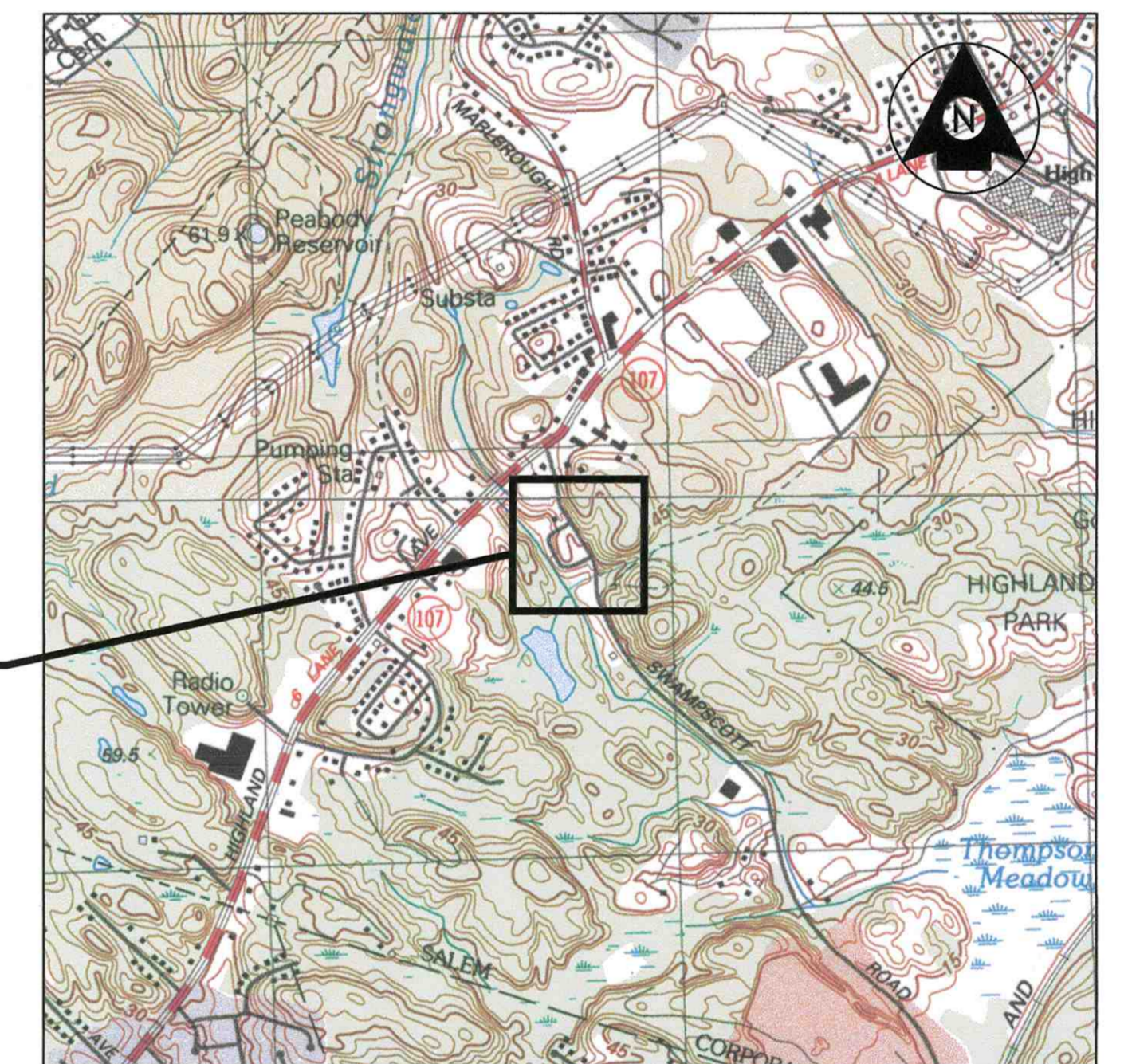


LOCATION MAP

SALEM, MA

SWAMPSCOTT ROAD AT FIRST STREET ROUNDAABOUT CONSTRUCTION



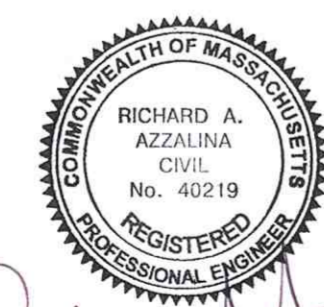
PROJECT LOCATION

VICINITY MAP
1" = 1000'

INDEX

SHEET NO.	TITLE
1	TITLE SHEET AND INDEX
2	LEGEND, ABBREVIATIONS AND GENERAL NOTES
3	KEY PLAN
4-5	EXISTING CONDITIONS PLANS
6-7	TYPICAL SECTIONS
8-9	CONSTRUCTION PLANS
10-11	PROFILES
12-14	CURB TIE PLANS
15-17	GRADING PLANS
18	DRAINAGE PIPE & STRUCTURE SCHEDULE
19-20	SIGN AND PAVEMENT MARKING PLANS
21	TRAFFIC SIGN SUMMARY
22-27	TEMPORARY TRAFFIC CONTROL PLANS
28	LIGHTING GENERAL NOTES AND LEGEND
29	LIGHTING PLAN
30-32	LIGHTING DETAILS
33	LIGHTING PANEL SCHEDULES AND ONE LINE RISER DIAGRAM
34-36	CONSTRUCTION DETAILS
37	WHEELCHAIR RAMP DETAILS

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988, THE MASSDOT MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION SUPPLEMENTAL SPECIFICATIONS DATED JULY 1, 2015 AND THE MASSDOT MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION INTERIM SUPPLEMENTAL SPECIFICATIONS DATED DECEMBER 31, 2017; THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS; THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH THE MASSACHUSETTS AMENDMENTS AND THE STANDARD MUNICIPAL TRAFFIC CODE; THE 1988 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING; THE LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.



Richard A. Azzalina
2/28/18

FEBRUARY 2018

CITY MAYOR
KIMBERLEY DRISCOLL

CITY ENGINEER
DAVID KNOWLTON, P.E.

LEGEND AND ABBREVIATIONS

EXISTING	PROPOSED:	
		BASELINE
		CURB
		CITY APPROX. LAYOUT LINE
		SAWCUT
		CATCH BASIN
		DRAIN MANHOLE
		CHANGE IN TYPE (CB TO DMH)
		HYDRANT
		RAISED INTERSECTION PAVERS
		FLUSH GRANITE CURB
		ASPHALT PAVEMENT BREAKLINE
		DETECTABLE WARNING PANEL
		SIGN POST
		COMPOST FILTER TUBE
		ABANDON
		ADJUST BY OTHERS
		ANGLE POINT
		APPROXIMATE
		BIT.
		BL
		CEMENT
		CENTERLINE
		CONCRETE
		CONSTRUCTION
		CROSSWALK
		DIAMETER
		EXISTING
		GALVANIZED
		HOT MIX ASPHALT
		HYDRANT
		LIGHT POLE
		LEFT
		MAXIMUM
		MINIMUM
		NOT TO SCALE
		POINT OF CURVATURE
		POINT OF COMPOUND CURVATURE
		POINT OF INTERSECTION
		POINT OF REVERSE CURVATURE
		PROPOSED
		POUNDS PER SQUARE INCH
		POINT OF TANGENCY
		REMOVE AND RESET
		REMOVE AND RESET BY OTHERS
		REMOVE AND STACK
		RIGHT
		STOP LINE - 12" WIDTH
		STATION
		TYPICAL
		WHEELCHAIR RAMP
		WHITE TRANSVERSE LINE - 4' SPACE, 3:1 SLOPE - 4" WIDTH

PAVEMENT MARKINGS SYMBOLS

PROPOSED	DESCRIPTION
	LEGEND "YIELD" - WHITE
	CROSSWALK - 12" WIDTH, 2' SPACE
	SOLID WHITE LINE - 6" WIDTH (OR AS INDICATED ON PLAN)
	SOLID YELLOW LINE - 6" WIDTH
	DOTTED WHITE LINE EXTENSION - 12" WIDTH (OR AS INDICATED ON PLAN) - 2' LINE 6' GAP
	DOUBLE YELLOW LINE - 6" WIDTH
	YELLOW TRANSVERSE LINE - 12" WIDTH - 45° @ 10' O.C.
	YIELD LINE

GENERAL NOTES:

- PLANS PREPARED ARE BASED ON SURVEY PROVIDED BY MERIDIAN ASSOCIATES. THE LOCATION AND SIZE OF EXISTING PIPES, DUCTS, CONDUITS AND OTHER UNDERGROUND STRUCTURES SHOWN ON THE DRAWINGS ARE NOT WARRANTED TO BE EXACT NOR IS IT WARRANTED THAT ALL UNDERGROUND STRUCTURES, UTILITIES AND SERVICE CONNECTIONS ARE SHOWN. CONTRACTOR SHALL NOTIFY UTILITY COMPANIES IN WRITING AND BY CALLING DIG SAFE (1-888-344-7233) BEFORE EXCAVATION. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR LOCATING ALL EXISTING UTILITIES PRIOR TO EXCAVATION THROUGHOUT THE ENTIRE CONSTRUCTION DURATION.
- PROPERTY LINE INFORMATION IS COMPILED FROM FIELD OBSERVATIONS, CITY LAYOUT PLANS, CITY ASSESSORS PLANS, AND PLANS RECORDED AT THE ESSEX COUNTY REGISTRY OF DEEDS.
- THE BEARING SYSTEM FOR THE PLANS IS BASED UPON MASSACHUSETTS STATE PLANE GRID.
- VERTICAL DATUM:
SALEM CITY
BASE DATUM
- HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)
- ALL BASELINE TIES FOR CORNERS AND RADII OF CURB OR EDGING ARE TO THE P.C.'S OR P.T.'S, UNLESS OTHERWISE NOTED.
- ALL EXISTING SIGNS SHALL BE REMOVED AND REPLACED IN KIND WITH NEW SIGNS AND CHANNEL POSTS UNLESS OTHERWISE NOTED. MAILBOXES SHALL BE REMOVED AND RESET UNLESS OTHERWISE NOTED.
- ALL TRAFFIC SIGNAL HARDWARE (INCLUDING MAST ARMS, PULL BOXES, PEDESTALS & CONTROLLER BOXES), PARKING METERS, LIGHT/UTILITY POLES, FENCES, STONE BOUNDS, GRANITE BOUNDS, AND OTHER PROPERTY MARKERS ARE TO BE RETAINED AND PROTECTED UNLESS OTHERWISE NOTED ON PLANS. PULLBOXES ARE TO BE RETAINED AND ADJUSTED TO GRADE.
- THE CONTRACTOR SHALL SAWCUT TO THE FULL PAVEMENT DEPTH AT LOCATIONS WHERE NEW FULL DEPTH PAVEMENT OR NEW SIDEWALK MEETS EXISTING PAVEMENT OR SIDEWALK, AT THE LOCATIONS SHOWN ON THE PLANS AND AS REQUIRED BY THE ENGINEER. PROPOSED WORK SHALL MATCH EXISTING LINE AND GRADE AT LIMITS OF WORK.
- ALL AREAS OUTSIDE OF THE LIMIT OF WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- EXISTING TREES WITHIN THE LIMIT OF WORK SHALL BE RETAINED AND PROTECTED UNLESS OTHERWISE NOTED OR REQUIRED BY ENGINEER. IN THE EVENT THAT A PROPOSED CATCH BASIN IS WITHIN 6' OF AN EXISTING TREE, THE INFORMATION SHALL BE FURNISHED TO THE ENGINEER FOR RESOLUTION PRIOR TO INSTALLATION OF THE CATCH BASIN.
- MATCH GRADE AT WALKS, BACK OF WALKS AND DRIVES UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR AS INDICATED ON THE PLANS. IF GRADE AT BACK OF WALK CANNOT BE MET, CONTRACTOR SHALL UTILIZE APPROPRIATE TREATMENT SUCH AS CURB AT BACK OF WALK, FEATHERING OF LOAM, ETC. TO BEST MATCH GRADE AT BACK OF WALK TO THE SATISFACTION OF THE ENGINEER.
- ALL GRANITE CURB, EDGING, AND CURB CORNERS THAT ARE NOT SUITABLE FOR REUSE AS DETERMINED BY THE ENGINEER SHALL BE REMOVED AND DISCARDED BY THE CONTRACTOR AT NO ADDITIONAL COST. GRANITE CURB OR EDGING TO BE RESET SHALL NOT BE RANDOMLY MIXED WITH NEW CURB, BUT SHALL BE RESET SO AS TO GIVE A UNIFORM APPEARANCE.
- ALL PROPOSED GRANITE CURB SHALL BE TYPE VA 4, UNLESS OTHERWISE NOTED.
- ALL FLUSH CURB ENCOUNTERED AT DRIVEWAYS SHALL BE REMOVED AND RE-USED ELSEWHERE OR DISPOSED AS DIRECTED BY ENGINEER, UNLESS OTHERWISE NOTED.
- ALL PROPOSED WHEELCHAIR RAMPS ARE TO CONFORM TO THE LATEST AAB AND ADA WHEELCHAIR RAMP STANDARDS. IF THERE IS A CONFLICT, THE INFORMATION SHALL BE FURNISHED TO THE ENGINEER FOR RESOLUTION PRIOR TO SIDEWALK RECONSTRUCTION. TACTILE WARNING PADS FOR PROPOSED WHEELCHAIR RAMPS SHALL BE BRICK RED COLOR.
- ALL EXISTING CURB STOPS, VALVE BOXES, CASTINGS AND HYDRANTS, IN AREAS TO BE REPAVED SHALL BE PROTECTED AND ADJUSTED TO LINE AND GRADE BY THE CONTRACTOR, UNLESS OTHERWISE DIRECTED BY ENGINEER.
- THE CONTRACTOR SHALL VERIFY ALL OUTLET GRADES OF DRAINAGE STRUCTURES PRIOR TO CONSTRUCTING ANY DRAINAGE MODIFICATIONS. CONTRACTOR TO CONFIRM LOCATION OF EXISTING UTILITIES WITH TEST PITS.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- THE CONTRACTOR SHALL ADJUST ALL UTILITY FRAMES AND COVERS AS REQUIRED. CONTRACTOR TO ARRANGE FOR INSPECTION OF ALL WORK ON UTILITIES WITH THE APPROPRIATE UTILITY COMPANY. IN THE EVENT ANY UTILITY COMPANY DOES NOT ALLOW THE CONTRACTOR TO MAKE THE ADJUSTMENTS, THE CONTRACTOR SHALL COORDINATE HIS WORK TO ALLOW FOR THE ADJUSTMENTS TO BE MADE BY THE UTILITY OR ITS DESIGNEE. THE EXPECTED UTILITIES INCLUDE BUT ARE NOT LIMITED TO: WATER, GAS & ELECTRIC, TELEPHONE & CATV AND FIRE.

- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS REQUIRED TO PERFORM THE WORK, INCLUDING ALL PERMITS REQUIRED BY THE CITY OF SALEM DEPARTMENT OF PUBLIC WORKS AND/OR WATER DEPARTMENT.
- PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR SHALL COORDINATE ANY UTILITY RELOCATIONS WITH THE CITY OF SALEM DEPARTMENT OF PUBLIC WORKS AND ALL RESPECTIVE UTILITY AGENCIES. LOCATIONS FOR RELOCATED UTILITIES ARE TO BE DETERMINED BY THE RESPECTIVE UTILITY AGENCY IN CONSULTATION WITH THE SALEM DEPARTMENT OF PUBLIC WORKS.
- CONTRACTOR SHALL FOLLOW CITY OF SALEM DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS WHERE APPLICABLE. ALL WORK DONE UNDER THIS CONTRACT SHALL BE COMPLETED IN CONFORMANCE TO MASSDOT "STANDARD SPECIFICATIONS FOR HIGHWAYS & BRIDGES" AND ANY UPDATES OR SUPPLEMENTAL SPECIFICATIONS PERTAINING THERETO, AND SPECIFICATIONS INCLUDED IN THIS CONTRACT.
- WORK SHALL NOT EXTEND BEYOND EXISTING ROW UNLESS OTHERWISE NOTED ON PLANS OR AS REQUIRED BY ENGINEER.
- INLETS AND OUTLETS FROM DRAINAGE STRUCTURES REMOVED SHALL BE PLUGGED WITH BRICK MASONRY NOT LESS THAN 8" IN THICKNESS, CONSISTENT WITH MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES SECTION 201. PIPES LARGER THAN 24" SHALL BE BACKFILLED WITH FLOWABLE FILL TO THE SATISFACTION
- NO WORK SHALL TAKE PLACE ON PRIVATE PROPERTY WITHOUT A SIGNED RIGHT OF ENTRY AGREEMENT BETWEEN THE PROPERTY OWNER AND THE CITY.
- IN TREE LOCATIONS WHERE TREE ROOTS ARE DAMAGING EXISTING CURB, THE CONTRACTOR MUST COORDINATE THE CURB REMOVAL WITH THE CITY ARBORIST PRIOR TO REMOVING CURB.
- WHEN FITTING GRANITE CURB OVER EXISTING UTILITIES AND OTHER OBSTRUCTIONS, NOTCHING AND CUTTING OF CURB SHALL TAKE PLACE WITH NO ADDITIONAL COST TO CITY OF SALEM.
- CONTRACTOR SHALL PROVIDE A STAKED LAYOUT FOR THE ENGINEER TO REVIEW PRIOR TO COMMENCING SIDEWALK WORK. THE CONTRACTOR SHALL PROVIDE ALL CUT AND FILL AMOUNTS AT ALL BACK OF SIDEWALK, STEPS, WALLS, DRIVEWAYS, WALKWAYS, BUILDING ENTRANCES, UTILITY STRUCTURES, ETC. ALL DISCREPANCIES THAT WILL CAUSE THE SIDEWALK NOT TO BE COMPLIANT WILL BE BROUGHT TO THE ENGINEER'S ATTENTION.
- FOR ALL PAY REQUESTS, CONTRACTOR SHALL PROVIDE BACK UP STATING DATES INSTALLED, QUANTITY INSTALLED, CALCULATION ON QUANTITY, AND A MARKED UP DRAWING SHOWING LOCATION INSTALLED.
- ALL EXISTING "D" GRATES FOR CATCH BASINS SHALL BE REPLACED WITH CITY STANDARD FRAME AND GRATE.
- ALL PAVEMENT MARKINGS SYMBOLS SHALL BE THERMOPLASTIC.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL STAGING AND STOCKPILING AREAS AT NO ADDITIONAL COST TO THE CITY. NO STAGING OR STOCKPILING AREAS SHALL BE ALLOWED WITHIN THE CITY ROW UNLESS APPROVED IN ADVANCE BY THE CITY ENGINEER.
- THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS THROUGH THE PROJECT SITE AT ALL TIMES. ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO MAINTAIN PEDESTRIAN ACCESS SHALL BE INCLUDED IN THE COST FOR ITEM 657.1 PEDESTRIAN GUIDANCE SYSTEM AT WORK ZONES.
- THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY ALL PROJECT ABUTTERS VIA DOOR HANGERS ONE (1) WEEK PRIOR TO COMMENCING WORK AT THE PROJECT SITE AND ONE (1) WEEK PRIOR TO CHANGING TRAFFIC PATTERNS AT THE PROJECT SITE.
- THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE ALL PROJECT RELATED CONSTRUCTION ACTIVITIES WITH THE REMOVAL OR RELOCATION OF EXISTING UTILITY POLES/OVERHEAD WIRES AND THE INSTALLATION OF NEW UTILITY POLES/OVERHEAD WIRES, AS NOTED ON THE CONTRACT DRAWINGS, BY NATIONAL GRID ELECTRIC. PLEASE REFER TO THE SPECIAL PROVISIONS FOR MORE DETAILED INFORMATION.

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Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name:	SEA	RAA	SEA	17.09.06
log_abbr_notes.dwg	Dwn.	Chkd.	Dgn.	YY.MM.DD

Permit-Seal



Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

Title
LEGEND, ABBREVIATIONS
& GENERAL NOTES

Project No.	Scale	
179410490	NOT TO SCALE	
Drawing No.	Sheet	Revision

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Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD

Issued _____ By _____ Appd. _____ YY.MM.DD

File Name: key plan.dwg SEA RAA SEA 17.09.06
 Dwn. Chkd. Dgn.

Permit-Seal



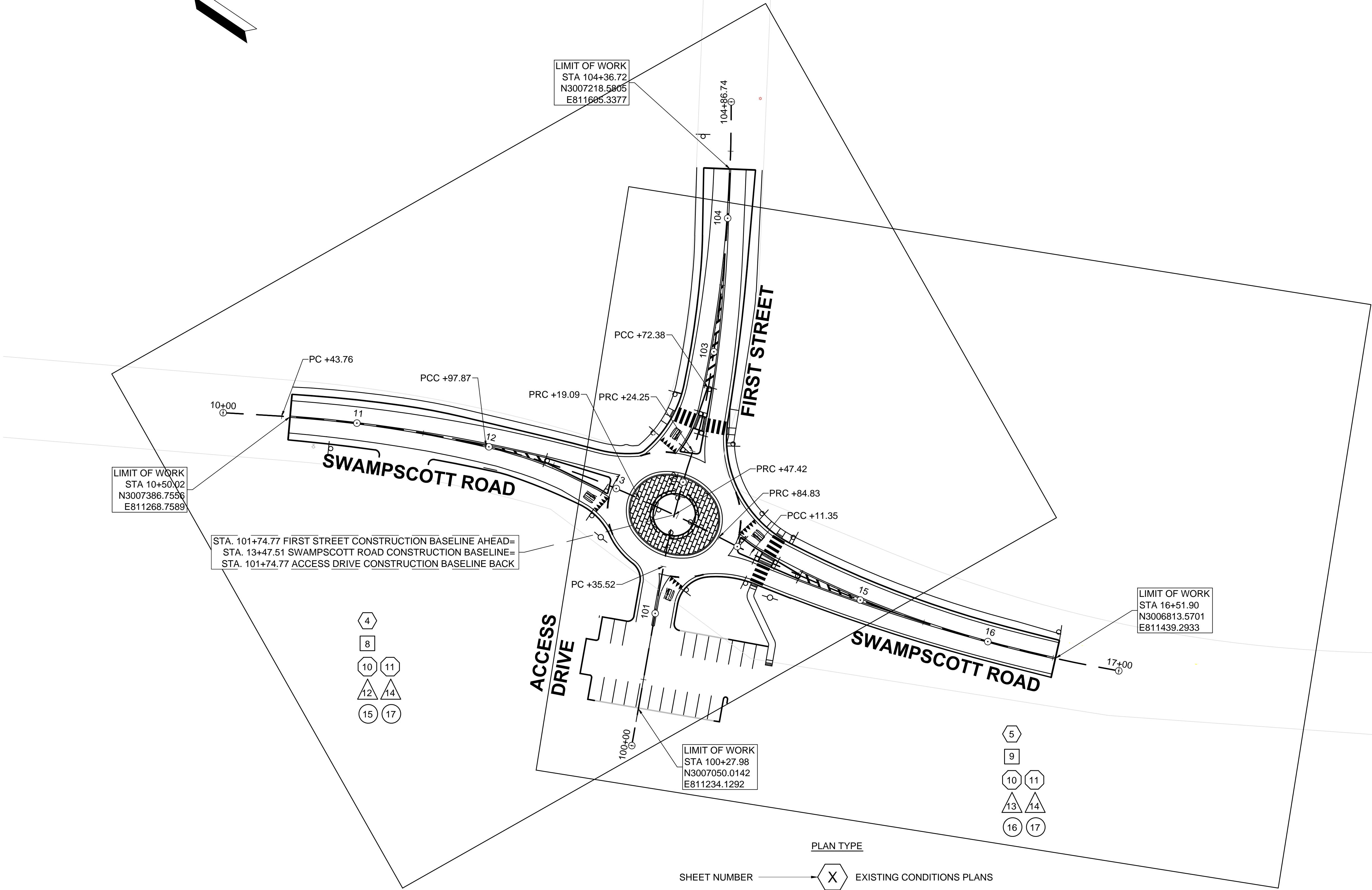
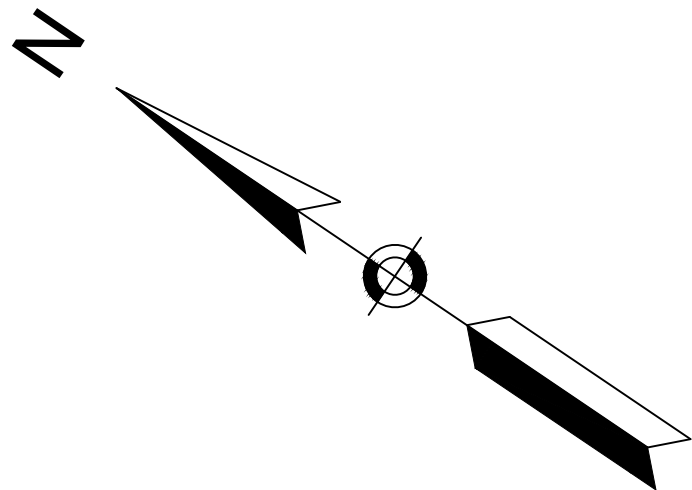
Client/Project
 City of Salem, MA

Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 KEY PLAN

Project No. 179410490 Scale 1"=40'

Drawing No. _____ Sheet _____ Revision _____



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LIMIT OF WORK
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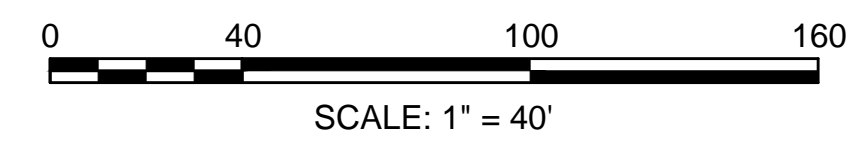
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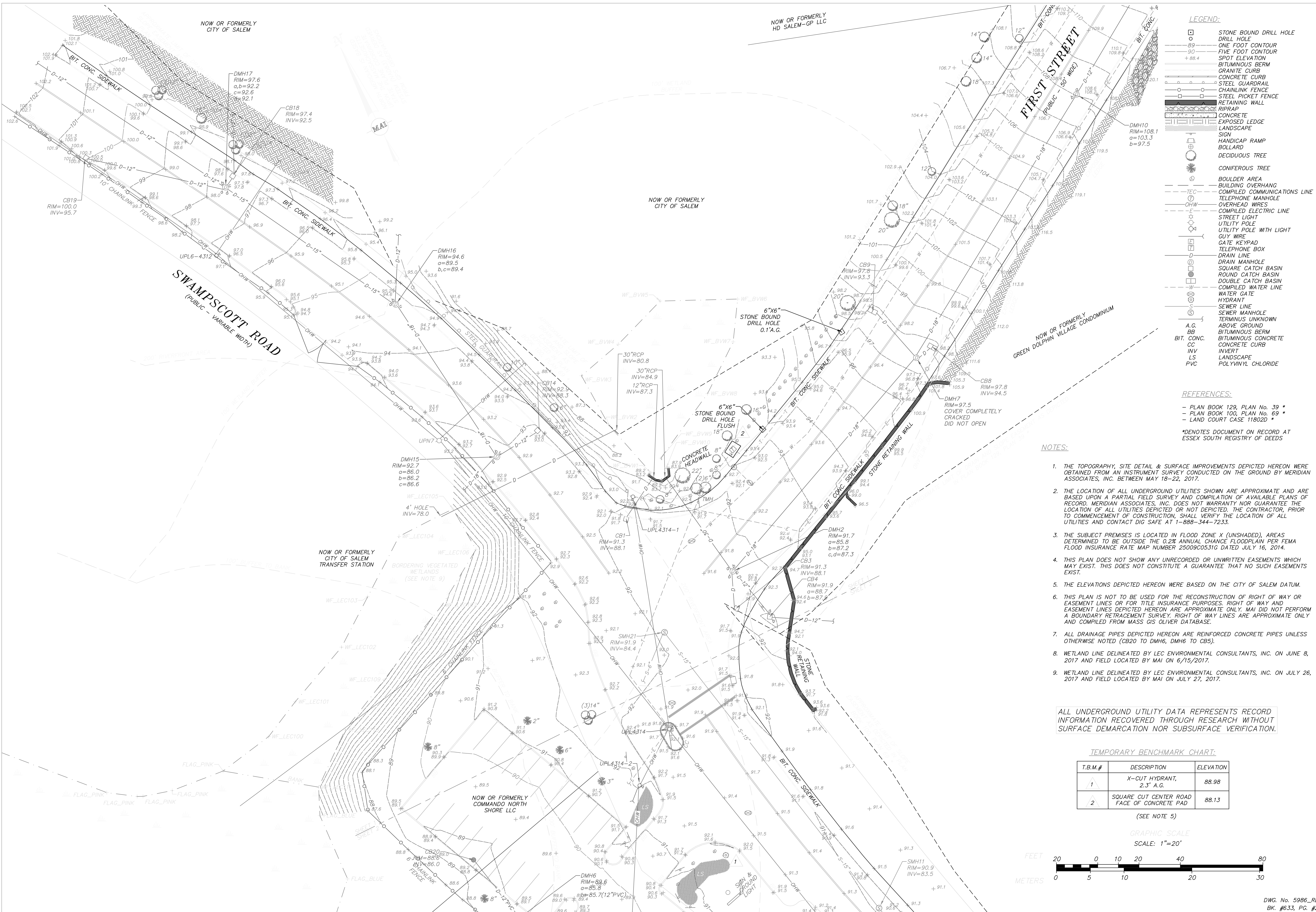
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 STA. 13+47.51 SWAMPSCOTT ROAD CONSTRUCTION BASELINE=
 STA. 101+74.77 ACCESS DRIVE CONSTRUCTION BASELINE BACK

- 4
- 8
- 10
- 11
- 12
- 14
- 15
- 17

- 5
- 9
- 10
- 11
- 13
- 14
- 16
- 17

- PLAN TYPE
- EXISTING CONDITIONS PLANS
 - CONSTRUCTION PLANS
 - PROFILES
 - CURB TIE PLANS
 - GRADING PLANS
- SHEET NUMBER





- LEGEND:**
- STONE BOUND DRILL HOLE
 - DRILL HOLE
 - ONE FOOT CONTOUR
 - FIVE FOOT CONTOUR
 - SPOT ELEVATION
 - BITUMINOUS BERM
 - GRANITE CURB
 - CONCRETE CURB
 - STEEL GUARDRAIL
 - CHAINLINK FENCE
 - STEEL PICKET FENCE
 - RETAINING WALL
 - RIPRAP
 - CONCRETE EXPOSED LEDGE
 - LANDSCAPE SIGN
 - HANDICAP RAMP
 - BOLLARD
 - DECIDUOUS TREE
 - CONIFEROUS TREE
 - BOULDER AREA
 - BUILDING OVERHANG
 - COMPILED COMMUNICATIONS LINE
 - TELEPHONE MANHOLE
 - OHW
 - COMPILED ELECTRIC LINE
 - STREET LIGHT
 - UTILITY POLE
 - UTILITY POLE WITH LIGHT
 - GUY WIRE
 - GATE KEYPAD
 - TELEPHONE BOX
 - DRAIN LINE
 - DRAIN MANHOLE
 - SQUARE CATCH BASIN
 - ROUND CATCH BASIN
 - DOUBLE CATCH BASIN
 - COMPILED WATER LINE
 - WATER GATE
 - HYDRANT
 - SEWER LINE
 - SEWER MANHOLE
 - TERMINUS UNKNOWN
 - ABOVE GROUND
 - BITUMINOUS BERM
 - BITUMINOUS CONCRETE
 - CONCRETE CURB
 - INVERT
 - LANDSCAPE
 - POLYVINYL CHLORIDE

- REFERENCES:**
- PLAN BOOK 129, PLAN No. 39 *
 - PLAN BOOK 100, PLAN No. 69 *
 - LAND COURT CASE 11802D *
- *DENOTES DOCUMENT ON RECORD AT ESSEX SOUTH REGISTRY OF DEEDS

- NOTES:**
1. THE TOPOGRAPHY, SITE DETAIL & SURFACE IMPROVEMENTS DEPICTED HEREON WERE OBTAINED FROM AN INSTRUMENT SURVEY CONDUCTED ON THE GROUND BY MERIDIAN ASSOCIATES, INC. BETWEEN MAY 18-22, 2017.
 2. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE AND ARE BASED UPON A PARTIAL FIELD SURVEY AND COMPILATION OF AVAILABLE PLANS OF RECORD. MERIDIAN ASSOCIATES, INC. DOES NOT WARRANT NOR GUARANTEE THE LOCATION OF ALL UTILITIES DEPICTED OR NOT DEPICTED. THE CONTRACTOR, PRIOR TO COMMENCEMENT OF CONSTRUCTION, SHALL VERIFY THE LOCATION OF ALL UTILITIES AND CONTACT DIG SAFE AT 1-888-344-7233.
 3. THE SUBJECT PREMISES IS LOCATED IN FLOOD ZONE X (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER FEMA FLOOD INSURANCE RATE MAP NUMBER 2509C0531G DATED JULY 16, 2014.
 4. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.
 5. THE ELEVATIONS DEPICTED HEREON WERE BASED ON THE CITY OF SALEM DATUM.
 6. THIS PLAN IS NOT TO BE USED FOR THE RECONSTRUCTION OF RIGHT OF WAY OR EASEMENT LINES OR FOR TITLE INSURANCE PURPOSES. RIGHT OF WAY AND EASEMENT LINES DEPICTED HEREON ARE APPROXIMATE ONLY. MAI DID NOT PERFORM A BOUNDARY RETRACEMENT SURVEY. RIGHT OF WAY LINES ARE APPROXIMATE ONLY AND COMPILED FROM MASS GIS OLIVER DATABASE.
 7. ALL DRAINAGE PIPES DEPICTED HEREON ARE REINFORCED CONCRETE PIPES UNLESS OTHERWISE NOTED (CB20 TO DMH6, DMH6 TO CBS).
 8. WETLAND LINE DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. ON JUNE 8, 2017 AND FIELD LOCATED BY MAI ON 6/15/2017.
 9. WETLAND LINE DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. ON JULY 26, 2017 AND FIELD LOCATED BY MAI ON JULY 27, 2017.

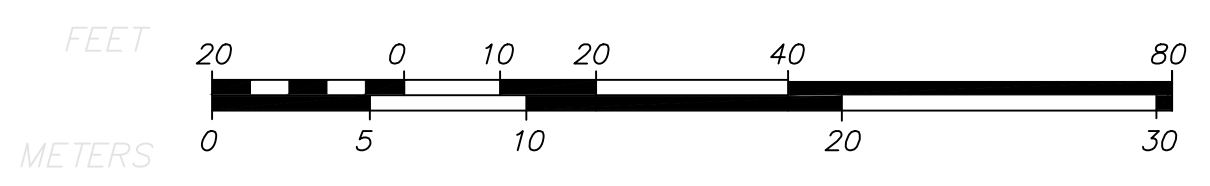
ALL UNDERGROUND UTILITY DATA REPRESENTS RECORD INFORMATION RECOVERED THROUGH RESEARCH WITHOUT SURFACE DEMARCATION NOR SUBSURFACE VERIFICATION.

TEMPORARY BENCHMARK CHART:

T.B.M.#	DESCRIPTION	ELEVATION
1	X-CUT HYDRANT, 2.3' A.G.	88.98
2	SQUARE CUT CENTER ROAD FACE OF CONCRETE PAD	88.13

(SEE NOTE 5)

GRAPHIC SCALE
SCALE: 1"=20'



DWG. No. 5986_REC
BK. #633, PG. #23

REVISIONS

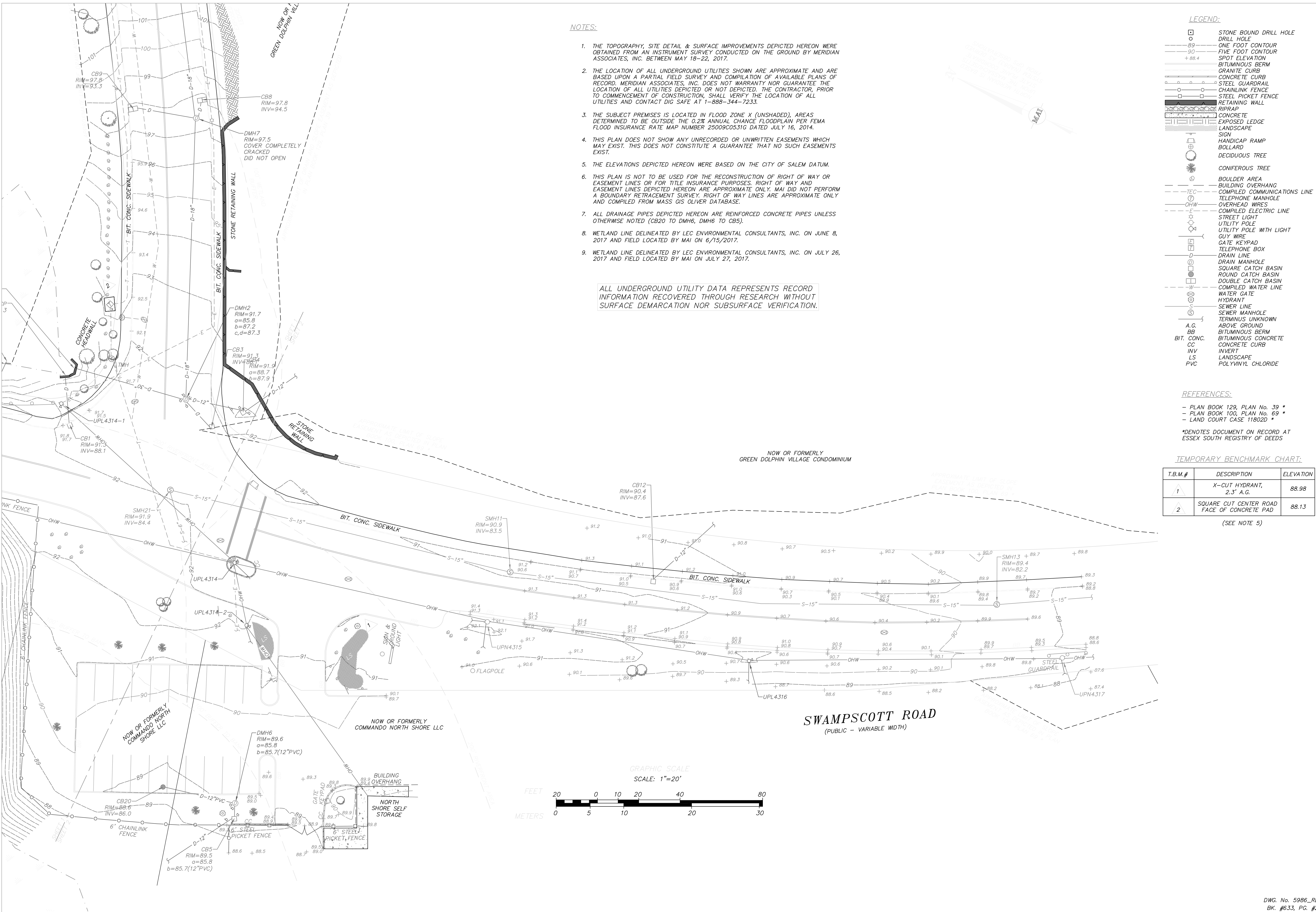
NO.	DATE	DESCRIPTION	BY

SWAMPSCOTT ROAD / FIRST STREET
RECORD CONDITIONS PLAN OF LAND
LOCATED IN
SALEM, MASSACHUSETTS
(ESSEX COUNTY)
PREPARED FOR
STANTEC CONSULTANTS, INC.

MERIDIAN ASSOCIATES
500 CUMMINGS CENTER, SUITE 8950
BEVERLY, MASSACHUSETTS 01915
TELEPHONE: (978) 290-0447
WWW.MERIDIANASSOC.COM

DESIGNED BY: _____
CHECKED BY: _____

DATE: JULY 19, 2017
SCALE: 1"=20'
SHEET No. 4 OF 37
PROJECT No. 5986



- NOTES:**
- THE TOPOGRAPHY, SITE DETAIL & SURFACE IMPROVEMENTS DEPICTED HEREON WERE OBTAINED FROM AN INSTRUMENT SURVEY CONDUCTED ON THE GROUND BY MERIDIAN ASSOCIATES, INC. BETWEEN MAY 18-22, 2017.
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 - ALL DRAINAGE PIPES DEPICTED HEREON ARE REINFORCED CONCRETE PIPES UNLESS OTHERWISE NOTED (CB20 TO DMH6, DMH6 TO CB5).
 - WETLAND LINE DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. ON JUNE 8, 2017 AND FIELD LOCATED BY MAI ON 6/15/2017.
 - WETLAND LINE DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS, INC. ON JULY 26, 2017 AND FIELD LOCATED BY MAI ON JULY 27, 2017.

ALL UNDERGROUND UTILITY DATA REPRESENTS RECORD INFORMATION RECOVERED THROUGH RESEARCH WITHOUT SURFACE DEMARICATION NOR SUBSURFACE VERIFICATION.

