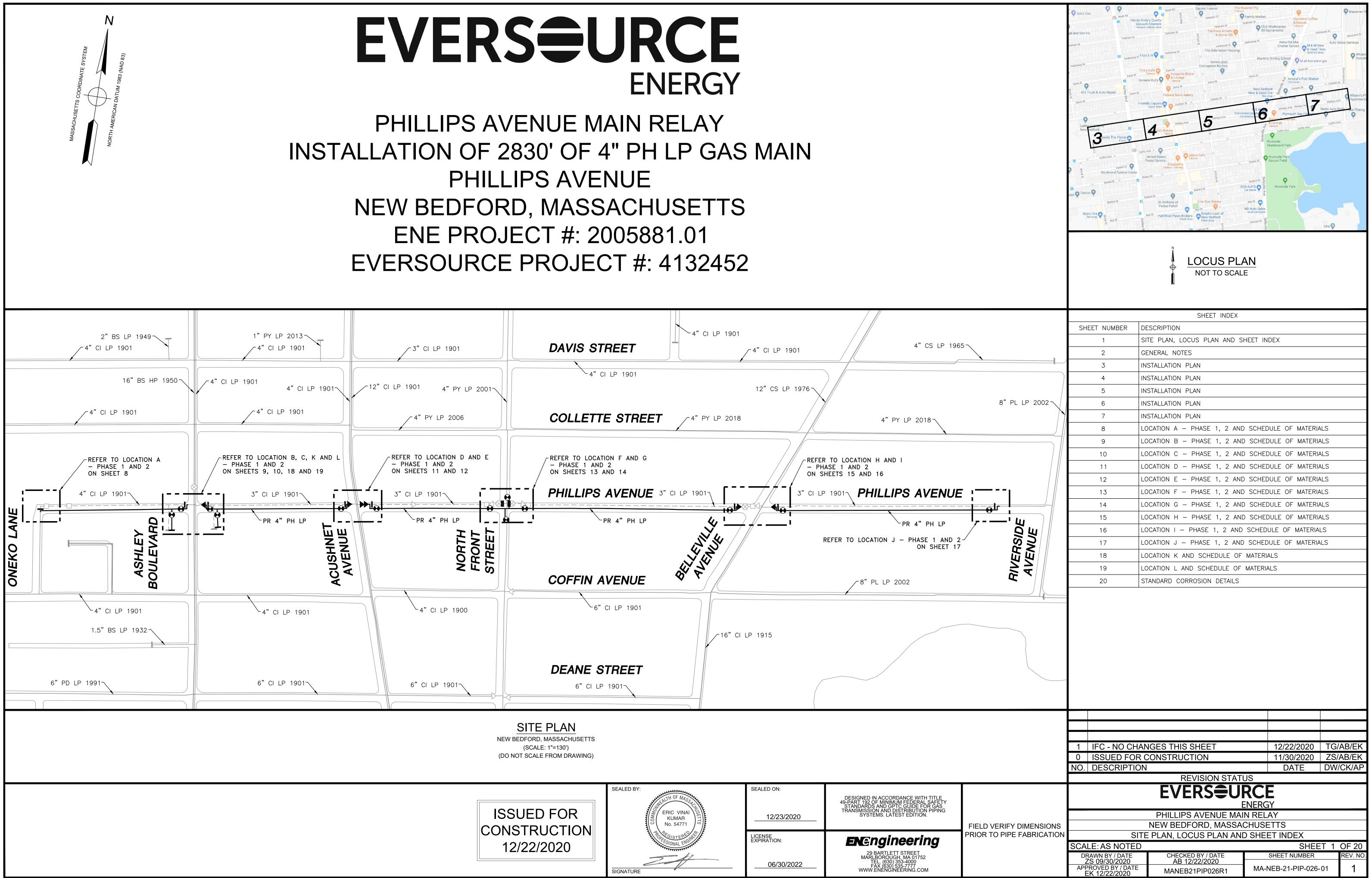


# PHILLIPS AVENUE MAIN RELAY PHILLIPS AVENUE NEW BEDFORD, MASSACHUSETTS ENE PROJECT #: 2005881.01 EVERSOURCE PROJECT #: 4132452



SSUED FOR	ERIC VINAI KUMAR No. 54771	SEALED ON: 12/23/2020	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
NSTRUCTION 12/22/2020		LICENSE EXPIRATION:	ENERGINEERING 29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000	PRIOR TO PIPE
	SIGNATURE	06/30/2022	TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	

### GENERAL NOTES

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

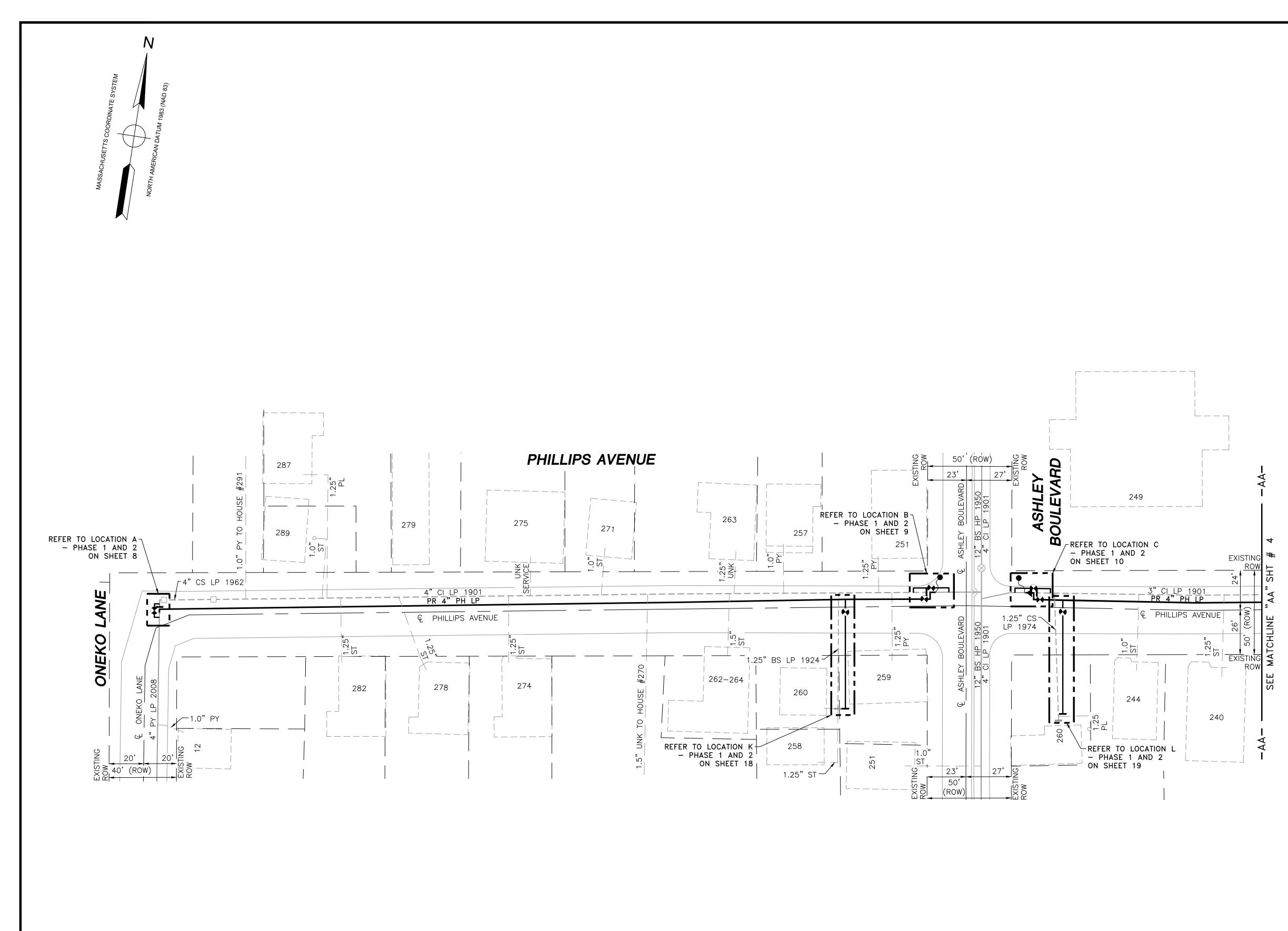
LP = 14" W.C.
LIP = 35 PSIG
IP = 60 PSIG
HP = 90 PSIG

18. ALL WORK SHALL BE PERFORMED PER EVERSOURCE, LOCAL, STATE AND FEDERAL REGULATIONS AND STANDARDS.

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

SSUED 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.	FIELD VERIF
DNSTRUCTION 12/22/2020	BORESSIONAL ENGLISH	LICENSE EXPIRATION:	<b>EN</b> Engineering	PRIOR TO PIP
	SIGNATURE	06/30/2022	29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	

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	1 IFC - NO CHA	NGES THIS SHEET	12/22/2020	TG/AB/EK				
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E FABRICATION	GENERAL NOTES							
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	DRAWN BY / DATE ZS 09/30/2020	CHECKED BY / DATE AB 12/22/2020	SHEET NUMBER	REV. NO.				
	APPROVED BY / DATE EK 12/22/2020	MANEB21PIP026R1	MA-NEB-21-PIP-026-	02 1				

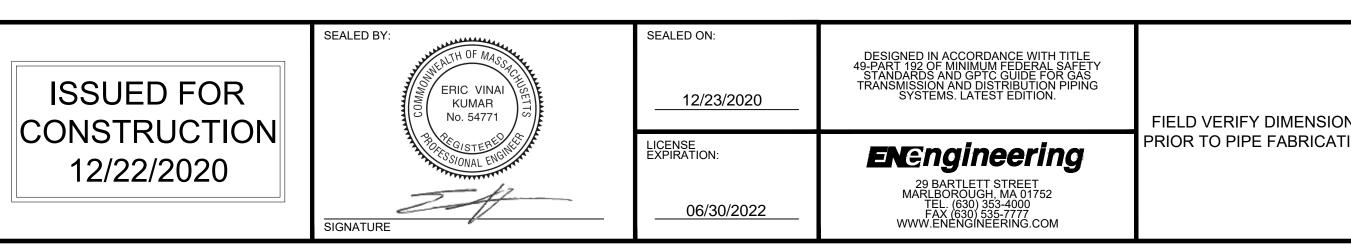


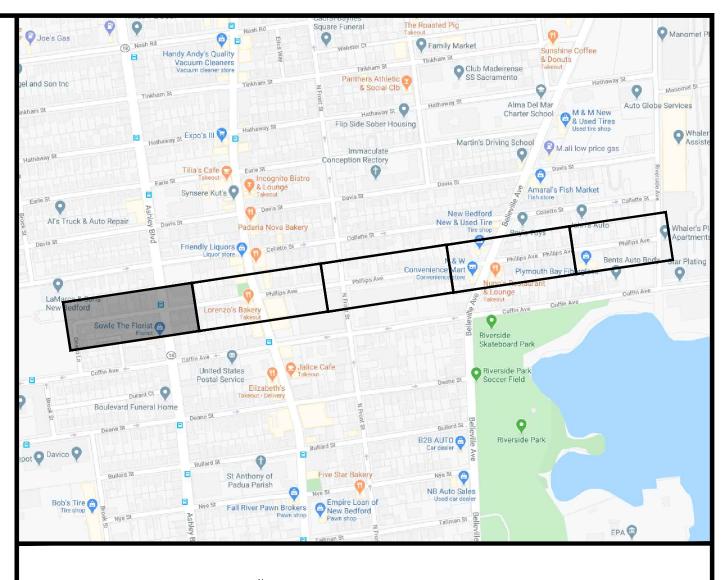
NOTES:

1. CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.

2. REFER TO GENERAL NOTES AND SCHEDULE OF MATERIALS ON SHEET #2.

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LENGTH	SIZE	MATERIAL	DESCRIPTION	LENGTH	SIZE	MATERIAL	DESCRIPTION
130'	2"	PH	INSTALL	450'	4"	CI	RETIRE
615'	4"	РН	INSTALL	10'	4"	PY	RETIRE
70'	1.25"	BS	RETIRE				
75'	1.25"	CS	RETIRE				
135'	3"	CI	RETIRE				

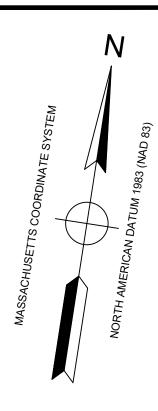


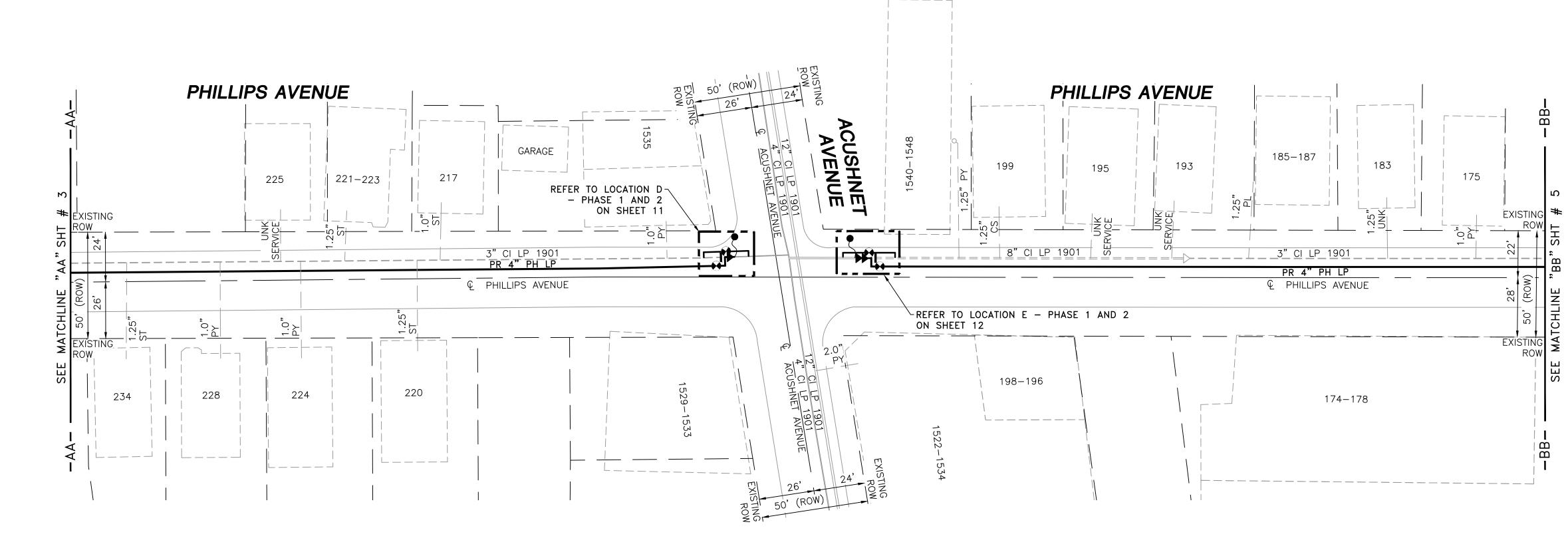




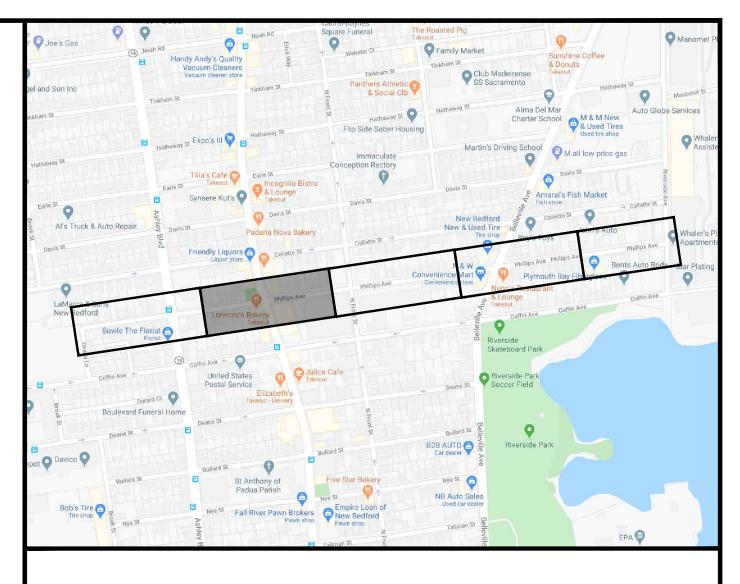
### DRAWING LEGEND

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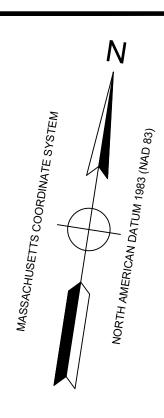
AT CROSSING	G LOCATIONS PR	XISTING UTILITIES IOR TO CONSTRUCTIO ND SCHEDULE OF MA	DN. TERIALS ON SHEET #2.	ISSUED FOR	SEALED BY:	SEALED ON: 12/23/2020	DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.	
LENGTH	SIZE	MATERIAL	DESCRIPTION	CONSTRUCTION	No. 54771			FIELD VERIFY DIMENSIONS
645'	4"	PH	INSTALL	12/22/2020	TRANSFERENCE AND	LICENSE EXPIRATION:	<b>EN</b> Engineering	PRIOR TO PIPE FABRICATIO
475'	3"	CI	RETIRE		- Al-	00/00/0000	29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	
140'	8"	CI	RETIRE		SIGNATURE	06/30/2022	FAX (630/ 535-7777 WWW.ENENGINEERING.COM	

