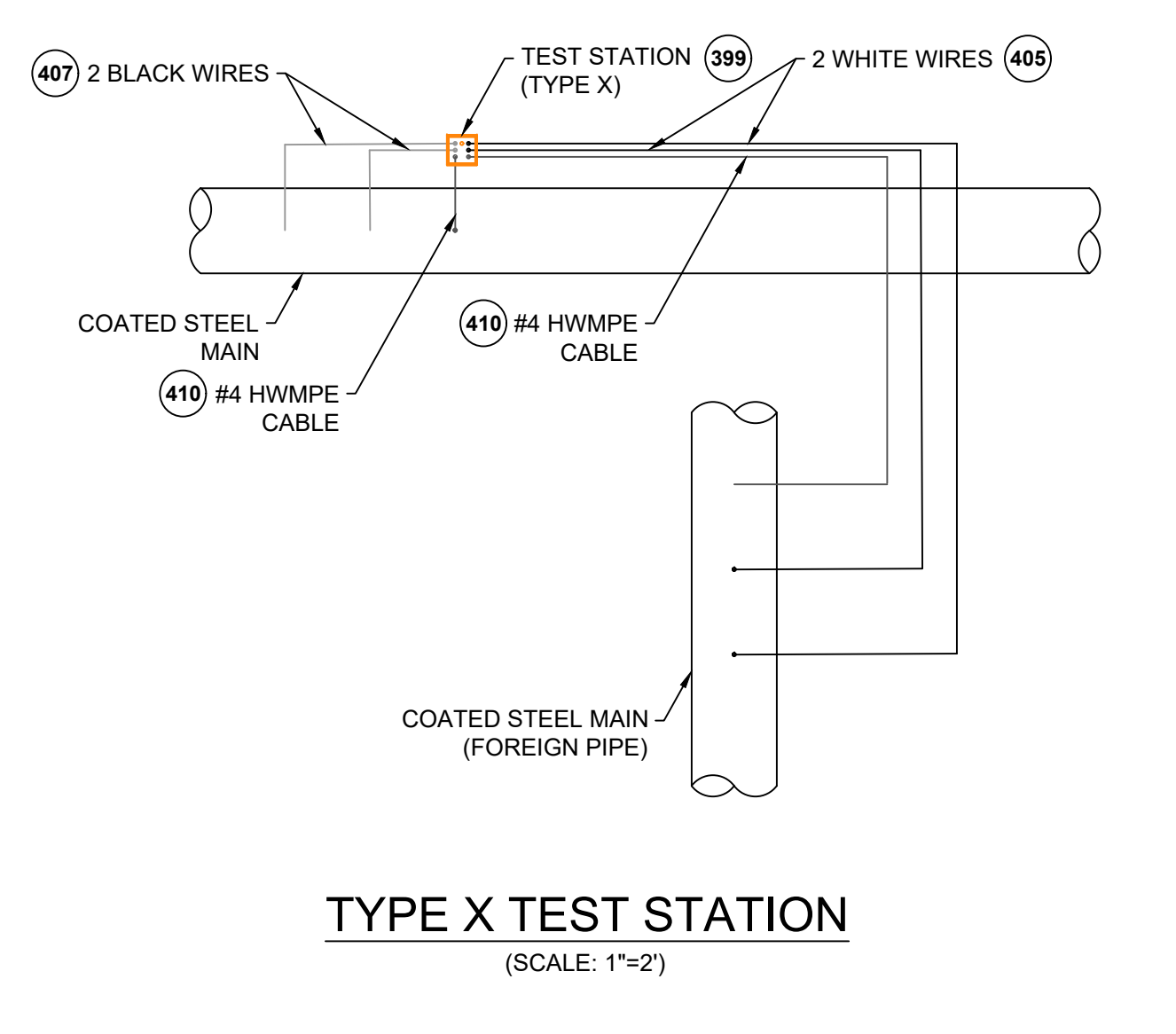