LEGEND:

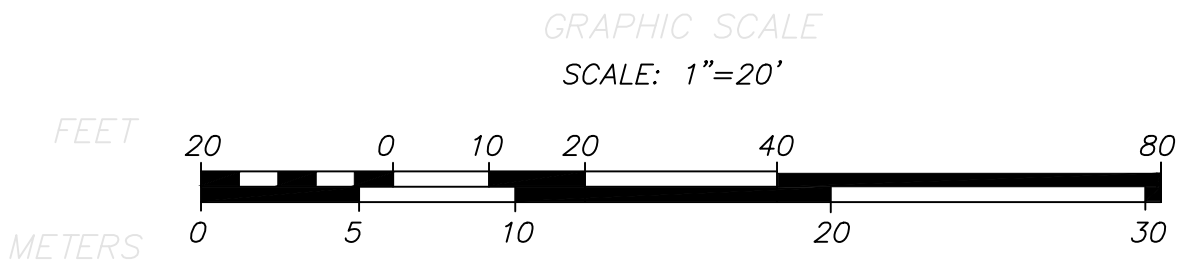
	STONE BOUND DRILL HOLE
	DRILL HOLE
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	SPOT ELEVATION
	BITUMINOUS BERM
	GRANITE CURB
	CONCRETE CURB
	STEEL GUARDRAIL
	CHAINLINK FENCE
	STEEL PICKET FENCE
	RETAINING WALL
	RIPRAP
	CONCRETE
	EXPOSED LEDGE
	LANDSCAPE
	SIGN
	HANDICAP RAMP
	BOLLARD
	DECIDUOUS TREE
	CONIFEROUS TREE
	BOULDER AREA
	BUILDING OVERHANG
	COMPILED COMMUNICATIONS LINE
	TELEPHONE MANHOLE
	OVERHEAD WIRES
	COMPILED ELECTRIC LINE
	STREET LIGHT
	UTILITY POLE
	UTILITY POLE WITH LIGHT
	GUY WIRE
	GATE KEYPAD
	TELEPHONE BOX
	DRAIN LINE
	DRAIN MANHOLE
	SQUARE CATCH BASIN
	ROUND CATCH BASIN
	DOUBLE CATCH BASIN
	COMPILED WATER LINE
	WATER GATE
	HYDRANT
	SEWER LINE
	SEWER MANHOLE
	TERMINUS UNKNOWN
	ABOVE GROUND
	BITUMINOUS BERM
	BITUMINOUS CONCRETE
	CONCRETE CURB
	INVERT
	LANDSCAPE
	PVC
	A.G.
	BB.
	BIT. CONC.
	CC.
	INV.
	LS.
	PVC.

- REFERENCES:**
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 - PLAN BOOK 100, PLAN No. 69 *
 - LAND COURT CASE 11802D *
- *DENOTES DOCUMENT ON RECORD AT ESSEX SOUTH REGISTRY OF DEEDS

TEMPORARY BENCHMARK CHART:

T.B.M.#	DESCRIPTION	ELEVATION
1	X-CUT HYDRANT, 2.3' A.G.	88.98
2	SQUARE CUT CENTER ROAD FACE OF CONCRETE PAD	88.13

(SEE NOTE 5)



REVISIONS

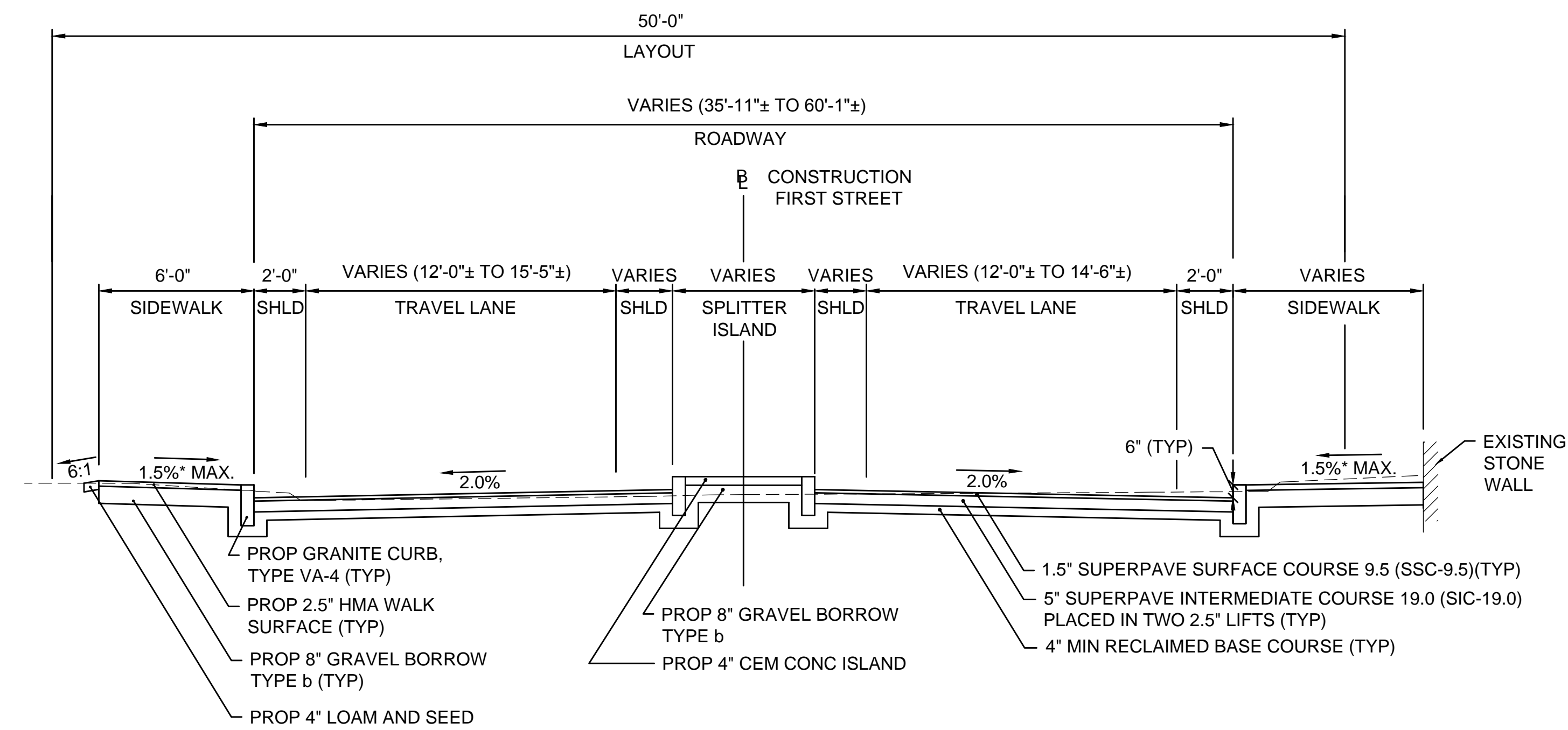
NO.	DATE	DESCRIPTION	BY

SWAMPSCOTT ROAD / FIRST STREET
RECORD CONDITIONS PLAN OF LAND
LOCATED IN
SALEM, MASSACHUSETTS
(ESSEX COUNTY)
PREPARED FOR
STANTEC CONSULTANTS, INC.

MERIDIAN ASSOCIATES
500 CUMMINGS CENTER, SUITE 8950
BEVERLY, MASSACHUSETTS 01915
TELEPHONE: (978) 298-0447
WWW.MERIDIANASSOC.COM

DESIGNED BY: _____
CHECKED BY: _____

DATE: JULY 19, 2017
SCALE: 1"=20'
SHEET No. 5 OF 37
PROJECT No. 5986



TYPICAL SECTION - FIRST STREET
 STA. 102+22± TO STA. 102+74±

PAVEMENT NOTES:

PAVEMENT RECLAMATION (SWAMPSCOTT ROAD AND FIRST STREET):

SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
 5" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)
 (PLACED IN TWO 2.5" LIFTS)

BASE: 4" MIN* RECLAIMED BASE COURSE MATERIAL
 *MAY REQUIRE OVER EXCAVATION OF SUB-BASE MATERIAL TO MEET
 MINIMUM DEPTH

RECLAIM: 12" DEPTH

PAVEMENT MILL AND HMA OVERLAY (SWAMPSCOTT ROAD AND FIRST STREET):

SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5)

VARIABLE LEVELING COURSE: 0" - 2" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5)

MILLING: 1.5" MICROMILL

FULL DEPTH PAVEMENT WIDENING IN MILL/OVERLAY AREAS (SWAMPSCOTT ROAD):

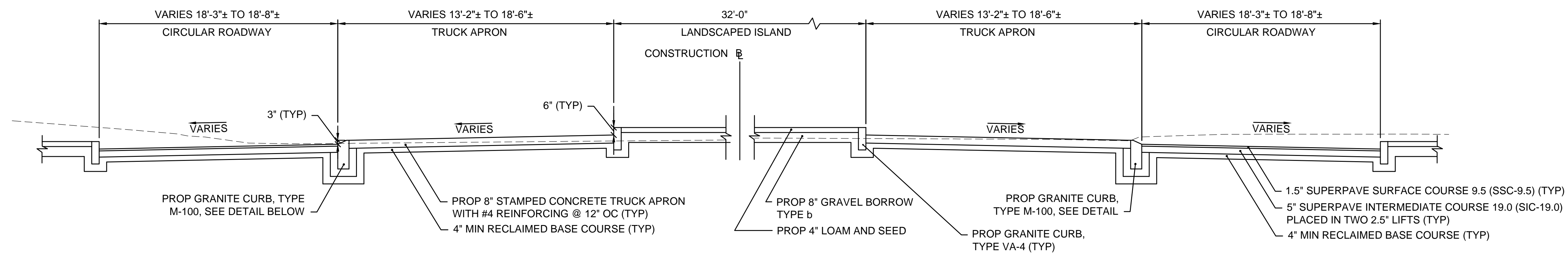
SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
 2.5" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)

BASE: 6" HIGH EARLY STRENGTH CEMENT CONCRETE OVER
 8" GRAVEL BORROW, TYPE b

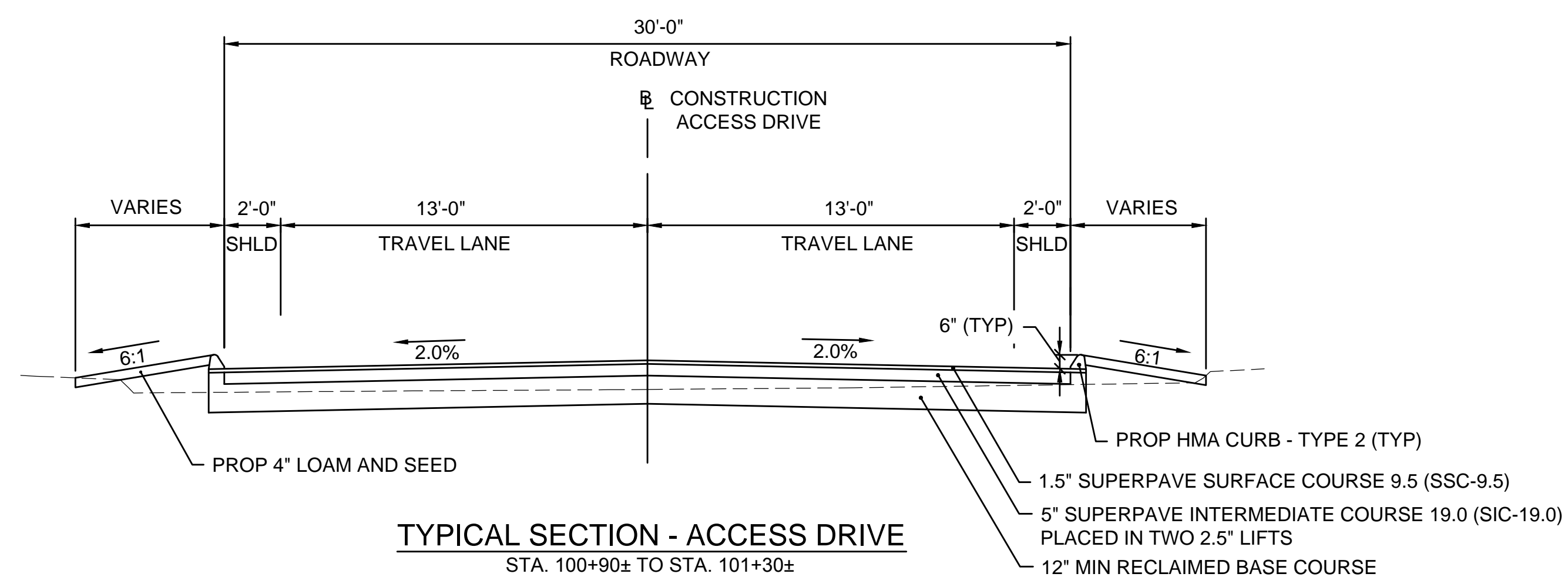
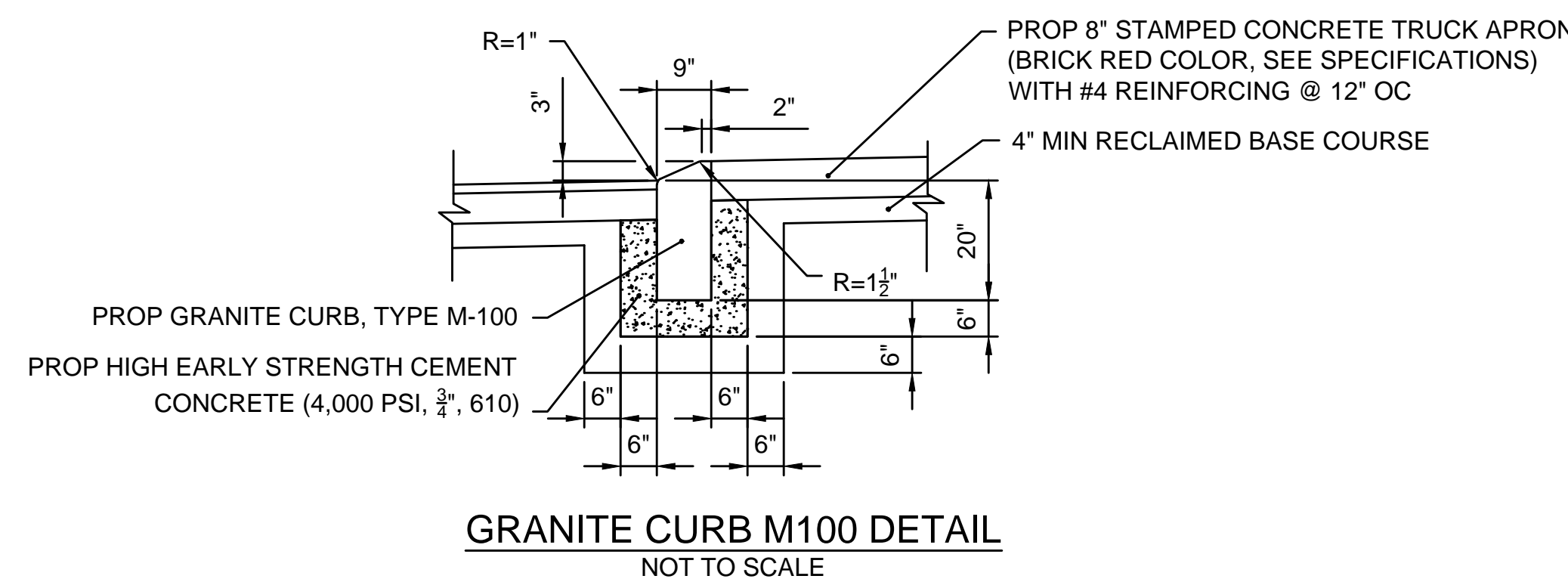
FULL DEPTH PAVEMENT WIDENING IN RECLAMATION AREA AND ACCESS DRIVEWAY (SWAMPSCOTT ROAD AND FIRST STREET):

SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
 5" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)
 (PLACED IN TWO 2.5" LIFTS)

BASE: 12" MIN RECLAIMED BASE COURSE MATERIAL

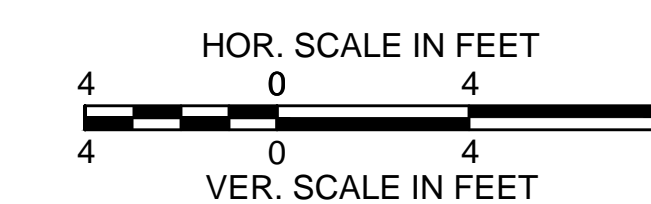


TYPICAL SECTION - FIRST STREET
 STA. 101+30± TO STA. 102+22±
 TYPICAL SECTION - SWAMPSCOTT ROAD
 STA. 12+95± TO STA. 14+00±



TYPICAL SECTION - ACCESS DRIVE
 STA. 100+90± TO STA. 101+30±

ASPHALT EMULSION FOR TACK COAT:
 ASPHALT EMULSION FOR TACK COAT SHALL BE PLACED ON ALL MILLED SURFACES
 (APPLICATION RATE = 0.07 GAL/SY) AND BETWEEN ALL NEW PAVEMENT LAYERS
 (APPLICATION RATE = 0.05 GAL/SY)



Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name:	SEA	RAA	SEA	17.09.06
typical sections.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

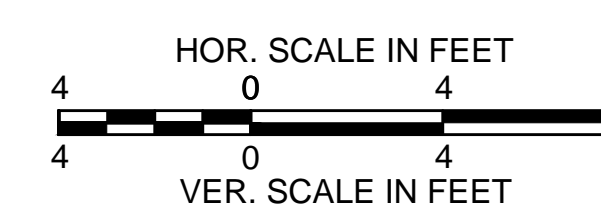
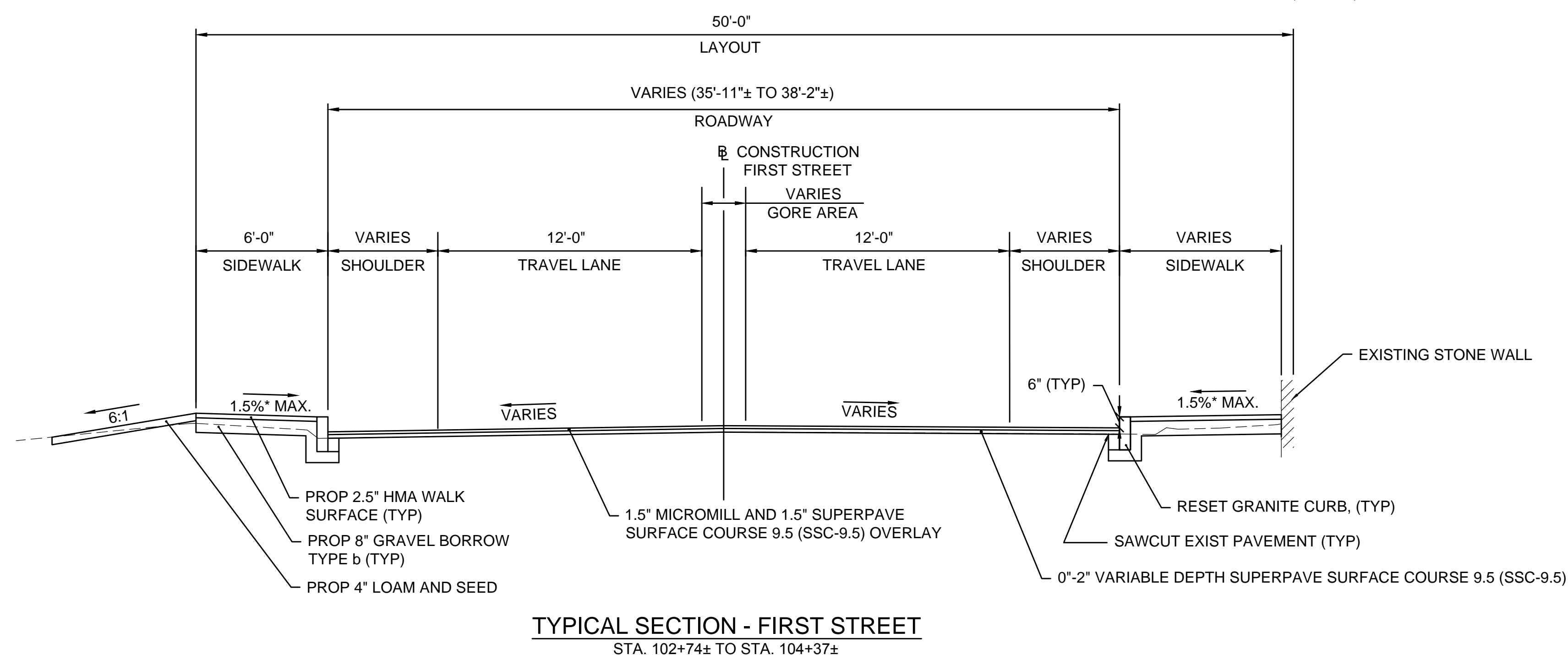
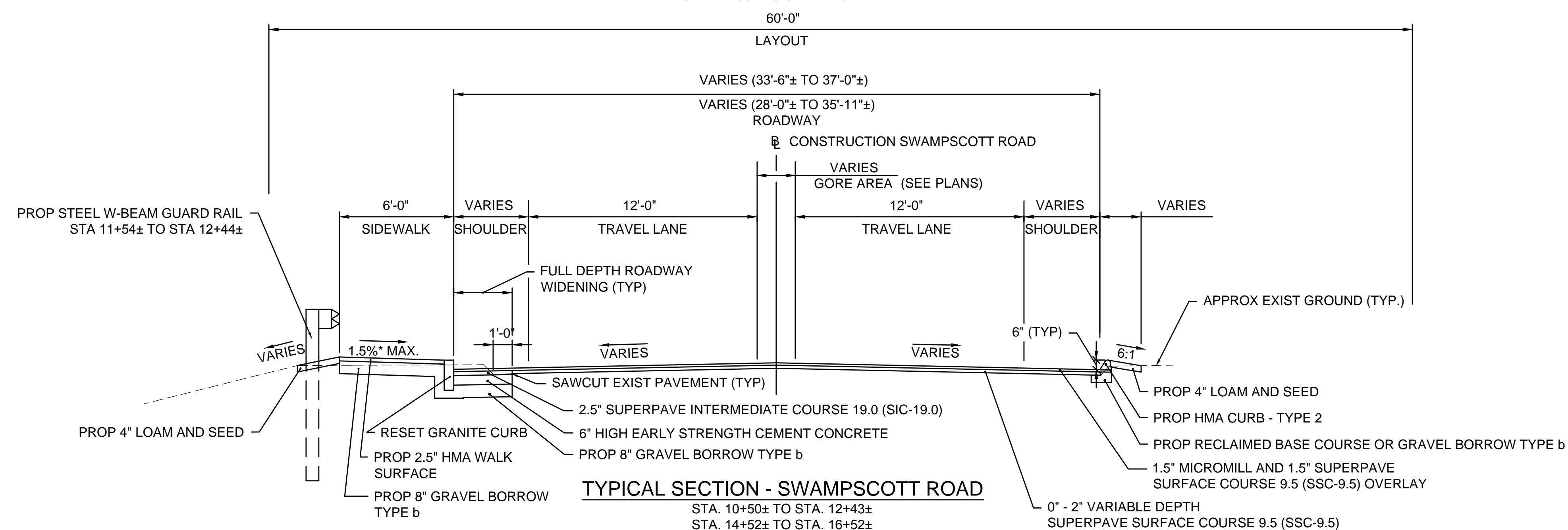
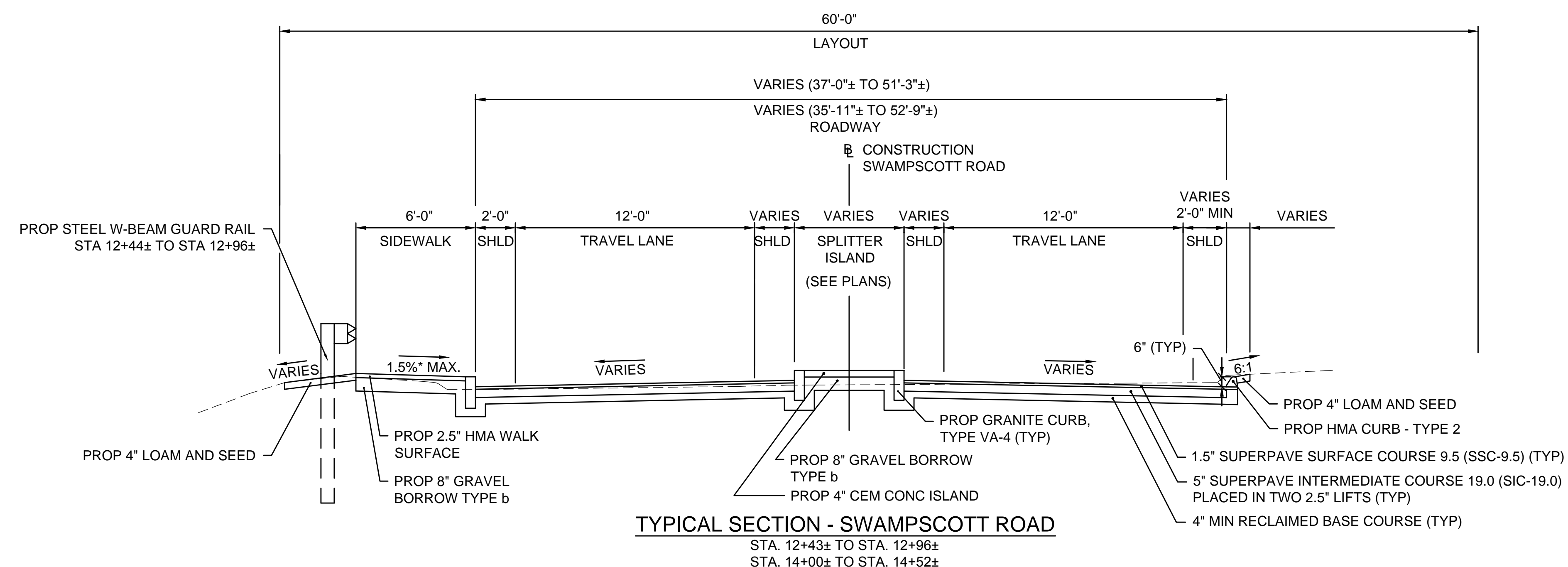


Client/Project
 City of Salem, MA

Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 TYPICAL SECTIONS PART - 1

Project No.	Scale	
Drawing No.	Sheet	Revision
179410490	1"=40'	



Revision	By	Appd.	YY.MM.DD

File Name	SEA	RAA	SEA	17.09.06
typical sections.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal



Client/Project
 City of Salem, MA

Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 TYPICAL SECTIONS PART - 2

Project No.	Scale	
Drawing No.	Sheet	Revision
179410490	1"=40'	

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Revision

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File Name: const plans.dwg SEA RAA SEA 17.09.06
 Dwn. Chkd. Dgn. YY.MM.DD

Permit-Seal

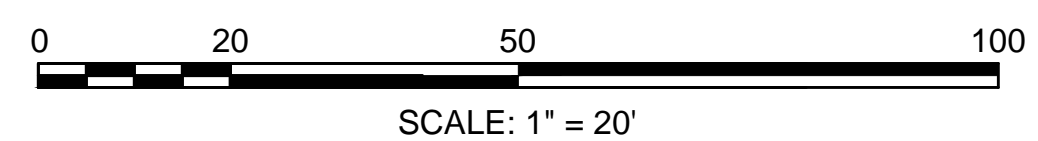
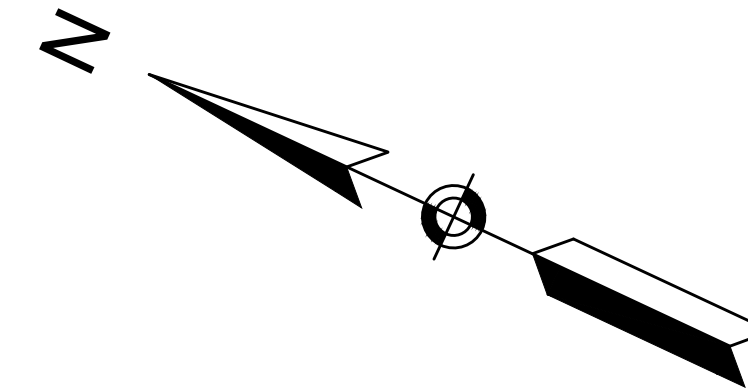
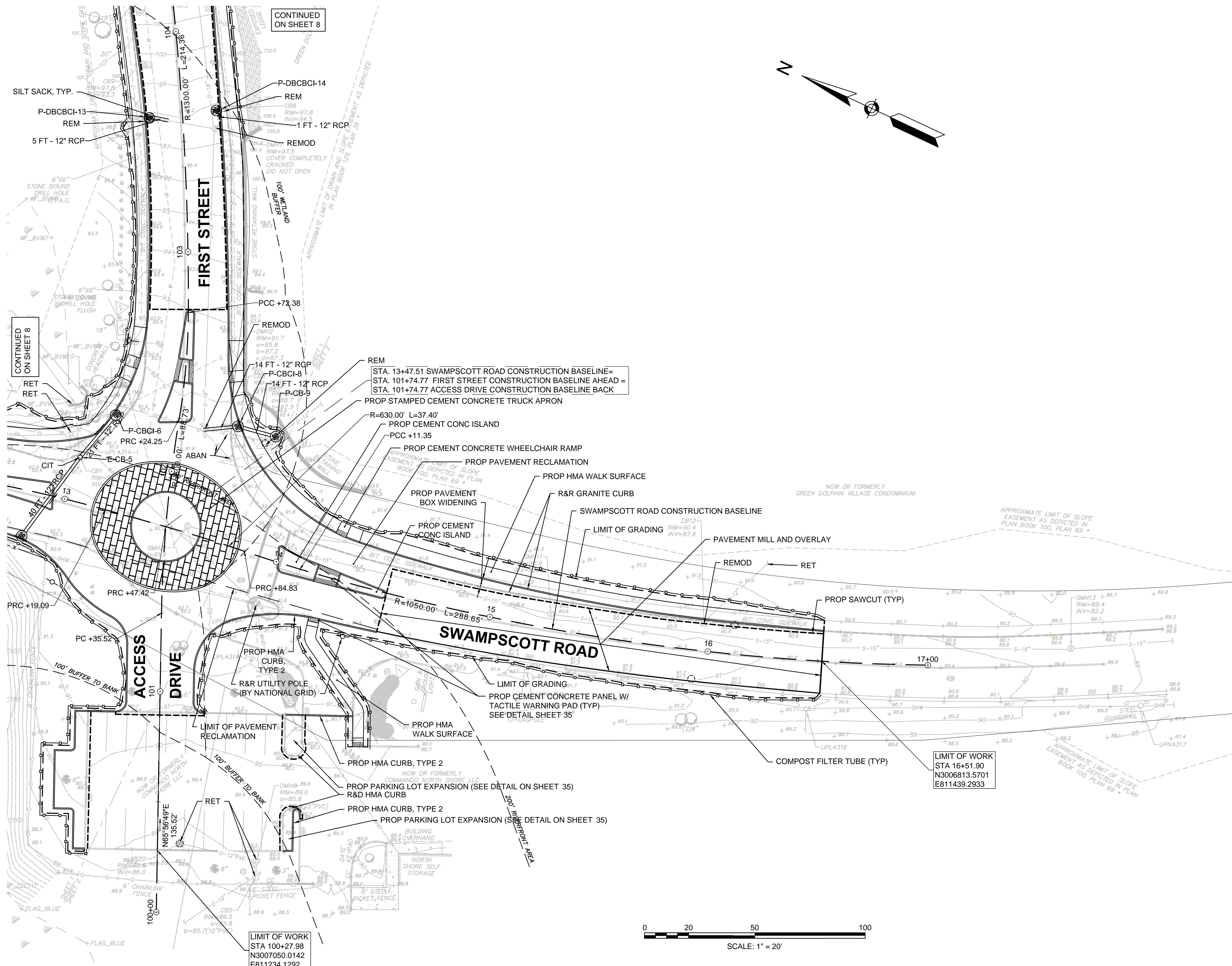


Client/Project
 City of Salem, MA

Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 CONSTRUCTION PLAN - PART 2 OF 2

Project No. 179410490 Scale 1"=20'
 Drawing No. Sheet Revision



CONTINUED ON SHEET 8

CONTINUED ON SHEET 8

LIMIT OF WORK
 STA 100+27.98
 N3007050.0142
 E811234.1292

LIMIT OF WORK
 STA 16+51.90
 N3006813.5701
 E811439.2933

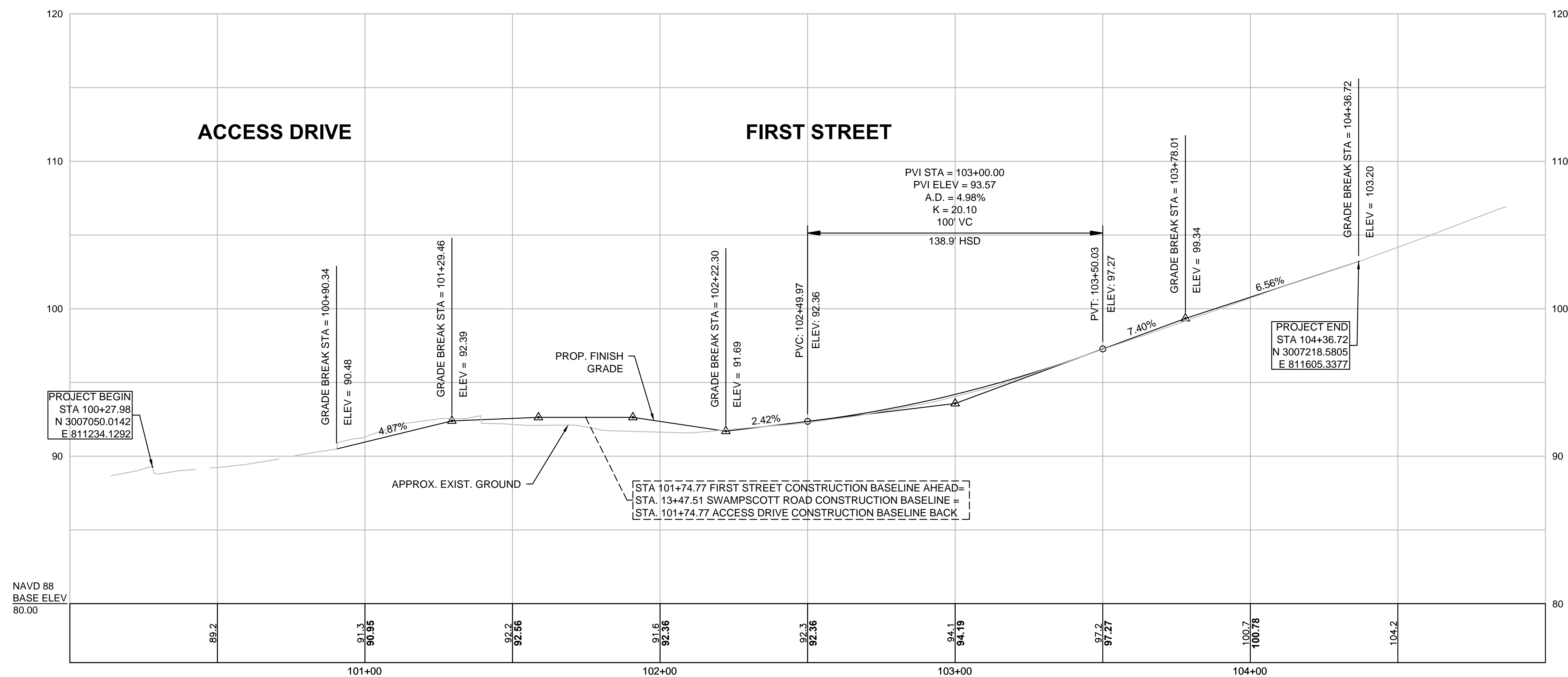
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Issued	By	Appd.	YY.MM.DD

File Name:	SEA	RAA	SEA	17.09.06
profiles.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

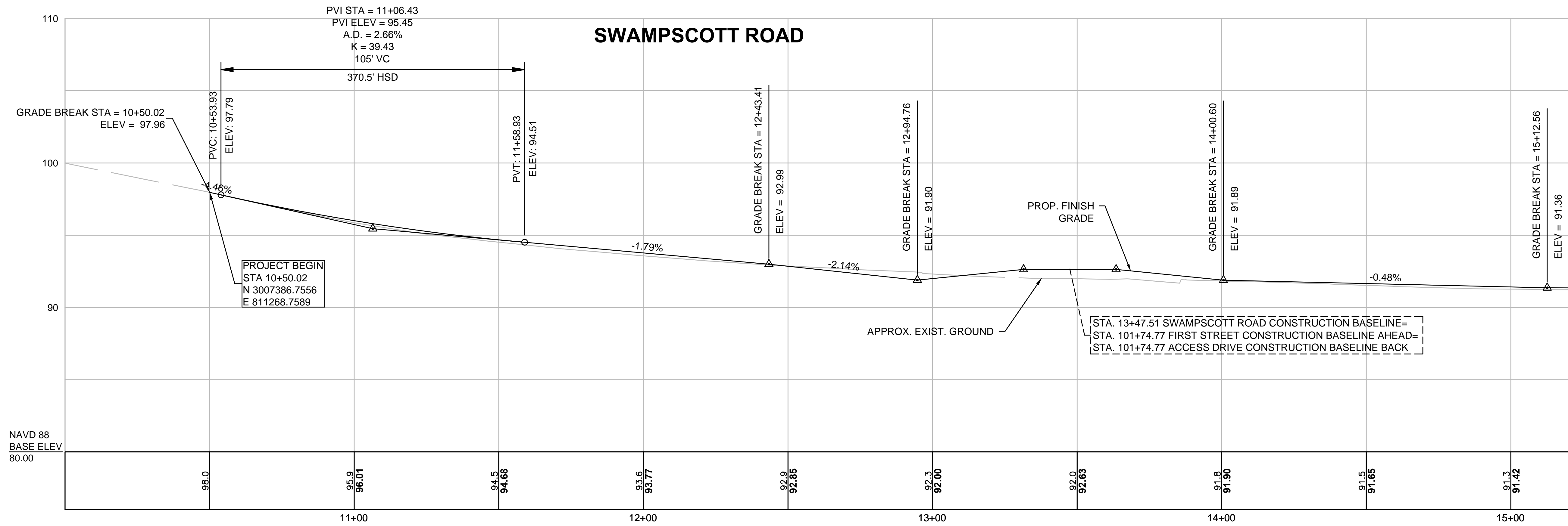


Client/Project
 City of Salem, MA

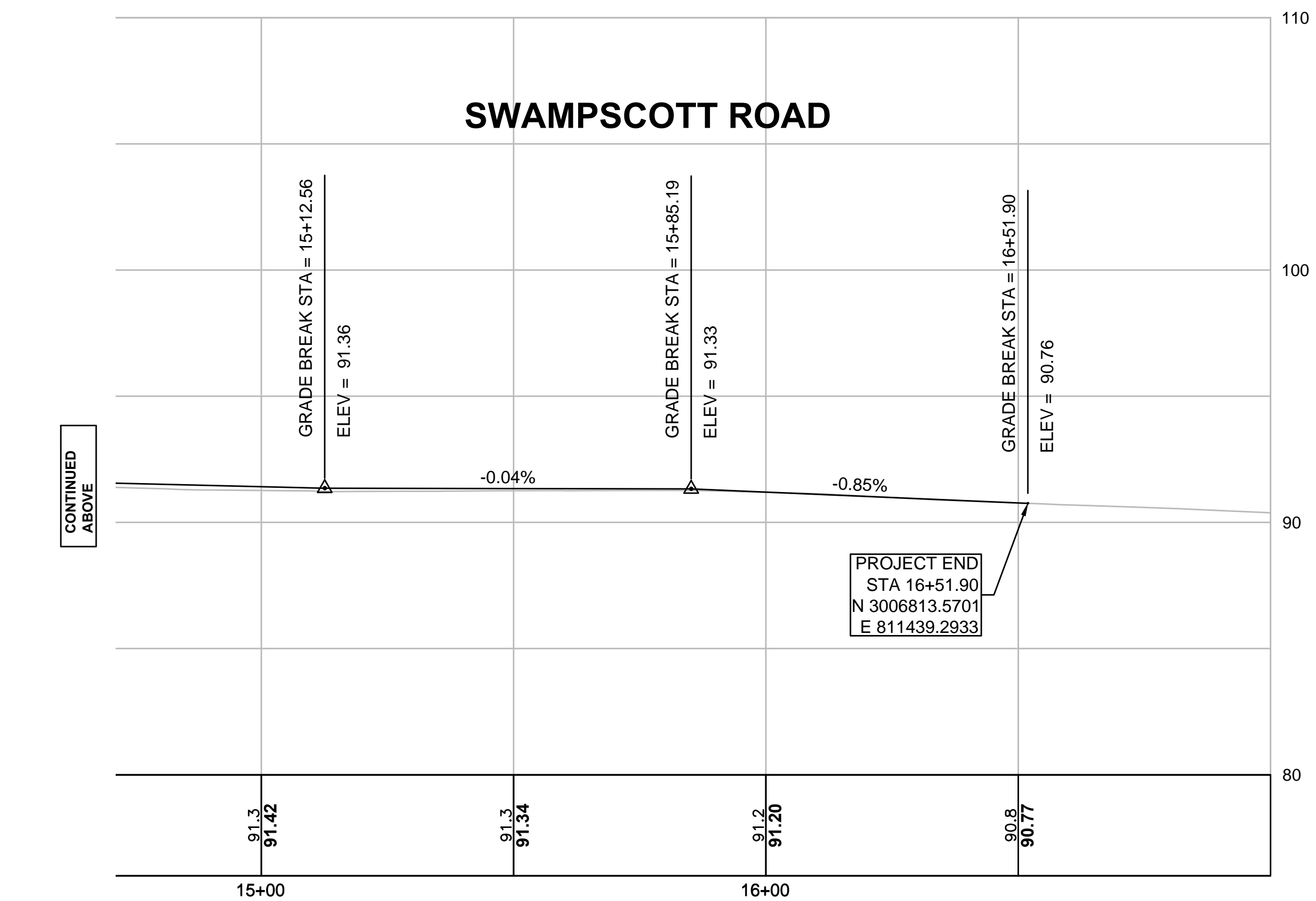
Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 FIRST STREET-ACCESS DRIVE PROFILE