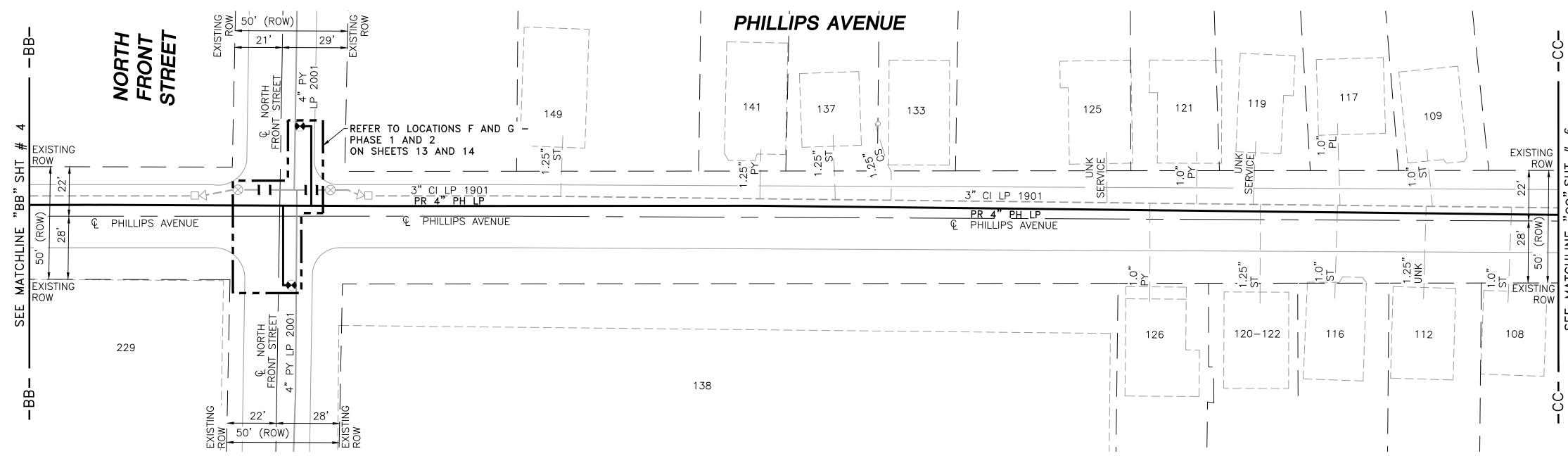




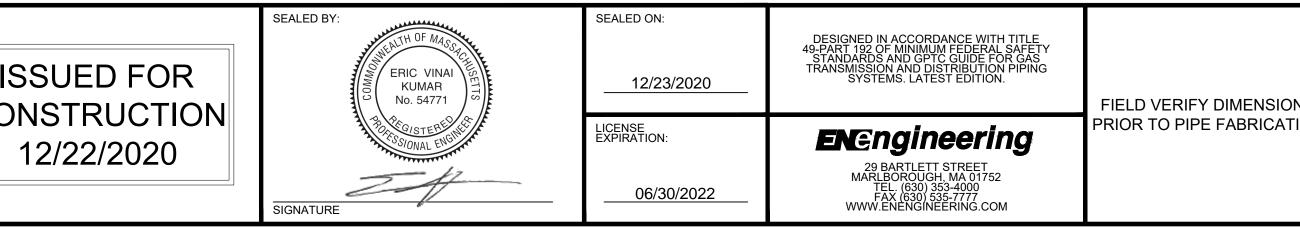
### DRAWING LEGEND

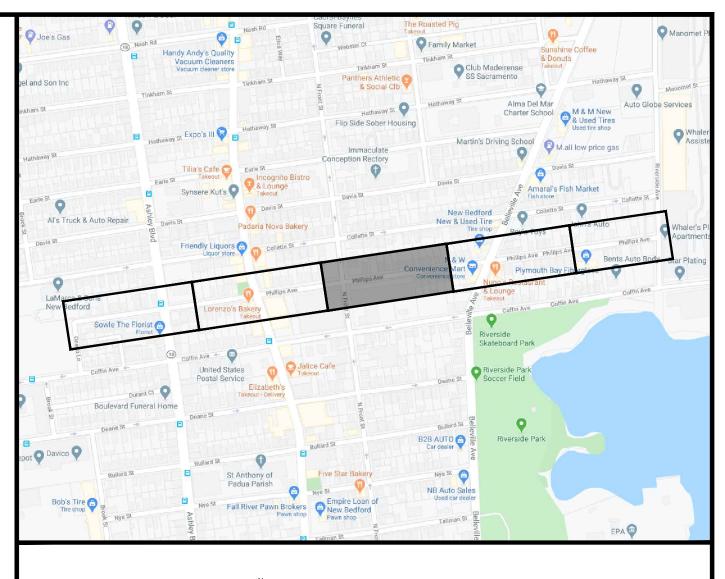
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		XISTING UTILITIES IOR TO CONSTRUCTIO	N.
		ND SCHEDULE OF MAT	
655'	4"	PH	INSTALL
610'	3"	CI	RETIRE
10'	4"	PY	RETIRE

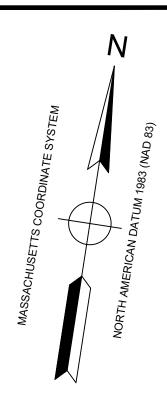


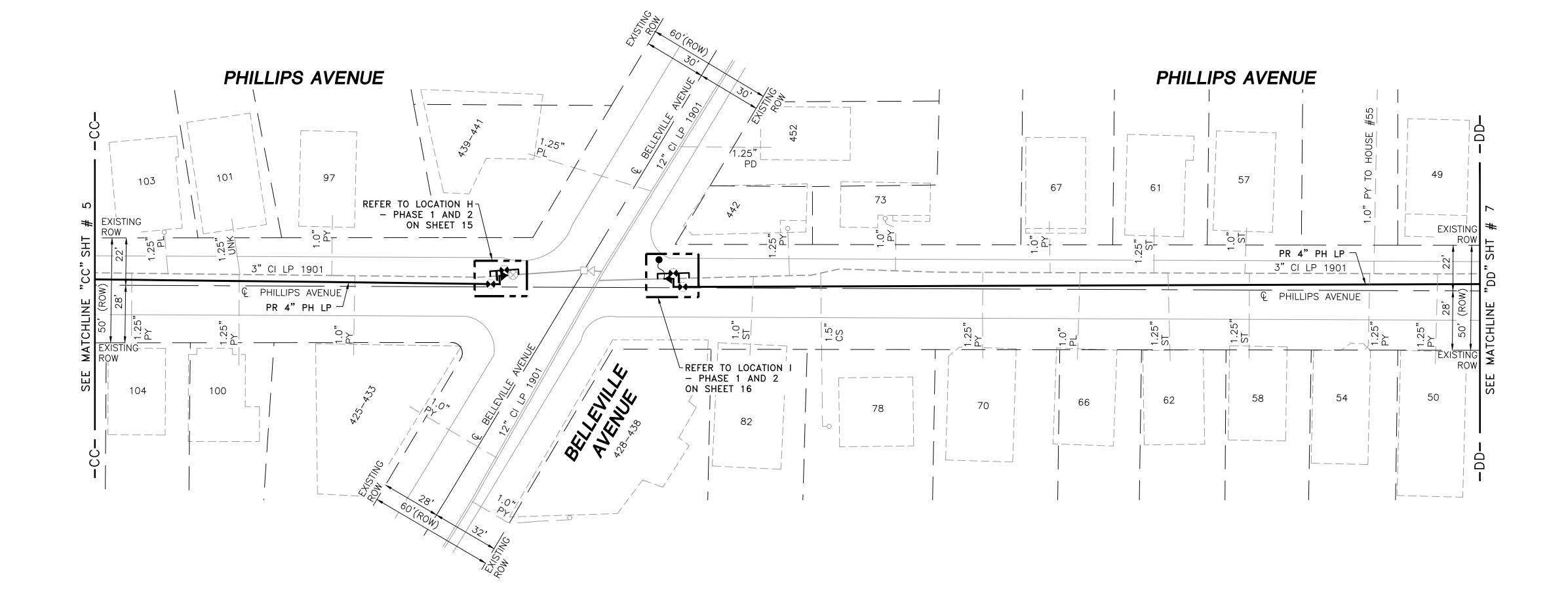




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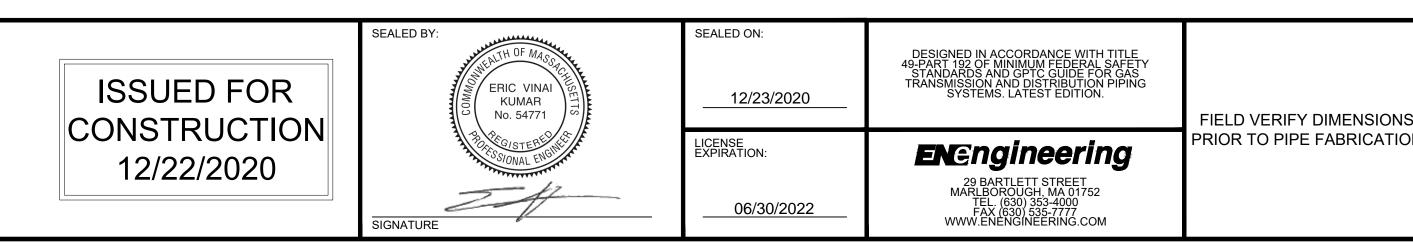
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NOTES: 1. CONTRACTOR TO POTHOLE EXISTING UTILITIES AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION. 2. REFER TO GENERAL NOTES AND SCHEDULE OF MATERIALS ON SHEET #2.

LENGTH	SIZE	MATERIAL	DESCRIPTION
590'	4"	РН	INSTALL
575'	3"	CI	RETIRE

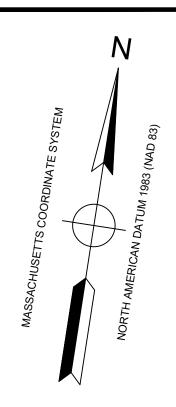


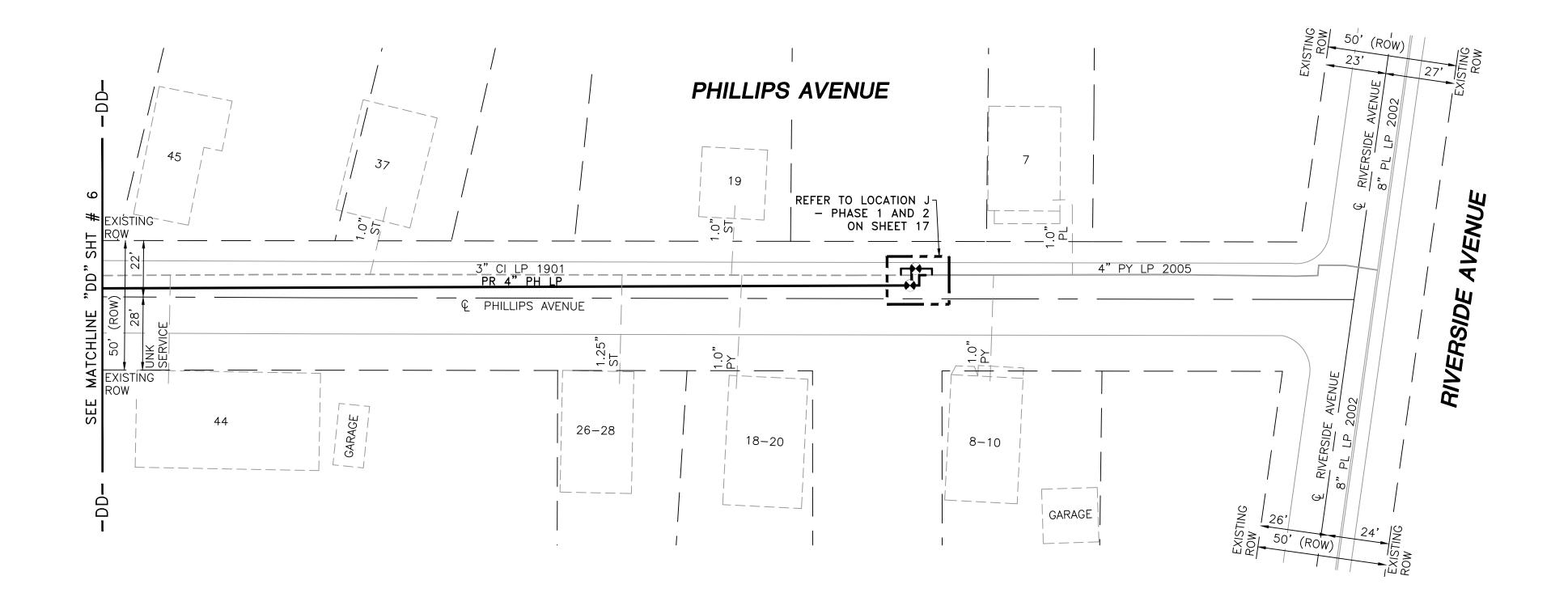




### DRAWING LEGEND

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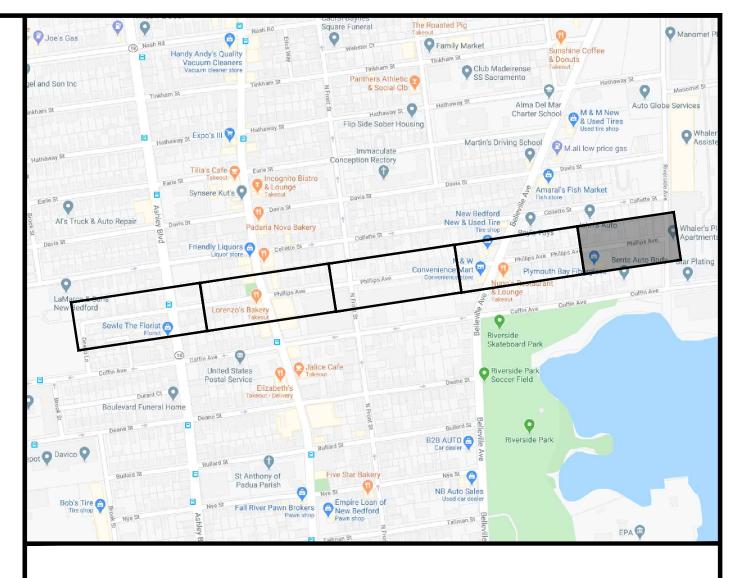
NOT	<u>ES</u> :
1.	CONTRACTOR TO POTHOLE EXISTING UTILITIES
	AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION

AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION. 2. REFER TO GENERAL NOTES AND SCHEDULE OF MATERIALS ON SHEET #2.

LENGTH	SIZE	MATERIAL	DESCRIPTION
325'	4"	РН	INSTALL
315'	3"	CI	RETIRE



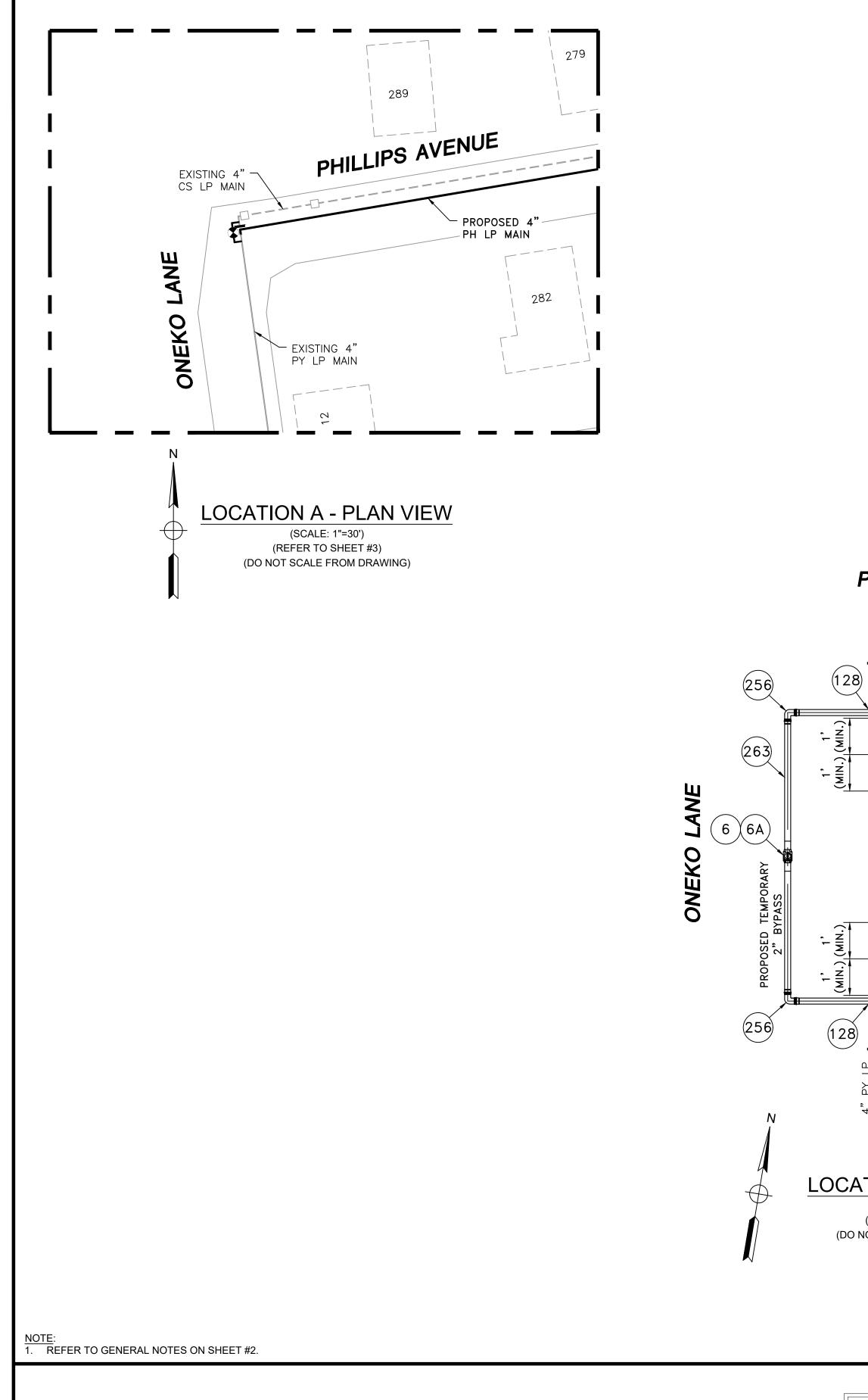
ISSUED FOR	SEALED BY:	SEALED ON: 	DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.	FIELD VERIFY DIMENSIONS
CONSTRUCTION 12/22/2020	ROPESSIONAL ENGINE	LICENSE EXPIRATION:	ENERGINEERING 29 BARTLETT STREET	PRIOR TO PIPE FABRICATIO
	SIGNATURE	06/30/2022	MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	





