

# CITY OF SALEM, MASSACHUSETTS

## ESSEX STREET

### TROLLEY TRACK REMOVAL PROJECT

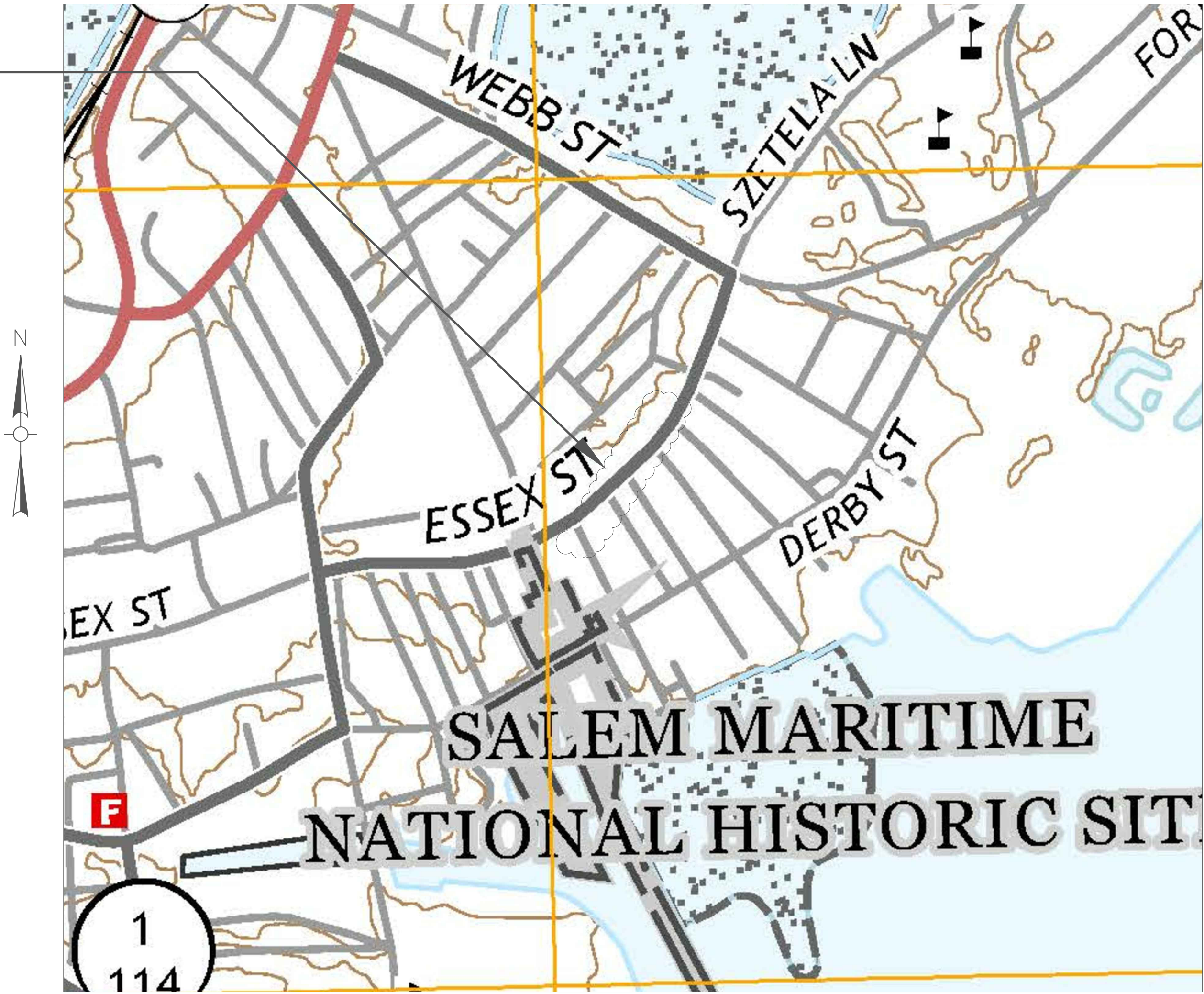
IFB NO. 20-18-230

SEPTEMBER 2019

#### PROJECT LOCATION

CITY OF SALEM  
KIMBERLEY DRISCOLL  
Mayor

DAVID KNOWLTON, P.E.  
City Engineer, DPS Director

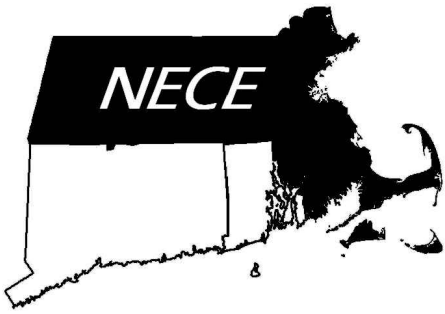


LOCUS MAP (NO SCALE)