Project No.	Scale	
179410490	H:1"=20' V:1"=4'	
Drawing No.	Sheet	Revision



CONTINUED BELOW



CONTINUED ABOVE

Revision		By	Appd.	YY.MM.DD

Issued		By	Appd.	YY.MM.DD

File Name:	profiles.dwg	SEA	RAA	SEA	17.09.06
		Dwn.	Chkd.	Dgn.	YY.MM.DD

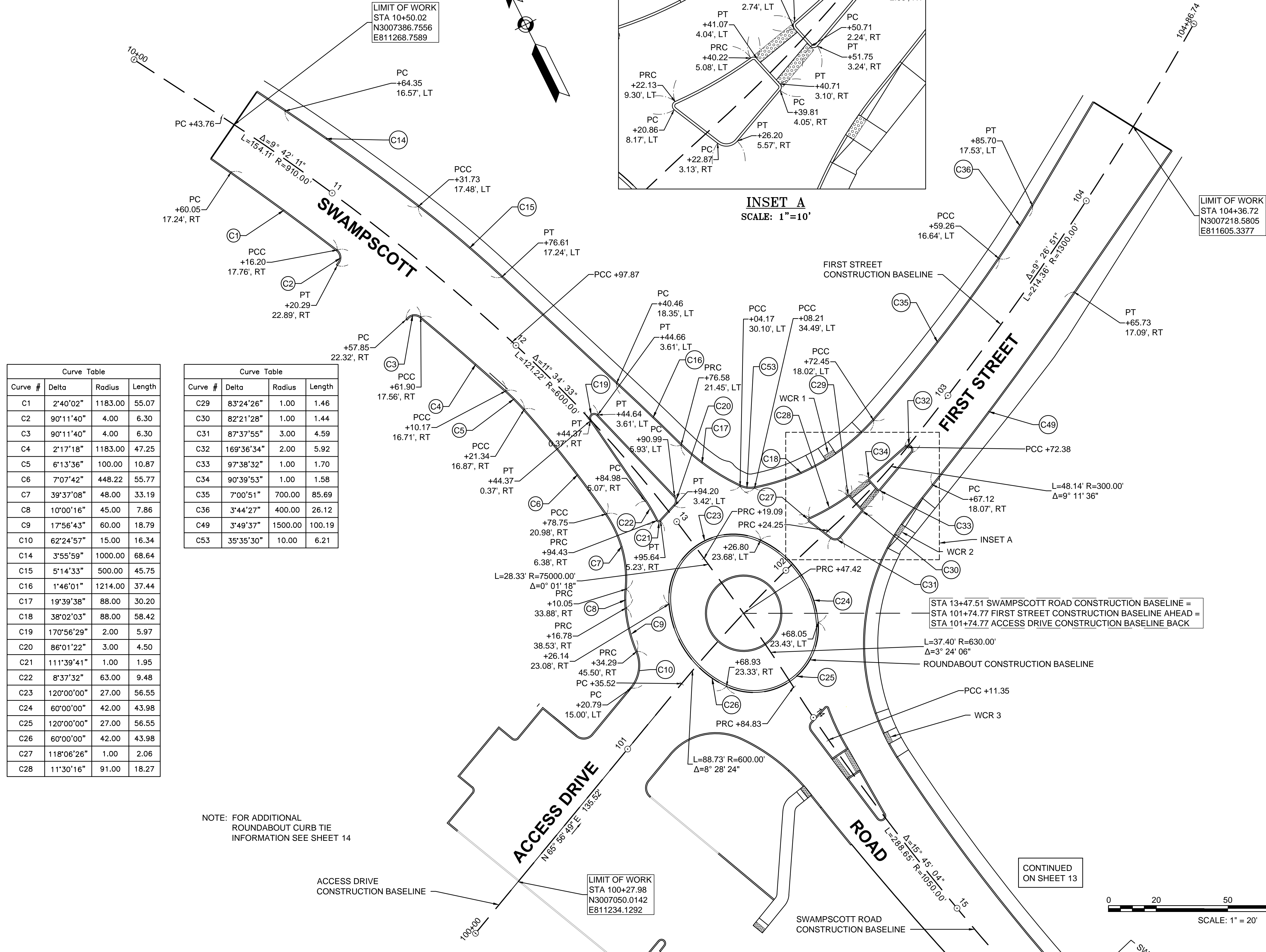


Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

Title
SWAMPSCOTT ROAD PROFILE

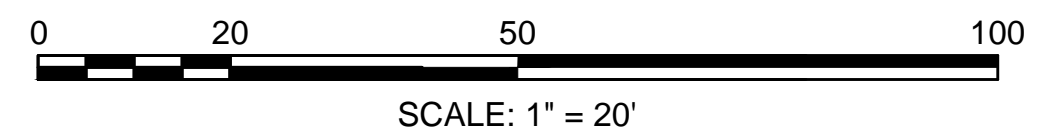
Project No.	179410490	Scale	H:1"=20' V:1"=4'
Drawing No.	Sheet	Revision	



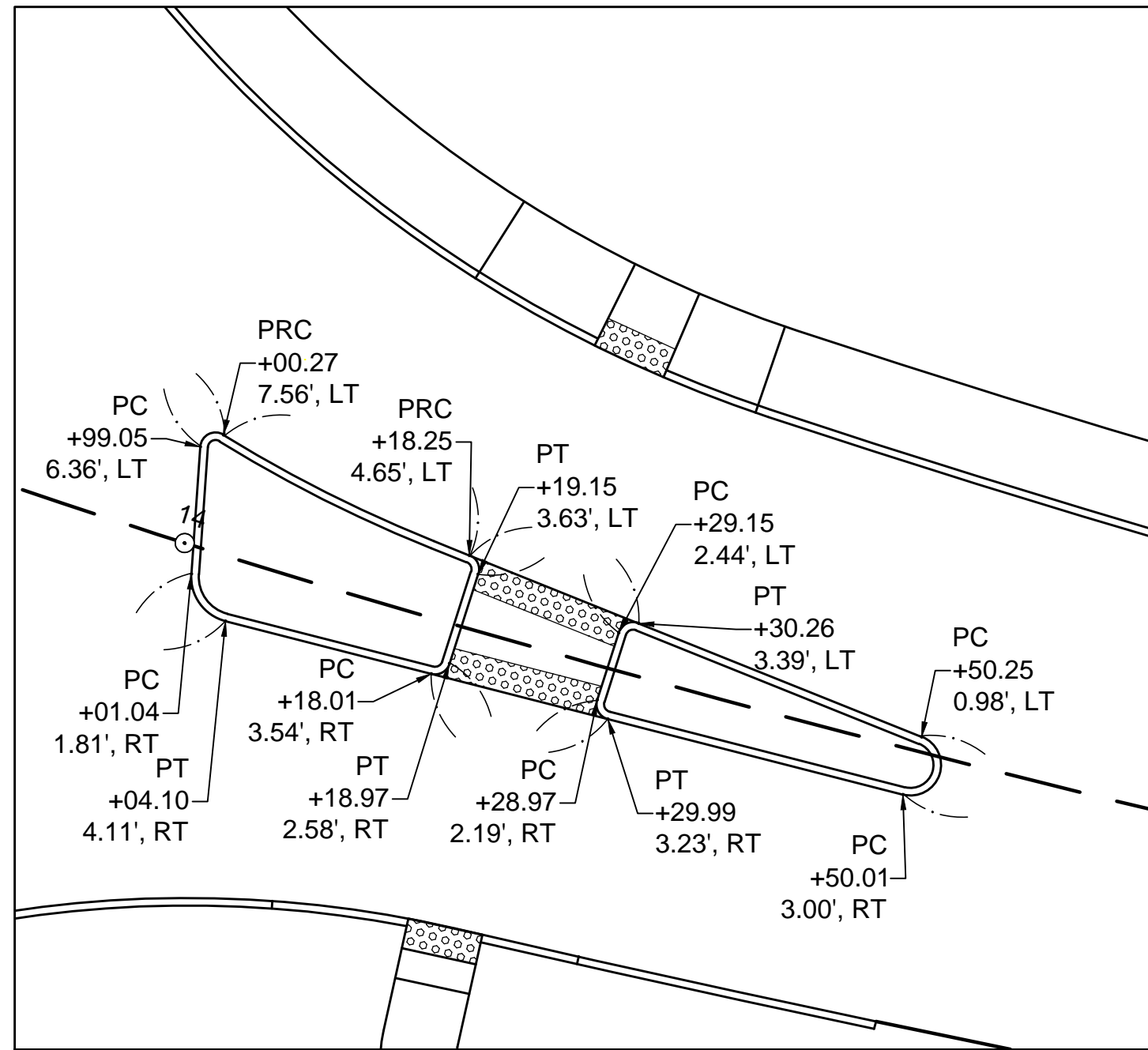
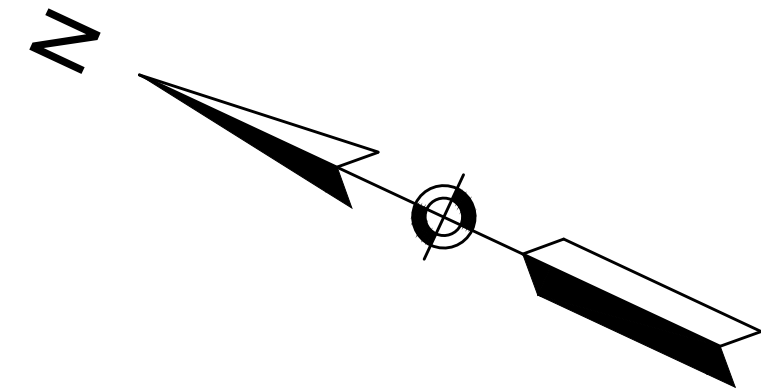
Curve Table			
Curve #	Delta	Radius	Length
C1	2°40'02"	1183.00	55.07
C2	90°11'40"	4.00	6.30
C3	90°11'40"	4.00	6.30
C4	2°17'18"	1183.00	47.25
C5	6°13'36"	100.00	10.87
C6	7°07'42"	448.22	55.77
C7	39°37'08"	48.00	33.19
C8	10°00'16"	45.00	7.86
C9	17°56'43"	60.00	18.79
C10	62°24'57"	15.00	16.34
C14	3°55'59"	1000.00	68.64
C15	5°14'33"	500.00	45.75
C16	1°46'01"	1214.00	37.44
C17	19°39'38"	88.00	30.20
C18	38°02'03"	88.00	58.42
C19	170°56'29"	2.00	5.97
C20	86°01'22"	3.00	4.50
C21	111°39'41"	1.00	1.95
C22	8°37'32"	63.00	9.48
C23	120°00'00"	27.00	56.55
C24	60°00'00"	42.00	43.98
C25	120°00'00"	27.00	56.55
C26	60°00'00"	42.00	43.98
C27	118°06'26"	1.00	2.06
C28	11°30'16"	91.00	18.27

Curve Table			
Curve #	Delta	Radius	Length
C29	83°24'26"	1.00	1.46
C30	82°21'28"	1.00	1.44
C31	87°37'55"	3.00	4.59
C32	169°36'34"	2.00	5.92
C33	97°38'32"	1.00	1.70
C34	90°39'53"	1.00	1.58
C35	7°00'51"	700.00	85.69
C36	3°44'27"	400.00	26.12
C49	3°49'37"	1500.00	100.19
C53	35°35'30"	10.00	6.21

NOTE: FOR ADDITIONAL
ROUNDAABOUT CURB TIE
INFORMATION SEE SHEET 14



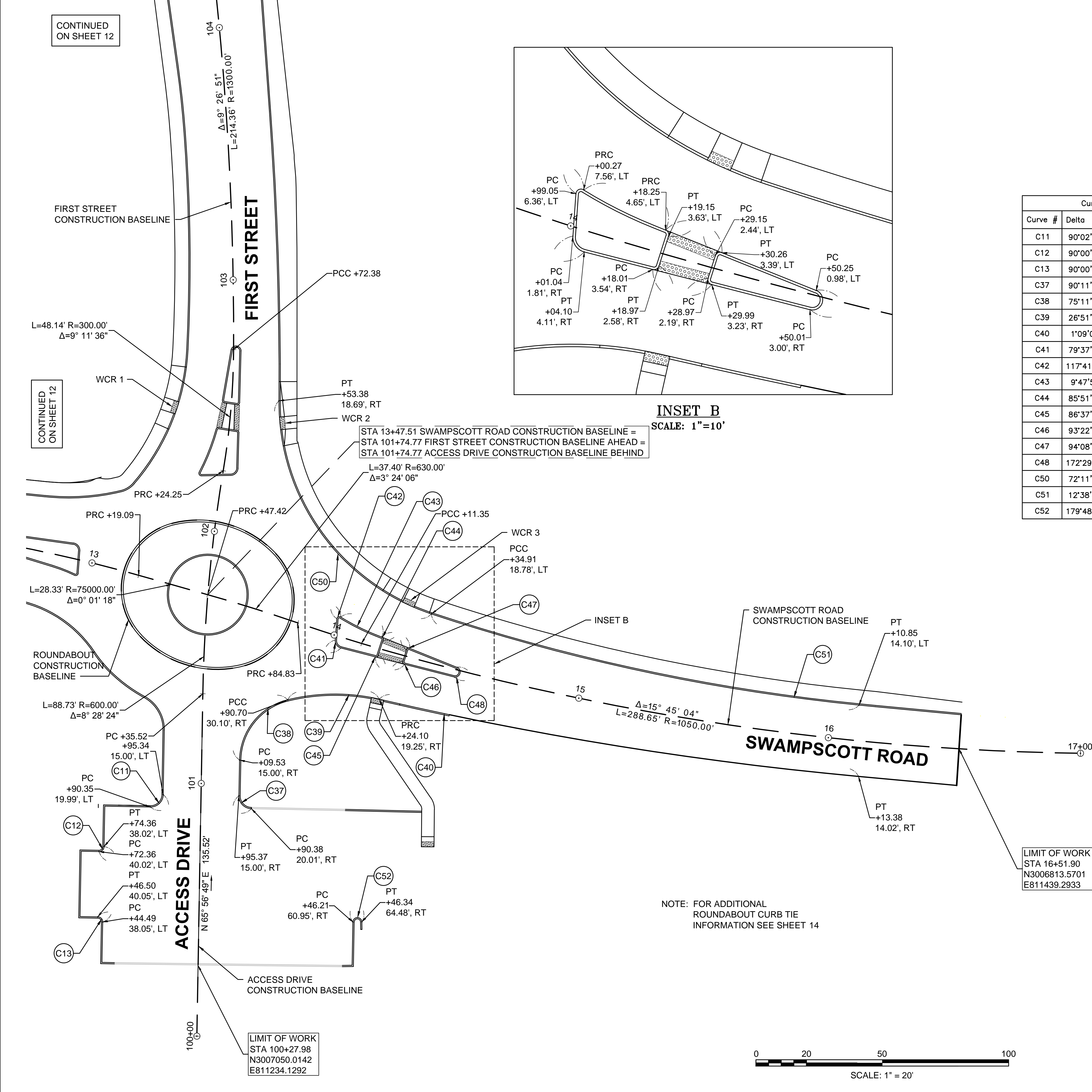
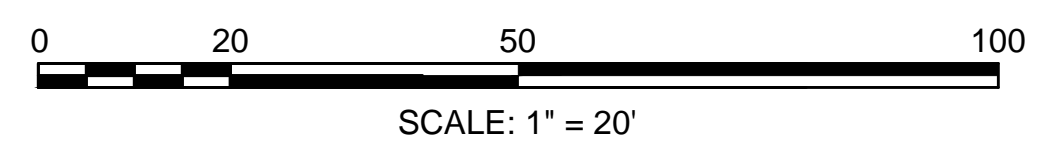
CONTINUED
ON SHEET 13



Curve #	Delta	Radius	Length
C11	90°02'54"	5.00	7.86
C12	90°00'00"	2.00	3.14
C13	90°00'00"	2.00	3.14
C37	90°11'00"	5.00	7.87
C38	75°11'12"	25.00	32.81
C39	26°51'45"	78.00	36.57
C40	1°09'04"	1414.00	28.41
C41	79°37'42"	3.00	4.17
C42	117°41'10"	1.00	2.05
C43	9°47'59"	91.00	15.56
C44	85°51'54"	1.00	1.50
C45	86°37'13"	1.00	1.51
C46	93°22'47"	1.00	1.63
C47	94°08'06"	1.00	1.64
C48	172°29'07"	2.00	6.02
C50	72°11'52"	88.00	110.89
C51	12°38'23"	786.00	173.40
C52	179°48'20"	1.76	5.54

INSET B
 SCALE: 1"=10'

NOTE: FOR ADDITIONAL
 ROUNDABOUT CURB TIE
 INFORMATION SEE SHEET 14



CONTINUED
 ON SHEET 12

CONTINUED
 ON SHEET 12

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File Name: curb_tie_plan.dwg

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Client/Project
 City of Salem, MA

Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 CURB TIE PLAN - PART 3 OF 3

Project No. 179410490 Scale 1"=10'
 Drawing No. Sheet Revision



STA 20+00 ROUNDABOUT CONSTRUCTION BASELINE AHEAD =
 STA 13+12.97 SWAMPSCOTT ROAD CONSTRUCTION BASELINE =
 STA 22+01.06 ROUNDABOUT CONSTRUCTION BASELINE BACK

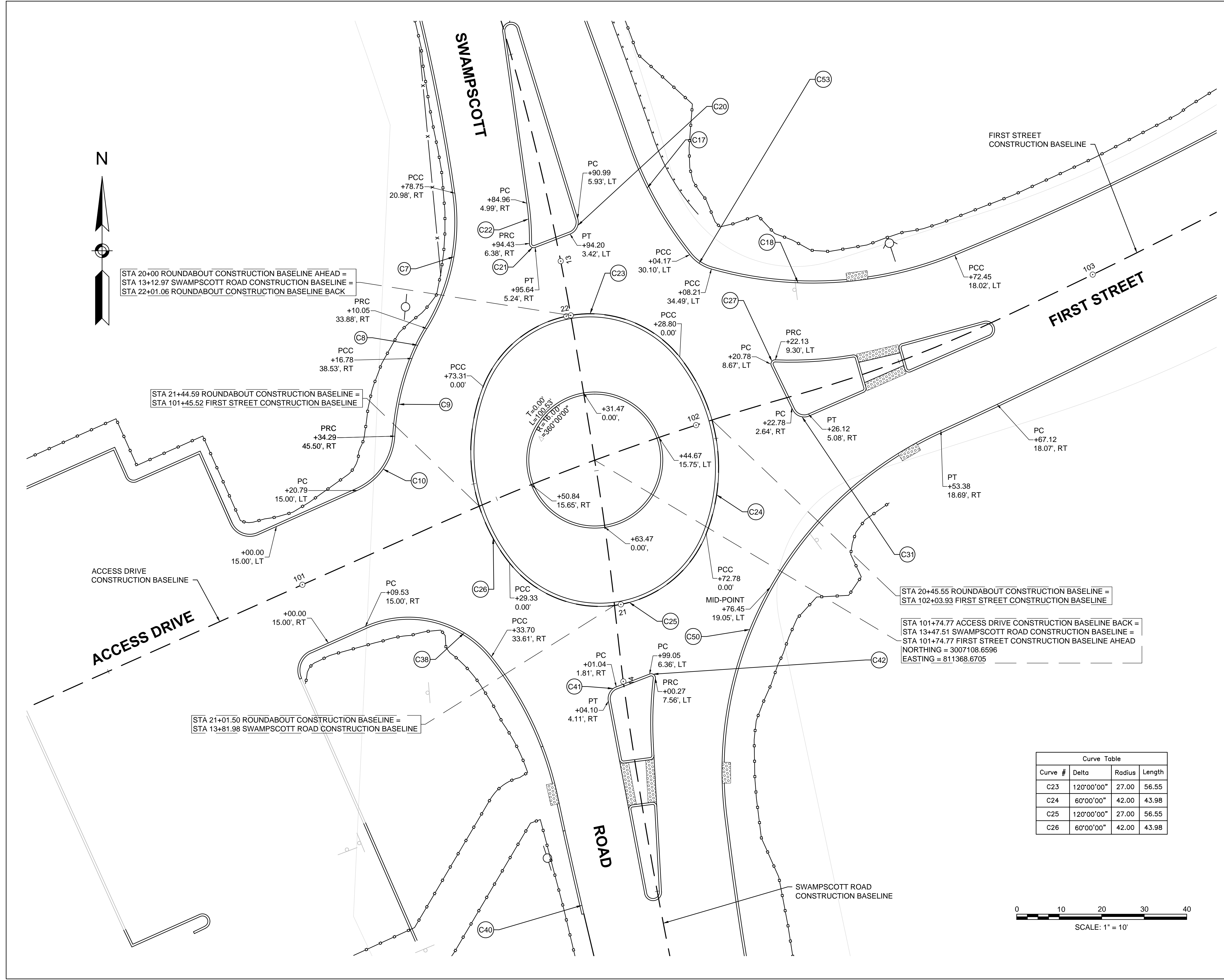
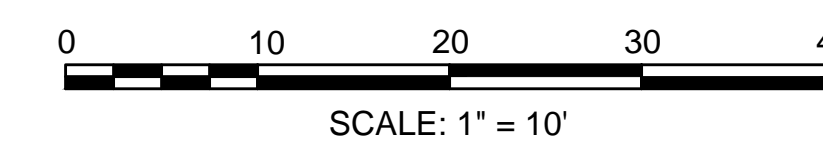
STA 21+44.59 ROUNDABOUT CONSTRUCTION BASELINE =
 STA 101+45.52 FIRST STREET CONSTRUCTION BASELINE

STA 20+45.55 ROUNDABOUT CONSTRUCTION BASELINE =
 STA 102+03.93 FIRST STREET CONSTRUCTION BASELINE

STA 101+74.77 ACCESS DRIVE CONSTRUCTION BASELINE BACK =
 STA 13+47.51 SWAMPSCOTT ROAD CONSTRUCTION BASELINE =
 STA 101+74.77 FIRST STREET CONSTRUCTION BASELINE AHEAD
 NORTHING = 3007108.6596
 EASTING = 811368.6705

STA 21+01.50 ROUNDABOUT CONSTRUCTION BASELINE =
 STA 13+81.98 SWAMPSCOTT ROAD CONSTRUCTION BASELINE

Curve Table			
Curve #	Delta	Radius	Length
C23	120°00'00"	27.00	56.55
C24	60°00'00"	42.00	43.98
C25	120°00'00"	27.00	56.55
C26	60°00'00"	42.00	43.98



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Revision	By	Appd.	YY.MM.DD

File Name	SEA	RAA	SEA	17.09.06
grading plan.dwg	Dwn.	Chkd.	Dgn.	YY.MM.DD

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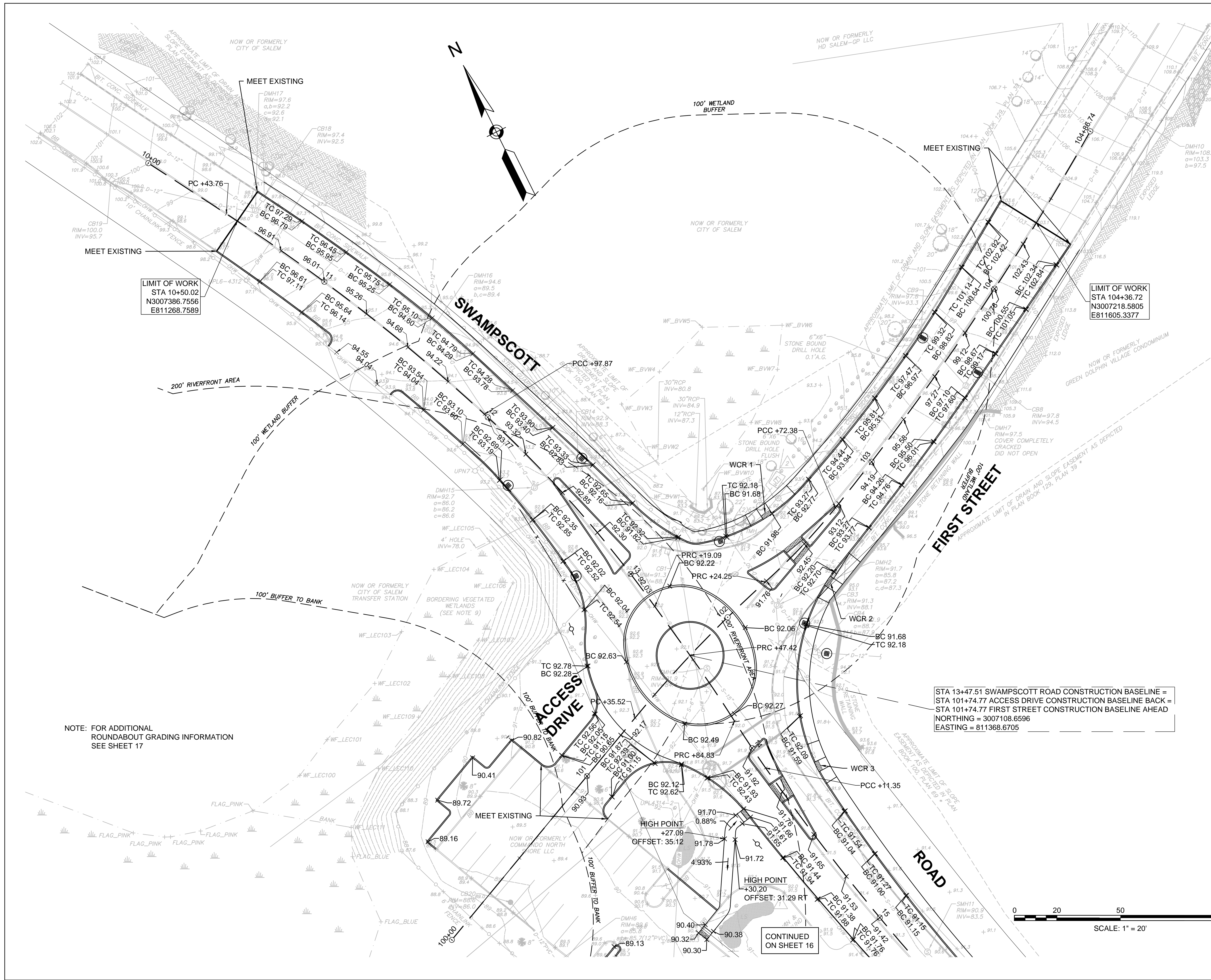


Client/Project
 City of Salem, MA

Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 GRADING PLAN - PART 1 OF 3

Project No.	Scale	
179410490	1"=20'	
Drawing No.	Sheet	Revision



NOTE: FOR ADDITIONAL ROUNDABOUT GRADING INFORMATION SEE SHEET 17

STA 13+47.51 SWAMPSCOTT ROAD CONSTRUCTION BASELINE =
 STA 101+74.77 ACCESS DRIVE CONSTRUCTION BASELINE BACK =
 STA 101+74.77 FIRST STREET CONSTRUCTION BASELINE AHEAD
 NORTHING = 3007108.6596
 EASTING = 811368.6705

CONTINUED ON SHEET 16

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Revision	By	Appd.	YY.MM.DD

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By	Appd.	YY.MM.DD

File Name: grading plan.dwg SEA RAA SEA 17.09.06
 Dwn. Chkd. Dgn. YY.MM.DD

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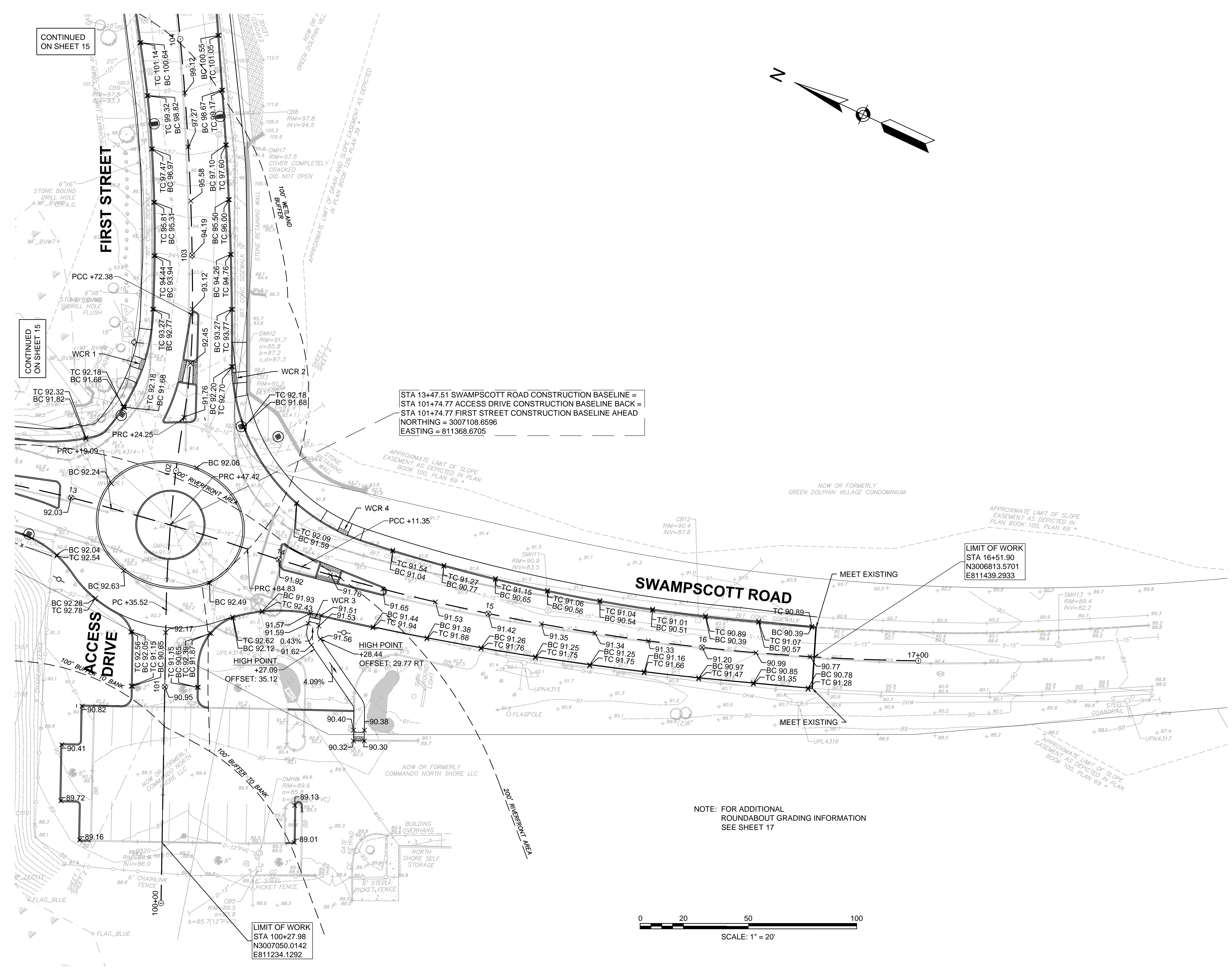


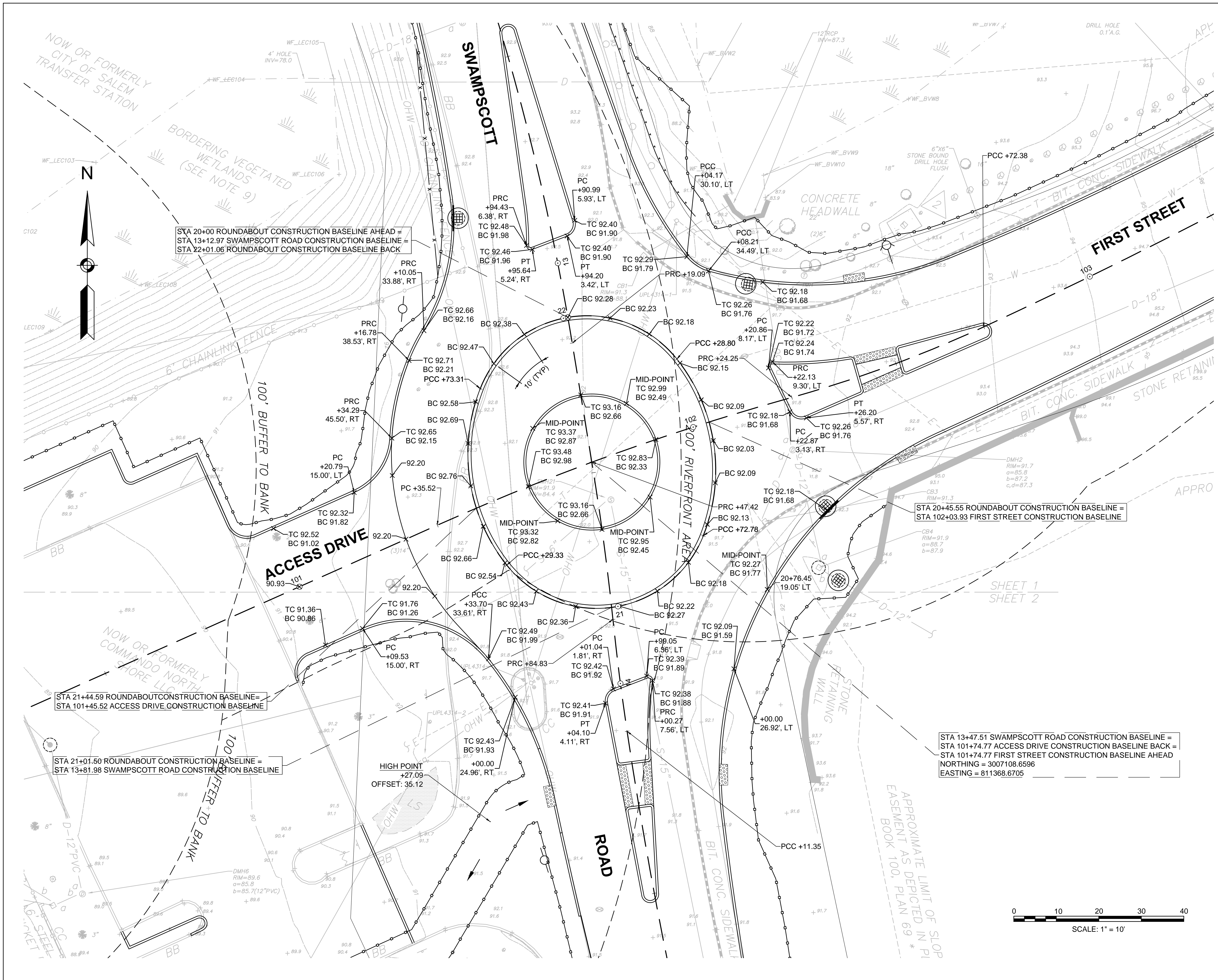
Client/Project
 City of Salem, MA

Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 GRADING PLAN - PART 2 OF 3

Project No. 179410490	Scale 1"=20'
Drawing No.	Sheet Revision





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Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name:	SEA	RAA	SEA	17.09.06
drain_schedules.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD

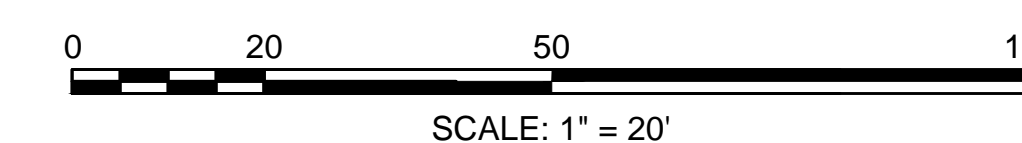
Permit-Seal



Client/Project
 City of Salem, MA

Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 DRAINAGE PIPE & STRUCTURE SCHEDULE



Project No.	Scale	
179410490	NTS	
Drawing No.	Sheet	Revision

DRAINAGE STRUCTURE TABLE						
NAME	STATION	OFFSET	RIM	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
E-CB-5	13+02.16	20.0 LT	91.88	I=88.27' (P-CBCI-4) I=88.10' (P-CBCI-6)		CIT R&S F&C RET EX INV OUT = 88.1
P-CB-9	13+81.48	53.7 LT	92.09		I=87.90' (P-CBCI-8)	RET EX INV IN =88.7
P-CBCI-1	12+29.71	16.3 RT	92.68		I=88.50' ()	
P-CBCI-3	12+44.37	17.6 LT	92.90		I=87.00' ()	
P-CBCI-4	12+84.55	20.8 RT	91.99		I=88.46' (E-CB-5)	
P-CBCI-6	13+12.45	42.6 LT	91.68		I=88.20' (E-CB-5)	ECCENTRIC STRUCTURE TO AVOID EX UTILITIES
P-CBCI-8	13+65.18	52.9 LT	91.68	I=87.80' (P-CB-9)	I=87.60' ()	
P-DBCBCI-13	103+61.75	13.5 LT	97.91		I=93.30' ()	
P-DBCBCI-14	103+63.21	17.1 RT	97.83		I=94.50' ()	

PIPE TABLE					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	REMARKS
P-1	P-CBCI-3 TO STA 12+44 TO 12+43	12" REINFORCED CONCRETE	6 LF	0.012	CTE 12" RCP PIPE
P-3	P-CBCI-8 TO STA 13+65 TO 13+52	12" REINFORCED CONCRETE	14 LF	0.006	
P-4	P-DBCBCI-13 TO STA 103+62 TO 103+60	12" REINFORCED CONCRETE	5 LF	0.014	CTE 12" RCP PIPE
P-5	P-DBCBCI-14 TO STA 103+63 TO 103+60	12" REINFORCED CONCRETE	1 LF	0.032	CTE 12" RCP PIPE
P-11	P-CBCI-4 TO E-CB-5 STA 12+85 TO 13+02	12" REINFORCED CONCRETE	40 LF	0.004	CL. V RCP
P-13	P-CBCI-6 TO E-CB-5 STA 13+12 TO 13+02	12" REINFORCED CONCRETE	21 LF	0.004	CL. V RCP
P-19	P-CB-9 TO P-CBCI-8 STA 13+81 TO 13+65	12" REINFORCED CONCRETE	14 LF	0.006	
P-20	P-CBCI-1 TO STA 12+30 TO 12+39	12" REINFORCED CONCRETE	10 LF	0.008	

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name:	SEA	RAA	SEA	17.09.06
pvmk plans.dwg	Dwn.	Chkd.	Dgn.	YY.MM.DD