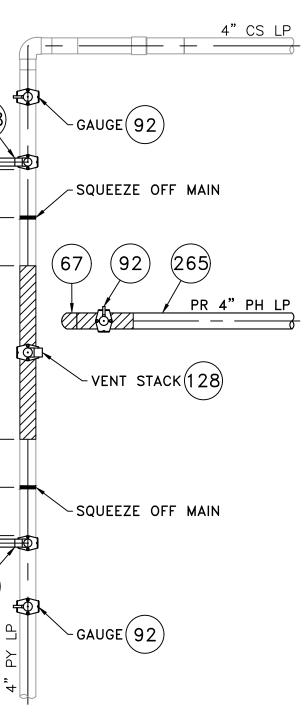
### DRAWING LEGEND

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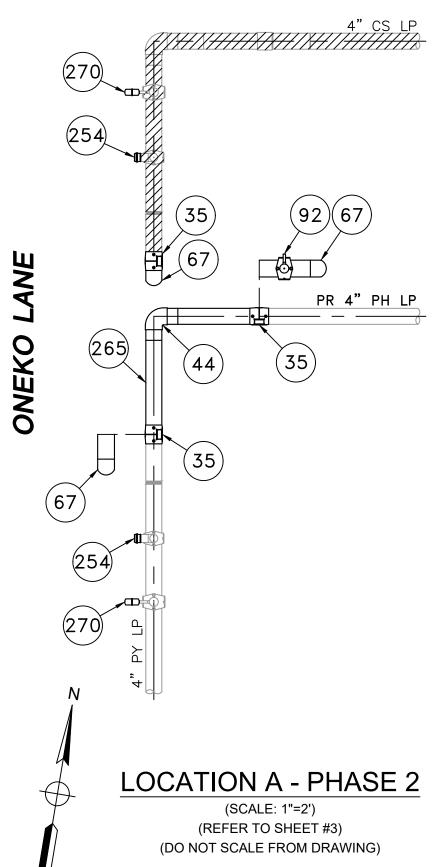
	PHILLIPS AVENUE MAIN RELAY - LOCATION A - SCHEDULE OF MATERIALS						
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL		
6	1	2"	562087	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D2513		
6A	1	2"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID			
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 D3350		
44	AS REQUIRED	4"	545341	ELBOW, 90 DEG, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2513		
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 D2513		
92	4	4" X 1/2"	500867	TAPPING TEE, ELECTROFUSION, IPS X CTS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513		
128	3	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 D2513		
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 D2513		
256	AS REQUIRED	2"	582521	ELBOW, 90 DEG, 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 D2513		
263	AS REQUIRED	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513		
265	10'	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513		
270	AS REQUIRED	1/2"	542609	END CAP, MECHANICAL STAB, CTS, HDPE, PE 4710/3408, ASTM D2513, WITH SS GRIPPING SUPPORT RING, ACETAL COLLET AND SPACER RETAINER RING, PE THRUST WASHER, BUNA-N O-RING, ZINC-PLATED CS INSERT STIFFENER, PERFECTION WITH END CAP OR APPROVED EQUAL.	ASTM D2513		

### PHILLIPS AVENUE



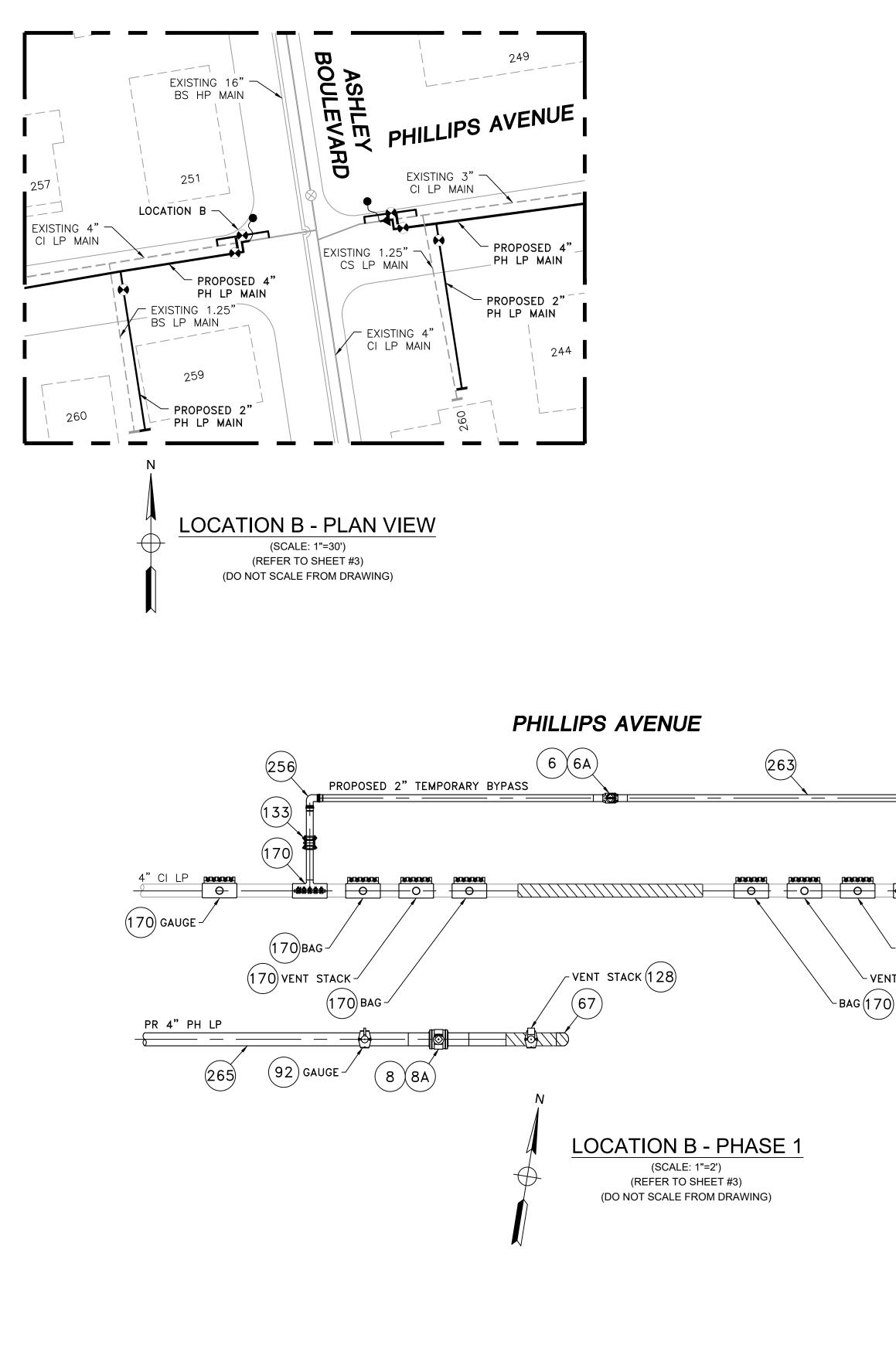
**LOCATION A - PHASE 1** (SCALE: 1"=2') (REFER TO SHEET #3) (DO NOT SCALE FROM DRAWING)

### PHILLIPS AVENUE



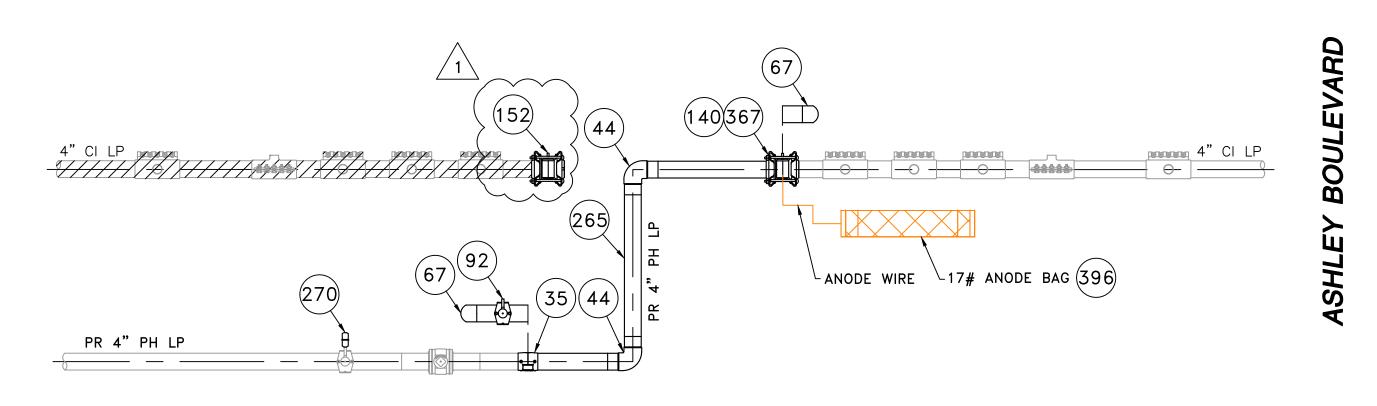
ISSUED FOR	SEALED BY:	SEALED ON: 12/23/2020	DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.	FIELD VERIFY [
CONSTRUCTION 12/22/2020	SIGNATURE	LICENSE EXPIRATION: 06/30/2022	29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	PRIOR TO PIPE I

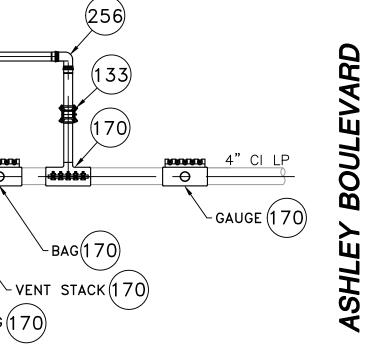
	1	IFC - NO CHAN	IGES THIS SHEET	12/22/2020	TG/AB/EK
	0	ISSUED FOR C	ONSTRUCTION	11/30/2020	ZS/AB/EK
	NO.	DESCRIPTION		DATE	DW/CK/AF
			REVISION STAT	JS	
			<b>EVERS</b>	RCF	
				ENERGY	
			PHILLIPS AVENUE MAI	N RELAY	
Y DIMENSIONS			NEW BEDFORD, MASSAG	CHUSETTS	
PE FABRICATION		LOCATION	A - PHASE 1, 2 AND SCH	EDULE OF MATERIA	LS
	SCA	LE: AS NOTED		SHEE	T 8 OF 20
		RAWN BY / DATE 2S 09/30/2020	CHECKED BY / DATE AB 12/22/2020	SHEET NUMBER	REV. NO
	APP	PROVED BY / DATE K 12/22/2020	MANEB21PIP026R1	MA-NEB-21-PIP-026-	08 1



ITE	м	QTY	SIZE	MAXIMO NO.	
~			211	FC2007	BALL VALVE, BUTT F
6		1	2"	562087	KEROTEST POLYBAL
64	١	1	2"		BOX, VALVE, PLAST
0		1	4"	F01002	BALL VALVE, BUTT F
8		1	4	501002	KEROTEST POLYBAL
84	۱	1	4"		BOX, VALVE, PLAST
35	-	AS REQUIRED	4"	500855	COUPLING, ELECTRO
	,		4	20022	3408/4710 PIPE. GF
44	1	AS REQUIRED	4"	545341	ELBOW, 90 DEG, BU
	•		4	545541	PIPE OR APPROVED
67	7	AS REQUIRED	4"	542538	CAP, BUTT FUSION,
0.			4	542558	APPROVED EQUAL.
92	)	2	4" X 1/2"	500867	TAPPING TEE, ELECT
54	-	۷	4 / 1/2	500807	F1055. CENTRAL PL
12	Q	1	4" X 2"	584304	HV TAPPING TEE, EL
12	5		4 7 2		ASTM F1055. CENTI
13	z	2	2"	578187	COUPLING, BOLTED
		2	۷	576167	MAXI-GRIP EZ OR A
14	n	1	4"	578127	COUPLING, BOLTED
	<u> </u>		-	5/012/	MAXI-GRIP EZ OR A
15	2	1	4"	578128	END CAP, BOLTED N
					BAND CLAMP, WITH
17	0	10	4" x 2"	543028	WITH TEFLON COAT
					APPROVED EQUAL.
25	6	AS REQUIRED	2"	582521	ELBOW, 90 DEG, ME
23	<u> </u>				RING, INTERNAL ST
26	3	AS REQUIRED	2"	554025	PIPE, IPS, HDPE 340
26	5	20'	4"	554008	PIPE, IPS, HDPE 340
					END CAP, MECHAN
27	0	AS REQUIRED	1/2"	542609	COLLET AND SPACE
					PERFECTION WITH I
36	7	1	4"	578036	INSERT, STIFFENER,
39	6	1	17#	577776	ANODE BAG, 17 LB I
55	-				CARDBOARD BOX 4

### PHILLIPS AVENUE



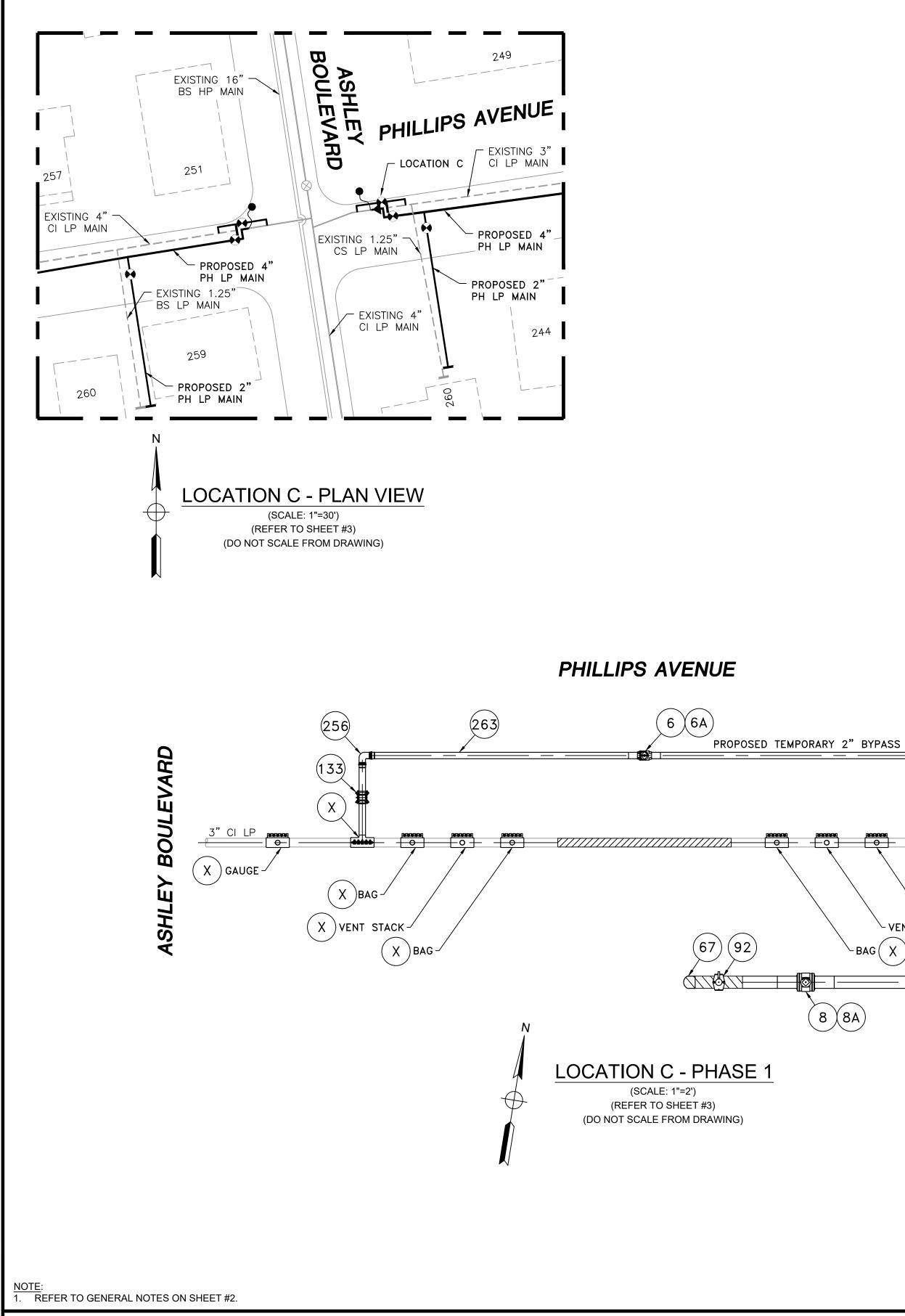


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**LOCATION B - PHASE 1** (SCALE: 1"=2') (REFER TO SHEET #3) (DO NOT SCALE FROM DRAWING)