#### DRAWING INDEX:

G-1	COVER SHEET
C-1	ESSEX STREET PLAN OF WORK
D-1	DETAIL SHEET

## NEW ENGLAND CIVIL ENGINEERING CORP.



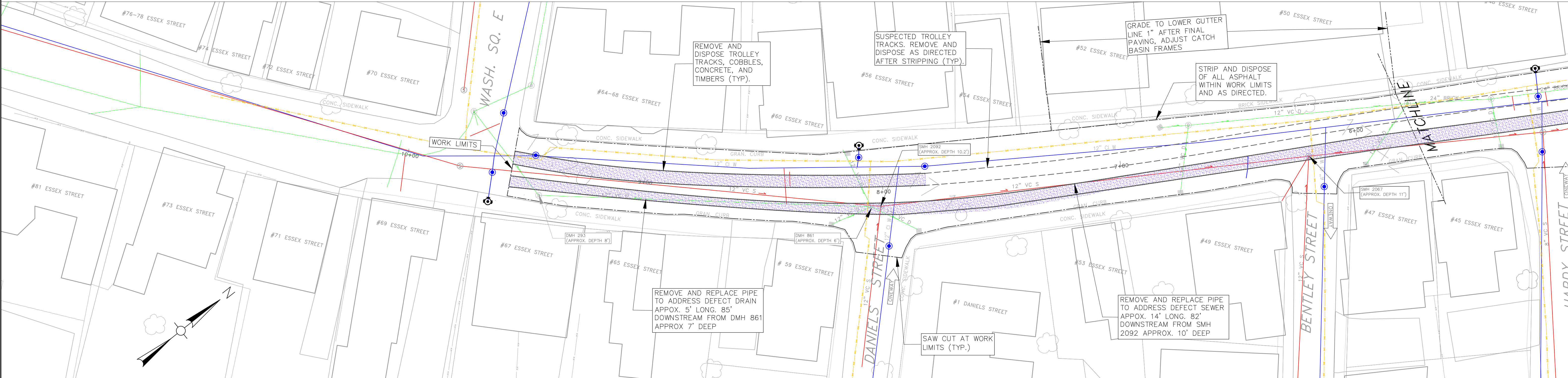
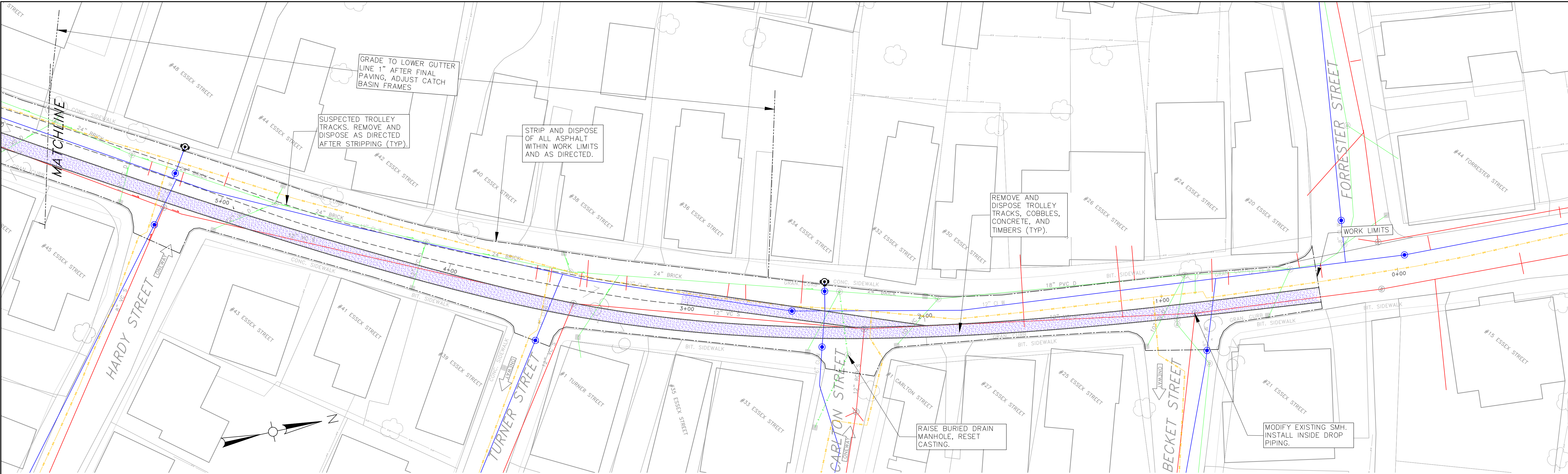
265 Essex Street  
Suite #102  
Salem, MA 01970

(978) 741-7401

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NOTES

- LOCATION OF ALL WATER AND GAS VALVES NOT SHOW, CONTRACTOR TO LOCATE AND PROTECT ALL GATE BOXES,
- AFTER STRIPPING, CONTRACTOR TO PROVIDE GRAVEL AND GRADE AND COMPACT TO MEET EXISTING GUTTER AND CROWN ELEVATIONS AFTER FINAL PAVING OR AS DIRECTED.

PLAN

SCALE: 1" = 20'

Client	CITY OF SALEM, MASSACHUSETTS	Scale	1"=20'						
Project	TROLLEY TRACK REMOVAL	Date	9/30/19						
	ESSEX STREET	Job	ESSEX ST- TROLLEY TRACK REMOVAL						
		Designed by	WMR						
		Drawn by	JTD 1.						
		Checked by	WMR						
		Approved by	WMR						