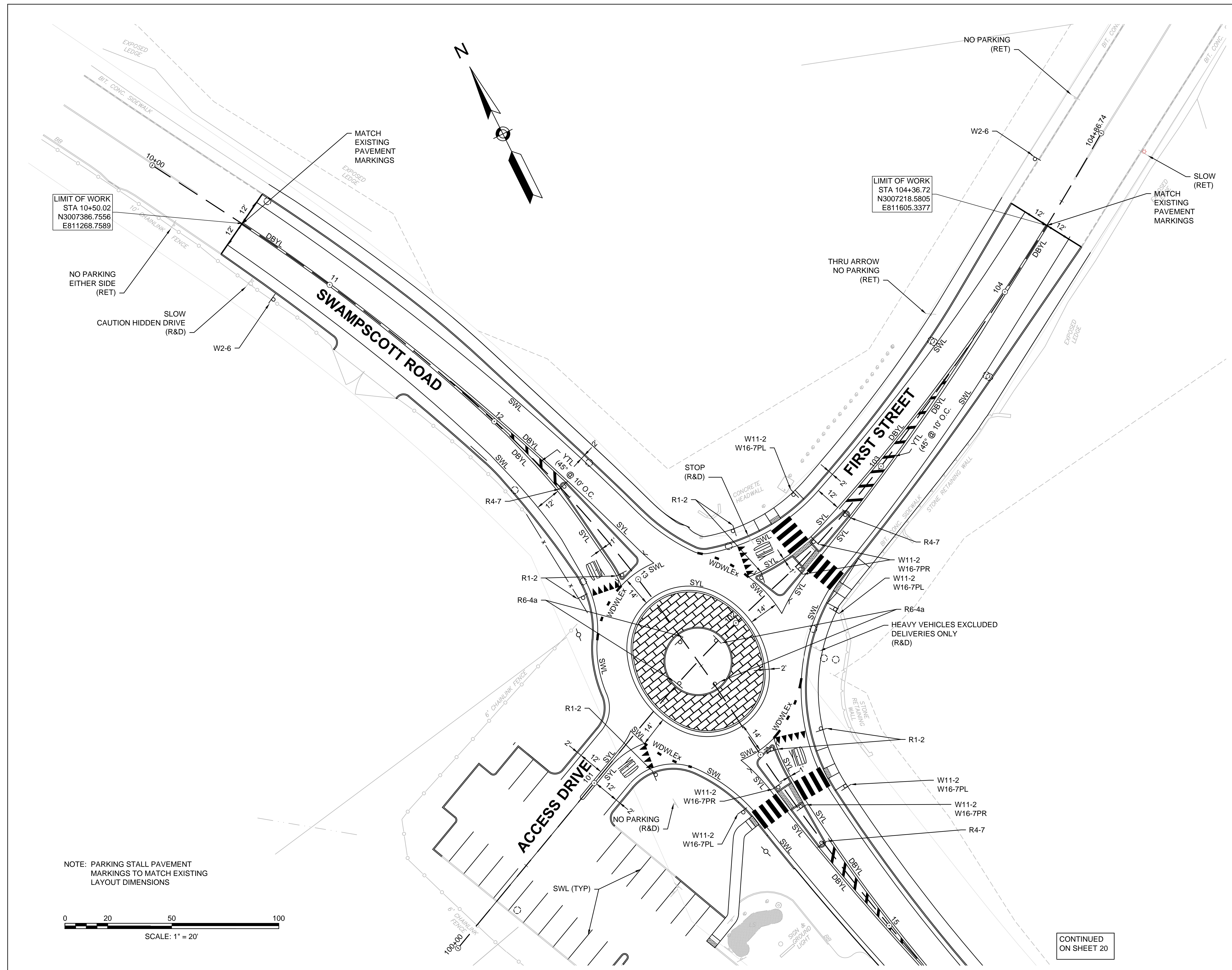


Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

Title
SIGN AND PAVEMENT MARKING PLAN -
PART 1 OF 2

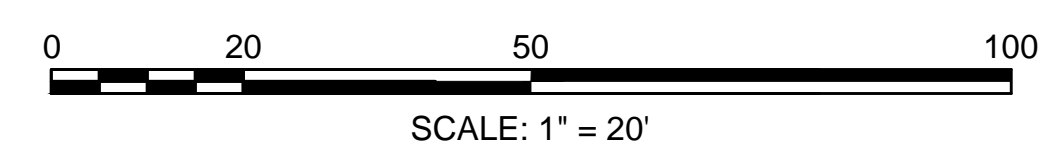
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179410490	1"=20'	
Drawing No.	Sheet	Revision



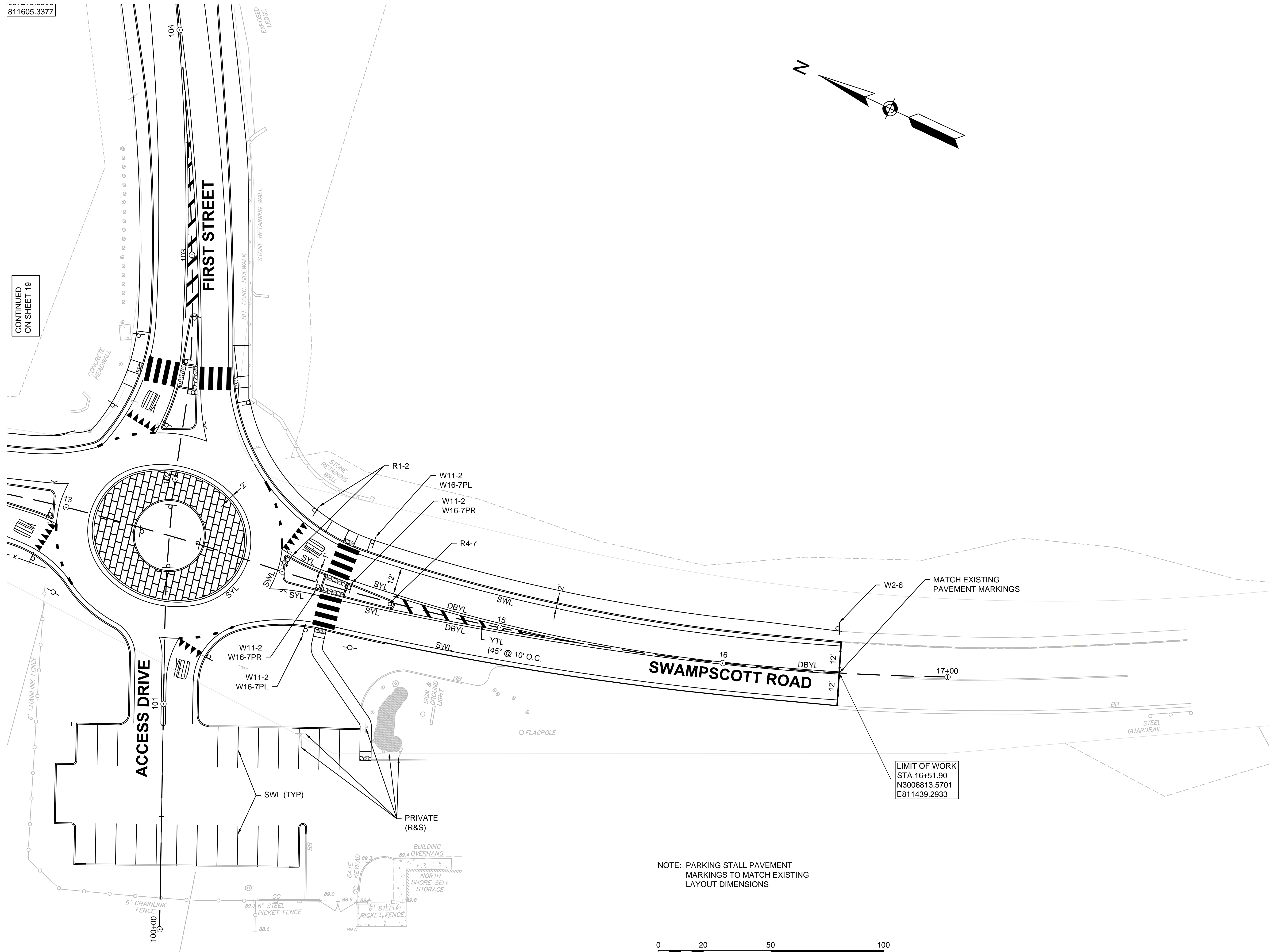
LIMIT OF WORK
STA 10+50.02
N3007386.7556
E811268.7589

LIMIT OF WORK
STA 104+36.72
N3007218.5805
E811605.3377

NOTE: PARKING STALL PAVEMENT
MARKINGS TO MATCH EXISTING
LAYOUT DIMENSIONS

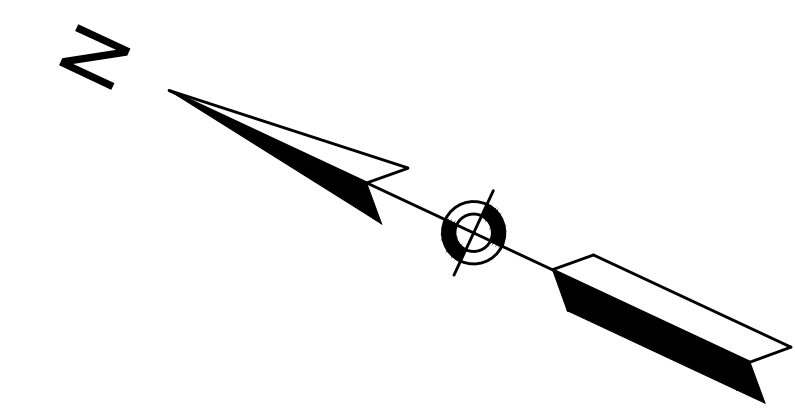


CONTINUED
ON SHEET 20



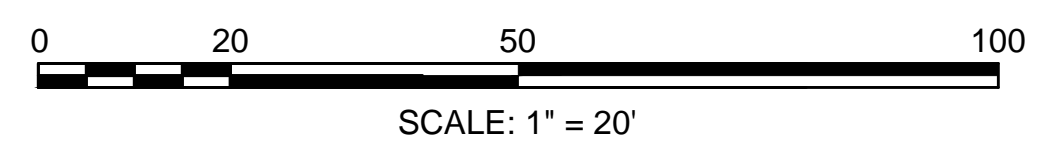
811605.3377

CONTINUED ON SHEET 19



LIMIT OF WORK
STA 16+51.90
N3006813.5701
E811439.2933

NOTE: PARKING STALL PAVEMENT MARKINGS TO MATCH EXISTING LAYOUT DIMENSIONS



Revision	By	Appd.	YY.MM.DD

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File Name:	SEA	RAA	SEA	17.09.06
pxmk plans.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD

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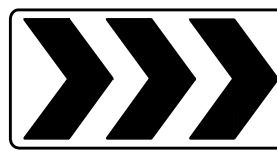


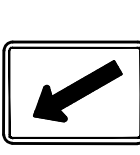

Client/Project
City of Salem, MA

Swampscott Road at First Street Roundabout Construction
Salem, MA

Title
SIGN AND PAVEMENT MARKING PLAN - PART 2 OF 2

Project No. 179410490	Scale 1"=20'
Drawing No.	Sheet Revision

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
R1-2	36" X 36"	36"		SEE MUTCD STANDARDS			7	WHITE	RED	RED	1-P5 7	3.90	27.30
R4-7	24"	30"					3	WHITE	BLACK	BLACK	1-P5 3	5.00	15.00
R6-4a	48"	24"					4	WHITE	BLACK		1-P5 4	8.00	32.00
W2-6	30"	30"					3	YELLOW	BLACK	BLACK	1-P5 3	9.00	27.00
W11-2	30"	30"					8	YELLOW	BLACK	BLACK	1-P5 8	6.25	50.00
W16-7PL	24"	12"					4	YELLOW	BLACK	BLACK	4 MOUNT WITH OTHER	2.00	8.00
W16-7PR	24"	12"		↓	↓	↓	4	YELLOW	BLACK	BLACK	4 MOUNT WITH OTHER	2.00	8.00

- NOTES:**
 1. COLOR F.Y.G. = FLUORESCENT YELLOW-GREEN
 2. P.B.S. = PRINTED BOTH SIDES

Legend

Notes

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name: sign_summary.dwg	SEA	RAA	SEA	17.09.06
	Dwn.	Chkd.	Dsgn.	

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Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

Title
TRAFFIC SIGN SUMMARY

Project No. 179410490	Scale 1"=20'
Drawing No. 21	Sheet of 37
Revision	

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Issued	By	Appd.	YY.MM.DD

File Name: ftop plans.dwg	SEA	RAA	SEA	17.09.06
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Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

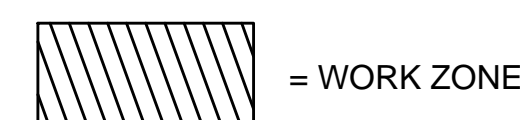
Title
TEMPORARY TRAFFIC CONTROL PLANS -
STAGE I

Project No. 179410490	Scale 1"=20'
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Drawing No.	Sheet	Revision
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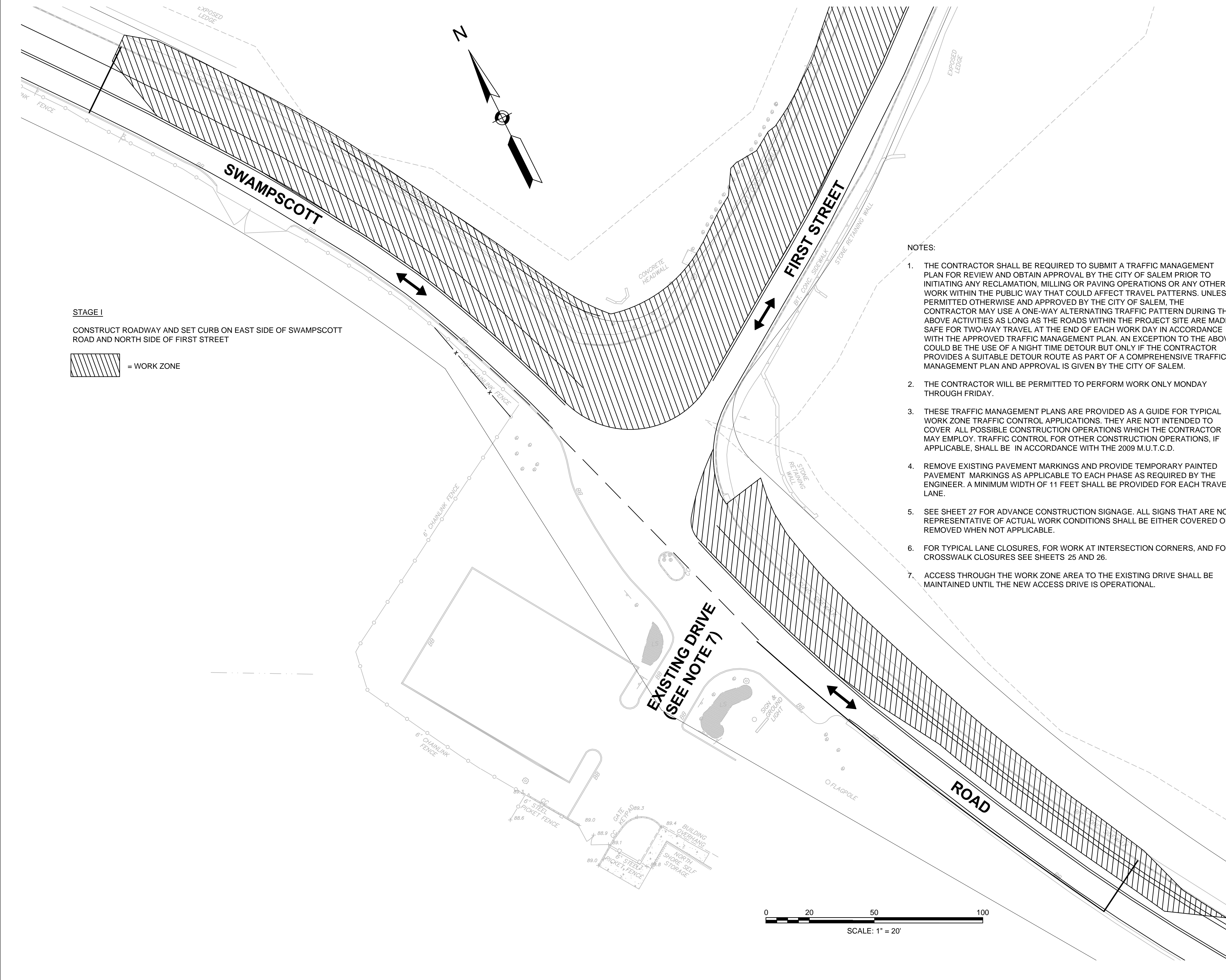
STAGE I

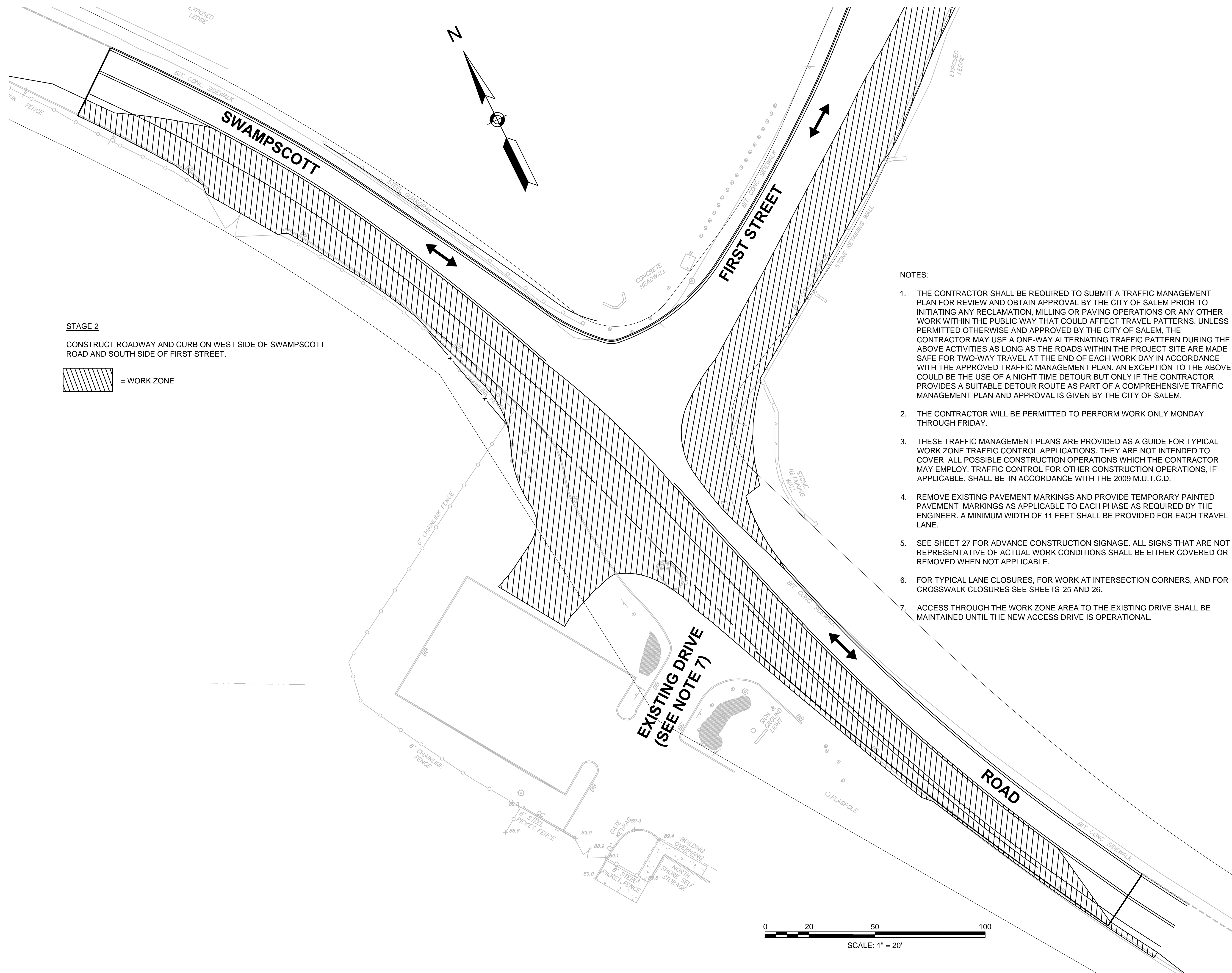
CONSTRUCT ROADWAY AND SET CURB ON EAST SIDE OF SWAMPSCOTT ROAD AND NORTH SIDE OF FIRST STREET



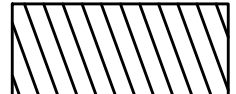
NOTES:

1. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A TRAFFIC MANAGEMENT PLAN FOR REVIEW AND OBTAIN APPROVAL BY THE CITY OF SALEM PRIOR TO INITIATING ANY RECLAMATION, MILLING OR PAVING OPERATIONS OR ANY OTHER WORK WITHIN THE PUBLIC WAY THAT COULD AFFECT TRAVEL PATTERNS. UNLESS PERMITTED OTHERWISE AND APPROVED BY THE CITY OF SALEM, THE CONTRACTOR MAY USE A ONE-WAY ALTERNATING TRAFFIC PATTERN DURING THE ABOVE ACTIVITIES AS LONG AS THE ROADS WITHIN THE PROJECT SITE ARE MADE SAFE FOR TWO-WAY TRAVEL AT THE END OF EACH WORK DAY IN ACCORDANCE WITH THE APPROVED TRAFFIC MANAGEMENT PLAN. AN EXCEPTION TO THE ABOVE COULD BE THE USE OF A NIGHT TIME DETOUR BUT ONLY IF THE CONTRACTOR PROVIDES A SUITABLE DETOUR ROUTE AS PART OF A COMPREHENSIVE TRAFFIC MANAGEMENT PLAN AND APPROVAL IS GIVEN BY THE CITY OF SALEM.
2. THE CONTRACTOR WILL BE PERMITTED TO PERFORM WORK ONLY MONDAY THROUGH FRIDAY.
3. THESE TRAFFIC MANAGEMENT PLANS ARE PROVIDED AS A GUIDE FOR TYPICAL WORK ZONE TRAFFIC CONTROL APPLICATIONS. THEY ARE NOT INTENDED TO COVER ALL POSSIBLE CONSTRUCTION OPERATIONS WHICH THE CONTRACTOR MAY EMPLOY. TRAFFIC CONTROL FOR OTHER CONSTRUCTION OPERATIONS, IF APPLICABLE, SHALL BE IN ACCORDANCE WITH THE 2009 M.U.T.C.D.
4. REMOVE EXISTING PAVEMENT MARKINGS AND PROVIDE TEMPORARY PAINTED PAVEMENT MARKINGS AS APPLICABLE TO EACH PHASE AS REQUIRED BY THE ENGINEER. A MINIMUM WIDTH OF 11 FEET SHALL BE PROVIDED FOR EACH TRAVEL LANE.
5. SEE SHEET 27 FOR ADVANCE CONSTRUCTION SIGNAGE. ALL SIGNS THAT ARE NOT REPRESENTATIVE OF ACTUAL WORK CONDITIONS SHALL BE EITHER COVERED OR REMOVED WHEN NOT APPLICABLE.
6. FOR TYPICAL LANE CLOSURES, FOR WORK AT INTERSECTION CORNERS, AND FOR CROSSWALK CLOSURES SEE SHEETS 25 AND 26.
7. ACCESS THROUGH THE WORK ZONE AREA TO THE EXISTING DRIVE SHALL BE MAINTAINED UNTIL THE NEW ACCESS DRIVE IS OPERATIONAL.



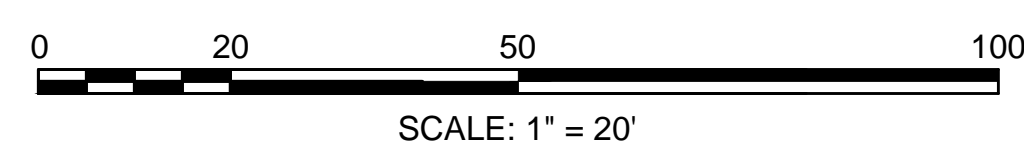


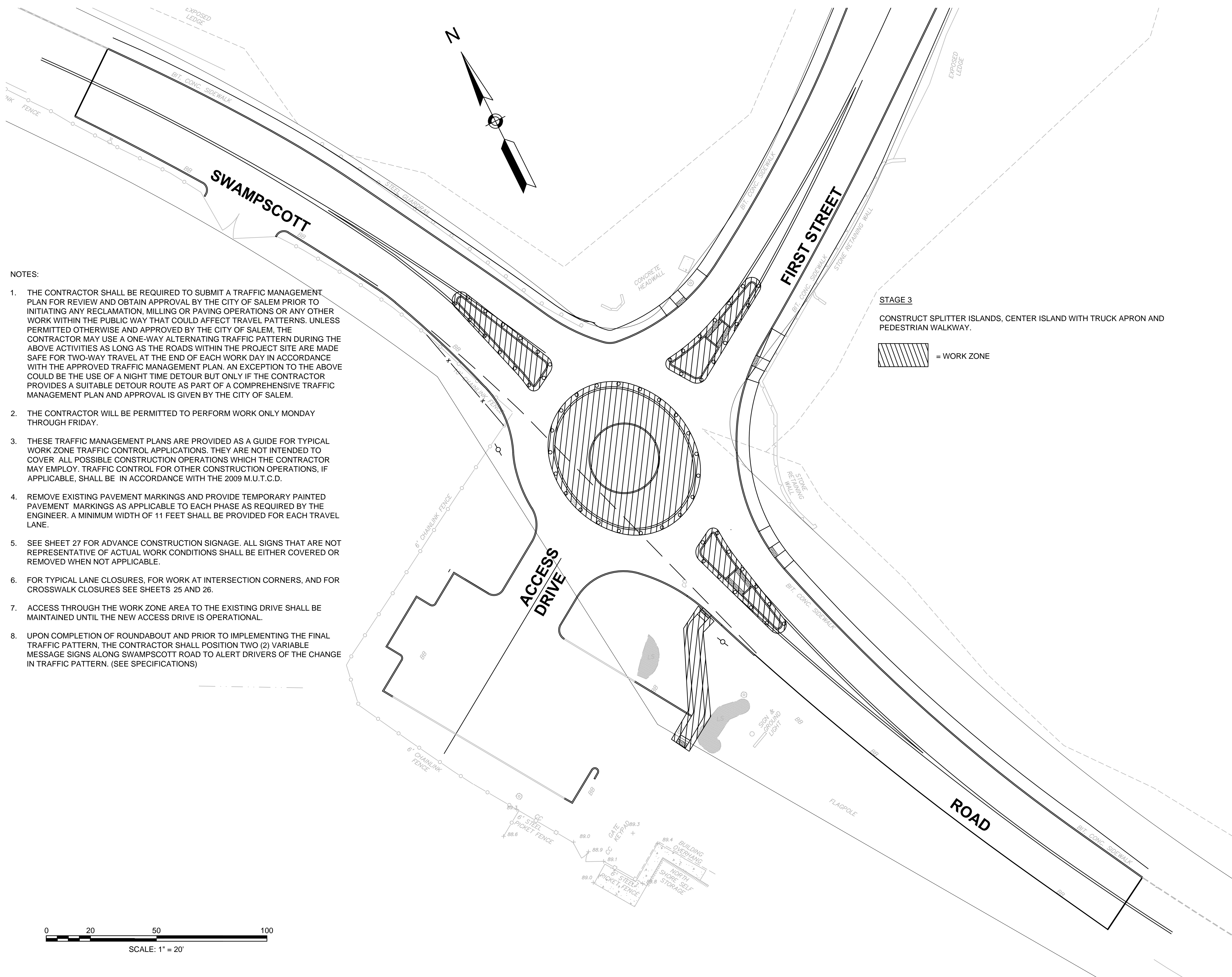
STAGE 2
CONSTRUCT ROADWAY AND CURB ON WEST SIDE OF SWAMPSCOTT ROAD AND SOUTH SIDE OF FIRST STREET.

 = WORK ZONE

NOTES:

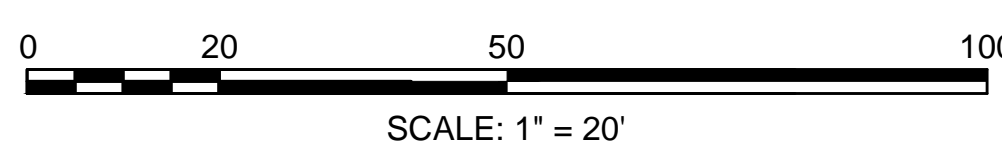
1. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A TRAFFIC MANAGEMENT PLAN FOR REVIEW AND OBTAIN APPROVAL BY THE CITY OF SALEM PRIOR TO INITIATING ANY RECLAMATION, MILLING OR PAVING OPERATIONS OR ANY OTHER WORK WITHIN THE PUBLIC WAY THAT COULD AFFECT TRAVEL PATTERNS. UNLESS PERMITTED OTHERWISE AND APPROVED BY THE CITY OF SALEM, THE CONTRACTOR MAY USE A ONE-WAY ALTERNATING TRAFFIC PATTERN DURING THE ABOVE ACTIVITIES AS LONG AS THE ROADS WITHIN THE PROJECT SITE ARE MADE SAFE FOR TWO-WAY TRAVEL AT THE END OF EACH WORK DAY IN ACCORDANCE WITH THE APPROVED TRAFFIC MANAGEMENT PLAN. AN EXCEPTION TO THE ABOVE COULD BE THE USE OF A NIGHT TIME DETOUR BUT ONLY IF THE CONTRACTOR PROVIDES A SUITABLE DETOUR ROUTE AS PART OF A COMPREHENSIVE TRAFFIC MANAGEMENT PLAN AND APPROVAL IS GIVEN BY THE CITY OF SALEM.
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5. SEE SHEET 27 FOR ADVANCE CONSTRUCTION SIGNAGE. ALL SIGNS THAT ARE NOT REPRESENTATIVE OF ACTUAL WORK CONDITIONS SHALL BE EITHER COVERED OR REMOVED WHEN NOT APPLICABLE.
6. FOR TYPICAL LANE CLOSURES, FOR WORK AT INTERSECTION CORNERS, AND FOR CROSSWALK CLOSURES SEE SHEETS 25 AND 26.
7. ACCESS THROUGH THE WORK ZONE AREA TO THE EXISTING DRIVE SHALL BE MAINTAINED UNTIL THE NEW ACCESS DRIVE IS OPERATIONAL.





NOTES:

- THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A TRAFFIC MANAGEMENT PLAN FOR REVIEW AND OBTAIN APPROVAL BY THE CITY OF SALEM PRIOR TO INITIATING ANY RECLAMATION, MILLING OR PAVING OPERATIONS OR ANY OTHER WORK WITHIN THE PUBLIC WAY THAT COULD AFFECT TRAVEL PATTERNS. UNLESS PERMITTED OTHERWISE AND APPROVED BY THE CITY OF SALEM, THE CONTRACTOR MAY USE A ONE-WAY ALTERNATING TRAFFIC PATTERN DURING THE ABOVE ACTIVITIES AS LONG AS THE ROADS WITHIN THE PROJECT SITE ARE MADE SAFE FOR TWO-WAY TRAVEL AT THE END OF EACH WORK DAY IN ACCORDANCE WITH THE APPROVED TRAFFIC MANAGEMENT PLAN. AN EXCEPTION TO THE ABOVE COULD BE THE USE OF A NIGHT TIME DETOUR BUT ONLY IF THE CONTRACTOR PROVIDES A SUITABLE DETOUR ROUTE AS PART OF A COMPREHENSIVE TRAFFIC MANAGEMENT PLAN AND APPROVAL IS GIVEN BY THE CITY OF SALEM.
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- FOR TYPICAL LANE CLOSURES, FOR WORK AT INTERSECTION CORNERS, AND FOR CROSSWALK CLOSURES SEE SHEETS 25 AND 26.
- ACCESS THROUGH THE WORK ZONE AREA TO THE EXISTING DRIVE SHALL BE MAINTAINED UNTIL THE NEW ACCESS DRIVE IS OPERATIONAL.
- UPON COMPLETION OF ROUNDABOUT AND PRIOR TO IMPLEMENTING THE FINAL TRAFFIC PATTERN, THE CONTRACTOR SHALL POSITION TWO (2) VARIABLE MESSAGE SIGNS ALONG SWAMPSCOTT ROAD TO ALERT DRIVERS OF THE CHANGE IN TRAFFIC PATTERN. (SEE SPECIFICATIONS)



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Notes

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File Name: itcp plans.dwg SEA RAA SEA 17.09.06
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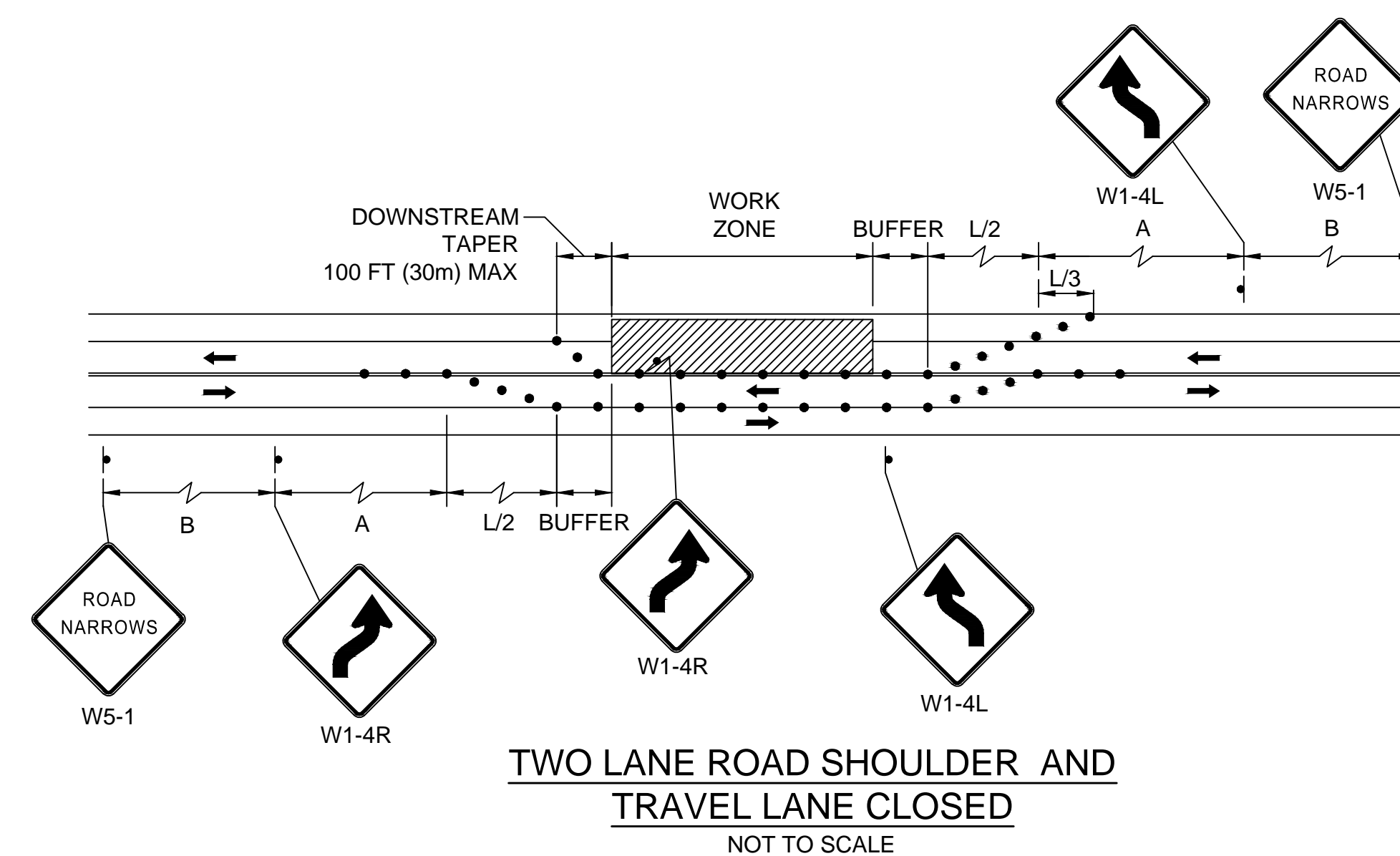
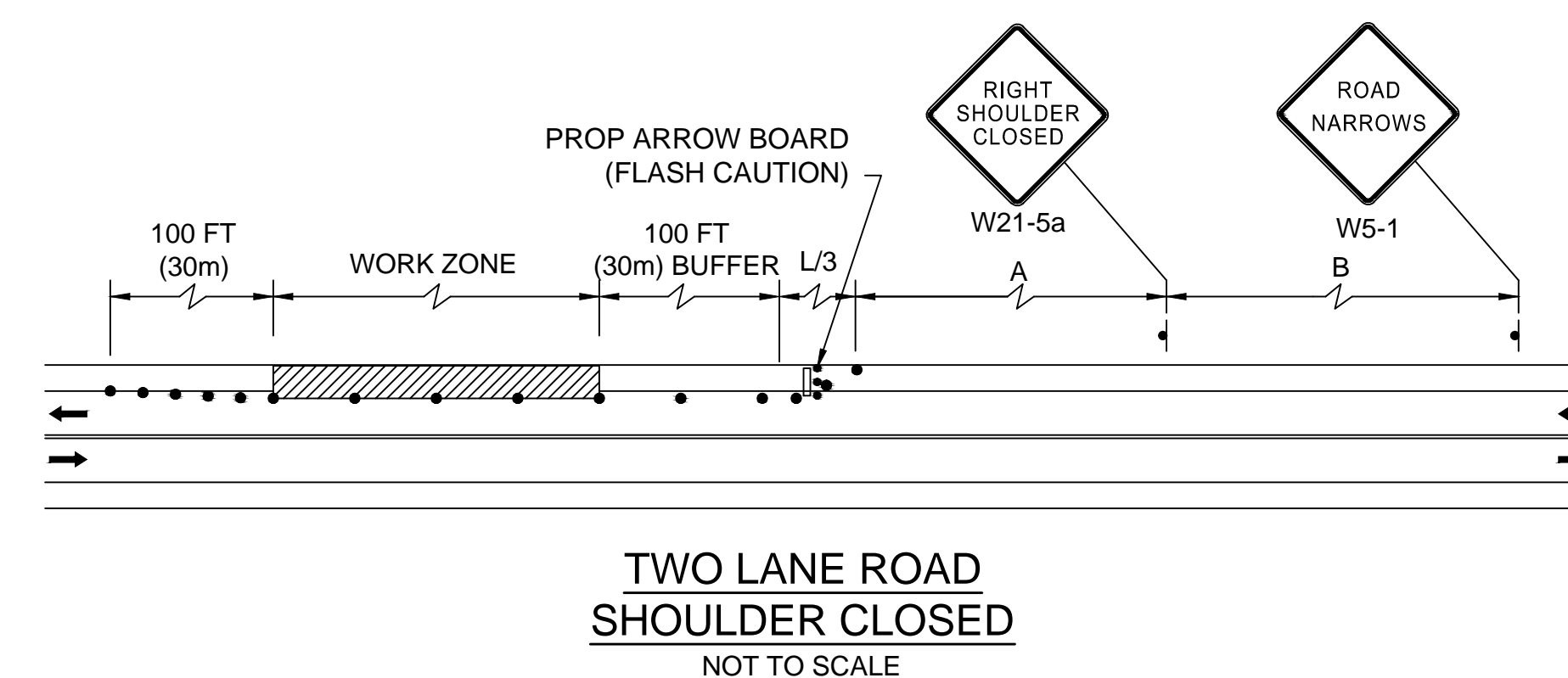
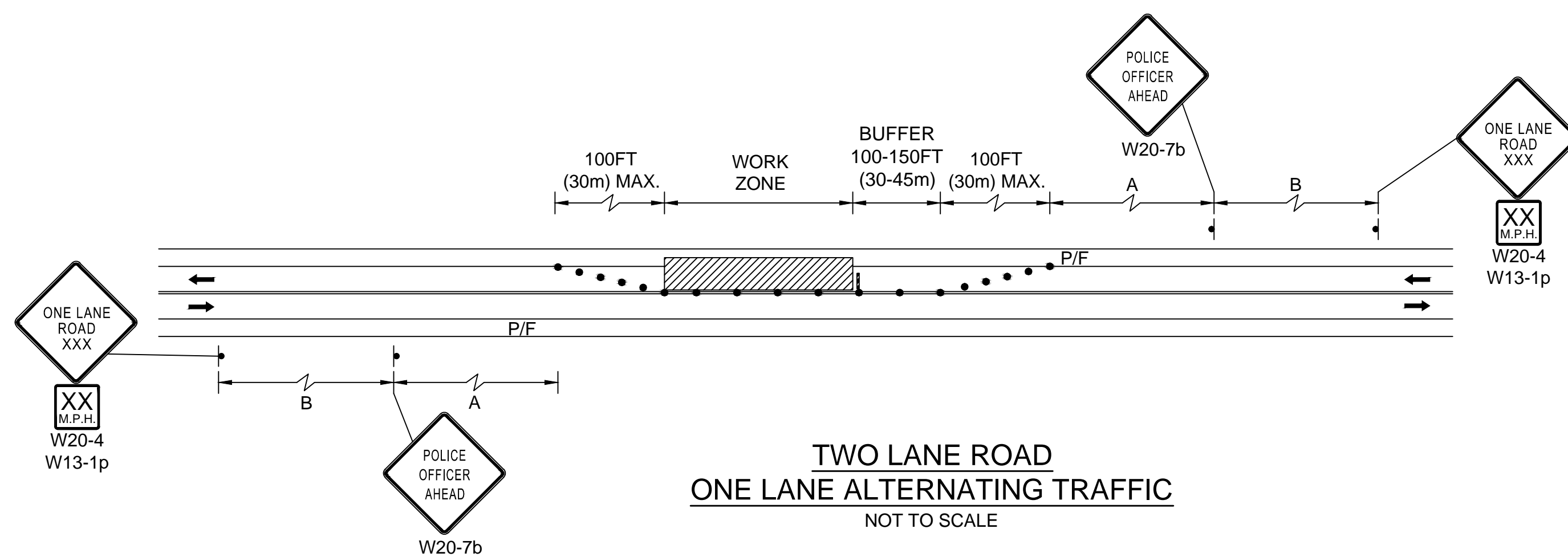
Client/Project
 City of Salem, MA

Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 TEMPORARY TRAFFIC CONTROL PLANS -
 TYPICALS PART 1 OF 3

Project No. 179410490 Scale 1"=20'

Drawing No. _____ Sheet _____ Revision _____



SUGGESTED WORK ZONE WARNING SIGN SPACING

Road Type	Distance Between Signs**		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS*	350	350	350
MOST OTHER ROADWAYS*	500	500	500
FREEWAYS AND EXPRESSWAYS*	1,000	1,500	2,640

* SPEED CATEGORY TO BE DETERMINED BY HIGHWAY AGENCY

** DISTANCES ARE SHOWN IN FEET (METERS). THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/ TYPICAL SETUP FIGURES. 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 'THIRD' SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE 'THIRD' SIGN ABOVE IS TYPICALLY REFERRED TO AS AN 'ADVANCE WARNING' SIGN ON THE TMP SETUPS. IT IS THE ONE WHICH MAY OFTEN HAVE THE 'STANDARD RED OR RED-ORANGE FLAGS (16 in. X 16 in.)' MOUNTED ON IT. THESE ADVANCE WARNING SIGNS ARE LOCATED AT THE PROJECT LIMITS ON ALL APPROACHES (i.e. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

R2-10a SIGNS SHALL BE PLACED BETWEEN THE FIRST AND SECOND SIGNS.

