

SSUED FOR NSTRUCTION 07/27/2021	ERIC VINAI KUMAR No. 54771	SEALED ON: 07/27/2021	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.	FIELD VERIFY
		LICENSE EXPIRATION:	ENERgineering 29 BARTLETT STREET	PRIOR TO PIPE
		06/30/2022	MAŘLBÖROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	

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		SHEET INDEX		
	SHEET NUMBER	DESCRIPTION		
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	2	GENERAL NOTES		
1923	4	INSTALLATION PLAN		
	5	INSTALLATION PLAN		
	6	INSTALLATION PLAN		/
	7	INSTALLATION PLAN		
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	10	LOCATION B $-$ PHASE 1, 2 AND .		
	11	LOCATION C - PHASE 1, 2 AND		
	12	LOCATION D - PHASE 1, 2 AND	SCHEDULE OF MATERI	ALS <
	13	LOCATION E - PHASE 1, 2 AND		/
	14	LOCATION F - PHASE 1, 2 AND		
	15	LOCATION G – PHASE 1, 2 AND		ALS /
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	18	LOCATION J AND SCHEDULE OF M	IATERIALS	
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	A IFC - UPDAT	ED SITE PLAN, SHEET INDEX	& WORK ORDER	NUMBERS
		ROPOSED MAIN ALIGNMENT		ZS/AB/EK
	2 SEE NOTE 1 1 IFC - ADDEE	WORK ORDER NOTES	07/22/2021	ZS/AB/EK LR/AB/EK
	0 ISSUED FOR	R CONSTRUCTION	10/14/2020	RT/AB/EK
	NO. DESCRIPTIC	REVISION STATUS	DATE S	DW/CK/AP
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		EN	NERGY	
Y DIMENSIONS		HERSOM STREET MAIN NEW BEDFORD, MASSACI		
E FABRICATION		TE PLAN, LOCUS PLAN AND	SHEET INDEX	
	SCALE: AS NOTED	CHECKED BY / DATE	SHEE SHEET NUMBER	T 1 OF 20 REV. NO.
	MR 08/31/2020 APPROVED BY / DATE EK 07/27/2021	AB 07/27/2021	MA-NEB-21-PIP-001	

GENERAL NOTES

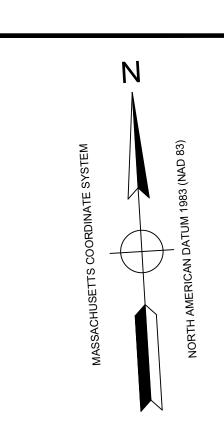
- 1. IF ANY OF THE FOLLOWING OCCUR A DRAWING REVISION IS REQUIRED AND MUST BE APPROVED AND/OR STAMPED BY THE ENGINEER OF RECORD. CHANGES CAN BE APPROVED AND/OR STAMPED BY A PROJECT ENGINEER, BUT THE ENGINEER OF RECORD MUST BE INFORMED.
 - A. IF THE TIE IN POINT MOVES TO A DIFFERENT SEGMENT OF PIPE THAN 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 PSIGHP = 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. HIGH VOLUME TAPPING TEES ARE NOT TO BE PRE-TAPPED UNLESS OTHERWISE NOTED.
- 26. DO NOT SCALE FROM DRAWINGS.

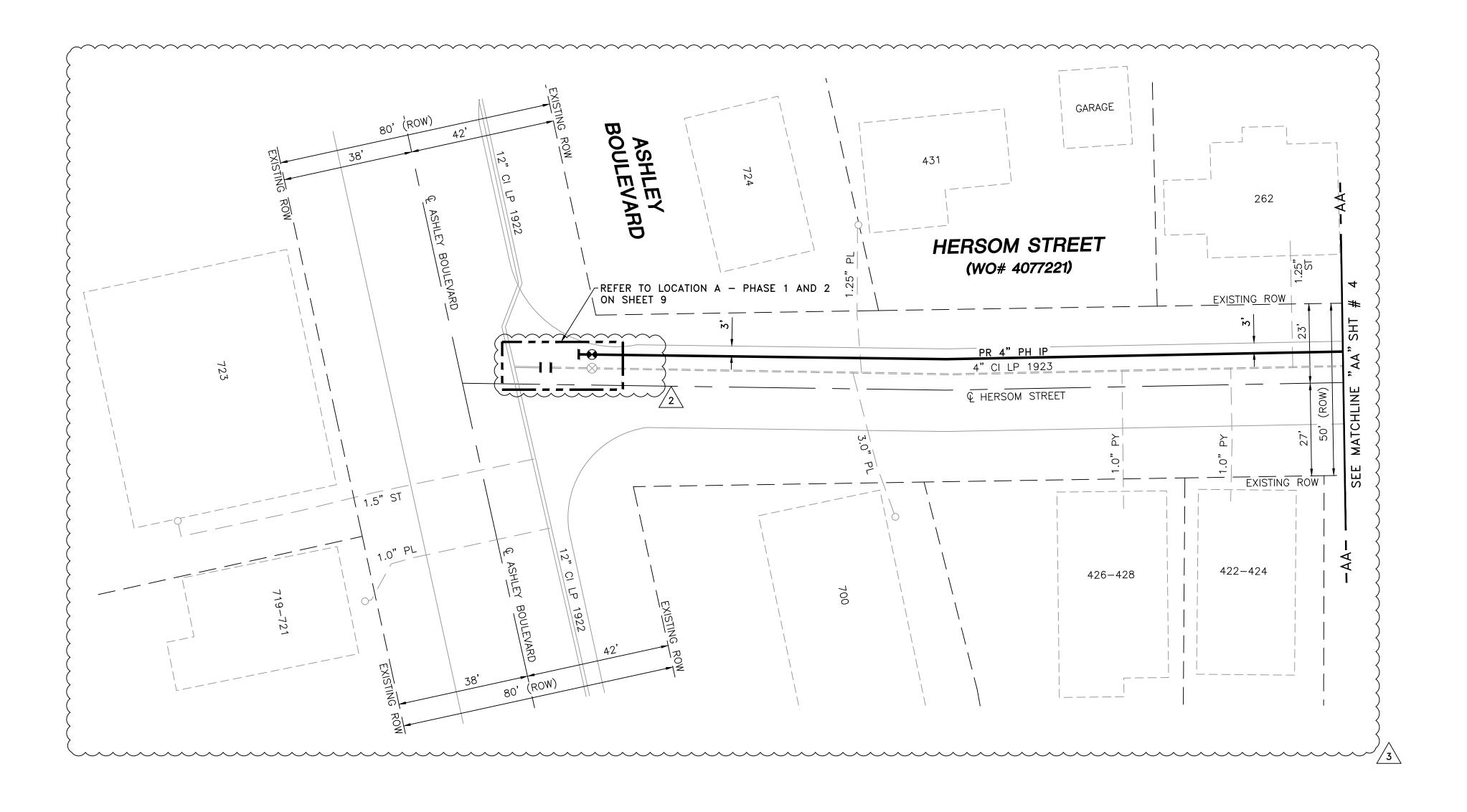
SSUED FOR DNSTRUCTION 07/27/2021	ERIC VINAI KUMAR No. 54771	SEALED ON: 07/27/2021	DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.	FIELD VERIFY PRIOR TO PIPE
		LICENSE EXPIRATION: 06/30/2022	ENERGINEERING 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	

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	HERSOM STREET MAIN RELAY						
Y DIMENSIONS	NEW BEDFORD, MASSACHUSETTS						
E FABRICATION	GENERAL NOTES						
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<u>NOTES</u>:

 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.

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LENGTH	SIZE	MATERIAL	DESCRIPTION			
220'	4"	РН	INSTALL			
200'	4"	CI	RETIRE			



ISSUED FOR CONSTRUCTION 07/27/2021	ERIC VINAL KUMAR No. 54771	SEALED ON: 07/27/2021	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.	FIELD VERIFY DIMENSION
		LICENSE EXPIRATION: 06/30/2022	ENERGINEERING 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	PRIOR TO PIPE FABRICATIO



Dawson St Dawson St

Harwich S

Hersom St

Branscomb St

Children's Paradise

Hersom St -

Wood St

Branscomb St Branscomb St

Wood St

Harwich St -

Hersom St

New England Dental Specialists

Desi Food Mart Moon House Chinese Takeout - Delivery

Wood St

Brooklawn Av

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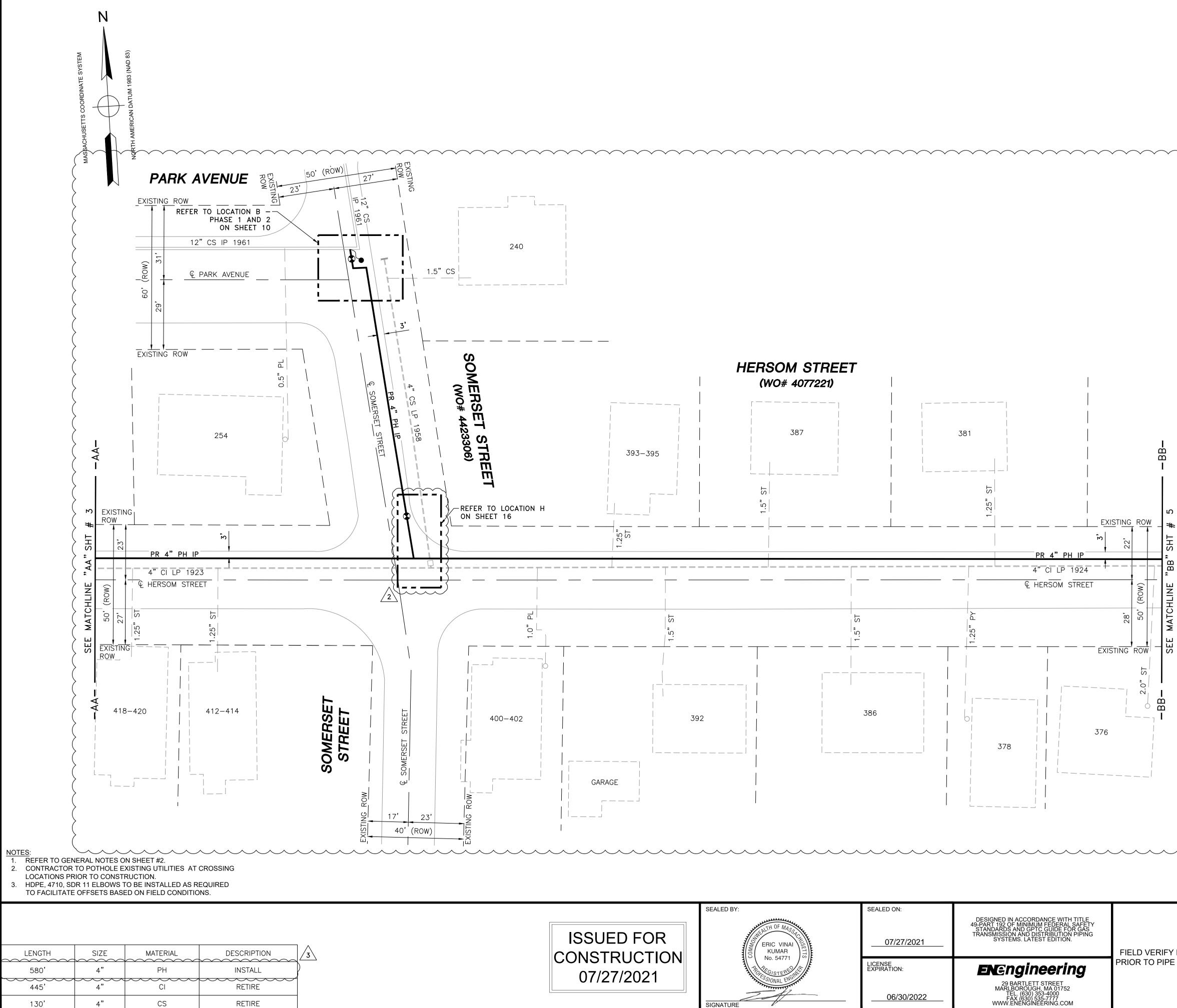
(18) Brooklawn Insurance Agency

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DRAWING LEGEND

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	CATCH BASIN						PROPOSED	GAS I	MAIN
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	APP	ROVED BY / K 07/27/20	/ DATE	MANEB21PIP		MA-N	EB-21-PIP-001-	03	3



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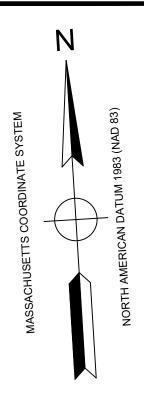