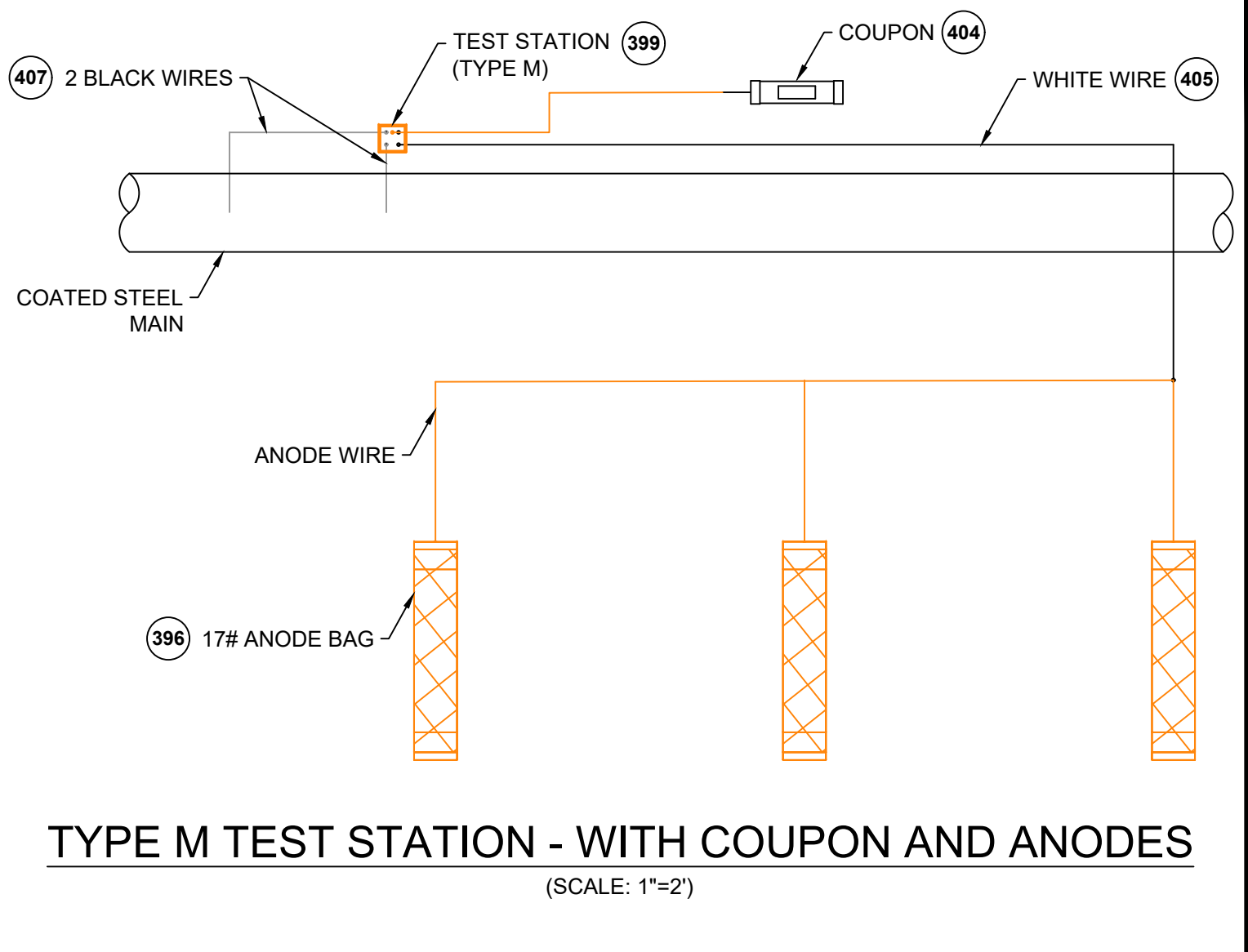
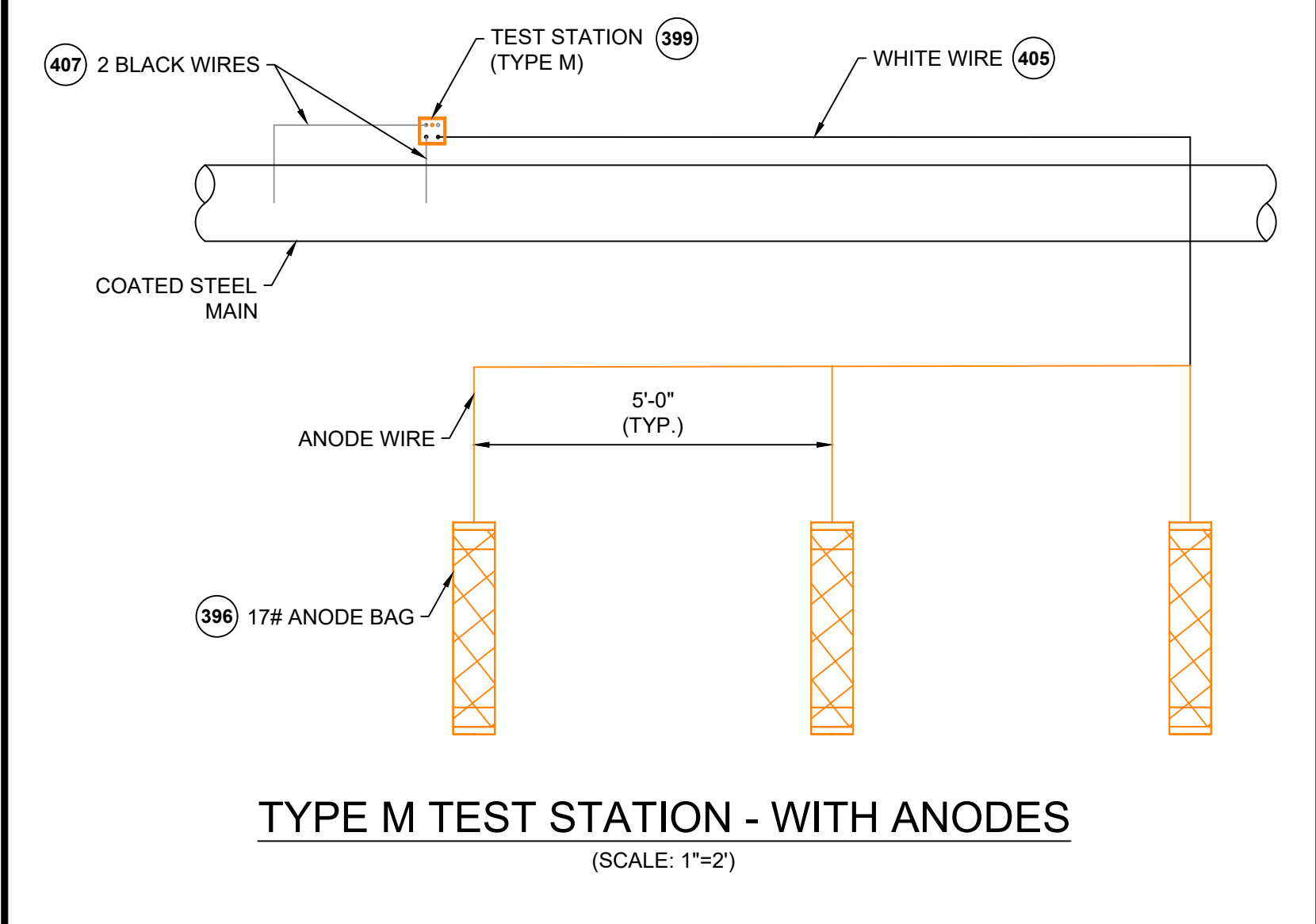