R2-10a AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

Type of Taper	Taper Length (L)*
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	100 FT (30 m) MAXIMUM
DOWNSTREAM TAPER	100 FT (30 m) PER LANE

FORMULAS FOR DETERMINING TAPER LENGTHS

Speed Limit (S)	Taper Length (L) Feet	Speed Limit (S)	Taper Length (L) Meters
40 MPH OR LESS	$L = \frac{WS^2}{60}$	60 KM/H OR LESS	$L = \frac{WS^2}{155}$
45 MPH OR MORE	$L = WS$	70 KM/H OR MORE	$L = \frac{WS}{1.6}$

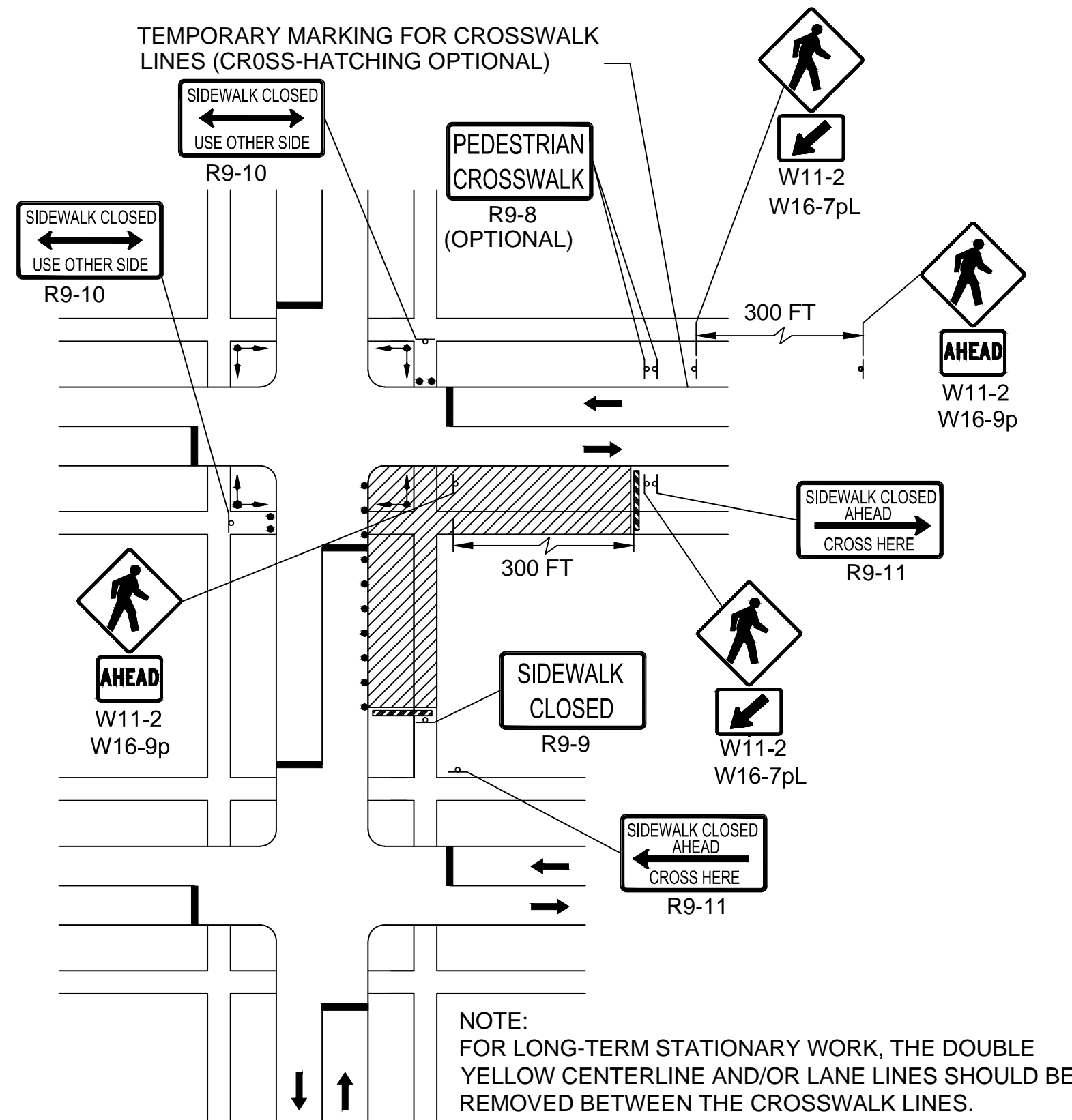
WHERE: L = TAPER LENGTH IN FEET (METERS)

W = WIDTH OF OFFSET IN FEET (METERS)

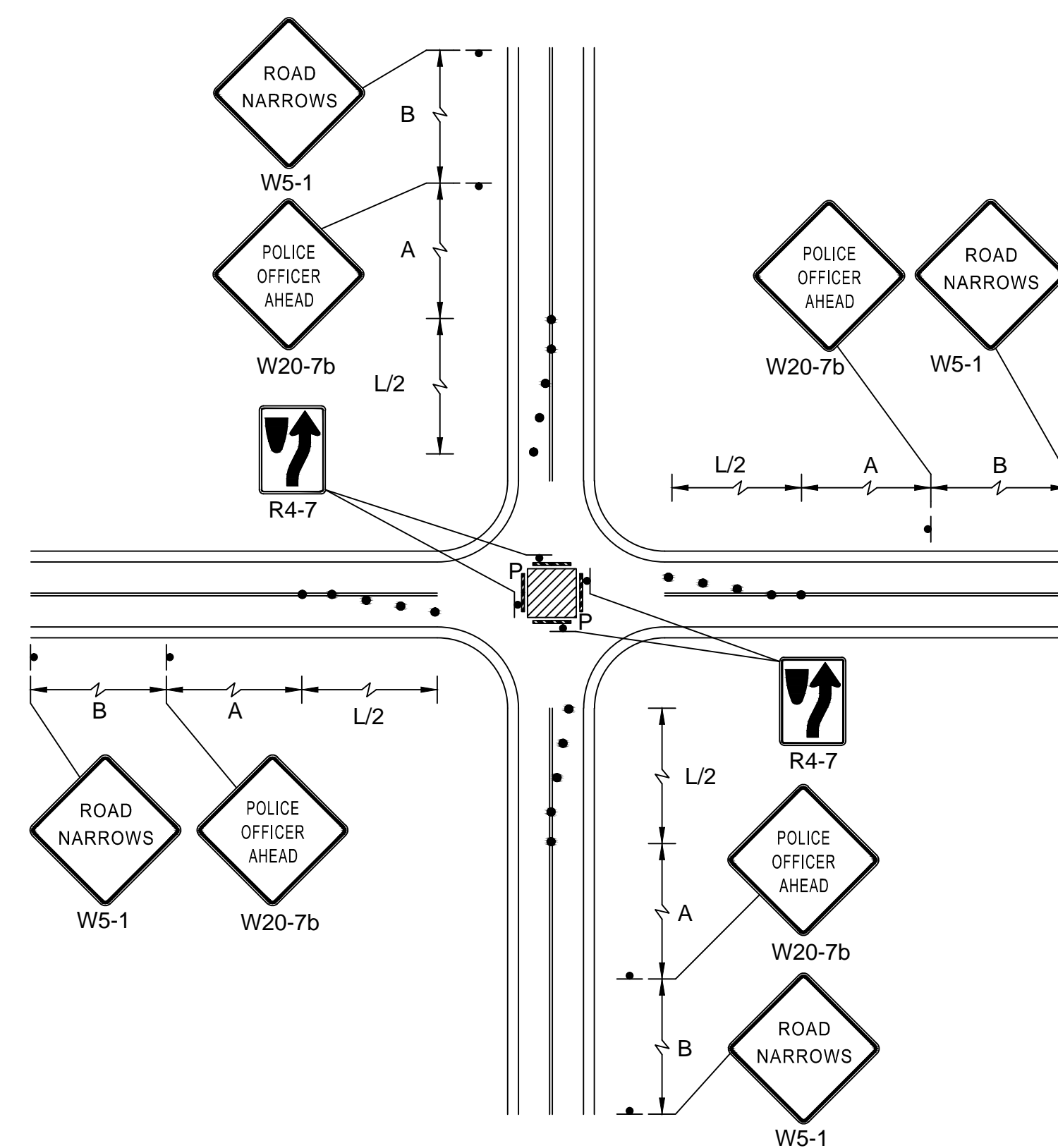
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH (KM/H)

LEGEND

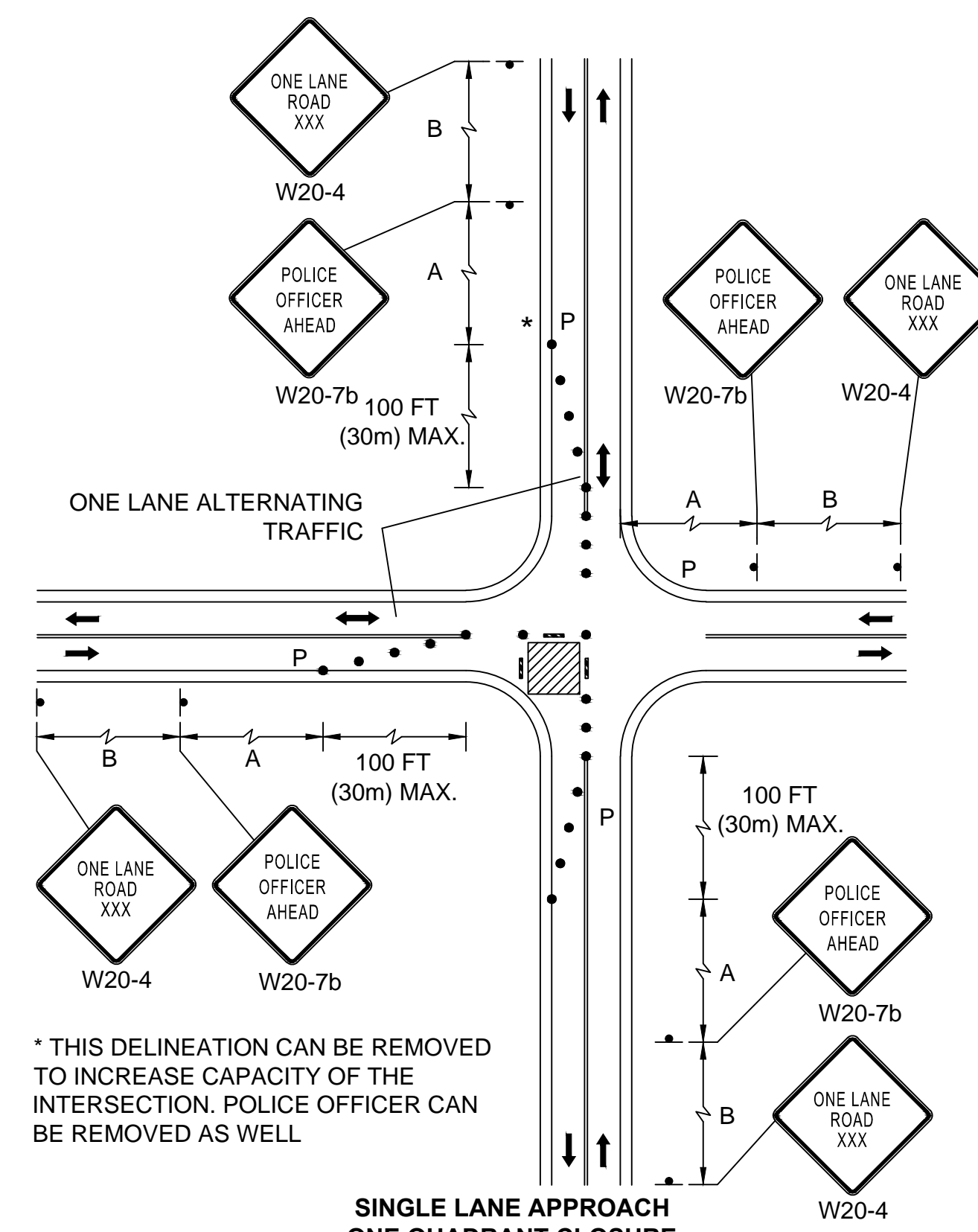
- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- ▨ WORK ZONE
- ➔ DIRECTION OF CONSTRUCTION TRAFFIC
- ➔ DIRECTION OF EXISTING TRAFFIC
- ⊠ TRUCK MOUNTED ATTENUATOR
- P POLICE DETAIL
- ▨ TYPE III BARRICADE
- ▨ CHANGEABLE MESSAGE SIGN
- ➔ ARROW BOARD
- ➔ IMPACT ATTENUATOR
- ▨ MEDIAN BARRIER
- ➔ TRAFFIC OR PEDESTRIAN SIGNAL
- ➔ CONSTRUCTION SIGN



PEDESTRIAN DETOUR
NOT TO SCALE



SINGLE LANE APPROACH
CENTER CLOSURE



* THIS DELINEATION CAN BE REMOVED TO INCREASE CAPACITY OF THE INTERSECTION. POLICE OFFICER CAN BE REMOVED AS WELL

SINGLE LANE APPROACH
ONE QUADRANT CLOSURE

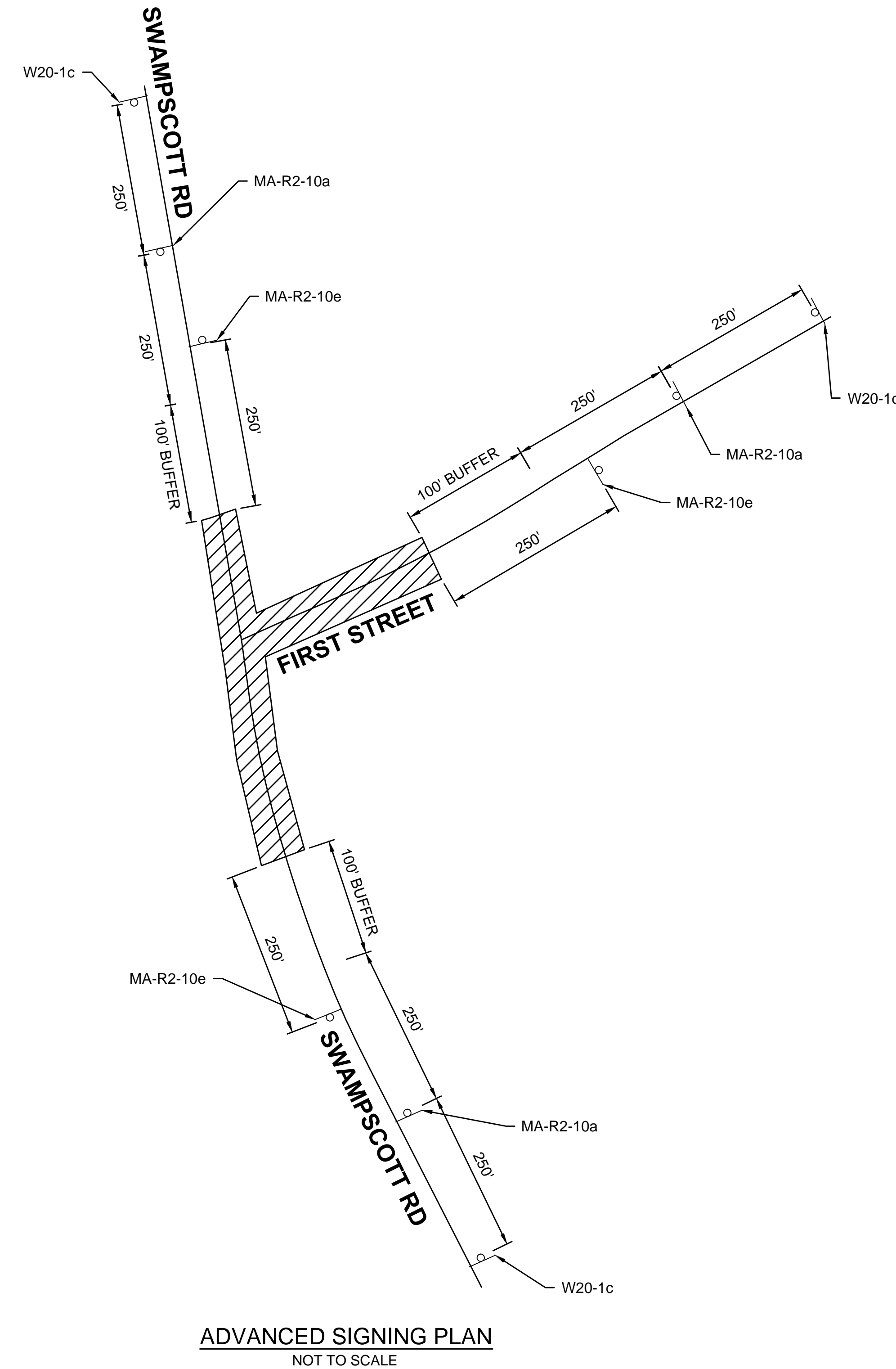


CONSTRUCTION SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW		BACK-GROUND	LEGEND	BORDER		
MA-R2-10a	48"	36"		SEE MASSDOT STANDARDS			3	FLUOR. ORANGE WHITE	BLACK	BLACK		36.00
MA-R2-10e	36"	48"		SEE MASSDOT STANDARDS			3	FLUOR. ORANGE WHITE	BLACK	BLACK		36.00
R4-7	24"	30"		SEE MUTCD STANDARDS			3	WHITE	BLACK	BLACK		15.00
R9-9	24"	12"					2	WHITE	BLACK	BLACK		4.00
R9-10	24"	12"					2	WHITE	BLACK	BLACK		4.00
R9-11	24"	18"					2	WHITE	BLACK	BLACK		6.00
W1-4L	36"	36"					2	ORANGE	BLACK	BLACK		18.00
W1-4R	36"	36"					2	ORANGE	BLACK	BLACK		18.00
W5-1	36"	36"					3	ORANGE	BLACK	BLACK		27.00
W11-2	30"	30"					4	ORANGE	BLACK	BLACK		25.00
W13-1P	24"	24"					2	ORANGE	BLACK	BLACK		8.00
W16-7pL	24"	12"					2	ORANGE	BLACK	BLACK		4.00
W16-9p	24"	12"					2	ORANGE	BLACK	BLACK		4.00
W20-1c	36"	36"					3	ORANGE	BLACK	BLACK		27.00
W20-4	36"	36"					3	ORANGE	BLACK	BLACK		27.00
W20-7	36"	36"					3	ORANGE	BLACK	BLACK		27.00
W20-7b	36"	36"					3	ORANGE	BLACK	BLACK		27.00

NOTE:
SUPER HIGH INTENSITY UNMETALIZED MICROPRISMATIC ELEMENT REFLECTIVE SHEETING M9.30.0 TYPE VII, VIII, IX, OR X SHALL BE USED FOR ALL SIGNS.

FLUOR. - FLUORESCENT



ADVANCED SIGNING PLAN
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Notes

Revision

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File Name: itcp plans.dwg
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Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

Title
TEMPORARY TRAFFIC CONTROL PLANS -
TYPICALS PART 3 OF 3

Project No. 179410490 Scale NOT TO SCALE

Drawing No. Sheet Revision

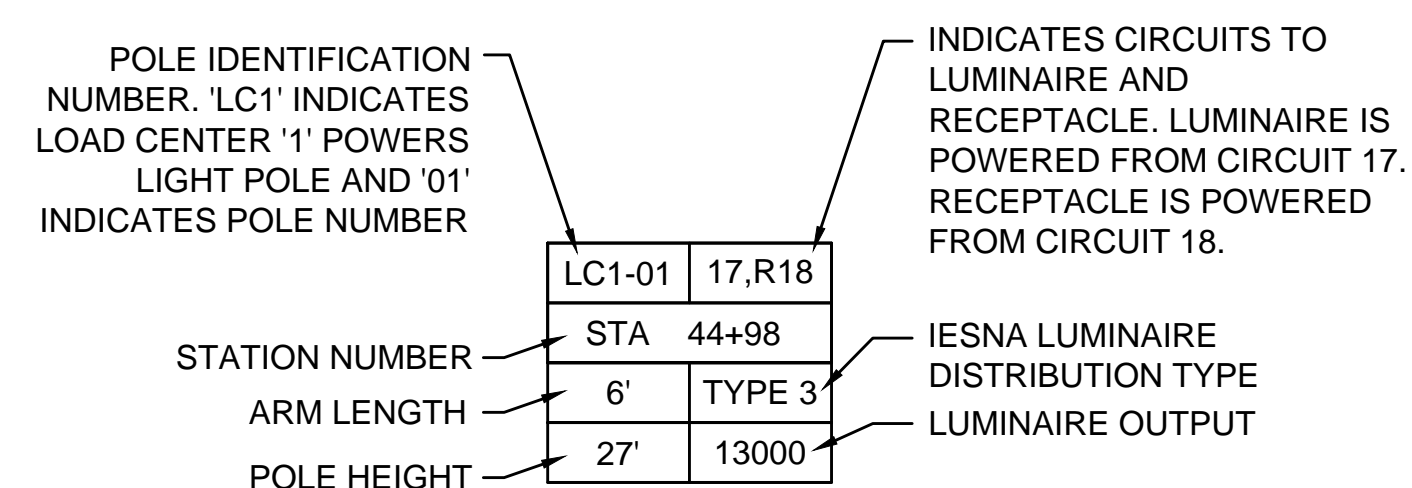
ABBREVIATIONS:

A	AMPERES
AFG	ABOVE FINISHED GRADE
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CM	CIRCULAR MIL
CU	COPPER
DIA	DIAMETER
GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA
KVA	KILO VOLT AMPERES
LC	LOAD CENTER
LT	"L" LEFT
LTG	LIGHTING
PVC	POLYVINYL CHLORIDE
RCPT	RECEPTACLE
RM	RIGID METAL CONDUIT
RT	"R" RIGHT
SCH	SCHEDULE
SW	SIDEWALK
V	VOLTS
W	WATTS

GENERAL NOTES:

1. CONDUIT RUNS ARE DIAGRAMMATIC. COORDINATE CONDUIT RUNS WITH ALL OTHER EXISTING OR PROPOSED UNDERGROUND UTILITIES AND STRUCTURES.
2. PRIOR TO THE INSTALLATION OF PROPOSED LIGHTING, THE CONTRACTOR SHALL EXCAVATE TEST PITS AT LOCATIONS OF UTILITY CROSSINGS TO VERIFY DEPTHS AND LOCATIONS OF EXISTING PIPES, CONDUITS OR OTHER FACILITIES AND AS REQUIRED BY THE ENGINEER. WORK SHALL BE PAID FOR UNDER ITEM 141.1 TEST PIT FOR EXPLORATION.
3. COORDINATE ELECTRIC SERVICE WITH ELECTRIC UTILITLY COMPANY (NATIONAL GRID). ALL WORK ASSOCIATED WITH THE ELECTRIC SERVICE MUST BE COMPLETED IN ACCORDANCE WITH ELECTRIC COMPANY STANDARDS.
4. ALL UTILITY BACK CHARGES ARE THE RESPONSIBILITY OF THE CONTRACTOR FOR ALL WORK PERTAINING TO THIS PROJECT. COORDINATE ALL PERMANENT AND TEMPORARY POWER WITH THE UTILITY.
5. ALL ELECTRICAL EQUIPMENT SHALL BE UL LISTED FOR ITS INTENDED USE.
6. PROVIDE GROUND CONDUCTOR IN EACH ELECTRICAL RACEWAY IN ACCORDANCE WITH THE CODE.
7. THE HOT LINE AND NEUTRAL CONDUCTORS IN THE POLE HANDHOLE SHALL HAVE AN APPROVED STREET LIGHT FUSE CONNECTOR.

LUMINAIRE INFORMATION BOX



ELECTRICAL LEGEND:

- LIGHTING CONDUIT DIRECT BURIED IN THE EARTH
- ▨ CONDUIT, CONCRETE ENCASED
- CONDUIT TURNING DOWN
- SINGLE LUMINAIRE WITH LIGHT POLE AND CONCRETE POLE FOUNDATION
- LIGHTING CONTROL CABINET
- PRE-CAST HANDHOLE

Revision	By	Appd.	YY.MM.DD
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Issued	By	Appd.	YY.MM.DD
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File Name:	lighting_details.dwg	CN	TJM	DPH	17.09.06
		Dwn.	Chkd.	Dsgn.	YY.MM.DD

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Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

Title
LIGHTING GENERAL NOTES AND LEGEND

Project No.	Scale	
179410490	NOT TO SCALE	
Drawing No.	Sheet	Revision

Revision	By	Appd.	YY.MM.DD

File Name: lighting plans.dwg CN TJM DPH 17.09.06
 Dwn. Chld. Dgn. YY.MM.DD

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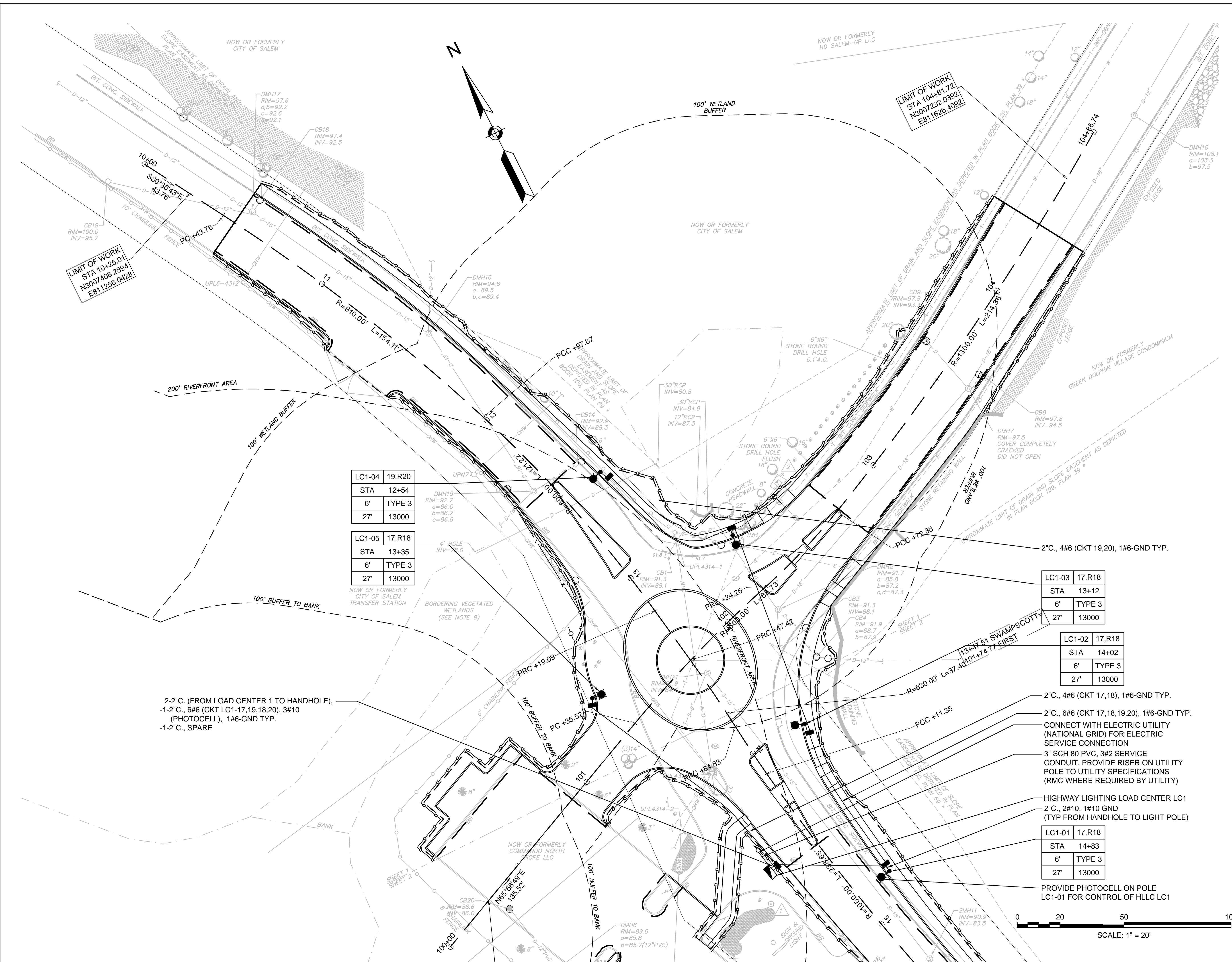


Client/Project
 City of Salem, MA

Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 LIGHTING PLAN - PART 1 OF 1

Project No. 179410490	Scale 1"=20'
Drawing No.	Sheet Revision



LIMIT OF WORK
 STA 10+25.01
 N3007408.2894
 E811256.0428

LIMIT OF WORK
 STA 104+61.72
 N3007232.0392
 E811626.4092

LC1-04	19,R20
STA	12+54
6'	TYPE 3
27'	13000

LC1-05	17,R18
STA	13+35
6'	TYPE 3
27'	13000

LC1-03	17,R18
STA	13+12
6'	TYPE 3
27'	13000

LC1-02	17,R18
STA	14+02
6'	TYPE 3
27'	13000

LC1-01	17,R18
STA	14+83
6'	TYPE 3
27'	13000

2-2"C. (FROM LOAD CENTER 1 TO HANDHOLE),
 -1-2"C., 6#6 (CKT LC1-17,19,18,20), 3#10
 (PHOTOCELL), 1#6-GND TYP.
 -1-2"C., SPARE

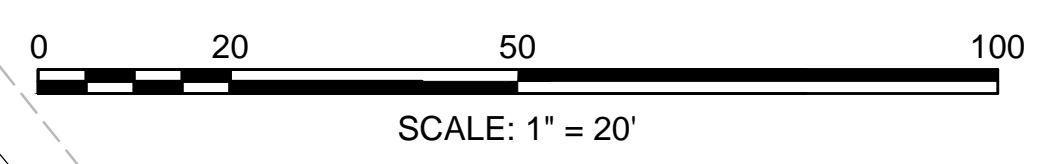
2"C., 4#6 (CKT 19,20), 1#6-GND TYP.

2"C., 6#6 (CKT 17,18,19,20), 1#6-GND TYP.

CONNECT WITH ELECTRIC UTILITY
 (NATIONAL GRID) FOR ELECTRIC
 SERVICE CONNECTION
 3" SCH 80 PVC, 3#2 SERVICE
 CONDUIT. PROVIDE RISER ON UTILITY
 POLE TO UTILITY SPECIFICATIONS
 (RMC WHERE REQUIRED BY UTILITY)

HIGHWAY LIGHTING LOAD CENTER LC1
 2"C., 2#10, 1#10 GND
 (TYP FROM HANDHOLE TO LIGHT POLE)

PROVIDE PHOTOCELL ON POLE
 LC1-01 FOR CONTROL OF HLLC LC1



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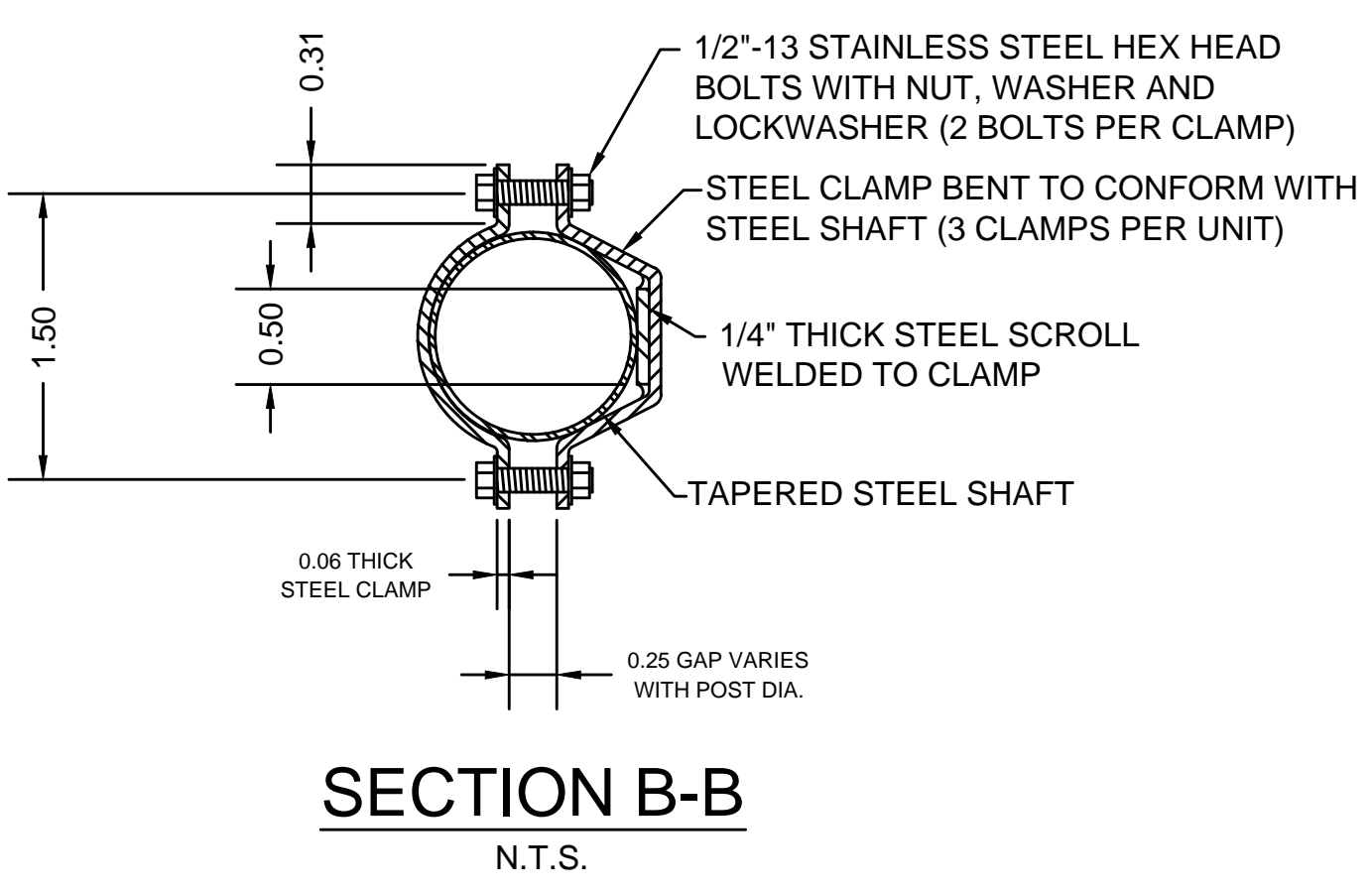
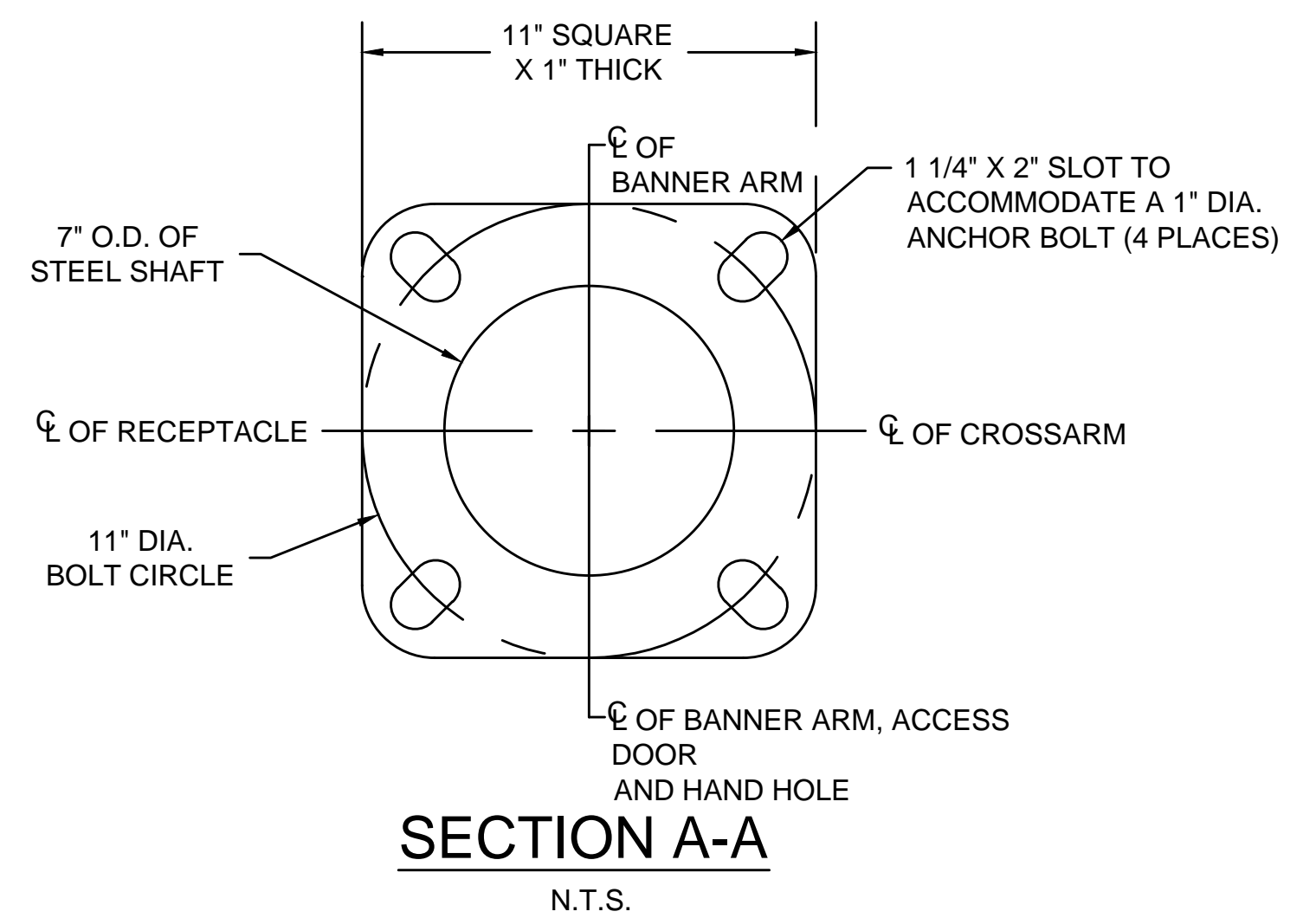
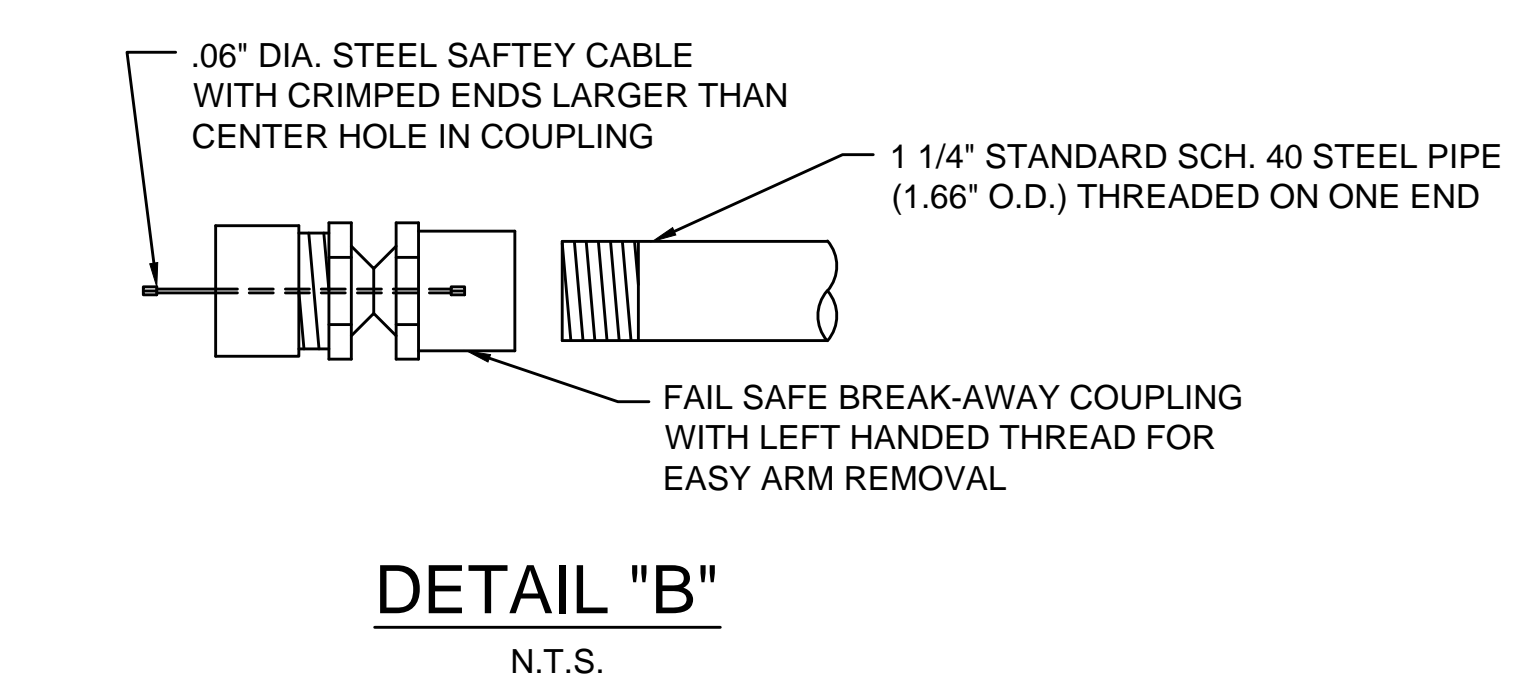
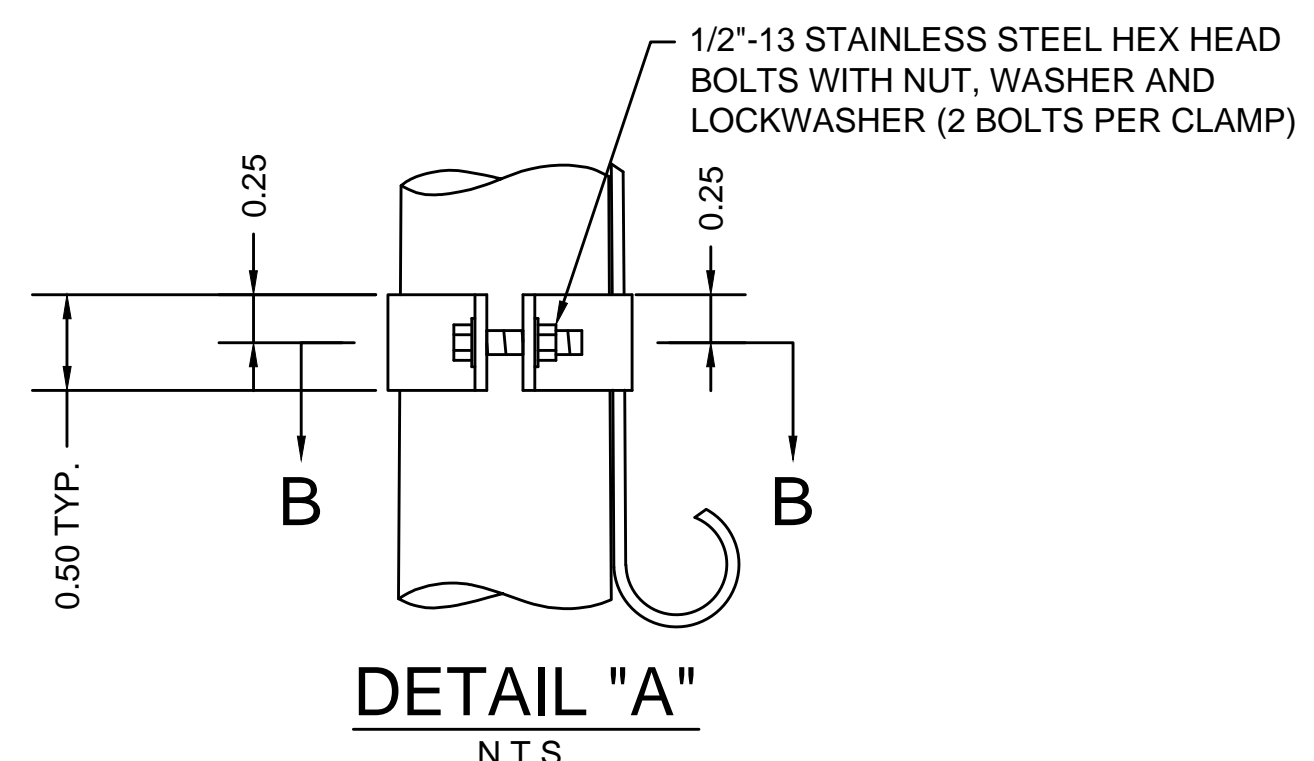
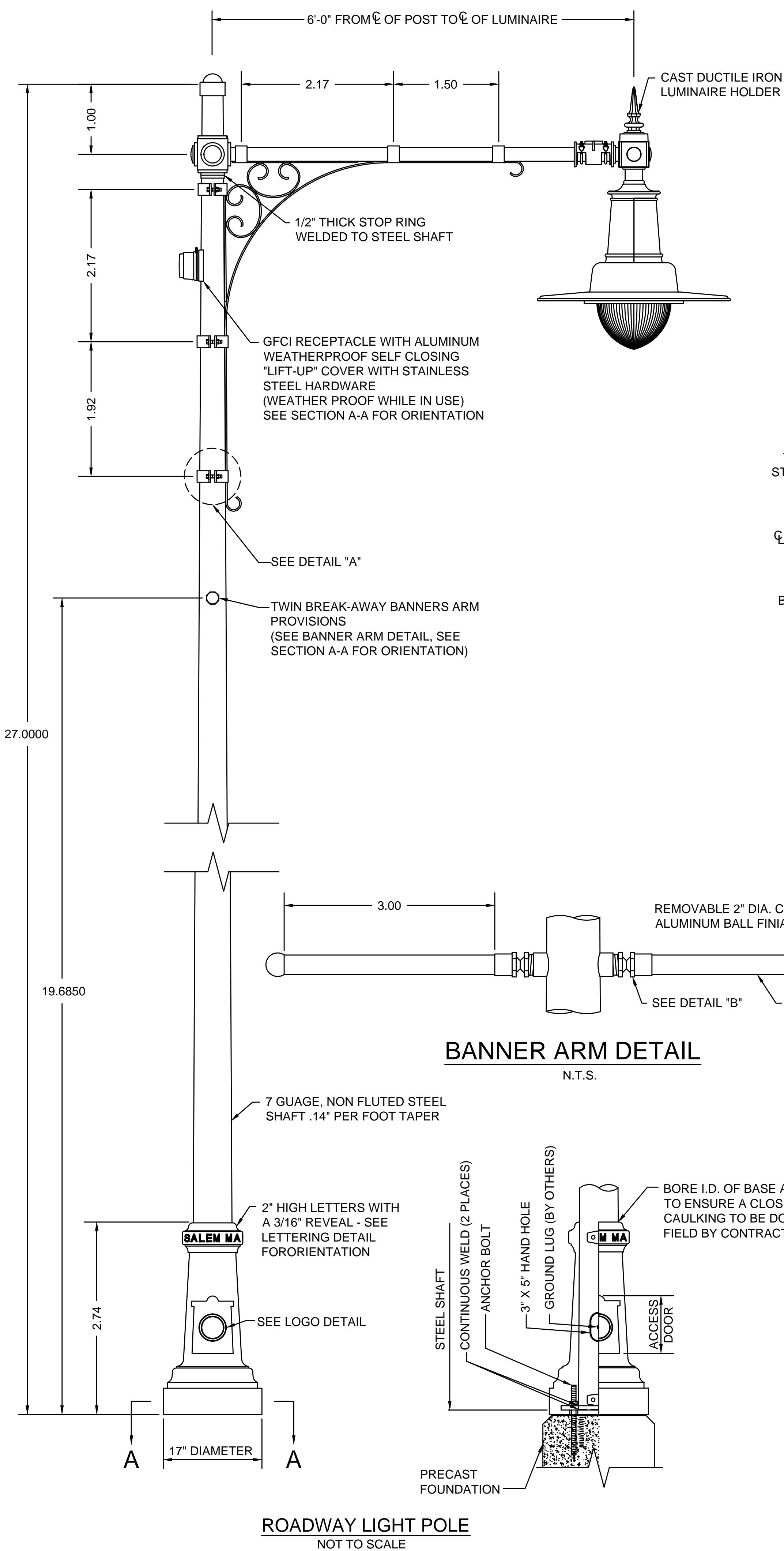
Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