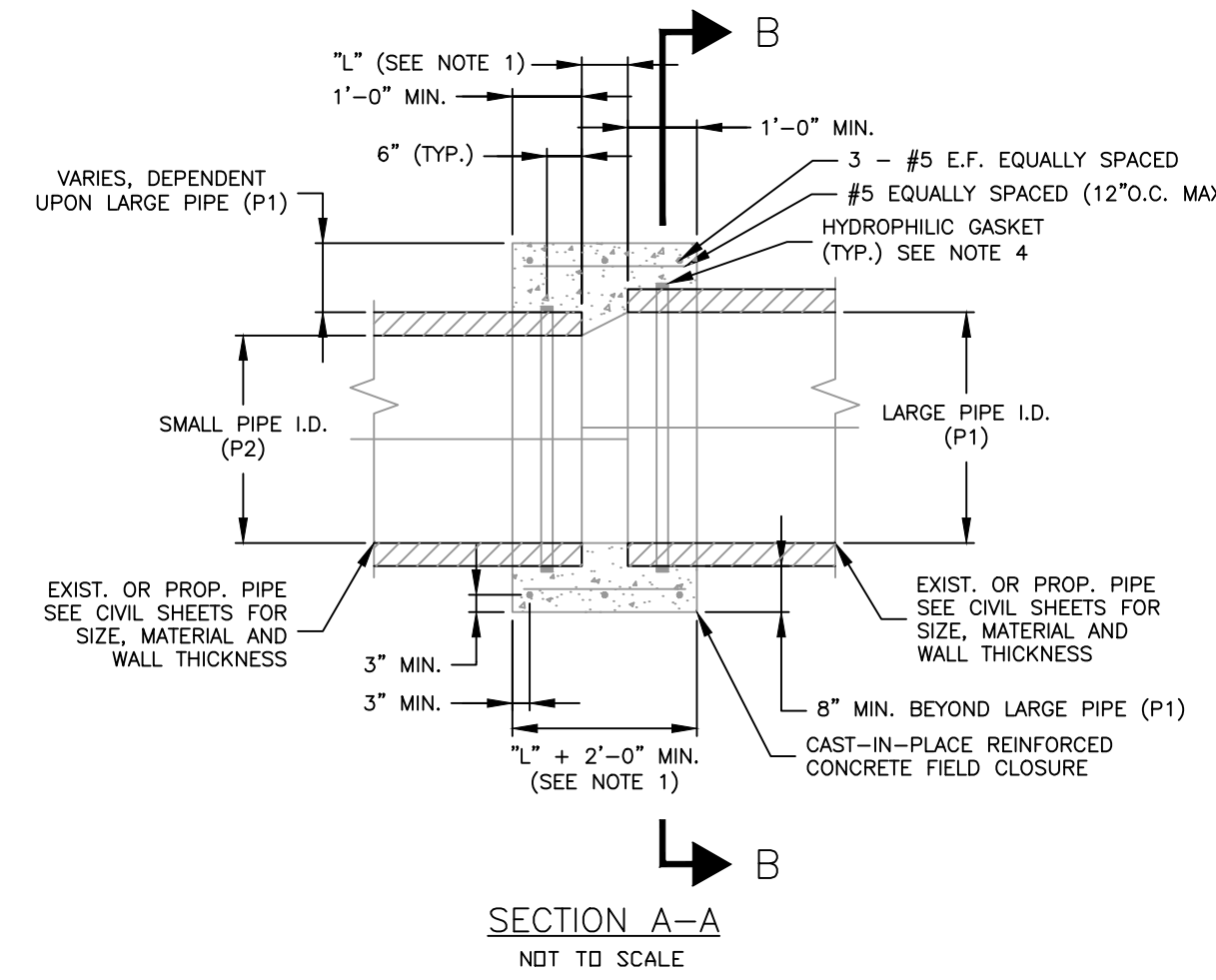
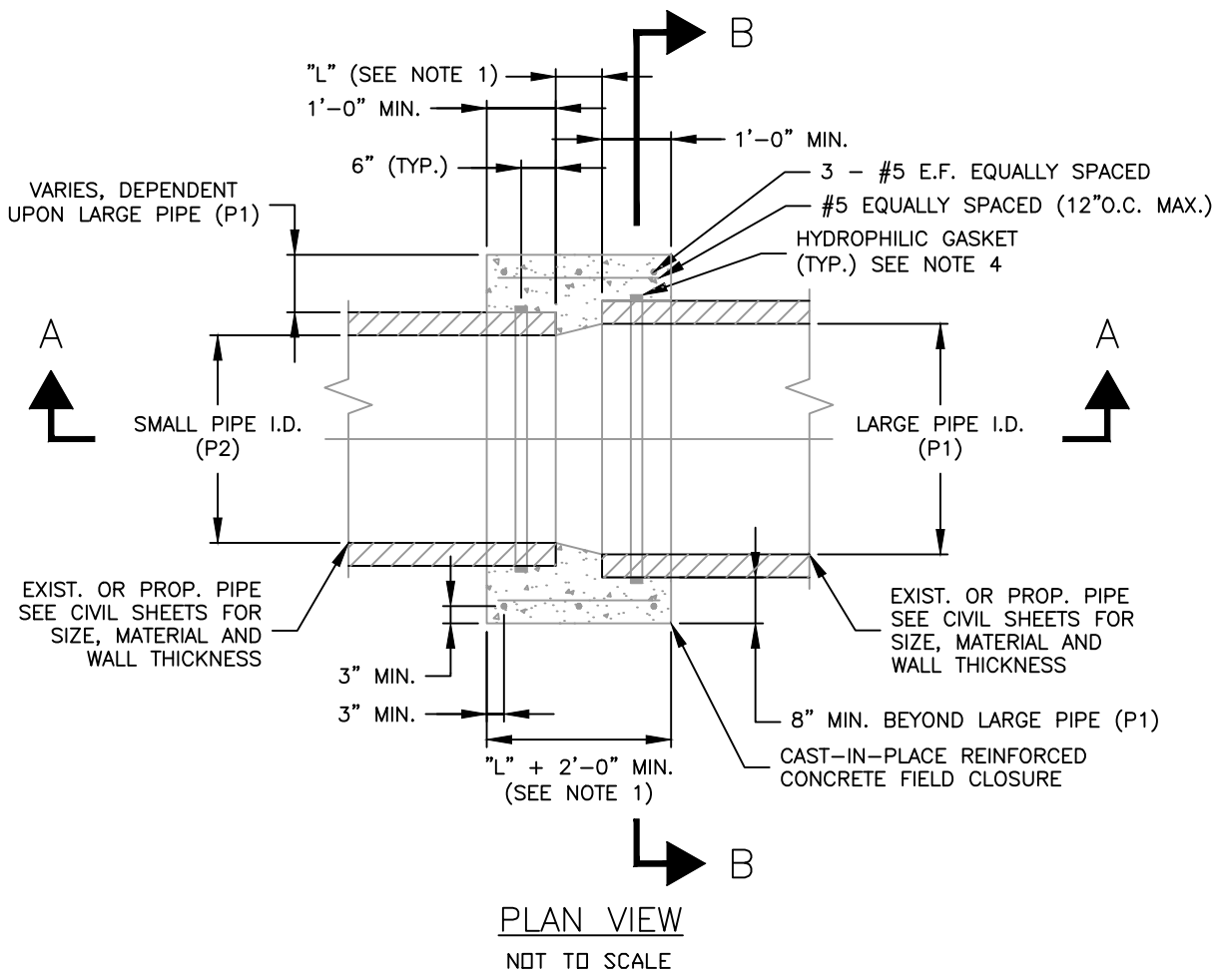
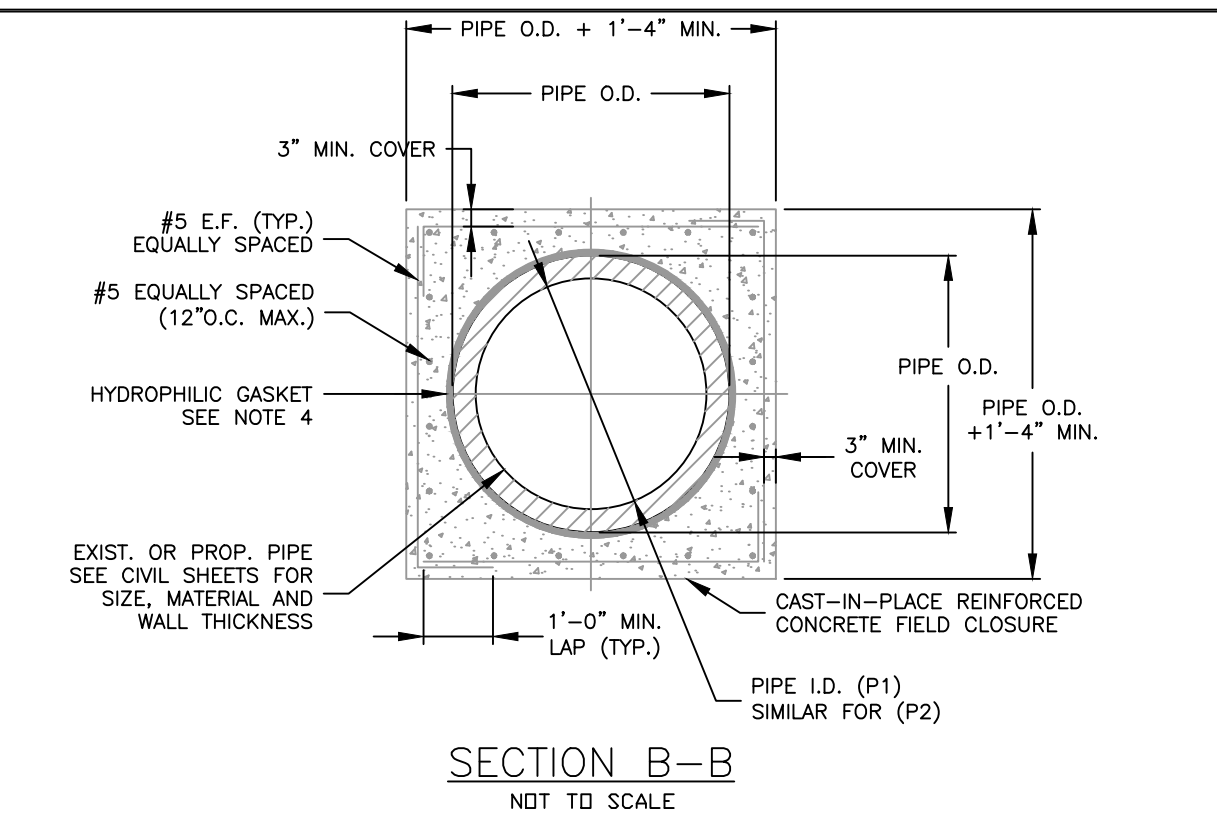
NEW ENGLAND CIVIL  
ENGINEERING CORP.

