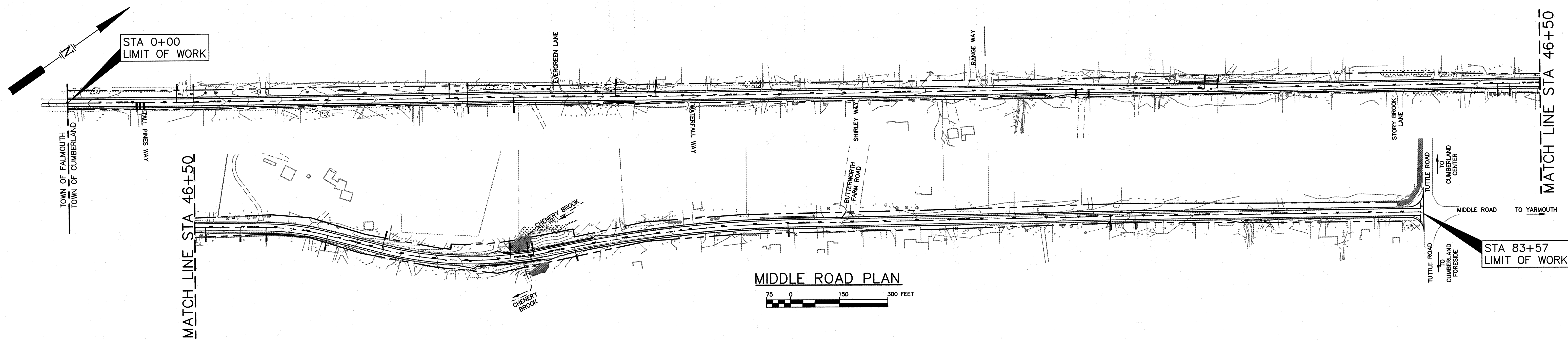


# TOWN OF CUMBERLAND

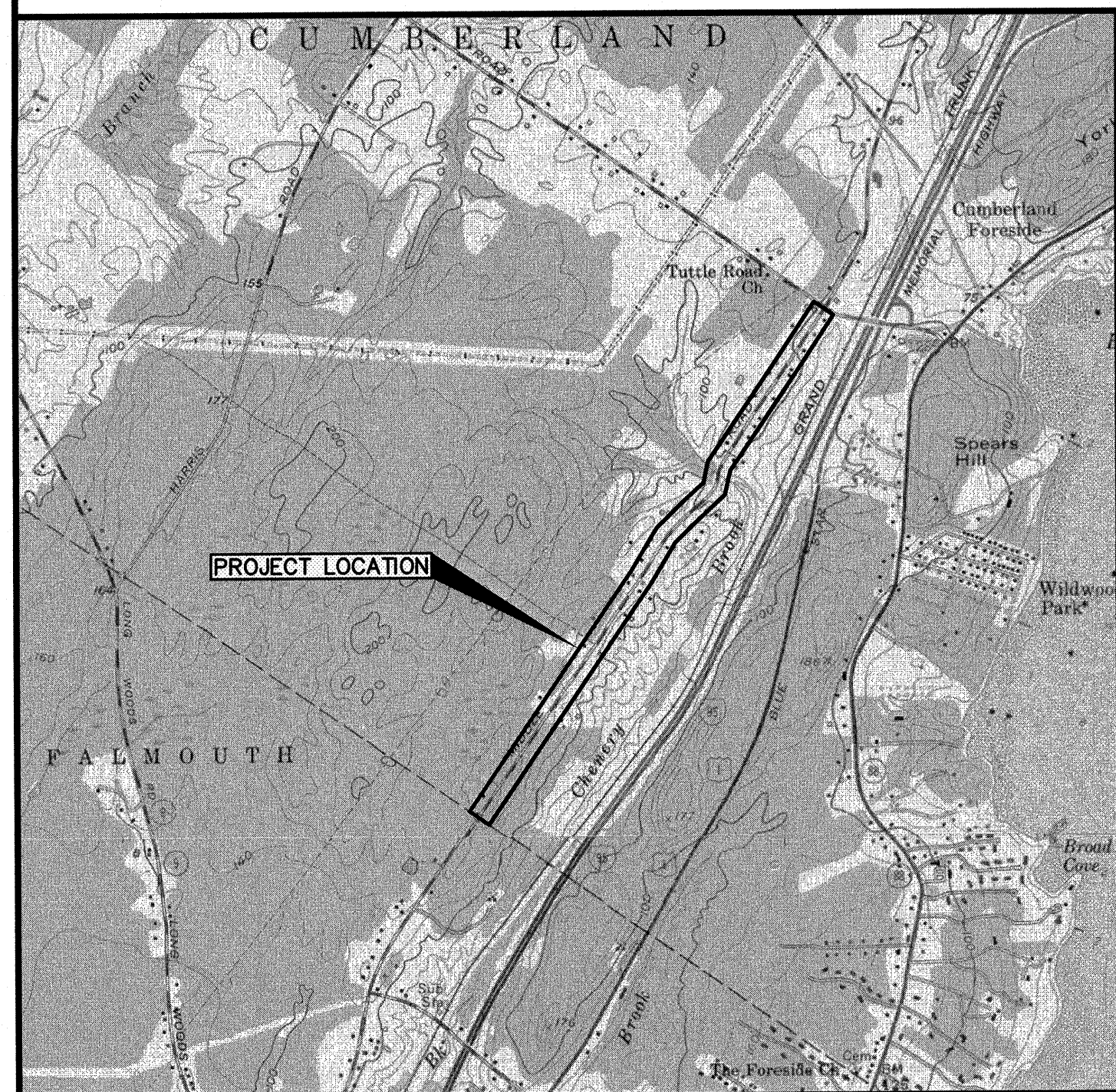
# MIDDLE ROAD IMPROVEMENTS

# CUMBERLAND, MAINE

CUMBERLAND COUNTY  
PROJECT LENGTH: 1.6 MILES  
ROADWAY IMPROVEMENT PROJECT  
SPRING 2017



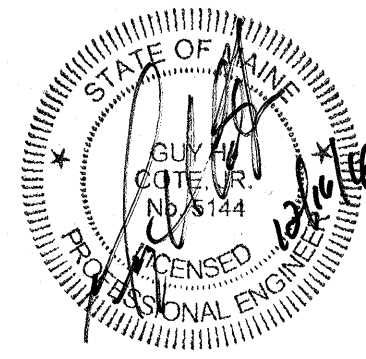
LOCATION MAP



**SME**  
Sevee & Maher Engineers, Inc.

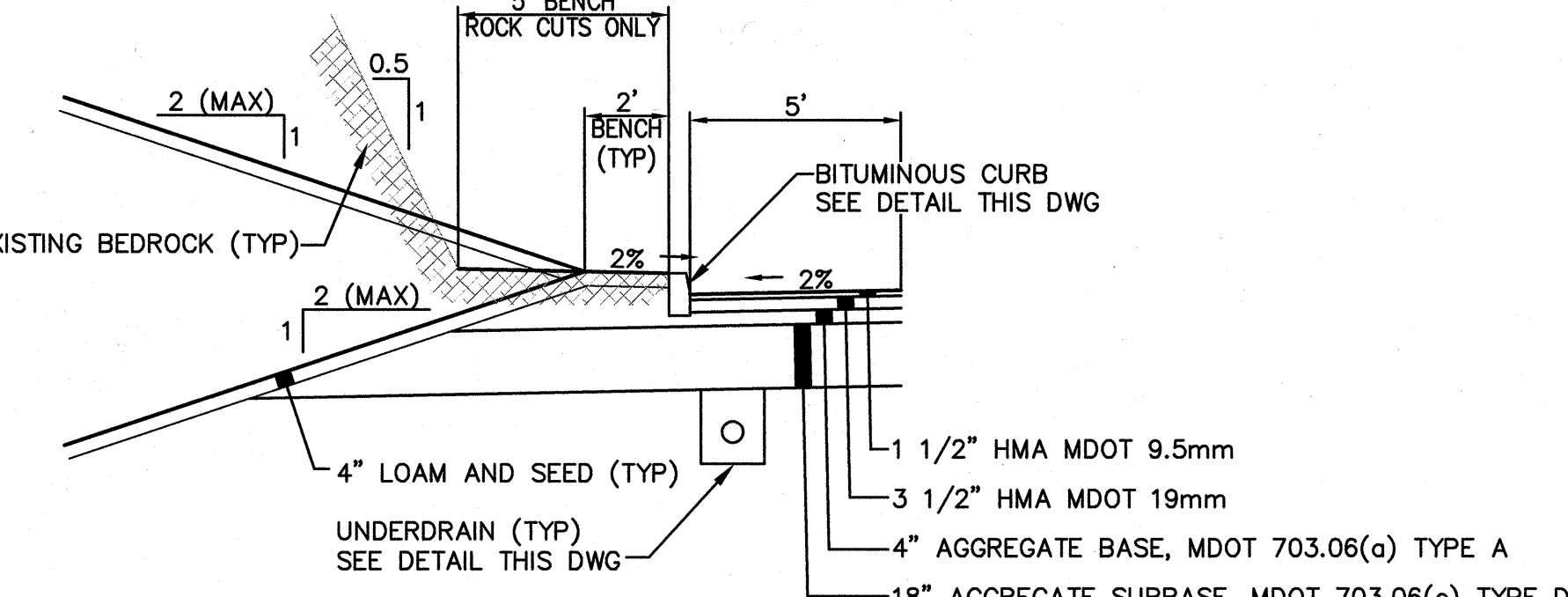
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021  
Phone 207.829.5016 • Fax 207.829.5692 • [www.smemaine.com](http://www.smemaine.com)



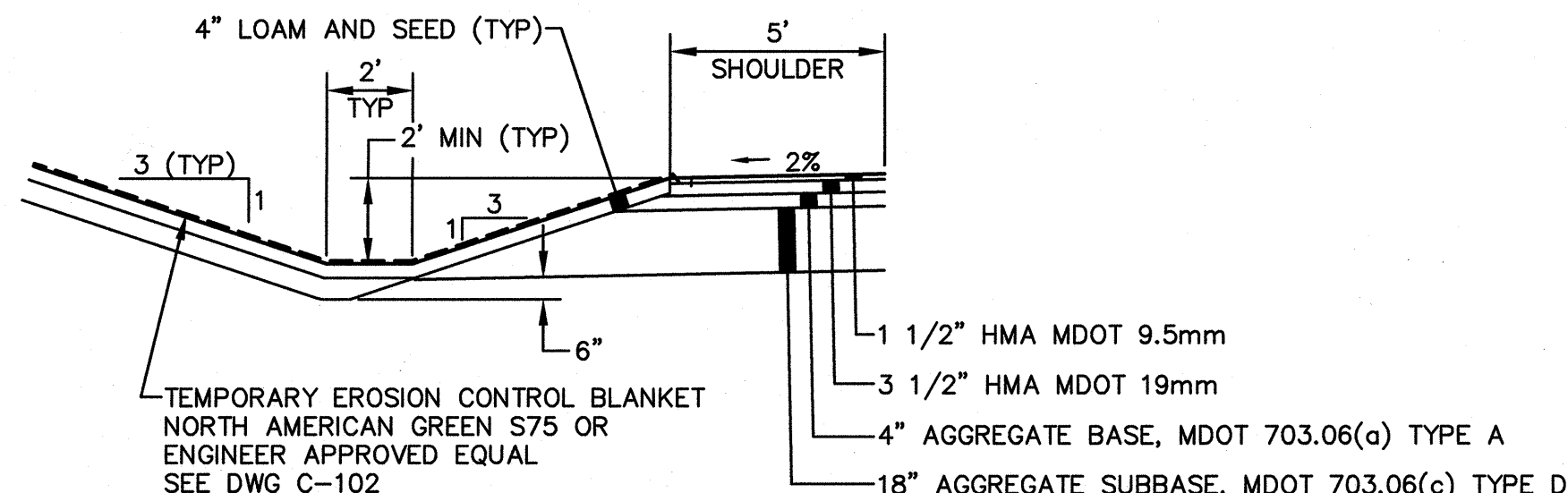
TITLE	DWG NO
TITLE SHEET	
TYPICAL SECTIONS	C-100
GENERAL NOTES, LEGEND AND ABBREVIATIONS	C-101
DETAILS AND SECTIONS	C-102 & C-103
EROSION CONTROL NOTES AND DETAILS	C-104
CULVERT EXTENSION PLAN	C-105
WATER MAIN CONNECTION PLAN	C-106
MIDDLE ROAD PLAN AND PROFILES	C-200 TO C-213
MIDDLE ROAD CROSS SECTIONS	C-214 TO C-244





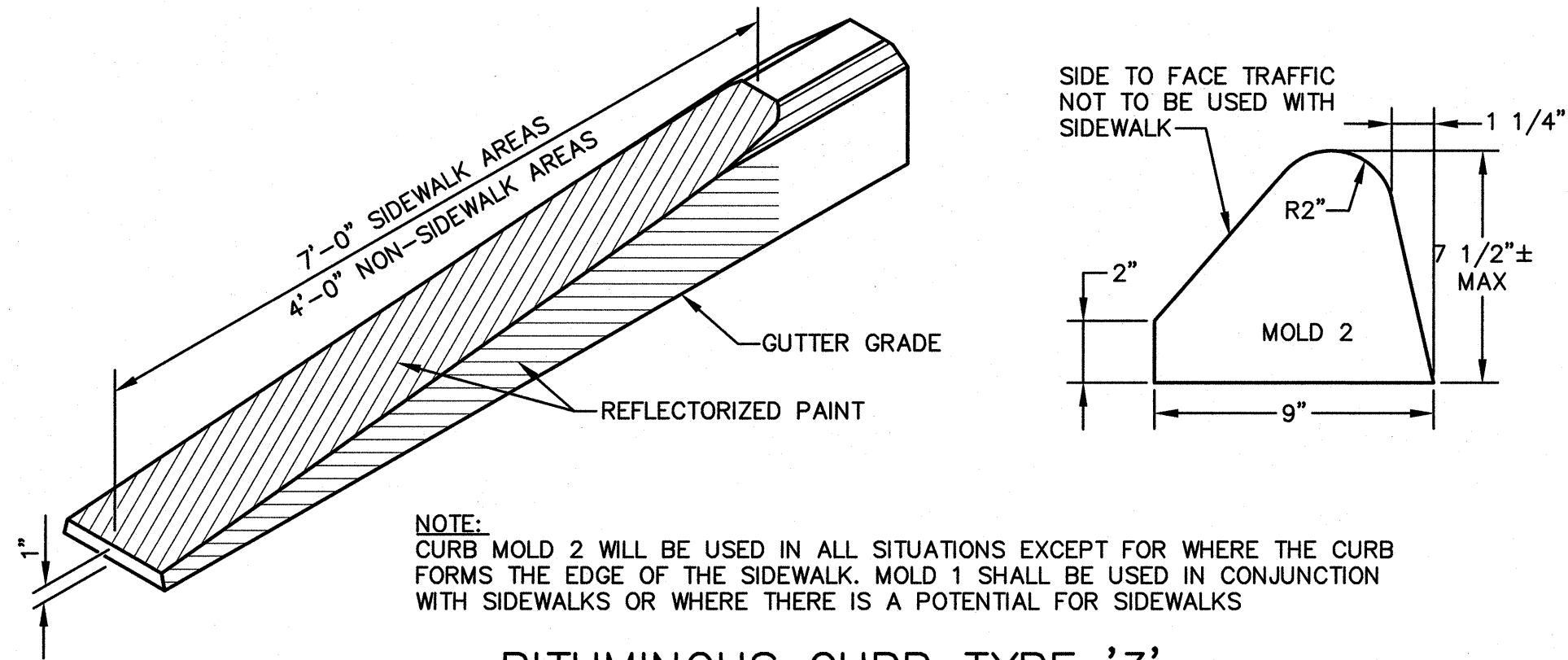
## CURBED ROAD TYPICAL SECTION

NIS



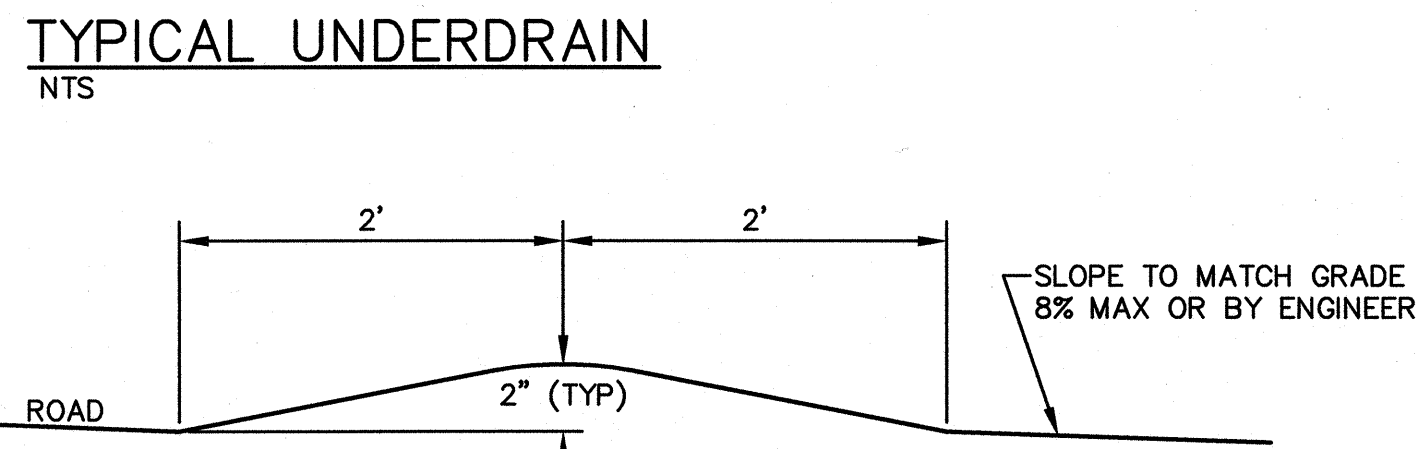
### DEEP DITCH TYPICAL SECTION

NTS

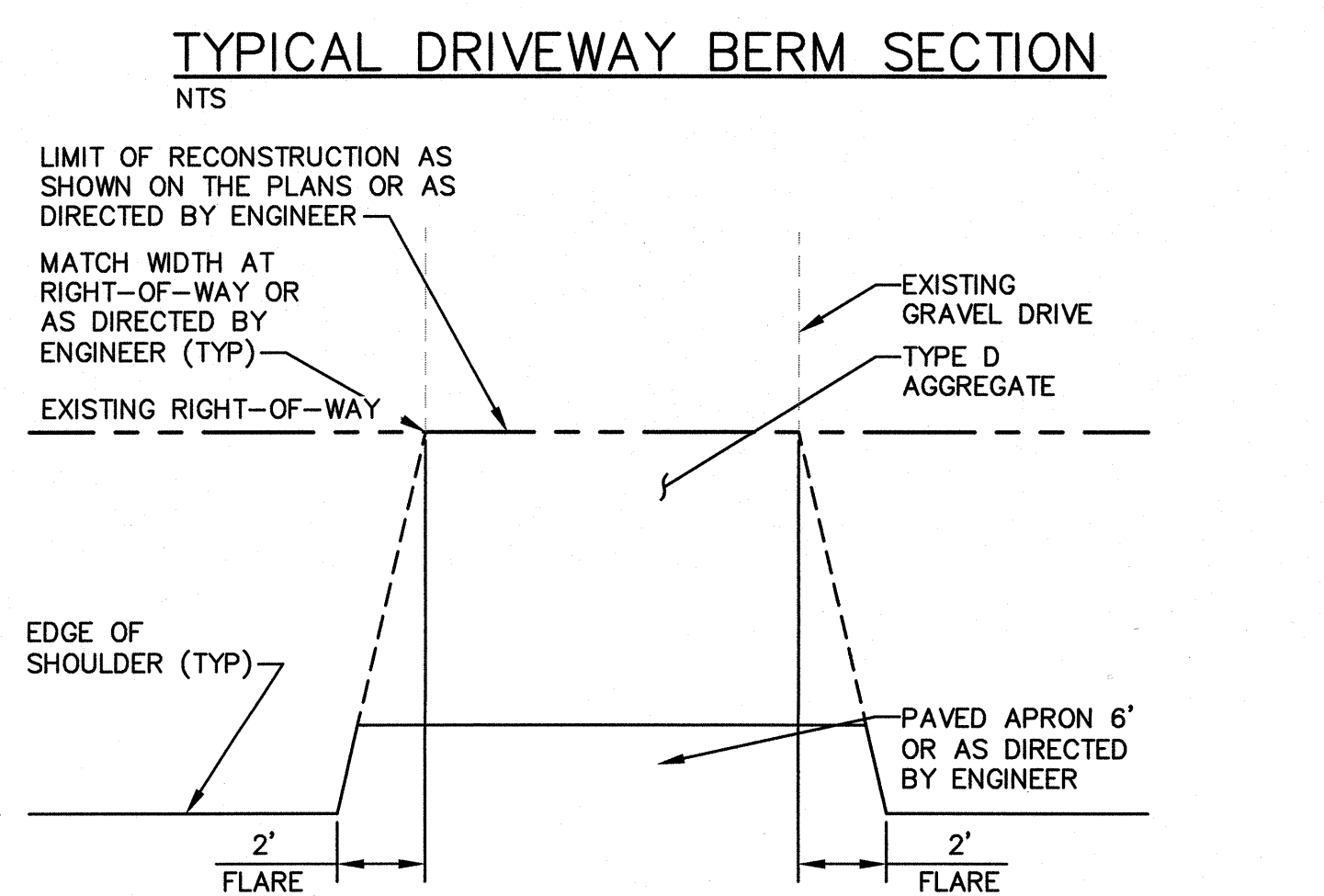


NIS

**NOTE:**  
CURB MOLD 2 WILL BE USED IN ALL SITUATIONS EXCEPT FOR WHERE THE CURB FORMS THE EDGE OF THE SIDEWALK. MOLD 1 SHALL BE USED IN CONJUNCTION WITH SIDEWALKS OR WHERE THERE IS A POTENTIAL FOR SIDEWALKS