Title
LIGHTING DETAILS - PART 1 OF 3

Project No. 179410490 Scale NOT TO SCALE

Drawing No. Sheet Revision



LUMINAIRE SPECIFICATIONS (ITEM NUMBER: 823.101)

STYLE:	LECHMERE (ITEM NUMBER #: 823.101)
HEIGHT:	2'-4 7/8"
WIDTH:	2'-9" DIA.
MATERIAL:	CAST ALUMINUM ALLOY ANSI 356 PER A.S.T.M. B26-95
GLOBE:	RIBBED GLASS
FINISH:	POWDER COAT - GLOSS BLACK
LAMPING:	155W LED
VOLTAGE:	ELECTRONIC WIRED AT 120-277
NUM. OF BOARDS:	2
COLOR TEMP:	4500K
DISTRIBUTION:	TYPE III (ASYMMETRIC DISTRIBUTION)
OPTICS:	CROSSFIRE REFRACTIVE
MODIFIER:	COLUMBIA VERTICAL ALIGNMENT
OUTPUT:	13,000 LUMEN MINIMUM

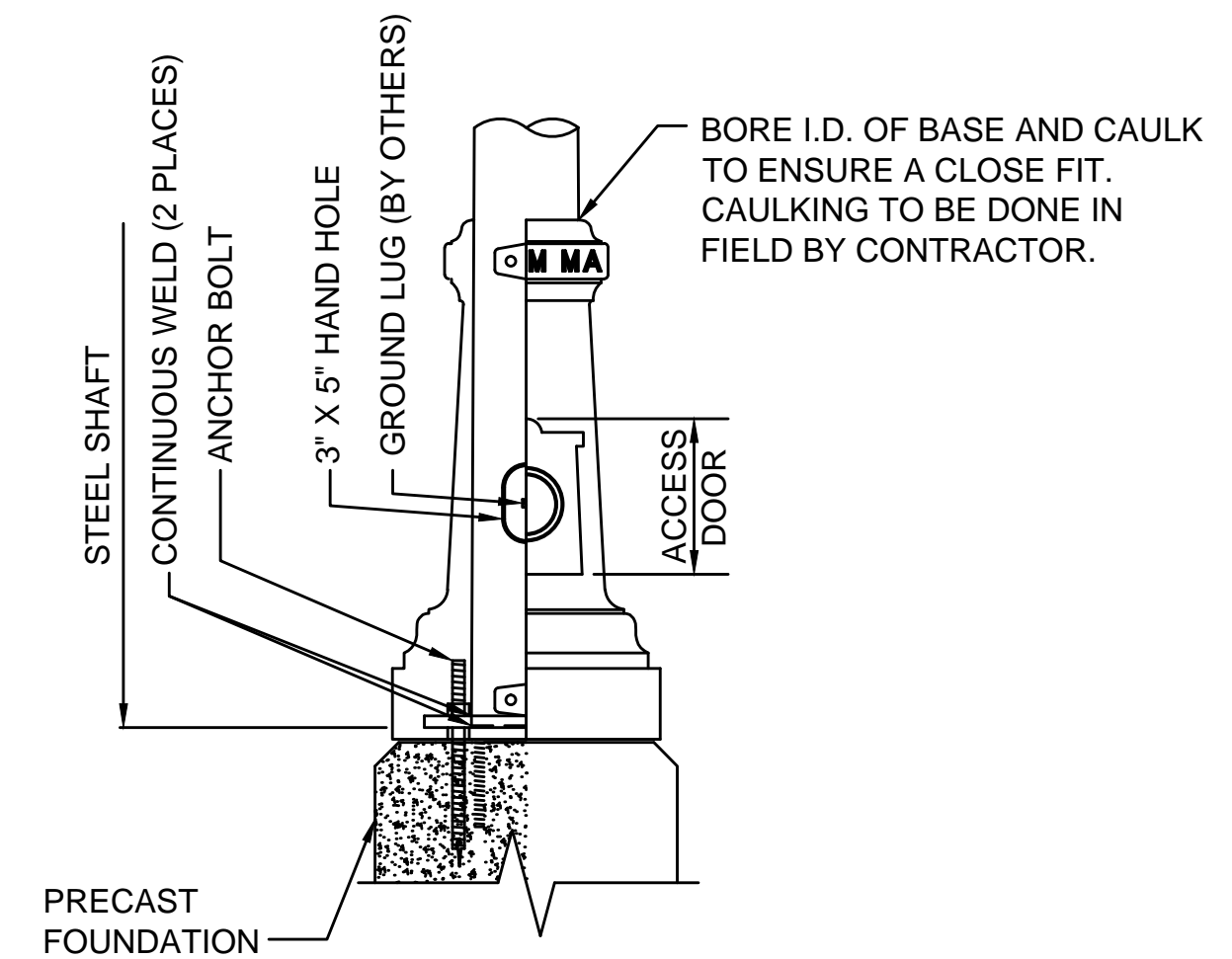
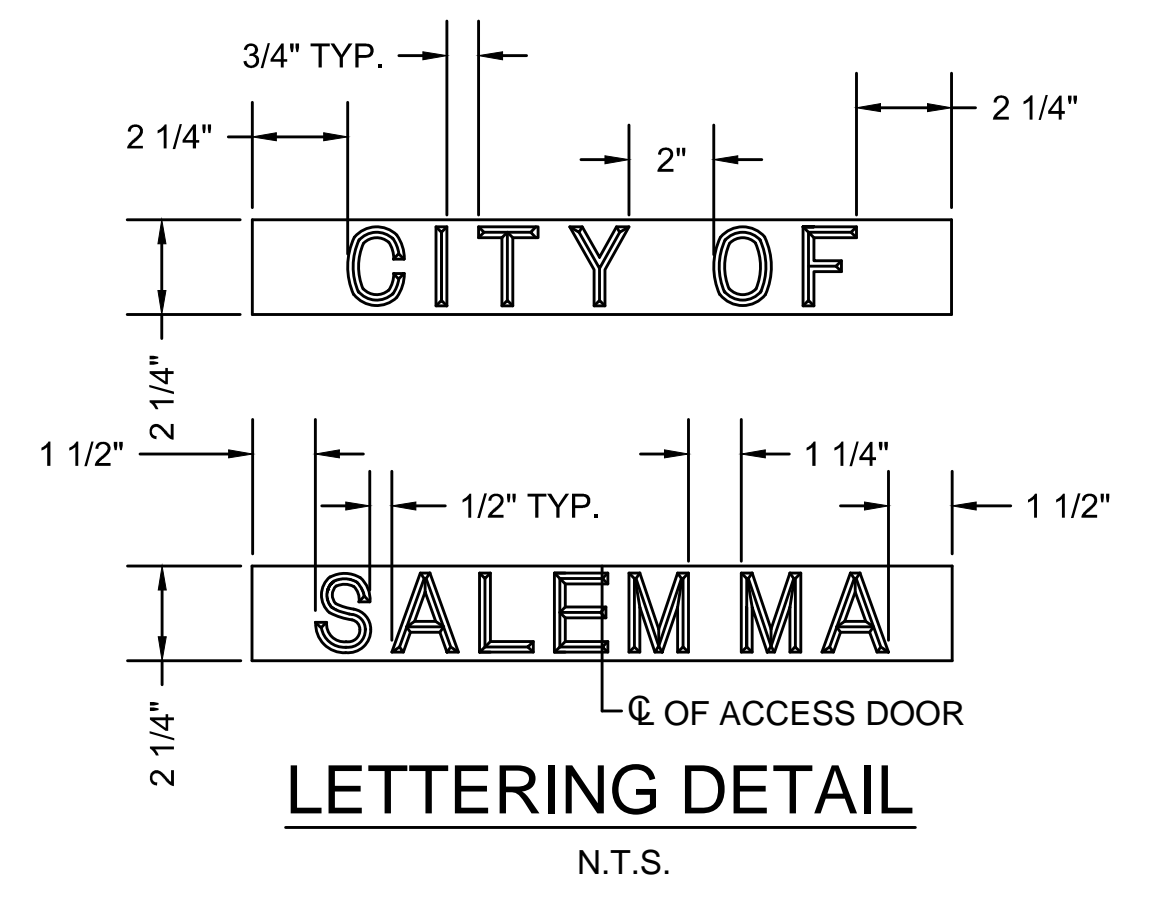
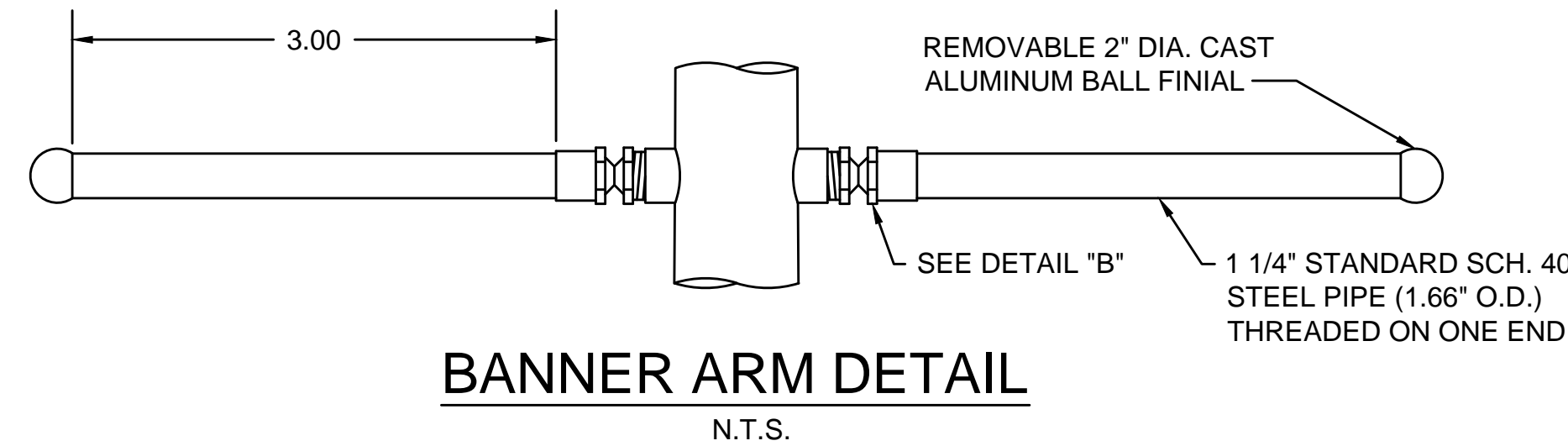
CROSS ARM SPECIFICATIONS (ITEM NUMBER: 821.3)

STYLE:	CAMBRIDGE SINGLE (ITEM NUMBER #: 821.3)
WIDTH:	6'-0" FROM ϕ OF POST TO ϕ OF LUMINAIRE
MATERIAL:	CAST DUCTILE IRON WITH 2" STANDARD STEEL PIPE AND STEEL SCROLL WORK
FINISH:	POWDER COAT - GLOSS BLACK

LAMP POST SPECIFICATIONS (ITEM NUMBER: 821.3)

STYLE:	CAMBRIDGE STEEL (CITY OF SALEM)
HEIGHT:	27'-0"
BASE:	17" DIAMETER
MATERIAL:	7 GAUGE, SMOOTH STEEL MONOTUBE CONSTRUCTION
SHAFT:	DUCTILE IRON
FINISH:	HOT DIPPED GALVANIZED & POWDER COAT - GLOSS BLACK
BASE:	POWDER COAT - GLOSS BLACK
ACCESS DOOR:	LOCATED IN BASE TO COINCIDE WITH HAND HOLE IN STEEL SHAFT SECURED WITH TAMPER PROOF HEX SOCKET SECURITY MACHINE SCREWS

GROUND STUD PROVISIONS:	1/4"-20 SQUARE NUT WELDED TO INSIDE WALL OF SHAFT OPPOSITE HAND HOLE FOR GROUND STUD (STUD BY OTHERS)
ANCHOR BOLTS:	(4) 1" DIA. X 36" + 4" HOOK (FULLY GALVANIZED WITH 2 GALVANIZED NUTS AND 2 GALVANIZED WASHERS PER BOLT) 5" REQUIRED
BOLT PROJECTION:	

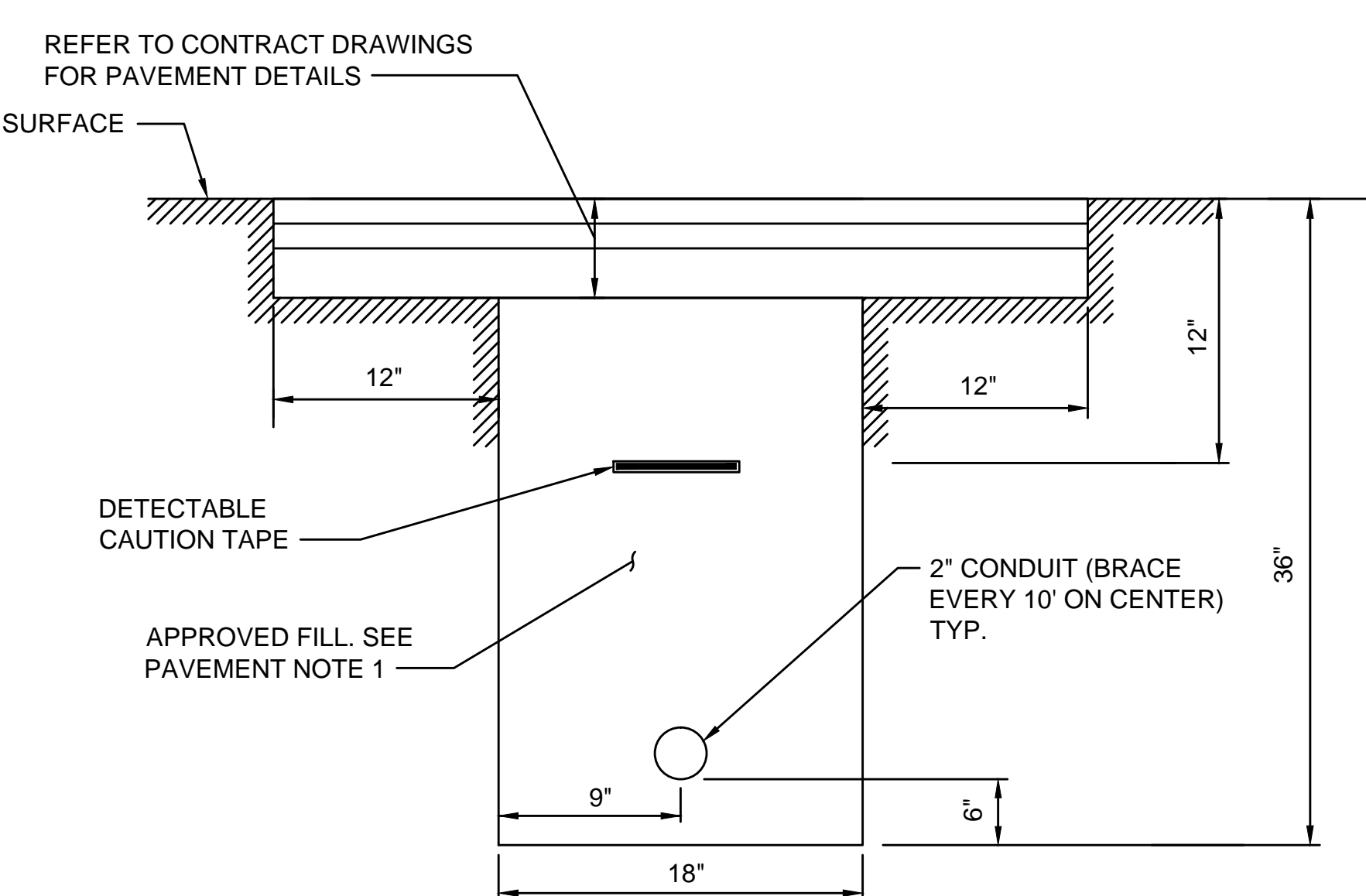
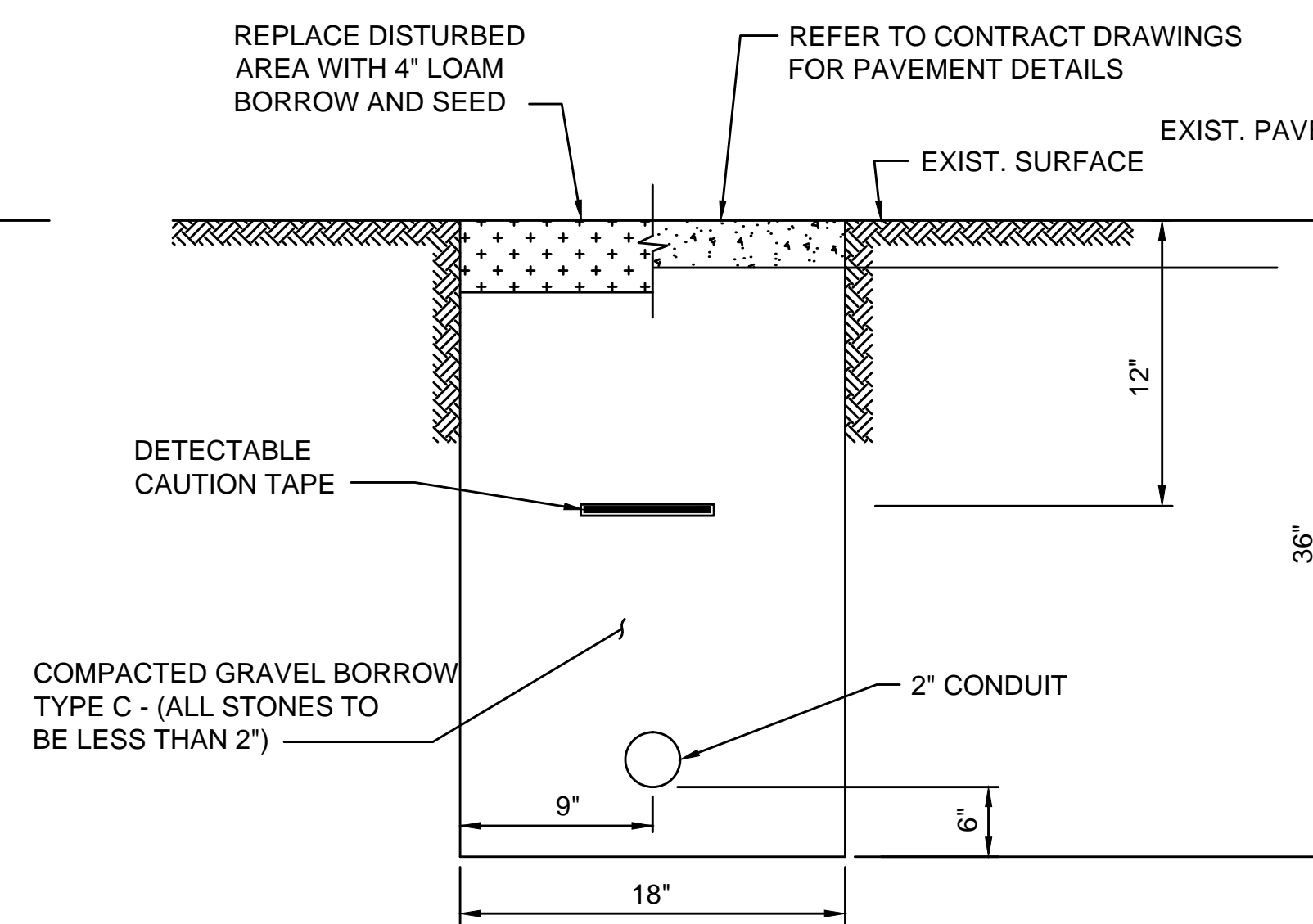
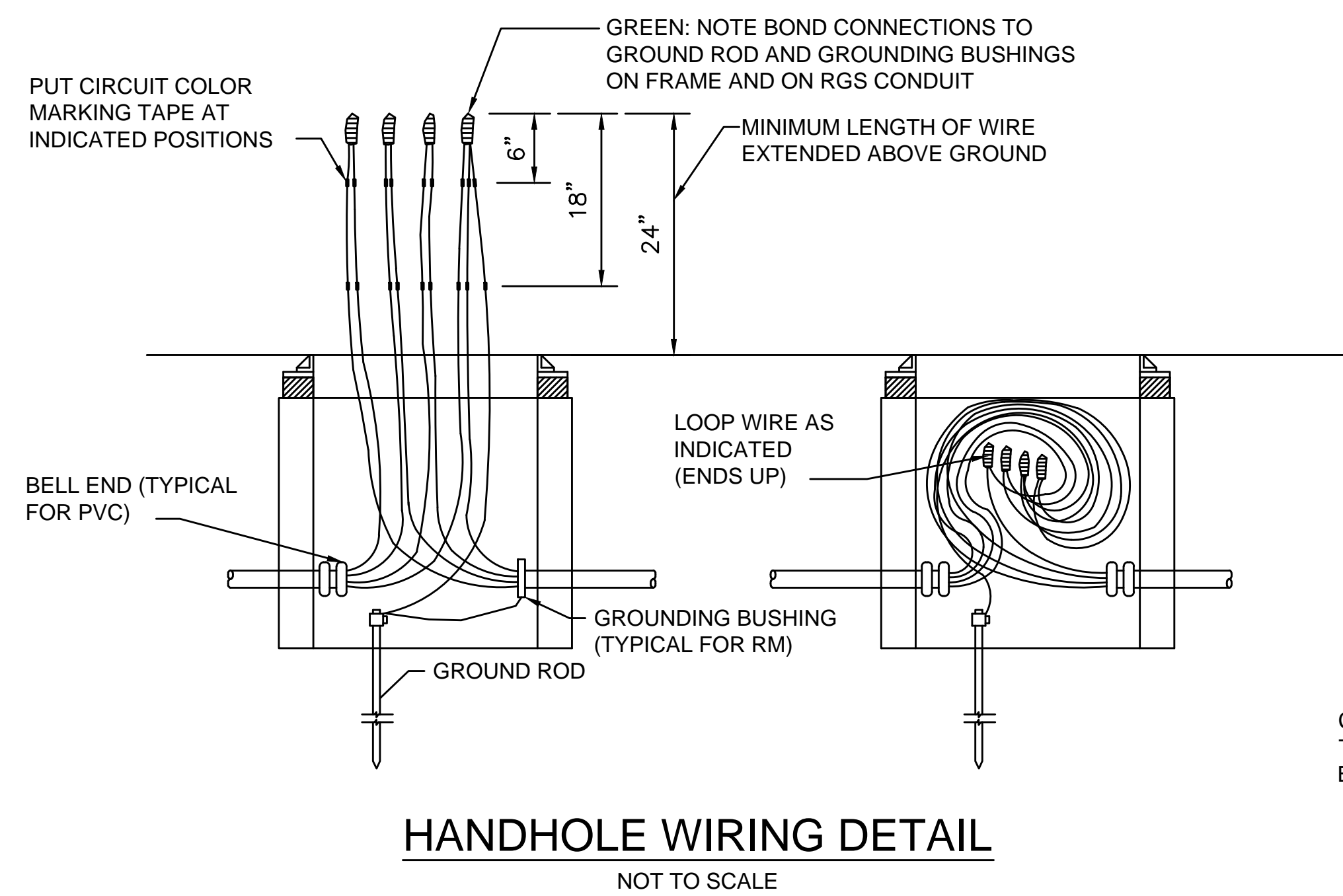


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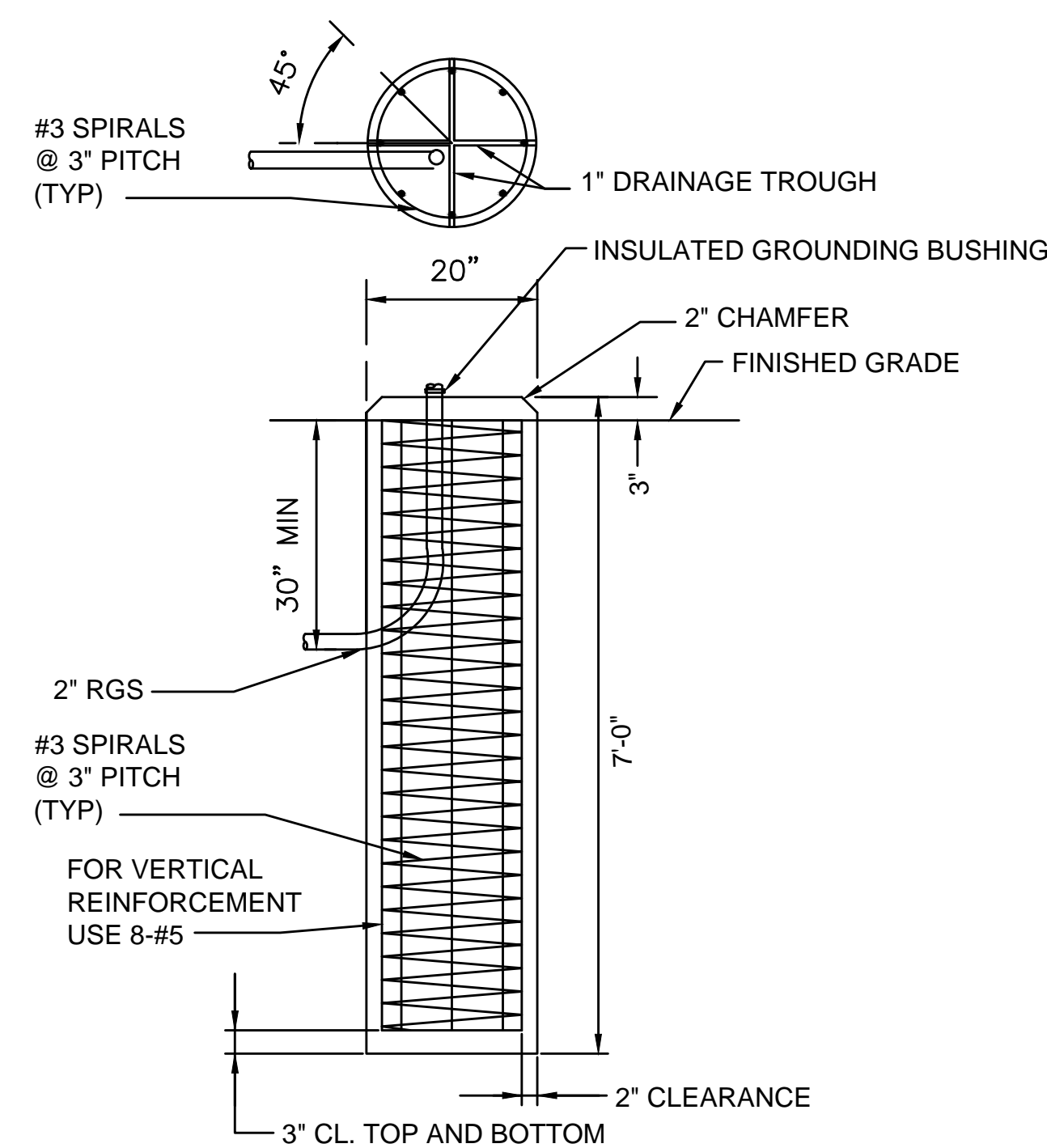
Notes



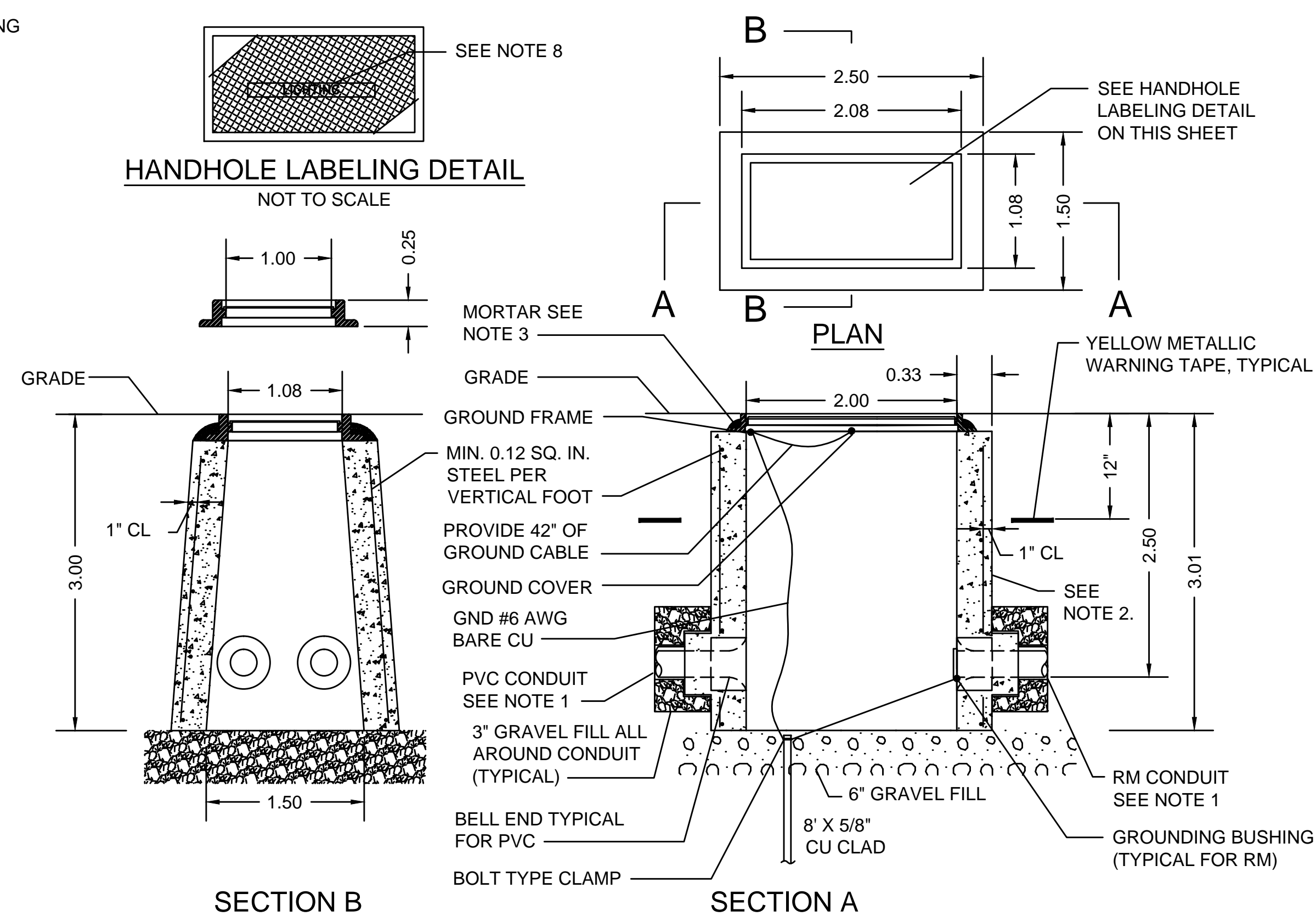
TYPICAL TRENCH DETAILS FOR CONDUIT
NOT TO SCALE

PAVEMENT NOTES FOR TRENCH PATCHING:

1. FOR TRENCH CUTS WITHIN PAVED SURFACES, (MAINLINE AND LOCAL ROADS) WHERE SUCH TRENCH CUTS HAVE A DEPTH OF 4" OR LESS, CONTROLLED DENSITY FILL (CDF) FOR BACKFILL IS MANDATORY. CONTROLLED DENSITY FILL TYPE 2E, (FLOWABLE-EXCAVATABLE) SHALL MEET THE REQUIREMENTS OF SECTION M4.08.0.



HANDHOLE LABELING DETAIL
NOT TO SCALE



PRECAST CONCRETE ELECTRIC HANDHOLE
SIZE 24 X 13 X 36 (SD2-022)
NOT TO SCALE

- LIGHT STANDARD FOUNDATION NOTES:
1. CEMENT CONCRETE FOR FOUNDATIONS TO BE 4000 PSI, 1.5", 565 CEMENT CONCRETE. REINFORCING STEEL: SEE M4.03.05 OF THE STANDARD SPECIFICATIONS
 2. A MINIMUM SLOPE OF 1/8" PER FOOT FROM EDGE OF BASE PLATE TO FACE OF CONCRETE.
 3. THE ANCHOR BOLTS SHALL BE SUPPLIED BY THE LIGHT STANDARD MANUFACTURER. THE MANUFACTURER SHALL ALSO SUPPLY A TEMPLATE FOR SETTING THE BOLTS AND SHALL INDICATE THE NECESSARY PROJECTION.