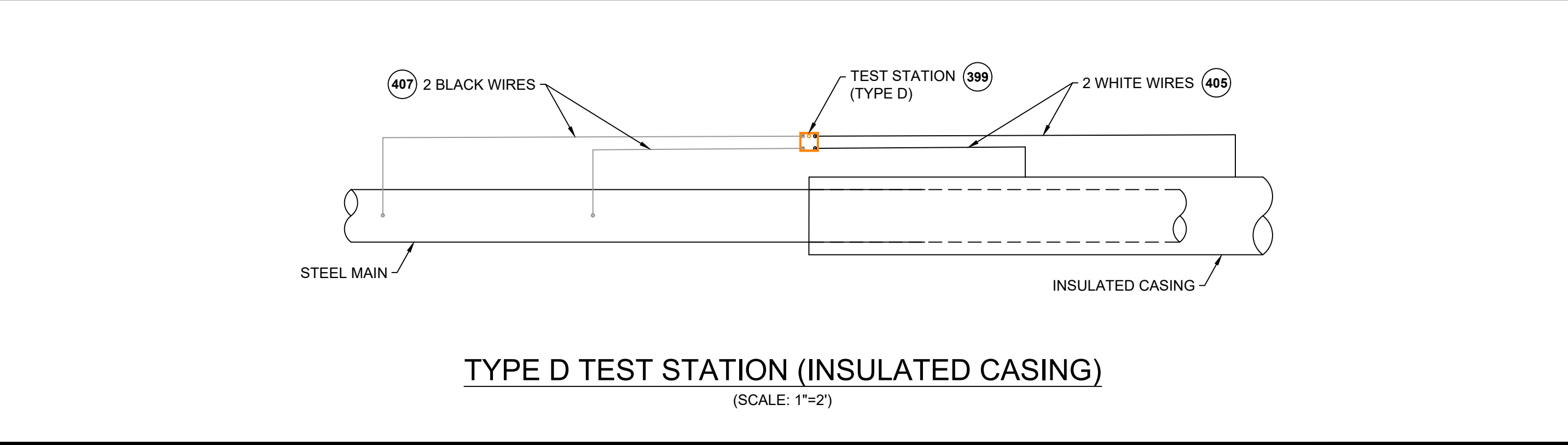