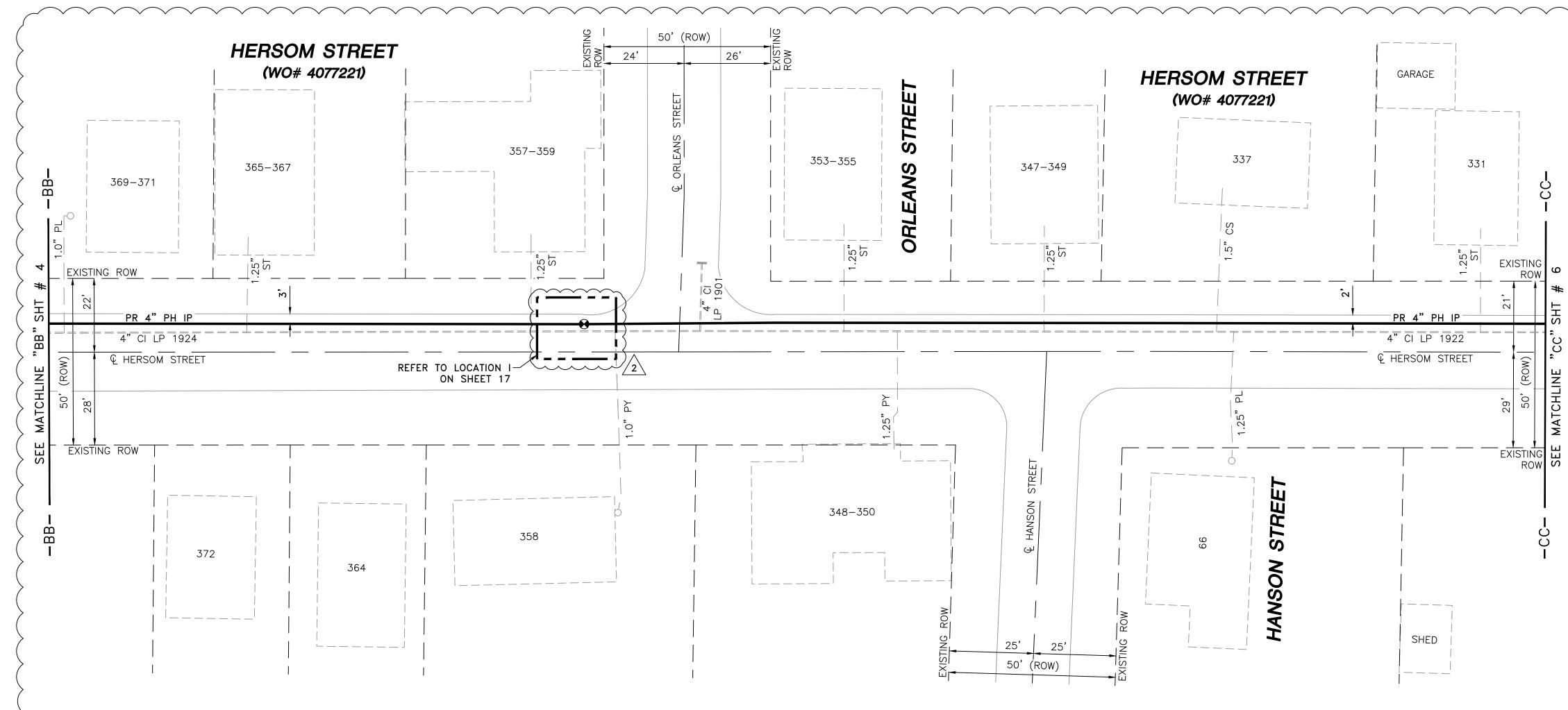


DRAWING LEGEND

\rightarrow	UTILITY POLE		EXISTING GAS MAIN
✻	LIGHT POLE		RETIRED GAS MAIN
	CATCH BASIN		PROPOSED GAS MAIN
000	FIRE HYDRANT		EXISTING SERVICE
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	1	IFC - ADDED V	VORK ORDER NOTES		10/28/2020	LR//	AB/EK
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	EVERS URCE						
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	HERSOM STREET MAIN RELAY						
FY DIMENSIONS	NEW BEDFORD, MASSACHUSETTS						
PE FABRICATION	INSTALLATION PLAN						
	SCA	LE:1"=20' (DO N	OT SCALE FROM DRAWI	NGS)	SHEE	T 40	DF 20
	DF	RAWN BY / DATE IR 08/31/2020	CHECKED BY / DATE AB 07/27/2021		SHEET NUMBER		REV. NO.
	APP	PROVED BY / DATE EK 07/27/2021	MANEB21PIP001R3	MA-N	IEB-21-PIP-001-	04	3



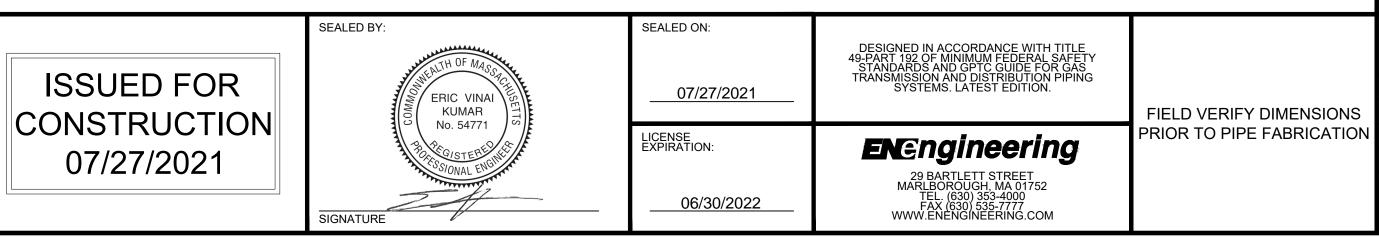


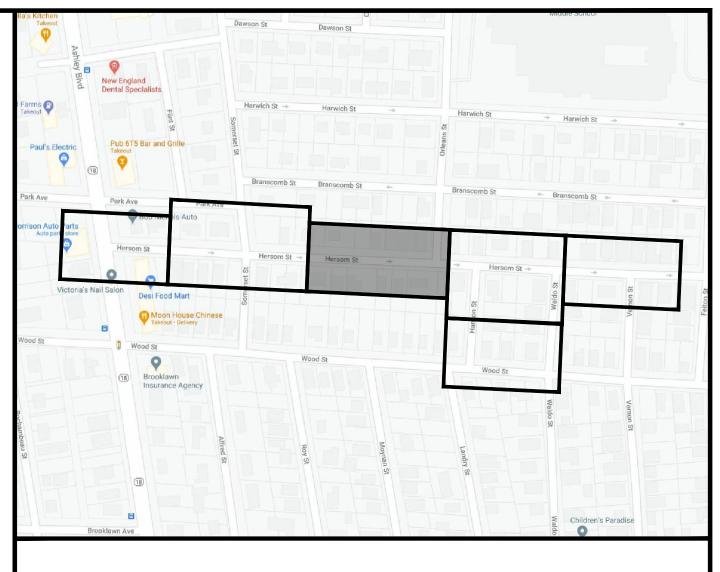
NOTES: 1. REFER TO GENERAL NOTES ON SHEET #2.

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
450'	4"	РН	INSTALL
470'	4"	CI	RETIRE







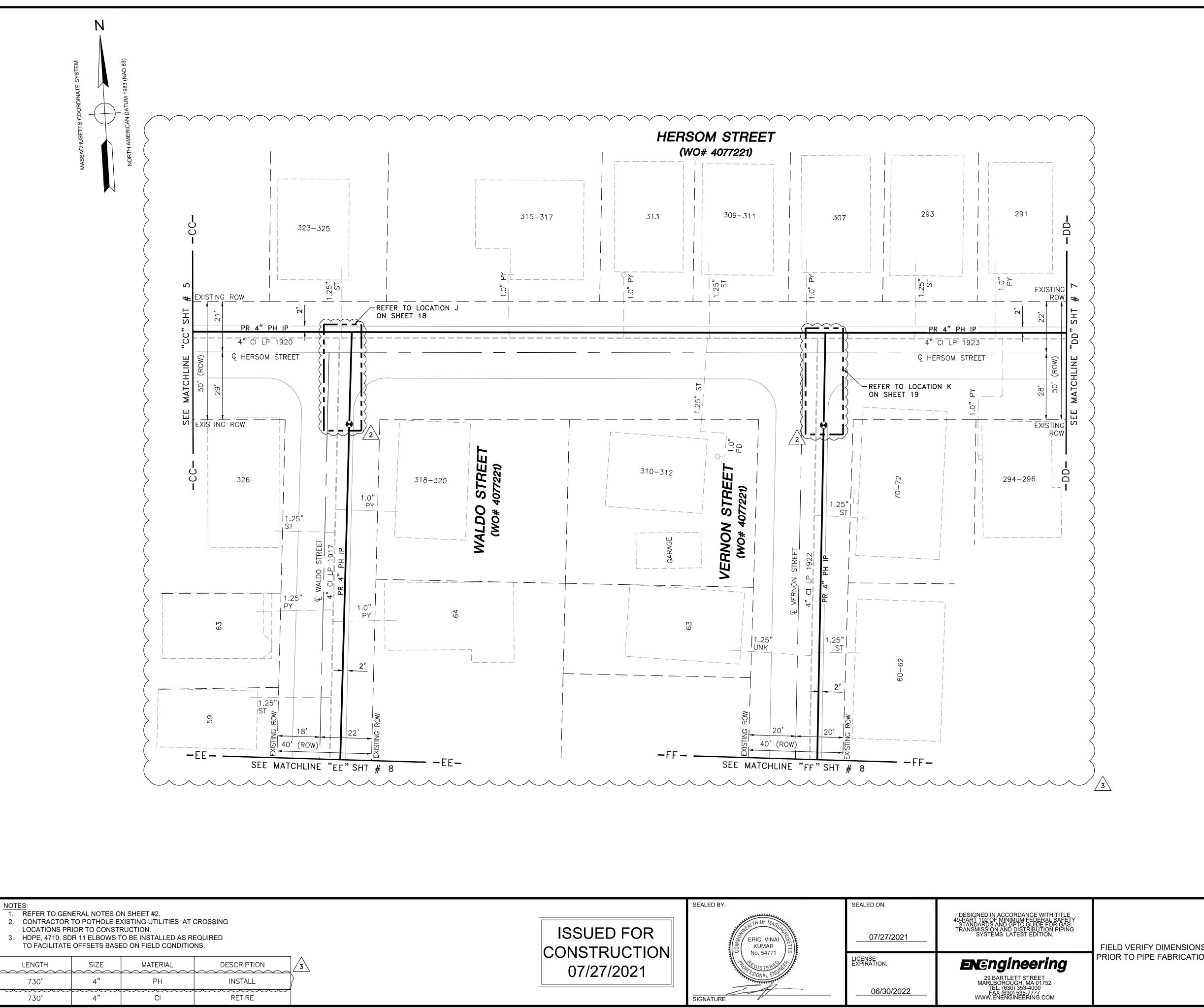
DRAWING LEGEND

\rightarrow	UTILITY POLE		EXISTING G	AS MAIN
₩	LIGHT POLE		RETIRED GA	AS MAIN
	CATCH BASIN		PROPOSED	GAS MAIN
cOo	FIRE HYDRANT		EXISTING SE	ERVICE
\bigcirc	UTILITY MANHOLE		RIGHT OF W	ΆΥ
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	DRAWN BY / DATE	CHECKED BY / DATE	SHEET NUMBER	REV. NO.
	MR 08/31/2020 APPROVED BY / DATE EK 07/27/2021	AB 07/27/2021 MANEB21PIP001R3	MA-NEB-21-PIP-001-05	3

HERSOM STREET MAIN RELAY

NEW BEDFORD, MASSACHUSETTS



LENGTH	SIZE	MATERIAL	DESCRIPTION	3
730'	4"	PH	INSTALL	P
730'	4"	CI	RETIRE	



Dawson St Dawson St

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Hersom St

Branscomb St

Children's Paradise

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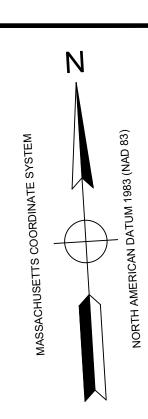
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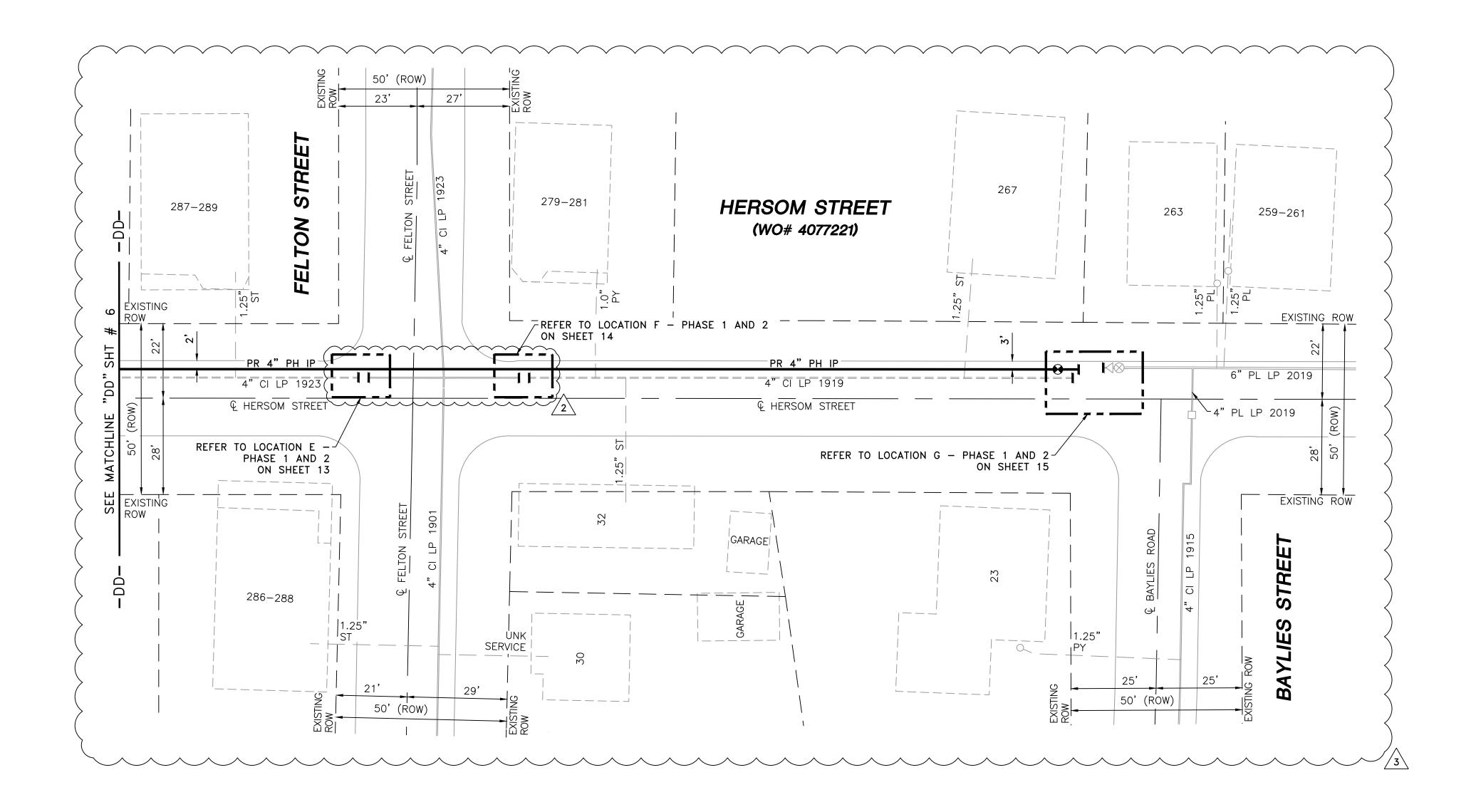
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DRAWING LEGEND

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	NO.	DESC	CRIPTION				DATE	DW	/CK/AP
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				HERSOM STI					
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DN					LATION PI				
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		EK 07/27	7/2021	MANEB21PIP	2001R3	IVI/A-IN		00	3





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

TO TABLETATE OF GETO BASED ON TIEED CONDITIONS.					
LENGTH	SIZE	MATERIAL	DESCRIPTION		
285'	4"	РН	INSTALL		
285'	4"	CI	RETIRE		



ISSUED FOR	SEALED BY:	SEALED ON: 07/27/2021	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.	FIELD VERIF
CONSTRUCTION 07/27/2021	SIGNATURE	LICENSE EXPIRATION: 06/30/2022	ENERGINEERING 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	PRIOR TO PIP



