

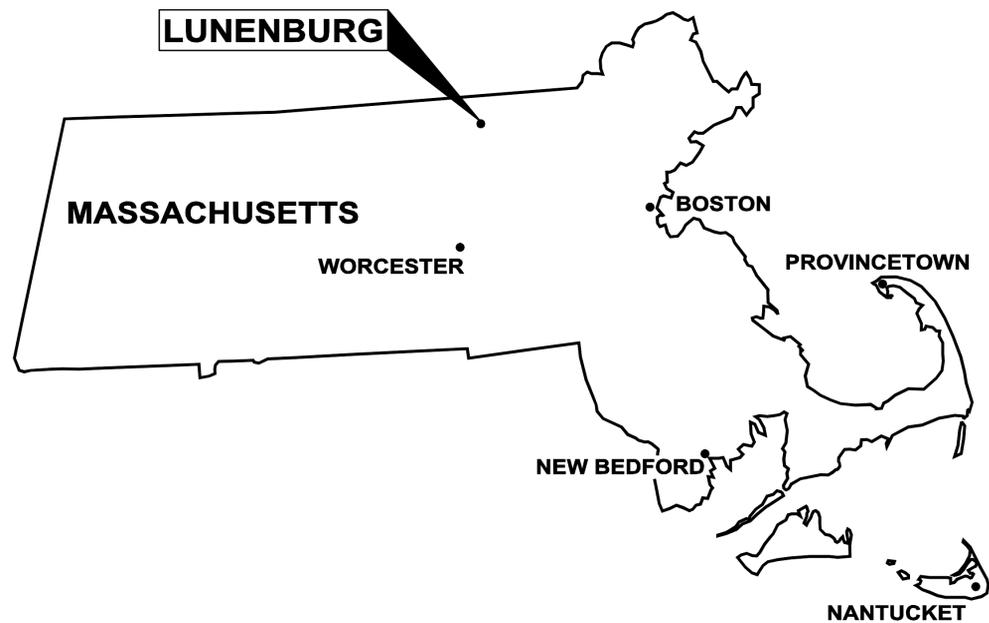
# TOWN OF LUNENBURG, MASSACHUSETTS

## SEWER COMMISSION

# PRATT STREET AND LAKEVIEW AVENUE AREAS

# SEWER EXTENSION PROJECT

JANUARY 2015  
CONTRACT NO. 2015-1  
CWSRF # 3860



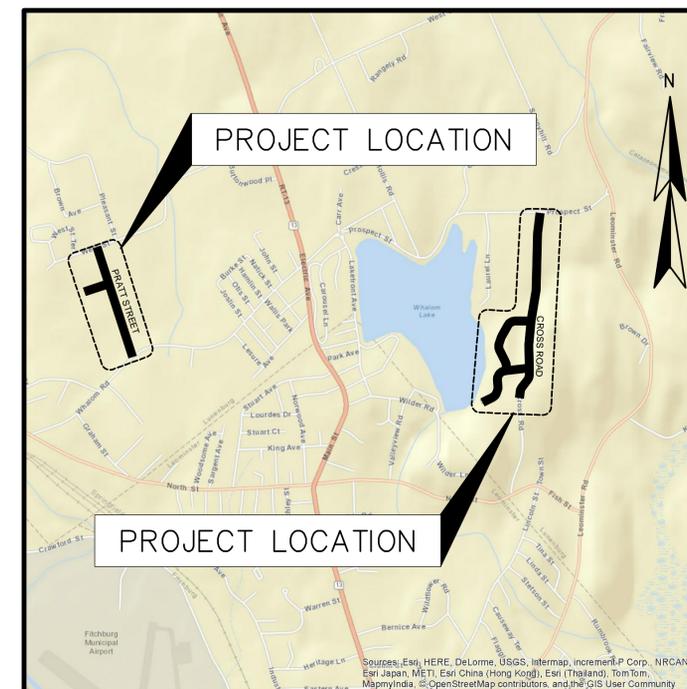
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**LOCATION PLAN**  
SCALE: 1"=1200'