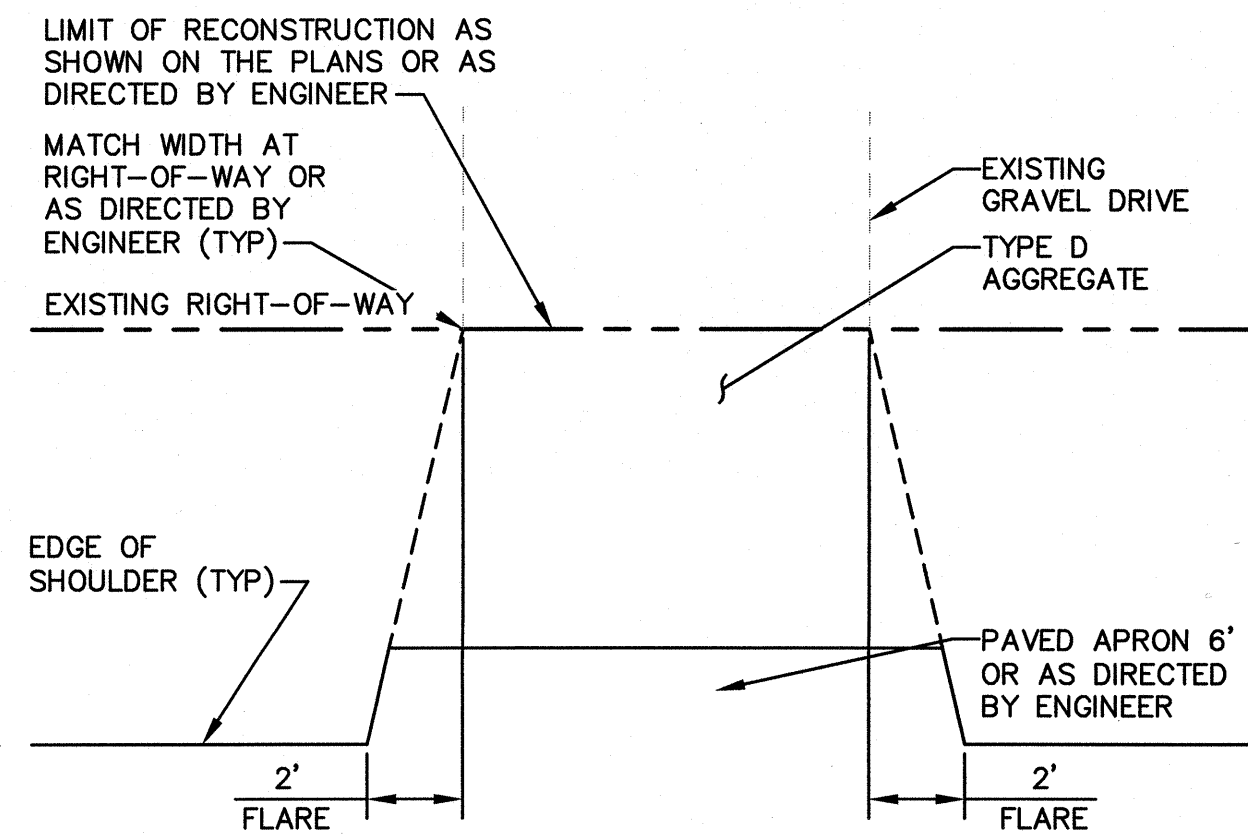


NTS



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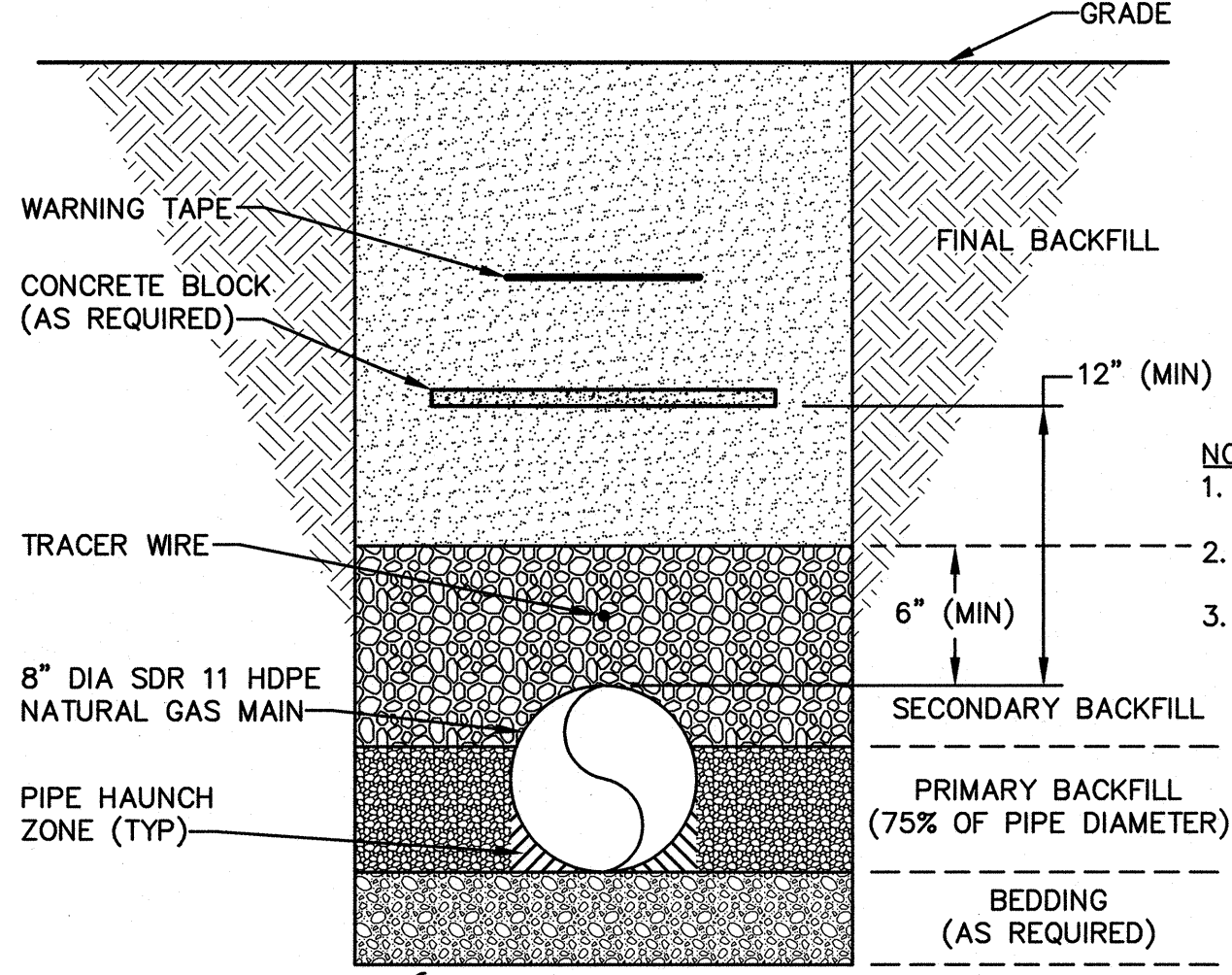
110



### TYPICAL GRAVEL DRIVEWAY

NTS

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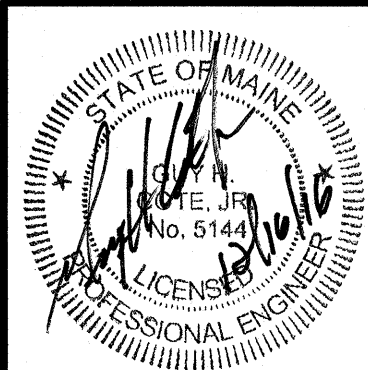
NTS

**NOTES:**

1. MINIMUM COVER OVER PIPE SHALL BE 40".
2. TRENCH WIDTH SHALL BE NO LESS THAN 18".
3. FINAL BACKFILL MATERIAL SHALL BE PER ROADWAY TYPICAL DETAIL AND MATERIAL SHALL BE PART OF BASE BID.

TYPICAL ROAD SECTION WITH 2:1 SIDE SLOPE (RT)	
STATION FROM	STATION TO
3+88.0	16+00.0
19+62.5	25+75.0
27+87.5	28+62.5
33+62.5	40+87.5
41+62.5	43+62.5
57+65.0	59+50.0
SHALLOW/DEEP DITCH TYPICAL SECTION (LT)	
STATION FROM	STATION TO
17+90.0	19+75.0
21+75.00	27+80.0
30+70.0	34+12.5
37+12.500	40+25.0
43+87.500	50+00.0
61+12.500	END
TYPICAL GUARDRAIL SECTION (LT)	
STATION FROM	STATION TO
16+27.0*	17+31.0*
55+12.5	58+50.0
TYPICAL GUARDRAIL SECTION (RT)	
STATION FROM	STATION TO
16+00.0	18+10.0
28+20.0	30+85.0
53+70.5	56+90.0
77+50.0	78+82.5

\* GUARDRAIL IS LOCATED IN RETAINING WALL, SEE DWG C-102




TOWN OF CUMBERLAND  
MIDDLE ROAD IMPROVEMENTS  
CUMBERLAND, MAINE

## TYPICAL SECTIONS

# SME

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DESIGN BY: JCM
DRAWN BY: SJM
DATE: 5/2016
CHECKED BY: 
LMN: NONE
CTB: SME-STD

	JCM	12/2016	ISSUED FOR BID
REV.	BY	DATE	STATUS



GENERAL NOTES:

1. EXISTING TOPOGRAPHY FROM PLAN ENTITLED "EXISTING CONDITIONS SURVEY FOR TOWN OF CUMBERLAND, MIDDLE ROAD, CUMBERLAND MAINE" BY BOUNDARY POINTS PROFESSIONAL LAND SURVEYORS, INC, DATED 2-15-2015. SEE SURVEYORS NOTES ON THIS DWG FOR MORE INFORMATION.
2. WETLAND BOUNDARIES DELINEATED BY AL FRICK OF FALMOUTH, MAINE, DATED 4/1/2016.
3. ALL SITE AND CONSTRUCTION ACTIVITIES SHALL BE IN COMPLIANCE WITH MEDEP BEST MANAGEMENT PRACTICES AND EXISTING FEDERAL, STATE, AND LOCAL PERMITS AND PERMITTING REQUIREMENTS FOR THE SITE.
4. THE TOWN OF CUMBERLAND SHALL HAVE THE RIGHT AND AUTHORITY TO DETERMINE THE ACCEPTABILITY OF WORK AND MATERIALS IN PROGRESS OR COMPLETED. THE TOWN OF CUMBERLAND SHALL HAVE THE RIGHT TO REJECT ANY WORK OR MATERIALS WHICH DO NOT CONFORM, IN ITS SOLE OPINION, TO THE PLANS OR SPECIFICATIONS.
5. ALL SIGNING, SIGNAL AND STRIPING MATERIALS AND PLACEMENT SHALL CONFORM TO THE MAINEDOT STANDARD SPECIFICATIONS, NOVEMBER 2014 EDITION, SUPPLEMENTAL SPECIFICATIONS AND STANDARD DETAILS AND WITH THE FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2009 EDITION.
6. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED. UNLESS OTHERWISE NOTED, SEEDING METHOD NO. 1 SHALL BE UTILIZED ON ALL LAWS AND DEVELOPED AREAS, AND SEEDING METHOD NO. 2 SHALL BE USED IN ALL OTHER LOCATIONS. LOAM SHALL BE PLACED TO A MINIMUM DEPTH OF 4" IN METHOD NO. 1 AREAS, AND 2" IN ALL OTHER AREAS UNLESS OTHERWISE NOTED OR DIRECTED.
7. DISPOSITION OF SURPLUS MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SURPLUS MATERIAL SHALL NOT BE DISPOSED OF ON THE PROJECT SITE. DISPOSITION SHALL BE MADE ONLY AT WASTE AREAS WHICH ARE LICENSED TO ACCEPT SUCH MATERIALS, UNLESS THE MATERIALS CAN BE INCORPORATED IN FILLS IN OTHER PROJECTS OF THE CONTRACTOR, ALL WASTE AREAS SHALL BE APPROVED BY THE RESIDENTS.
8. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUBPART P OF 29 CRF PART 1928.650--652 (CONSTRUCTION STANDARD FOR EXCAVATIONS).
9. THE CONTRACTOR SHALL CONTACT DIG-SAFE AND APPROPRIATE AUTHORITIES PRIOR TO ANY SUBSURFACE ACTIVITIES.
10. IF FOUNDATION MATERIAL IS REQUIRED UNDER CULVERTS, IT SHALL MEET THE REQUIREMENTS FOR GRANULAR BORROW UNDERWATER BACKFILL.
11. ALL CLEARING AND TRIMMING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO SEPARATE PAYMENT WILL BE MADE. THE ACTUAL LINES FOR CLEARING AND TRIMMING SHALL BE ESTABLISHED BY THE CONTRACTOR AND APPROVED IN THE FIELD BY THE ENGINEER.
12. BUTT JOINTS SHALL BE USED AT ALL LOCATIONS WHERE THE PROPOSED PAVEMENT MEETS EXISTING PAVEMENT.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING OPENING PERMITS. CONTRACTOR SHALL BE RESPONSIBLE APPLYING FOR AND ALL COSTS ASSOCIATED WITH OBTAINING OPENING PERMITS FROM THE TOWN IF REQUIRED.
14. MAINTENANCE OF TRAFFIC SHALL BE PER THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2009 EDITION.
15. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL NECESSARY BARRICADES, LIGHTS, WARNING SIGNS AND OTHER DEVICES TO SAFEGUARD TRAFFIC PROPERLY WHILE WORK IS IN PROGRESS FOR THE DURATION OF THE PROJECT.
16. DRIVEWAY ACCESSSES SHALL BE MAINTAINED AT ALL TIMES.
17. THE CONTRACTOR SHALL SUBMIT A PLAN TO CONTROL TRAFFIC DURING THE PERIOD OF CONSTRUCTING THE IMPROVEMENTS TO THE ENGINEER AND THE TOWN OF CUMBERLAND FOR APPROVAL. THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", 2009 EDITION. THE CONTRACTOR MUST MAINTAIN TWO WAY TRAFFIC WHENEVER PRACTICABLE AND MUST MAINTAIN AT LEAST ONE WAY ALTERNATING TRAFFIC FLOW AT ALL TIMES. ALL TRAFFIC SHALL BE CONTROLLED DURING THE PERIOD OF CONSTRUCTION IN ACCORDANCE WITH THE TRAFFIC CONTROL PLAN.
18. THE CONTRACTOR SHALL COMPLY WITH THE INSURANCE REQUIREMENTS OUTLINED UNDER SECTION 110 IN THE DEPARTMENT'S STANDARD SPECIFICATIONS NOVEMBER 2014 EDITION (HEREAFTER STANDARD SPECIFICATIONS). MINIMUM INSURANCE REQUIREMENTS SHALL INCLUDE AT LEAST WORKERS' COMPENSATION INSURANCE, COMMERCIAL GENERAL LIABILITY AND AUTOMOBILE LIABILITY INSURANCE AS DEFINED BY THE CONTRACTOR AND THE DEPARTMENT WITH SATISFACTORY PROOF OF SUCH INSURANCE COVERAGE. IN THE EVENT THAT SUCH INSURANCE IS TERMINATED OR CANCELED WITHOUT BEING REPLACED WITH COMPARABLE INSURANCE, THE DEPARTMENT MAY SUSPEND OR TERMINATE THE CONSTRUCTION OF ALL TRAFFIC IMPROVEMENTS IN PROGRESS AT THE TIME OF SUCH TERMINATION OR CANCELLATION.
19. THE CONTRACTOR SHALL PROVIDE THE TOWN WITH A PERFORMANCE BOND, CERTIFIED CHECK OR OTHER NEGOTIABLE SECURITY ACCEPTABLE TO THE OWNER IN THE FULL AMOUNT OF THE COST TO CONSTRUCT SUCH IMPROVEMENTS WHICH CONFORMS TO THE GENERAL REQUIREMENTS FOR SUCH SURETY AS OUTLINED UNDER SECTION 110.2 IN THE STANDARD SPECIFICATIONS.
20. THE CONTRACTOR SHALL PROVIDE THE TOWN OF CUMBERLAND WITH A SCHEDULE OF WORK FOR CONSTRUCTING THE IMPROVEMENTS, AND AN EMERGENCY CONTACT LIST.
21. ALL IMPROVEMENTS SHALL BE CONSTRUCTED AS SHOWN ON THE FINAL PLANS IN ACCORDANCE WITH THE MAINEDOT STANDARD SPECIFICATIONS NOVEMBER 2014 EDITION, DETAILS AND ANY REVISIONS.
22. THE CONTRACTOR SHALL ALLOW OR ARRANGE FOR THE TOWN OF CUMBERLAND, ITS INSPECTORS, AGENTS, EMPLOYEES, CONTRACTORS OR INVITED GUESTS, TO ENTER UPON ANY LAND OWNED OR CONTROLLED BY THE CONTRACTOR OUTSIDE OF AND ADJOINING THE RIGHT-HIGHWAY OR PUBLIC WAY, WHICH MAY BE USED FOR CONSTRUCTION OF THE TRAFFIC IMPROVEMENTS, AT ANY AND ALL TIMES AND FOR ANY AND ALL PURPOSES NECESSARY OR INCIDENTAL TO SUCH INSPECTION OR TESTING.
23. THE PLACEMENT OF BITUMINOUS PAVING MATERIALS SHALL BE SUBJECT TO ALL OF THE WEATHER AND SEASONAL LIMITATIONS OUTLINED UNDER MAINE DOT STANDARD SPECIFICATIONS, NOVEMBER 2014 EDITION DIVISION 400, PAVEMENTS, SECTION 401, PARAGRAPH 401.06.
24. ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO REMOVE AND RESET POST SIGNS, MAILBOXES, AND POLES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT BID PRICES. IF ANY DAMAGE OCCURS TO POSTS, SIGNS, MAILBOXES OR ASSOCIATED HARDWARE DURING REMOVAL, STORAGE OR RESETTING, THE DAMAGED MATERIALS SHALL BE REPLACED BY THE CONTRACTOR, TO THE SATISFACTION OF THE ENGINEER, AT NO ADDITIONAL COST TO THE OWNER.
25. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. UNDERGROUND FACILITIES INDICATED ON THE CROSS SECTIONS HAVE BEEN CARRIED OVER FROM THE PLAN VIEW DATA AND MAY ALSO INCLUDE FURTHER APPROXIMATIONS OF THE ELEVATIONS BASED UPON STRAIGHT LINE INTERPOLATION FROM THE NEAREST MANHOLES, GATE VALVES, OR TEST PITS. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE HIS WORK AND SCHEDULE AND THE UTILITY RELOCATION WORK WITH THE PROPER UTILITY COMPANY. UTILITY CONTACTS FOR THIS PROJECT ARE:
- CENTRAL MAINE POWER  
CONTACT: THOMPSON, AITWOOD  
TELEPHONE: (207) 791-1022  
CENTRAL MAINE POWER  
162 CANGO ROAD  
PORTLAND, MAINE 04103