				1 IFC - UPDATED	END CAP	12/22/2020	TG/AB/EK
				0 ISSUED FOR C	ONSTRUCTION	11/30/2020	ZS/AB/EK
				NO. DESCRIPTION		DATE	DW/CK/AP
					REVISION STAT	JS	
SEALED BY:	SEALED ON:	DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY			EVERS <del>©</del> U	RCE	
ISSUED FOR	12/23/2020	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.			PHILLIPS AVENUE MAI	N RELAY	
			FIELD VERIFY DIMENSIONS PRIOR TO PIPE FABRICATION		NEW BEDFORD, MASSA B - PHASE 1, 2 AND SCHI		
A CARE SISTER OF	LICENSE EXPIRATION:	<b>EN</b> Engineering		SCALE: AS NOTED	D - FRASE I, Z AND SCH		
12/22/2020							T 9 OF 20
SIGNATURE	06/30/2022	29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM		DRAWN BY / DATE ZS 09/30/2020 APPROVED BY / DATE EK 12/22/2020	CHECKED BY / DATE AB 12/22/2020 MANEB21PIP026R1	SHEET NUMBER MA-NEB-21-PIP-026-0	REV. NO. 09 <b>1</b>

	$\sim \sim \sim$
JE MAIN RELAY - LOCATION B - SCHEDULE OF MATERIALS	
DESCRIPTION	MATERIAL
FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	
LL OR APPROVED EQUAL.	ASTM D2513
TIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	ASTM D2513
LL OR APPROVED EQUAL.	
TIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
OFUSION, IPS, HDPE 3408, ASTM D3350, ASTM F1055, COMPATIBLE FOR FUSION TO HDPE	ASTM D3350
FCP OR APPROVED EQUAL.	
JTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE	ASTM D2513
D EQUAL.	
, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	ASTM D2513
·	
TROFUSION, IPS X CTS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM	ASTM D2513
LASTICS OR APPROVED EQUAL.	
LECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261,	ASTM D2513
RAL PLASTICS OR APPROVED EQUAL.	
D MECHANICAL, IPS TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR	ASTM A-53
APPROVED EQUAL.	ASTIVIA-55
D MECHANICAL, CIP TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR	ASTM A-53
APPROVED EQUAL.	
MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
H WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS	
TED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR	
. COMPLETE WITH PLUG.	
ECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMRESSION	ASTM D2513
TIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	
08/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
08/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	
IICAL STAB, CTS, HDPE, PE 4710/3408, ASTM D2513, WITH SS GRIPPING SUPPORT RING, ACETAL	
ER RETAINER RING, PE THRUST WASHER, BUNA-N O-RING, ZINC-PLATED CS INSERT STIFFENER,	ASTM D2513
END CAP OR APPROVED EQUAL.	
, 4 IN IPS SDR 11.5, 8 IN LG, RED EPOXY COATING, SMITH BLAIR	
NET, HIGH POTENTIAL MAGNESIUM, W/ 10 FT #10 AWG TW ORANGE LEAD WIRE, PACKED IN	
42 LB WEIGHT	
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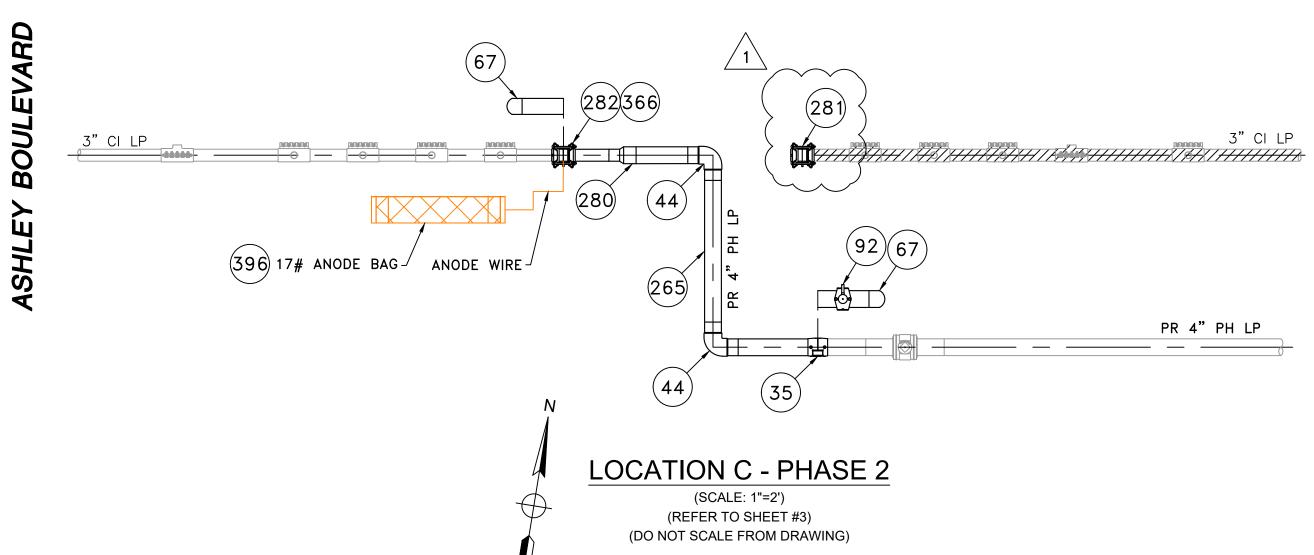
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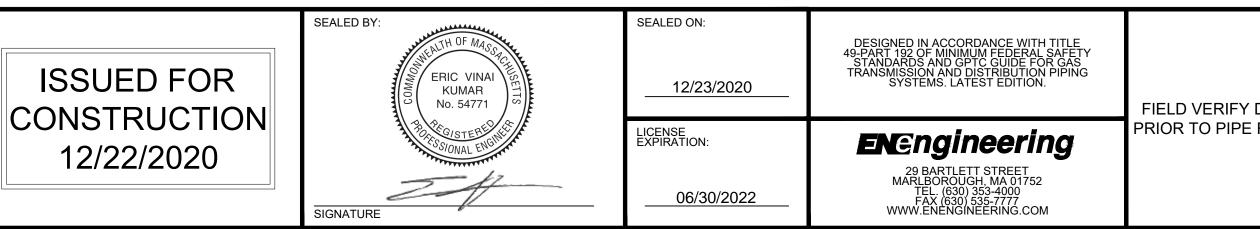
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GAUGE

ITEM	QTY	SIZE	MAXIMO NO.	
G	1	2"	562097	BALL VALVE, BUTT FUSIO
6	1	Z	562087	KEROTEST POLYBALL OR
6A	1	2"		BOX, VALVE, PLASTIC, SN
8	1	4"	501002	BALL VALVE, BUTT FUSIO
0	L 1	4	501002	KEROTEST POLYBALL OR
8A	1	4"		BOX, VALVE, PLASTIC, SN
25		4"		COUPLING, ELECTROFUS
35	AS REQUIRED	4	500855	3408/4710 PIPE. GFCP O
		4"	E 4E 2 4 1	ELBOW, 90 DEG, BUTT FU
44	AS REQUIRED	4	545341	PIPE OR APPROVED EQU
<b>C7</b>		4"	E 42E 20	CAP, BUTT FUSION, IPS, I
67	AS REQUIRED	4	542538	APPROVED EQUAL.
02	2		F00967	TAPPING TEE, ELECTROF
92	2	4" X 1/2"	500867	F1055. CENTRAL PLASTIC
100	2	21	570107	COUPLING, BOLTED MEC
133	2	2"	578187	MAXI-GRIP EZ OR APPRO
250		21	E02E24	ELBOW, 90 DEG, MECHAN
256	AS REQUIRED	2"	582521	RING, INTERNAL STIFFEN
263	AS REQUIRED	2"	554025	PIPE, IPS, HDPE 3408/471
264	5'	3"	592669	PIPE, IPS, HDPE 3408/471
265	20'	4"	554008	PIPE, IPS, HDPE 3408/471
200	1	4" X 3"	601067	REDUCER, BUTT FUSION,
280		4 ^ 3	601067	APPROVED EQUAL.
281	1	3"		END CAP, BOLTED MECH
282	1	3"	544075	COUPLING, BOLTED MEC
202		5	544075	MAXI-GRIP EZ OR APPRO
366	1	3"	578035	INSERT, STIFFENER, 3 IN
200	1	17#		ANODE BAG, 17 LB NET, I
396	1	17#	577776	CARDBOARD BOX 42 LB \
				BAND CLAMP, WITH WEI
Х	10	3" x 2"		WITH TEFLON COATED H
				APPROVED EQUAL. COM

### PHILLIPS AVENUE

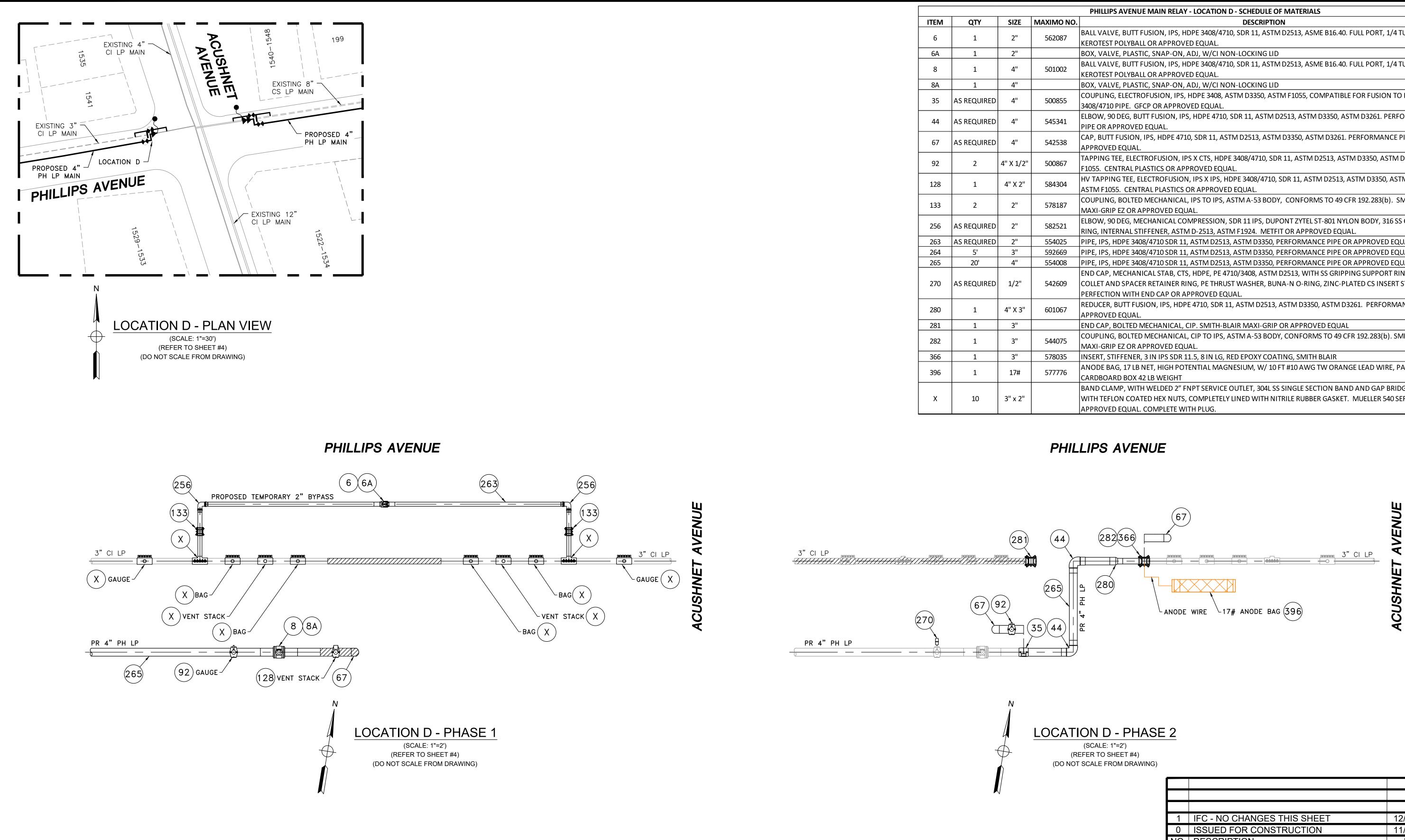




NIN RELAY - LOCATION C - SCHEDULE OF MATERIALS	
DESCRIPTION	MATERIAL
DN, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	
APPROVED EQUAL.	ASTM D2513
NAP-ON, ADJ, W/CI NON-LOCKING LID	
DN, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	ASTM D2513
APPROVED EQUAL.	
NAP-ON, ADJ, W/CI NON-LOCKING LID	
ION, IPS, HDPE 3408, ASTM D3350, ASTM F1055, COMPATIBLE FOR FUSION TO HDPE	ASTM D3350
R APPROVED EQUAL.	A3110 03330
JSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE	ASTM D2513
JAL.	//3/10/02013
HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	ASTM D2513
USION, IPS X CTS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM	ASTM D2513
CS OR APPROVED EQUAL.	
CHANICAL, IPS TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR	ASTM A-53
OVED EQUAL.	
NICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMRESSION	ASTM D2513
NER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	
10 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
10 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
10 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	
ANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
HANICAL, CIP TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR	
OVED EQUAL.	
IPS SDR 11.5, 8 IN LG, RED EPOXY COATING, SMITH BLAIR	
HIGH POTENTIAL MAGNESIUM, W/ 10 FT #10 AWG TW ORANGE LEAD WIRE, PACKED IN	
WEIGHT	
LDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS	
IEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR	

/IPLETE WITH PLUG.

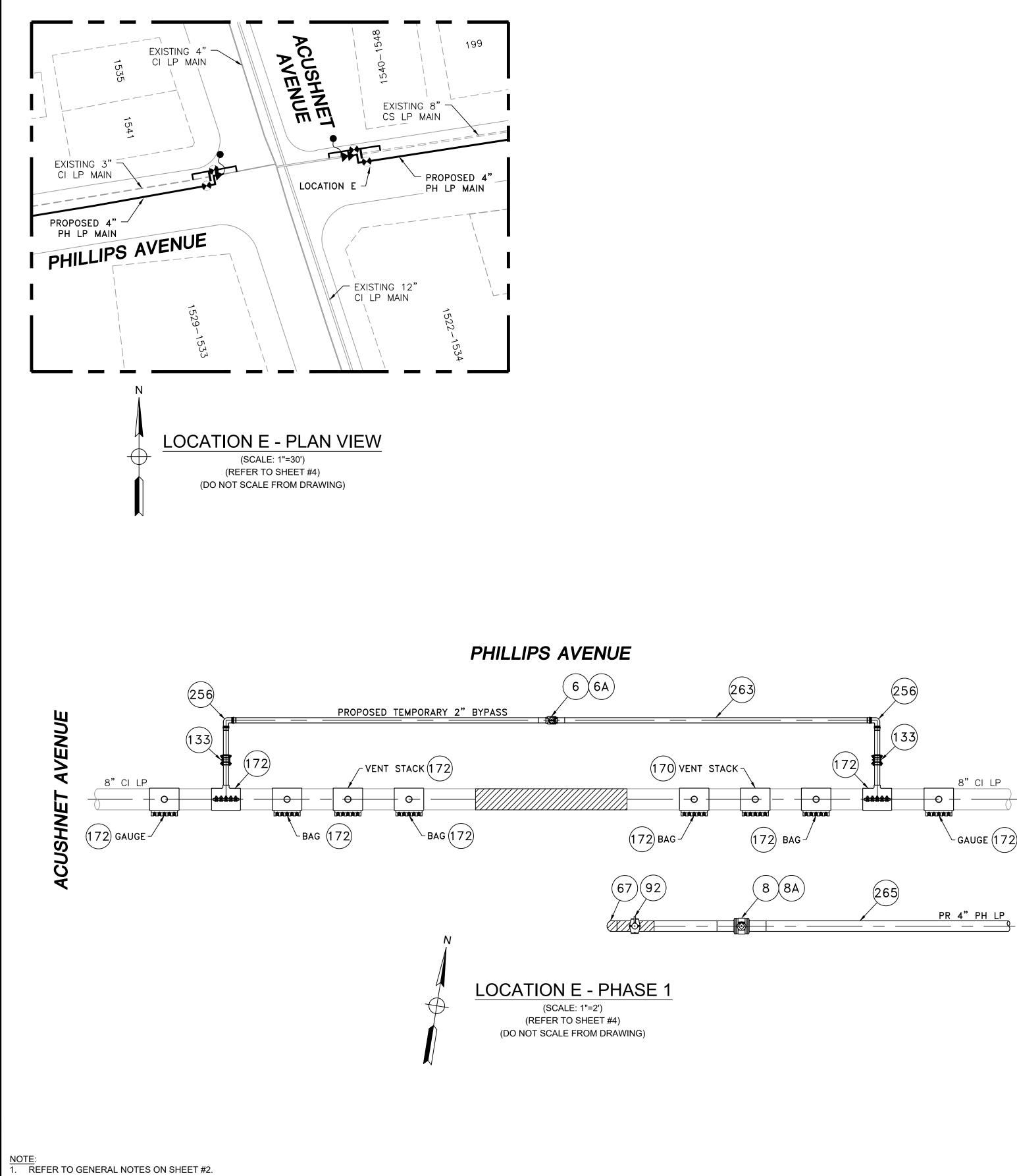
	1	IFC - UPDATED	D END CAP		12/22/2020	TG/	AB/EK
	0	ISSUED FOR C	CONSTRUCTION		11/30/2020	ZS/	AB/EK
	NO.	DESCRIPTION			DATE	DW/	/CK/AP
			REVISION STAT	US			
			EVERS U	RC			
				ENERG			
DIMENSIONS			PHILLIPS AVENUE MAI	N REL	۹Y		
			NEW BEDFORD, MASSAG	CHUSE	TTS		
E FABRICATION		LOCATION	C - PHASE 1, 2 AND SCH	EDULE	OF MATERIA	\LS	
	SCA	LE: AS NOTED			SHEE	ET 10	OF 20
		RAWN BY / DATE ZS 09/30/2020	CHECKED BY / DATE AB 12/22/2020		SHEET NUMBER		REV. NO.
	APP	PROVED BY / DATE K 12/22/2020	MANEB21PIP026R1	MA-N	NEB-21-PIP-026-	10	1