SALEM, MASSACHUSETTS

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C-1

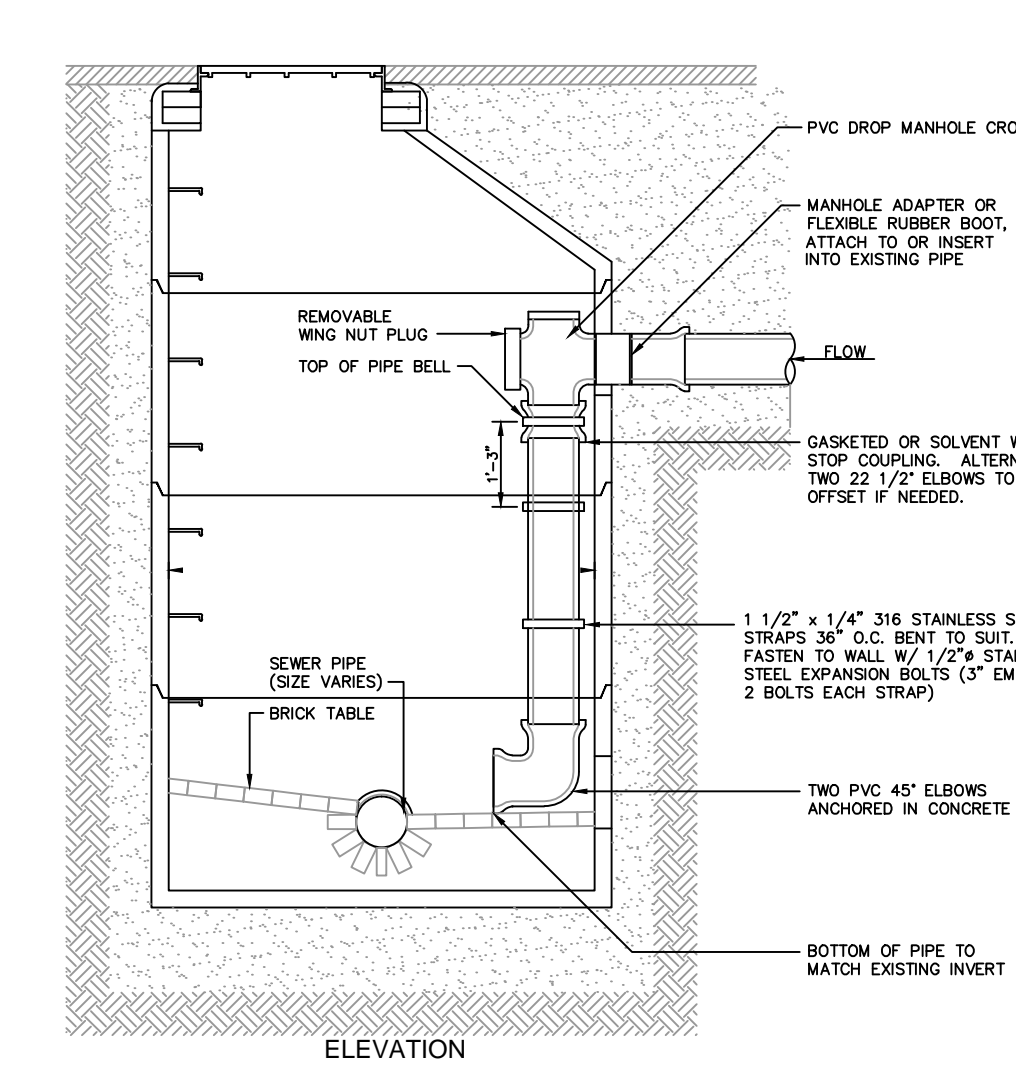
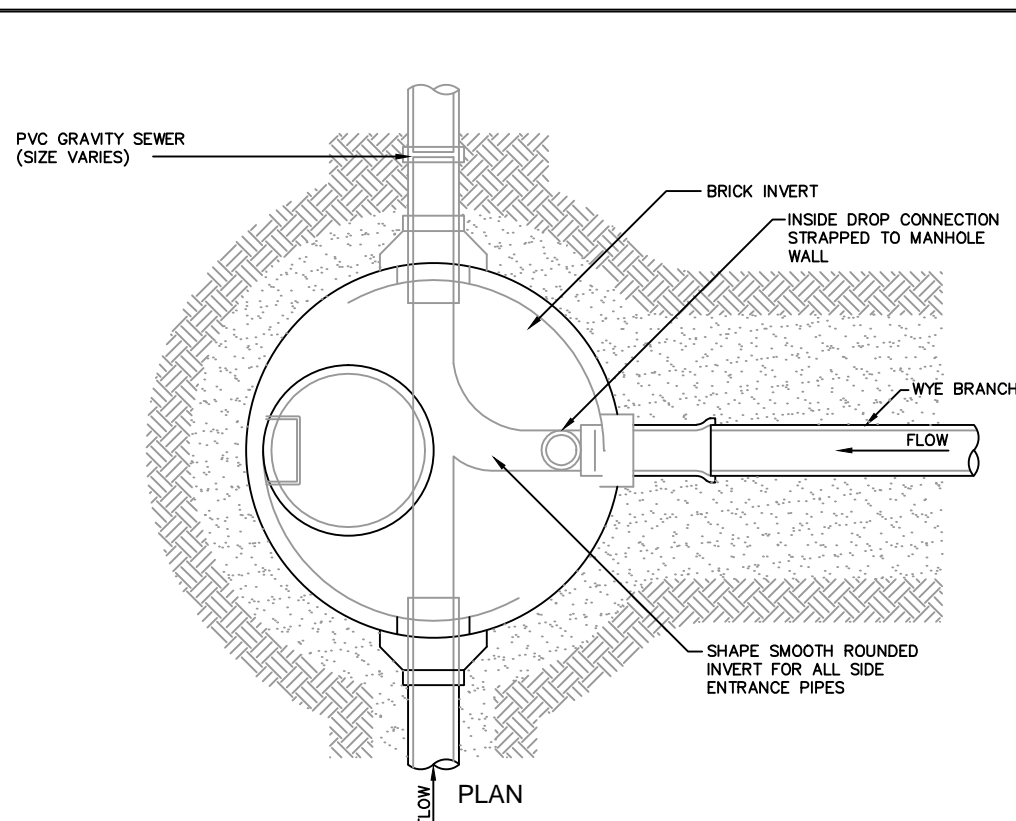