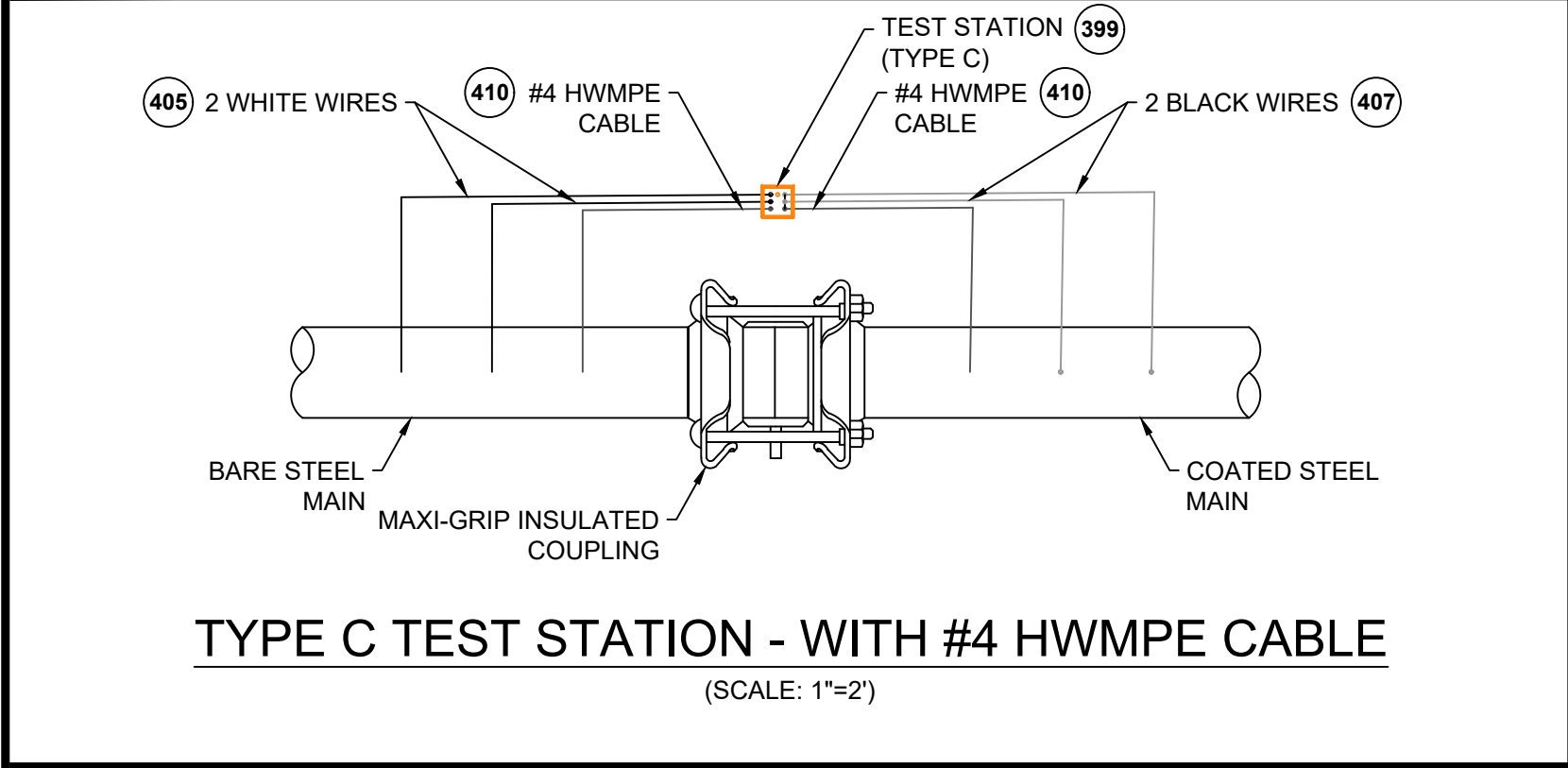
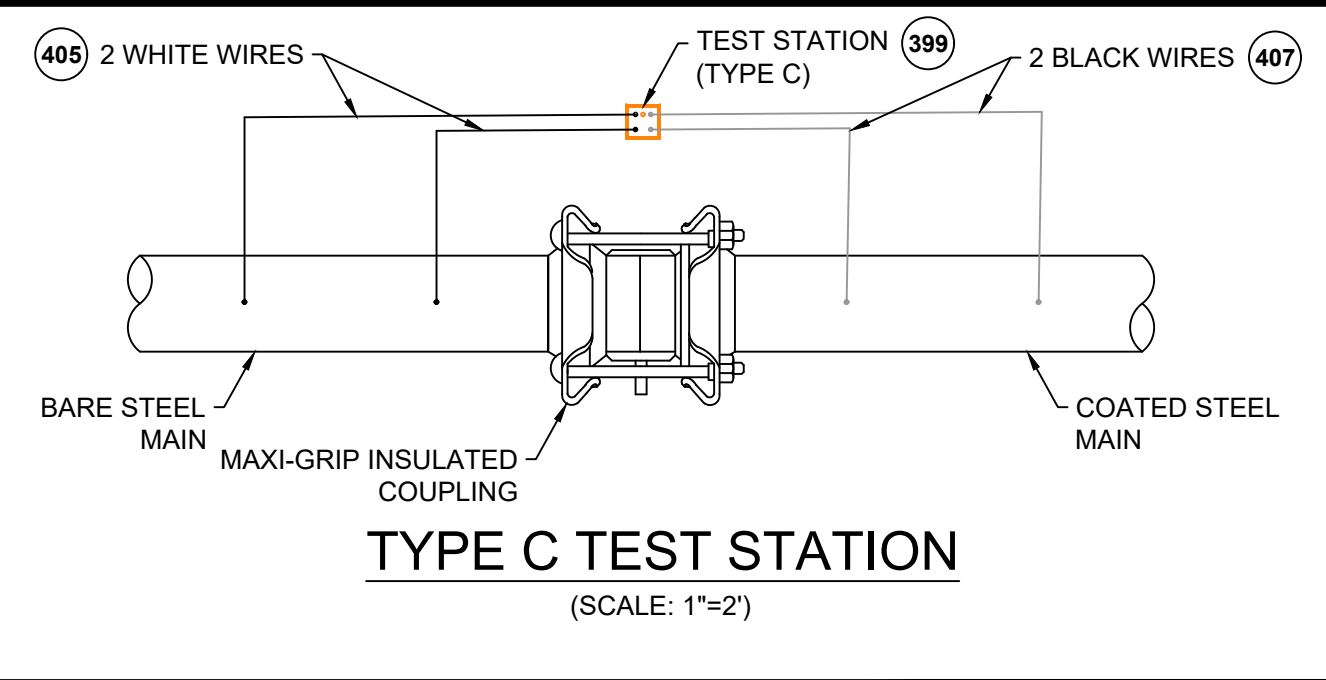
