

# ROADWAY IMPROVEMENT PROJECT

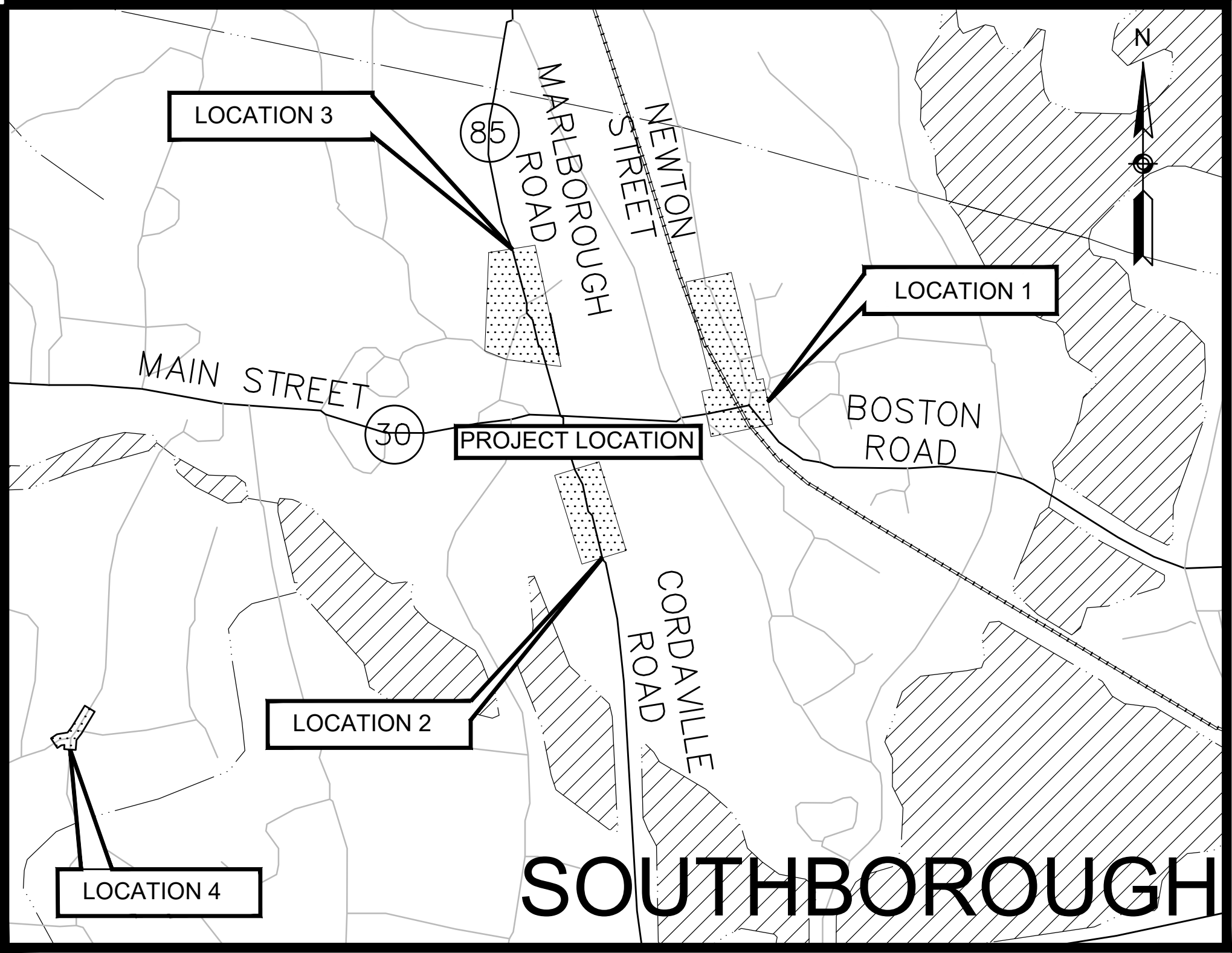
PLAN AND PROFILE OF  
VARIOUS LOCATIONS  
IN THE TOWN OF  
SOUTHBOROUGH  
WORCESTER COUNTY

SOUTHBOROUGH  
VARIOUS LOCATIONS  
TITLE SHEET & INDEX  
SHEET 1 OF 141

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.

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|                                                                                                                                                                                                                                                                    |                        |                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------|
| 6/24/2021                                                                                                                                                                                                                                                          | BID PLANS              | 0                                           |
| DATE                                                                                                                                                                                                                                                               | DESCRIPTION            | REV #                                       |
| <div>ENGINEER</div> <div>DATE</div> <div><b>Vanasse Hangen Brustlin, Inc.</b><br/>101 Walnut St., PO Box 9151<br/>Watertown, MA 02472<br/>617.924.1770 FAX 617.924.2286</div> |                        |                                             |
| DESIGNED BY<br>MES                                                                                                                                                                                                                                                 | APPROVED BY<br>GJR     | SHEET OF<br>1 141                           |
| DRAWN BY<br>CMLIK                                                                                                                                                                                                                                                  | DFTG CHECKED BY<br>CAC | VHB CAD FILE NAME<br>COMBINED - HD(COV).dwg |
| CHECKED BY<br>CAC                                                                                                                                                                                                                                                  | DATE<br>06/2021        | JOB NO.<br>13812.00                         |

GENERAL SYMBOLS

| EXISTING | PROPOSED | DESCRIPTION                                               |
|----------|----------|-----------------------------------------------------------|
|          |          | JERSEY BARRIER                                            |
|          |          | CATCH BASIN                                               |
|          |          | CATCH BASIN CURB INLET                                    |
|          |          | FLAG POLE                                                 |
|          |          | GAS PUMP                                                  |
|          |          | MAIL BOX                                                  |
|          |          | POST SQUARE                                               |
|          |          | POST CIRCULAR                                             |
|          |          | WELL                                                      |
|          |          | ELECTRIC HANDHOLE                                         |
|          |          | FENCE GATE POST                                           |
|          |          | GAS GATE                                                  |
|          |          | BORING HOLE                                               |
|          |          | MONITORING WELL                                           |
|          |          | TEST PIT                                                  |
|          |          | HYDRANT                                                   |
|          |          | LIGHT POLE                                                |
|          |          | COUNTY BOUND                                              |
|          |          | GPS POINT                                                 |
|          |          | CABLE MANHOLE                                             |
|          |          | DRAINAGE MANHOLE                                          |
|          |          | ELECTRIC MANHOLE                                          |
|          |          | GAS MANHOLE                                               |
|          |          | MISC MANHOLE                                              |
|          |          | SEWER MANHOLE                                             |
|          |          | TELEPHONE MANHOLE                                         |
|          |          | WATER MANHOLE                                             |
|          |          | MASSACHUSETTS HIGHWAY BOUND                               |
|          |          | MONUMENT                                                  |
|          |          | STONE BOUND                                               |
|          |          | TOWN OR CITY BOUND                                        |
|          |          | TRAVERSE OR TRIANGULATION STATION                         |
|          |          | TROLLEY POLE OR GUY POLE                                  |
|          |          | TRANSMISSION POLE                                         |
|          |          | UTILITY POLE W/ FIREBOX                                   |
|          |          | UTILITY POLE WITH DOUBLE LIGHT                            |
|          |          | UTILITY POLE W / 1 LIGHT                                  |
|          |          | UTILITY POLE                                              |
|          |          | BUSH                                                      |
|          |          | TREE                                                      |
|          |          | STUMP                                                     |
|          |          | SWAMP / MARSH                                             |
|          |          | WATER GATE                                                |
|          |          | PARKING METER                                             |
|          |          | OVERHEAD CABLE/WIRE                                       |
|          |          | CURBING                                                   |
|          |          | CONTOURS (ON-THE-GROUND SURVEY DATA)                      |
|          |          | CONTOURS (PHOTOGRAMMETRIC DATA)                           |
|          |          | UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)     |
|          |          | UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)  |
|          |          | UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)       |
|          |          | UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)     |
|          |          | UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER) |
|          |          | UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)     |
|          |          | BALANCED STONE WALL                                       |
|          |          | GUARD RAIL - STEEL POSTS                                  |
|          |          | GUARD RAIL - WOOD POSTS                                   |
|          |          | CHAIN LINK OR METAL FENCE                                 |
|          |          | WOOD FENCE                                                |
|          |          | HAY BALES/SILT FENCE                                      |
|          |          | TREE LINE                                                 |
|          |          | SAWCUT LINE                                               |
|          |          | TOP OR BOTTOM OF SLOPE                                    |
|          |          | EDGE OF PAVEMENT                                          |
|          |          | LIMIT OF MICROMILLING AND OVERLAY                         |
|          |          | BANK OF RIVER OR STREAM                                   |
|          |          | BORDER OF WETLAND                                         |
|          |          | 100 FT WETLAND BUFFER                                     |
|          |          | 200 FT RIVERFRONT BUFFER                                  |
|          |          | STATE HIGHWAY LAYOUT                                      |
|          |          | TOWN OR CITY LAYOUT                                       |
|          |          | COUNTY LAYOUT                                             |
|          |          | RAILROAD SIDELINE                                         |
|          |          | TOWN OR CITY BOUNDARY LINE                                |
|          |          | PROPERTY LINE OR APPROXIMATE PROPERTY LINE                |
|          |          | EASEMENT                                                  |

TRAFFIC SYMBOLS

| EXISTING | PROPOSED | DESCRIPTION                                                          |
|----------|----------|----------------------------------------------------------------------|
|          |          | CONTROLLER PHASE ACTUATED                                            |
|          |          | TRAFFIC SIGNAL HEAD (SIZE AS NOTED)                                  |
|          |          | WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)          |
|          |          | VIDEO DETECTION CAMERA                                               |
|          |          | MICROWAVE DETECTOR                                                   |
|          |          | PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE |
|          |          | EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT                       |
|          |          | VEHICULAR SIGNAL HEAD                                                |
|          |          | VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED                          |
|          |          | FLASHING BEACON                                                      |
|          |          | PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)              |
|          |          | RAILROAD SIGNAL                                                      |
|          |          | SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)               |
|          |          | MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)                       |
|          |          | HIGH MAST POLE OR TOWER                                              |
|          |          | SIGN AND POST                                                        |
|          |          | SIGN AND POST (2 POSTS)                                              |
|          |          | MAST ARM WITH LUMINAIRE                                              |
|          |          | OPTICAL PRE-EMPTION DETECTOR                                         |
|          |          | CONTROL CABINET, GROUND MOUNTED                                      |
|          |          | CONTROL CABINET, POLE MOUNTED                                        |
|          |          | FLASHING BEACON CONTROL AND METER PEDESTAL                           |
|          |          | LOAD CENTER ASSEMBLY                                                 |
|          |          | PULL BOX 12"x12" (OR AS NOTED)                                       |
|          |          | ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)                              |
|          |          | TRAFFIC SIGNAL CONDUIT                                               |

PAVEMENT MARKINGS SYMBOLS

| EXISTING | PROPOSED | DESCRIPTION                  |
|----------|----------|------------------------------|
|          |          | PAVEMENT ARROW - WHITE       |
|          |          | LEGEND "ONLY" - WHITE        |
|          |          | STOP LINE                    |
|          |          | CROSSWALK                    |
|          |          | SOLID WHITE LINE             |
|          |          | SOLID YELLOW LINE            |
|          |          | BROKEN WHITE LINE            |
|          |          | BROKEN YELLOW LINE           |
|          |          | DOTTED WHITE LINE            |
|          |          | DOTTED YELLOW LINE           |
|          |          | DOTTED WHITE LINE EXTENSION  |
|          |          | DOTTED YELLOW LINE EXTENSION |
|          |          | DOUBLE WHITE LINE            |
|          |          | DOUBLE YELLOW LINE           |

GNERAL ABBREVIATIONS

|               |                                      |
|---------------|--------------------------------------|
| ABAN          | ABANDON                              |
| ADJ           | ADJUST                               |
| APPROX        | APPROXIMATE                          |
| A.C.          | ASPHALT CONCRETE                     |
| ACCM PIPE     | ASPHALT COATED CORRUGATED METAL PIPE |
| BIT.          | BITUMINOUS                           |
| BC            | BOTTOM OF CURB                       |
| BD.           | BOUND                                |
| BL            | BASELINE                             |
| BLDG          | BUILDING                             |
| BM            | BENCHMARK                            |
| BO            | BY OTHERS                            |
| BOS           | BOTTOM OF SLOPE                      |
| BR.           | BRIDGE                               |
| CC            | CEMENT CONCRETE                      |
| CCM           | CEMENT CONCRETE MASONRY              |
| CEM           | CEMENT                               |
| CI            | CURB INLET                           |
| CLF           | CHAIN LINK FENCE                     |
| CL            | CENTERLINE                           |
| CO.           | COUNTY                               |
| CONC          | CONCRETE                             |
| CONT          | CONTINUOUS / CONTINUED               |
| CONST         | CONSTRUCTION                         |
| CR GR         | CROWN GRADE                          |
| DIA           | DIAMETER                             |
| DWY           | DRIVEWAY                             |
| ELEV (or EL.) | ELEVATION                            |
| EMB           | EMBANKMENT                           |
| EOP           | EDGE OF PAVEMENT                     |
| EQ            | EQUAL                                |
| EXIST (or EX) | EXISTING                             |
| EXC           | EXCAVATION                           |
| FDN.          | FOUNDATION                           |
| FDP           | FULL DEPTH PAVEMENT                  |
| FLDSTN        | FIELDSTONE                           |
| GAR           | GARAGE                               |
| GD            | GROUND                               |
| GRAN          | GRANITE                              |
| GRAV          | GRAVEL                               |
| GRD           | GUARD                                |
| HMA           | HOT MIX ASPHALT                      |
| HOR           | HORIZONTAL                           |
| HWY           | HIGHWAY                              |
| JCT           | JUNCTION                             |
| LOAM          | LOAM BORROW                          |
| LSA           | LANDSCAPED AREA                      |
| LT            | LEFT                                 |
| MAHWL         | MEAN AVERAGE HIGH WATER LINE         |
| MAX           | MAXIMUM                              |
| MB            | MAILBOX                              |
| MHB           | MASSACHUSETTS HIGHWAY BOUND          |
| MIN           | MINIMUM                              |
| MOD           | MODIFIED                             |
| MSE           | MECHANICALLY STABILIZED EARTH        |
| NERR          | NEW ENGLAND RAILROAD                 |
| NIC           | NOT IN CONTRACT                      |
| NO.           | NUMBER                               |
| NTS           | NOT TO SCALE                         |
| O.C.          | ON CENTER                            |
| O.D.          | OUTSIDE DIAMETER                     |
| P.G.L.        | PROFILE GRADE LINE                   |
| PREV          | PREVIOUS/PREVIOUSLY                  |
| PROJ          | PROJECT                              |
| PROP          | PROPOSED                             |
| PSB           | PLANTABLE SOIL BORROW                |
| PVMT          | PAVEMENT                             |
| R&D           | REMOVE AND DISCARD                   |
| R&R           | REMOVE AND RESET                     |
| R&S           | REMOVE AND STACK                     |
| RD            | ROAD                                 |
| RDWY          | ROADWAY                              |
| REB           | REBUILD                              |
| REM           | REMOVE                               |
| REMOD         | REMODEL                              |
| RET           | RETAIN                               |
| RET WALL      | RETAINING WALL                       |
| ROW           | RIGHT OF WAY                         |
| RR            | RAILROAD                             |
| RT            | RIGHT                                |
| SB            | STONE BOUND                          |
| SHLD          | SHOULDER                             |
| SHLO/S.H.L.O. | STATE HIGHWAY LAYOUT LINE            |

GENERAL ABBREVIATIONS (CONT)

|        |                      |
|--------|----------------------|
| ST     | STREET               |
| STA    | STATION              |
| STD    | STANDARD             |
| SW     | SIDEWALK             |
| TEMP   | TEMPORARY            |
| TC     | TOP OF CURB          |
| TOS    | TOP OF SLOPE         |
| TRANS  | TRANSITION           |
| TRM    | TURF REINFORCING MAT |
| TYP    | TYPICAL              |
| VAR    | VARIES               |
| VERT   | VERTICAL             |
| WCR    | WHEEL CHAIR RAMP     |
| WP     | WORKING POINT        |
| X-SECT | CROSS SECTION        |

UTILITY ABBREVIATIONS

|       |                                |
|-------|--------------------------------|
| CB    | CATCH BASIN                    |
| CBCI  | CATCH BASIN WITH CURB INLET    |
| CIP   | CAST IRON PIPE                 |
| CIT   | CHANGE IN TYPE                 |
| CMP   | CORRUGATED METAL PIPE          |
| CSP   | CORRUGATED STEEL PIPE          |
| DI    | DROP INLET                     |
| DIP   | DUCTILE IRON PIPE              |
| FES   | FLARED END SECTION             |
| F&C   | FRAME AND COVER                |
| F&G   | FRAME AND GRATE                |
| GG    | GAS GATE                       |
| GI    | GUTTER INLET                   |
| GIP   | GALVANIZED IRON PIPE           |
| HDPE  | HIGH DENSITY POLYETHYLENE PIPE |
| HDW   | HEADWALL                       |
| HYD   | HYDRANT                        |
| INV   | INVERT                         |
| LB    | LEACH BASIN                    |
| LP    | LIGHT POLE                     |
| MH    | MANHOLE                        |
| MW    | MONITORING WELL                |
| OHW   | OVERHEAD WIRE                  |
| PVC   | POLYVINYLCHLORIDE PIPE         |
| PWW   | PAVED WATER WAY                |
| RCP   | REINFORCED CONCRETE PIPE       |
| SMH   | SEWER MANHOLE                  |
| TSV&B | TAPPING SLEEVE VALVE & BOX     |
| UP    | UTILITY POLE                   |
| WG    | WATER GATE                     |
| WIP   | WROUGHT IRON PIPE              |
| WM    | WATER METER/WATER MAIN         |

ALIGNMENT & GRADING ABBREVIATIONS

|       |                             |
|-------|-----------------------------|
| CC    | CENTER OF CURVE             |
| HP    | HIGH POINT                  |
| I.T.  | INTERSECTION OF TANGENT     |
| LP    | LOW POINT                   |
| PC    | POINT OF CURVATURE          |
| PCC   | POINT OF COMPOUND CURVATURE |
| PI    | POINT OF INTERSECTION       |
| PNT   | POINT                       |
| POC   | POINT ON CURVE              |
| POT   | POINT ON TANGENT            |
| PRC   | POINT OF REVERSE CURVATURE  |
| PT    | POINT OF TANGENCY           |
| ∟PT   | ANGLE POINT                 |
| R     | RADIUS OF CURVATURE         |
| T     | TANGENT DISTANCE OF CURVE   |
| TAN   | TANGENT                     |
| 25.45 | SPOT ELEVATION              |

PROFILE ABBREVIATIONS

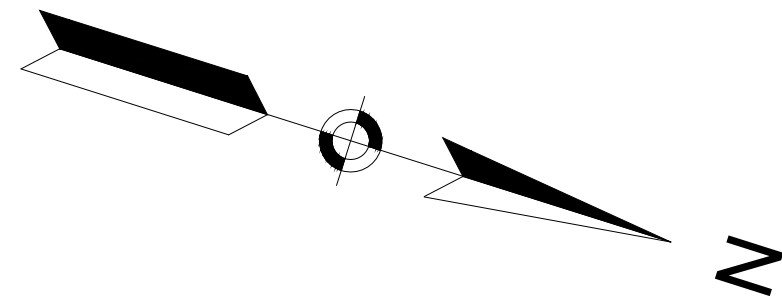
|      |                                        |
|------|----------------------------------------|
| AD   | ALGEBRAIC DIFFERENCE IN RATES OF GRADE |
| HSD  | HORIZONTAL SIGHT DISTANCE              |
| K    | RATE OF VERTICAL CURVATURE             |
| L    | LENGTH OF CURVE                        |
| PVC  | POINT OF VERTICAL CURVATURE            |
| PVCC | POINT OF VERTICAL COMPOUND CURVATURE   |
| PVI  | POINT OF VERTICAL INTERSECTION         |
| PVRC | POINT OF VERTICAL REVERSE CURVATURE    |
| PVT  | POINT OF VERTICAL TANGENCY             |
| SSD  | STOPPING SIGHT DISTANCE                |
| VC   | VERTICAL CURVE                         |

TRAFFIC & SIGNAL ABBREVIATIONS

|              |                                     |
|--------------|-------------------------------------|
| AADT         | ANNUAL AVERAGE DAILY TRAFFIC        |
| CAB.         | CABINET                             |
| CCVE         | CLOSED CIRCUIT VIDEO EQUIPMENT      |
| COND         | CONDUIT                             |
| CW           | CROSS WALK                          |
| DW           | STEADY DON'T WALK - PORTLAND ORANGE |
| DHV          | DESIGN HOURLY VOLUME                |
| FDW          | FLASHING DON'T WALK                 |
| FR           | FLASHING CIRCULAR RED               |
| FRL          | FLASHING RED LEFT ARROW             |
| FRR          | FLASHING RED RIGHT ARROW            |
| FY           | FLASHING CIRCULAR AMBER             |
| FYL          | FLASHING AMBER LEFT ARROW           |
| FYR          | FLASHING AMBER RIGHT ARROW          |
| G            | STEADY CIRCULAR GREEN               |
| GL           | STEADY GREEN LEFT ARROW             |
| GR           | STEADY GREEN RIGHT ARROW            |
| GSL          | STEADY GREEN SLASH LEFT ARROW       |
| GSR          | STEADY GREEN SLASH RIGHT ARROW      |
| GV           | STEADY GREEN VERTICAL ARROW         |
| HH           | HAND HOLE                           |
| OL           | OVERLAP                             |
| PB           | PULL BOX                            |
| PED          | PEDESTRIAN                          |
| PTZ          | PAN, TILE, ZOOM                     |
| R            | STEADY CIRCULAR RED                 |
| RL           | STEADY RED LEFT ARROW               |
| RR           | STEADY RED RIGHT ARROW              |
| SL           | STOP LINE                           |
| T            | TRUCK %                             |
| TS OR TR SIG | TRAFFIC SIGNAL                      |
| TSC          | TRAFFIC SIGNAL CONDUIT              |
| W            | STEADY WALK                         |
| Y            | STEADY CIRCULAR AMBER               |
| YL           | STEADY AMBER LEFT ARROW             |

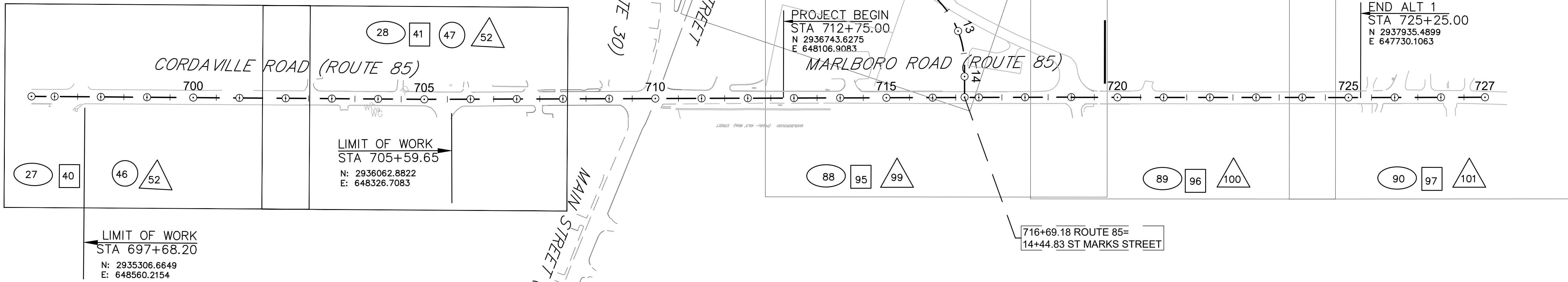
GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND GRADES IN THE FIELD BEFORE COMMENCING WORK AND PROMPTLY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
3. DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE UP TO A DEPTH OF 5' SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B TRENCH EXCAVATION.
4. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH PROPOSED CONDUIT AND SIGNAL EQUIPMENT. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER.
5. 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.
6. THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE AND SEWER STRUCTURES AS NECESSARY FOR CHANGES IN GRADE, AND RESET ALL WATER AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK.
7. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
8. EXISTING UTILITY POLES WILL BE RELOCATED BY OTHERS IF REQUIRED.
9. TREES AND SHRUBS WITHIN THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON APPROVAL OF THE ENGINEER.
10. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE OWNER.
11. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
12. JOINTS BETWEEN NEW ASPHALT CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH HMA JOINT SEALER AND BACKSANDDED.
13. AFTER MILLING OPERATIONS AND PRIOR TO PAVING THE SUPERPAVE INTERMEDIATE OR SURFACES COURSES THE ENGINEER SHALL EVALUATE THE MILLED SURFACE AND SHALL APPLY THE APPROPRIATE REPAIR METHOD IF REQUIRED.
14. EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
15. IF SUITABLE, EXISTING GRANITE CURB & EDGING SHALL BE RE-USED IN THE PROPOSED WORK, EXCEPT CURVED STONES OF A DIFFERENT RADIUS THAN PROPOSED CURB.
16. EXISTING STATE, COUNTY, CITY, AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATIONS ARE NOT GUARANTEED.
17. THE CONTRACTOR SHALL EXERCISE DUE CARE WHEN WORKING AROUND ALL PROPERTY BOUNDS WHICH ARE TO REMAIN. SHOULD ANY DAMAGE TO A BOUND RESULT FROM THE ACTIONS OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE THE BOUND REPLACED AND/OR REALIGNED BY A LICENSED PROFESSIONAL SURVEYOR AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.
18. DISPOSAL OF ALL SURPLUS MATERIAL SHALL BE AS APPROVED BY THE ENGINEER AND OWNER.
19. LATERAL DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF 0.01 FOOT PER FOOT (MINIMUM) UNLESS NOTED OTHERWISE ON THE PLANS.

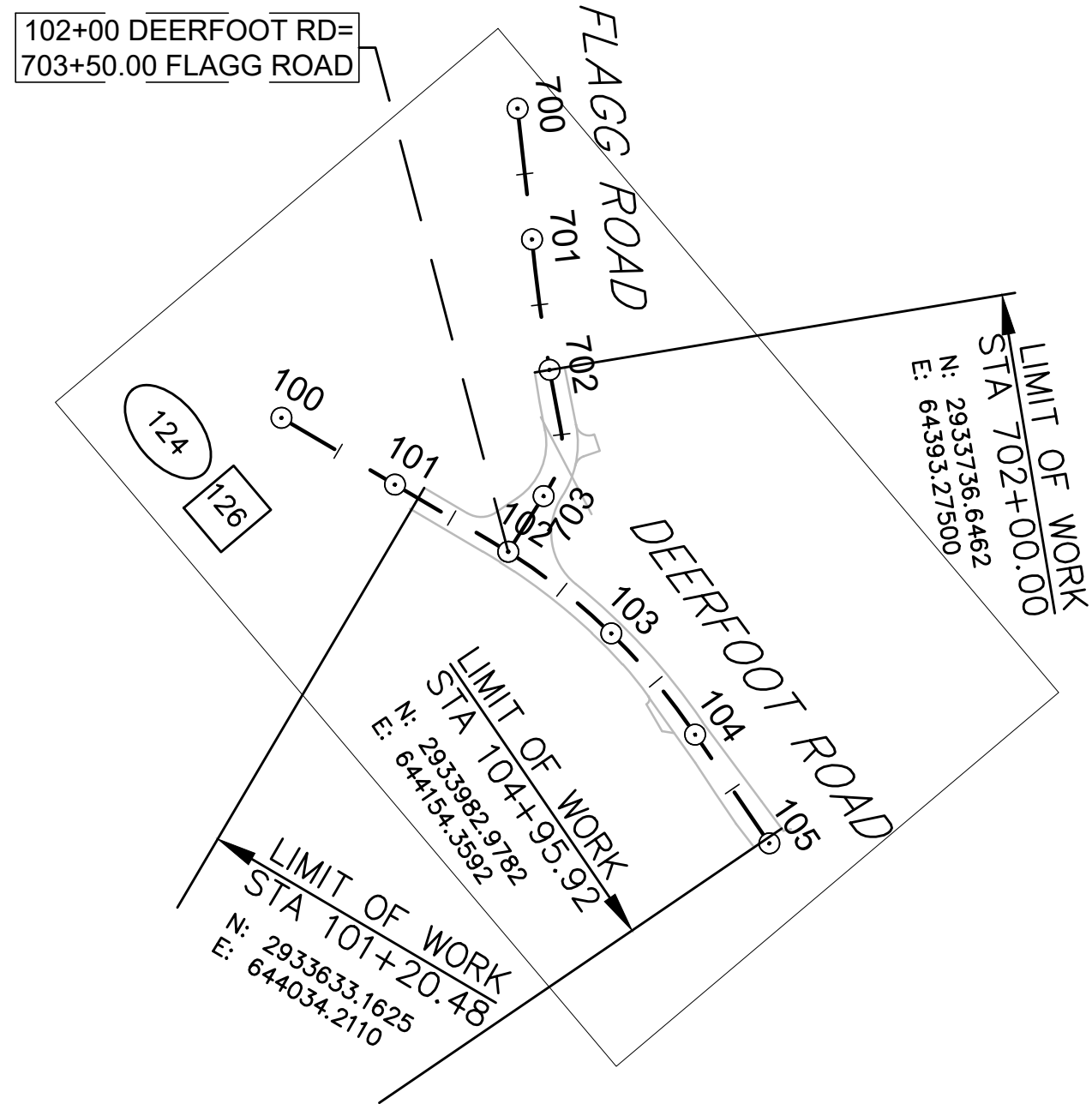


## LOCATION 2

## LOCATION 3



## LOCATION 4



TEMPORARY TRAFFIC CONTROL PLAN GENERAL NOTES

1.

ALL CONSTRUCTION SIGNING, TEMPORARY TRAFFIC CONTROL DEVICES, AND ROADSIDE ELEMENTS SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED, THE MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS, THE LATEST REVISIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO) ROADSIDE DESIGN GUIDE, AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, AND NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
3.

WORK HOURS SHALL BE 7:00AM TO 3:00PM MONDAY THRU FRIDAY UNLESS OTHERWISE APPROVED BY THE SOUTHBOROUGH DEPARTMENT OF PUBLIC WORKS. WORK SHALL NOT AFFECT TRAFFIC PATTERNS DURING PEAK TRAFFIC PERIODS WITHOUT PRIOR APPROVAL. PEAK TRAFFIC PERIODS ARE DEFINED AS MONDAY THRU FRIDAY 7:00AM-9:00AM AND 3:00PM-7:00PM.
2.

CONTRACTOR SHALL PROVIDE PEDESTRIAN ACCESS AT ALL TIMES WHERE ACCESS CURRENTLY EXISTS. ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB), AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) REQUIREMENTS, AND PUBLIC RIGHTS-OF WAY ACCESSIBILITY GUIDELINES (PROWAG)
3.

NO WORK SHALL OCCUR WITHIN THE PUBLIC WAY ON STATE RECOGNIZED HOLIDAYS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
4.

ALL DRUMS OUTSIDE TAPERS SHALL BE SET AT 20' ON CENTER MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
5.

ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN SAFE AND REASONABLE ABUTTER ACCESS. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES, GRADING AND TEMPORARY PAVEMENT FOR PASSAGE OF PEDESTRIAN, VEHICULAR AND EMERGENCY TRAFFIC THROUGH THE WORK AREAS, BOTH DURING AND AFTER WORKING HOURS, TO MAINTAIN SUCH ACCESS.
6.

THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OR RESTRICTION OF ACCESS.
7.

TRAFFIC MAY BE REDUCED TO ONE LANE UNDER POLICE CONTROL FOR SHORT TIME PERIODS WHEN REQUIRED FOR THE WORK AS SHOWN UNLESS OTHERWISE APPROVED BY THE TOWN.
8.

FOR DROP-OFFS 3" OR LESS WITHIN THE CLEAR ZONE, CONDITION MAY BE MITIGATED WITH W8-9 (LOW SHOULDER) SIGN OR TEMPORARY CHANNELIZATION DEVICES. FOR DROP-OFFS GREATER THAN 3" BUT NO MORE THAN 36", DETERMINE WHETHER IT IS MORE COST EFFECTIVE TO INSTALL BOTH W8-9 SIGN AND TEMPORARY CHANNELIZATION DEVICES IN ACCORDANCE WITH MASSDOT WORK ZONE SAFETY GUIDE OR W8-9 SIGN WITH A 2H:1V (MIN) WEDGE OR TO REMOVE THE HAZARD.
9.

CONTRACTOR SHALL STAGE WORK SUCH THAT A DROP-OFF OF NO MORE THAN 3" AT THE END OF EACH WORK DAY EXISTS WITHIN THE CLEAR ZONE AT ANY TIME AND ENSURE DROP-OFF IS MITIGATED WITHOUT BARRIER PER NOTE 9.
10.

CONSTRUCTION CLEAR ZONE SHALL BE IN ACCORDANCE WITH MASSDOT BOSTON TRAFFIC GUIDELINES AS FOLLOWS:  
4' IF POSTED SPEED IS LESS THAN 35 MPH
11.

11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
12.

NON-ESSENTIAL TRAFFIC CONTROL DEVICES AND SIGNS SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS WHEN NOT IN USE.
13.

ADVISORY SPEED PLATES (W13-1p) SHALL BE USED IF APPROPRIATE AND AS REQUESTED BY THE ENGINEER.
14.

SIGNS INSTALLED ON PORTABLE STANDS REQUIRE 12 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN. SIGNS SHALL NOT BE MOUNTED ON OR LEANED AGAINST DRUMS/CONES.
15.

SIGNS INSTALLED ON PORTABLE STANDS PLACED AMONG CHANNELIZATION DEVICES REQUIRE A 36 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
16.

SIGNS MOUNTED ON POSTS REQUIRE A MINIMUM 84 INCH MOUNTING HEIGHT FROM THE ROADWAY OR SIDEWALK SURFACE TO THE BOTTOM OF THE SIGN.
17.

ALL SIGNS SHALL BE MOUNTED ON THEIR OWN NCHRP 350 AND/OR MASH CRASH TESTED SIGN SUPPORTS AND INSTALLED IN ACCORDANCE WITH THE MUTCD.
18.

TEMPORARY MARKINGS SHALL BE WATER-BORNE PAINT OR SURFACE-APPLIED REMOVABLE TAPE, AS APPROVED BY THE ENGINEER.
19.

ALL TEMPORARY CROSSWALKS AND STOP LINES SHALL BE 12 INCHES WIDE.
20.

ALL TEMPORARY DOUBLE YELLOW CENTER LINES (DBYL) SHALL BE 4 INCHES WIDE.
21.

THE FIRST 10 DRUMS ON TAPERS SHALL BE REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS AND SHALL BE OPERATING, AT A MINIMUM, BETWEEN DUSK AND DAWN, WHEN TAPER IS DEPLOYED.
22.

REFLECTORIZED CONES SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT.
23.

CONES MAY BE USED IN LIEU OF DRUMS OUTSIDE OF TAPER AREAS.
24.

CONTRACTOR SHALL SECURE WORK AREAS TO PREVENT UNAUTHORIZED ACCESS AT ALL TIMES.
25.

THERE IS NO DESIGNATED BICYCLE LANE ON THE ROADWAY WITHIN THE PROJECT LIMITS. BICYCLES ARE EXPECTED TO SHARE THE ROAD WITH GENERAL VEHICULAR TRAFFIC.
26.

W21-7 SIGNS SHALL BE INSTALLED IN ADVANCE (100' MIN) OF AREAS WHERE UTILITY CASTINGS HAVE BEEN RAISED IN ADVANCE OF PAVING OPERATIONS OR AS REQUESTED BY THE ENGINEER.
27.

W8-15 SIGNS SHALL BE INSTALLED IN ADVANCE (100' MIN) OF PAVEMENT MILLING AREAS OR AS REQUESTED BY THE ENGINEER.
28.

W20-1c OR MA-R2-10a SIGNS SHOWN ON ADVANCE SIGN SCHEMATIC MAY BE USED IN LIEU OF THOSE SIGNS SHOWN ON TYPICAL DETAILS IF MINIMUM SIGN SPACING IS MET.
29.

MA-W20-7b SIGNS SHALL BE REPLACED BY W20-7 SIGNS WHEN FLAGGERS ARE USED IN LIEU OF POLICE OFFICER DETAILS.
30.

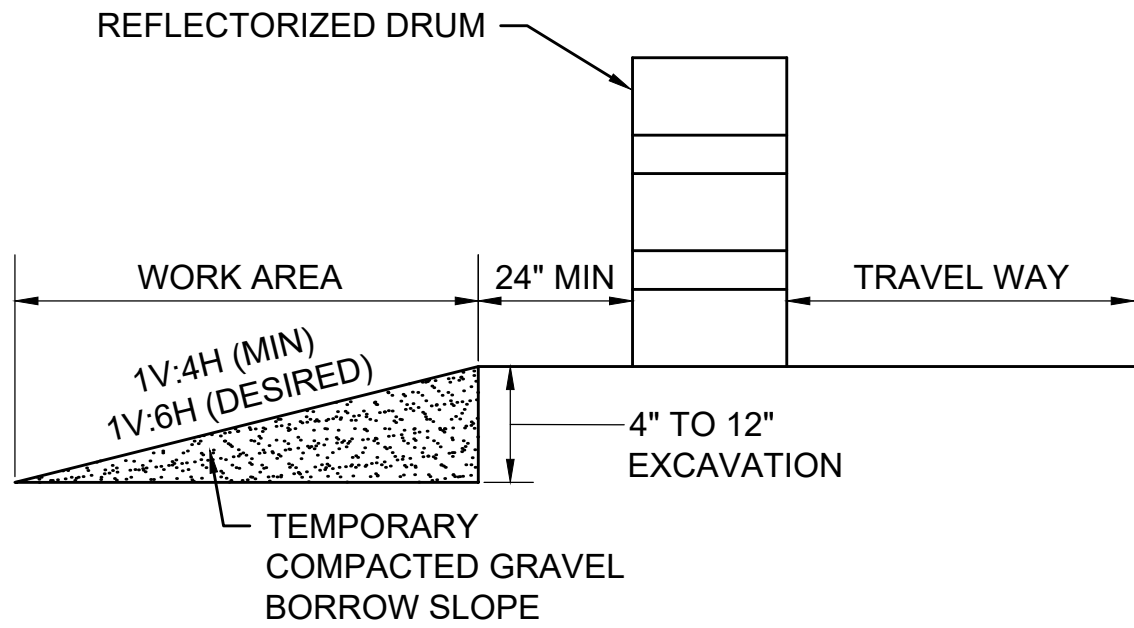
CONTRACTOR SHALL NOT PERMIT PUBLIC ACCESS ON PORTIONS OF NEWLY CONSTRUCTED SIDEWALKS ON NEWTON STREET AND MARLBORO ROAD UNTIL ENTIRE SIDEWALK ALONG THESE SEGMENTS ARE FULLY CONSTRUCTED AND ADAAG COMPLIANT OR AS DIRECTED BY THE ENGINEER.

TEMPORARY TRAFFIC CONTROL PLAN GENERAL NOTES (CONTINUED)

30.

CONTRACTOR SHALL SETUP DAILY WORK ZONES AS NECESSARY FOR FULL DEPTH PAVEMENT CONSTRUCTION. AT THE END OF EACH WORK SHIFT, UNTIL INTERMEDIATE PAVING COURSE IS INSTALLED, CONTRACTOR TO FOLLOW THE BELOW GUIDELINES OR AS DIRECTED BY THE ENGINEER.  
A. GRAVEL PAVEMENT COURSE SHALL REMAIN OPEN TO TRAVEL FOR A MAXIMUM OF 10 CALENDAR DAYS PRIOR TO PAVING.  
B. BASE AND BINDER PAVING COURSES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND PAVEMENT NOTES IN LOCATIONS WHERE THE ROADWAY IS NARROWED, PAVED ACCESS SHALL BE PROVIDED AT ALL ABUTTING DRIVEWAYS AND PARKING AREAS.  
C. MAINTAIN ADEQUATE ROADWAY DRAINAGE AT ALL TIMES.
27.

ARROW BOARD FLASHING CAUTION SHALL FLASH IN FOUR-POINT CAUTION MODE ONLY.



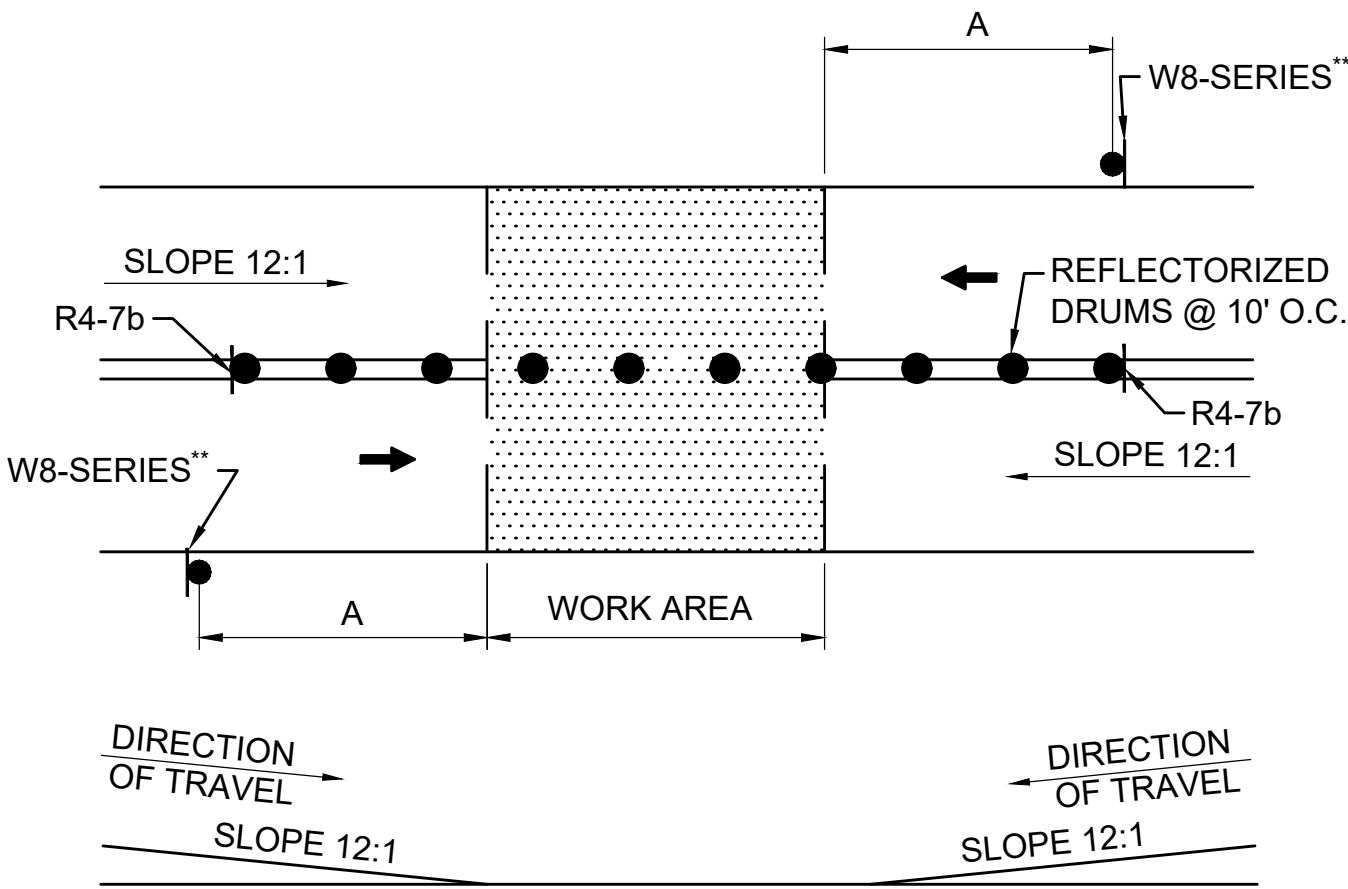
- NOTE:
1.

CONTRACTOR SHALL INSTALL W8-9 SIGN ON ALL ROADWAYS 350 FT IN ADVANCE OF THE START OF DROP-OFF CONDITION.
2.

SEE TTCP GENERAL NOTE 9.

TYPICAL ROADWAY DROP-OFF PROTECTION

SCALE: NTS



- NOTES:
1.

SQUARE OFF THE FULL WIDTH OF THE ROADWAY AT THE END OF WORK DAY
2.

\*\* CONTRACTOR SHALL INSTALL W8-1, W8-3, OR W8-8 SIGN, AS APPROPRIATE, ON ALL ROADWAYS IN ADVANCE OF THE TRANSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

TEMPORARY PAVEMENT TRANSITION

SCALE: NTS

SOUTHBOROUGH  
VARIOUS LOCATIONS  
OVERALL TEMP TRAFFIC CONTROL PLAN  
GENERAL NOTES & LEGEND  
SHEET 5 OF 141

LEGEND

|      |                                                                                  |
|------|----------------------------------------------------------------------------------|
|      | POLICE OFFICER                                                                   |
|      | FLAGGER                                                                          |
|      | REFLECTORIZED DRUM                                                               |
|      | REFLECTORIZED DRUM WITH SEQUENTIAL FLASHING WARNING LIGHTS (SEE GENERAL NOTE 20) |
|      | TEMPORARY CONSTRUCTION SIGN                                                      |
|      | TRAFFIC CONE                                                                     |
|      | TYPE III BARRICADE                                                               |
|      | PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)                                          |
|      | WORK AREA (PUBLIC ACCESS RESTRICTED)                                             |
|      | ADJACENT PROJECT WORK AREA                                                       |
|      | TRAFFIC FLOW                                                                     |
|      | PEDESTRIAN ROUTE                                                                 |
|      | TEMP PORTABLE PEDESTRIAN BARRICADE                                               |
| NTS  | NOT TO SCALE                                                                     |
| TTCP | TEMPORARY TRAFFIC CONTROL PLAN                                                   |

ADVANCE SIGN SPACING

| ROADWAY            | DISTANCE BETWEEN SIGNS (FEET) |     |     |     |
|--------------------|-------------------------------|-----|-----|-----|
|                    | A                             | B   | C   | D   |
| NEWTON ST          | 100                           | 50  | 100 | 100 |
| ALL OTHER ROADWAYS | 350                           | 150 | 350 | 350 |

LANE TAPER LENGTH FORMULAS

L= TAPER LENGTH IN FEET

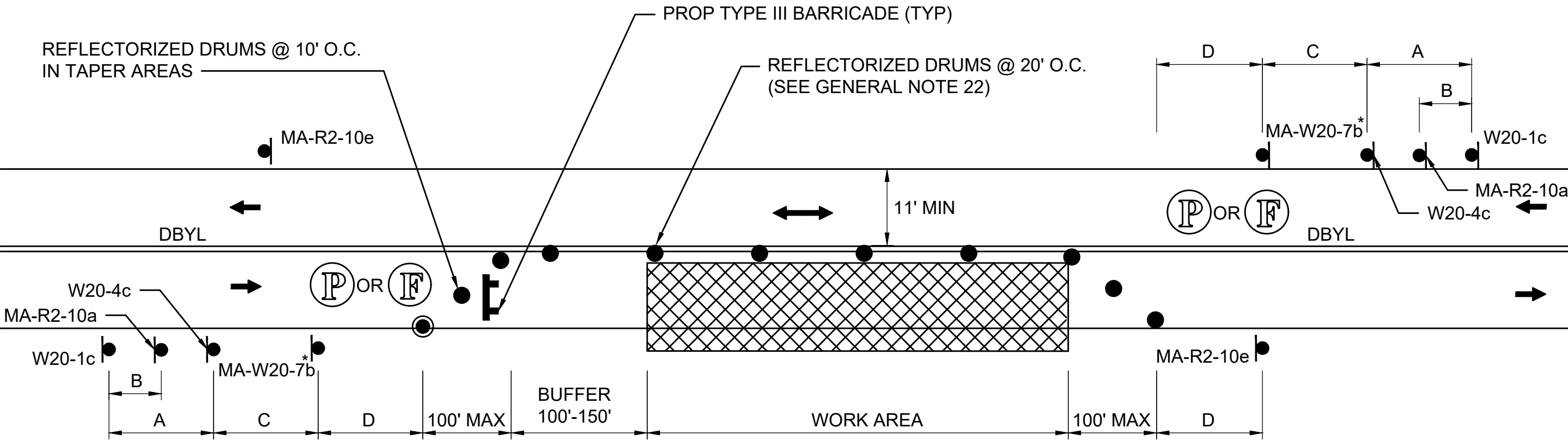
W= WIDTH OF ROADWAY TO BE SHIFTED OR REDIRECTED IN FEET

S= POSTED SPEED LIMIT IN MPH

| POSTED SPEED          |                     |
|-----------------------|---------------------|
| 40 MPH OR LESS        | GREATER THAN 40 MPH |
| $L = \frac{WS^2}{60}$ | $L = WS$            |

BUFFER SPACING

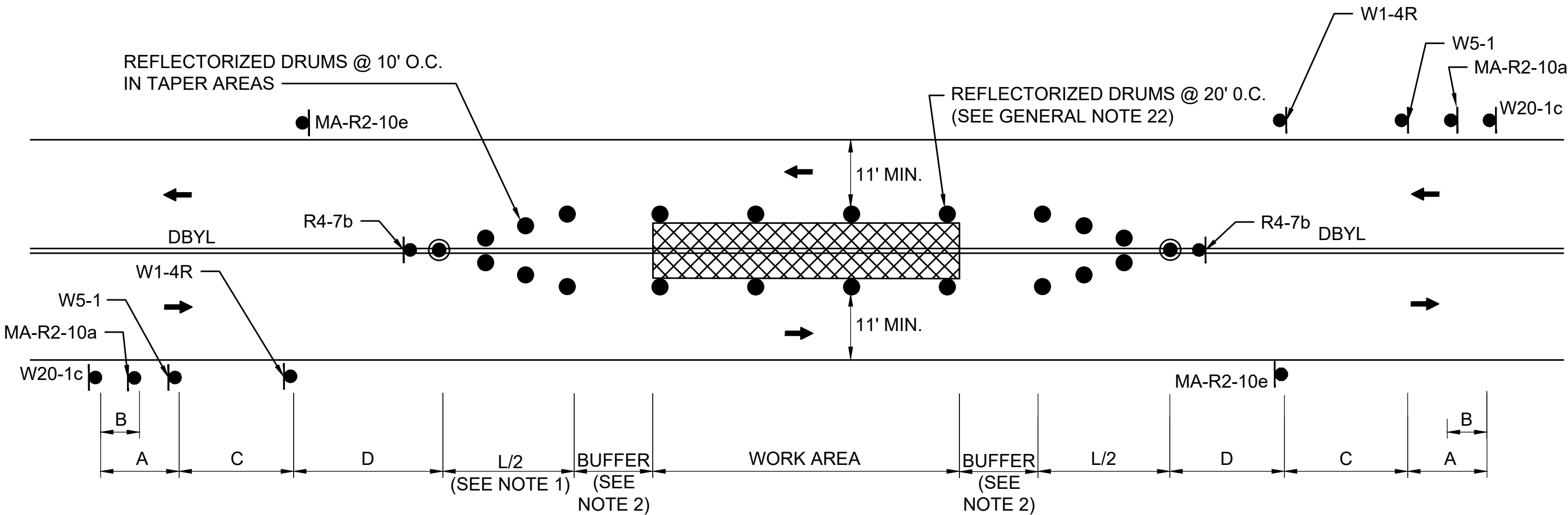
| SPEED (MPH) | DISTANCE (FEET) |
|-------------|-----------------|
| 15          | 80              |
| 20          | 115             |
| 25          | 155             |
| 30          | 200             |
| 35          | 250             |
| 40          | 305             |



- NOTES:
1. REFER TO ADVANCE SIGN SPACING TABLE ON TTCP GENERAL NOTES & LEGEND SHEET.
  2. \* SEE GENERAL NOTE 28 ON TTCP GENERAL NOTES & LEGEND SHEET.

TYPICAL TWO-WAY STREET LANE CLOSURE - ALTERNATING TRAFFIC

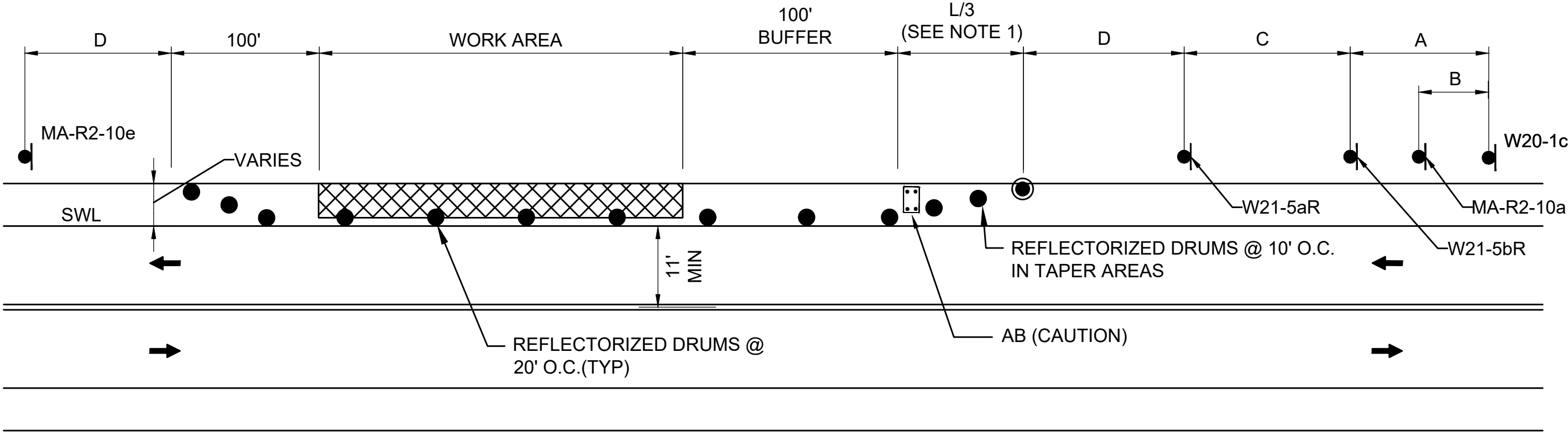
SCALE: NTS



- NOTES:
1. SEE TAPER LENGTH FORMULA ON TTCP GENERAL NOTES & LEGEND SHEET.
  2. SEE BUFFER SPACING CHART ON TTCP GENERAL NOTES & LEGEND SHEET.
  3. REFER TO ADVANCE SIGN SPACING TABLE ON TTCP GENERAL NOTES & LEGEND SHEET.

TYPICAL TWO-WAY STREET CENTER WORK AREA

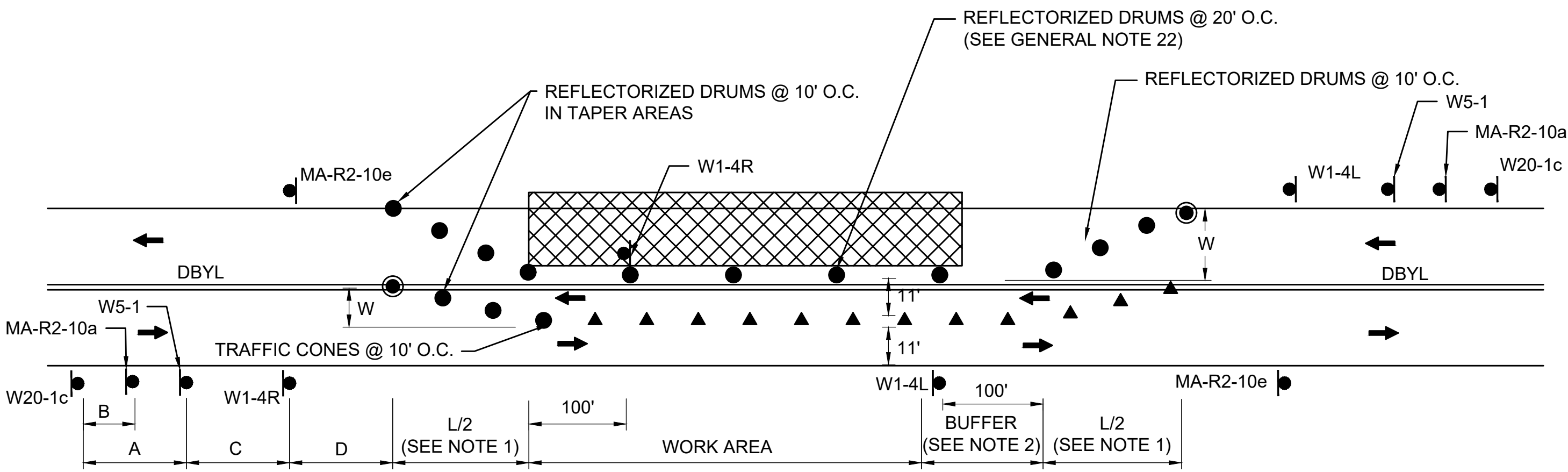
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- NOTES:
1. SEE TAPER LENGTH FORMULA ON TTCP GENERAL NOTES & LEGEND SHEET.
  2. SEE ADVANCE SIGN SPACING CHART ON TTCP GENERAL NOTES & LEGEND SHEET.
  3. ADVANCE WARNING SIGN PLACEMENT TO BE ADJUSTED BEYOND MINIMUM SPACING SHOWN AS NECESSARY.

TYPICAL SHOULDER CLOSURE - RIGHT

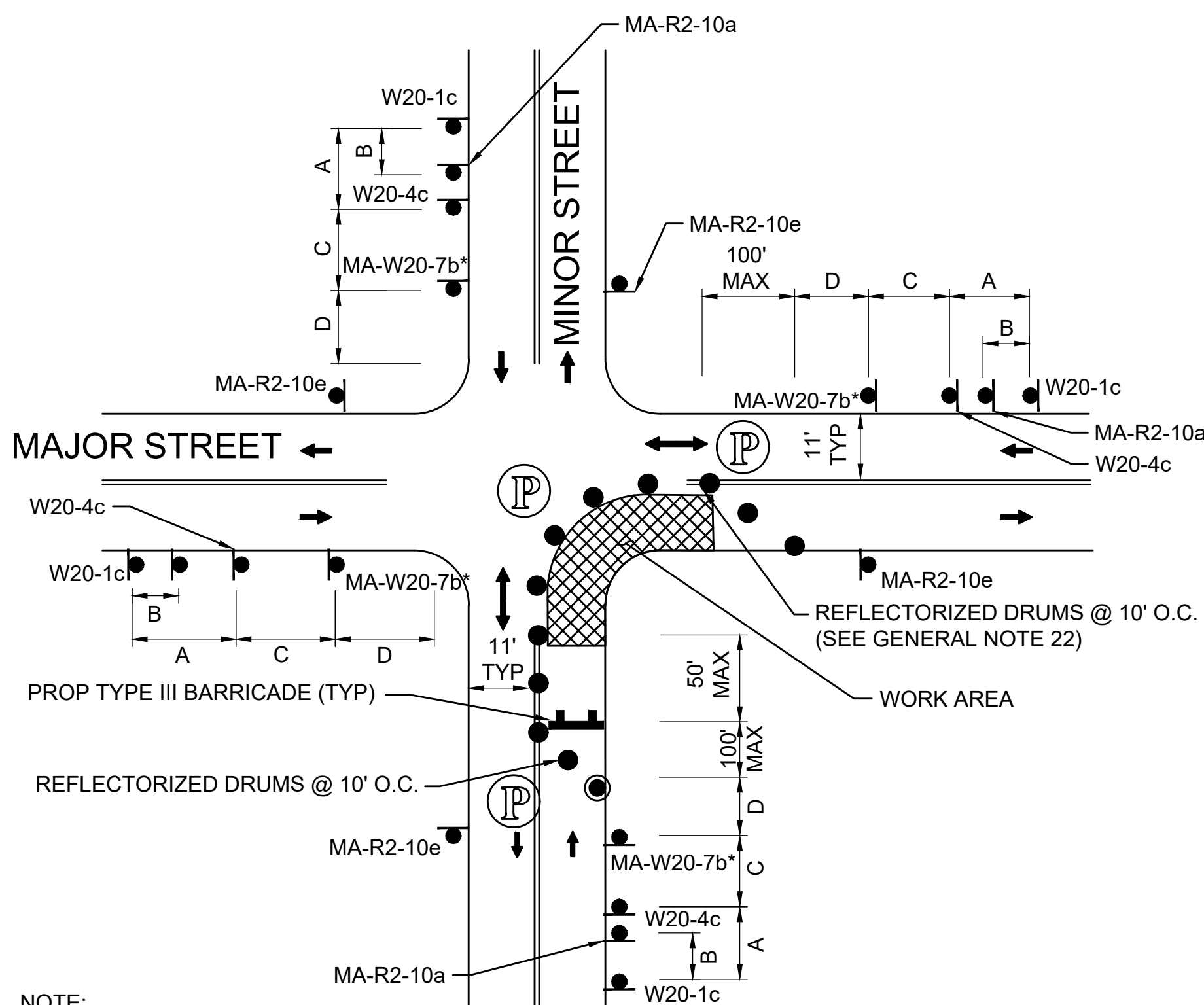
SCALE: NTS



- NOTES:
1. SEE TAPER LENGTH FORMULA ON TTCP GENERAL NOTES & LEGEND SHEET.
  2. SEE BUFFER SPACING CHART ON TTCP GENERAL NOTES & LEGEND SHEET.
  3. REFER TO ADVANCE SIGN SPACING TABLE ON TTCP GENERAL NOTES & LEGEND SHEET.

TYPICAL TWO-WAY STREET LANE SHIFT

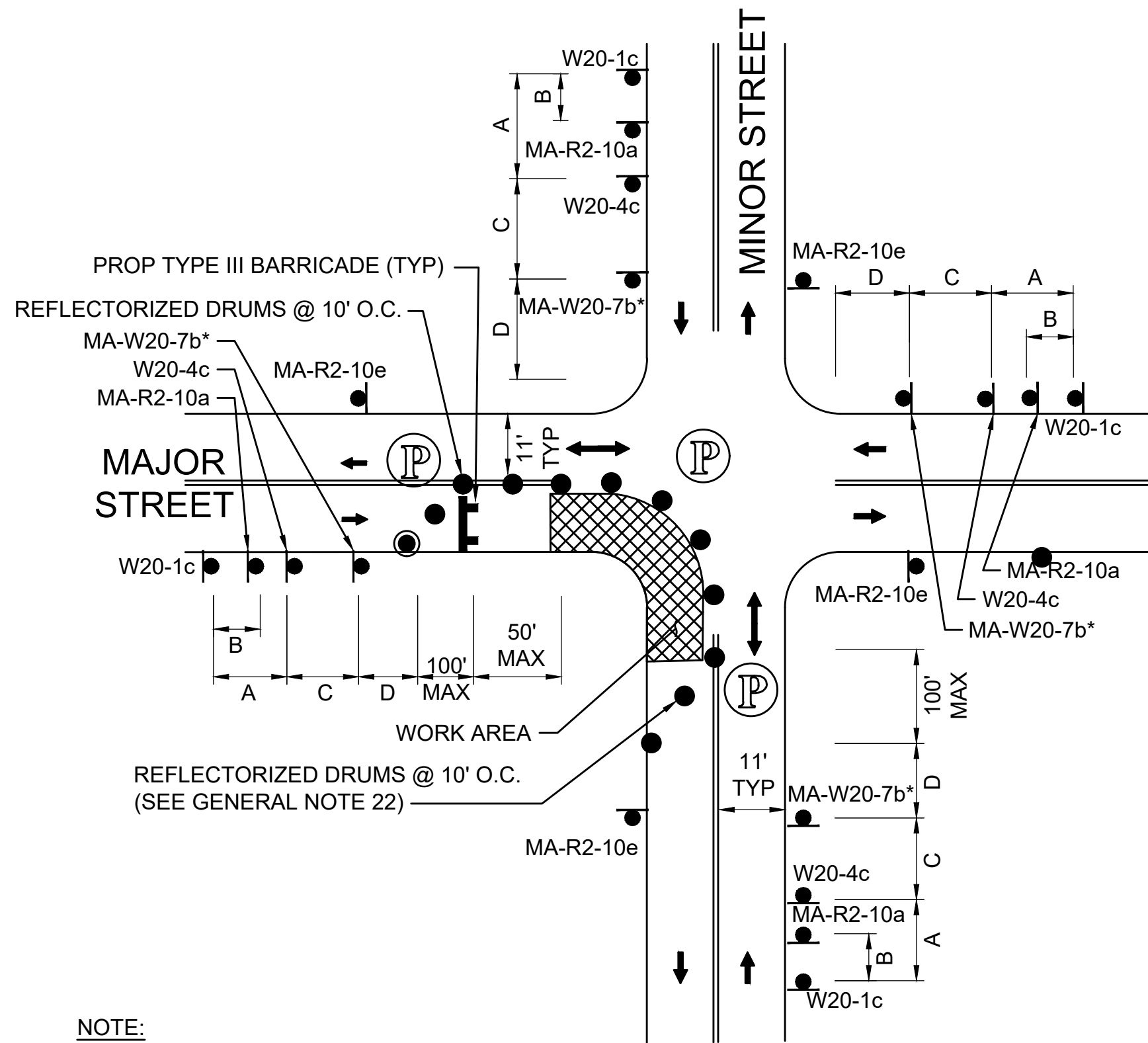
SCALE: NTS



- NOTE:
1. ADVANCE WARNING SIGN PLACEMENT TO BE ADJUSTED AS NECESSARY.
  2. \* SEE GENERAL NOTE 28 ON TTCP GENERAL NOTES & LEGEND SHEET.

### ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS - FAR SIDE

SCALE: NTS



- NOTE:
1. ADVANCE WARNING SIGN PLACEMENT TO BE ADJUSTED AS NECESSARY.
  2. \* SEE GENERAL NOTE 28 ON TTCP GENERAL NOTES & LEGEND SHEET.

### ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS - NEAR SIDE

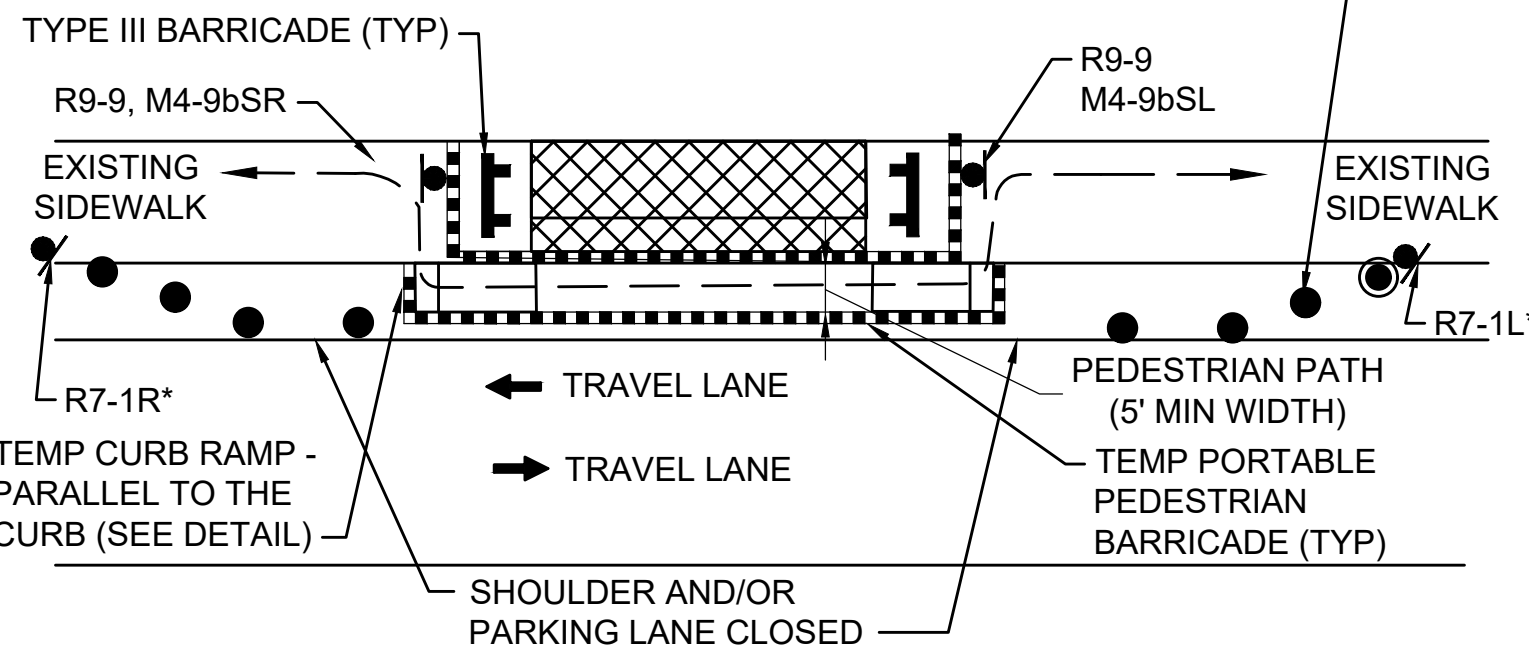
SCALE: NTS

#### NOTES:

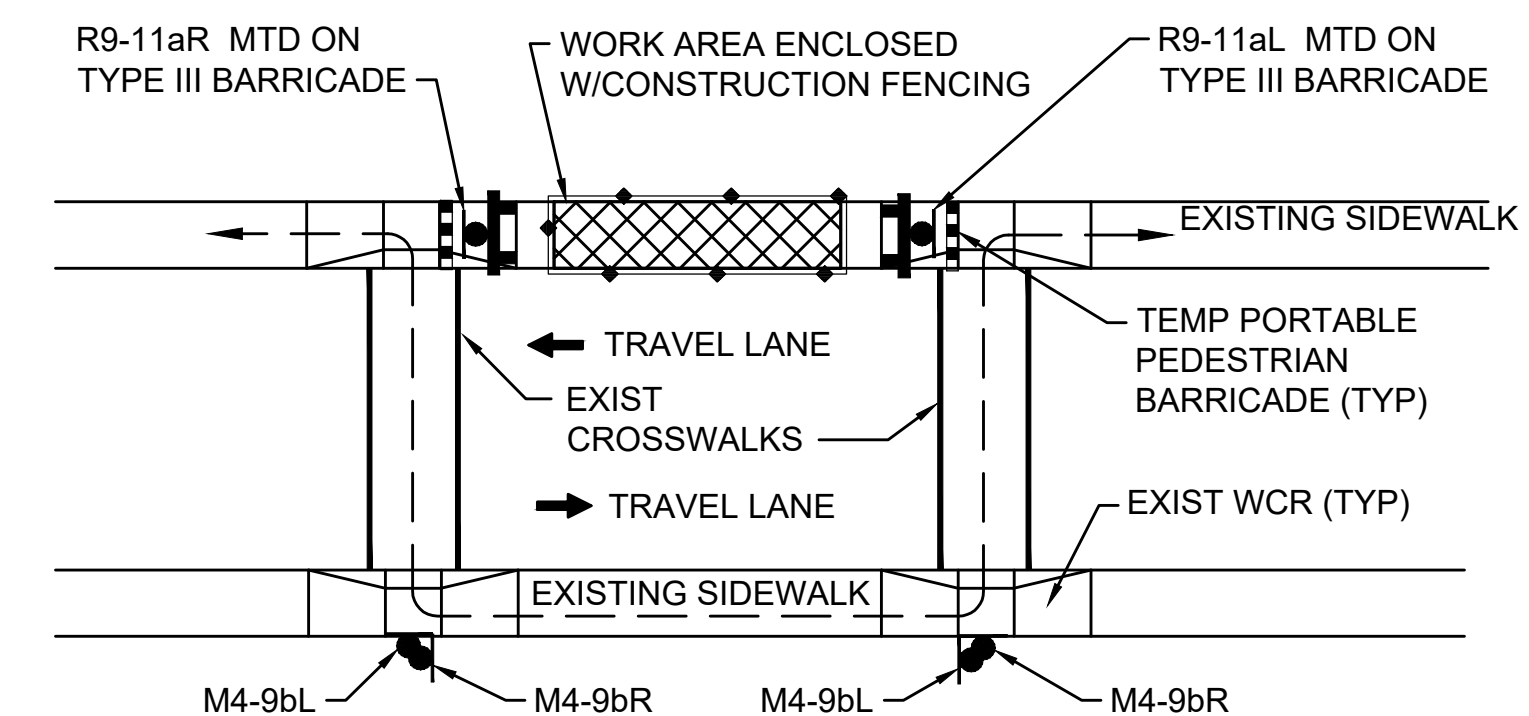
1. ADDITIONAL ADVANCE WARNING SIGNS MAY BE NECESSARY AS DETERMINED BY THE ENGINEER.
2. CONTROLS FOR PEDESTRIAN TRAFFIC ONLY, ARE SHOWN. VEHICULAR TRAFFIC SHALL BE MAINTAINED AS SHOWN ELSEWHERE.
3. STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
4. — — — INDICATES DIRECTION OF PEDESTRIAN TRAVEL.
5. IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, THE APPROPRIATE SIGNS SHALL BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AT EXISTING CROSSWALKS AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS DIRECTED BY THE ENGINEER.
6. ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MAAB AND ADAAG REQUIREMENTS AND INCLUDE THE USE OF A COMPLIANT TEMPORARY PEDESTRIAN MANAGEMENT GUIDANCE SYSTEM AT ALL TIMES.
7. CONTRACTOR SHALL MAINTAIN AS WIDE OF A PEDESTRIAN ACCESS AS POSSIBLE AT ALL TIMES. EXCEPT WHERE NECESSARY, THE CONTRACTOR MAY TEMPORARILY REDUCE PEDESTRIAN PATHWAYS TO 4 FEET IN WIDTH (EXCLUDING CURB) FOR NO MORE THAN 200 LINEAR FEET AT A TIME IN ACCORDANCE WITH ALL STANDARDS. A 5' x 5' PASSING AREA SHALL BE PROVIDED IN INTERVALS NOT EXCEEDING 200 FEET.
8. TEMPORARY WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MASSDOT, MAAB, AND ADAAG REQUIREMENTS.
9. TEMPORARY PORTABLE PEDESTRIAN BARRICADE AND TEMPORARY CURB RAMP SHALL BE PAID FOR UNDER ITEM 852.1 TEMPORARY PEDESTRIAN MANAGEMENT GUIDANCE SYSTEM.
10. \* NO PARKING SIGNS TO BE INSTALLED AT ENDS OF SHOULDER CLOSURE SET-UP.

#### PEDESTRIAN BYPASS TYPE I

SEE TYPICAL SHOULDER CLOSURE-RIGHT DETAIL FOR MORE INFORMATION

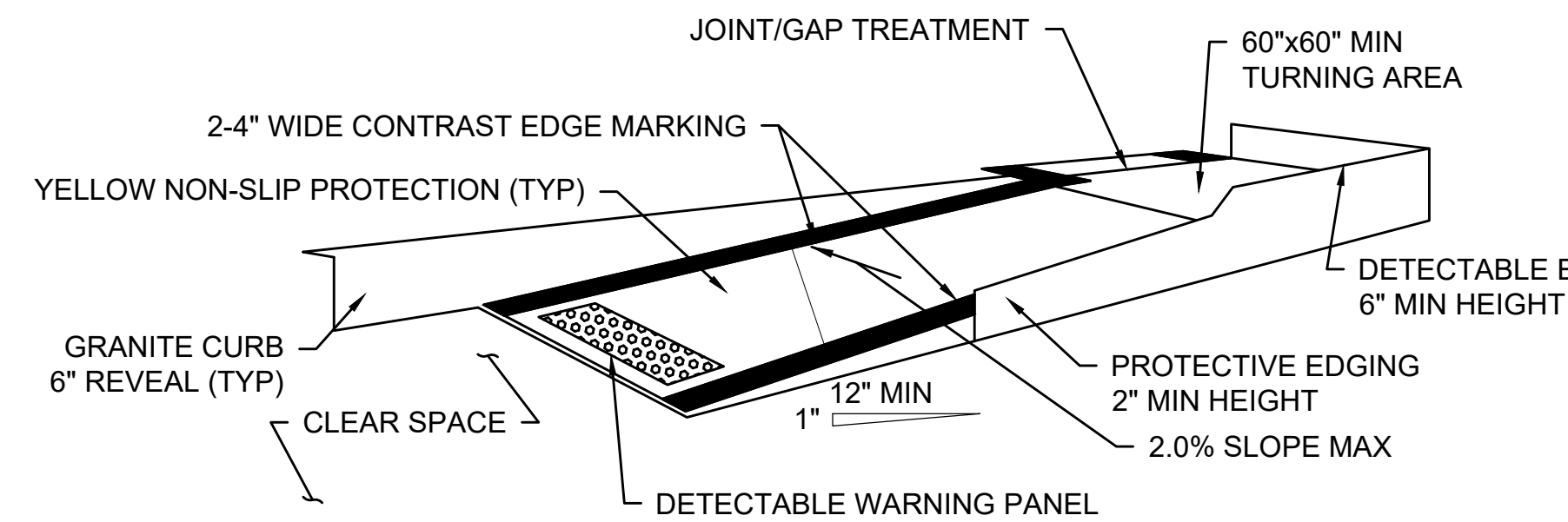


#### PEDESTRIAN BYPASS TYPE II

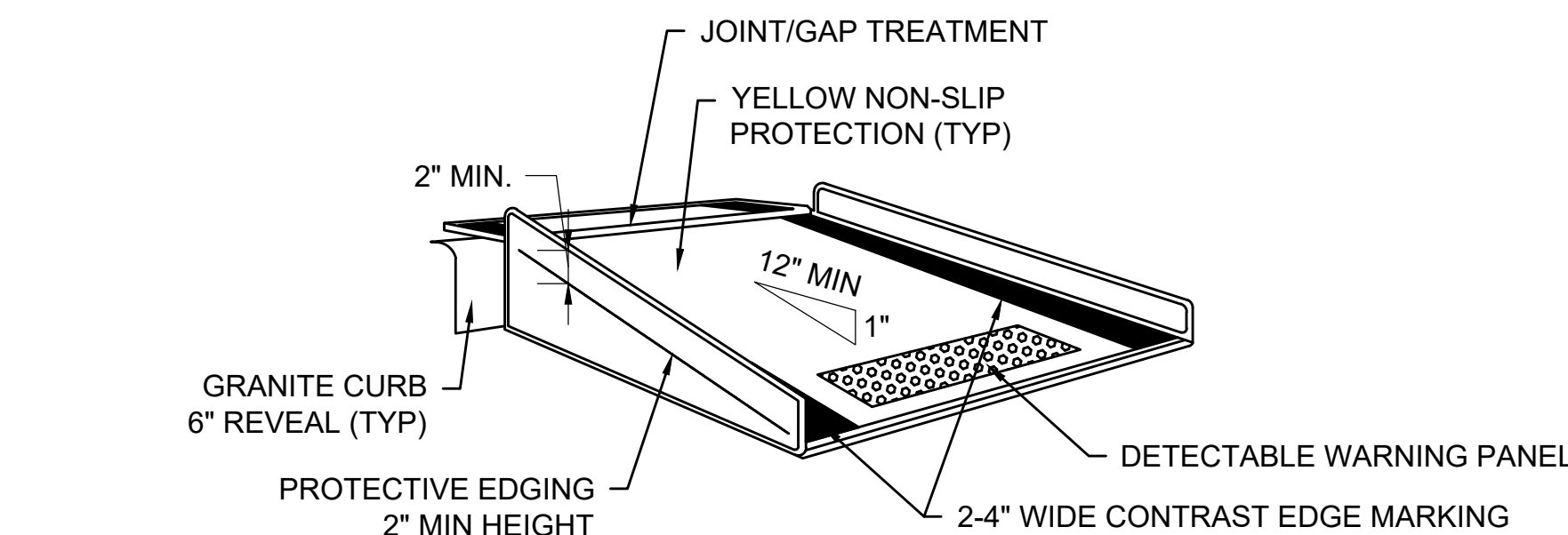


### PEDESTRIAN BYPASS DETAIL

SCALE: NTS



#### TEMPORARY CURB RAMP-PARALLEL TO CURB



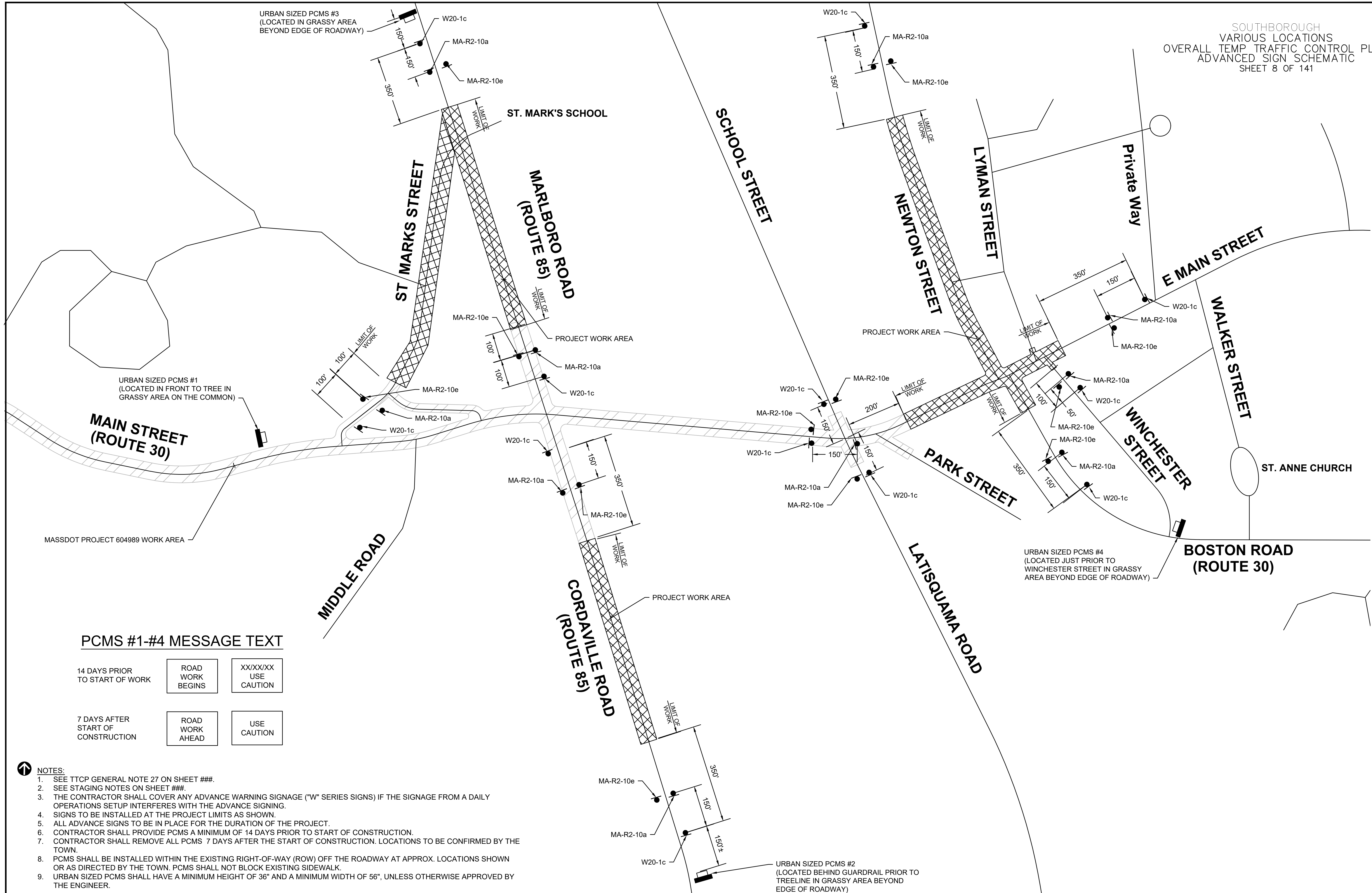
#### TEMPORARY CURB RAMP-PERPENDICULAR TO CURB

### TEMPORARY CURB RAMPS

SCALE: NTS

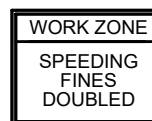
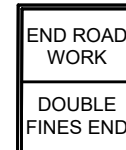
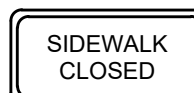
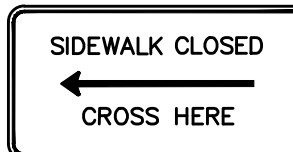
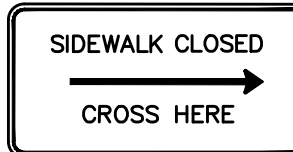
#### NOTES:

1. CURB RAMPS SHALL BE 60\"/>
2. PROTECTIVE EDGING WITH A 2\"/>
3. DETECTABLE EDGING WITH 6\"/>
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
6. CLEAR SPACE OF 48\"/>
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5\"/>
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5\"/>
10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.
11. TEMPORARY CURB RAMP SHALL BE PAID FOR UNDER ITEM 852.1 TEMPORARY PEDESTRIAN MANAGEMENT GUIDANCE SYSTEM.



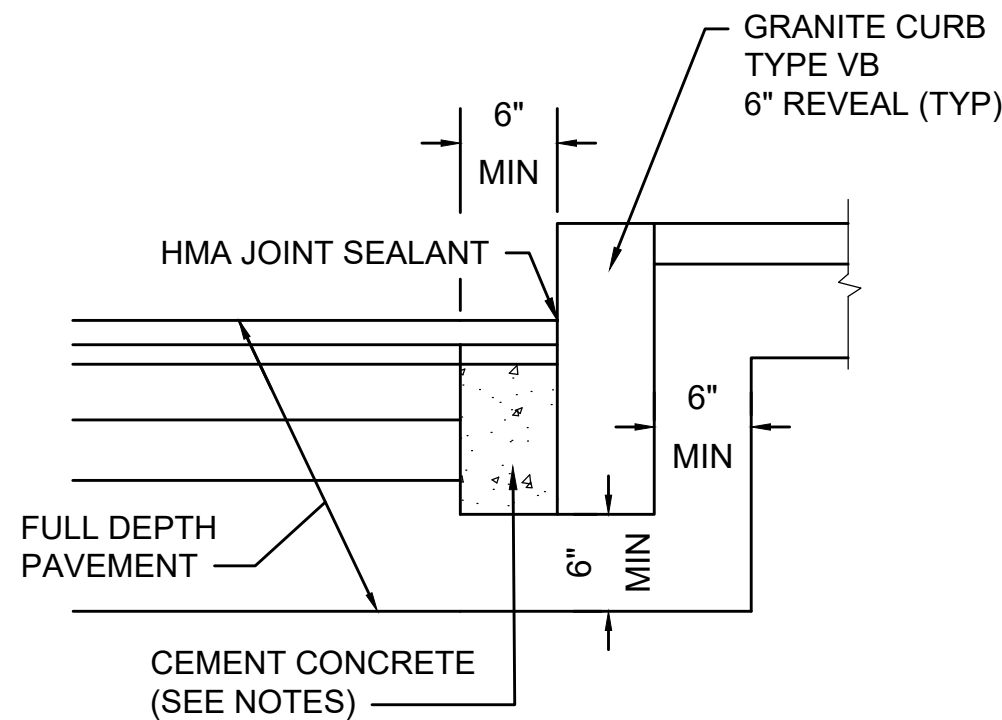
ADVANCE SIGN SCHEMATIC

SCALE: APPROX 1"=150'

| TEMPORARY TRAFFIC CONTROL SIGN SUMMARY |              |        |                                                                                       |                                                                                       |                     |                    |                            |        |        |
|----------------------------------------|--------------|--------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------|--------------------|----------------------------|--------|--------|
| IDENTIFI-<br>CATION<br>NUMBER          | SIZE OF SIGN |        | TEXT                                                                                  | TEXT DIMENSIONS (INCHES)                                                              |                     |                    | COLOR                      |        |        |
|                                        | WIDTH        | HEIGHT |                                                                                       | LETTER<br>HEIGHT                                                                      | VERTICAL<br>SPACING | ARROW<br>RTE. MKR. | BACK-<br>GROUND            | LEGEND | BORDER |
| MA-R2-10a                              | 48"          | 36"    |    | AS PER MASSDOT<br>STANDARD                                                            |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |
| MA-R2-10e                              | 36"          | 48"    |    |    |                     |                    | WHITE                      | BLACK  | BLACK  |
|                                        |              |        |                                                                                       |                                                                                       |                     |                    | FLUOR-<br>ESCENT<br>ORANGE |        |        |
| R4-7b                                  | 24"          | 30"    |    | SEE FHWA "STANDARD<br>HIGHWAY SIGNS,<br>2004 EDITION"; AS AMENDED                     |                     |                    | WHITE                      | BLACK  | BLACK  |
| R7-1L                                  | 12"          | 18"    |    |                                                                                       |                     |                    | WHITE                      | RED    | RED    |
| R7-1R                                  | 12"          | 18"    |    |                                                                                       |                     |                    | WHITE                      | RED    | RED    |
| R9-9                                   | 24"          | 12"    |    |                                                                                       |                     |                    | WHITE                      | BLACK  | BLACK  |
| R9-11aL                                | 24"          | 12"    |    |                                                                                       |                     |                    | WHITE                      | BLACK  | BLACK  |
| R9-11aR                                | 24"          | 12"    |    |                                                                                       |                     |                    | WHITE                      | BLACK  | BLACK  |
| W1-4L                                  | 36"          | 36"    |   |                                                                                       |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |
| W1-4R                                  | 36"          | 36"    |  |                                                                                       |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |
| W5-1                                   | 36"          | 36"    |  |                                                                                       |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |
| W8-1                                   | 36"          | 36"    |  |                                                                                       |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |
| W8-3                                   | 36"          | 36"    |  |                                                                                       |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |
| W8-8                                   | 36"          | 36"    |  |                                                                                       |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |
| W8-9                                   | 36"          | 36"    |  |                                                                                       |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |
| W8-15                                  | 36"          | 36"    |  |                                                                                       |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |
| W20-1c                                 | 36"          | 36"    |  |                                                                                       |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |
| W20-4c                                 | 36"          | 36"    |  |                                                                                       |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |
| W20-7                                  | 36"          | 36"    |  |  |                     |                    | FLUOR-<br>ESCENT<br>ORANGE | BLACK  | BLACK  |

| TEMPORARY TRAFFIC CONTROL SIGN SUMMARY |              |        |                                                                                                     |                                                                   |                     |                                                                                       |                            |        |
|----------------------------------------|--------------|--------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------------------|----------------------------|--------|
| IDENTIFI-<br>CATION<br>NUMBER          | SIZE OF SIGN |        | TEXT                                                                                                | TEXT DIMENSIONS (INCHES)                                          |                     |                                                                                       | COLOR                      |        |
|                                        | WIDTH        | HEIGHT |                                                                                                     | LETTER<br>HEIGHT                                                  | VERTICAL<br>SPACING | ARROW<br>RTE. MKR.                                                                    | BACK-<br>GROUND            | LEGEND |
| MA-W20-7b                              | 36"          | 36"    |                  | AS PER MASSDOT<br>STANDARD                                        |                     |                                                                                       | FLUOR-<br>ESCENT<br>ORANGE | BLACK  |
| W21-7                                  | 36"          | 36"    |                  | SEE FHWA "STANDARD<br>HIGHWAY SIGNS,<br>2004 EDITION"; AS AMENDED |                     |                                                                                       | FLUOR-<br>ESCENT<br>ORANGE | BLACK  |
| W21-5aR                                | 36"          | 36"    |                  |                                                                   |                     |                                                                                       | FLUOR-<br>ESCENT<br>ORANGE | BLACK  |
| W21-5bR                                | 36"          | 36"    |                  |                                                                   |                     |                                                                                       | FLUOR-<br>ESCENT<br>ORANGE | BLACK  |
| M4-9bL                                 | 30"          | 24"    |                  |                                                                   |                     |                                                                                       | FLUOR-<br>ESCENT<br>ORANGE | BLACK  |
| M4-9bR                                 | 30"          | 24"    |                  |                                                                   |                     |                                                                                       | FLUOR-<br>ESCENT<br>ORANGE | BLACK  |
| M4-9bSL                                | 30"          | 24"    |                  |                                                                   |                     |                                                                                       | FLUOR-<br>ESCENT<br>ORANGE | BLACK  |
| M4-9bSR                                | 30"          | 24"    |                  |                                                                   |                     |                                                                                       | FLUOR-<br>ESCENT<br>ORANGE | BLACK  |
| W8-24                                  | 36"          | 36"    |                 |                                                                   |                     |                                                                                       | FLUOR-<br>ESCENT<br>ORANGE | BLACK  |
| W13-1p(XX)                             | 24"          | 24"    | SEE NOTE 3<br> |                                                                   |                     |  | FLUOR-<br>ESCENT<br>ORANGE | BLACK  |

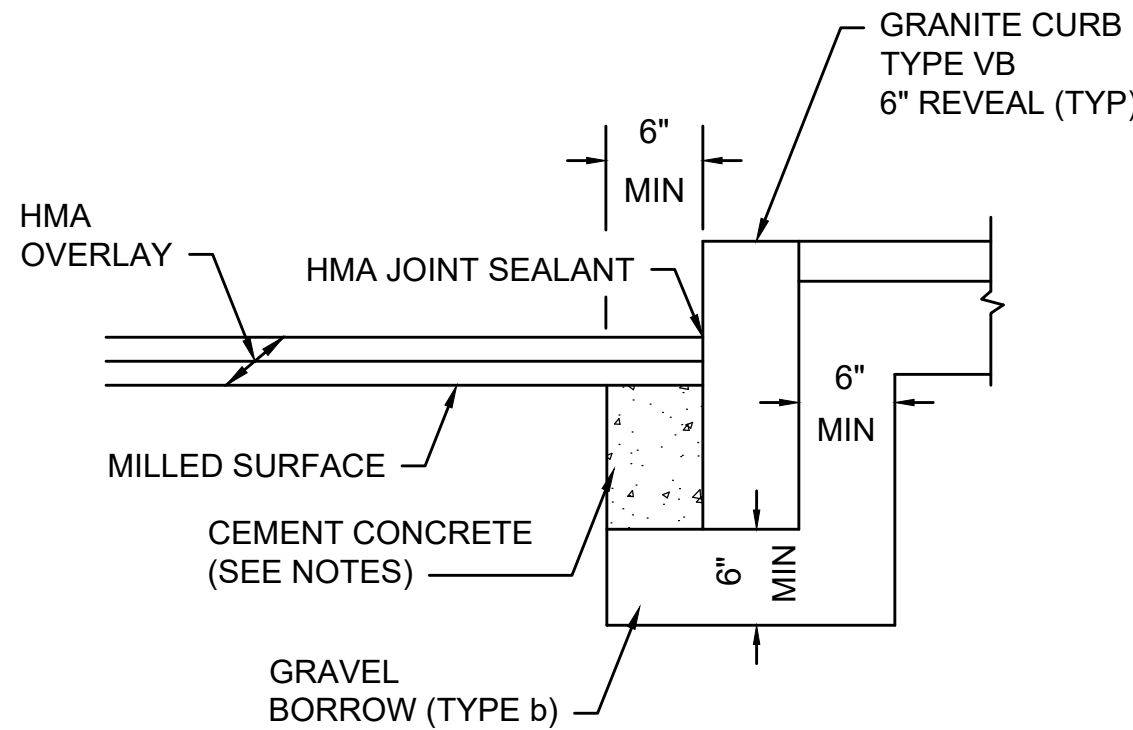
- NOTES:
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED; THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR MOUNTING REQUIREMENTS; AND THE 2017 MASSDOT STANDARD SIGNS BOOK, AS AMENDED.
  2. ALL SIGNS SHOWN GRAPHICALLY FOR INFORMATION ONLY. SIGN VENDOR SHALL FABRICATE ALL SIGNS IN ACCORDANCE WITH THE APPLICABLE STANDARDS.
  3. REFER TO GENERAL NOTE 14 ON TTCP GENERAL NOTES AND LEGEND SHEET FOR SPEED LIMIT INFORMATION.



- NOTES:
1. TO BE PLACED IF CURB IS INSTALLED AFTER HOT MIX ASPHALT
  2. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB
  3. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

GRANITE CURB IN FULL DEPTH PAVEMENT

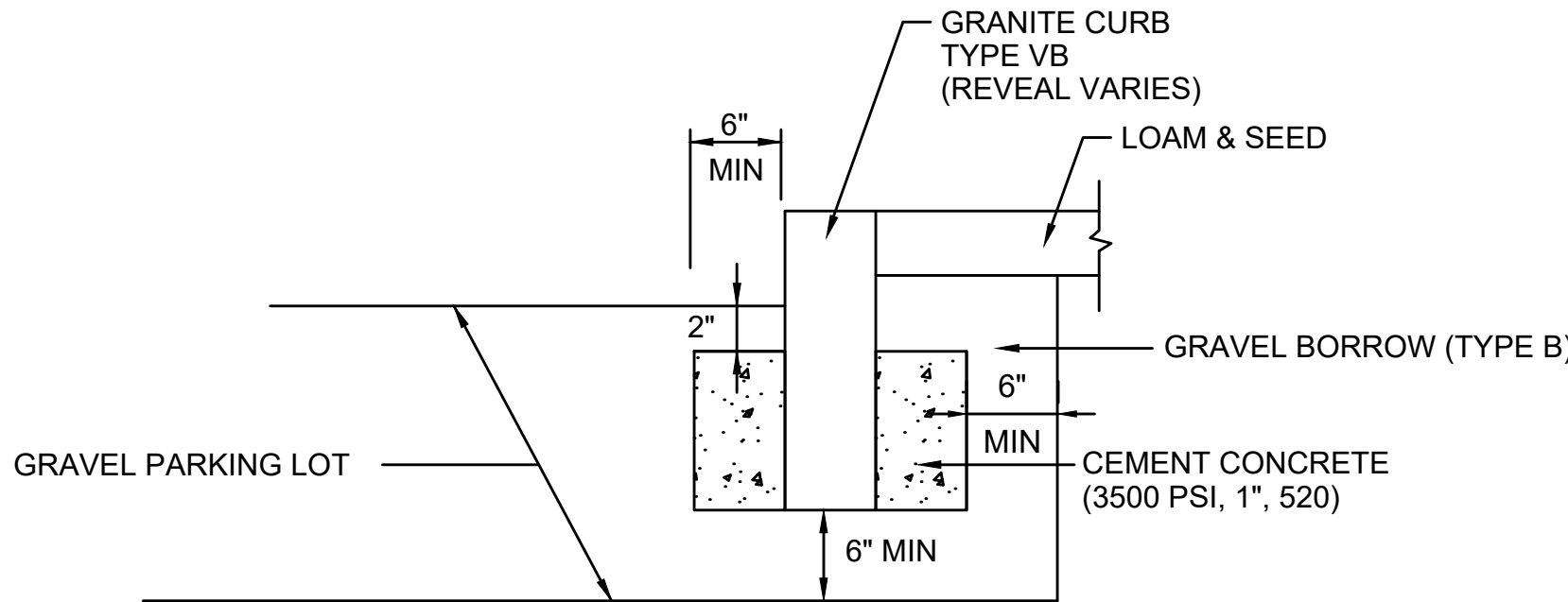
SCALE: N.T.S.



- NOTES:
1. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.
  2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

GRANITE CURB IN MILL & OVERLAY

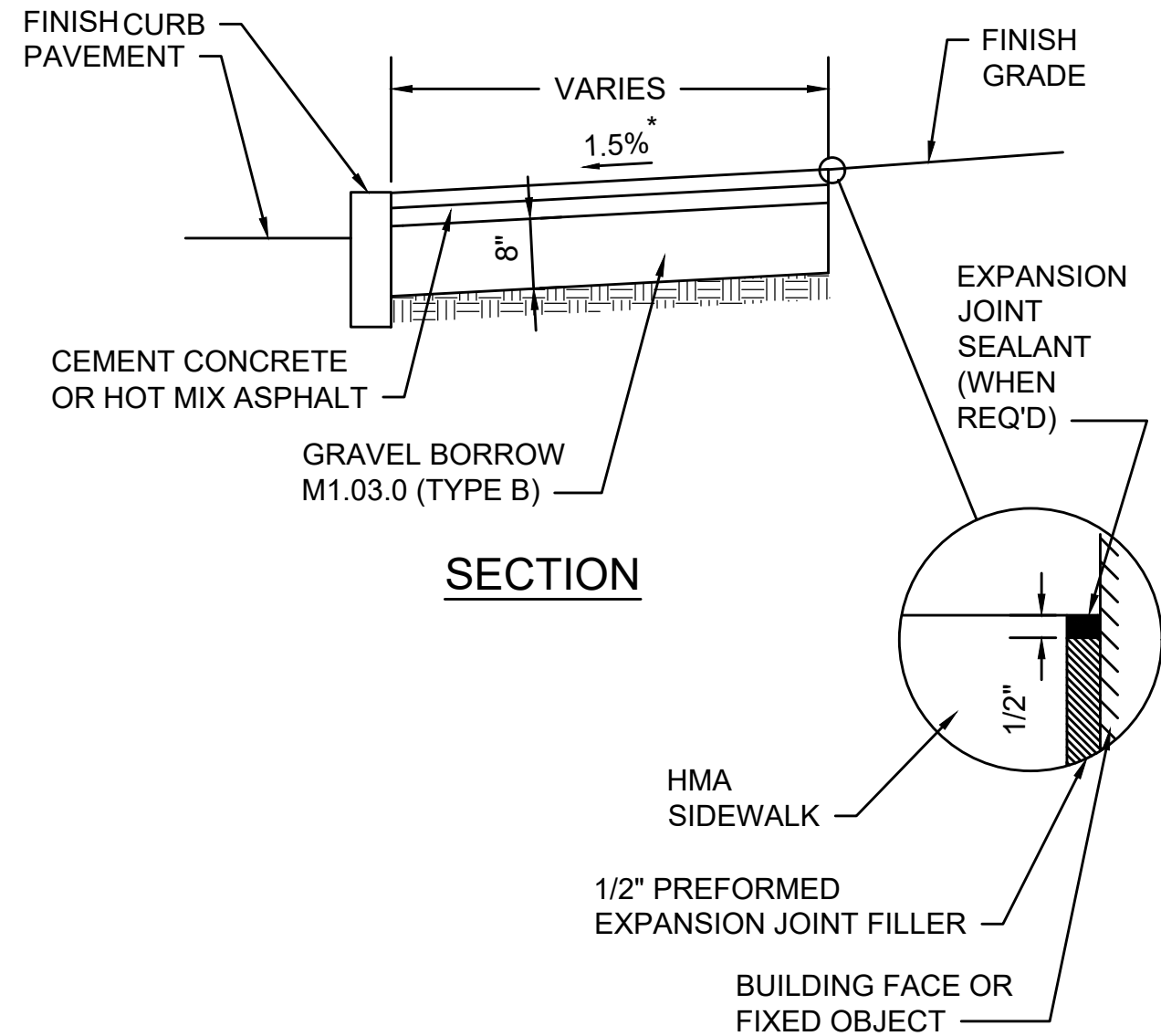
SCALE: N.T.S.



- NOTES:
1. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB
  2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

GRANITE CURB IN GRAVEL PARKING LOT

SCALE: N.T.S.



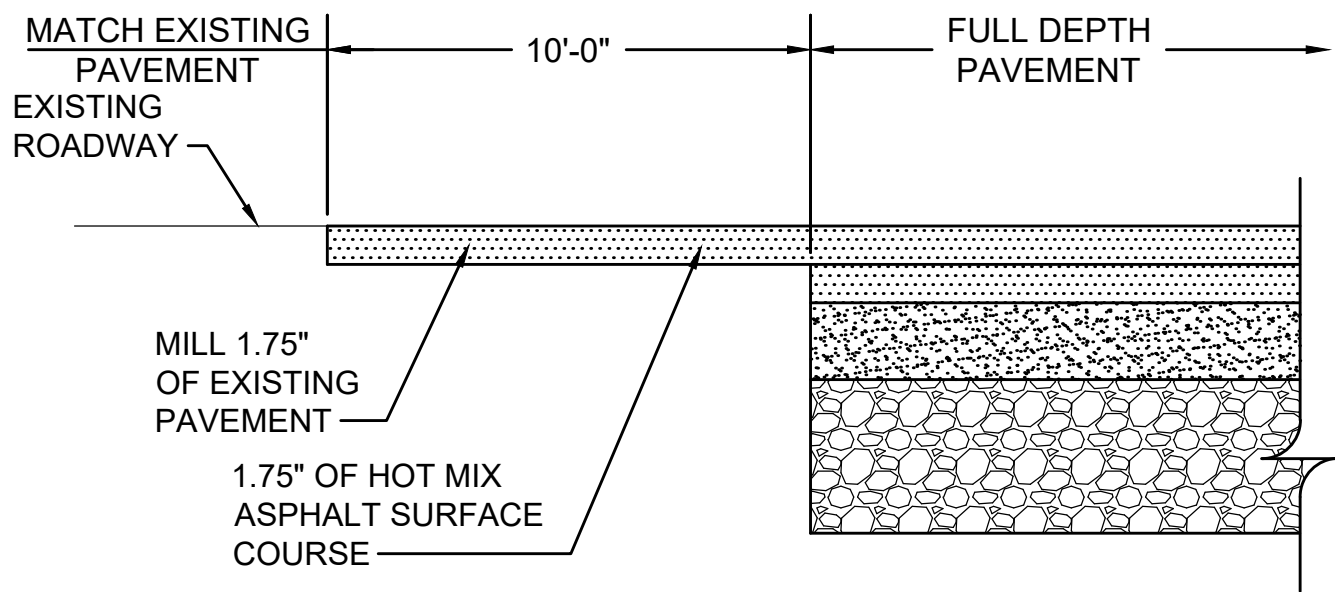
\* TOLERANCE FOR CONSTRUCTION  $\pm 0.5\%$

SIDEWALK

SCALE: N.T.S.