Dawson St Dawson St

Harwich St

Harwich St

Harwich St -

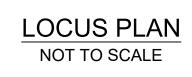
Rev England Dental Specialists

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Pub 6T5 Bar and Grille Takeout

rms 😲

aul's Electric

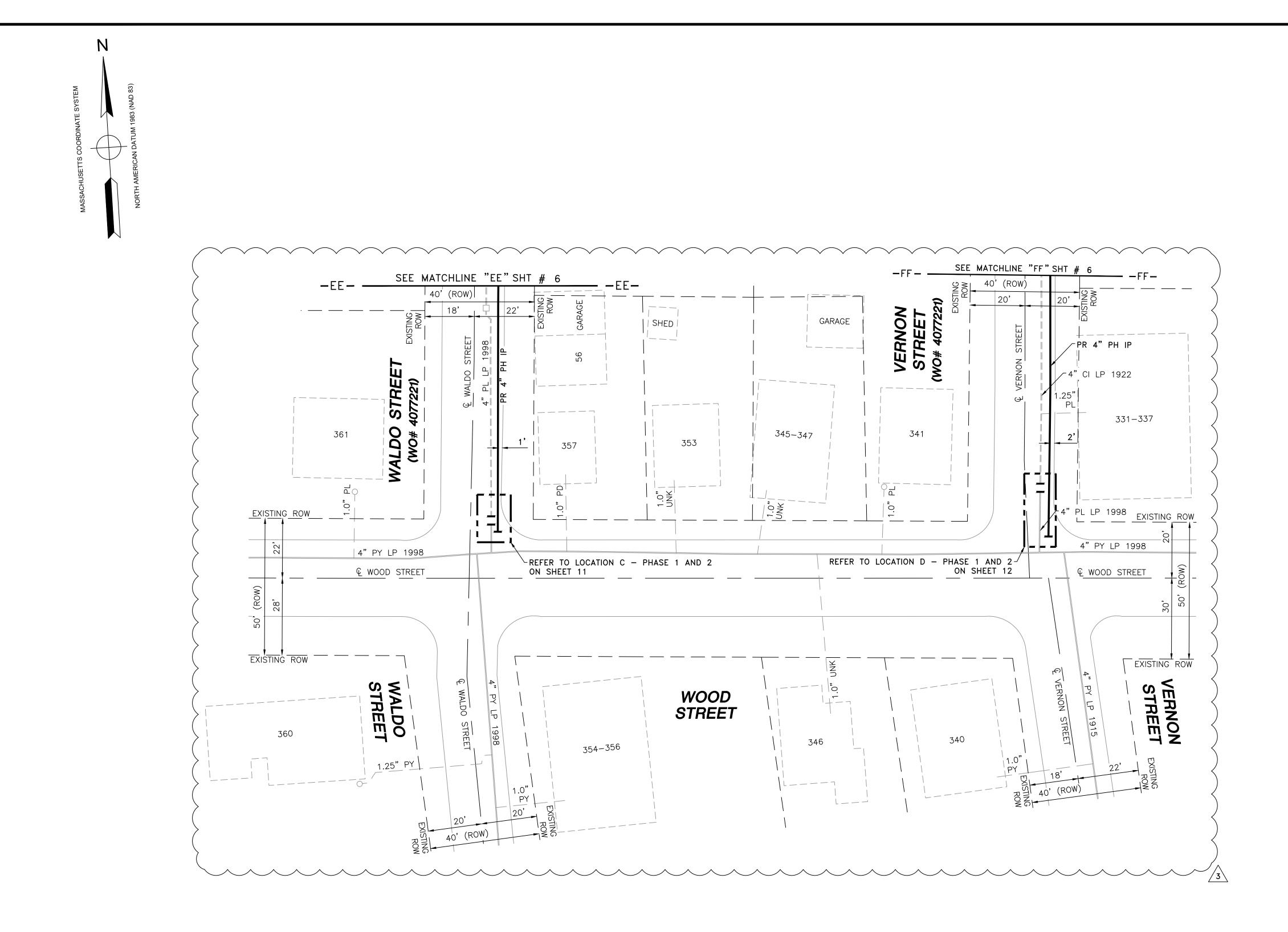


DRAWING LEGEND

) -	UTILITY POLE		EXISTING G	AS MAIN
	\rightarrow	×	LIGHT POLE		RETIRED GA	AS MAIN
			CATCH BASIN		PROPOSED	GAS MAIN
	0)o	FIRE HYDRANT		EXISTING SE	ERVICE
			UTILITY MANHOLE		RIGHT OF W	ΆΥ
	E		ELECTRIC MANHOLE	——— E ———	ELECTRIC	
		D	TELEPHONE MANHOLE	T	TELEPHONE	E
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			STORM MANHOLE	-<<<<	STORM SEW	/ER
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		l	EXISTING CAP	1	PROPOSED	CAP
	Ś	3	EXISTING VALVE	•	PROPOSED	VALVE
			EXISTING COUPLING	\$	PROPOSED	ANODE
	3		ATED PROPOSED MAIN A		07/27/2021	ZS/AB/EK
	2	IFC -	MOVED LOCATIONS E A	ND F	07/22/2021	ZS/AB/EK
	1	IFC -	ADDED WORK ORDER N	IOTES	10/28/2020	LR/AB/EK
	0	ISSU	ED FOR CONSTRUCTION	N	10/14/2020	RT/AB/EK
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אול	001		INSTAL 20' (DO NOT SCALE FRO		<u></u>	
	SCA	∟⊢∙1"=	$z_{\rm U}$ (DUNOT SCALE ER()		SHEE	T 7 OF 20

IFY DIMENSIONS

	INSTALLATION PL	_AN	
SCALE:1"=20' (DO N	OT SCALE FROM DRAWI	NGS) SHEET 7 (DF 20
DRAWN BY / DATE	CHECKED BY / DATE	SHEET NUMBER	REV. NO.
MR 08/31/2020	AB 07/27/2021		
APPROVED BY / DATE EK 07/27/2021	MANEB21PIP001R3	MA-NEB-21-PIP-001-07	3



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
185'	4"	РН	INSTALL
85'	4"	CI	RETIRE
80	4"	PY	RETIRE



ISSUED FOR	SEALED BY:	SEALED ON: 07/27/2021	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.	FIELD VERIFY DIMENSIONS
CONSTRUCTION 07/27/2021	SIGNATURE	LICENSE EXPIRATION: 06/30/2022	ENERGINEERING 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	PRIOR TO PIPE FABRICATIO



Dawson St Dawson St

Harwich St

Hersom St

Branscomb St Branscomb St

Wood St

Harwich St

Branscomb St

Children's Paradise

Branscomb St

Hersom St -

Wood St

Harwich St

Hersom St

New England Dental Specialists

0

Hersom St

Wood St

.

Brooklawn Ave

0

(18) Brooklawn Insurance Agency

Desi Food Mart Moon House Chinese Takeout - Delivery

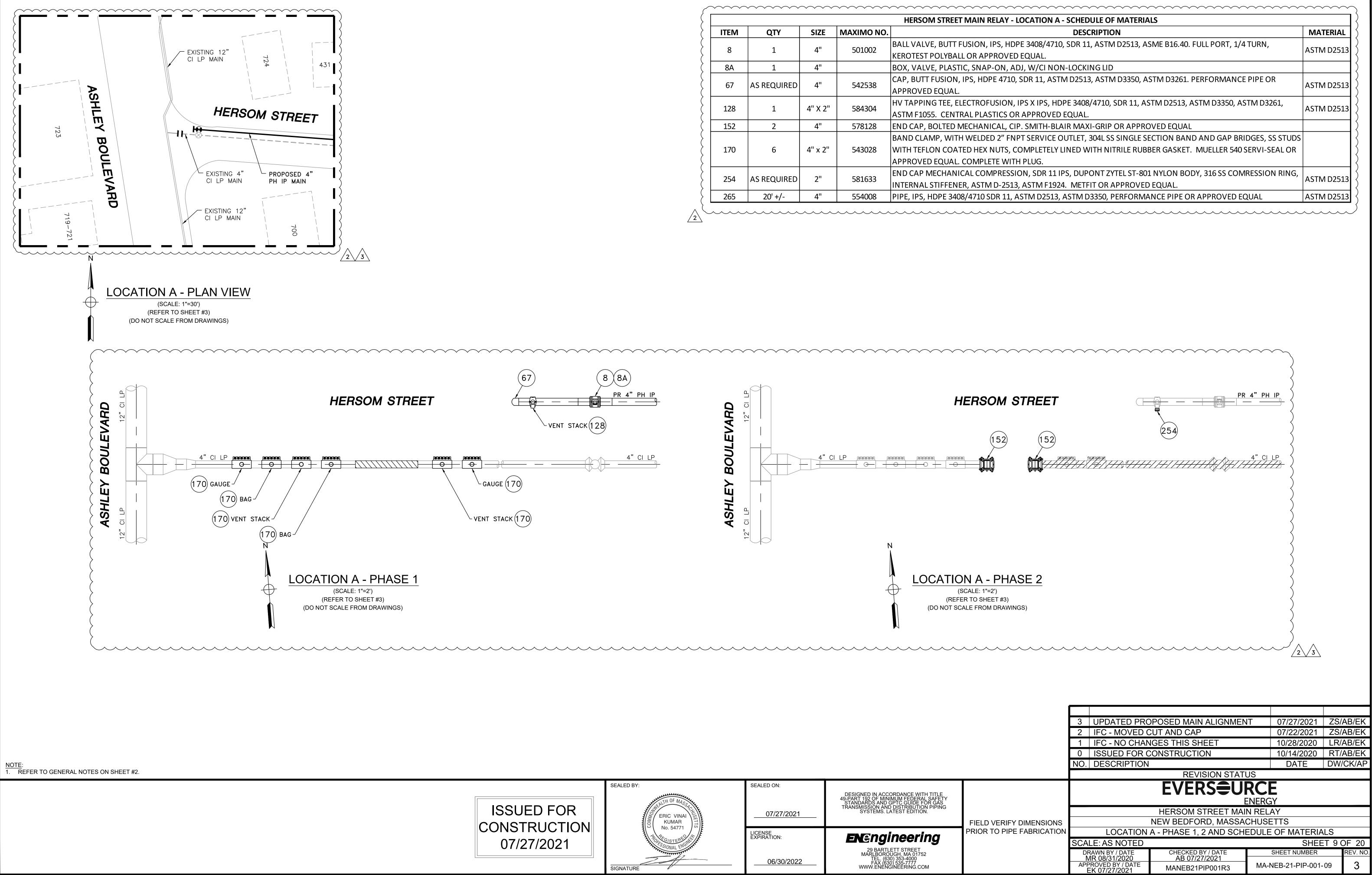
Pub 6T5 Bar and Grille

rms 😲

aul's Electric

DRAWING LEGEND

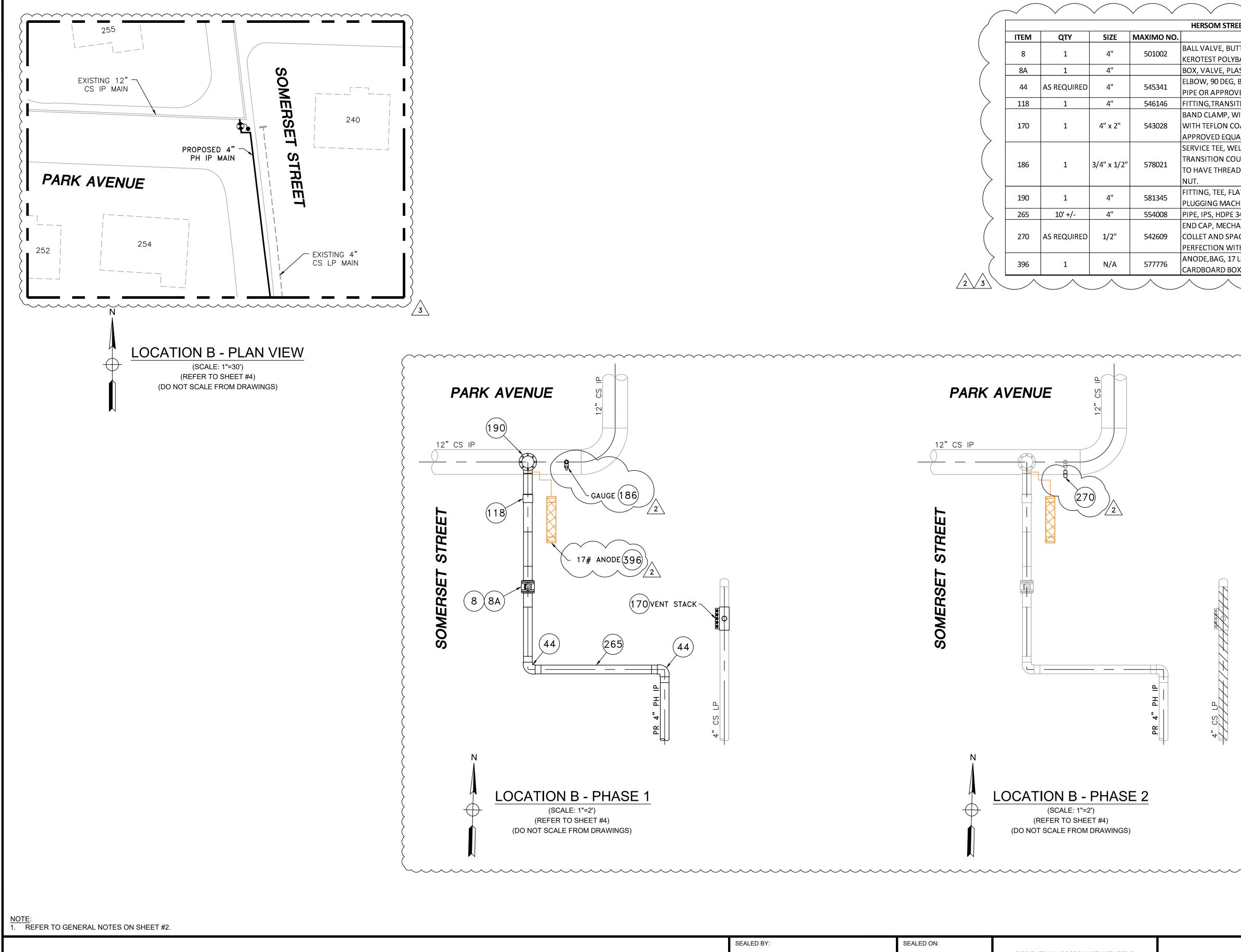
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	3	UPDATED PRO	OPOSED MAIN A	ALIGNMEN	IT	07/27/2021	ZS/	AB/EK
	2	IFC - REMOVE		•		07/22/2021		AB/EK
	1		VORK ORDER N			10/28/2020		AB/EK
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		RAWN BY / DATE	CHECKED BY AB 07/27/2	/ DATE	Ś	SHEET NUMBER		REV. NO.
	APF	AR 08/31/2020 PROVED BY / DATE			MA-N	EB-21-PIP-001-	08	3
	E	EK 07/27/2021	MANEB21PIF	-001K3				