### CAST-IN-PLACE FIELD CLOSURE DETAIL

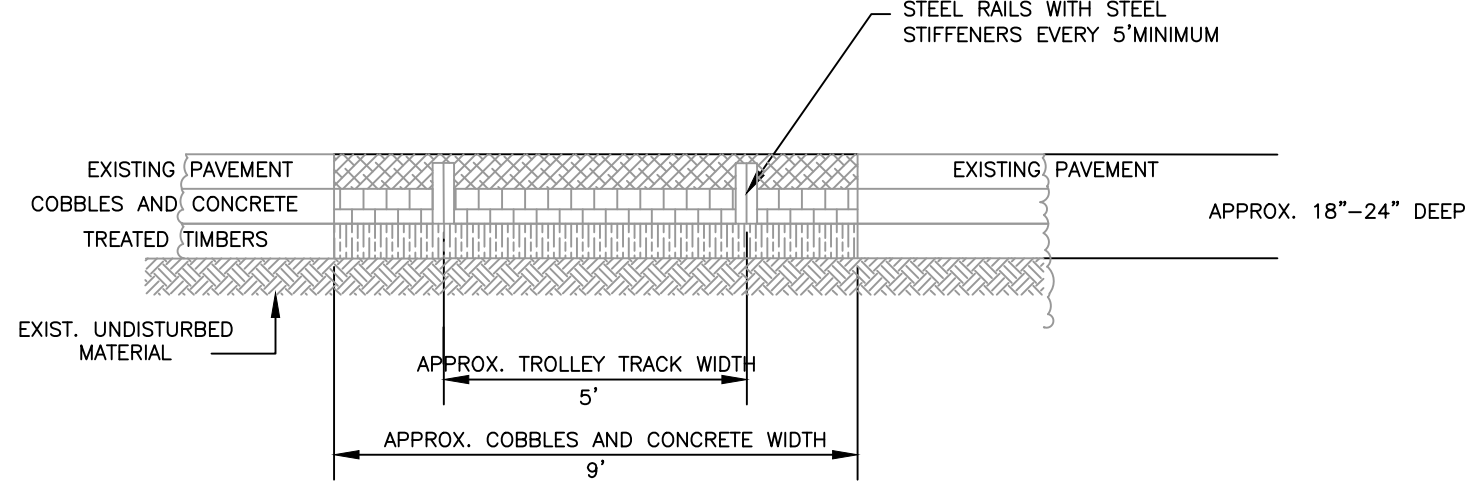
FOR NON-PRESSURE PIPES OF DIFFERENT MATERIALS OR SIZES (P1 = 24"+/- MAX.)

- NOTES:
1. SPACING BETWEEN PIPES (L) DEPENDS ON PIPE SIZES, FOR PIPES OF THE SAME SIZE USE 4" MINIMUM. THE DISTANCE "L" EQUALS THE LARGE PIPE I.D. MINUS THE SMALL PIPE I.D. TIMES TWO [L=(P1-P2)x2].
  2. PROPOSED PIPE INVERT SHALL MATCH EXISTING PIPE INVERT UNLESS OTHERWISE SHOWN ON CIVIL SHEETS.
  3. SAND BLAST EXISTING PIPE PERIMETER AND APPLY BONDING AGENT PRIOR TO CONCRETE ENCASMENT.
  4. INSTALL HYDROPHILIC (WATER STOP) GASKET ALONG PIPE PERIMETER FOR EACH PIPE AS SPECIFIED.
  5. CONCRETE AND REBAR REQUIREMENTS SHALL CONFORM TO THE SPECIFICATIONS.
  6. LOCATION OF FIELD CLOSURE SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.