DWG: WALK-01

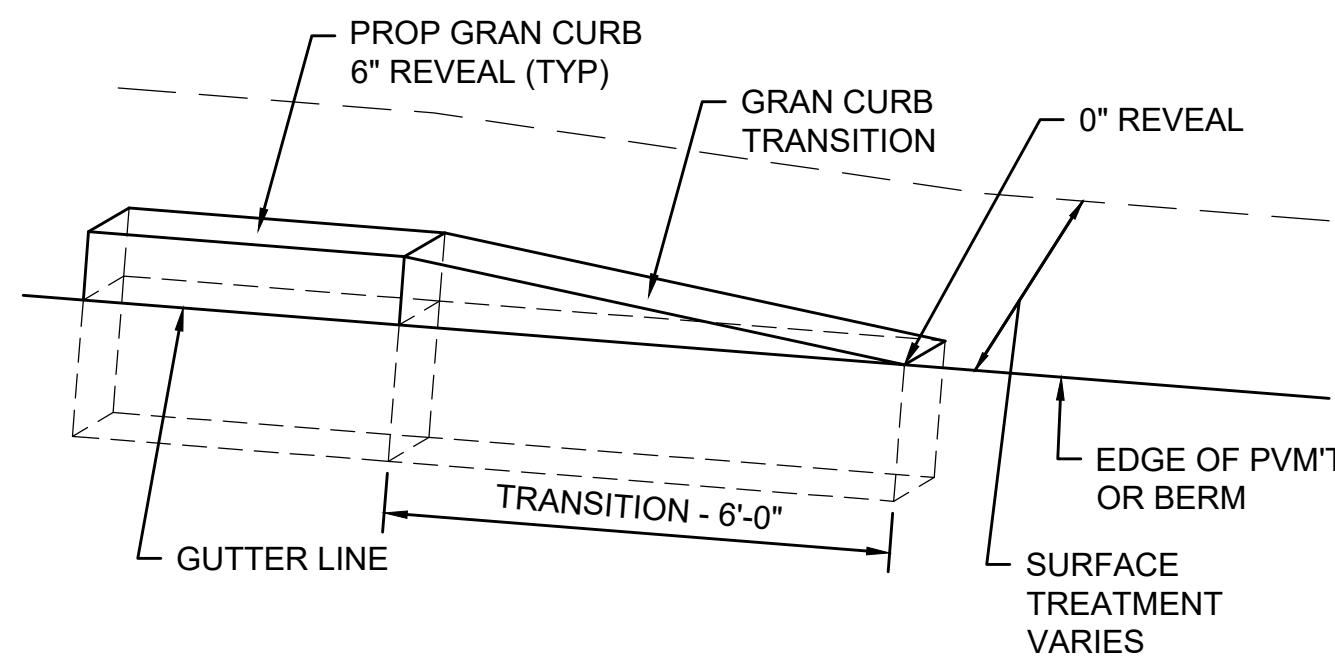
DATE: MARCH 2013



LONGITUDINAL SECTION

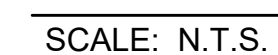
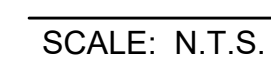
FULL DEPTH PAVEMENT TRANSITION

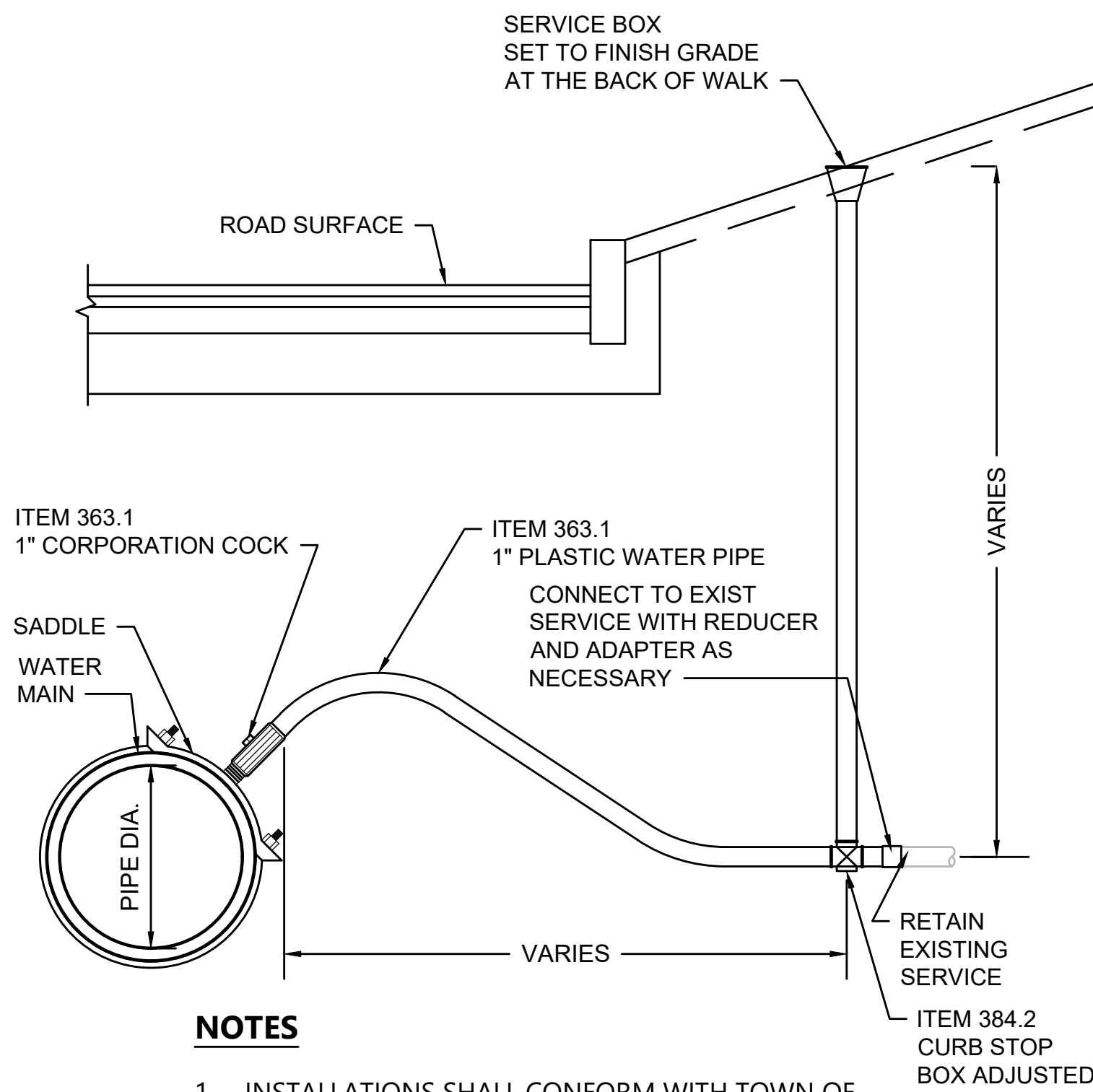
SCALE: N.T.S.



GRANITE CURB TRANSITION PIECE

SCALE: N.T.S.



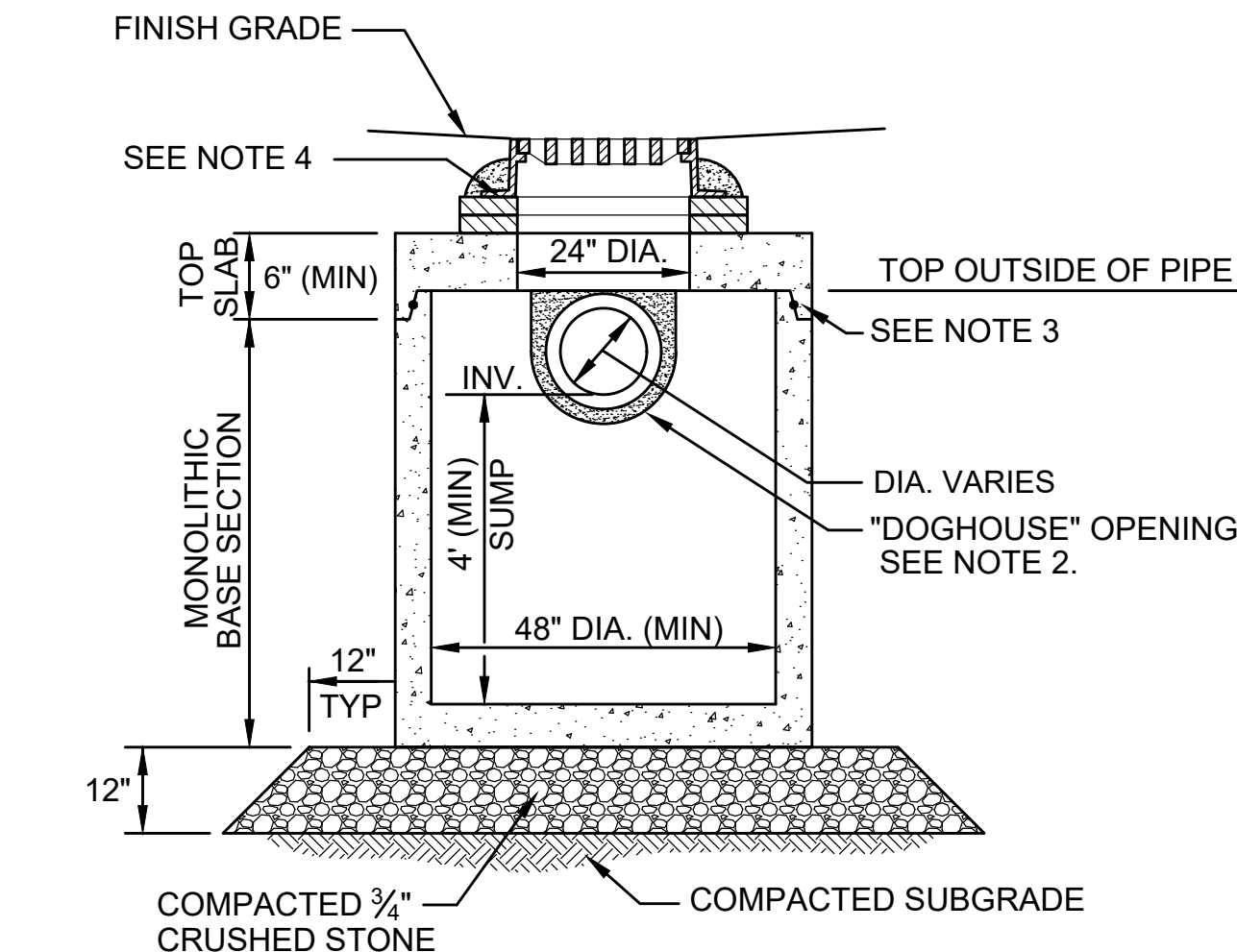


**NOTES**

1. INSTALLATIONS SHALL CONFORM WITH TOWN OF SOUTHBOROUGH WATER DEPARTMENT SPECIFICATIONS AND STANDARDS.

**WATER SERVICE**

SCALE: N.T.S.

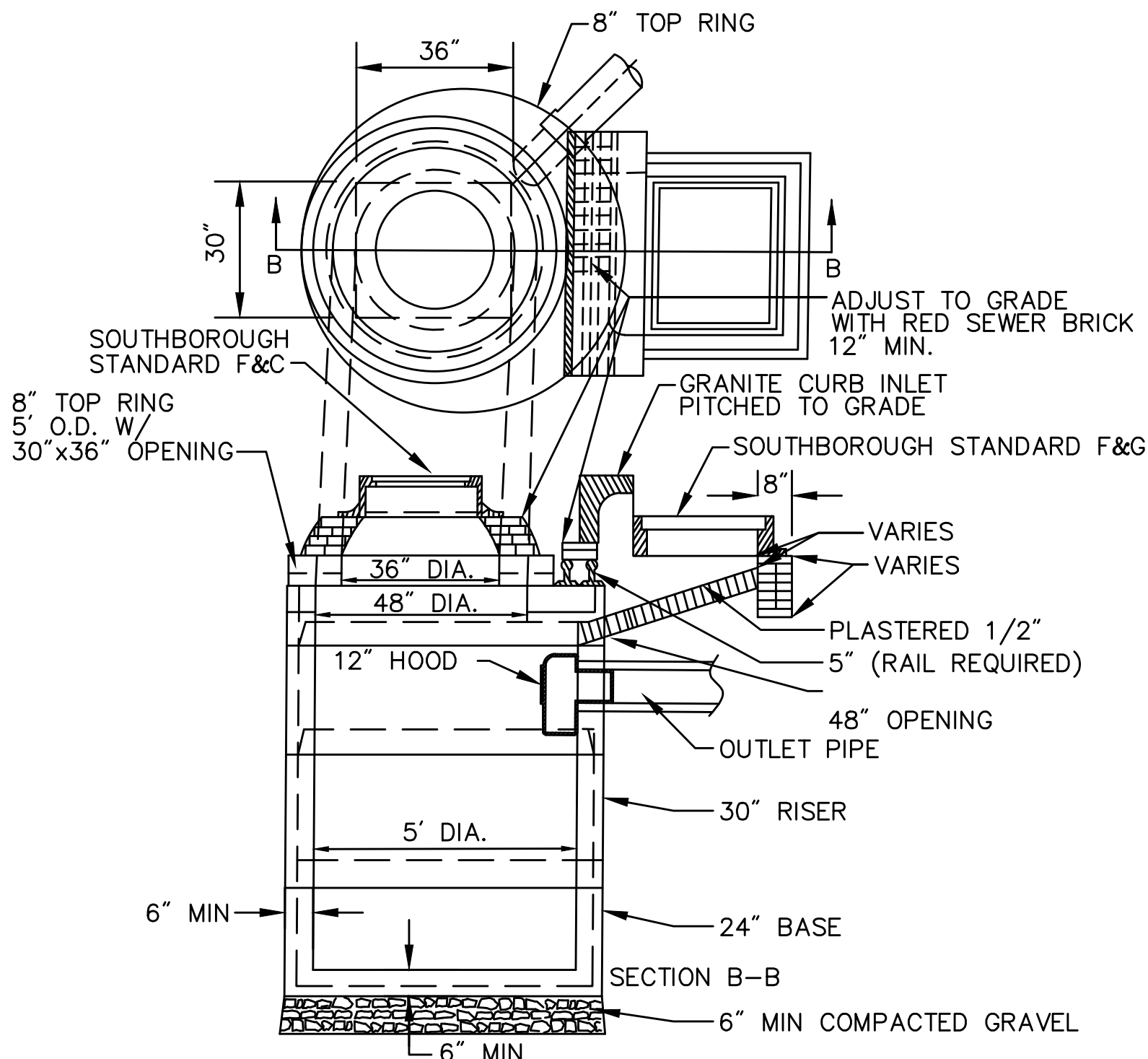


**CONSTRUCTION NOTES:**

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE DOGHOUSE OPENING FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. TOP SLAB SHALL NOT REST DIRECTLY ON PIPE. GROUT ALL PIPE CONNECTIONS (NON-SHRINK GROUT).
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE (8"DEPTH) SHALL BE SET IN FULL MORTAR BED.
5. ADJUST TO FINISH GRADE WITH CLAY BRICK AND MORTAR AS REQUIRED.

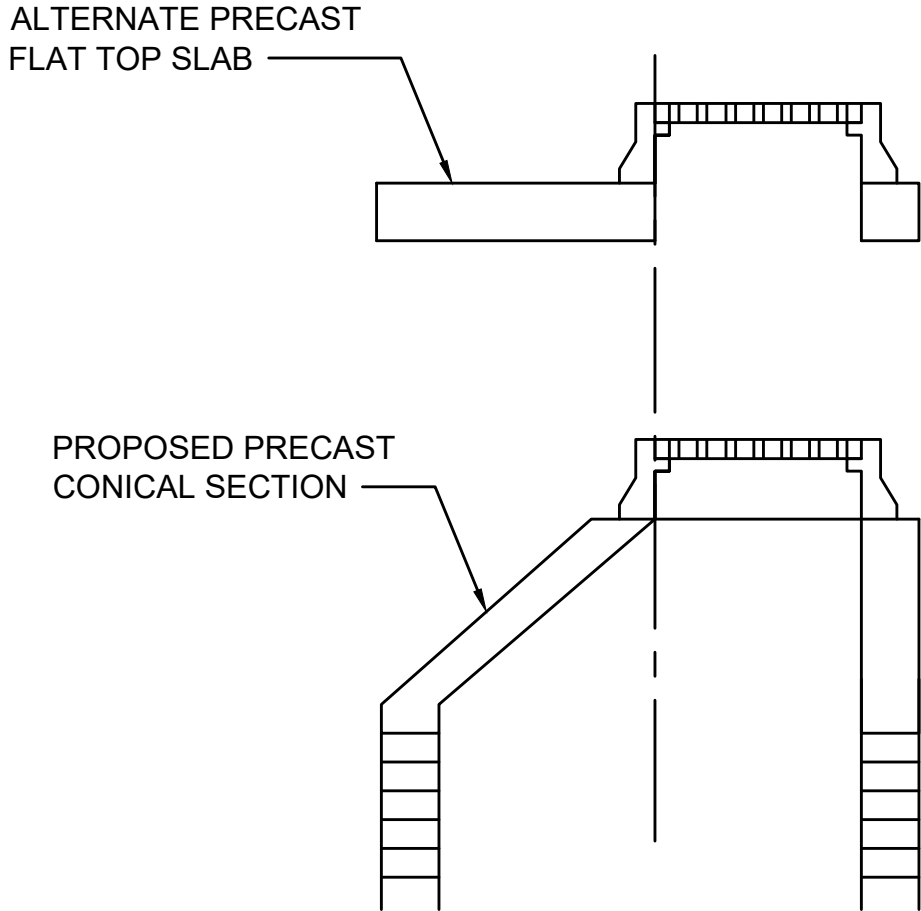
**SHALLOW COVER DRAINAGE STRUCTURE**

SCALE: N.T.S.



**ALTERNATIVE CATCH BASIN (SP CBCI)**

SCALE: N.T.S.



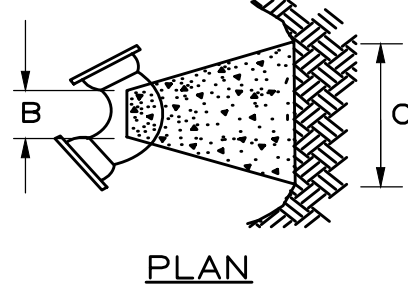
**NOTE:**

BASED ON ACTUAL FIELD CONDITIONS; THE CONTRACTORS SHALL DETERMINE WHICH STYLE OF TOP SECTION SHOULD BE USED.

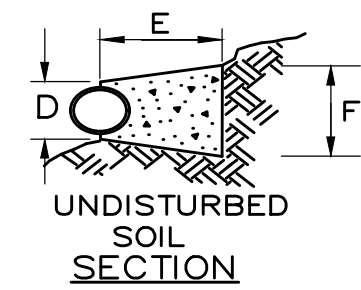
**CATCH BASIN WITH ECCENTRIC CONE SECTION**

SCALE: N.T.S.

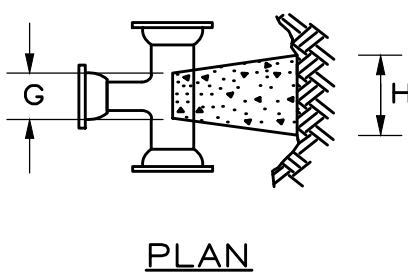
| BENDS      |         |     |     |     |     | BENDS       |     |     |     |     |     |
|------------|---------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-----|
|            | B       | C   | D   | E   | F   |             | B   | C   | D   | E   | F   |
| 6"         | 11-1/4" | 8"  | 15" | 12" | 24" | 12"         | 6"  | 45" | 8"  | 30" | 12" |
| 6"         | 22-1/2" | "   | 19" | "   | 13" | 6"          | "   | 90" | "   | 24" | 14" |
| 8"         | 11-1/4" | "   | 20" | "   | 12" | 8"          | "   | 30" | "   | "   | 27" |
| 8"         | 22-1/2" | "   | 22" | "   | 17" | 8"          | "   | 40" | "   | "   | 24" |
| 12"        | 11-1/4" | "   | 30" | "   | 15" | 12"         | "   | 40" | "   | "   | 40" |
| 12"        | 22-1/2" | "   | 35" | "   | 25" | 12"         | "   | 60" | "   | "   | 52" |
| TEES       |         |     |     |     |     | TEES        |     |     |     |     |     |
|            | G       | H   | I   | J   |     |             | G   | H   | I   | J   |     |
| 6"x 6"x 6" | 12"     | 24" | 24" | 18" |     | 12"x12"x6"  | 12" | 24" | 24" | 12" |     |
| 8"x 8"x 6" | "       | "   | "   | "   |     | 12"x12"x8"  | "   | "   | "   | 24" |     |
| 8"x 8"x 8" | "       | "   | "   | 24" |     | 12"x12"x12" | "   | 36" | "   | 36" |     |



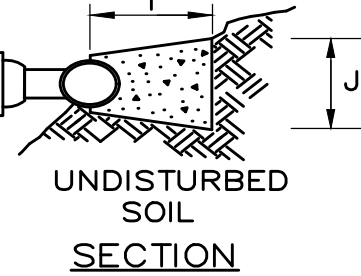
PLAN



UNDISTURBED SOIL SECTION



PLAN



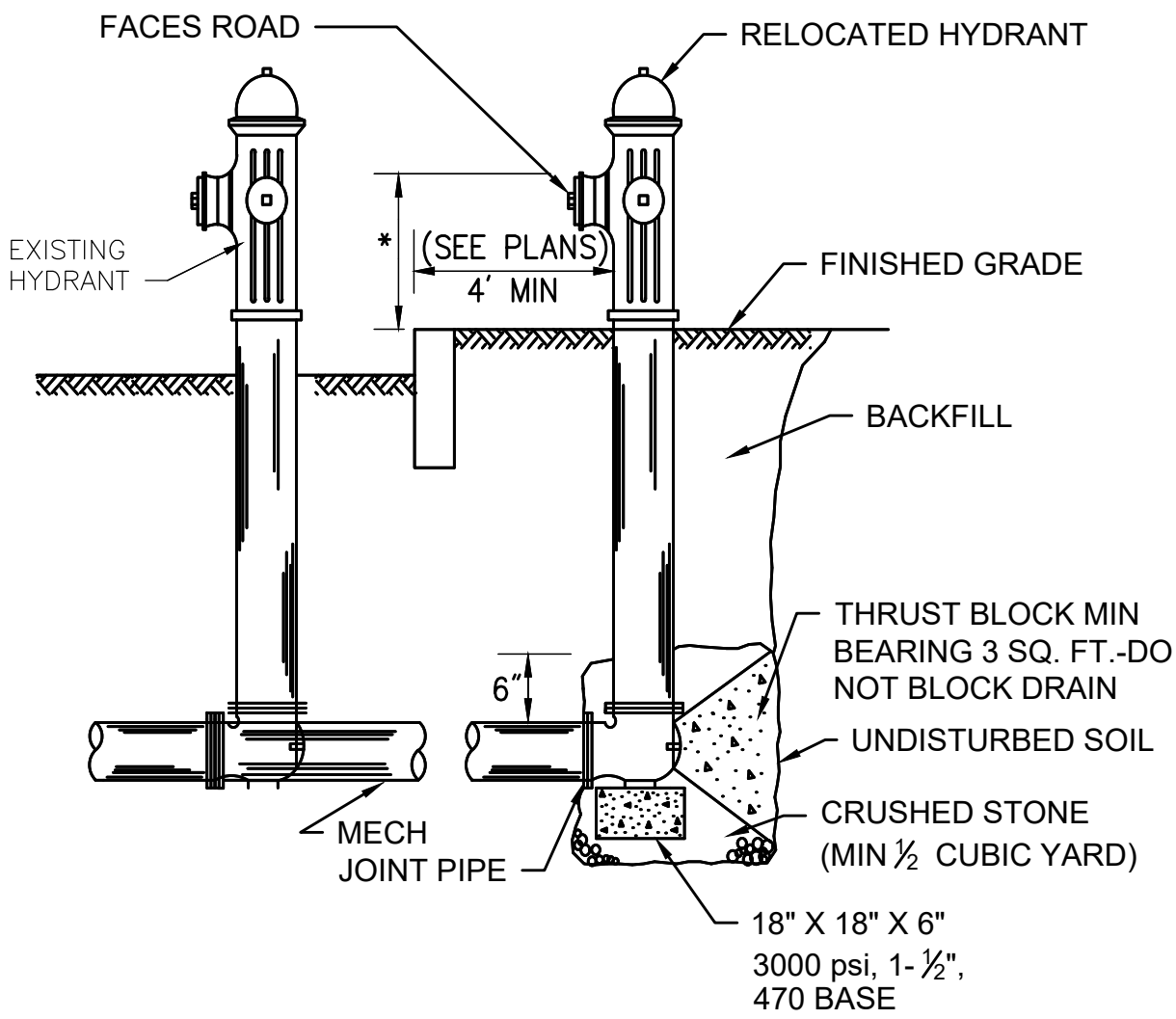
UNDISTURBED SOIL SECTION

**NOTES:**

1. PROVIDE BLOCKS FOR TAPPING SLEEVES, DEAD ENDS, GATE VALVES AND VERTICAL BENDS, SAME SIZE AS REQUIRED FOR TEES.
2. PROVIDE ANCHOR RODS AT VERTICAL BENDS AND GATE VALVES
3. CONCRETE SHALL NOT BE PLACED AGAINST PIPE BEYOND FITTING.

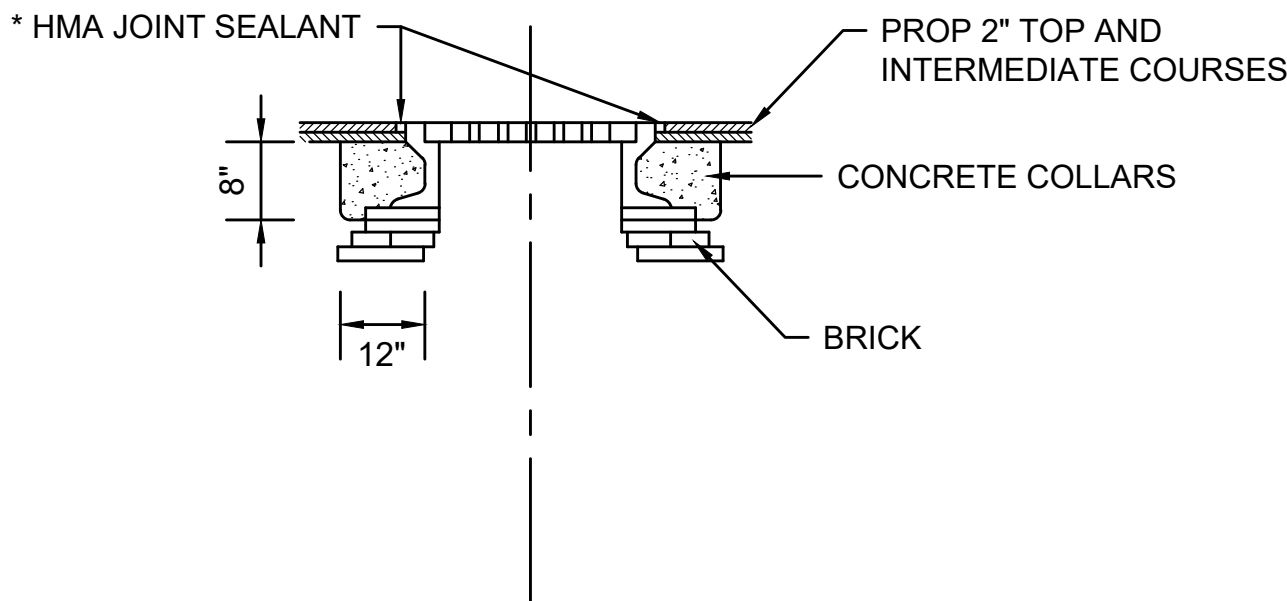
**CONCRETE THRUST BLOCK**

SCALE: NTS



**HYDRANT RELOCATION**

SCALE: NTS

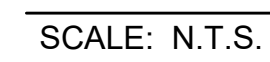
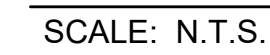


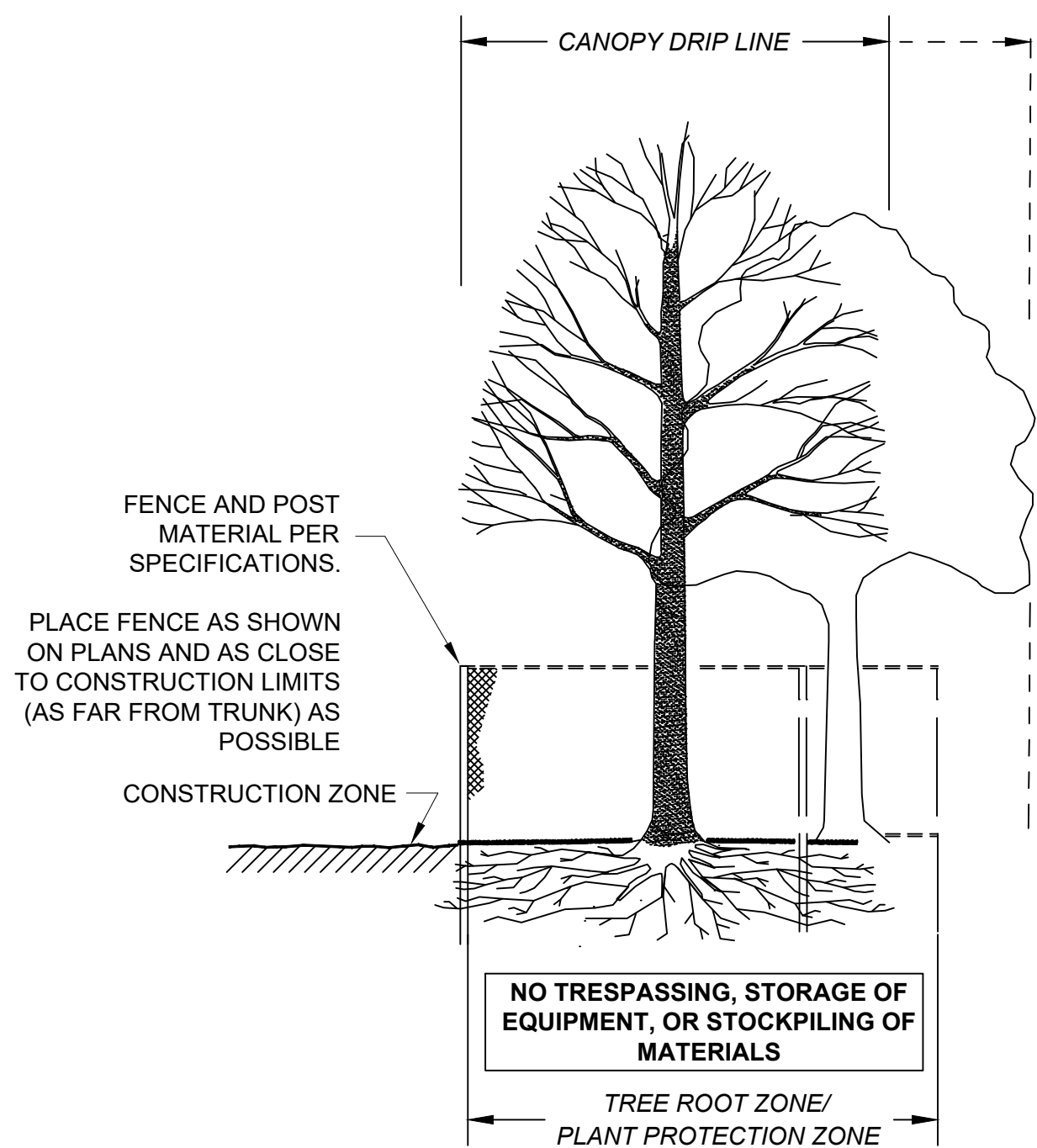
**NOTE:**

- PRIOR TO PLACING HMA TOP COURSE APPLY HMA JOINT SEALANT AROUND OUTSIDE PERIMETER OF ALL CASTINGS.

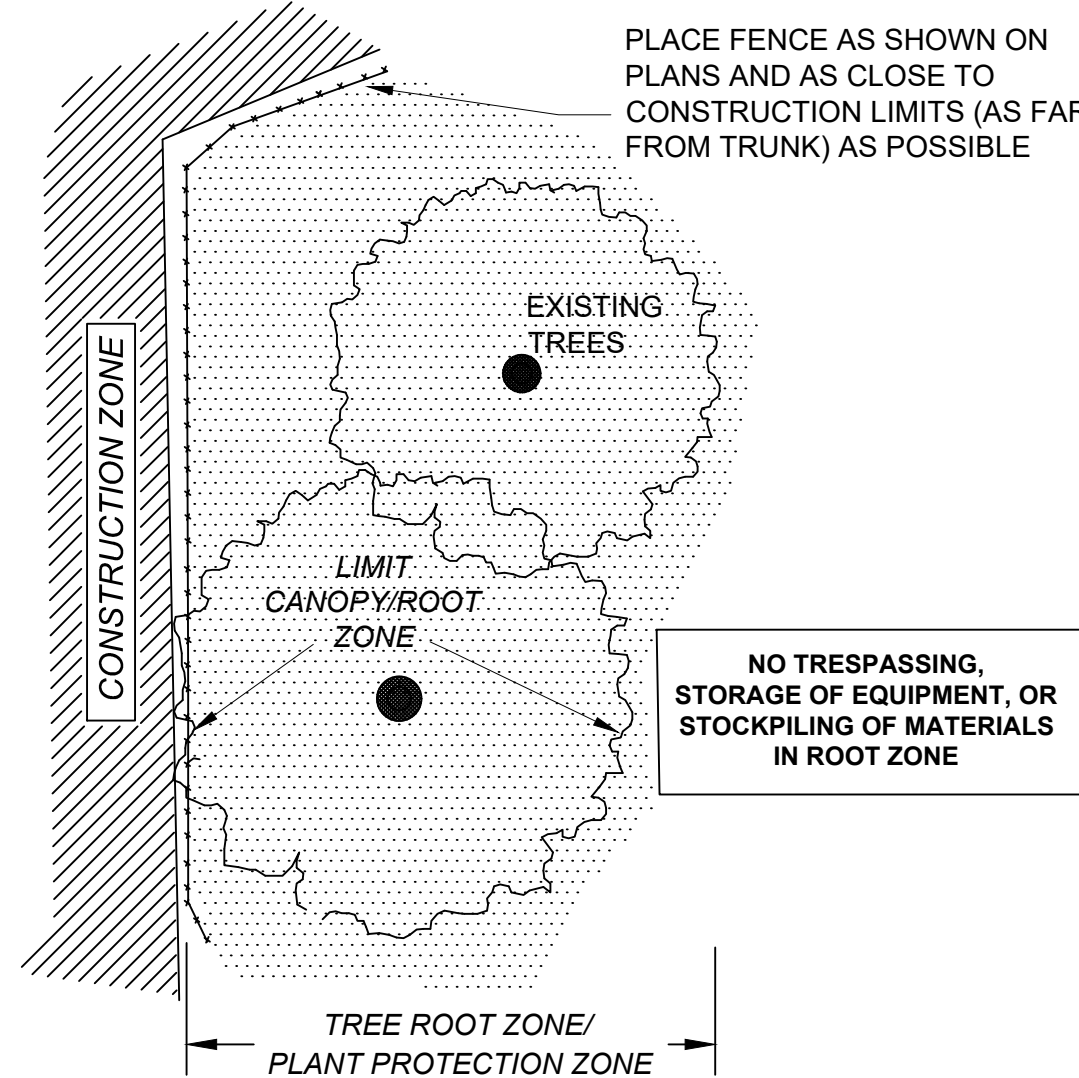
**CAST IRON FRAME DETAIL**

SCALE: N.T.S.

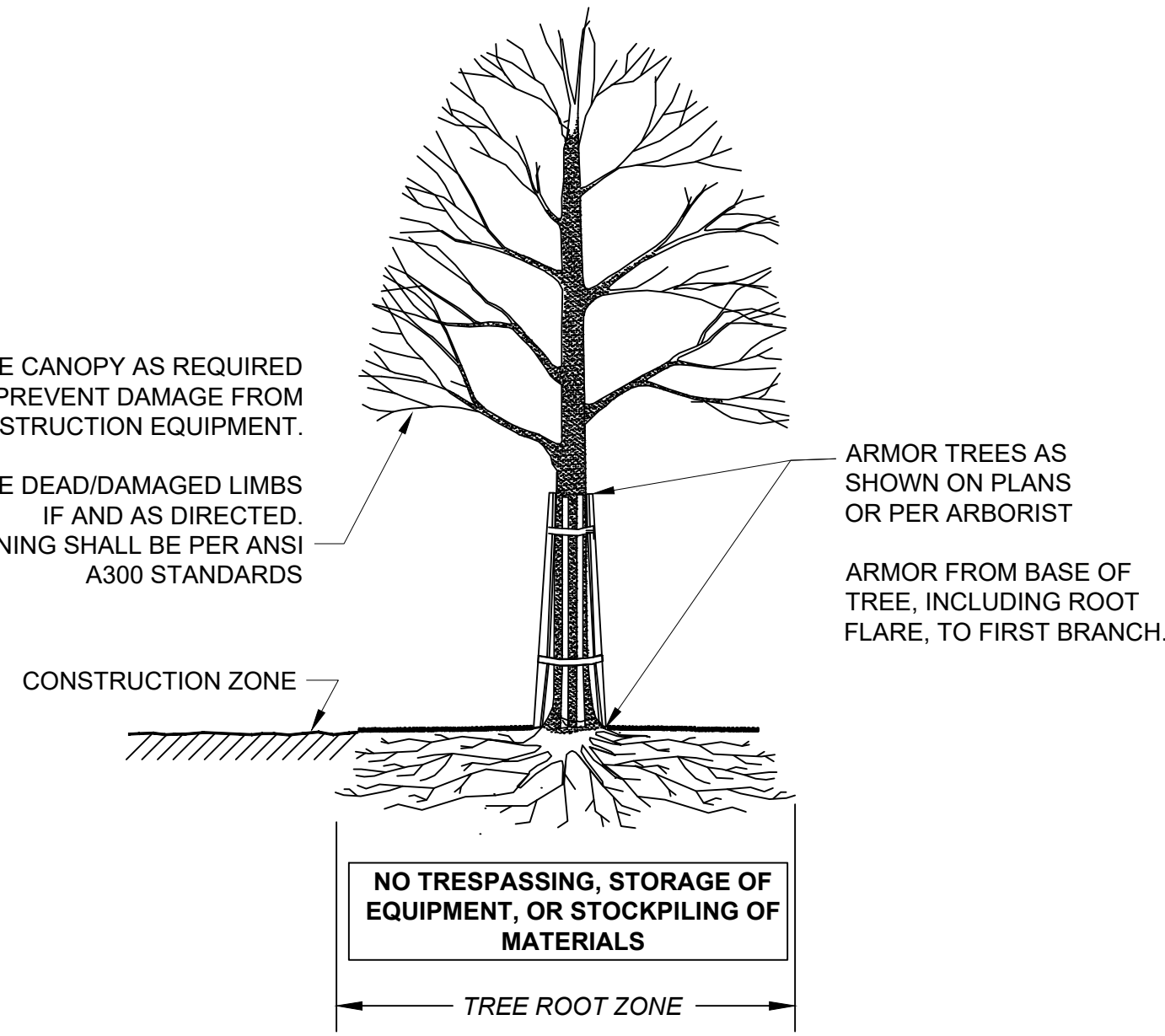




SECTION - FENCE PROTECTION OF ROOT ZONE



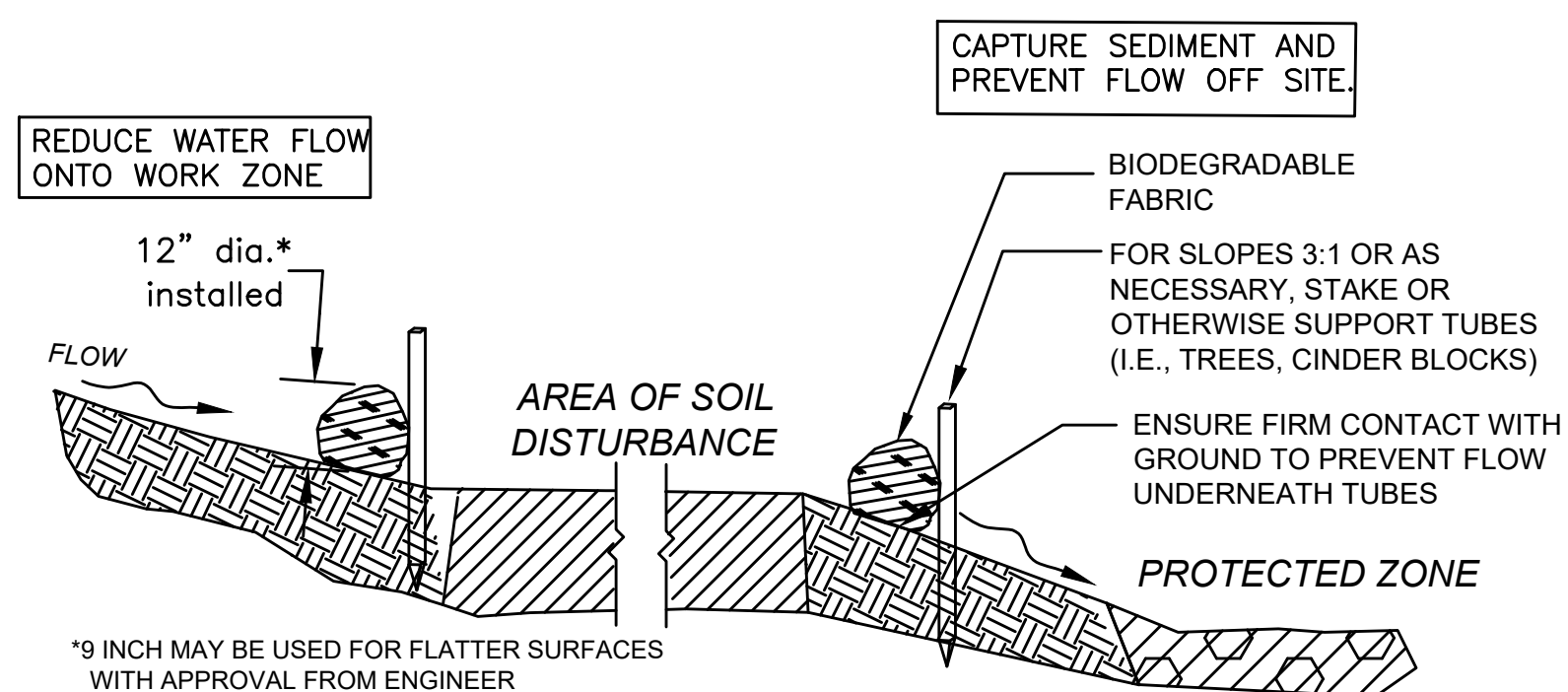
PLAN VIEW - FENCE PROTECTION OF ROOT ZONE



SECTION - TRUNK ARMORING & PRUNING

## TREE PROTECTION DETAILS

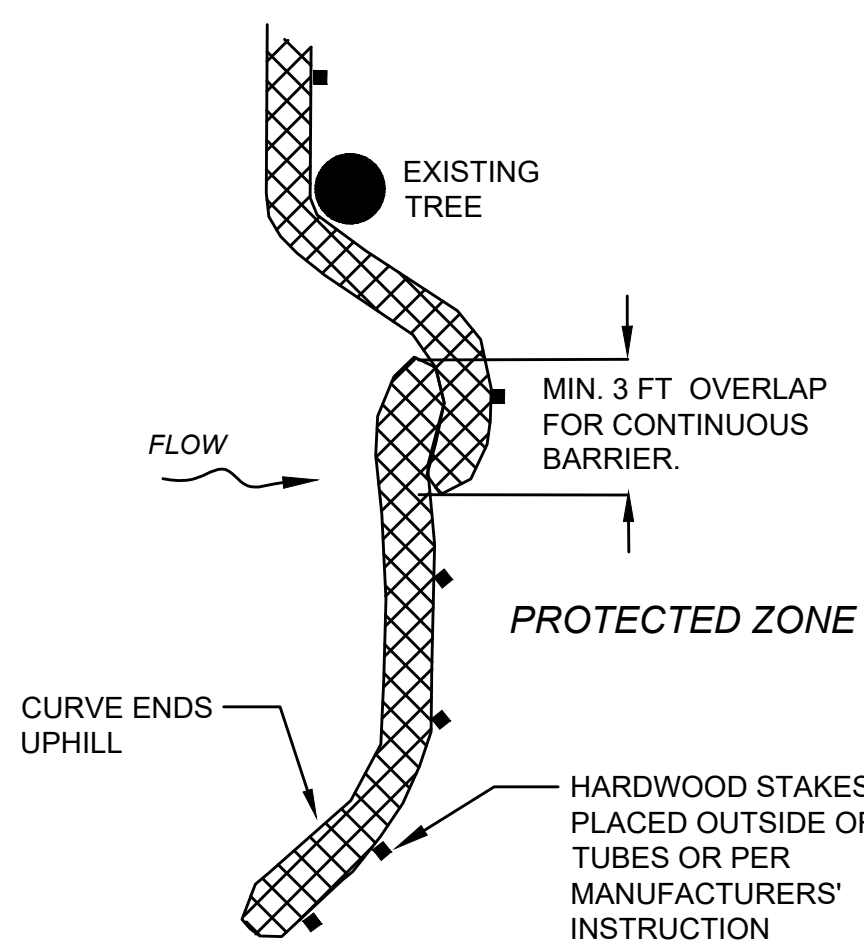
NOT TO SCALE



SECTION

## SEDIMENT BARRIERS - COMPOST FILTER TUBES

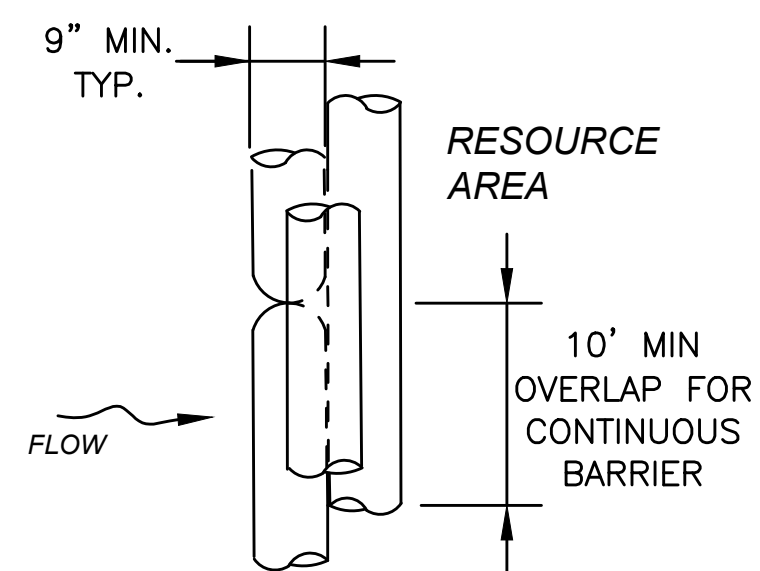
NOT TO SCALE



PLAN VIEW

## SEDIMENT BARRIERS

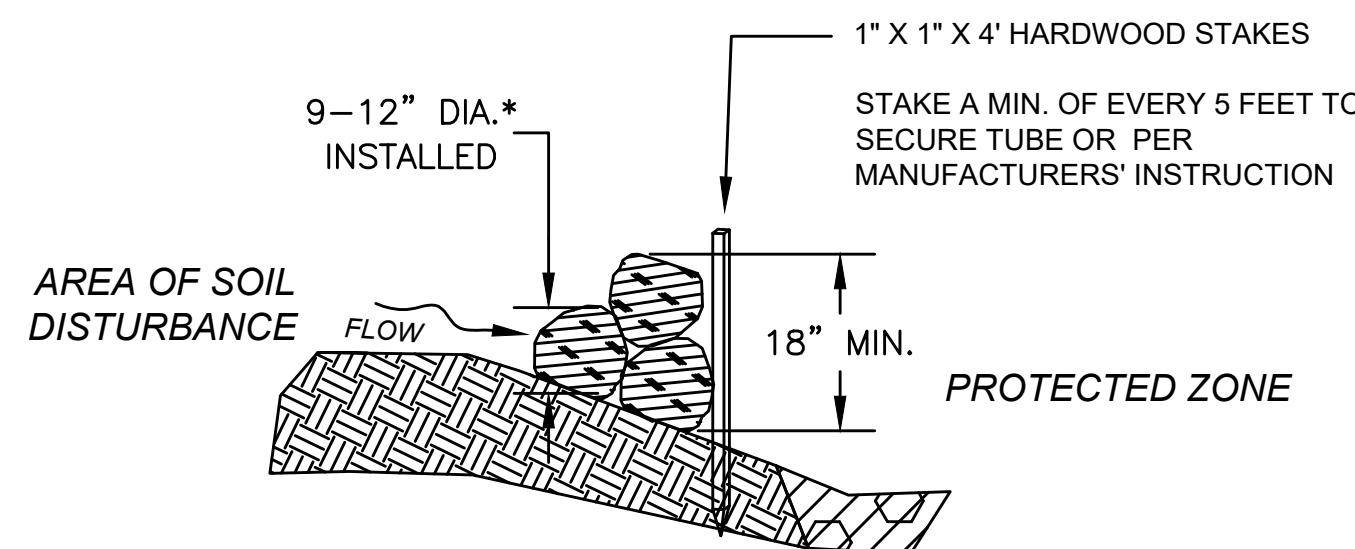
NOT TO SCALE



PLAN VIEW

## COMPOST FILTER TUBE BERM (SLOPES 2:1 OR STEEPER)

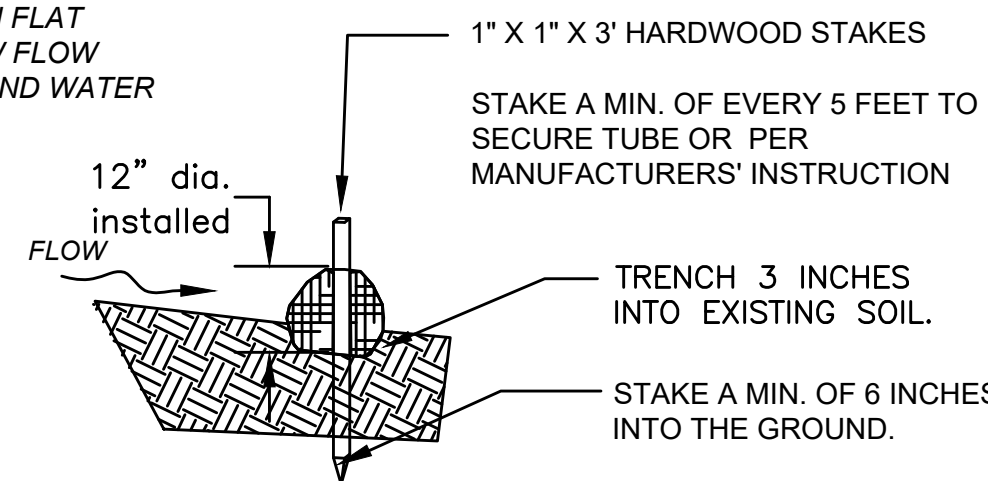
NOT TO SCALE



SECTION

## 12 INCH STRAW WATTLE

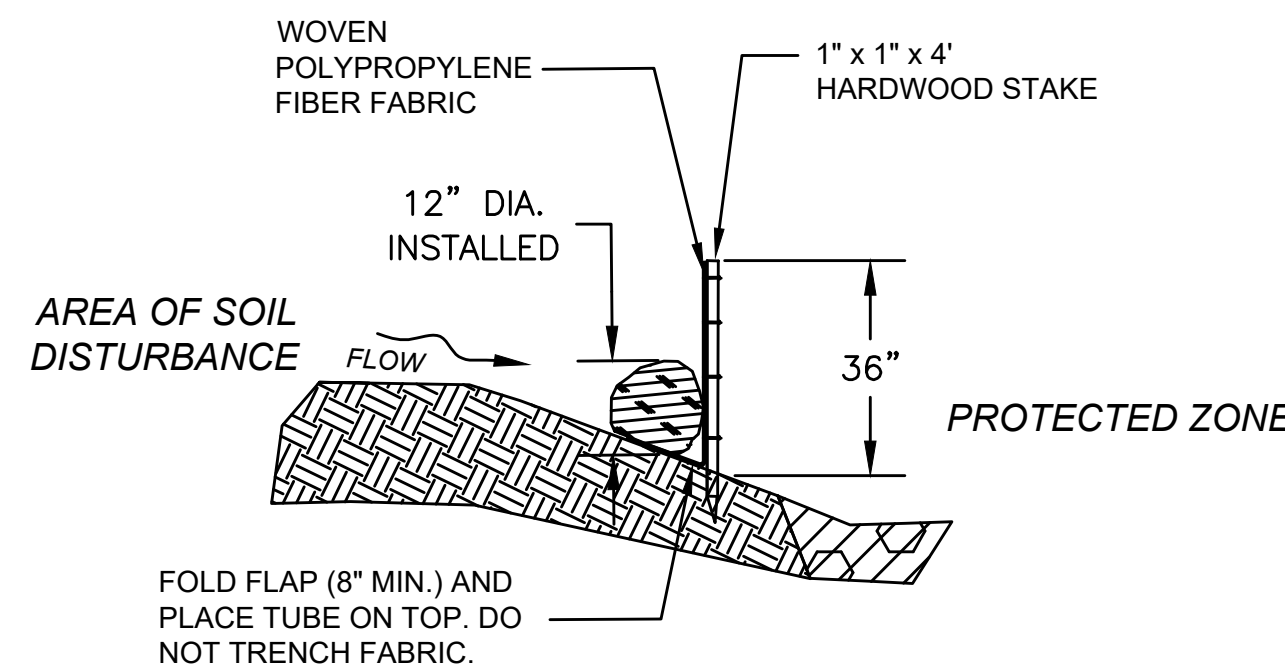
TO BE USED ONLY ON FLAT SURFACES WITH LOW FLOW TO DIVERT OR IMPOUND WATER FLOW



SECTION

## SEDIMENT BARRIERS - STRAW WATTLE

NOT TO SCALE



SECTION

## COMPOST FILTER TUBE & SILT FENCE

NOT TO SCALE

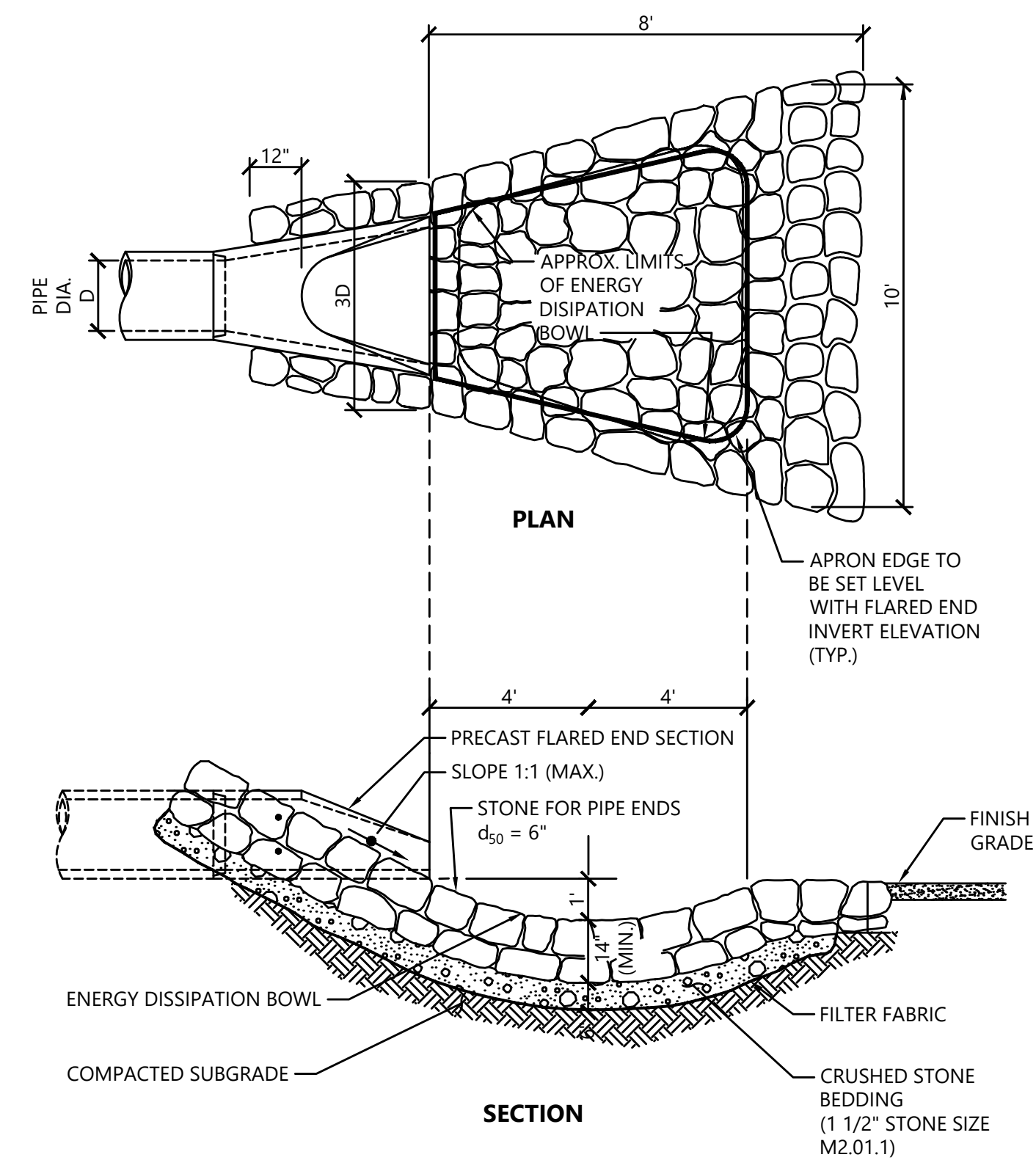
NOTE:  
REFER TO STANDARD ALPHABET FOR HIGHWAY SIGNS AND MARKINGS  
FOR RxR SYMBOL DETAILS.

## RR CROSSING PAVEMENT MARKING DETAIL

SCALE: N.T.S.

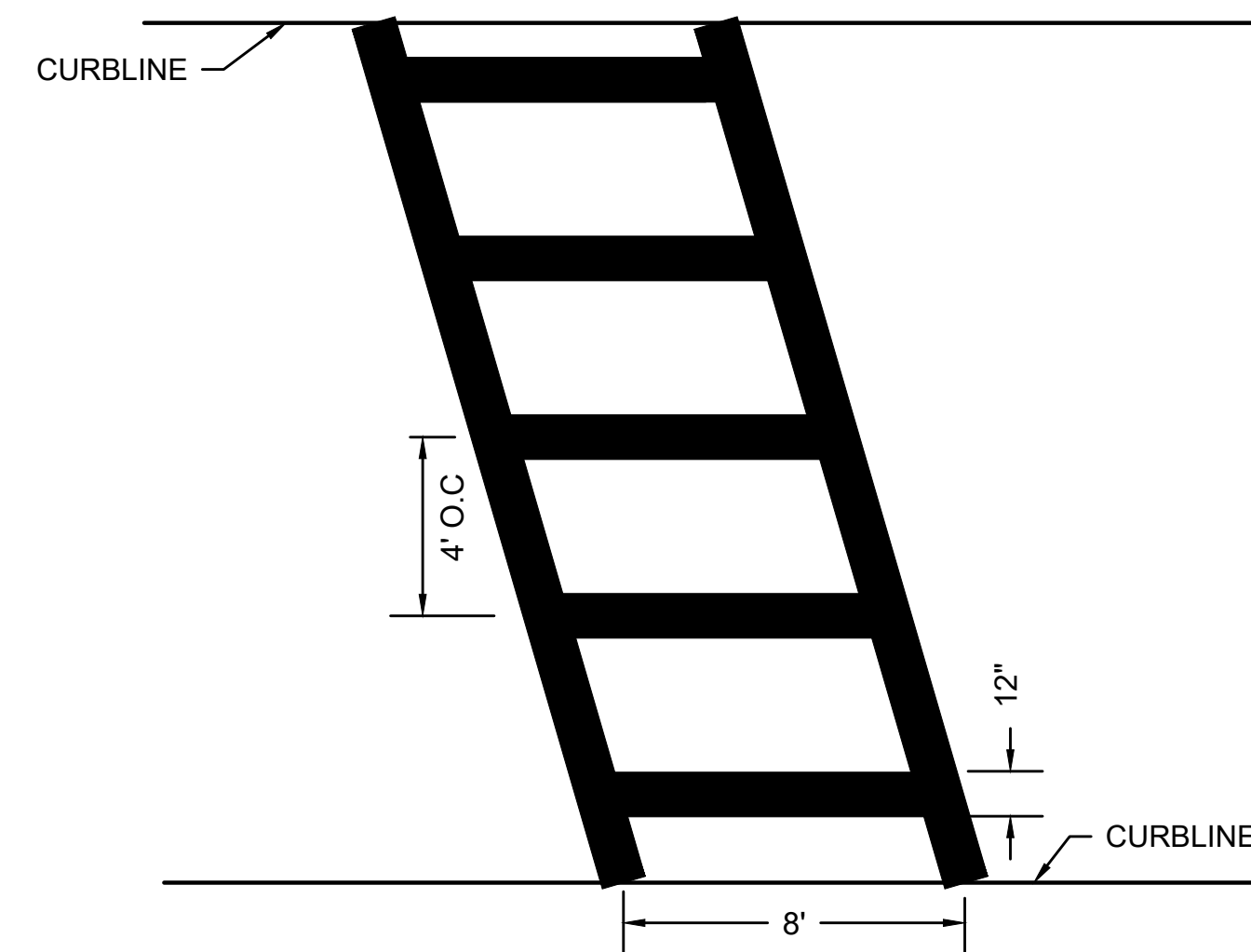
DWG: PM-05

DATE: AUGUST 2018



### FLARED END SECTION (FES) WITH STONE FOR PIPE ENDS

SCALE: N.T.S.



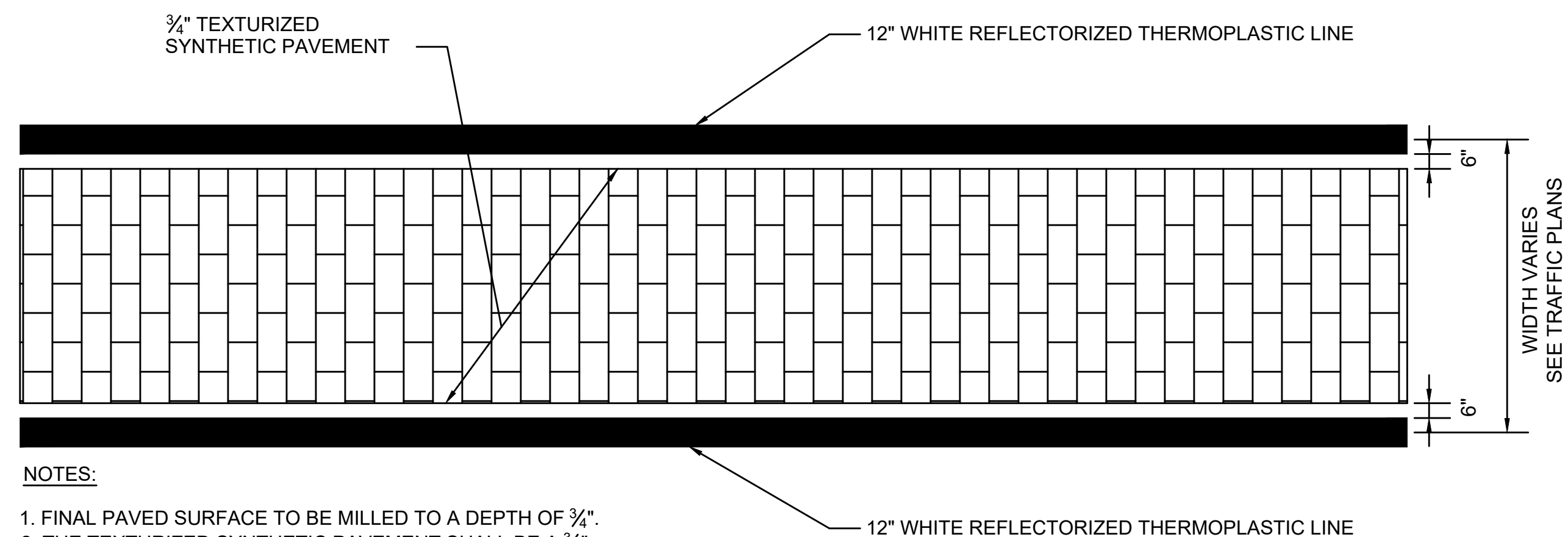
## CONTINENTAL CROSSWALK

SCALE: N.T.S.

DWG: PM-26

DATE: APRIL 2017

- NOTES:
1. ALL 12" THERMOPLASTIC LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED.
  2. LAYOUT OF CROSSWALKS SHALL BE ORIENTATED IN THE DIRECTION OF TRAVEL AND LOCATED OUTSIDE OF THE WHEEL PATH OF VEHICLES. LAYOUT SHALL BE APPROVED BY TOWN OF SOUTHBOROUGH PRIOR TO APPLICATION OF THERMOPLASTIC.
  3. ALL CROSSWALKS INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS HIGHWAY DEPARTMENT "STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES" DATED 1988, SECTION 860 FOR REFLECTORIZED LINE (THERMO-PLASTIC) & MATERIAL M7.01.20, LATEST REVISIONS.



## TEXTURIZED SYNTHETIC PAVEMENT AT CROSSWALKS

SCALE: N.T.S.

# TRANSPORTATION IMPROVEMENT PROJECT

PLAN AND PROFILE OF

## NEWTON STREET AND CORDAVILLE ROAD

IN THE TOWN OF

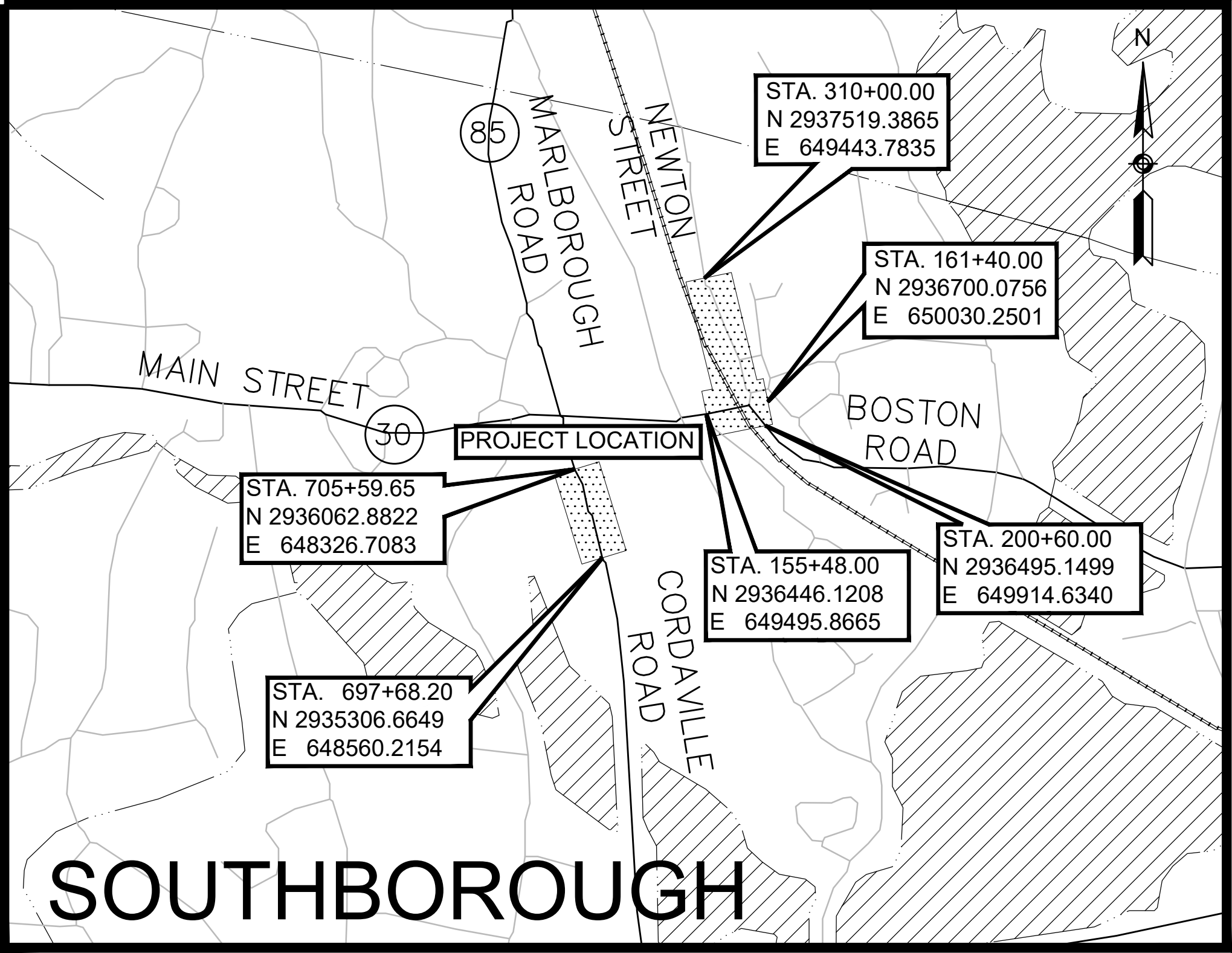
## SOUTHBOROUGH WORCESTER COUNTY

SOUTHBOROUGH  
VARIOUS LOCATIONS  
TITLE SHEET & INDEX  
SHEET 17 OF 141

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.

### LOCATIONS 1 AND 2

| INDEX     |                                  |
|-----------|----------------------------------|
| SHEET NO. | DESCRIPTION                      |
| 17        | TITLE SHEET & INDEX              |
| 18        | KEY PLAN & GENERAL NOTES         |
| 19-22     | TYPICAL SECTIONS                 |
| 23-28     | CONSTRUCTION PLANS               |
| 29-35     | PROFILES                         |
| 36-41     | CURB TIE & GRADING PLANS         |
| 42-47     | UTILITY PLANS                    |
| 48-52     | TRAFFIC PLANS                    |
| 53        | TRAFFIC SIGN SUMMARY             |
| 60-67     | CROSS SECTIONS - MAIN STREET     |
| 68        | CROSS SECTIONS - BOSTON ROAD     |
| 69-77     | CROSS SECTIONS - NEWTON STREET   |
| 78-83     | CROSS SECTIONS - CORDAVILLE ROAD |



#### DESIGN DESIGNATION (MAIN STREET)

|                           |                      |
|---------------------------|----------------------|
| DESIGN SPEED              | 25 MPH               |
| ADT (2009)                | 8,215 VPD            |
| ADT (2037)                | 10,127 VPD           |
| K                         | 10%                  |
| D                         | 72.8% EB             |
| T (PEAK HOUR)             | 4.3%                 |
| T (AVERAGE DAY)           | 2.0%                 |
| DHV                       | 1,043 VPH            |
| DDHV                      | 759 VPH              |
| FUNCTIONAL CLASSIFICATION | URBAN MINOR ARTERIAL |



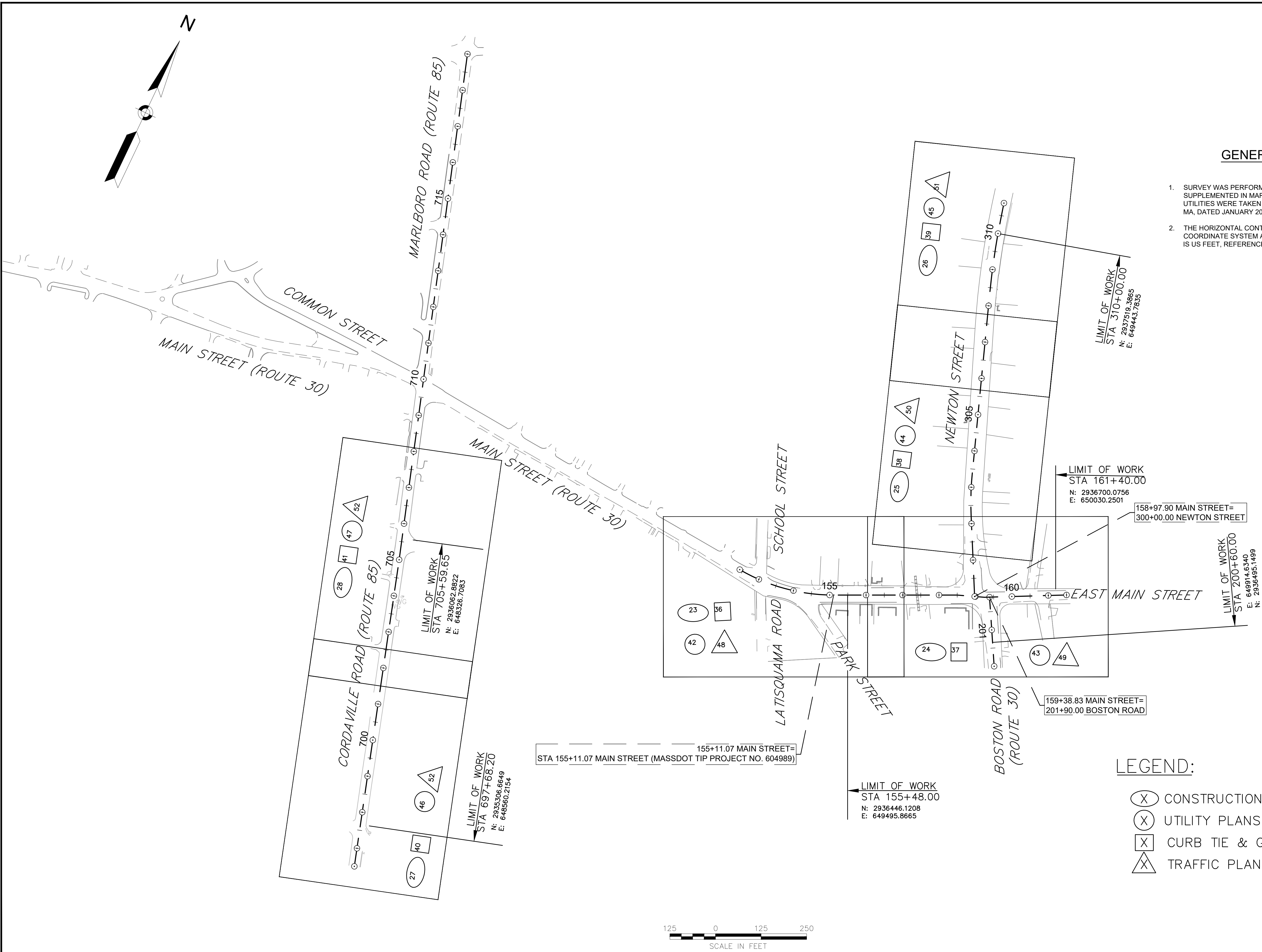
LENGTH OF PROJECT = 2,030.00 FEET = 0.38 MILES

GENERAL NOTES:

1. SURVEY WAS PERFORMED BY VHB, INC., WATERTOWN, MA IN AUGUST 2009 AND SUPPLEMENTED IN MARCH 2011, OCTOBER 2015, AND MAY 2018. UNDERGROUND UTILITIES WERE TAKEN FROM PLANS PREPARED BY TAJ ENGINEERING, CHELMSFORD, MA, DATED JANUARY 2004.
2. THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88).

LEGEND:

- (X) CONSTRUCTION PLANS
- (X) UTILITY PLANS
- [X] CURB TIE & GRADING
- (X) TRAFFIC PLANS



SOUTHBOROUGH  
 VARIOUS LOCATIONS  
 TYPICAL SECTIONS  
 SHEET 19 OF 141

PAVEMENT NOTES

PROPOSED FULL DEPTH PAVEMENT

SURFACE: 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER  
 1.75" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER  
 BASE: 4.5" SUPERPAVE BASE COURSE 37.5 (SBC-37.5) OVER  
 SUBBASE: 4" DENSE GRADED CRUSHED STONE OVER  
 8" GRAVEL BORROW (TYPE b)

PROPOSED PAVEMENT MILLING & OVERLAY

SURFACE: 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER  
 1.75" PAVEMENT MICROMILLING

PROPOSED FULL DEPTH PAVEMENT LESS THAN 4'-0"

SURFACE: 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER  
 1.75" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER  
 BASE: 6" HIGH EARLY STRENGTH CEMENT CONCRETE BASE OVER  
 SUBBASE: 8" GRAVEL BORROW (TYPE b)

PROPOSED HOT MIX ASPHALT WALK

SURFACE: 1.25" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER  
 1.5" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER  
 FOUNDATION: 8" GRAVEL BORROW (TYPE b)

PROPOSED HOT MIX ASPHALT DRIVEWAY/WALK AT DRIVEWAY

SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER  
 2.5" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER  
 FOUNDATION: 8" GRAVEL BORROW (TYPE b)

PROPOSED CEMENT CONCRETE DRIVEWAY

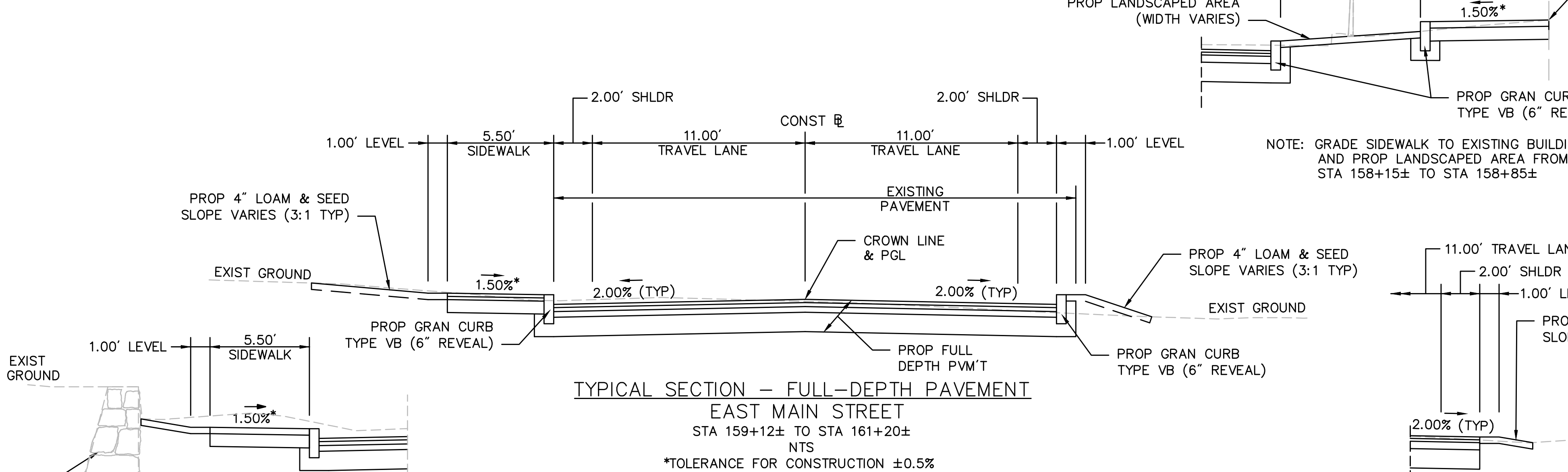
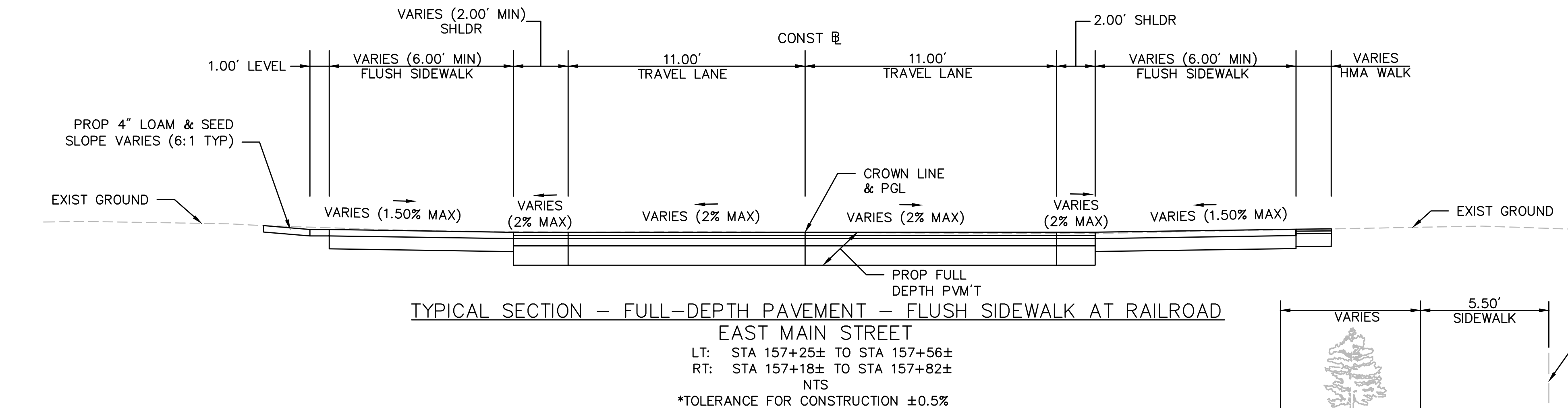
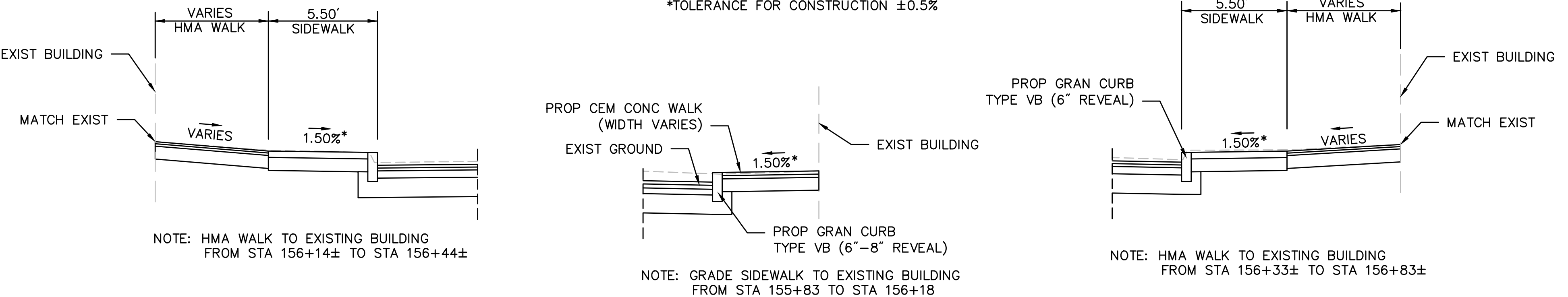
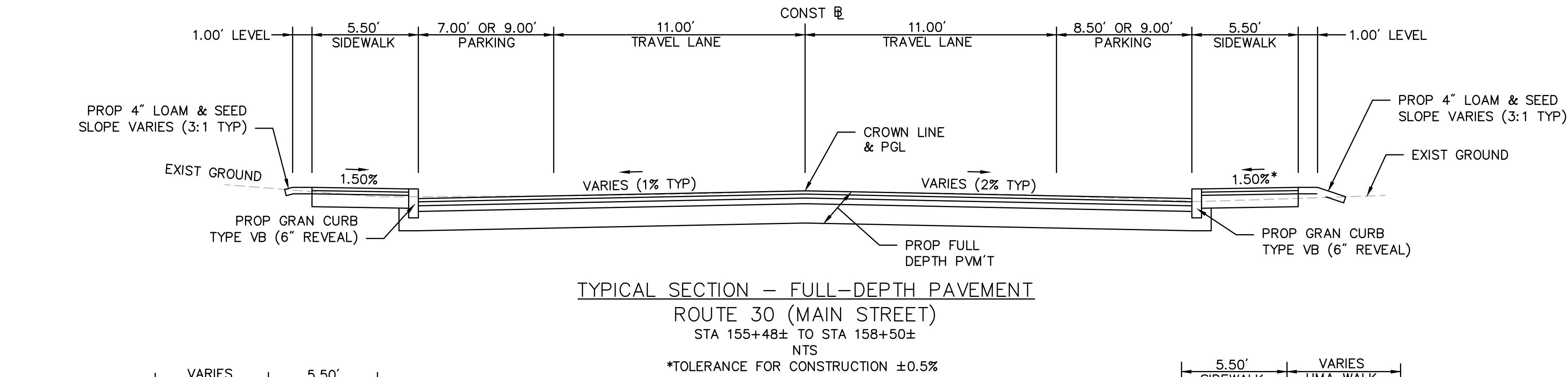
SURFACE: 6" CEMENT CONCRETE  
 AIR ENTRAINED 4000PSI, 3/4", 610 OVER  
 FOUNDATION: 8" GRAVEL BORROW (TYPE b)

PROPOSED CEMENT CONCRETE WALK/WHEELCHAIR RAMP

SURFACE: 4" CEMENT CONCRETE  
 AIR ENTRAINED 4000 PSI, 3/4", 610 OVER  
 FOUNDATION: 8" GRAVEL BORROW (TYPE b)

NOTES:

- 1) ASPHALT EMULSION FOR TACK COAT SHALL BE (RS-1H) TO RESIST TRACKING BY HAUL VEHICLES AND BOND HMA LAYERS FOR FLEXURAL STRENGTH. TACK COAT WILL BE APPLIED AT 0.07 GAL/SY OVER SMOOTH PAVEMENT (BASE AND INTERMEDIATE COURSES).
- 2) HMA WALKS AND DRIVEWAYS SHALL BE IN ACCORDANCE WITH SECTION 702. AND SHALL BE 50 GYRATION MIXTURES.
- 3) EXISTING GRAVEL BORROW MEETING MATERIAL SPECIFICATIONS SHALL BE RETAINED AND USED ON SITE FOR SUBBASE AS APPROVED BY ENGINEER.

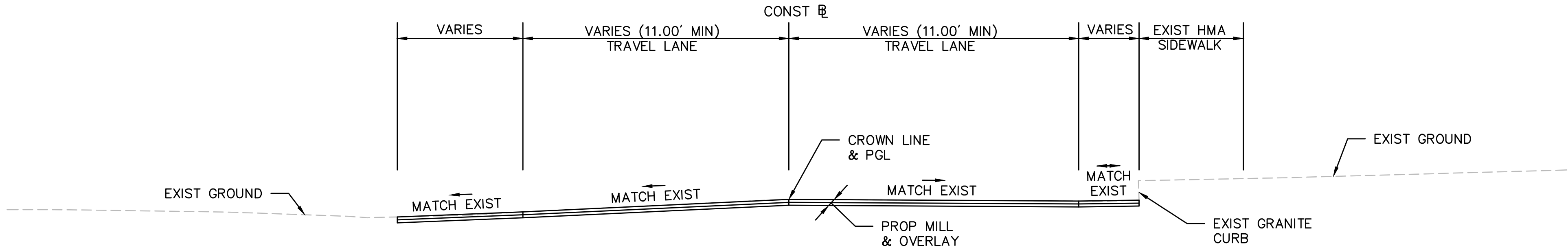


MAINTAIN EXIST STONE RETAINING WALL (TYP)

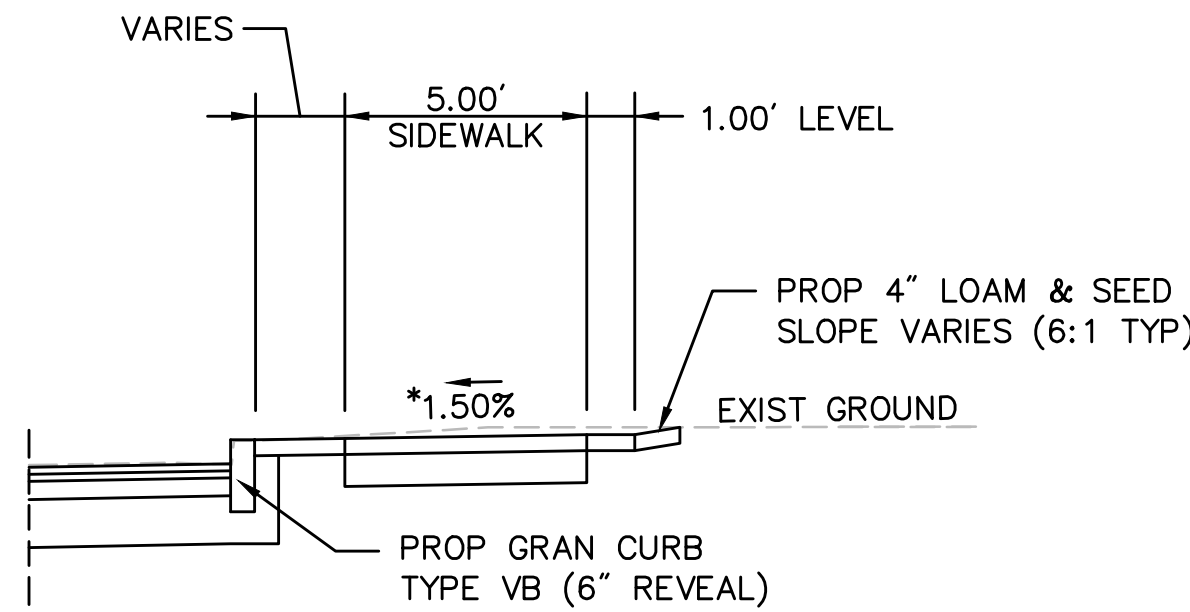
NOTE: EXIST STONE RETAINING WALL ON LEFT SIDE OF ROADWAY FROM STA 159+12± TO STA 159+88±

NOTE: CURB ENDS ON RIGHT SIDE AT STA 160+00

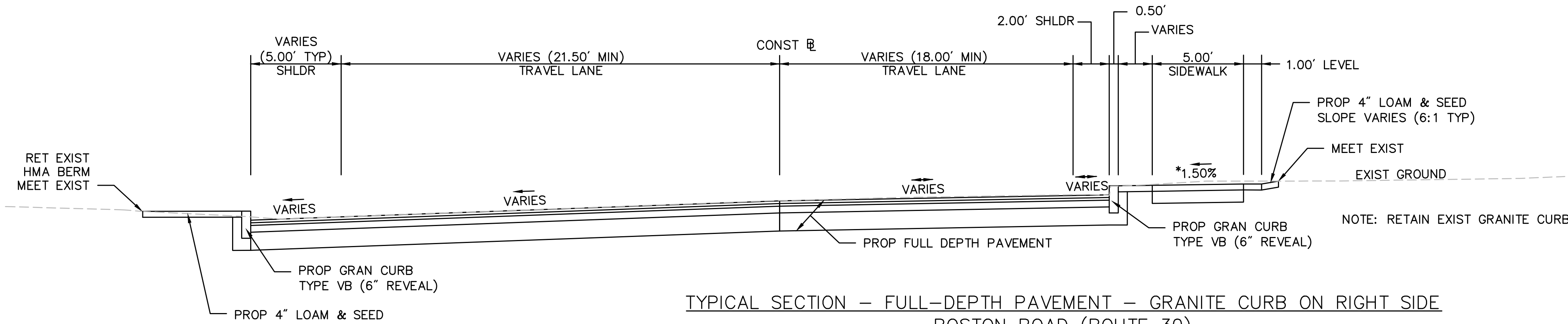
FOR PAVEMENT NOTES, SEE SHEET 19.



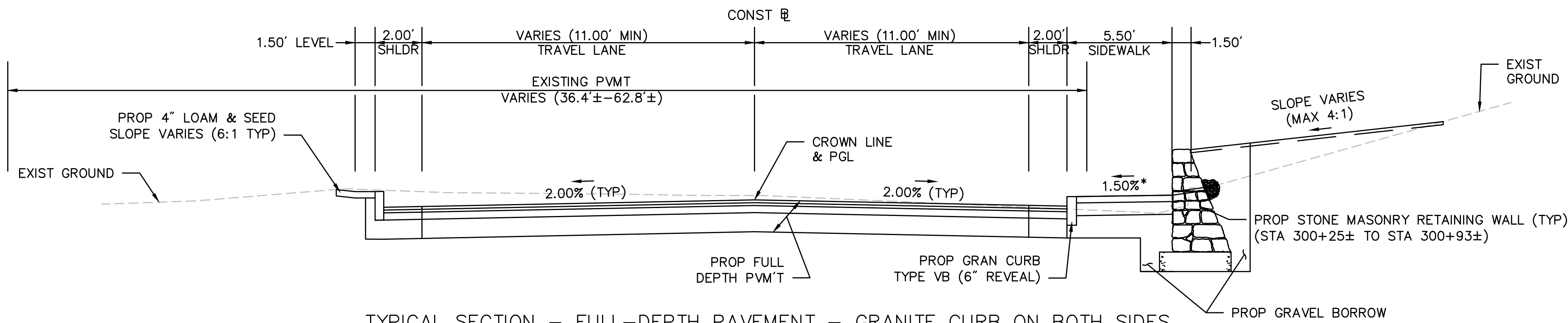
TYPICAL SECTION – MILL & OVERLAY  
BOSTON ROAD (ROUTE 30)  
STA 200+60± TO STA 201+37±  
NTS



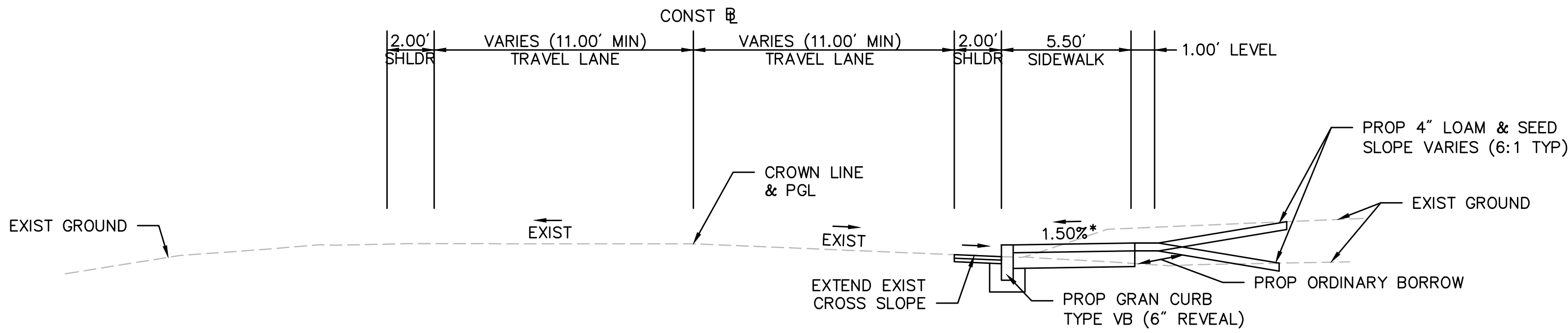
NOTE: 5.00' SIDEWALK ON RIGHT  
STA 201+37± TO STA 201+50±  
NTS  
\*TOLERANCE FOR CONSTRUCTION ±0.5%



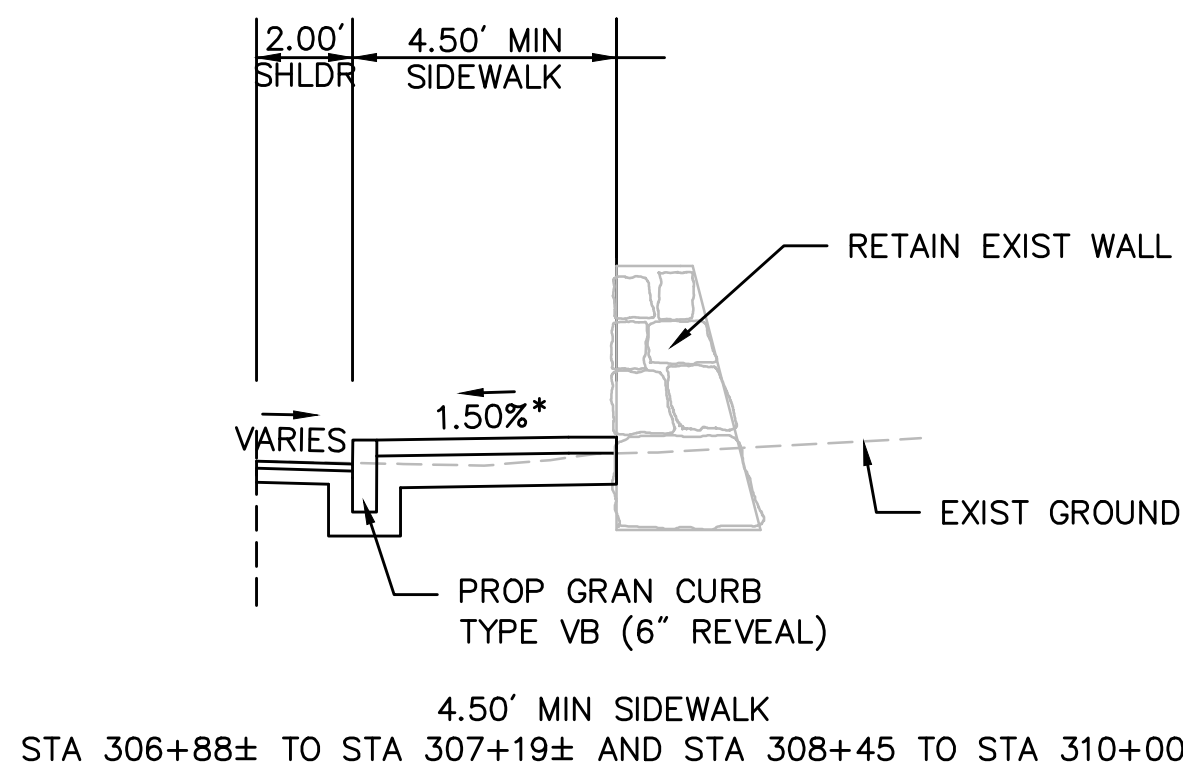
TYPICAL SECTION – FULL-DEPTH PAVEMENT – GRANITE CURB ON RIGHT SIDE  
BOSTON ROAD (ROUTE 30)  
STA 201+50± TO STA 201+75±  
NTS  
\*TOLERANCE FOR CONSTRUCTION ±0.5%



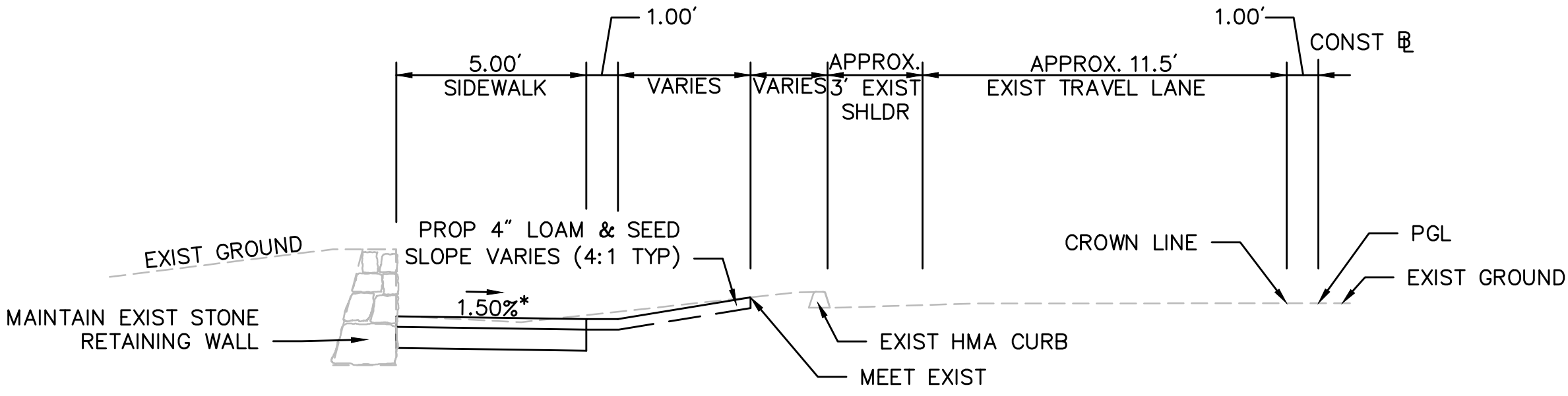
TYPICAL SECTION - FULL-DEPTH PAVEMENT - GRANITE CURB ON BOTH SIDES  
NEWTON STREET  
STA 300+25± TO STA 301+55±  
NTS  
TOLERANCE FOR CONSTRUCTION ±0.5%



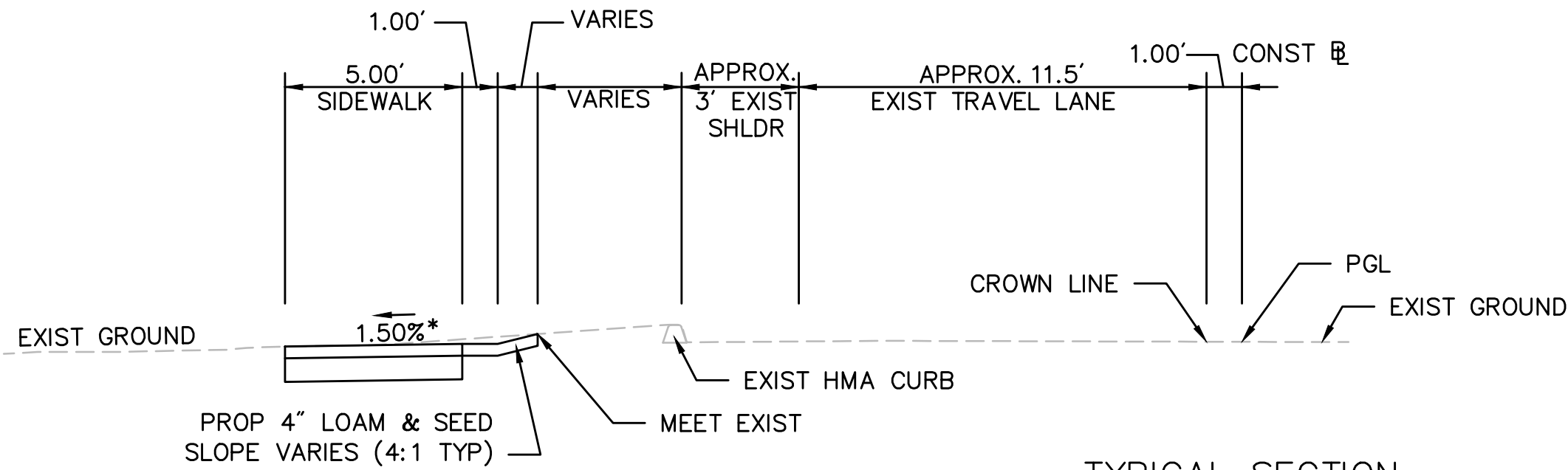
TYPICAL SECTION - GRANITE CURB RIGHT SIDE  
NEWTON STREET  
STA 301+55± TO STA 310+00±  
NTS  
TOLERANCE FOR CONSTRUCTION ±0.5%



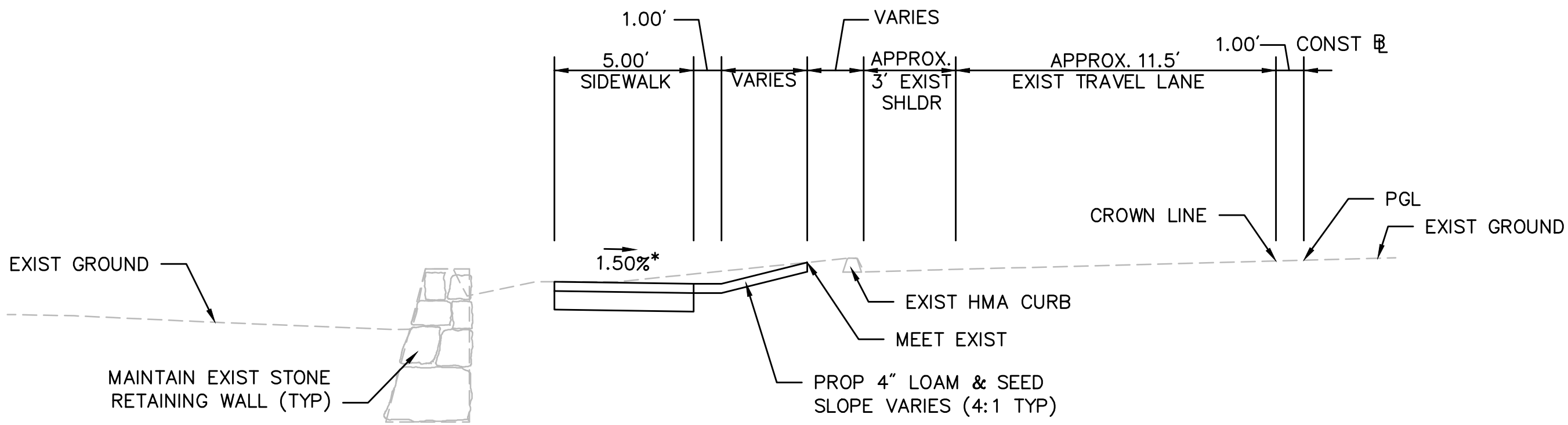
FOR PAVEMENT NOTES, SEE SHEET 19.