	HERSOM STREET MAIN RELAY - LOCATION A - SCHEDULE OF MATERIALS								
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL				
8	1	4"	501002	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,					
8		4	4	501002	KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D251			
8A	1	4"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID					
67	AS REQUIRED	4"	542538	CAP, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR					
07	AS REQUIRED	4	4	4	4	4	+ 542556	APPROVED EQUAL.	ASTM D2513
170	128 1 4	4" X 2"	584304	HV TAPPING TEE, ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261,	ASTM D251				
120		1 4 ^ 2	4 ^ 2	4 7 2	4 X 2 564504	ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTIVIDZJI		
152	2	4"	578128	END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL					
				BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS					
170	6	4" x 2"	543028	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 COMRESSION RING,	ASTM D251				
234	AS REQUIRED	Z	561055	INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.					
265	20' +/-	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D251				

ISSUED FOR	SEALED BY:	SEALED ON: 07/27/2021	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.	
ONSTRUCTION 07/27/2021	SIGNATURE	LICENSE EXPIRATION: 06/30/2022	ENERGINEERING 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7177 WWW.ENENGINEERING.COM	FIELD VERIFY D PRIOR TO PIPE F

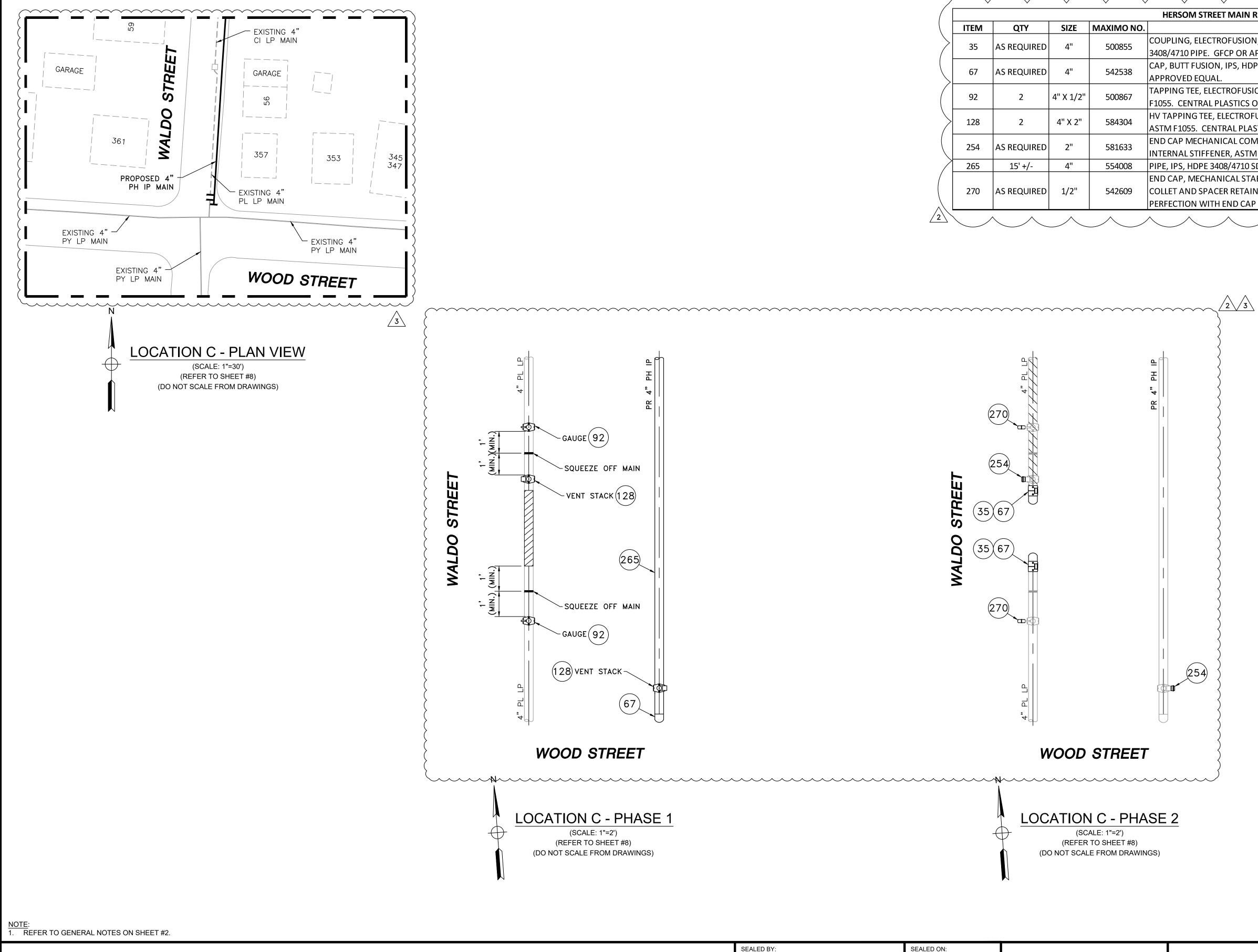


			1	HERSOM		
ITEM	QTY	SIZE	MAXIMO NO.			
8	1	4"	501002	BALL VALVE,		
•		-		KEROTEST PO		
8A	1	4"		BOX, VALVE,		
44	AS REQUIRED	4"	545341	ELBOW, 90 D		
44	AS REQUIRED	4	545541	PIPE OR APP		
118	1	4"	546146	FITTING,TRA		
				BAND CLAM		
170	1	4" x 2"	543028	WITH TEFLO		
				APPROVED E		
				SERVICE TEE,		
100	1	2/411-1 (21)	570001	TRANSITION		
186			1	1 3/4" x	3/4" x 1/2"	578021
				NUT.		
190	1	4"	F0124F	FITTING, TEE		
190	T	4	581345	PLUGGING N		
265	10' +/-	4"	554008	PIPE, IPS, HD		
				END CAP, ME		
270	AS REQUIRED	1/2"	542609	COLLET AND		
				PERFECTION		
		N1 / A		ANODE, BAG		
396	1	N/A	577776	CARDBOARD		

				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2 IFC - UPDATED 1 IFC - ADDED A	ONSTRUCTION	S 07/22/2021 10/28/2020 10/14/2020 DATE	ZS/AB/EK ZS/AB/EK LR/AB/EK RT/AB/EK DW/CK/AP
ISSUED FOR	SEALED BY:	SEALED ON: 07/27/2021	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.	FIELD VERIFY DIMENSIONS		EVERSEUR EN HERSOM STREET MAIN NEW BEDFORD, MASSAC	NERGY RELAY	
CONSTRUCTION 07/27/2021	SIGNATURE	LICENSE EXPIRATION: 06/30/2022	<b>ENERGINEERING</b> 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	PRIOR TO PIPE FABRICATION	LOCATION SCALE: AS NOTED DRAWN BY / DATE MR 08/31/2020 APPROVED BY / DATE EK 07/27/2021	B - PHASE 1, 2 AND SCHEI CHECKED BY / DATE AB 07/27/2021 MANEB21PIP001R3		T10OF 20 REV. NO.

TREET MAIN RELAY - LOCATION B - SCHEDULE OF MATERIALS	NAATEDIAL
	MATERIAL
BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	ASTM D2513
DLYBALL OR APPROVED EQUAL.	
PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
EG, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE	ASTM D2513
ROVED EQUAL.	
NSITION, 4 IN IPS_CS_X 4 IN IPS_PE4710, SDR 11, STEEL WELD X PLASITC BUTT END	
P, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS	
N COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR	
QUAL. COMPLETE WITH PLUG.	
WELD X MECHANICAL COUPLING FOR HDPE, CTS, DRESSER STYLE 90 TAP-N-VALVE WITH STYLE 501	
COUPLING OUTLET. FORGED STEEL BODY BEVELED FOR WELDING. STYLE 501 TRANSITION COUPLING	
READED BODY, INTERNAL STIFFENER WITH GASKET, SPRING WASHER AND GRIP RING WITH THREADED	
, FLAT BOTTOM, 3-WAY, 4IN, FOR USE WITH SHORTSTOPP 60, SHORTSTOPP II & SHORTSTOPP 275	
ACHINES	ASTM A105
PE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
CHANICAL STAB, CTS, HDPE, PE 4710/3408, ASTM D2513, WITH SS GRIPPING SUPPORT RING, ACETAL	
SPACER RETAINER RING, PE THRUST WASHER, BUNA-N O-RING, ZINC-PLATED CS INSERT STIFFENER,	ASTM D2513
WITH END CAP OR APPROVED EQUAL.	
17 LB NET, HIGH POTENTIAL MAGNESIUM, W/ 10 FT #10 AWG TW ORANGE LEAD WIRE, PACKED IN	4710 1157
BOX 42 LB TOTAL WEIGHT	17 LB NET

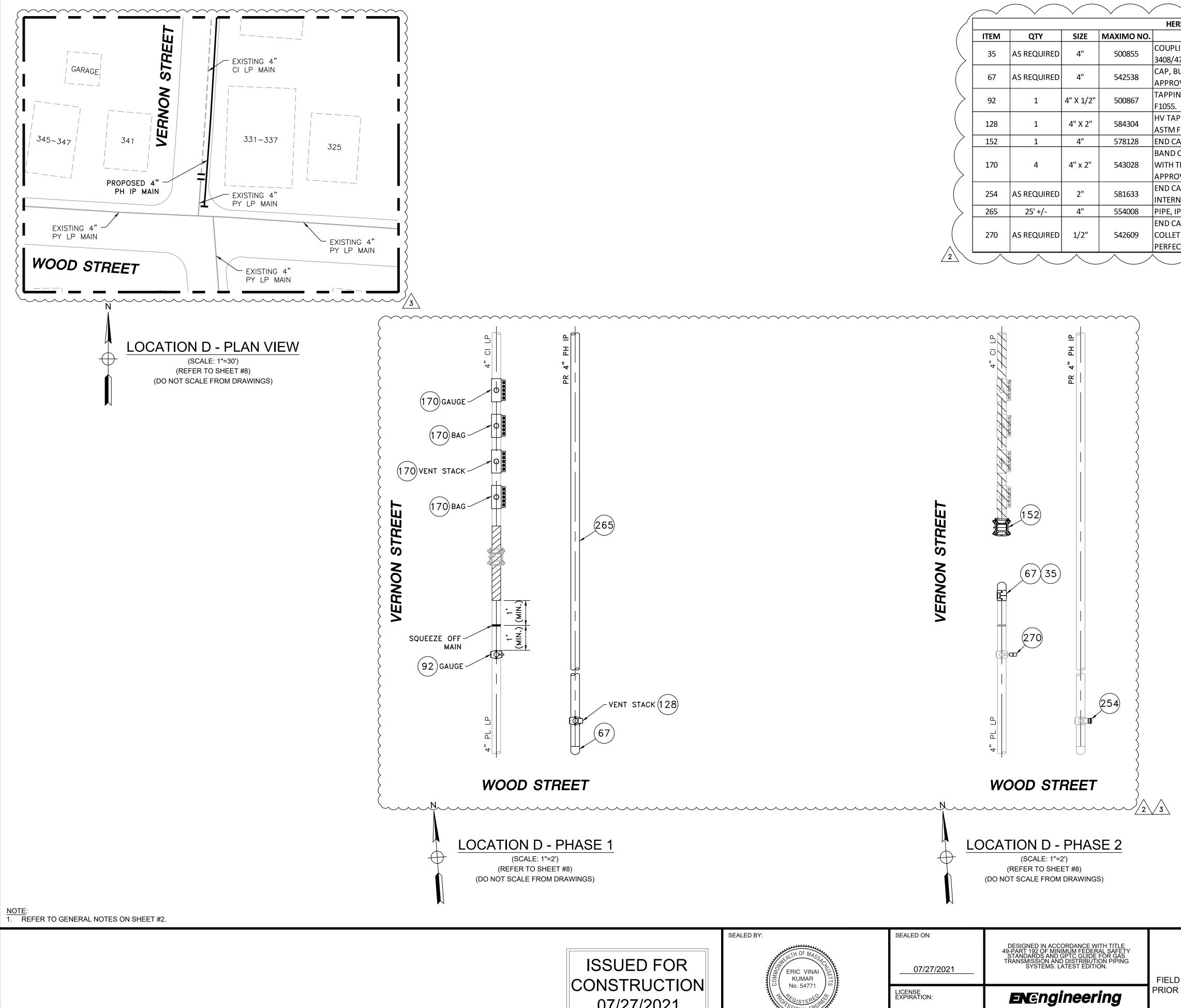
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					HERSOM STREET MA
	ITEM	QTY	SIZE	MAXIMO NO.	
	35	AS REQUIRED	4"	500855	COUPLING, ELECTROFUS
	55	AS REQUIRED	4	500655	3408/4710 PIPE. GFCP C
	67	AS REQUIRED	4"	542538	CAP, BUTT FUSION, IPS,
	07	AS REQUIRED	4	542556	APPROVED EQUAL.
	92	2	4" X 1/2"	500867	TAPPING TEE, ELECTROF
	92	۷	4 \ 1/2	500807	F1055. CENTRAL PLASTI
	128	2	4" X 2"	584304	HV TAPPING TEE, ELECT
	120	۷	4 7 2	564504	ASTM F1055. CENTRAL
	254	AS REQUIRED	2"	581633	END CAP MECHANICAL
	234	AS REQUIRED	2	201022	INTERNAL STIFFENER, A
	265	15' +/-	4"	554008	PIPE, IPS, HDPE 3408/47
					END CAP, MECHANICAL
	270	AS REQUIRED	1/2"	542609	COLLET AND SPACER RE
$\searrow$					PERFECTION WITH END
2		$\land$	$\wedge$	$\wedge$	$\land$ $\land$ $\land$

ALE FROM DRAWINGS)			(DO NOT SCALE FROM DRAWINGS)						
					3 UF	PDATED PRO	POSED MAIN ALIGNMEN	T 07/27/2021	ZS/AB/EK
					2 IF	C - UPDATED	FITTINGS	07/22/2021	ZS/AB/EK
					1 IF	C - NO CHAN	GES THIS SHEET	10/28/2020	LR/AB/EK
					0 IS	SUED FOR C	ONSTRUCTION	10/14/2020	RT/AB/EK
					NO. DE	ESCRIPTION		DATE	DW/CK/AP
							REVISION STATU	JS	
	SEALED BY:	SEALED ON:	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.				EVERS UF	RCE	
ISSUED FOR	THE WINNI	07/27/2021	TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.				- HERSOM STREET MAIN		
CONSTRUCTION	WWO ERIC VINAI			FIELD VERIFY DIMENSIONS		1	NEW BEDFORD, MASSAC	CHUSETTS	
CONSTRUCTION	No. 54771	LICENSE EXPIRATION:	<b>EN</b> Engineering	PRIOR TO PIPE FABRICATION		LOCATION C	C - PHASE 1, 2 AND SCHE	EDULE OF MATERIA	LS
07/27/2021	170 ESSIONAL ENGLAND	EXHIVATION.			SCALE:	AS NOTED		SHEE	T110F 20
	minimum		29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL (630) 353-4000			N BY / DATE )8/31/2020	CHECKED BY / DATE AB 07/27/2021	SHEET NUMBER	REV. NO.
	SIGNATURE 06/30/2022		29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM		APPROV	VED BY / DATE )7/27/2021	MANEB21PIP001R3	MA-NEB-21-PIP-001-	11 3