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FOR REVIEW OCTOBER 2014

FOR BIDDING JANUARY 2015

WP PROJECT NO. 12990A

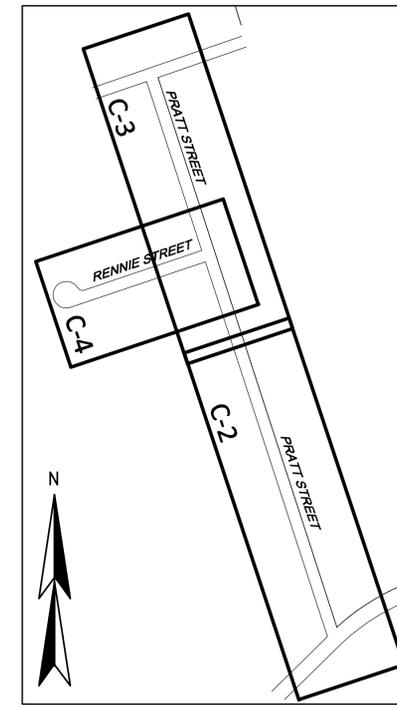
SEWER GENERAL NOTES

- 1. THE CONTRACTOR IS REFERRED TO SECTION 01050 OF THE SPECIFICATIONS REGARDING COORDINATION WITH OTHERS, INCLUDING RESPONSIBILITIES AND RELATED COSTS.
2. BELOW GRADE UTILITY INFORMATION IS BASED ON INFORMATION PROVIDED BY EACH UTILITY. LOCATION OF PUBLIC UTILITIES SHOWN IS ONLY APPROXIMATE AND MAY NOT BE COMPLETE. PRIVATE UNDERGROUND UTILITIES SUCH AS, BUT NOT LIMITED TO, SEWER LINES, WATER LINES AND BURIED ELECTRICAL SERVICE ENTRANCES ARE NOT SHOWN. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION AND SIZE OF EXISTING UTILITIES IN THE FIELD WITH THE RESPECTIVE UTILITY COMPANY REPRESENTATIVE PRIOR TO COMMENCING WORK. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE NOTIFIED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THE DRAWINGS (SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS) PRIOR TO DESIGNING, EXCAVATING, EXCAVATING, BLASTING, INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORING, OR RE-PAVING. REFER TO SPECIFICATION SECTION 01050. ADDITIONAL TEST PITS, BEYOND THOSE SHOWN, MAY BE REQUIRED, PER MASSACHUSETTS GENERAL LAW, THE CONTRACTOR SHALL CALL DIG SAFE (811) AND TOWN DPW BEFORE ANY EXCAVATION. UTILITY CONTACTS ARE AS FOLLOWS:
ELECTRIC: NATIONAL GRID HEATHER MILLS 40 SYLVAN ROAD WALTHAM, MA 02451 TEL. (781) 907-3510
SEWER COMMISSION: 520 CHASE ROAD LUNENBURG, MA 01462 JACK RODRIQUEZ TEL. (978) 582-4152
LUNENBURG WATER DISTRICT: PO BOX 375 LESURE AVENUE LUNEBURG, MA 01462 FRAN MCNAMARA TEL. (978) 342-9211
GAS: KINDER MORGAN/TENNESSEE GAS PIPELINE 1615 SUFFIELD STREET AGAWAM, MA 01001 JOHN KENNEDY TEL. (413) 821-2058
GAS: NATIONAL GRID 40 SYLVAN ROAD WALTHAM, MA 02451 MIKE ENWRIGHT TEL. (978) 382-4590
CABLE: COMCAST 115 EPPING RD EXETER, NH 03833 TED QUINT TEL. (603) 773-6005
CABLE: UNITIL 285 JOHN FITCH HIGHWAY FITCHBURG, MA 01420 DAN GOLDEN TEL. (978) 353-3245
3. ALL EXISTING SEWER AND STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. ANY EXISTING SEWERS, STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER, EXCEPT WHEN IN DIRECT CONFLICT WITH THE NEW LPS OR WHEN NOT SHOWN OR INDICATED.
4. THE CONTRACTOR SHALL ENCOUNTER ASBESTOS CEMENT PIPE DURING EXECUTION OF THE WORK. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF OSHA AND ALL OTHER FEDERAL, STATE AND LOCAL REGULATIONS WHEN HANDLING, REMOVING AND DISPOSING OF ASBESTOS CEMENT PIPES. A BID ITEM HAS BEEN INCLUDED IN THE BID FORM TO ESTABLISH A UNIT PRICE FOR THE REMOVAL AND DISPOSAL OF ASBESTOS CEMENT PIPE.
5. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURES CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY.
6. IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48 HOUR NOTIFICATION TO NATIONAL GRID OR VERIZON, RESPECTIVELY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.
7. DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSIONS AND STATIONING SHALL PREVAIL. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER. TOPOGRAPHY BASED ON SURVEY DATED AUGUST 2014 BY LIGHTHOUSE LAND SURVEYING, TAUNTON, MA.
8. CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL SIGNS IN ACCORDANCE WITH MUTCD REQUIREMENTS AND MASS DOT.
9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRAFFIC FLOW AT ALL TIMES. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN TO THE OWNER PRIOR TO COMMENCING CONSTRUCTION. THE LUNENBURG POLICE AND FIRE DEPARTMENTS ARE TO BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF ANY STREET CLOSING OR DETOUR. REFER TO SPEC. SECTION 01570. CONTRACTOR IS TO COORDINATE WITH LUNENBURG POLICE DEPARTMENT FOR UNIFORMED TRAFFIC DETAILS FOR ALL WORK ON STREETS. THE CONTRACTOR SHALL COMPLY WITH ANY CONDITIONS SET BY PUBLIC SAFETY OFFICIALS.
10. THE OWNER WILL BE RESPONSIBLE FOR OBTAINING THE PERMITS LISTED IN THE SUPPLEMENTARY CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH PERMIT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. COPIES OF ALL OBTAINED PERMITS ARE AVAILABLE FOR REVIEW FROM THE LUNENBURG SEWER COMMISSION. ALL OTHER PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
11. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHTS OF WAY AND EASEMENTS. THE CONTRACTOR SHALL VERIFY THAT THE NECESSARY EASEMENTS HAVE BEEN SECURED BY THE OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH EASEMENT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. COPIES OF ALL RIGHTS\_OF\_WAY AND EASEMENTS ARE AVAILABLE FOR REVIEW FROM THE LUNENBURG SEWER COMMISSION.
12. ALL TEST PITS SHALL BE EXCAVATED PRIOR TO CONSTRUCTION LAYOUT AND RESULTS REPORTED TO THE ENGINEER FOR REVIEW FOR CONFORMANCE TO THE PLANS. TEST PITS ARE REQUIRED WHERE SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. TEST PITS WILL BE DUG PRIOR TO CONNECTING PROPOSED LPS TO EXISTING SEWERS. THE RESULTS OF TEST PITS DUG TO DETERMINE EXISTING UTILITY ELEVATIONS AND LOCATIONS WILL BE REPORTED TO THE ENGINEER. ADJUSTMENTS TO INVERTS, LENGTHS AND SLOPES OF PROPOSED LPS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF ALL PROPOSED LINES AND STRUCTURES AS SHOWN ON THE DRAWINGS. THE LAYOUT PLAN SHALL BE REVIEWED BY THE ENGINEER PRIOR TO CONSTRUCTION. THE HORIZONTAL ALIGNMENT OF THE NEW LPS MAY BE ADJUSTED IN THE FIELD SUBJECT TO PRIOR APPROVAL BY THE ENGINEER. ALL ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM. ORIENTATION IS NORTH MASSACHUSETTS STATE PLAN COORDINATE SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL ELEVATION REFERENCE INFORMATION PRIOR TO USE IN CONSTRUCTION. NOT ALL REQUIRED TEST PITS ARE SHOWN ON THE PLANS.
13. CONTRACTOR SHALL MINIMIZE CLEARING OPERATIONS. CLEARING AND GRUBBING SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02110. CLEARING LIMITS SHALL BE AS INDICATED ON THE DRAWINGS, BUT AT ALL TIMES WITHIN EXISTING ROAD RIGHTS\_OF\_WAY AND PROPERTY LINES ON TOWN OWNED PROPERTY OR EASEMENTS. ALL GRUBBINGS AND EXCESS EXCAVATED MATERIAL ARE THE PROPERTY OF THE CONTRACTOR AND WILL BE DISPOSED OF AT A SITE PROVIDED BY THE CONTRACTOR IN COMPLIANCE WITH ALL STATE AND LOCAL LAWS.
14. EXCAVATION WITHIN 18" OF ANY UTILITY SHALL BE COMPLETED BY HAND TO EXPOSE THE UTILITY LOCATION. AFTER VERIFYING THE UTILITY LOCATION AND DEPTH, MECHANICAL EXCAVATION METHODS CAN RESUME, TAKING CARE NOT TO DAMAGE THE UTILITY.
15. NO TREE OR LIMB SHALL BE CUT WITHOUT THE PRIOR APPROVAL OF THE TOWN OF LUNENBURG. TREES ALLOWED TO BE CUT WILL BE FLAGGED BY THE CONTRACTOR AND PAINT MARKED BY THE TOWN FOR VERIFICATION PRIOR TO CUTTING.
16. LOCATION OF PROPOSED LPS SHALL MINIMIZE DISTURBANCE OF ROOT SYSTEMS OF EXISTING TREES OR SHRUBS. CONTRACTOR SHALL EXERCISE CARE TO PREVENT DAMAGE THERETO.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREVENTION OF EROSION. ALL DISTURBED EARTH SURFACES ARE TO BE STABILIZED IN THE SHORTEST PRACTICAL TIME AND TEMPORARY EROSION CONTROL DEVICES SHALL BE EMPLOYED UNTIL SUCH TIME AS ADEQUATE SOIL STABILIZATION HAS BEEN ACHIEVED. TEMPORARY STORAGE OF EXCAVATED MATERIAL IS TO BE IN A MANNER THAT WILL MINIMIZE EROSION. THE CONTRACTOR SHALL DISPOSE OF UNSUITABLE EXCAVATED MATERIAL AT A SITE PROVIDED BY HIM WHICH IS IN COMPLIANCE WITH ALL STATE AND LOCAL LAWS. MATERIALS AND METHODS USED FOR TEMPORARY EROSION CONTROL SHALL BE AS SPECIFIED BY THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS", FRANKLIN, HAMPTON, HAMPSHIRE CONSERVATION DISTRICTS, DATED 2003 OR LATEST VERSION. REFER TO SPECIFICATION SECTION 02270.
18. COMPACTION TESTS SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02200. ANY SETTLEMENT OCCURRING WITHIN ONE YEAR OF SUBSTANTIAL COMPLETION OF THE PROJECT WILL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
19. OPEN TRENCHES IN THE ROADWAY MUST BE BACKFILLED AT THE END OF THE WORKDAY.
20. CONTRACTOR SHALL CONTROL DUST TO A TOLERABLE LIMIT AS OUTLINED IN SPECIFICATION SECTION 01562. CONTRACTOR SHALL NOT TRACK OR SPILL EARTH AND DEBRIS ON PUBLIC STREETS OUTSIDE THE PROJECT AREA. STREETS OPENED TO THE PUBLIC SHALL BE KEPT SWEEP AND FREE OF DEBRIS.
21. WHEREVER PROPOSED STRUCTURES ARE LOCATED PARTLY WITHIN A PAVED AREA AND PARTLY IN A NON\_PAVED AREA, A