### INTERIOR DROP MANHOLE

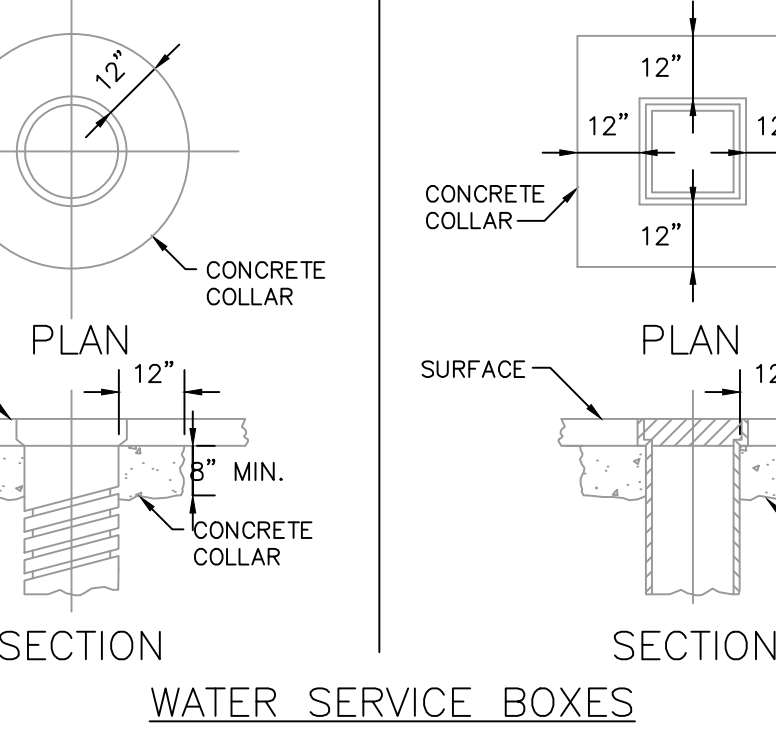
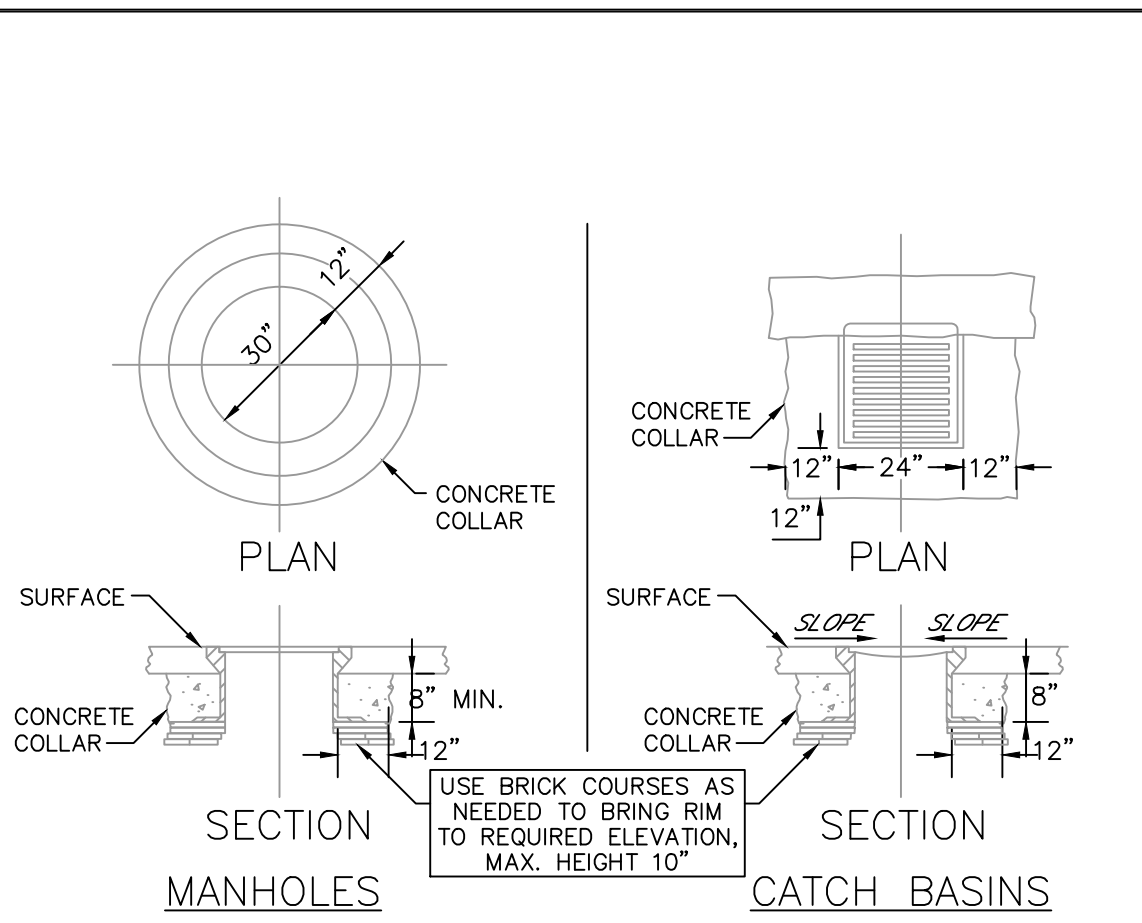
NOT TO SCALE



### TYPICAL TROLLEY TRACK CONFIGURATION

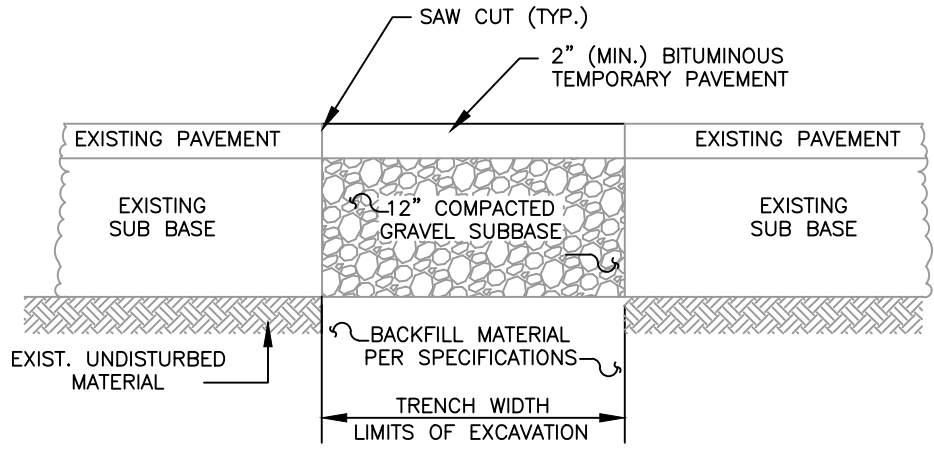
NOT TO SCALE

- NOTE:
- TROLLEY TRACK CONFIGURATION AND QUANTITY OF WIDTH AND DEPTH OF TRACKS, COBBLES, CONCRETE, AND TIMBERS WILL VARY. CONTRACTOR TO REMOVE ALL PAVEMENT, RAILS, STIFFENERS, CONCRETE, COBBLES, TIMBERS, AND OTHER MATERIALS NOT SUITABLE AS ROAD SUBBASE AS DIRECTED.