TYPICAL SECTION  
CORDAVILLE ROAD  
STA 697+68± TO STA 700+50±  
NTS  
\*TOLERANCE FOR CONSTRUCTION ±0.5%



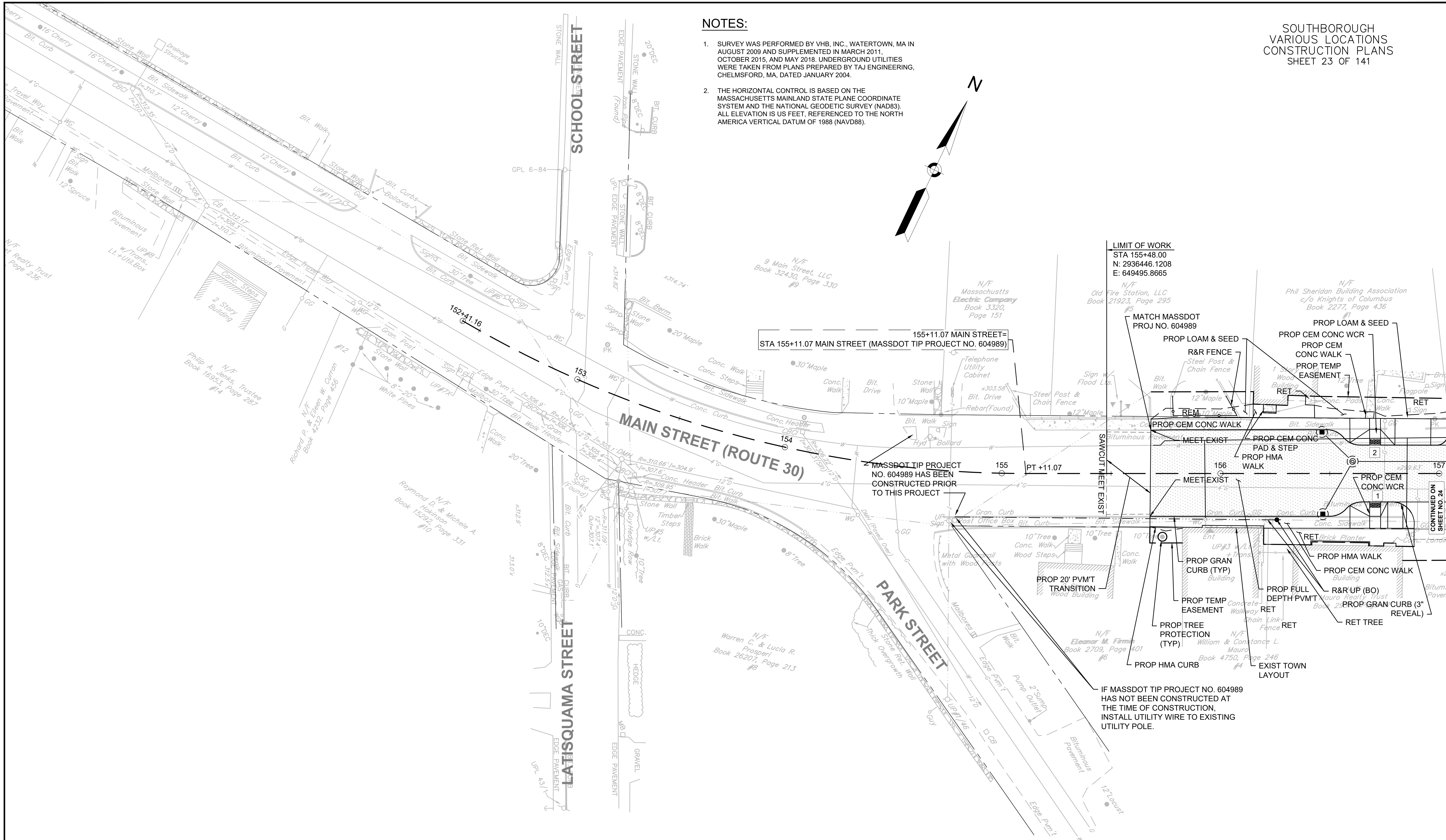
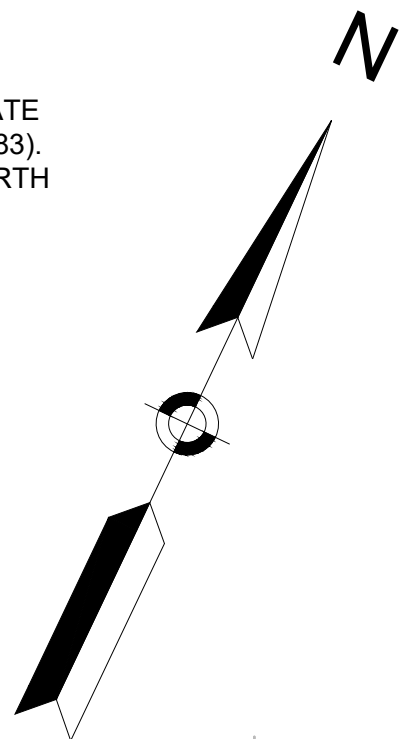
TYPICAL SECTION  
CORDAVILLE ROAD  
STA 700+50± TO STA 705+60±  
NTS  
\*TOLERANCE FOR CONSTRUCTION ±0.5%



TYPICAL SECTION  
CORDAVILLE ROAD  
STA 702+63± TO STA 703+01±  
NTS  
TOLERANCE FOR CONSTRUCTION ±0.5%

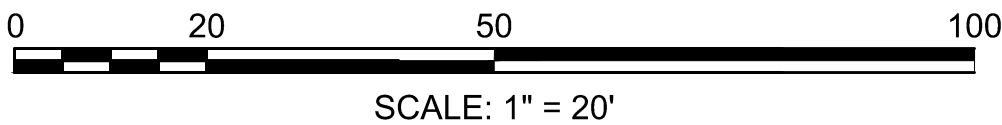
NOTES:

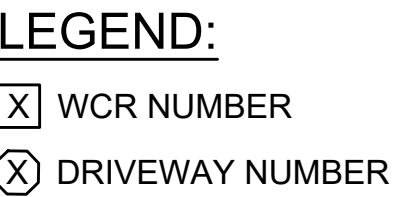
1. SURVEY WAS PERFORMED BY VHB, INC., WATERTOWN, MA IN AUGUST 2009 AND SUPPLEMENTED IN MARCH 2011, OCTOBER 2015, AND MAY 2018. UNDERGROUND UTILITIES WERE TAKEN FROM PLANS PREPARED BY TAJ ENGINEERING, CHELMSFORD, MA, DATED JANUARY 2004.
2. THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88).

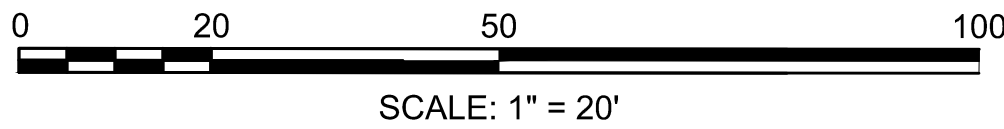
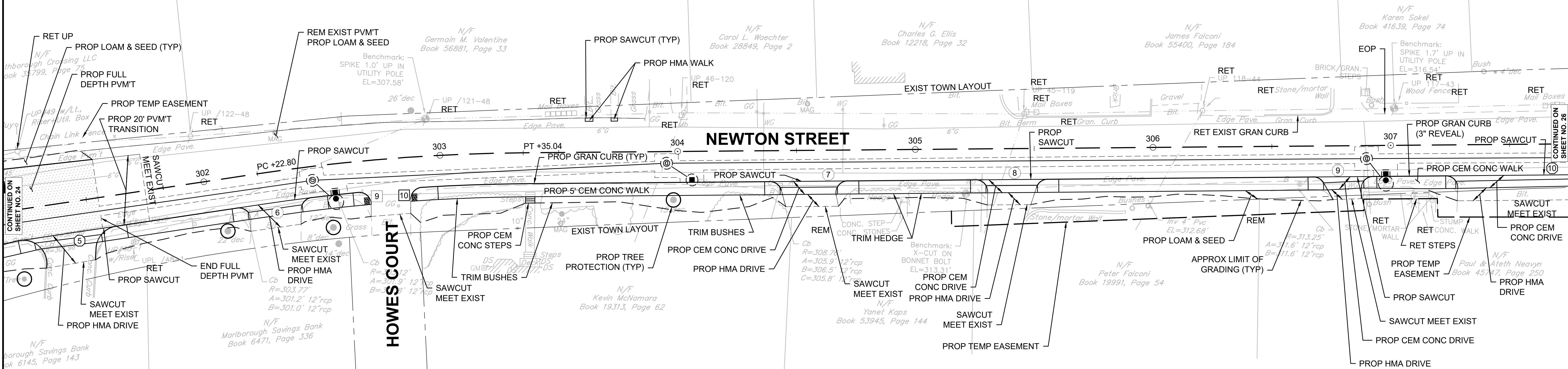
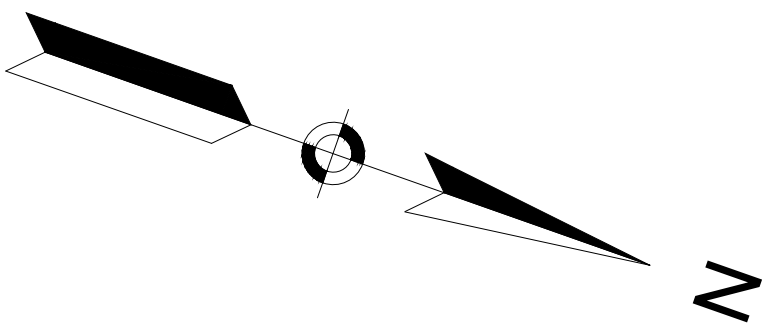


LEGEND:

- WCR NUMBER
- DRIVEWAY NUMBER

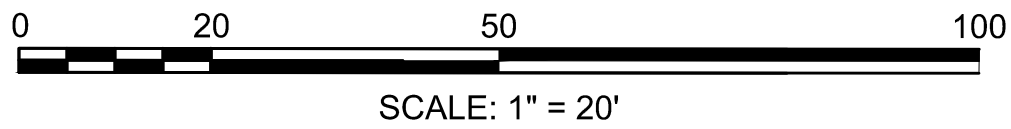
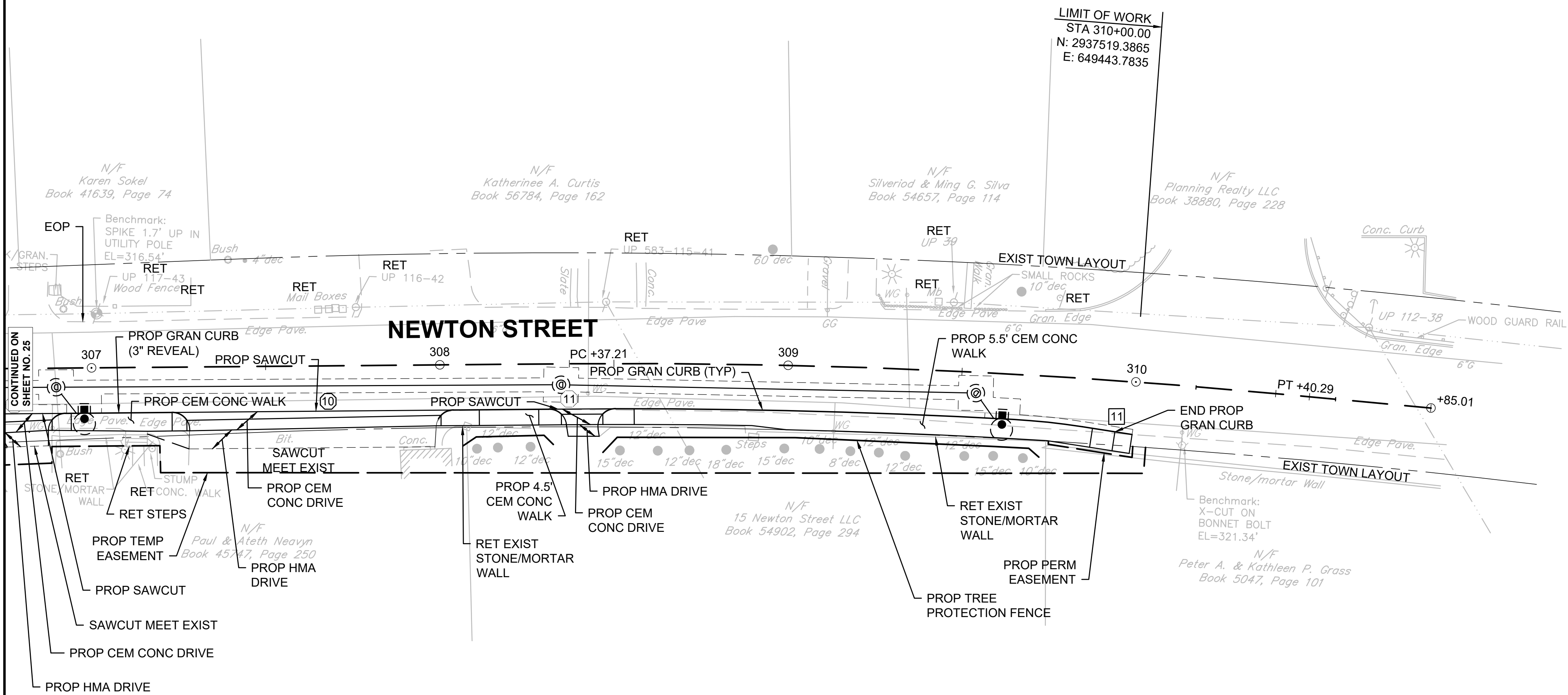
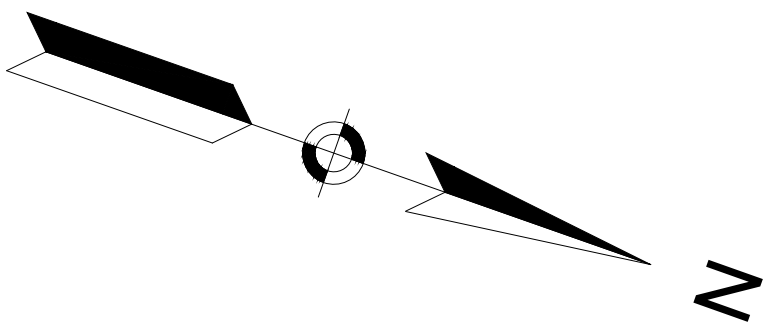




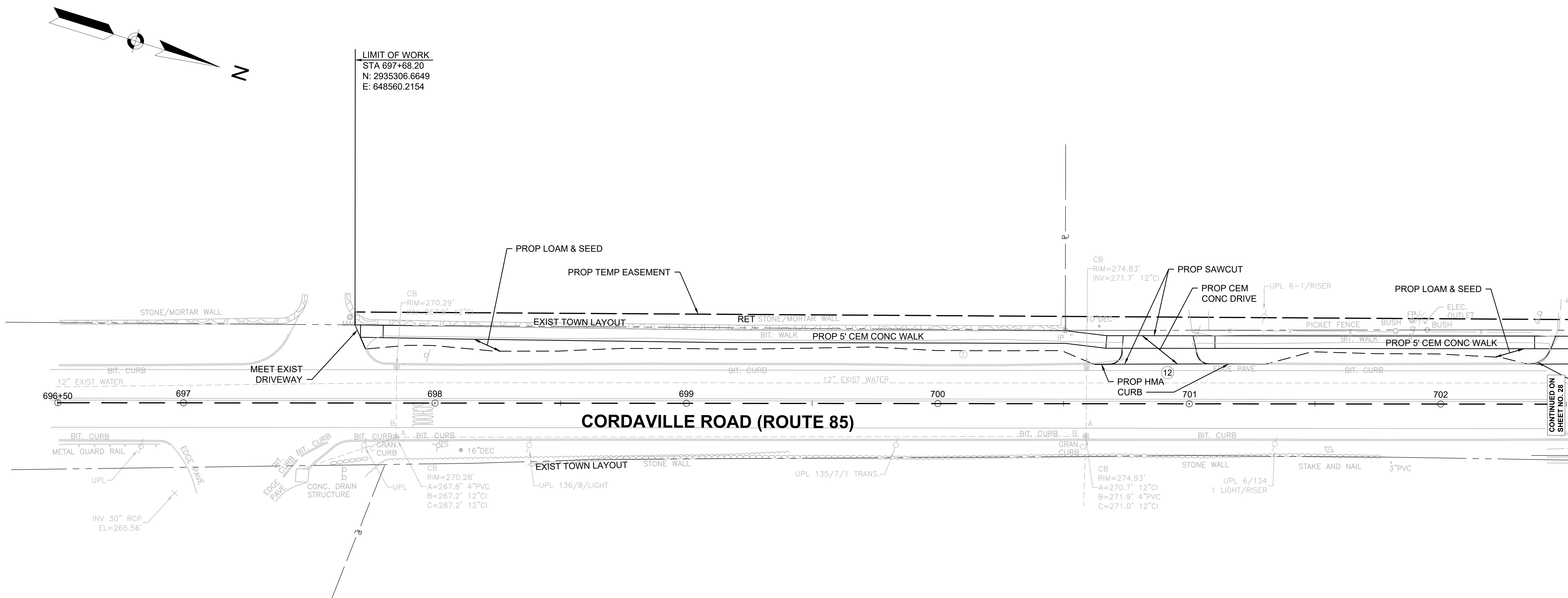


LEGEND:

-  WCR NUMBER
-  DRIVEWAY NUMBER



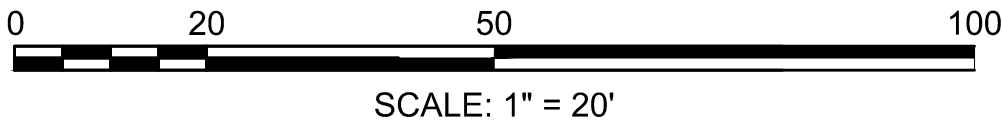
- LEGEND:
- WCR NUMBER
  - DRIVEWAY NUMBER

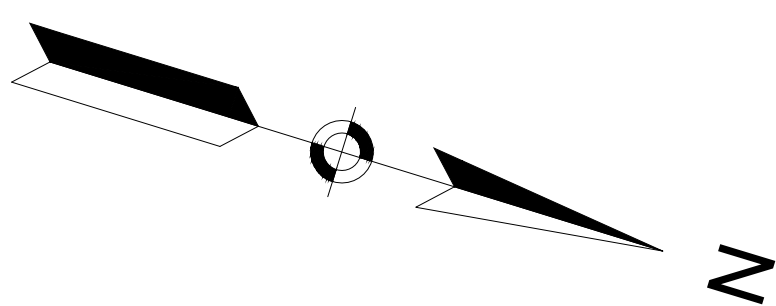


CONTINUED ON  
SHEET NO. 28

LEGEND:

⊗ DRIVEWAY NUMBER

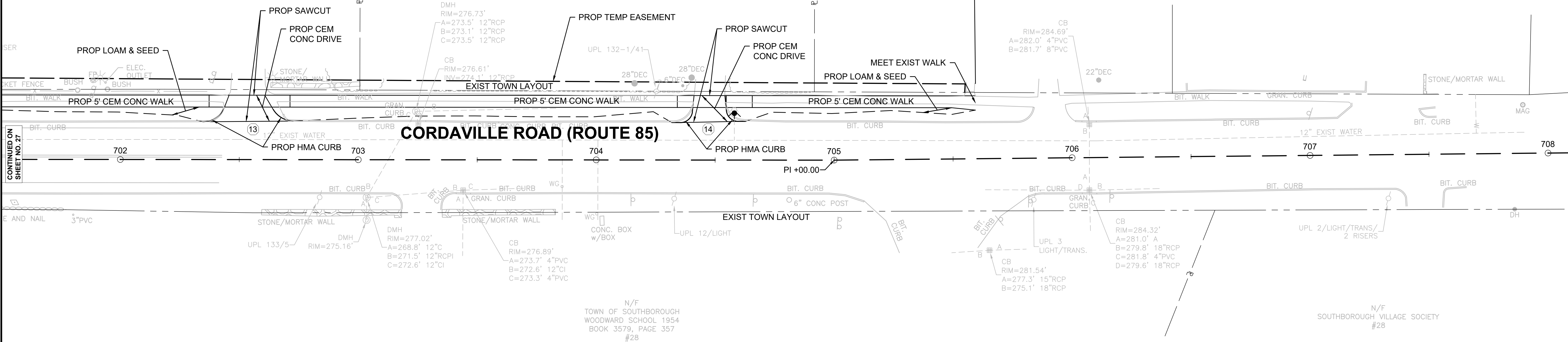




LIMIT OF WORK  
STA 705+59.65  
N: 2936062.8822  
E: 648326.7083

N/F  
RAYMOND G. HULING, IV  
BOOK 13738, PAGE 216  
#5

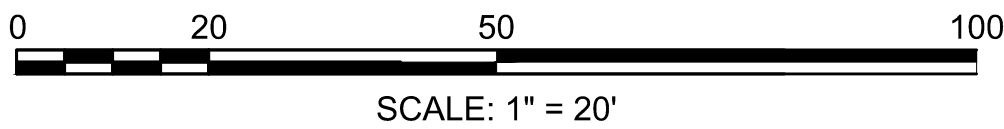
N/F  
CHRISTINE J. DONAHUE  
BOOK 22395, PAGE 161  
#3



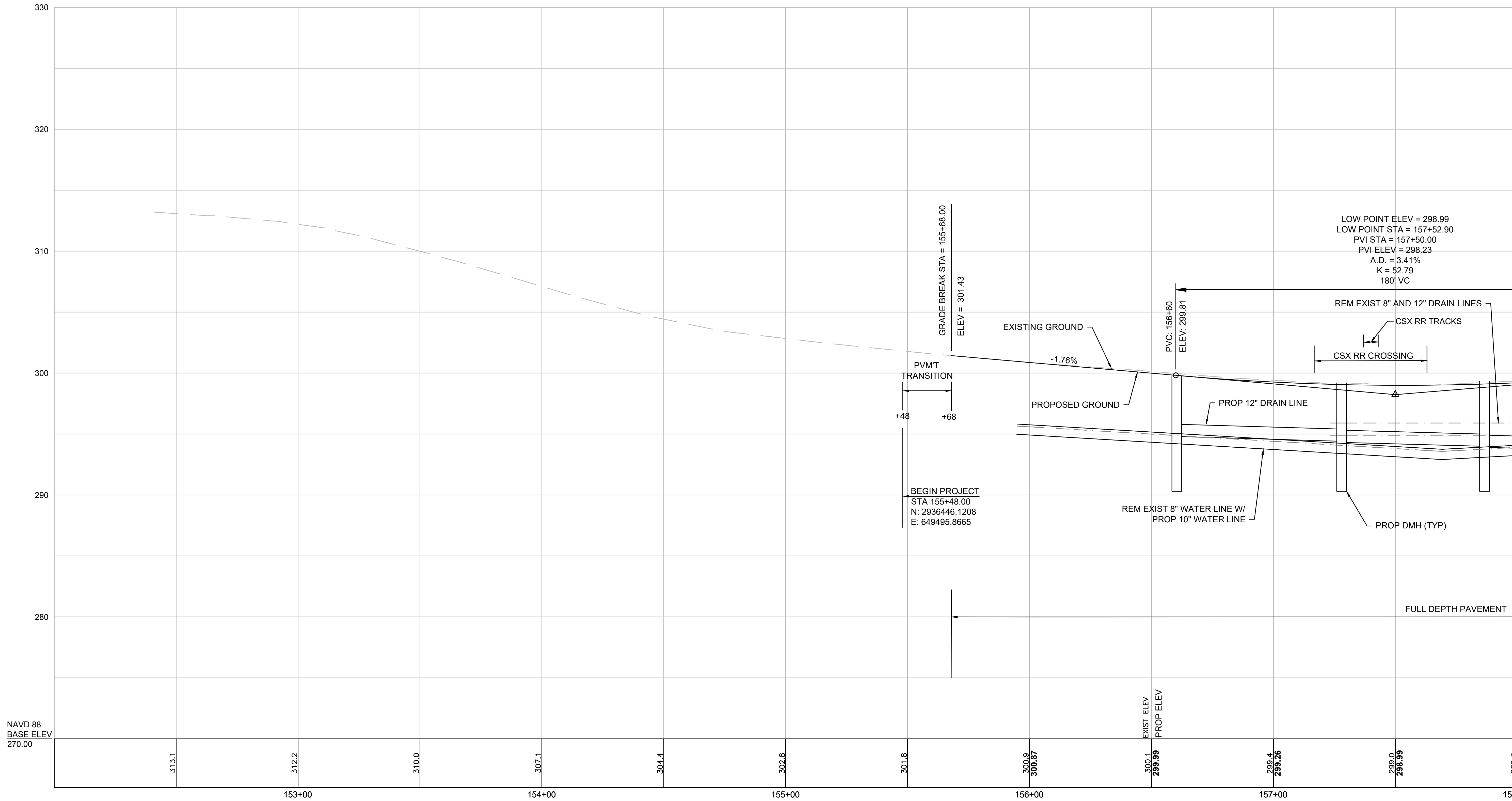
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LEGEND:

⊗ DRIVEWAY NUMBER



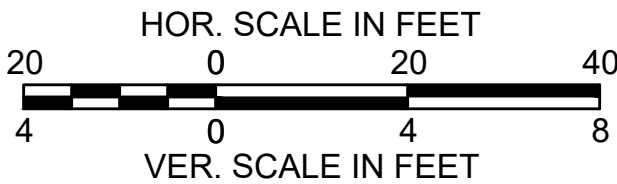
MAIN STREET



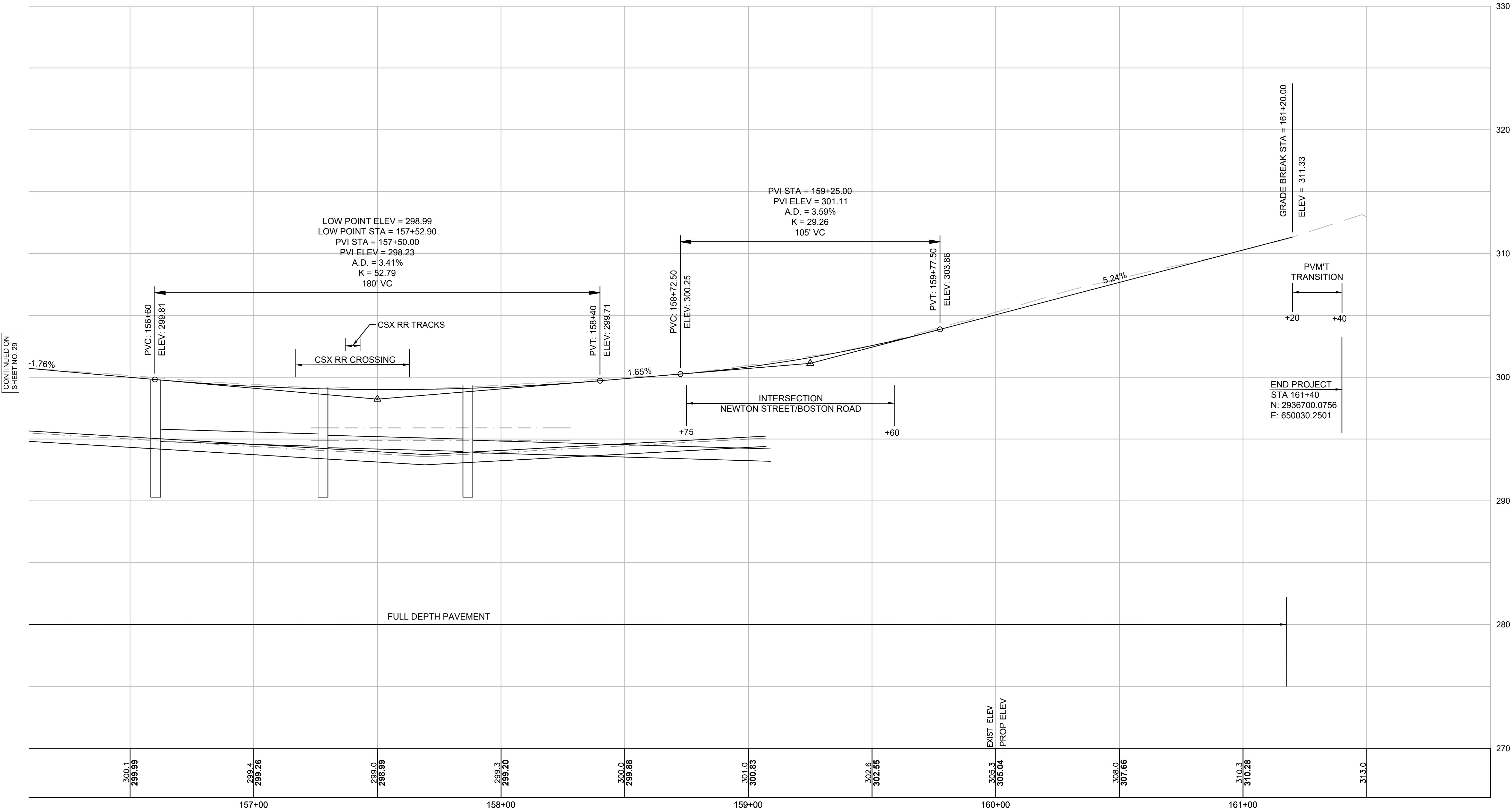
NAVD 88  
BASE ELEV  
270.00

CONTINUED ON  
SHEET NO. 30

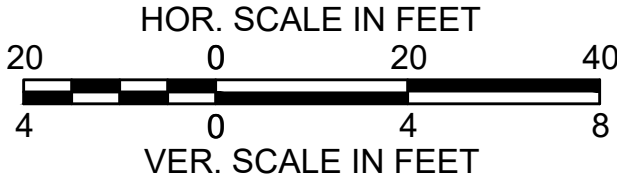
FOR CONSTRUCTION PLANS SEE SHEET NO. 23 & 24



MAIN STREET

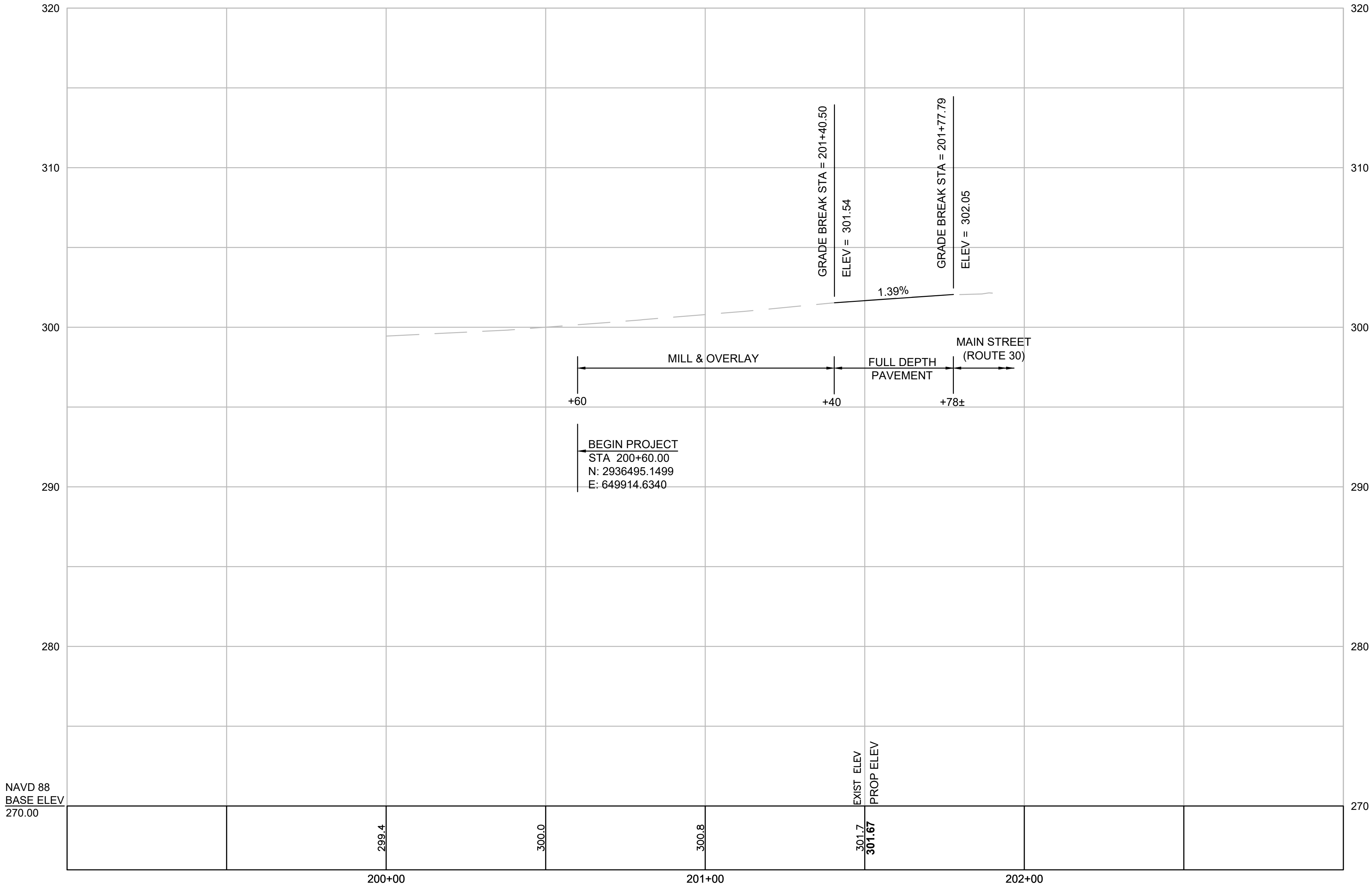


FOR CONSTRUCTION PLANS SEE SHEET NO. 23 & 24



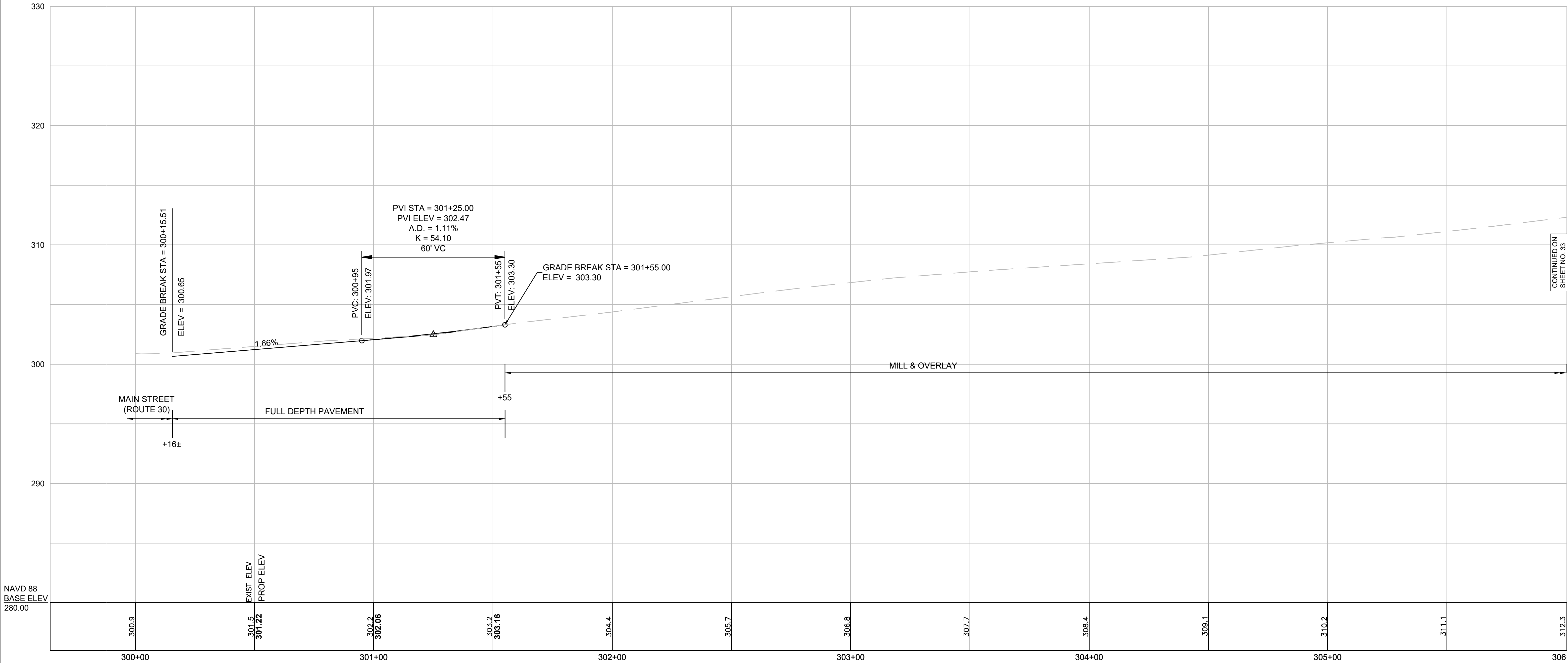
BOSTON ROAD

A SECTION OF BOSTON ROAD IS PROPOSED PAVEMENT MICROMILLING & OVERLAY. NO PROFILE ADJUSTMENTS ARE PROPOSED. THE EXISTING PROFILE PROVIDED IS FOR INFORMATIONAL PURPOSES ONLY.



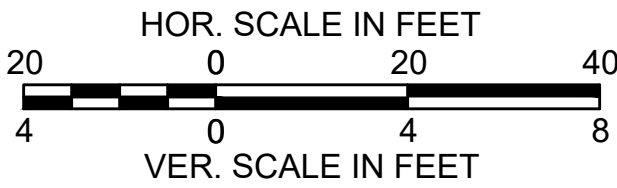
NEWTON STREET

A SECTION OF NEWTON ROAD IS PROPOSED PAVEMENT  
MICROMILLING & OVERLAY. NO PROFILE ADJUSTMENTS ARE  
PROPOSED. THE EXISTING PROFILE PROVIDED IS FOR  
INFORMATIONAL PURPOSES ONLY.



NAVD 88  
BASE ELEV  
280.00

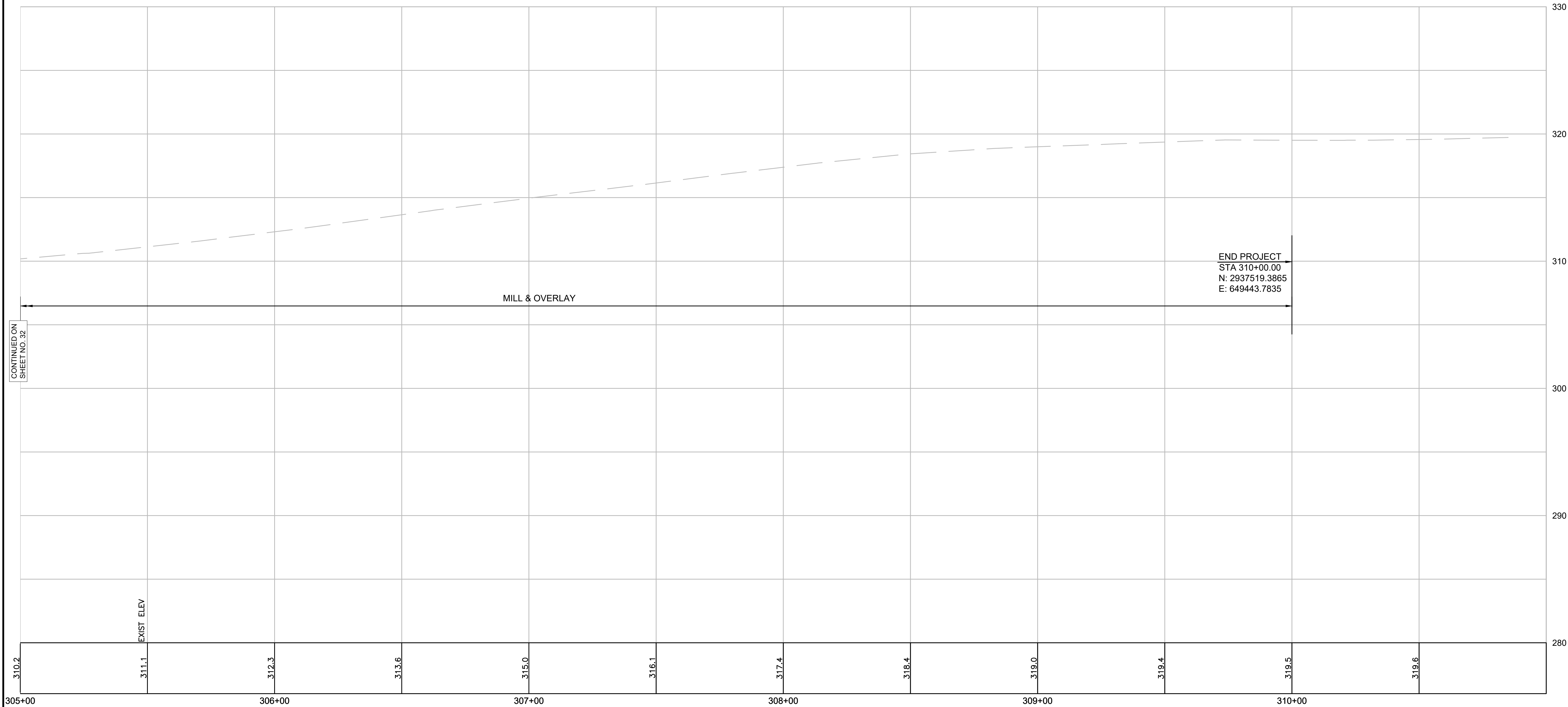
FOR CONSTRUCTION PLANS SEE SHEET NO. 24 & 25



CONTINUED ON  
SHEET NO. 33

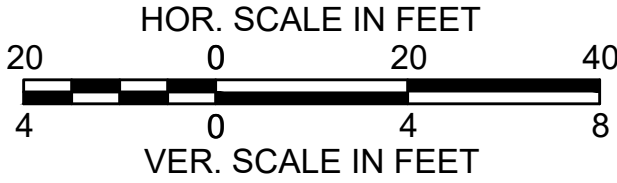
NEWTON STREET

A SECTION OF NEWTON ROAD IS PROPOSED PAVEMENT  
MICROMILLING & OVERLAY. NO PROFILE ADJUSTMENTS ARE  
PROPOSED. THE EXISTING PROFILE PROVIDED IS FOR  
INFORMATIONAL PURPOSES ONLY.



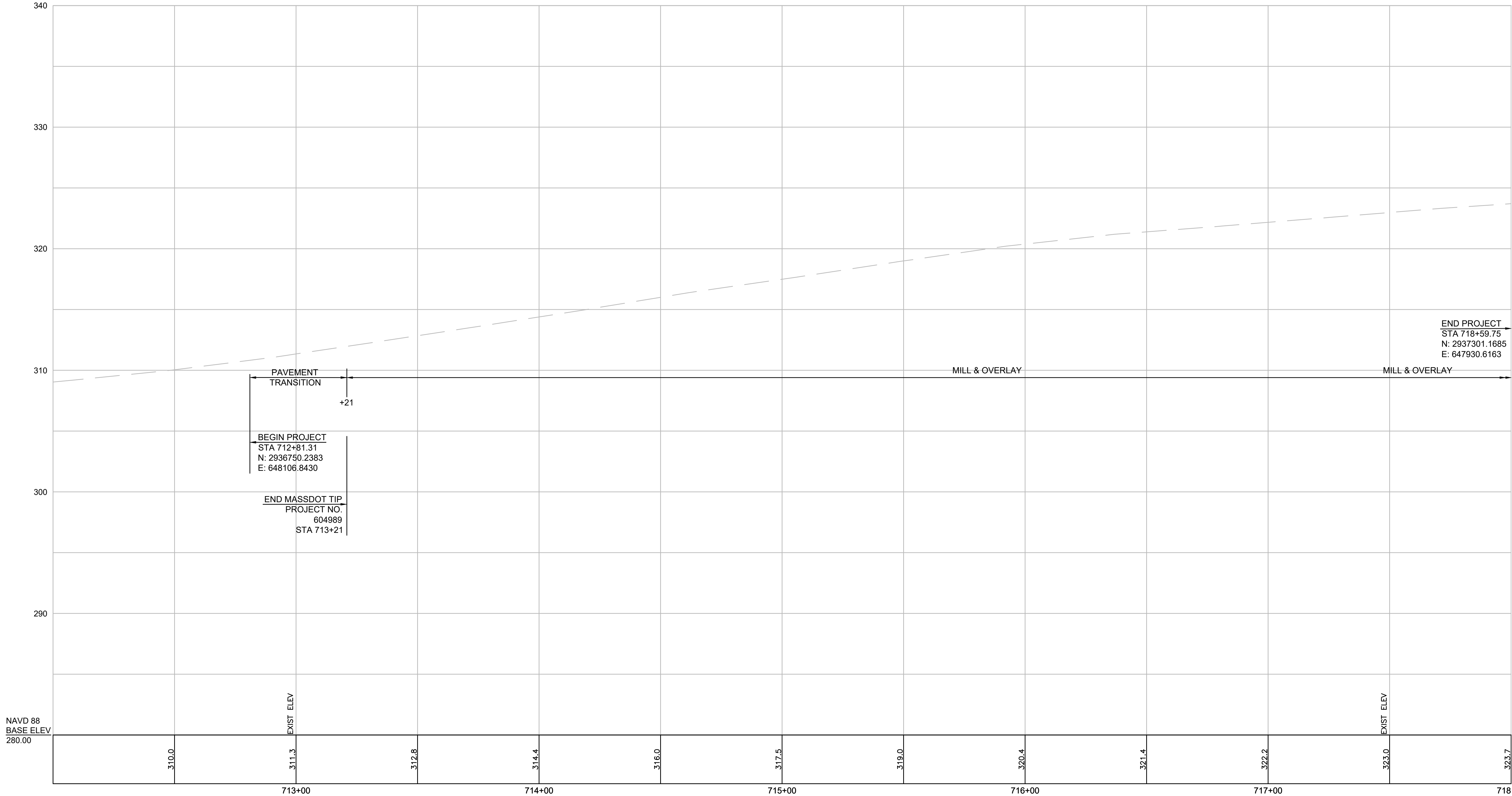
CONTINUED ON  
SHEET NO. 32

FOR CONSTRUCTION PLANS SEE SHEET NO. 25 & 26



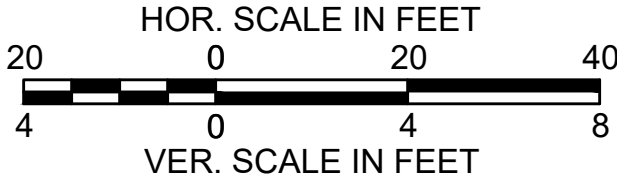
MARLBOROUGH ROAD (ROUTE 85) IS PROPOSED PAVEMENT  
MICROMILLING & OVERLAY. NO PROFILE ADJUSTMENTS ARE  
PROPOSED. THE EXISTING PROFILE PROVIDED IS FOR  
INFORMATIONAL PURPOSES ONLY.

MARLBOROUGH STREET (ROUTE 85)



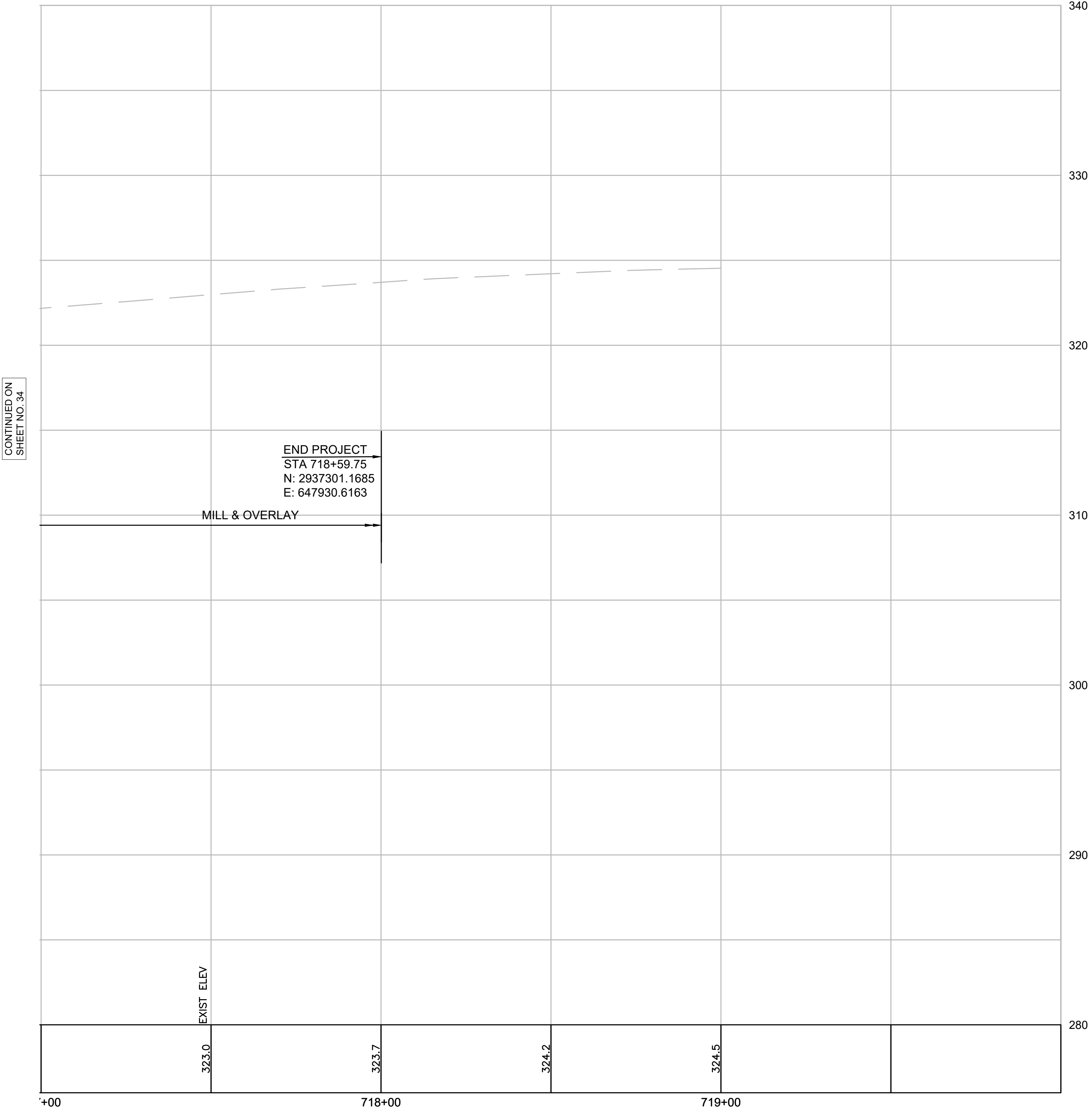
CONTINUED ON  
SHEET NO. 35

FOR CONSTRUCTION PLANS SEE SHEET NO. 28 & ##

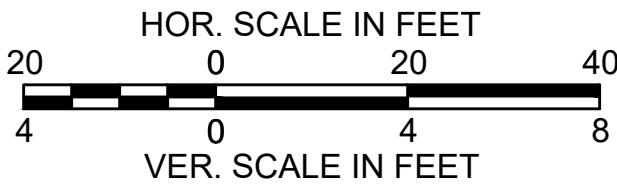


MARLBOROUGH STREET (ROUTE 85)

MARLBOROUGH ROAD (ROUTE 85) IS PROPOSED PAVEMENT MICROMILLING & OVERLAY. NO PROFILE ADJUSTMENTS ARE PROPOSED. THE EXISTING PROFILE PROVIDED IS FOR INFORMATIONAL PURPOSES ONLY.

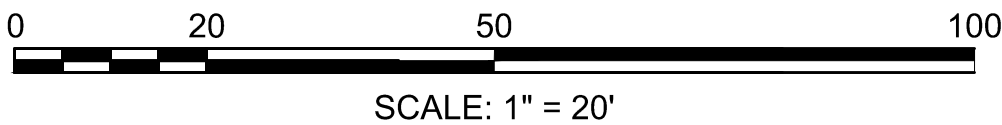


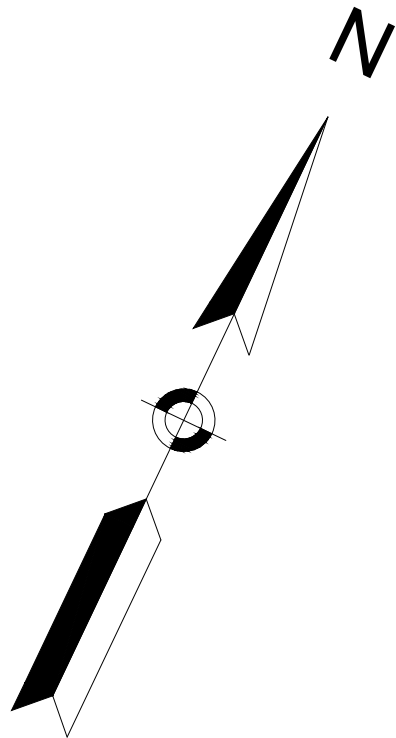
FOR CONSTRUCTION PLANS SEE SHEET NO. ##



| MAIN STREET CONSTRUCTION BASELINE DATA |                  |              |             |                                                 |                        |                |              |             |
|----------------------------------------|------------------|--------------|-------------|-------------------------------------------------|------------------------|----------------|--------------|-------------|
| NUMBER                                 | STARTING STATION | NORTHING     | EASTING     | CURVE DATA                                      | LINE DATA              | ENDING STATION | NORTHING     | EASTING     |
| C1                                     | 152+41.16        | 2936382.7180 | 649200.0162 | R = 510.00' Δ= 30°19'24"<br>L=269.91' T=138.20' |                        | 155+11.07      | 2936430.2579 | 649462.5200 |
| L1                                     | 155+11.07        | 2936430.2579 | 649462.5200 |                                                 | N64°34'24"E<br>338.93' | 158+50.00      | 2936575.7799 | 649768.6199 |

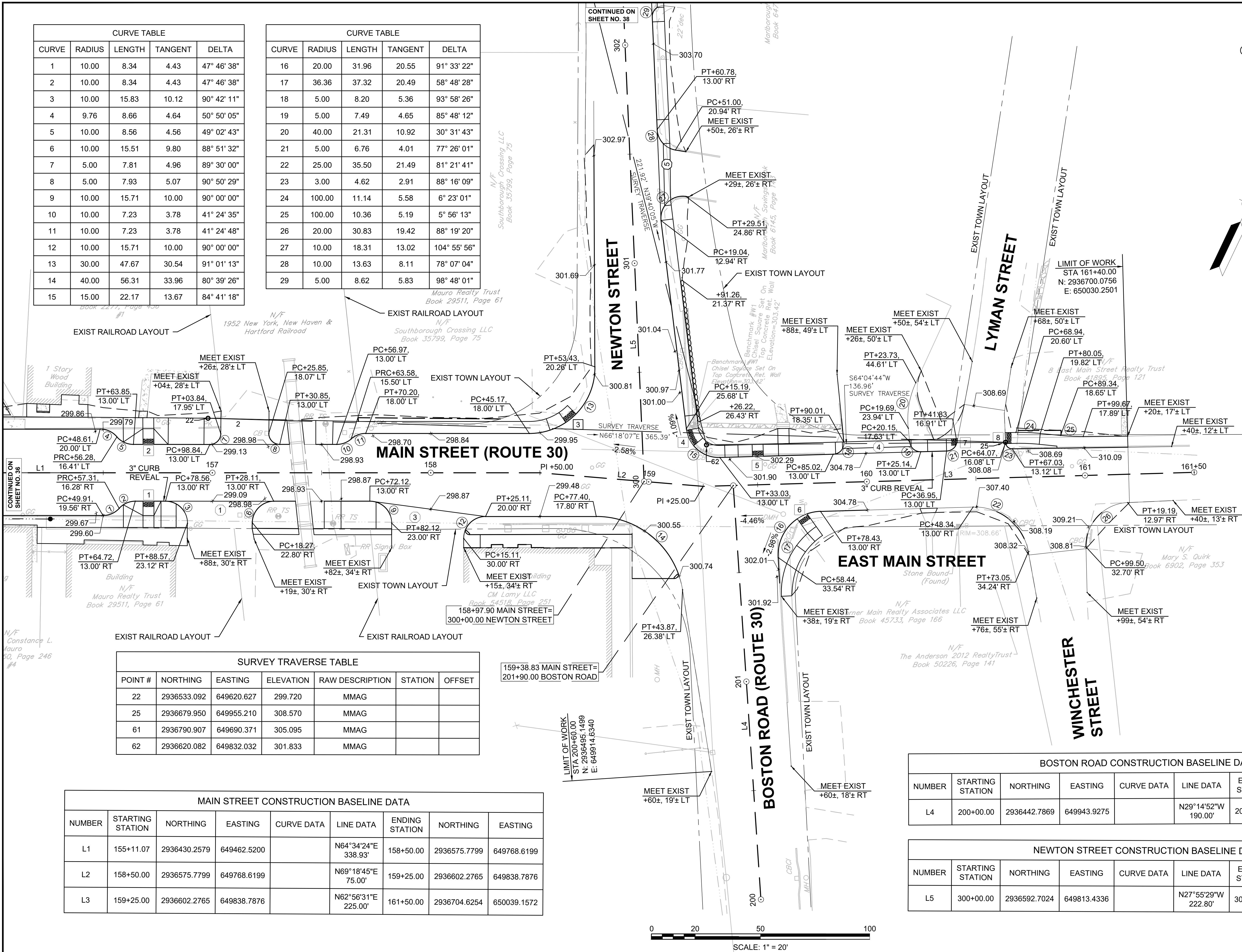
| SURVEY TRAVERSE TABLE |             |            |           |                 |         |        |
|-----------------------|-------------|------------|-----------|-----------------|---------|--------|
| POINT #               | NORTHING    | EASTING    | ELEVATION | RAW DESCRIPTION | STATION | OFFSET |
| 22                    | 2936533.092 | 649620.627 | 299.720   | MMAG            |         |        |
| 25                    | 2936679.950 | 649955.210 | 308.570   | MMAG            |         |        |





| CURVE TABLE |        |        |         |             |
|-------------|--------|--------|---------|-------------|
| CURVE       | RADIUS | LENGTH | TANGENT | DELTA       |
| 1           | 10.00  | 8.34   | 4.43    | 47° 46' 38" |
| 2           | 10.00  | 8.34   | 4.43    | 47° 46' 38" |
| 3           | 10.00  | 15.83  | 10.12   | 90° 42' 11" |
| 4           | 9.76   | 8.66   | 4.64    | 50° 50' 05" |
| 5           | 10.00  | 8.56   | 4.56    | 49° 02' 43" |
| 6           | 10.00  | 15.51  | 9.80    | 88° 51' 32" |
| 7           | 5.00   | 7.81   | 4.96    | 89° 30' 00" |
| 8           | 5.00   | 7.93   | 5.07    | 90° 50' 29" |
| 9           | 10.00  | 15.71  | 10.00   | 90° 00' 00" |
| 10          | 10.00  | 7.23   | 3.78    | 41° 24' 35" |
| 11          | 10.00  | 7.23   | 3.78    | 41° 24' 48" |
| 12          | 10.00  | 15.71  | 10.00   | 90° 00' 00" |
| 13          | 30.00  | 47.67  | 30.54   | 91° 01' 13" |
| 14          | 40.00  | 56.31  | 33.96   | 80° 39' 26" |
| 15          | 15.00  | 22.17  | 13.67   | 84° 41' 18" |

| CURVE TABLE |        |        |         |              |
|-------------|--------|--------|---------|--------------|
| CURVE       | RADIUS | LENGTH | TANGENT | DELTA        |
| 16          | 20.00  | 31.96  | 20.55   | 91° 33' 22"  |
| 17          | 36.36  | 37.32  | 20.49   | 58° 48' 28"  |
| 18          | 5.00   | 8.20   | 5.36    | 93° 58' 26"  |
| 19          | 5.00   | 7.49   | 4.65    | 85° 48' 12"  |
| 20          | 40.00  | 21.31  | 10.92   | 30° 31' 43"  |
| 21          | 5.00   | 6.76   | 4.01    | 77° 26' 01"  |
| 22          | 25.00  | 35.50  | 21.49   | 81° 21' 41"  |
| 23          | 3.00   | 4.62   | 2.91    | 88° 16' 09"  |
| 24          | 100.00 | 11.14  | 5.58    | 6° 23' 01"   |
| 25          | 100.00 | 10.36  | 5.19    | 5° 56' 13"   |
| 26          | 20.00  | 30.83  | 19.42   | 88° 19' 20"  |
| 27          | 10.00  | 18.31  | 13.02   | 104° 55' 56" |
| 28          | 10.00  | 13.63  | 8.11    | 78° 07' 04"  |
| 29          | 5.00   | 8.62   | 5.83    | 98° 48' 01"  |

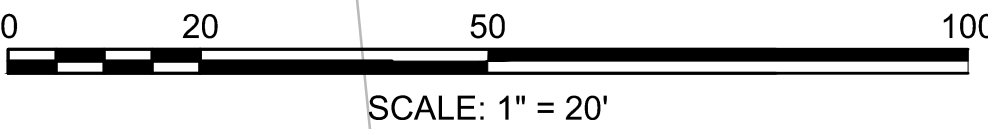


| SURVEY TRAVERSE TABLE |             |            |           |                 |         |        |
|-----------------------|-------------|------------|-----------|-----------------|---------|--------|
| POINT #               | NORTHING    | EASTING    | ELEVATION | RAW DESCRIPTION | STATION | OFFSET |
| 22                    | 2936533.092 | 649620.627 | 299.720   | MMAG            |         |        |
| 25                    | 2936679.950 | 649955.210 | 308.570   | MMAG            |         |        |
| 61                    | 2936790.907 | 649690.371 | 305.095   | MMAG            |         |        |
| 62                    | 2936620.082 | 649832.032 | 301.833   | MMAG            |         |        |

| MAIN STREET CONSTRUCTION BASELINE DATA |                  |              |             |            |                     |                |              |             |
|----------------------------------------|------------------|--------------|-------------|------------|---------------------|----------------|--------------|-------------|
| NUMBER                                 | STARTING STATION | NORTHING     | EASTING     | CURVE DATA | LINE DATA           | ENDING STATION | NORTHING     | EASTING     |
| L1                                     | 155+11.07        | 2936430.2579 | 649462.5200 |            | N64°34'24"E 338.93' | 158+50.00      | 2936575.7799 | 649768.6199 |
| L2                                     | 158+50.00        | 2936575.7799 | 649768.6199 |            | N69°18'45"E 75.00'  | 159+25.00      | 2936602.2765 | 649838.7876 |
| L3                                     | 159+25.00        | 2936602.2765 | 649838.7876 |            | N62°56'31"E 225.00' | 161+50.00      | 2936704.6254 | 650039.1572 |

| BOSTON ROAD CONSTRUCTION BASELINE DATA |                  |              |             |            |                     |                |              |             |
|----------------------------------------|------------------|--------------|-------------|------------|---------------------|----------------|--------------|-------------|
| NUMBER                                 | STARTING STATION | NORTHING     | EASTING     | CURVE DATA | LINE DATA           | ENDING STATION | NORTHING     | EASTING     |
| L4                                     | 200+00.00        | 2936442.7869 | 649943.9275 |            | N29°14'52"W 190.00' | 201+90.00      | 2936608.5640 | 649851.0967 |

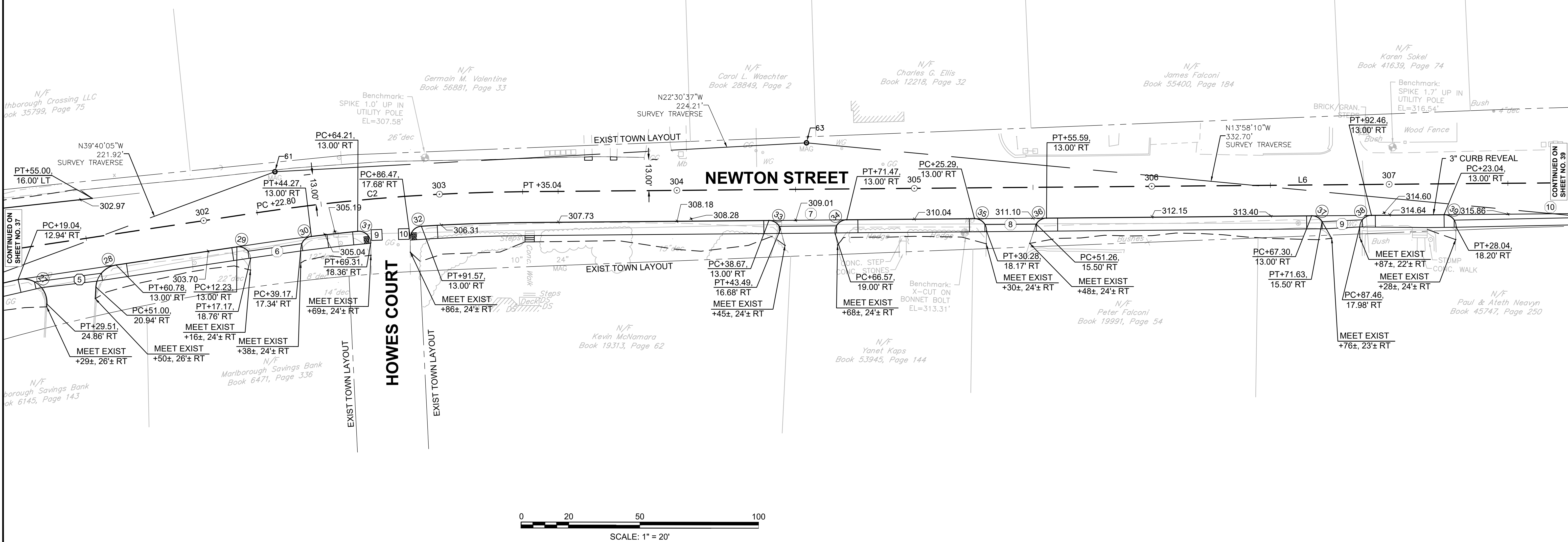
| NEWTON STREET CONSTRUCTION BASELINE DATA |                  |              |             |            |                     |                |              |             |
|------------------------------------------|------------------|--------------|-------------|------------|---------------------|----------------|--------------|-------------|
| NUMBER                                   | STARTING STATION | NORTHING     | EASTING     | CURVE DATA | LINE DATA           | ENDING STATION | NORTHING     | EASTING     |
| L5                                       | 300+00.00        | 2936592.7024 | 649813.4336 |            | N27°55'29"W 222.80' | 302+22.80      | 2936789.5571 | 649709.0960 |



| SURVEY TRAVERSE TABLE |             |            |           |                 |         |        |
|-----------------------|-------------|------------|-----------|-----------------|---------|--------|
| POINT #               | NORTHING    | EASTING    | ELEVATION | RAW DESCRIPTION | STATION | OFFSET |
| 61                    | 2936790.907 | 649690.371 | 305.095   | MMAG            |         |        |
| 62                    | 2936620.082 | 649832.032 | 301.833   | MMAG            |         |        |
| 63                    | 2936998.035 | 649604.532 | 309.070   | MMAG            |         |        |
| 64                    | 2937320.895 | 649524.216 | 316.570   | MMAG            |         |        |

| NEWTON STREET CONSTRUCTION BASELINE DATA |                  |              |             |                                            |                        |                |              |             |
|------------------------------------------|------------------|--------------|-------------|--------------------------------------------|------------------------|----------------|--------------|-------------|
| NUMBER                                   | STARTING STATION | NORTHING     | EASTING     | CURVE DATA                                 | LINE DATA              | ENDING STATION | NORTHING     | EASTING     |
| L5                                       | 300+00.00        | 2936592.7024 | 649813.4336 |                                            | N27°55'29"W<br>222.80' | 302+22.80      | 2936789.5571 | 649709.0960 |
| C2                                       | 302+22.80        | 2936789.5571 | 649709.0960 | R=800.00' Δ=8°02'21"<br>L=112.25' T=56.22' |                        | 303+35.04      | 2936892.0924 | 649663.6479 |
| L6                                       | 303+35.04        | 2936892.0924 | 649663.6479 |                                            | N19°53'08"W<br>502.17' | 308+37.21      | 2937364.3163 | 649492.8409 |

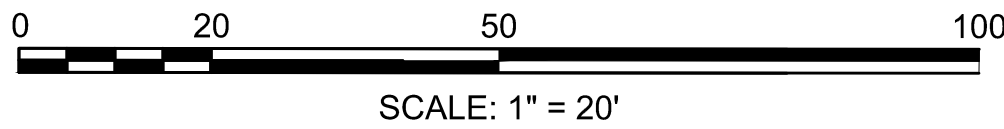
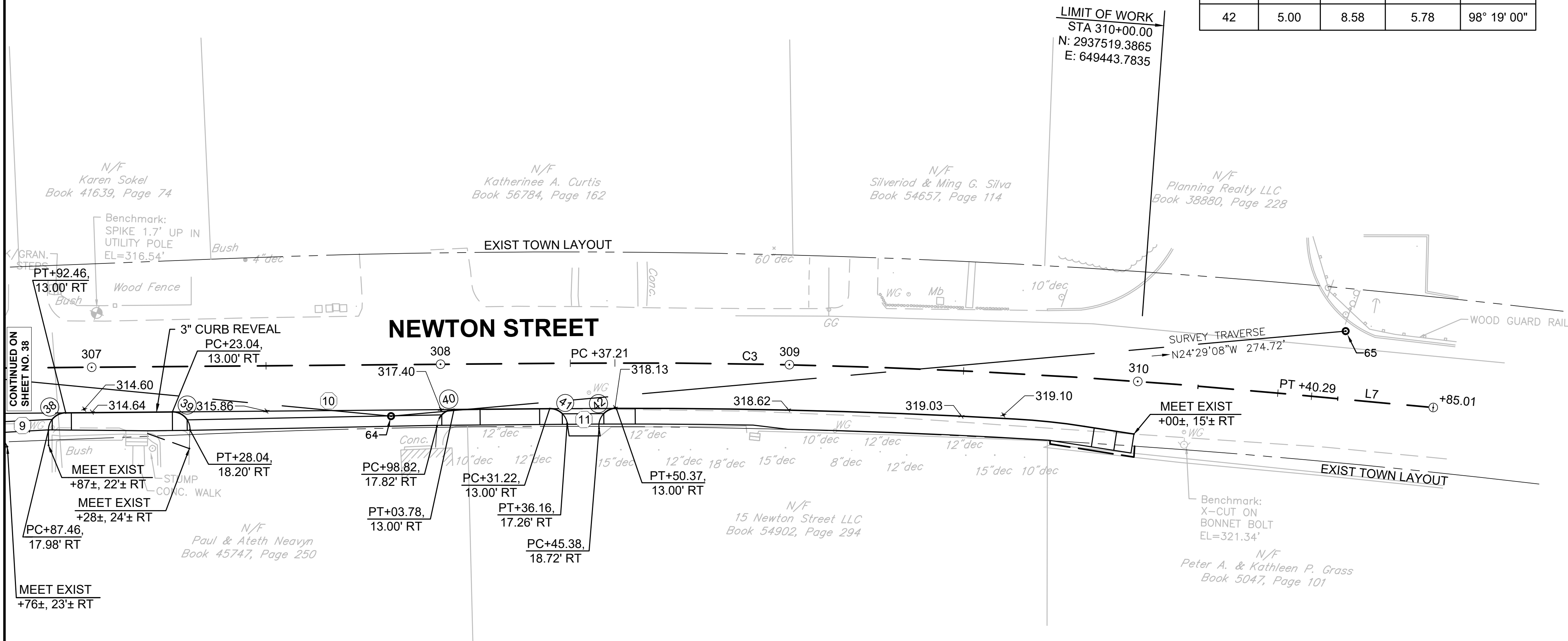
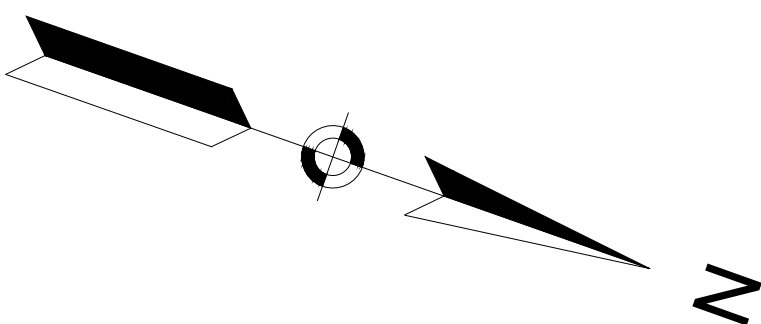
| CURVE TABLE |        |        |         |              |
|-------------|--------|--------|---------|--------------|
| CURVE       | RADIUS | LENGTH | TANGENT | DELTA        |
| 27          | 10.00  | 18.31  | 13.02   | 104° 55' 56" |
| 28          | 10.00  | 13.63  | 8.11    | 78° 07' 04"  |
| 29          | 5.00   | 8.62   | 5.83    | 98° 48' 01"  |
| 30          | 5.00   | 7.23   | 4.42    | 82° 53' 26"  |
| 31          | 5.00   | 8.23   | 5.39    | 94° 17' 27"  |
| 32          | 5.00   | 7.55   | 4.70    | 86° 29' 10"  |
| 33          | 5.00   | 6.51   | 3.81    | 74° 38' 58"  |
| 34          | 5.00   | 8.86   | 6.13    | 101° 33' 02" |
| 35          | 5.00   | 8.03   | 5.18    | 91° 58' 57"  |
| 36          | 5.00   | 6.22   | 3.59    | 71° 18' 07"  |
| 37          | 5.00   | 5.26   | 2.90    | 60° 14' 09"  |
| 38          | 5.00   | 7.83   | 4.98    | 89° 46' 33"  |
| 39          | 5.00   | 8.05   | 5.20    | 92° 14' 39"  |

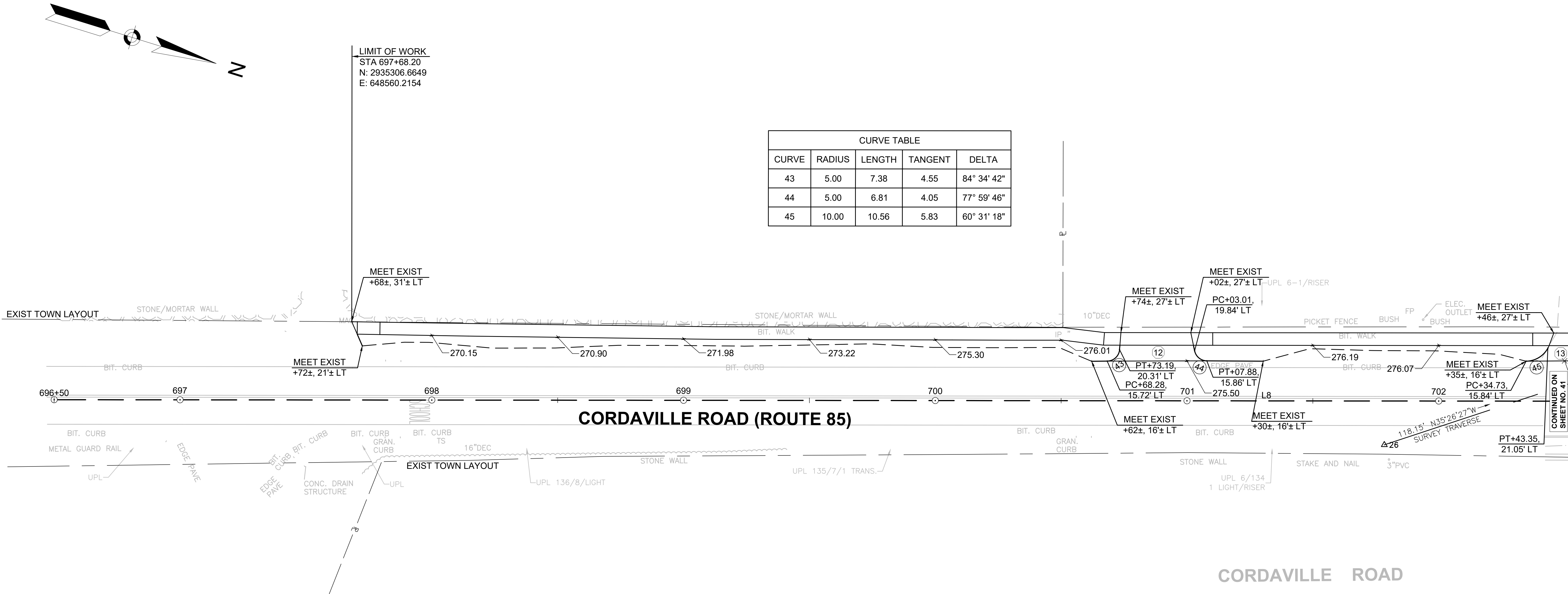


| NEWTON STREET CONSTRUCTION BASELINE DATA |                  |              |             |                                              |                        |                |              |             |
|------------------------------------------|------------------|--------------|-------------|----------------------------------------------|------------------------|----------------|--------------|-------------|
| NUMBER                                   | STARTING STATION | NORTHING     | EASTING     | CURVE DATA                                   | LINE DATA              | ENDING STATION | NORTHING     | EASTING     |
| L6                                       | 303+35.04        | 2936892.0924 | 649663.6479 |                                              | N19°53'08"W<br>502.17' | 308+37.21      | 2937364.3163 | 649492.8409 |
| C3                                       | 308+37.21        | 2937364.3163 | 649492.8409 | R=2000.00' Δ=5°49'04"<br>L=203.08' T=101.63' |                        | 310+40.29      | 2937558.4603 | 649433.5719 |
| L7                                       | 310+40.29        | 2937558.4603 | 649433.5719 |                                              | N14°04'04"W<br>44.73'  | 310+85.01      | 2937601.8470 | 649422.6999 |

| SURVEY TRAVERSE TABLE |             |            |           |                 |         |        |
|-----------------------|-------------|------------|-----------|-----------------|---------|--------|
| POINT #               | NORTHING    | EASTING    | ELEVATION | RAW DESCRIPTION | STATION | OFFSET |
| 63                    | 2936998.035 | 649604.532 | 309.070   | MMAG            |         |        |
| 64                    | 2937320.895 | 649524.216 | 316.570   | MMAG            |         |        |
| 65                    | 2937570.908 | 649410.354 | 318.730   | MMAG            |         |        |

| CURVE TABLE |        |        |         |             |
|-------------|--------|--------|---------|-------------|
| CURVE       | RADIUS | LENGTH | TANGENT | DELTA       |
| 37          | 5.00   | 5.26   | 2.90    | 60° 14' 09" |
| 38          | 5.00   | 7.83   | 4.98    | 89° 46' 33" |
| 39          | 5.00   | 8.05   | 5.20    | 92° 14' 39" |
| 40          | 5.01   | 7.64   | 4.79    | 87° 25' 34" |
| 41          | 5.00   | 7.14   | 4.33    | 81° 47' 28" |
| 42          | 5.00   | 8.58   | 5.78    | 98° 19' 00" |

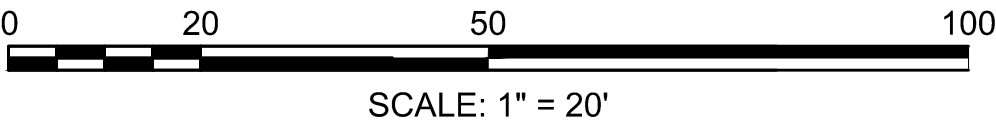




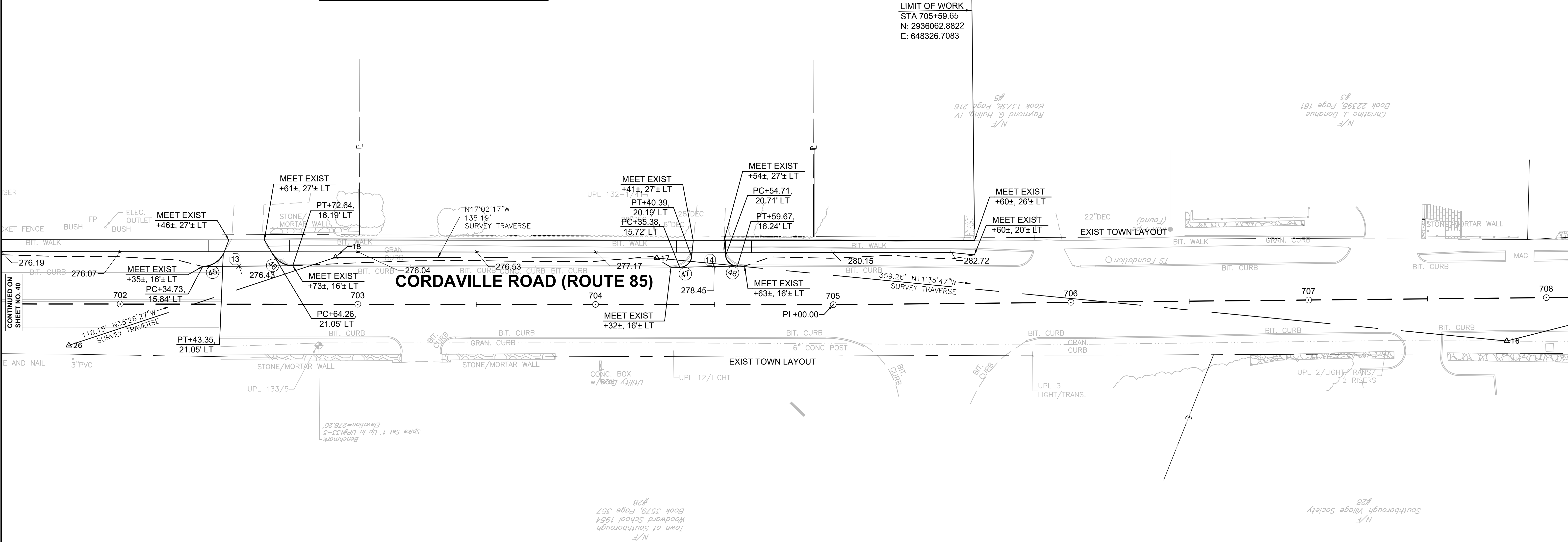
| CURVE TABLE |        |        |         |             |
|-------------|--------|--------|---------|-------------|
| CURVE       | RADIUS | LENGTH | TANGENT | DELTA       |
| 43          | 5.00   | 7.38   | 4.55    | 84° 34' 42" |
| 44          | 5.00   | 6.81   | 4.05    | 77° 59' 46" |
| 45          | 10.00  | 10.56  | 5.83    | 60° 31' 18" |

| ROUTE 85 CONSTRUCTION BASELINE DATA |                  |              |             |            |                        |                |              |             |
|-------------------------------------|------------------|--------------|-------------|------------|------------------------|----------------|--------------|-------------|
| NUMBER                              | STARTING STATION | NORTHING     | EASTING     | CURVE DATA | LINE DATA              | ENDING STATION | NORTHING     | EASTING     |
| L8                                  | 696+50.00        | 2935193.7019 | 648594.9947 |            | N17°06'46"W<br>850.00' | 705+00.00      | 2936006.0706 | 648344.8807 |

| SURVEY TRAVERSE TABLE |             |            |           |                 |         |        |
|-----------------------|-------------|------------|-----------|-----------------|---------|--------|
| POINT #               | NORTHING    | EASTING    | ELEVATION | RAW DESCRIPTION | STATION | OFFSET |
| 18                    | 2935800.109 | 648387.640 | 276.800   | HTSET           |         |        |
| 26                    | 2935703.849 | 648456.151 | 276.420   | HTSET           |         |        |

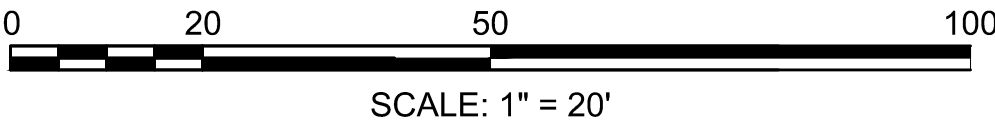


| CURVE TABLE |        |        |         |             |
|-------------|--------|--------|---------|-------------|
| CURVE       | RADIUS | LENGTH | TANGENT | DELTA       |
| 43          | 5.00   | 7.38   | 4.55    | 84° 34' 42" |
| 44          | 5.00   | 6.81   | 4.05    | 77° 59' 46" |
| 45          | 10.00  | 10.56  | 5.83    | 60° 31' 18" |
| 46          | 10.00  | 10.11  | 5.53    | 57° 54' 44" |
| 47          | 5.00   | 7.36   | 4.53    | 84° 18' 02" |
| 48          | 5.00   | 7.31   | 4.49    | 83° 49' 09" |

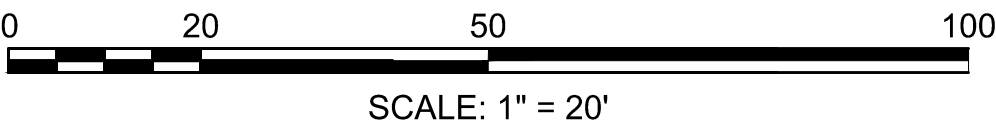
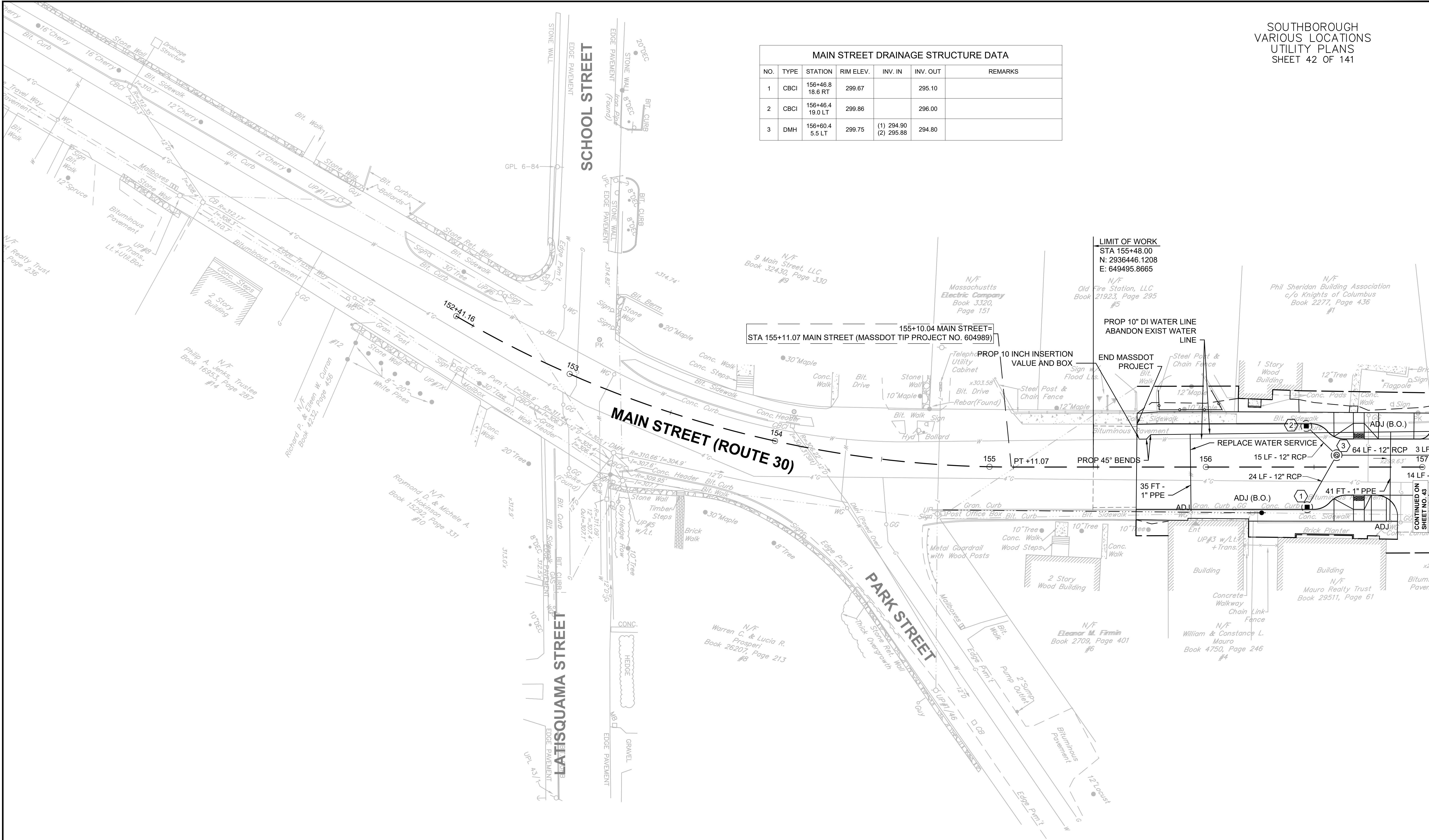


| ROUTE 85 CONSTRUCTION BASELINE DATA |                  |              |             |            |                        |                |              |             |
|-------------------------------------|------------------|--------------|-------------|------------|------------------------|----------------|--------------|-------------|
| NUMBER                              | STARTING STATION | NORTHING     | EASTING     | CURVE DATA | LINE DATA              | ENDING STATION | NORTHING     | EASTING     |
| L8                                  | 696+50.00        | 2935193.7019 | 648594.9947 |            | N17°06'46"W<br>850.00' | 705+00.00      | 2936006.0706 | 648344.8807 |

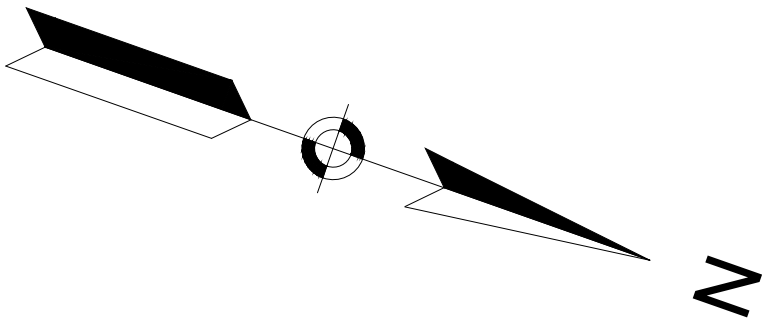
| SURVEY TRAVERSE TABLE |             |            |           |                 |         |        |
|-----------------------|-------------|------------|-----------|-----------------|---------|--------|
| POINT #               | NORTHING    | EASTING    | ELEVATION | RAW DESCRIPTION | STATION | OFFSET |
| 16                    | 2936281.295 | 648275.811 | 294.810   | HTSET           |         |        |
| 17                    | 2935929.366 | 648348.029 | 278.380   | HTSET           |         |        |
| 18                    | 2935800.109 | 648387.640 | 276.800   | HTSET           |         |        |
| 26                    | 2935703.849 | 648456.151 | 276.420   | HTSET           |         |        |



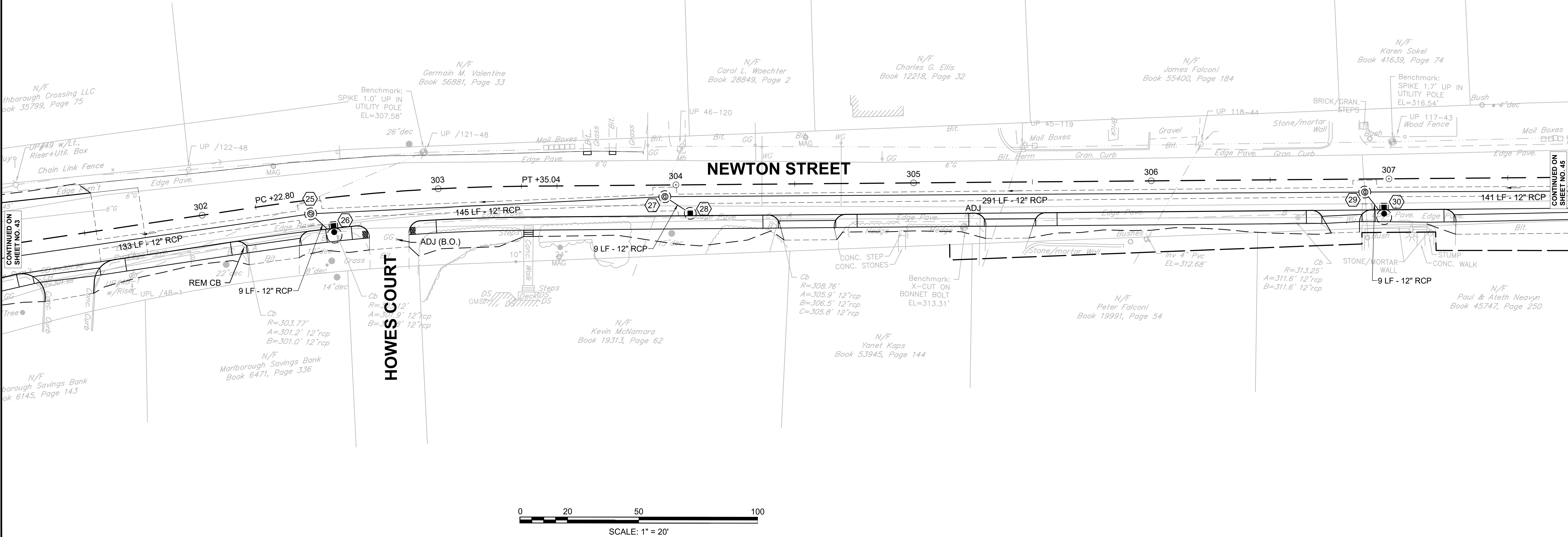
| MAIN STREET DRAINAGE STRUCTURE DATA |      |                     |           |                          |          |         |
|-------------------------------------|------|---------------------|-----------|--------------------------|----------|---------|
| NO.                                 | TYPE | STATION             | RIM ELEV. | INV. IN                  | INV. OUT | REMARKS |
| 1                                   | CBCI | 156+46.8<br>18.6 RT | 299.67    |                          | 295.10   |         |
| 2                                   | CBCI | 156+46.4<br>19.0 LT | 299.86    |                          | 296.00   |         |
| 3                                   | DMH  | 156+60.4<br>5.5 LT  | 299.75    | (1) 294.90<br>(2) 295.88 | 294.80   |         |







| NEWTON STREET DRAINAGE STRUCTURE DATA |         |                     |           |                            |          |         |
|---------------------------------------|---------|---------------------|-----------|----------------------------|----------|---------|
| NO.                                   | TYPE    | STATION             | RIM ELEV. | INV. IN                    | INV. OUT | REMARKS |
| 25                                    | DMH     | 302+45.4<br>5.9 RT  | 305.26    | (27) 300.36<br>(26) 300.92 | 300.27   |         |
| 26                                    | SP CBCI | 302+54.5<br>16.0 RT | 305.24    |                            | 301.05   |         |
| 27                                    | DMH     | 303+95.3<br>4.9 RT  | 308.26    | (29) 302.42<br>(28) 304.37 | 302.32   |         |
| 28                                    | CBCI    | 304+06.0<br>12.0 RT | 308.28    |                            | 304.44   |         |
| 29                                    | DMH     | 306+89.8<br>5.5 RT  | 314.57    | (31) 309.33<br>(30) 310.36 | 309.23   |         |
| 30                                    | SP CBCI | 306+97.8<br>16.0 RT | 314.87    |                            | 310.60   |         |



N/F  
Southborough Crossing LLC  
Book 35799, Page 75

N/F  
Germain M. Valentine  
Book 56881, Page 33

N/F  
Carol L. Woelchler  
Book 28849, Page 2

N/F  
Charles G. Ellis  
Book 12218, Page 32

N/F  
James Falconi  
Book 55400, Page 184

N/F  
Karen Sokel  
Book 41639, Page 74

Benchmark:  
SPIKE 1.7' UP IN  
UTILITY POLE  
EL=316.54'

Bush

4"dec

Mail Boxes

Edge Pave.

Gran. Curb

Stone/mortar Wall

Brick/Gran. Steps

UP 117-43  
Wood Fence

UP 118-44

Gravel

Bit.

Mail Boxes

UP 45-119

Bit.

UP 46-120

Bit.

GG

WG

Bit.

GG

Bit.

GG

Bit.

GG

Bit.

GG

Bit.

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Bit.

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Bit.

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Bit.

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Bit.

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Bit.

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Bit.