	$\overline{}$	
AIN RELAY - LOCATION C - SCHEDULE OF MATERIALS		$\mathbf{i}$
DESCRIPTION	MATERIAL	
JSION, IPS, HDPE 3408, ASTM D3350, ASTM F1055, COMPATIBLE FOR FUSION TO HDPE OR APPROVED EQUAL.	ASTM D3350	$ \langle$
5, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	ASTM D2513	
DFUSION, IPS X CTS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM TICS OR APPROVED EQUAL.	ASTM D2513	$\left  \right\rangle$
TROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, PLASTICS OR APPROVED EQUAL.	ASTM D2513	$\left \right\rangle$
COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMRESSION RING, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTM D2513	
710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513	$\langle$
L STAB, CTS, HDPE, PE 4710/3408, ASTM D2513, WITH SS GRIPPING SUPPORT RING, ACETAL ETAINER RING, PE THRUST WASHER, BUNA-N O-RING, ZINC-PLATED CS INSERT STIFFENER, D CAP OR APPROVED EQUAL.	ASTM D2513	
	$\overline{}$	/



07/27/2021

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				HERSOM STREE
ITEM	QTY	SIZE	MAXIMO NO.	
35	AS REQUIRED	4"	500855	COUPLING, ELECTF 3408/4710 PIPE. G
67	AS REQUIRED	4"	542538	CAP, BUTT FUSION
92	1	4" X 1/2"	500867	TAPPING TEE, ELEC F1055. CENTRAL P
128	1	4" X 2"	584304	HV TAPPING TEE, E ASTM F1055. CENT
152	1	4"	578128	END CAP, BOLTED
170	4	4" x 2"	543028	BAND CLAMP, WIT WITH TEFLON COA APPROVED EQUAL
254	AS REQUIRED	2"	581633	END CAP MECHAN INTERNAL STIFFEN
265	25' +/-	4"	554008	PIPE, IPS, HDPE 34
270	AS REQUIRED	1/2"	542609	END CAP, MECHAN COLLET AND SPAC PERFECTION WITH

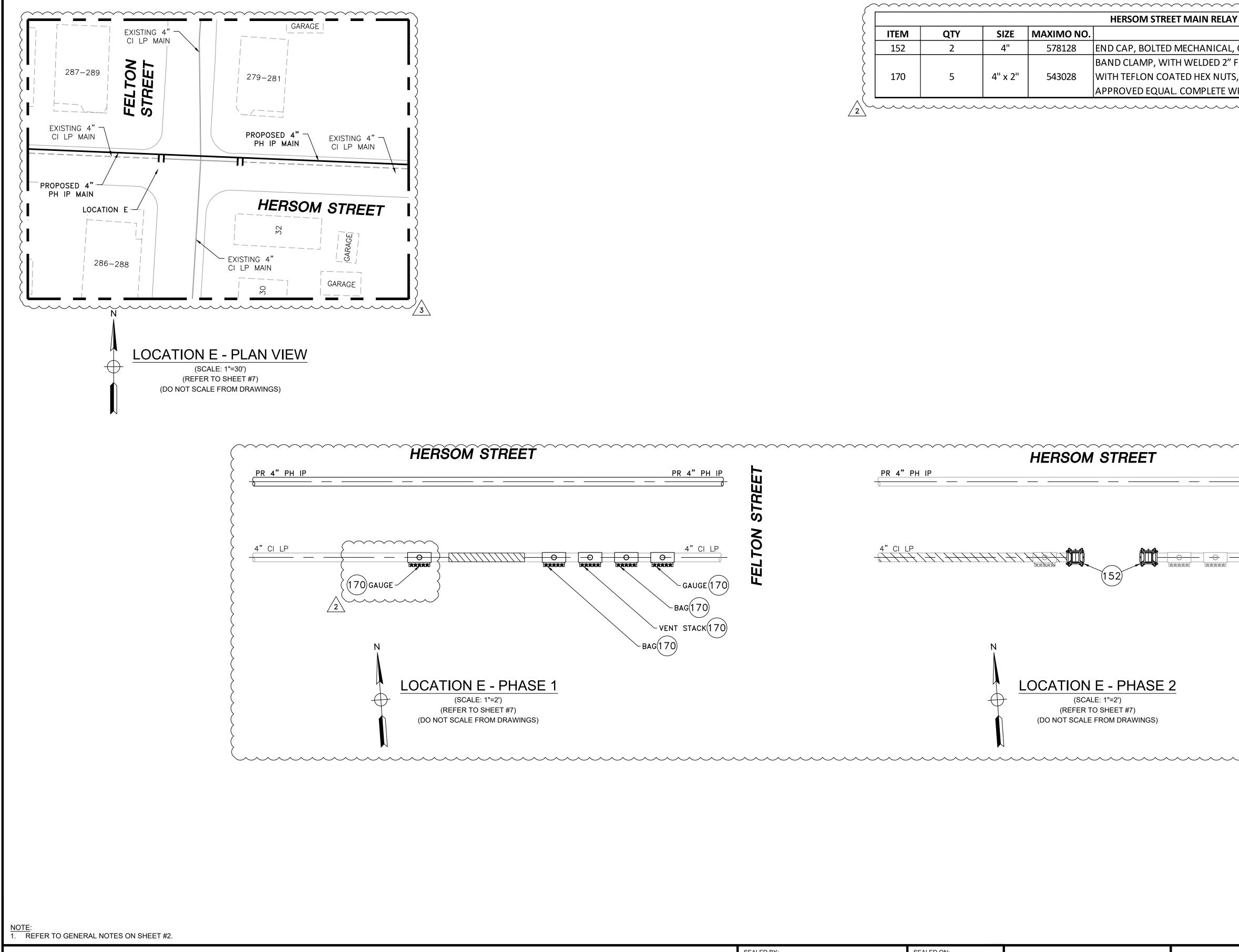
FIELD VERIFY I PRIOR TO PIPE

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

06/30/2022

ET MAIN RELAY - LOCATION D - SCHEDULE OF MATERIALS	
DESCRIPTION	MATERIAL
ROFUSION, IPS, HDPE 3408, ASTM D3350, ASTM F1055, COMPATIBLE FOR FUSION TO HDPE GFCP OR APPROVED EQUAL.	ASTM D3350
N, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR .L.	ASTM D2513
CTROFUSION, IPS X CTS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM PLASTICS OR APPROVED EQUAL.	ASTM D2513
ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ITRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513
MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
TH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS	
ATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR .L. COMPLETE WITH PLUG.	
NICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMRESSION RING, NER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTM D2513
408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
NICAL STAB, CTS, HDPE, PE 4710/3408, ASTM D2513, WITH SS GRIPPING SUPPORT RING, ACETAL CER RETAINER RING, PE THRUST WASHER, BUNA-N O-RING, ZINC-PLATED CS INSERT STIFFENER, H END CAP OR APPROVED EQUAL.	ASTM D2513

	3	UPDATED PRC	POSED MAIN ALIGNMEN	1T	07/27/2021	ZS/	AB/EK		
	2	IFC - UPDATED	D FITTINGS		07/22/2021	ZS/	AB/EK		
	1	IFC - NO CHAN	IGES THIS SHEET		10/28/2020	LR//	AB/EK		
	0	ISSUED FOR C	CONSTRUCTION		10/14/2020	RT/	AB/EK		
	NO.	DESCRIPTION			DATE	DW/	CK/AP		
			REVISION STAT	US					
			<b>EVERS€</b> U	RCE					
	ENERGY								
	HERSOM STREET MAIN RELAY								
DIMENSIONS	NEW BEDFORD, MASSACHUSETTS								
FABRICATION	LOCATION D - PHASE 1, 2 AND SCHEDULE OF MATERIALS								
	SCALE: AS NOTED SHEET 120						DF 20		
		RAWN BY / DATE //R 08/31/2020	CHECKED BY / DATE AB 07/27/2021		SHEET NUMBER		REV. NO.		
	APF	PROVED BY / DATE EK 07/27/2021	MANEB21PIP001R3	MA-N	IEB-21-PIP-001-	12	3		

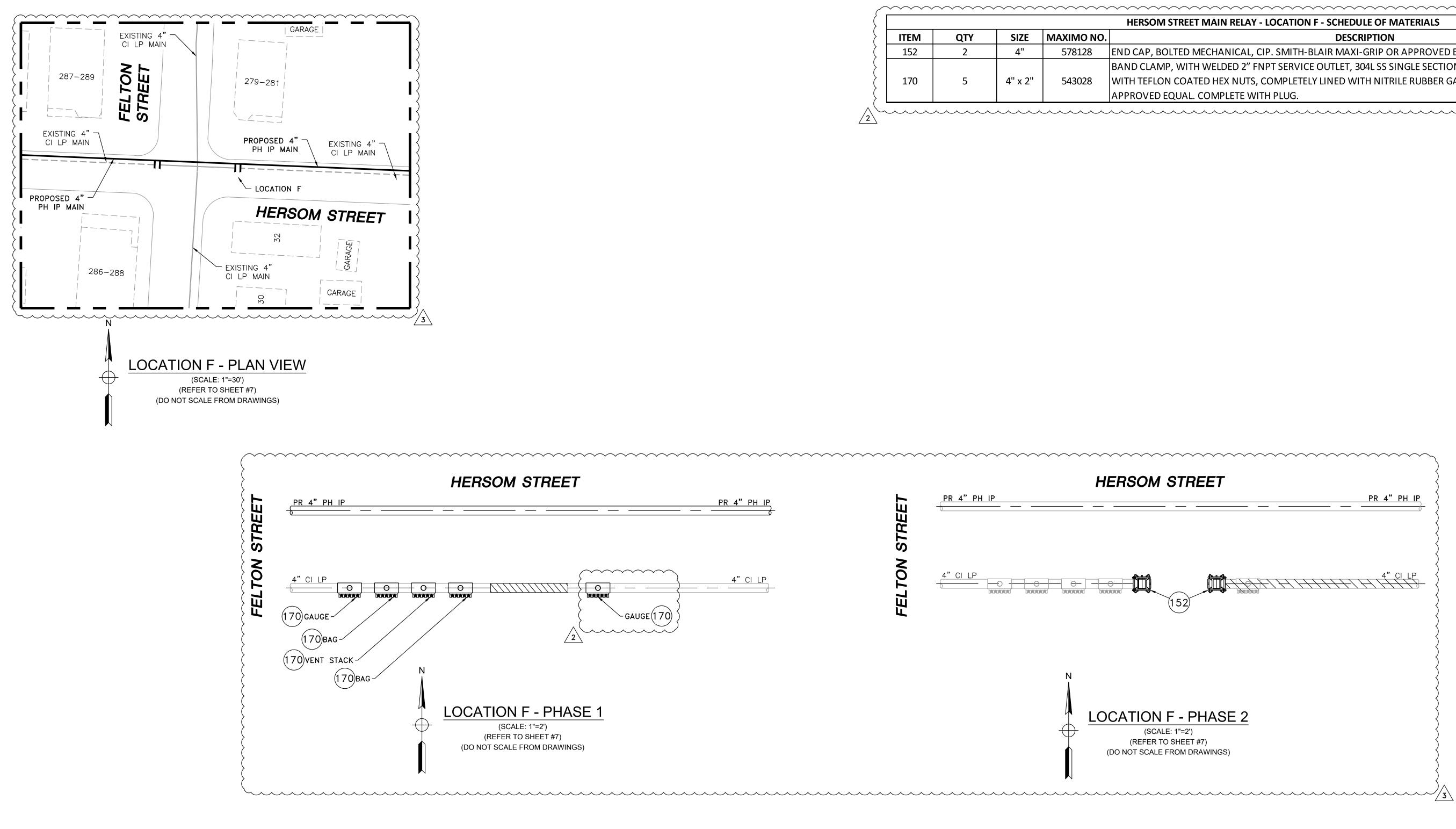


	HERSOM STREET MAIN RELAY - LOCATION E - SCHEDULE OF MATERIALS						
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERI		
152	2	4"	578128	END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL			
				BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS			
170	5	4" x 2"	543028	WITH TEFLON COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR			
			APPROVED EQUAL. COMPLETE WITH PLUG.				

					3UPDATED PROPOSED MAIN ALIGNMENT2IFC - ADDED GAUGE & MOVED CUT & CAP1IFC - NO CHANGES THIS SHEET0ISSUED FOR CONSTRUCTIONNO.DESCRIPTION	07/22/2021 10/28/2020 10/14/2020	ZS/AB/EK ZS/AB/EK LR/AB/EK RT/AB/EK DW/CK/AP
ISSUED FOR	SEALED BY:	SEALED ON:	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.		REVISION STATUS EVERSEURC ENE HERSOM STREET MAIN R	RGY	
CONSTRUCTION 07/27/2021	ERIC VINAI KUMAR No. 54771 RIG <u>(STERE</u> )	07/27/2021 LICENSE EXPIRATION:	<b>EN</b> ©ngineering	FIELD VERIFY DIMENSIONS PRIOR TO PIPE FABRICATION	NEW BEDFORD, MASSACHU LOCATION E - PHASE 1, 2 AND SCHEDU SCALE: AS NOTED DRAWN BY / DATE CHECKED BY / DATE	JSETTS JLE OF MATERIAL	S 130F 20 REV. NO.
	SIGNATURE	06/30/2022	29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM		MR 08/31/2020 AB 07/27/2021	/A-NEB-21-PIP-001-13	

- LOCATION E - SCHEDULE OF MATERIALS DESCRIPTION	MATERIAL
DESCRIPTION	ΜΔΤΕΡΙΔΙ
CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
NPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS	
, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR	
ITH PLUG.	