TIME WARNER CABLE  
CONTACT: MARK PELLETIER  
TELEPHONE: (207) 253-2324  
TIME WARNER CABLE  
118 JOHNSON ROAD  
PORTLAND, MAINE 04102

FAIRPOINT  
CONTACT: MR. MARTY PEASE  
TELEPHONE: (207) 797-1119  
FAIRPOINT  
5 DAVIS FARM ROAD  
PORTLAND, MAINE 04103

PORTLAND WATER DISTRICT  
CONTACT: JAY ARNOLD  
TELEPHONE: (207) 774-5961  
P.O. BOX 3553  
225 DOUGLASS STREET  
PORTLAND, MAINE 04530
26. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
27. PROPERTY LINE AND R.O.W. MONUMENTS SHALL NOT BE DISTURBED BY CONSTRUCTION. IF DISTURBED, THEY SHALL BE RESET TO THEIR ORIGINAL LOCATIONS AT THE CONTRACTOR'S EXPENSE, BY A MAINE PROFESSIONAL LAND SURVEYOR.
28. EXISTING CONDITIONS BASED ON SURVEY COMPLETED BY BOUNDARY POINTS.
29. CONSTRUCTION SHALL NOT COMMENCE UNTIL AUTHORIZED BY THE TOWN AND THE ENGINEER (SEE NOTE 1).
30. THE CONTRACTOR SHALL SUBMIT A QC PLAN AS OUTLINED UNDER MAINE DOT STANDARD SPECIFICATIONS, NOVEMBER 2014 EDITION DIVISION 400, PAVEMENTS, SECTION 401, PARAGRAPH 401.19, FOR APPROVAL BY THE TOWN OF CUMBERLAND AND THE ENGINEER. THE ACCEPTANCE METHOD SHALL BE METHOD D. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS IN ADVANCE OF ANY PAVING. THE DENSITY REQUIREMENTS AND DISINCENTIVE SHALL APPLY AS OUTLINED IN SECTION 401.204 OF THE MAINE DOT, SECTION 401. CORES WILL BE REQUIRED AT LOCATIONS REQUESTED BY THE ENGINEER. THE TOWN MAY TAKE SAMPLES FOR TESTING AT THEIR DISCRETION TO DETERMINE IF THE MIX IS WITHIN THE TOLERANCES LISTED IN TABLE 8 OF SECTION 401.204.
31. ALL PAVEMENT MARKINGS THAT CONFLICT WITH THE PROPOSED SHALL BE REMOVED IN ACCORDANCE WITH THE MAINEDOT SPECIFICATIONS.
32. ALL NEW SIGNS SHALL HAVE HIGH INTENSITY RETRO-REFLECTIVE SHEETING. WHEN WOOD POSTS ARE USED THEY SHALL BE PRESSURE TREATED.
33. A TACK COAT OF EMULSIFIED ASPHALT, RS-1 OR HFMS-1 SHALL BE APPLIED TO ANY EXISTING PAVEMENT AT A RATE OF APPROXIMATELY 0.025 GALLON/S.Y., AND ON MILLED PAVEMENT APPROXIMATELY 0.050 GALLONS/S.Y. A FOG COAT OF EMULSIFIED ASPHALT SHALL BE BETWEEN SHIM/INTERMEDIATE COURSE AND THE SURFACE COURSE, AT A RATE NOT TO EXCEED 0.025 GALLONS/S.Y.
34. THE CONTRACTOR SHALL COMPLETE THE WORK WITHIN RIGHTS-OF-WAY OR EASEMENTS, EXCEPT AS SHOWN ON THE PLANS AND WILL BE RESPONSIBLE IF TRESPASSING OCCURS ON PRIVATE PROPERTY.
35. ALL EXISTING WATER VALVE COVERS AND ANY OTHER EXISTING UTILITIES SHALL BE ADJUSTED TO GRADE BY THE APPROPRIATE UTILITY COMPANY.
36. ALL EXISTING DRAINAGE CATCH BASIN AND OUTLET INFORMATION SHALL BE FIELD VERIFIED PRIOR TO ORDERING NEW STRUCTURES.
37. ALL GUARDRAIL SHALL BE GALVANIZED OR APPROVED EQUIVALENT.
38. ACTUAL GRUBBING LIMITS MAY VARY BASED ON FIELD CONDITIONS AS DIRECTED BY THE RESIDENT. ESTIMATED GRUBBING DEPTHS ARE 6 INCHES IN FIELD AREAS AND 12 INCHES IN WOODED AREAS.

39. DRIVEWAY FILL SIDE SLOPES SHALL BE THE SAME AS THE NON-GUARDRAIL FILL SLOPES UNLESS OTHERWISE NOTED ON THE PLANS.
40. GRANULAR BORROW USED TO BACKFILL MUCK EXCAVATION OR IN LOW WET AREAS TO 1' ABOVE WATER LEVEL OR OLD GROUND SHALL MEET REQUIREMENTS FOR GRANULAR BORROW UNDERWATER BACKFILL.
41. RESIDENTIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH: 2 INCHES HOT MIX ASPHALT 9.5mm. COMMERCIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH: 3" HMA AND 11" AGGREGATE SUBBASE COURSE GRAVEL. THE EXTENT OF RECONSTRUCTION SHALL BE COORDINATED WITH THE ENGINEER.
42. ANY NECESSARY CLEANING OF EXISTING PAVEMENT PRIOR TO PAVING SHALL BE INCIDENTAL TO THE RELATED PAVING ITEMS.
43. THE FOLLOWING SHALL BE INCIDENTAL TO THE 603 ITEM(S):
- ANY CUTTING OF EXISTING CULVERTS AND OR CONNECTORS NECESSARY TO INSTALL NEW CULVERT REPLACEMENTS OR EXTENSIONS

ALL PIPE EXCAVATION INCLUDING ANY CUTTING AND REMOVAL OF PAVEMENT

ALL DITCHING AT PIPE ENDS

FURNISHING, PLACING, GRADING, AND COMPACTING OF ANY NEW GRAVEL AND/OR FILL MATERIAL INCLUDING GRANULAR BORROW USED UNDER PIPES.

GRANULAR BORROW UNDER THE PIPE SHALL MEET THE REQUIREMENTS FOR UNDERWATER BACKFILL

ALL WORK NECESSARY TO CONNECT TO EXISTING PIPES AND DRAINAGE STRUCTURES

FLOW LINES MAY BE CHANGED BY 1.5 FT

ANY NECESSARY CLEARING OF BRUSH AND NON-PAY TREES AT CULVERT ENDS

BACKFILL ANY NECESSARY CUTTING OF EXISTING PIPES TO FIT AREAS OF PROPOSED CATCH BASINS
44. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT.
45. INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.
46. ALL 6" UNDERDRAIN SHOWN ON THE CROSS SECTIONS WILL HAVE THE FLOW LINE SCALED FROM THE CROSS SECTIONS. ALL FLOW LINE ELEVATIONS ARE SUBJECT TO APPROVAL BY THE RESIDENT.
47. A 3 FT. X 3 FT. SQUARE RIPRAP PAD SHALL BE CONSTRUCTED AT U.D. OUTLETS.
48. GUARDRAIL END TREATMENTS SHALL BE INSTALLED CONCURRENTLY WITH THE PLACEMENT OF EACH SECTION OF BEAM GUARDRAIL.
49. HOLES CREATED BY GUARDRAIL INSTALLATION WILL BE FILLED AND COMPACTED WITH APPROVED MATERIALS AS DIRECTED BY THE RESIDENT. PAYMENT TO BE CONSIDERED INCIDENTAL TO THE GUARDRAIL ITEMS.
50. TWO REFLECTORIZED FLEXIBLE G.R. MARKERS WILL BE INSTALLED AT EACH GUARDRAIL END, AND SHALL BE INCIDENTAL TO THE 606 ITEMS.
51. A DELINEATOR POST (ITEM 606.35) WILL BE INSTALLED AT EACH UNDERDRAIN OUTLET, AND SHALL BE INCIDENTAL TO THE 606 ITEMS.
52. LOAM HAS BEEN ESTIMATED FOR DISTURBED AREAS. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS NOTED ON THE PLANS OR DESIGNATED BY THE RESIDENT.
53. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING MAILBOXES TO ENSURE THAT THE MAIL WILL BE DELIVERABLE. MAILBOXES SHALL BE RELOCATED SO THAT THE POSTS ARE 1 FOOT BEHIND EDGE OF SHOULDER OR AS DIRECTED BY THE ENGINEER. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK; IT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
54. THE CONTRACTOR IS RESPONSIBLE FOR THE CAREFUL SIDE STAKING OF EXISTING CENTERLINE AS PER STANDARD SPECIFICATION 105.6.2. SIDE STAKES SHALL BE PLACED SAFELY OUTSIDE OF THE CONSTRUCTION LIMITS AND THE EXISTING CENTERLINE GRADES SHALL BE TRANSFERRED TO THESE STAKES.
55. ANY DAMAGE TO THE SLOPES CAUSED BY THE CONTRACTOR'S EQUIPMENT, PERSONNEL, OR OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT. ALL WORK, EQUIPMENT, AND MATERIALS REQUIRED TO MAKE REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.
56. ESTIMATED QUANTITIES FOR REQUIRED STRUCTURAL EARTH EXCAVATION, DRAINAGE AND MINOR STRUCTURES ARE INFORMATIONAL ONLY AND REPRESENT THE APPROXIMATE MINIMUM QUANTITY REQUIRED TO INSTALL DRAINAGE STRUCTURES. ADDITIONAL EXCAVATION FOR THE CONTRACTOR'S CONVENIENCE OR TO COMPLY WITH BACKSLOPING REQUIREMENTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL TO THE RELATED DRAINAGE ITEMS.
57. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.
58. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION'S BEST MANAGEMENT PRACTICES FOR EROSION CONTROL & SEDIMENT CONTROL, FEBRUARY, 2008.
59. PRIOR TO ROADWAY CONSTRUCTION, CONTRACTOR SHALL TRIM ALL TREE BRANCHES WITHIN RIGHT OF WAY, TO 18 FEET ABOVE THE PAVEMENT. AFTER PAVING IS COMPLETED, CONTRACTOR SHALL TRIM ANY BRANCHES DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION, TRIMMING OF BRANCHES SHALL BE INCIDENTAL TO THE CONTRACT.
60. TEST PITS OF ALL UTILITY CROSSINGS SHALL BE COMPLETED TWO WEEKS IN ADVANCE OF THE START OF CONSTRUCTION OR ORDERING OF MATERIALS. TEST PIT INFORMATION SHALL BE PROMPTLY PROVIDED TO ENGINEER FOR REVIEW.
61. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING.
62. LOCATION OF WATER MAINS ARE APPROXIMATE AND BASED ON A COMPOSITE OF AS-BUILT PLANS AND SURVEYED FEATURES SUCH AS VALVES.
63. COORDINATE WITH APPROPRIATE UTILITY COMPANY FOR SUPPORT OF UTILITY POLES AS NECESSARY.
64. TEST PITS SHALL BE COMPLETED PRIOR TO ORDERING STRUCTURES TO DETECT EXACT ELEVATION/LOCATION OF EXISTING UTILITIES. TEST PIT INFORMATION SHALL BE PROVIDED TO THE ENGINEER TO REVIEW PRIOR TO ORDERING STRUCTURES FOR THEIR REVIEW. TEST PITS SHALL INCLUDE ALL EXCAVATION, BACKFILL AND TEMPORARY PAVEMENT IN ROAD SECTIONS.
65. ANY DAMAGE CAUSED TO THE EXISTING UTILITIES BY THE CONTRACTORS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO SEPARATE PAYMENT SHALL BE MADE.
66. SEDIMENT OUTLET HOODS SHALL BE INSTALLED ON ALL CATCH BASIN OUTLET PIPES 18 INCHES AND SMALLER. THE COSTS FOR SEDIMENT OUTLET HOODS SHALL BE INCIDENTAL TO THE RESPECTIVE CATCH BASIN.
67. ALL CATCH BASINS SHALL HAVE 2 FOOT SUMPS.
68. ANY BASE PAVEMENT NOT SURFACED BEFORE WINTER WILL REQUIRE TEMPORARY PAVEMENT MARKINGS OF PAINT, BOTH YELLOW CENTERLINE AND WHITE EDGE LINES AND WILL BE CONSIDERED PART OF ITEM 627.733.
69. ALL DRIVEWAY CULVERTS TO BE REMOVED. SEE PLAN AND PROFILE SHEETS FOR DETAILS ON REPLACEMENT. IF NON LISTED, DRIVEWAY CULVERTS SHALL BE DISPOSED OF.

SURVEYOR'S NOTES

1. THIS SURVEY PLAN IS COPYRIGHT PROTECTED. THIS PLAN IS THE PROPERTY OF BOUNDARY POINTS, AND SHALL NOT BE USED FOR ANY PURPOSE WITHOUT THE WRITTEN CONSENT OF AN AUTHORIZED AGENT OF BOUNDARY POINTS. ALL RIGHTS RESERVED.
2. THIS SURVEY PLAN IS ONLY VALID IF AUTHENTIC EMBOSSED SEAL AND SIGNATURE OF CERTIFYING PROFESSIONAL APPEAR ON THE FACE OF THIS SURVEY PLAN.
3. REFERENCE IS MADE TO THE CONTRACTUAL AGREEMENT BETWEEN THE PROFESSIONAL LAND SURVEYOR AND THE CLIENT.
4. THIS SURVEY PLAN IS SUBJECT TO POSSIBLE REVISION UPON RECEIPT OF A CERTIFIED TITLE OPINION.
5. ON THE BASIS OF MY KNOWLEDGE, INFORMATION AND BELIEF I CERTIFY EXCLUSIVELY TO THE CLIENT THAT THIS SURVEY PLAN, MADE TO THE NORMAL STANDARD OF CARE, SUBSTANTIALLY CONFORMS TO THE MAINE BOARD OF LICENSURE FOR LAND SURVEYOR STANDARDS.
6. NO CERTIFICATION IS MADE TO THE EXISTENCE OR NONEXISTENCE OF HAZARDOUS SUBSTANCES, ENVIRONMENTALLY SENSITIVE AREAS, UNDERGROUND UTILITIES, UNDERGROUND STRUCTURES, ZONING REGULATIONS OR REAL ESTATE TITLE.
7. DIG SAFE MUST BE CONTACTED AND CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND DIMENSIONS OF ALL UTILITIES PRIOR TO EXCAVATION.
8. THE SOURCE OF BEARINGS FOR THIS LAND SURVEY WAS MAINE STATE PLANE GRID NORTH AMERICAN DATUM OF 1983 LOCATED IN THE WEST ZONE.
9. ELEVATIONS AND CONTOURS DEPICTED HEREON BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929 BEING MEAN SEA LEVEL.
10. MIDDLE ROAD WAS REDEFINED BY CUMBERLAND COUNTY COMMISSIONERS IN JULY 1908. RECORDED IN PLAN BOOK 49, PAGE 3, BEING 60- FEET WIDE.

GRADING NOTES:

1. ADD 4-INCHES OF LOAM, SEED AND MULCH TO DISTURBED AREAS UNLESS OTHERWISE NOTED. PROVIDE EROSION CONTROL MESH ON ALL SLOPES 6:1 OR STEEPER AND ALONG DITCH CHANNELS.
2. GRADE SURFACES TO DRAIN AWAY FROM BUILDING. PUDDLING OF WATER IN PAVED OR UNPAVED AREAS WILL NOT BE ACCEPTABLE, EXCEPT FOR AREAS DESIGNATED AS PONDS.
3. MAINTAIN TEMPORARY EROSION CONTROL MEASURES FOR THE FULL DURATION OF CONSTRUCTION. INSPECT WEEKLY AND AFTER EACH STORM AND REPAIR AS NEEDED. REMOVE SEDIMENTS FROM THE SITE. PLACE IN AREA OF LOW EROSION POTENTIAL AND STABILIZE WITH SEED AND MULCH.

DIG SAFE NOTES:

PRIOR TO EXCAVATION, VERIFY THE UNDERGROUND UTILITIES, PIPES, STRUCTURES AND FACILITIES. PROVIDE THE FOLLOWING MINIMUM MEASURES:

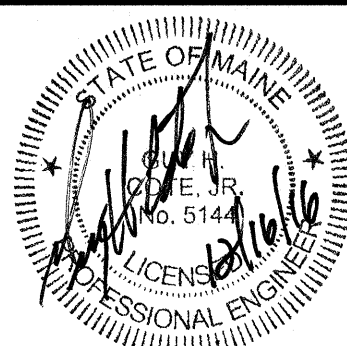
1. PRE-MARK THE BOUNDARIES OF YOUR PLANNED EXCAVATION WITH WHITE PAINT, FLAGS OR STAKES, SO UTILITY CREWS KNOW WHERE TO MARK THEIR LINES.
2. CALL DIG SAFE AT 811 AT LEAST THREE BUSINESS DAYS - BUT NO MORE THAN 30 CALENDAR DAYS - BEFORE STARTING WORK. DO NOT ASSUME SOMEONE ELSE WILL MAKE THE CALL.
3. IF BLASTING, NOTIFY DIG SAFE AT LEAST ONE BUSINESS DAY IN ADVANCE.
4. WAIT THREE BUSINESS DAYS FOR LINES TO BE LOCATED AND MARKED WITH COLOR-CODED PAINT, FLAGS OR STAKES. NOTE THE COLOR OF THE MARKS AND THE TYPE OF UTILITIES THEY INDICATE. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
5. CONTACT THE LANDOWNER AND OTHER "NON-MEMBER" UTILITIES (WATER, SEWER, GAS, ETC.) FOR THEM TO MARK THE LOCATIONS OF THEIR UNDERGROUND FACILITIES. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
6. RE-NOTIFY DIG SAFE AND THE NON-MEMBER UTILITIES IF THE DIGGING, DRILLING OR BLASTING DOES NOT OCCUR WITHIN 30 CALENDAR DAYS OF INITIAL NOTIFICATION, OR IF THE MARKS ARE LOST DUE TO WEATHER CONDITIONS, SITE WORK ACTIVITY OR ANY OTHER REASON.
7. HAND DIG WITHIN 18 INCHES IN ANY DIRECTION OF ANY UNDERGROUND LINE UNTIL THE LINE IS EXPOSED. MECHANICAL METHODS MAY BE USED FOR INITIAL SITE PENETRATION, SUCH AS REMOVAL OF PAVEMENT OR ROCK.
8. DIG SAFE REQUIREMENTS ARE IN ADDITION TO TOWN, CITY AND/OR STATE DOT STREET OPENING PERMIT REQUIREMENTS.
9. FOR COMPLETE DIG SAFE REQUIREMENTS, CALL THE PUBLIC UTILITIES COMMISSION (PUC) OR VISIT THEIR WEBSITE.
10. IF YOU DAMAGE, DISLOCATE OR DISTURB ANY UNDERGROUND UTILITY LINE, IMMEDIATELY NOTIFY THE AFFECTED UTILITY. IF DAMAGE CREATES SAFETY CONCERNS, CALL THE FIRE DEPARTMENT AND TAKE IMMEDIATE STEPS TO SAFEGUARD HEALTH AND PROPERTY.
11. ANY TIME AN UNDERGROUND LINE IS DAMAGED OR DISTURBED OR IF LINES ARE IMPROPERLY MARKED, YOU MUST FILE AN INCIDENT REPORT WITH THE PUC FOR AN INCIDENT REPORT FORM VISIT WWW.STATE.ME.US/MPUC OR CALL THE PUC AT 1-800-452-4699.