GG

CONTINUED ON  
SHEET NO. 43

CONTINUED ON  
SHEET NO. 45

N/F  
Southborough Savings Bank  
Book 6145, Page 143

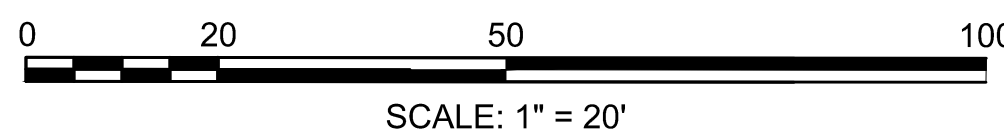
N/F  
Marlborough Savings Bank  
Book 6471, Page 336

N/F  
Kevin McNamara  
Book 19313, Page 62

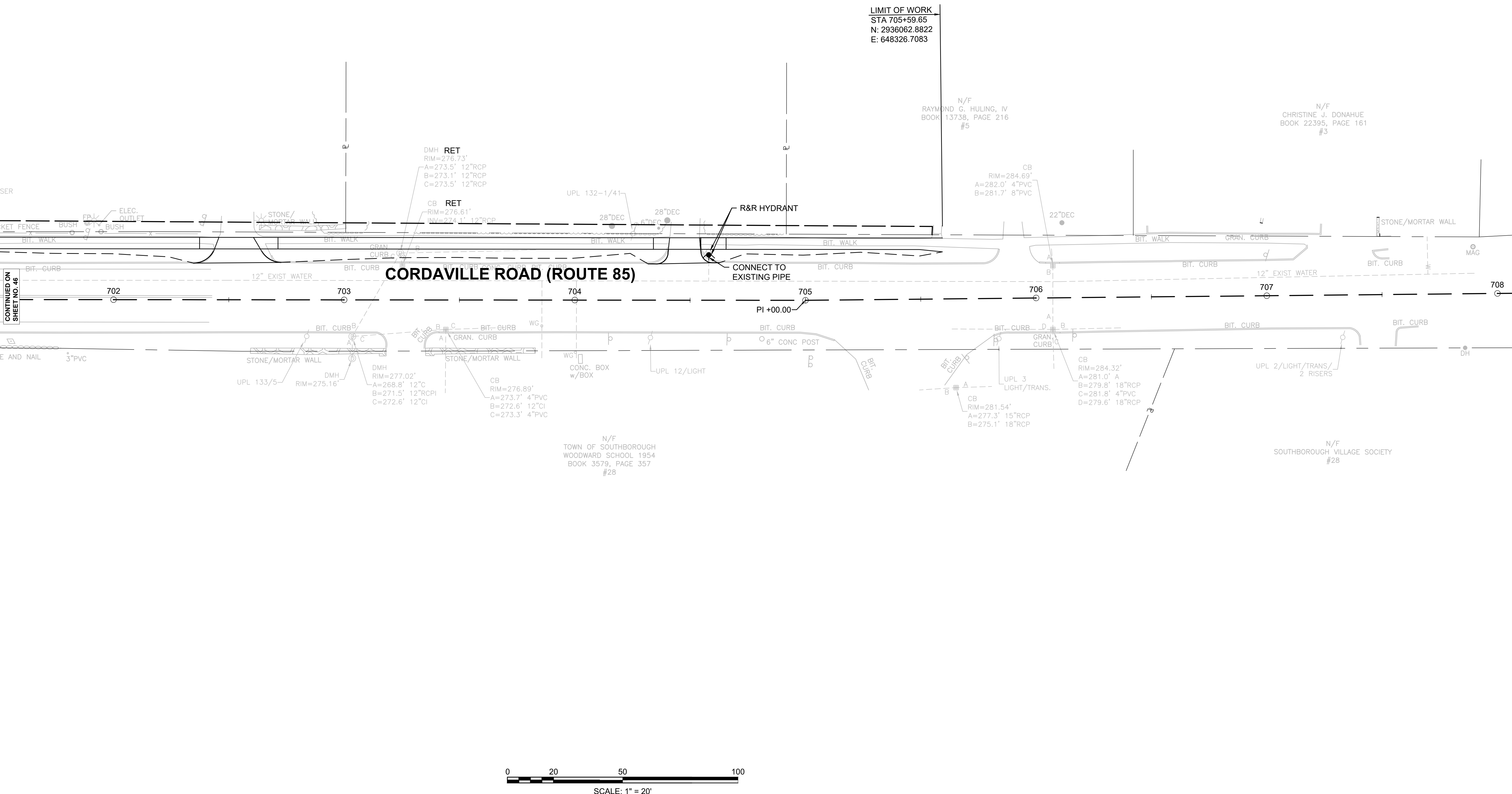
N/F  
Yanet Kaps  
Book 53945, Page 144

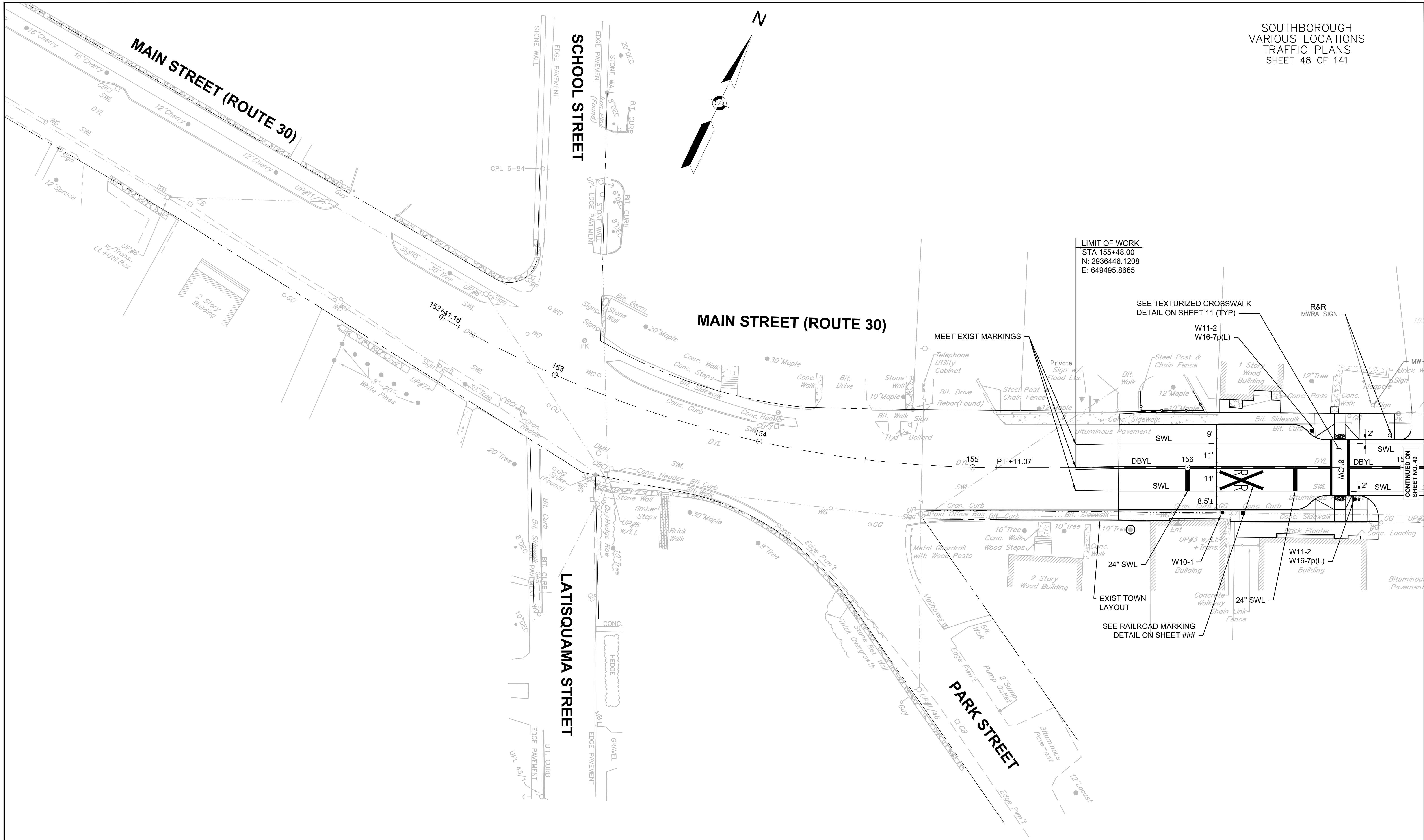
N/F  
Peter Falconi  
Book 19991, Page 54

N/F  
Paul & Aleth Neavyn  
Book 45747, Page 250









- CONSTRUCTION NOTES
1. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.
  2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
  3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

LIMIT OF WORK  
STA 161+40.00  
N: 2936700.0756  
E: 650030.2501

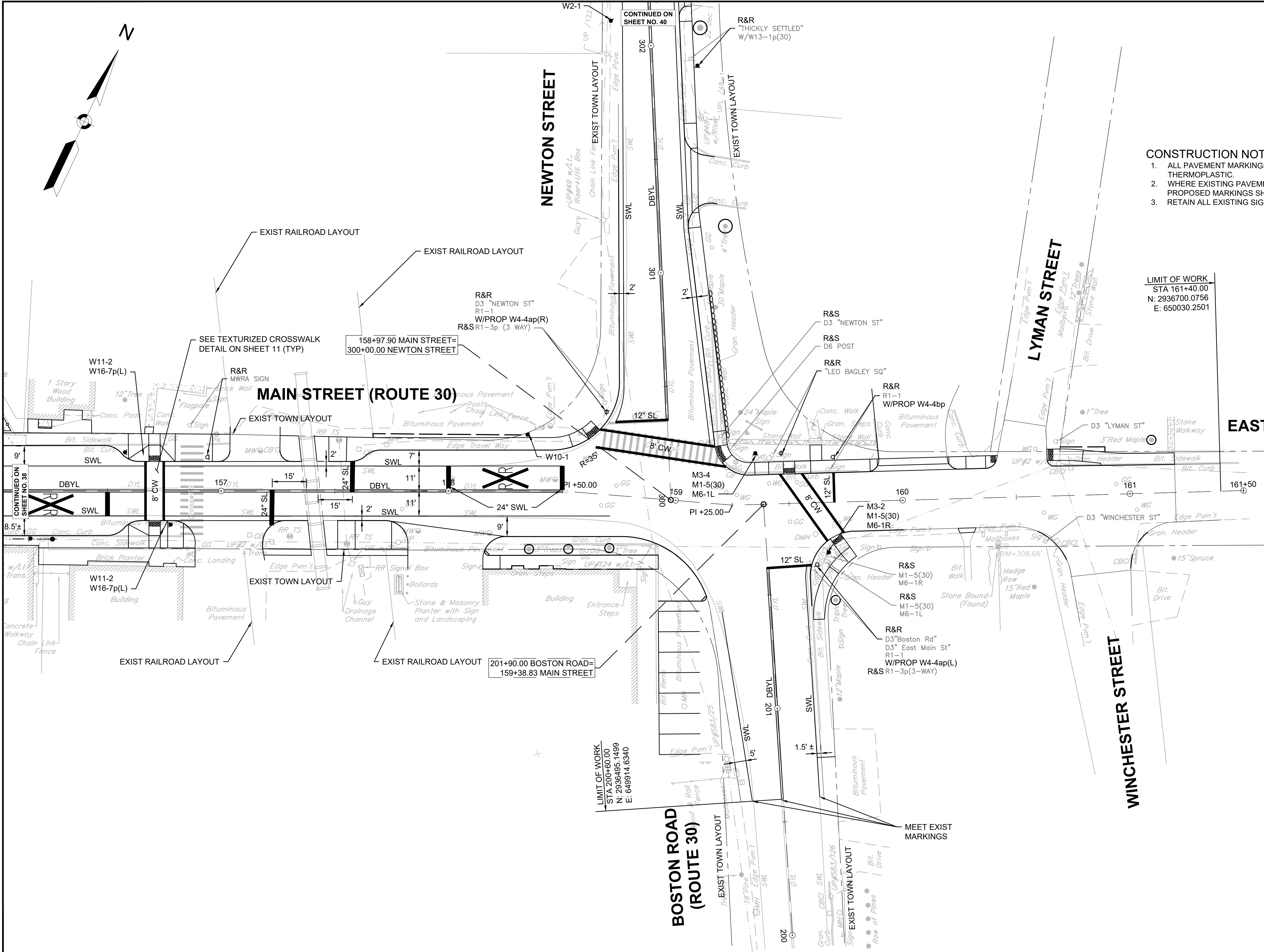
EAST MAIN STREET

LYMAN STREET

WINCHESTER STREET

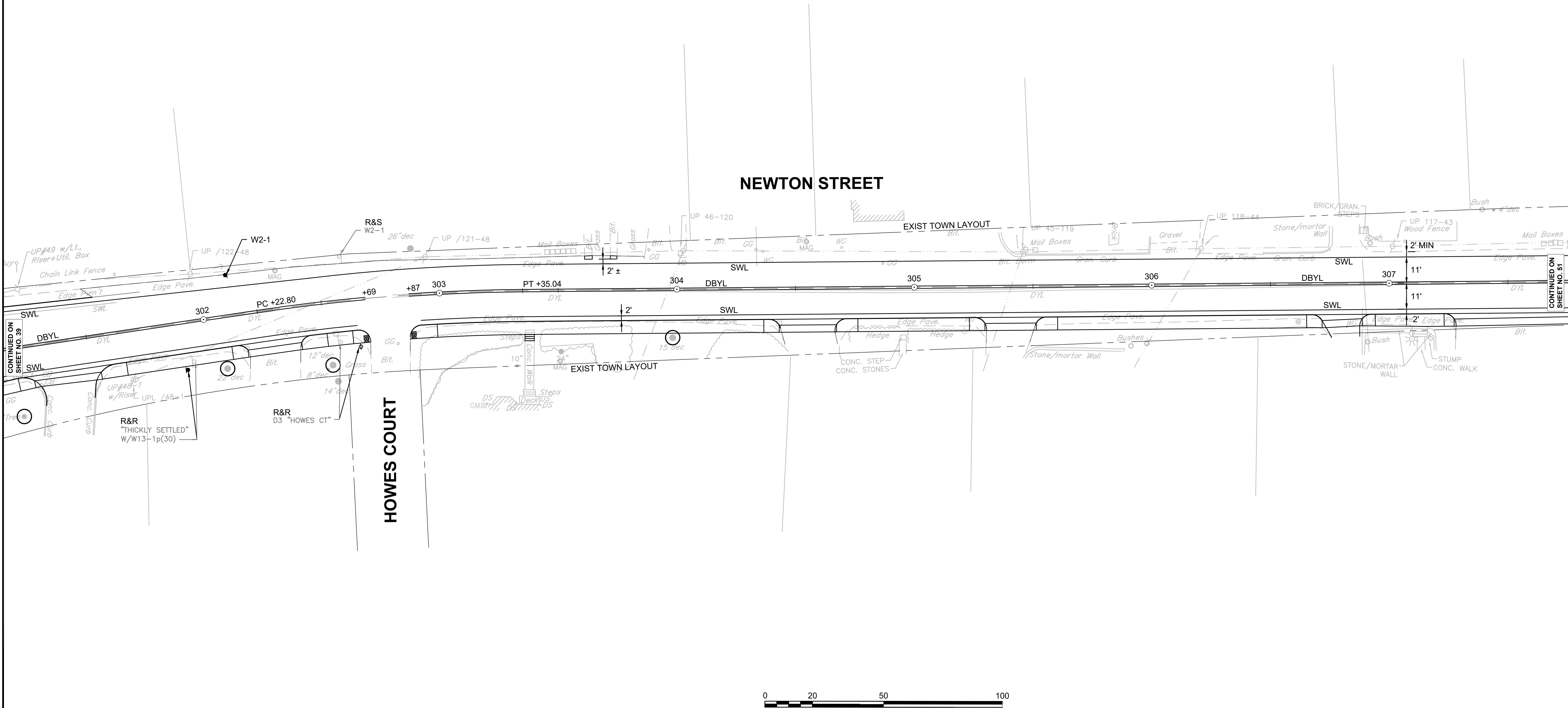
NEWTON STREET

BOSTON ROAD  
(ROUTE 30)

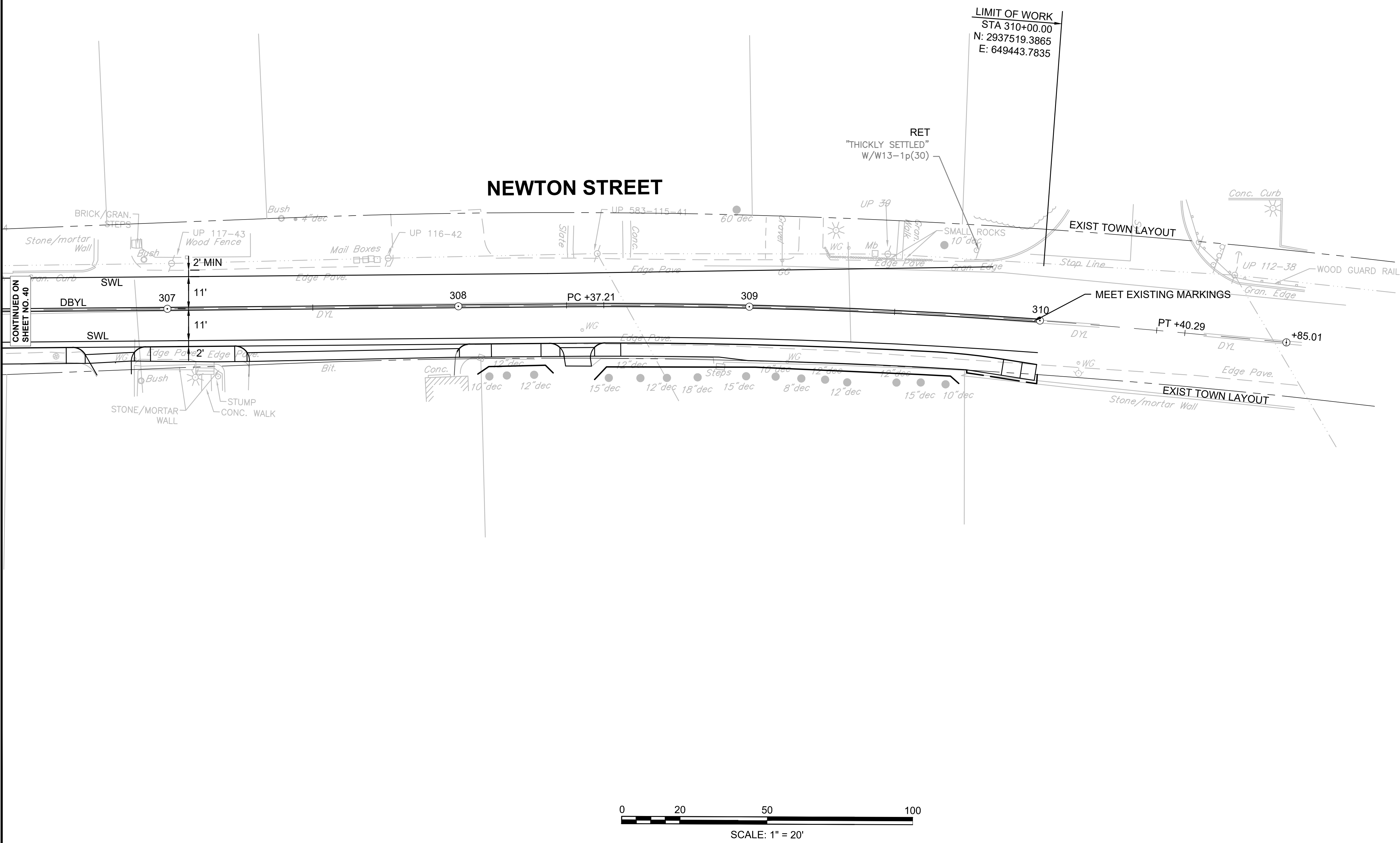


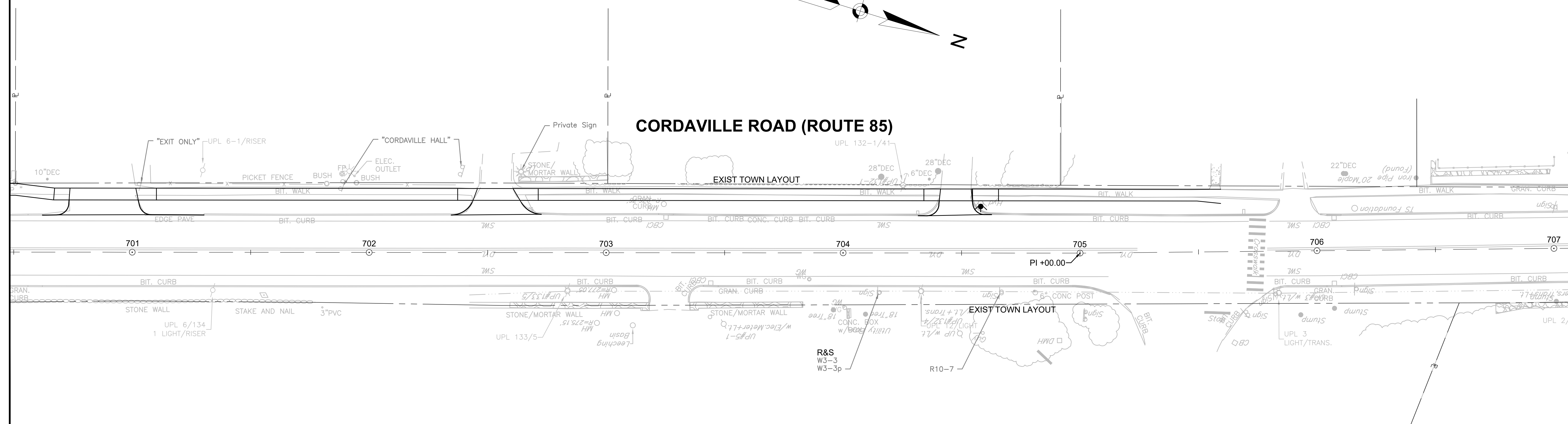
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SCALE: 1" = 20'

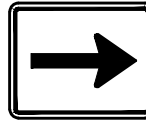
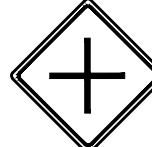
- CONSTRUCTION NOTES
1. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.
  2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
  3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



- CONSTRUCTION NOTES
1. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.
  2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
  3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.





| TRAFFIC SIGN SUMMARY          |              |        |                                                                                       |                                                                   |                     |                    |                                   |                 |        |        |                                        |                        |                           |
|-------------------------------|--------------|--------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------|--------------------|-----------------------------------|-----------------|--------|--------|----------------------------------------|------------------------|---------------------------|
| IDENTIFI-<br>CATION<br>NUMBER | SIZE OF SIGN |        | TEXT                                                                                  | TEXT DIMENSIONS (INCHES)                                          |                     |                    | NUMBER<br>OF<br>SIGNS<br>REQUIRED | COLOR           |        |        | POST SIZE<br>AND<br>NUMBER<br>REQUIRED | UNIT<br>AREA<br>(S.F.) | AREA IN<br>SQUARE<br>FEET |
|                               | WIDTH        | HEIGHT |                                                                                       | LETTER<br>HEIGHT                                                  | VERTICAL<br>SPACING | ARROW<br>RTE. MKR. |                                   | BACK-<br>GROUND | LEGEND | BORDER |                                        |                        |                           |
| M1-5(30)                      | 30"          | 24"    |    | SEE FHWA "STANDARD<br>HIGHWAY SIGNS,<br>2004 EDITION"; AS AMENDED |                     |                    | 2                                 | WHITE           | BLACK  | BLACK  | P5-2                                   | 5.00                   | 10.00                     |
| M3-2                          | 24"          | 12"    |    |                                                                   |                     |                    | 1                                 | WHITE           | BLACK  | BLACK  | 1 MTD<br>W/OTHER                       | 2.00                   | 2.00                      |
| M3-4                          | 24"          | 12"    |    |                                                                   |                     |                    | 1                                 | WHITE           | BLACK  | BLACK  | 1 MTD<br>W/OTHER                       | 2.00                   | 2.00                      |
| M6-1L                         | 21"          | 15"    |    |                                                                   |                     |                    | 1                                 | WHITE           | BLACK  | BLACK  | 1 MTD<br>W/OTHER                       | 2.19                   | 2.19                      |
| M6-1R                         | 21"          | 15"    |    |                                                                   |                     |                    | 1                                 | WHITE           | BLACK  | BLACK  | 1 MTD<br>W/OTHER                       | 2.19                   | 2.19                      |
| W2-1                          | 30"          | 30"    |    |                                                                   |                     |                    | 1                                 | YELLOW          | BLACK  | BLACK  | P5-1                                   | 6.25                   | 6.25                      |
| W4-4ap(L)                     | 24"          | 12"    |    |                                                                   |                     |                    | 1                                 | YELLOW          | BLACK  | BLACK  | 1 MTD<br>W/OTHERS                      | 2.00                   | 2.00                      |
| W4-4ap(R)                     | 24"          | 12"    |  |                                                                   |                     |                    | 1                                 | YELLOW          | BLACK  | BLACK  | 1 MTD<br>W/OTHERS                      | 2.00                   | 2.00                      |
| W4-4bp                        | 24"          | 12"    |  |                                                                   |                     |                    | 1                                 | YELLOW          | BLACK  | BLACK  | 1 MTD<br>W/OTHERS                      | 2.00                   | 2.00                      |
| W10-1                         | 36" DIA      |        |  |                                                                   |                     |                    | 2                                 | YELLOW          | BLACK  | BLACK  | P5-2                                   | 7.00                   | 14.00                     |
| W11-2                         | 30"          | 30"    |  |                                                                   |                     |                    | 2                                 | YELLOW          | BLACK  | BLACK  | P5-2                                   | 6.25                   | 12.50                     |
| W16-7p(L)                     | 24"          | 12"    |  |                                                                   |                     |                    | 2                                 | YELLOW          | BLACK  | BLACK  | 2 MTD<br>W/OTHERS                      | 2.00                   | 4.00                      |
|                               |              |        |                                                                                       |                                                                   |                     |                    |                                   |                 |        |        |                                        |                        |                           |
|                               |              |        |                                                                                       |                                                                   |                     |                    |                                   |                 |        |        |                                        |                        |                           |
|                               |              |        |                                                                                       |                                                                   |                     |                    |                                   |                 |        |        |                                        |                        |                           |
|                               |              |        |                                                                                       |                                                                   |                     |                    |                                   |                 |        |        |                                        |                        |                           |

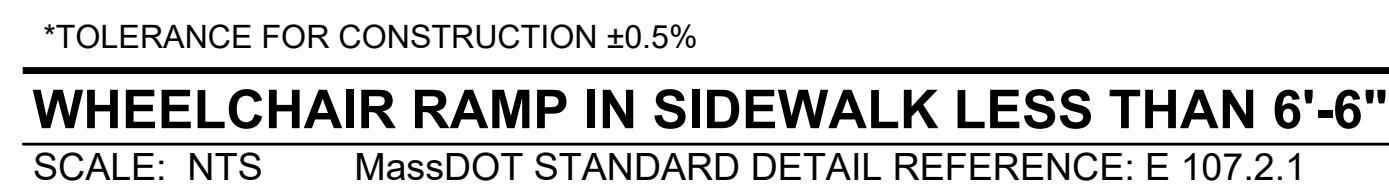
NOTES:  
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; AND THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED.

NOTE:

1. NEGATIVE (-) ROADWAY GUTTER SLOPE DENOTES A LOW SIDE TRANSITION.
2. ROADWAY GUTTER SLOPE TAKEN FROM PROFILE.
3. TOLERANCE FOR CONSTRUCTION  $\pm 0.5\%$
4. TRANSITION LENGTH MEASURED AT BACK OF WALK.

NOTE:

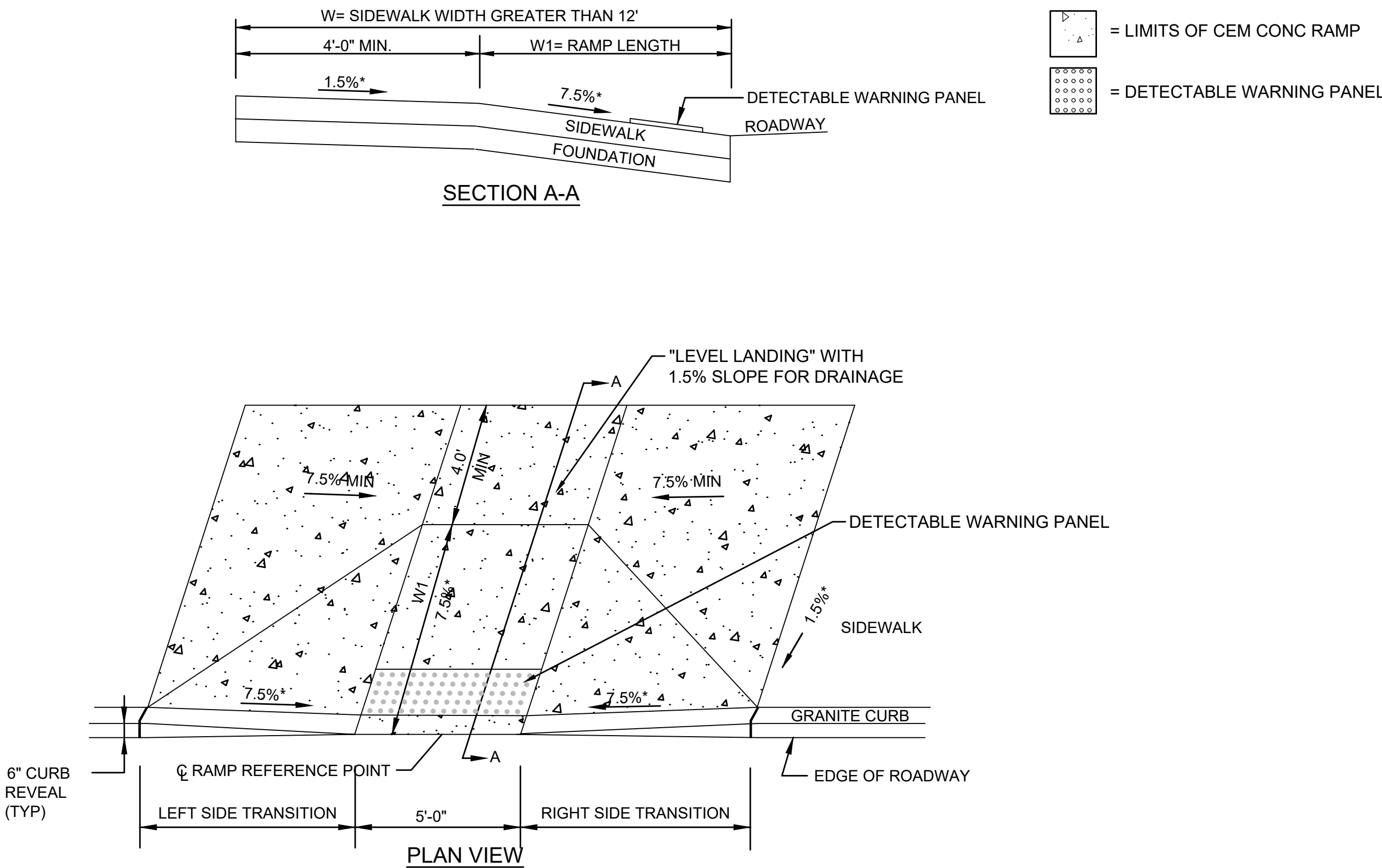
1. NEGATIVE (-) ROADWAY GUTTER SLOPE DENOTES A LOW SIDE TRANSITION.
2. TOLERANCE FOR CONSTRUCTION  $\pm 0.5\%$
3. TRANSITION LENGTH MEASURED AT BACK OF WALK.



| WHEELCHAIR RAMP DATA |                               |                   |        |       |                   |        |       |                      |                   |                      |                            |          |
|----------------------|-------------------------------|-------------------|--------|-------|-------------------|--------|-------|----------------------|-------------------|----------------------|----------------------------|----------|
| NO.                  | LOCATION<br>(REFERENCE POINT) | LEFT SIDE         |        |       | RIGHT SIDE        |        |       | OPENING<br>ELEVATION | SIDEWALK<br>WIDTH | W1<br>RAMP<br>LENGTH | LEVEL<br>LANDING<br>LENGTH | COMMENTS |
|                      |                               | ROADWAY<br>GUTTER | REVEAL | TRANS | ROADWAY<br>GUTTER | REVEAL | TRANS |                      |                   |                      |                            |          |
| MAIN STREET          |                               |                   |        |       |                   |        |       |                      |                   |                      |                            |          |
| 1                    | 156+70.7, 13.0' RT            | -1.55%            | 3"     | 3'-3" | 1.55%             | 6"     | 9'-0" | 299.37'              | 12.0'             | 6.7'                 | 5'-6"                      |          |
| 2                    | 156+70.7, 13.0' LT            | 1.55%             | 6"     | 9'-0" | -1.55%            | 6"     | 6'-6" | 299.50'              | 12.2'             | 7.2'                 | 5'-0"                      |          |

NOTE:

- NEGATIVE (-) ROADWAY GUTTER SLOPE DENOTES A LOW SIDE TRANSITION.
- ROADWAY GUTTER SLOPE TAKEN FROM PROFILE.
- TOLERANCE FOR CONSTRUCTION  $\pm$  0.5%



\*TOLERANCE FOR CONSTRUCTION  $\pm$ 0.5%

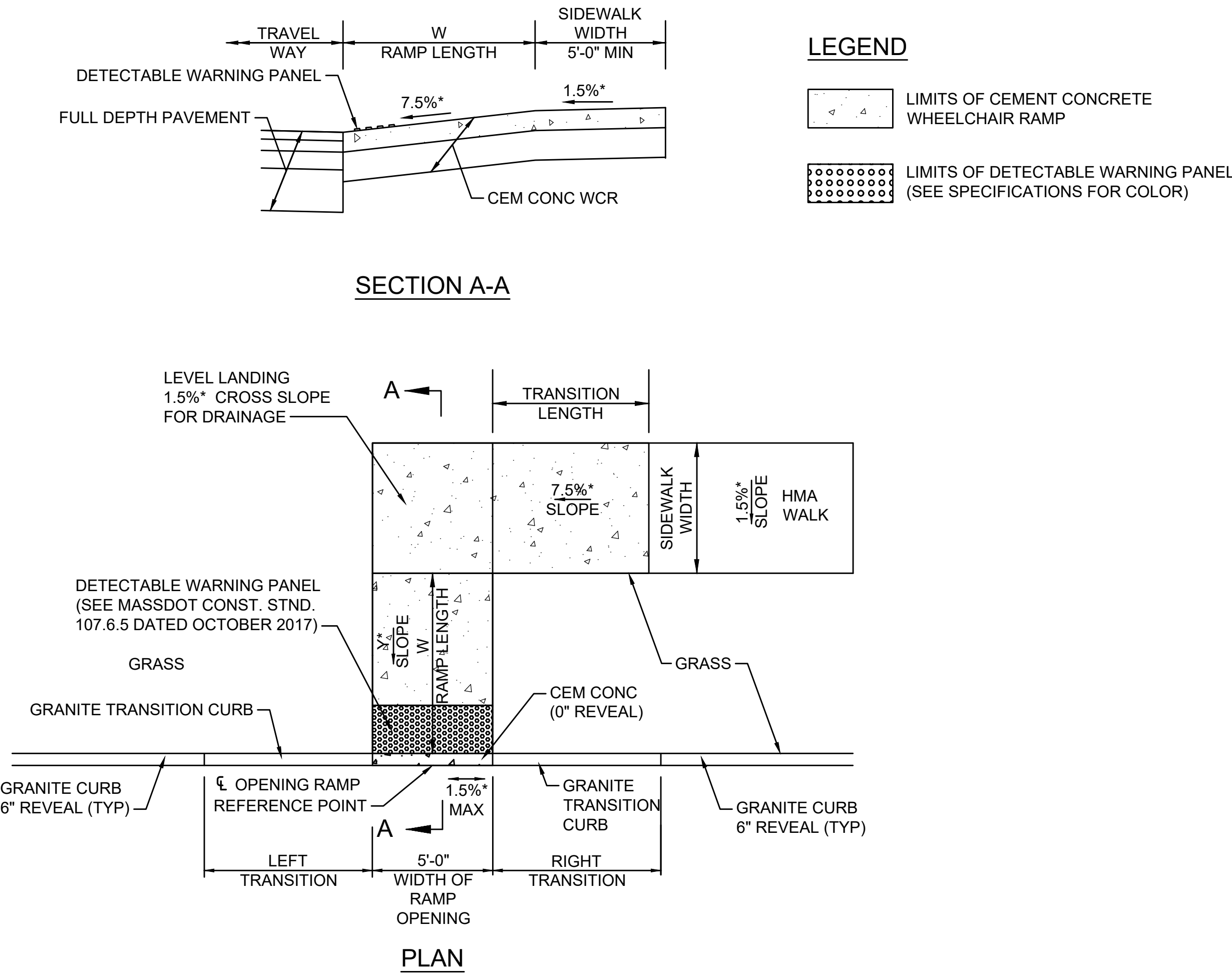
WHEELCHAIR RAMP - LESS THAN 12'-4" SIDEWALK

SCALE: NTS MassDOT STANDARD DETAIL REFERENCE: E 107.2.0

| WHEELCHAIR RAMP DATA |                               |                   |        |       |                   |        |       |                      |                   |                   |                 |               |
|----------------------|-------------------------------|-------------------|--------|-------|-------------------|--------|-------|----------------------|-------------------|-------------------|-----------------|---------------|
| NO.                  | LOCATION<br>(REFERENCE POINT) | LEFT SIDE         |        |       | RIGHT SIDE        |        |       | OPENING<br>ELEVATION | SIDEWALK<br>WIDTH | W<br>RAMP LENGTH  | Y<br>RAMP SLOPE | COMMENTS      |
|                      |                               | ROADWAY<br>GUTTER | REVEAL | TRANS | ROADWAY<br>GUTTER | REVEAL | TRANS |                      |                   |                   |                 |               |
| MAIN STREET          |                               |                   |        |       |                   |        |       |                      |                   |                   |                 |               |
| 6                    | 159+69.9, 14.9' RT            | N/A               | 6"     | 6'-6" | -3.75%            | 6"     | 6'-6" | 303.04               | 5'-0"             | 7.7'<br>AT CENTER | 1.5%            | NO LEFT PANEL |

NOTE:

- NEGATIVE (-) ROADWAY GUTTER SLOPE DENOTES A LOW SIDE TRANSITION.
- TOLERANCE FOR CONSTRUCTION  $\pm$  0.5%
- TRANSITION LENGTH MEASURED AT BACK OF WALK



\*TOLERANCE FOR CONSTRUCTION  $\pm$ 0.5%

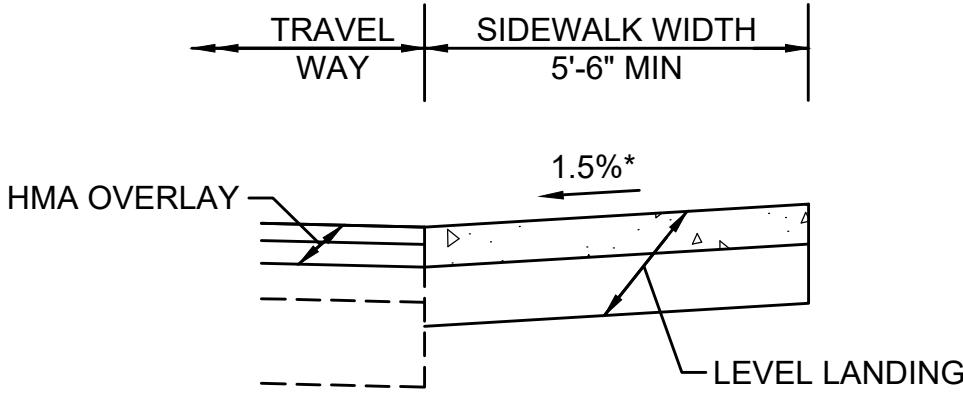
WHEELCHAIR RAMP - ONE RAMP ADJACENT TO GRASS

SCALE: N.T.S.

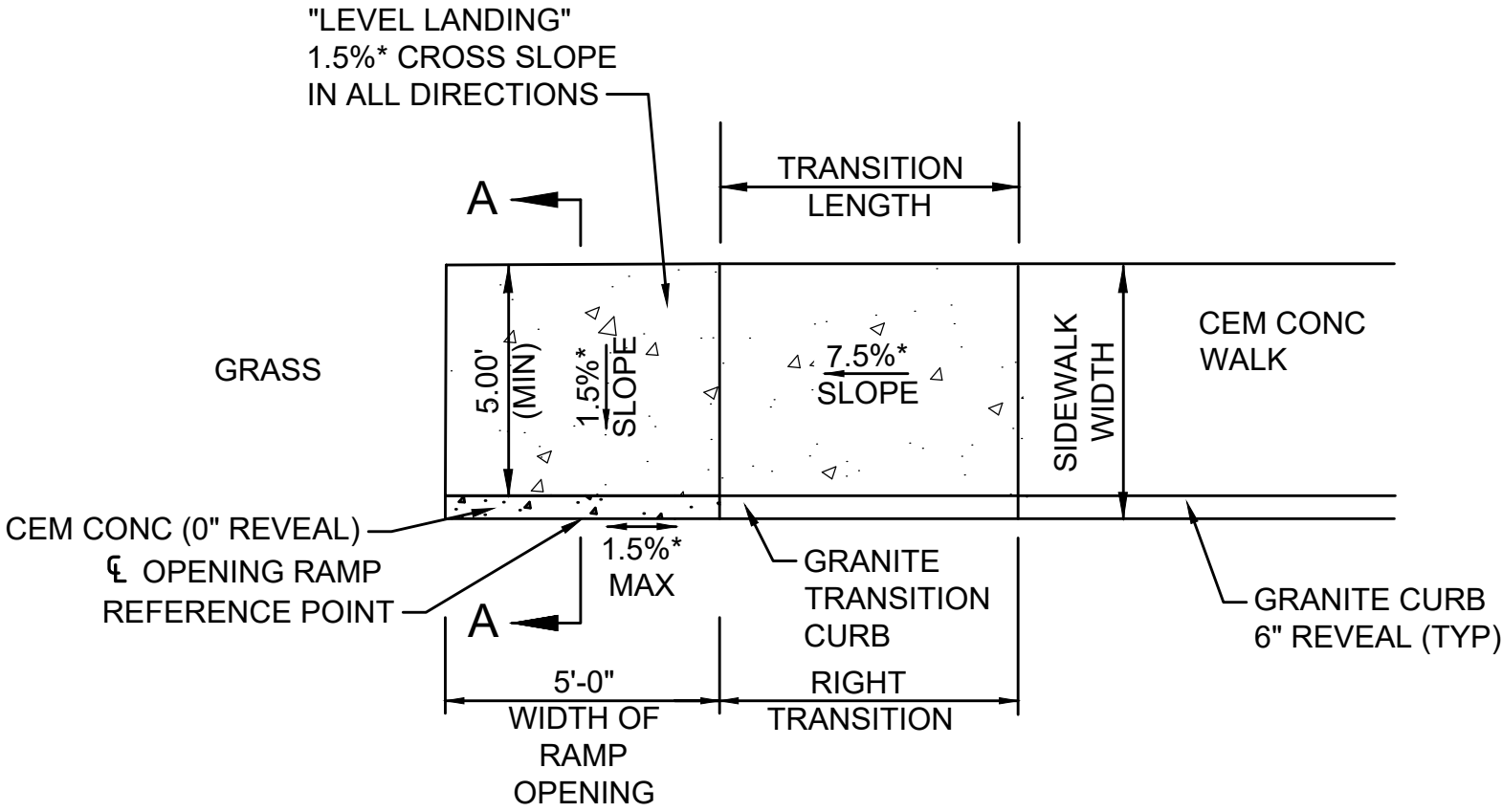
| WHEELCHAIR RAMP DATA |                               |                   |        |       |                   |        |       |                      |                   |               |
|----------------------|-------------------------------|-------------------|--------|-------|-------------------|--------|-------|----------------------|-------------------|---------------|
| NO.                  | LOCATION<br>(REFERENCE POINT) | LEFT SIDE         |        |       | RIGHT SIDE        |        |       | OPENING<br>ELEVATION | SIDEWALK<br>WIDTH | COMMENTS      |
|                      |                               | ROADWAY<br>GUTTER | REVEAL | TRANS | ROADWAY<br>GUTTER | REVEAL | TRANS |                      |                   |               |
| NEWTON STREET        |                               |                   |        |       |                   |        |       |                      |                   |               |
| 11                   | 309+97.5, 14.9' RT            | -                 | -      | -     | 0.01%             | 6"     | 6'-6" |                      | 5'-6"             | NO LEFT PANEL |

NOTE:

1. NEGATIVE (-) ROADWAY GUTTER SLOPE DENOTES A LOW SIDE TRANSITION.
2. ROADWAY GUTTER SLOPE TAKEN FROM PROFILE.
3. TOLERANCE FOR CONSTRUCTION ± 0.5%



SECTION A-A



PLAN

\*TOLERANCE FOR CONSTRUCTION ±0.5%

WHEELCHAIR RAMP IN SIDEWALK LESS THAN 6'-6" - WITH ONE PANEL

SCALE: N.T.S.

NOTE:

1. NEGATIVE (-) ROADWAY GUTTER SLOPE DENOTES A LOW SIDE TRANSITION.
2. ROADWAY GUTTER SLOPE TAKEN FROM PROFILE.
3. TOLERANCE FOR CONSTRUCTION  $\pm 0.5\%$



SCALE: NTS      MassDOT STANDARD DETAIL REFERENCE: E 107.6.0

**NOTE:**

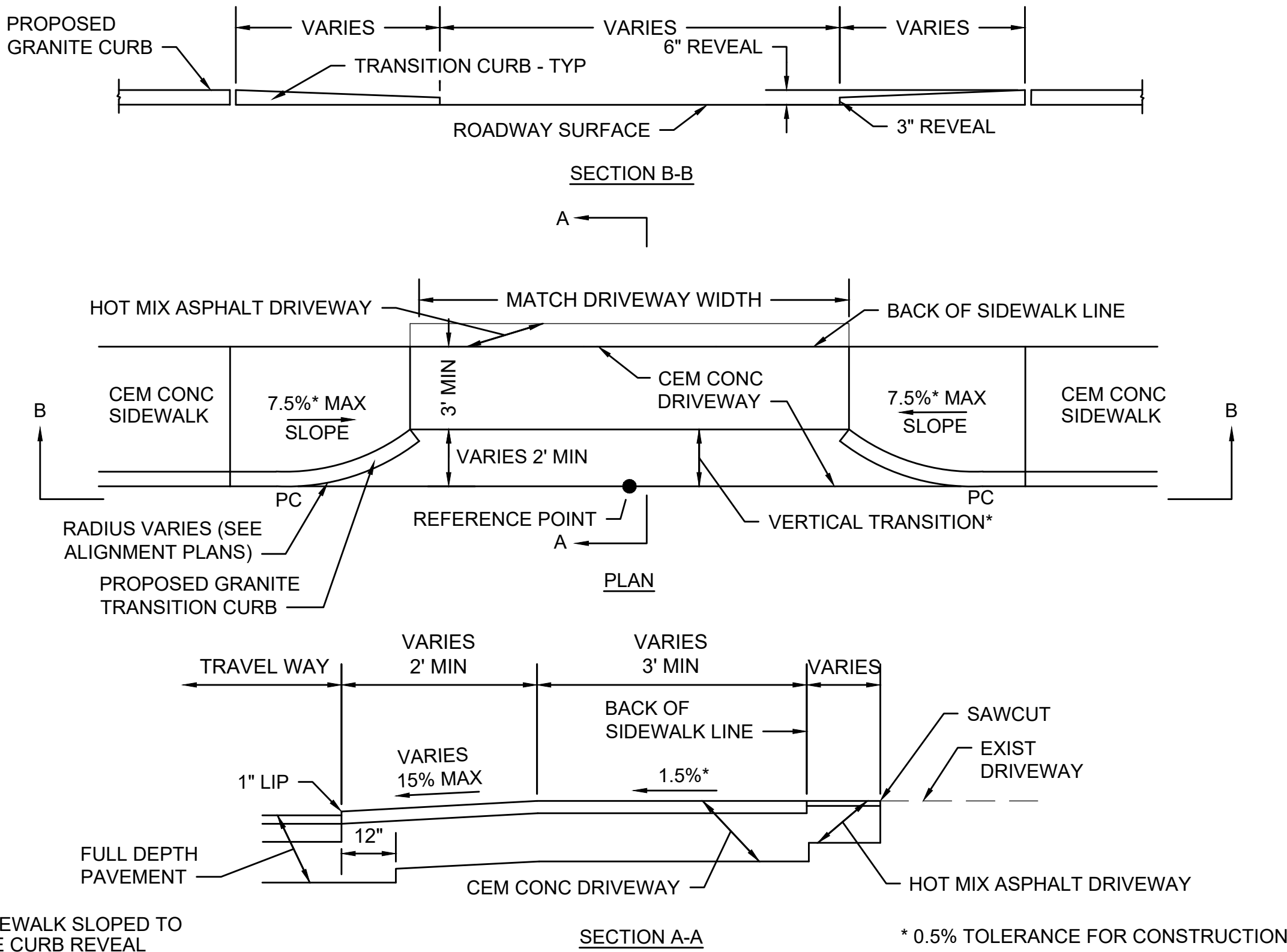
1. NEGATIVE (-) ROADWAY GUTTER SLOPE DENOTES A LOW SIDE TRANSITION.
2. ROADWAY GUTTER SLOPE TAKEN FROM PROFILE.
3. TOLERANCE FOR CONSTRUCTION  $\pm 0.5\%$



SCALE: NTS

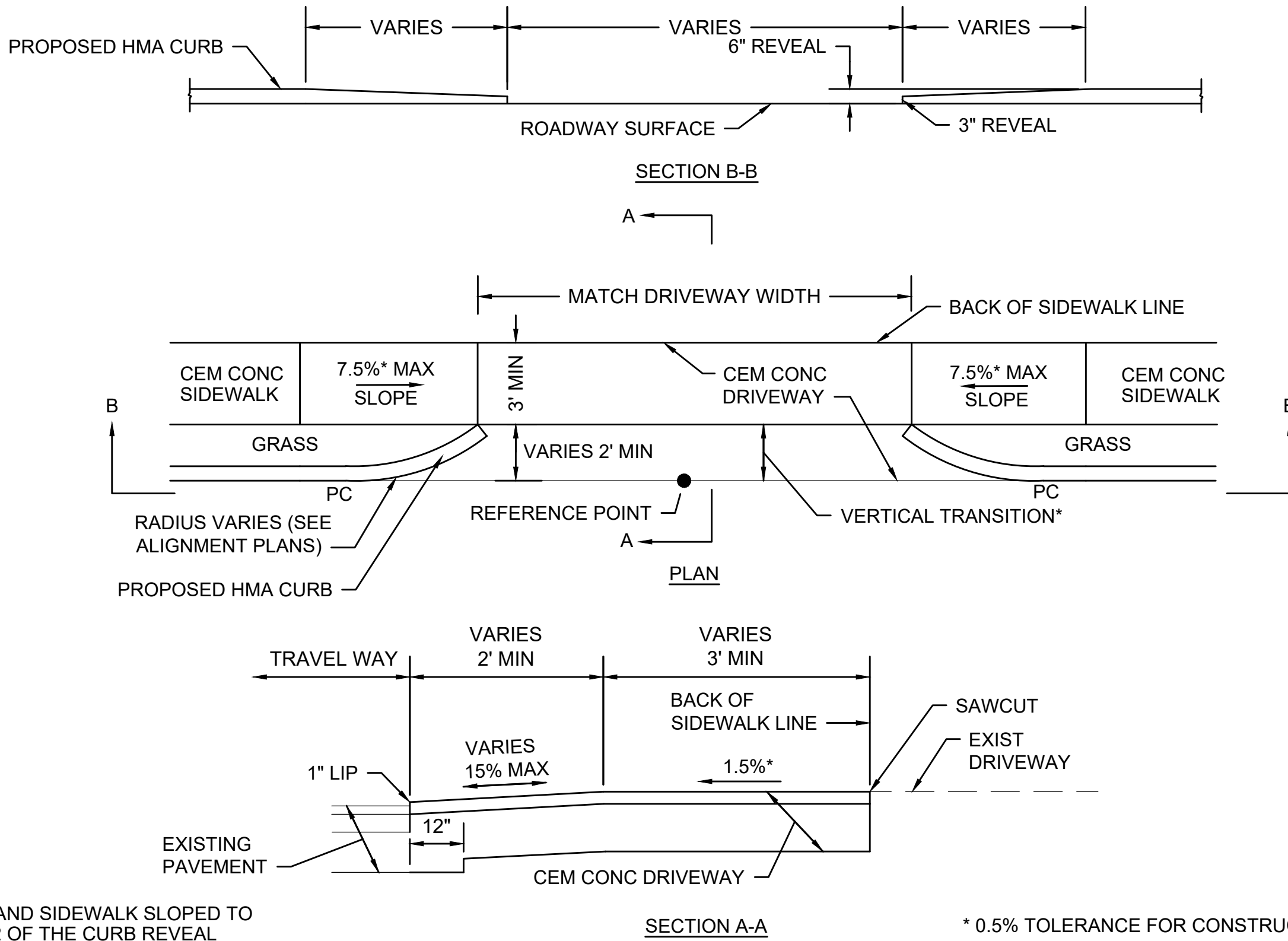
| DRIVEWAY DATA |                         |                   |                           |           |        |            |       |                      |          |
|---------------|-------------------------|-------------------|---------------------------|-----------|--------|------------|-------|----------------------|----------|
| NO.           | LOCATION<br>(REF POINT) | ROADWAY<br>GUTTER | SIDEWALK<br>WIDTH         | LEFT SIDE |        | RIGHT SIDE |       | OPENING<br>ELEVATION | COMMENTS |
|               |                         |                   |                           | REVEAL    | TRANS  | REVEAL     | TRANS |                      |          |
| MAIN STREET   |                         |                   |                           |           |        |            |       |                      |          |
| 4             | 160+05.1, 13.0' LT      | 5.2%              | 5'-6"                     | 6"        | 6'-6"  | 3"         | 7'-6" | 305.05'              |          |
| NEWTON STREET |                         |                   |                           |           |        |            |       |                      |          |
| 5             | 301+39.9, 13.0 RT       | -2.1%             | 5'-6"                     | 6"        | 11'-0" | 6"         | 6'-6" | 302.54'              |          |
| 6             | 302+28.2, 13.0 RT       | -2.8%             | 5'-6"                     | 6"        | 11'-0" | 6"         | 6'-6" | 304.30'              |          |
| 7             | 304+55.1, 13.0 RT       | -1.9%             | 5'-6"                     | 6"        | 9'-0"  | 6"         | 6'-6" | 309.10'              |          |
| 8             | 305+40.4, 13.0 RT       | -2.0%             | 5'-6"                     | 6"        | 9'-0"  | 6"         | 6'-6" | 311.07'              |          |
| 9             | 306+79.9, 13.0 RT       | -2.4%             | 5'-0" LEFT<br>5'-6" RIGHT | 3"        | 5'-6"  | 6"         | 6'-6" | 314.34'              |          |
| 10            | 307+63.4, 13.0 RT       | -2.3%             | 4'-6"                     | 6"        | 11'-0" | 3"         | 4'-4" | 316.16'              |          |
| 11            | 308+40.8, 13.0 RT       | -2.0%             | 4'-6"                     | 6"        | 9'-0"  | 6"         | 6'-6" | 318.44'              |          |

| DRIVEWAY DATA              |                         |                   |                   |           |       |            |        |                      |          |
|----------------------------|-------------------------|-------------------|-------------------|-----------|-------|------------|--------|----------------------|----------|
| NO.                        | LOCATION<br>(REF POINT) | ROADWAY<br>GUTTER | SIDEWALK<br>WIDTH | LEFT SIDE |       | RIGHT SIDE |        | OPENING<br>ELEVATION | COMMENTS |
|                            |                         |                   |                   | REVEAL    | TRANS | REVEAL     | TRANS  |                      |          |
| CORDAVILLE ROAD (ROUTE 85) |                         |                   |                   |           |       |            |        |                      |          |
| 12                         | 700+88.1, 15.8' LT      | 1.0%              | 5'-0"             | 6"        | 6'-6" | 6"         | 7'-8"  | 275.40'              |          |
| 13                         | 702+53.6, 16.0 LT       | 0.30%             | 5'-0"             | 6"        | 6'-6" | 6"         | 7'-8"  | 276.42'              |          |
| 14                         | 704+47.5, 16.0 LT       | 2.4%              | 5'-0"             | 6"        | 6'-6" | 6"         | 11'-0" | 278.40'              |          |



TYPICAL DRIVEWAY WITH SIDEWALK AND CURVED TRANSITION CURB

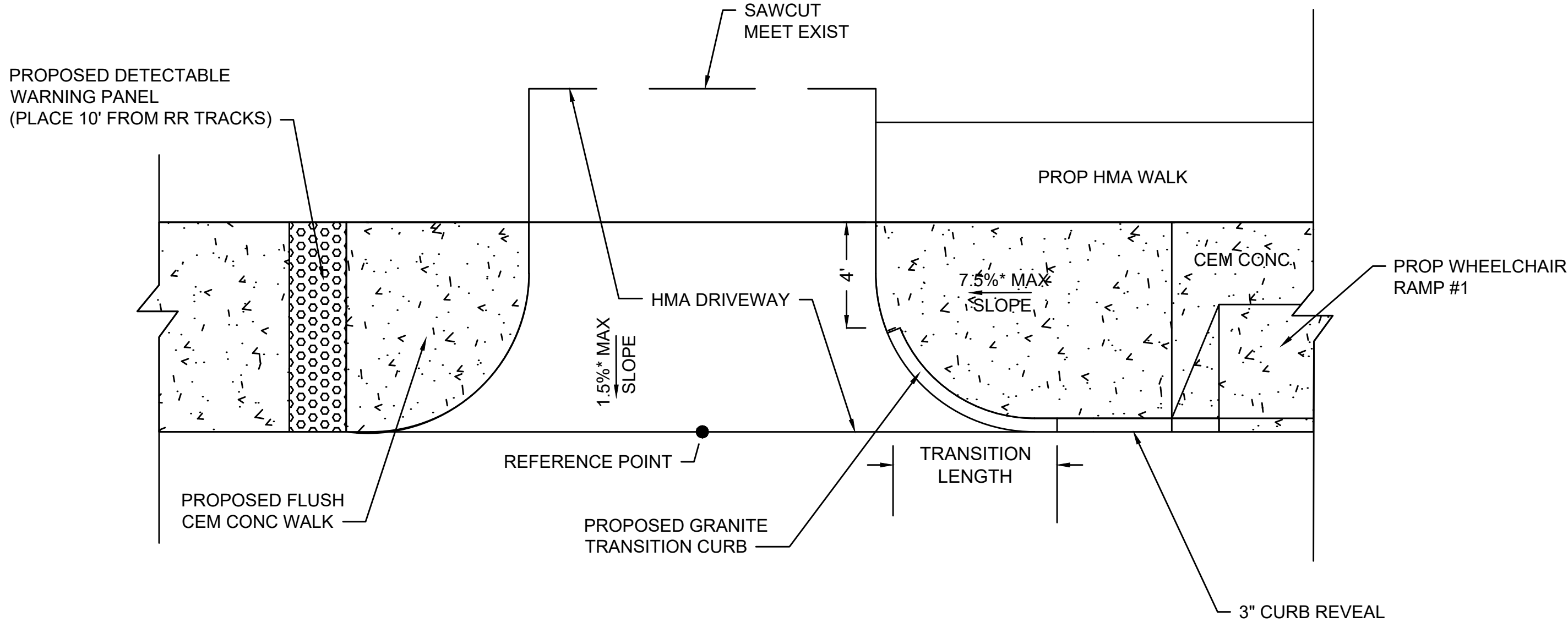
SCALE: N.T.S.



TYPICAL DRIVEWAY WITH SIDEWALK, GRASS STRIP, AND CURVED TRANSITION CURB

SCALE: N.T.S.

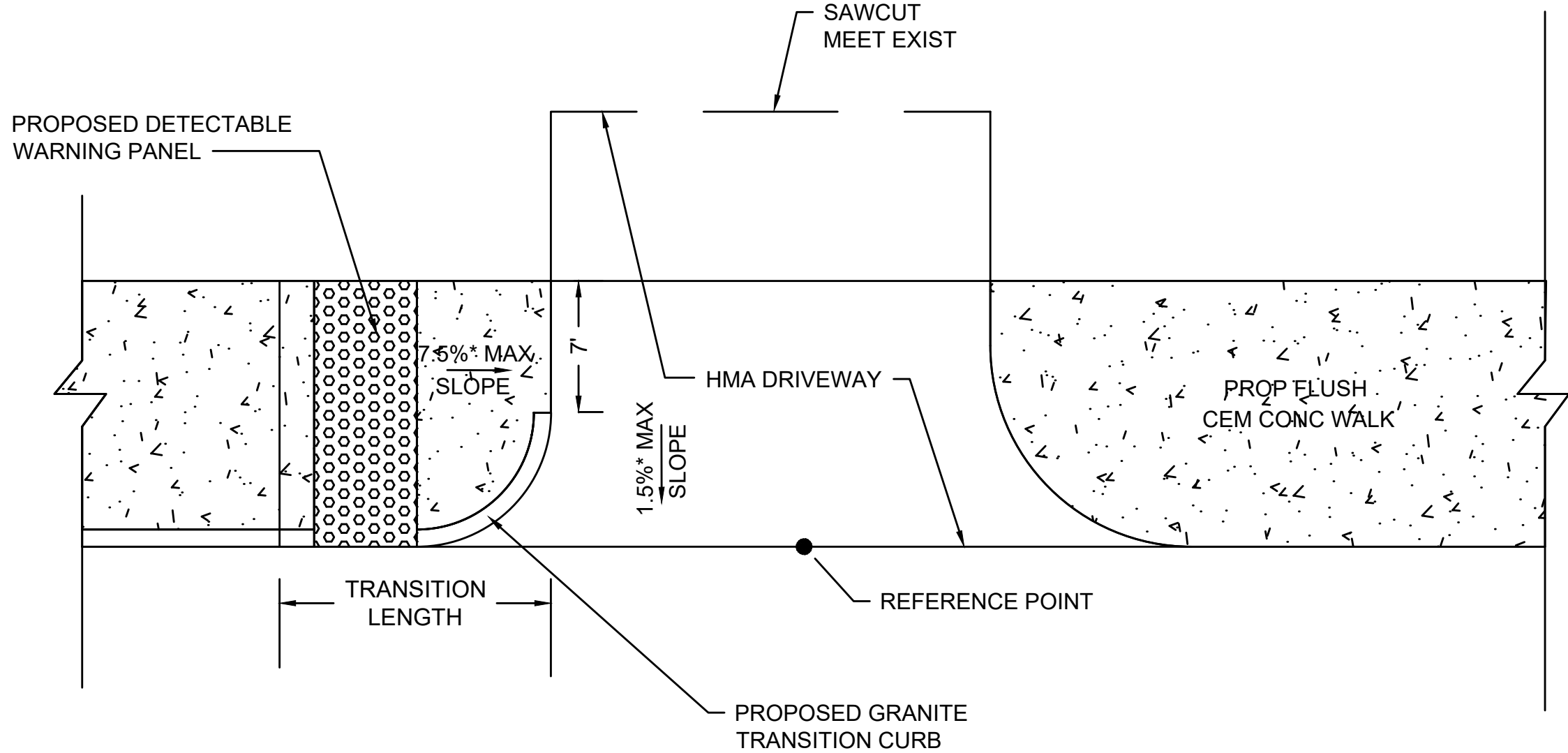
| DRIVEWAY DATA |                         |                   |                                 |           |       |            |        |                      |          |
|---------------|-------------------------|-------------------|---------------------------------|-----------|-------|------------|--------|----------------------|----------|
| NO.           | LOCATION<br>(REF POINT) | ROADWAY<br>GUTTER | SIDEWALK<br>WIDTH               | LEFT SIDE |       | RIGHT SIDE |        | OPENING<br>ELEVATION | COMMENTS |
|               |                         |                   |                                 | REVEAL    | TRANS | REVEAL     | TRANS  |                      |          |
| MAIN STREET   |                         |                   |                                 |           |       |            |        |                      |          |
| 1             | 157+03.3, 13.0' RT      | 1.0%              | 12'-0" (RIGHT)<br>12'-6" (LEFT) | -         | -     | 3"         | 3'-10" | 299.06'              |          |



DRIVEWAY #1

SCALE: N.T.S.

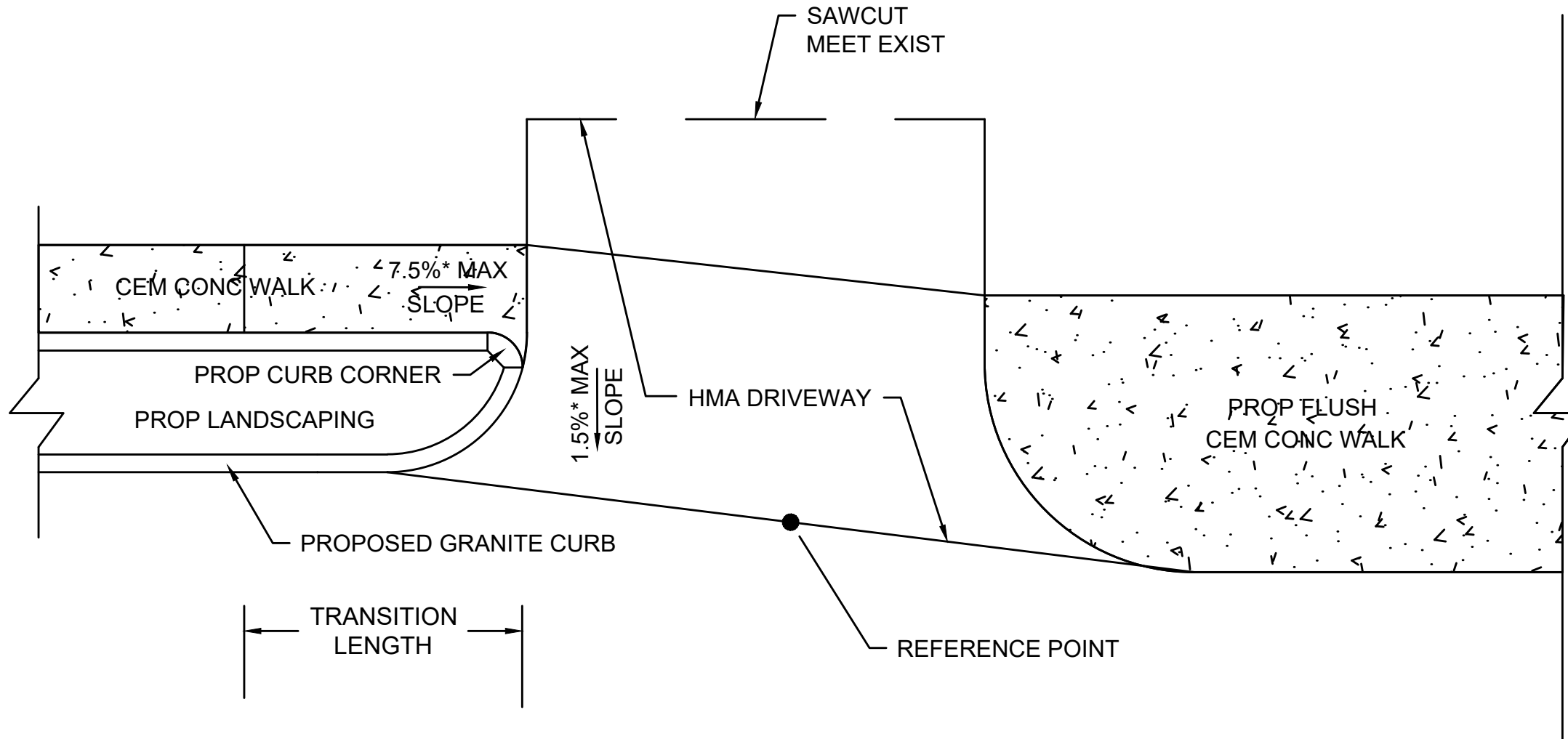
| DRIVEWAY DATA |                         |                   |                                 |           |       |            |       |                      |          |
|---------------|-------------------------|-------------------|---------------------------------|-----------|-------|------------|-------|----------------------|----------|
| NO.           | LOCATION<br>(REF POINT) | ROADWAY<br>GUTTER | SIDEWALK<br>WIDTH               | LEFT SIDE |       | RIGHT SIDE |       | OPENING<br>ELEVATION | COMMENTS |
|               |                         |                   |                                 | REVEAL    | TRANS | REVEAL     | TRANS |                      |          |
| MAIN STREET   |                         |                   |                                 |           |       |            |       |                      |          |
| 2             | 157+14.8, 13.0' LT      | -1.0%             | 12'-0" (LEFT)<br>11'-6" (RIGHT) | 6"        | 7'-8" | -          | -     | 299.00'              |          |



DRIVEWAY #2

SCALE: N.T.S.

| DRIVEWAY DATA |                         |                   |                                |           |       |            |       |                      |          |
|---------------|-------------------------|-------------------|--------------------------------|-----------|-------|------------|-------|----------------------|----------|
| NO.           | LOCATION<br>(REF POINT) | ROADWAY<br>GUTTER | SIDEWALK<br>WIDTH              | LEFT SIDE |       | RIGHT SIDE |       | OPENING<br>ELEVATION | COMMENTS |
|               |                         |                   |                                | REVEAL    | TRANS | REVEAL     | TRANS |                      |          |
| MAIN STREET   |                         |                   |                                |           |       |            |       |                      |          |
| 3             | 157+99.6, 16.6' RT      | 0.8%              | 12'-6" (RIGHT)<br>6'-0" (LEFT) | 6"        | 7'-8" | -          | -     | 298.87'              |          |

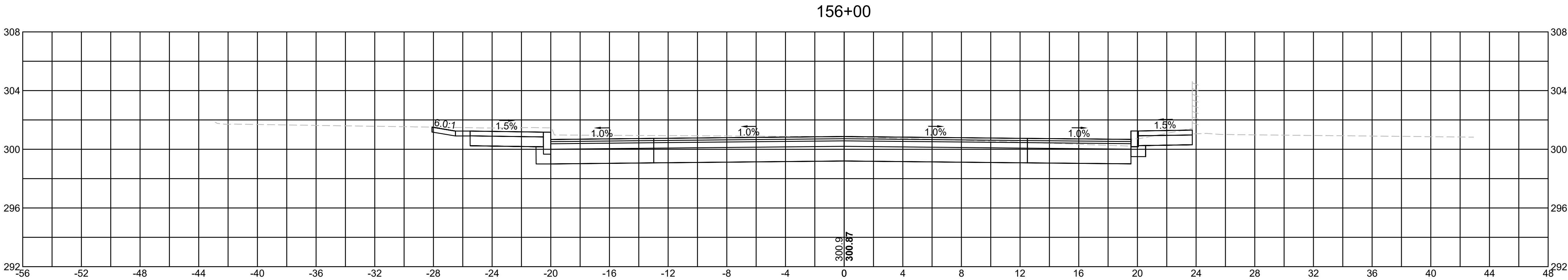


DRIVEWAY #3

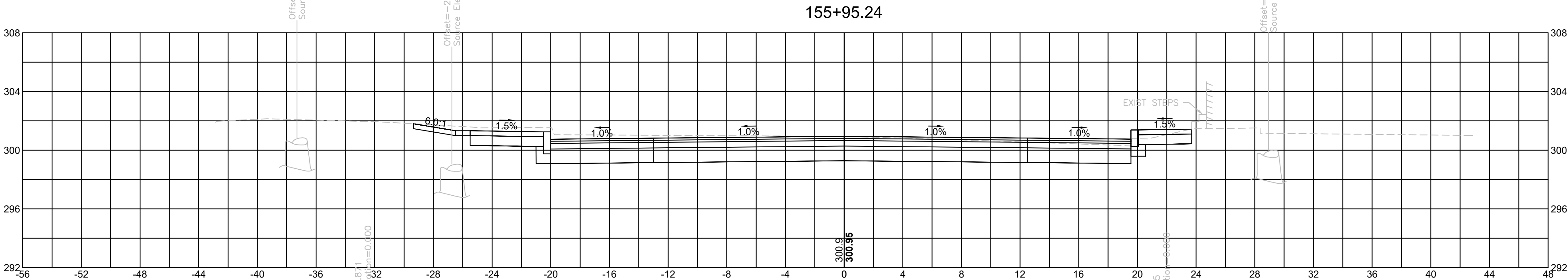
SCALE: N.T.S.

SOUTHBOROUGH  
VARIOUS LOCATIONS  
CROSS SECTIONS  
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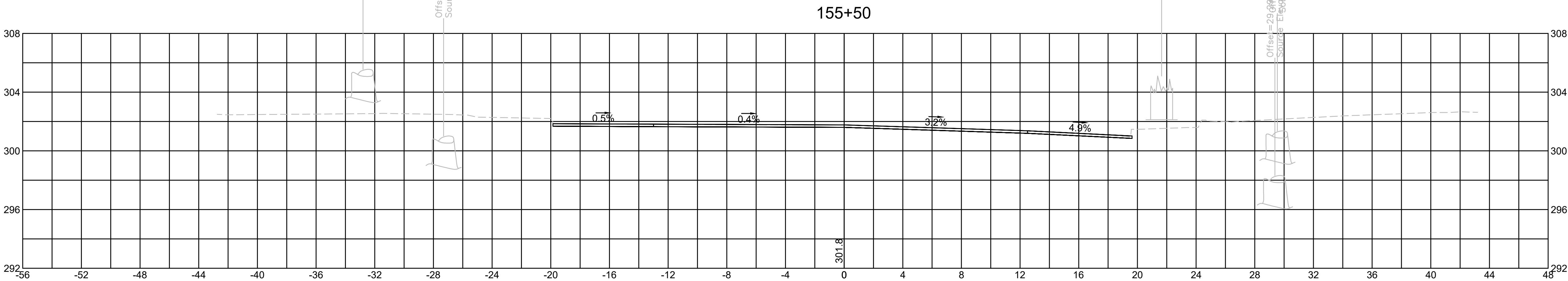
13812-HD(X)SEC-MAIN STREET.DWG 24-Jun-2021



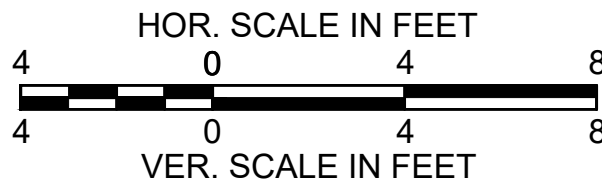
| Material(s) at Station 156+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 77.9 | 13.7   |
| FILL                             | 0.0  | 0.0    |

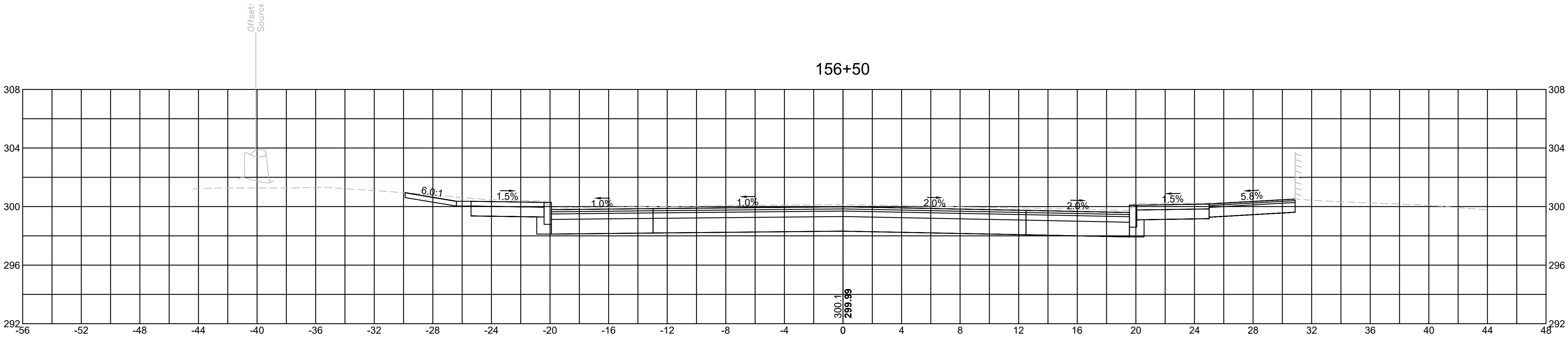


| Material(s) at Station 155+95.24 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 78.1 | 65.5   |
| FILL                             | 0.0  | 0.0    |

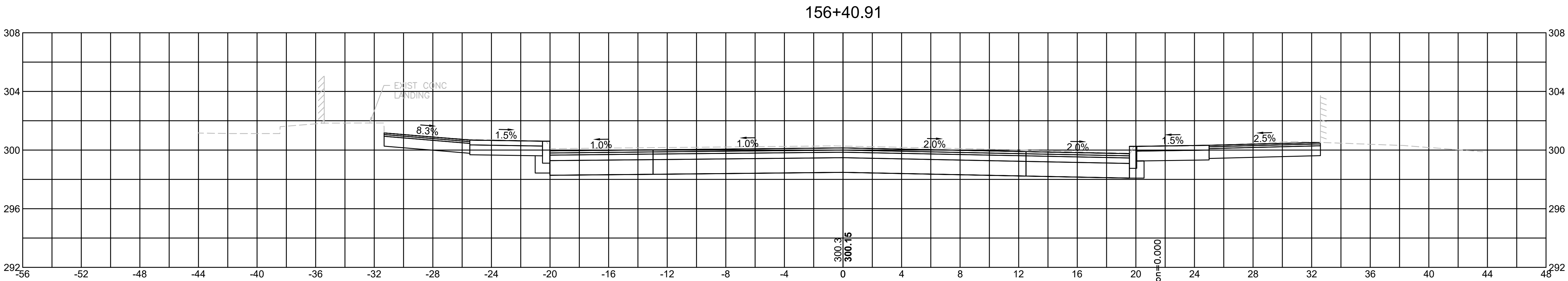


| Material(s) at Station 155+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 0.0  | 0.0    |
| FILL                             | 0.0  | 0.0    |

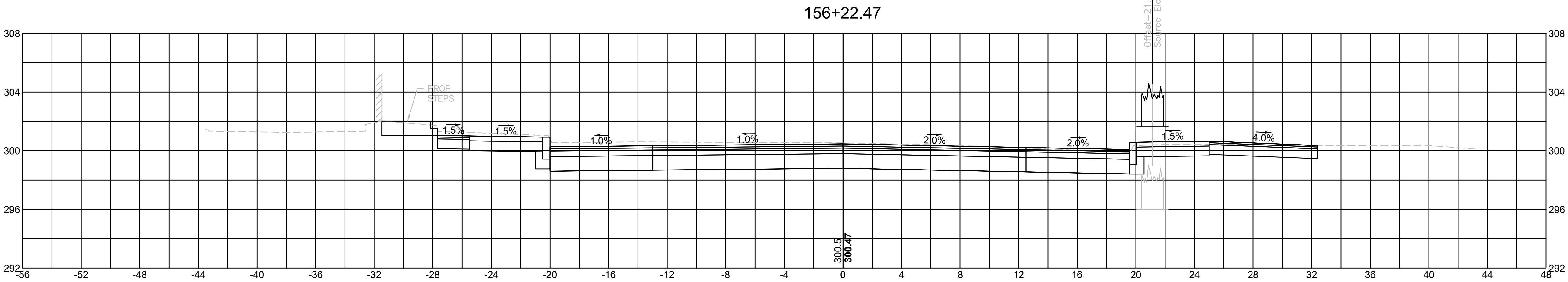




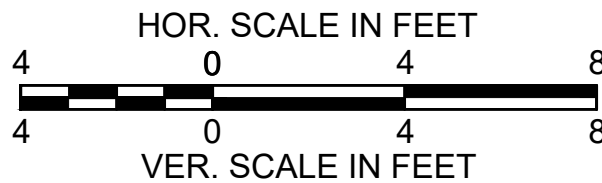
| Material(s) at Station 156+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 93.5 | 32.0   |
| FILL                             | 0.0  | 0.0    |

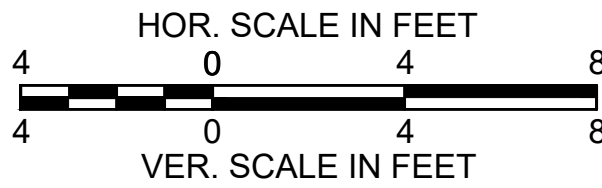
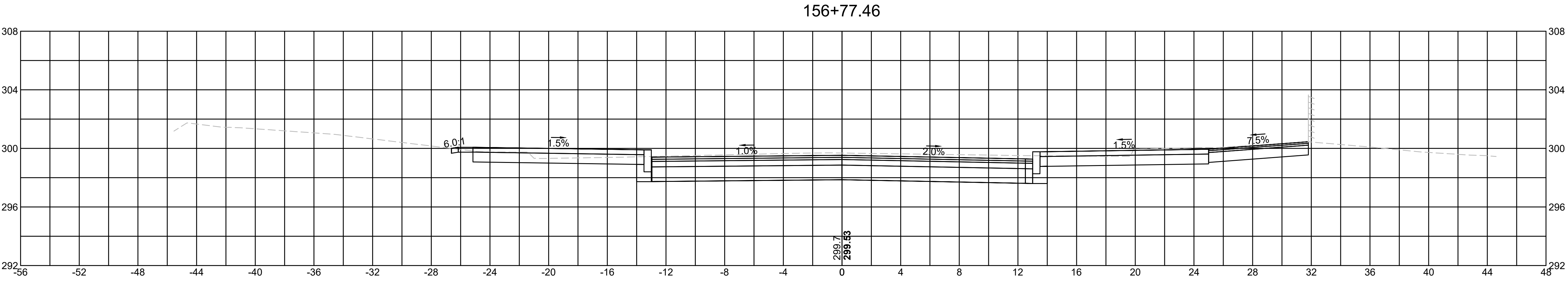
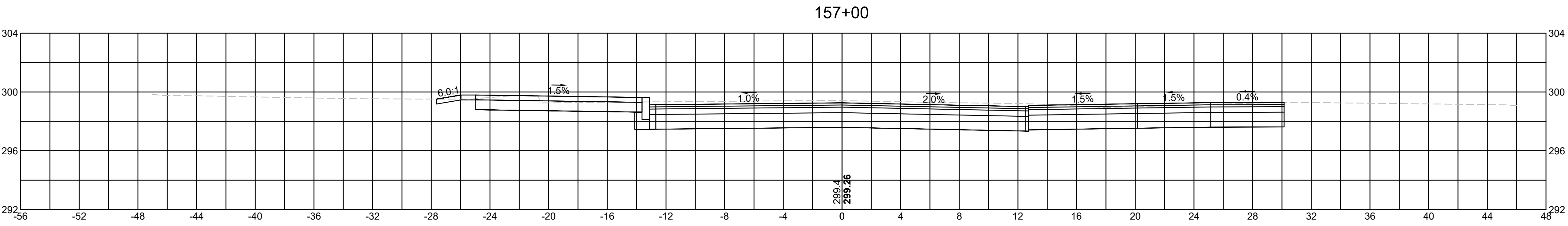
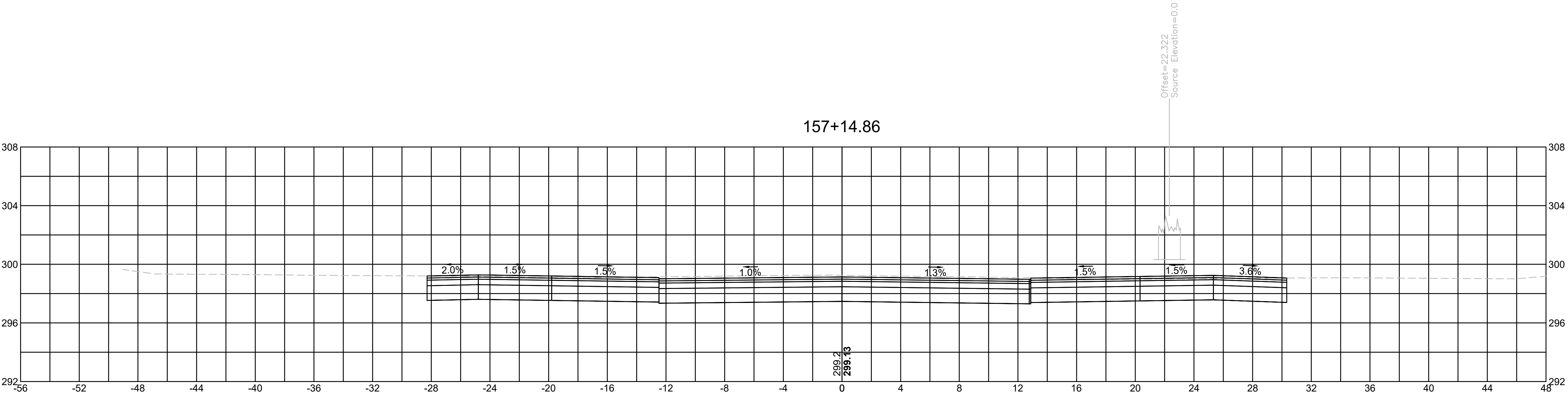


| Material(s) at Station 156+40.91 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 96.4 | 64.0   |
| FILL                             | 0.0  | 0.0    |

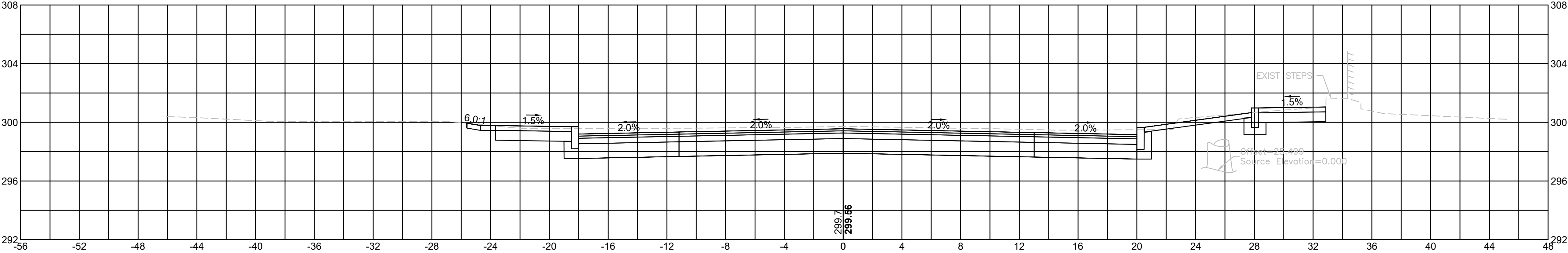


| Material(s) at Station 156+22.47 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 91.1 | 70.3   |
| FILL                             | 0.0  | 0.0    |



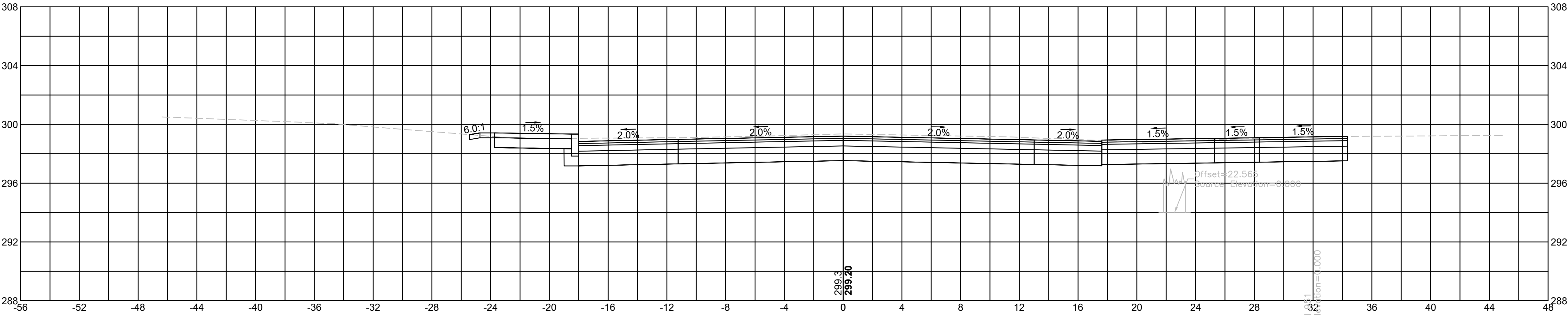


158+30.43



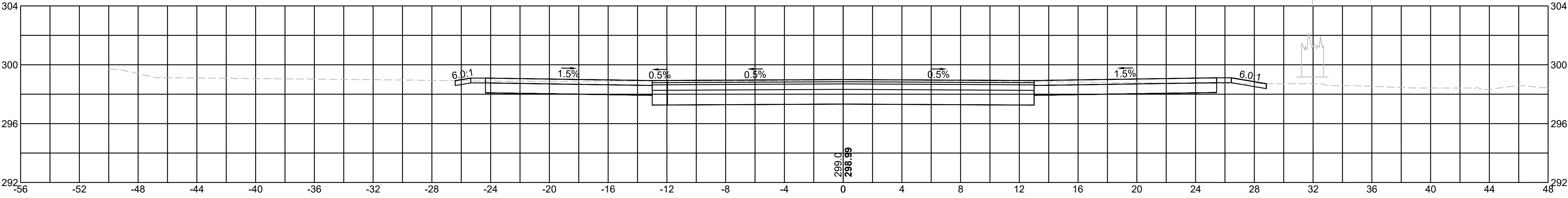
| Material(s) at Station 158+30.43 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 89.8 | 104.9  |
| FILL                             | 0.0  | 0.0    |

158+00

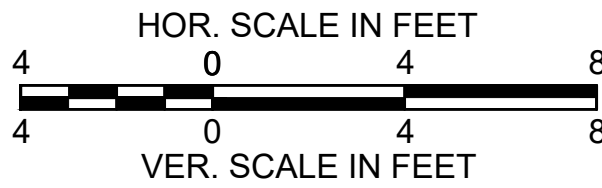


| Material(s) at Station 158+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 96.3 | 153.9  |
| FILL                             | 0.0  | 0.0    |

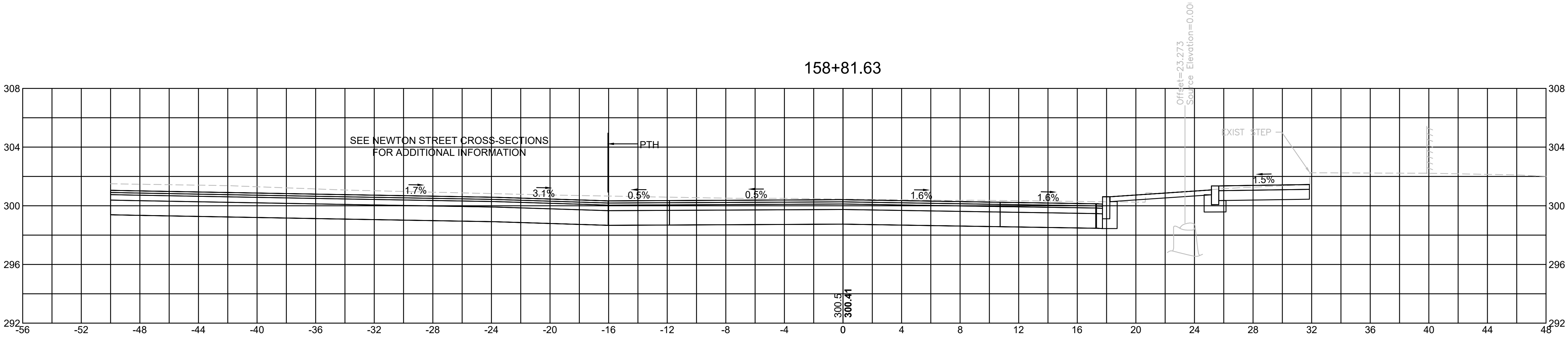
157+50



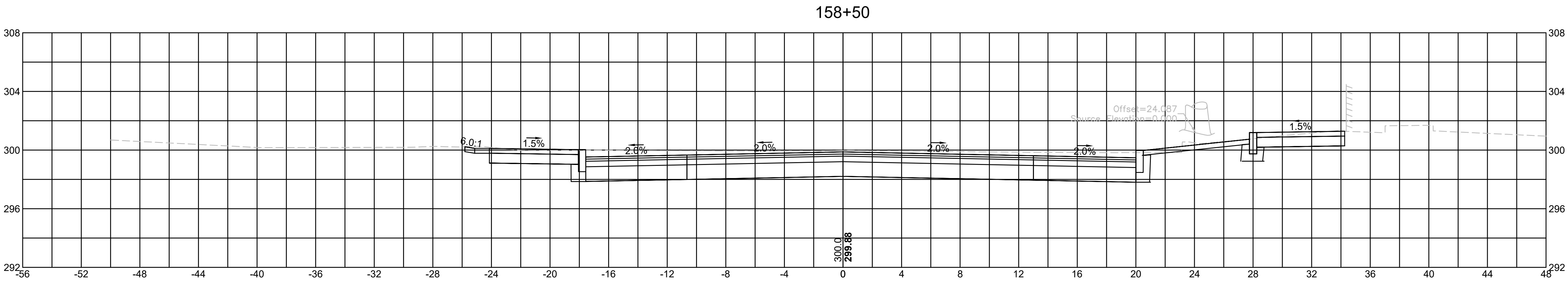
| Material(s) at Station 157+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 69.9 | 111.5  |
| FILL                             | 0.0  | 0.0    |



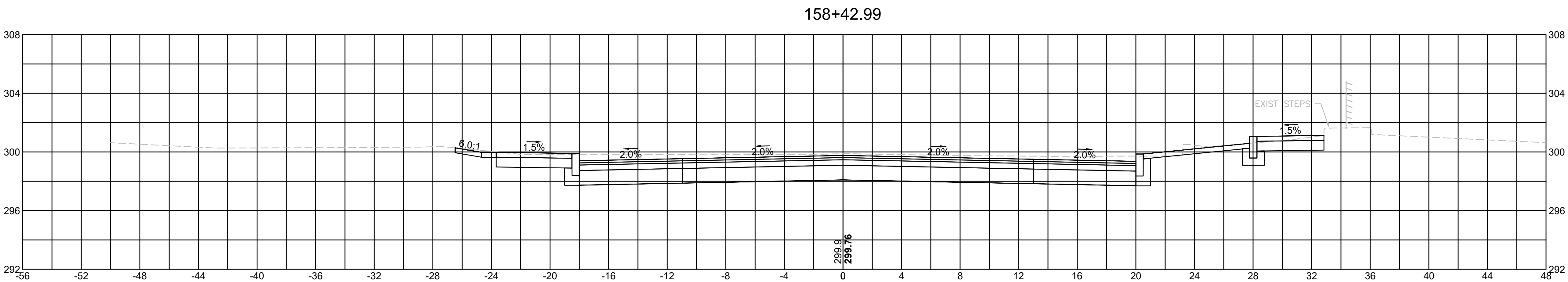
SOUTHBOROUGH  
VARIOUS LOCATIONS  
CROSS SECTIONS  
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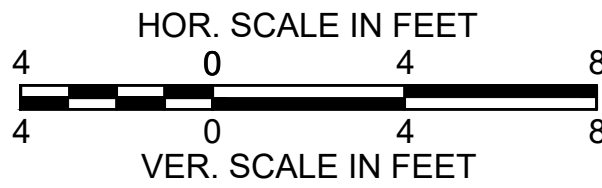
| Material(s) at Station 158+81.63 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 59.9 | 82.9   |
| FILL                             | 0.0  | 0.0    |



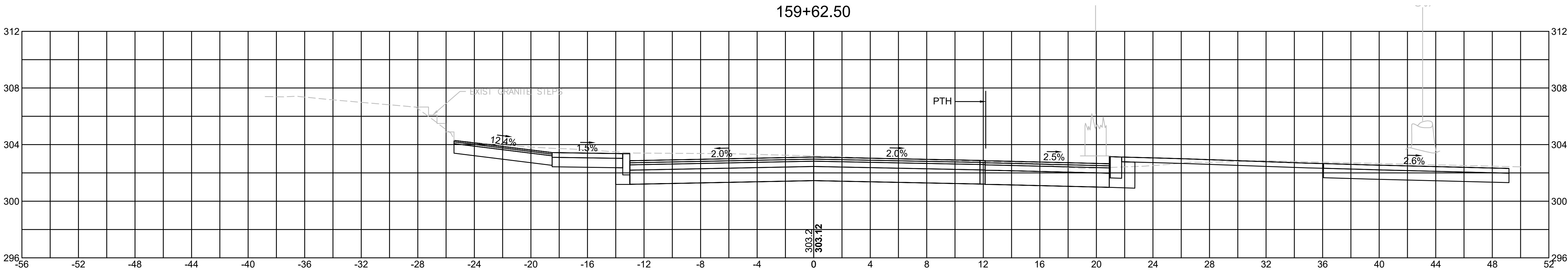
| Material(s) at Station 158+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 81.6 | 22.0   |
| FILL                             | 0.0  | 0.0    |



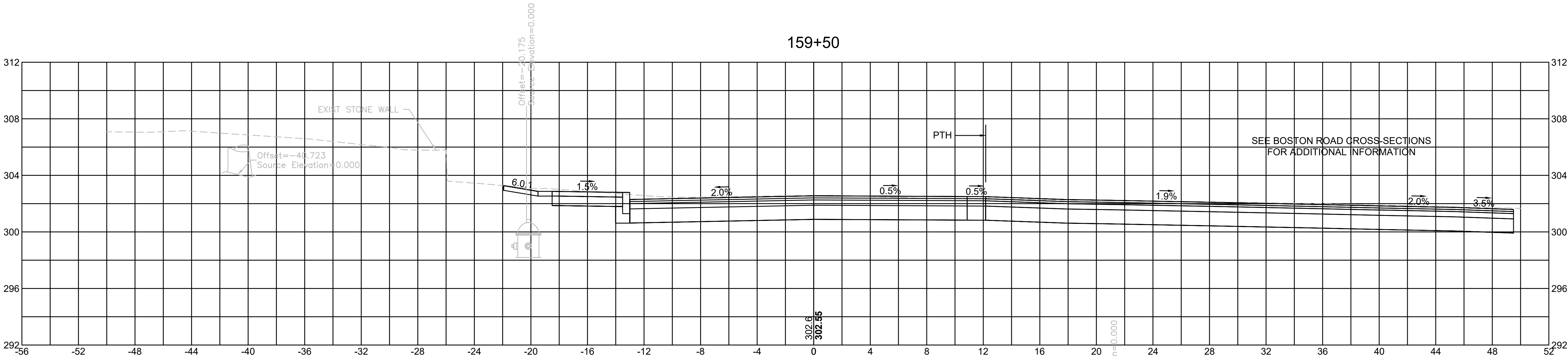
| Material(s) at Station 158+42.99 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 88.0 | 41.4   |
| FILL                             | 0.0  | 0.0    |



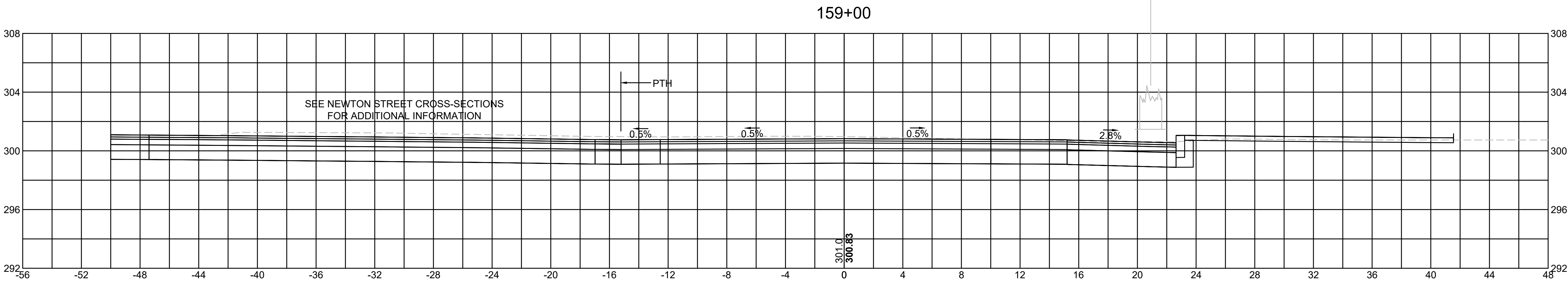
SOUTHBOROUGH  
VARIOUS LOCATIONS  
CROSS SECTIONS  
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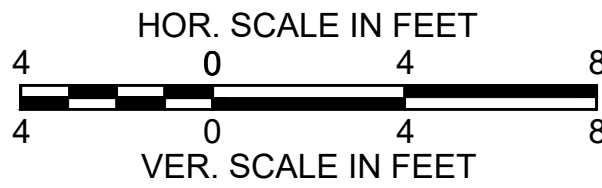
| Material(s) at Station 159+62.50 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 61.2 | 25.9   |
| FILL                             | 0.0  | 0.0    |



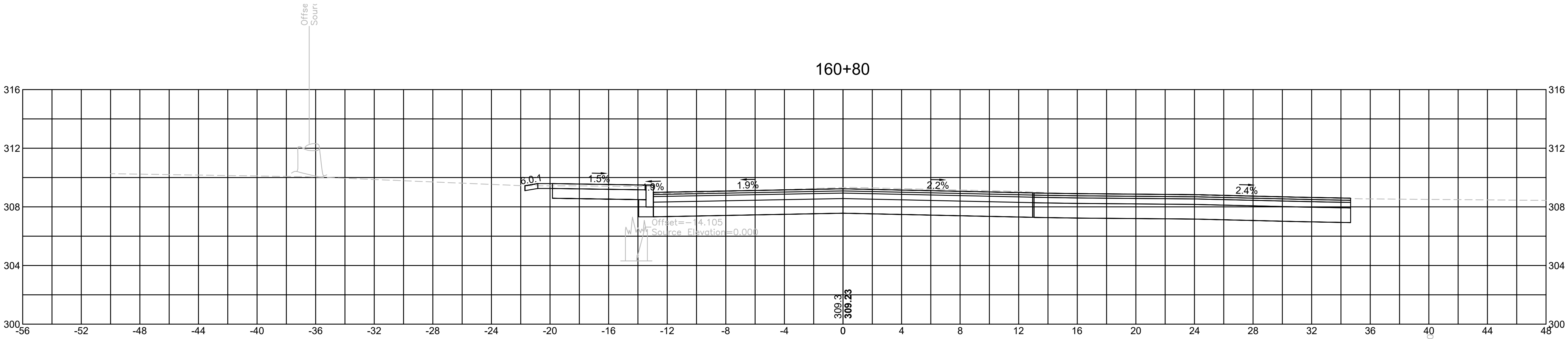
| Material(s) at Station 159+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 50.6 | 96.9   |
| FILL                             | 0.0  | 0.0    |



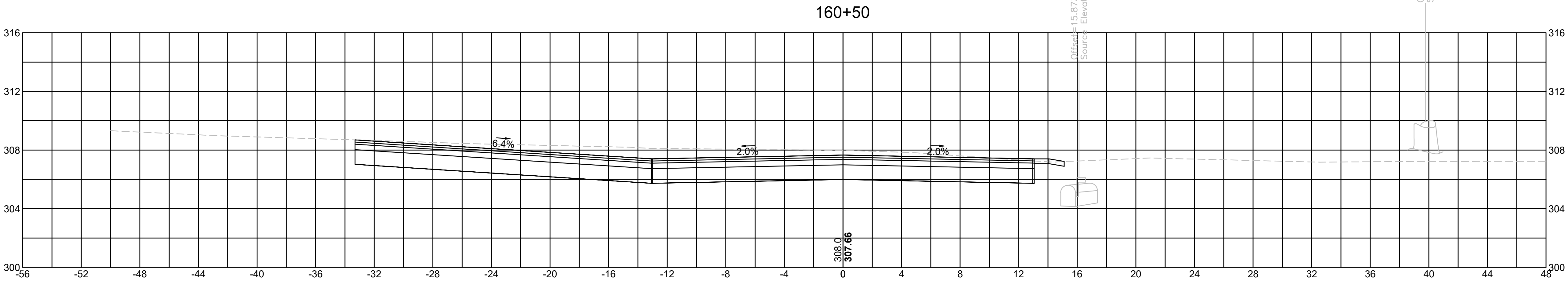
| Material(s) at Station 159+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 54.0 | 38.8   |
| FILL                             | 0.0  | 0.0    |



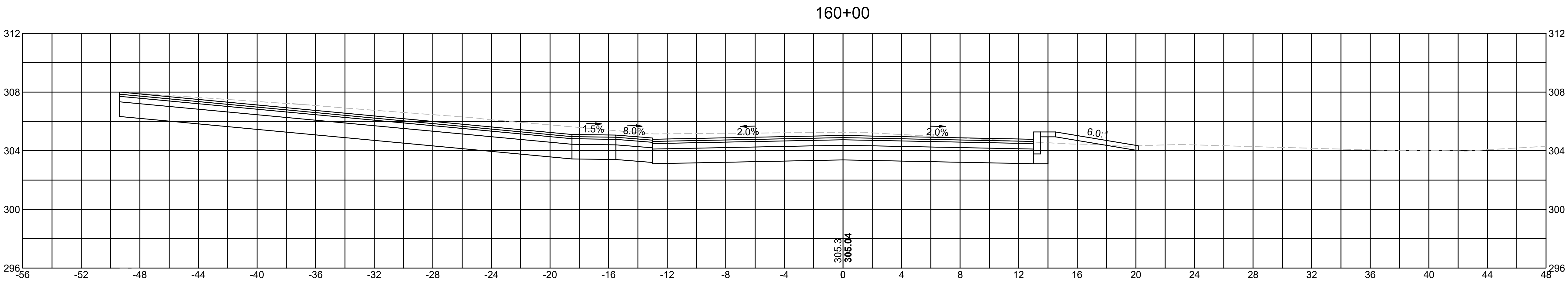
SOUTHBOROUGH  
VARIOUS LOCATIONS  
CROSS SECTIONS  
SHEET 66 OF 141



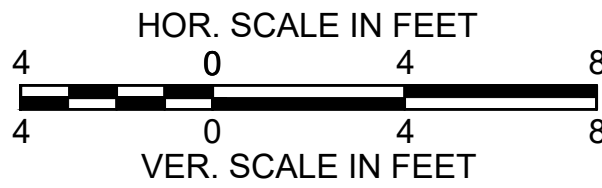
| Material(s) at Station 160+80.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 51.8 | 80.5   |
| FILL                             | 0.0  | 0.0    |



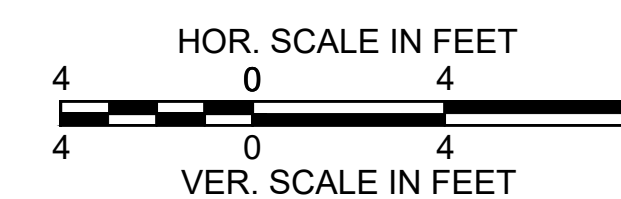
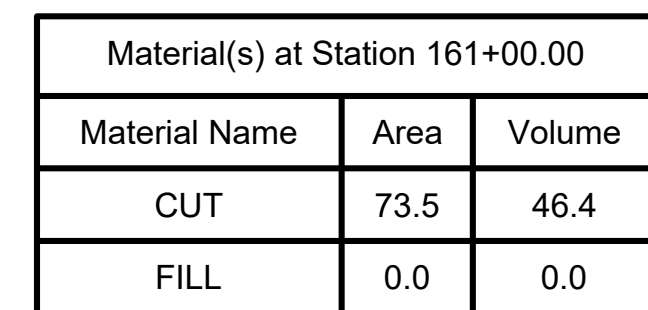
| Material(s) at Station 160+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 93.0 | 174.5  |
| FILL                             | 0.0  | 0.9    |

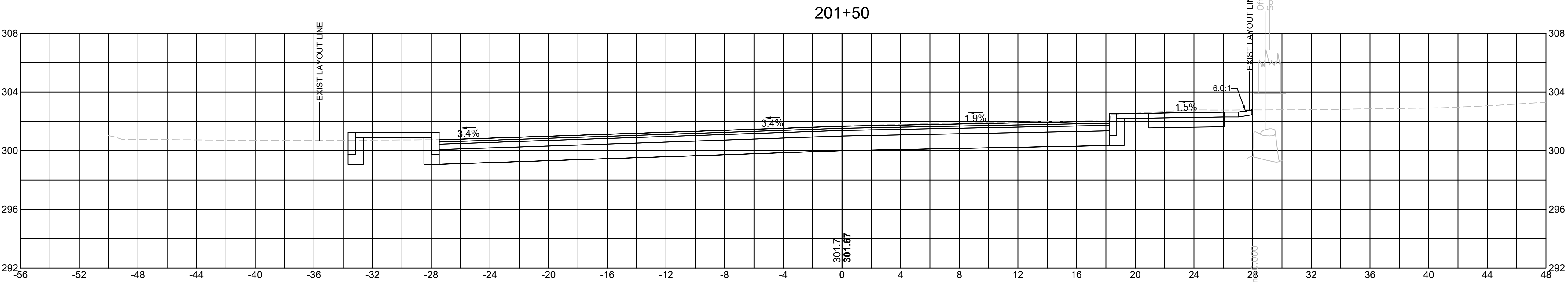


| Material(s) at Station 160+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 95.4 | 108.8  |
| FILL                             | 0.9  | 0.6    |