PR 4" PH IP	
	REE
	V ST
4" CI LP	FELTON STREET
	$\left\{ \right\}$



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

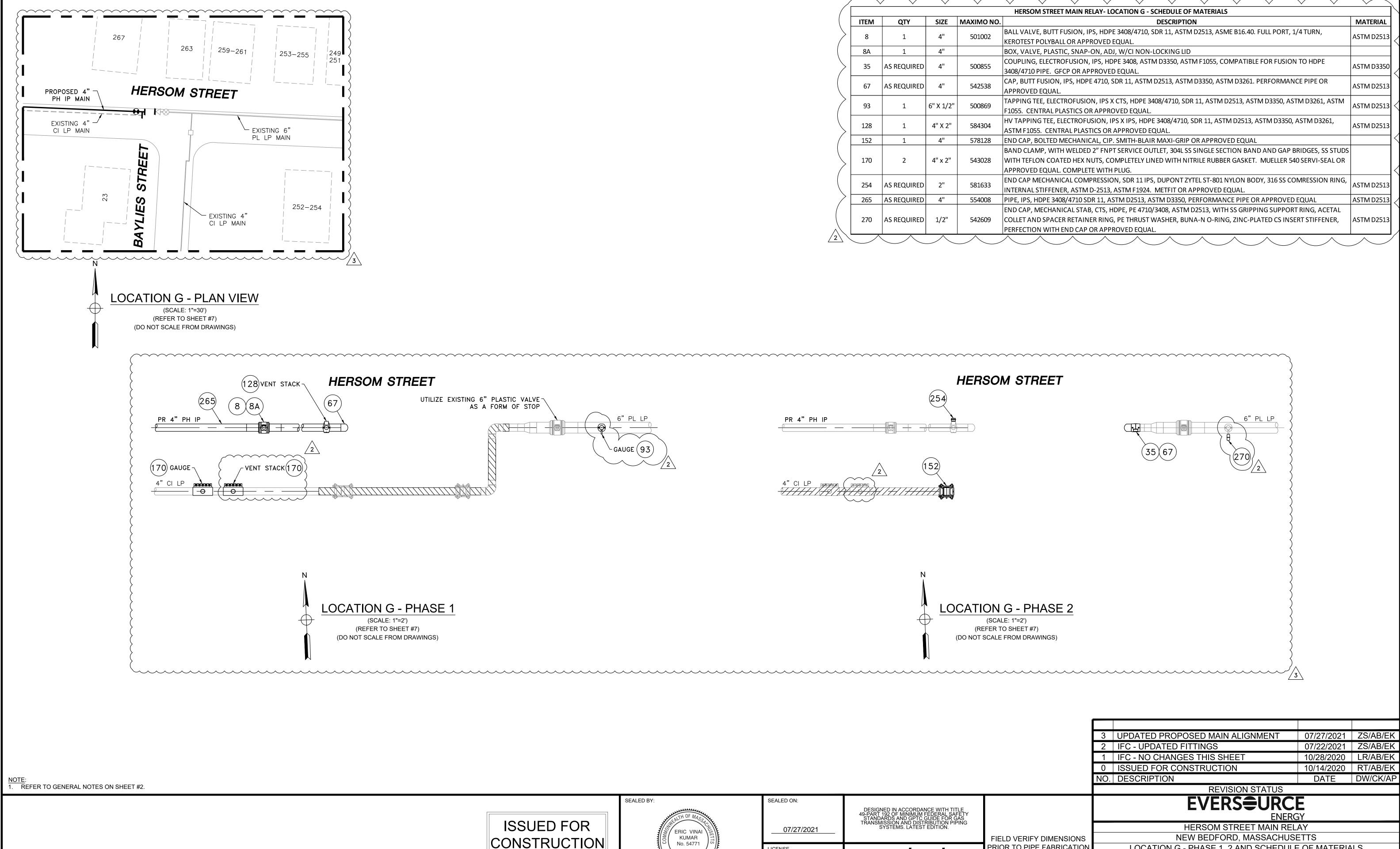


	HERSOM STREET MAIN RELAY - LOCATION F - SCHEDULE OF MATERIALS										
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERI						
152	2	4"	578128	END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL							
				BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS							
170	5	4" x 2"	543028	WITH TEFLON COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR							
				APPROVED EQUAL. COMPLETE WITH PLUG.							

					3UPDATED PROPOSED MAIN ALIGNMENT2IFC - ADDED GAUGE & MOVED CUT & CAP1IFC - NO CHANGES THIS SHEET0ISSUED FOR CONSTRUCTIONNO.DESCRIPTIONREVISION STATUS	07/27/2021         ZS/AB/EK           07/22/2021         ZS/AB/EK           10/28/2020         LR/AB/EK           10/14/2020         RT/AB/EK           DATE         DW/CK/AP		
ISSUED FOR ONSTRUCTION 07/27/2021	SEALED BY:	SEALED ON: 07/27/2021	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.	FIELD VERIFY DIMENSIONS	EVERSEURCE ENERGY HERSOM STREET MAIN RELAY NEW BEDFORD, MASSACHUSETTS			
	SIGNATURE	LICENSE EXPIRATION: 06/30/2022	<b>ENERGINEERING</b> 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	PRIOR TO PIPE FABRICATION	SCALE: AS NOTED       DRAWN BY / DATE       MR 08/31/2020	LE OF MATERIALS SHEET 14 OF 20 SHEET NUMBER REV. NO. A-NEB-21-PIP-001-14 3		

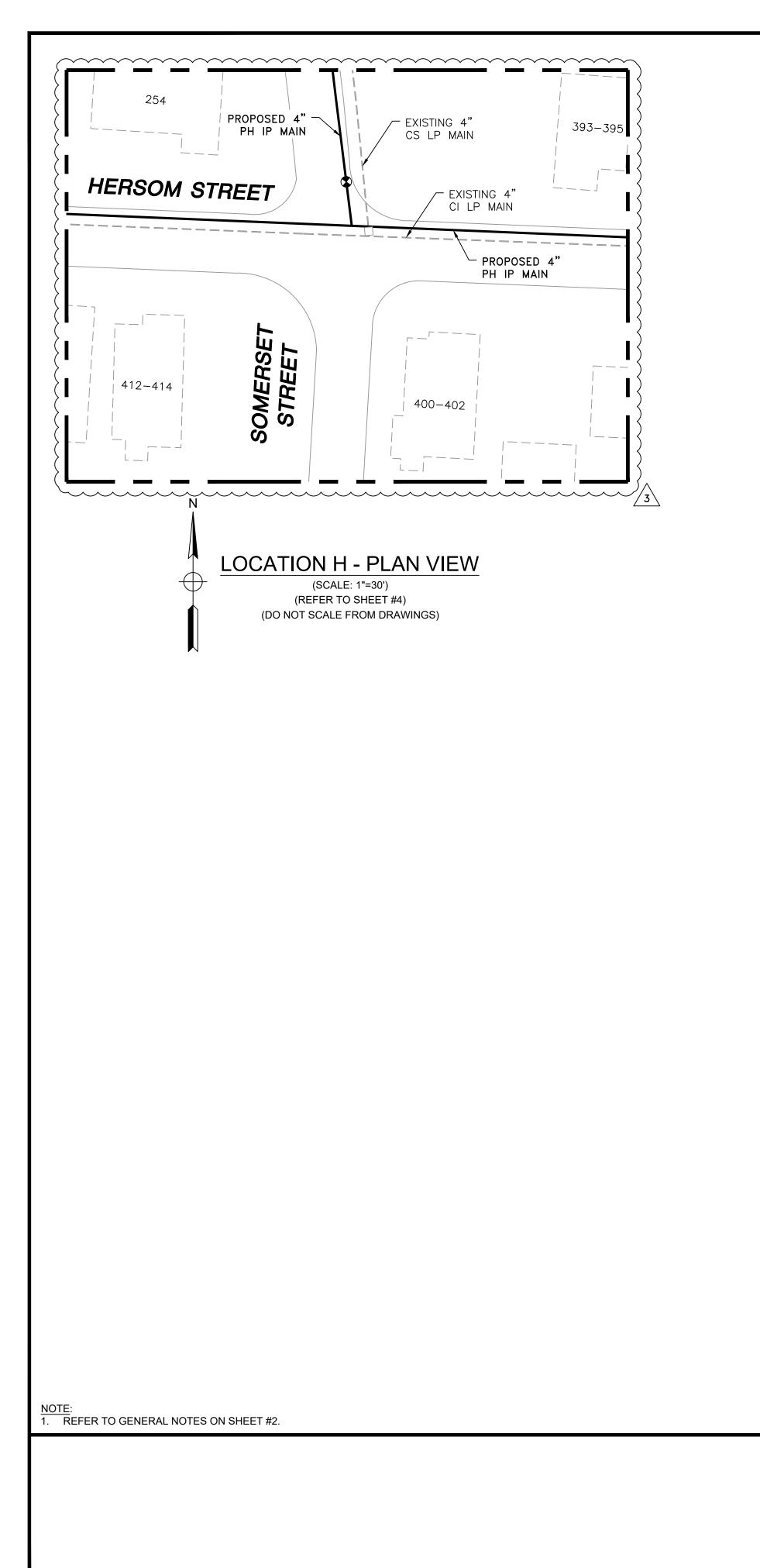
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- LOCATION F - SCHEDULE OF MATERIALS	
DESCRIPTION	MATERIAL
CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
NPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS	
, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR	
ITH PLUG.	

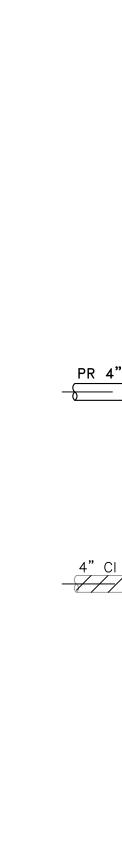
<u>PR 4" PH IP</u>	
4" CI LP	



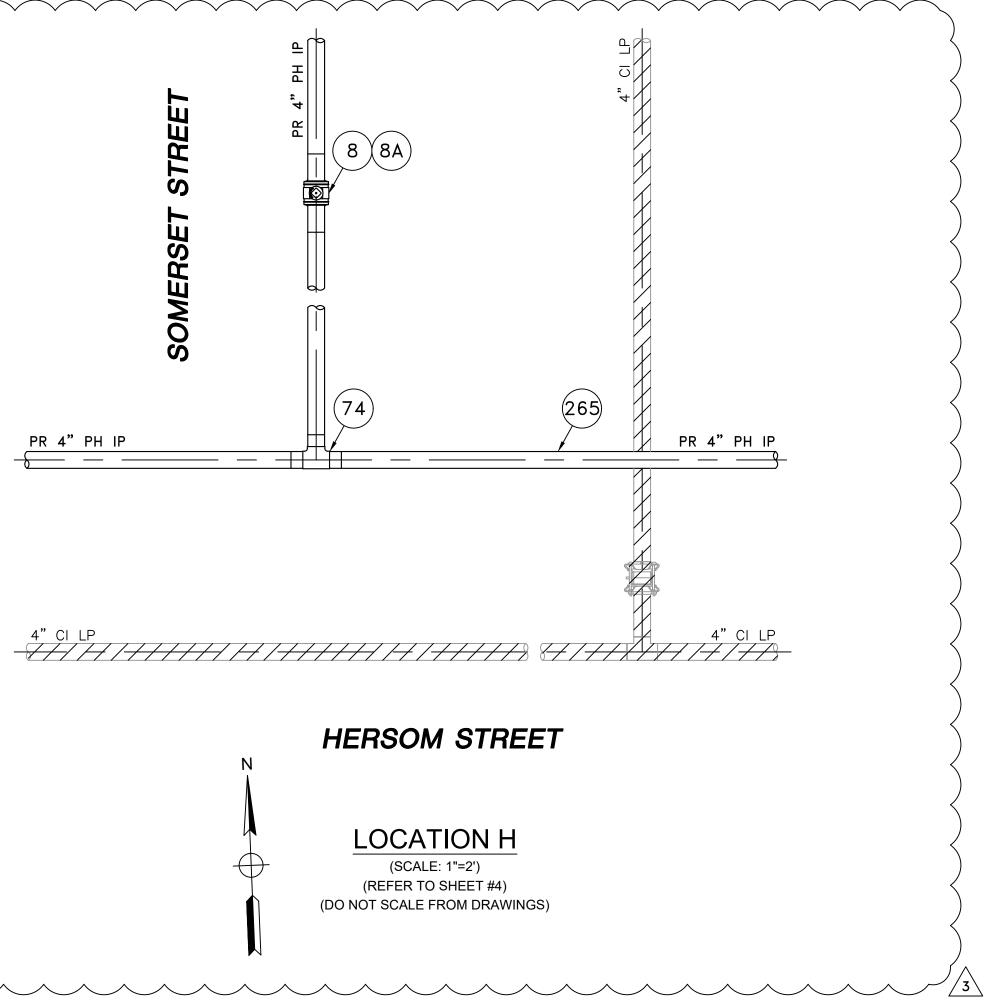
IT	ΈM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIA
	8	1	4"	501002	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D251
8	8A	1	4"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
	35	AS REQUIRED	4"	500855	COUPLING, ELECTROFUSION, IPS, HDPE 3408, ASTM D3350, ASTM F1055, COMPATIBLE FOR FUSION TO HDPE 3408/4710 PIPE. GFCP OR APPROVED EQUAL.	ASTM D33
	67	AS REQUIRED	4"	542538	CAP, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D25
	93	1	6" X 1/2"	500869	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 D25
1	L28	1	4" X 2"	584304	HV 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 D25
1	L52	1	4"	578128	END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
1	L70	2	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.	
2	254	AS REQUIRED	2"	581633	END CAP MECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMRESSION RING, INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTM D25
2	265	AS REQUIRED	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D25
2	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 D25

							50			
ISSUED FOR ONSTRUCTION 07/27/2021	SEALED BY:	SEALED ON:	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.							
	ERIC VINAI KUMAR	07/27/2021	TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.	TEMS. LATEST EDITION. FIELD VERIFY DIMENSIONS		HERSOM STREET MAIN RELAY NEW BEDFORD, MASSACHUSETTS				
	BOUND ENGINE	LICENSE EXPIRATION:	ENErginooring	PRIOR TO PIPE FABRICATION	LOCATION G - PHASE 1, 2 AND SCHEDULE OF MATERIALS					
		EXFINATION.	EN Engineering		SCALE: AS NOTED		SHEET 150	OF 20		
	Minimum and		29 BARTLETT STREET MARLBOROUGH, MA 01752		DRAWN BY / DATE	CHECKED BY / DATE	SHEET NUMBER	REV. NO.		
	SIGNATURE	06/30/2022	TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM		MR 08/31/2020 APPROVED BY / DATE EK 07/27/2021	AB 07/27/2021 MANEB21PIP001R3	MA-NEB-21-PIP-001-15	3		