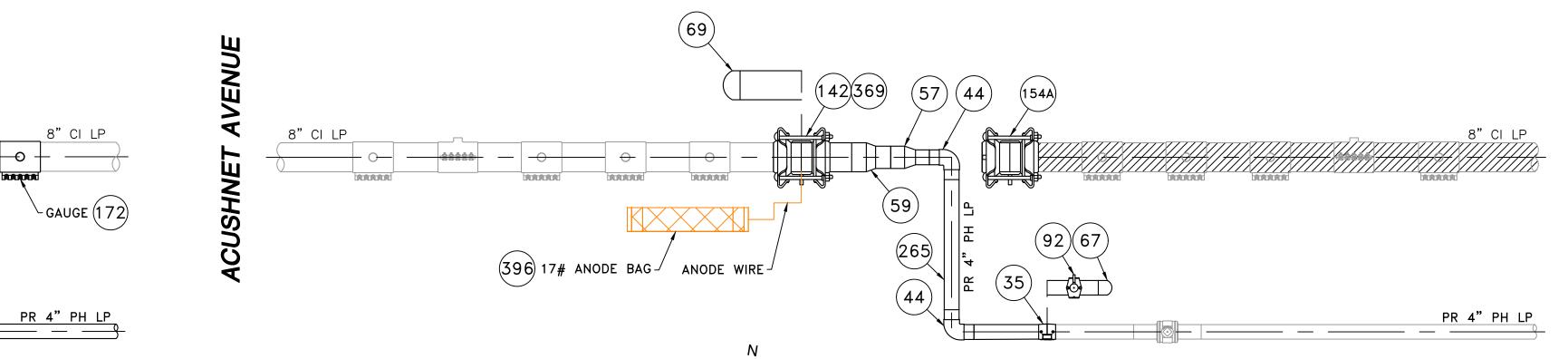
				PHILLIPS AVENUE MAIN RELAY - LOCATION D - SCHEDULE OF MATERIALS	
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL
6	1	2"	562087	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D2513
6A	1	2"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
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	
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 D3350
44	AS REQUIRED	4"	1 545341	ELBOW, 90 DEG, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2513
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 D2513
92	2	4" X 1/2"	500867	TAPPING TEE, ELECTROFUSION, IPS X CTS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513
128	1	4" X 2"	1 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 D2513
133	2	2"	578187	COUPLING, BOLTED MECHANICAL, IPS TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR MAXI-GRIP EZ OR APPROVED EQUAL.	ASTM A-53
256	AS REQUIRED	2"	1 582521	ELBOW, 90 DEG, 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 D2513
263	AS REQUIRED	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
264	5'	3"	592669	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
265	20'	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
270	AS REQUIRED	1/2"	542609	END CAP, MECHANICAL STAB, CTS, HDPE, PE 4710/3408, ASTM D2513, WITH SS GRIPPING SUPPORT RING, ACETAL COLLET AND SPACER RETAINER RING, PE THRUST WASHER, BUNA-N O-RING, ZINC-PLATED CS INSERT STIFFENER, PERFECTION WITH END CAP OR APPROVED EQUAL.	ASTM D2513
280	1	4" X 3"	601067	REDUCER, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	
281	1	3"		END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
282	1	3"	544075	COUPLING, BOLTED MECHANICAL, CIP TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR MAXI-GRIP EZ OR APPROVED EQUAL.	
366	1	3"	578035	INSERT, STIFFENER, 3 IN IPS SDR 11.5, 8 IN LG, RED EPOXY COATING, SMITH BLAIR	
396	1	17#	577776	ANODE BAG, 17 LB NET, HIGH POTENTIAL MAGNESIUM, W/ 10 FT #10 AWG TW ORANGE LEAD WIRE, PACKED IN CARDBOARD BOX 42 LB WEIGHT	
x	10	3" x 2"		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.	

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						NGES THIS SHEET CONSTRUCTION REVISION STAT		TG/AB/EK ZS/AB/EK DW/CK/AP
ISSUED FOR	SEALED BY:	SEALED ON: 12/23/2020	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		EVERSEU PHILLIPS AVENUE MA NEW BEDFORD, MASSA	ENERGY N RELAY	
CONSTRUCTION 12/22/2020	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 ZS 09/30/2020 APPROVED BY / DATE EK 12/22/2020	D - PHASE 1, 2 AND SCH CHECKED BY / DATE AB 12/22/2020 MANEB21PIP026R1		T 11 OF 20 REV. NO.



				PHILLIPS AVENUE MAIN RELAY - LOCATION E - SCHEDULE OF MATERIALS	
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL
6	1	2"	562087	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D2513
6A	1	2"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
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	
35	AS REQUIRED	4"	1 500855	COUPLING, ELECTROFUSION, IPS, HDPE 3408, ASTM D3350, ASTM F1055, COMPATIBLE FOR FUSION TO HDPE 3408/4710 PIPE. GFCP OR APPROVED EQUAL.	ASTM D3350
44	AS REQUIRED	4"	1 545341	ELBOW, 90 DEG, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2513
57	1	6" X 4"	555594	REDUCER, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2513
59	1	8" X 6"	555596	REDUCER, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2513
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 D2513
69	AS REQUIRED	8"	542540	CAP, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2513
92	2	4" X 1/2"	500867	TAPPING TEE, ELECTROFUSION, IPS X CTS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513
133	2	2"	578187	COUPLING, BOLTED MECHANICAL, IPS TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR MAXI-GRIP EZ OR APPROVED EQUAL.	ASTM A-53
142	1	8"	583290	COUPLING, BOLTED MECHANICAL, CIP TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR MAXI-GRIP EZ OR APPROVED EQUAL.	ASTM A-53
154A	1	8"		FITTING,COUPLING, VENTED, SEAL & RESTRAINT, 8 IN, W/ END CAP , FOR CAST IRON PIPE	
172	10	8" x 2"	578014	BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS BANDS AND GAP BRIDGES, SS STUDS WITH TEFLON COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR APPROVED EQUAL. COMPLETE WITH PLUG.	
256	AS REQUIRED	2"	582521	ELBOW, 90 DEG, 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 D2513
263	AS REQUIRED	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
265	20'	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	
267	5'	8"	554010	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
369	1	8"	578038	INSERT, STIFFENER, 8 IN IPS SDE 11.5, 8 IN LG, RED EPOXY COATING, SMITH BLAIR	
396	1	17#	577776	ANODE BAG, 17 LB NET, HIGH POTENTIAL MAGNESIUM, W/ 10 FT #10 AWG TW ORANGE LEAD WIRE, PACKED IN CARDBOARD BOX 42 LB WEIGHT	



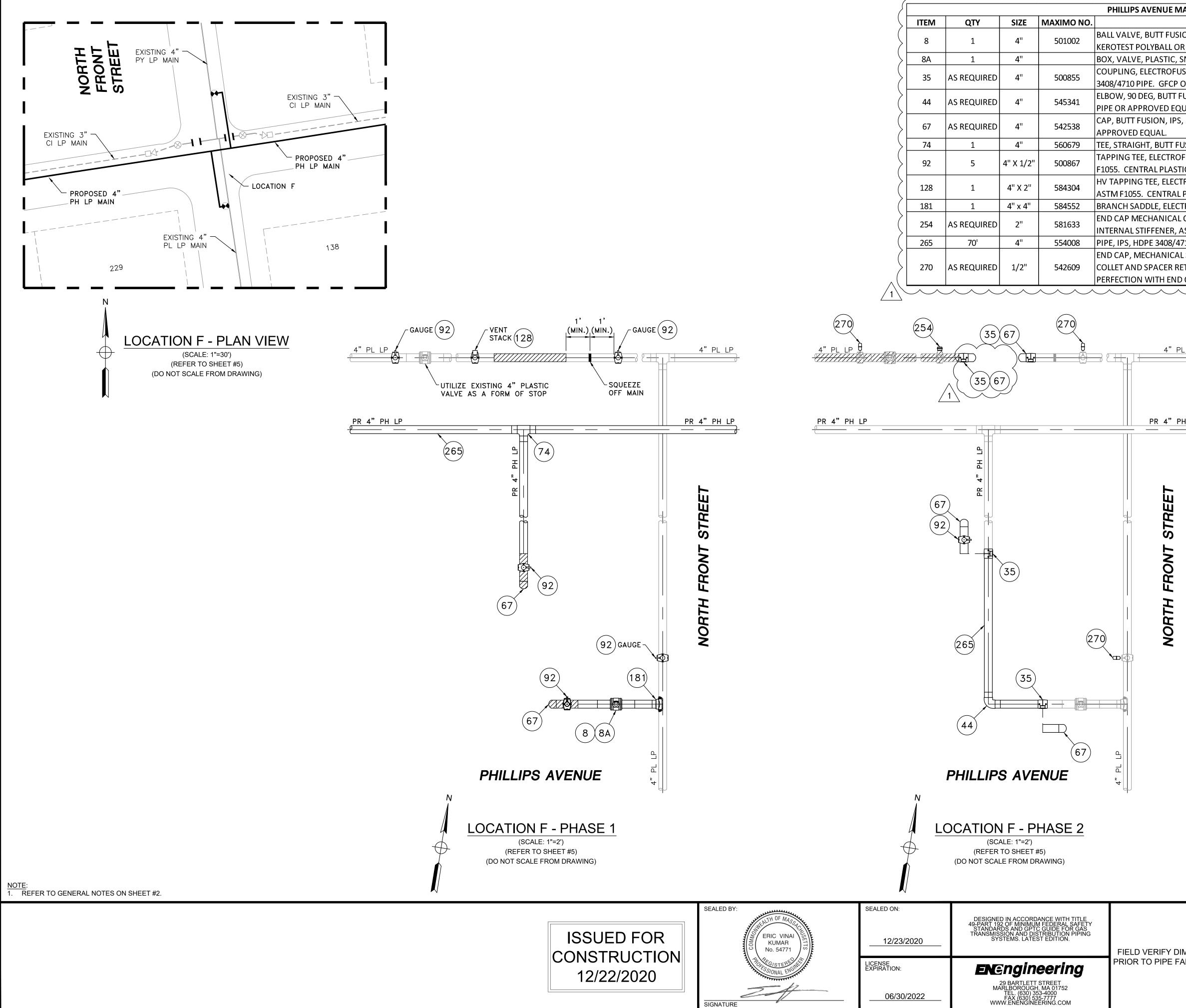
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					1 IFC - NO CHAN	GES THIS SHEET	12/22/2020	TG/AB/EK
					0 ISSUED FOR C	ONSTRUCTION	11/30/2020	ZS/AB/EK
					NO. DESCRIPTION		DATE	DW/CK/AP
						REVISION STAT	JS	
	SEALED BY:	SEALED ON:	DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY			EVERS <b>€</b> U	RCE ENERGY	
ISSUED FOR	ERIC VINAI KUMAR No. 54771	12/23/2020	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		PHILLIPS AVENUE MAI	N RELAY	
CONSTRUCTION	A BOUSTERED IN	LICENSE EXPIRATION:		PRIOR TO PIPE FABRICATION		E - PHASE 1, 2 AND SCHI		LS
12/22/2020	23 CSS/ONAL ENGLINE	EXPIRATION:	<b>EN</b> Engineering		SCALE: AS NOTED		SHEE	T 12 OF 20
	ki		29 BARTLETT STREET MARLBOROUGH, MA 01752		DRAWN BY / DATE ZS 09/30/2020	CHECKED BY / DATE	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		APPROVED BY / DATE EK 12/22/2020	AB 12/22/2020 MANEB21PIP026R1	MA-NEB-21-PIP-026-1	12 <b>1</b>

## PHILLIPS AVENUE

LOCATION E - PHASE 2

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

(DO NOT SCALE FROM DRAWING)



			1	PHILLIPS AVENUE MAIN RELAY - LOCATION F - SCHEDULE OF MATERIALS	1
ITEM	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 D2
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 D3
44	AS REQUIRED	4"	545341	ELBOW, 90 DEG, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D2
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 D2
74	1	4"	560679	TEE, STRAIGHT, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE	ASTM D2
92	5	4" X 1/2"	500867	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 D2
128	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 D2
181	1	4" x 4"	584552	BRANCH SADDLE, ELECTROFUSION WITH BUTT FUSION BRANCH, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM	ASTM D2
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 D2
265	70'	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2
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 D2

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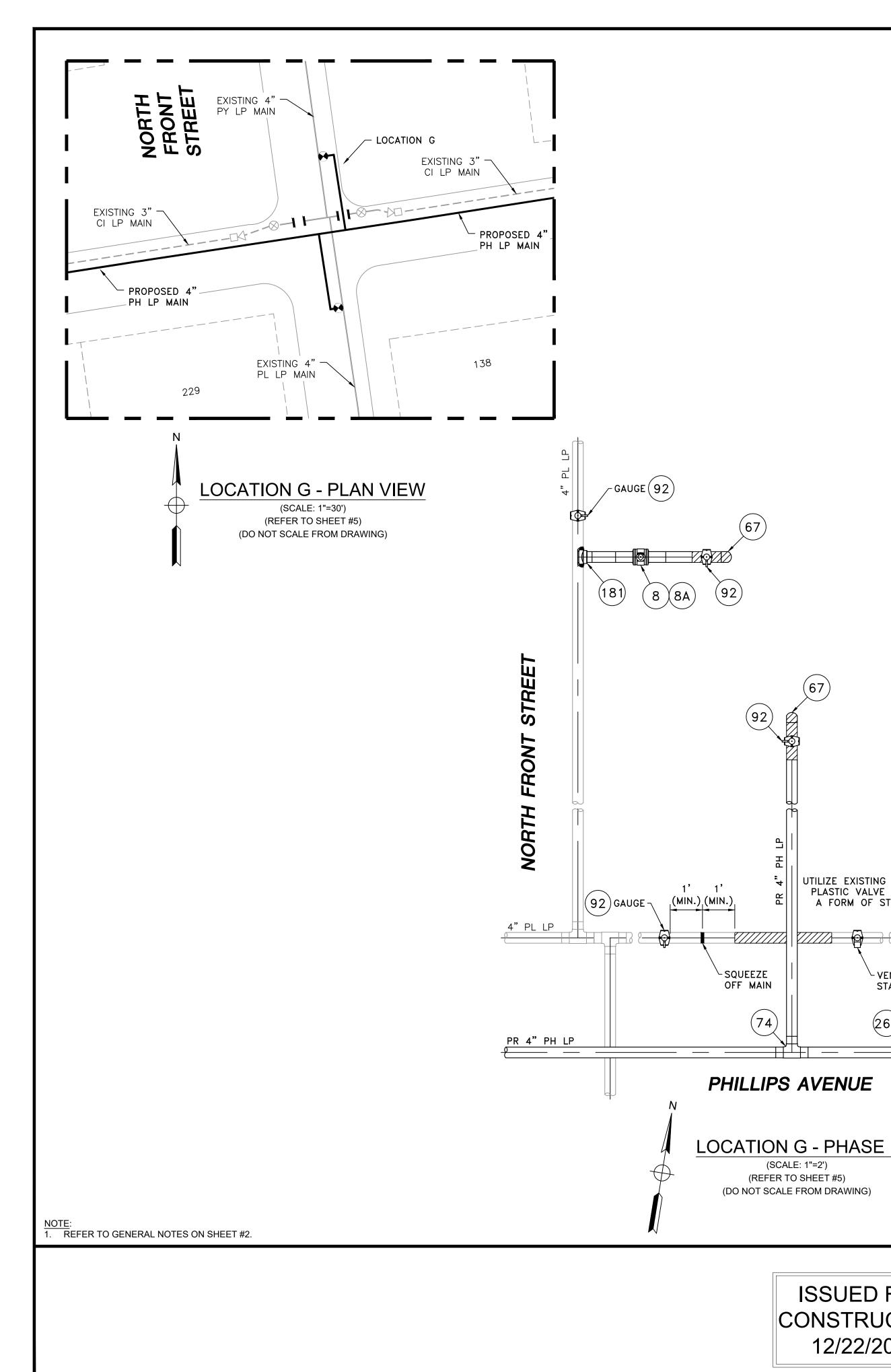
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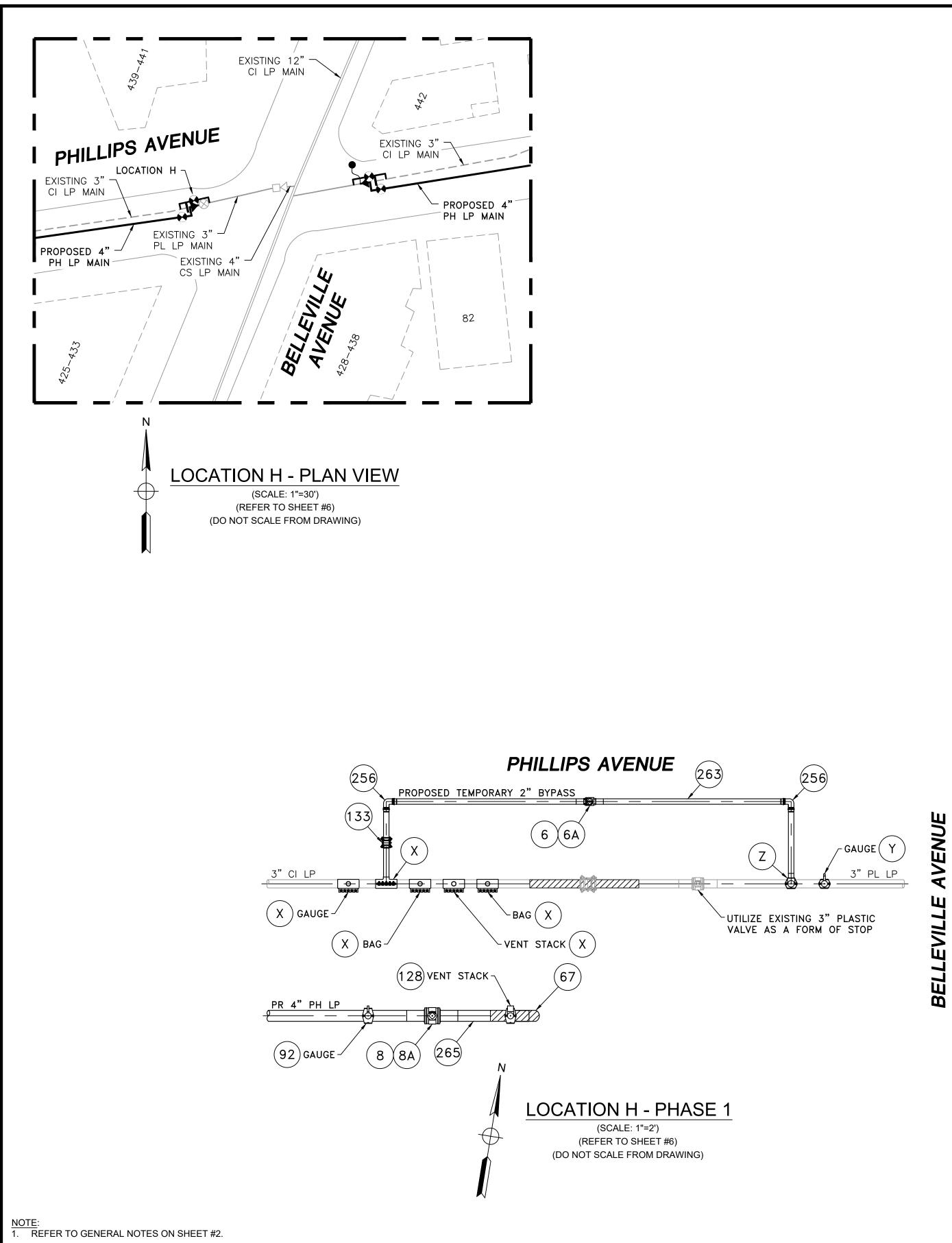
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	1	IFC - UPDATED	D END CAP	12	/22/2020	TG/	AB/EK
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	NO.	DESCRIPTION			DATE	DW/	CK/AP
			REVISION STAT	JS			
			<b>EVERS€U</b> I	RCF			
				ENERGY			
			PHILLIPS AVENUE MAI	N RELAY			
DIMENSIONS			NEW BEDFORD, MASSAG	CHUSETTS	6		
FABRICATION		LOCATION	F - PHASE 1, 2 AND SCHE	EDULE OF	MATERIA	LS	
	SCA	LE: AS NOTED			SHEE	T 13	OF 20
		AWN BY / DATE S 09/30/2020	CHECKED BY / DATE AB 12/22/2020	SHEE	T NUMBER		REV. NO.
	APP	ROVED BY / DATE K 12/22/2020	MANEB21PIP026R1	MA-NEB-	21-PIP-026-´	13	1