- BITUMINOUS CONCRETE PAVED APRON 2 FEET WIDE SHALL BE SUPPLIED AROUND THE PROPOSED COVER. PAVEMENT SHALL SLOPE AWAY FROM THE COVER.
22. SERVICE CONNECTIONS ARE SHOWN FOR ESTIMATING PURPOSES ONLY. THE ACTUAL NUMBER, LENGTH, AND LOCATION SHALL BE AS FIELD DETERMINED AT THE TIME OF CONSTRUCTION. A NEW SERVICE LEAD SHALL BE INSTALLED FROM THE NEW SEWER LINE BACK TO THE PROPERTY LINE OR THE EDGE OF THE PERMANENT EASEMENT BUT NO CLOSER THAN 5 FT TO EXISTING BUILDINGS.
23. ALL MANHOLES ARE 4 FOOT DIAMETER, ECCENTRIC CONE TOP, UNLESS OTHERWISE NOTED. THE INVERTS SHOWN ARE AT THE INSIDE FACE OF THE MANHOLE.
24. INSULATE OVER ANY LPS WHEN COVER IS LESS THAN 5.0 FT, OR THERE IS LESS THAN 2 FT BETWEEN THE LPS AND A CULVERT/ STORM DRAIN.
25. ALL ROAD AND PARKING AREA SURFACES SHALL PITCH 1/4 INCH PER FOOT MINIMUM UNLESS OTHERWISE NOTED. ALL VEGETATED AREAS ABOVE MEAN HIGH WATER ELEVATION THAT ARE EXCAVATED, FILLED OR OTHERWISE DISTURBED BY THE CONTRACTOR AND ARE NOT TO BE PAVED OR FILLED WITH RIPRAP SHALL BE LOAMED, GRADED, LIMED, FERTILIZED, SEEDED AND MULCHED AT NO ADDITIONAL EXPENSE TO THE OWNER.
26. INITIAL PAVING SHALL BE CONDUCTED WITHIN TWO WEEKS OF COMPLETION OF PLACEMENT OF FINAL BACKFILL UNLESS OTHERWISE AUTHORIZED BY ENGINEER. INITIAL PAVEMENT SHALL BE INSTALLED AND MAINTAINED BY CONTRACTOR FOR A MINIMUM PERIOD OF ONE WINTER SEASON BEFORE FINAL PAVEMENT IS PLACED. IF CONDITIONS WARRANT, THE CONTRACTOR MAY BE REQUIRED TO REMOVE AND REPLACE INITIAL PAVING PRIOR TO FINAL PAVING.
27. LPS SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS IN NEW PIPING WILL BE PERMITTED UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL BENDS SHALL BE SUITABLY RESTRAINED BY CAST IN PLACE CONCRETE THRUST BLOCKS. TEST PRESSURE FOR THE PRESSURE AND LEAKAGE TEST SHALL BE 100 PSI OR GREATER AS OUTLINED IN SPECIFICATION SECTION 02755.
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTling ALL EXISTING PROPERTY MONUMENTATION THAT IS DISTURBED BY HIS OPERATIONS AT NO EXPENSE TO THE OWNER. THIS WORK IS TO BE DONE BY A LAND SURVEYOR REGISTERED IN THE STATE OF MASSACHUSETTS.
29. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
30. SEE APPENDIX A OF THE SPECIFICATIONS FOR BORING LOGS. THESE ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. MOST OF THE BORINGS WERE COMPLETED BY TECHNICAL DRILLING SERVICES IN SEPTEMBER 2014. ONE BORING WAS COMPLETED BY SOIL EXPLORATION IN DECEMBER 1998.
31. THE CONTRACTOR SHALL NOT HAVE ANY RIGHT OF PROPERTY IN ANY MATERIALS TAKEN FROM ANY EXCAVATION. SUITABLE EXCAVATED MATERIAL MAY BE INCORPORATED IN THE PROJECT, WITH EXCESS MATERIAL DISPOSED OF AT A LOCATION PROVIDED BY THE CONTRACTOR. THESE PROVISIONS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO PROPERLY DISPOSE OF AND REPLACE ANY MATERIAL DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING. THE CONTRACTOR SHALL DISPOSE OF UNSUITABLE AND EXCESS MATERIAL IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE CONTRACT DOCUMENTS.
32. THE LOCATIONS AND DEPTHS OF EXISTING GAS AND WATER SERVICES ARE UNKNOWN. CONTRACTOR SHALL ANTICIPATE AT LEAST ONE GAS AND WATER SERVICE FOR EACH BUILDING. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING WATER MAINS, GAS MAINS AND SERVICES. THE CONTRACTORS SCHEDULE SHALL TAKE INTO CONSIDERATION REASONABLE TIME TO CROSS AND IF REQUIRED TO RELOCATE EXISTING SERVICES AND WATER MAINS AFFECTED BY THE WORK AND HE SHALL HAVE NO CLAIMS FOR ADDITIONAL TIME OR COSTS ASSOCIATED WITH THESE ROUTINE RELOCATIONS. ADDITIONALLY, DEPTHS OF NEW PIPE MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO MINIMIZE CONFLICTS WITH WATER AND GAS SERVICES.
33. THE CONTRACTOR SHALL MAINTAIN RECORDS OF THE ACTUAL AS-BUILT LOCATIONS AND DIMENSIONS OF THE WORK.
34. THE CONTRACTOR SHALL RE-SHAPE INVERTS AS REQUIRED WHEN CONNECTING INTO EXISTING MANHOLES.
35. CONTRACTOR TO NOTE THAT IN GENERAL EXISTING CONDITIONS INFORMATION ON THE DRAWINGS ARE SHOWN IN LIGHTER WEIGHTS AND WITH A SLANTED TYPE TEXT.
36. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS, AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE CONNECTION. CONTRACTOR SHALL VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION.
37. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL DEMOLISHED PIPING AND MATERIALS. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS. THE OWNER RESERVES THE RIGHT TO RETAIN ANY SUCH PIPING AND MATERIALS DESIGNATED FOR DEMOLITION FOR HIS USE. SUCH MATERIALS TO BE RETAINED SHALL BE PROPERLY STORED IN AN APPROVED LOCATION. COORDINATE LOCATION AND MATERIALS TO BE SALVAGED WITH THE OWNER/ENGINEER.
38. CONTOUR INTERVAL EQUALS ONE (1) FOOT.
39. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF ALL PROPOSED WORK AS SHOWN ON THE DRAWINGS.
40. THE RIGHT-OF-WAY FOR ROADS AND PERMANENT EASEMENT BOUNDARIES ARE THE TYPICAL CONSTRUCTION LIMITS.
41. REFER TO SPECIFICATION SECTION 01010, WHICH CONTAINS INFORMATION ON CONSTRAINTS OF CONSTRUCTION SEQUENCING.
42. THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO ENSURE THAT ALL PROCESS FLOWS ARE MAINTAINED DURING CONSTRUCTION. GRAVITY OR PUMPED BYPASSES AND OTHER MEANS OF MAINTAINING FLOW SHALL BE SUBJECT TO THE REVIEW AND ACCEPTANCE OF THE ENGINEER. THE CONTRACTOR SHALL COORDINATE ANY TEMPORARY STOPPAGES OR BYPASSES WITH THE OWNER AND ENGINEER.
43. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE DISPOSAL OF FLOWS RESULTING FROM PRECIPITATION AND HIS DOWATERING OPERATIONS.
44. NATIONAL GRID SHALL COMPLETE REPLACING ITS GAS MAIN AND SERVICES ON PRATT STREET AND RENNIE STREET BEFORE CONTRACTOR BEGINS ANY WORK ON THOSE STREETS. THE DRAWINGS SHOW LOCATION OF EXISTING GAS MAINS AND SERVICES PRIOR TO REPLACEMENTS.