TYPICAL ABBREVIATIONS:

ACOMP	ASPHALT COATED CMP	EA	EACH	OC	ON CENTER
ACR	ASBESTOS CEMENT PIPE	EG	EXISTING GROUND OR GRADE	OD	OUTSIDE DIAMETER
AC	ELECTRIC	ELEC	ELECTRIC		
AGG	AGGREGATE	EL	ELEVATION	PC	POINT OF CURVE
ALUM	ALUMINUM	ELB	ELBOW	PD	PERIMETER DRAIN
APRD	APPROVED	EOP	EDGE OF PAVEMENT	PI	POINT OF INTERSECTION
APPROX	APPROXIMATE	EQUIP	EQUIPMENT	PIV	POST INDICATOR VALVE
ARMH	AIR RELEASE MANHOLE	EST	ESTIMATED	PT	POINT OF TANGENT
ASB	ASBESTOS	EXC	EXCAVATE	PERF	PERFORATED
ASP	ASPHALT	EXIST	EXISTING	PP	POWER POLE
AUTO	AUTOMATIC			PSI	POUNDS PER SQUARE INCH
AUXILIARY	AUXILIARY	FI	FIELD INLET	PVC	POLYVINYL CHLORIDE
AUX	AVENUE	FG	FINISH GRADE	PWMT	PAVEMENT
AZ	AZIMUTH	FBRGL	FIBERGLASS		
		FDN	FOUNDATION		
		FLEX	FLEXIBLE	QTY	QUANTITY
BCOMP	BITUMINOUS COATED CMP	FLG	FLANGE		
BM	BENCH MARK	FLR	FLOOR	RCM	REINFORCED CONCRETE PIPE
BIT	BITUMINOUS	FLS	FEET	ROW	RIGHT OF WAY
BLDG	BUILDING	FPS	FEET PER SECOND	RAD	RADIUS
BOT	BOTTOM	FT OR	FEET	REQD	REQUIRED
BRG	BEARING	FTG	FOOTING	RT	RIGHT
BV	BALL VALVE			RTE	ROUTE
CB	CATCH BASIN	GA	GAUGE	S	SLOPE
CEN	CENTER	GAL	GALLON	SCH	SCHEDULE
CEN LIN	CEMENT LINED	GALV	GALVANIZED	SF	SQUARE FEET
CMP	CORRUGATED METAL PIPE	GP	GALLONS PER MINUTE	SHT	SHEET
CL	CLEAR CUT	HDPE	HIGH DENSITY POLYETHYLENE	SMH	SANITARY MANHOLE
CF	CUBIC FEET	HORIZ	HORIZONTAL	ST	STREET
CFS	CUBIC FEET PER SECOND	HPX	HORSEPOWER	STA	STATION
CI	CAST IRON	HYD	HYDRANT	SY	SQUARE YARD
CL	CLASS	ID	INSIDE DIAMETER	TAN	TANGENT
CONC	CONCRETE	IN OR	INCHES	TDH	TOTAL DYNAMIC HEAD
CONST	CONSTRUCTION	INV	INVERT	TEMP	TEMPORARY
CONTR	CONTRACTOR	INV EL	INVERT ELEVATION	TP	TYPICAL
CS	CURB STOP			UD	UNDERDRAIN
CTR	CENTER	LB	POUND	V	VOLTS
CU	COPPER	LC	LEACHATE COLLECTION	VA TEE	VALVE ANCHORING TEE
CY	CUBIC YARD	LD	LEAK DETECTION	VERT	VERTICAL
D	DEGREE OF CURVE	LF	LINEAR FEET		
DBL	DOUBLE	LOC	LOCATION		
DEG OR	DEGREE	LT	LEACHATE TRANSPORT	WG	WATER GATE
DEPT	DEPARTMENT			W/	WITH
DI	DIAMETER	MH	MANHOLE	W/O	WITHOUT
DIA OR	DIAMETER	MJ	MECHANICAL JOINT	YD	YARD
DIM	DIMENSION				
DIST	DISTANCE	MATL	MATERIAL		
DN	DOWN	MAX	MAXIMUM		
DR	DRAIN	MFR	MANUFACTURE		
DWG	DRAWING	MIN	MINIMUM		
		MISC	MISCELLANEOUS		
		MON	MONUMENT		
		NITC	NOT IN THIS CONTRACT		
		NTS	NOT TO SCALE		
		N/F	NOW OR FORMERLY		
		NO OR	NUMBER		

LEGEND

EXISTING	PROPOSED



TOWN OF CUMBERLAND  
MIDDLE ROAD IMPROVEMENTS  
CUMBERLAND, MAINE

GENERAL NOTES, LEGEND  
AND ABBREVIATIONS

SME

Sevee & Maher Engineers, Inc.

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021  
Phone 207.829.5016 • Fax 207.829.5692 • www.smeinc.com

DESIGN BY: JCM

DRAWN BY: SJM

DATE: 5/2016

CHECKED BY: *[Signature]*

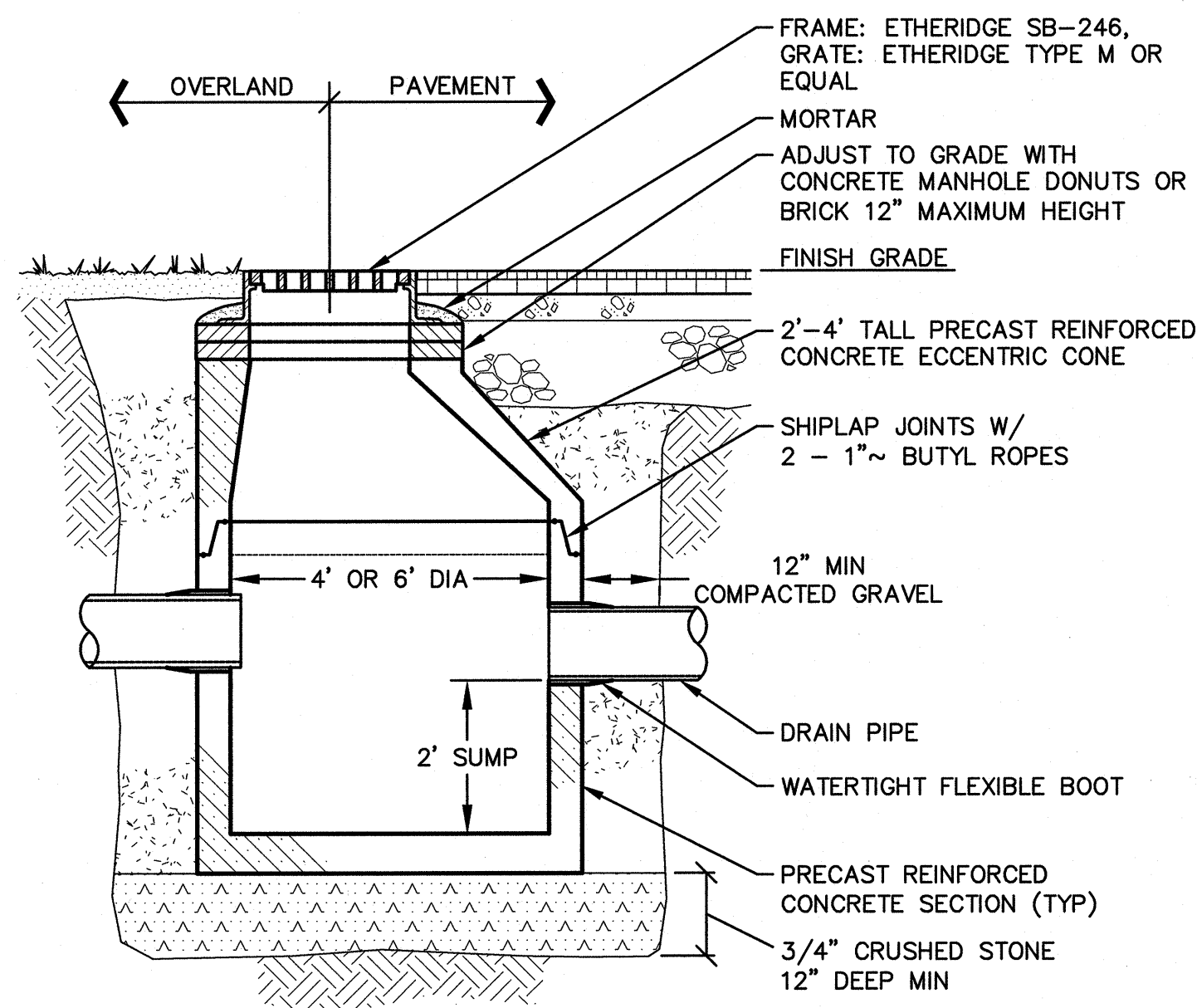
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CTB: SME-STD

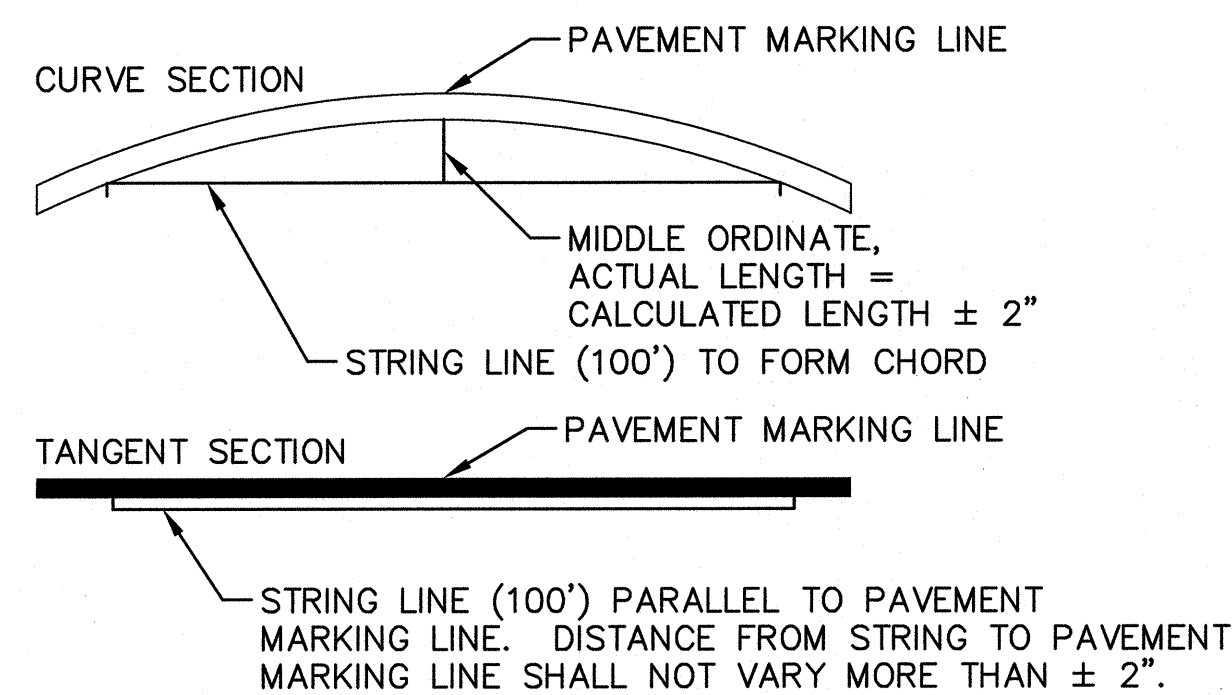
JOB NO. 16047.00 DWG FILE GEN-NOTES

C-101





TYPICAL CATCH BASIN SECTION  
NTS



~ TOLERANCE FOR PAVEMENT MARKING LINES ~

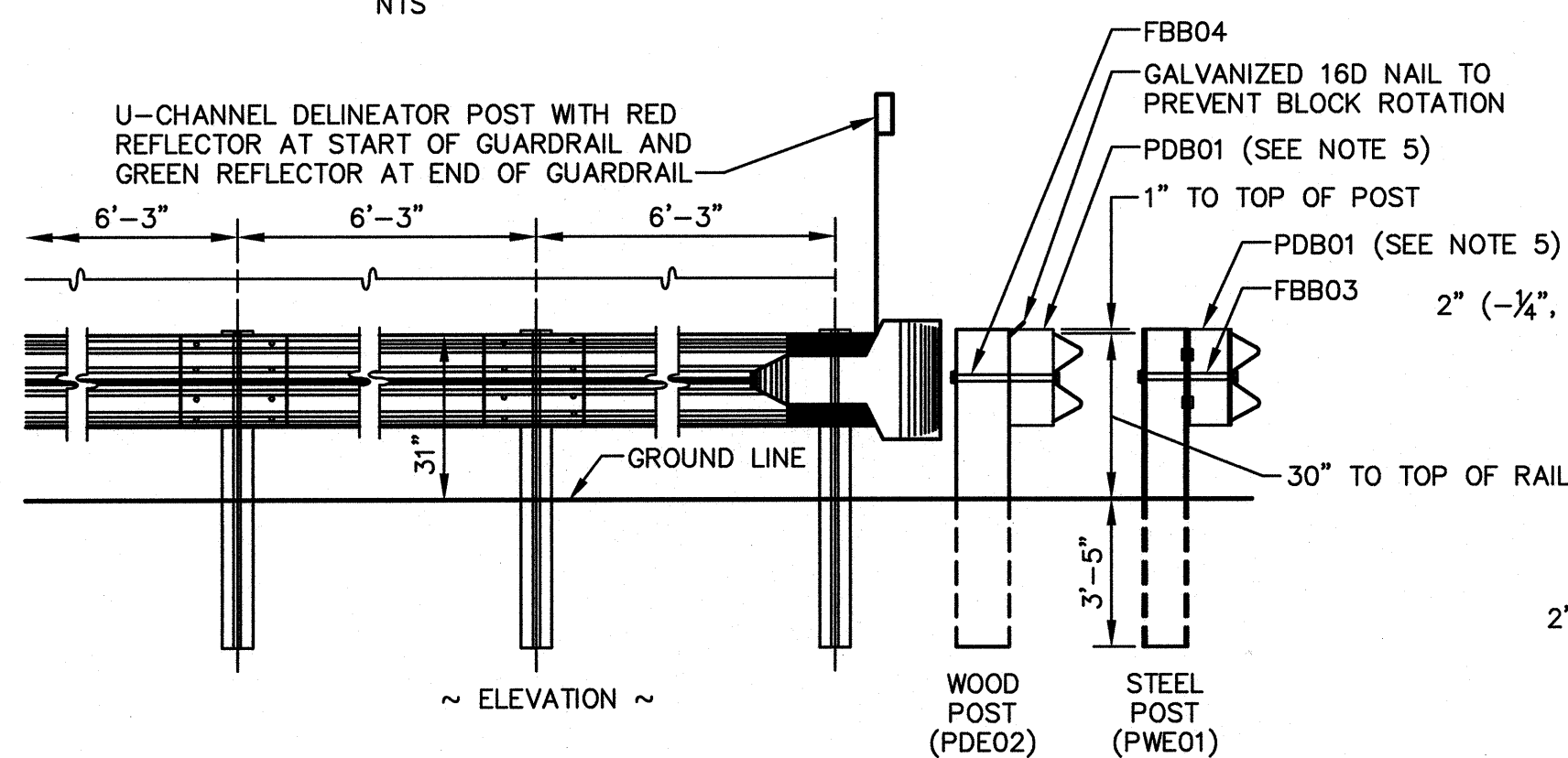
GENERAL NOTES:  
ALL PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", U.S. DOT, FHWA, 1988.

#### SYMBOLS AND ARROWS:

STROKE WIDTH AND LINE WIDTH VARIANCE SHALL BE NO MORE THAN  $\pm .1$ \"/>

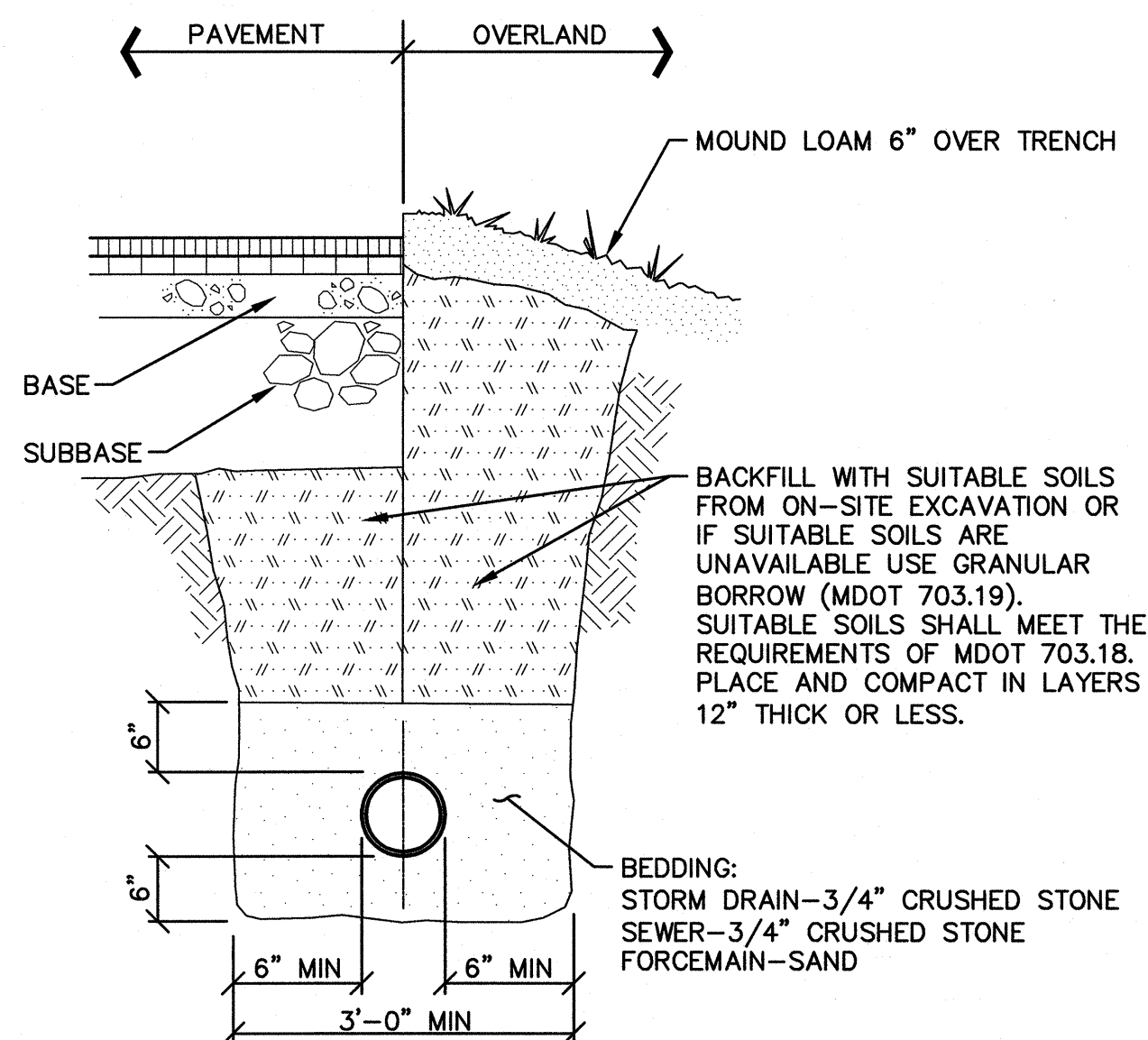
SQUARE FOOT DIMENSIONS SHOWN ARE PAY DIMENSIONS, PAID BY ITEM NO. 627.65.