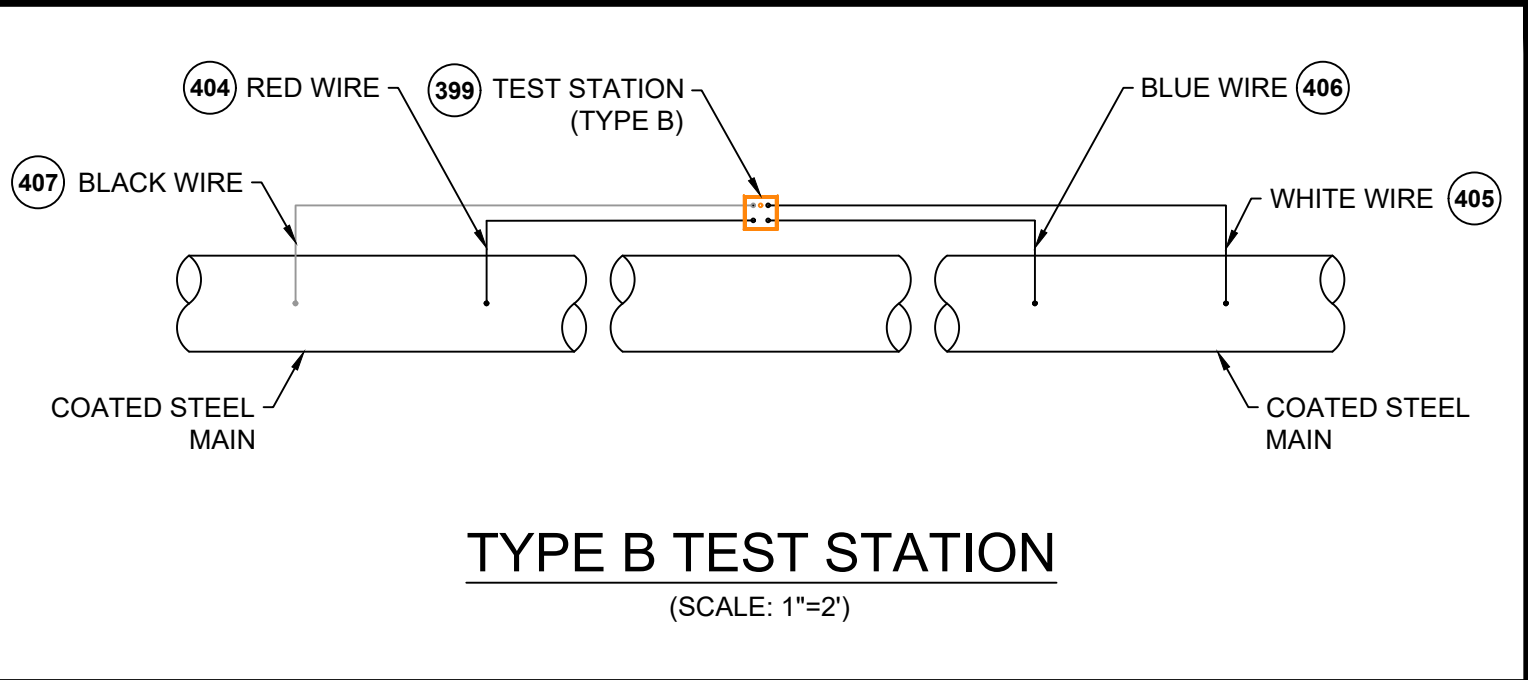