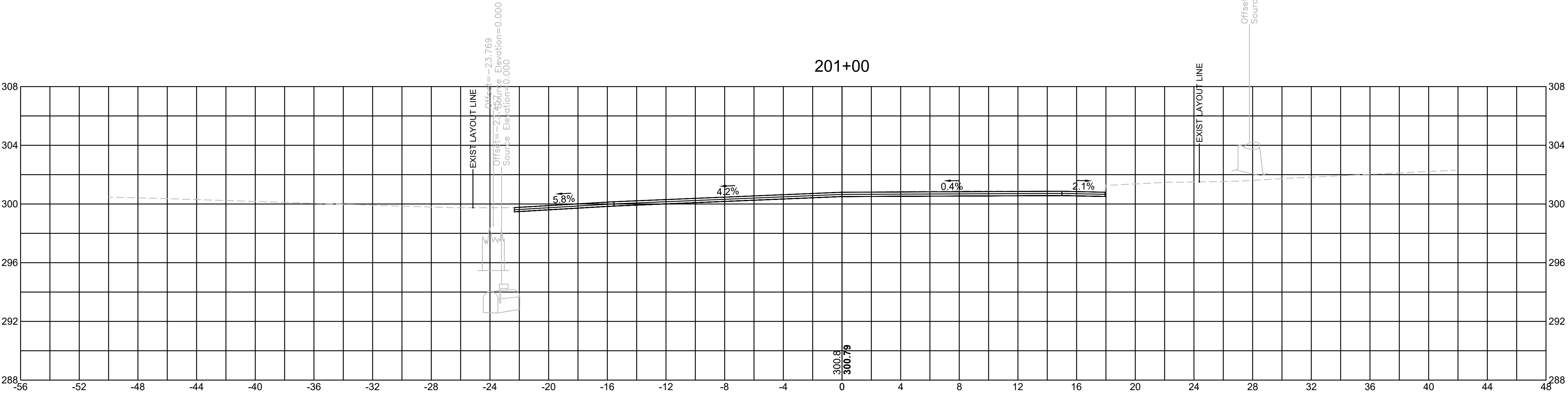


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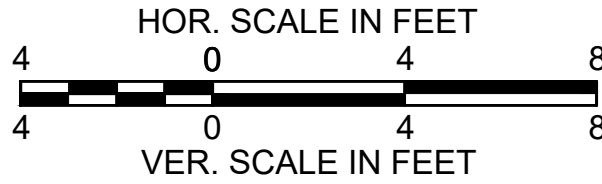




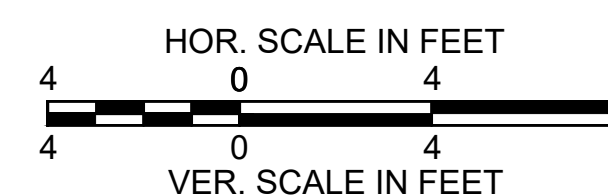
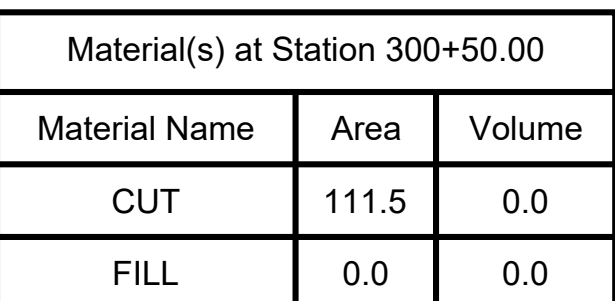
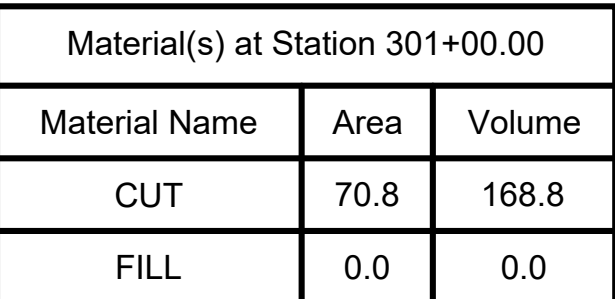
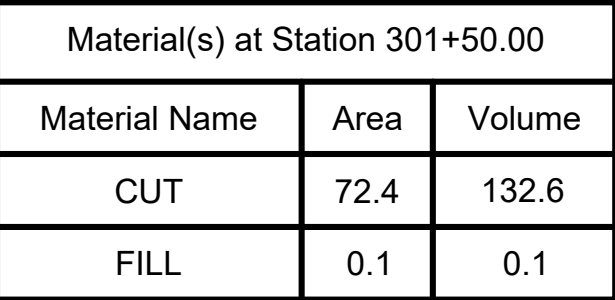
| Material(s) at Station 201+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 88.3 | 81.7   |
| FILL                             | 0.7  | 0.7    |



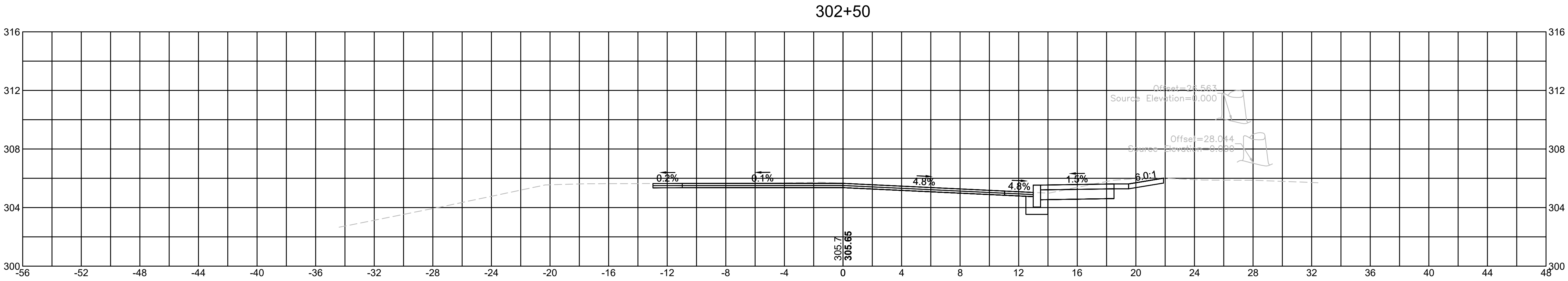
| Material(s) at Station 201+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 0.0  | 0.0    |
| FILL                             | 0.0  | 0.0    |



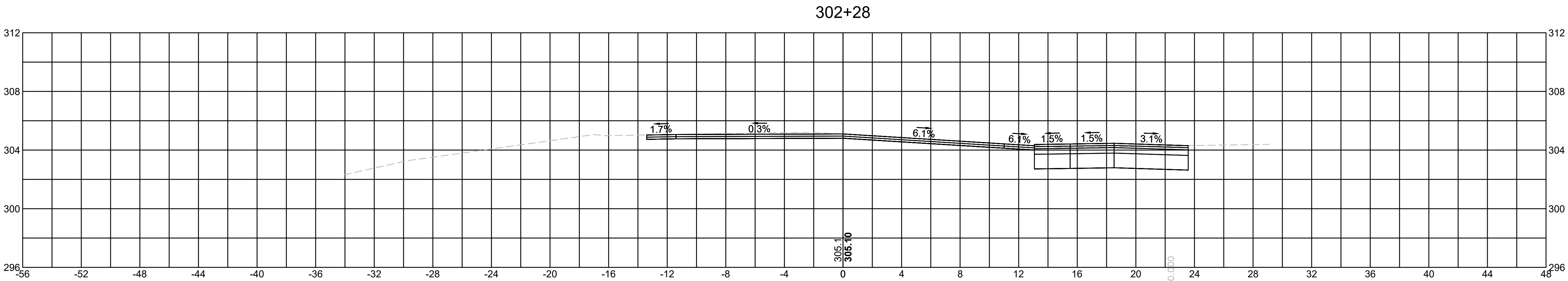
3812-HD(XSEC)-NEWTON STREET DWG 24-Jun-2021



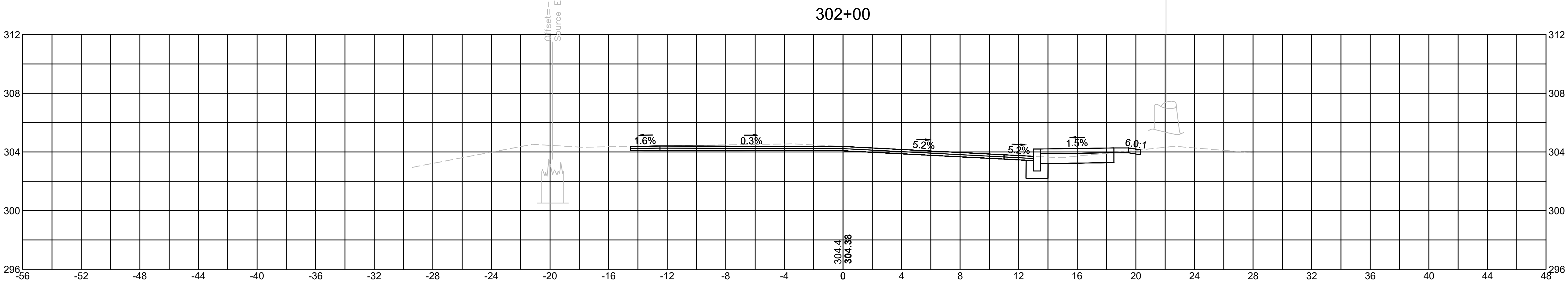
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VARIOUS LOCATIONS  
CROSS SECTIONS  
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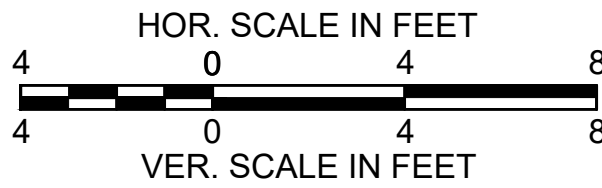
| Material(s) at Station 302+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 8.1  | 9.8    |
| FILL                             | 0.0  | 0.0    |

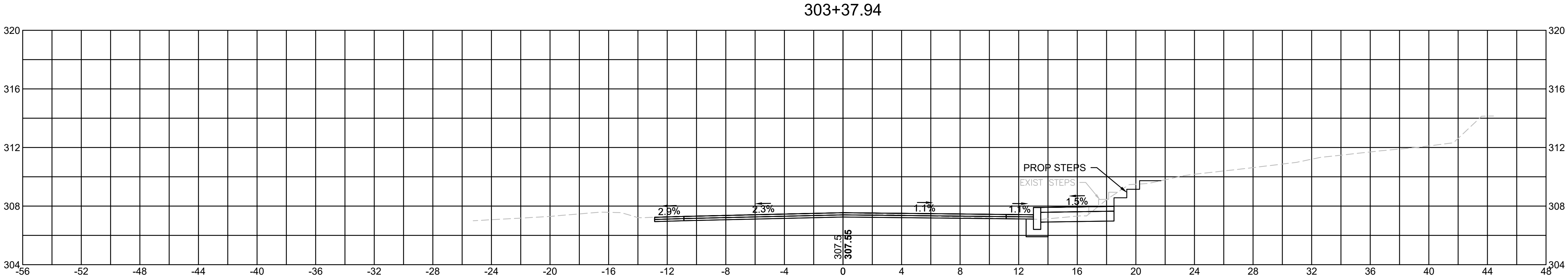


| Material(s) at Station 302+28.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 16.0 | 10.9   |
| FILL                             | 0.0  | 0.0    |

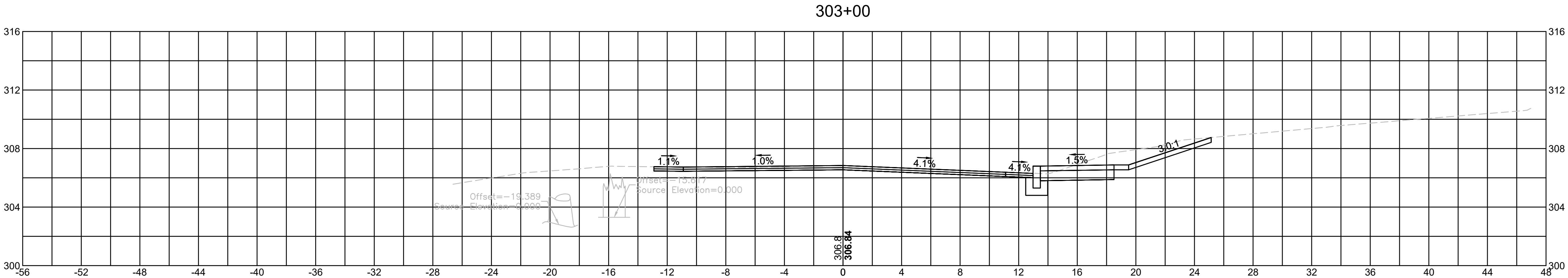


| Material(s) at Station 302+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 4.9  | 71.6   |
| FILL                             | 0.0  | 0.1    |

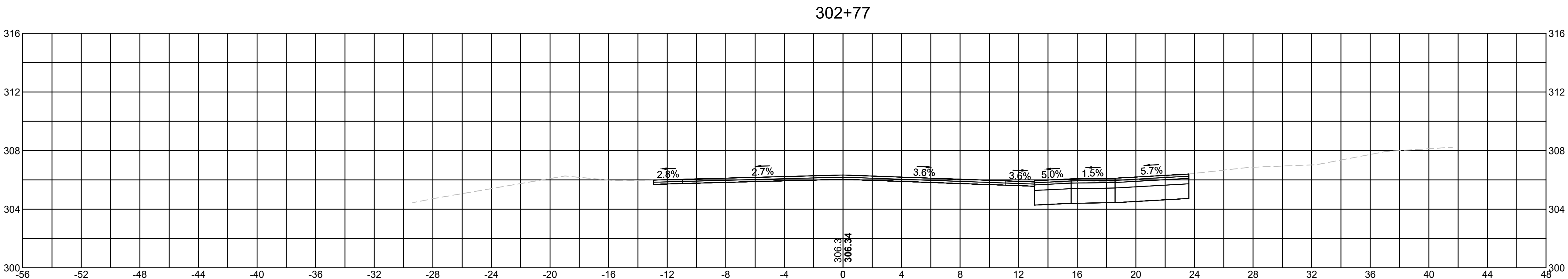




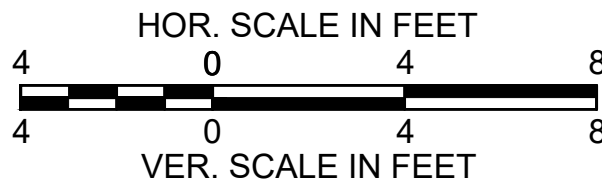
| Material(s) at Station 303+37.94 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 4.7  | 12.9   |
| FILL                             | 0.0  | 0.0    |



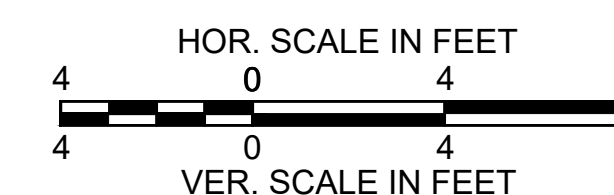
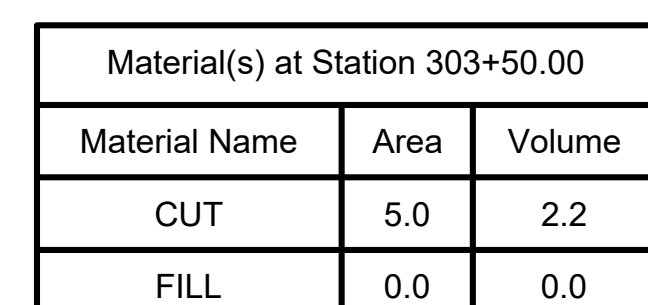
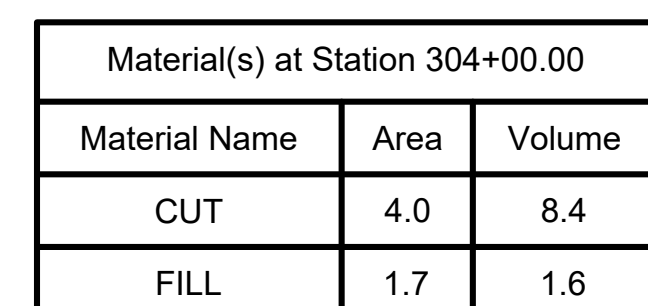
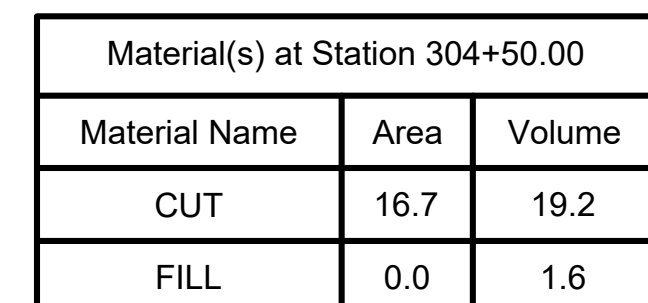
| Material(s) at Station 303+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 13.6 | 12.6   |
| FILL                             | 0.0  | 0.0    |



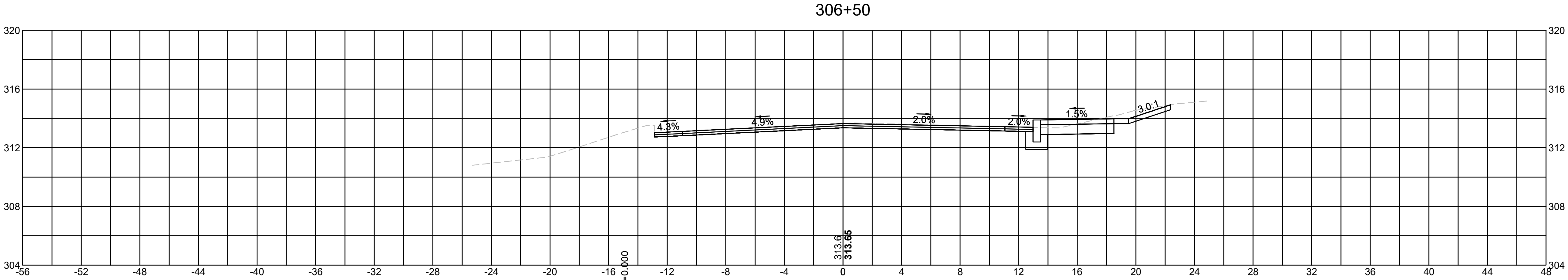
| Material(s) at Station 302+77.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 16.1 | 12.1   |
| FILL                             | 0.0  | 0.0    |



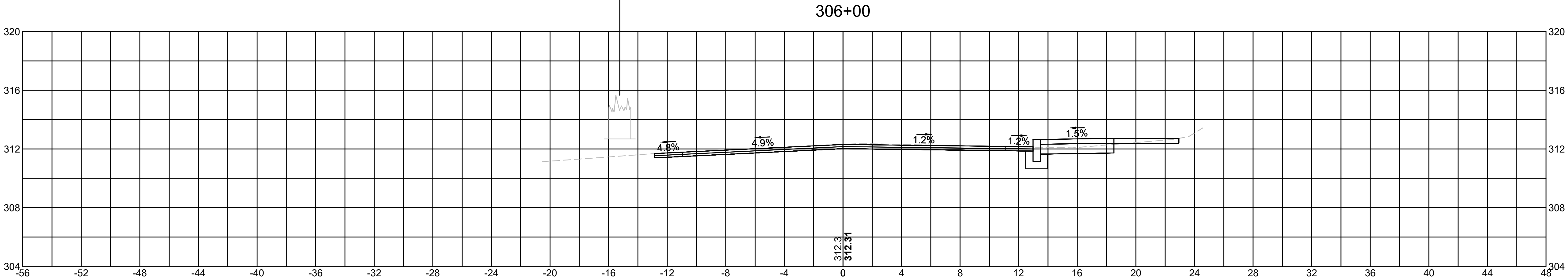
3812-HD(XSEC)-NEWTON STREET DWG 24-Jun-2021



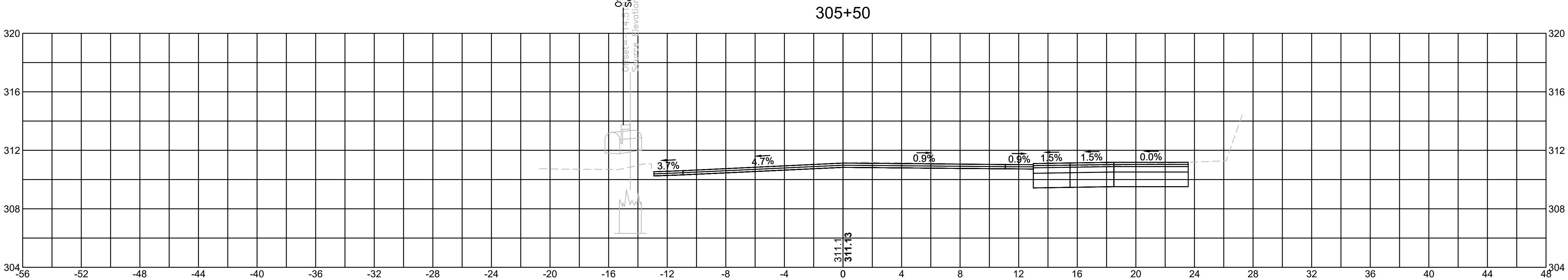
SOUTHBOROUGH  
VARIOUS LOCATIONS  
CROSS SECTIONS  
SHEET 73 OF 141



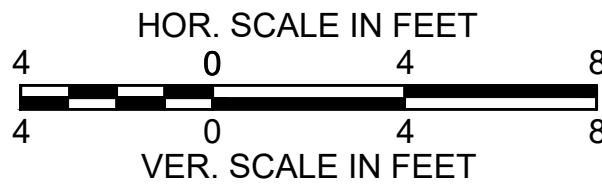
| Material(s) at Station 306+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 8.1  | 12.1   |
| FILL                             | 0.0  | 0.0    |



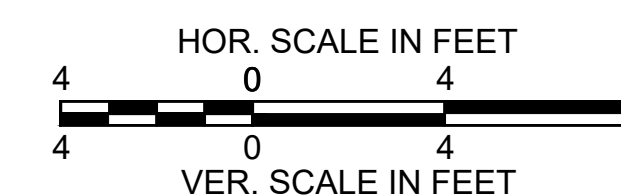
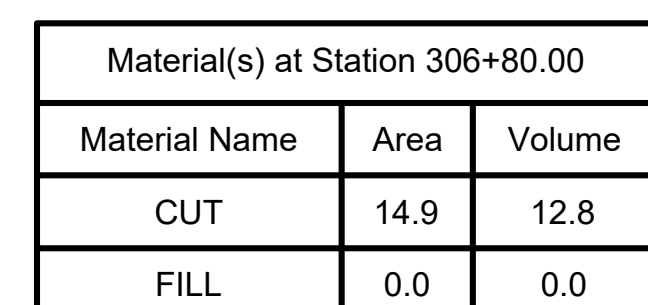
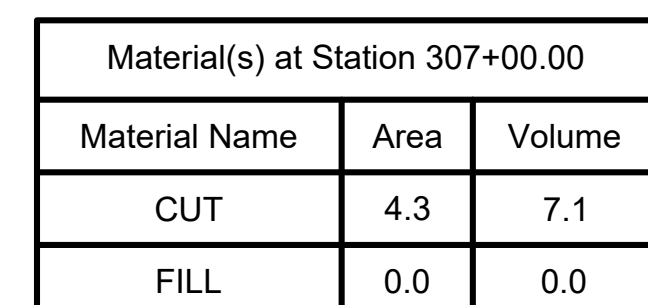
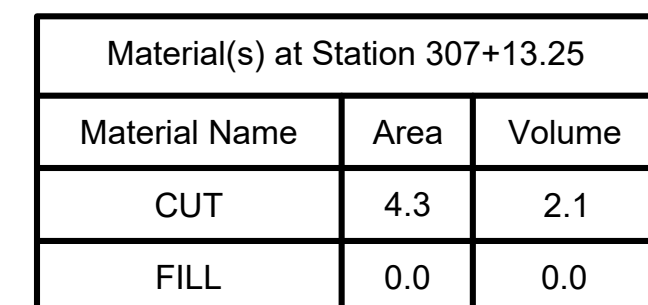
| Material(s) at Station 306+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 5.0  | 19.7   |
| FILL                             | 0.0  | 0.0    |



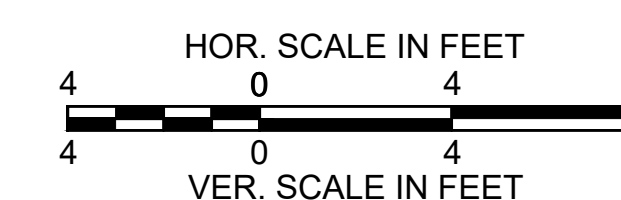
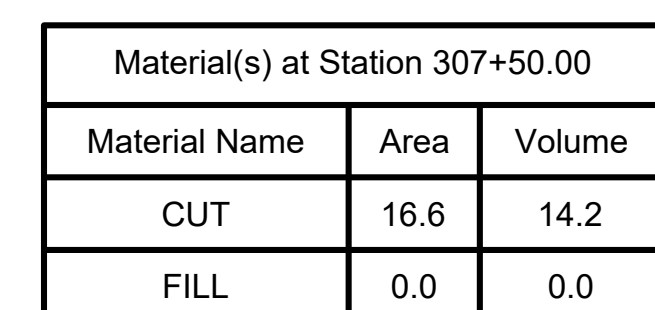
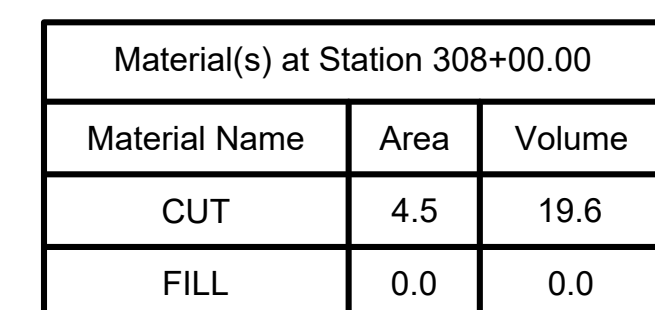
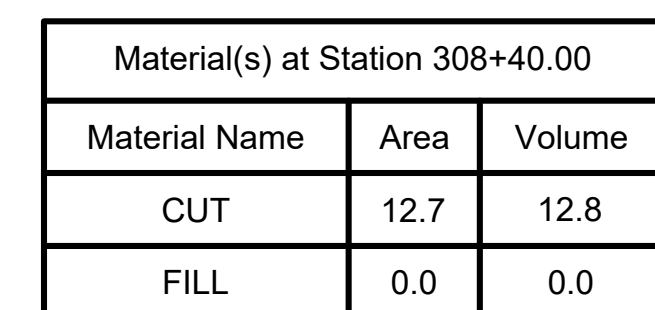
| Material(s) at Station 305+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 16.4 | 6.0    |
| FILL                             | 0.0  | 0.0    |



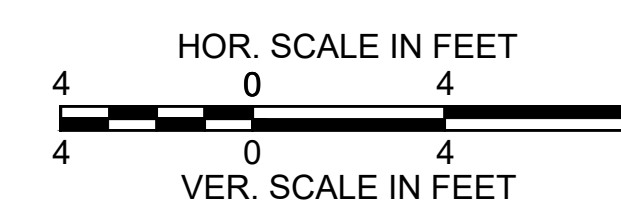
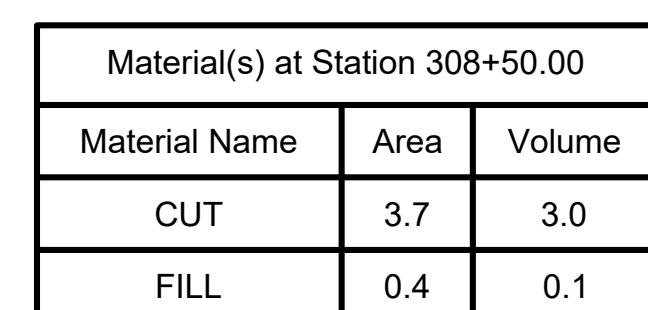
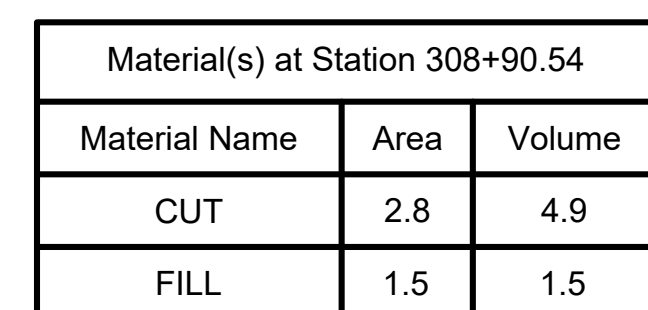
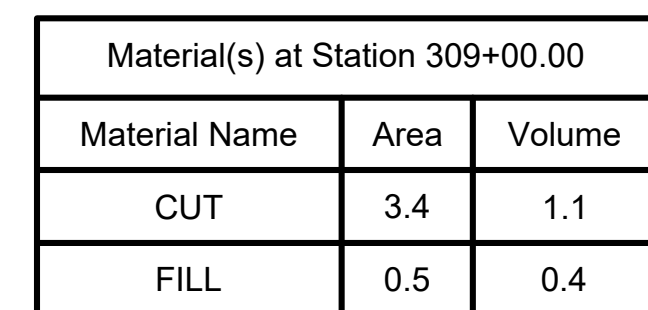
3812-HD(XSEC)-NEWTON STREET DWG 24-Jun-2021

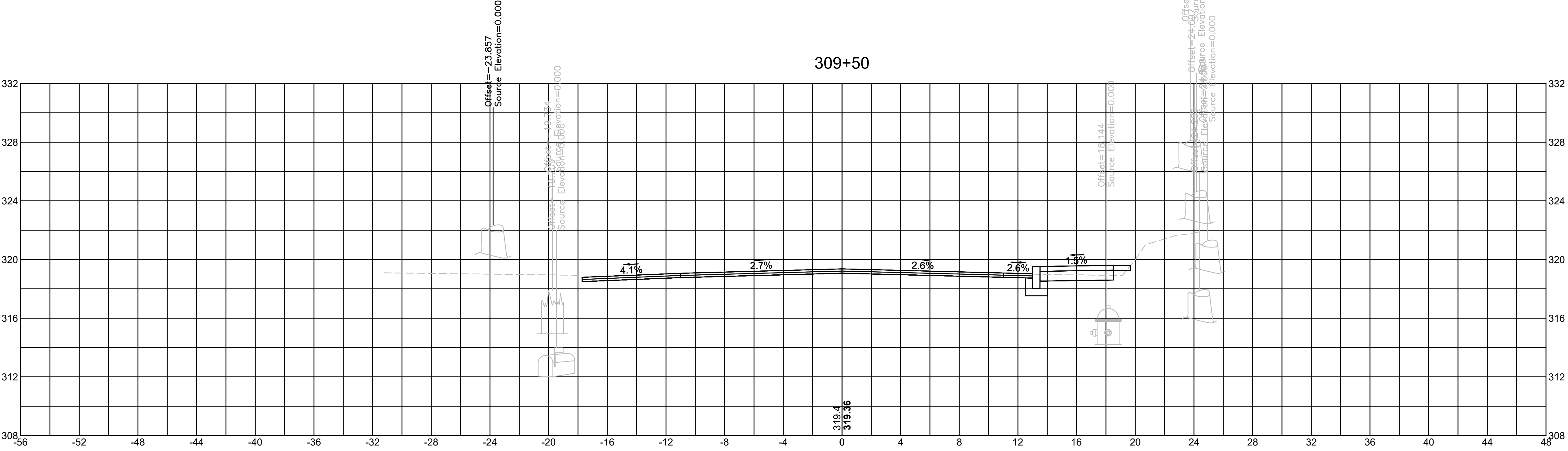


3812-HD(XSEC)-NEWTON STREET DWG 24-Jun-2021

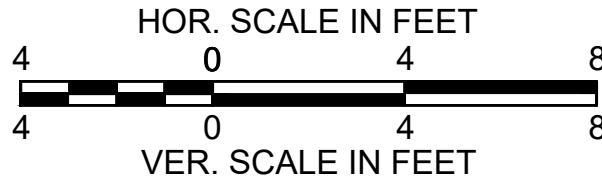


3812-HD(XSEC)-NEWTON STREET DWG 24-Jun-2021

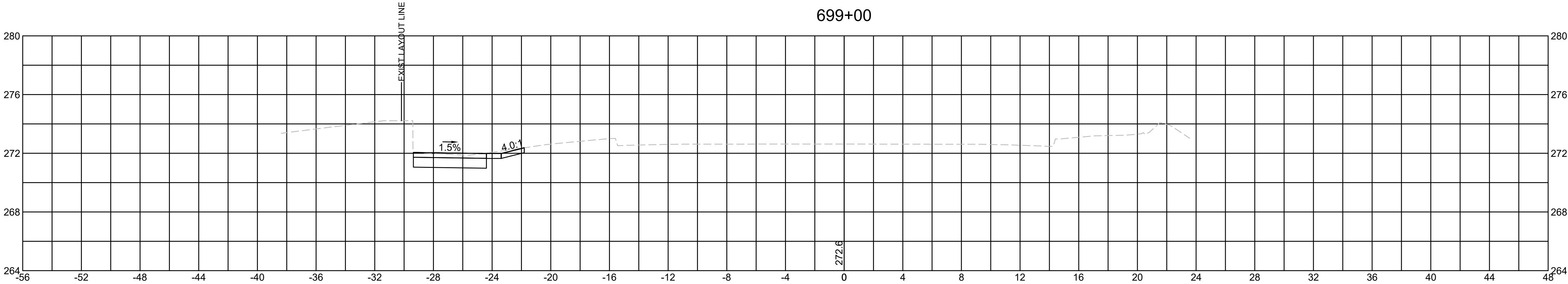




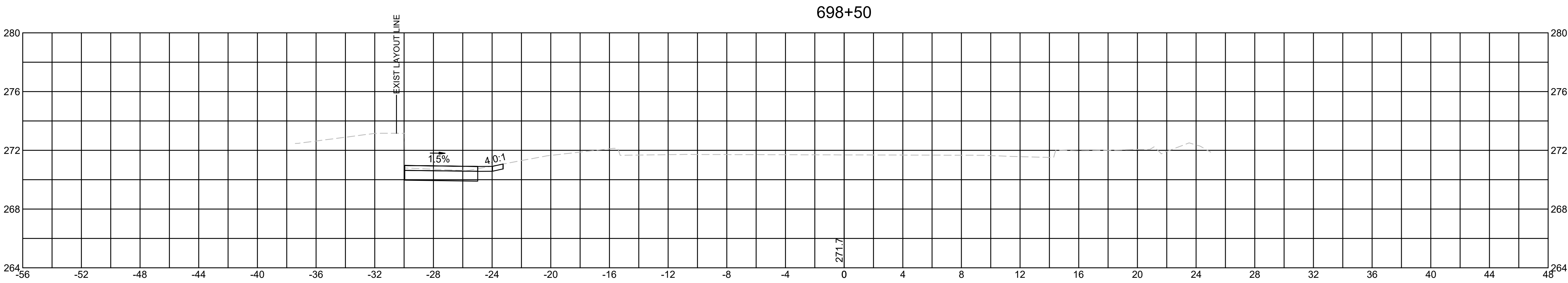
| Material(s) at Station 309+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 4.0  | 6.8    |
| FILL                             | 0.3  | 0.7    |



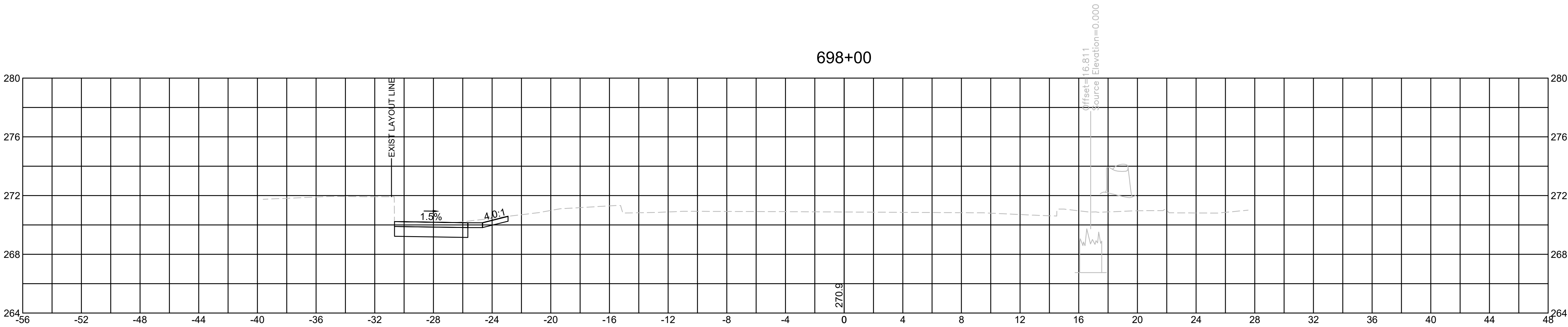
SOUTHBOROUGH  
VARIOUS LOCATIONS  
CROSS SECTIONS  
SHEET 78 OF 141



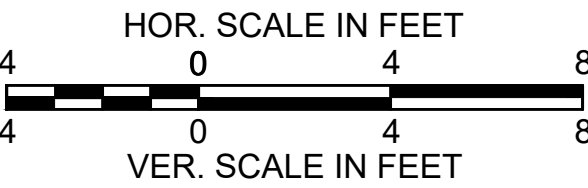
| Material(s) at Station 699+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 5.8  | 9.4    |
| FILL                             | 0.0  | 0.0    |



| Material(s) at Station 698+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 4.4  | 9.9    |
| FILL                             | 0.0  | 0.0    |



| Material(s) at Station 698+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 6.3  | 0.0    |
| FILL                             | 0.0  | 0.0    |

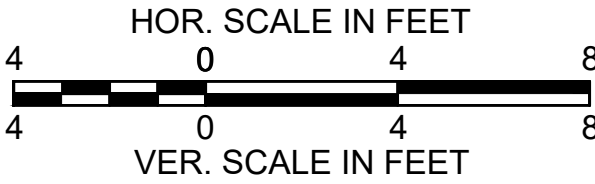
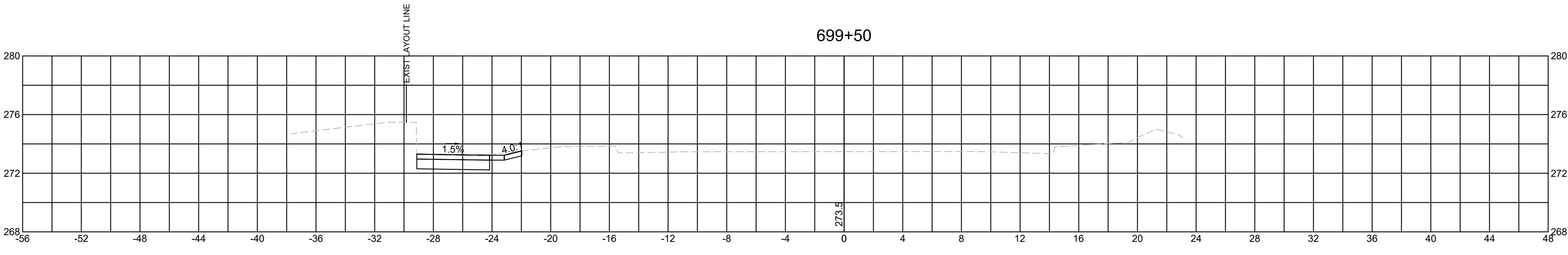
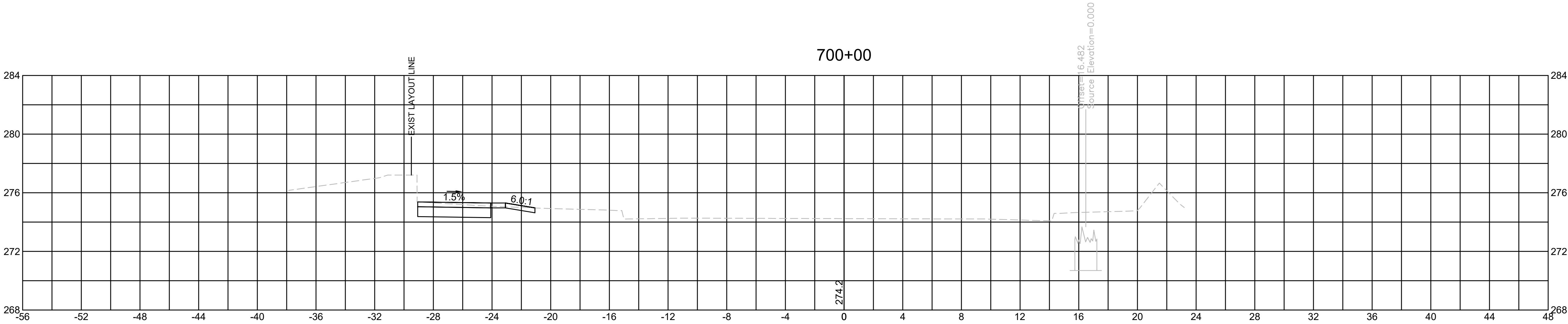


SOUTHBOROUGH  
VARIOUS LOCATIONS  
CROSS SECTIONS  
SHEET 79 OF 141

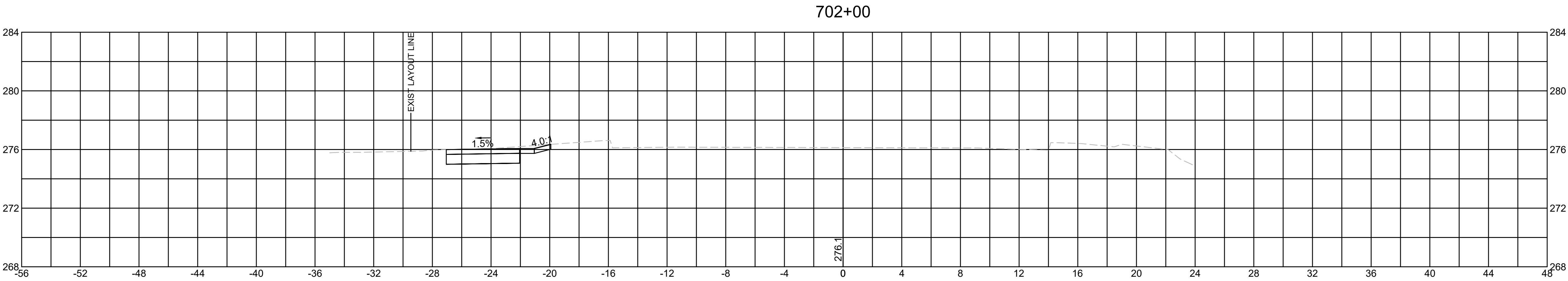
| Material(s) at Station 700+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 5.5  | 9.6    |
| FILL                             | 0.0  | 0.0    |

| Material(s) at Station 700+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 4.9  | 9.9    |
| FILL                             | 0.0  | 0.0    |

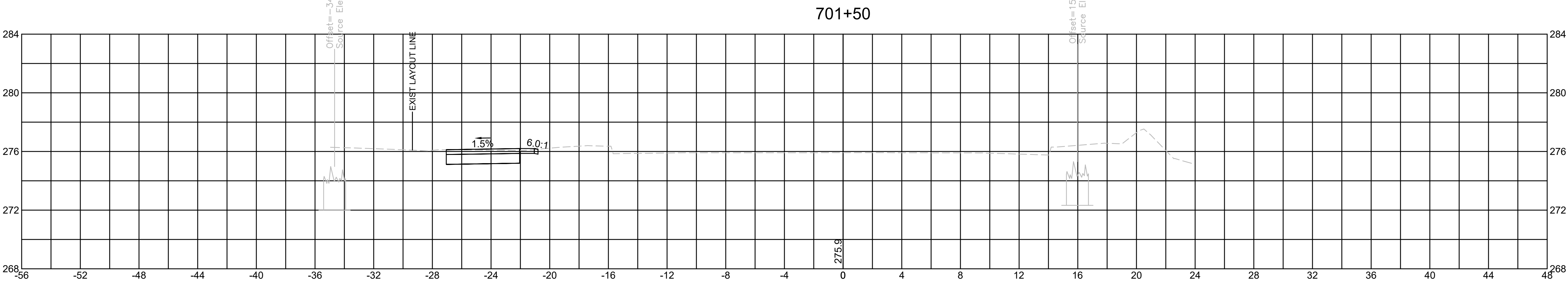
| Material(s) at Station 699+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 5.7  | 10.7   |
| FILL                             | 0.0  | 0.0    |



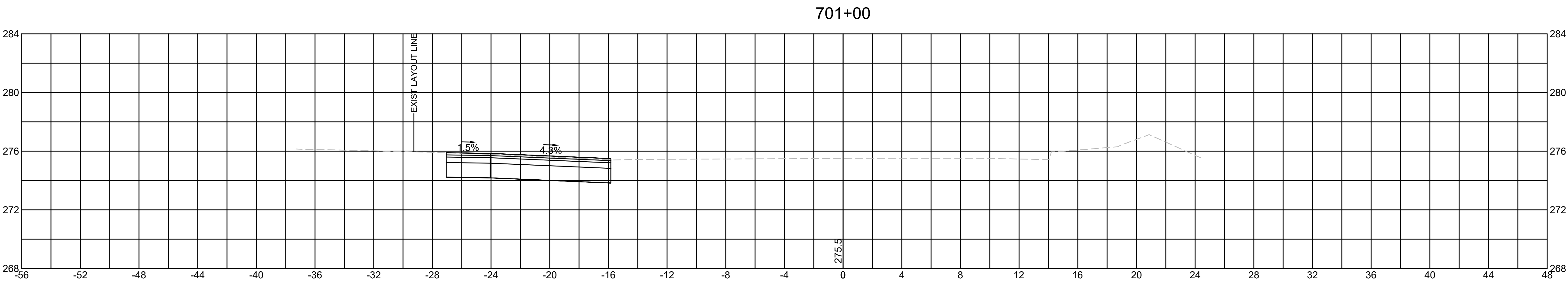
SOUTHBOROUGH  
VARIOUS LOCATIONS  
CROSS SECTIONS  
SHEET 80 OF 141



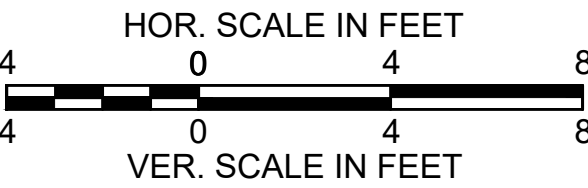
| Material(s) at Station 702+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 6.1  | 10.3   |
| FILL                             | 0.0  | 0.0    |



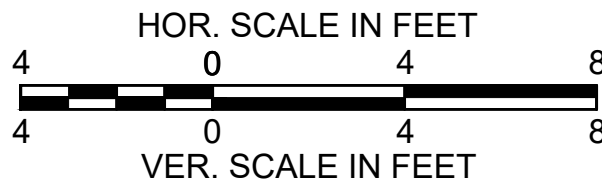
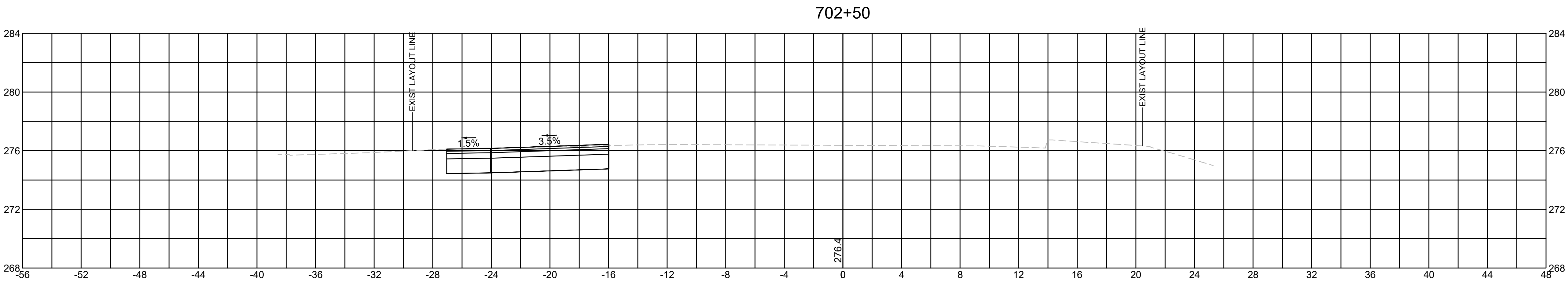
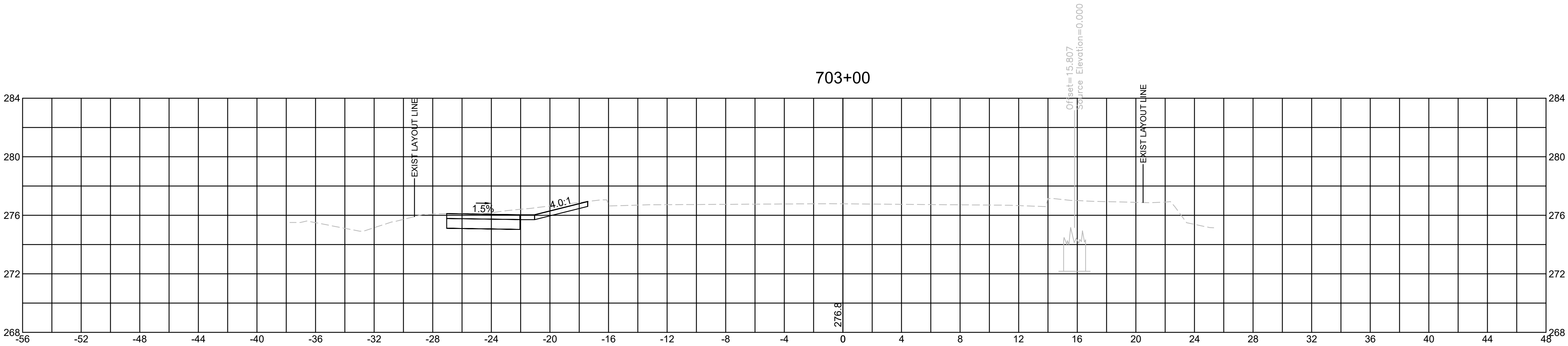
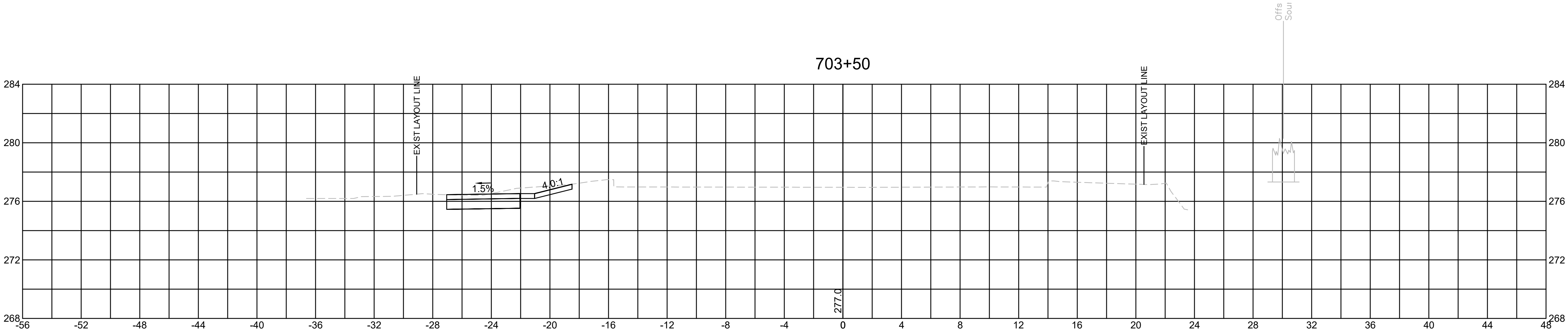
| Material(s) at Station 701+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 5.0  | 21.3   |
| FILL                             | 0.0  | 0.0    |

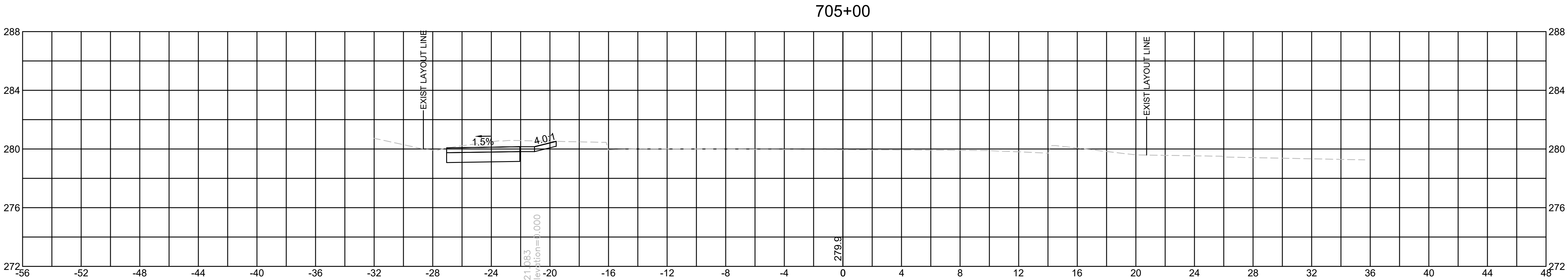


| Material(s) at Station 701+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 18.0 | 21.8   |
| FILL                             | 0.0  | 0.0    |

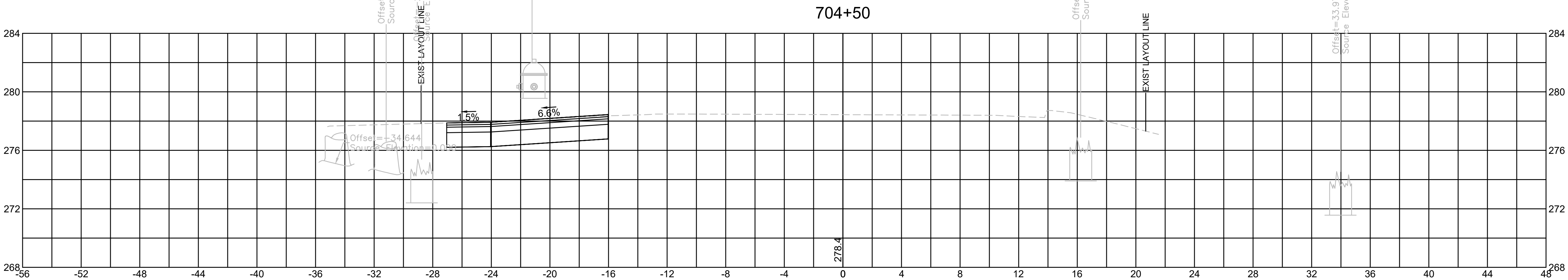


SOUTHBOROUGH  
VARIOUS LOCATIONS  
CROSS SECTIONS  
SHEET 81 OF 141

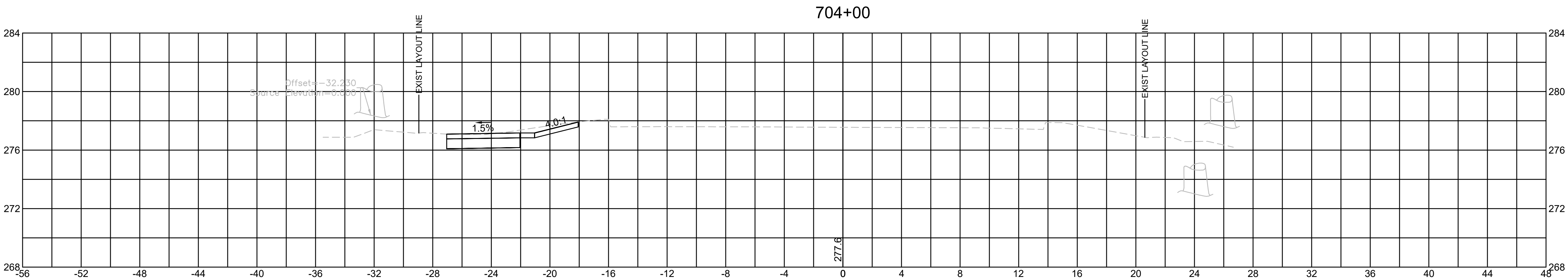




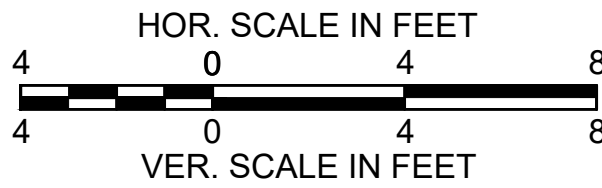
| Material(s) at Station 705+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 4.4  | 21.0   |
| FILL                             | 0.0  | 0.0    |



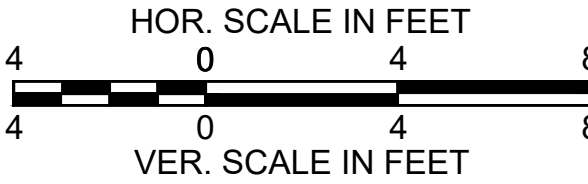
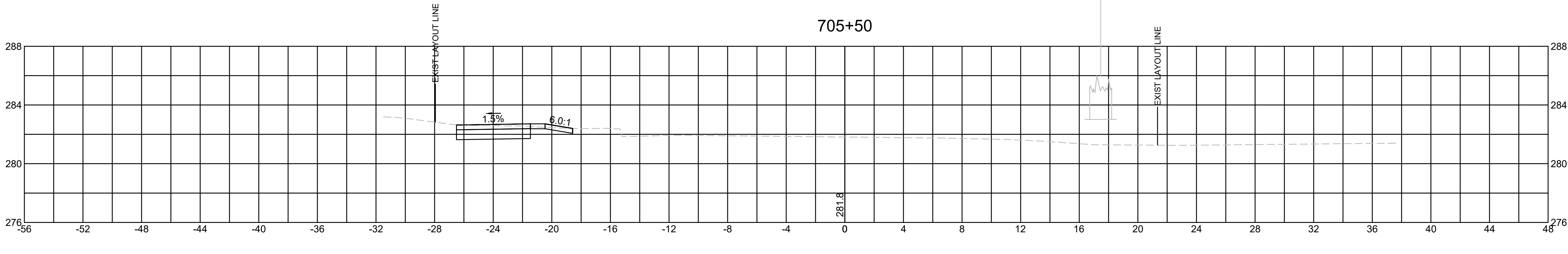
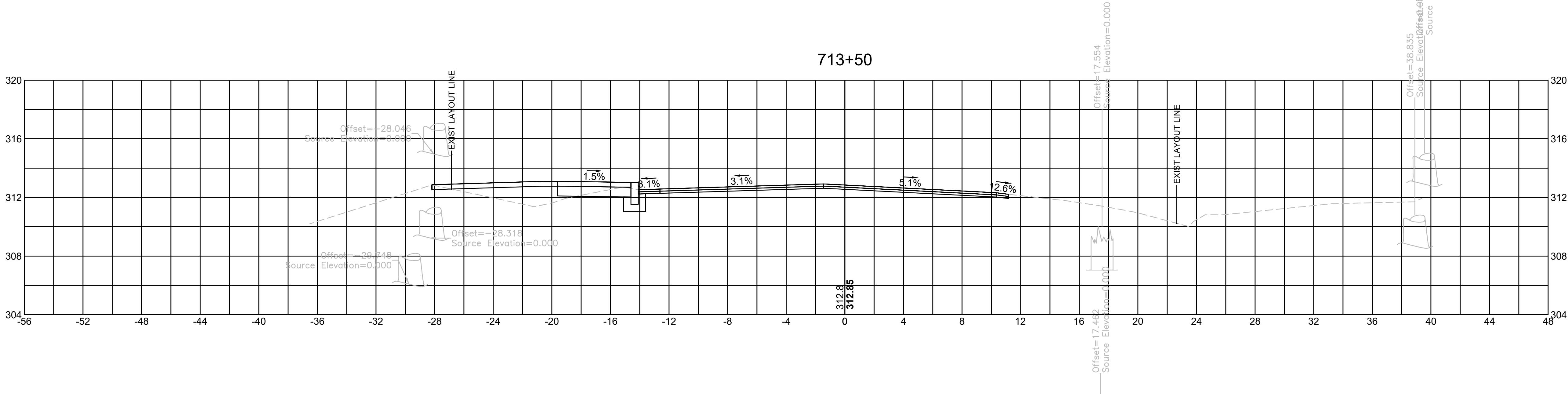
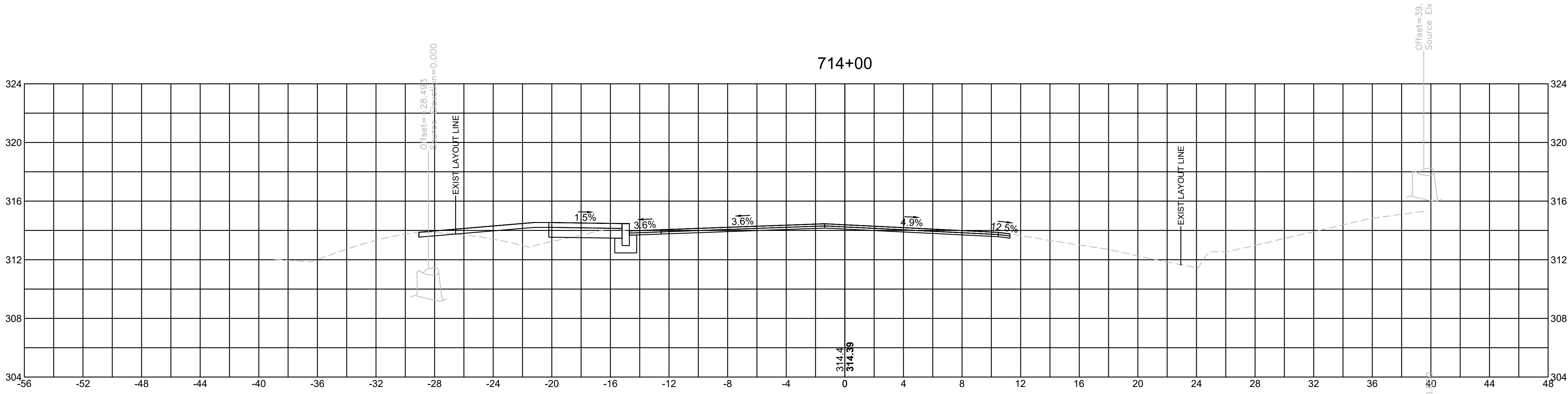
| Material(s) at Station 704+50.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 18.2 | 23.5   |
| FILL                             | 0.0  | 0.0    |



| Material(s) at Station 704+00.00 |      |        |
|----------------------------------|------|--------|
| Material Name                    | Area | Volume |
| CUT                              | 7.2  | 13.4   |
| FILL                             | 0.0  | 0.0    |



SOUTHBOROUGH  
VARIOUS LOCATIONS  
CROSS SECTIONS  
SHEET 83 OF 141



# TRANSPORTATION IMPROVEMENT PROJECT

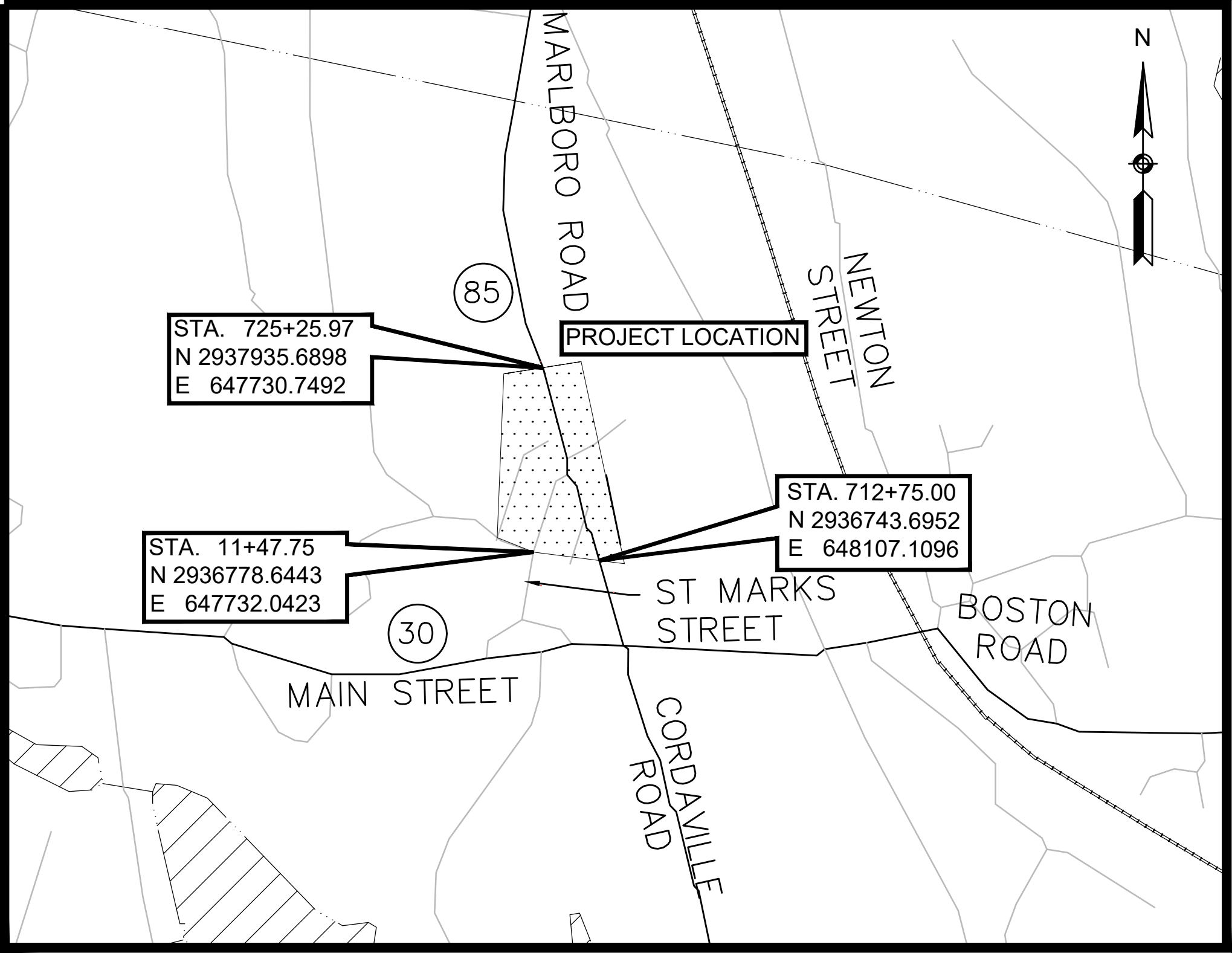
PLAN AND PROFILE OF  
VARIOUS LOCATIONS  
IN THE TOWN OF  
SOUTHBOROUGH  
WORCESTER COUNTY

SOUTHBOROUGH  
VARIOUS LOCATIONS  
TITLE SHEET & INDEX  
SHEET 84 OF 141

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.

## LOCATION 3

| INDEX     |                           |
|-----------|---------------------------|
| SHEET NO. | DESCRIPTION               |
| 84        | TITLE SHEET & INDEX       |
| 85        | KEY PLAN                  |
| 86        | TYPICAL SECTIONS          |
| 87-90     | CONSTRUCTION PLANS        |
| 91-93     | PROFILES                  |
| 94-97     | ALIGNMENT & GRADING PLANS |
| 98-101    | TRAFFIC PLANS             |
| 102-104   | LANDSCAPING PLANS         |
| 105-107   | LANDSCAPING DETAILS       |
| 108       | CONSTRUCTION DETAILS      |
| 109-121   | CROSS SECTIONS            |

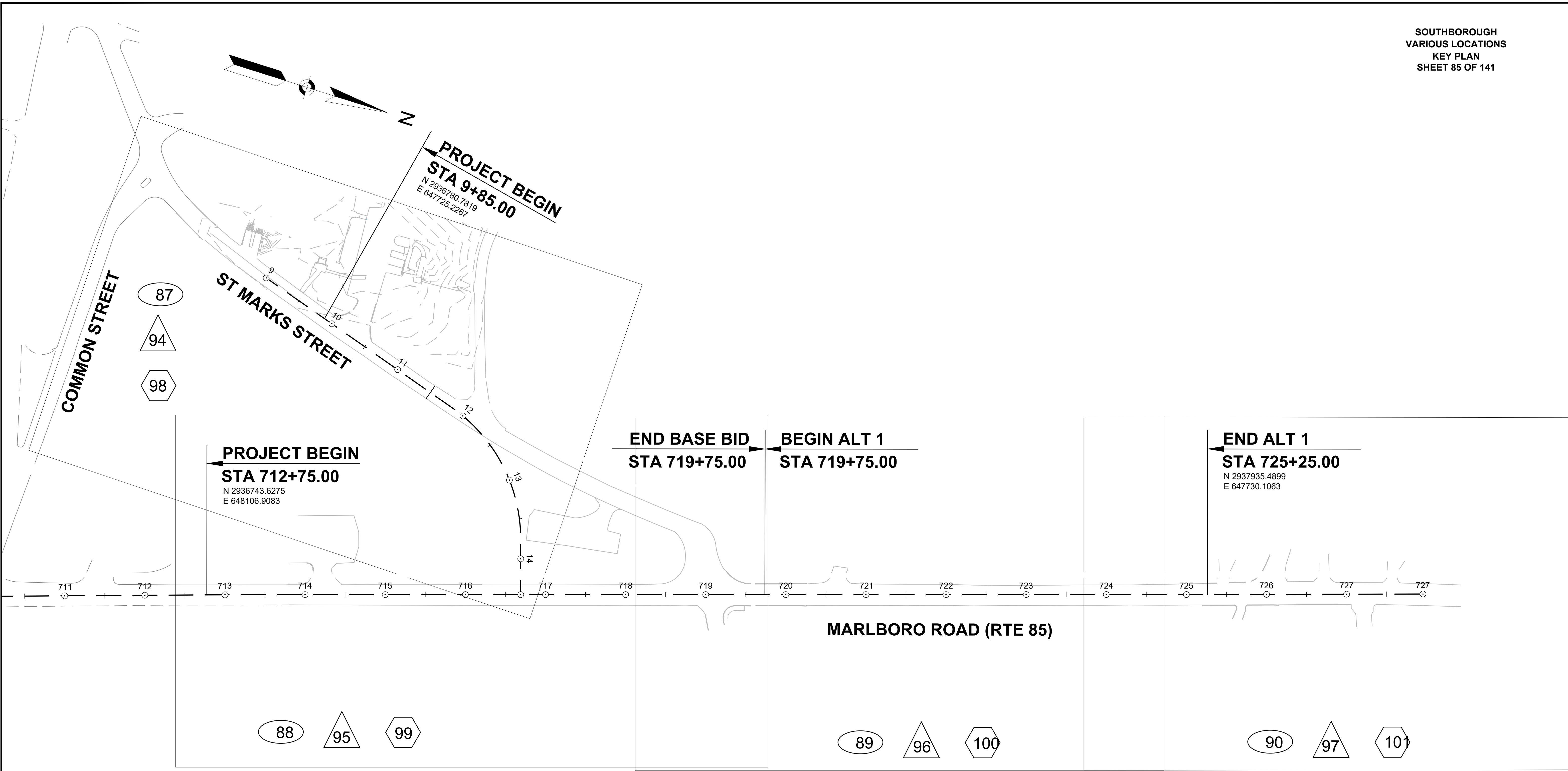


### DESIGN DESIGNATION (SAINT MARKS STREET)

|                           |        |
|---------------------------|--------|
| DESIGN SPEED              | 25 MPH |
| FUNCTIONAL CLASSIFICATION | LOCAL  |

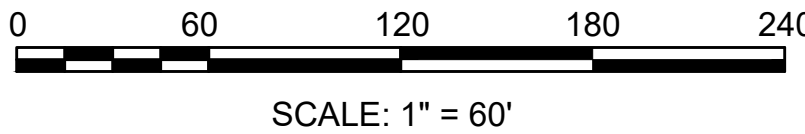
### DESIGN DESIGNATION (MARLBORO ROAD)

|                           |                      |
|---------------------------|----------------------|
| DESIGN SPEED              | 30 MPH               |
| ADT (2037)                | 13,750 VPD           |
| FUNCTIONAL CLASSIFICATION | URBAN MINOR ARTERIAL |



**LEGEND**

- # CONSTRUCTION PLANS
- # ALIGNMENT & GRADING PLANS
- # TRAFFIC SIGN & PAVEMENT MARKING PLANS



PAVEMENT NOTES

PROPOSED FULL DEPTH PAVEMENT / TRENCH PATCH (PERMANENT)

SURFACE: 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER  
INTERMEDIATE: 2.25" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER

SUBBASE: 12" GRAVEL BORROW (TYPE b)

PROPOSED PAVEMENT MILLING & OVERLAY

SURFACE: 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER  
1.75" PAVEMENT MICROMILLING

PROPOSED CEMENT CONCRETE DRIVEWAY

SURFACE: 6" CEMENT CONCRETE  
AIR ENTRAINED 4000PSI, 3/4", 610 OVER

FOUNDATION: 8" GRAVEL BORROW (TYPE b)

PROPOSED CEMENT CONCRETE WALK/WHEELCHAIR RAMP

SURFACE: 4" CEMENT CONCRETE  
AIR ENTRAINED 4000 PSI, 3/4", 610 OVER

FOUNDATION: 8" GRAVEL BORROW (TYPE b)

HOT MIX ASPHALT DRIVEWAY

SURFACE: (1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER  
(2.5" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5))

SUBBASE: 8" GRAVEL BORROW (TYPE b)

GRAVEL PARKING LOT

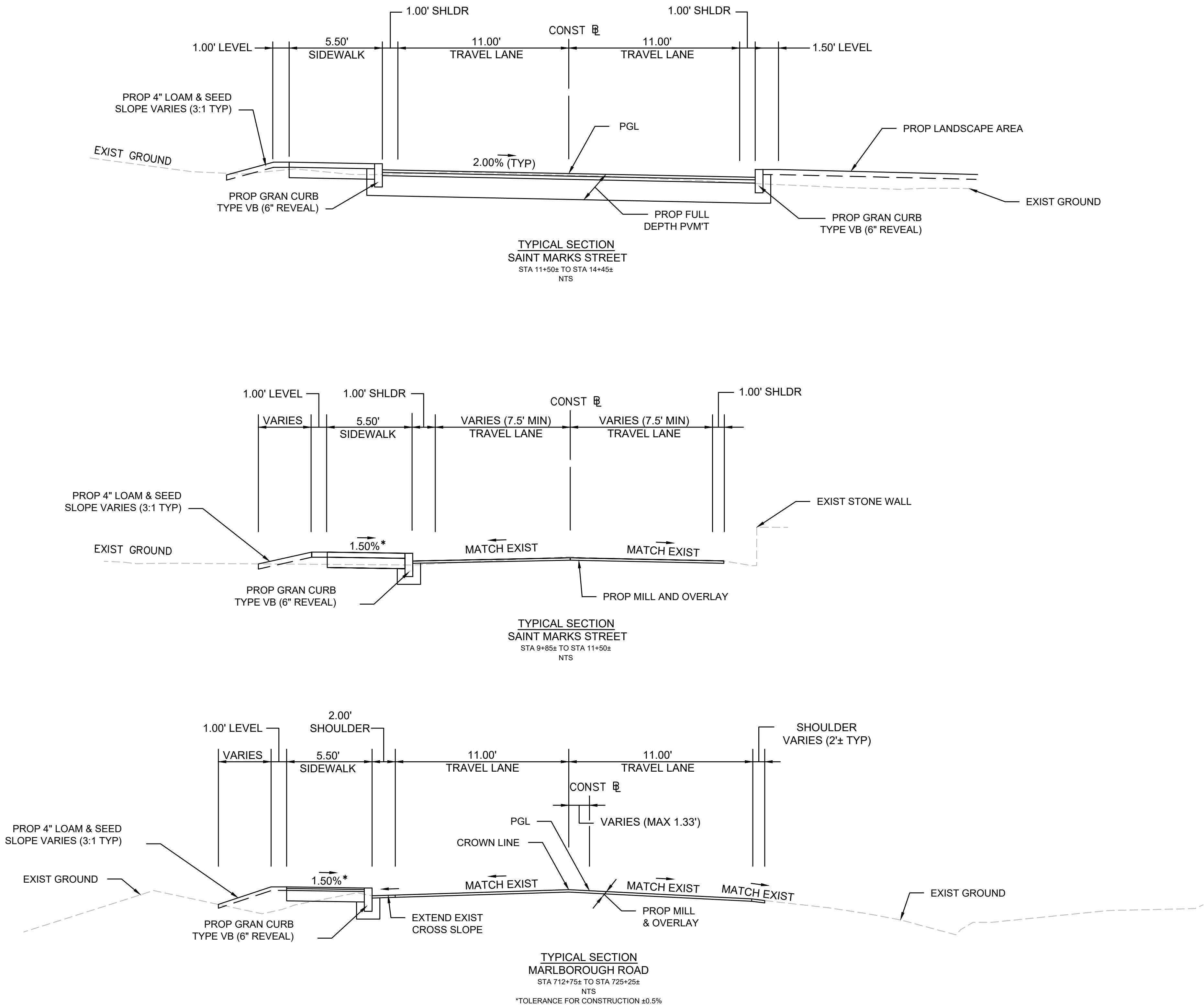
12" GRAVEL BORROW (TYPE b) OR RECLAIMED BORROW

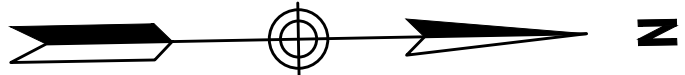
STONE DUST PATH

SURFACE: 4" STONE DUST  
SUBBASE: 4" GRAVEL BORROW (TYPE b)

NOTES:

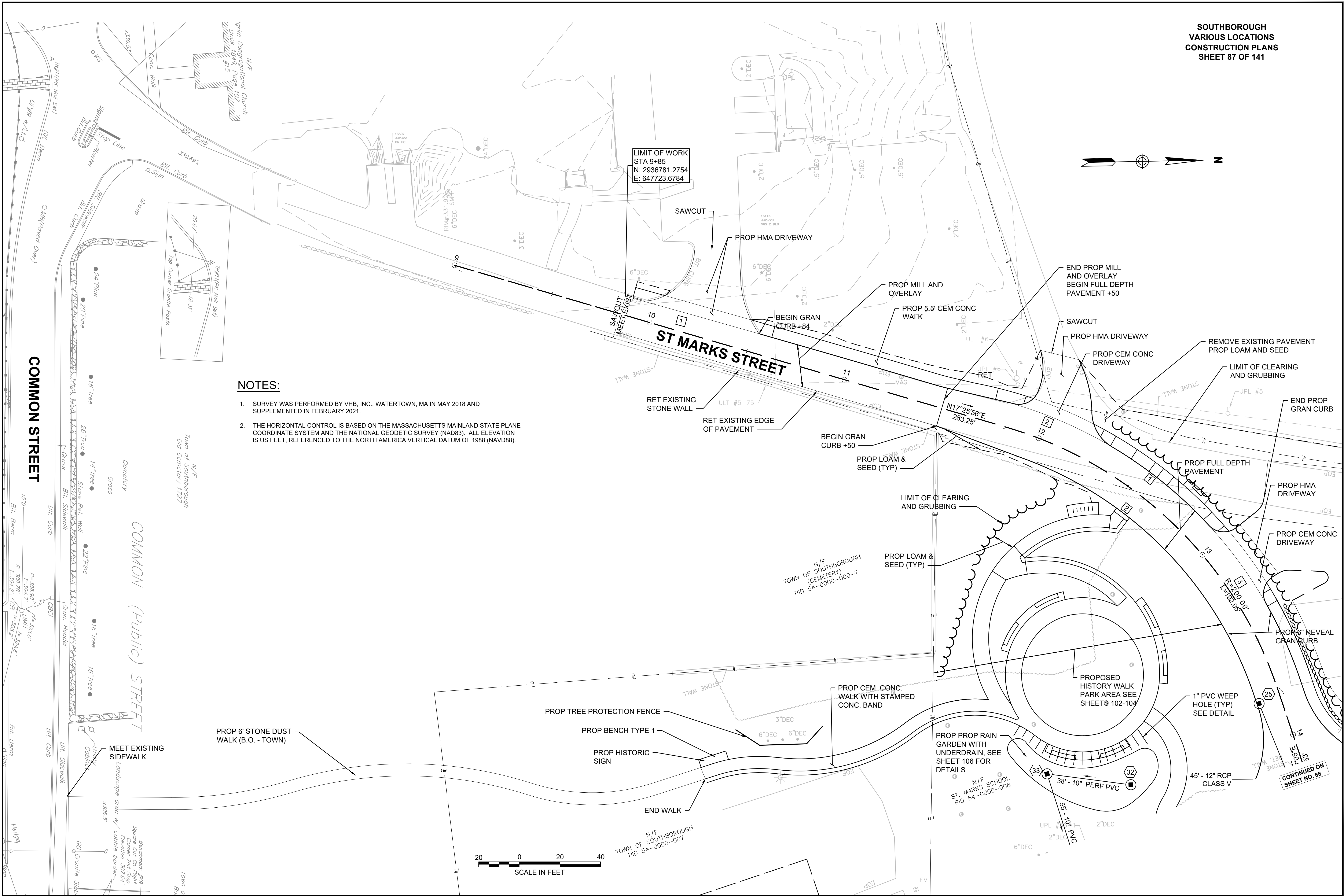
- 1) ASPHALT EMULSION FOR TACK COAT SHALL BE (RS-1H) TO RESIST TRACKING BY HAUL VEHICLES AND BOND HMA LAYERS FOR FLEXURAL STRENGTH. TACK COAT WILL BE APPLIED AT 0.07 GAL/SY OVER SMOOTH PAVEMENT (BASE AND INTERMEDIATE COURSES).
- 2) HMA WALKS AND DRIVEWAYS SHALL BE IN ACCORDANCE WITH SECTION 702. AND SHALL BE 50 GYRATION MIXTURES.
- 3) EXISTING GRAVEL BORROW MEETING MATERIAL SPECIFICATIONS SHALL BE RETAINED AND USED ON SITE FOR SUBBASE AS APPROVED BY ENGINEER.





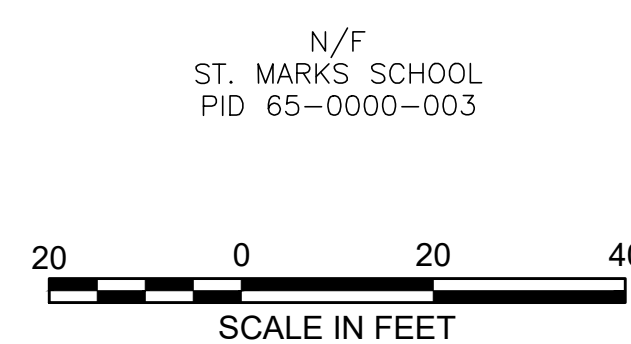
NOTES:

1. SURVEY WAS PERFORMED BY VHB, INC., WATERTOWN, MA IN MAY 2018 AND SUPPLEMENTED IN FEBRUARY 2021.
2. THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88).





NOTE: TEST PITS SHALL BE TAKEN AT THE STRUCTURES ALONG THE WEST SIDE OF MARLBORO ROAD TO CONFIRM THE LOCATION OF THE FIBER OPTIC CABLE PRIOR TO ORDERING STRUCTURES.



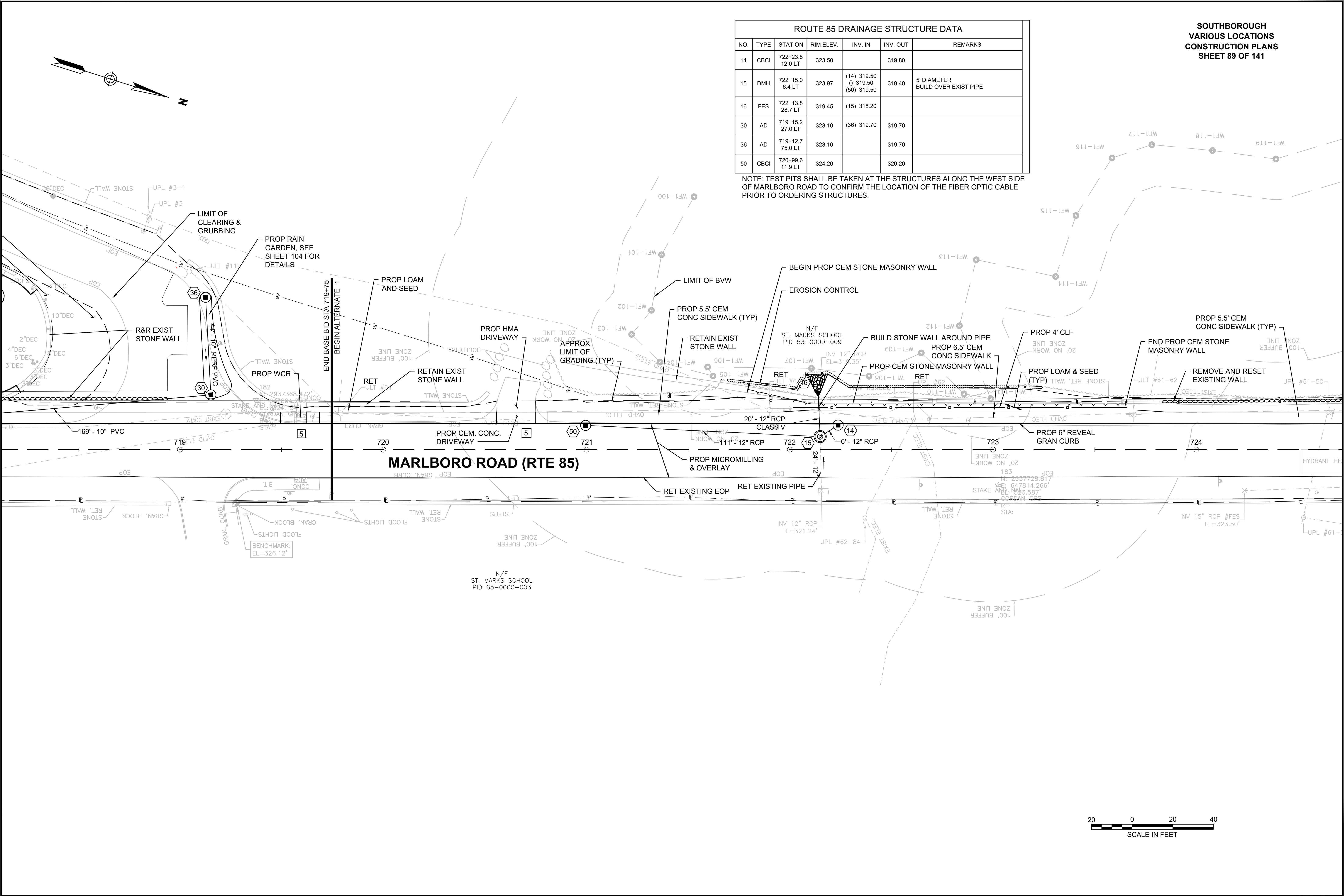
| ROUTE 85 DRAINAGE STRUCTURE DATA |      |                     |           |                                          |          |                                      |
|----------------------------------|------|---------------------|-----------|------------------------------------------|----------|--------------------------------------|
| NO.                              | TYPE | STATION             | RIM ELEV. | INV. IN                                  | INV. OUT | REMARKS                              |
| 14                               | CBCI | 722+23.8<br>12.0 LT | 323.50    |                                          | 319.80   |                                      |
| 15                               | DMH  | 722+15.0<br>6.4 LT  | 323.97    | (14) 319.50<br>(1) 319.50<br>(50) 319.50 | 319.40   | 5' DIAMETER<br>BUILD OVER EXIST PIPE |
| 16                               | FES  | 722+13.8<br>28.7 LT | 319.45    | (15) 318.20                              |          |                                      |
| 30                               | AD   | 719+15.2<br>27.0 LT | 323.10    | (36) 319.70                              | 319.70   |                                      |
| 36                               | AD   | 719+12.7<br>75.0 LT | 323.10    |                                          | 319.70   |                                      |
| 50                               | CBCI | 720+99.6<br>11.9 LT | 324.20    |                                          | 320.20   |                                      |

NOTE: TEST PITS SHALL BE TAKEN AT THE STRUCTURES ALONG THE WEST SIDE OF MARLBORO ROAD TO CONFIRM THE LOCATION OF THE FIBER OPTIC CABLE PRIOR TO ORDERING STRUCTURES.

CONTINUED ON  
SHEET NO. 88

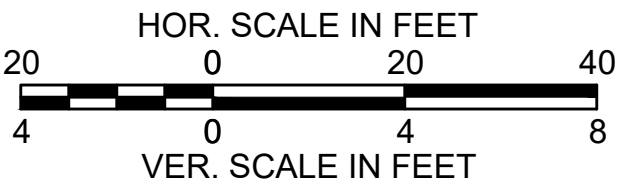
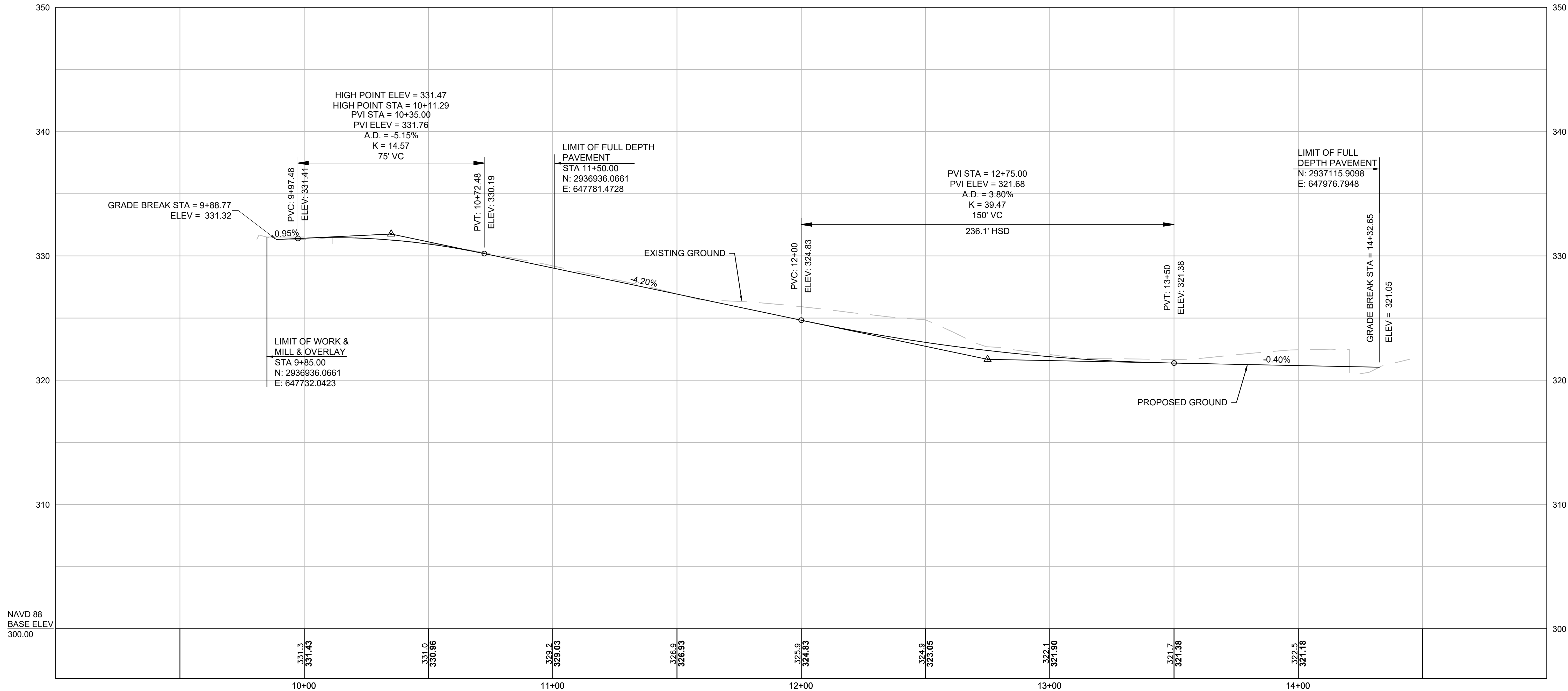
CONTINUED ON  
SHEET NO. 90

14931-HD(CON).DWG  
Plotted on 24-Jun-2021 11:35 AM





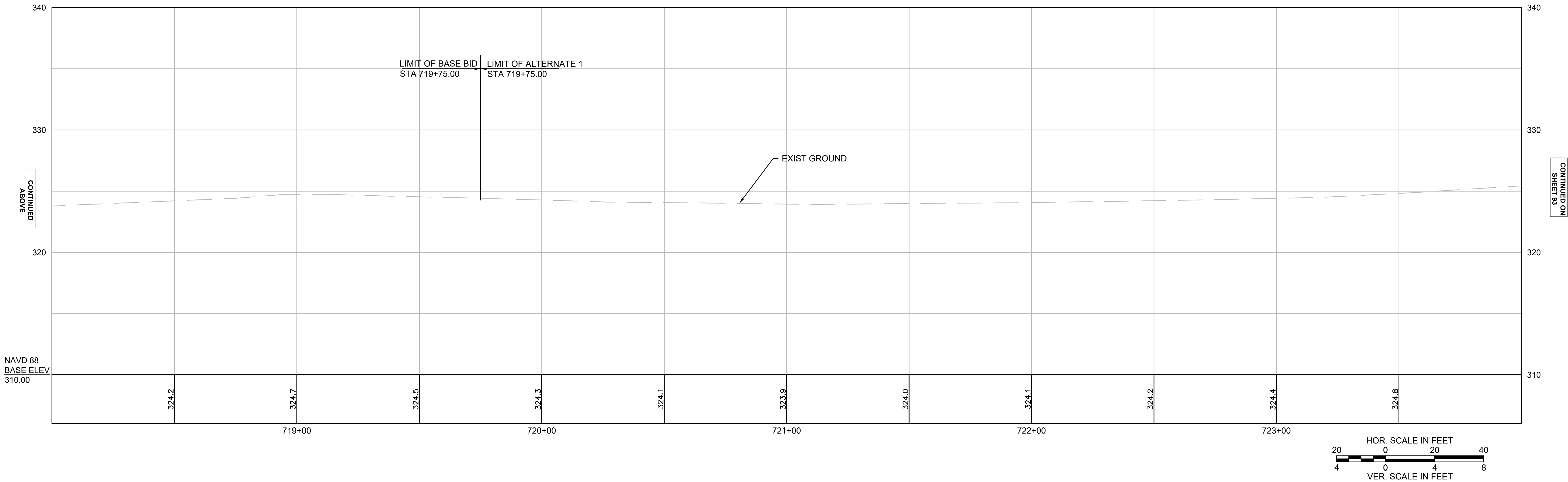
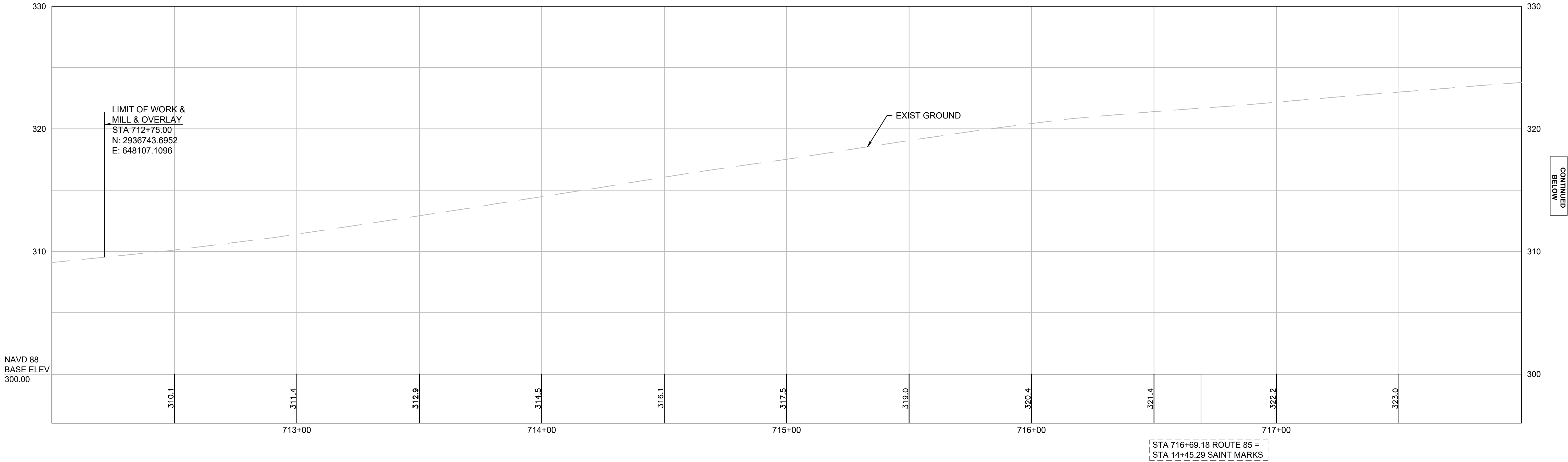
SAINT MARKS STREET



MARLBORO ROAD (ROUTE 85) IS PROPOSED PAVEMENT MICROMILLING & OVERLAY. NO PROFILE ADJUSTMENTS ARE PROPOSED. THE EXISTING PROFILE PROVIDED IS FOR INFORMATIONAL PURPOSES ONLY.

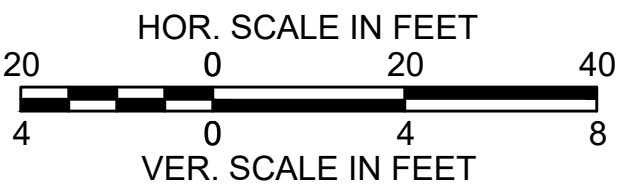
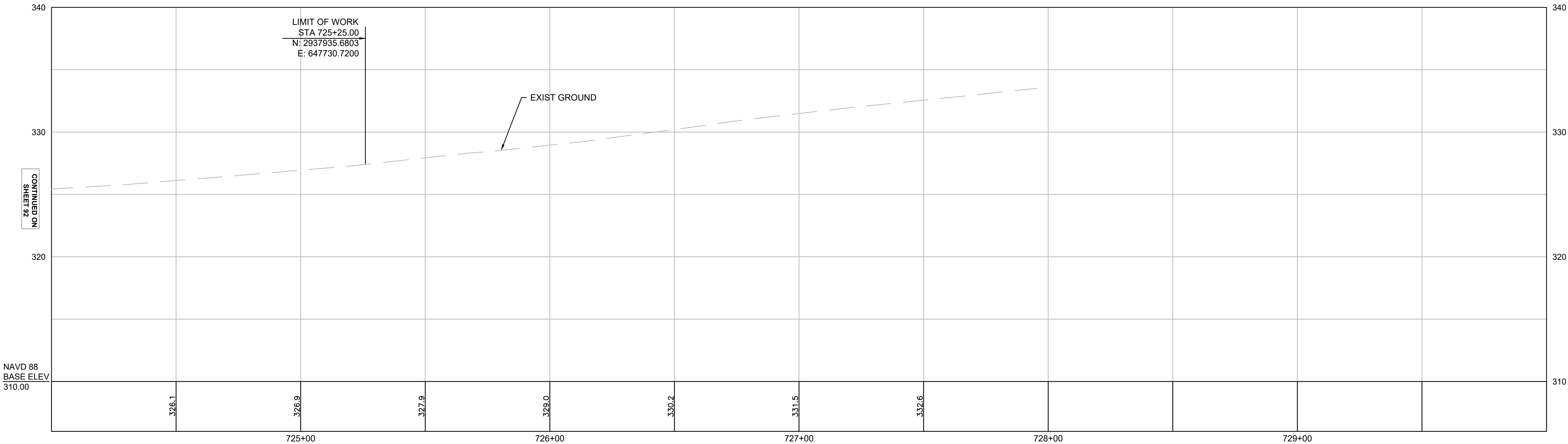
MARLBORO ROAD (RTE 85)

SOUTHBOROUGH  
VARIOUS LOCATIONS  
PROFILES  
SHEET 92 OF 141



MARLBORO ROAD (ROUTE 85) IS PROPOSED PAVEMENT  
MICROMILLING & OVERLAY. NO PROFILE ADJUSTMENTS ARE  
PROPOSED. THE EXISTING PROFILE PROVIDED IS FOR  
INFORMATIONAL PURPOSES ONLY.

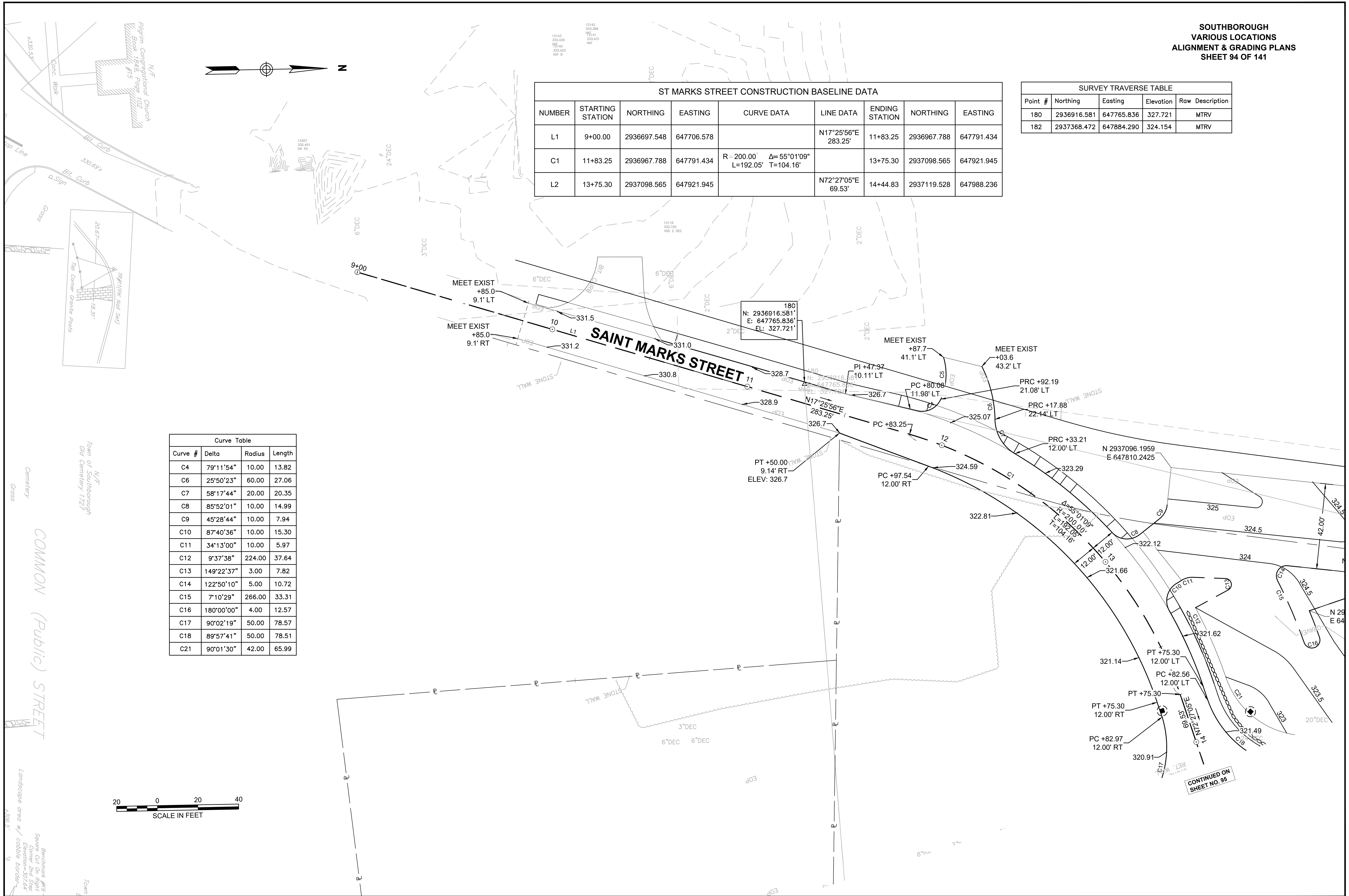
MARLBORO ROAD (RTE 85)



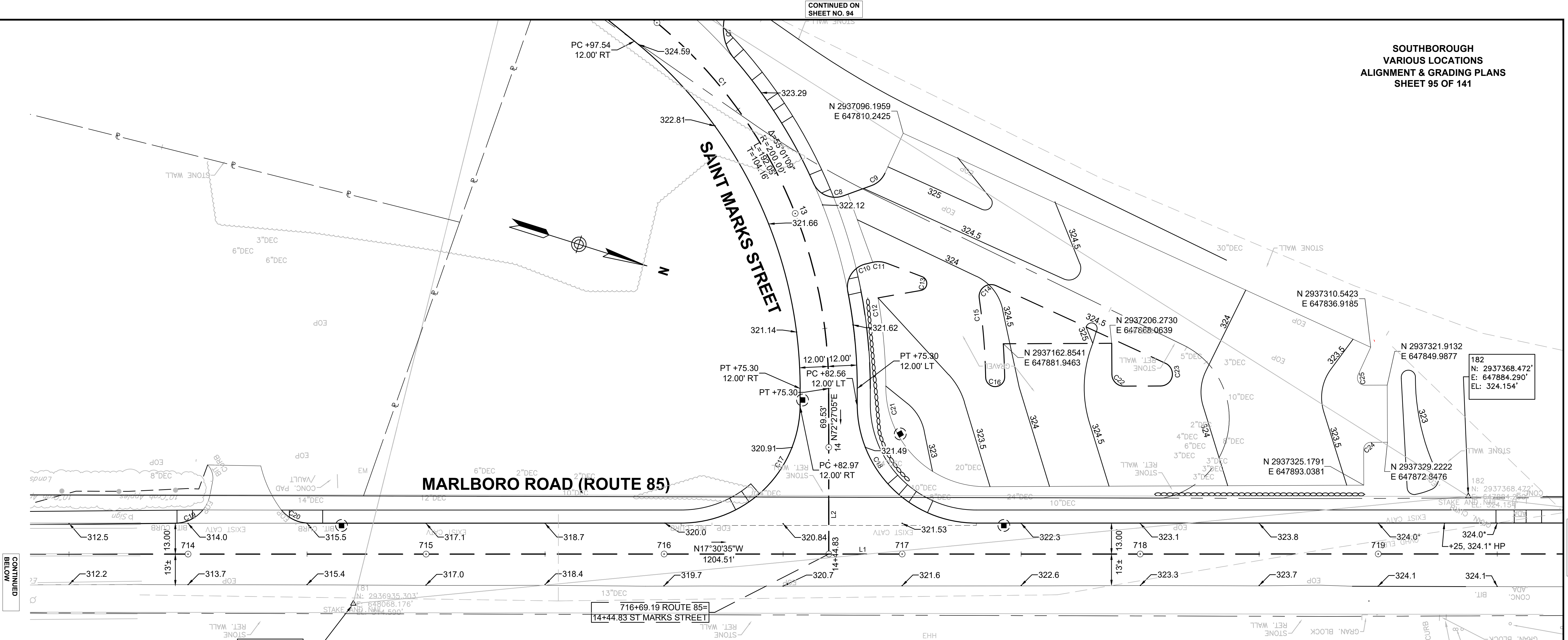
14931-HD(ALN).DWG Plotted on 24-Jun-2021 11:37 AM

| ST MARKS STREET CONSTRUCTION BASELINE DATA |                  |             |            |                                                       |                        |                |             |            |
|--------------------------------------------|------------------|-------------|------------|-------------------------------------------------------|------------------------|----------------|-------------|------------|
| NUMBER                                     | STARTING STATION | NORTHING    | EASTING    | CURVE DATA                                            | LINE DATA              | ENDING STATION | NORTHING    | EASTING    |
| L1                                         | 9+00.00          | 2936697.548 | 647706.578 |                                                       | N17°25'56"E<br>283.25' | 11+83.25       | 2936967.788 | 647791.434 |
| C1                                         | 11+83.25         | 2936967.788 | 647791.434 | R = 200.00'    Δ= 55°01'09"<br>L=192.05'    T=104.16' |                        | 13+75.30       | 2937098.565 | 647921.945 |
| L2                                         | 13+75.30         | 2937098.565 | 647921.945 |                                                       | N72°27'05"E<br>69.53'  | 14+44.83       | 2937119.528 | 647988.236 |

A scale bar labeled "SCALE IN FEET" is shown. It has markings at 20, 0, 20, and 40. The bar is divided into segments of alternating black and white colors.