HIGHWAY LIGHT STANDARD FOUNDATION
NOT TO SCALE

HANDHOLE NOTES:

1. ALL CONDUIT ENTERING HANDHOLES SHALL EXTEND INTO THE HANDHOLE CAVITY BY AT LEAST 2".
2. ALL HANDHOLES SHALL BE PRECAST CONCRETE REINFORCED WITH STEEL, AND SHALL BE FREE OF CRACKS OR OTHER DEFECTS. CONCRETE FOR PRECAST CONCRETE HANDHOLES SHALL BE 5000 PSI, 3/8 IN., 660 CEMENT CONCRETE MASONRY. REINFORCING BARS SHALL CONFORM TO AASHTO DESIGNATION M31 (ASTM DESIGNATION A 615) GRADE 60. AND SHALL BE EPOXY COATED.
3. CAST IRON FRAME SHALL BE MORTARED TO THE SURFACE OF THE PRECAST HANDHOLE.
4. ALL CONDUIT INSTALLED IN HANDHOLES SHALL BE INSTALLED IN KNOCKOUTS PROVIDED IN THE BOX AND NO EXCESS KNOCKOUTS SHALL BE MADE. THE KNOCKOUTS ARE DESIGNED TO BE MADE PRIOR TO BACKFILLING AROUND THE HANDHOLES. AFTER THE CONDUIT HAS BEEN INSTALLED IN THE HANDHOLE, THE OPEN SPACE BETWEEN THE BOX AND THE CONDUIT WILL BE SEALED WITH CLASS B CEMENT CONCRETE MASONRY. ANY CONDUIT INSTALLED IN SUCH A MANNER AS TO BLOCK COMPLETE ACCESS TO ANY OTHER CONDUIT SHALL BE REMOVED AND RESET.
5. FOR THE EXACT NUMBER, SIZE, AND ORIENTATION OF THE CONDUITS ENTERING THE HANDHOLE, SEE PLAN SHEETS.
6. CAST IRON HANDHOLE COVERS AND FRAMES SHALL BE PRODUCED BY THE SAME MANUFACTURER AND IN ACCORDANCE WITH MASSDOT SPECIFICATIONS.
7. METAL HANDHOLE COVER AND FRAME ARE TO BE BONDED (GROUNDED), DRILL AND TAP FRAME FOR MECHANICAL GROUND LUG CONNECTION. INSTALL A SERVIC POST GROUNDING CONNECTOR SUITABLE TO ACCOMMODATE ONE BARE #6 CONDUCTOR. EXTEND #6 GROUND CONDUCTOR THROUGH FRAME LUG TO BOND COVER. PROVIDE 42" OF SLACK FROM FRAME LUG TO BOND COVER. EXOTHERMICALLY WELD GROUND CONDUCTOR TO COVER.
8. FUNCTION DESIGNATION ON THE HANDHOLE SHALL BE LABELED AS FOLLOWS PER NEC ARTICLE 314.30D:

"LIGHTING" FOR LIGHTING CONDUIT

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Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

Title
LIGHTING DETAILS - PART 2 OF 3

Project No. 179410490	Scale NOT TO SCALE
Drawing No. Sheet	Revision

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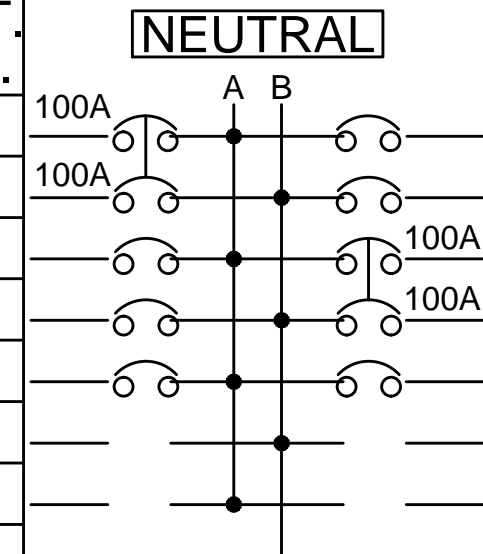
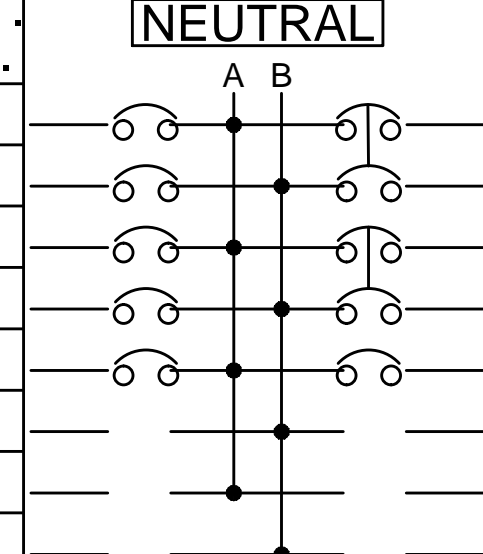


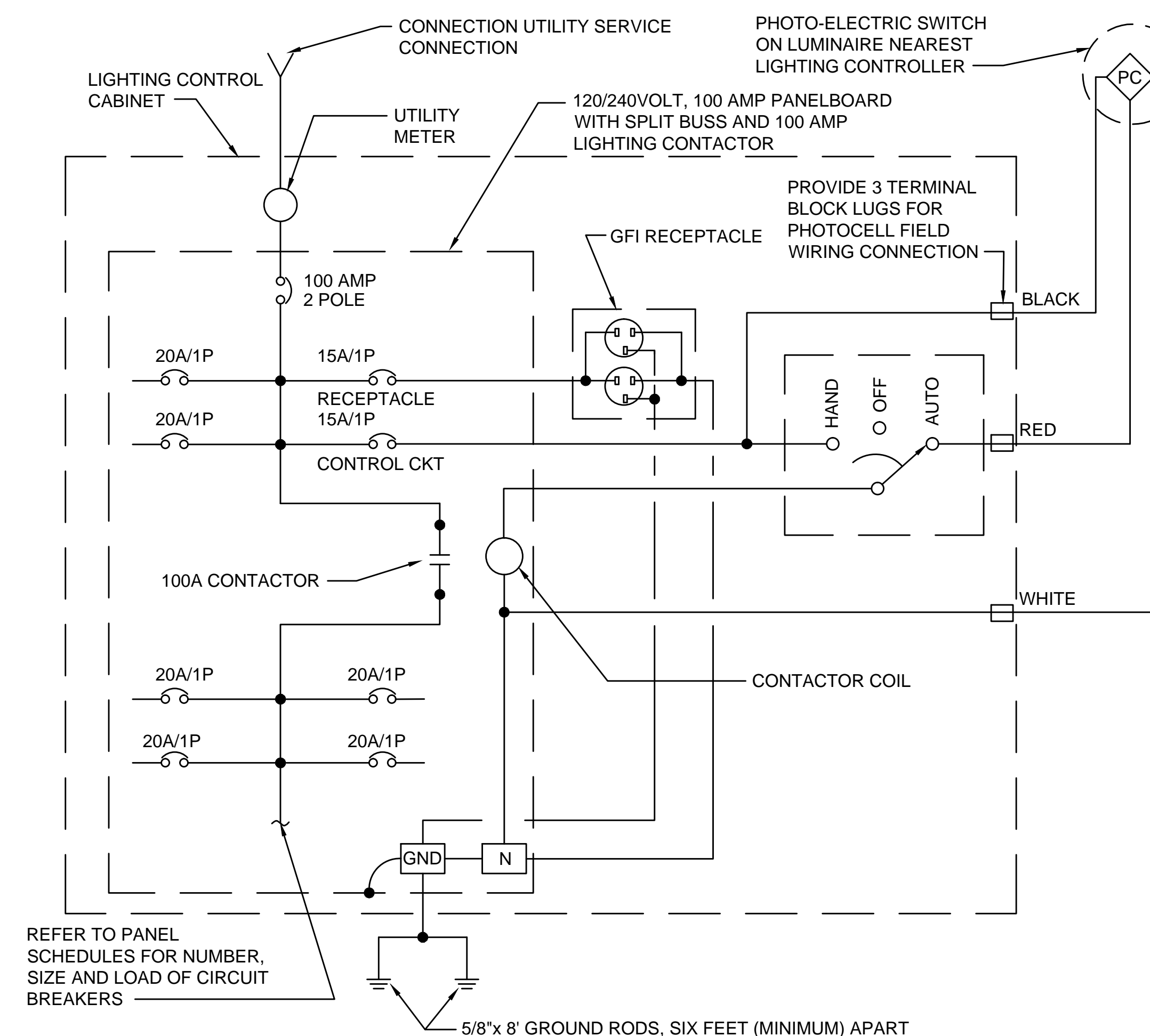
Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

Title
LIGHTING PANEL SCHEDULES AND ONE
LINE RISER DIAGRAM

Project No. 179410490 Scale NOT TO SCALE
Drawing No. _____ Sheet _____ Revision _____

PANELBOARD LC1-UNSWITCHED											
UNSWITCHED LOADS ONLY					SHORT CIRCUIT BRACING: 10-KAIC						
BUS: 120/240V, 1PH, 3W, 60HZ					CABINET: SURFACE						
MAIN LUGS ONLY : 100A					PANEL LOCATION: SWAMPSCOTT RD						
FEEDER SIZE: 3#2, 1#2-GND											
GROUND BAR											
LOAD SERVED	HP	VA A	VA B	CKT. NO.	NEUTRAL	CKT. NO.	VA A	VA B	HP	LOAD SERVED	
MAIN		-	-	1		2	50			CONTROL CKT	
MAIN		-	-	3		4	180			GFI RECEPTACLE	
SPARE		-	-	5		6	-			SWITCHED LOAD CENTER (BELOW)	
SPARE		-	-	7		8	-			SWITCHED LOAD CENTER (BELOW)	
SPARE		-	-	9		10	-			SPARE	
SPACE		-	-	11		12	-			SPACE	
SPACE		-	-	13		14	-			SPACE	
SPACE		-	-	15		16	-			SPACE	
PANELBOARD LC1-SWITCHED											
SWITCHED LOADS ONLY											
GROUND BAR											
LOAD SERVED	HP	VA A	VA B	CKT. NO.		NEUTRAL	CKT. NO.	VA A	VA B	HP	LOAD SERVED
LUMINIARES - LIGHT POLES 01,03,05		465		17			18	540			RECEPTACLES - LIGHT POLES 01,03,05
LUMINIARES - LIGHT POLES 02,04			310	19			20	360			RECEPTACLES - LIGHT POLES 02,04
SPARE		-	-	21			22	-			SPARE
SPARE		-	-	23			24	-			SPARE
SPACE		-	-	25	26		-			SPACE	
SPACE		-	-	27	28		-			SPACE	
SPACE		-	-	29	30		-			SPACE	
SPACE		-	-	31	32		-			SPACE	
VA A: 1055 VA B: 850					ALL BRANCH C/B: 20 AMP TRIP						
TOTAL CONNECTED LOAD: 1905 VA					UNLESS OTHERWISE NOTED						



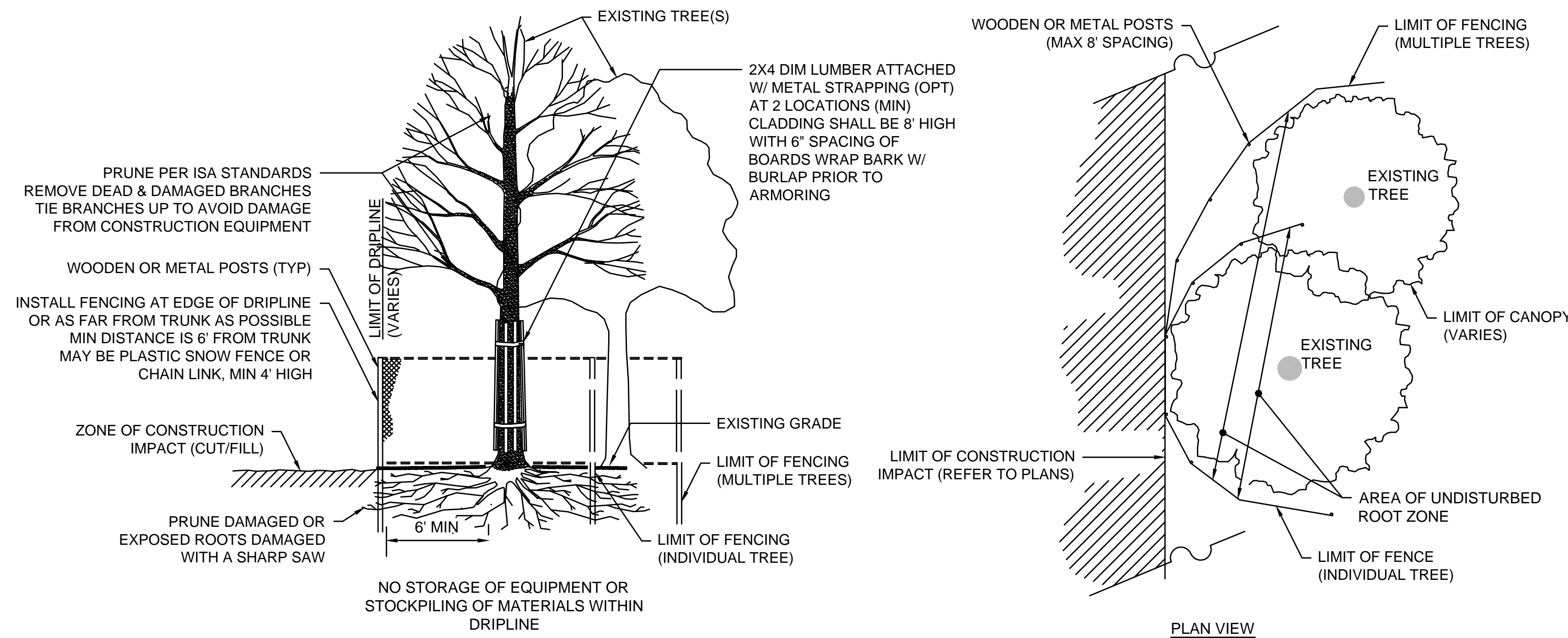
ONE LINE DIAGRAM

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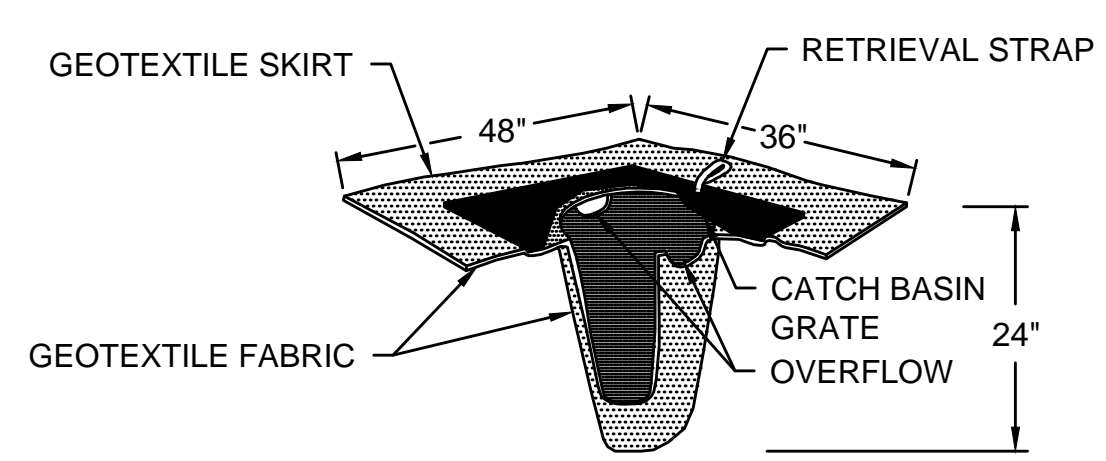
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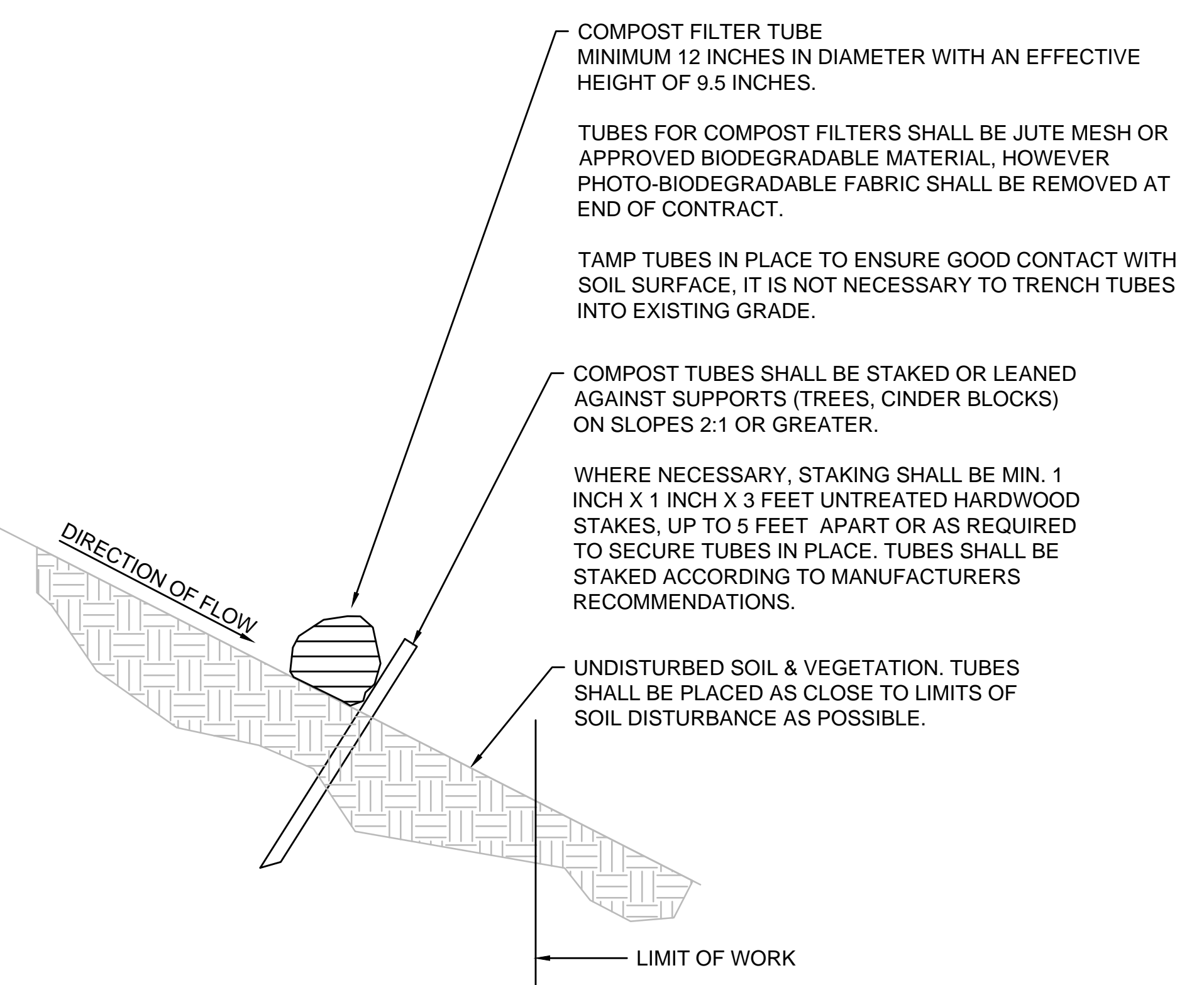


TREE PROTECTION - EXISTING TREE(S)
 NOT TO SCALE

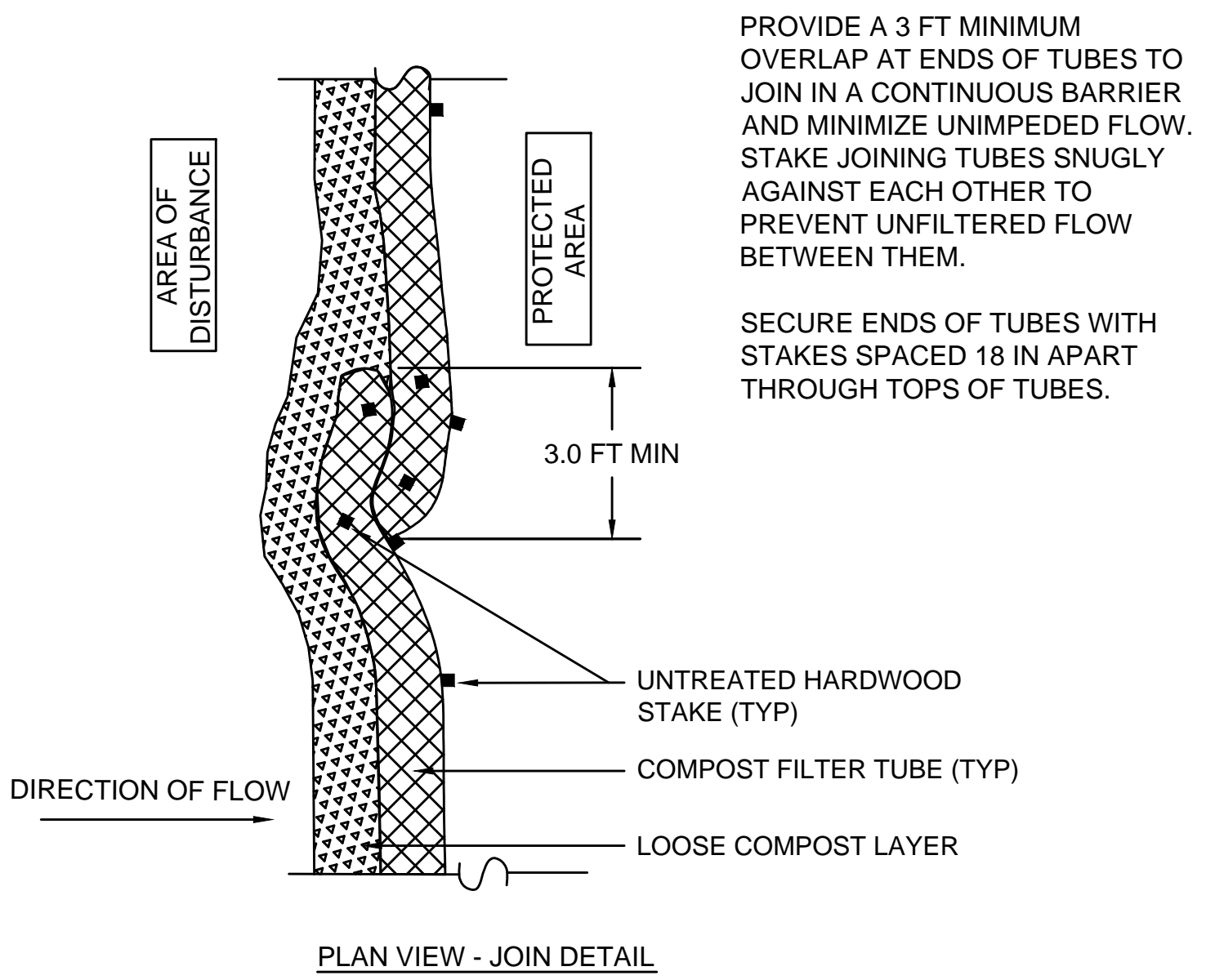


NOTE:
 USE TWO SILT SACKS AT DOUBLE GRATE CATCH BASINS

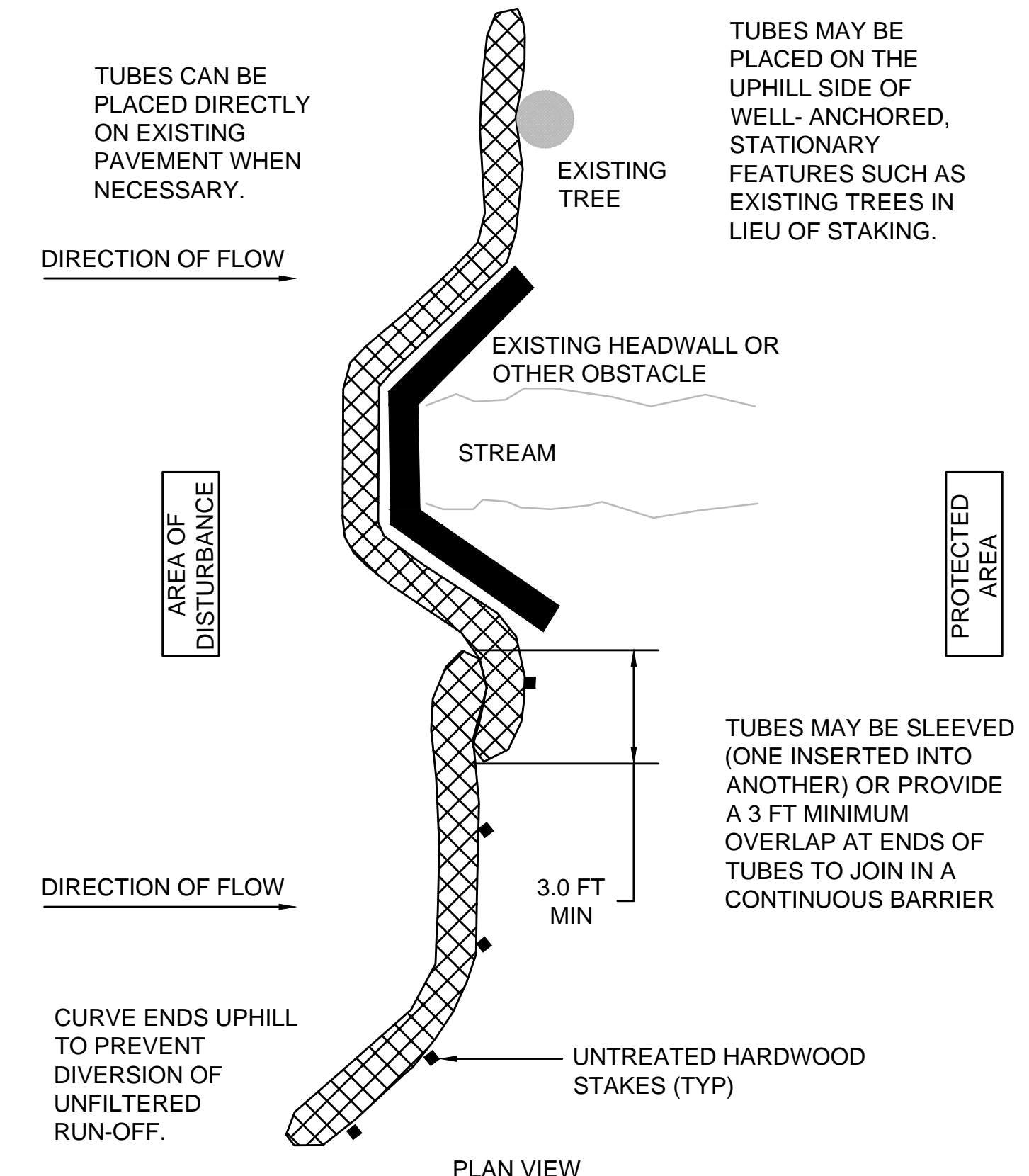
SILT SACK FOR SEDIMENT CONTROL
 NOT TO SCALE



SINGLE COMPOST FILTER TUBE DETAIL
 NOT TO SCALE



PROVIDE A 3 FT MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW. STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.
 SECURE ENDS OF TUBES WITH STAKES SPACED 18 IN APART THROUGH TOPS OF TUBES.

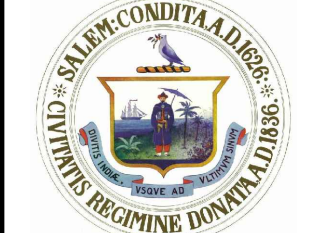


TUBES CAN BE PLACED DIRECTLY ON EXISTING PAVEMENT WHEN NECESSARY.
 TUBES MAY BE PLACED ON THE UPHILL SIDE OF WELL-ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES IN LIEU OF STAKING.
 TUBES MAY BE SLEEVED (ONE INSERTED INTO ANOTHER) OR PROVIDE A 3 FT MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER.
 CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN-OFF.

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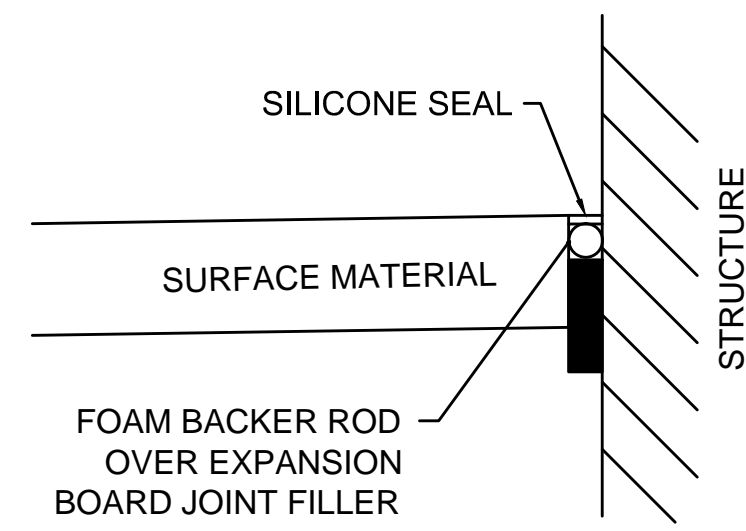


Client/Project
 City of Salem, MA

Swampscott Road at First Street
 Roundabout Construction
 Salem, MA

Title
 CONSTRUCTION DETAILS - PART 1

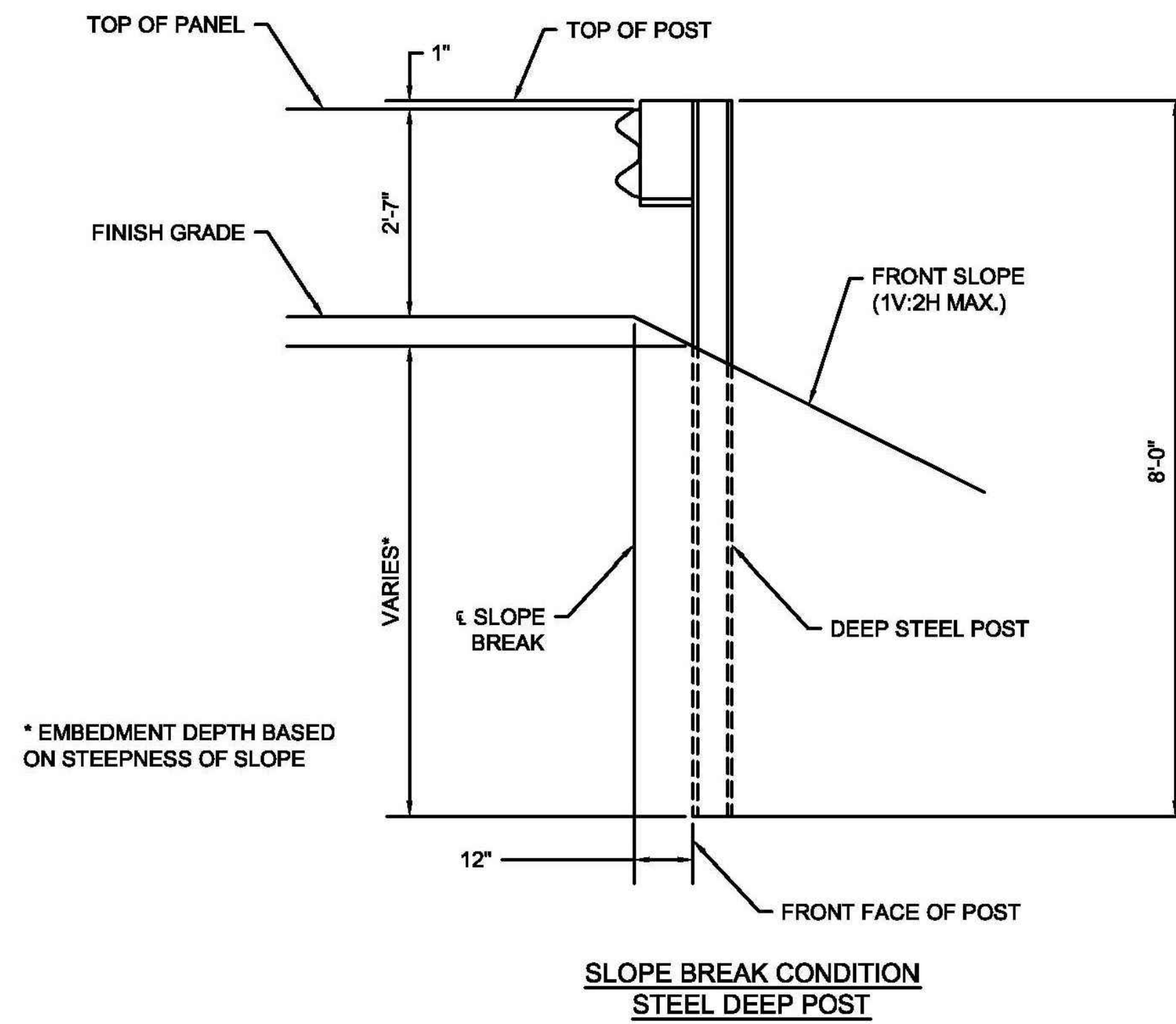
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Drawing No.	Sheet
	Revision



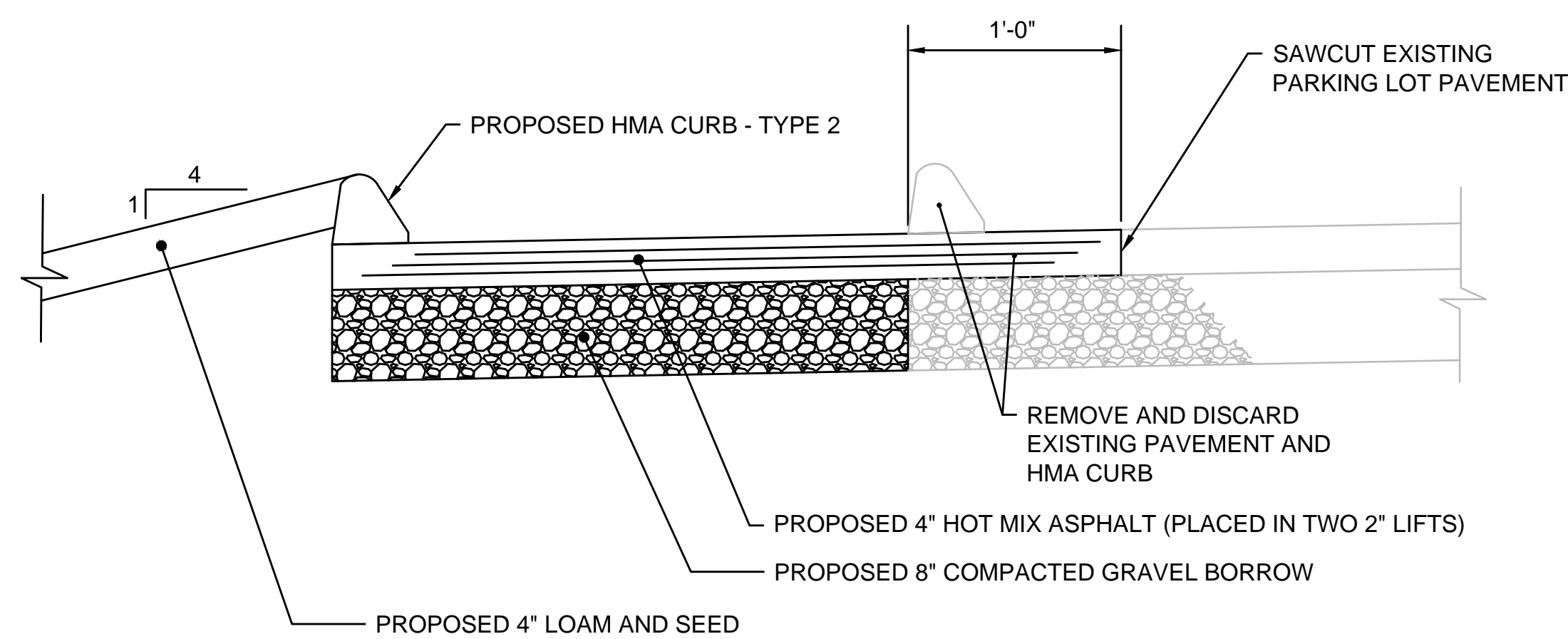
NOTES:

1. THIS DETAIL SHALL BE USED ANYWHERE A PROPOSED CEM CONC OR HMA SURFACE ABUTS THE EDGE OF A STRUCTURE.
2. WORK OF INSTALLING EXPANSION JOINT AND SILICONE CAULKING IS INCIDENTAL TO THE PROPOSED CONCRETE AND HMA WORK FOR ALL LOCATIONS.
3. SILICONE SEALER SHALL MEET ASTM D5893 STANDARD.

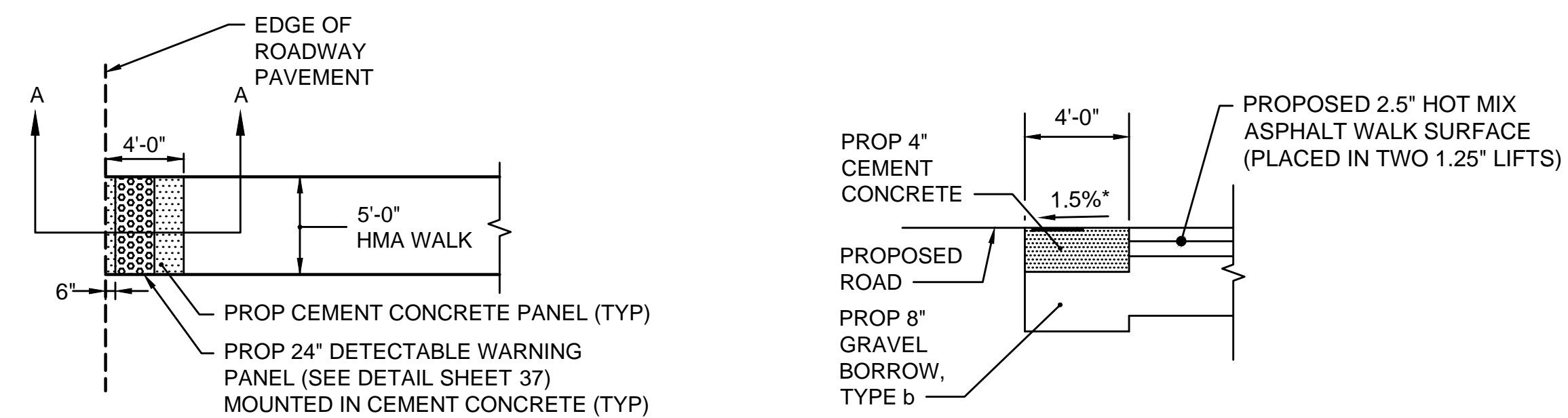
EXPANSION JOINT
NOT TO SCALE



DETAIL 400.1.5:
GUARDRAIL MOUNTING HEIGHTS & POST DEPTHS
NOT TO SCALE



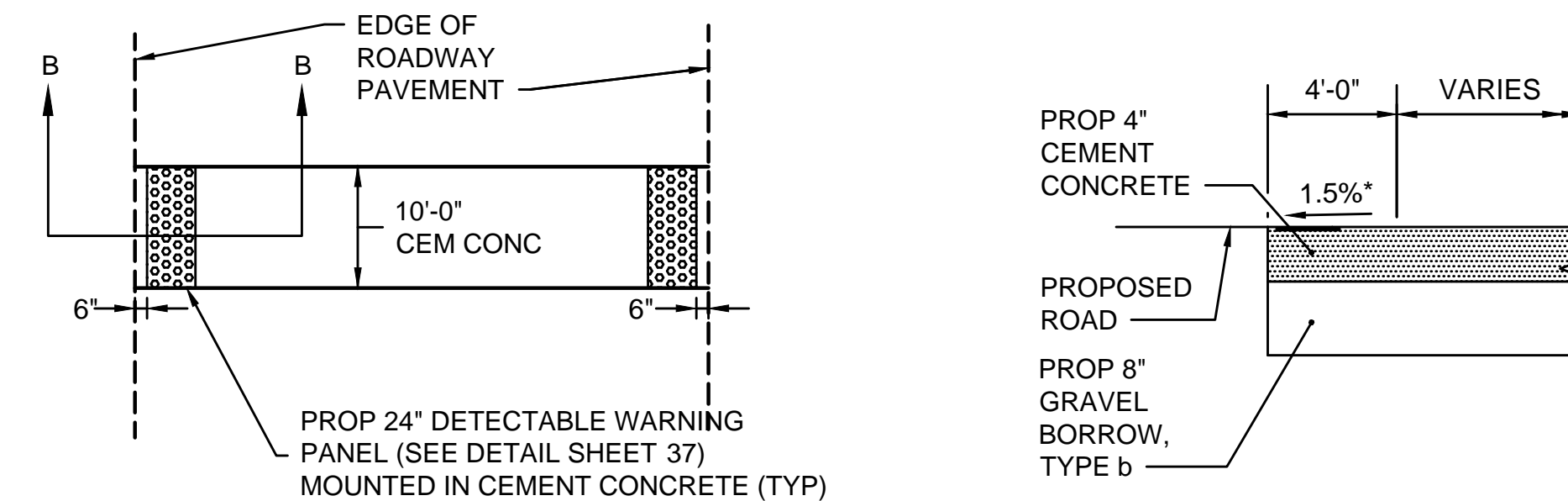
PARKING LOT EXPANSION DETAIL
NOT TO SCALE



PLAN

SECTION A-A

WITHIN HMA WALK



PLAN

SECTION B-B

WITHIN SPLITTER ISLAND

- NOTES:**
1. ALL DETECTABLE WARNING PANELS (PROJECT WIDE) SHALL BE MOUNTED IN CEMENT CONCRETE.
 2. DETECTABLE WARNING PANELS SHALL CONFORM TO MASSDOT STANDARD DETAIL E107.6.5.