SITE GRADING NOTES

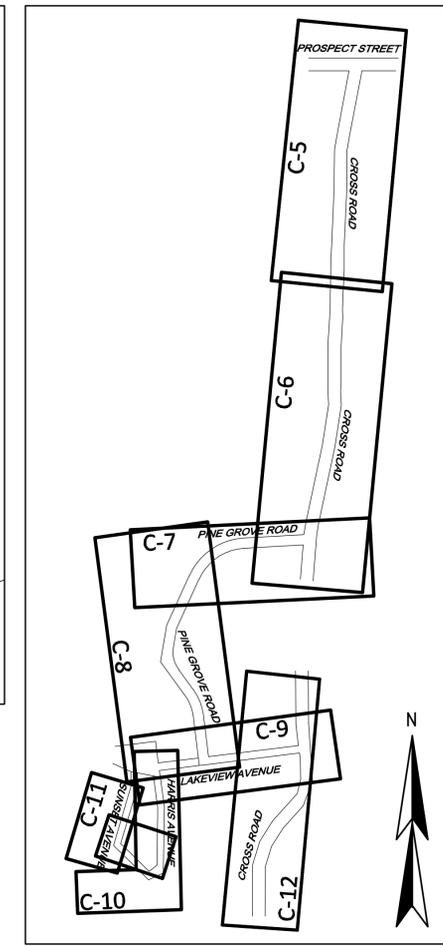
- 1. ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY SILT SACKS TO PREVENT ENTRY OF SEDIMENT FROM RUNOFF WATERS DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL COLLECTED SEDIMENT, AND THAT WHICH COLLECTS IN THE STORM DRAIN SYSTEM.
2. ALL CATCH BASINS, MANHOLES, VALVE PITS, VALVE BOXES AND OTHER BURIED FACILITIES WITH SURFACE ACCESS SHALL BE ADJUSTED TO MATCH FINAL GRADES, UNLESS OTHERWISE INDICATED.
3. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS AND EXCESS EXCAVATED MATERIAL FROM WITHIN THE CONSTRUCTION LIMIT OF WORK, TO A SUITABLE SITE PROVIDED BY THE CONTRACTOR, IN COMPLIANCE WITH ALL STATE AND LOCAL REGULATIONS. ANY EXCESS SUITABLE MATERIAL MAY REMAIN ON SITE AT THE REQUEST OF THE OWNER.
4. CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR, ALL CURBS, SIDEWALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY HIS CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, TO THE SATISFACTION OF THE OWNER AND ENGINEER.
5. WHERE EXISTING PAVEMENT IS REMOVED AND REPLACED, MATCH EXISTING GRADES TO THE EXTENT POSSIBLE. COORDINATE FINE GRADING WITH THE ENGINEER.
6. THE BASE COURSE PAVING SHALL BE INSTALLED PRIOR TO WINTER AND THE FINAL PAVING SHALL BE INSTALLED IN THE SPRING OF 2016.



KEY PLAN N.T.S.

ABBREVIATIONS

Table with 2 columns: Abbreviation and Description. Includes AC (ASBESTOS CEMENT), CB (CATCH BASIN), CI (CAST IRON PIPE), C/O (CLEAN OUT), DI (DUCTILE IRON PIPE), FM (FORCE MAIN), HYD (HYDRANT), HDPE (HIGH DENSITY POLYETHYLENE), INV (INVERT ELEVATION), LPS (LOW PRESSURE SEWER), OHE (OVERHEAD ELECTRICAL), PE (POLYETHYLENE PIPE), RCP (REINFORCED CONCRETE PIPE), S (SEWER), SD (STORM DRAIN), SMH (SEWER MANHOLE), SS (STAINLESS STEEL), UD (UNDERDRAIN), UGE (UNDERGROUND ELECTRIC), VC (VITRIFIED CLAY), W (WATER), XFMR (TRANSFORMER).



KEY PLAN N.T.S.

LEGEND

Legend table with columns: EXISTING, PROPOSED, and descriptions. Includes PROPERTY/ROW LINE, SETBACK LINE, EASEMENT LINE, CENTERLINE, EDGE OF PAVEMENT, CURBING, EDGE OF GRAVEL, EDGE OF CONCRETE, CONTOUR, BUILDING, STONEWALL, TREELINE, CHAIN LINK FENCE, STOCKADE FENCE, BARB WIRE FENCE, RETAINING WALL, GUARDRAIL, SEWER, GAS, WATER, STORM DRAIN, UNDERDRAIN, CULVERT, UGE (UNDERGROUND ELECTRIC), OHE (OVERHEAD ELECTRIC), TELEPHONE, IRON PIPE/REBAR, DRILLHOLE, MONUMENT, SURVEY CONTROL POINT, SPOT ELEVATION, SEWER MANHOLE, DRAINAGE MANHOLE, CATCH BASIN, CUT, CAP, AND ABANDON, LIMIT OF SURVEY, RIGID INSULATION, BORING, REFUSED BORING.

LEGEND CONT'D

Legend CONT'D table with columns: EXISTING, PROPOSED, and descriptions. Includes ELECTRIC MANHOLE, TELEPHONE MANHOLE, SHUTOFF VALVE, WATER SERVICE SHUTOFF, YARD HYDRANT, CURBING, UTILITY POLE, UTILITY POLE W/ GUY, UTILITY POLE W/ LIGHT, LIGHT POLE, BOLLARD, FLAGPOLE, CONIFEROUS TREE, DECIDUOUS TREE, SHRUB, EDGE OF WATER, STREAM, EDGE OF WETLANDS, FLOODPLAIN, WETLANDS, DRAINAGE FLOW, DRAINAGE SWALE, PAVEMENT MARKINGS, SIGN, MAILBOX, TEMPORARY BENCH MARK, TEST PIT, TEST BORING, MONITORING WELL, LIMIT OF WORK, SILT FENCE, RIPRAP, RAILROAD, MATCHLINE, ROCK OUTCROP, RELOCATED PIPE, INTERCONNECTION, REDUCER, FLOW DIRECTION, 100' WETLAND BUFFER.

Table with columns: SUBMISSIONS/REVISIONS, NO, DATE, APP'D.