#### PAVEMENT MARKING NTS

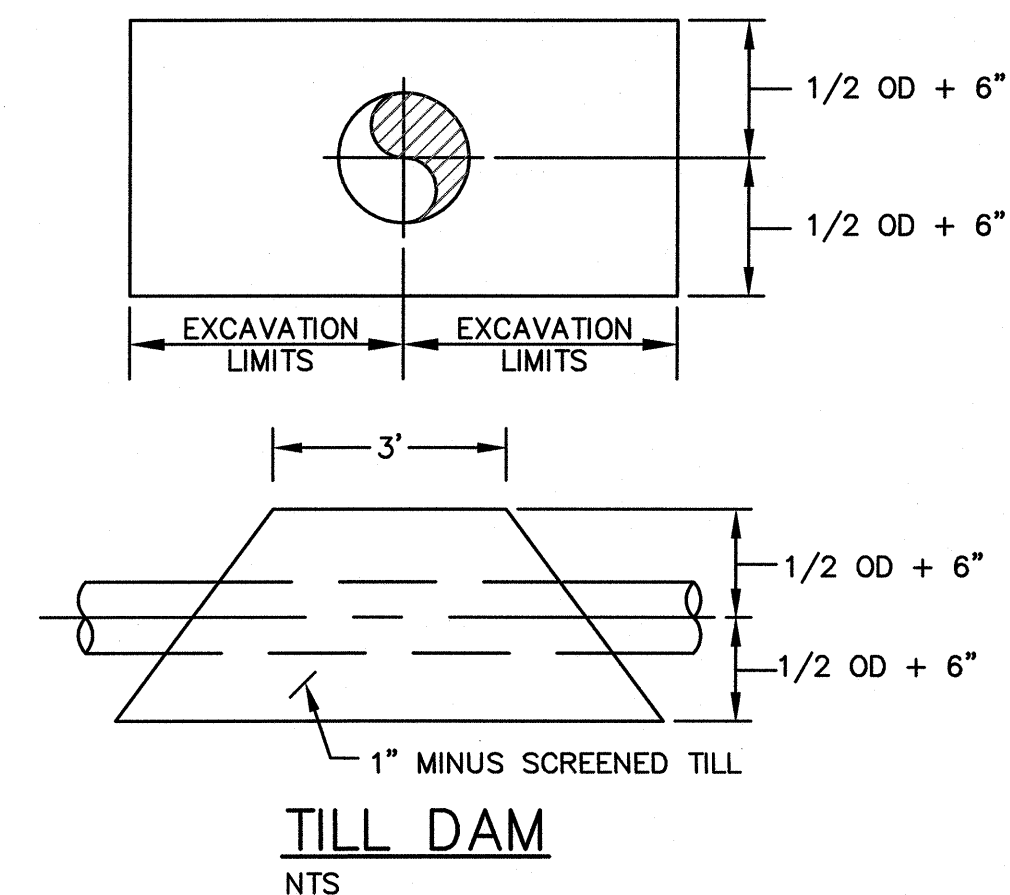


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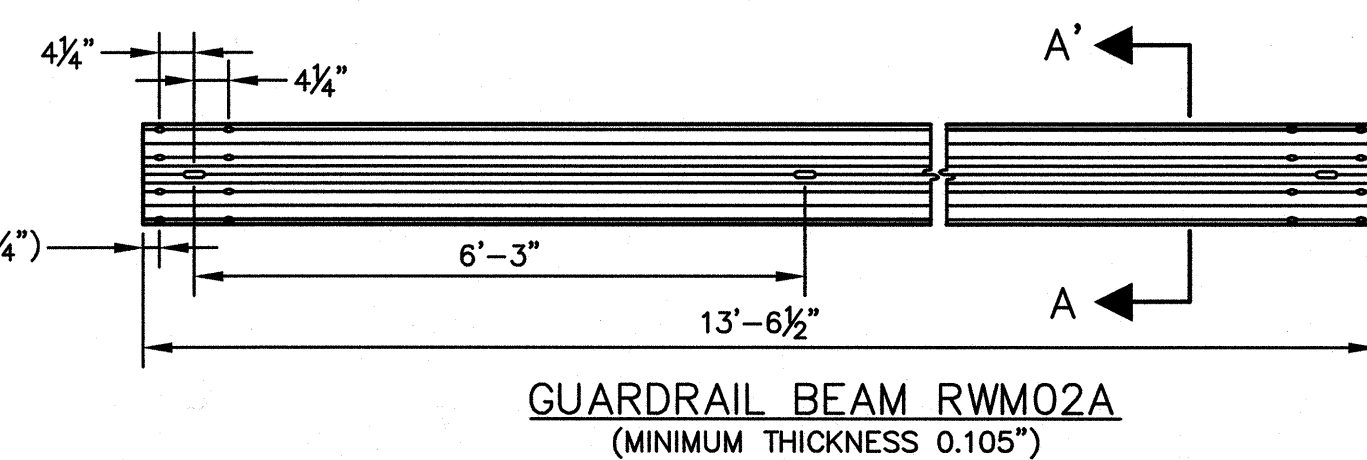
- INTERMEDIATE POST SPACING SHALL BE 6'-3\"/>



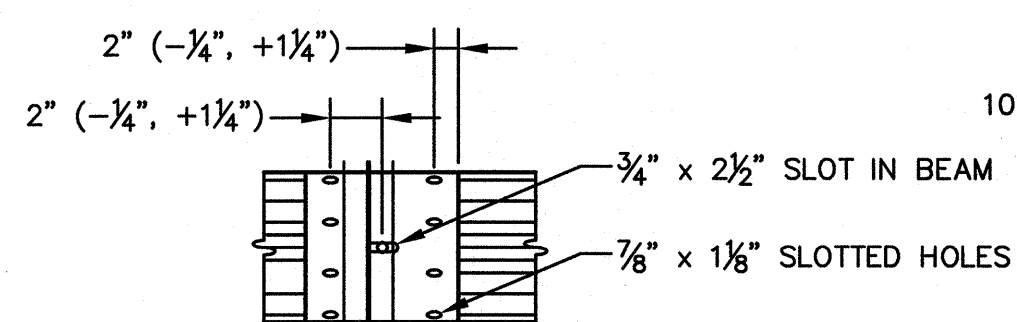
TYPICAL TRENCH SECTION  
NTS



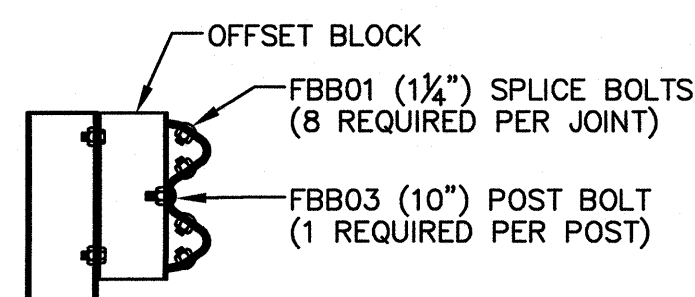
TILL DAM  
NTS



GUARDRAIL BEAM RWM02A  
(MINIMUM THICKNESS 0.105\")

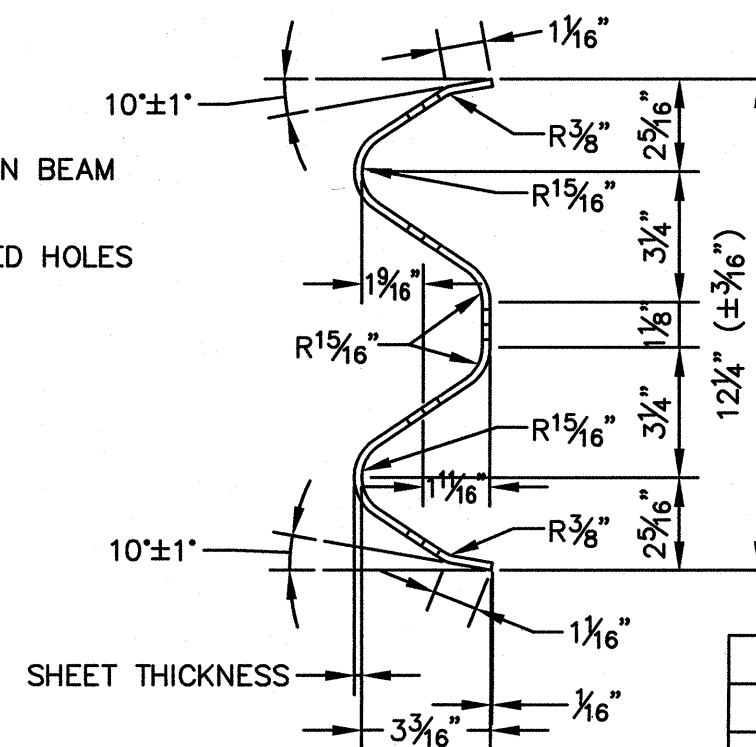


GUARDRAIL SPLICE AT POST

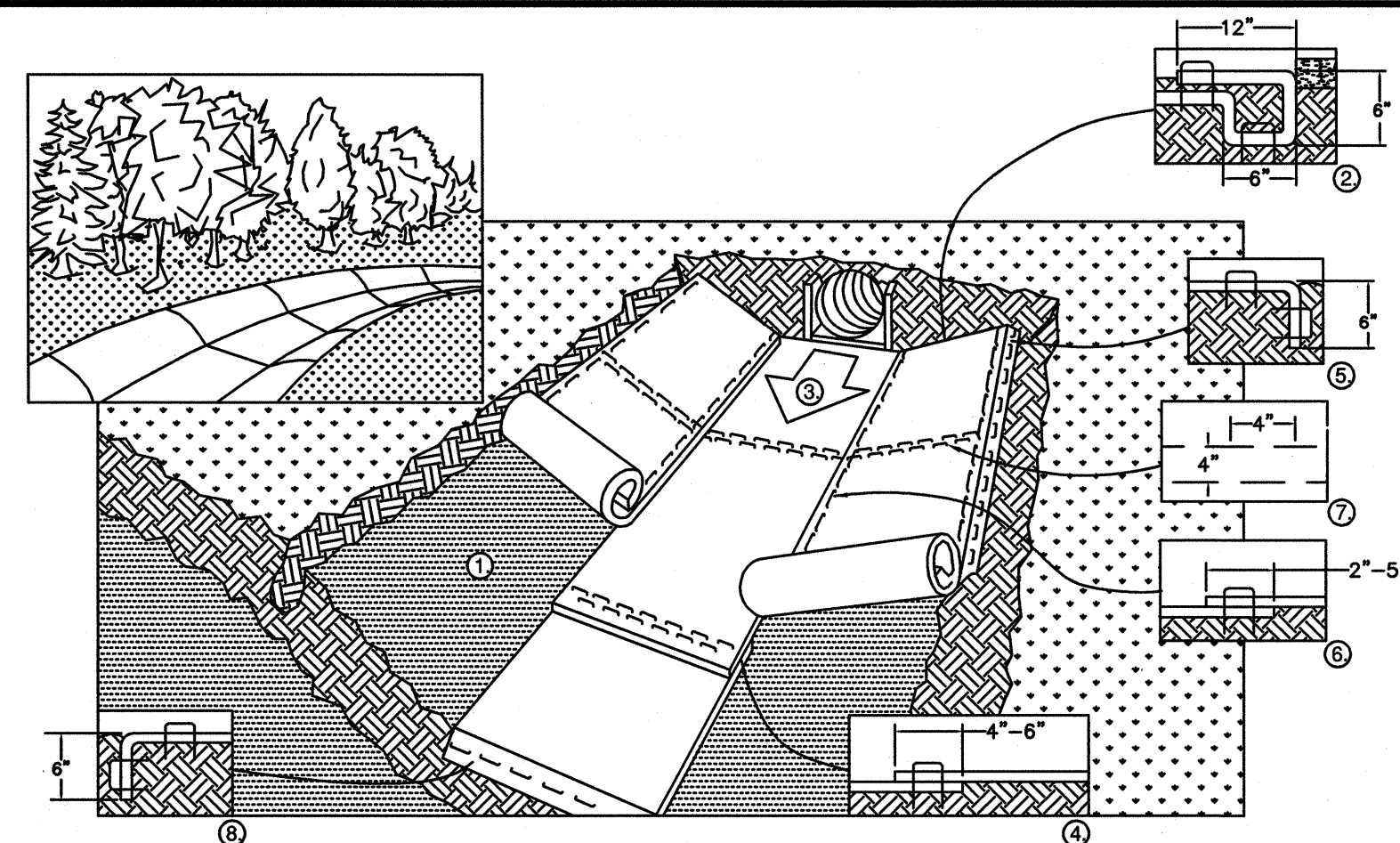


CROSS SECTION THROUGH  
GUARDRAIL SPLICE

GUARDRAIL  
NTS

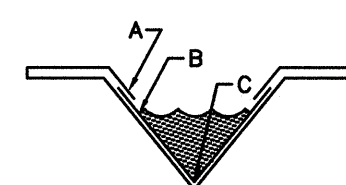


SECTION A-A'  
(GUARDRAIL BEAM RWM02A)



- PREPARE BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6\"/>

\*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6\"/>



#### CRITICAL POINTS

- OVERLAPS AND SEAMS
- PROJECTED WATER LINE
- CHANNEL BOTTOM/SIDE SLOPE VERTICES

#### NOTE:

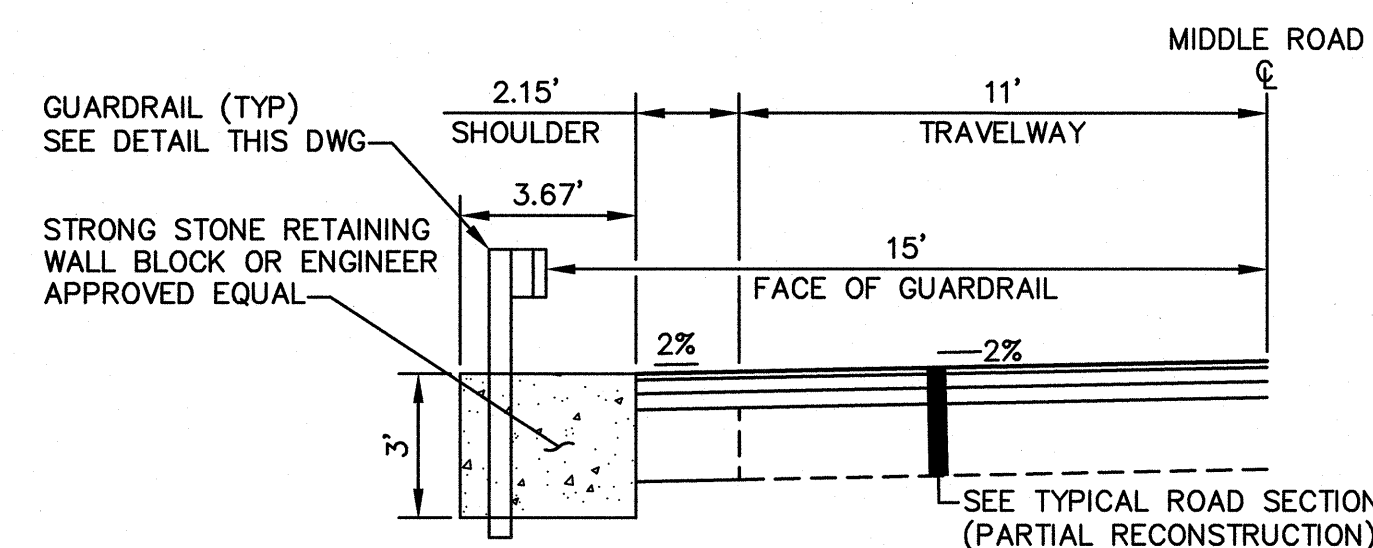
- HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.



EROSION CONTROL Products  
Guaranteed SOLUTIONS

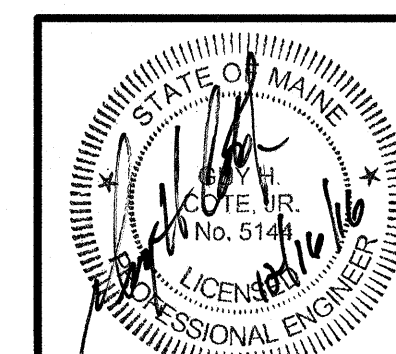
14649 HIGHWAY 41 NORTH  
EVANSVILLE, IN 47725  
800-772-2040  
www.nagreen.com

#### CHANNEL INSTALLATION NTS



#### RETAINING WALL WITH GUARDRAIL NTS

REV.	BY	DATE	STATUS
1	SCM	12/2016	ISSUED FOR BID



#### TOWN OF CUMBERLAND MIDDLE ROAD IMPROVEMENTS CUMBERLAND, MAINE

#### DETAILS AND SECTIONS

#### SME

Sevee & Maher Engineers, Inc.