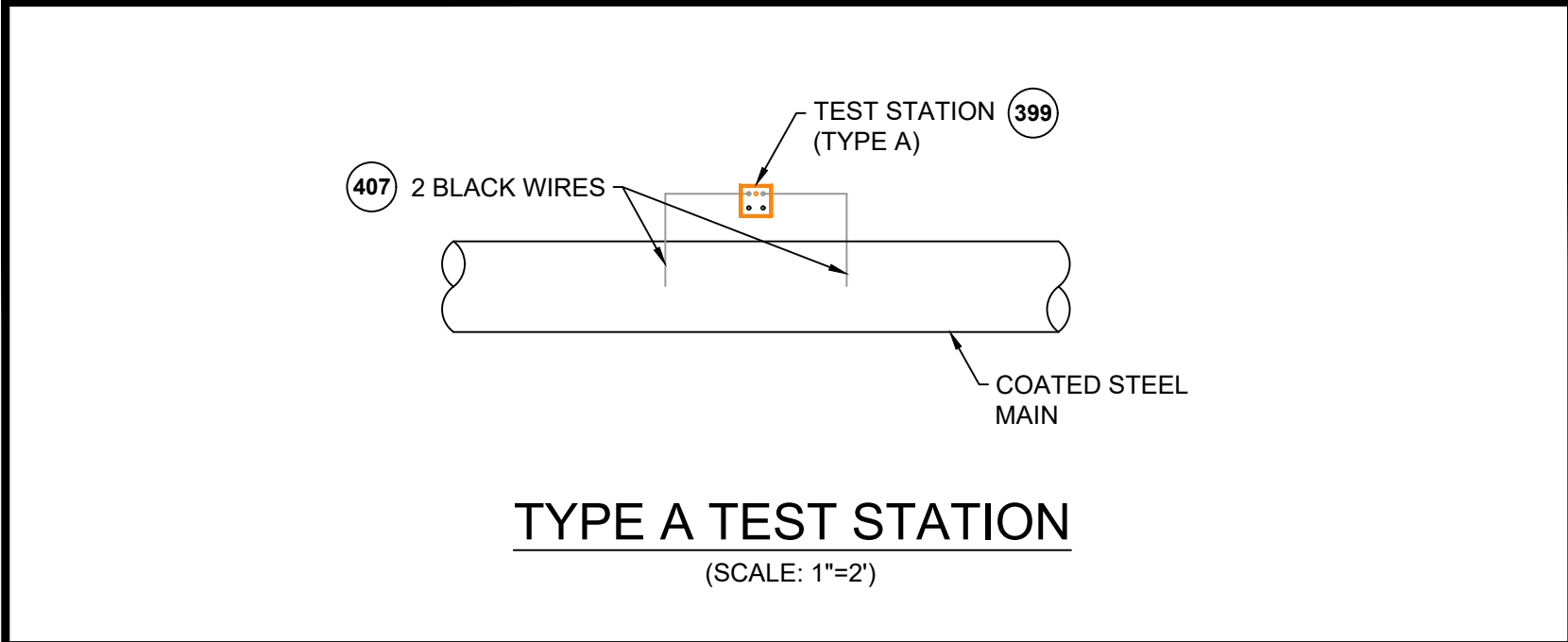
06/30/2022