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TOWN OF LUNENBURG, MA SEWER COMMISSION PRATT ST AND LAKEVIEW AVE AREAS SEWER EXTENSION PROJECT GENERAL CIVIL NOTES AND LEGEND DRAWING C-1





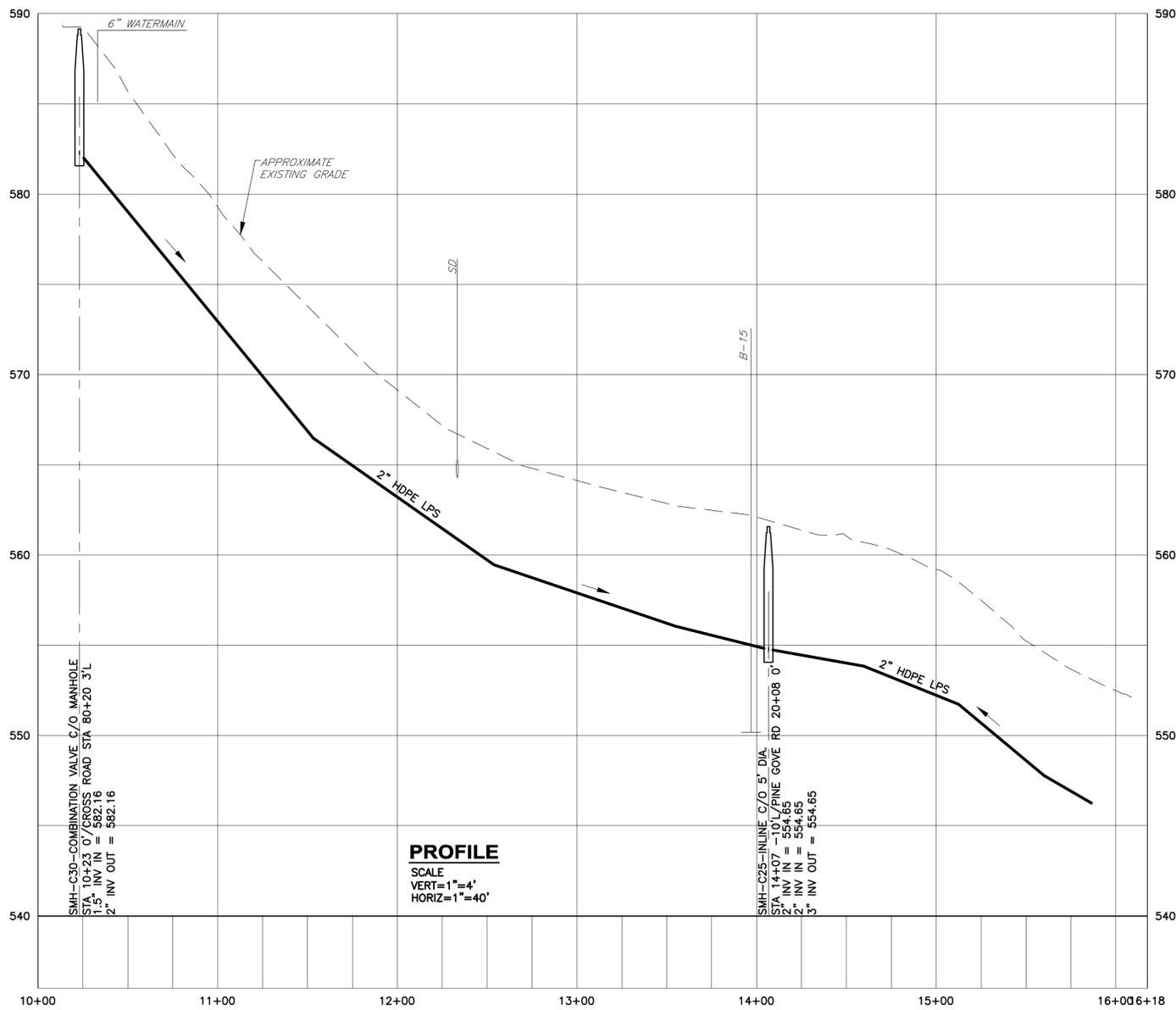
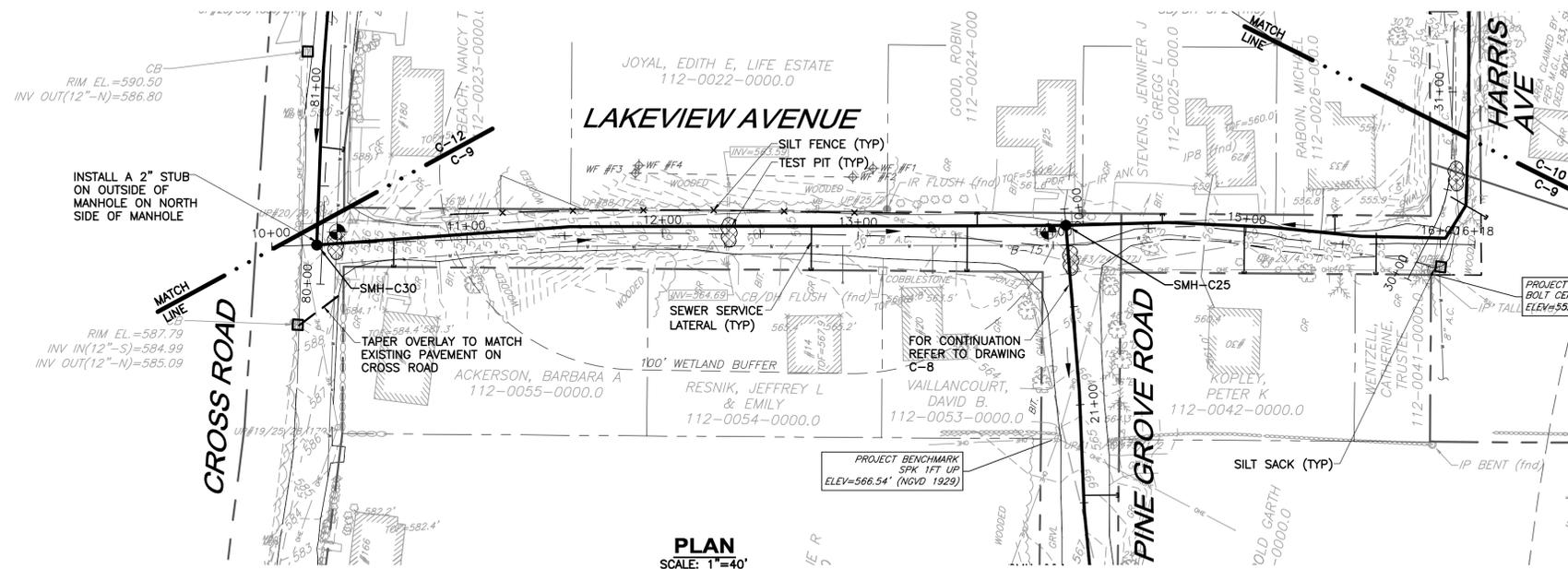