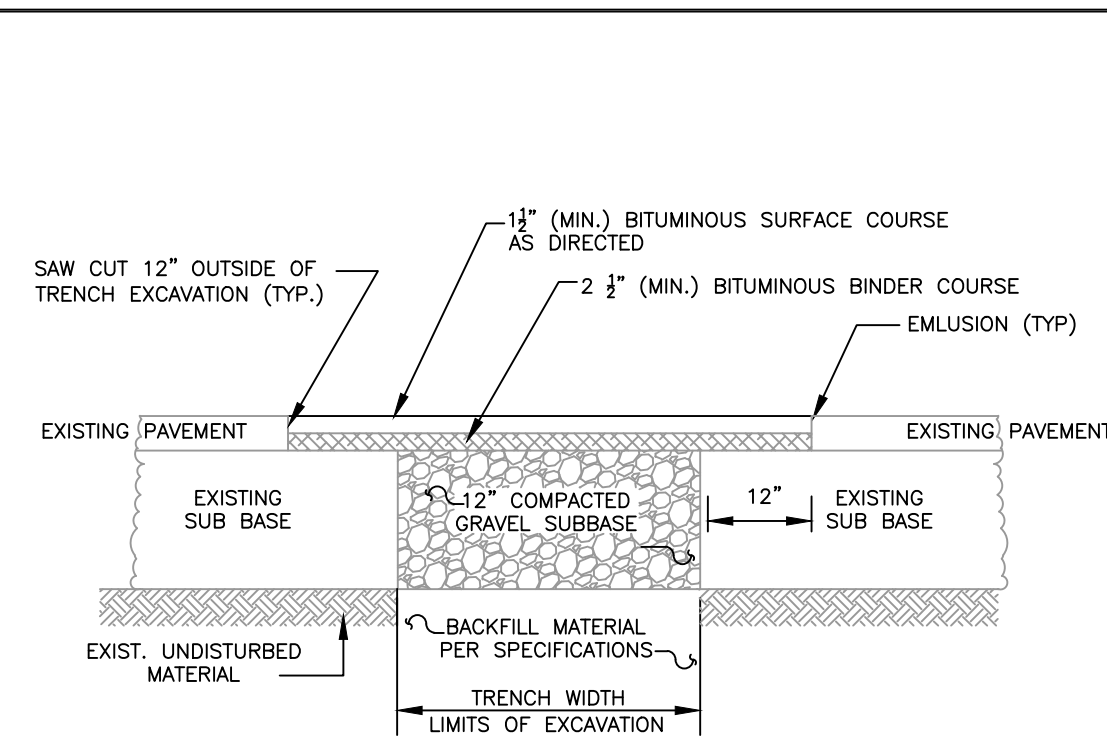
### DETAILS FOR RAISING CASTINGS

NOT TO SCALE



### TEMPORARY PAVEMENT DETAIL

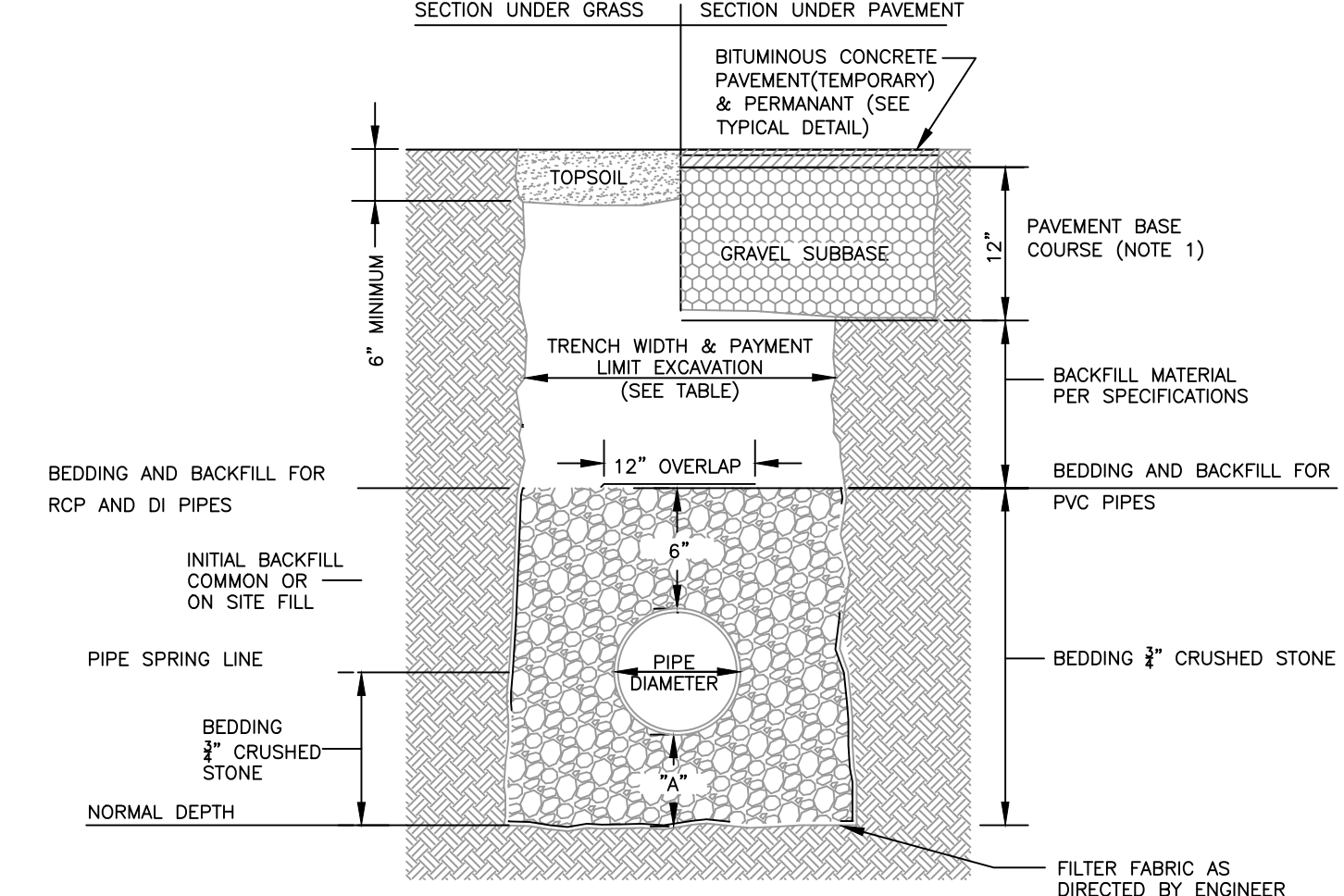
NOT TO SCALE



### PERMANENT PAVEMENT DETAIL

NOT TO SCALE

- GENERAL PAVING NOTES:
1. THE CONTRACTOR SHALL SAW CUT 12" OUTSIDE OF TRENCH EXCAVATION OR STRIPPED AREA. TEMPORARY PAVEMENT SHALL BE REMOVED AND DISPOSED OF AS DIRECTED. THE GRAVEL SHALL BE FINE GRADED, EMULSION PLACED ON ALL JOINTS, AND PERMANENT PAVEMENT PLACED IN TWO COURSES.
  2. CONTRACTOR SHALL MATCH EXISTING ROADWAY GRADES AND EXISTING THICKNESS UNLESS OTHERWISE DIRECTED.
  3. REFER TO SPECIFICATION SECTION 02500 PAVING AND SURFACING FOR ADDITIONAL REQUIREMENTS.
  4. PERMANENT PAVEMENT DETAIL TO APPLY TO TRENCH PAVEMENT AND FULL WIDTH ROADWAY RECONSTRUCTION AND/OR PAVEMENT.
  5. GRAVEL SUBBASE TO BE 12-INCH THICKNESS ON UTILITY TRENCH, 6-INCH MINIMUM THICKNESS IN STRIPPED AREAS OUTSIDE TRENCH.



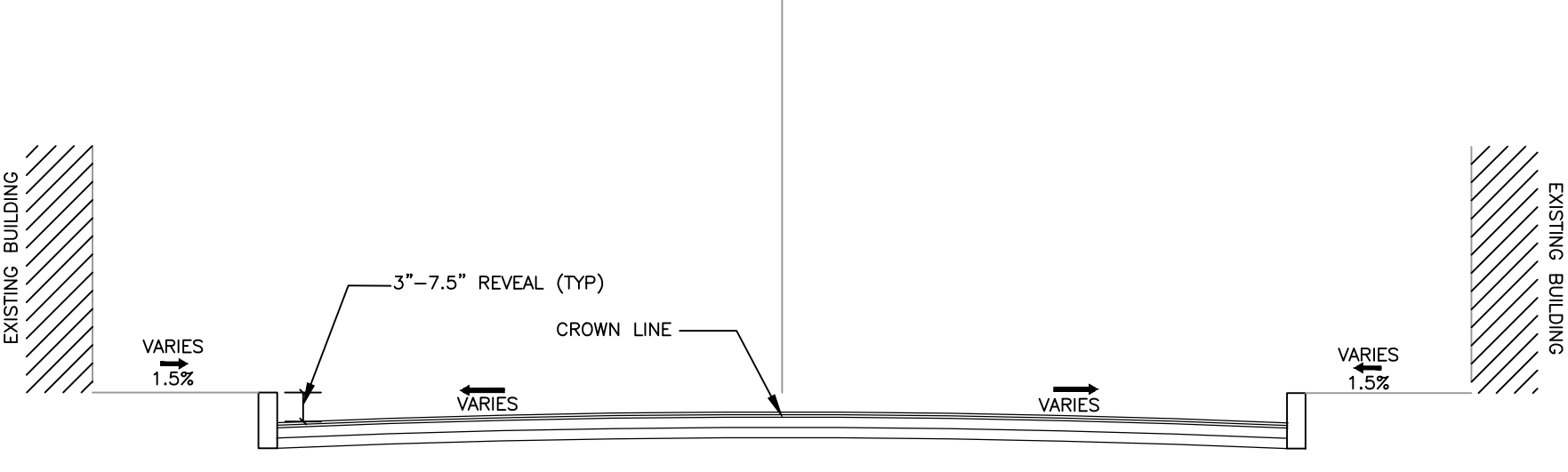
NOMINAL PIPE SIZE	TRENCH WIDTH	"A"
≤12" Ø	4'	6"
>12" Ø	O.D. DIA. +3'	9"
MANHOLES AND ALL STRUCTURES	O.D. DIA. +3'	12"