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021

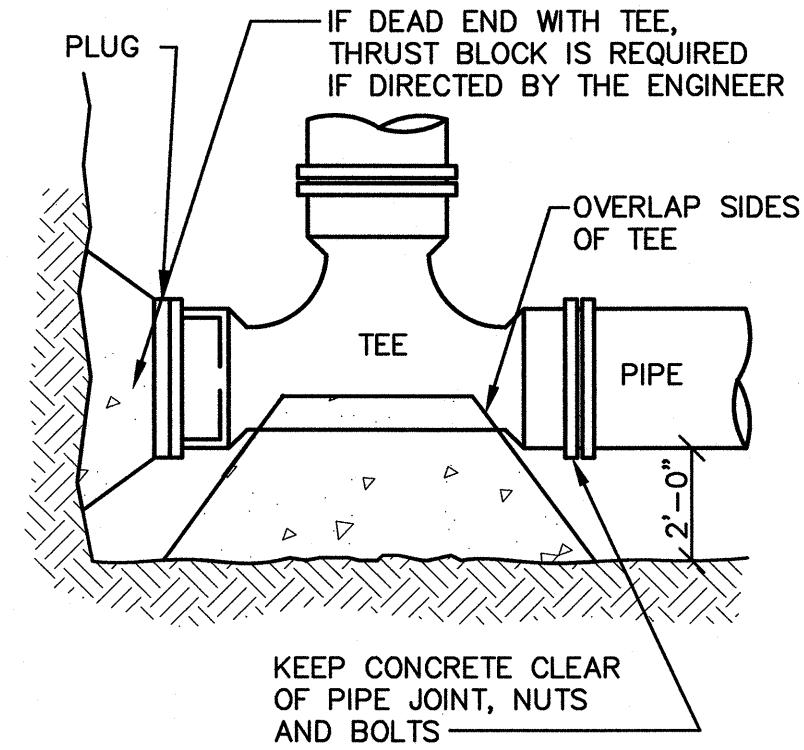
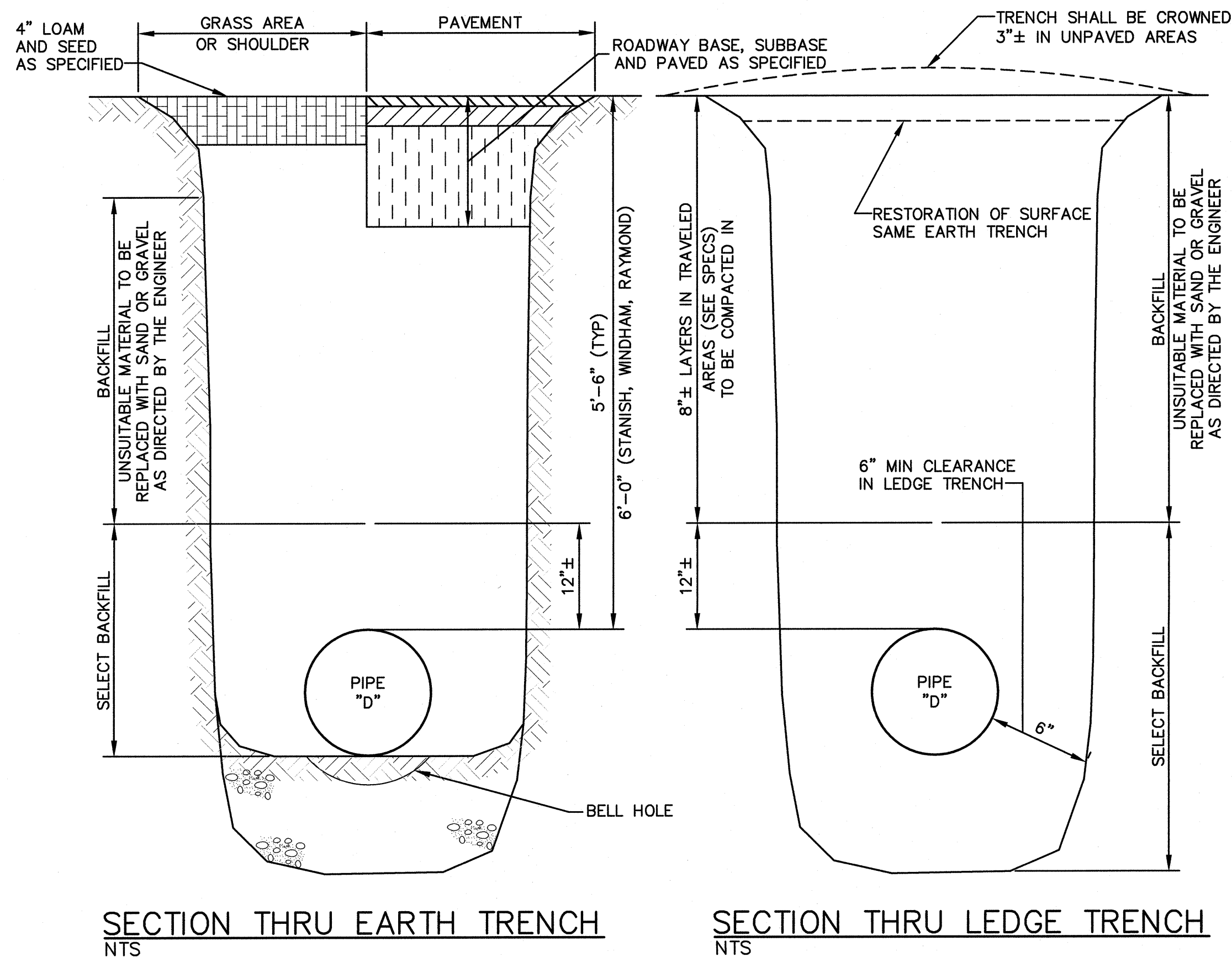
Phone 207.829.5016 • Fax 207.829.5692 • www.smenaine.com

JOB NO. 16047.00 DWG FILE DETAILS

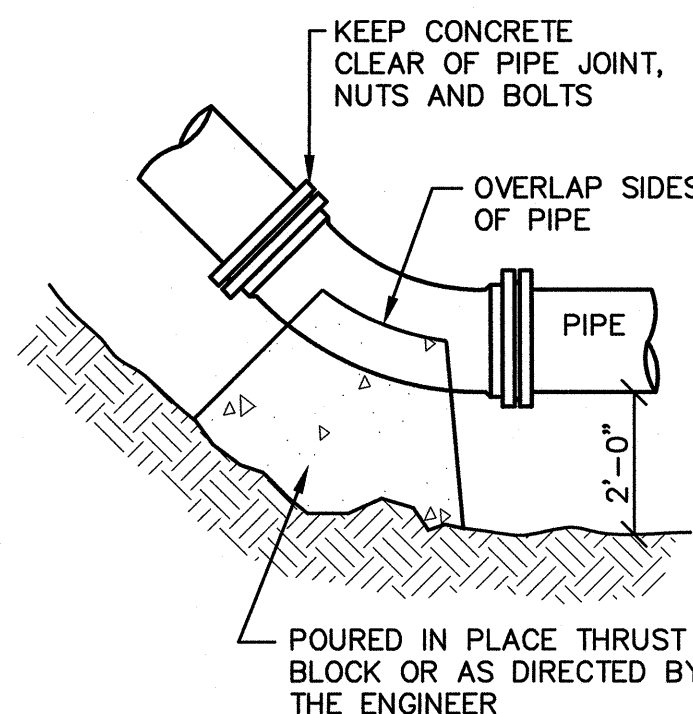
DESIGN BY: JCM  
DRAWN BY: SJM  
DATE: 5/2016  
CHECKED BY: *[Signature]*  
LMN: NONE  
CTB: SME-STD

C-102



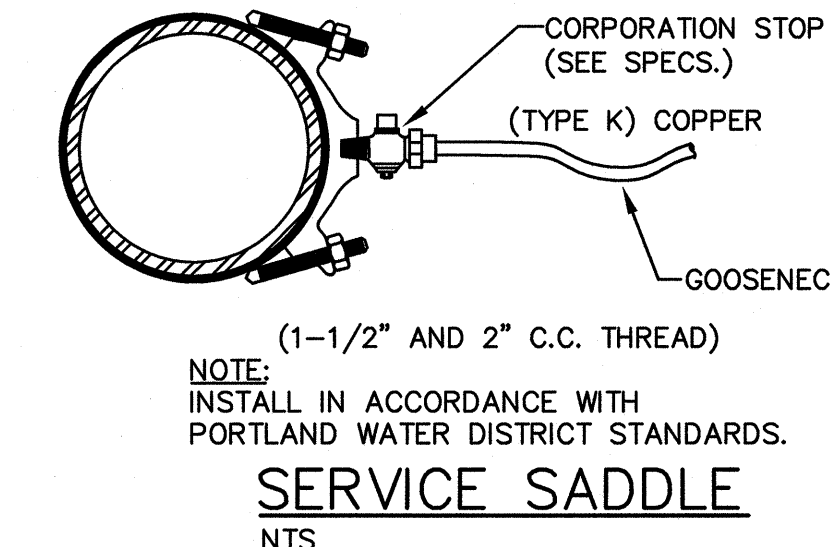
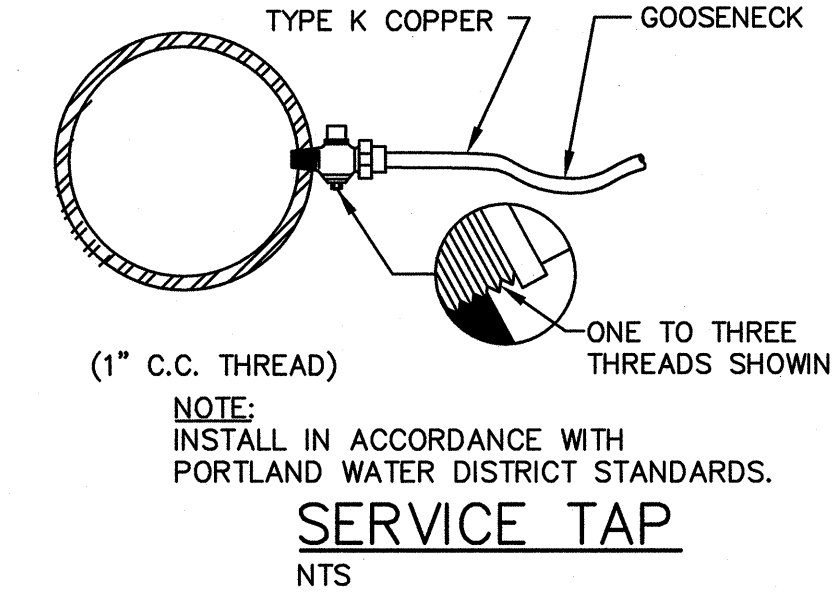
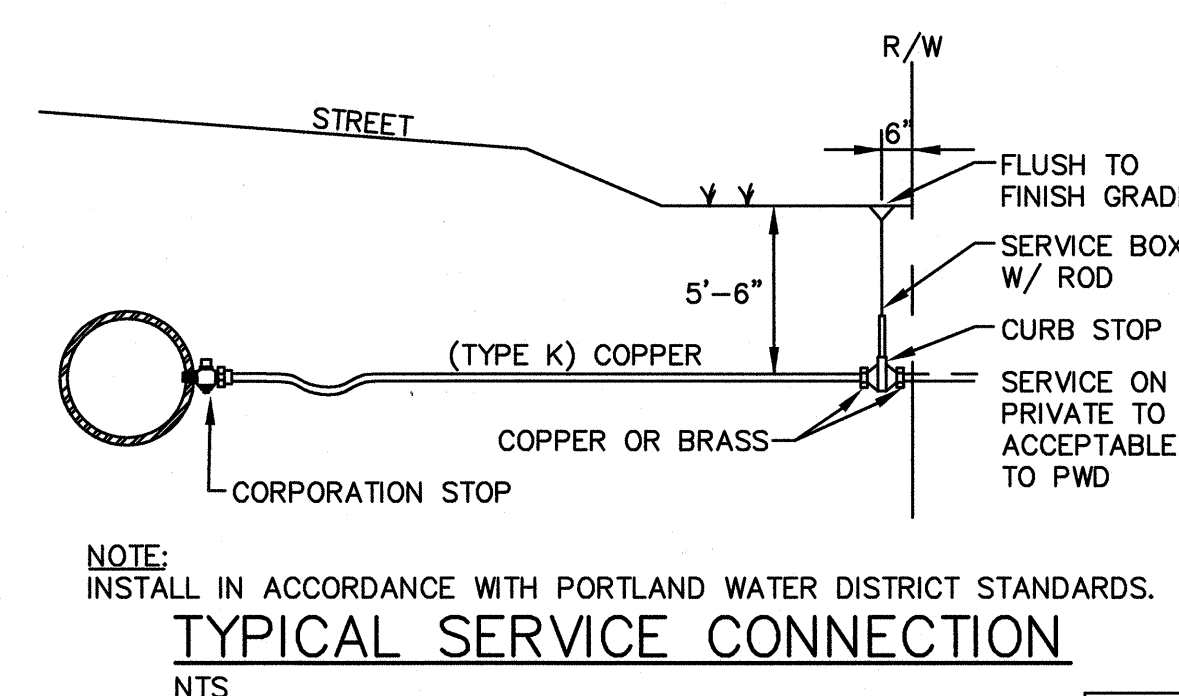


THRUST AT FITTINGS IN Lbs. AT 100 Lbs PER SQUARE INCH WATER PRESSURE				
PIPE SIZE IN	90° ELBOW	45° ELBOW	VALVES, TEES AND DEAD ENDS	
4"	2,600	1,420	1,850	
6"	5,400	2,900	3,800	
8"	9,300	5,000	6,500	
10"	13,900	7,550	10,850	
12"	19,700	10,800	13,900	