DETECTABLE WARNING PANEL MOUNTED IN CEMENT CONCRETE PANEL
NOT TO SCALE

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Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

Title
CONSTRUCTION DETAILS - PART 2

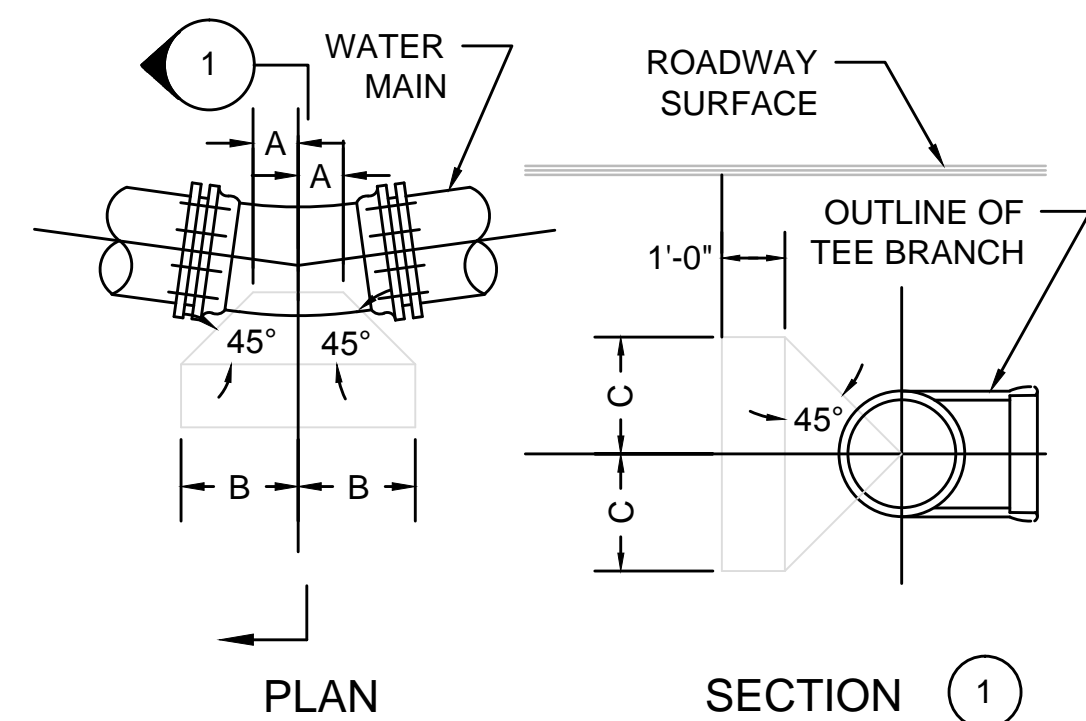
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179410490	NOT TO SCALE
Drawing No.	Sheet
	Revision

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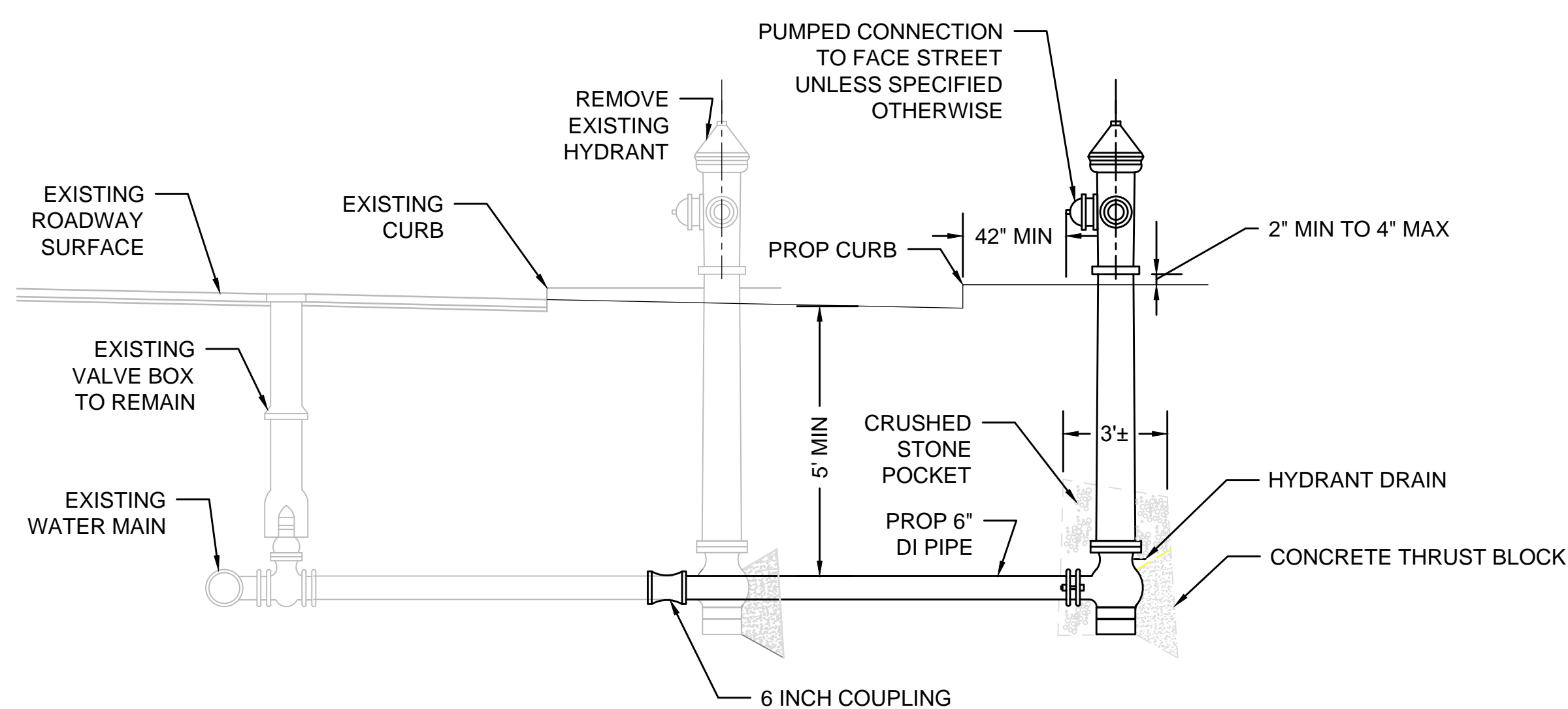
Notes



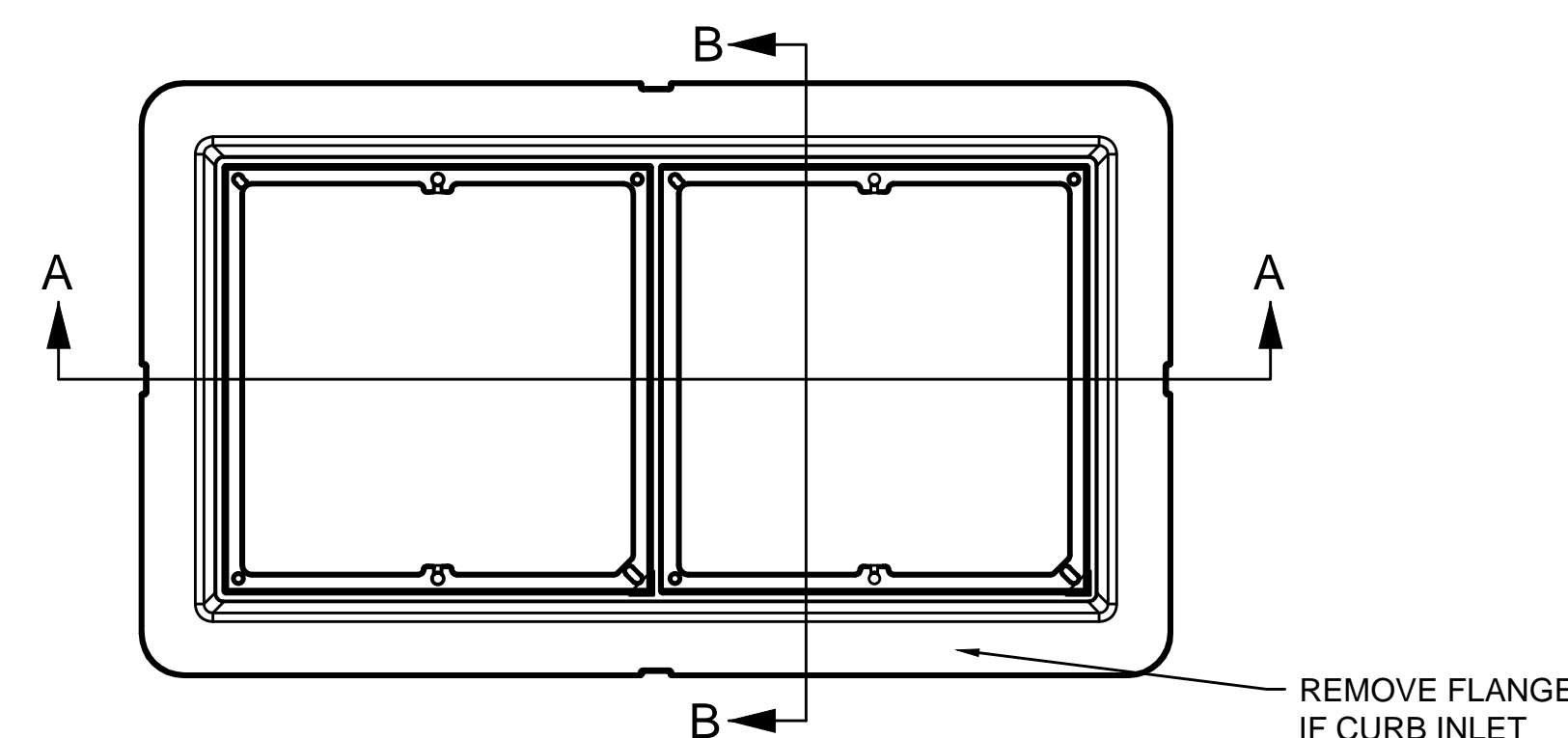
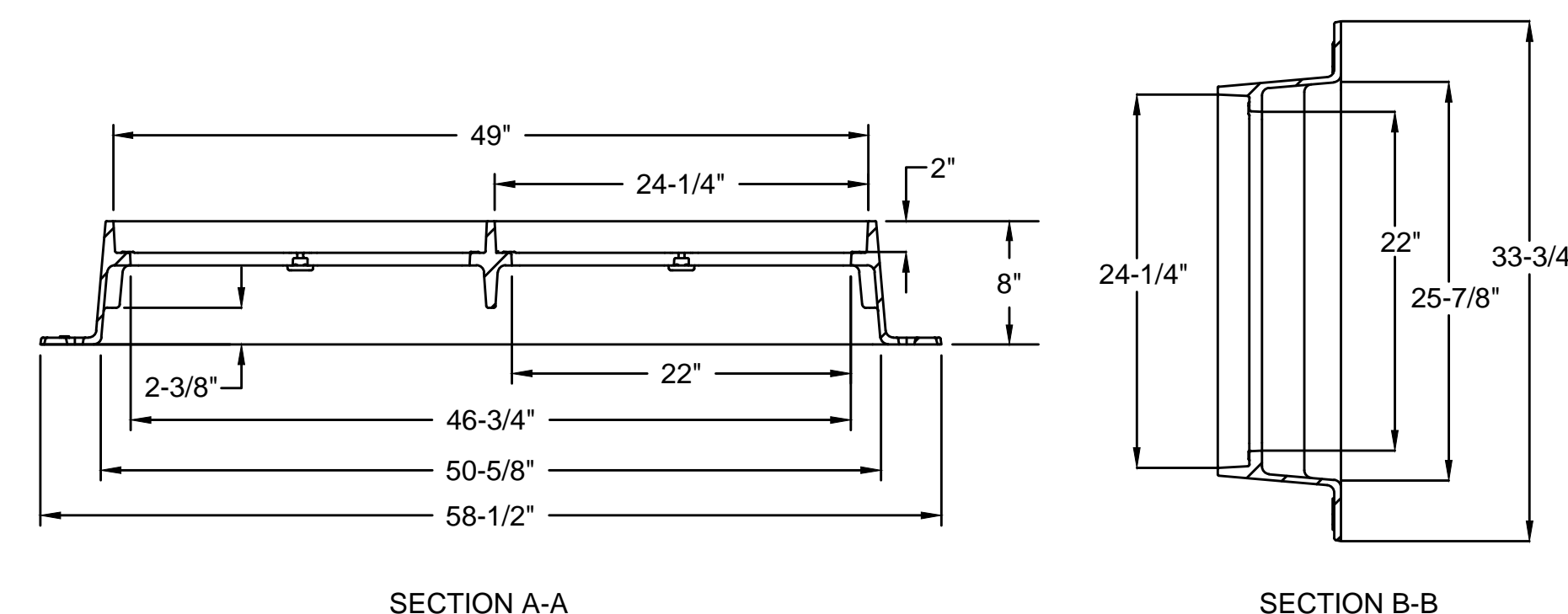
HORIZONTAL THRUST BLOCK SCHEDULE TABLE OF DIMENSIONS IN INCHES			
	A	B	C
6" BEND	1/32, 1/16	6	10
	1/8	6	14
	1/4	9	19
10" BEND	1/32, 1/16	6	14
	1/8	6	20
	1/4	9	27
12" BEND	1/32, 1/16	6	13
	1/8	6	18
	1/4	9	26
20" BEND	1/32, 1/16	12	22
	1/8	12	32
	1/4	12	42
PLUG, TEE (BRANCH)	6"	6	15
	8"	9	16
	12"	9	23
	16"	12	30
	20"	12	36

- NOTES:
1. REFER TO SPECIFICATIONS FOR MATERIAL REQUIREMENTS
2. SUBJECT TO FIELD MODIFICATION BY ENGINEER

THRUST BLOCK DETAIL
NOT TO SCALE

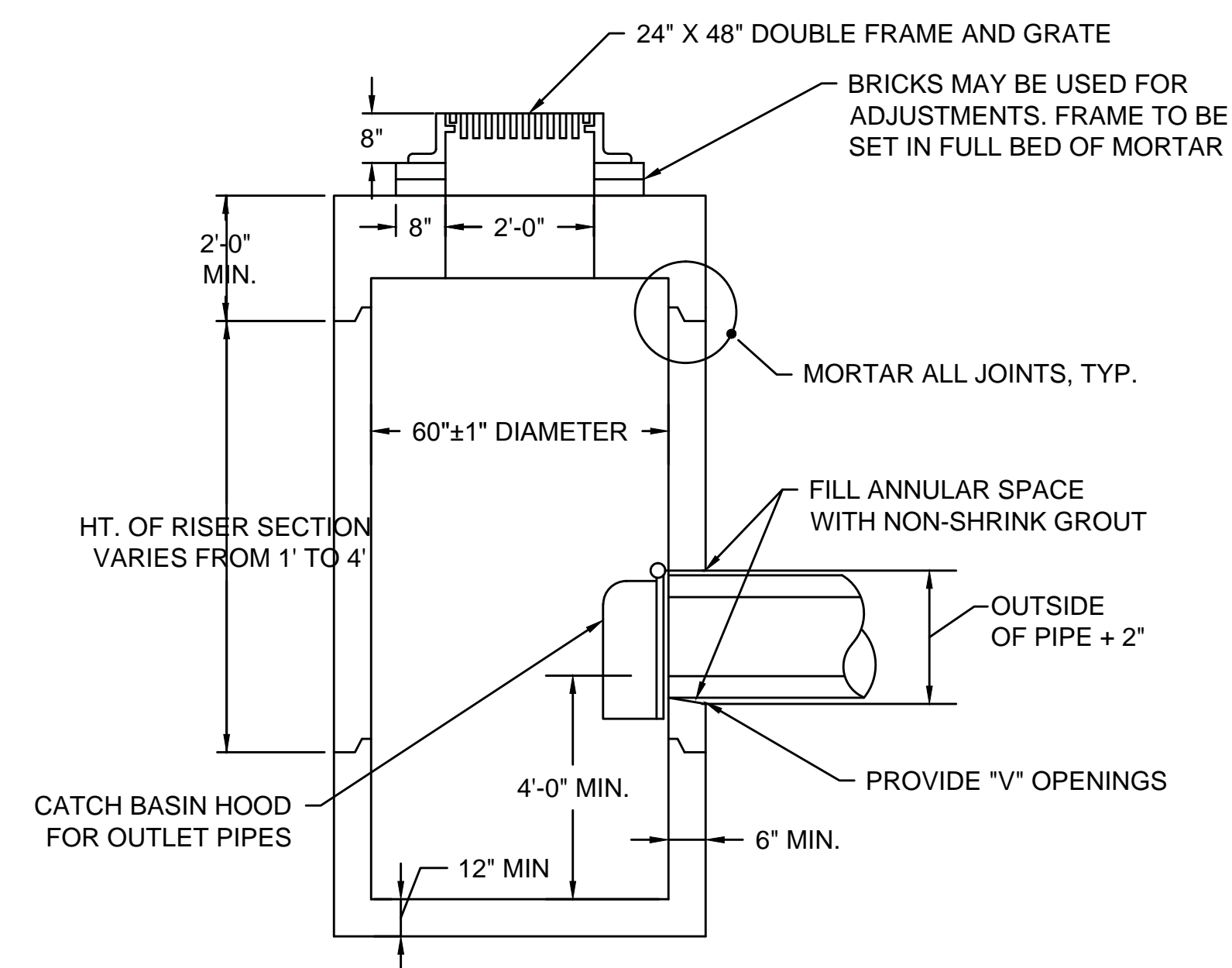


FIRE HYDRANT AT EXISTING CONNECTION
NOT TO SCALE



NOTE: DOUBLE FRAME AND GRATE SHALL BE DESIGNED FOR HS-20 LOADING

DOUBLE FRAME
NOT TO SCALE



- NOTE:
1. MIN 0.12 SQ. IN STEEL PER VERTICAL FOOT, PLACED ACCORDING TO AASHTO DESIGNATION M199, TYPICAL ALL SIDES
2. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING
3. ALL GRATES SHALL BE ADA COMPLIANT.

SPECIAL CATCH BASIN - DOUBLE GRATE
NOT TO SCALE

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Client/Project
City of Salem, MA

Swampscott Road at First Street
Roundabout Construction
Salem, MA

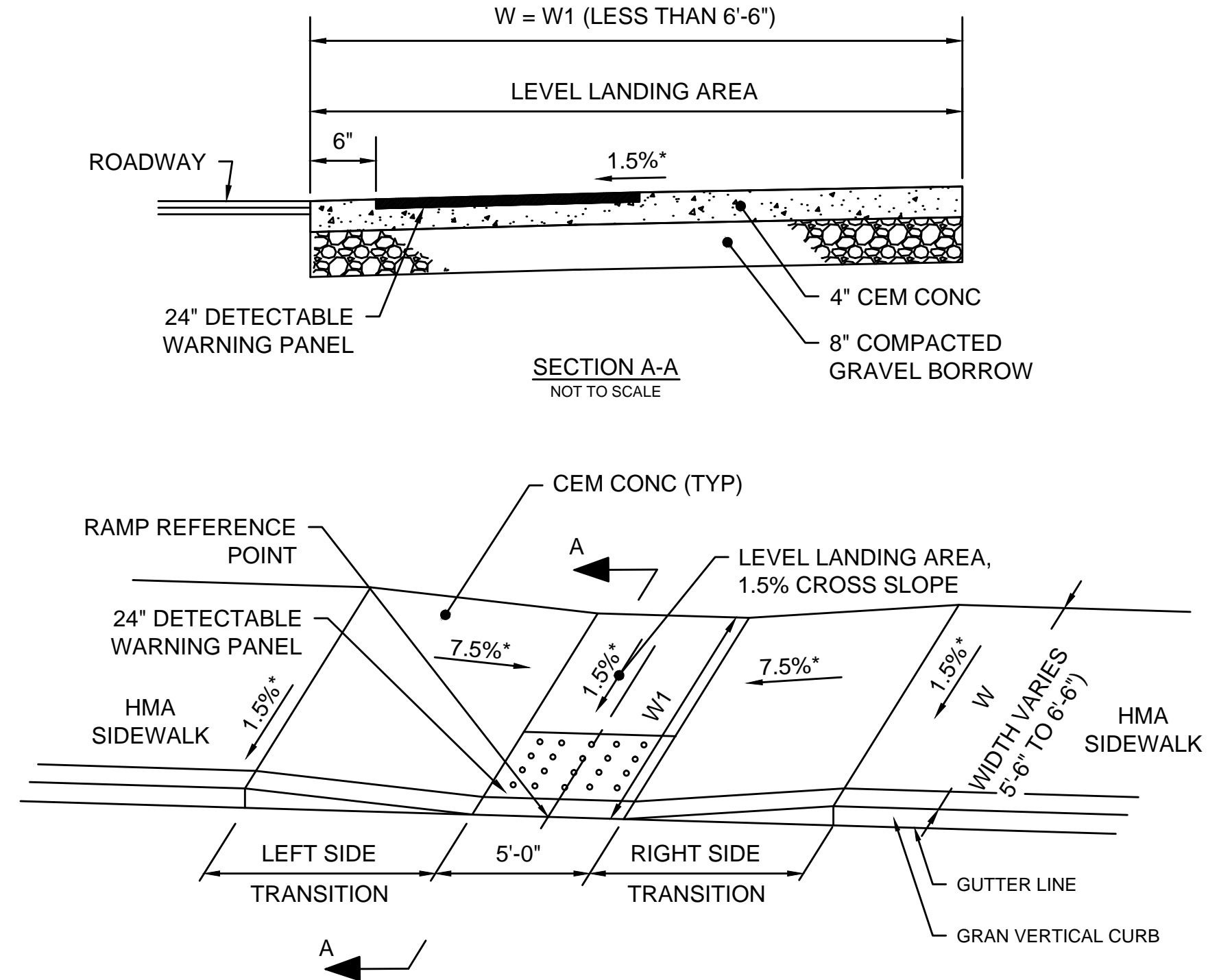
Title
CONSTRUCTION DETAILS - PART 3

Project No. 179410490 Scale NOT TO SCALE
Drawing No. Sheet Revision

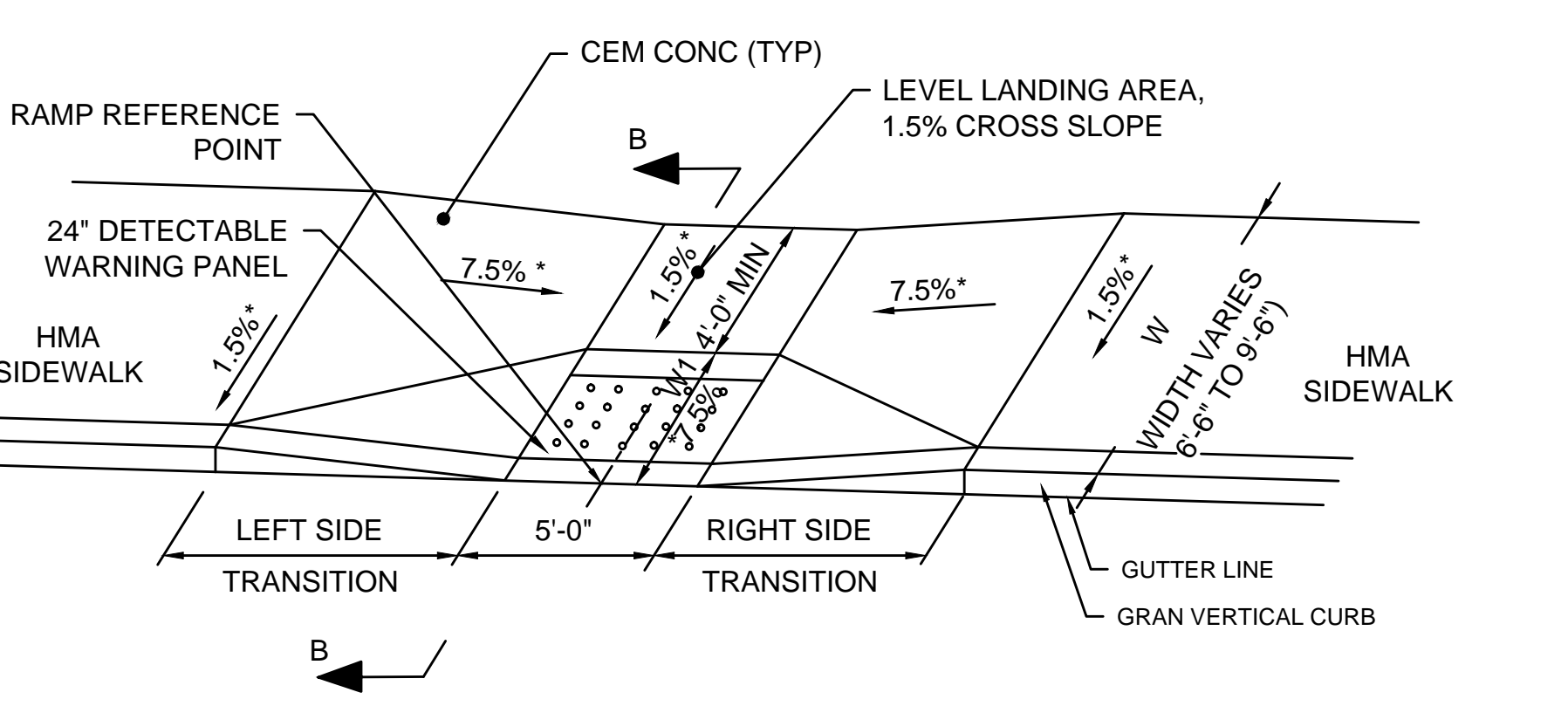
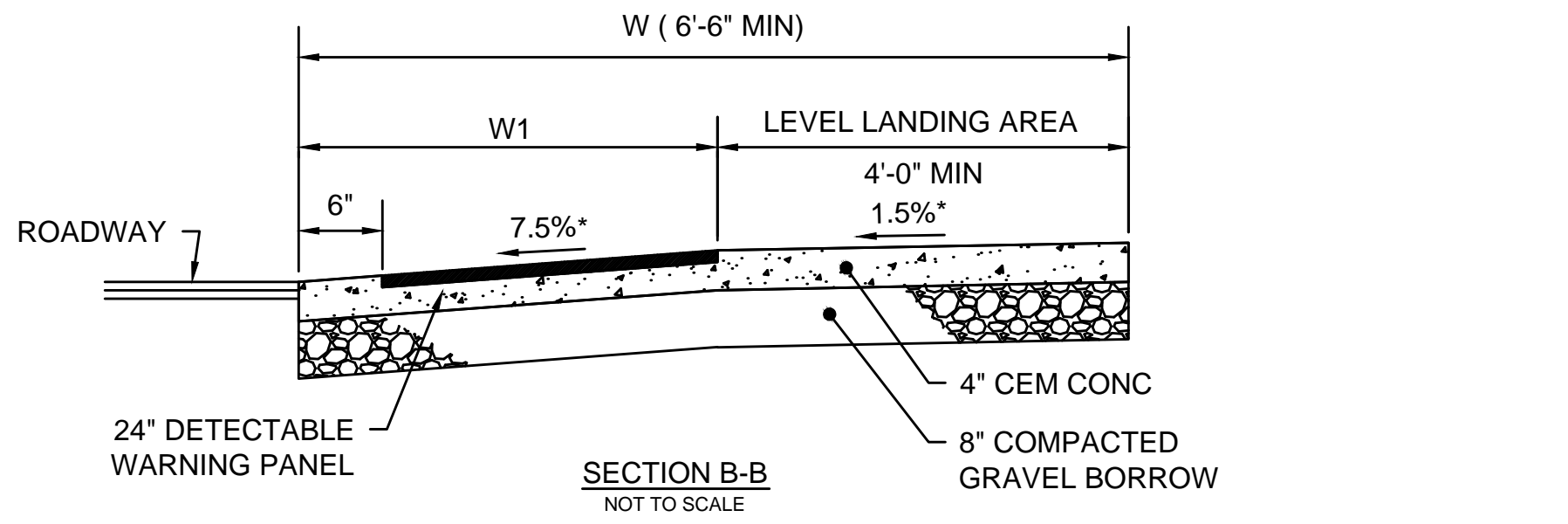


WHEELCHAIR RAMPS											
WCR #	TYPE	RAMP REFERENCE POINT			WIDTH OF SIDEWALK (W)	RAMP LENGTH (W1)	DEPTH OF LEVEL LANDING	ROADWAY GUTTER SLOPE	TRANSITION LENGTH		WIDTH OF RAMP OPENING
		BASELINE	STATION	OFFSET					LEFT SIDE	RIGHT SIDE	
1	A	FIRST STREET	102+47.40	21.25' LT	6'-0"	NA	6'-0"	3.19%	6'-6"	14'-0"	5.00'
2	B	FIRST STREET	102+45.05	19.79' RT	VARIES	2'-0"	4'-6" TO 5'-0"	3.35%	14'-0"	6'-6"	5.00'
3	A	SWAMPSCOTT ROAD	14+24.99	19.82' LT	6'-0"	NA	6'-0"	1.45%	9'-0"	6'-6"	5.00'

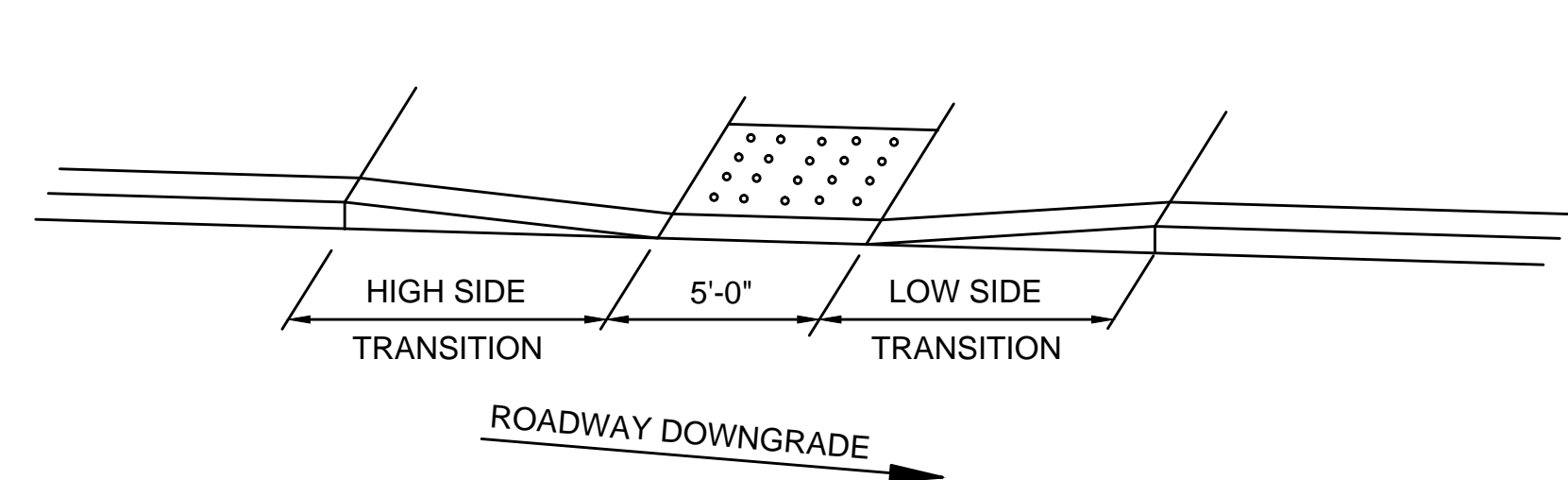
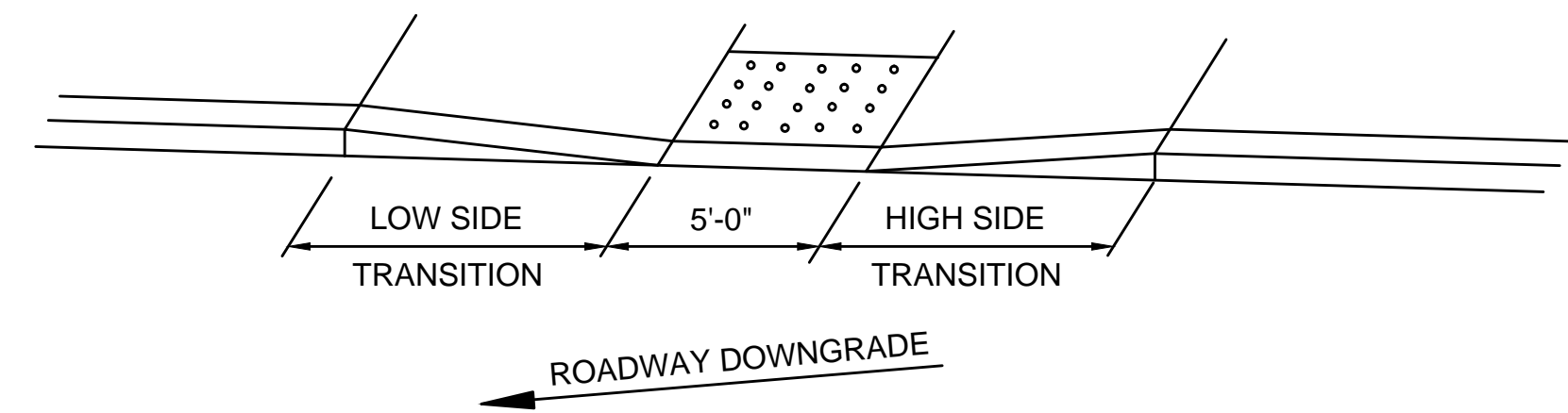
(LEFT SIDE/RIGHT SIDE DETERMINED WHEN STANDING IN ROADWAY LOOKING AT RAMP OR DRIVEWAY)



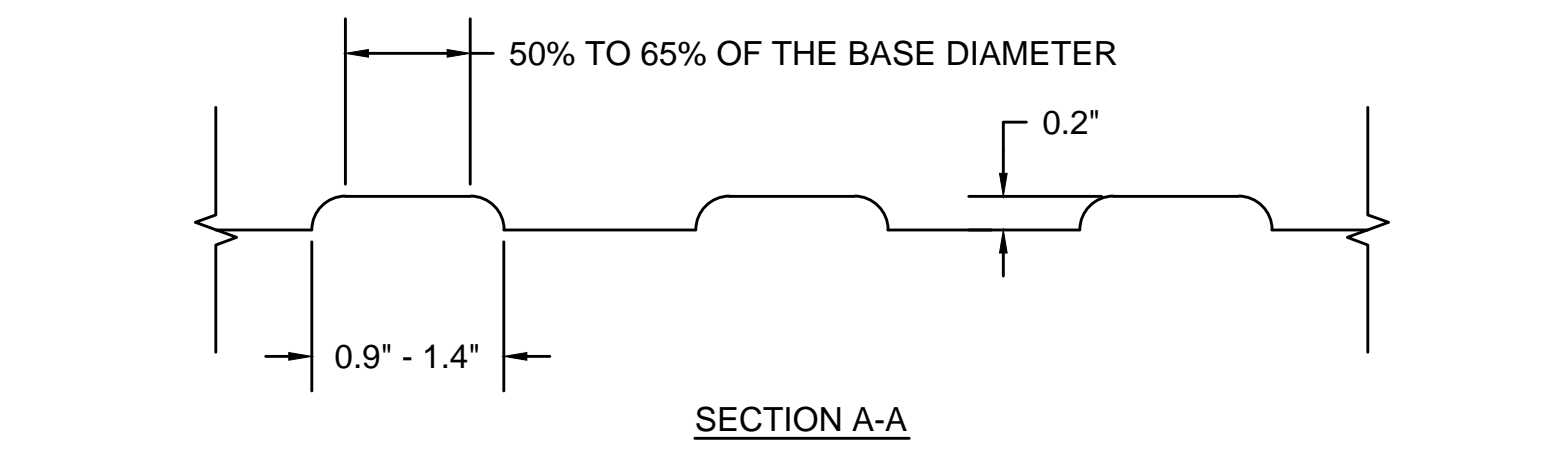
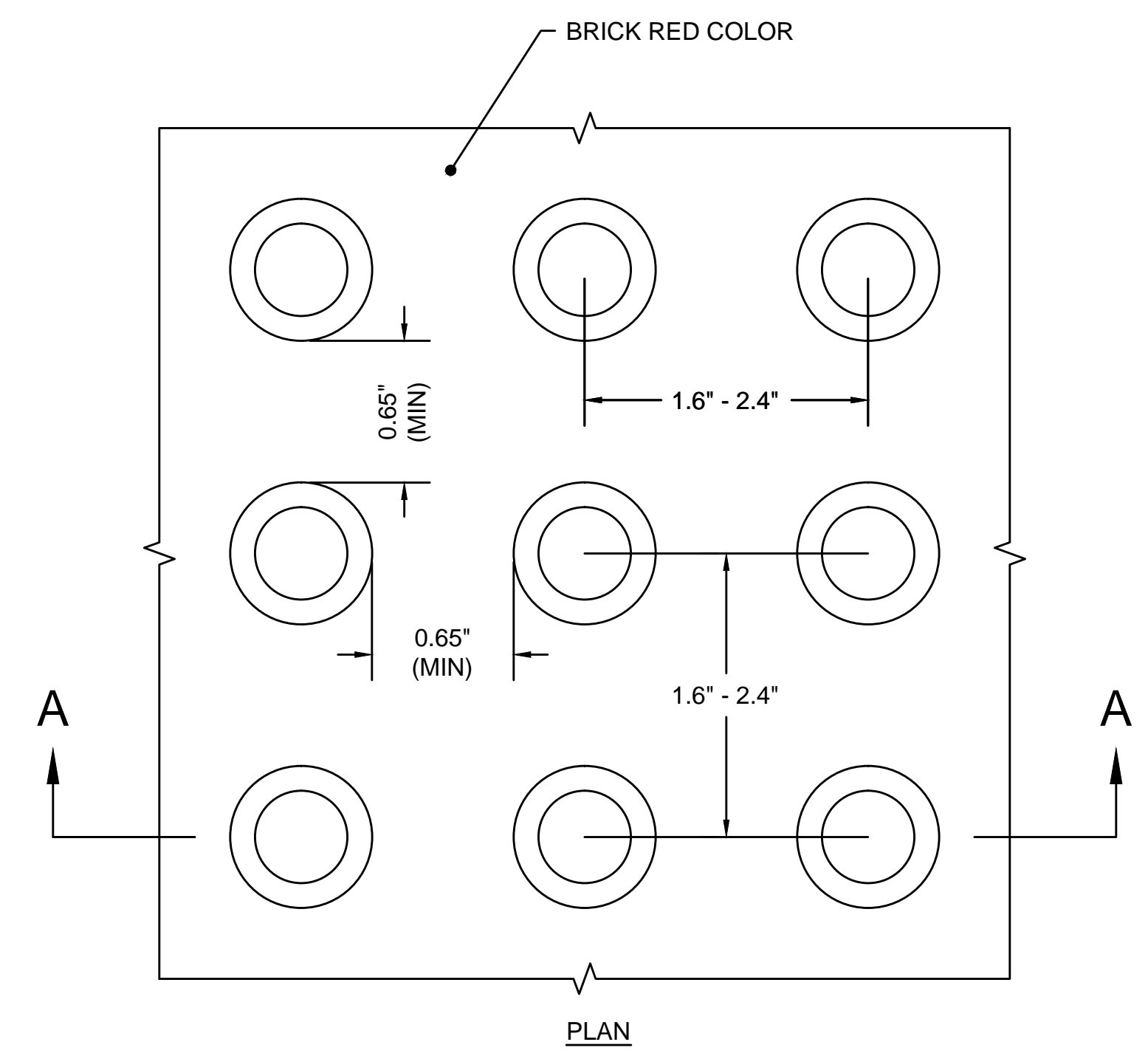
WHEELCHAIR RAMP TYPE A
FOR SIDEWALKS LESS THAN 6'-6"
 NOT TO SCALE



WHEELCHAIR RAMP TYPE B
FOR SIDEWALKS 6'-6" TO 12'-0"
 NOT TO SCALE



TRANSITION LENGTH PROFILE GRADE
 NOT TO SCALE



DETECTABLE WARNING PANEL DETAIL
 NOT TO SCALE