DRAIN AND SEWER PIPES IN SAME TRENCH	COMBINED PIPE O.D.s +4'	VARIES; SEE INDIVIDUAL PIPE SIZES

O.D. = OUTSIDE DIMENSION

### TRENCH DETAIL FOR UTILITY PIPES

NOT TO SCALE

- NOTES:
1. REFER TO SPEC. SECTION 02500-PAVING AND SURFACING, AND PAVEMENT DETAILS FOR PAVEMENT AND BASE COURSE REQUIREMENTS.
  2. REFER TO SPEC. SECTION 02210-EARTH EXCAVATION, BACKFILL, FILL, GRADING AND FOR BEDDING AND BACKFILL MATERIAL REQUIREMENTS.
  3. FOR USE IN PAYMENT OF ALL ITEMS IN WHICH PAY TRENCH WIDTH IS A VARIABLE FOR THE CALCULATION OF QUANTITIES. REFER TO TRENCH DETAIL FOR SEWER AND DRAIN PIPES IN SAME TRENCH FOR MULTIPLE PIPE SEPARATION.
  4. BEDDING SHALL BE PER TABLE UNLESS OTHERWISE INDICATED.



### TYPICAL ROADWAY CROSS SECTION

NOT TO SCALE

Client	CITY OF SALEM, MASSACHUSETTS	Scale	NTS						
Project	TROLLEY TRACK REMOVAL	Date	9/30/19						
	ESSEX STREET	Job	ESSEX ST- TROLLEY TRACK REMOVAL						
		Designed by	WMR						
		Drawn by	JTD 1.						
		Checked by	WMR	No.	Description	Date			
		Approved by	WMR	File:	W:\Salem\Essex St\Trolley Tracks\TrolleyTracksDesign.dwg				



NEW ENGLAND CIVIL  
ENGINEERING CORP.

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