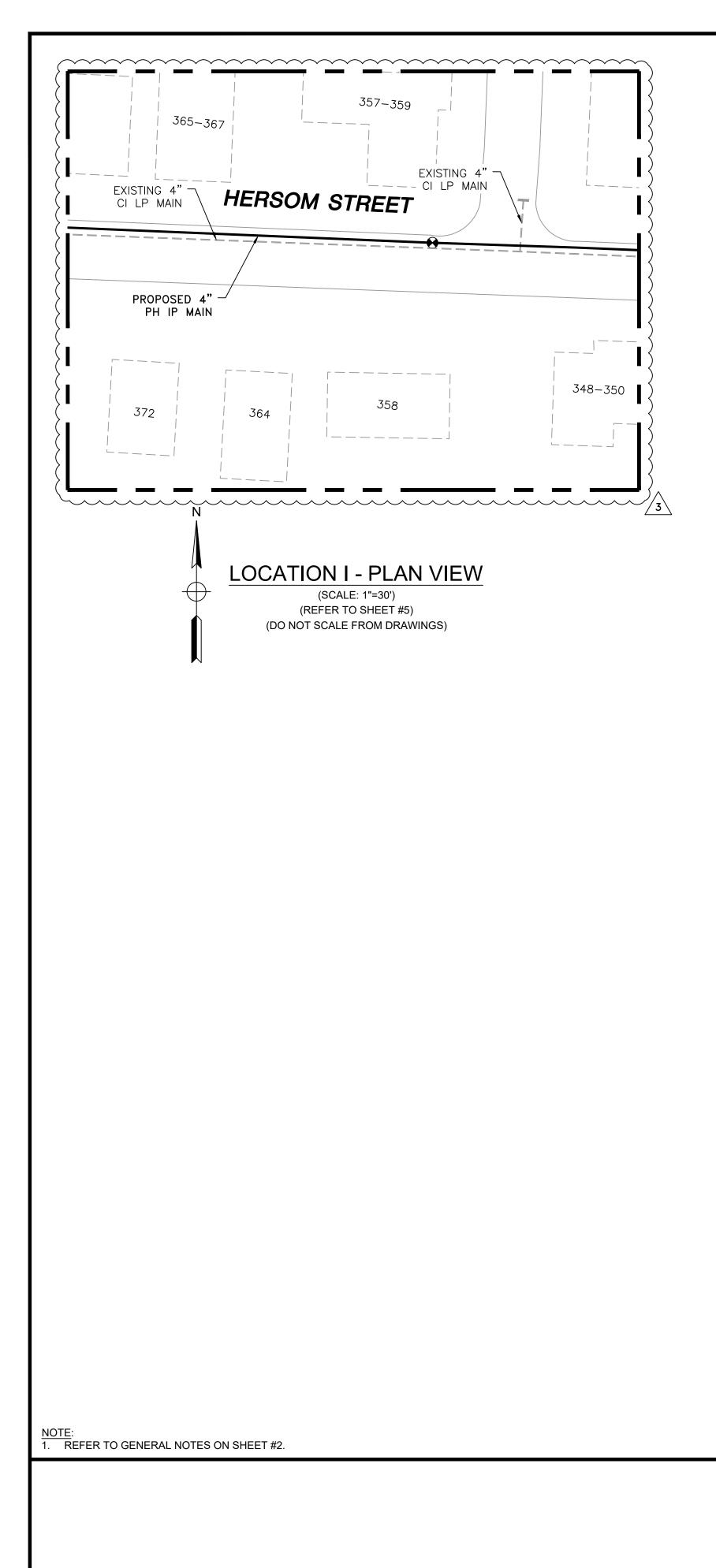


				HERSOM STREET MAIN RELAY - LOCATION
ITEM	QTY	SIZE	MAXIMO NO.	
0	1	V 11	501002	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/47
8	1	4"		KEROTEST POLYBALL OR APPROVED EQUAL.
8A	1	4"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI N
74	1	V 11	560679	TEE, STRAIGHT, BUTT FUSION, IPS, HDPE 4710,
74	1	4"		PIPE OR APPROVED EQUAL.
265	80' +/-	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D251



					2 IF(1 IF(0 IS;	PDATED PROPOSED MAIN ALIGNMEN C - ADDED SHEET AND DETAIL C - NO CHANGES THIS SHEET SUED FOR CONSTRUCTION ESCRIPTION	T 07/27/2021 07/22/2021 10/28/2020 10/14/2020 DATE	ZS/AB/EK ZS/AB/EK LR/AB/EK RT/AB/EK DW/CK/AP
ISSUED FOR	SEALED BY:	SEALED ON: 07/27/2021	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.	FIELD VERIFY DIMENSIONS		REVISION STATU EVERSOUS HERSOM STREET MAIN NEW BEDFORD, MASSAG	RCE NERGY N RELAY	
CONSTRUCTION 07/27/2021	SIGNATURE	RE	ENERGINEERING 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	PRIOR TO PIPE FABRICATION	DRAWN MR 0	LOCATION H AND SCHEDULE AS NOTED N BY / DATE 8/31/2020 /ED BY / DATE 7/27/2021 MANEB21PIP001R3		T 16OF 20 REV. NO. 16 3

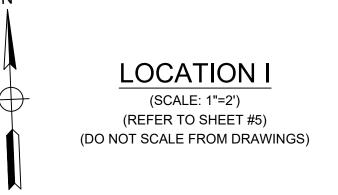
N H - SCHEDULE OF MATERIALS	
DESCRIPTION	MATERIAL
710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	ASTM D2513
NON-LOCKING LID	
), SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE	ASTM D2513
13, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513



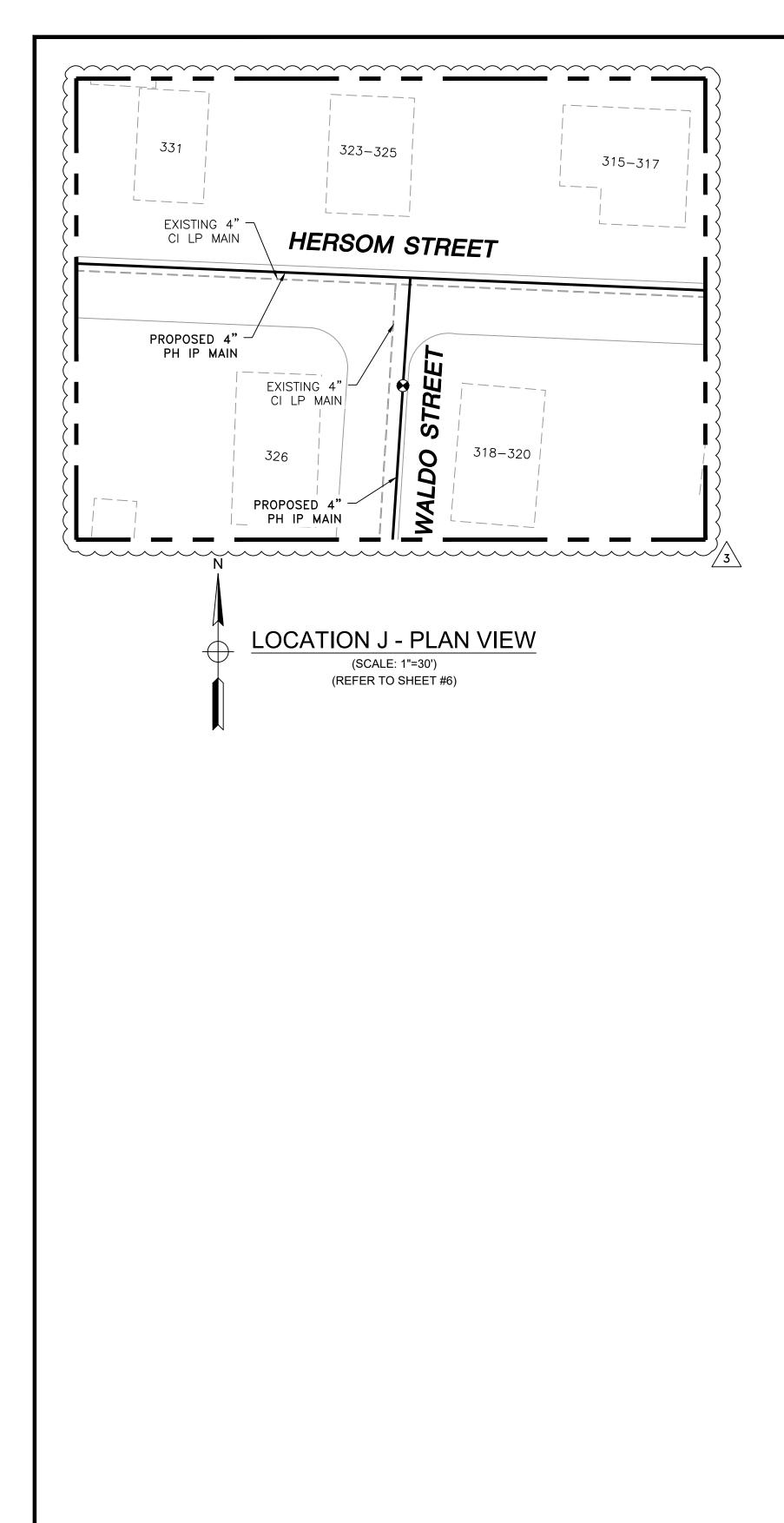
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HERSOM STREET MAIN RELAY - LOCATION I - SCHEDULE OF MATERIALS								
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL			
8	1	4"	1 501002	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D2513			
8A	1	4"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID				
265	15' +/-	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513			

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	HERSOM STREET	
PR 4" PH II	P 8 8A 265	
4" CI LP	/////////////////////////////////////	



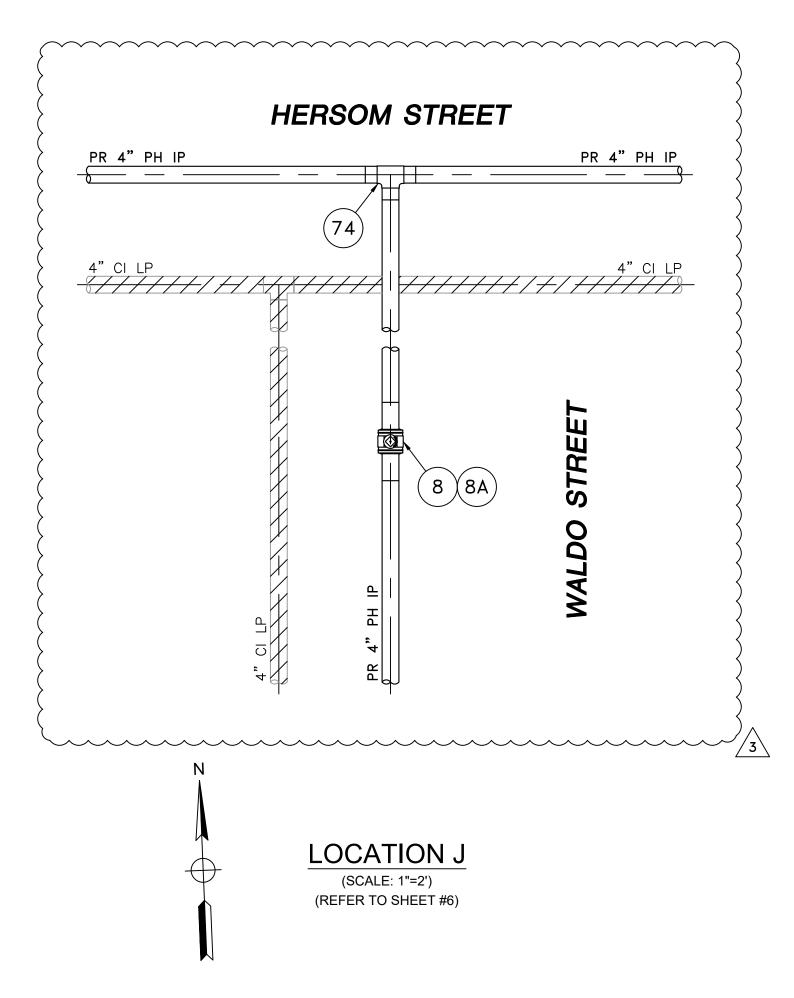
					2 IFC 1 IFC 0 ISS	C - ADDED SH C - NO CHAN	POSED MAIN ALIGNMEN HEET AND DETAIL GES THIS SHEET ONSTRUCTION REVISION STATU	07/22/2021 10/28/2020 10/14/2020 DATE	ZS/AB/EK ZS/AB/EK LR/AB/EK RT/AB/EK DW/CK/AP
ISSUED FOR	SEALED BY:	SEALED ON: 07/27/2021	DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.	FIELD VERIFY DIMENSIONS		1	EVERS	RCE NERGY I RELAY	
CONSTRUCTION 07/27/2021	No. 54771 SIGNATURE	LICENSE EXPIRATION: 06/30/2022	ENCIDENTIAL 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 353-7777 WWW.ENENGINEERING.COM	PRIOR TO PIPE FABRICATION	DRAWN MR 08 APPROVE	LOCA AS NOTED N BY / DATE 8/31/2020 ED BY / DATE 7/27/2021	CHECKED BY / DATE AB 07/27/2021 MANEB21PIP001R3		T 17 OF 20 REV. NO. 7 3