DESIGNED BY: MIC	NO.	DATE
CAD: SCV		
CHECKED BY: KRO		
DATE: 10/07/14		
APPROVED BY: AMO		
DATE: 12/22/14		
PROJECT NO: 12990A		

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TOWN OF LUNENBURG, MA  
 SEWER COMMISSION  
 PRATT ST AND LAKEVIEW AVE AREAS  
 SEWER EXTENSION PROJECT

LAKEVIEW AVENUE PLAN AND PROFILE  
 C-9

DRAWING

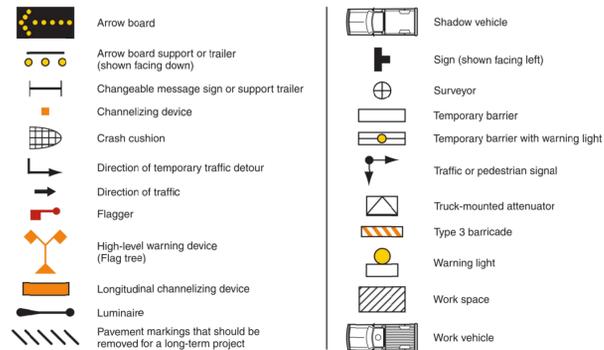












**TABLE 6H-2 MEANING OF SYMBOLS**  
SCALE: NTS

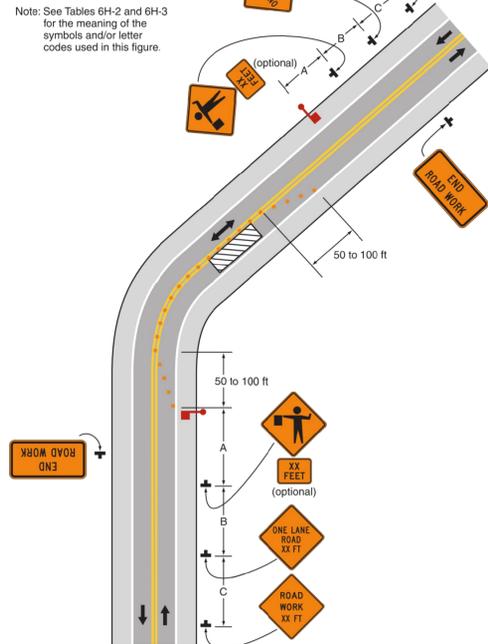
Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)*	100 feet	100 feet	100 feet
Urban (high speed)*	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

\* Speed category to be determined by highway agency  
 \*\* The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-4. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)

**TABLE 6H-3 MEANING OF LETTER CODES**  
SCALE: NTS

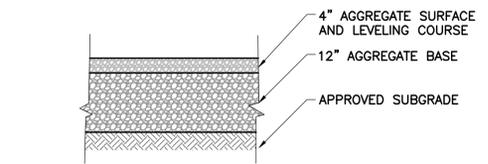
Speed (S)	Taper Length (L) in feet
40 mph or less	L = $\frac{WS^2}{60}$
45 mph or more	L = WS

Where: L = taper length in feet  
 W = width of offset in feet  
 S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

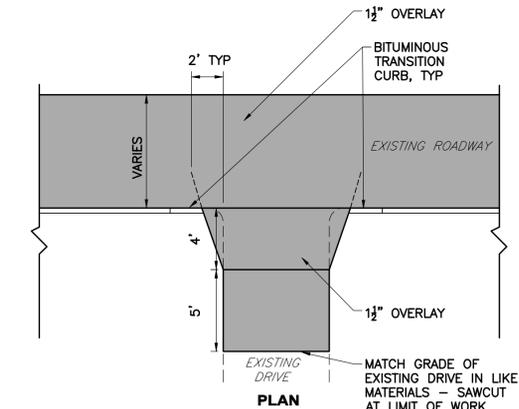


**TYPICAL TRAFFIC CONTROL PLAN**  
SCALE: NTS

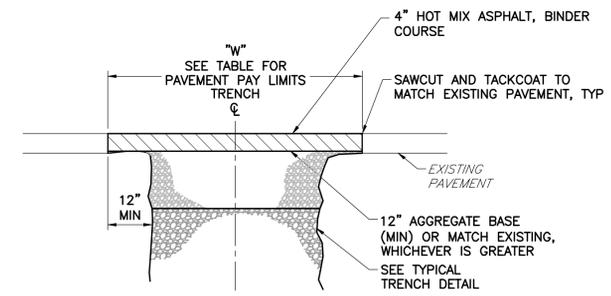
CONSTRUCTION SIGN		
TEXT	SIZE OF SIGN	M.U.T.C.D. NO.
ROAD WORK AHEAD	36 X 36	W20-1
SPEED LIMIT 25	36 X 36	W3-5
BEGIN HIGHER FINES ZONE	24 X 30	R2-10a
ONE LANE ROAD AHEAD	36 X 36	W20-4
25 MPH	24 X 24	W13-1
BE PREPARED TO STOP	36 X 36	W3-4
STOP HERE ON RED	24 X 36	R10-6L
DO NOT BLOCK INTERSECTION	24 X 30	R10-7
END ROAD WORK	36 X 18	G20-2
ROAD WORK 1500 FT	36 X 36	W20-1
CORNER STREET	60 X 24	D3-1