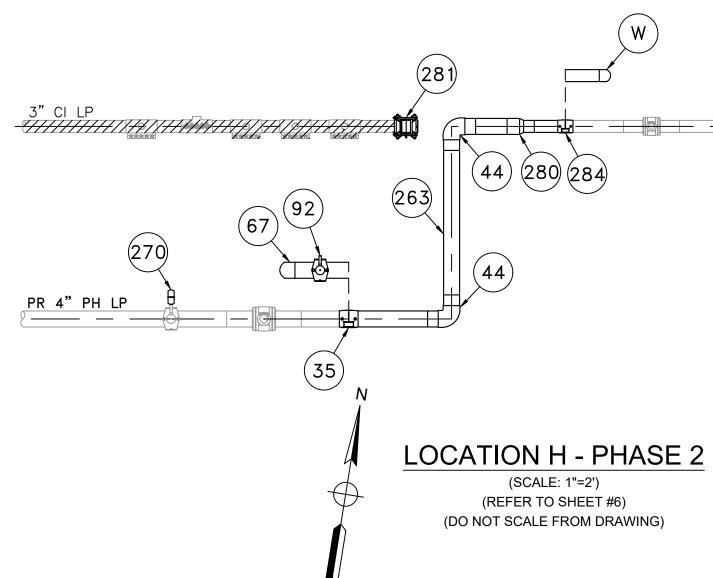
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		ΟΤΥ		PHILLIPS AVENUE MAIN RELAY - LOCATION G - SCHEDULE OF MATERIALS	
$\geq$	_	<b>QTY</b>	SIZE         MAXIMO           4"         50100	BALLVALVE BUTT FUSION JPS HDPF 3408/4710 SDR 11 ASTM D2513 ASME B16 40 FULL PORT 1/4 TURN	MATERIAL ASTM D2513
$\langle  $	8 8A	⊥ 1	4" 50100	J2       KEROTEST POLYBALL OR APPROVED EQUAL.         BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
		REQUIRED	4" 50085	COUPLING ELECTROFUSION JPS HOPE 3408 ASTM D3350 ASTM E1055 COMPATIBLE FOR EUSION TO HOPE	ASTM D3350
	44 AS R	REQUIRED	4" 54534	FLBOW 90 DEG BUTT FUSION JPS HOPE 4710 SDB 11 ASTM D2513 ASTM D3350 ASTM D3261 PERFORMANCE	ASTM D2513
	67 AS R	REQUIRED	4" 54253	APPROVED EQUAL.	ASTM D2513
	74	1	4'' 56067	PIPE_OR APPROVED EQUAL.	ASTM D2513
$\langle  $	92	6 4"	X 1/2" 50086	F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513
	128		" X 2" 58430	ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513
	181 254 AS B		2" 58455 58163	END CAP MECHANICAL COMPRESSION SDR 11 JPS, DUPONT 7YTEL ST-801 NYLON BODY, 316 SS COMBESSION RING	ASTM D2513
	254 AS R 265	REQUIRED	2" 58163 4" 55400	INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTM D2513 ASTM D2513
		REQUIRED		END CAP, MECHANICAL STAB, CTS, HDPE, PE 4710/3408, ASTM D2513, WITH SS GRIPPING SUPPORT RING, ACETAL	ASTM D2513
<sup>L</sup> 4	57				
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	(35)	I.			
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-VENT STACK (128) GAUGE 92	270			INJECTION 254 270	
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265 PR 4" PH LP PR 4" PH LP				PR 4" PH LP	
	<b>ר</b> א	PHILLIP	S AVENUE	Ξ	
<u>E 1</u>			<b>I G - PHAS</b> ALE: 1"=2')		
	Ţ	(REFER	TO SHEET #5) .E FROM DRAWING)	1 IFC - UPDATED END CAP 12/22/2020	TG/AB/EK
			,	0 ISSUED FOR CONSTRUCTION 11/30/2020	ZS/AB/EK DW/CK/AP
	N			REVISION STATUS	
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DFOR	0	STANDARDS ANI STANDARDS ANI TRANSMISSION A SYSTEMS	CORDANCE WITH TITL INIMUM FEDERAL SAFE D GPTC GUIDE FOR GA ND DISTRIBUTION PIPII . LATEST EDITION.	ENERGY PHILLIPS AVENUE MAIN RELAY	
				FIELD VERIFY DIMENSIONS NEW BEDFORD, MASSACHUSETTS	10
2020			gineering	SCALE: AS NOTED SHEET	T 14 OF 20
06/30/202	22	29 BAR MARLBOF TEL. ( FAX 0	RTLETT STREET ROUGH, MA 01752 (630) 353-4000 630) 535-7777 ENGINEERING.COM	DRAWN BY / DATE CHECKED BY / DATE SHEET NUMBER ZS 09/30/2020 AB 12/22/2020	REV. NC
SIGNATURE		www.ÊŃÉ	NGÍNĒĔŔĬŃĠ.COM	APPROVED BY / DATE EK 12/22/2020 MANEB21PIP026R1 MA-NEB-21-PIP-026-1	4 1



	•			PHILLIPS AVENUE MAIN RELAY - LOCATION H - SCHEDULE OF MATERIALS	
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL
6	1	2"	562087	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	ASTM D2513
0	L	Z	502087	KEROTEST POLYBALL OR APPROVED EQUAL.	ASTIVI DZ515
6A	1	2"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
o	1	4"	E01002	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	
8		4	501002	KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D2513
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	ASTM D3350
55		4	500855	3408/4710 PIPE. GFCP OR APPROVED EQUAL.	ASTIVIDSSS
44	AS REQUIRED	4"	545341	ELBOW, 90 DEG, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE	ASTM D2513
44	AS REQUIRED	4	545541	PIPE OR APPROVED EQUAL.	
67	AS REQUIRED	4"	542538	CAP, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	ASTM D2513
67 A	AS REQUIRED	UIRED 4 542538	542558	APPROVED EQUAL.	
02	92 2 4"X1	4" X 1/2"	E00967	TAPPING TEE, ELECTROFUSION, IPS X CTS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM	
92	2	2 4 × 1/2 500807	500867	F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513
100	1	4" X 2"	F94204	HV TAPPING TEE, ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261,	
128		4 X Z	584304	ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D251
100	1	2"	F70107	COUPLING, BOLTED MECHANICAL, IPS TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR	
133	1	Z	578187	MAXI-GRIP EZ OR APPROVED EQUAL.	ASTM A-53
254		2"	2" 581633	END CAP MECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMRESSION RING,	
254	AS REQUIRED	1	INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTM D2513	
250		2"	F	ELBOW, 90 DEG, MECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMRESSION	
256	AS REQUIRED	2"	582521	RING, INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTM D251
263	AS REQUIRED	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D251
264	5'	3"	592669	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D251
265	20'	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D251
				END CAP, MECHANICAL STAB, CTS, HDPE, PE 4710/3408, ASTM D2513, WITH SS GRIPPING SUPPORT RING, ACETAL	
270	AS REQUIRED	1/2"	542609	COLLET AND SPACER RETAINER RING, PE THRUST WASHER, BUNA-N O-RING, ZINC-PLATED CS INSERT STIFFENER,	ASTM D251
				PERFECTION WITH END CAP OR APPROVED EQUAL.	
280	1	4" X 3"	601067	REDUCER, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	
280	1	4 7 3	001001	APPROVED EQUAL.	
281	1	3"		END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
204		3"		COUPLING, ELECTROFUSION, IPS, HDPE 3408, ASTM D3350, ASTM F1055, COMPATIBLE FOR FUSION TO HDPE	
284	AS REQUIRED	5		3408/4710 PIPE. GFCP OR APPROVED EQUAL.	
14/		3"		CAP, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	
W	AS REQUIRED	5		APPROVED EQUAL.	
				BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS	
Х	5	3" x 2"		WITH TEFLON COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR	
				APPROVED EQUAL. COMPLETE WITH PLUG.	
	1	2" V 1 /2"		TAPPING TEE, ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM	
Y	1	3" X 1/2"		F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	
7	1	2"		TAPPING TEE, ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM	
Z	1	3" x 2"		F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	

### PHILLIPS AVENUE



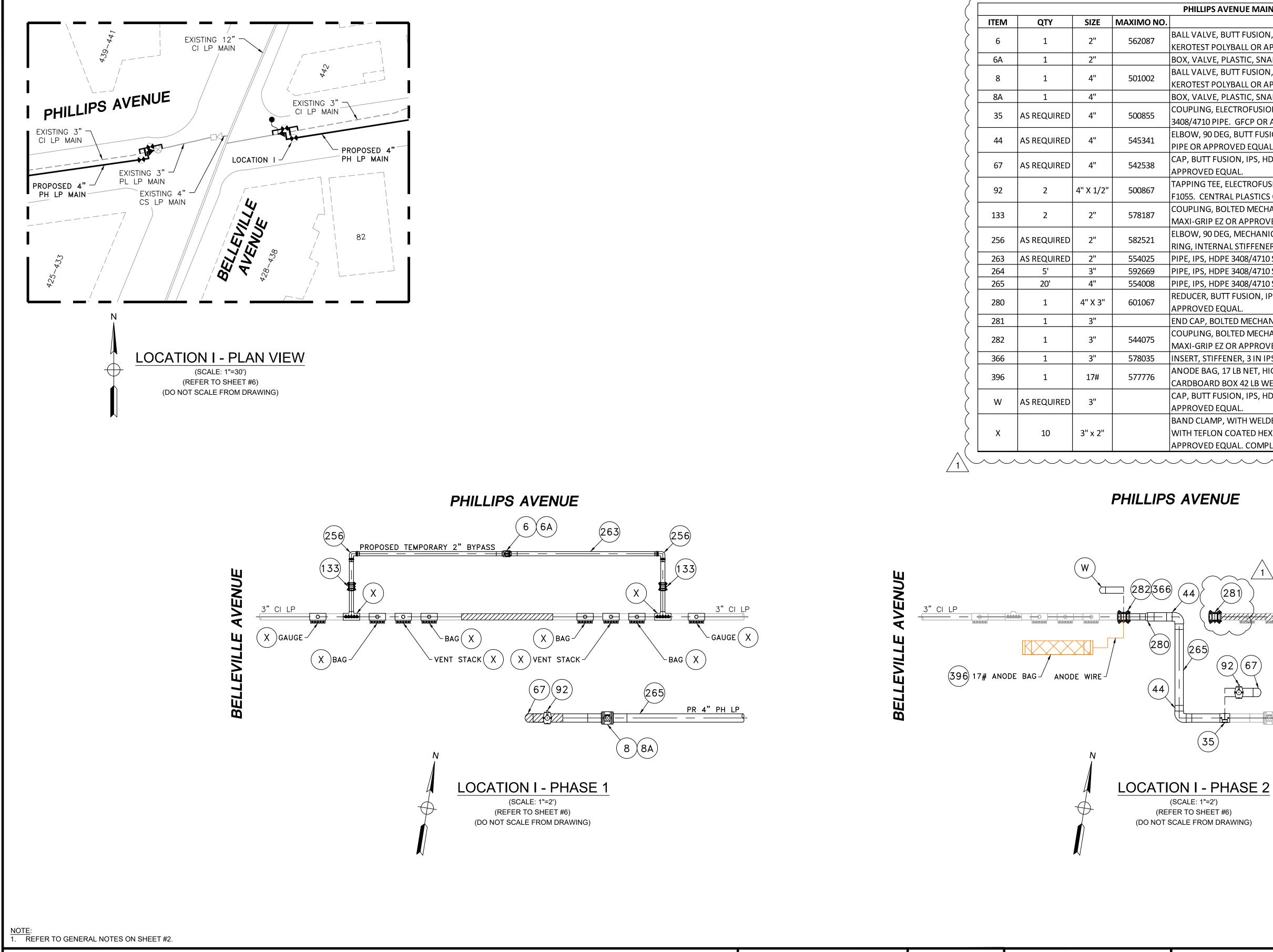
			(REFE	CALE: 1"=2') R TO SHEET #6) ALE FROM DRAWING)				
					1 IFC - NO CHAN	GES THIS SHEET	12/22/2020	TG/AB/EK
					0 ISSUED FOR C	ONSTRUCTION	11/30/2020	ZS/AB/EK
					NO. DESCRIPTION		DATE	DW/CK/AP
						REVISION STAT	JS	
	SEALED BY:	SEALED ON:	DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.			EVERS UI	RCE ENERGY	
ISSUED FOR		12/23/2020	SYSTEMS. LATEST EDITION.			PHILLIPS AVENUE MAI	N RELAY	
CONSTRUCTION				FIELD VERIFY DIMENSIONS		NEW BEDFORD, MASSA	CHUSETTS	
	A BOUSTERE WELL	LICENSE EXPIRATION:	<b>EN</b> ©ngineering	PRIOR TO PIPE FABRICATION	LOCATION I	H - PHASE 1, 2 AND SCH	EDULE OF MATERIA	LS
12/22/2020	3700STONAL ENC				SCALE: AS NOTED		SHEE	T 15 OF 20
	2 H		29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL (630) 353-4000		DRAWN BY / DATE ZS 09/30/2020	CHECKED BY / DATE AB 12/22/2020	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		APPROVED BY / DATE EK 12/22/2020	MANEB21PIP026R1	MA-NEB-21-PIP-026-	15 <b>1</b>