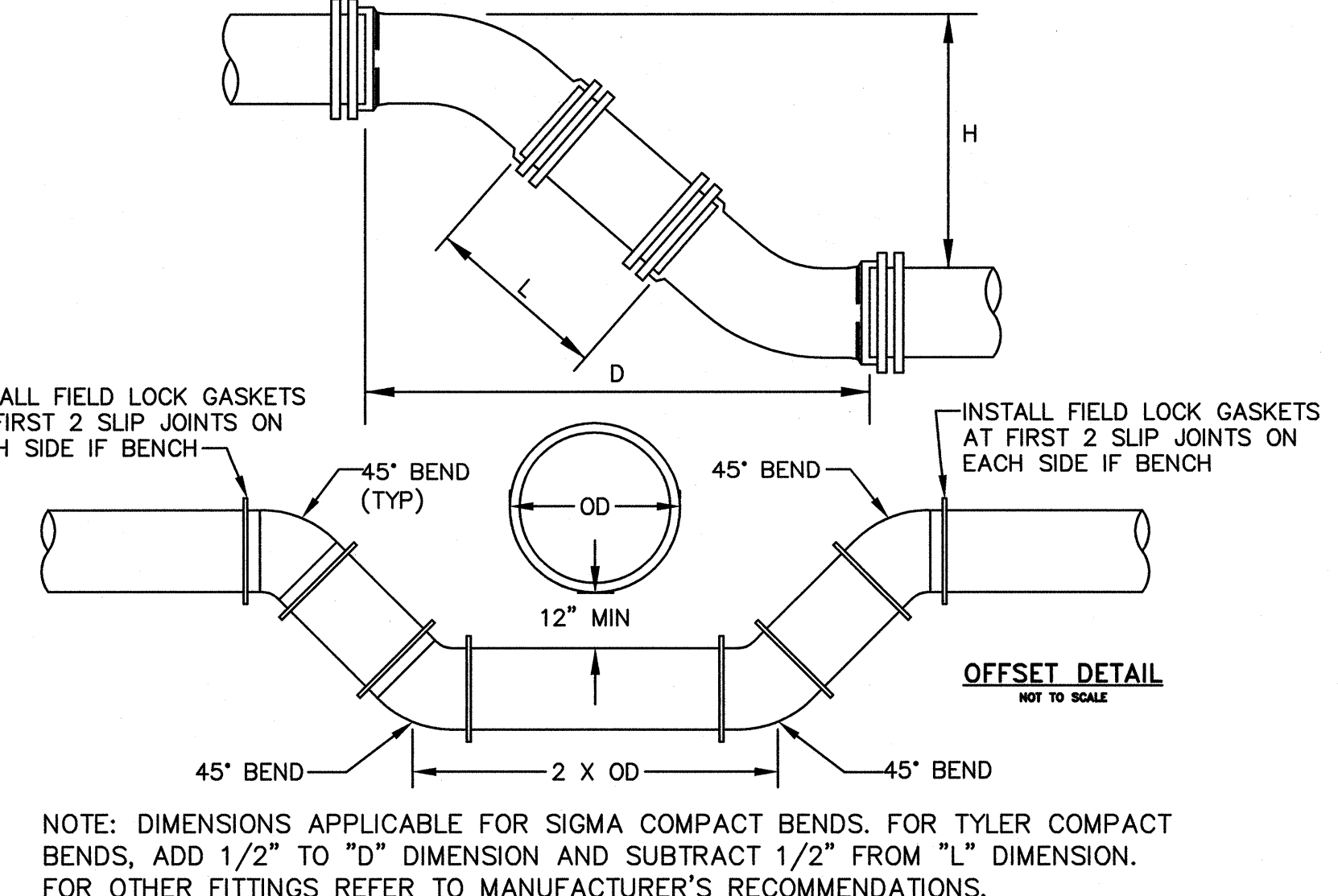
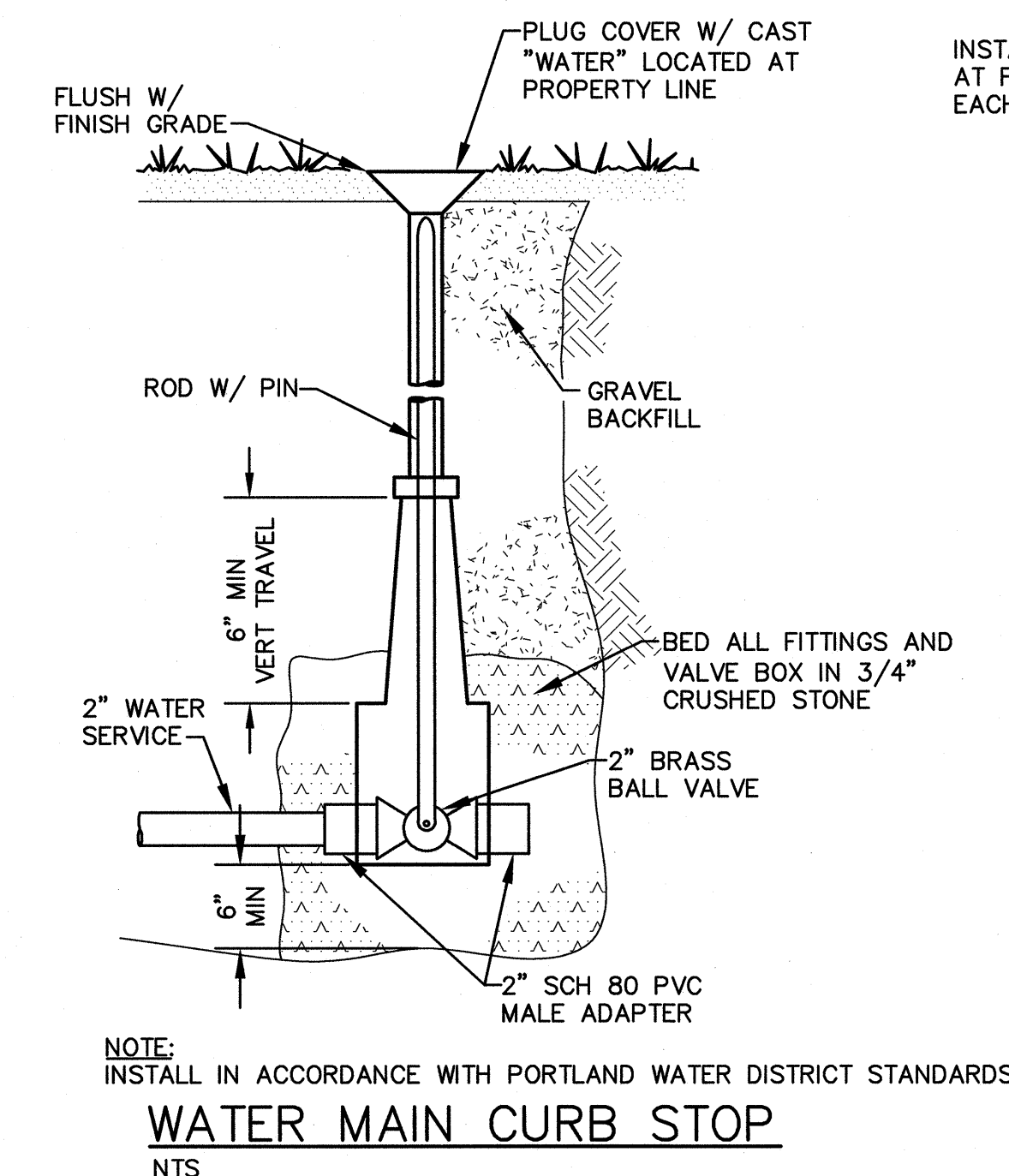
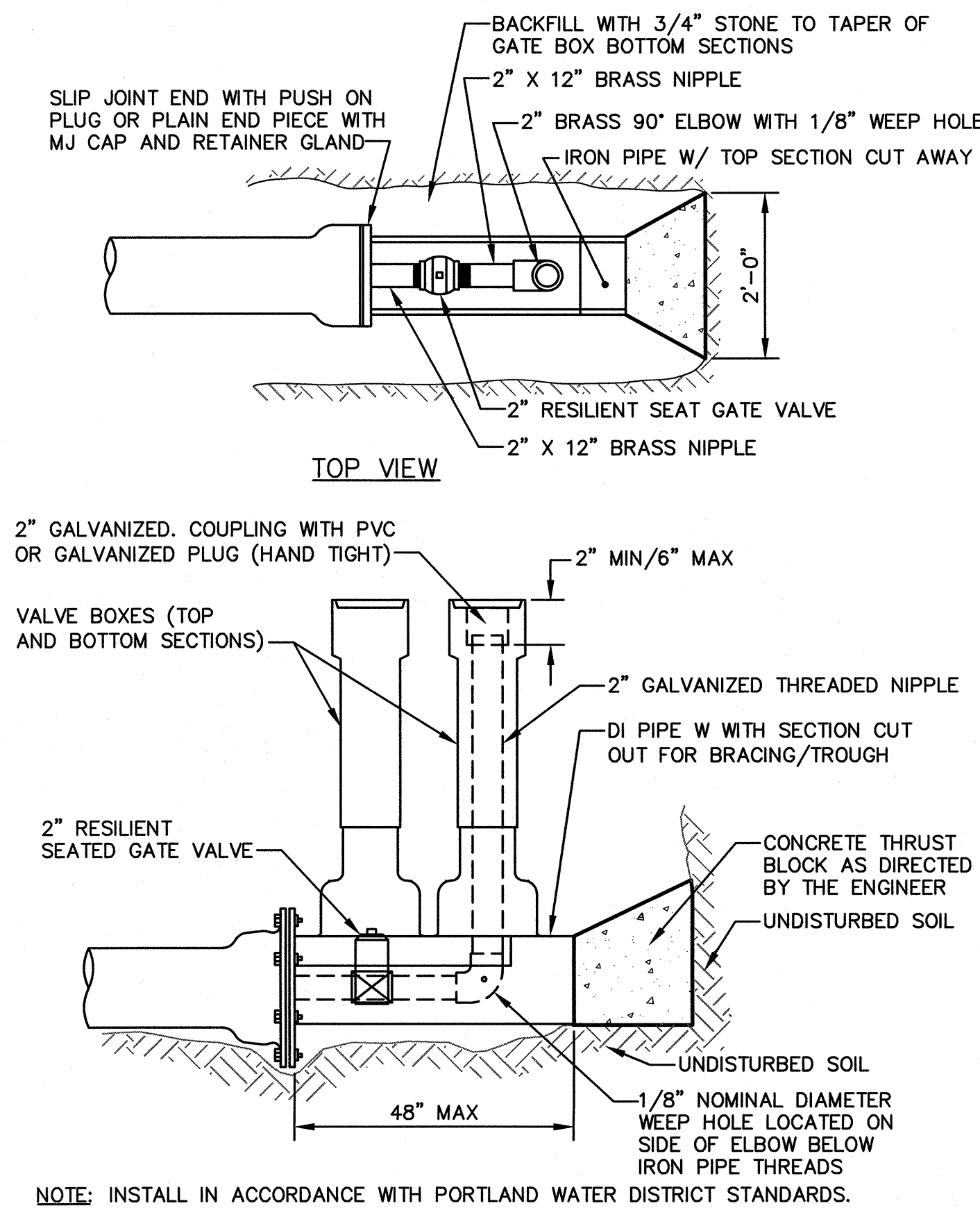
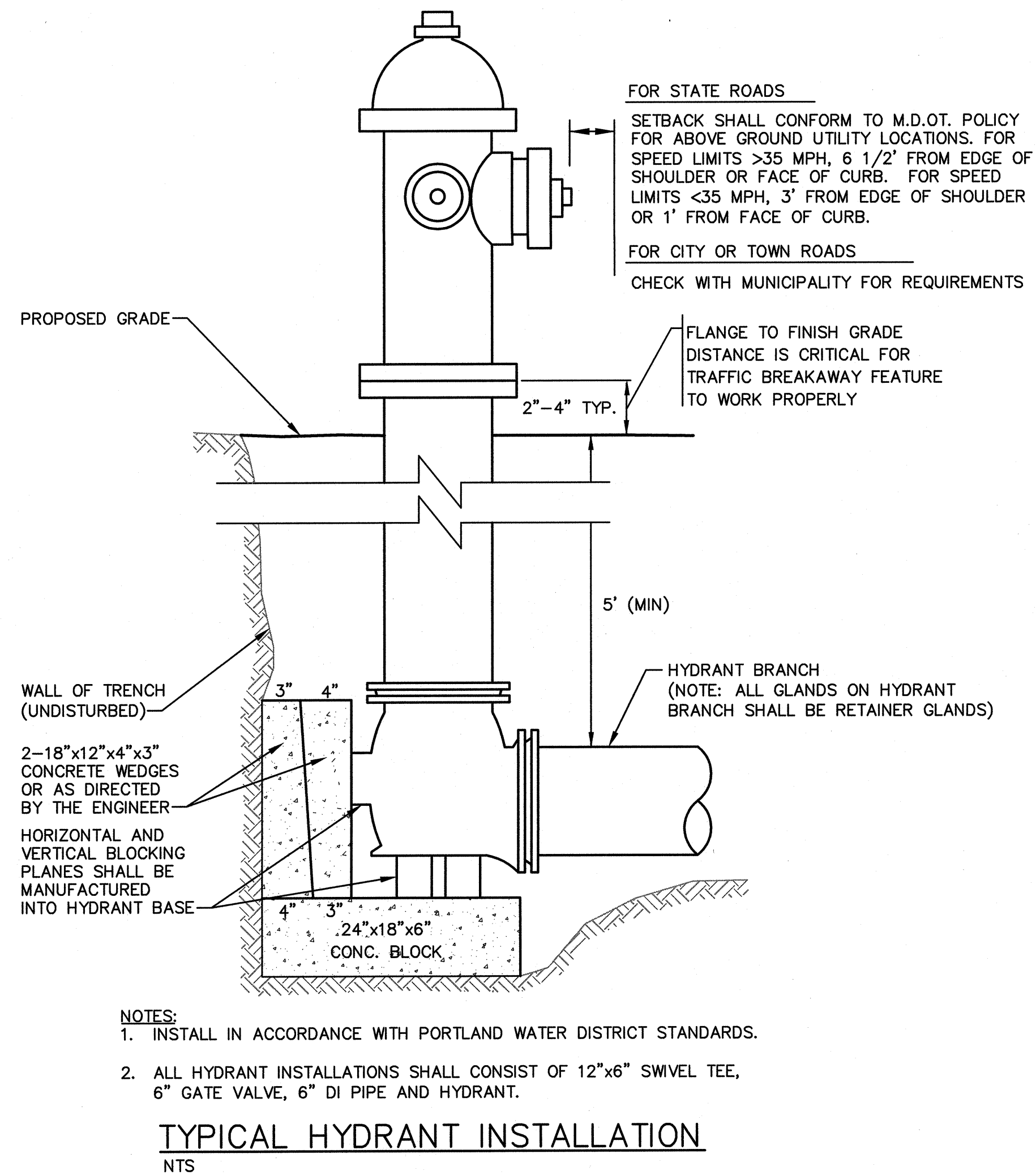
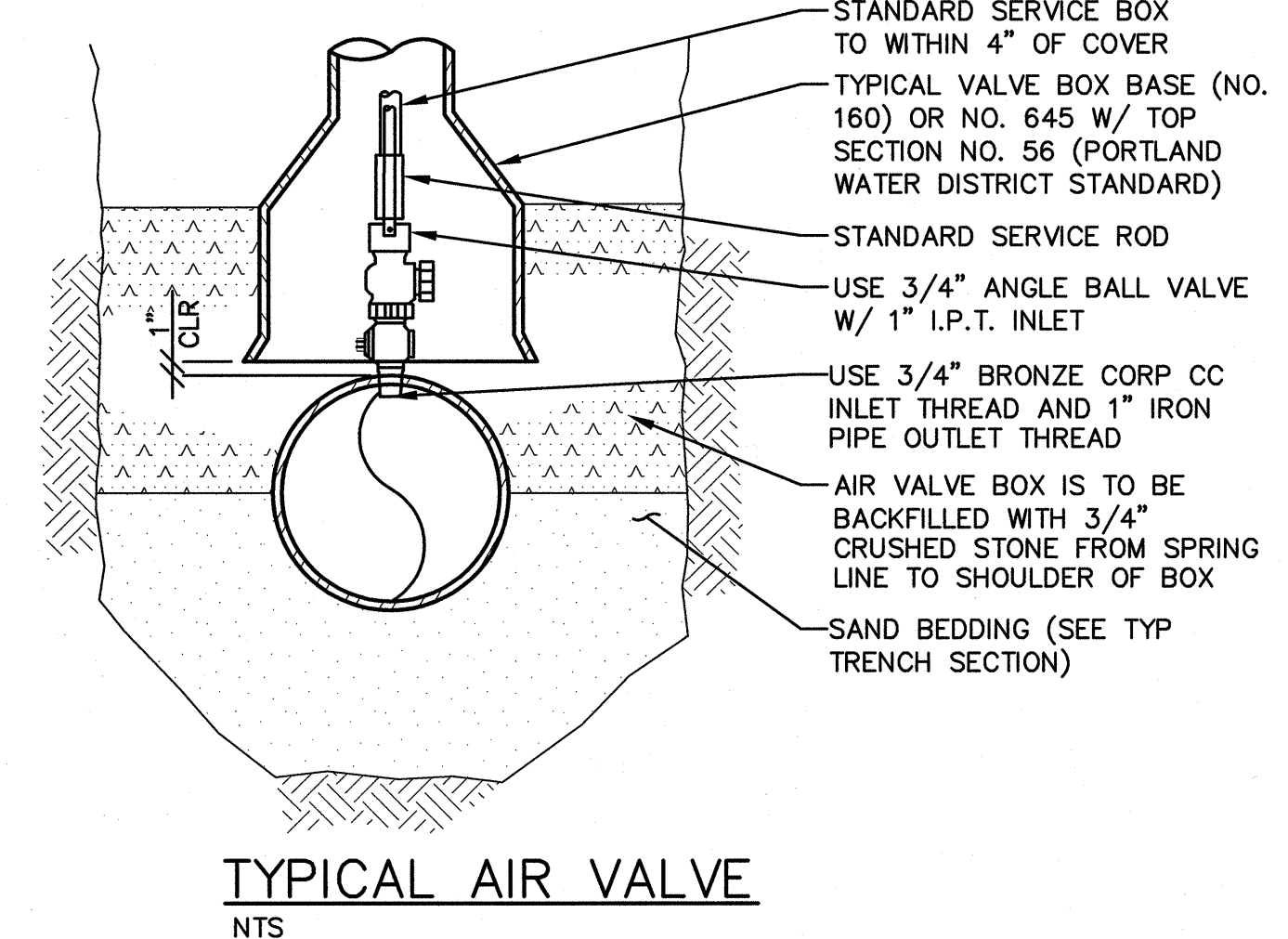
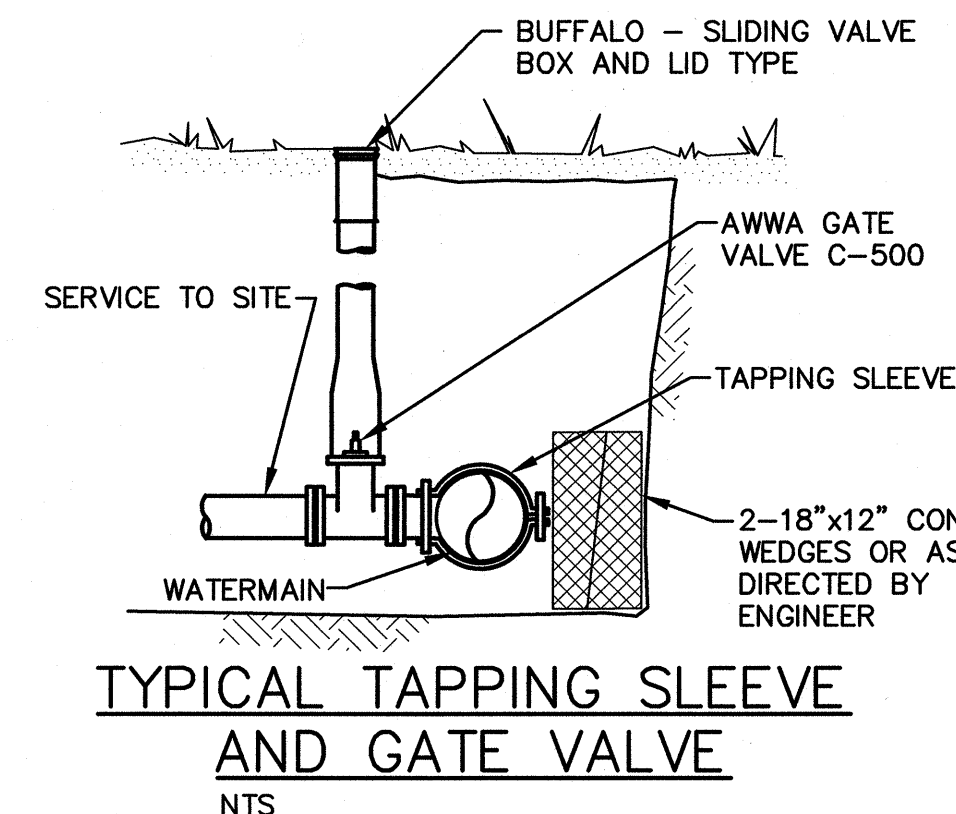


MINIMUM THRUST BLOCK BEARING AREA REQ'D AGAINST UNDISTURBED MATERIAL (SQFT)				
PIPE SIZE	90° BEND	TEE	PLUG	45° BEND
16"	28	22	20	15
12"	16	14	11	9
8"	7	6	5	4
6"	5	4	3	2

1. SIZE OF THRUST BLOCK MAY BE INCREASED BY THE ENGINEER TO MEET SOIL CONDITIONS FOUND DURING CONSTRUCTION.  
2. FOR PIPES 6" OR SMALLER USE THRUST BLOCK FOR 6" PIPE.



H	6" PIPE		8" PIPE		12" PIPE	
	D	L	D	L	D	L
12"	1' 6-1/2"	0' 10-1/2"	1' 7-1/2"	0' 9-1/2"	1' 11-1/2"	0' 5-1/2"
13"	1' 7-1/2"	0' 11-7/8"	1' 8-1/2"	0' 10-7/8"	2' 0-1/2"	0' 6-7/8"
14"	1' 8-1/2"	1' 1-5/16"	1' 9-1/2"	1' 0-5/16"	2' 1-1/2"	0' 8-5/16"
15"	1' 9-1/2"	1' 2-11/16"	1' 10-1/2"	1' 1-11/16"	2' 2-1/2"	0' 8-11/16"
16"	1' 10-1/2"	1' 4-1/8"	1' 11-1/2"	1' 3-1/8"	2' 3-1/2"	0' 11-1/8"
17"	1' 11-1/2"	1' 5-9/16"	2' 0-1/2"	1' 4-9/16"	2' 4-1/2"	1' 0-5/16"
18"	2' 0-1/2"	1' 6-19/16"	2' 1-1/2"	1' 5-15/16"	2' 5-1/2"	1' 1-15/16"
19"	2' 1-1/2"	1' 8-3/8"	2' 2-1/2"	1' 7-3/8"	2' 6-1/2"	1' 3-3/8"
20"	2' 2-1/2"	1' 9-13/16"	2' 3-1/2"	1' 8-13/16"	2' 7-1/2"	1' 4-13/16"
21"	2' 3-1/2"	1' 11-3/16"	2' 4-1/2"	1' 10-3/16"	2' 8-1/2"	1' 6-3/16"
22"	2' 4-1/2"	2' 0-5/8"	2' 5-1/2"	1' 11-5/8"	2' 9-1/2"	1' 7-5/8"
23"	2' 5-1/2"	2' 2'	2' 6-1/2"	2' 1'	2' 10-1/2"	1' 9"
24"	2' 6-1/2"	2' 3-7/16"	2' 7-1/2"	2' 2-7/16"	2' 11-1/2"	1' 10-7/16"
25"	2' 7-1/2"	2' 4-7/8"	2' 8-1/2"	2' 3-7/8"	3' 0-1/2"	1' 11-7/8"
26"	2' 8-1/2"	2' 6-1/4"	2' 9-1/2"	2' 5-1/4"	3' 1-1/2"	2' 1-1/4"
27"	2' 9-1/2"	2' 7-11/16"	2' 10-1/2"	2' 6-11/16"	3' 2-1/2"	2' 2-11/16"
28"	2' 10-1/2"	2' 9-1/8"	2' 11-1/2"	2' 8-1/8"	3' 3-1/2"	2' 4-1/8"
29"	2' 11-1/2"	2' 10-1/2"	3' 0-1/2"	2' 9-1/2"	3' 4-1/2"	2' 5-1/2"
30"	3' 0-1/2"	2' 11-15/16"	3' 1-1/2"	2' 10-15/16"	3' 5-1/2"	2' 6-15/16"
31"	3' 1-1/2"	3' 1-5/16"	3' 2-1/2"	3' 0-5/16"	3' 6-1/2"	2' 8-5/16"
32"	3' 2-1/2"	3' 2-3/4"	3' 3-1/2"	3' 1-3/4"	3' 7-1/2"	2' 9-3/4"
33"	3' 3-1/2"	3' 4-3/16"	3' 4-1/2"	3' 3-3/16"	3' 8-1/2"	2' 11-3/16"
34"	3' 4-1/2"	3' 5-9/16"	3' 5-1/2"	3' 4-9/16"	3' 9-1/2"	3' 0-9/16"
35"	3' 5-1/2"	3' 7'	3' 6-1/2"	3' 6"	3' 10-1/2"	3' 2"
36"	3' 6-1/2"	3' 8-7/16"	3' 7-1/2"	3' 7-7/16"	3' 11-1/2"	3' 3-7/16"
37"	3' 7-1/2"	3' 9-13/16"	3' 8-1/2"	3' 8-13/16"	4' 0-1/2"	3' 4-13/16"
38"	3' 8-1/2"	3' 11-1/4"	3' 9-1/2"	3' 10-1/4"	4' 1-1/2"	3' 5-1/4"
39"	3' 9-1/2"	4' 0-11/16"	3' 10-1/2"	3' 11-11/16"	4' 2-1/2"	3' 7-11/16"
40"	3' 10-1/2"	4' 2-1/8"	3' 11-1/2"	4' 1-1/8"	4' 3-1/2"	3' 9-1/8"
41"	3' 11-1/2"	4' 3-1/2"	4' 0-1/2"	4' 2-1/2"	4' 4-1/2"	3' 10-1/2"
42"	4' 0-1/2"	4' 4-7/8"	4' 1-1/2"	4' 3-7/8"	4' 5-1/2"	3' 11-7/8"
43"	4' 1-1/2"	4' 6-5/16"	4' 2-1/2"	4' 5-5/16"	4' 6-1/2"	4' 1-5/16"
44"	4' 2-1/2"	4' 7-3/4"	4' 3-1/2"	4' 6-3/4"	4' 7-1/2"	4' 2-3/4"
45"	4' 3-1/2"	4' 9-1/8"	4' 4-1/2"	4' 8-1/8"	4' 8-1/2"	4' 4-1/8"
46"	4' 4-1/2"	4' 10-9/16"	4' 5-1/2"	4' 9-9/16"	4' 9-1/2"	4' 5-9/16"
47"	4' 5-1/2"	4' 11-15/16"	4' 6-1/2"	4' 10-15/16"	4' 10-1/2"	4' 6-15/16"
48"	4' 6-1/2"	5' 1-3/8"	4' 7-1/2"	5' 0-3/8"	4' 11-1/2"	4' 8-3/8"
49"	4' 7-1/2"	5' 2-13/16"	4' 8-1/2"	5' 1-13/16"	5' 0-1/2"	4' 9-13/16"
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51"	4' 9-1/2"	5' 5-5/8"	4' 10-1/2"	5' 4-5/8"	5' 2-1/2"	5' 0-5/8"
52"	4' 10-1/2"	5' 7-1/16"	4' 11-1/2"	5' 6-1/16"	5' 3-1/2"	5' 2-1/16"
53"	4' 11-1/2"	5' 8-7/16"	5' 0-1/2"	5' 7-7/16"	5' 4-1/2"	5' 3-7/16"
54"	5' 0-1/2"	5' 9-7/8"	5' 1-1/2"	5' 8-7/8"	5' 5-1/2"	5' 4-7/8"
55"	5' 1-1/2"	5' 11-5/16"	5' 2-1/2"	5' 10-5/16"	5' 6-1/2"	5' 6-5/16"



**WATER MAIN NOTES:**

- IF ANY CONFLICT EXISTS BETWEEN THESE DETAILS AND THOSE PUBLISHED BY THE PORTLAND WATER DISTRICT, THAN THE PORTLAND WATER DISTRICT DETAILS SHALL GOVERN.
- GENERAL LOCATION AND NUMBER OF SERVICE CONNECTIONS SHOWN ON PLANS. HOWEVER, CONTRACTOR SHALL COORDINATE WITH LAND OWNER AND ENGINEER TO FIELD DETERMINE EXACT LOCATIONS.