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.

29 BARTLETT STREET
MARLBOROUGH, MA 01752
TEL: (630) 353-4000
FAX: (630) 353-7777
WWW.ENENGINEERING.COM

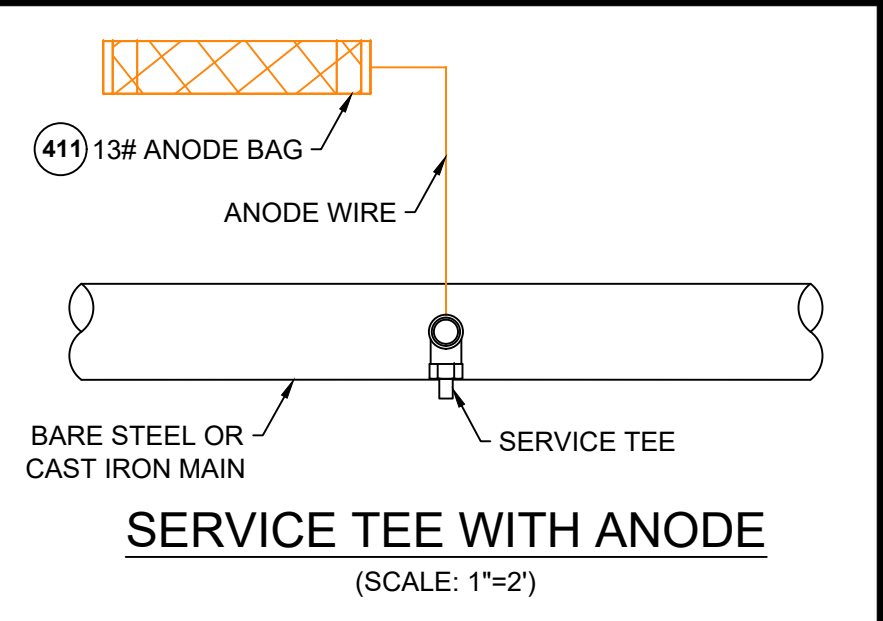
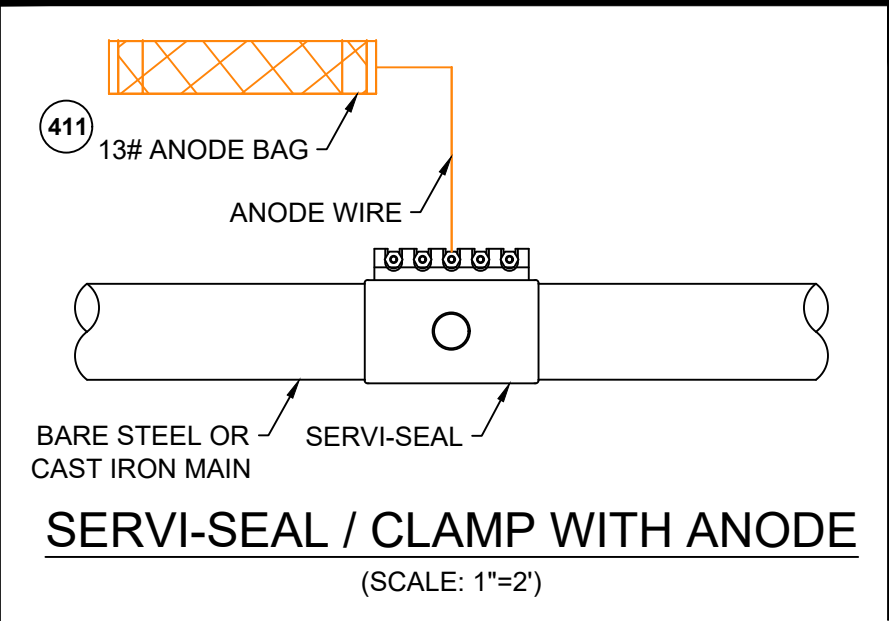
FIELD VERIFY DIMENSIONS
PRIOR TO PIPE FABRICATION

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK	
NO.	DESCRIPTION	DATE	DW/CK/AP	
REVISION STATUS				
EVERSOURCE ENERGY				
COUNTY STREET MAIN RELAY				
NEW BEDFORD, MASSACHUSETTS				
TIE-IN DETAIL #6 AND BOM				
SCALE: AS NOTED (DO NOT SCALE FROM DRAWINGS)				SHEET 15 OF 16
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER	REV. NO.
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-15	0