AVENUE (254)(270)3" PL LP

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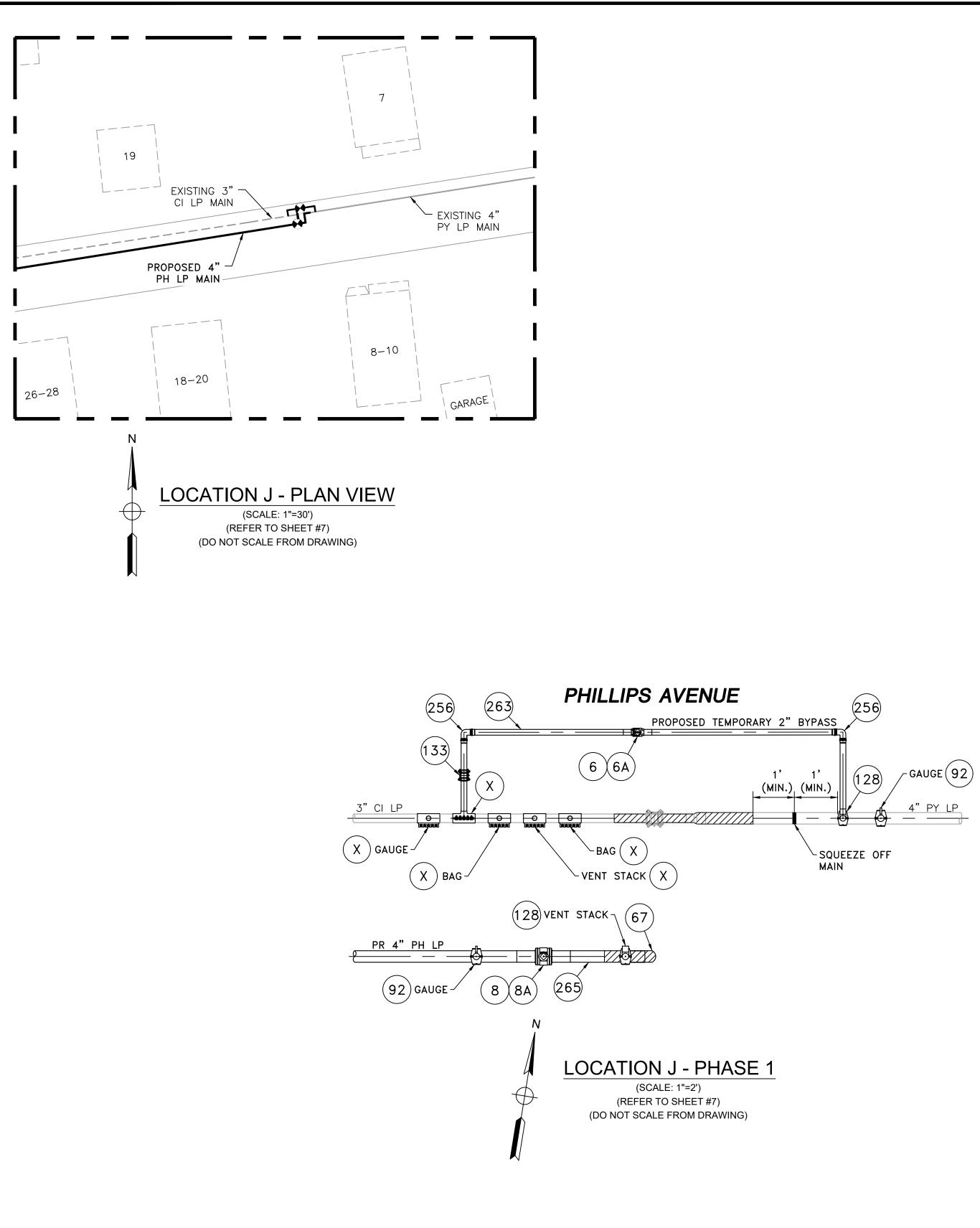


ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	M
				BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	
6	1	2"	562087	KEROTEST POLYBALL OR APPROVED EQUAL.	AST
6A	1	2"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
		411	504000	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	
8	1	4"	501002	KEROTEST POLYBALL OR APPROVED EQUAL.	AST
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	AS
55	AS REQUIRED	4	500655	3408/4710 PIPE. GFCP OR APPROVED EQUAL.	
44	AS REQUIRED	4"	545341	ELBOW, 90 DEG, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE	AS
			545541	PIPE OR APPROVED EQUAL.	
67	AS REQUIRED	4"	542538	CAP, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	AS
•				APPROVED EQUAL.	
92	2	4" X 1/2"	500867	TAPPING TEE, ELECTROFUSION, IPS X CTS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM	AS
		,		F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	
133	2	2"	578187	COUPLING, BOLTED MECHANICAL, IPS TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR	AS
				MAXI-GRIP EZ OR APPROVED EQUAL.	
256	AS REQUIRED	2"	582521	ELBOW, 90 DEG, MECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMRESSION	AS
263	AS REQUIRED	2"	554025	RING, INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL. PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	AS
263	5'	2 3"	592669	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	AS AS
265	20'	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	AS
	20			REDUCER, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	
280	1	4" X 3"	601067	APPROVED EQUAL.	
281	1	3"		END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
				COUPLING, BOLTED MECHANICAL, CIP TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR	
282	1	3"	544075	MAXI-GRIP EZ OR APPROVED EQUAL.	
366	1	3"	578035	INSERT, STIFFENER, 3 IN IPS SDR 11.5, 8 IN LG, RED EPOXY COATING, SMITH BLAIR	
200	1	17#		ANODE BAG, 17 LB NET, HIGH POTENTIAL MAGNESIUM, W/ 10 FT #10 AWG TW ORANGE LEAD WIRE, PACKED IN	
396	1	17#	577776	CARDBOARD BOX 42 LB WEIGHT	
W		3"		CAP, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	
vv	AS REQUIRED	5		APPROVED EQUAL.	
				BAND CLAMP, WITH WELDED 2" FNPT SERVICE OUTLET, 304L SS SINGLE SECTION BAND AND GAP BRIDGES, SS STUDS	5
Х	10	3" x 2"		WITH TEFLON COATED HEX NUTS, COMPLETELY LINED WITH NITRILE RUBBER GASKET. MUELLER 540 SERVI-SEAL OR	

					1	IFC - UPDATED END CAP	12/22/2020	TG/AB/EK	
					0	ISSUED FOR CONSTRUCTION	11/30/2020	ZS/AB/EK	
					NO.	DESCRIPTION	DATE	DW/CK/AP	
						REVISION STATU	IS		
	SEALED BY:	LED 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 URCE ENERGY			
ISSUED FOR CONSTRUCTION 12/22/2020	KUMAR No. 54771	割割 kumar 日降 12/23/2020	12/23/2020	TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.	FIELD VERIFY DIMENSIONS		PHILLIPS AVENUE MAIN NEW BEDFORD, MASSAC		
	POLICISTERED WE	LICENSE EXPIRATION:				LOCATION I - PHASE 1, 2 AND SCHE	DULE OF MATERIA	LS	
	SIONAL ENG	CONTRACTOR ENDING	<b>EN</b> Engineering		SCAL	E: AS NOTED	SHEE	T 16 OF 20	
	SIGNATURE	06/30/2022	29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM		DR/ ZS APPF Eł	AWN BY / DATE CHECKED BY / DATE S 09/30/2020 AB 12/22/2020 ROVED BY / DATE K 12/22/2020 MANEB21PIP026R1	SHEET NUMBER MA-NEB-21-PIP-026-	REV. NO. -16 <b>1</b>	

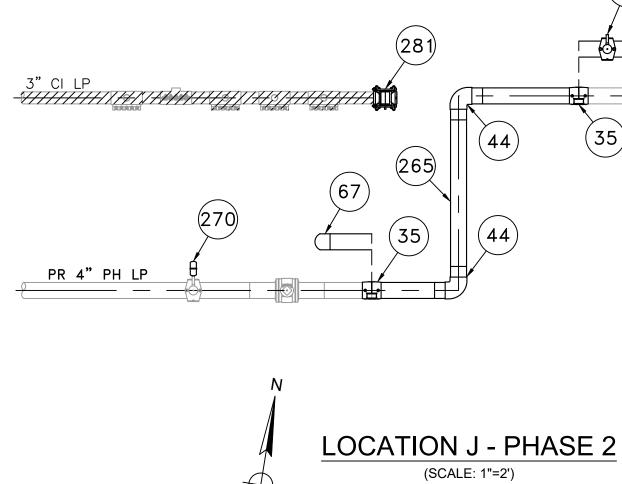
UE MAIN RELAY - LOCATION I - SCHEDULE OF MATERIALS	
DESCRIPTION	MATERIAL
FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	ASTM D2513
ALL OR APPROVED EQUAL.	
STIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	ASTM D2513
ALL OR APPROVED EQUAL.	
STIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
ROFUSION, IPS, HDPE 3408, ASTM D3350, ASTM F1055, COMPATIBLE FOR FUSION TO HDPE	
GFCP OR APPROVED EQUAL.	ASTM D3350
UTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE	
ED EQUAL.	ASTM D2513
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
D MECHANICAL, IPS TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR	
APPROVED EQUAL.	ASTM A-53
/IECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMRESSION	
TIFFENER, 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
408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513
JSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	
L	
MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
D MECHANICAL, CIP TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR	
APPROVED EQUAL.	
R, 3 IN IPS SDR 11.5, 8 IN LG, RED EPOXY COATING, SMITH BLAIR	
3 NET, HIGH POTENTIAL MAGNESIUM, W/ 10 FT #10 AWG TW ORANGE LEAD WIRE, PACKED IN	
42 LB WEIGHT	
N, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR	
L	
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.	

3"	CI LP
) 67 PR 4" PH PR 4" PH	



			1	PHILLIPS AVENUE MAIN RELAY - LOCATION J - SCHEDULE OF MATERIALS	
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL
6	1	2"	562087	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D251
6A	1	2"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID	
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
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 D335
44	AS REQUIRED	4"	545341	ELBOW, 90 DEG, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D251
67	AS REQUIRED	4"	I 542538	CAP, BUTT FUSION, IPS, HDPE 4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261. PERFORMANCE PIPE OR APPROVED EQUAL.	ASTM D251
92	3	4" X 1/2"	500867	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 D251
128	2	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 D251
133	1	2"	5/818/	COUPLING, BOLTED MECHANICAL, IPS TO IPS, ASTM A-53 BODY, CONFORMS TO 49 CFR 192.283(b). SMITH-BLAIR MAXI-GRIP EZ OR APPROVED EQUAL.	ASTM A-5
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 D251
256	AS REQUIRED	2"	582521	ELBOW, 90 DEG, 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 D251
263	AS REQUIRED	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D251
265	20'	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D251
270	AS REQUIRED	1/2"		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 D251
281	1	3"		END CAP, BOLTED MECHANICAL, CIP. SMITH-BLAIR MAXI-GRIP OR APPROVED EQUAL	
Х	5	3" x 2"		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.	

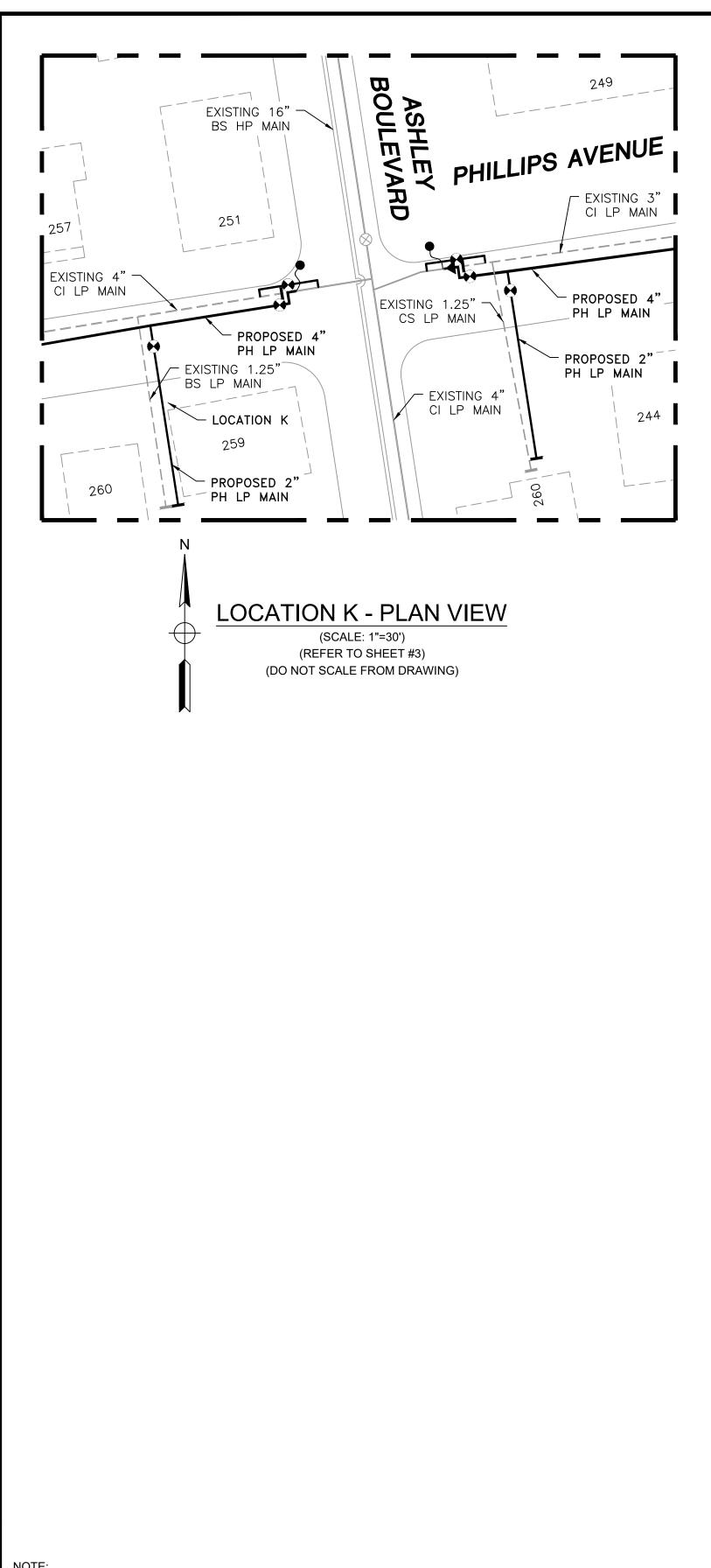
### PHILLIPS AVENUE



(REFER TO SHEET #7) (DO NOT SCALE FROM DRAWING)

0       ISSUED FOR CONSTRUCTION       11/30/2020       ZS/AE         NO.       DESCRIPTION       DATE       DW/C         REVISION STATUS         EVERSEURCE         12/23/2020       SEALED DY: <ul> <li>Image: State Difference</li> </ul> <ul> <li>Image: State Difference</li> </ul> <ul> <li>Image: State Difference</li> <li>Image: State Difference</li> <li>Image: State Difference</li> <li>Image: State Difference</li> </ul> <ul> <li>Image: State Difference</li> <li>Image: State Di</li></ul>									
0       ISSUED FOR CONSTRUCTION       11/30/2020       ZS/AE         NO.       DESCRIPTION       DATE       DW/C         REVISION STATUS         EVERSEURCE         12/23/2020       SEALED DY: <ul> <li>Image: State Difference</li> </ul> <ul> <li>Image: State Difference</li> </ul> <ul> <li>Image: State Difference</li> <li>Image: State Difference</li> <li>Image: State Difference</li> <li>Image: State Difference</li> </ul> <ul> <li>Image: State Difference</li> <li>Image: State Di</li></ul>									
0       ISSUED FOR CONSTRUCTION       11/30/2020       ZS/AE         NO.       DESCRIPTION       DATE       DW/C         REVISION STATUS         EVERSEURCE         12/23/2020       SEALED DY: <ul> <li>Image: Sealed DY:</li> <li>Image: Sealed DY:</li></ul>									
0       ISSUED FOR CONSTRUCTION       11/30/2020       ZS/AE         NO.       DESCRIPTION       DATE       DW/C         REVISION STATUS         EVERSEURCE         12/23/2020       SEALED DY: <ul> <li>ISSUED FOR</li> <li>ISSUED FOR,</li> <li>ISSUED FOR</li> <li>ISSUED FOR CONSTRUCTION</li> <li>ISS</li></ul>									
NO.       DESCRIPTION       DATE       DW/C         REVISION STATUS         REVISION STATUS       EVERSEURCE       ENErgy         ISSUED FOR CONSTRUCTION       12/23/2020       DESIGNED IN ACCORDANCE WITH TITLE 49-PART 1920 F MUMUM FEDERAL SAFETY 1920 F MUMUM FEDERAL SAFETY SYSTEMS. LATEST EDITION.       FIELD VERIFY DIMENSIONS PRIOR TO PIPE FABRICATION       PHILLIPS AVENUE MAIN RELAY NEW BEDFORD, MASSACHUSETTS         LICENSE EXERCISION:       LICENSE EXERCISION:       ENErgation:       FIELD VERIFY DIMENSIONS PRIOR TO PIPE FABRICATION       LOCATION J - PHASE 1, 2 AND SCHEDULE OF MATERIALS						1 IFC - NO CHANC	GES THIS SHEET	12/22/2020	TG/AB/EK
Issued for construction       Sealed by:       Sealed on:       Designed in accordance with title 49-PART 199 of MINIMUM FEDEral SAFETY STANDARDS OND GYTEINON       Designed in accordance with title 49-PART 199 of MINIMUM FEDEral SAFETY STANDARDS OND GYTEINON       Field verify dimensions Prior to Pipe Fabrication       Physical Designed in accordance with title 49-PART 199 of MINIMUM FEDEral SAFETY STANDARDS OND GYTEINON       Field verify dimensions Prior to Pipe Fabrication       Physical Designed in accordance with title 49-PART 199 of MINIMUM FEDEral SAFETY STANDARDS OND GYTEIN       Field verify dimensions Prior to Pipe Fabrication       Physical Designed in accordance with title Standards on gene Energy Standards on gene Energy Brior to Pipe Fabrication       Field verify dimensions Prior to Pipe Fabrication       Physical Designed in accordance with title Standards on gene Energy Brior to Pipe Fabrication       Field verify dimensions Prior to Pipe Fabrication       Designed in accordance with title Energy Brior to Pipe Fabrication       Continue of the pipe fabrication						0 ISSUED FOR CO	ONSTRUCTION	11/30/2020	ZS/AB/EK
ISSUED FOR CONSTRUCTION       Image: Sealed by:       Image: Sealed on:						NO. DESCRIPTION		DATE	DW/CK/AP
ISSUED FOR CONSTRUCTION       12/23/2020       12/23/2020       12/23/2020       12/23/2020       ENErgy         Issue       12/23/2020       12/23/2020       Field Verify Dimensions       Field Verify Dimensions       Field Verify Dimensions         Prior to Pipe Fabrication       Issue       Issue       Issue       Field Verify Dimensions       Field Verify Dimensions         Prior to Pipe Fabrication       Issue       Issue       Issue       Field Verify Dimensions       Issue							REVISION STAT	JS	
CONSTRUCTION       No. 54771       Image: Mail of the second seco		SEALED BY:	SEALED ON:						
CONSTRUCTION       Image: Molestary of the provide of th	ISSUED FOR	(응) KUMAR []]	12/23/2020	23/2020 TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.					
						NEW BEDFORD, MASSACHUSETTS			
		THE PERSON AND AND AND AND AND AND AND AND AND AN	LICENSE	<b>El</b> Engineering		LOCATION J	- PHASE 1, 2 AND SCHE	EDULE OF MATERIA	LS
		TO SIONAL ENGLINE	EXPIRATION:			SCALE: AS NOTED		SHEE	T 17 OF 20
29 BARTLETT STREET       MARLBOROUGH, MA 01752       TEL, (630) 353-4000       DEVICE       CHECKED BY / DATE       CHECKED BY / DATE       SHEET NUMBER       RI       DRAWN BY / DATE       CHECKED BY / DATE       SHEET NUMBER       DEL (630) 353-4000		ki-		29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM		DRAWN BY / DATE	CHECKED BY / DATE	SHEET NUMBER	REV. NO.
Minicipal         Image: Construint of the construction of the constructio		SIGNATURE	06/30/2022			APPROVED BY / DATE		MA-NEB-21-PIP-026-1	17 <b>1</b>