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

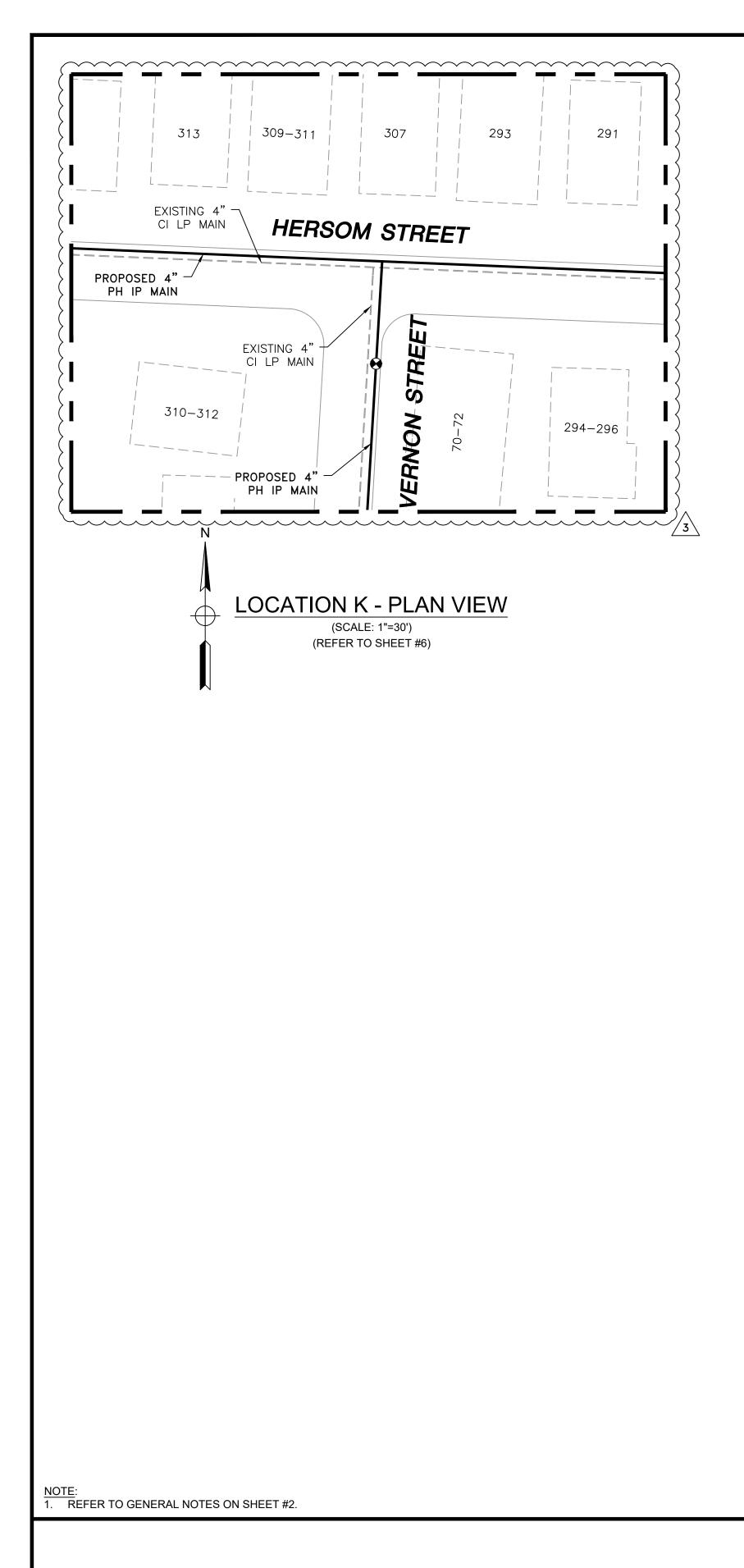


HERSOM STREET MAIN RELAY - LOCATION J - SCHEDULE OF MATERIALS							
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL		
8	1	4"	501002	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D2513		
8A	1	4"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID			
74	1	4''	560679	TEE, STRAIGHT, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2513		
265	25' +/-	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513		



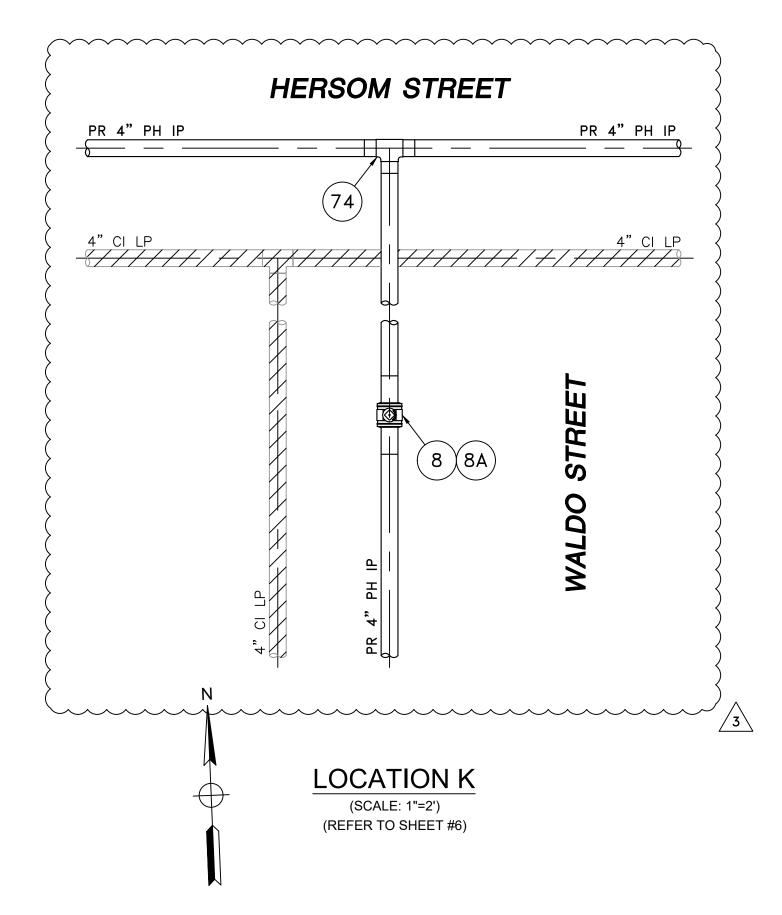
ISSUED FOR	SEALED BY:	SEALED ON: 07/27/2021	DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.	FIELD VERIFY D
CONSTRUCTION 07/27/2021	SIGNATURE	LICENSE EXPIRATION: 06/30/2022	ENERGINEERING 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7177 WWW.ENENGINEERING.COM	PRIOR TO PIPE F

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	3	UPDATED PRO	POSED MAIN ALIGNMEN	07/27/2021	ZS/	AB/EK				
	2	IFC - ADDED S	HEET AND DETAIL		07/22/2021	ZS/	AB/EK			
	1	IFC - NO CHAN	IGES THIS SHEET		10/28/2020	LR/	AB/EK			
	0	ISSUED FOR C	CONSTRUCTION		10/14/2020	RT/	AB/EK			
	NO.	DESCRIPTION			DATE	DW/	/CK/AP			
			REVISION STAT	JS						
	EVERS URCE									
	ENERGY HERSOM STREET MAIN RELAY									
	NEW BEDFORD, MASSACHUSETTS									
Y DIMENSIONS PE FABRICATION										
	LOCATION J AND SCHEDULE OF MATERIALS									
	SCA	LE: AS NOTED		SHEET18OF 20						
	DF	RAWN BY / DATE	CHECKED BY / DATE		SHEET NUMBER		REV. NO.			
	APF	<u>/IR 08/31/2020</u> PROVED BY / DATE EK 07/27/2021	AB 07/27/2021 MANEB21PIP001R3	MA-N	NEB-21-PIP-001-	18	3			

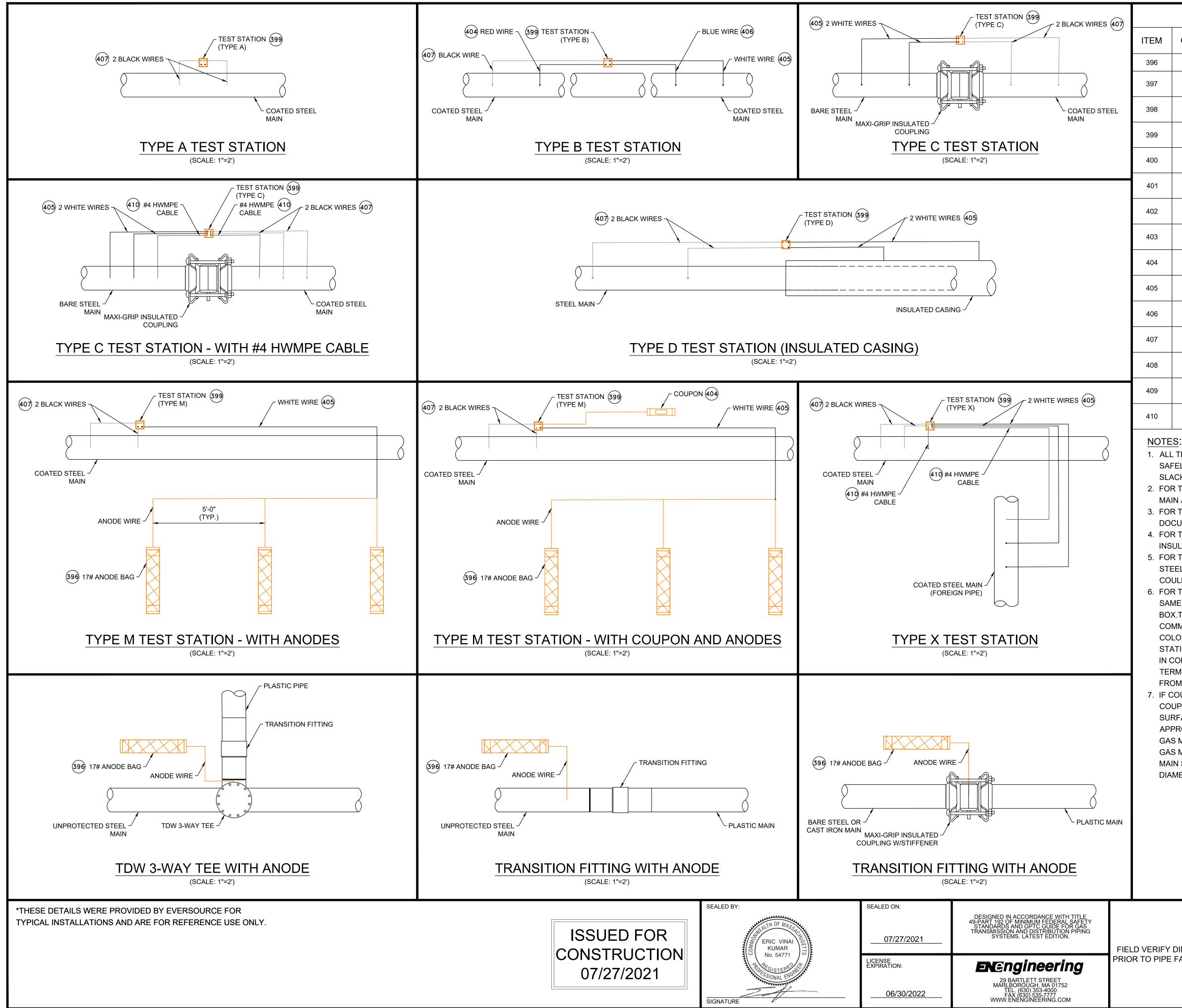




	HERSOM STREET MAIN RELAY - LOCATION K - SCHEDULE OF MATERIALS														
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL										
0	0	1	A11	E01002	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,										
8	L L	4"	501002	KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D2513										
8A	1	4"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID											
74	1	1 4"	1 4"		TEE, STRAIGHT, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE										
74	L L			4	4	4	4	4	1 4^{1}			1 4"			4" 560679
265	60' +/-	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513										



					3 UPDATED PROPOSED MAIN ALIGNMENT 2 IFC - ADDED SHEET AND DETAIL 1 IFC - NO CHANGES THIS SHEET 0 ISSUED FOR CONSTRUCTION NO. DESCRIPTION	07/22/2021 10/28/2020 10/14/2020 DATE	ZS/AB/EK ZS/AB/EK LR/AB/EK RT/AB/EK DW/CK/AP
ISSUED FOR	SEALED BY:	SEALED ON: 07/27/2021	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.	FIELD VERIFY DIMENSIONS	REVISION STATUS EVERSOUR EN HERSOM STREET MAIN NEW BEDFORD, MASSAC	RCE NERGY I RELAY	
CONSTRUCTION 07/27/2021	GNATURE	ENERGINEERING 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	PRIOR TO PIPE FABRICATION	LOCATION K AND SCHEDULE O SCALE: AS NOTED DRAWN BY / DATE MR 08/31/2020 APPROVED BY / DATE EK 07/27/2021 MANEB21PIP001R3		T 19OF 20 REV. NO. 19 3	



	C	ATHODIC P	ROTECTION BILL OF MATERIALS
QTY	SIZE	MAXIMO NO.	DESCRIPTION
Х	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
x	EA	517626	CONNECTOR, SPLIT BOLT, 12 SOLID - 10 STRANDED, CU TO CU, HOUSING (COVER) MATE IN 590389,
x	EA	590389	HOUSING, 50 V MAX, 10 AWG MAX, FOR PROTECTING TRACER WIRE SPLICES, USED WITH CONNECTOR IN 517626. 10/BAG
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
x	BOX	508567	POWDER, CARTRIDGE, TYPE IS F-33, ALLOY , CAP COLOR CLEAR, 15 GM CHARGE, 20/PAC, FOR STEEL PIPE
x	EA	559168	SLEEVE,ELECTRICAL, #14 TO 10 AWG, W/ THERMITE WELDER, FOR CATHODIC PROTECTION
x	ES	584045	EDI CONCENTRIC COUPON ASSEMBLY INCLUDING UCB-ZIN-LW010, 10 FT OF CABLE
x	ES	603126	EDI CONCENTRIC COUPON ASSEMBLY INCLUDING UCB-ZIN-LW025, 25 FT OF CABLE
x	ROLL	603140	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, RED, INSULATED, CU, 500 FT SPOOL, WIRE
x	ROLL	578415	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, WHITE, INSULATED, CU, 500 FT SPOOL, WIRE
x	ROLL	603141	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, BLUE INSULATED, CU, 500 FT SPOOL, WIRE
x	ROLL	603139	WIRE,ELECTRICAL, THHN, 1/C, #10 AWG, STRANDED, BLACK, INSULATED, CU, 500 FT SPOOL,WIRE
x	EA	500804	WELDER,THERMITE, THERMITE, FOR GAS PIPE, #12 CABLE,HORIZONTAL STEEL PIPE 4 IN AND LARGER DIAMETER
x	EA	500805	WELDER,THERMITE, THERMITE, FOR GAS PIPE, #12 CABLE, HORIZONTAL STEEL PIPE 3/4 - 3-1/2 IN DIAMETER
x	FT	513850	CABLE, INSULATED, CATHODIC PROTECTION, 1/C, #4 AWG, 7 STR, 600 V, BLACK, HMWPE, CU, 1000 FT ROLLS

1. 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.

2. 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) 3. FOR TYPE B TEST STATIONS, EACH OF THE FOUR WIRES SHOULD BE A DIFFERENT COLOR AND DOCUMENTED

4. 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) 5. 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).

6. 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. 7. 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.

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	3	IFC - NO CHAN	IGES THIS SHEET		07/27/2021	ZS/	AB/EK		
	2	IFC - NO CHAN	IGES THIS SHEET		07/22/2021	ZS/	AB/EK		
	1				10/28/2020	LR/	AB/EK		
	0	ISSUED FOR C	CONSTRUCTION		10/14/2020	RT/	AB/EK		
	NO.	DESCRIPTION			DATE	DW/	/CK/AP		
			REVISION STAT	US					
	EVERS © URCE								
	ENERGY								
	HERSOM STREET MAIN RELAY								
DIMENSIONS	NEW BEDFORD, MASSACHUSETTS								
E FABRICATION	STANDARD CORROSION DETAILS								
	SCALE: 1"=2' (DO NOT SCALE FROM DRAWINGS) SHEET 200F								
	DF	RAWN BY / DATE /R 08/31/2020	CHECKED BY / DATE AB 07/27/2021		SHEET NUMBER		REV. NO.		
	APF	PROVED BY / DATE EK 07/27/2021	MANEB21PIP001R3	MA-N	NEB-21-PIP-001-	20	3		