CATHODIC PROTECTION BILL OF MATERIALS			
ITEM	MAXIMO NO.	DESCRIPTION	UNITS
396	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	EA
397	517626	CONNECTOR, SPLIT BOLT, 12 SOLID - 10 STRANDED, CU TO CU, HOUSING (COVER) MATE IN 590389,	EA
398	590389	HOUSING, 50 V MAX, 10 AWG MAX, FOR PROTECTING TRACER WIRE SPLICES, USED WITH CONNECTOR IN 517626. 10/BAG	EA
399	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	EA
400	508567	POWDER, CARTRIDGE, TYPE IS F-33, ALLOY , CAP COLOR CLEAR, 15 GM CHARGE, 20/PAC, FOR STEEL PIPE	BOX
401	559168	SLEEVE,ELECTRICAL, #14 TO 10 AWG, W/ THERMITE WELDER, FOR CATHODIC PROTECTION	EA
402	584045	EDI CONCENTRIC COUPON ASSEMBLY INCLUDING UCB-ZIN-LW010, 10 FT OF CABLE	ES
403	603126	EDI CONCENTRIC COUPON ASSEMBLY INCLUDING UCB-ZIN-LW025, 25 FT OF CABLE	ES
404	603140	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, RED, INSULATED, CU, 500 FT SPOOL, WIRE	ROLL
405	578415	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, WHITE, INSULATED, CU, 500 FT SPOOL, WIRE	ROLL
406	603141	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, BLUE INSULATED, CU, 500 FT SPOOL, WIRE	ROLL
407	603139	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, BLACK, INSULATED, CU, 500 FT SPOOL,WIRE	ROLL
408	500804	WELDER,THERMITE, THERMITE, FOR GAS PIPE, #12 CABLE,HORIZONTAL STEEL PIPE 4 IN AND LARGER DIAMETER	EA
409	500805	WELDER,THERMITE, THERMITE, FOR GAS PIPE, #12 CABLE, HORIZONTAL STEEL PIPE 3/4 - 3-1/2 IN DIAMETER	EA
410	513850	CABLE, INSULATED, CATHODIC PROTECTION, 1/C, #4 AWG, 7 STR, 600 V, BLACK, HWMPE, CU, 1000 FT ROLLS	FT
411	505818	ANODE,BAG, 2.5 X 2.5 X 4.5 IN, 10 FT LG, 3 LB, MAGNESIUM, Alternate IN 577776	EA
575	508572	PRIMER, 4 GAL/CASE, BROWN, FOR WAX TAPE, APPLICATION TEMP 0 TO 230 F, TEMCOAT 3000	EA
576	503673	TAPE,WAX, 9 FT LG X 4 IN W, 24 ROLLS/CS, ABOVE AND BELOW GROUND APPLICATIONS, TR-#2A WAX, ALUMINUM	ROLL
577	603769	TRENTON-FILL FOR PM-GP, 140 FA, FOR FILLING VOIDS & IRREGULAR SPACES PRIOR TO WRAPPING W/WAX TAPE, OF TO 110F APPLICATION TEMPERATURE, 6 BLOCKS/CASE,	CASE
	603423	TAPE,WAX, 9 FT LG X 6 IN W X 70-90 MIL THK, 16 ROLLS/CS, ABOVE AND BELOW GROUND APPLICATIONS, TR-#2A WAX, ALUMINUM	ROLL

- 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 BLACK 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 ARE 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.
 - ONE (1) 3# ANODE (MINIMUM) SHALL BE INSTALLED TO PROTECT THE CLAMPS ON EACH 10-FOOT SPAN OF PIPE. EACH 10-FOOT SPAN OF PIPE MUST BE A CONTINUOUS SECTION OF STEEL. CLAMPS ON NON-CONTINUOUS SECTIONS OF STEEL EVEN IF THEY ARE WITHIN 10 FEET OF EACH CANNOT BE PROTECTED BY THE SAME ANODE.
 - REFER TO CONSTRUCTION STANDARD CS-500 SECTION IV.G WHICH PROVIDES GENERAL GUIDANCE REGARDING "WRAPPING" FOR CORROSION PROTECTION. CS-500 SECTION IV.G.5. DESCRIBES THE BASIC STEPS REQUIRED TO WRAP LEAK REPAIR CLAMPS.



ISSUED FOR CONSTRUCTION

0	ISSUED FOR CONSTRUCTION	01/07/2022	ZS/AB/EK
NO.	DESCRIPTION	DATE	DW/CK/AP

REVISION STATUS				
EVERSOURCE ENERGY				
COUNTY STREET MAIN RELAY				
NEW BEDFORD, MASSACHUSETTS				
STANDARD CORROSION DETAILS				
SCALE: 1"=2' (DO NOT SCALE FROM DRAWINGS)				SHEET 16 OF 16
DRAWN BY / DATE	CHECKED BY / DATE	APPROVED BY / DATE	SHEET NUMBER	REV. NO.
ZS 12/09/2021	AB 01/07/2022	EK 01/07/2022	MA-NEB-22-PIP-004-16	0

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

SEALED BY:

ERIC VINAI KUMAR No. 54771

SIGNATURE

SEALED ON:

01/07/2022

LICENSE EXPIRATION:

06/30/2022

DESIGNED IN ACCORDANCE WITH TITLE 49, PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC 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