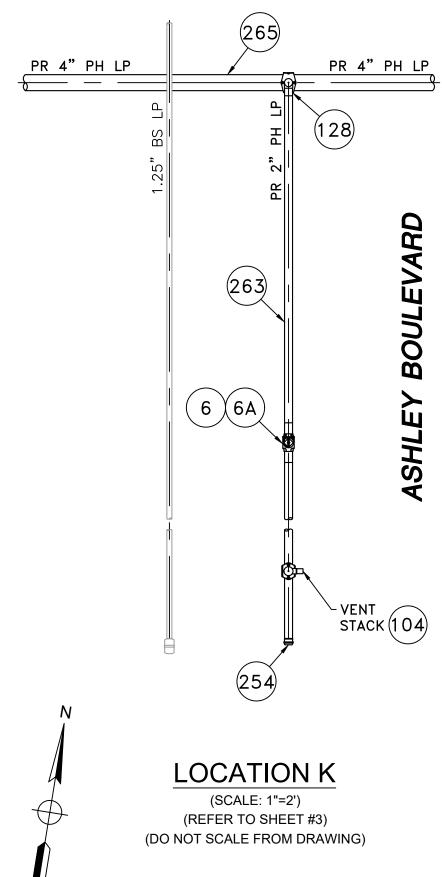
254 (270)<u>1" PY LP</u> 35





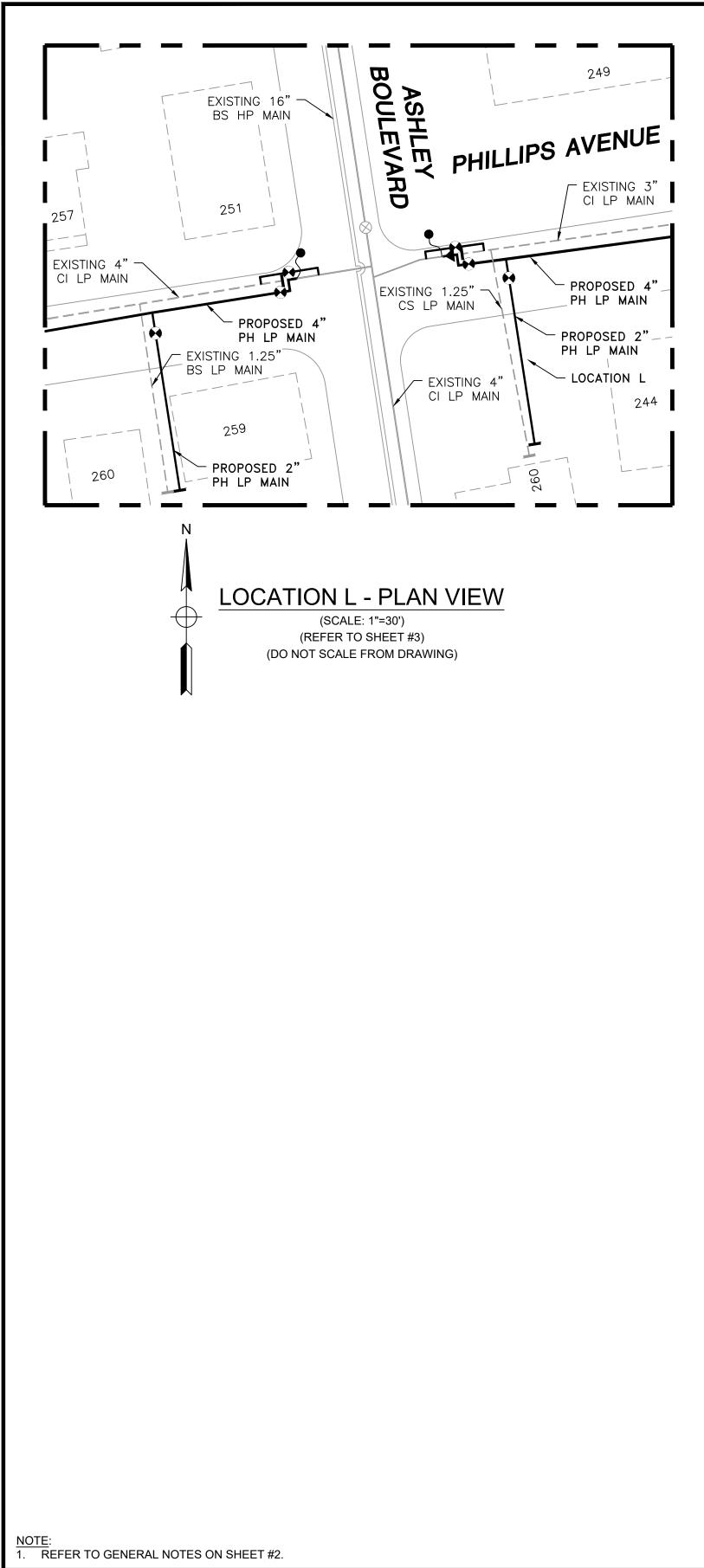
	PHILLIPS AVENUE MAIN RELAY - LOCATION K - SCHEDULE OF MATERIALS							
ITEM	QTY	SIZE	MAXIMO NO.	DESCRIPTION	MATERIAL			
6	1	2"	562087	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN, KEROTEST POLYBALL OR APPROVED EQUAL.	ASTM D2513			
6A	1	2"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID				
104	1	2" X 1"	560779	TAPPING TEE, ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTM D2513			
128	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 D2513			
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 D2513			
263	65'	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513			
265	15'	4"	554008	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513			

PHILLIPS AVENUE



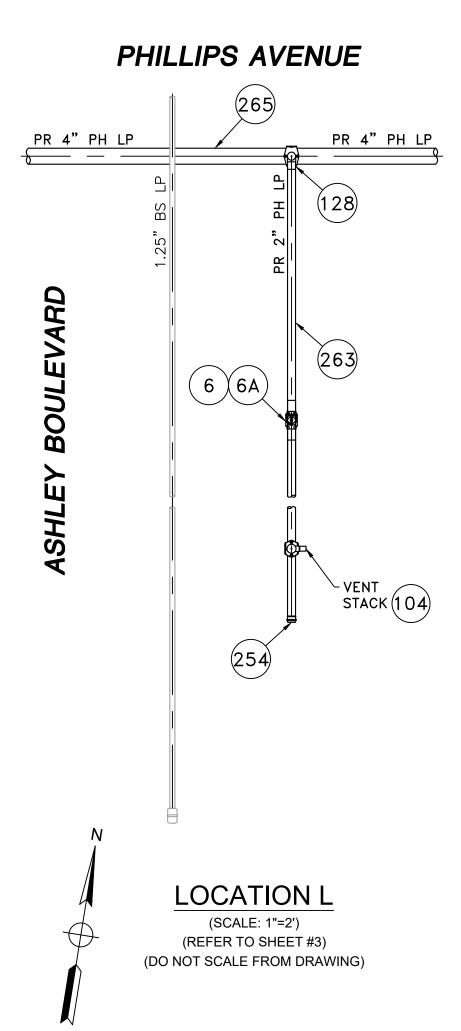
12/22/2020 ENGINE EXPIRATION: ENGINEERING	ISSUED FOR CONSTRUCTION	SEALED BY:	SEALED ON: 12/23/2020	DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS. LATEST EDITION.	FIELD VERIFY I
SIGNATURE		SIGNATURE	EXPIRATION:	29 BARTLETT STREET	PRIOR TO PIPE

	1	IFC - NO CHAN	IGES THIS SHEET		12/22/2020	TG/	AB/EK	
	0	ISSUED FOR C	CONSTRUCTION		11/30/2020	ZS/	AB/EK	
	NO.	DESCRIPTION			DATE	DW/	/CK/AP	
	REVISION STATUS							
				RCE				
	PHILLIPS AVENUE MAIN RELAY							
FY DIMENSIONS PE FABRICATION	NEW BEDFORD, MASSACHUSETTS							
	LOCATION K AND SCHEDULE OF MATERIALS							
	SCA	LE: AS NOTED		SHEE	T 18	OF 20		
		RAWN BY / DATE 2S 09/30/2020	CHECKED BY / DATE AB 12/22/2020		SHEET NUMBER		REV. NO.	
	APP	PROVED BY / DATE K 12/22/2020	MANEB21PIP026R1	MA-N	NEB-21-PIP-026-	18	1	



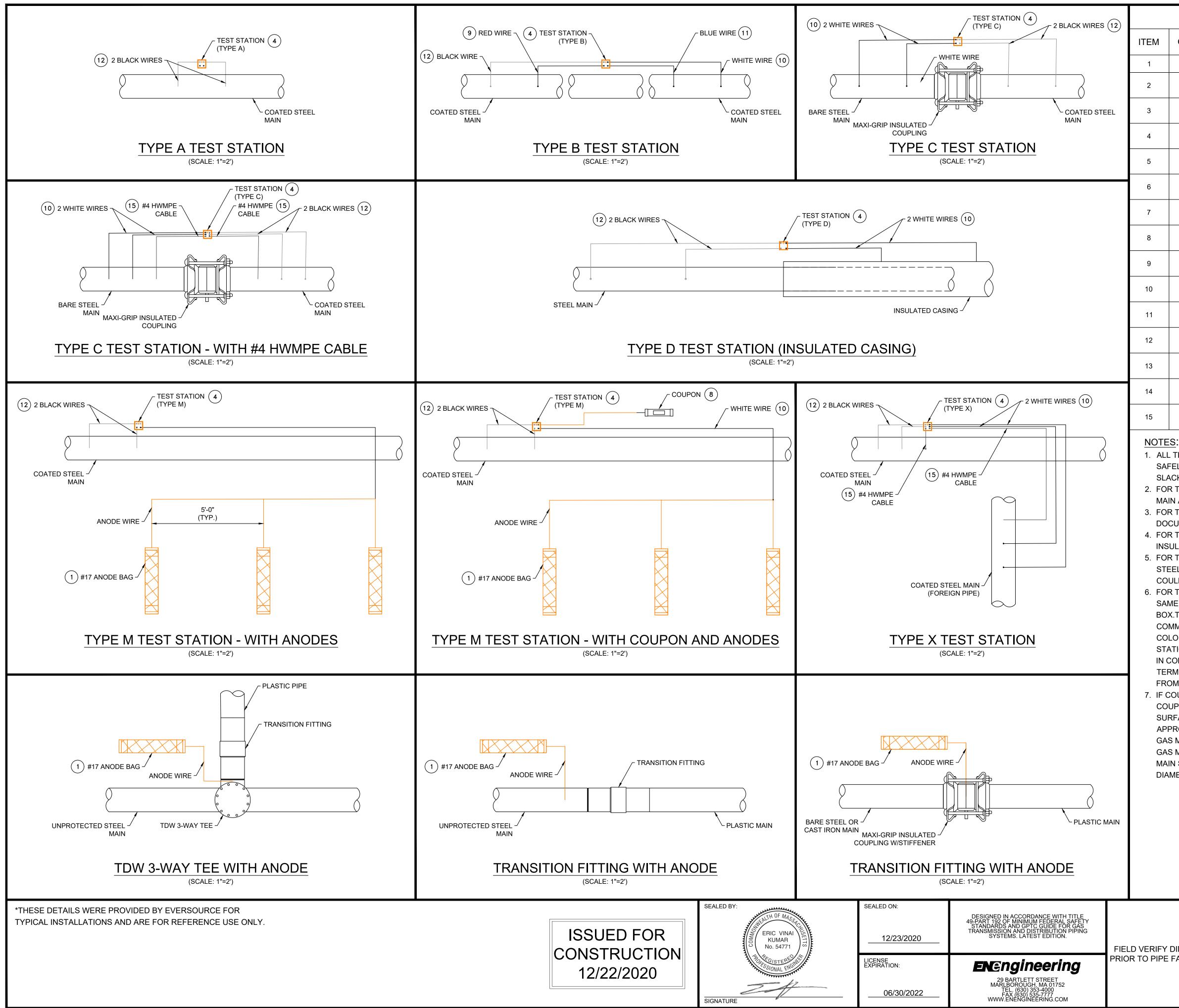


	PHILLIPS AVENUE MAIN RELAY - LOCATION L - SCHEDULE OF MATERIALS													
ITEM	QTY	SIZE MAXIMO NO.		DESCRIPTION	MATERIAL									
c	1	2"	562087	BALL VALVE, BUTT FUSION, IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASME B16.40. FULL PORT, 1/4 TURN,	ASTM D2513									
6	T	Z	502087	KEROTEST POLYBALL OR APPROVED EQUAL.	A31101 D2515									
6A	1	2"		BOX, VALVE, PLASTIC, SNAP-ON, ADJ, W/CI NON-LOCKING LID										
104	1	2" X 1"	560779	TAPPING TEE, ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261, ASTM	ASTM D2513									
104	T	2 X 1 500/79	2 ^ 1	2 / 1		F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTIVI DZ515							
128	1	4" X 2"	584304	HV TAPPING TEE, ELECTROFUSION, IPS X IPS, HDPE 3408/4710, SDR 11, ASTM D2513, ASTM D3350, ASTM D3261,	ASTM D2513									
120		Ť			4 ^ 2	4 ^ 2	4 7 2	4 7 2	4 7 2	4 7 2	1 4 A Z	4 ^ 2 564504	ASTM F1055. CENTRAL PLASTICS OR APPROVED EQUAL.	ASTIVI DZ515
254	AS REQUIRED 2"	יר <u>ס</u> י	581633	END CAP MECHANICAL COMPRESSION, SDR 11 IPS, DUPONT ZYTEL ST-801 NYLON BODY, 316 SS COMRESSION RING,	ASTM D2513									
254 AS REQUIRED	Z	561055	INTERNAL STIFFENER, ASTM D-2513, ASTM F1924. METFIT OR APPROVED EQUAL.	ASTIVI DZ515										
263	70'	2"	554025	PIPE, IPS, HDPE 3408/4710 SDR 11, ASTM D2513, ASTM D3350, PERFORMANCE PIPE OR APPROVED EQUAL	ASTM D2513									
265	15'	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: 12/23/2020	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 12/22/2020	A BOLE GISTERES	LICENSE EXPIRATION:	<b>EN</b> @ngineering	PRIOR TO PIPE F
	SIGNATURE	06/30/2022	29 BARTLETT STREET MARLBOROUGH, MA 01752 TEL. (630) 353-4000 FAX (630) 535-7777 WWW.ENENGINEERING.COM	

	1	IFC - NO CHAN	IGES THIS SHEET		12/22/2020	TG/	AB/EK		
	0	ISSUED FOR C	ONSTRUCTION		11/30/2020	ZS/	AB/EK		
	NO.	DESCRIPTION			DATE	DW/	CK/AP		
		REVISION STATUS							
DIMENSIONS FABRICATION	<b>EVERS URCE</b>								
	ENERGY								
	PHILLIPS AVENUE MAIN RELAY								
	NEW BEDFORD, MASSACHUSETTS								
	LOCATION L AND SCHEDULE OF MATERIALS								
	SCALE: AS NOTED SHEET 19						OF 20		
	DF	RAWN BY / DATE ZS 09/30/2020	CHECKED BY / DATE AB 12/22/2020		SHEET NUMBER		REV. NO.		
	APF	28 09/30/2020 28 PROVED BY / DATE 26 12/22/2020	MANEB21PIP026R1	MA-N	IEB-21-PIP-026-	19	1		



	CATHODIC PROTECTION BILL OF MATERIALS								
QTY	SIZE	MAXIMO NO.	DESCRIPTION						
X	EA	577776	ANODE,BAG, 17 LB NET, HIGH POTENTIAL MAGNESIUM, W/ 10 FT #10 AWG TW ORANGE LEAD WIRE, PACKED IN CARDBOARD BOX 42 LB TOTAL WEIGHT						
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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	REVISION STATUS						
Ó DIMENSIONS E FABRICATION	<b>EVERS URCE</b>						
	ENERGY						
	PHILLIPS AVENUE MAIN RELAY						
	NEW BEDFORD, MASSACHUSETTS						
	STANDARD CORROSION DETAILS						
	SCALE:1"=2' (DO NOT SCALE FROM DRAWINGS) SHEET 20 OF 20						
	DF	RAWN BY / DATE ZS 09/30/2020	CHECKED BY / DATE AB 12/22/2020	5	SHEET NUMBER		REV. NO.
	APF	PROVED BY / DATE K 12/22/2020	MANEB21PIP026R1	MA-N	MA-NEB-21-PIP-026-20		1