CONTINUED ON  
SHEET NO. 94



CONTINUED  
BELOW

MARLBORO ROAD (ROUTE 85)

ROUTE 85 CONSTRUCTION BASELINE DATA

| NUMBER | STARTING STATION | NORTHING    | EASTING    | CURVE DATA | LINE DATA               | ENDING STATION | NORTHING    | EASTING    |
|--------|------------------|-------------|------------|------------|-------------------------|----------------|-------------|------------|
| L1     | 713+21.47        | 2936787.928 | 648092.851 |            | N17°30'35"W<br>1204.51' | 725+25.98      | 2937936.624 | 647730.455 |

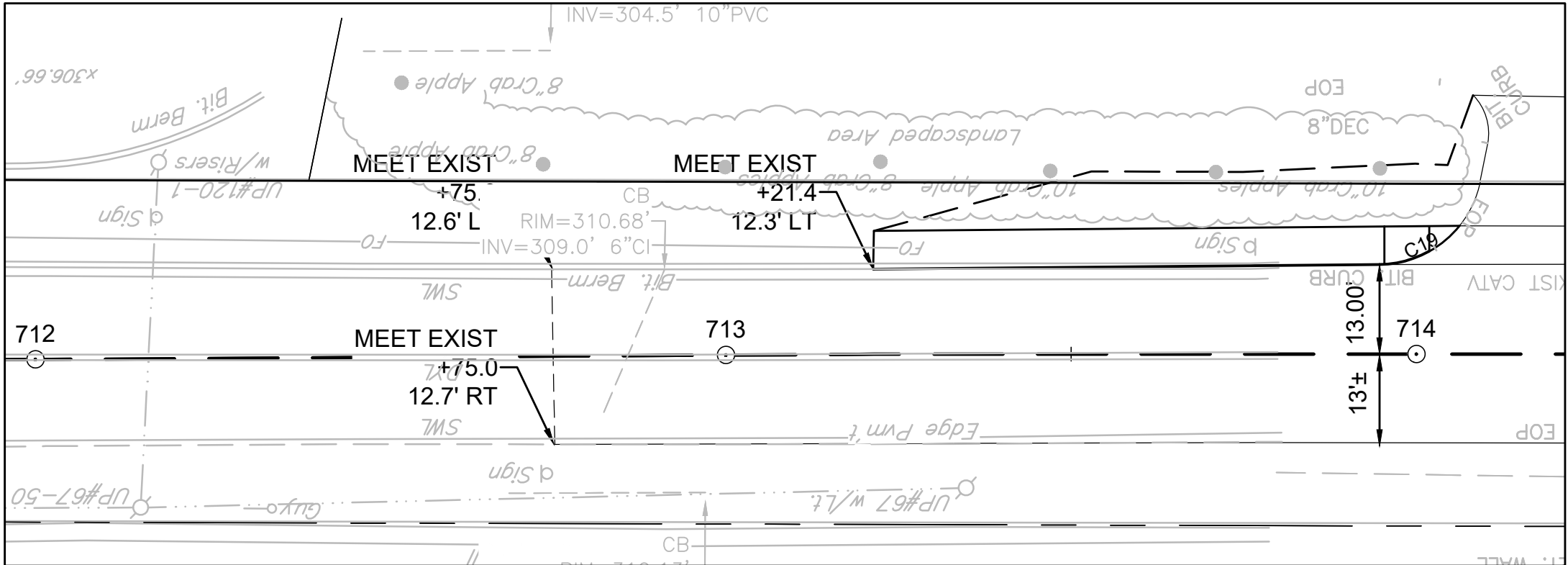
ST MARKS STREET CONSTRUCTION BASELINE DATA

| NUMBER | STARTING STATION | NORTHING    | EASTING    | CURVE DATA                                           | LINE DATA             | ENDING STATION | NORTHING    | EASTING    |
|--------|------------------|-------------|------------|------------------------------------------------------|-----------------------|----------------|-------------|------------|
| C1     | 11+83.25         | 2936967.788 | 647791.434 | R = 200.00' Δ = 55°01'09"<br>L = 192.05' T = 104.16' |                       | 13+75.30       | 2937098.565 | 647921.945 |
| L2     | 13+75.30         | 2937098.565 | 647921.945 |                                                      | N72°27'05"E<br>69.53' | 14+44.83       | 2937119.528 | 647988.236 |

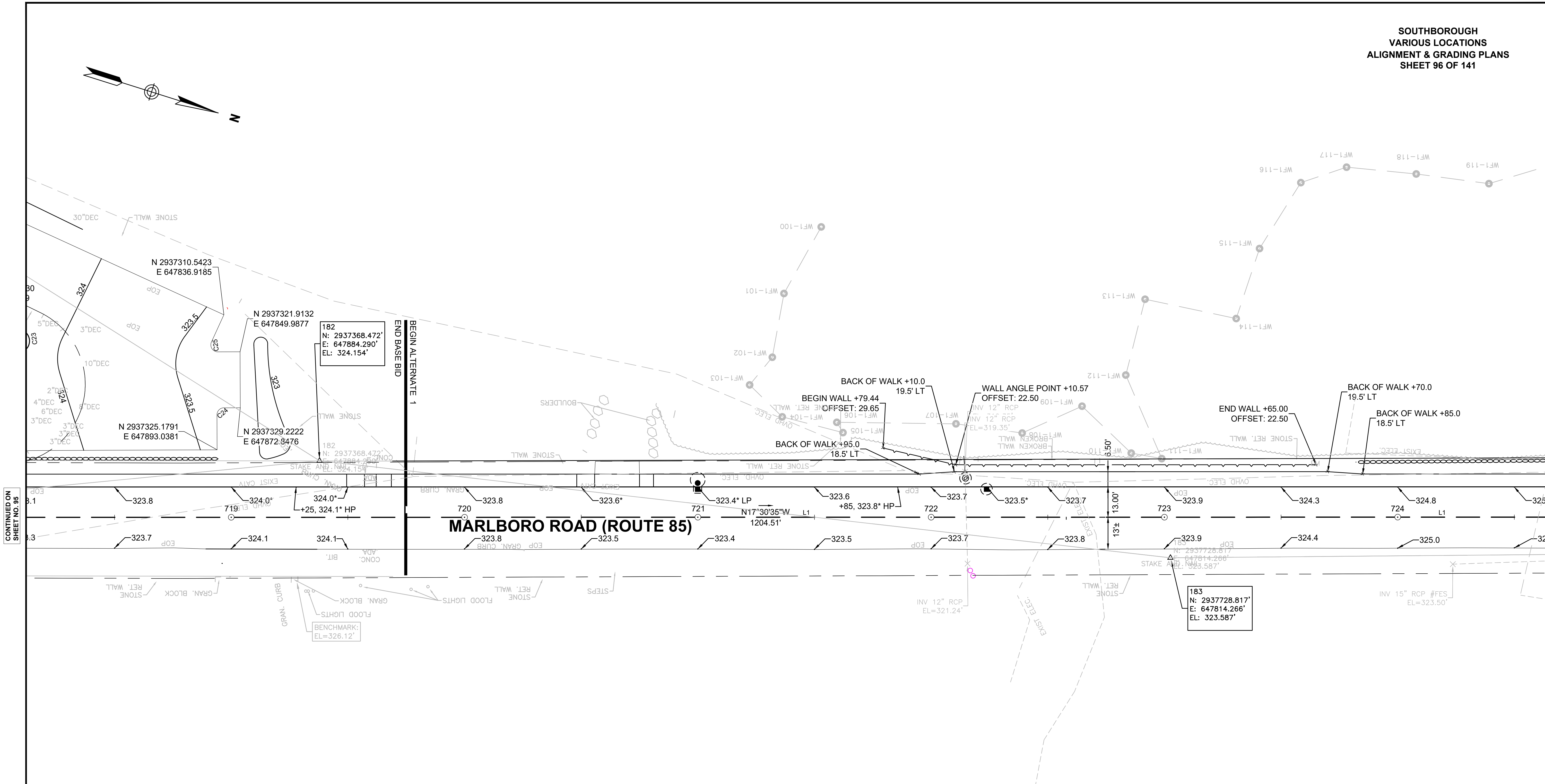
Curve Table

| Curve # | Delta      | Radius | Length |
|---------|------------|--------|--------|
| C6      | 25°50'23"  | 60.00  | 27.06  |
| C7      | 58°17'44"  | 20.00  | 20.35  |
| C8      | 85°52'01"  | 10.00  | 14.99  |
| C9      | 45°28'44"  | 10.00  | 7.94   |
| C10     | 87°40'36"  | 10.00  | 15.30  |
| C11     | 34°13'00"  | 10.00  | 5.97   |
| C12     | 9°37'38"   | 224.00 | 37.64  |
| C13     | 149°22'37" | 3.00   | 7.82   |
| C14     | 122°50'10" | 5.00   | 10.72  |
| C15     | 7°10'29"   | 266.00 | 33.31  |
| C16     | 180°00'00" | 4.00   | 12.57  |
| C17     | 90°02'19"  | 50.00  | 78.57  |
| C18     | 89°57'41"  | 50.00  | 78.51  |
| C19     | 20°49'28"  | 16.00  | 5.82   |
| C20     | 33°33'26"  | 15.00  | 8.79   |
| C21     | 90°01'30"  | 42.00  | 65.99  |
| C22     | 90°00'00"  | 5.00   | 7.85   |
| C23     | 155°10'30" | 5.00   | 13.54  |
| C24     | 90°00'00"  | 3.00   | 4.71   |
| C25     | 114°49'30" | 3.00   | 6.01   |

| SURVEY TRAVERSE TABLE |             |            |           |                 |
|-----------------------|-------------|------------|-----------|-----------------|
| Point #               | Northing    | Easting    | Elevation | Raw Description |
| 181                   | 2936935.303 | 648068.176 | 314.590   | MTRV            |



CONTINUED  
ABOVE



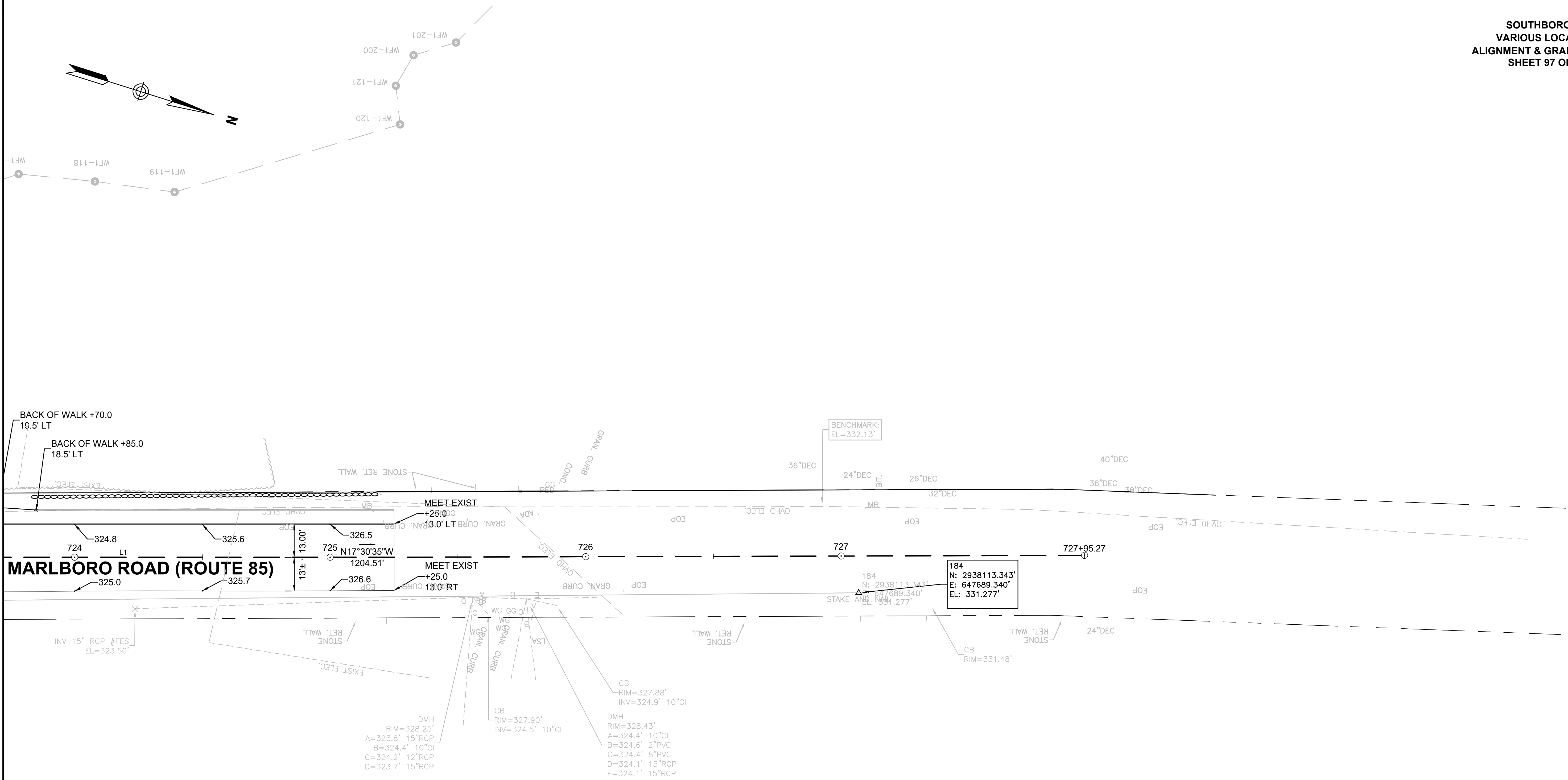
| Curve Table |            |        |        |
|-------------|------------|--------|--------|
| Curve #     | Delta      | Radius | Length |
| C23         | 155°10'30" | 5.00   | 13.54  |
| C24         | 90°00'00"  | 3.00   | 4.71   |
| C25         | 114°49'30" | 3.00   | 6.01   |

| SURVEY TRAVERSE TABLE |             |            |           |                 |
|-----------------------|-------------|------------|-----------|-----------------|
| Point #               | Northing    | Easting    | Elevation | Raw Description |
| 182                   | 2937368.472 | 647884.290 | 324.154   | MTRV            |
| 183                   | 2937728.817 | 647814.266 | 323.587   | MTRV            |

| ROUTE 85 CONSTRUCTION BASELINE DATA |                  |             |            |            |                         |                |             |            |
|-------------------------------------|------------------|-------------|------------|------------|-------------------------|----------------|-------------|------------|
| NUMBER                              | STARTING STATION | NORTHING    | EASTING    | CURVE DATA | LINE DATA               | ENDING STATION | NORTHING    | EASTING    |
| L1                                  | 713+21.47        | 2936787.928 | 648092.851 |            | N17°30'35"W<br>1204.51' | 725+25.98      | 2937936.624 | 647730.455 |



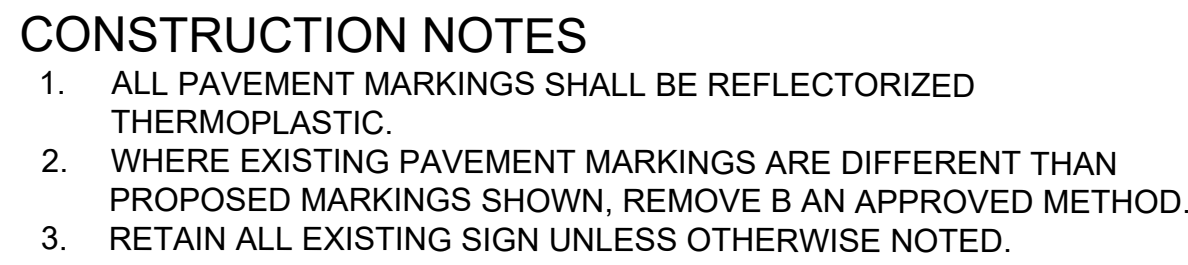
CONTINUED ON  
SHEET NO. 96

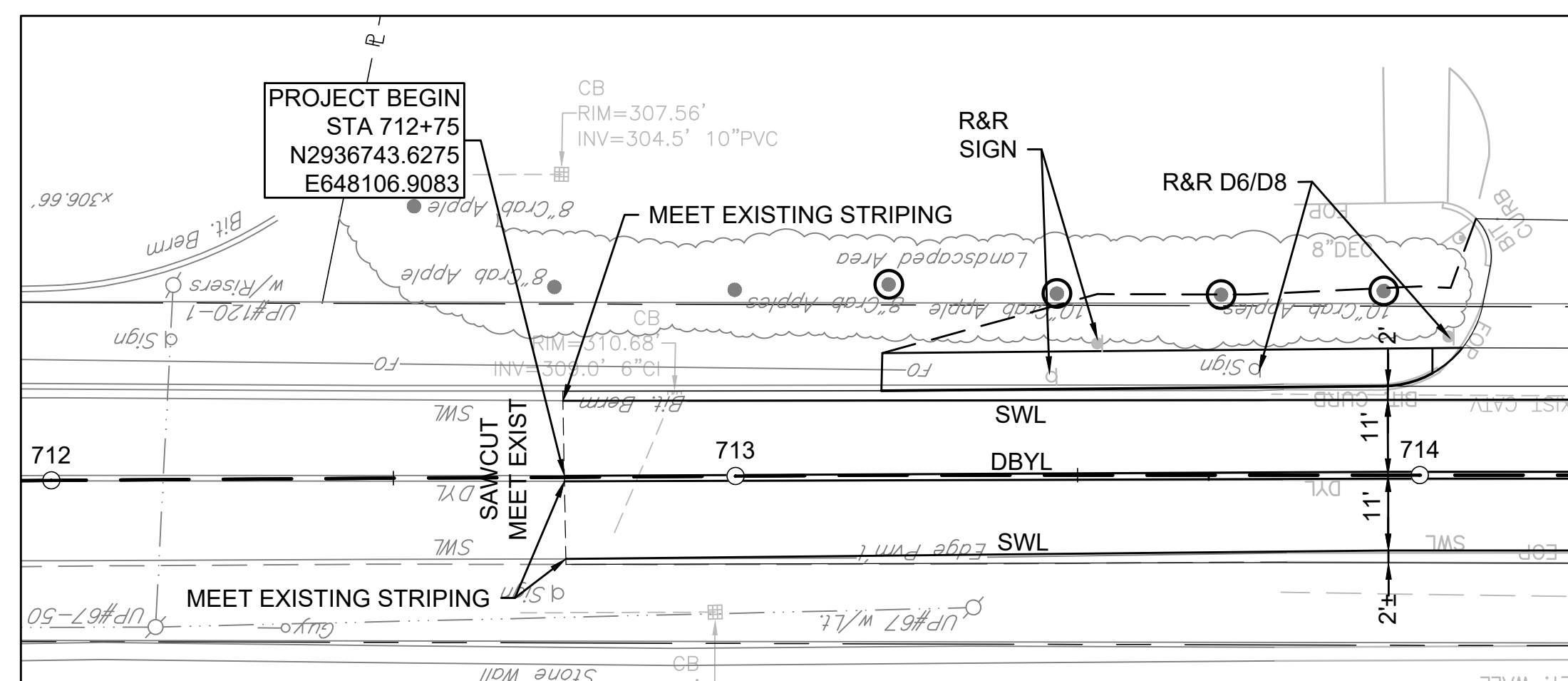
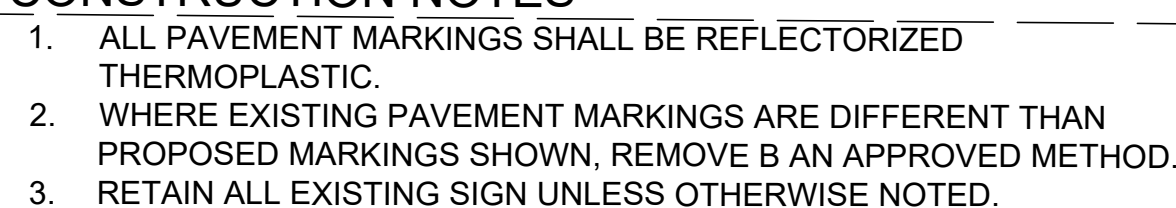


| SURVEY TRAVERSE TABLE |             |            |           |                 |
|-----------------------|-------------|------------|-----------|-----------------|
| Point #               | Northing    | Easting    | Elevation | Raw Description |
| 184                   | 2938113.343 | 647689.340 | 331.277   | MTRV            |

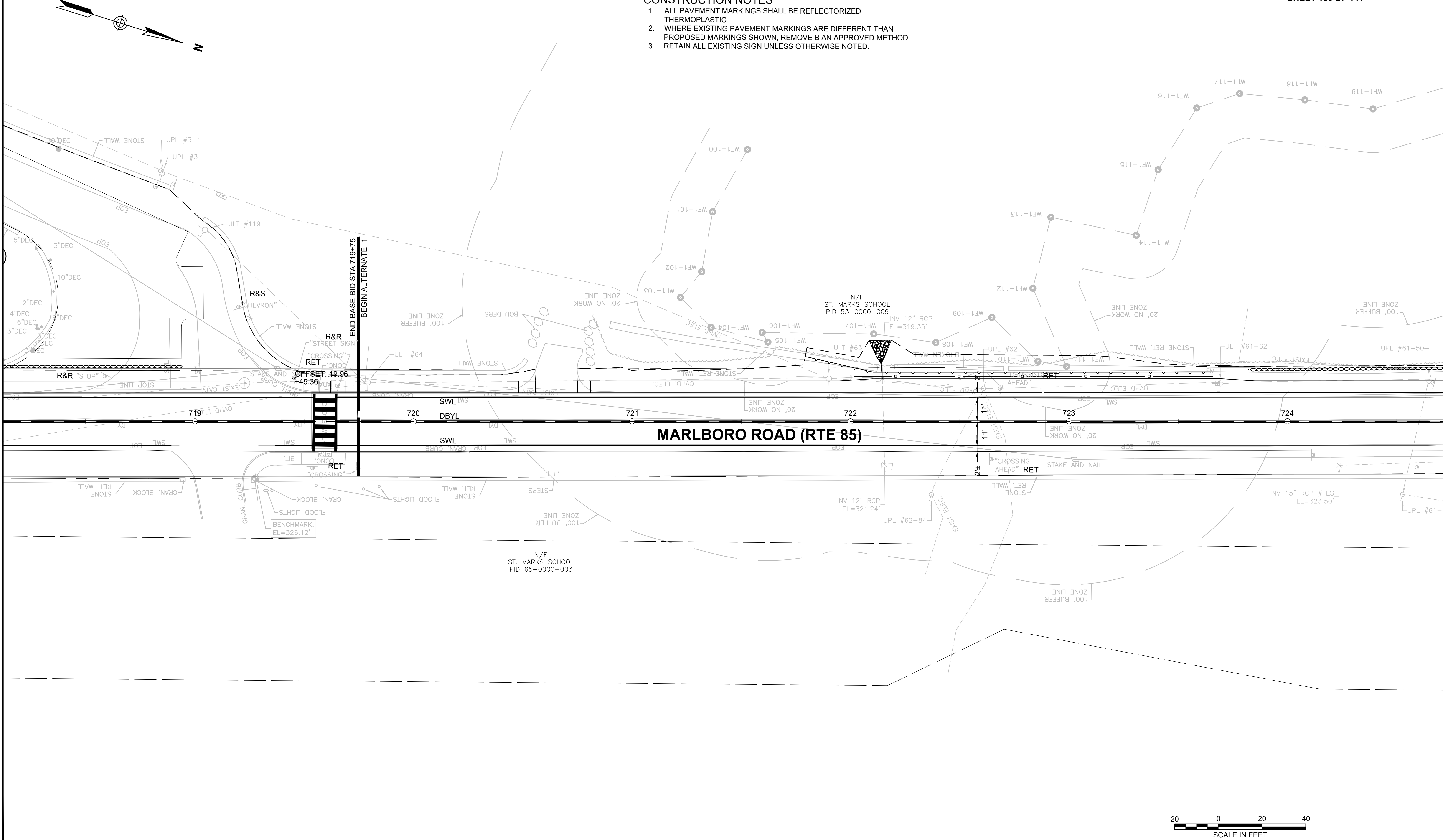
| ROUTE 85 CONSTRUCTION BASELINE DATA |                  |             |            |            |                         |                |             |            |
|-------------------------------------|------------------|-------------|------------|------------|-------------------------|----------------|-------------|------------|
| NUMBER                              | STARTING STATION | NORTHING    | EASTING    | CURVE DATA | LINE DATA               | ENDING STATION | NORTHING    | EASTING    |
| L1                                  | 713+21.47        | 2936787.928 | 648092.851 |            | N17°30'35"W<br>1204.51' | 725+25.98      | 2937936.624 | 647730.455 |







- CONSTRUCTION NOTES
1. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.
  2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE B AN APPROVED METHOD.
  3. RETAIN ALL EXISTING SIGN UNLESS OTHERWISE NOTED.

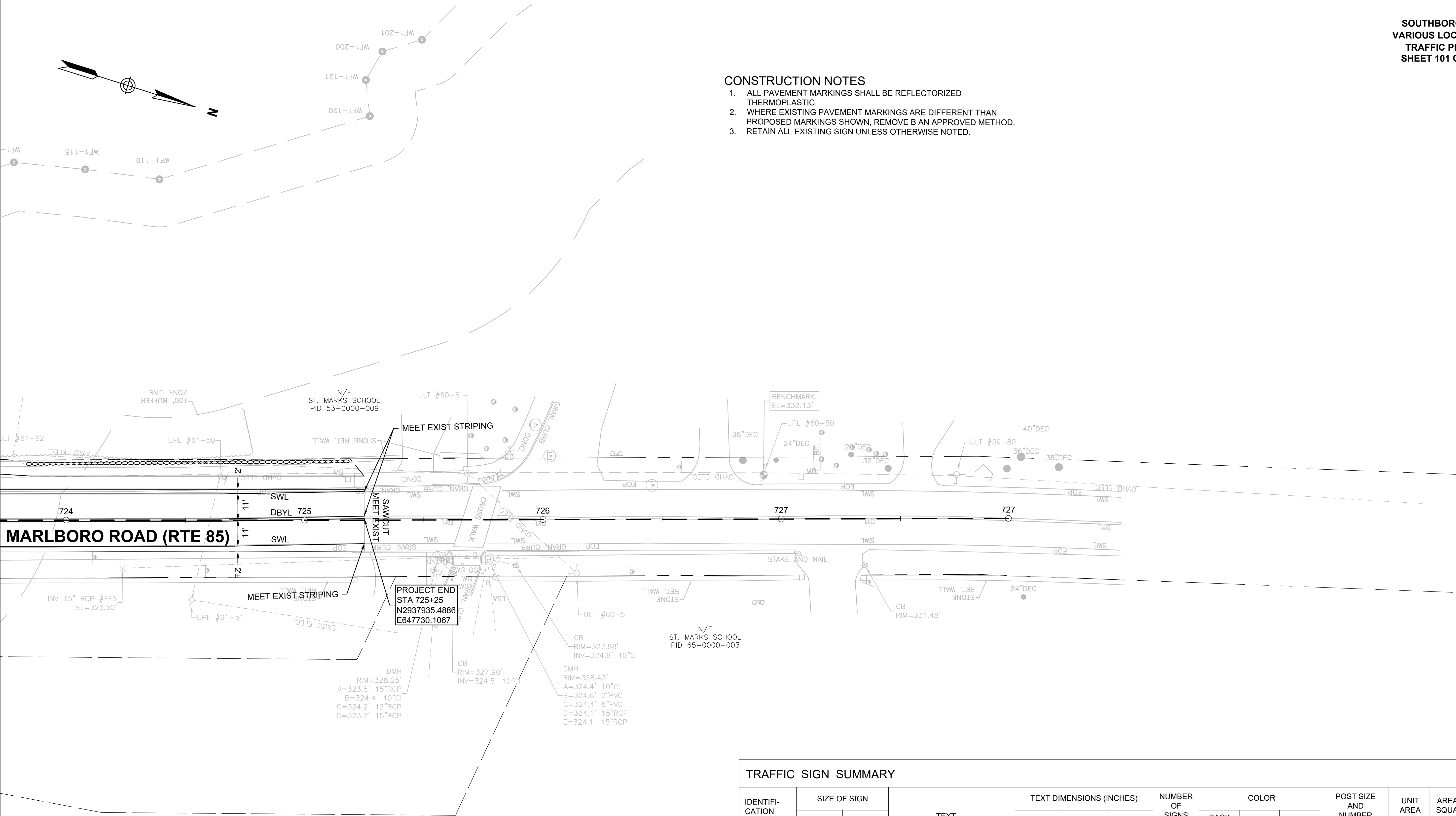


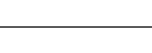
CONTINUED ON  
SHEET NO. 88

CONTINUED ON  
SHEET NO. 90

CONSTRUCTION NOTES

1. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE B AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGN UNLESS OTHERWISE NOTED.

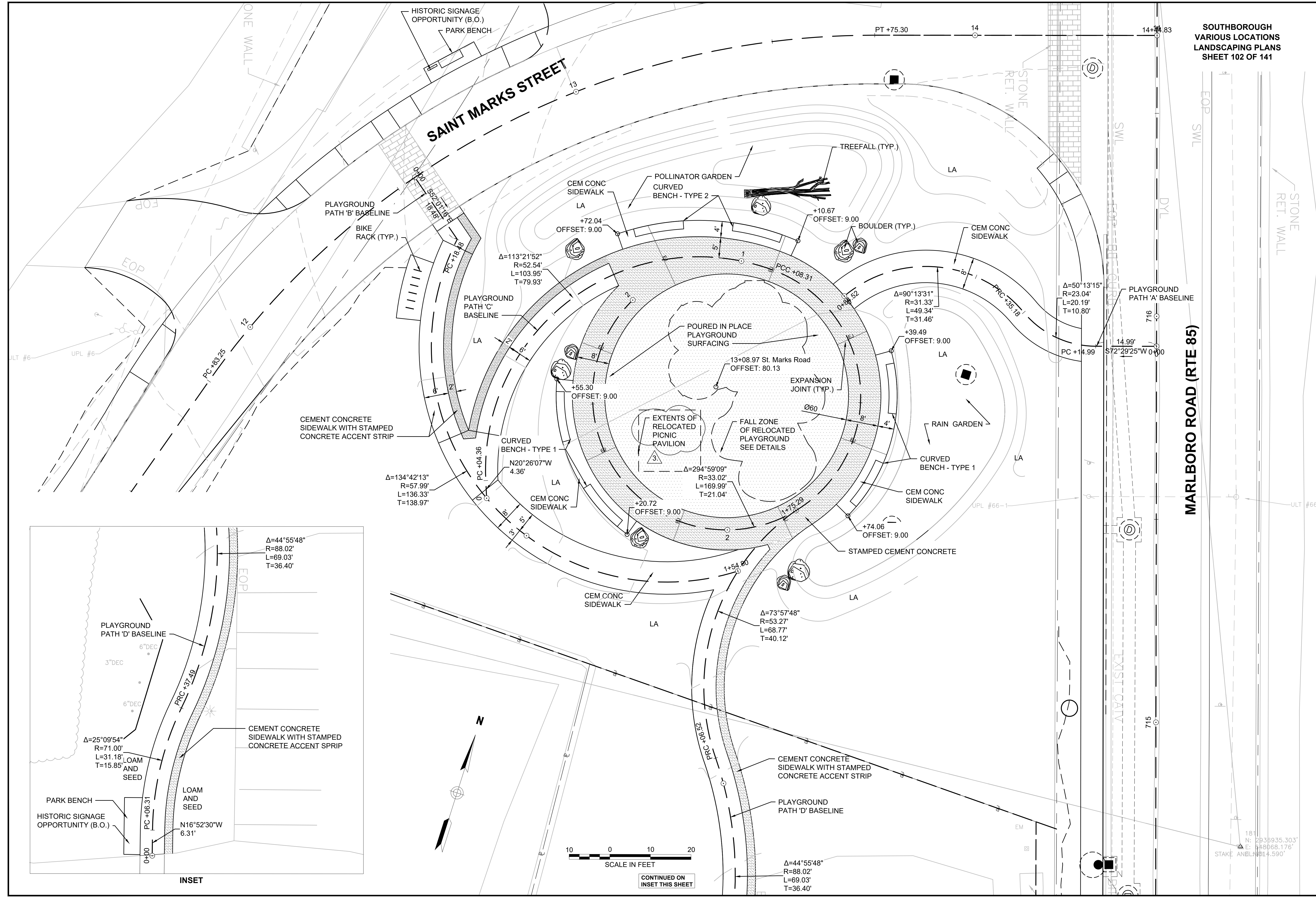


| TRAFFIC SIGN SUMMARY          |              |        |                                                                                       |                                                                                       |                     |                    |                                   |                                      |        |        |                                        |                        |                           |
|-------------------------------|--------------|--------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------|--------------------|-----------------------------------|--------------------------------------|--------|--------|----------------------------------------|------------------------|---------------------------|
| IDENTIFI-<br>CATION<br>NUMBER | SIZE OF SIGN |        | TEXT                                                                                  | TEXT DIMENSIONS (INCHES)                                                              |                     |                    | NUMBER<br>OF<br>SIGNS<br>REQUIRED | COLOR                                |        |        | POST SIZE<br>AND<br>NUMBER<br>REQUIRED | UNIT<br>AREA<br>(S.F.) | AREA IN<br>SQUARE<br>FEET |
|                               | WIDTH        | HEIGHT |                                                                                       | LETTER<br>HEIGHT                                                                      | VERTICAL<br>SPACING | ARROW<br>RTE. MKR. |                                   | BACK-<br>GROUND                      | LEGEND | BORDER |                                        |                        |                           |
| W11-2                         | 30"          | 30"    |  | SEE FHWA "STANDARD<br>HIGHWAY SIGNS,<br>2004 EDITION"; AS AMENDED                     |                     |                    | 3                                 | FLUOR-<br>ESCENT<br>YELLOW<br>/GREEN | BLACK  | BLACK  | P5-2                                   | 6.25                   | 18.75                     |
| W16-7p(L)                     | 24"          | 12"    |  |  |                     |                    | 2                                 | FLUOR-<br>ESCENT<br>YELLOW<br>/GREEN | BLACK  | BLACK  | 2 MTD<br>W/ OTHERS                     | 2.00                   | 4.00                      |
| W16-7p(R)                     | 24"          | 12"    |  |                                                                                       |                     |                    | 1                                 | FLUOR-<br>ESCENT<br>YELLOW<br>/GREEN | BLACK  | BLACK  | 2 MTD<br>W/ OTHERS                     | 2.00                   | 2.00                      |

- NOTES:
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; AND THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED.
  2. ALL SIGNS SHOWN GRAPHICALLY FOR INFORMATION ONLY. SIGN VENDOR SHALL FABRICATE ALL SIGNS IN ACCORDANCE WITH THE APPLICABLE STANDARDS.

CONTINUED ON  
SHEET NO. 89





PLANT SCHEDULE

DECIDUOUS TREES

| QTY | BOTANICAL NAME          | COMMON NAME            | SIZE               |
|-----|-------------------------|------------------------|--------------------|
| AS  | Acer saccharum          | Sugar Maple            | 3 - 3 1/2" CAL.    |
| BN  | Betula nigra - Clump    | Birch River 'Heritage' | 8 - 10' HT., CLUMP |
| LT  | Liriodendron tulipifera | Tulip Tree             | 3 - 3 1/2" CAL.    |
| QB  | Quercus bicolor         | Swamp White Oak        | 3 - 3 1/2" CAL.    |
| QC  | Quercus coccinea        | Scarlet Oak            | 3 - 3 1/2" CAL.    |

EVERGREEN TREES

| QTY | BOTANICAL NAME               | COMMON NAME              | SIZE       |
|-----|------------------------------|--------------------------|------------|
| TO  | Thuja occidentalis 'Smaragd' | Emerald Green Arborvitae | 5 - 6' HT. |

ORNAMENTAL TREES

| QTY | BOTANICAL NAME      | COMMON NAME             | SIZE               |
|-----|---------------------|-------------------------|--------------------|
| AA  | Amelanchier arborea | Shad Tree - Downy Clump | 8 - 10' HT., CLUMP |

SHRUBS

| QTY | BOTANICAL NAME                   | COMMON NAME                     | SIZE              | SPACING   |
|-----|----------------------------------|---------------------------------|-------------------|-----------|
| CA  | Clethra alnifolia                | Summersweet Shrub               | 2 - 3' HT.        | 48" o.c.  |
| CS  | Cornus sericea 'Artic Fire'      | Dogwood - Redosier 'Artic Fire' | 2 - 3' HT.        | 48" o.c.  |
| HV  | Hamamelis virginiana             | Common Witch Hazel              | 2 - 3' HT.        | 120" o.c. |
| IV  | Ilex verticillata 'Sparkleberry' | Sparkleberry Winterberry        | 3 - 4' HT.        | 72" o.c.  |
| MG  | Myrica gale                      | Sweetgale                       | 2 - 3' HT.        | 48" o.c.  |
| PP  | Pinus mugo pumilio               | Dwarf Mugo Pine                 | 30 - 36" HT./SPD. | 60" o.c.  |
| RR  | Rhododendron maximum roseum      | Pink Rosebay Rhododendron       | 3 - 4' HT.        | 108" o.c. |

PERENNIALS

| QTY | BOTANICAL NAME  | COMMON NAME      | SIZE   | SPACING  |
|-----|-----------------|------------------|--------|----------|
| LS  | Liatris spicata | Spike Gayfeather | 1 GAL. | 18" o.c. |
| MD  | Monarda didyma  | Bee Balm         | 1 GAL. | 48" o.c. |

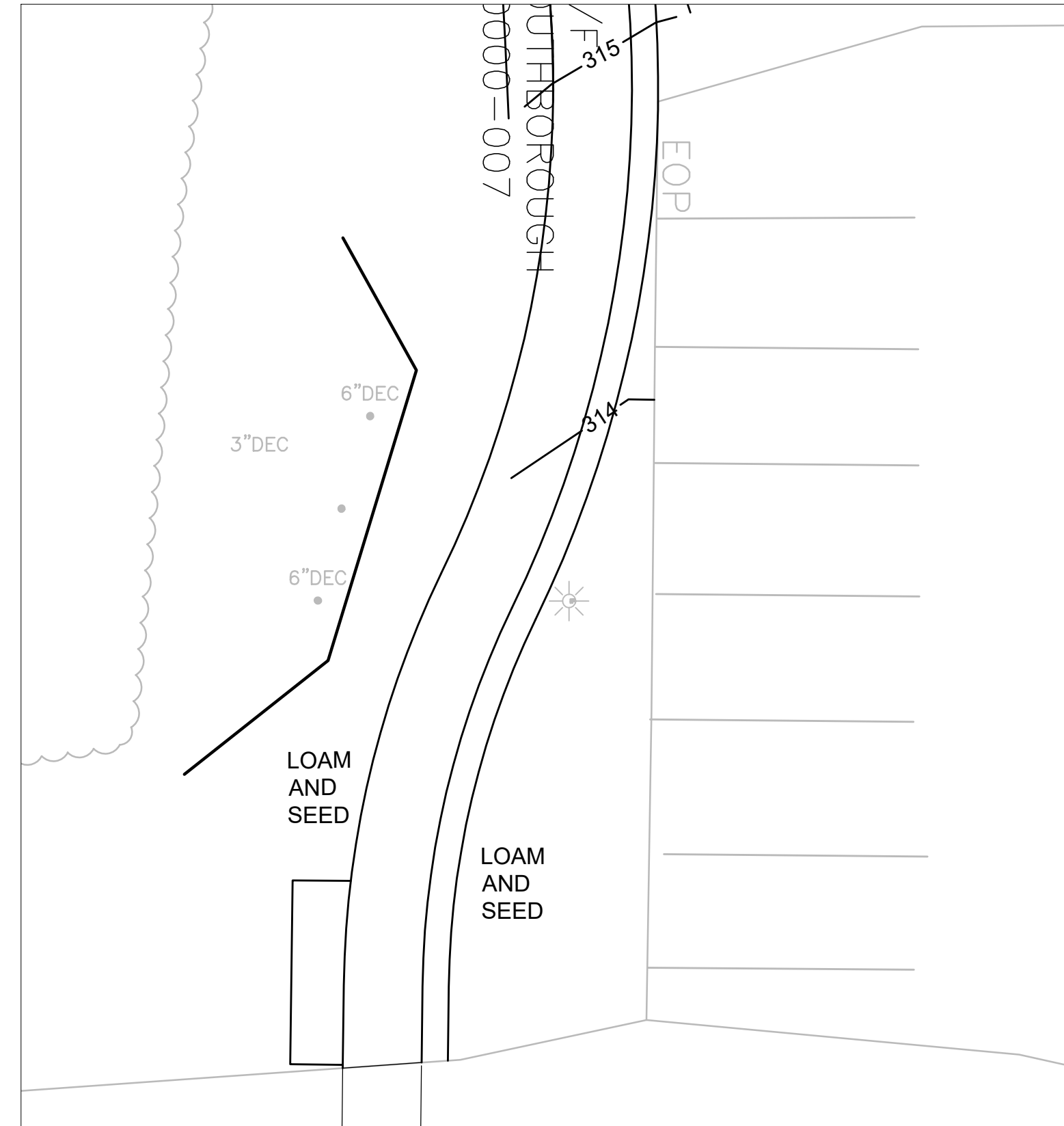
ORNAMENTAL GRASS DRIFTS

| QTY | BOTANICAL NAME          | COMMON NAME        | SIZE   | SPACING  |
|-----|-------------------------|--------------------|--------|----------|
| CP  | Carex pensylvanica      | Pennsylvania Sedge | 1 GAL. | 12" o.c. |
| ES  | Eragrostis spectabilis  | Purple Love Grass  | 2 GAL. | 24" o.c. |
| SL  | Schizachyrium scoparium | Little Bluestem    | 2 GAL. | 30" o.c. |

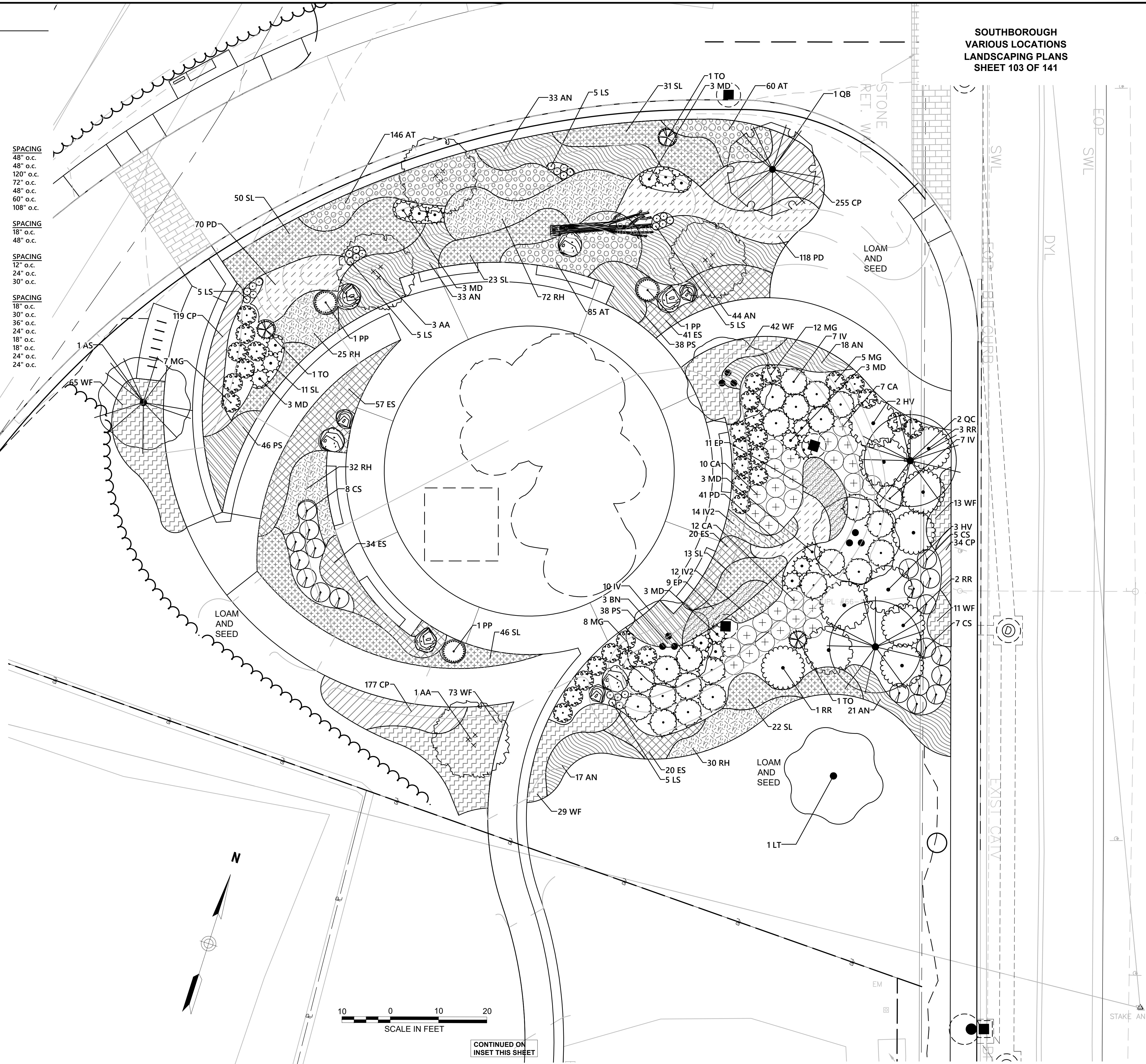
PERENNIAL DRIFTS

| QTY | BOTANICAL NAME                | COMMON NAME                   | SIZE   | SPACING  |
|-----|-------------------------------|-------------------------------|--------|----------|
| AT  | Asclepias tuberosa            | Butterfly Milkweed            | 1 GAL. | 18" o.c. |
| AN  | Aster novae-angliae           | New England Aster             | 1 GAL. | 30" o.c. |
| EP  | Eutrochium purpureum          | Sweet Joe Pye Weed            | 1 GAL. | 36" o.c. |
| IV2 | Iris versicolor               | Blue Flag                     | 1 GAL. | 24" o.c. |
| PD  | Penstemon digitalis           | Beardtongue                   | 1 GAL. | 18" o.c. |
| PS  | Phlox subulata 'Emerald Pink' | Emerald Pink Creeping Phlox   | 1 GAL. | 18" o.c. |
| RH  | Rudbeckia hirta               | Black-eyed Susan              | 1 GAL. | 24" o.c. |
| WF  | Waldsteinia fragarioides      | Appalachian Barren Strawberry | 1 GAL. | 24" o.c. |

SOUTHBOROUGH  
VARIOUS LOCATIONS  
LANDSCAPING PLANS  
SHEET 103 OF 141



INSET

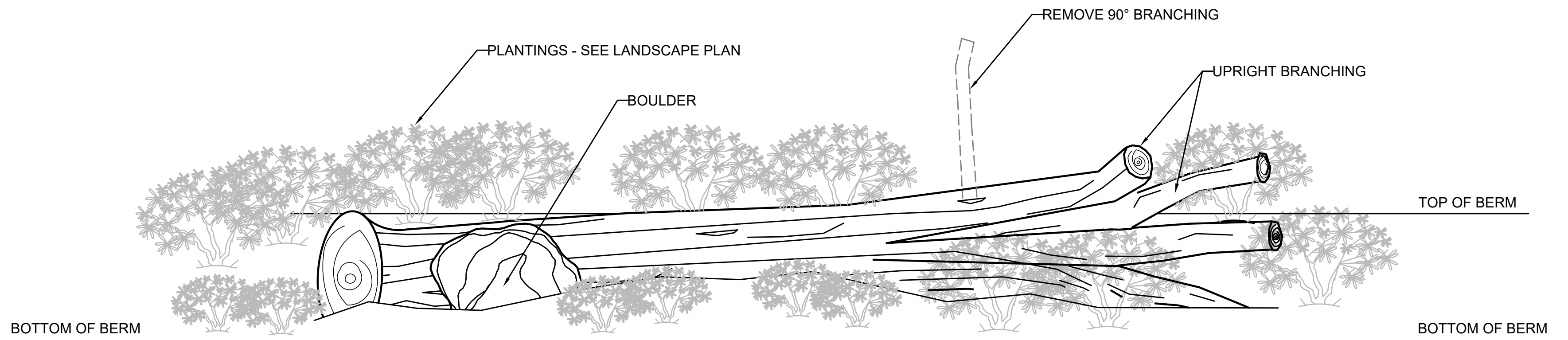


10 0 10 20  
SCALE IN FEET

CONTINUED ON  
INSET THIS SHEET

14931-HD(LA).DWG      Plotted on 24-Jun-2021 11:39 AM



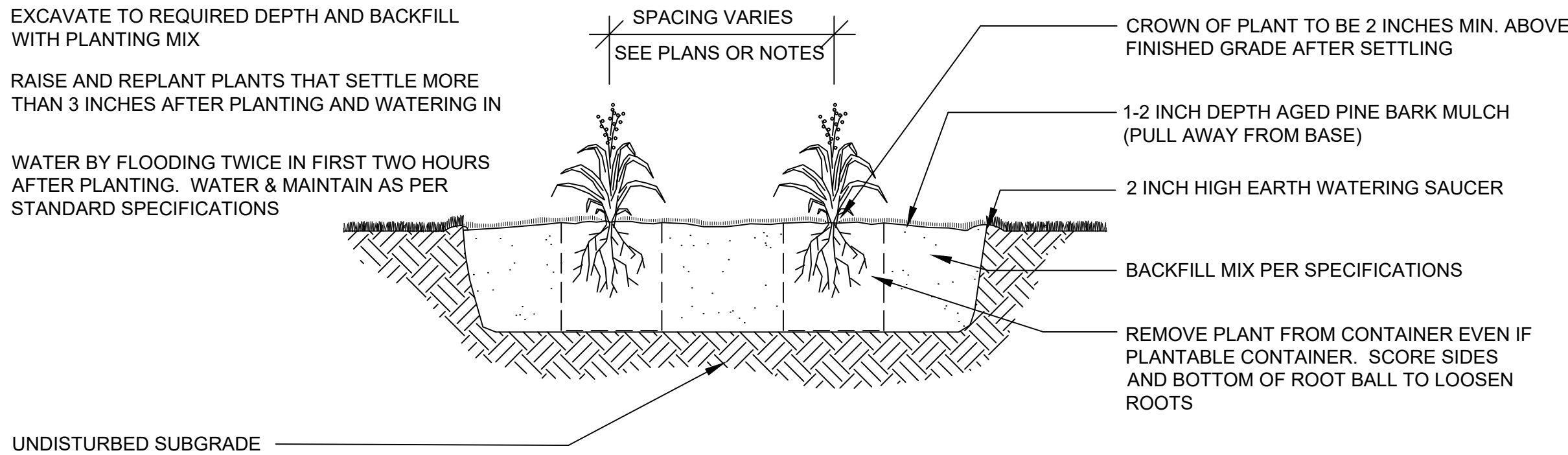


NOTES

1. CONTRACTOR TO PRE-SELECT 3 EXISTING TREES PRIOR TO DEMOLITION THAT MEET CRITERIA FOR TREE FALL AND REVIEW SELECTIONS WITH LANDSCAPE ARCHITECT. SELECTED TREE TO BE STORED ON SITE UNTIL SET INTO BERM DURING CONSTRUCTION.
2. TREE FALL TO BE APPROX. 21 FEET LONG WITH MULTIPLE UPRIGHT BRANCHES.
3. EMBED 1/4 TO 1/3 OF TREE WITHIN BERM.
4. SECURE WITH BOULDER.

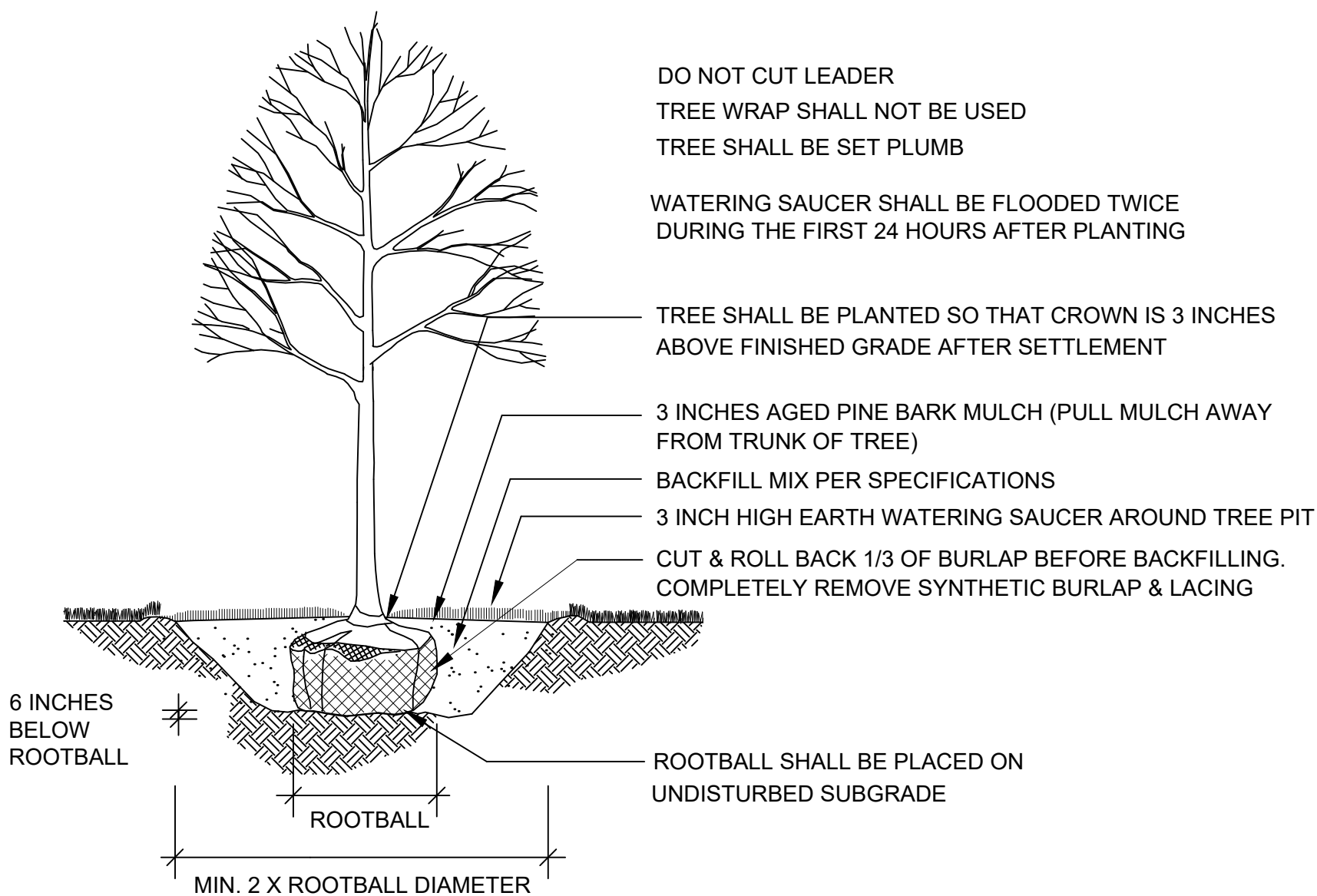
UPCYCLED TREE FALL DETAIL

SCALE: N.T.S.



PERENNIAL PLANTING

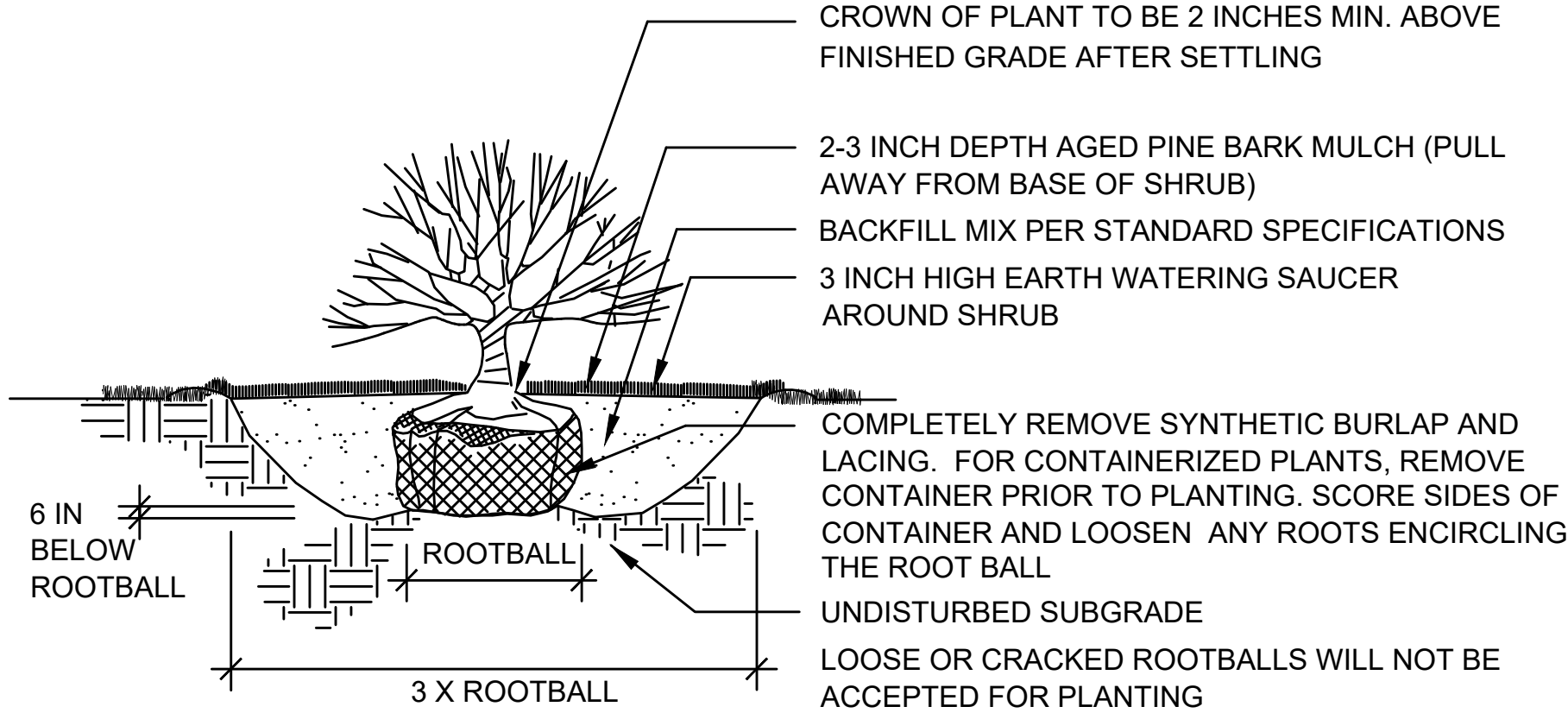
NOT TO SCALE



DECIDUOUS TREE PLANTING

NOT TO SCALE

EXCAVATE TO REQUIRED DEPTH AND BACKFILL WITH PLANTING MIX  
SHRUBS SHALL BE SET PLUMB



SHRUB PLANTING

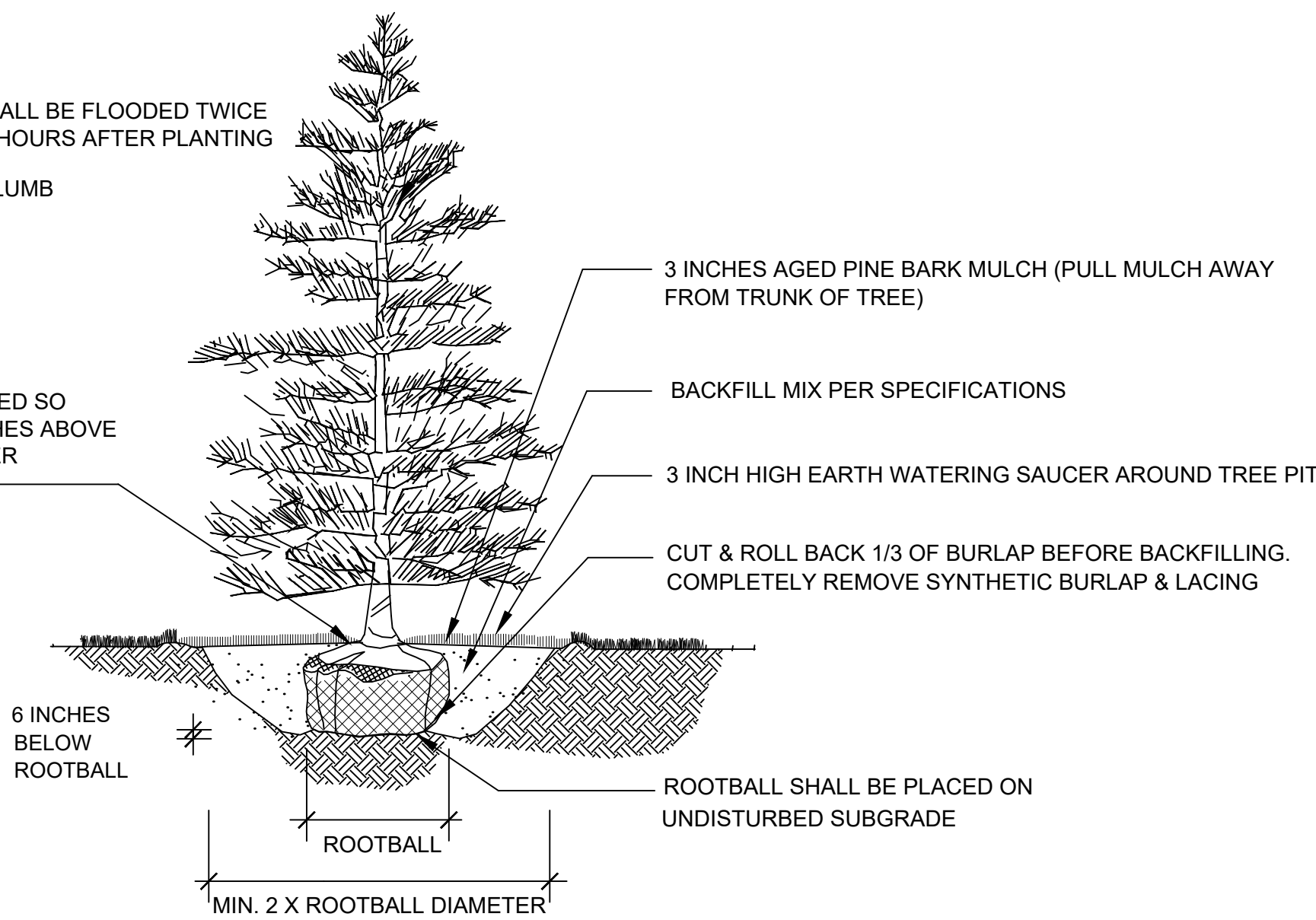
NOT TO SCALE

FEB 28, 2013

WATERING SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING  
TREE SHALL BE SET PLUMB

DO NOT CUT LEADER

TREE SHALL BE PLANTED SO THAT CROWN IS 3 INCHES ABOVE FINISHED GRADE AFTER SETTLEMENT



EVERGREEN TREE PLANTING

NOT TO SCALE

Tree Protection

1. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY CONSTRUCTION FENCE. ERECT FENCE AT EDGE OF THE TREE DRIPLINE PRIOR TO START OF CONSTRUCTION.
2. CONTRACTOR SHALL NOT OPERATE VEHICLES WITHIN THE TREE PROTECTION AREA. CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS, OR DISPOSE OF ANY WASTE MATERIALS, WITHIN THE TREE PROTECTION AREA.
3. DAMAGE TO EXISTING TREES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY A CERTIFIED ARBORIST AT THE CONTRACTOR'S EXPENSE.

Edge of Woods Clearing

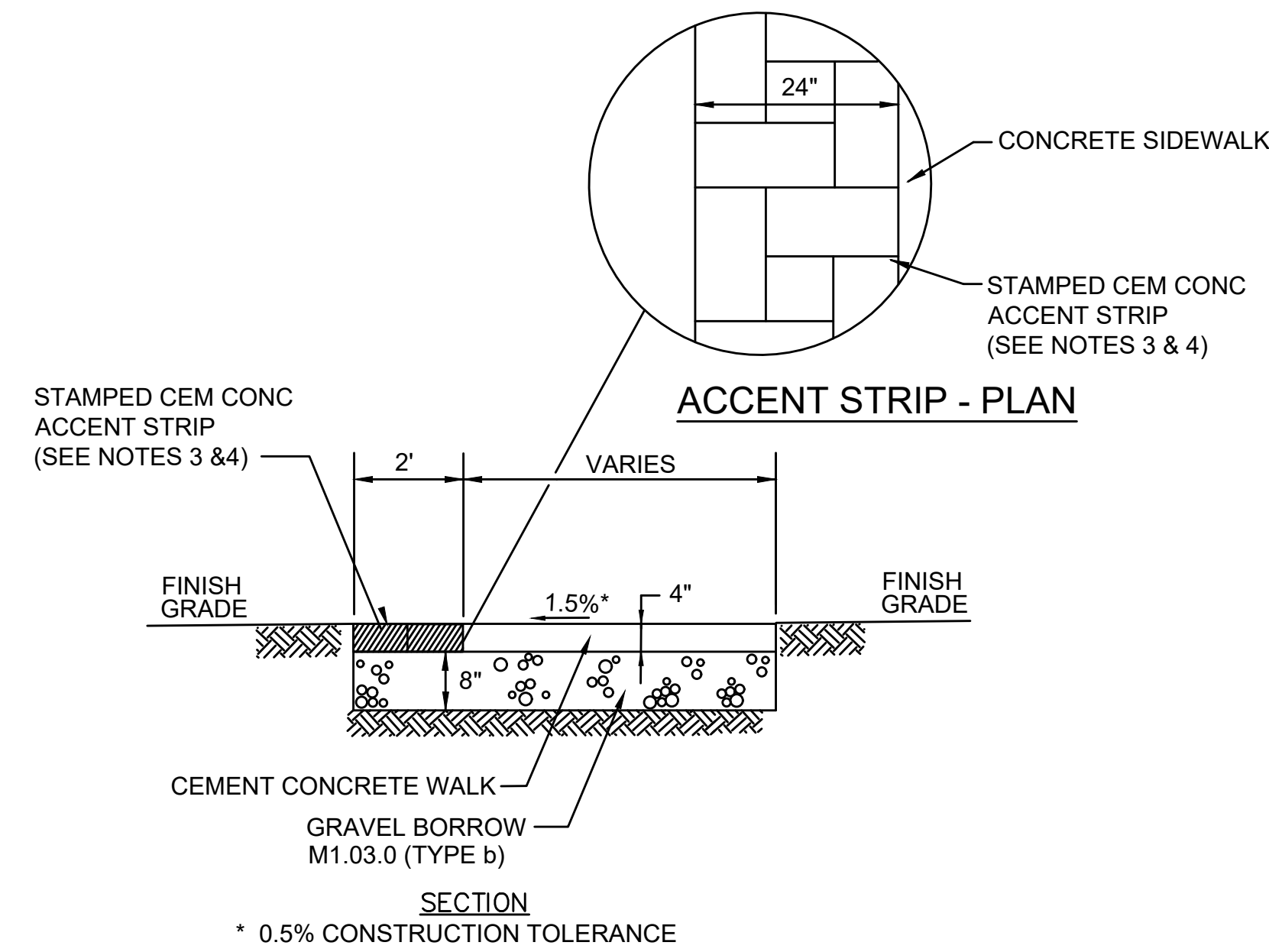
1. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY EROSION CONTROL FENCE AND HAY BALE BARRIER. ERECT BARRIER AT EDGE OF THE EARTHWORK CUT LINE PRIOR TO TREE CLEARING. LAY OUT THIS LINE BY FIELD SURVEY.

Planting Notes

1. ALL PROPOSED PLANTING LOCATIONS SHALL BE STAKED AS SHOWN ON THE PLANS FOR FIELD REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL BELOW GRADE AND ABOVE GROUND UTILITIES AND NOTIFY OWNERS REPRESENTATIVE OF CONFLICTS.
3. NO PLANT MATERIALS SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE OF ANY CONFLICT.
4. A 3-INCH DEEP MULCH PER SPECIFICATION SHALL BE INSTALLED UNDER ALL TREES AND SHRUBS, AND IN ALL PLANTING BEDS, UNLESS OTHERWISE INDICATED ON THE PLANS, OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
5. ALL TREES SHALL BE BALLED AND BURLAPPED, UNLESS OTHERWISE NOTED IN THE DRAWINGS OR SPECIFICATION, OR APPROVED BY THE OWNER'S REPRESENTATIVE.
6. FINAL QUANTITY FOR EACH PLANT TYPE SHALL BE AS GRAPHICALLY SHOWN ON THE PLAN. THIS NUMBER SHALL TAKE PRECEDENCE IN CASE OF ANY DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND ON THE PLAN. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLANT LIST AND PLANT LABELS PRIOR TO BIDDING.
7. ANY PROPOSED PLANT SUBSTITUTIONS MUST BE REVIEWED BY LANDSCAPE ARCHITECT AND APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE.
8. ALL PLANT MATERIALS INSTALLED SHALL MEET THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND CONTRACT DOCUMENTS.
9. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE.
10. AREAS DESIGNATED "LOAM & SEED" SHALL RECEIVE MINIMUM 6" OF LOAM AND SPECIFIED SEED MIX. LAWNS OVER 2:1 SLOPE SHALL BE PROTECTED WITH EROSION CONTROL FABRIC.
11. ALL DISTURBED AREAS NOT OTHERWISE NOTED ON CONTRACT DOCUMENTS SHALL BE LOAM AND SEEDED OR MULCHED AS DIRECTED BY OWNER'S REPRESENTATIVE.
12. THIS PLAN IS INTENDED FOR PLANTING PURPOSES. REFER TO SITE / CIVIL DRAWINGS FOR ALL OTHER SITE CONSTRUCTION INFORMATION.

Plant Maintenance Notes

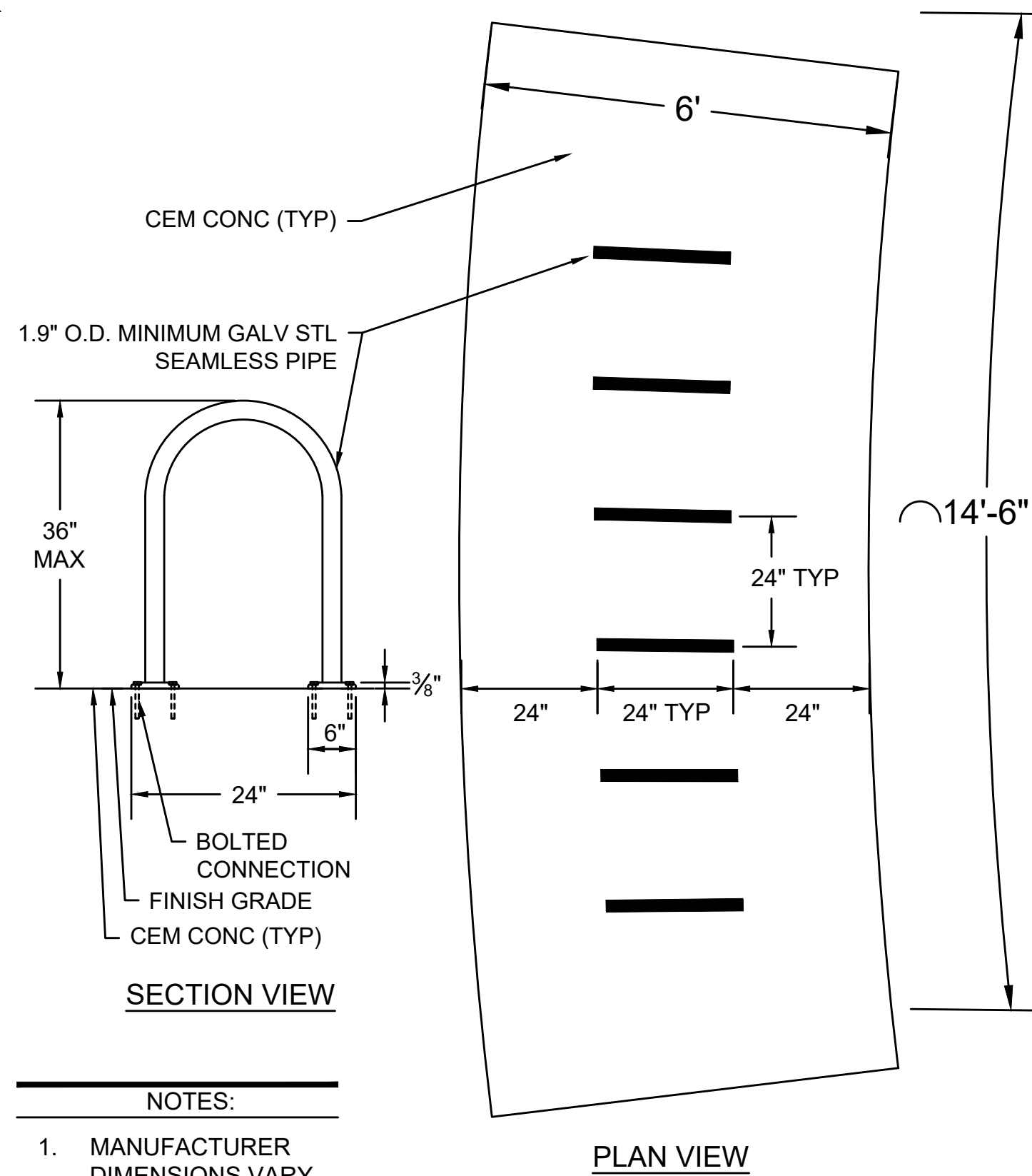
1. CONTRACTOR SHALL PROVIDE COMPLETE MAINTENANCE OF THE LAWNS AND PLANTINGS. NO IRRIGATION IS PROPOSED FOR THIS SITE. THE CONTRACTOR SHALL SUPPLY SUPPLEMENTAL WATERING FOR NEW LAWNS AND PLANTINGS DURING THE ONE YEAR PLANT GUARANTEE PERIOD.
2. CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, AND EQUIPMENT FOR THE COMPLETE LANDSCAPE MAINTENANCE WORK. WATER SHALL BE PROVIDED BY THE CONTRACTOR.
3. WATERING SHALL BE REQUIRED DURING THE GROWING SEASON, WHEN NATURAL RAINFALL IS BELOW ONE INCH PER WEEK.
4. WATER SHALL BE APPLIED IN SUFFICIENT QUANTITY TO THOROUGHLY SATURATE THE SOIL IN THE ROOT ZONE OF EACH PLANT.
5. CONTRACTOR SHALL REPLACE DEAD OR DYING PLANTS AT THE END OF THE ONE YEAR GUARANTEE PERIOD. CONTRACTOR SHALL TURN OVER MAINTENANCE TO THE FACILITY MAINTENANCE STAFF AT THAT TIME.



- NOTES:
1. PROVIDE EXPANSION JOINTS AT MIN 30' O.C. WITH PRE-MOULDED JOINT FILLER.
  2. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO PATH OF TRAVEL ON AREAS OF SIDEWALK WITHOUT SAWCUT.
  3. ACCENT STRIP SHALL BE COLORED CEM CONC THROUGHOUT STAMPED/IMPRINTED WITH A SLATE PATTERN.
  4. ACCENT STRIP SHALL BE PLACED PRIOR TO CEM CONC WALK SURFACE OR SIDEWALK.

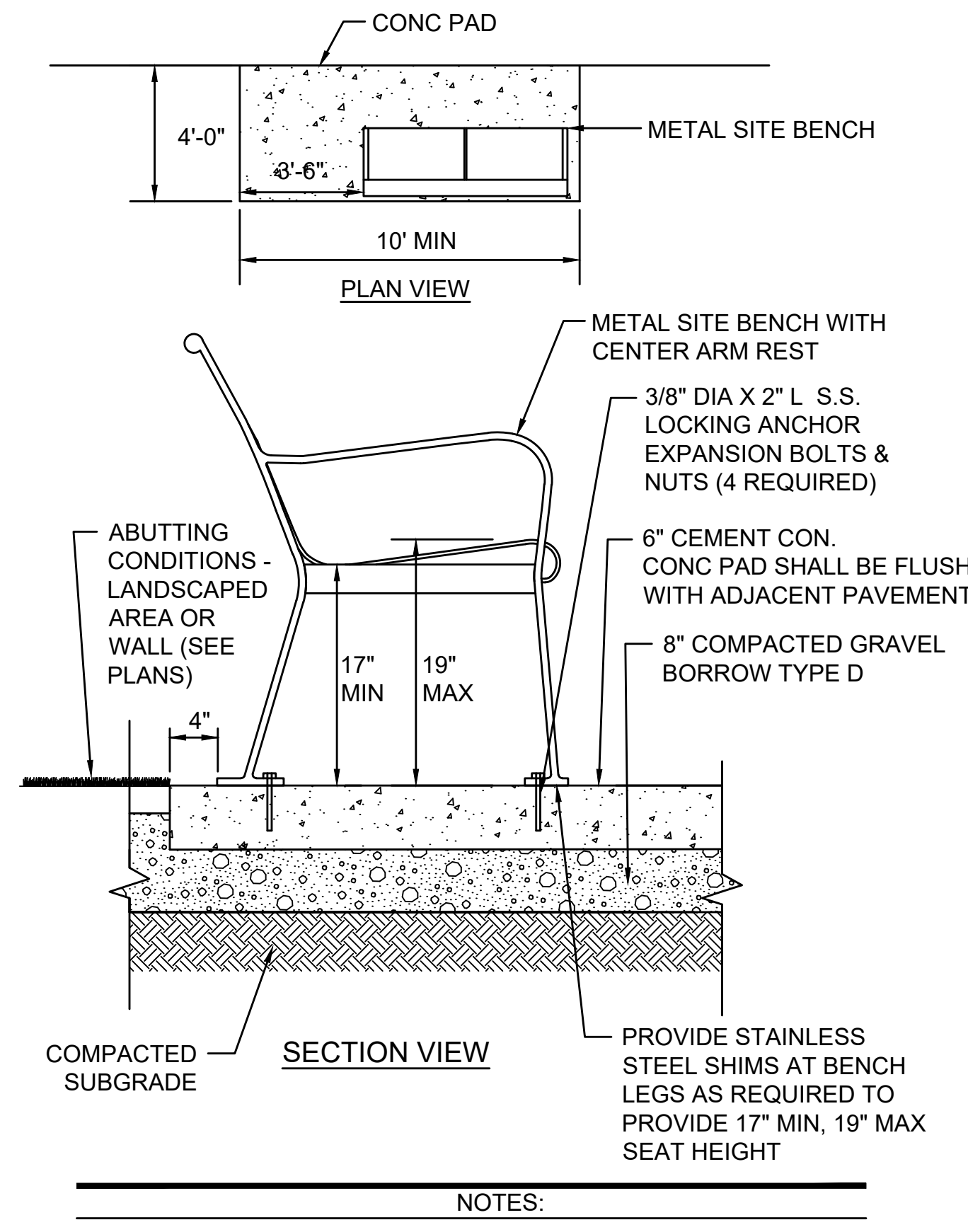
### CEMENT CONCRETE SIDEWALK WITH STAMPED CONCRETE ACCENT STRIP

SCALE: N.T.S.



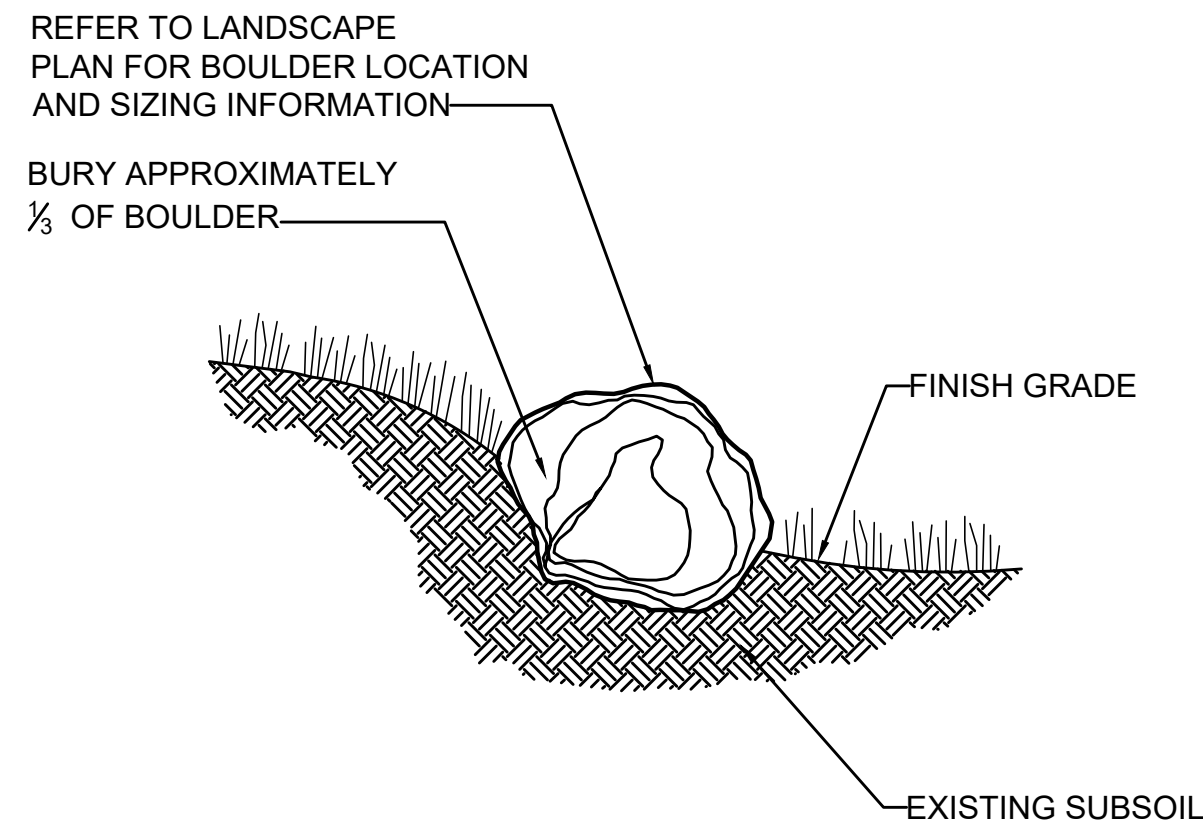
### BIKE RACK

SCALE: N.T.S.



### PARK BENCH

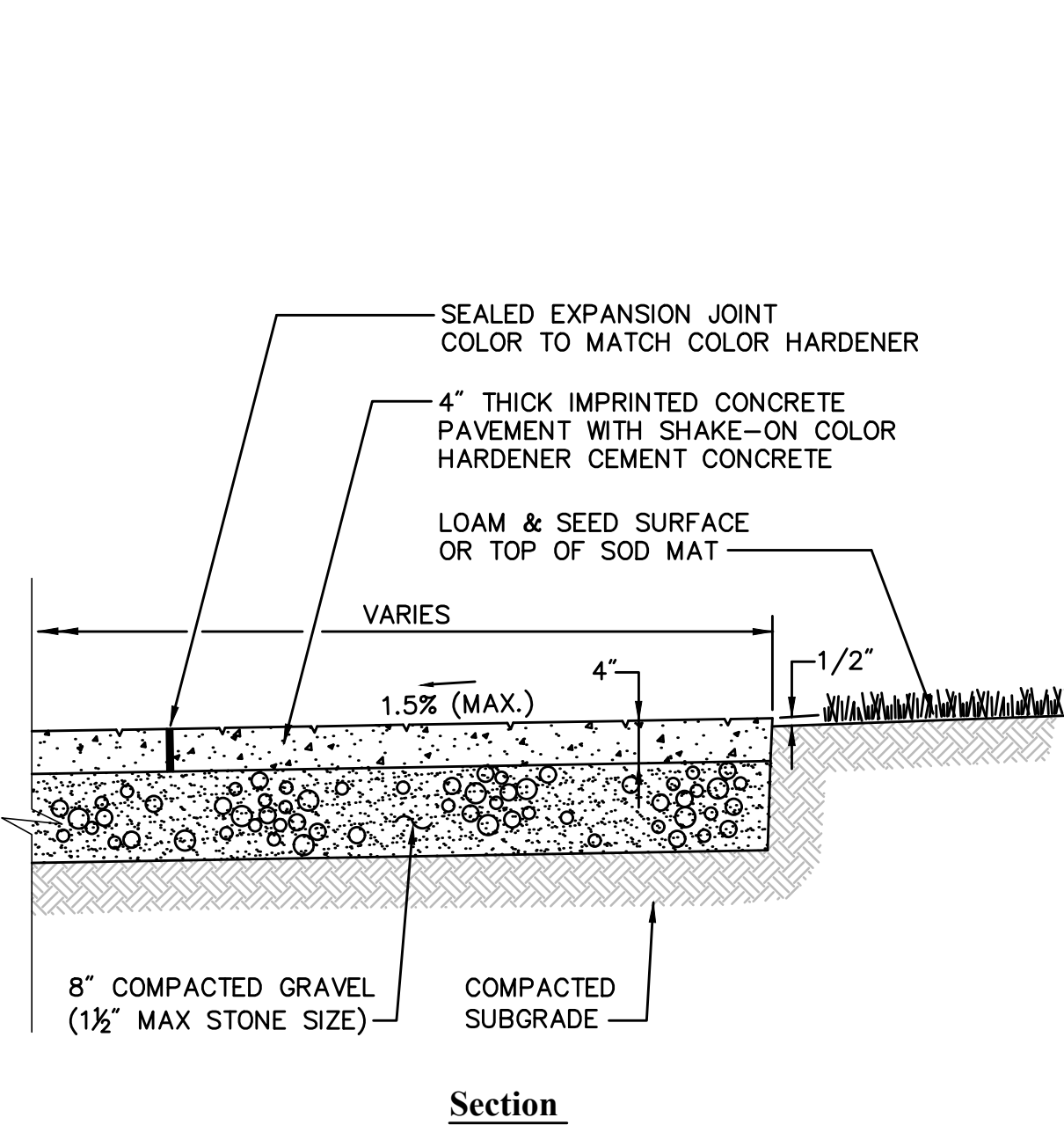
SCALE: N.T.S.



- NOTES
1. GRANITE BOULDERS TO BE PLACED BY STRAPS OR CABLES WITH CARPET TO PREVENT SCARRING.
  2. BOULDERS WITH EXCESSIVE SCARRING WILL BE REJECTED.
  3. BOULDERS SHALL BE WEATHERED FIELD STONE.

### BOULDER INSTALLATION

SCALE: N.T.S.



- NOTES:
1. PROVIDE SEALED EXPANSION JOINTS WITH PREFORMED JOINT FILLER AT 30 FEET OR CLOSER O.C. WHERE NOT OTHERWISE INDICATED ON THE PLANS.

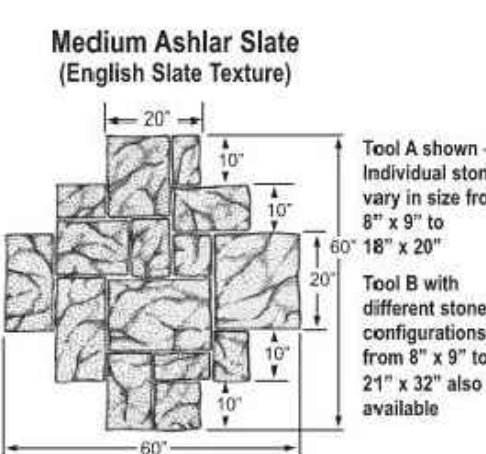
### STAMPED CEMENT CONCRETE

SCALE: N.T.S.

#### STAMPED CONCRETE FIELD

INTEGRAL COLOR:  
TRAVERTINE BEIGE

SHAKE ON COLOR  
HARDENER:  
GOBI DESERT  
LIGHT COPPER



#### STAMPED CONCRETE ACCENT STRIP

INTEGRAL COLOR:  
TRAVERTINE BEIGE

SHAKE ON COLOR  
HARDENER:  
GOBI DESERT  
LIGHT COPPER



- NOTE:
- CONTRACTOR TO SUBMIT COLOR CHART FOR REVIEW AND APPROVAL BY ENGINEER PRIOR TO REQUIRED 48"X48" MOCK UP.

#### ADA COMPLIANCE

##### 303 Changes in Level

303.1 General. Where changes in level are permitted in floor or ground surfaces, they shall comply with 303.

EXCEPTIONS: 1. Animal containment areas shall not be required to comply with 303.

2. Areas of sport activity shall not be required to comply with 303.

303.2 Vertical. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be vertical.



Figure 303.2 Vertical Change in Level

303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and 1/2 inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

Advisory 303.3 Beveled. A change in level of 1/2 inch (13 mm) is permitted to be 1/4 inch (6.4 mm) vertical plus 1/4 inch (6.4 mm) beveled. However, in no case may the combined change in level exceed 1/2 inch (13 mm). Changes in level exceeding 1/2 inch (13 mm) must comply with 405 (Ramps) or 406 (Curb Ramps).

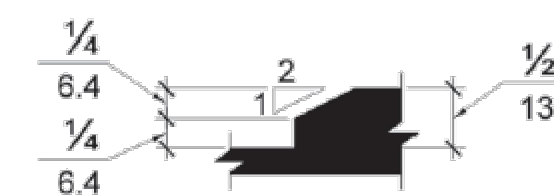
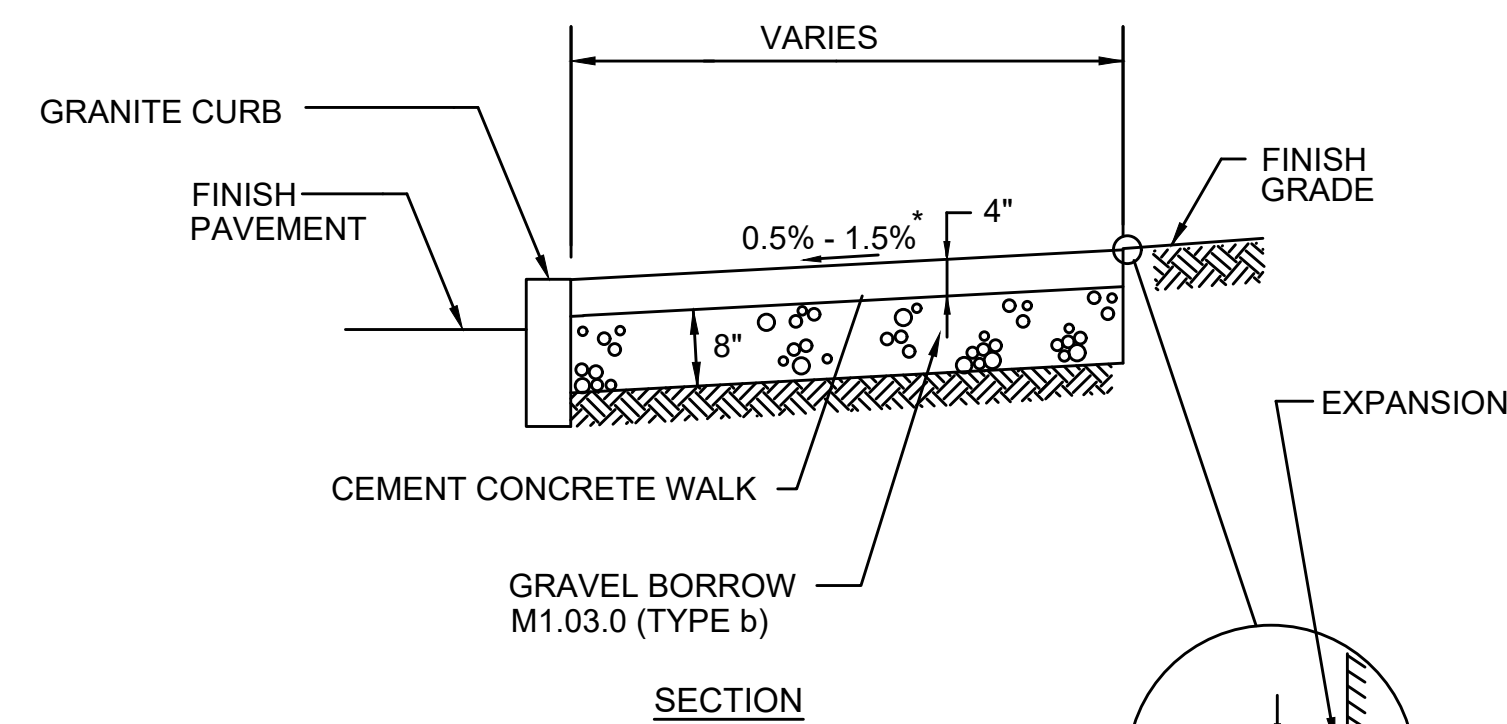


Figure 303.3 Beveled Change in Level



- NOTES:
1. PROVIDE EXPANSION JOINTS AT MIN 30' O.C. WITH PRE-MOULDED JOINT FILLER
  2. PROVIDE TOOLED DUMMY JOINTS PER DETAIL

\* 0.5% CONSTRUCTION TOLERANCE

### CEMENT CONCRETE SIDEWALK

SCALE: N.T.S.

ORDER #1146609

| FOOTINGS TABLE |                 |                 |      |
|----------------|-----------------|-----------------|------|
| TYPE           | DIAMETER/SIDE   | DEPTH           | QTY. |
| A              | 1'-6" (45.72cm) | 2'-6" (76.20cm) | 60   |
| B              | 1'-2" (35.56cm) | 2'-6" (76.20cm) | 22   |
| D              | 2'-0" (60.96cm) | 2'-6" (76.20cm) | 12   |

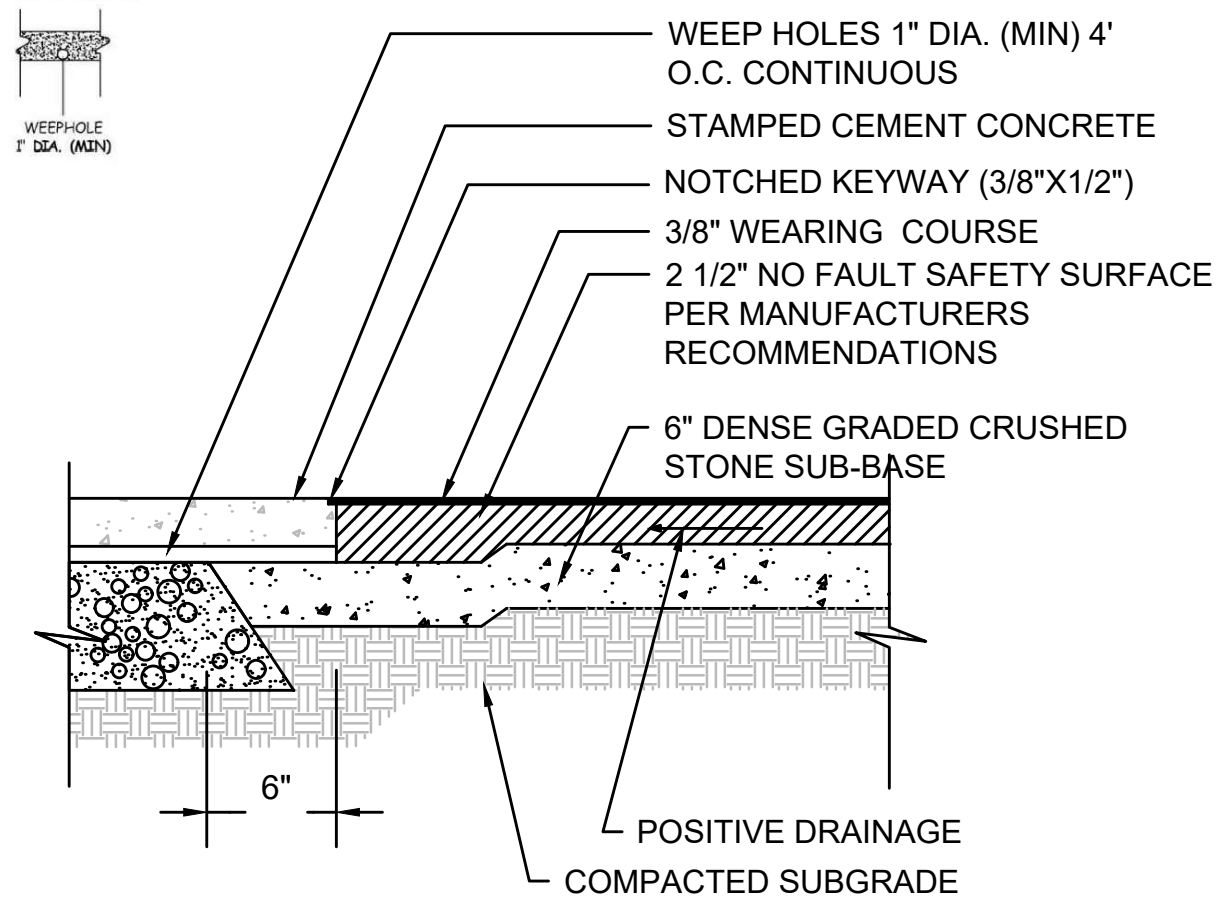
| FOOTINGS ORDNATE TABLE |             |              |             |
|------------------------|-------------|--------------|-------------|
| HOLE                   | X           | Y            | DIAG        |
| 1                      | 51'-10 1/2" | 15'          | 54'         |
| 2                      | 51'-10 1/2" | 4'-4 1/2"    | 52'-0 1/2"  |
| 3                      | 52'-11 1/2" | -21'-9"      | 57'-3"      |
| 4                      | 53'-8 1/2"  | 48'-2 1/2"   | 70'-10 1/2" |
| 5                      | 53'-8 1/2"  | 43'-2 1/2"   | 68'-11"     |
| 6                      | 55'-10 1/2" | 12'-4"       | 57'-2 1/2"  |
| 7                      | 56'-0 1/2"  | 6'-1 1/2"    | 56'-4 1/2"  |
| 8                      | 57'-6"      | -13'-9"      | 58'-1 1/2"  |
| 9                      | 61'         | 16'-1 1/2"   | 63'-1"      |
| 10                     | 61'-1 1/2"  | 15'-8 1/2"   | 63'-1"      |
| 11                     | 61'-1 1/2"  | 11'-8 1/2"   | 62'-2 1/2"  |
| 12                     | 61'-1 1/2"  | 7'-8 1/2"    | 61'-7"      |
| 13                     | 61'-4 1/2"  | -12'-11"     | 62'-8 1/2"  |
| 14                     | 61'-9 1/2"  | 18'-11"      | 84'-7 1/2"  |
| 15                     | 63'-1 1/2"  | 5'-11 1/2"   | 63'-5"      |
| 16                     | 63'-2"      | -13'-0 1/2"  | 64'-6"      |
| 17                     | 65'-1 1/2"  | 15'-8 1/2"   | 66'-11 1/2" |
| 18                     | 65'-1 1/2"  | 11'-8 1/2"   | 66'-2"      |
| 19                     | 65'-1 1/2"  | 7'-8 1/2"    | 65'-7"      |
| 20                     | 65'-1 1/2"  | -11'-10 1/2" | 66'-11"     |
| 21                     | 65'-10"     | 46'-2 1/2"   | 80'-8"      |
| 22                     | 66'-1 1/2"  | 43'-2 1/2"   | 79'         |
| 23                     | 67'-1 1/2"  | 21'-1"       | 70'-4"      |
| 24                     | 67'-2"      | -7'-9"       | 67'-7"      |
| 25                     | 67'-4 1/2"  | -4'-7"       | 67'-6 1/2"  |
| 26                     | 68'-11 1/2" | -23'-0 1/2"  | 72'-8 1/2"  |
| 27                     | 69'-1 1/2"  | 15'-8 1/2"   | 70'-10 1/2" |
| 28                     | 69'-1 1/2"  | 11'-8 1/2"   | 70'-1"      |
| 29                     | 69'-1 1/2"  | 7'-8 1/2"    | 69'-6 1/2"  |
| 30                     | 70'-1"      | -10'-11"     | 70'-11"     |
| 31                     | 70'-2"      | 10'-9 1/2"   | 71'         |
| 32                     | 70'-2"      | 8'-7"        | 70'-8"      |
| 33                     | 70'-6 1/2"  | 7'-3 1/2"    | 70'-11"     |
| 34                     | 71'-4 1/2"  | 9'-5"        | 72'         |
| 35                     | 71'-6 1/2"  | 1'-4 1/2"    | 71'-6 1/2"  |
| 36                     | 71'-10"     | 1'-10"       | 71'-10 1/2" |
| 37                     | 72'-7"      | -12'-8"      | 73'-8"      |
| 38                     | 72'-9 1/2"  | 7'-3 1/2"    | 73'-2"      |
| 39                     | 72'-11"     | -22'-5"      | 76'-3 1/2"  |
| 40                     | 73'-3"      | 8'-11"       | 73'-9 1/2"  |
| 41                     | 74'-5 1/2"  | 16'-1 1/2"   | 76'-2"      |
| 42                     | 74'-5 1/2"  | 13'-11 1/2"  | 75'-9"      |
| 43                     | 75'-8"      | 7"           | 75'-8"      |
| 44                     | 75'-8 1/2"  | -19'-3"      | 78'-1"      |
| 45                     | 75'-11"     | -19'-9"      | 78'-5 1/2"  |
| 46                     | 78'-2"      | -2'-6 1/2"   | 78'-2 1/2"  |
| 47                     |             |              |             |

| FOOTINGS ORDNATE TABLE |             |             |             |
|------------------------|-------------|-------------|-------------|
| HOLE                   | X           | Y           | DIAG        |
| 48                     | 78'-6 1/2"  | 46'-2 1/2"  | 91'-2"      |
| 49                     | 78'-6 1/2"  | 43'-2 1/2"  | 89'-8"      |
| 50                     | -10'-4 1/2" | -35'-11"    | 37'-4 1/2"  |
| 51                     | -8'-4 1/2"  | -32'-5 1/2" | 33'-6"      |
| 52                     | -8'-4 1/2"  | -39'-4 1/2" | 40'-3"      |
| 53                     | -8'-3"      | 42'-7 1/2"  | 43'-5"      |
| 54                     | -8'-3"      | 39'-7 1/2"  | 40'-5 1/2"  |
| 55                     | -4'-4 1/2"  | -32'-5 1/2" | 32'-9"      |
| 56                     | -4'-4 1/2"  | -39'-4 1/2" | 39'-7 1/2"  |
| 57                     | -4'-3 1/2"  | -3'-8"      | 5'-8"       |
| 58                     | -2'-4 1/2"  | -35'-11"    | 36'         |
| 59                     | 0"          | 0"          | 0"          |
| 60                     | 0"          | -3'         | 3'          |
| 61                     | 1'-6"       | 1'-7"       | 2'-2"       |
| 62                     | 1'-6"       | -8'-5"      | 8'-6 1/2"   |
| 63                     | 3'          | 0"          | 0"          |
| 64                     | 3'          | -3'         | 4'-3"       |
| 65                     | 3'-4 1/2"   | 2'-3 1/2"   | 4'-1"       |
| 66                     | 4'-2 1/2"   | 42'-7 1/2"  | 42'-10"     |
| 67                     | 4'-2 1/2"   | 39'-7 1/2"  | 39'-10"     |
| 68                     | 4'-9 1/2"   | 3'-6"       | 5'-11"      |
| 69                     | 5'-3"       | 5'-4 1/2"   | 7'-6 1/2"   |
| 70                     | 5'-7"       | 2'-3 1/2"   | 6'-0 1/2"   |
| 71                     | 5'-9 1/2"   | -43'-5"     | 43'-9 1/2"  |
| 72                     | 6'          | 0"          | 6'          |
| 73                     | 6'          | -3'         | 6'-8 1/2"   |
| 74                     | 6'-10 1/2"  | 4'-11"      | 8'-5 1/2"   |
| 75                     | 6'-10 1/2"  | 2'-8"       | 7'-4 1/2"   |
| 76                     | 8'-6"       | -42'-2"     | 43'         |
| 77                     | 9'-1 1/2"   | -10"        | 9'-2"       |
| 78                     | 10'-4 1/2"  | -2'-3"      | 10'-7"      |
| 79                     | 11'-6"      | -42'-2"     | 43'-8 1/2"  |
| 80                     | 11'-9 1/2"  | 10'-6 1/2"  | 15'-10"     |
| 81                     | 13'-8 1/2"  | -4'-3 1/2"  | 14'-4 1/2"  |
| 82                     | 14'-2 1/2"  | -43'-5"     | 45'-8 1/2"  |
| 83                     | 14'-5"      | 11'-10"     | 18'-7 1/2"  |
| 84                     | 14'-6"      | 6'-5 1/2"   | 15'-10 1/2" |
| 85                     | 15'-1"      | 15'-8 1/2"  | 21'-9 1/2"  |
| 86                     | 15'-5 1/2"  | 14'-6 1/2"  | 21'-2 1/2"  |
| 87                     | 15'-7 1/2"  | -3'-10"     | 16'-1 1/2"  |
| 88                     | 16'-7 1/2"  | 42'-7 1/2"  | 45'-9"      |
| 89                     | 16'-7 1/2"  | 39'-7 1/2"  | 42'-11 1/2" |
| 90                     | 17'-2"      | -37'-5"     | 41'-2"      |
| 91                     | 17'-11"     | 1'-9 1/2"   | 18'-0 1/2"  |
| 92                     | 18'-5"      | -1'-4 1/2"  | 18'-5 1/2"  |
| 93                     | 20'-9"      | -3'-3"      | 21'         |
| 94                     | 24'-8"      | -2'-4"      | 24'-9 1/2"  |

PLAYGROUND FOOTING SCHEDULE

SCALE: N.T.S.