**TYPICAL SECTION OF GRAVEL AREAS**  
SCALE: NTS



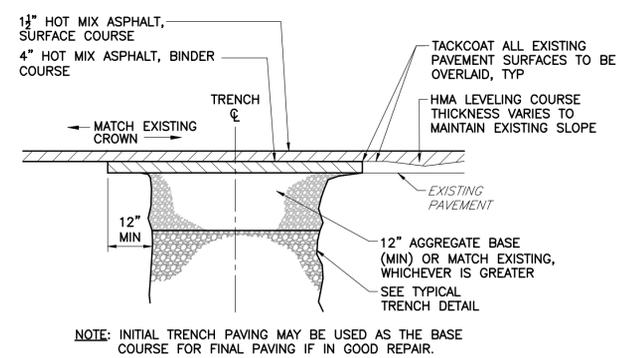
**PAVED DRIVE APRON**  
SCALE: NTS



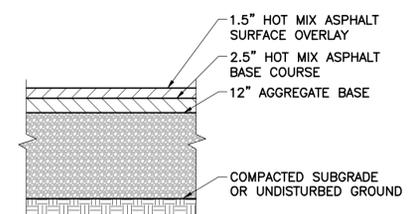
PAVEMENT PAY LIMITS	
PIPE I.D.	"W" (FOR 0' - 10' DEEP)
1" - 5"	6'-6"
6" - 15"	7'-0"
16" - 21"	8'-0"

"W" SHALL BE INCREASED BY 1'-0" FOR TRENCHES 10' - 15'

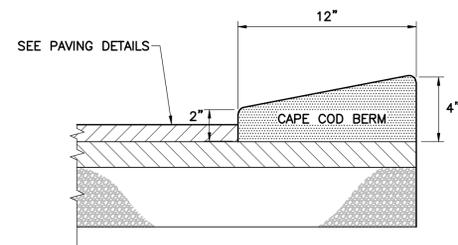
**INITIAL TRENCH PAVING (WITH OVERLAY)**  
SCALE: NTS



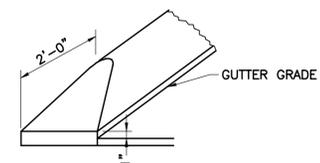
**FINAL TRENCH PAVING (WITH OVERLAY)**  
SCALE: NTS



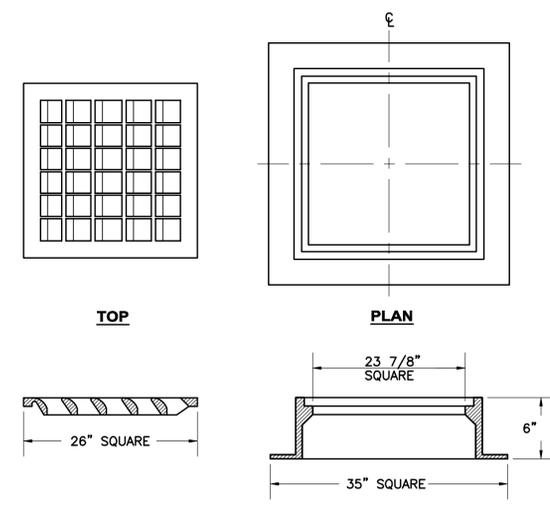
**DRIVEWAY PAVEMENT**  
SCALE: NTS



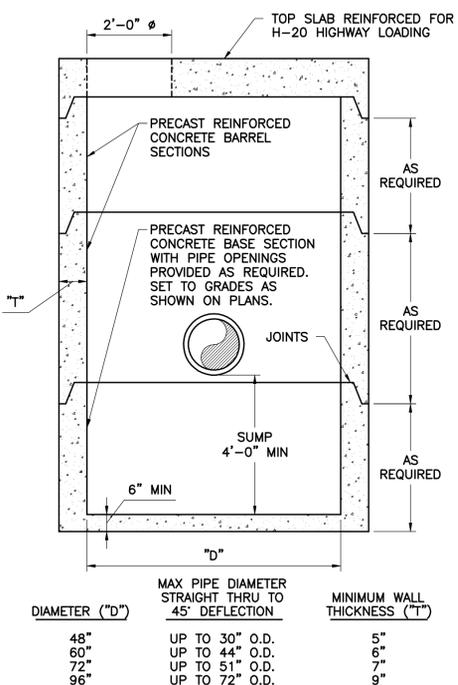
**CAPE COD BERM**  
SCALE: NTS



**CAPE COD BERM TERMINAL**  
SCALE: NTS



**CASCADE GRATE AND FRAME**  
SCALE: NTS



**FLAT SLAB TOP CATCH BASIN**  
SCALE: NTS

DIAMETER ("D")	MAX PIPE DIAMETER STRAIGHT THRU TO 45° DEFLECTION	MINIMUM WALL THICKNESS ("T")
48"	UP TO 30" O.D.	5"
60"	UP TO 44" O.D.	6"
72"	UP TO 51" O.D.	7"
96"	UP TO 72" O.D.	9"

DESIGNED BY: MAC  
 CAD: SCV  
 CHECKED BY: KRO  
 DATE: 10/07/14  
 APPROVED BY: JMO  
 DATE: 12/22/14  
 PROJECT NO: 12990A

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TOWN OF LUNENBURG, MA  
 SEWER COMMISSION  
 PRATT ST AND LAKEVIEW AVE AREAS  
 SEWER EXTENSION PROJECT

DETAILS III

DRAWING  
 C-15