SECTION DETAIL



PLAYGROUND SURFACE DETAIL

SCALE: N.T.S.

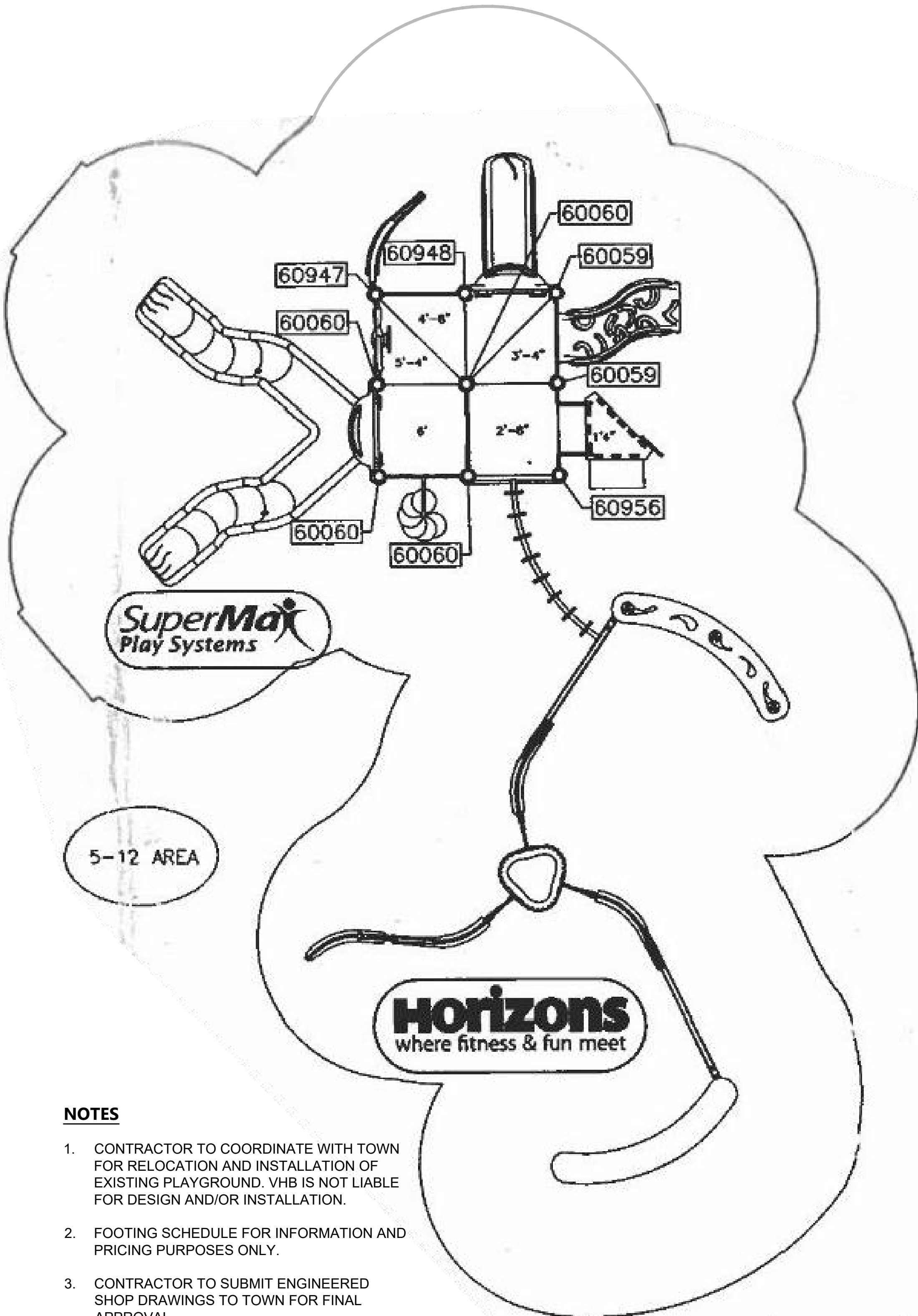
ORDER #1146609

UPRIGHT INFORMATION

| UPRIGHT | DESCRIPTION               |
|---------|---------------------------|
| 60059   | 10' GENERIC UPRIGHT w/CAP |
| 60060   | 12' GENERIC UPRIGHT w/CAP |
| 60178   | 8' GENERIC UPRIGHT w/CAP  |
| 60947   | 13' GENERIC UPRIGHT w/CAP |
| 60948   | 11' GENERIC UPRIGHT w/CAP |
| 60956   | 9' GENERIC UPRIGHT w/CAP  |
| 62007   | 10' GENERIC UPRIGHT w/CAP |
| 62008   | 12' GENERIC UPRIGHT w/CAP |
| 62013   | 6' GENERIC UPRIGHT w/CAP  |
| 62021   | 8' GENERIC UPRIGHT w/CAP  |

PLAYGROUND PART LIST

SCALE: N.T.S.



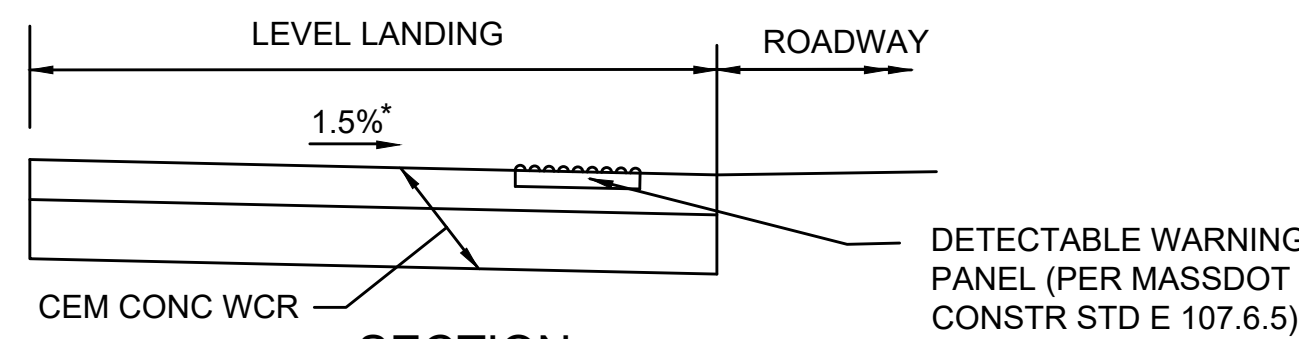
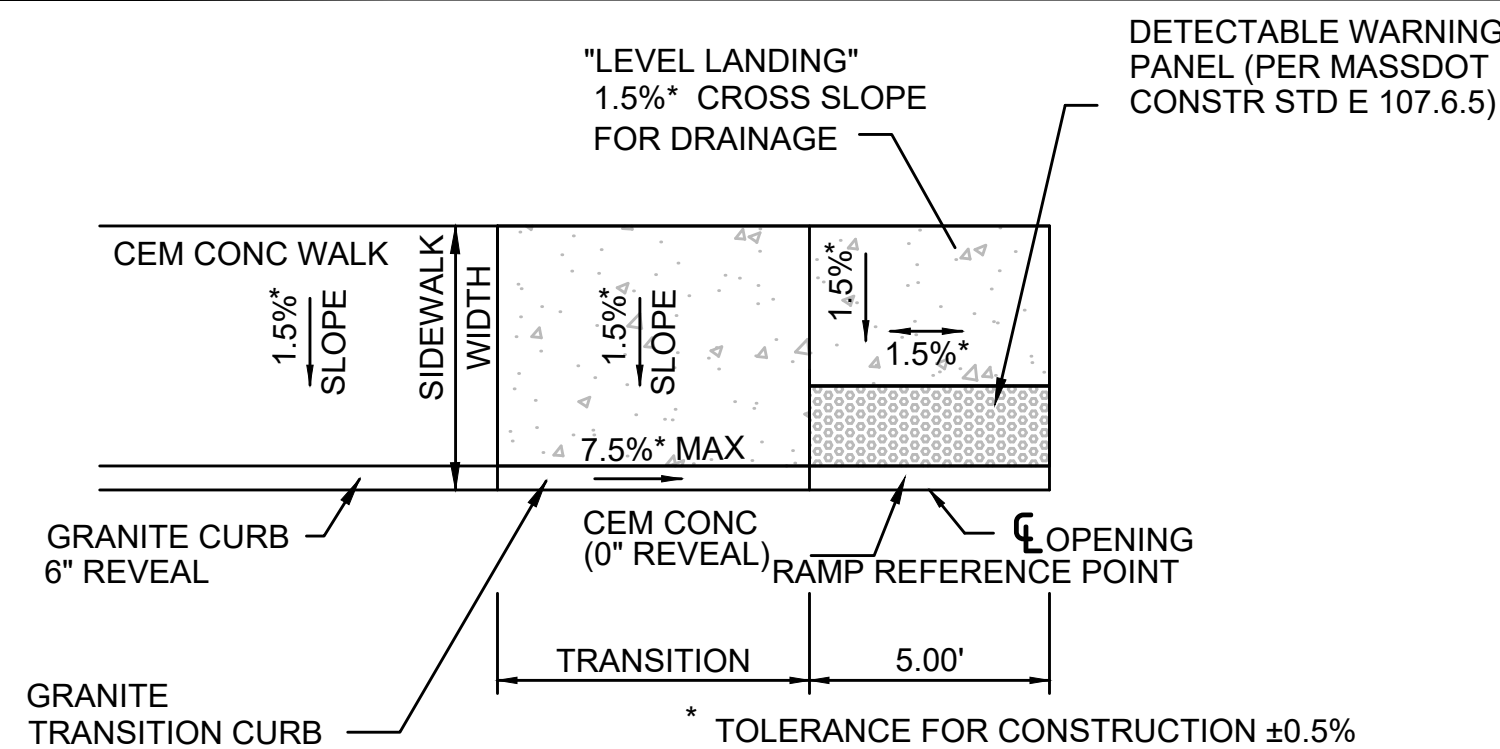
NOTES

- CONTRACTOR TO COORDINATE WITH TOWN FOR RELOCATION AND INSTALLATION OF EXISTING PLAYGROUND. VHB IS NOT LIABLE FOR DESIGN AND/OR INSTALLATION.
- FOOTING SCHEDULE FOR INFORMATION AND PRICING PURPOSES ONLY.
- CONTRACTOR TO SUBMIT ENGINEERED SHOP DRAWINGS TO TOWN FOR FINAL APPROVAL.
- PARTS LIST FOR INFORMATION ONLY.

PLAYGROUND PLAN

SCALE: N.T.S.

**SOUTHBOROUGH  
VARIOUS LOCATIONS  
CONSTRUCTION DETAILS  
SHEET 108 OF 141**



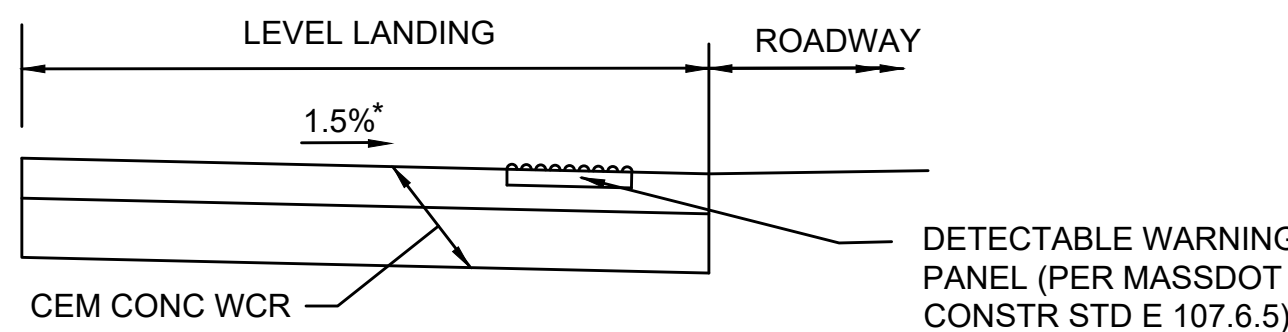
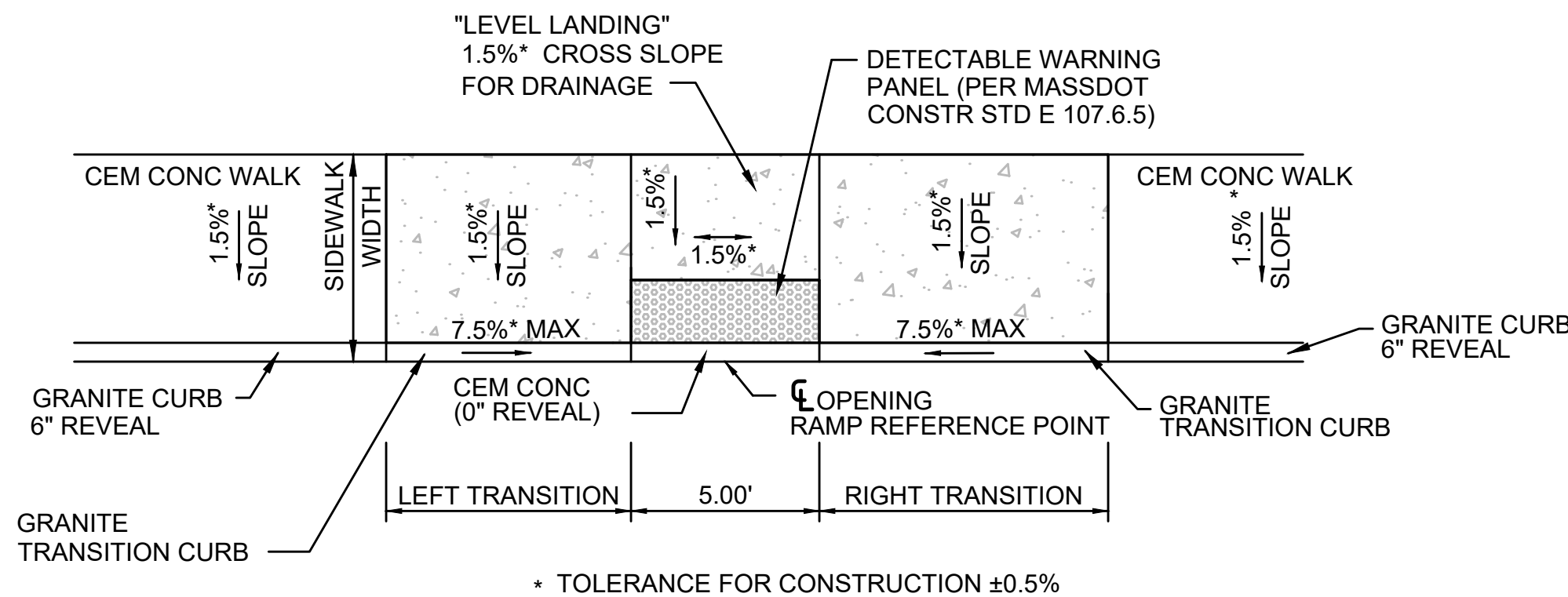
\* TOLERANCE FOR CONSTRUCTION  $\pm 0.5\%$

| WHEELCHAIR RAMP DATA |                                               |                   |                  |                   |            |       |        |
|----------------------|-----------------------------------------------|-------------------|------------------|-------------------|------------|-------|--------|
| NO.                  | LOCATION                                      | SIDEWALK<br>WIDTH | OPENING<br>WIDTH | ROADWAY<br>GUTTER | TRANSITION |       | ℄ ELEV |
|                      |                                               |                   |                  |                   | REVEAL     | TRANS |        |
| 3                    | MARLBORO ROAD (RT. 85)<br>716+37.90, 23.6' LT | 5.5'              | 5.0'             | 1.3%              | 6"         | 6'-6" | 320.71 |

GUTTER SLOPES ARE IN THE DIRECTION OF THE BASELINE

## WHEELCHAIR RAMP - ONE SIDE TRANSITION

SCALE: N.T.S.



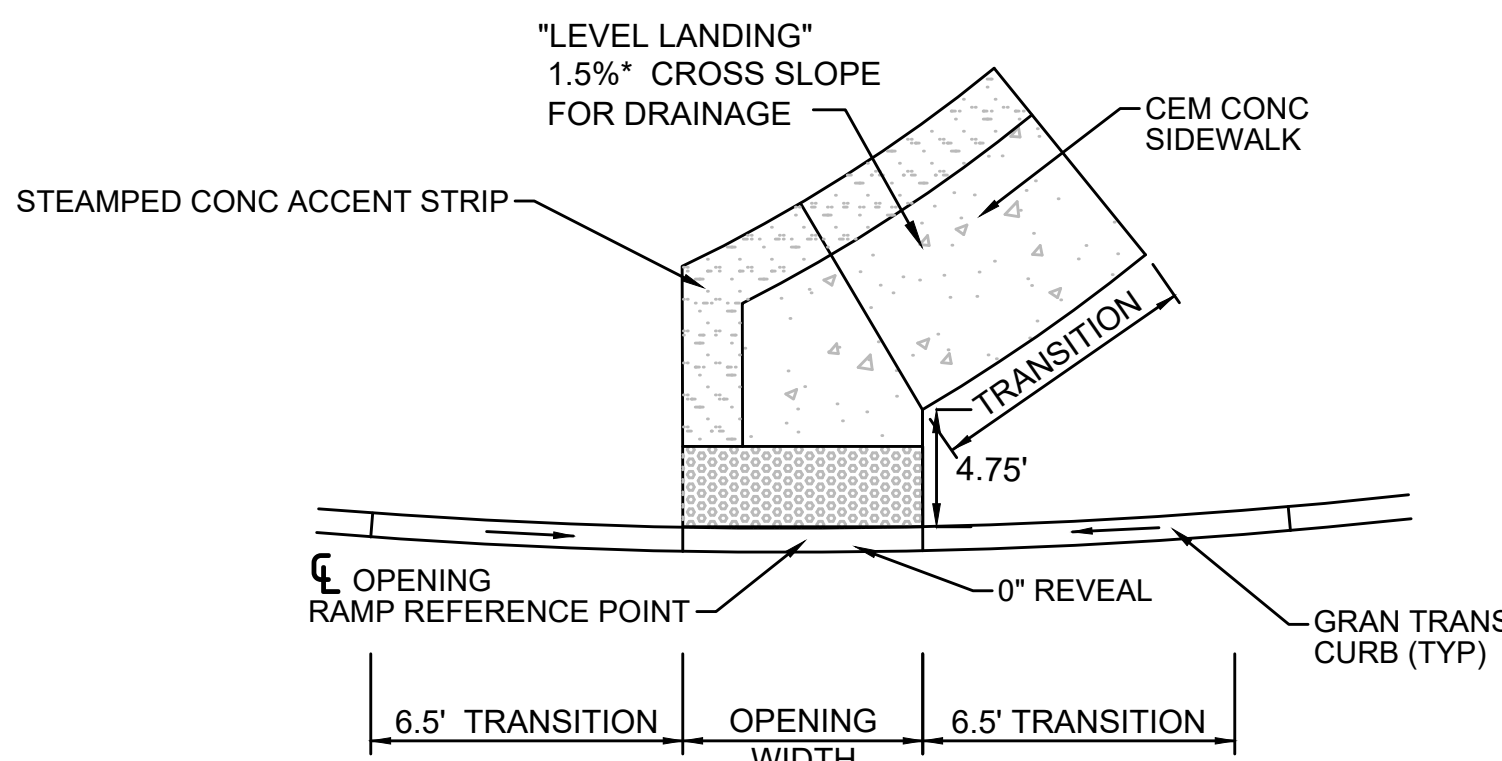
SECTION

| WHEELCHAIR RAMP DATA |                                               |                |               |                |           |        |            |       |        |
|----------------------|-----------------------------------------------|----------------|---------------|----------------|-----------|--------|------------|-------|--------|
| NO.                  | LOCATION                                      | SIDEWALK WIDTH | OPENING WIDTH | ROADWAY GUTTER | LEFT SIDE |        | RIGHT SIDE |       | ℄ ELEV |
|                      |                                               |                |               |                | REVEAL    | TRANS  | REVEAL     | TRANS |        |
| 1                    | ST MARKS STREET<br>12+56.26, 12.0' LT         | 5.5'           | 5.0'          | -2.6%          | 6"        | 11'-0" | 6"         | 6'-6" | 323.11 |
| 4                    | MARLBORO ROAD (RT. 85)<br>717+00.70, 23.3' LT | 5.5'           | 5.0'          | 1.5%           | 6"        | 6'-6"  | 6"         | 9'-0" | 321.61 |
| 5                    | MARLBORO ROAD (RT. 85)<br>719+59.68, 13.0' LT | 5.5'           | 5.0'          | -0.3%          | 6"        | 7'-8"  | 6"         | 6'-6" | 323.9  |

GUTTER SLOPES ARE IN THE DIRECTION OF THE BASELINE

## WHEELCHAIR RAMP - TWO SIDE TRANSITION

SCALE: N.T.S.

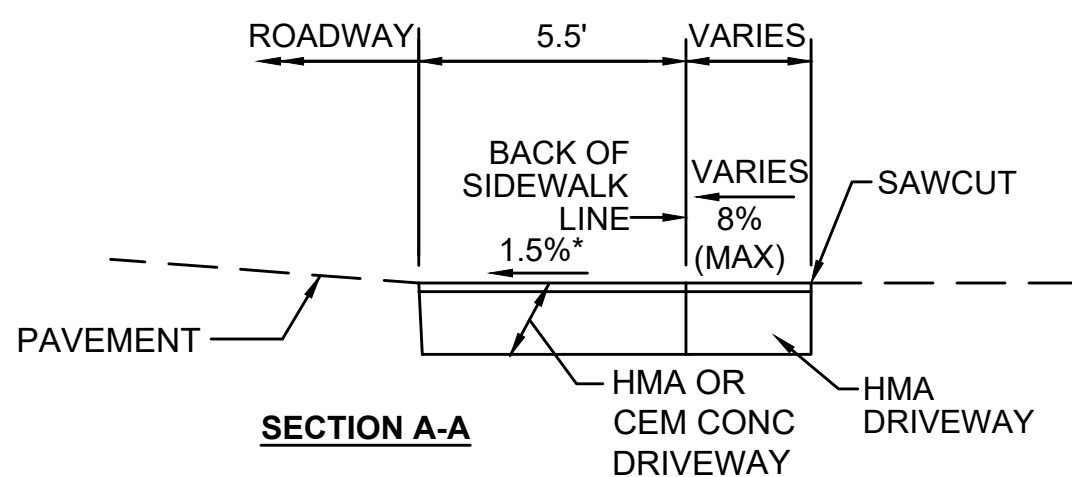
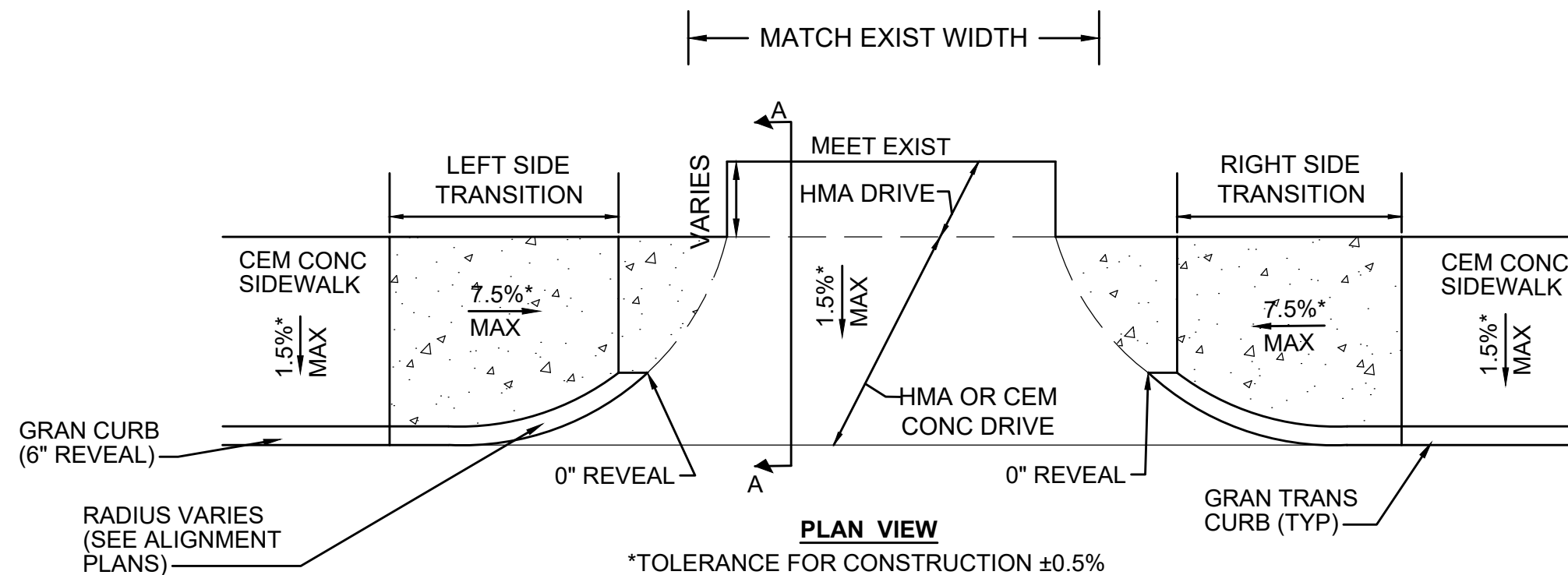


| WHEELCHAIR RAMP DATA |                                       |                   |                  |                   |            |       |        |
|----------------------|---------------------------------------|-------------------|------------------|-------------------|------------|-------|--------|
| NO.                  | LOCATION                              | SIDEWALK<br>WIDTH | OPENING<br>WIDTH | ROADWAY<br>GUTTER | TRANSITION |       | ℓ ELEV |
|                      |                                       |                   |                  |                   | REVEAL     | TRANS |        |
| 2                    | ST MARKS STREET<br>12+56.05, 12.0' RT | 6.0'              | 8.0'             | -3.0%             | 6"         | 6'-6" | 322.64 |

GUTTER SLOPES ARE IN THE DIRECTION OF THE BASELINE

## WHEELCHAIR RAMP - PARK SIDEWALK

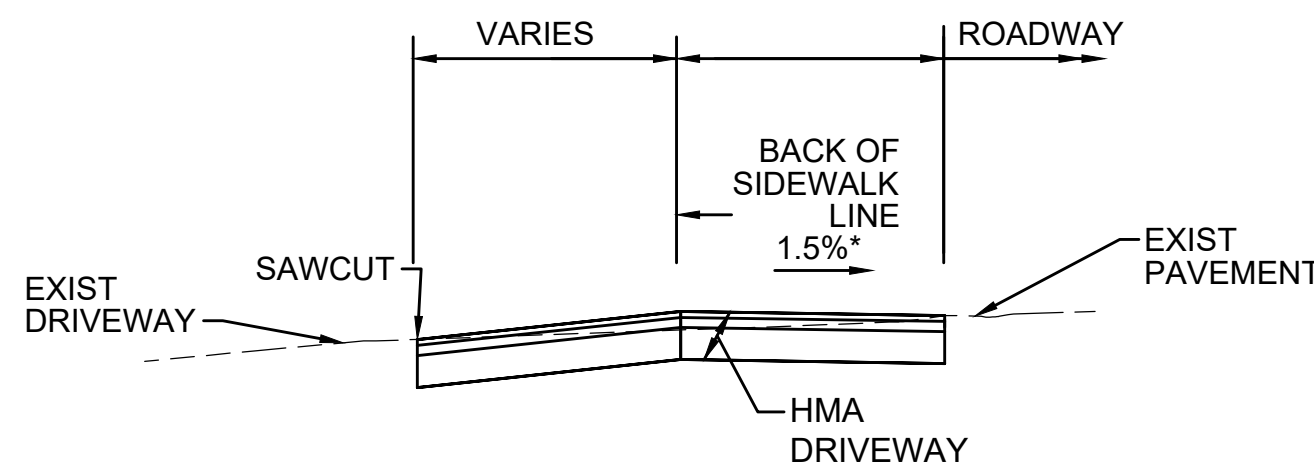
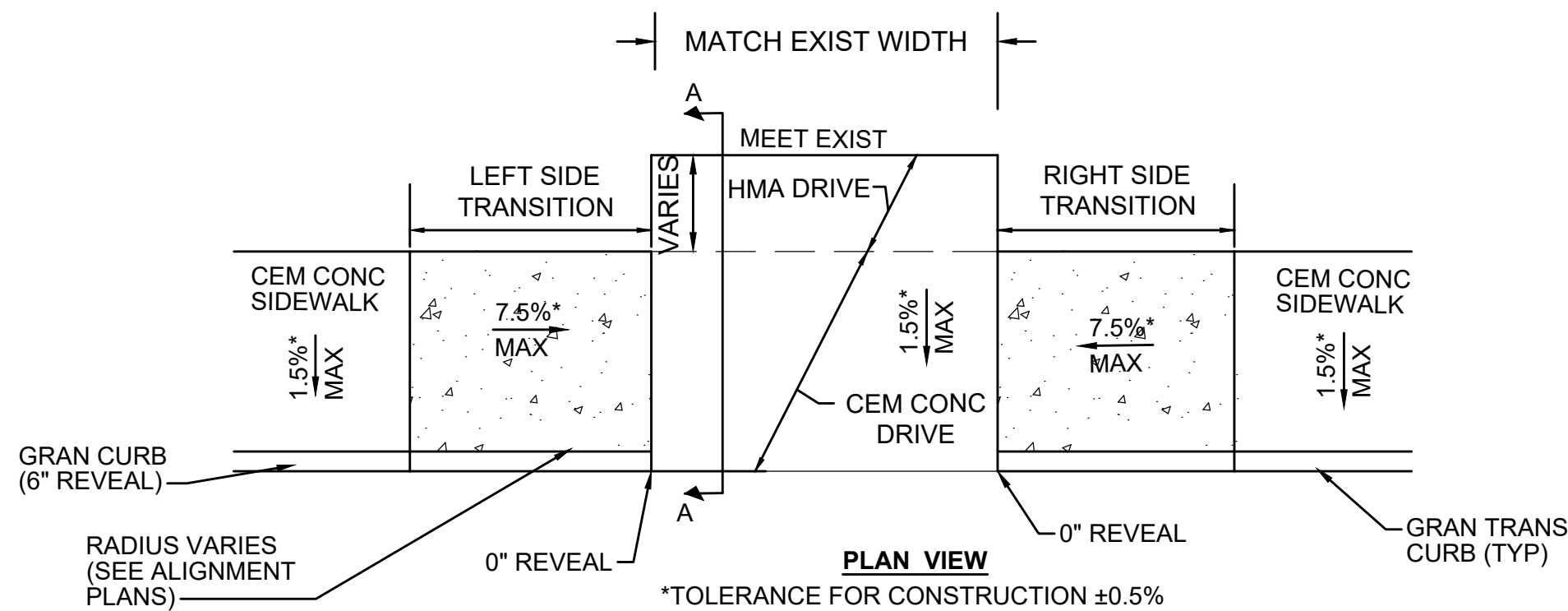
SCALE: N.T.S.



| DRIVEWAY DATA |                       |                   |                   |           |        |            |        |                  |
|---------------|-----------------------|-------------------|-------------------|-----------|--------|------------|--------|------------------|
| NO.           | LOCATION              | SIDEWALK<br>WIDTH | ROADWAY<br>GUTTER | LEFT SIDE |        | RIGHT SIDE |        | OPENING<br>ELEV. |
|               |                       |                   |                   | REVEAL    | TRANS  | REVEAL     | TRANS  |                  |
| 1             | 10+23.73<br>9.5' LT   | 5.5'              | -1.1%             | 6"        | 9'-0"  | 6"         | 6'-6"  | 331.17           |
| 2             | 12+08.00<br>12.0' LT  | 5.5'              | -3.8%             | 6"        | 14'-0" | 6"         | 6'-6"  | 324.74           |
| 3             | 13+13.89<br>12.0' LT  | 5.5'              | -1.2%             | 6"        | 9'-0"  | 6"         | 6'-6"  | 321.92           |
| 4             | 714+24.99<br>13.0' LT | 5.5'              | 3.2%              | 6"        | 6'-6"  | 6"         | 14'-0" | 314.64           |

## CEMENT CONCRETE WALK AT DRIVE - CURVED CURB TRANSITIONS

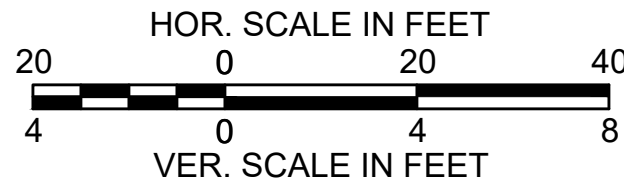
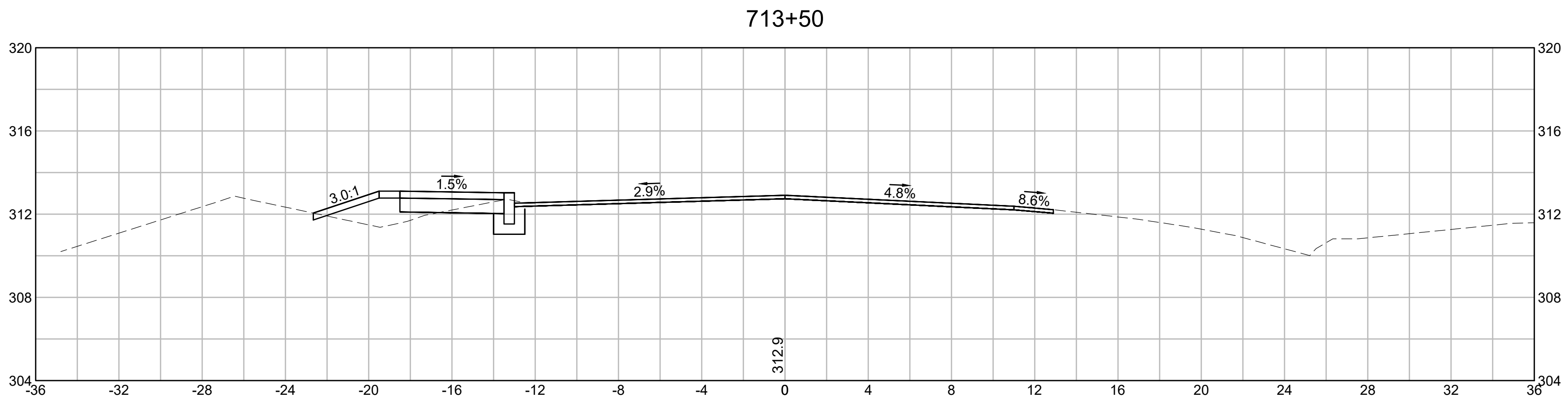
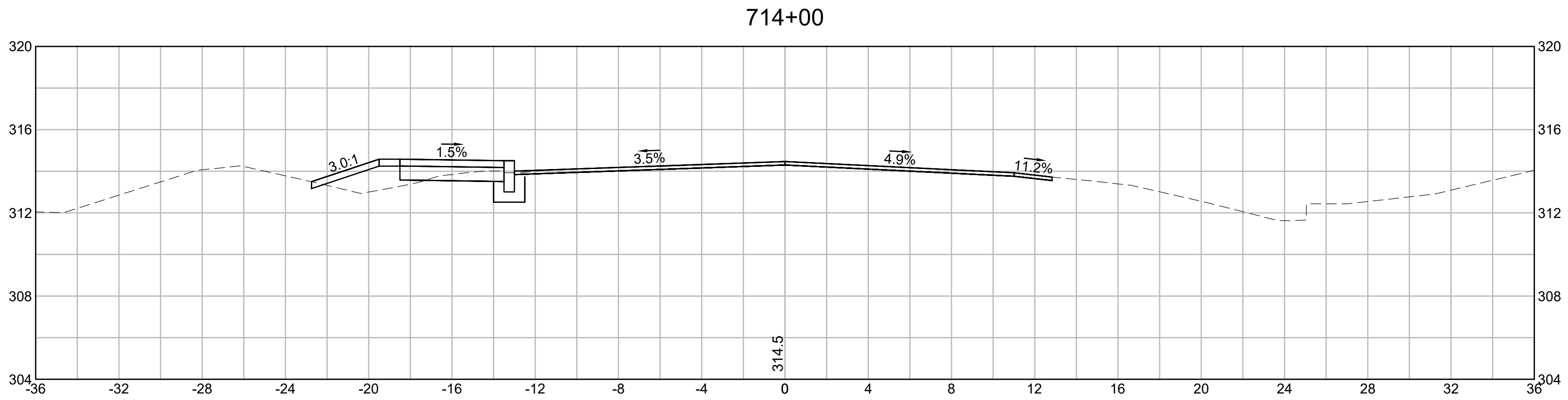
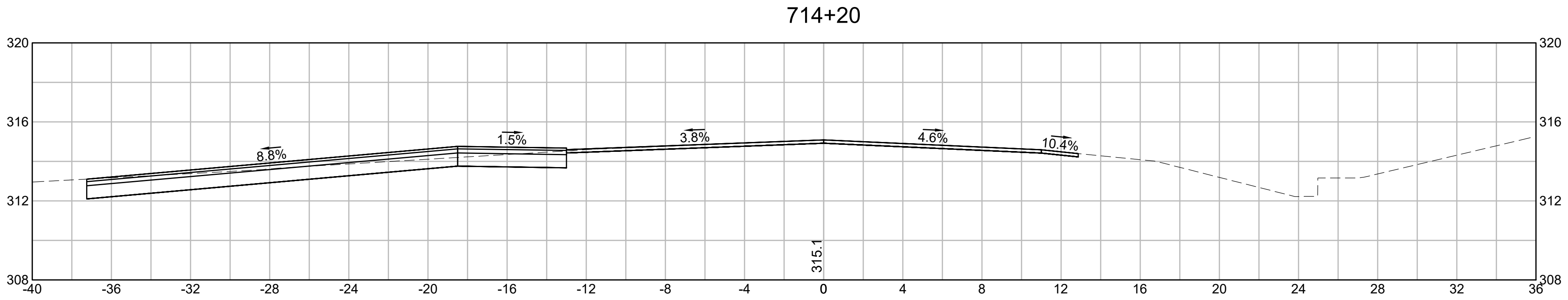
SCALE: NTS

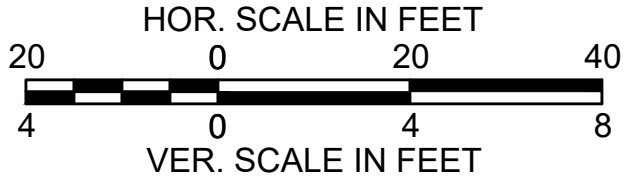
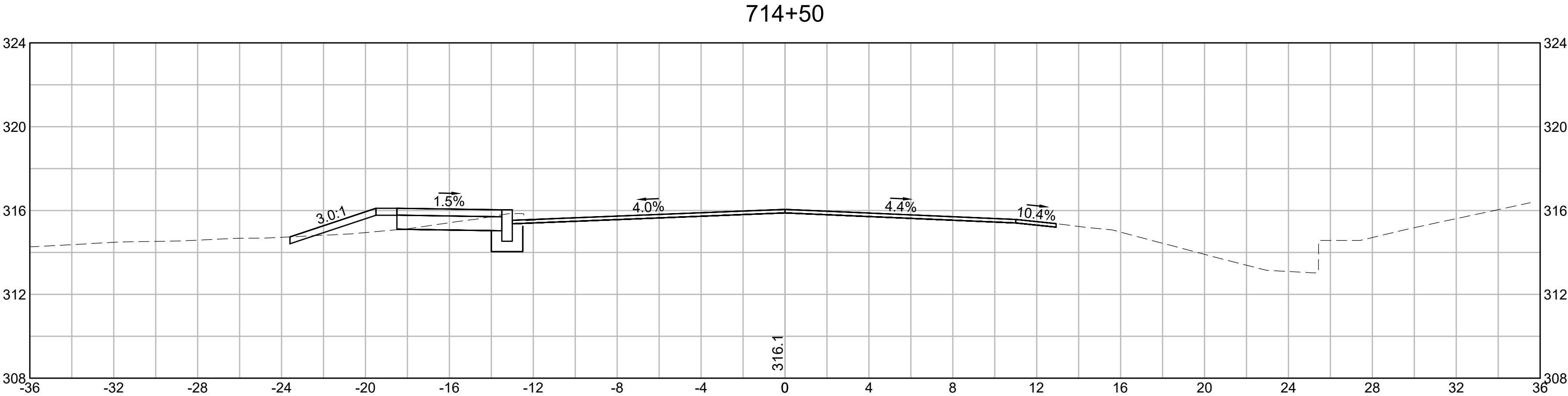
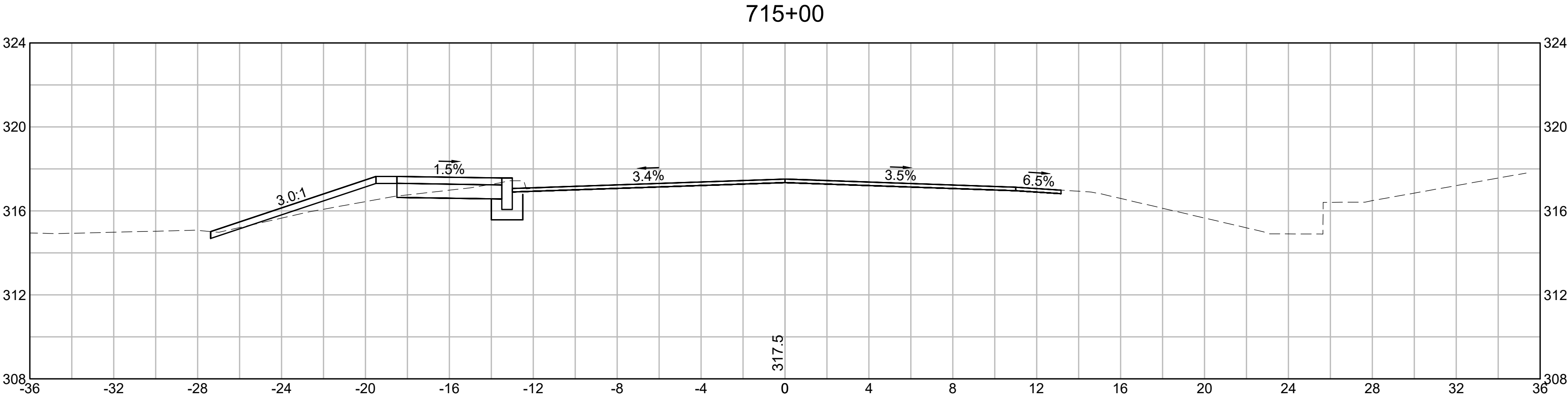
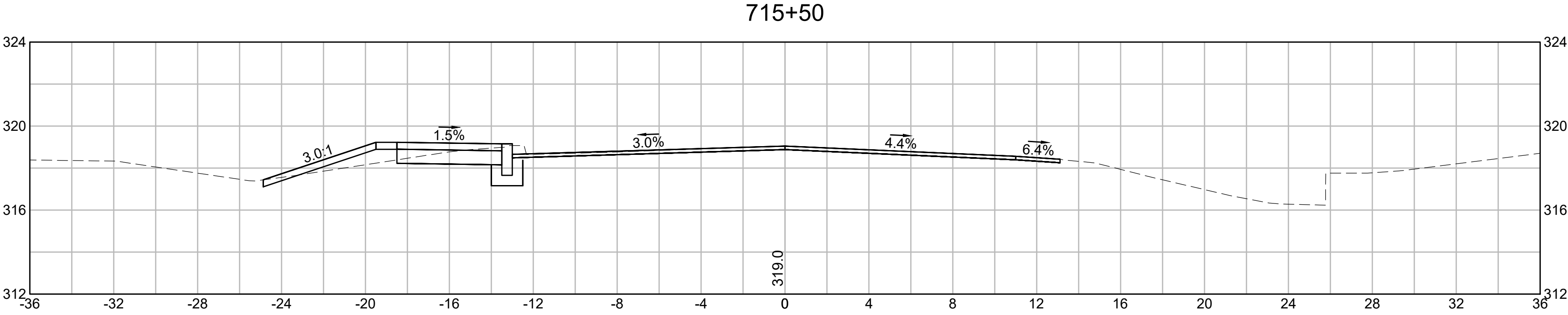


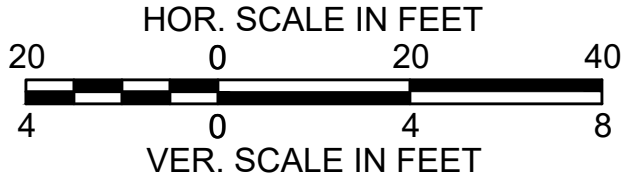
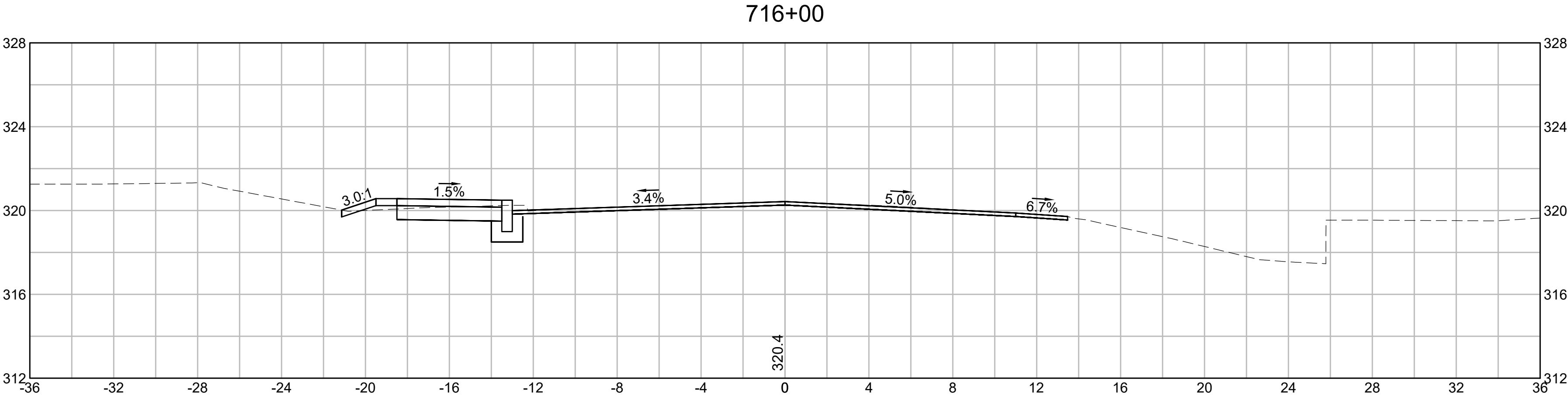
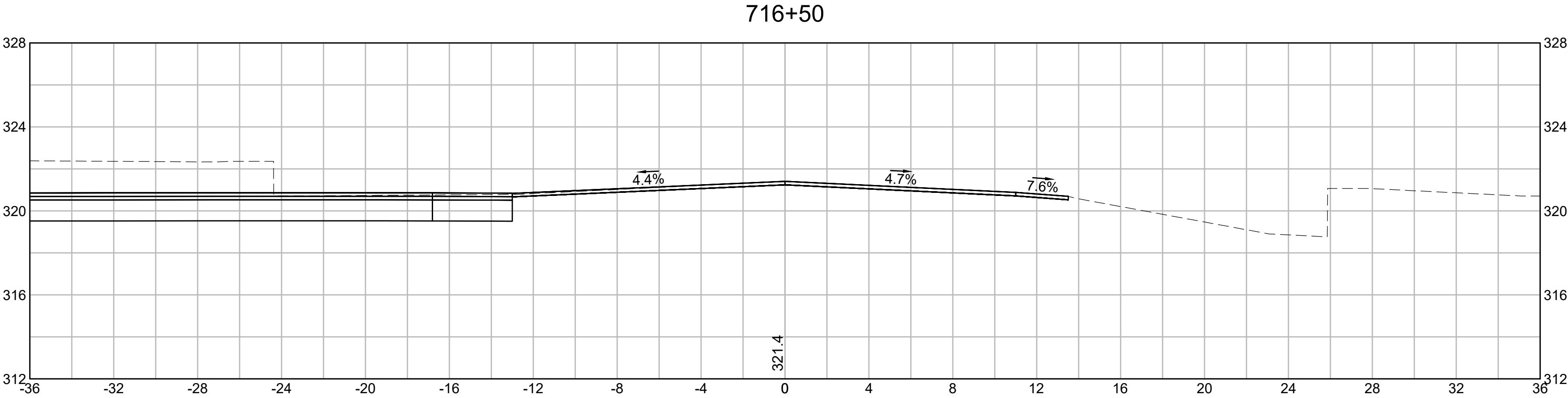
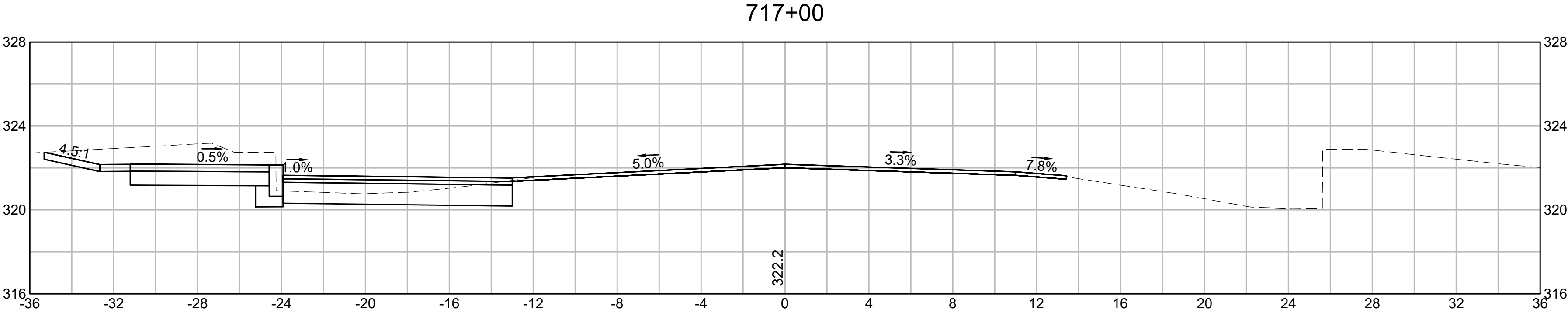
| DRIVEWAY DATA |                       |                   |                   |           |       |            |       |                  |
|---------------|-----------------------|-------------------|-------------------|-----------|-------|------------|-------|------------------|
| NO.           | LOCATION              | SIDEWALK<br>WIDTH | ROADWAY<br>GUTTER | LEFT SIDE |       | RIGHT SIDE |       | OPENING<br>ELEV. |
|               |                       |                   |                   | REVEAL    | TRANS | REVEAL     | TRANS |                  |
| 5             | 720+65.44<br>13.0' LT | 5.5'              | -0.8%             | 6"        | 7'-8" | 6"         | 6'-6" | 323.5            |

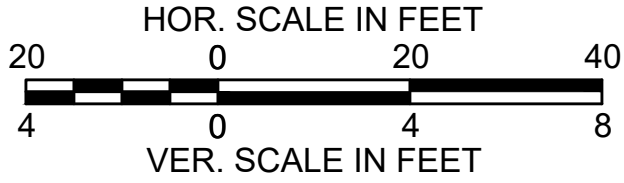
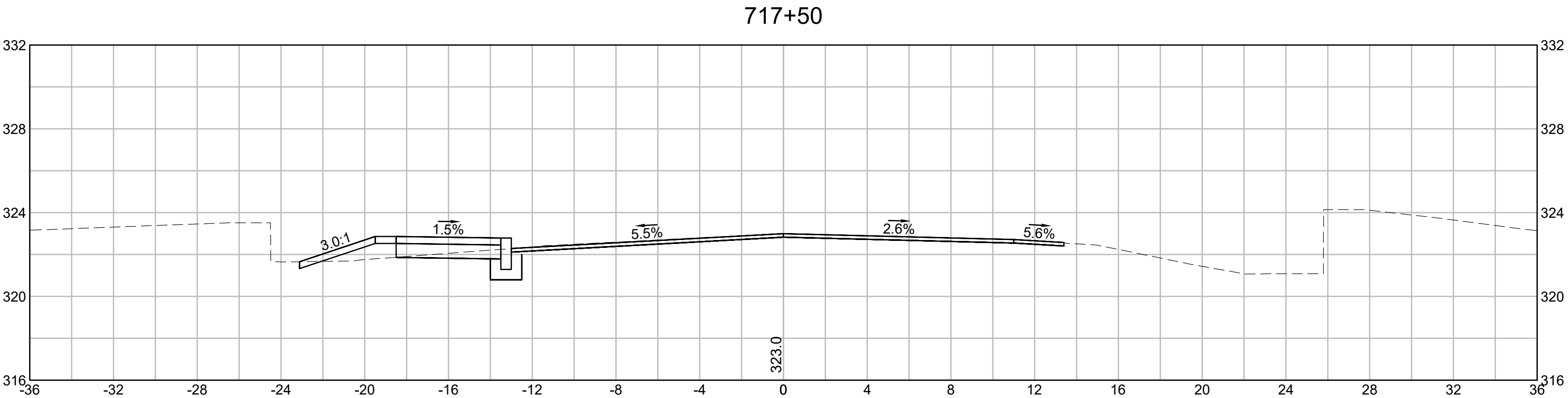
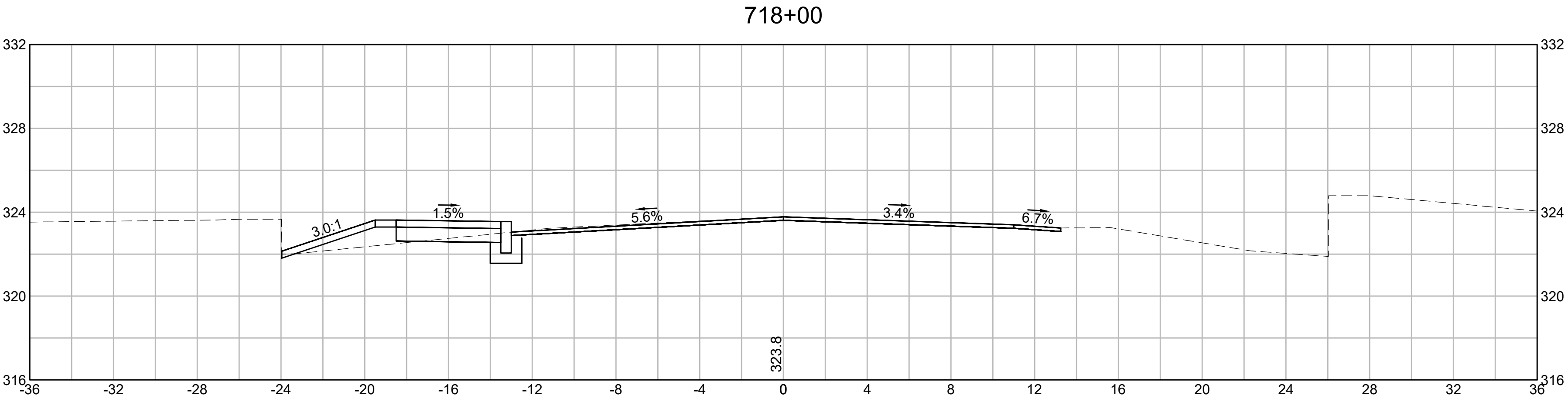
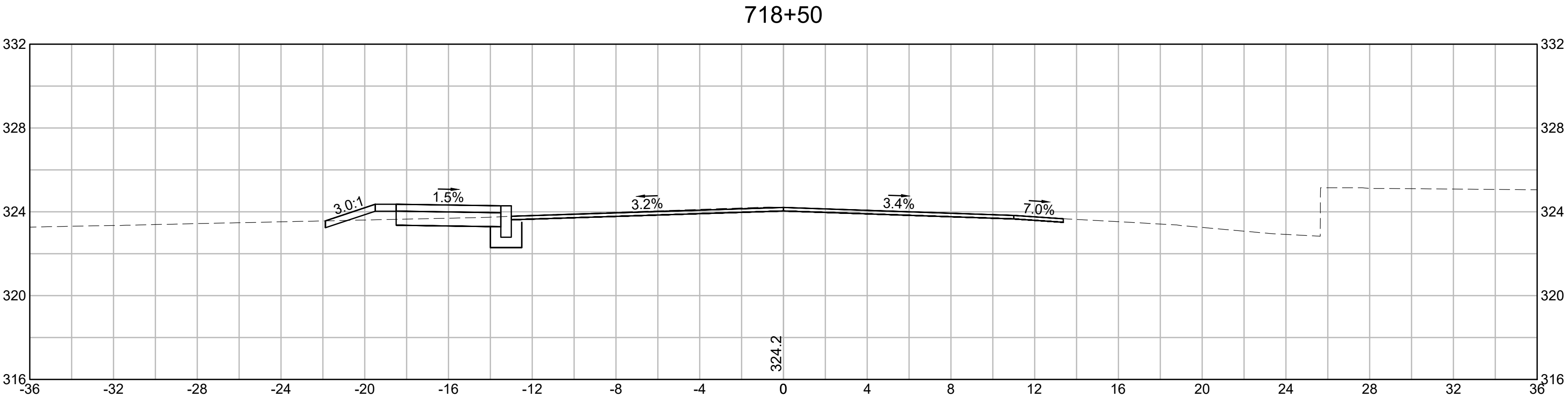
### CEMENT CONCRETE WALK AT DRIVE - TWO SIDE TRANSITION

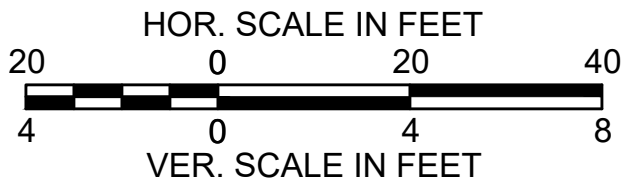
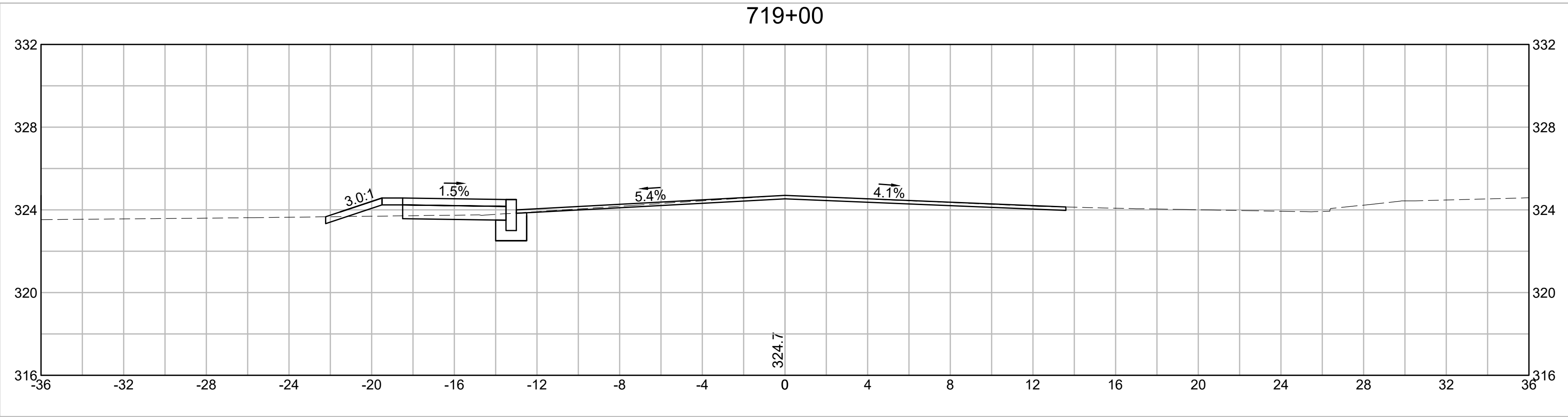
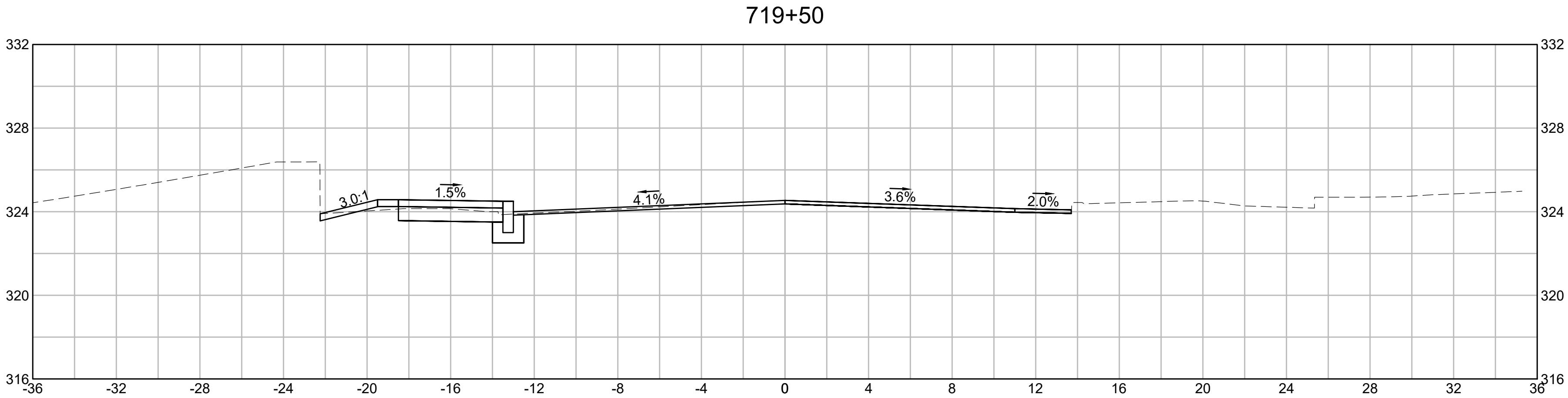
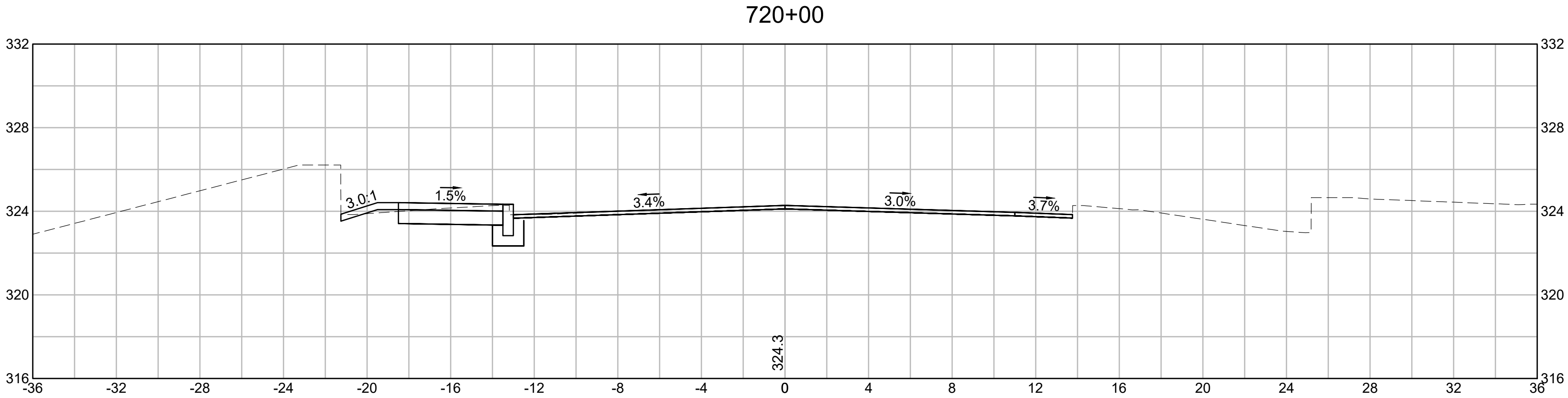
SCALE: NTS

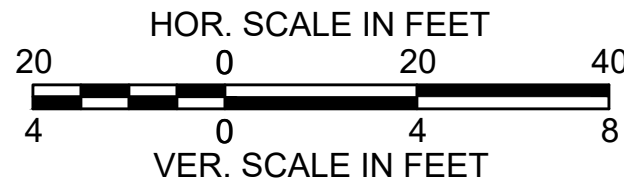
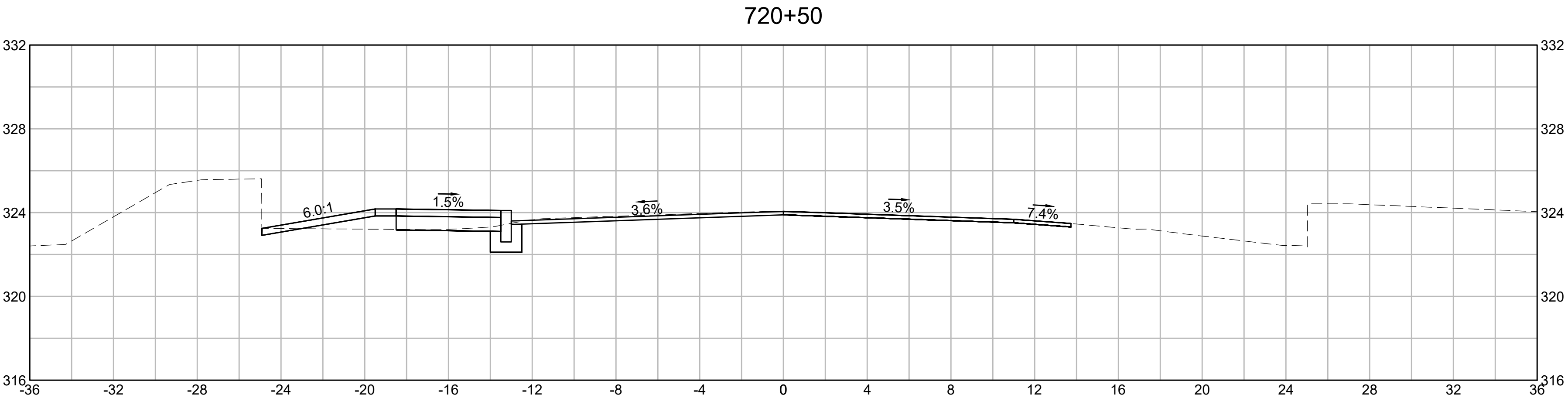
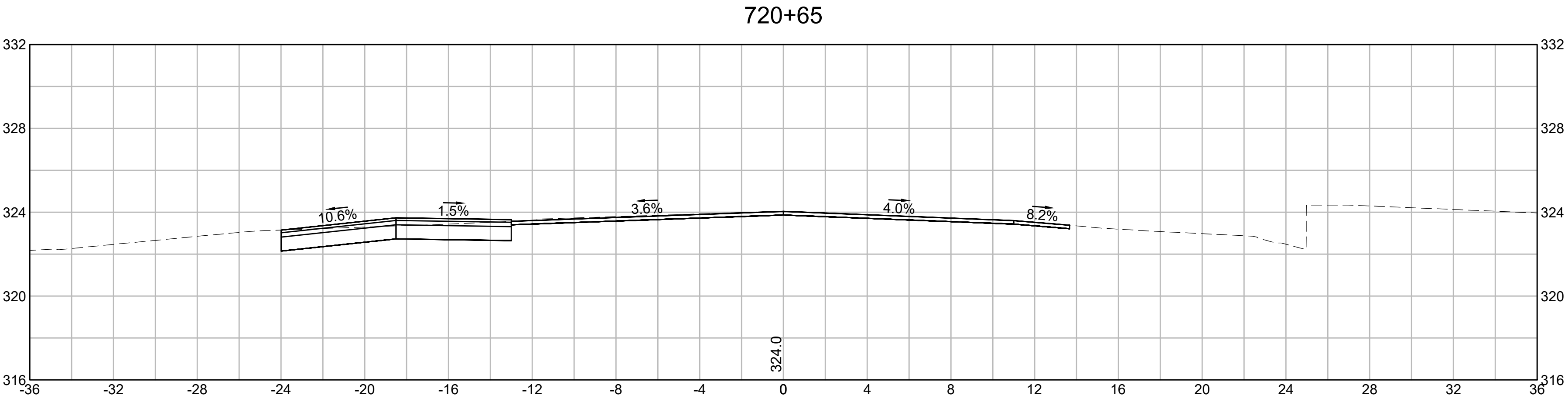
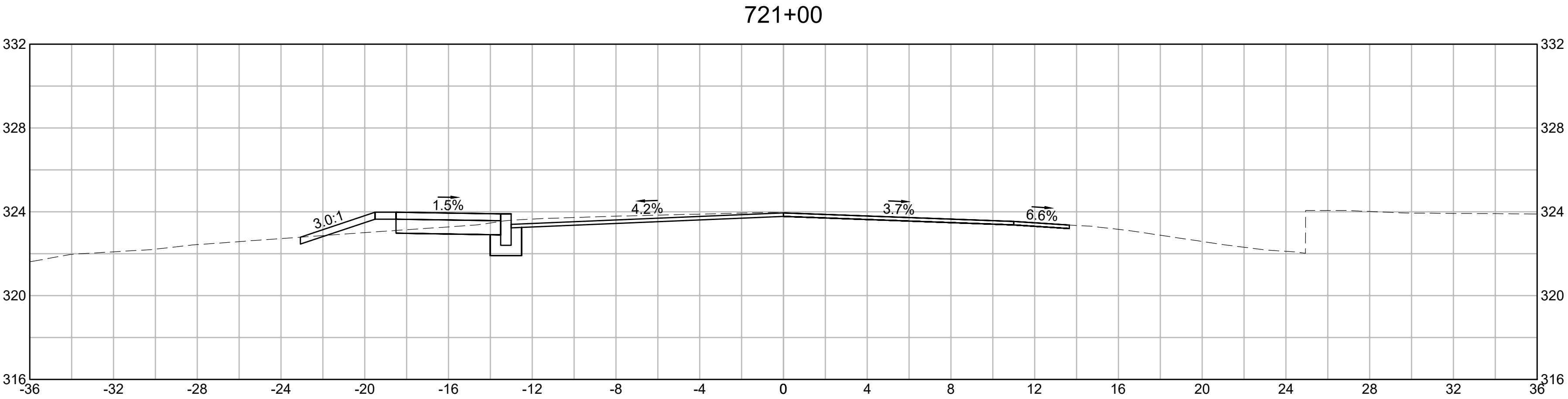


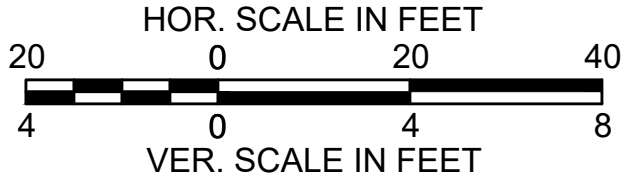
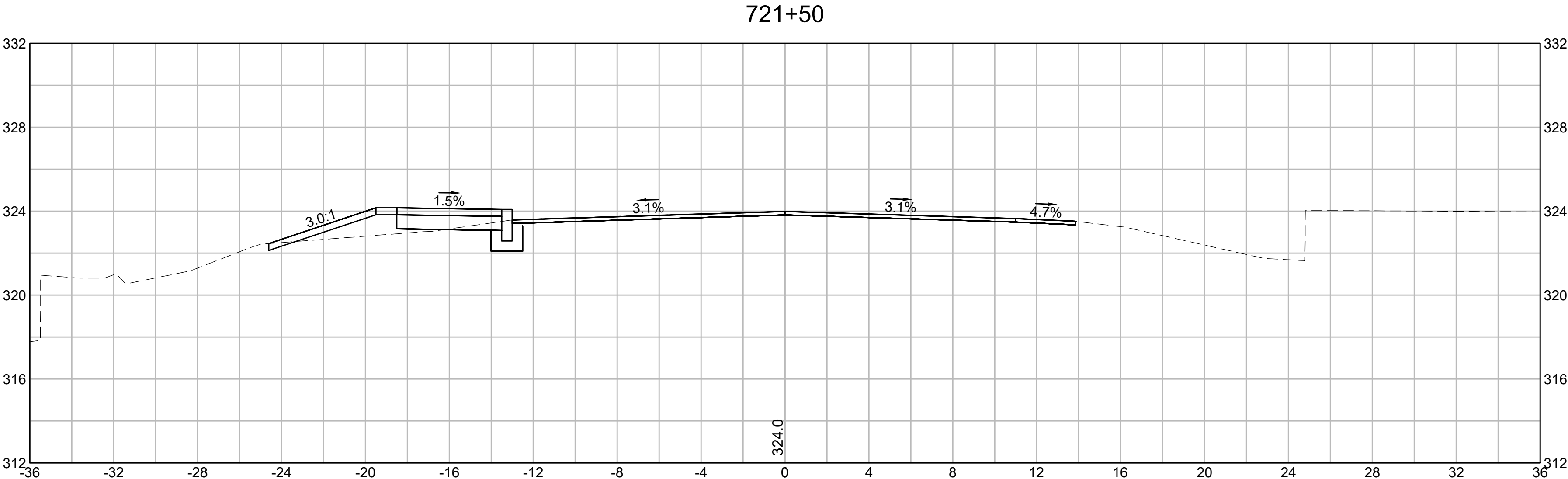
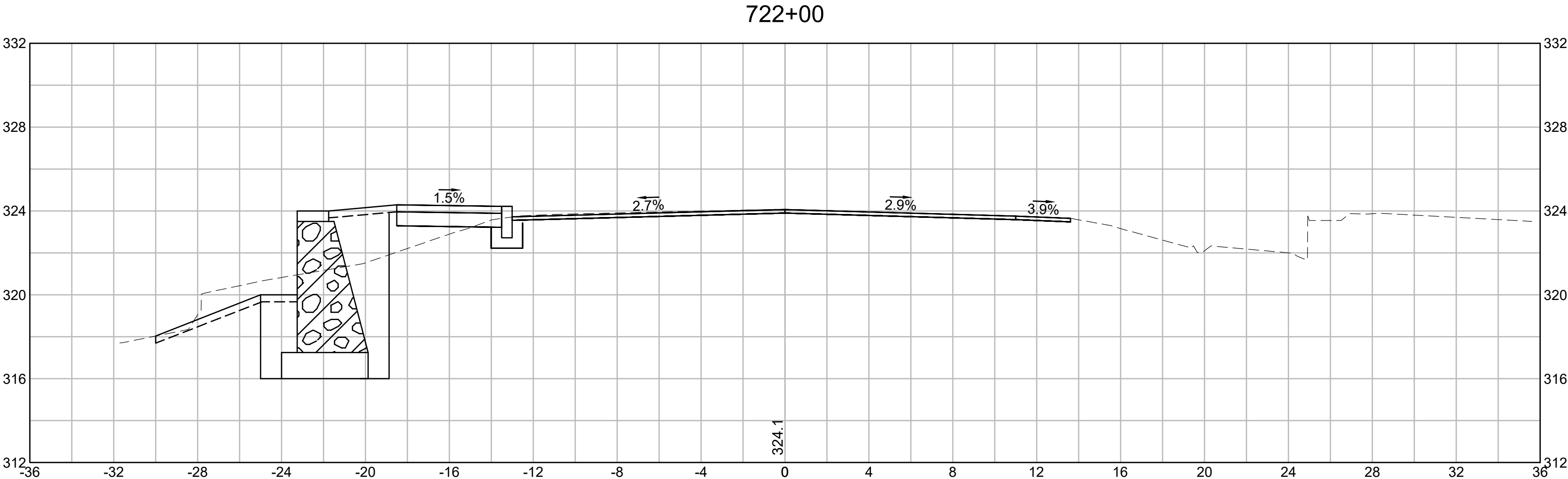
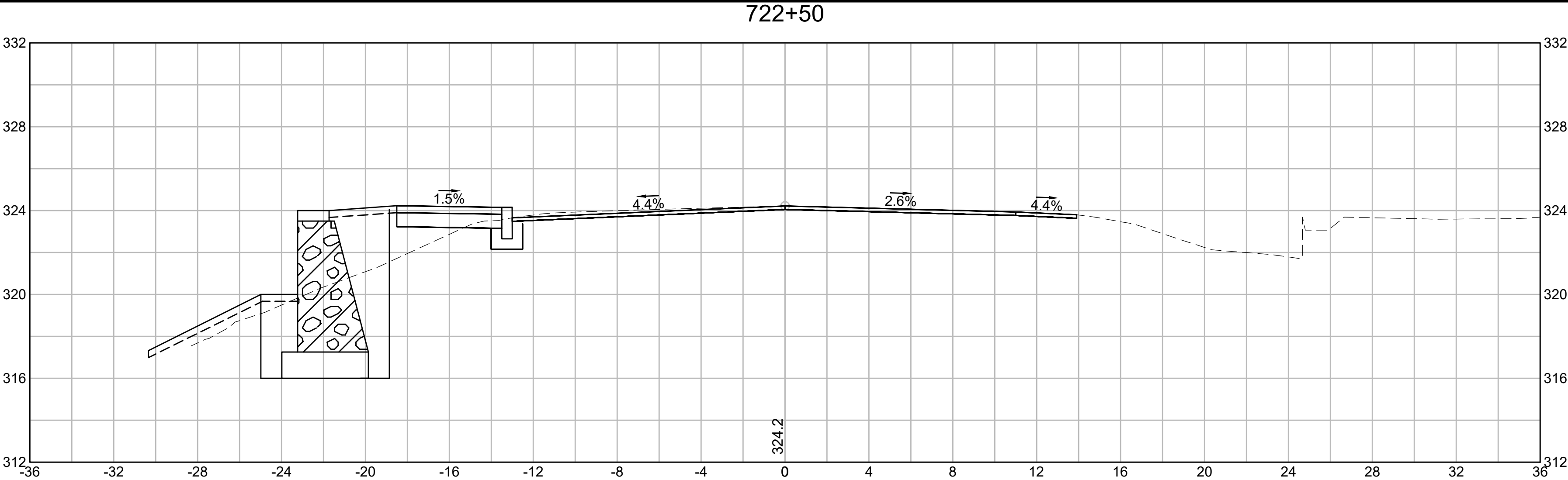


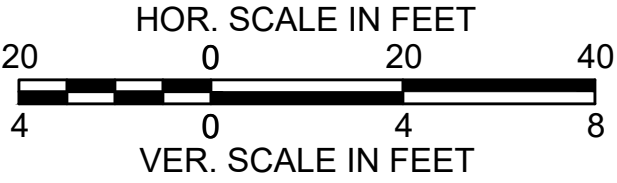
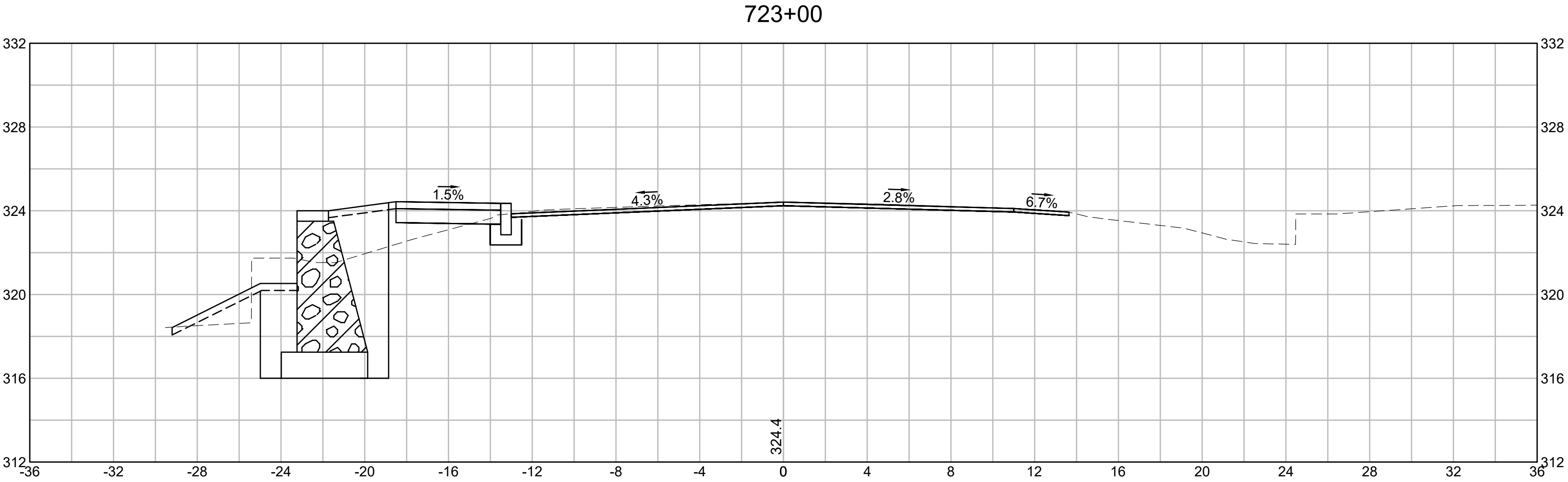
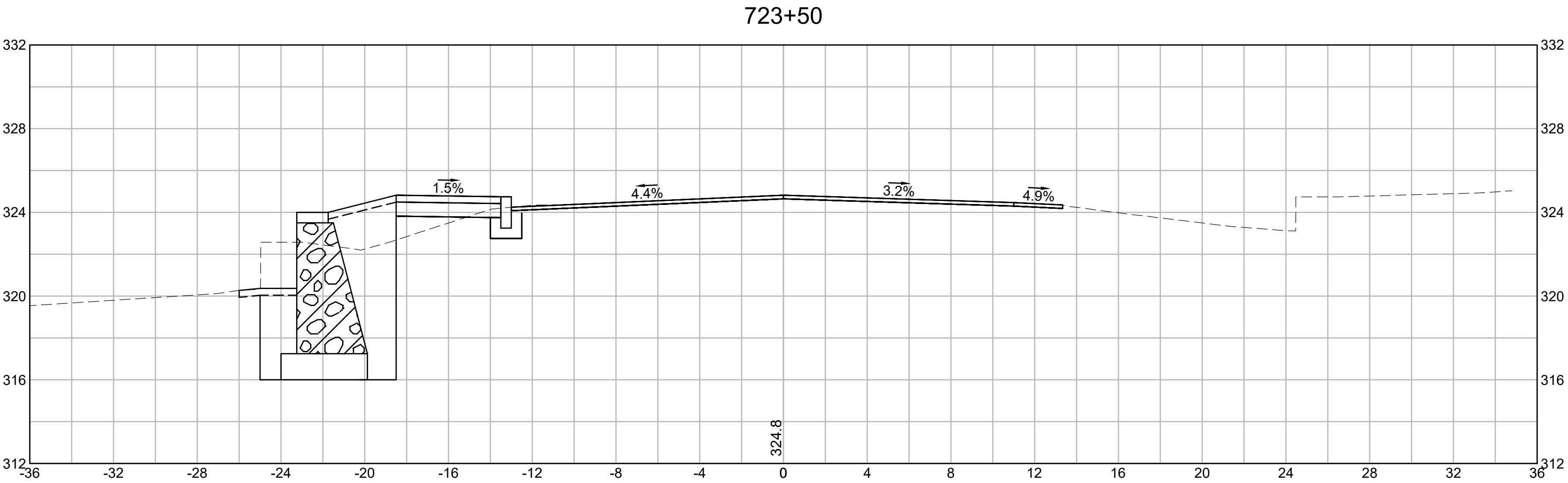
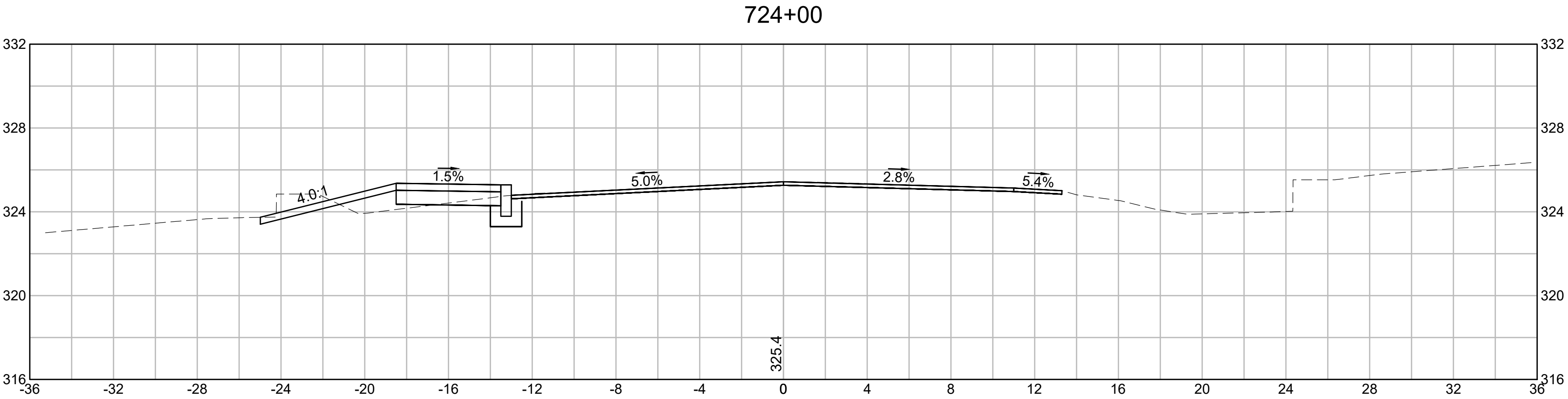


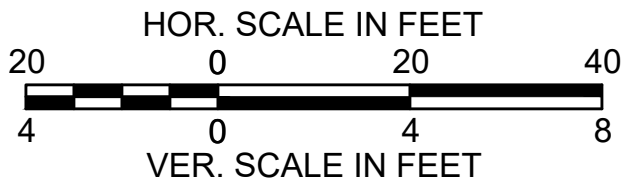
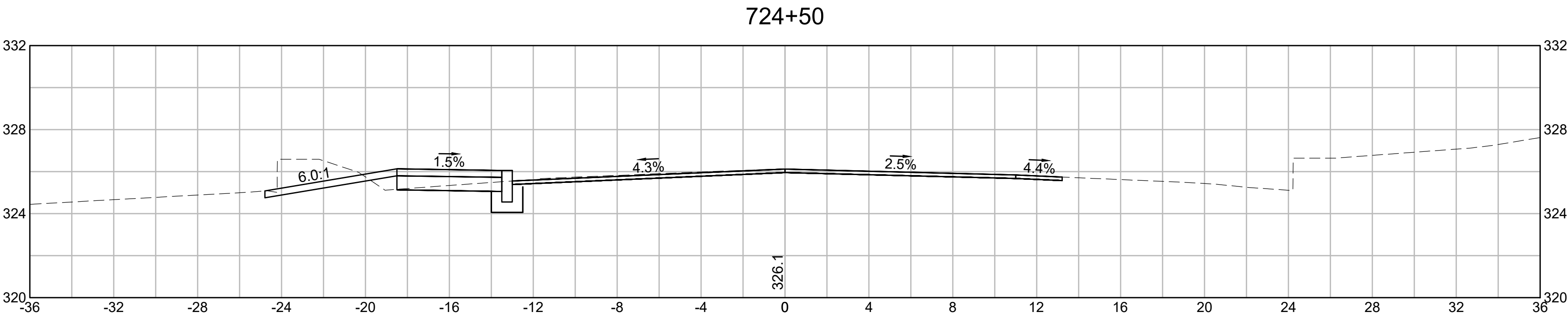
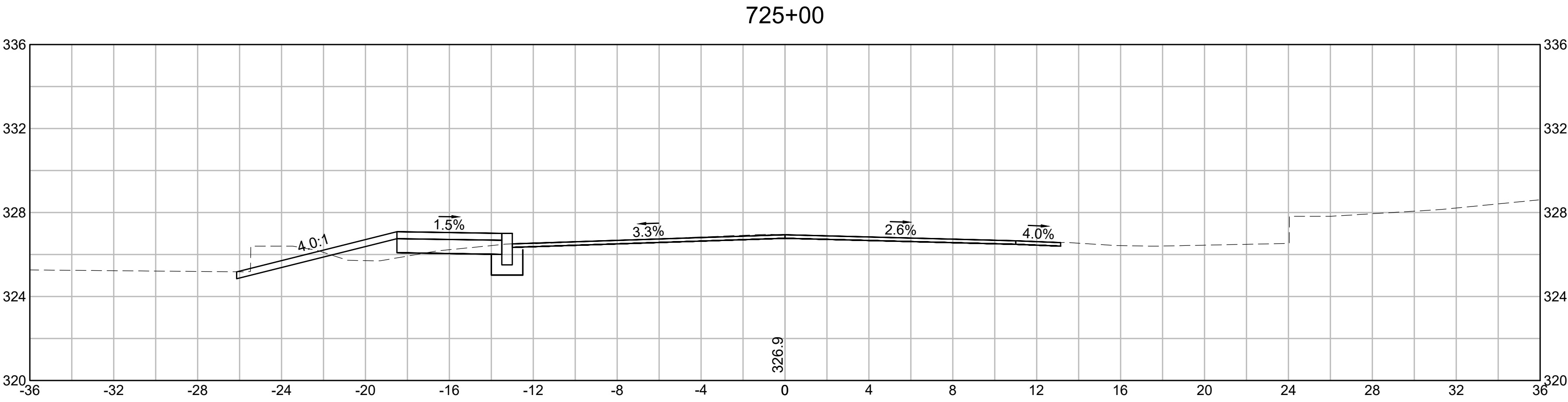




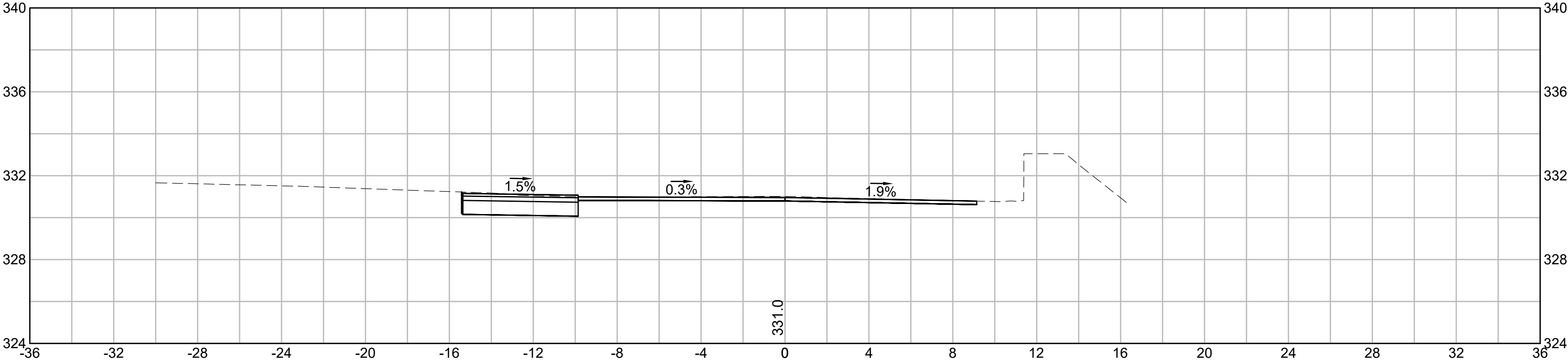




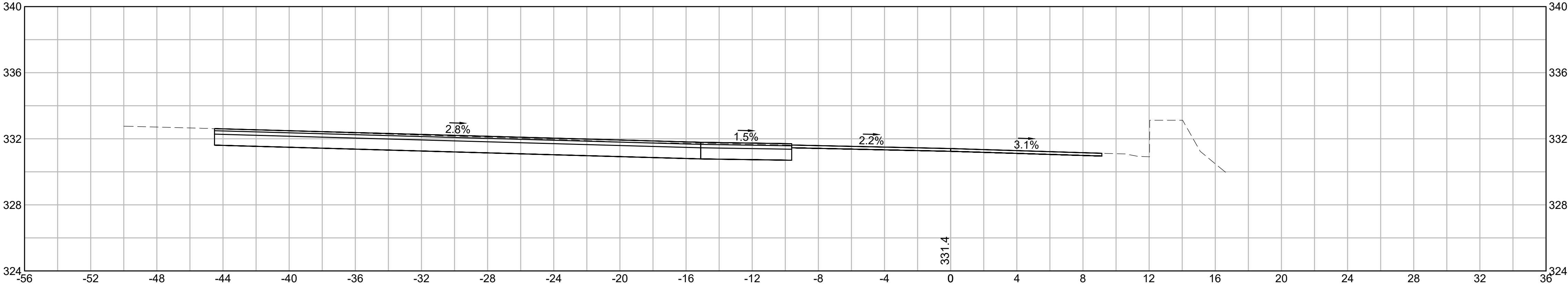




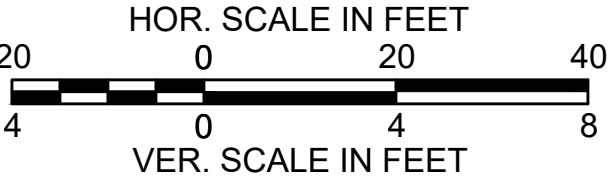
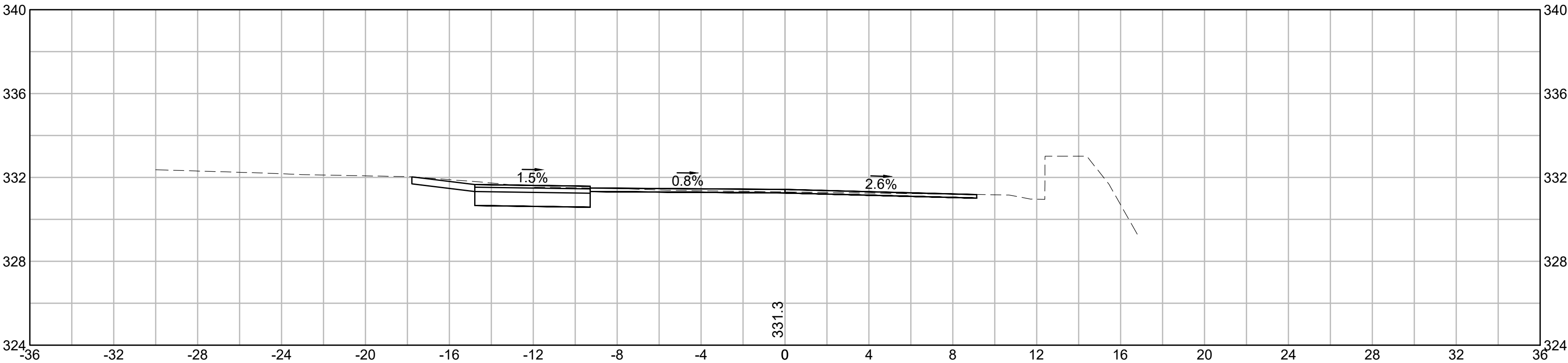
10+50

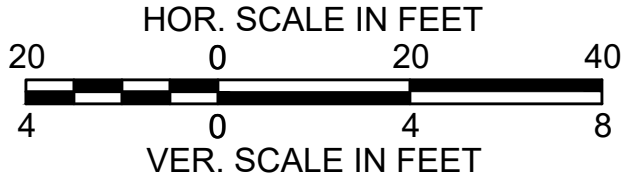
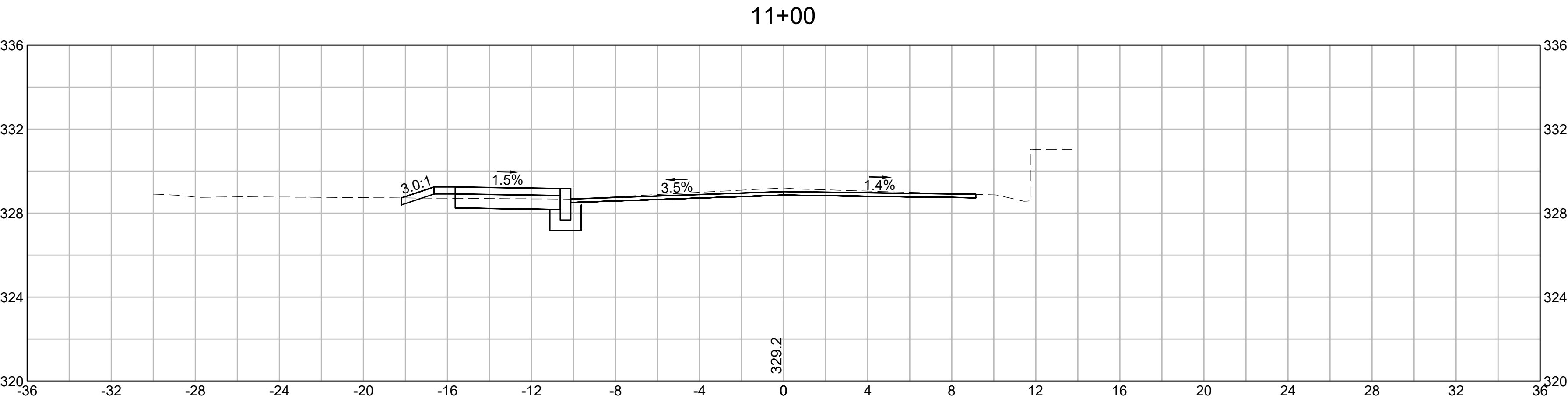
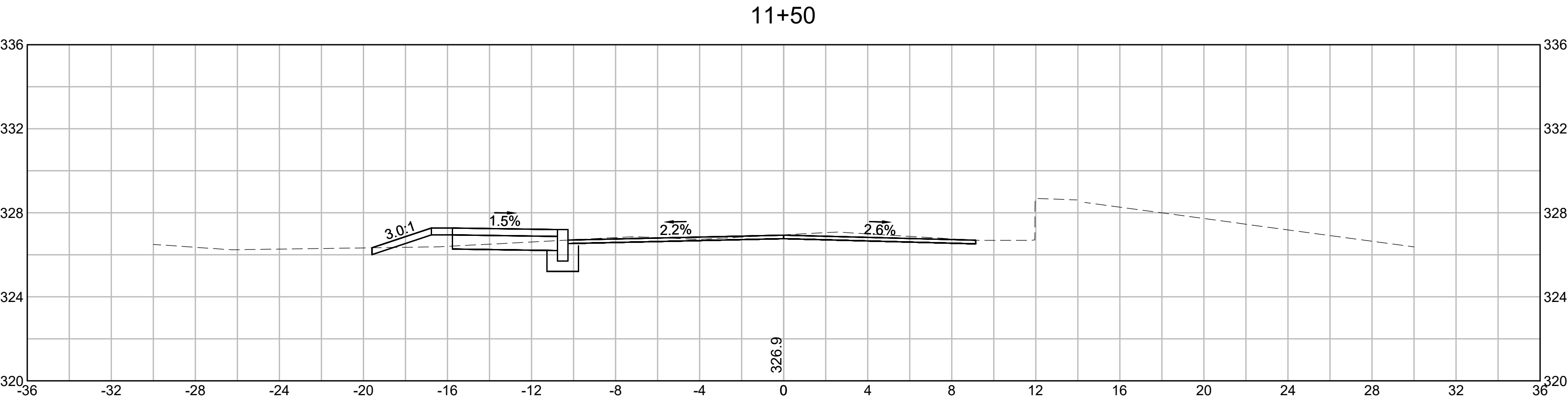
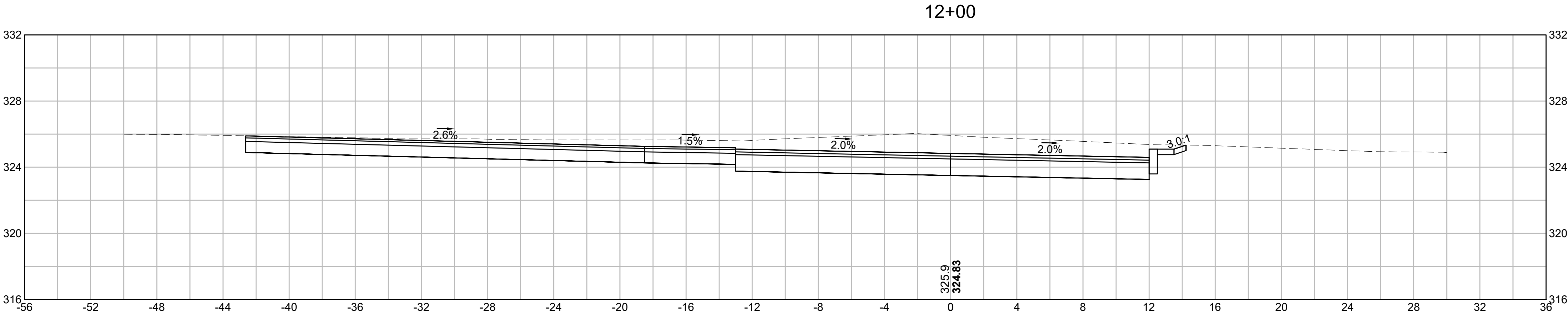


10+25

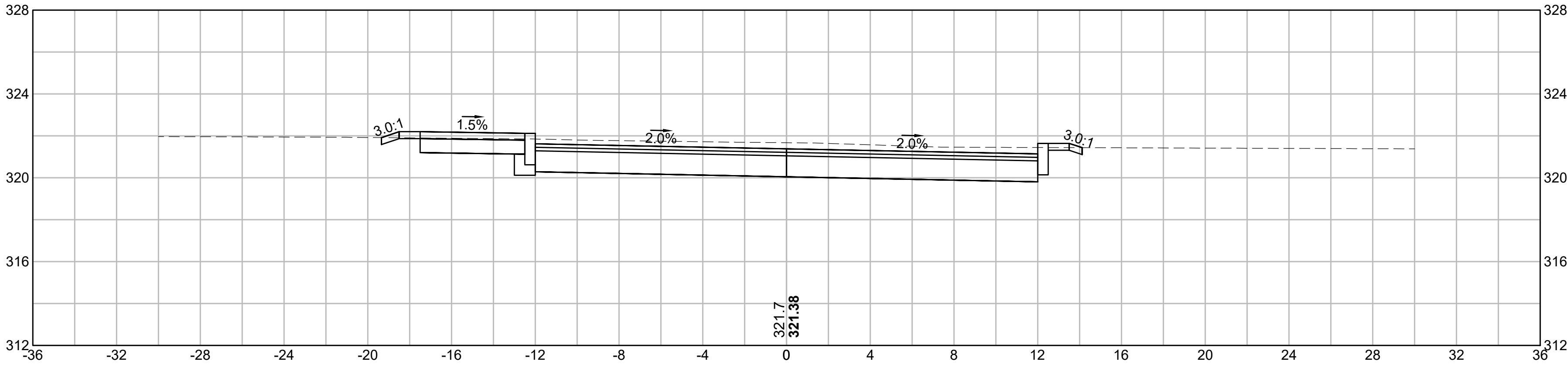


10+00

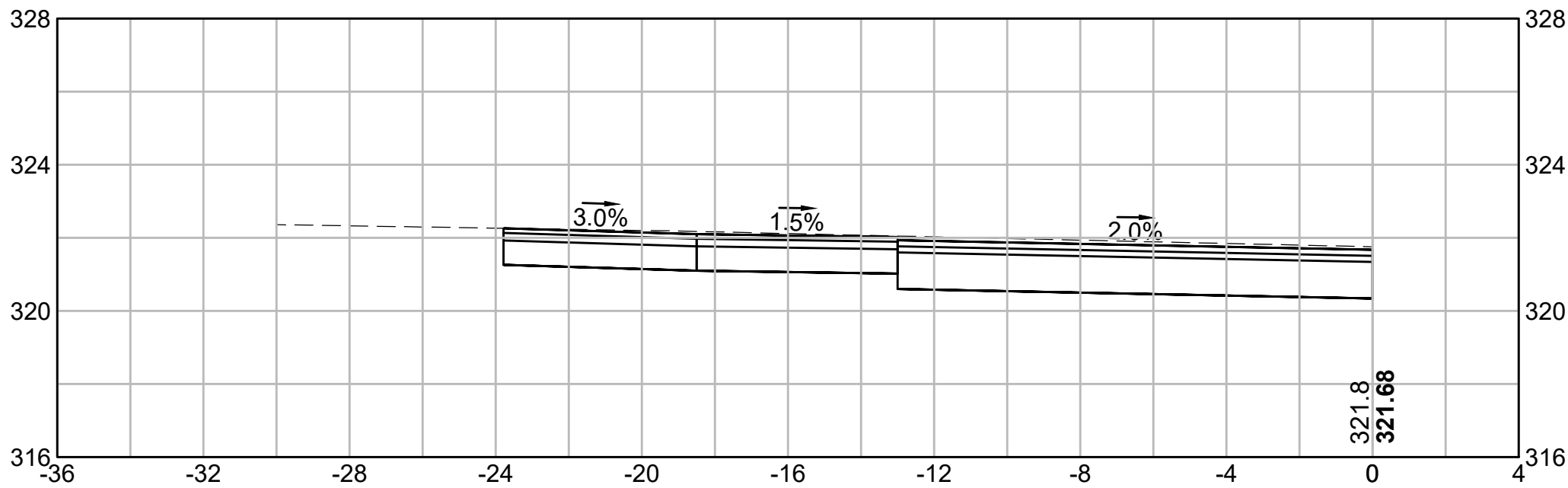




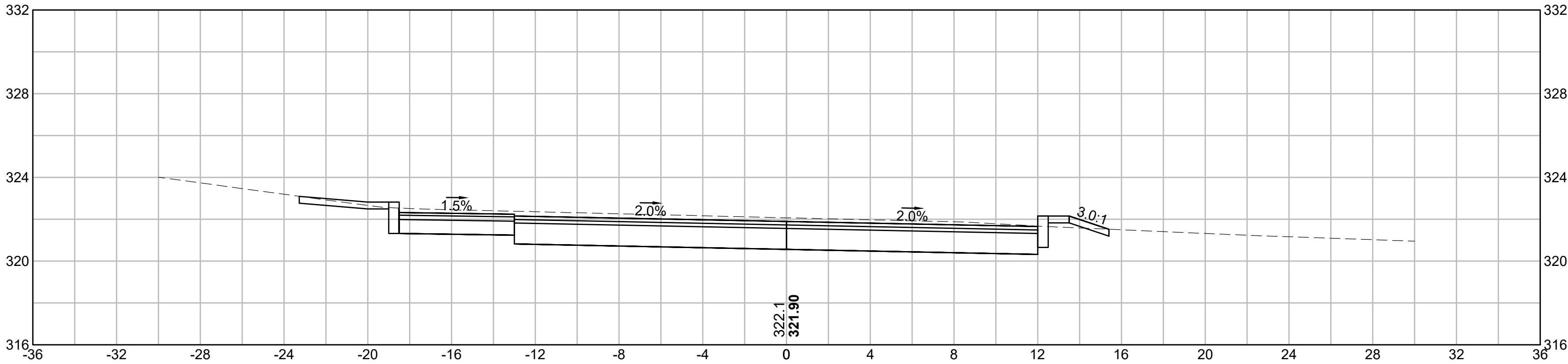
13+50



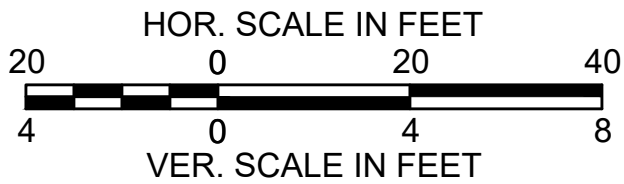
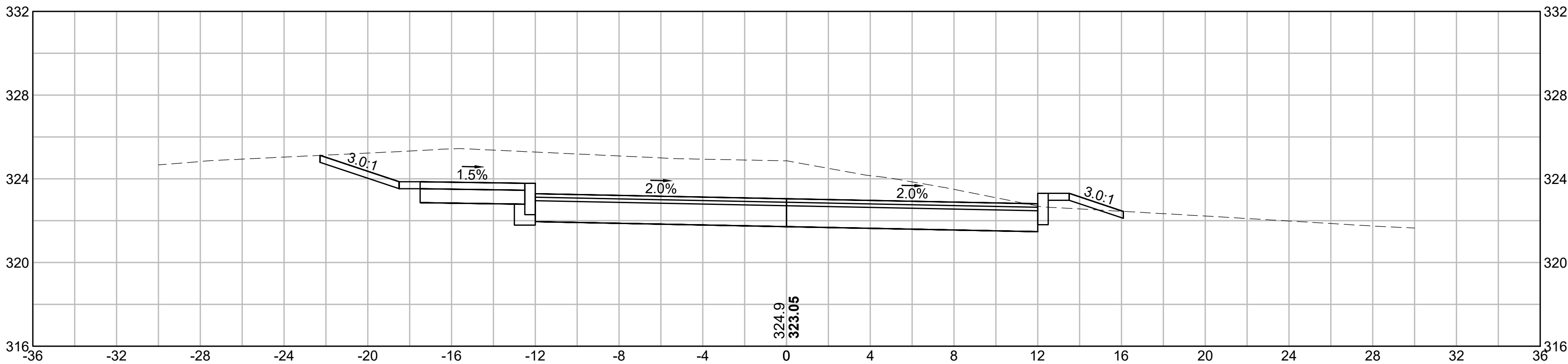
13+15

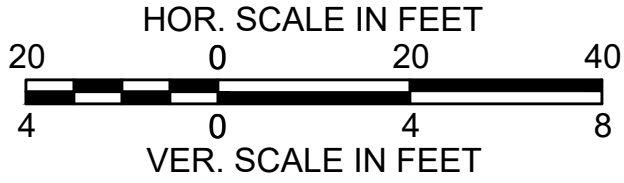
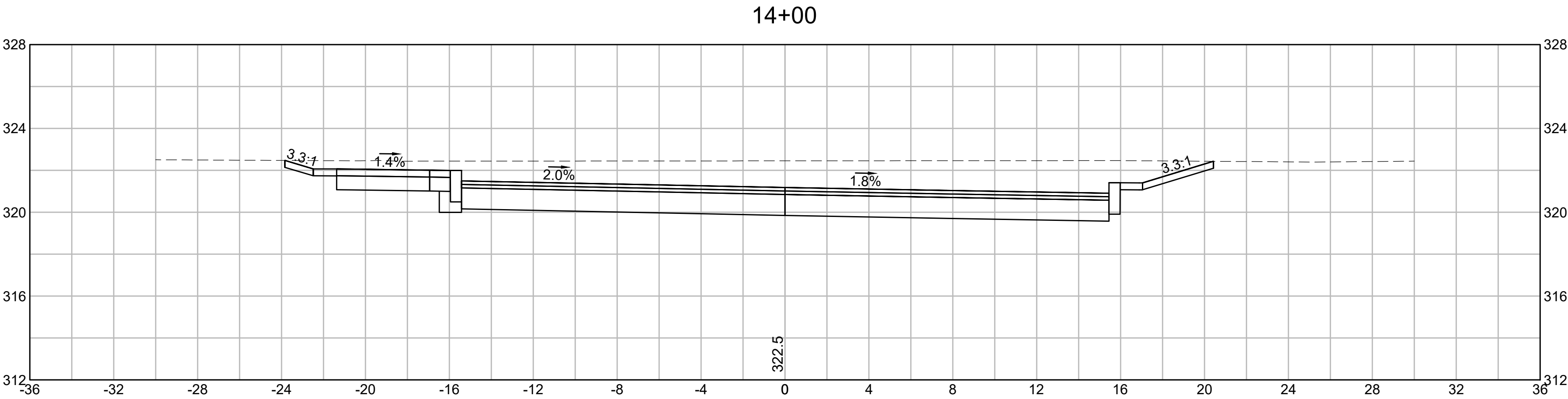


13+00



12+50





# TRANSPORTATION IMPROVEMENT PROJECT

## DEERFOOT ROAD & FLAGG ROAD

INTERSECTION IMPROVEMENTS

IN THE TOWN OF

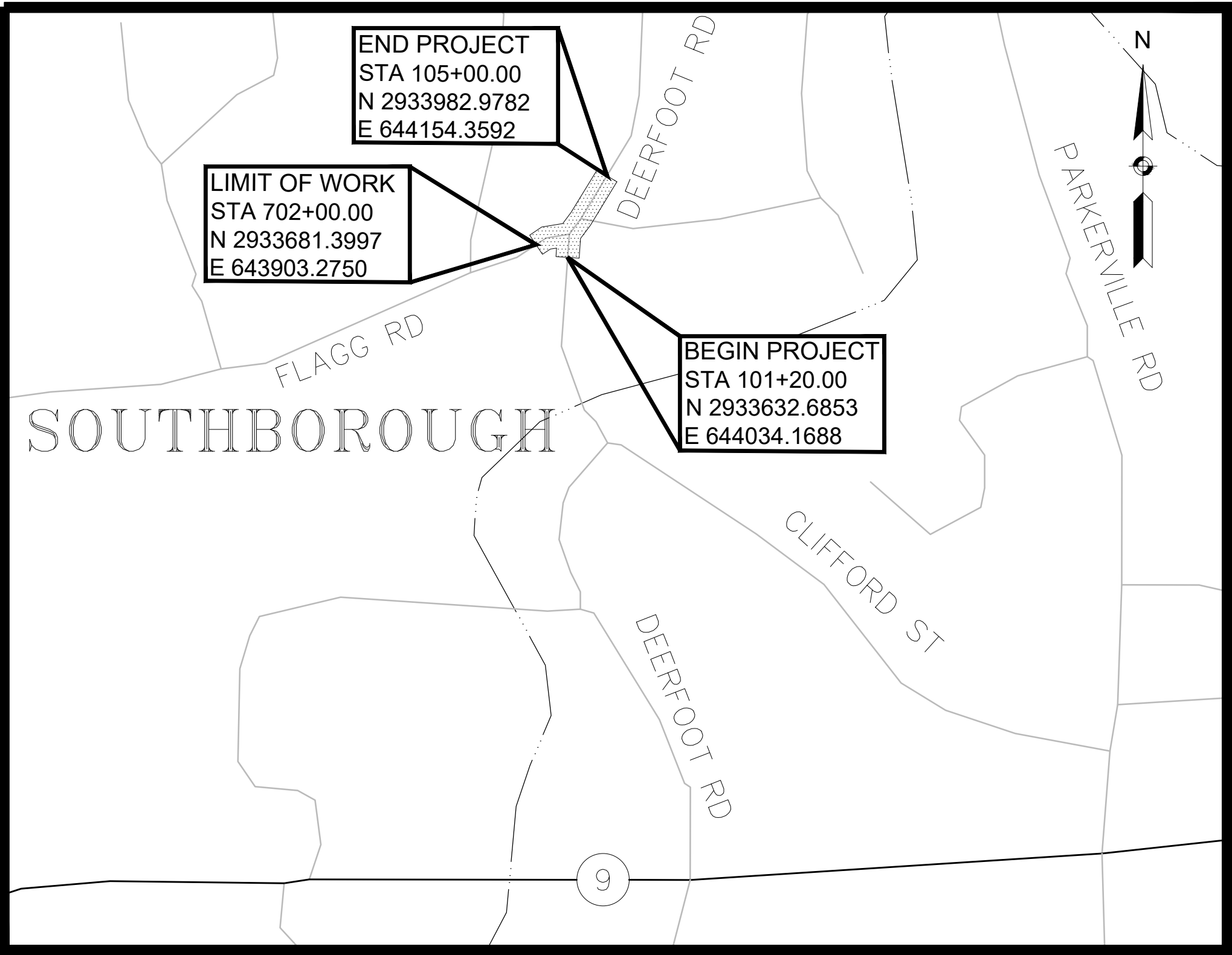
## SOUTHBOROUGH WORCESTER COUNTY

SOUTHBOROUGH  
VARIOUS LOCATIONS  
TITLE SHEET  
SHEET 122 OF 141

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1988 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.

### LOCATION 4

| SHEET NO. | DESCRIPTION                     |
|-----------|---------------------------------|
| 122       | TITLE SHEET & INDEX             |
| 123       | TYPICAL SECTIONS                |
| 124       | CONSTRUCTION PLANS              |
| 125       | PROFILES                        |
| 126       | ALIGNMENT & GRADING PLANS       |
| 127-128   | CONSTRUCTION DETAILS            |
| 129-138   | CROSS SECTIONS AT DEERFOOT ROAD |
| 139-141   | CROSS SECTIONS AT FLAGG ROAD    |



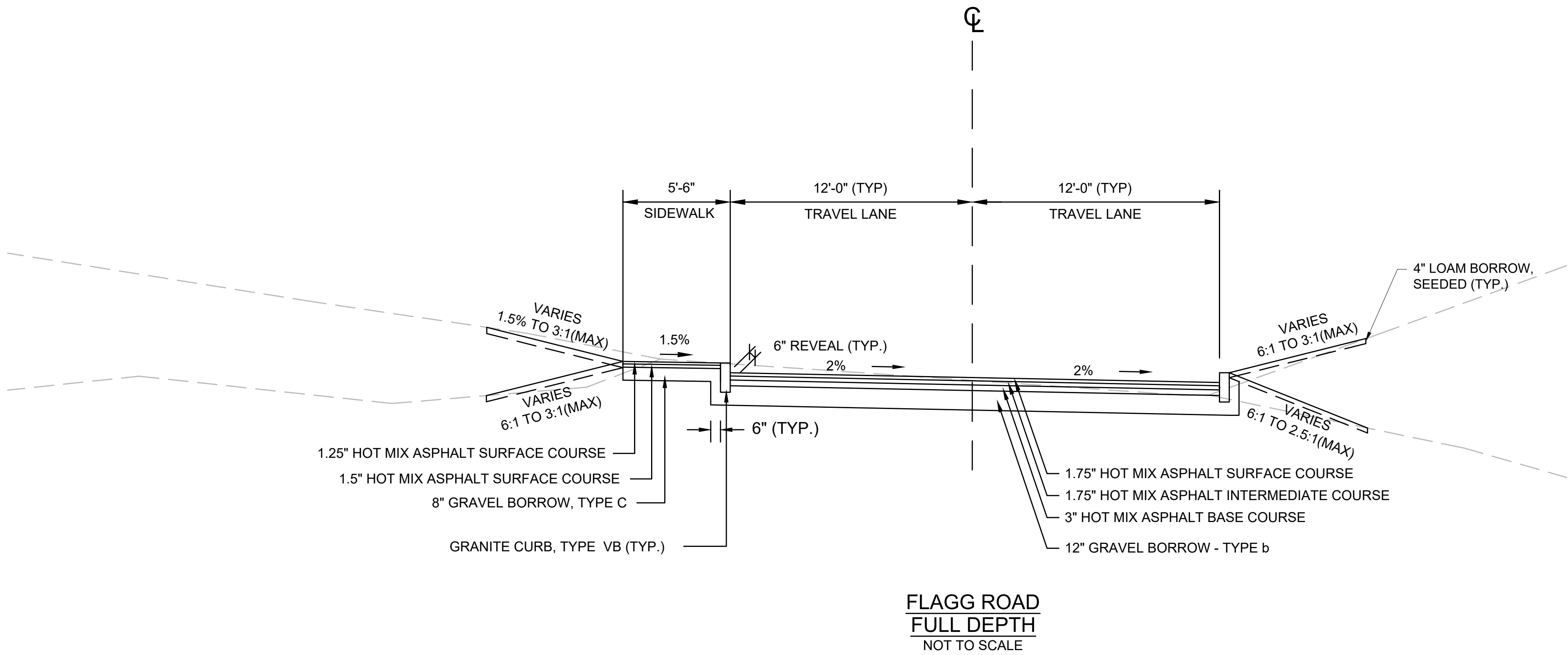
LENGTH OF PROJECT = 530 FEET = 0.10 MILES

#### DESIGN DESIGNATION (DEERFOOT ROAD)

|                           |                       |
|---------------------------|-----------------------|
| DESIGN SPEED              | 25 MPH                |
| ADT (2016)                | 1,733                 |
| ADT (2026)                | 1,820                 |
| K                         | 15%                   |
| D                         | 58% NB                |
| T (PEAK HOUR)             | 1%                    |
| T (AVERAGE DAY)           | 1%                    |
| DHV                       | 252                   |
| DDHV                      | 145                   |
| FUNCTIONAL CLASSIFICATION | URBAN MAJOR COLLECTOR |

#### DESIGN DESIGNATION (FLAGG ROAD)

|                           |                       |
|---------------------------|-----------------------|
| DESIGN SPEED              | 25 MPH                |
| ADT (2017)                | 1,144                 |
| ADT (2027)                | 1,200                 |
| K                         | 11%                   |
| D                         | 62% SB                |
| T (PEAK HOUR)             | 0%                    |
| T (AVERAGE DAY)           | 0%                    |
| DHV                       | 126                   |
| DDHV                      | 78                    |
| FUNCTIONAL CLASSIFICATION | URBAN MAJOR COLLECTOR |



PROPOSED FULL DEPTH PAVEMENT

SURFACE: 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER

BASE: 2.75" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER

SUBBASE: 4" DENSE GRADED CRUSHED STONE OVER  
8" GRAVEL BORROW (TYPE b)

PROPOSED PAVEMENT MILLING & OVERLAY

SURFACE: 1.75" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER  
1.75" PAVEMENT MICROMILLING

PROPOSED HOT MIX ASPHALT WALK

SURFACE: 1.25" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER  
1.5" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER

FOUNDATION: 8" GRAVEL BORROW, TYPE b

PROPOSED HOT MIX ASPHALT DRIVEWAY

SURFACE: 1.5" SUPERPAVE SURFACE COURSE - 9.5 (SSC-9.5)  
2.5" SUPERPAVE INTERCOURSE - 12.5 (SIC-12.5)

FOUNDATION: 8" GRAVEL BORROW, TYPE b

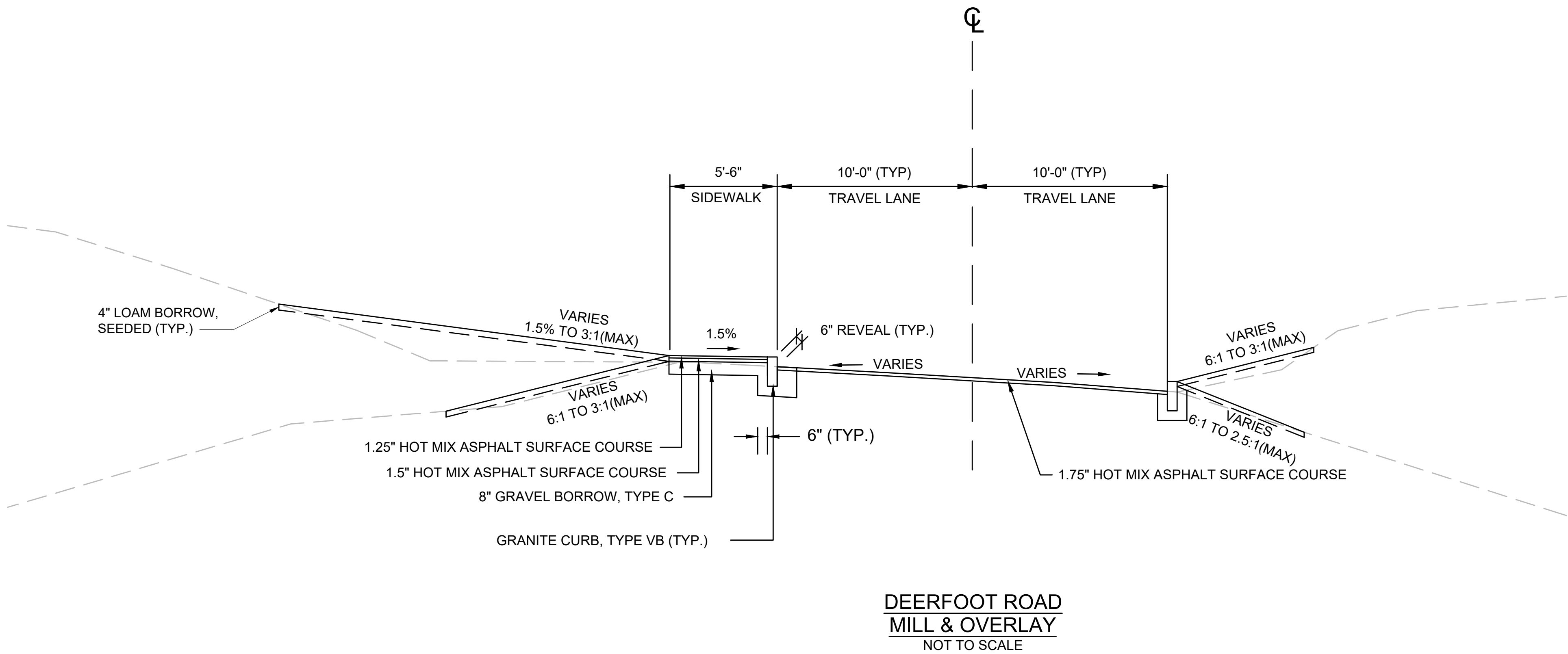
PROPOSED CEMENT CONCRETE WALK / WHEELCHAIR RAMP

SURFACE: 4" CEMENT CONCRETE  
AIR ENTRAINED 4000PSI, 3/4", 610

FOUNDATION: 8" GRAVEL BORROW, TYPE b

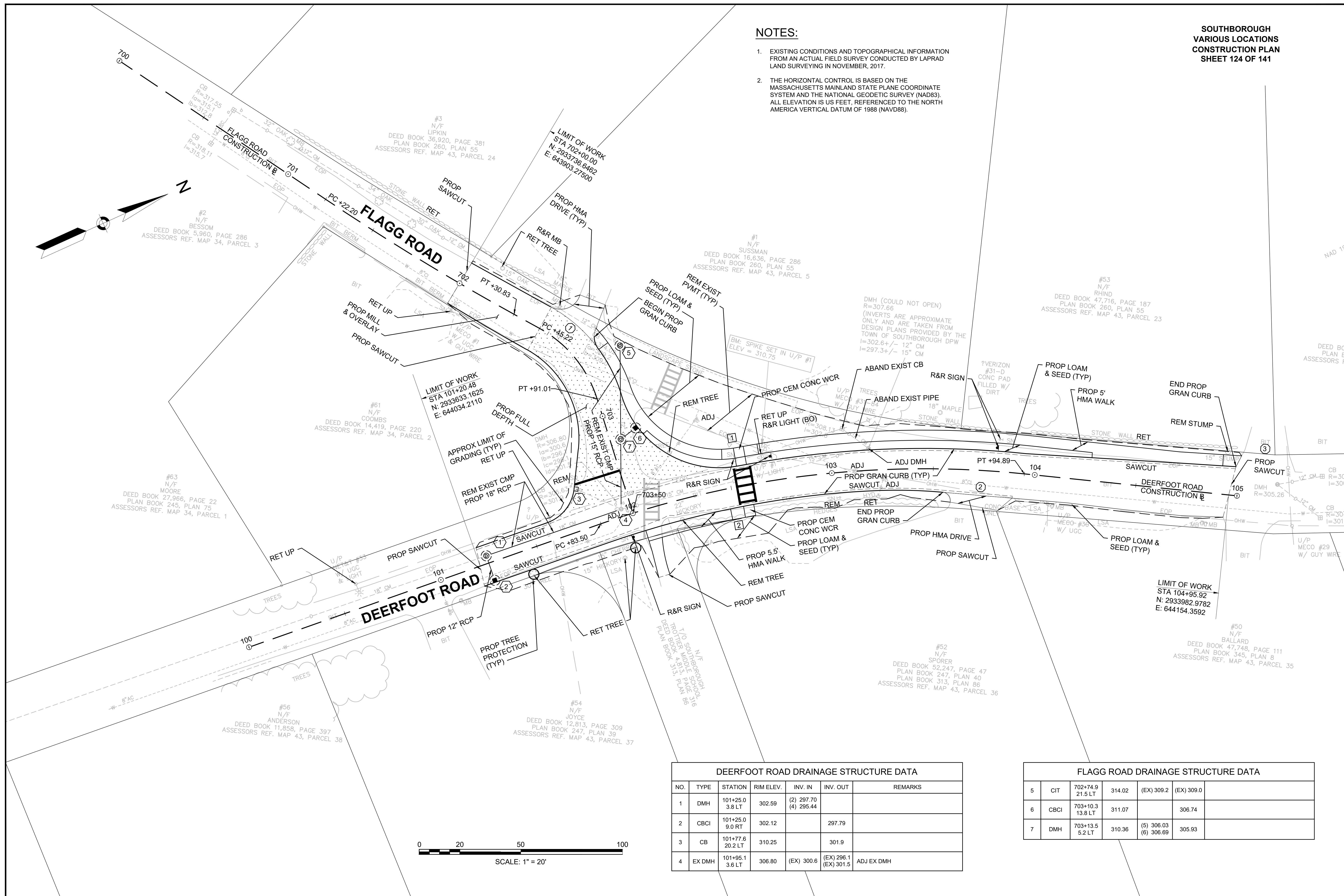
NOTES:

- 1) ASPHALT EMULSION FOR TACK COAT SHALL BE (RS-1H) TO RESIST TRACKING BY HAUL VEHICLES AND BOND HMA LAYERS FOR FLEXURAL STRENGTH. TACK COAT WILL BE APPLIED AT 0.07 GAL/SY OVER SMOOTH PAVEMENT (BASE AND INTERMEDIATE COURSES).
- 2) HMA WALKS AND DRIVEWAYS SHALL BE IN ACCORDANCE WITH SECTION 702. AND SHALL BE 50 GYRATION MIXTURES.
- 3)EXISTING GRAVEL BORROW MEETING MATERIAL SPECIFICATIONS SHALL BE RETAINED AND USED ON SITE FOR SUBBASE AS APPROVED BY ENGINEER.

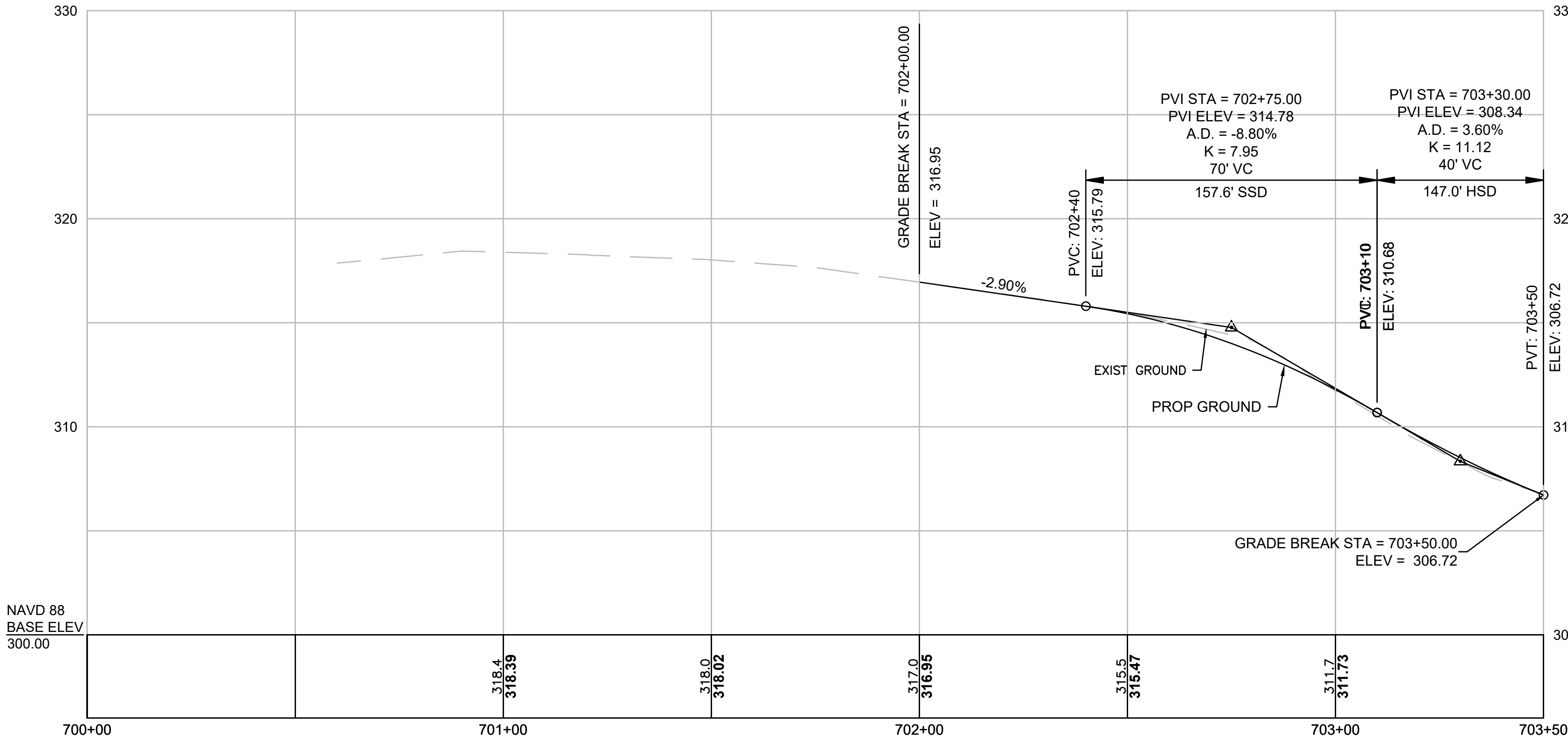


**SOUTHBOROUGH  
VARIOUS LOCATIONS  
CONSTRUCTION PLAN  
SHEET 124 OF 141**

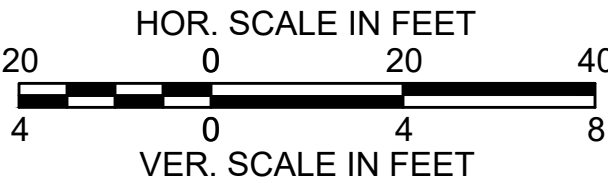
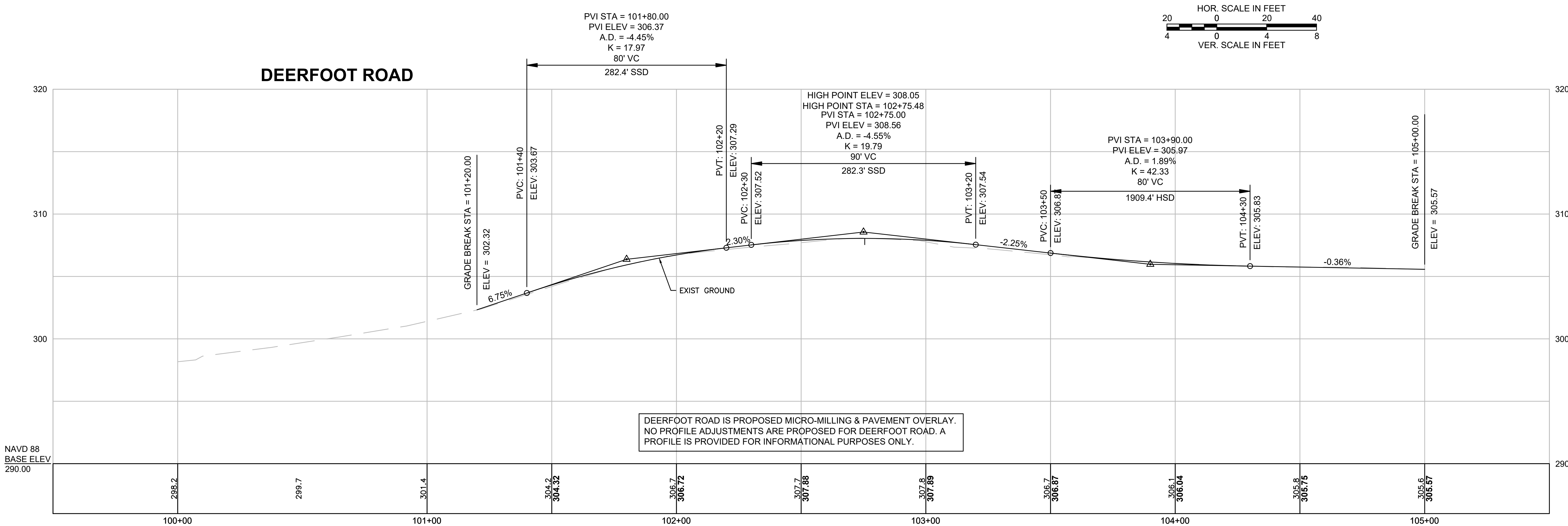
- ## NOTES:
1. EXISTING CONDITIONS AND TOPOGRAPHICAL INFORMATION FROM AN ACTUAL FIELD SURVEY CONDUCTED BY LAPRAD LAND SURVEYING IN NOVEMBER, 2017.
  2. THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVDD88).



FLAGG ROAD



DEERFOOT ROAD



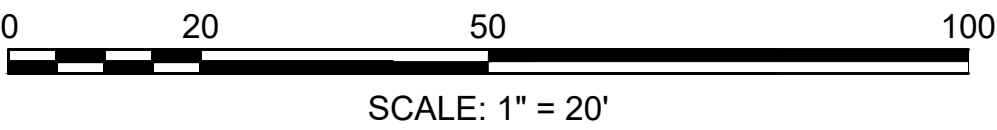
SOUTHBOROUGH  
VARIOUS LOCATIONS  
ALIGNMENT & GRADING PLAN  
SHEET 126 OF 141

| FLAGG ROAD CONSTRUCTION BASELINE DATA |                  |              |             |                                               |                        |                |              |             |
|---------------------------------------|------------------|--------------|-------------|-----------------------------------------------|------------------------|----------------|--------------|-------------|
| NUMBER                                | STARTING STATION | NORTHING     | EASTING     | CURVE DATA                                    | LINE DATA              | ENDING STATION | NORTHING     | EASTING     |
| L3                                    | 700+00.00        | 2933574.2224 | 643734.4592 |                                               | N58°16'59"E<br>122.20' | 701+22.20      | 2933638.4643 | 643838.4068 |
| C2                                    | 701+22.20        | 2933638.4643 | 643838.4068 | R= 1250.00' Δ= 4°58'45"<br>L=108.63' T=54.35' |                        | 702+30.83      | 2933699.5144 | 643928.2173 |
| L4                                    | 702+30.83        | 2933699.5144 | 643928.2173 |                                               | N53°18'14"E<br>14.40'  | 702+45.22      | 2933708.1172 | 643939.7604 |
| C3                                    | 702+45.22        | 2933708.1172 | 643939.7604 | R= 60.00' Δ= 43°43'07"<br>L=45.78' T=24.07'   |                        | 702+91.01      | 2933719.5581 | 643982.9502 |
| L5                                    | 702+91.01        | 2933719.5581 | 643982.9502 |                                               | N82°58'39"W<br>58.99'  | 703+50.00      | 2933712.3461 | 644041.4975 |

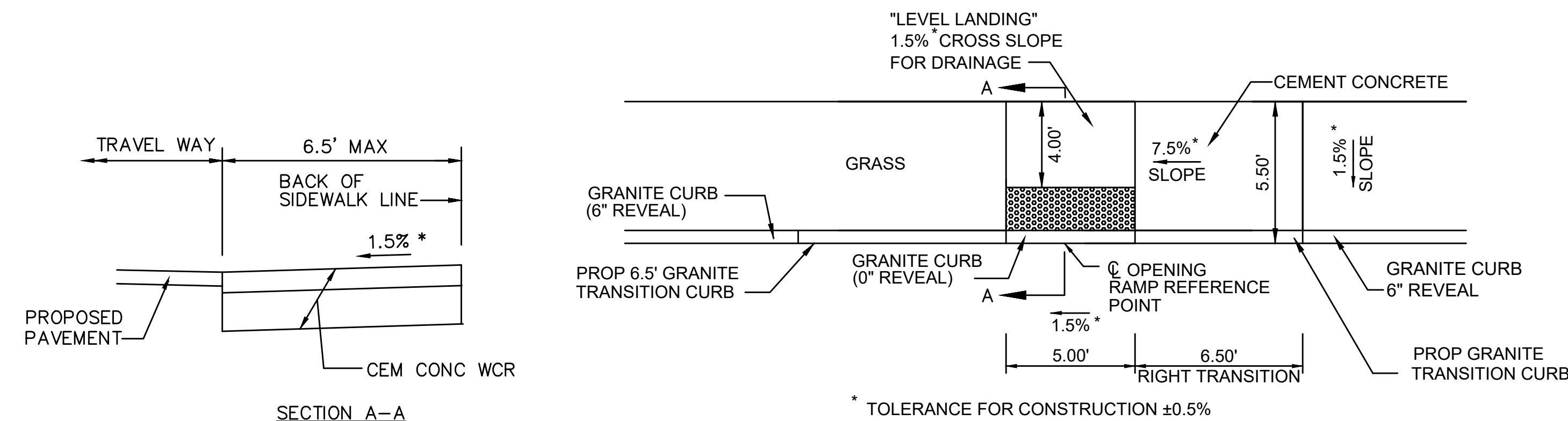
NOTE: CURB REVEAL IS 6" UNLESS OTHERWISE NOTED

| DEERFOOT RD CONSTRUCTION BASELINE DATA |                  |              |             |                                                |                        |                |              |             |
|----------------------------------------|------------------|--------------|-------------|------------------------------------------------|------------------------|----------------|--------------|-------------|
| NUMBER                                 | STARTING STATION | NORTHING     | EASTING     | CURVE DATA                                     | LINE DATA              | ENDING STATION | NORTHING     | EASTING     |
| L1                                     | 100+00.00        | 2933513.1517 | 644023.5988 |                                                | N5°03'12"E<br>183.50'  | 101+83.50      | 2933695.9418 | 644039.7623 |
| C1                                     | 101+83.50        | 2933695.9418 | 644039.7623 | R= 480.00' Δ= 25°13'55"<br>L=211.38' T=107.43' |                        | 103+94.89      | 2933895.7295 | 644103.4050 |
| L2                                     | 103+94.89        | 2933895.7295 | 644103.4050 |                                                | N30°17'07"E<br>105.11' | 105+00.00      | 2933986.4972 | 644156.4143 |

| Curve Table |           |         |        |
|-------------|-----------|---------|--------|
| Curve #     | Delta     | Radius  | Length |
| ①           | 2°34'44"  | 1000.00 | 45.01  |
| ②           | 19°55'13" | 74.00   | 25.73  |
| ③           | 67°01'38" | 50.00   | 58.49  |
| ④           | 84°09'55" | 50.00   | 73.45  |
| ⑤           | 64°30'36" | 20.00   | 22.52  |
| ⑥           | 6°27'36"  | 470.00  | 52.99  |
| ⑦           | 16°40'17" | 490.00  | 142.57 |
| ⑧           | 4°46'03"  | 400.00  | 33.28  |
| ⑨           | 7°06'53"  | 250.00  | 31.04  |



**SOUTHBOROUGH  
VARIOUS LOCATIONS  
CONSTRUCTION DETAILS  
SHEET 127 OF 141**

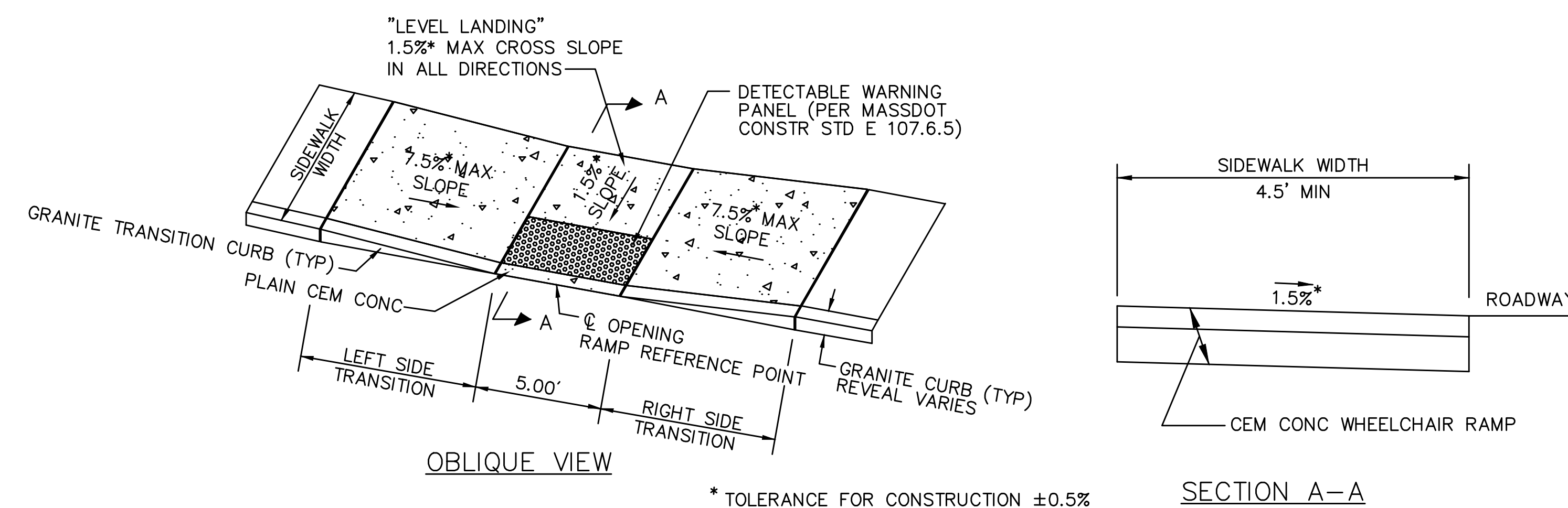


| WHEELCHAIR RAMP DATA |                                      |                |               |                |            |       |
|----------------------|--------------------------------------|----------------|---------------|----------------|------------|-------|
| NO.                  | LOCATION                             | SIDEWALK WIDTH | OPENING WIDTH | ROADWAY GUTTER | TRANSITION |       |
|                      |                                      |                |               |                | REVEAL     | TRANS |
| 3                    | DEERFOOT ROAD<br>102+56.84, 10.0' RT | 5.5'           | 5.0'          | -1.5%          | 6"         | 6'-6" |

GUTTER SLOPES ARE IN THE DIRECTION OF THE BASELINE

**WHEEL CHAIR RAMP - ONE WING  
SIDEWALK LESS THAN 6.5'**

SCALE: N.T.S. DWG: WCR-02

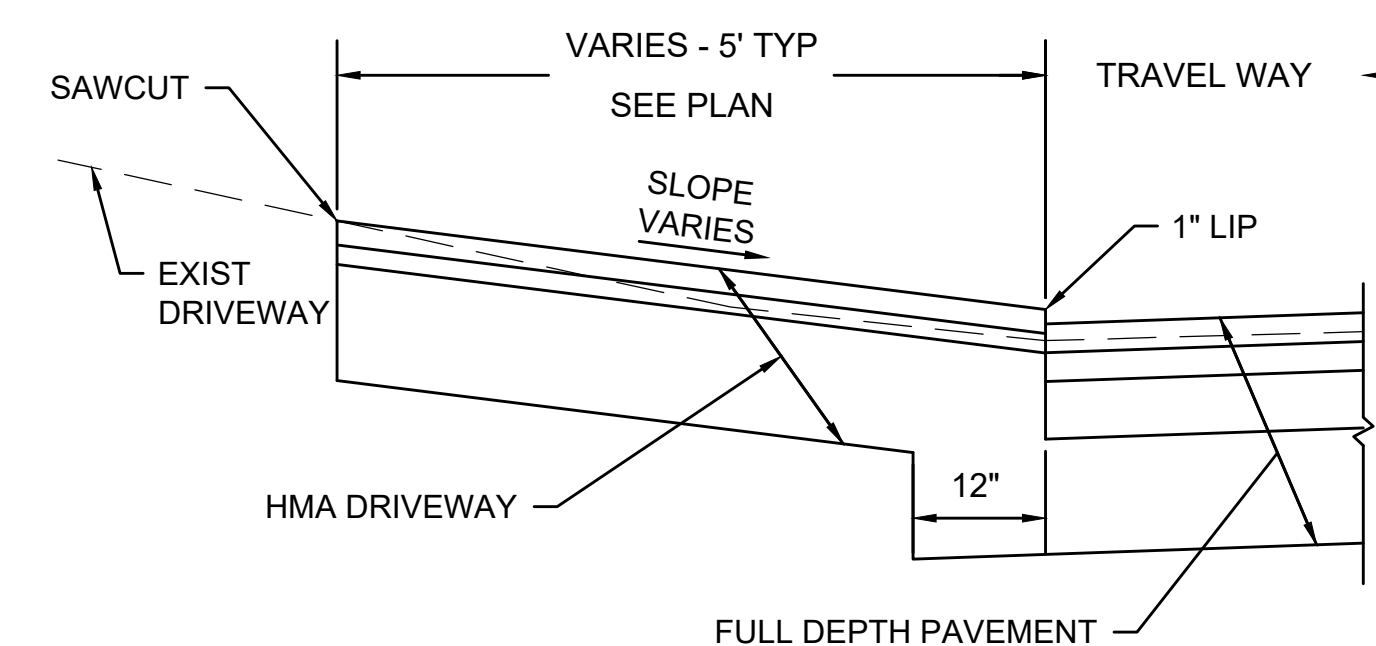


| WHEELCHAIR RAMP DATA |                                      |                |               |                |           |       |            |       |
|----------------------|--------------------------------------|----------------|---------------|----------------|-----------|-------|------------|-------|
| NO.                  | LOCATION                             | SIDEWALK WIDTH | OPENING WIDTH | ROADWAY GUTTER | LEFT SIDE |       | RIGHT SIDE |       |
|                      |                                      |                |               |                | REVEAL    | TRANS | REVEAL     | TRANS |
| 2                    | DEERFOOT ROAD<br>102+56.97, 10.0' LT | 5.5'           | 5.0'          | -0.1%          | 6"        | 7'-8" | 6"         | 6'-6" |

GUTTER SLOPES ARE IN THE DIRECTION OF THE BASELINE

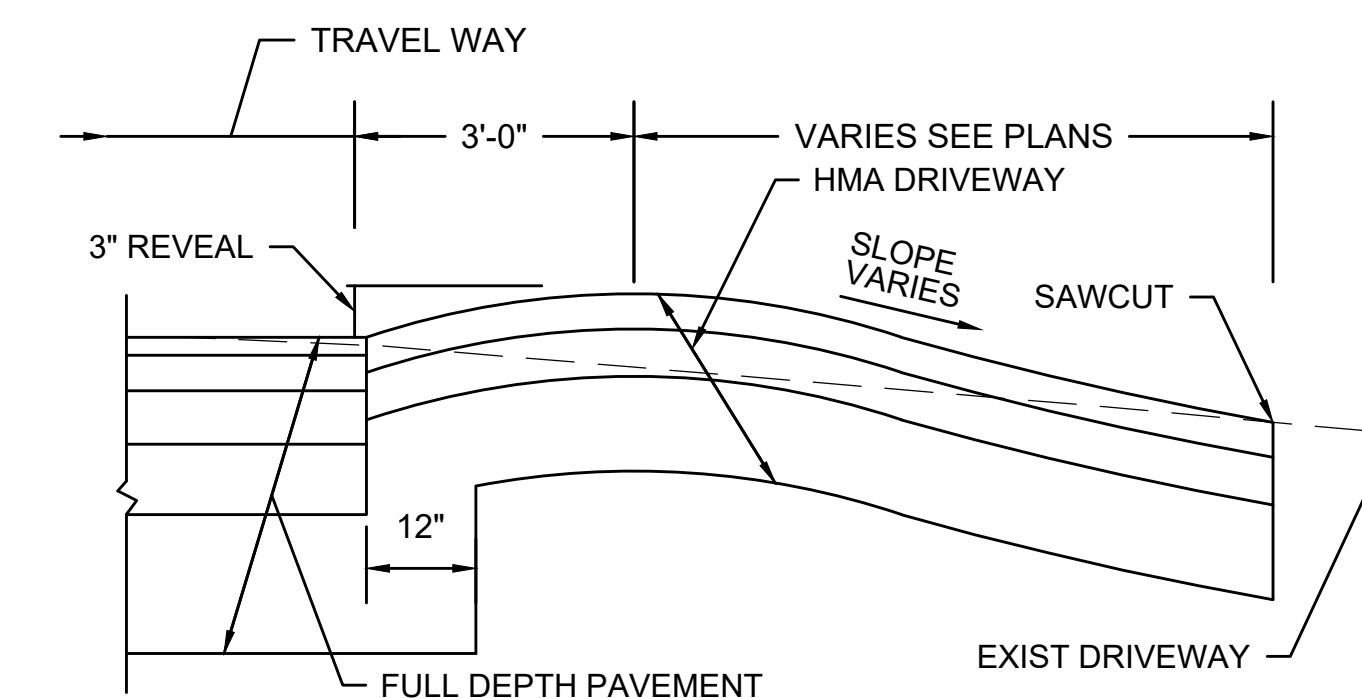
**WHEEL CHAIR RAMP  
WIDTH LESS THAN 6.5 FT**

SCALE: N.T.S. DWG: WCR-03



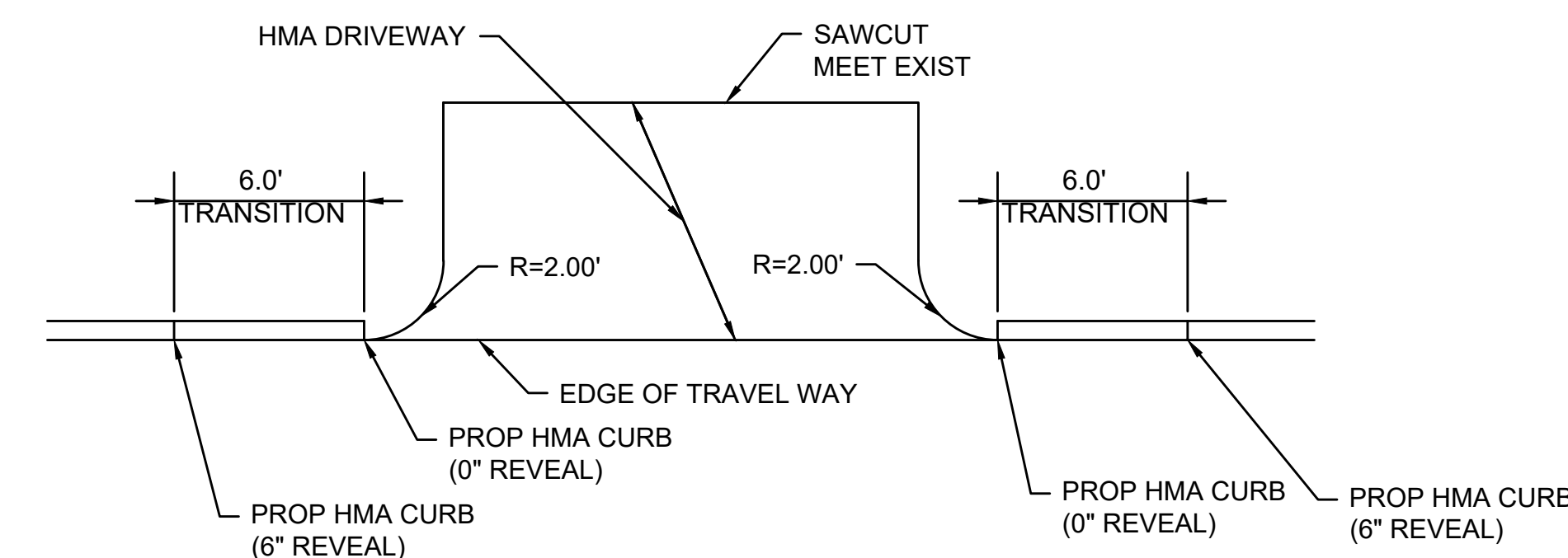
### TYPICAL DRIVEWAY SECTION WITHOUT SIDEWALK TYPE II

SCALE: N.T.S.



### TYPICAL DRIVEWAY SECTION WITHOUT SIDEWALK TYPE I

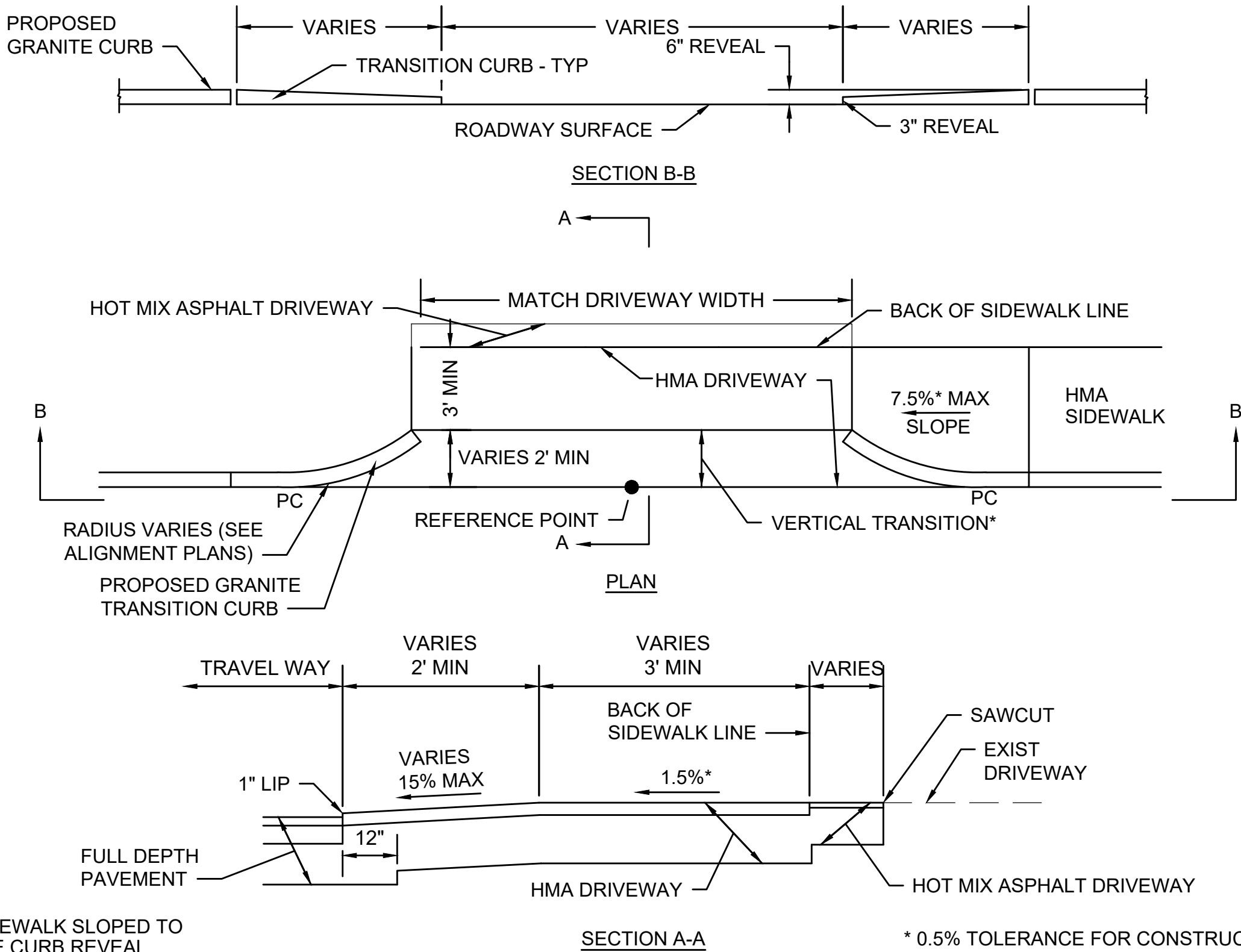
SCALE: N.T.S.



### TYPICAL DRIVEWAY SECTION WITHOUT SIDEWALK TYPE I/II PLAN VIEW

SCALE: N.T.S.

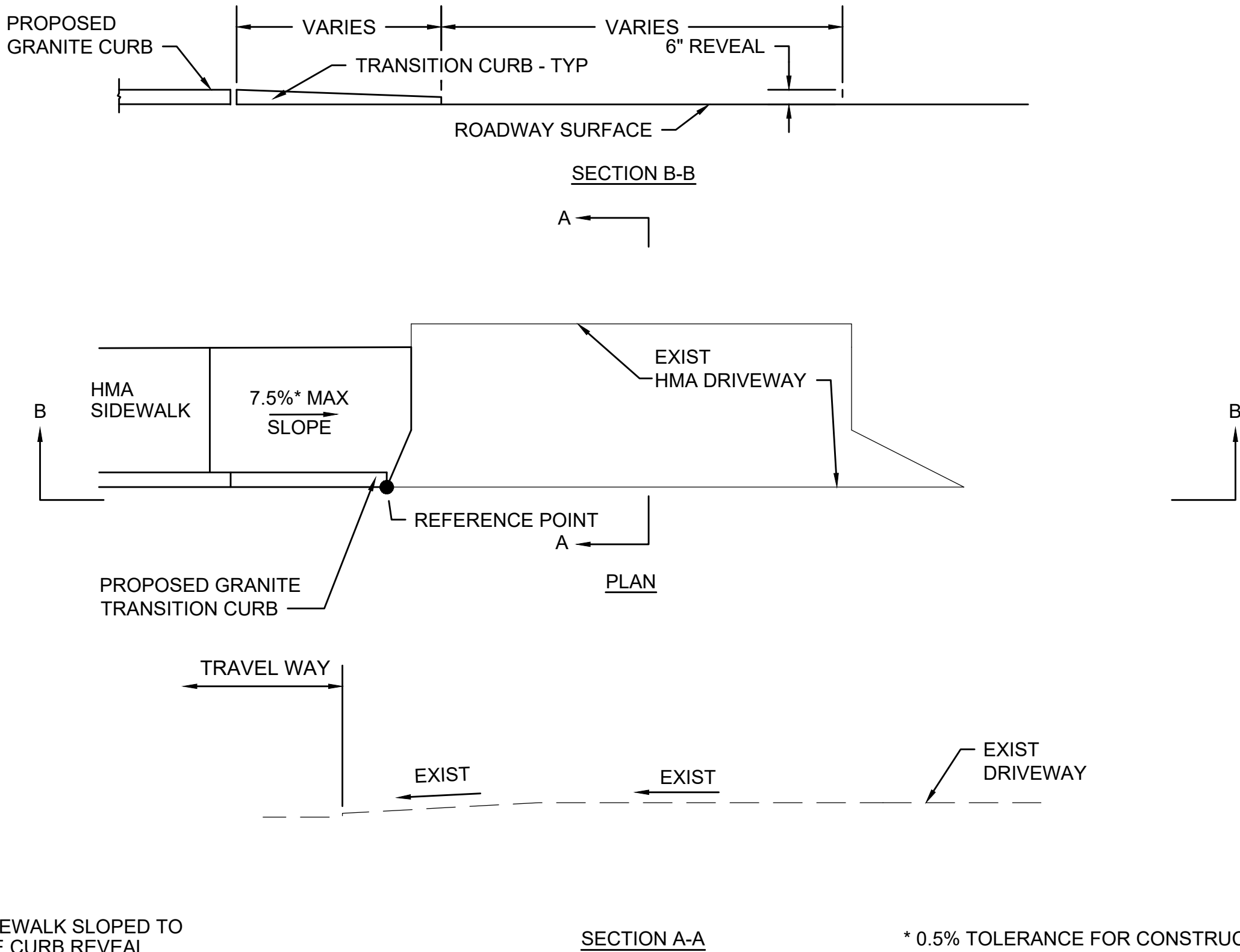
| DRIVEWAY DATA |                         |                   |                   |                      |       |          |
|---------------|-------------------------|-------------------|-------------------|----------------------|-------|----------|
| NO.           | LOCATION<br>(REF POINT) | ROADWAY<br>GUTTER | SIDEWALK<br>WIDTH | RIGHT SIDE<br>REVEAL | TRANS | COMMENTS |
| FLAGG ROAD    |                         |                   |                   |                      |       |          |
| 1             | 702+59.98, 11.8' LT     | -5.6%             | 5'-6"             | 6"                   | 6'-5" |          |



TYPICAL DRIVEWAY WITH SIDEWALK AND CURVED TRANSITION CURB - RIGHT SIDE

SCALE: N.T.S.

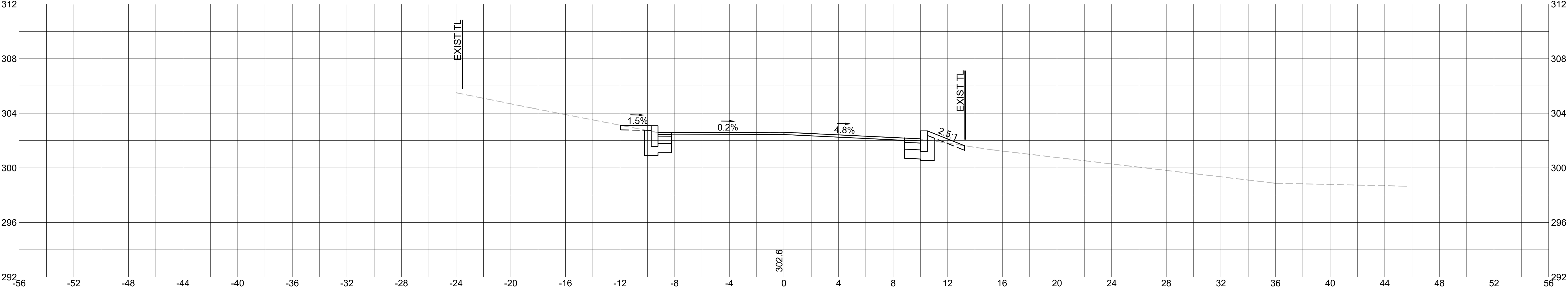
| DRIVEWAY DATA |                         |                   |                   |                     |       |          |
|---------------|-------------------------|-------------------|-------------------|---------------------|-------|----------|
| NO.           | LOCATION<br>(REF POINT) | ROADWAY<br>GUTTER | SIDEWALK<br>WIDTH | LEFT SIDE<br>REVEAL | TRANS | COMMENTS |
| FLAGG ROAD    |                         |                   |                   |                     |       |          |
| 3             | 104+98.04, 14.2' LT     | -0.36%            | 5'-6"             | 6"                  | 6'-5" |          |



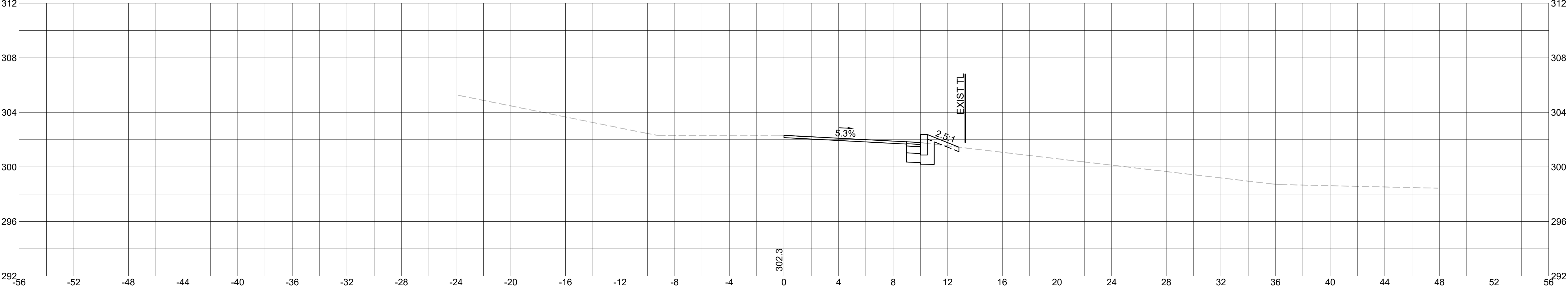
TYPICAL DRIVEWAY WITH SIDEWALK AND CURVED TRANSITION CURB - LEFT SIDE

SCALE: N.T.S.

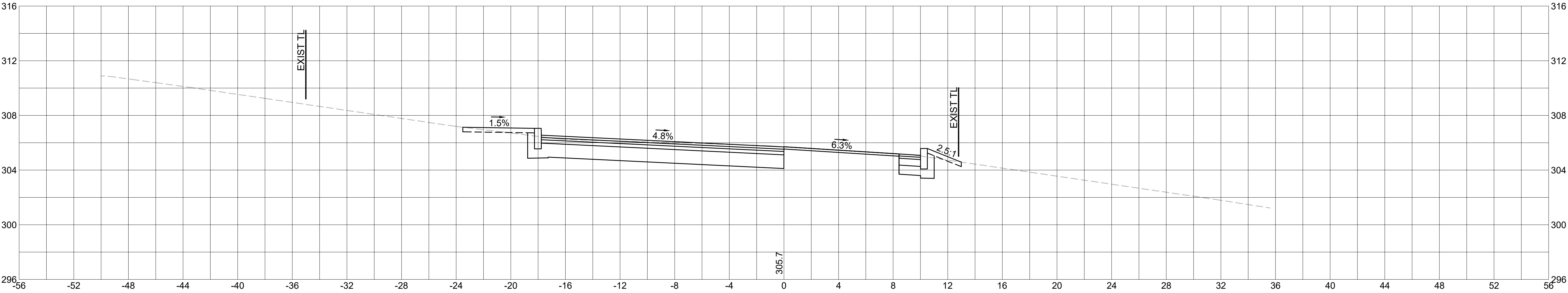
101+25



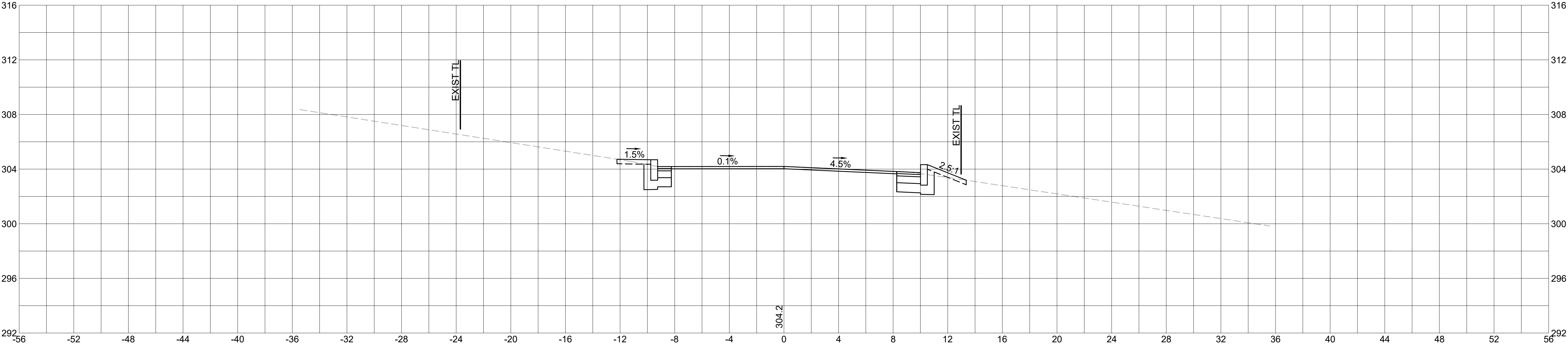
101+20



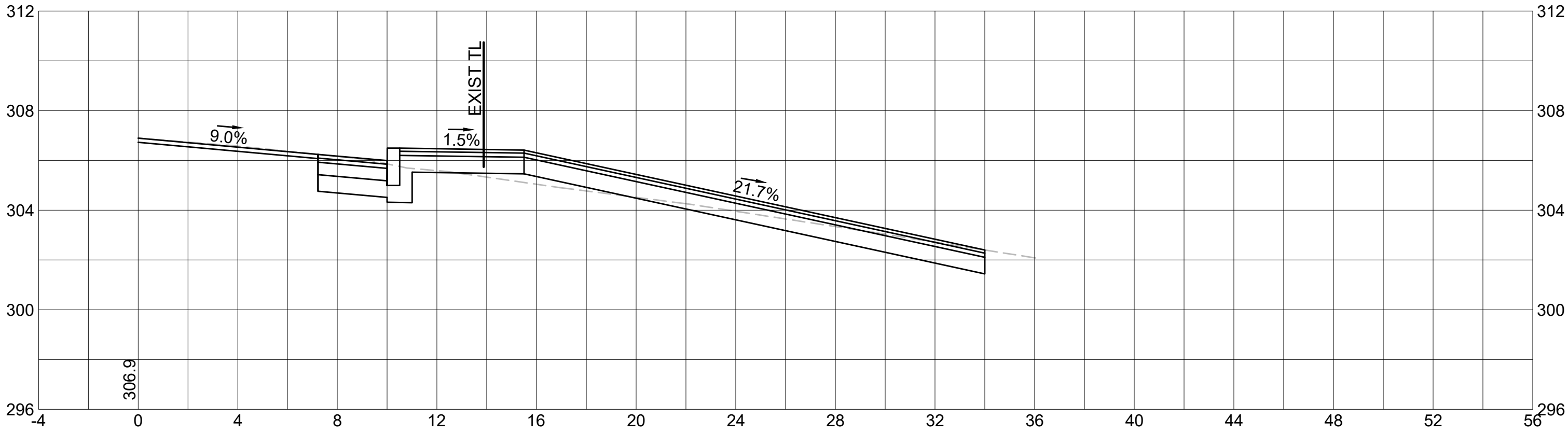
101+75



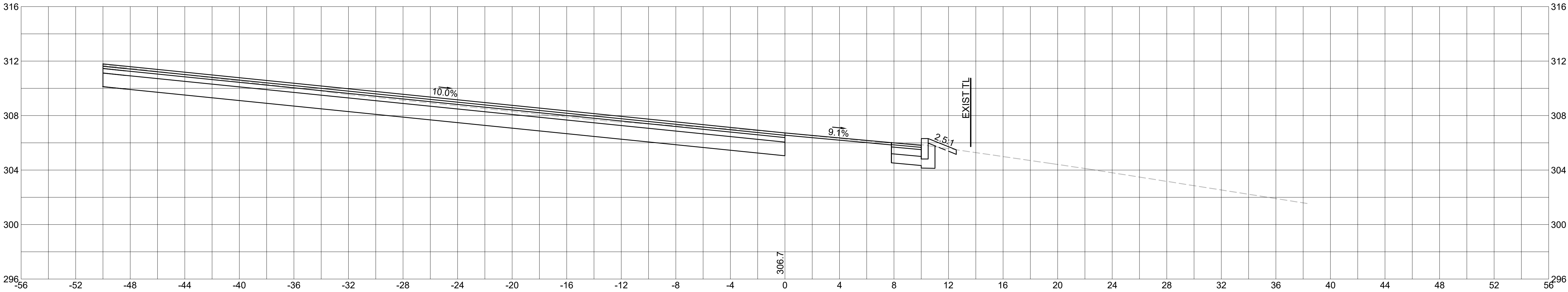
101+50



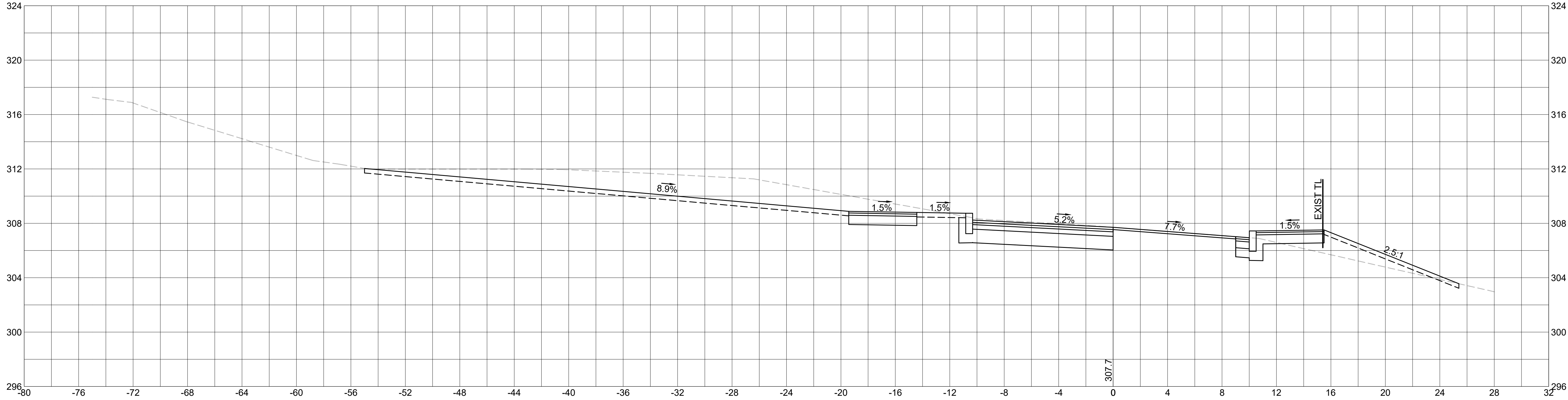
102+07



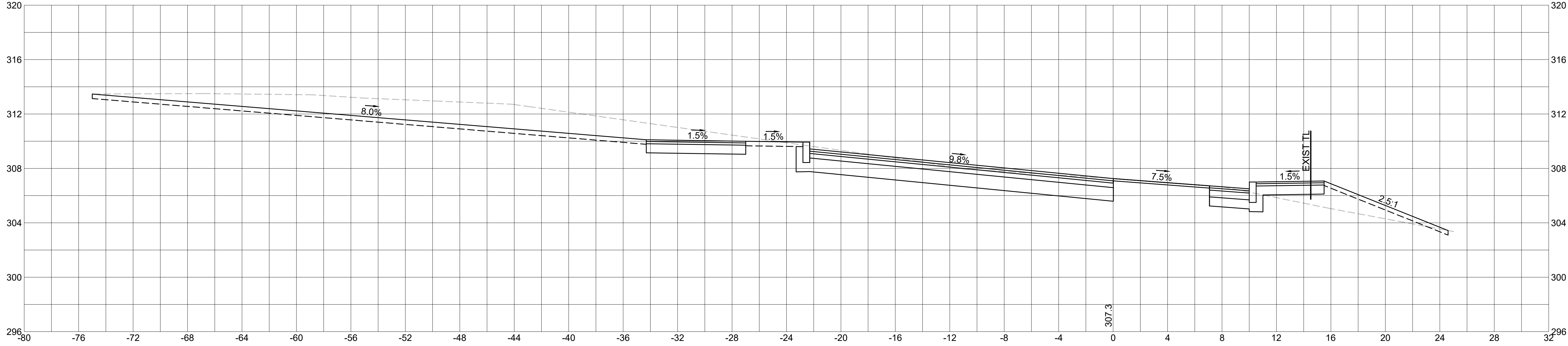
102+00



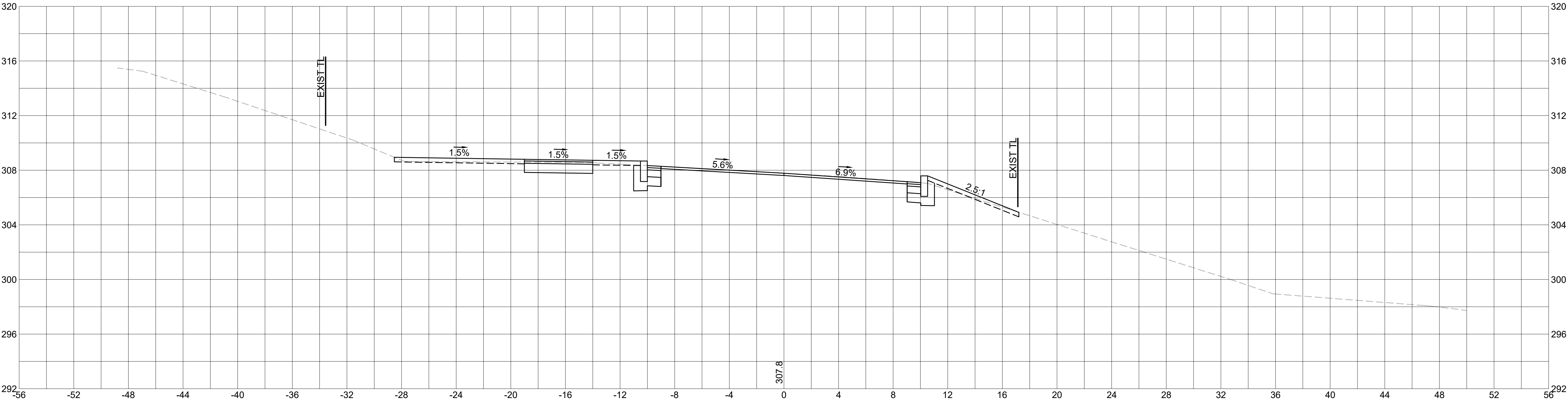
102+50



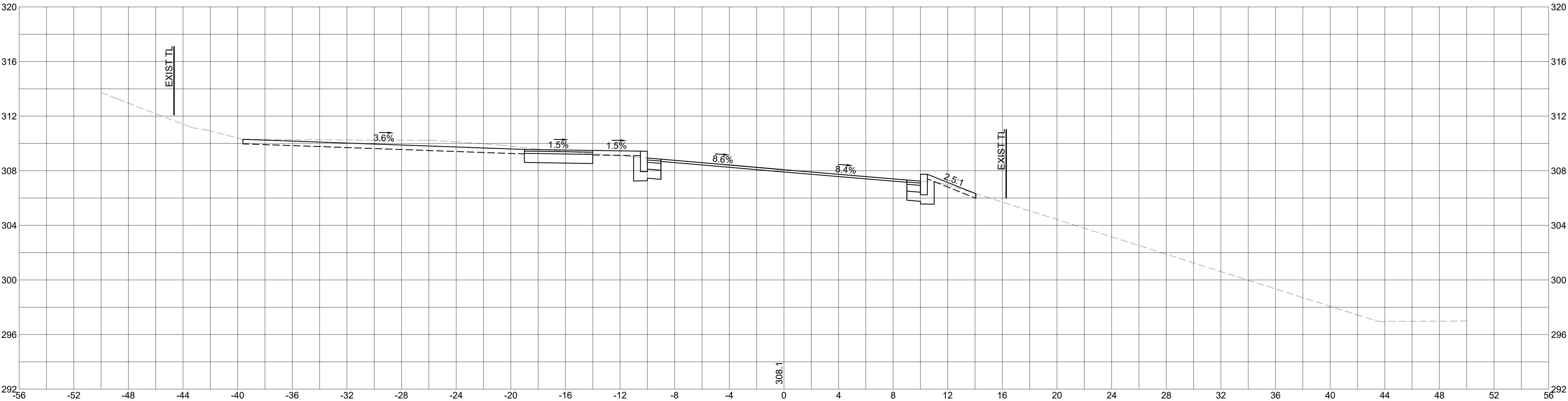
102+25



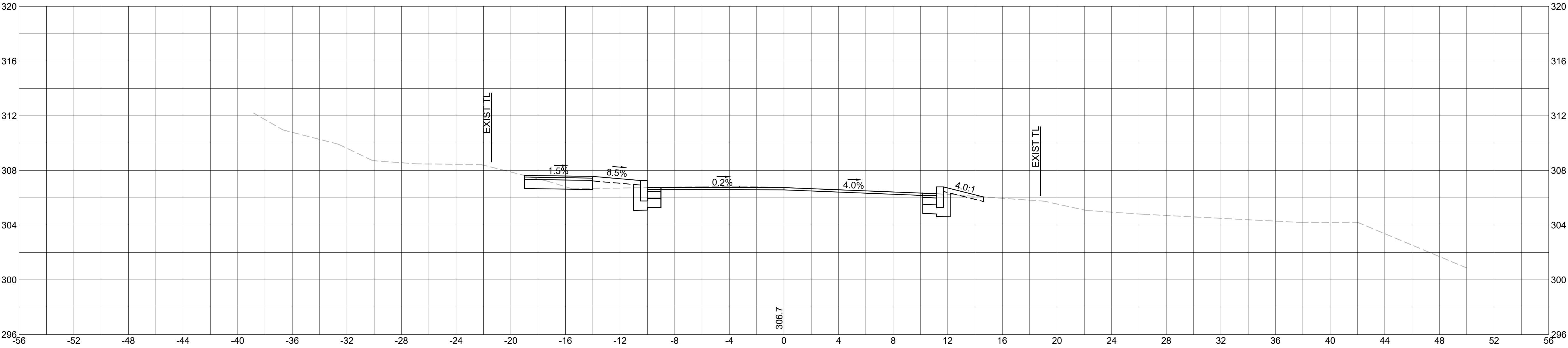
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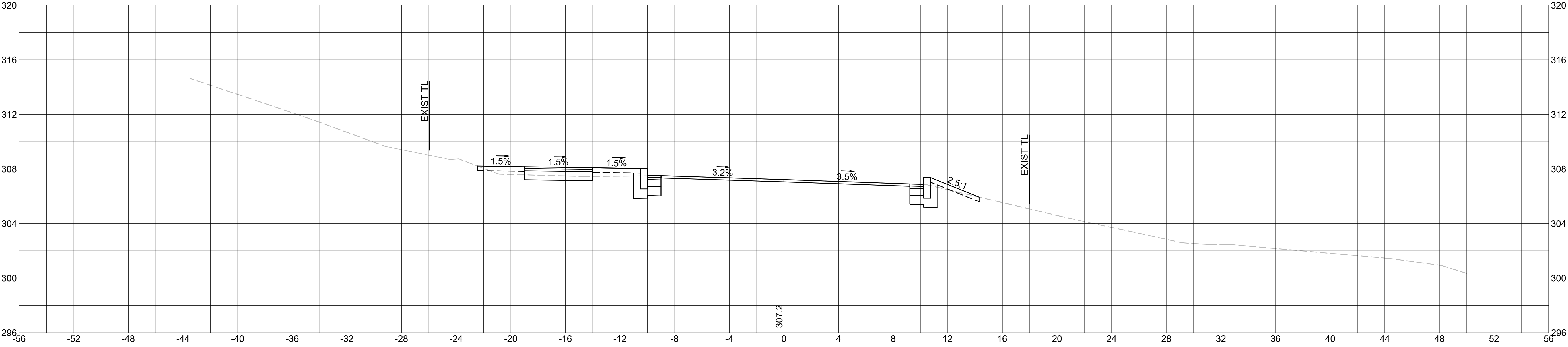
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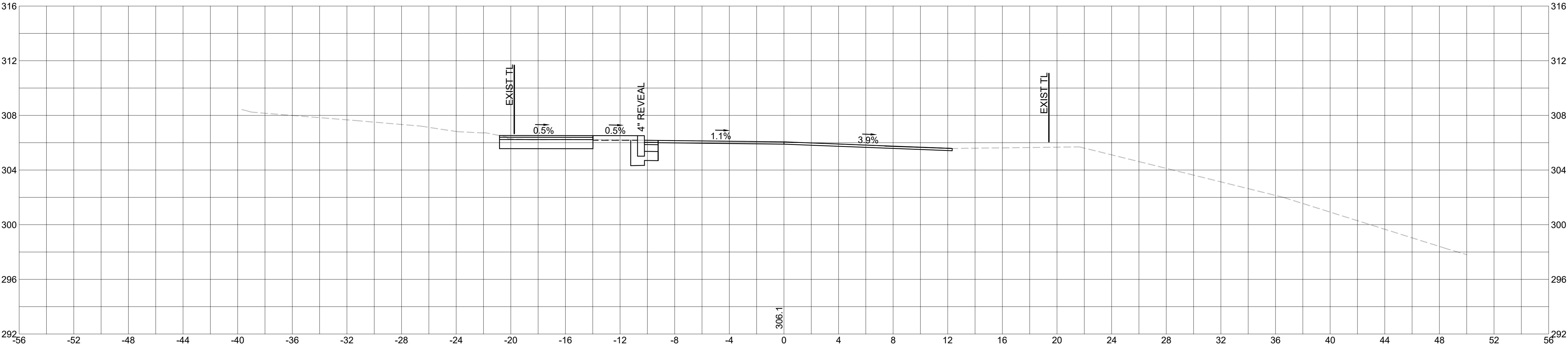
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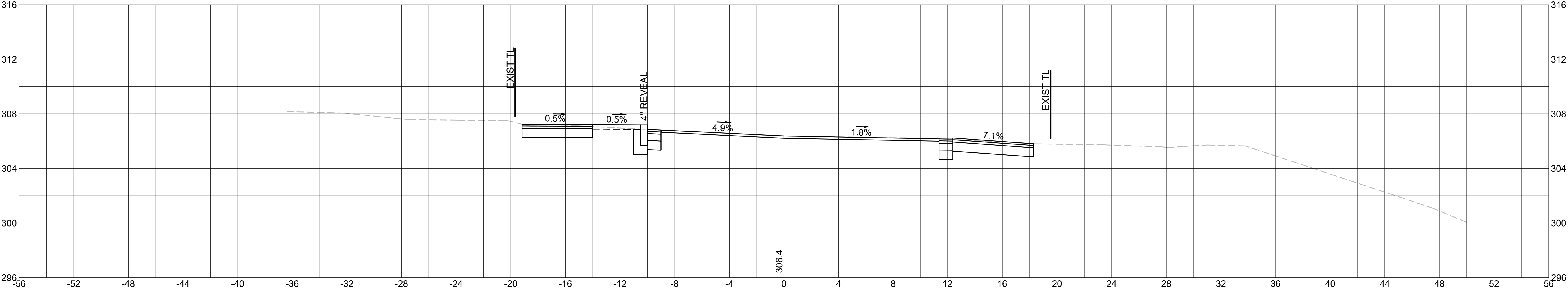
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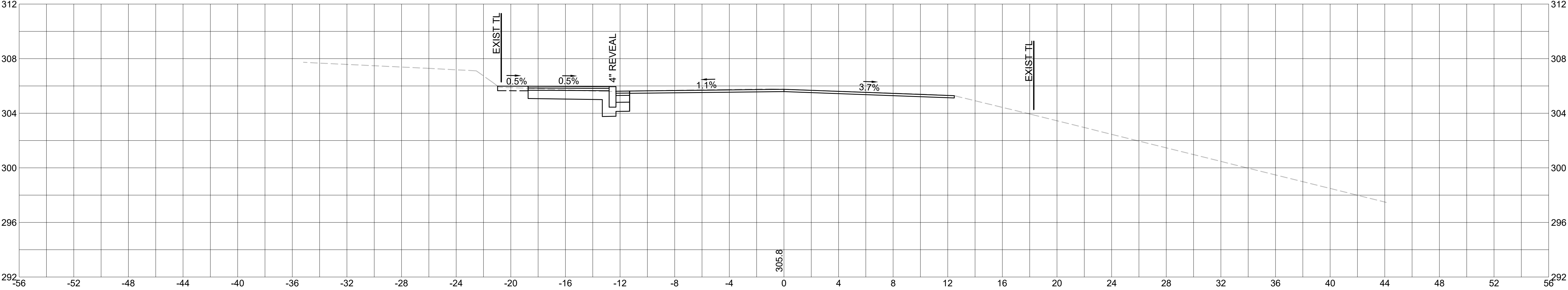
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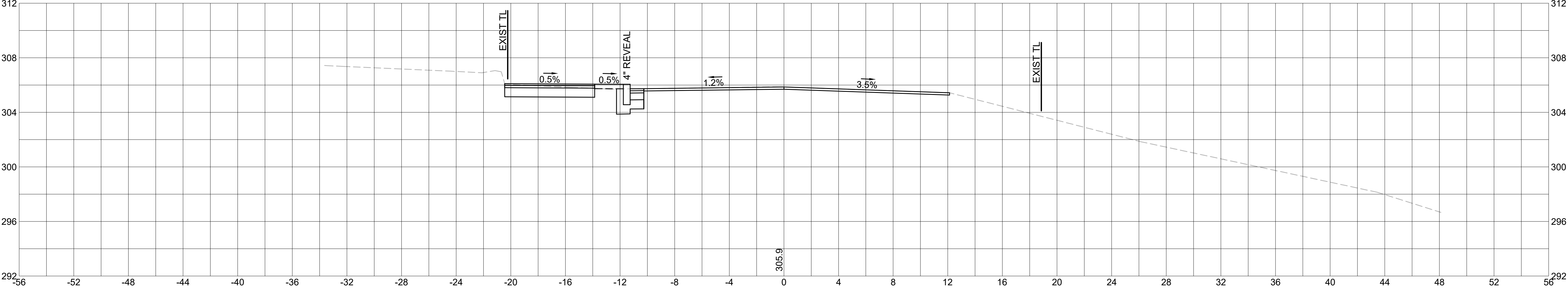
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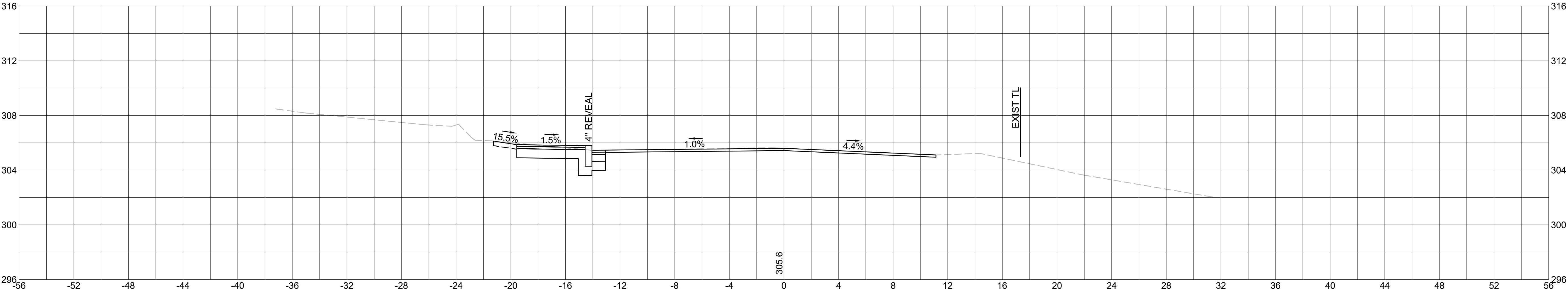
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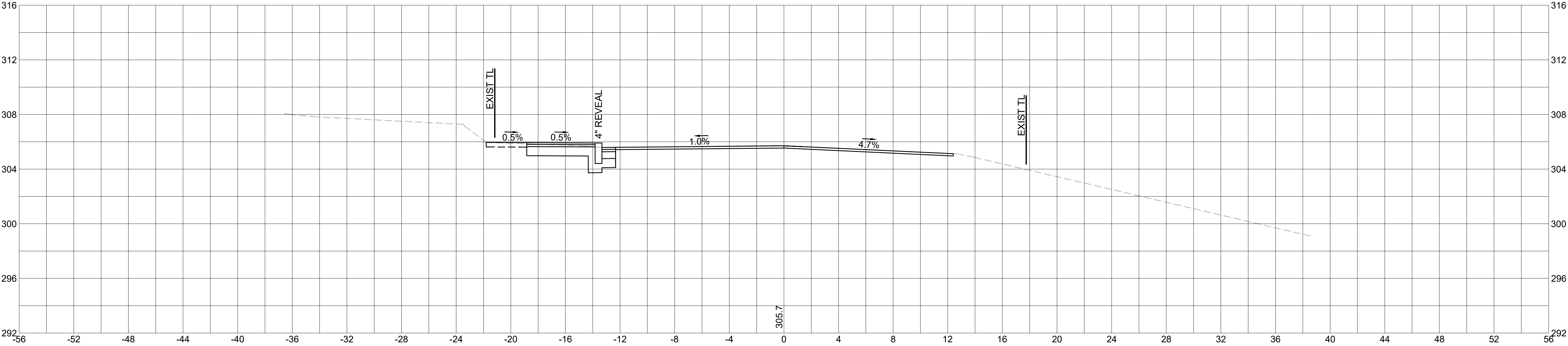
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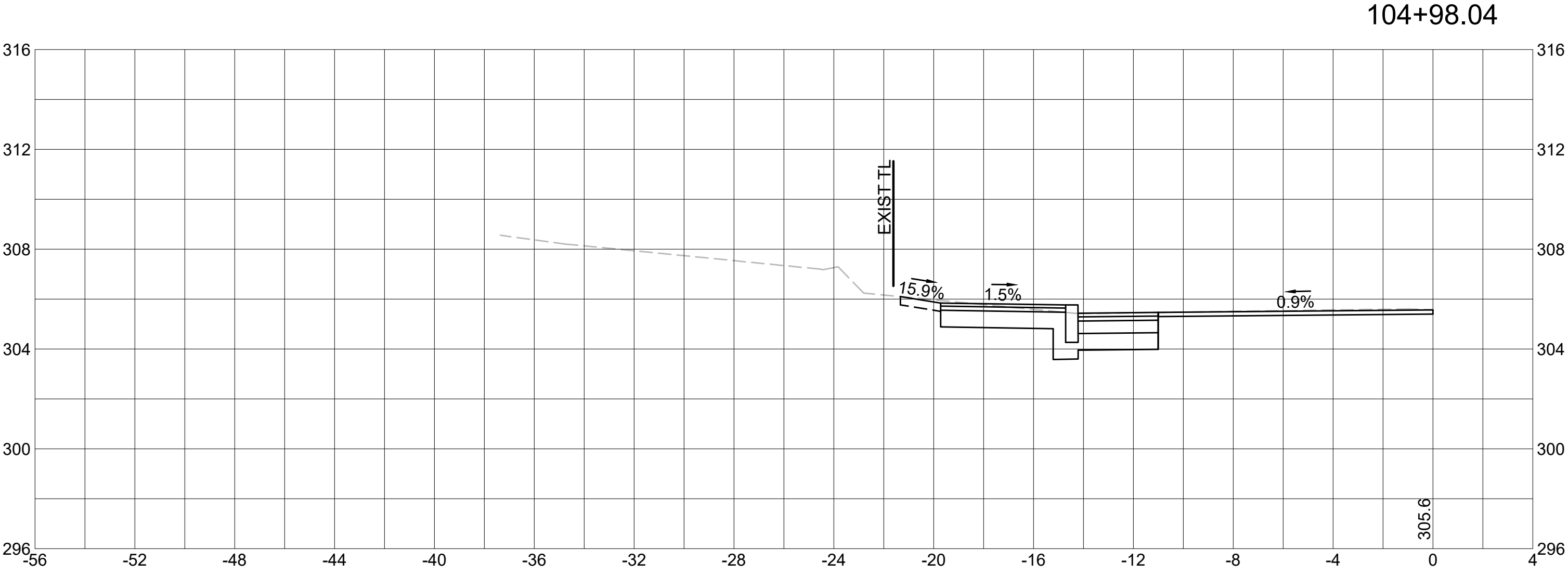


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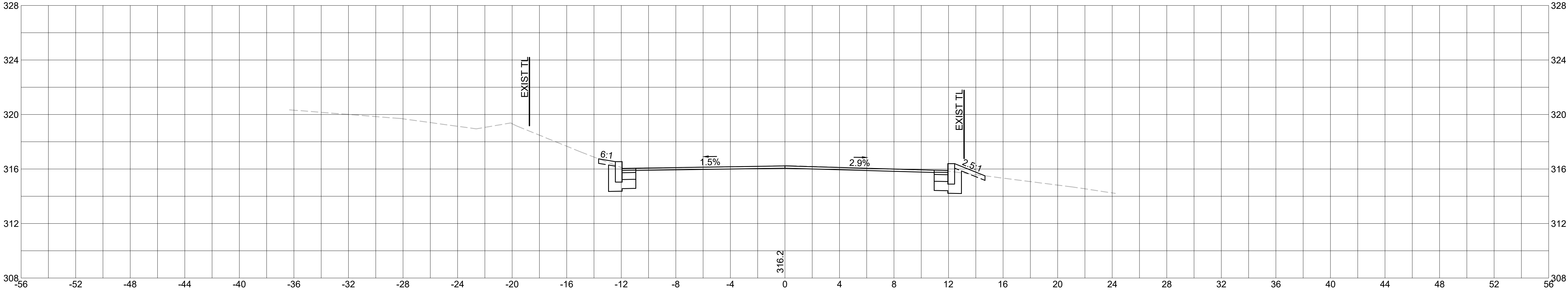


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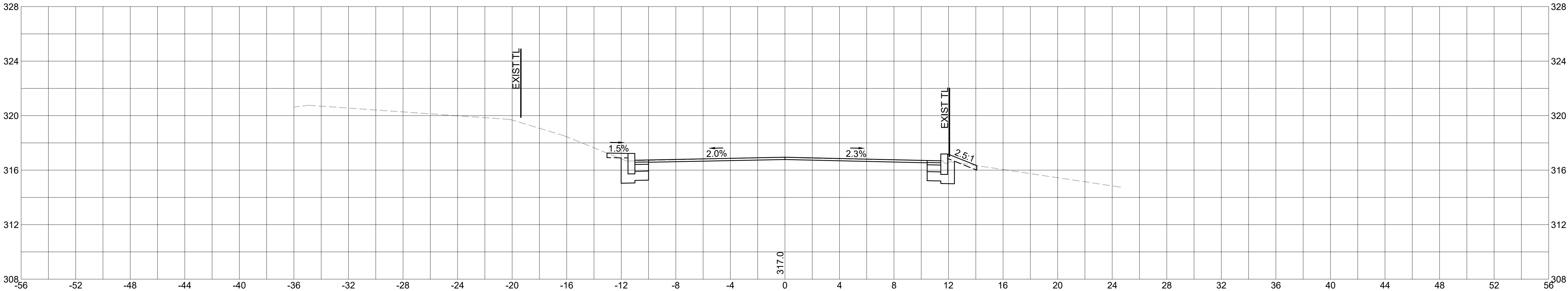




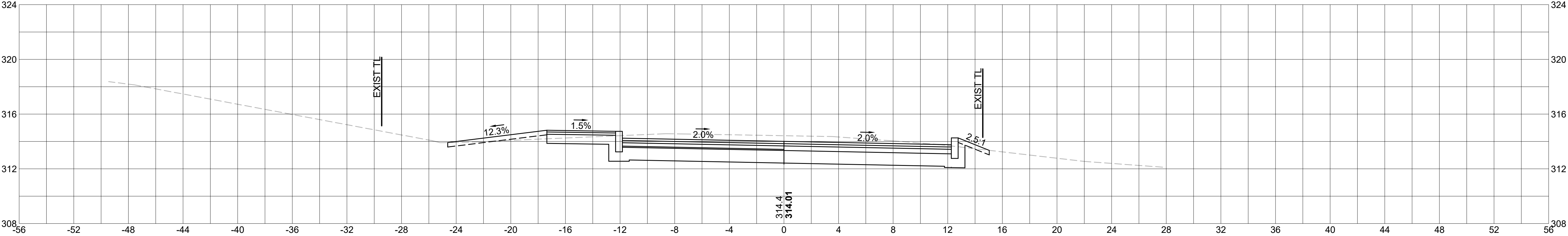
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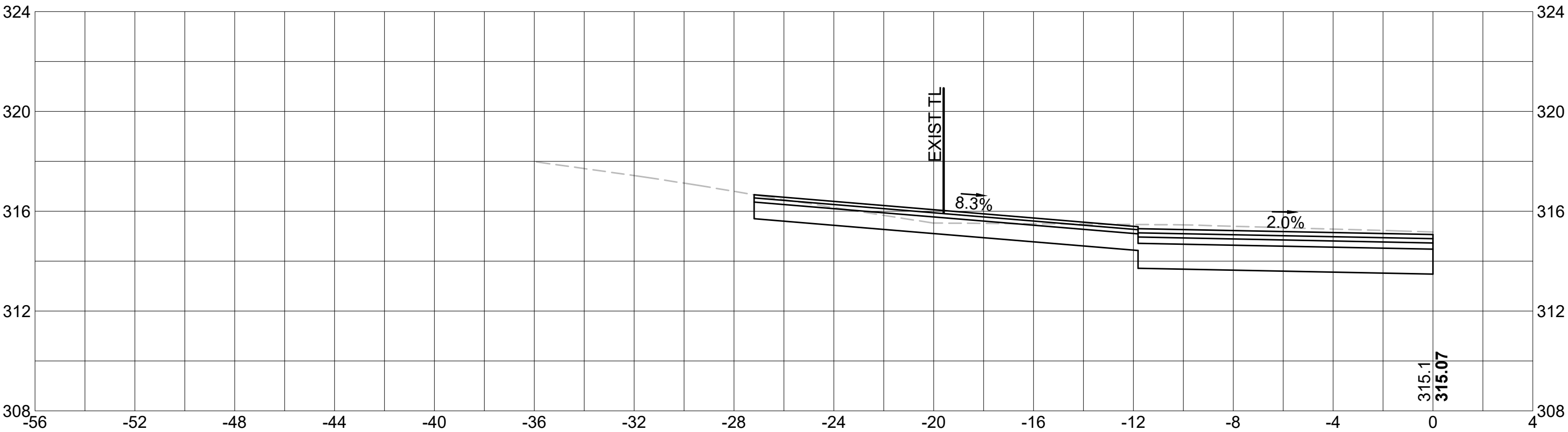
702+00



702+75



702+58



702+50