**TOWN OF CUMBERLAND**  
MIDDLE ROAD IMPROVEMENTS  
CUMBERLAND, MAINE

**DETAILS AND SECTIONS**

**SME**  
Sevee & Maher Engineers, Inc.

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DESIGN BY: JCM  
DRAWN BY: SJM  
DATE: 5/2016  
CHECKED BY: *[Signature]*  
LMN: NONE  
CTB: SME-STD

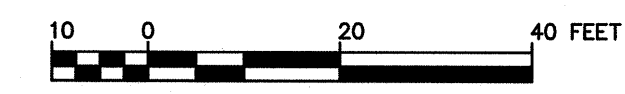
JOB NO. 16047.00 DWG FILE DETAILS C-103

REV.	BY	DATE	STATUS
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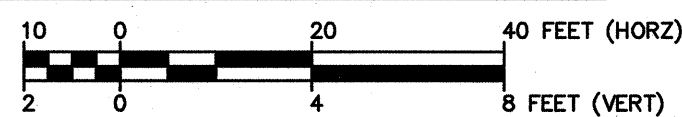
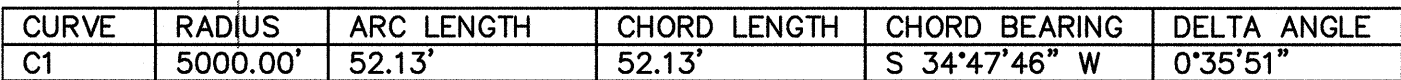


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REV.	BY	DATE	STATUS

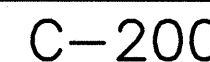




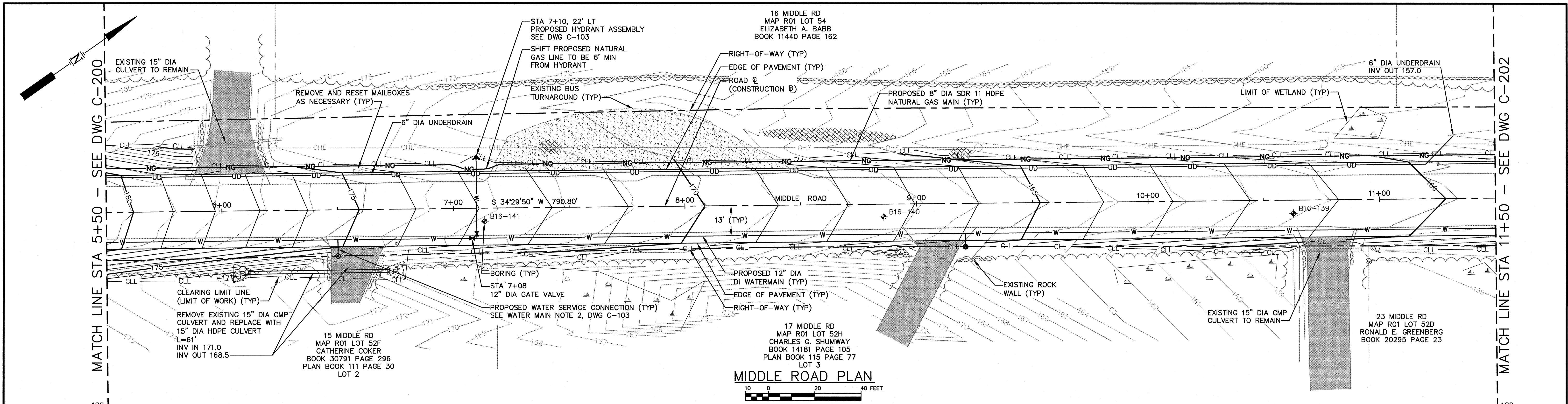




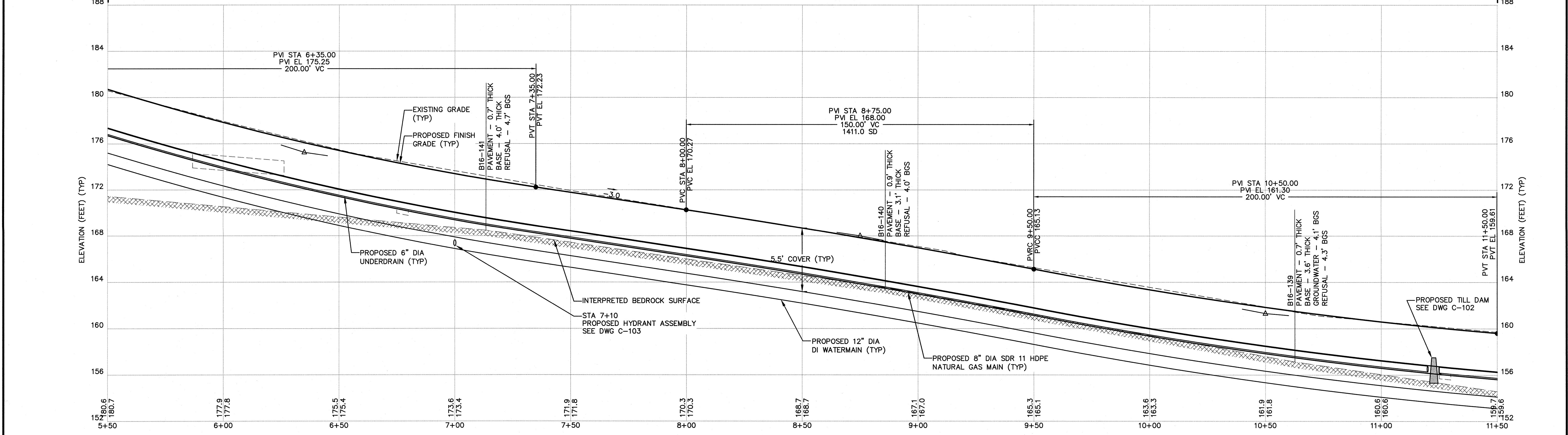
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REV.	BY	DATE	STATUS



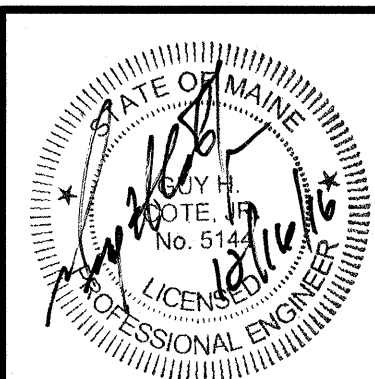




MIDDLE ROAD PLAN



MIDDLE ROAD PROFILE



TOWN OF CUMBERLAND  
MIDDLE ROAD IMPROVEMENTS  
CUMBERLAND, MAINE

MIDDLE ROAD PLAN AND PROFILE  
STA 5+50 TO STA 11+50

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DATE: 5/2016  
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LMN: PLANPROF  
CTB: SME-STD

JOB NO. 16047.00 DWG FILE BASEC-201

REV.	BY	DATE	STATUS
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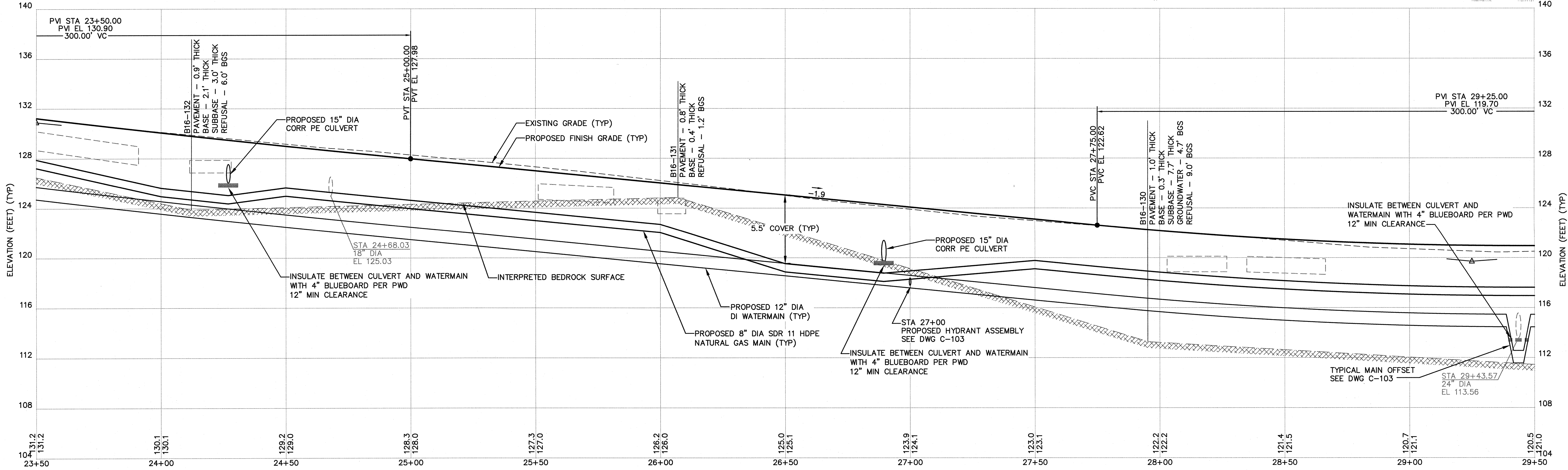
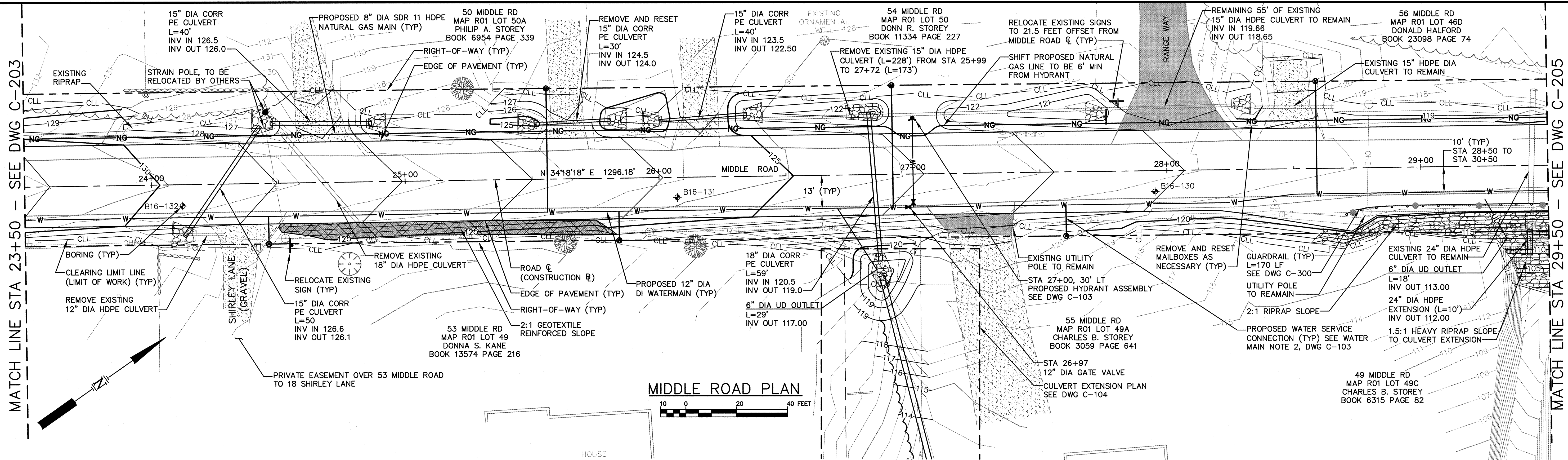




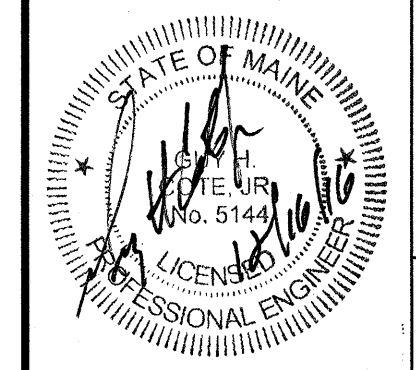








**MIDDLE ROAD PROFILE**  
 10 0 20 40 FEET (HORIZ)  
 2 0 4 8 FEET (VERT)



**TOWN OF CUMBERLAND  
 MIDDLE ROAD IMPROVEMENTS  
 CUMBERLAND, MAINE**

**MIDDLE ROAD PLAN AND PROFILE  
 STA 23+50 TO STA 29+50**

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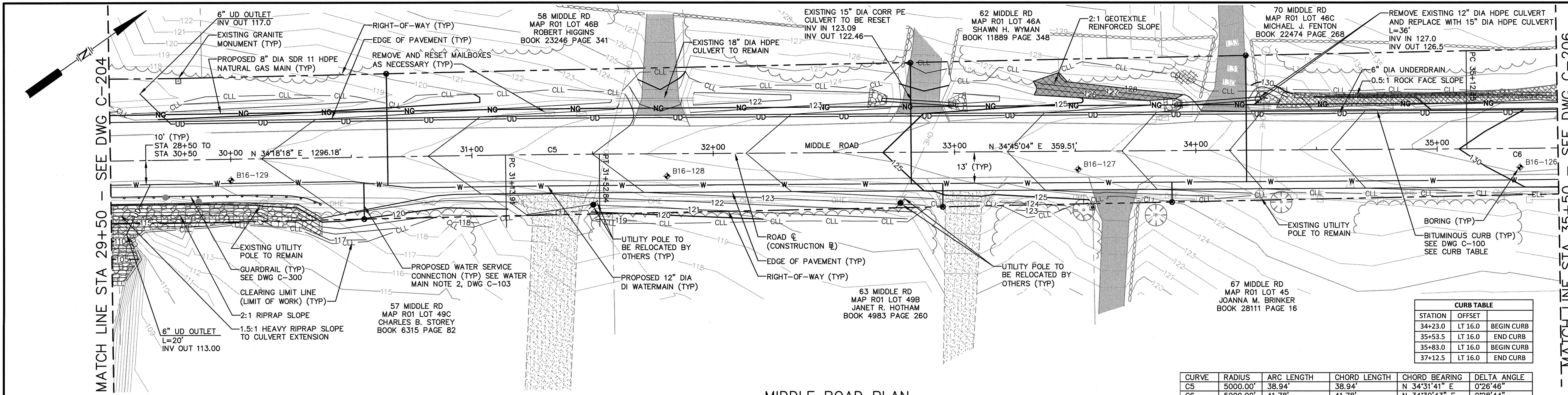
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 DRAWN BY: SJM  
 DATE: 5/2016  
 CHECKED BY: [Signature]  
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 CTB: SME-STD

REV.	BY	DATE	STATUS
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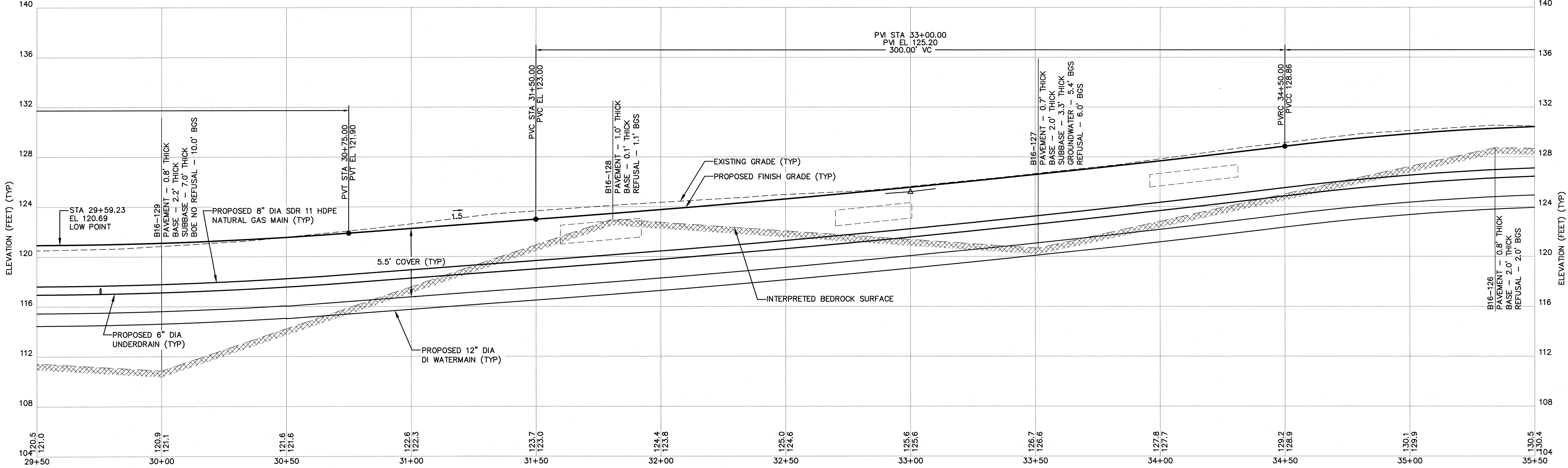
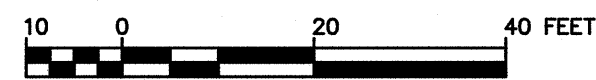
JOB NO. 16047.00 DWG FILE BASE

C-204

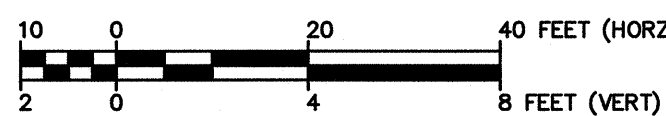




MIDDLE ROAD PLAN



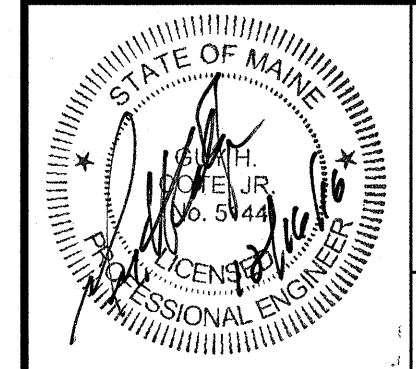
MIDDLE ROAD PROFILE



**CURB TABLE**

STATION	OFFSET	BEGIN CURB	END CURB
34+23.0	LT 16.0	BEGIN CURB	
35+53.5	LT 16.0		END CURB
35+83.0	LT 16.0	BEGIN CURB	
37+12.5	LT 16.0		END CURB

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C5	5000.00'	38.94'	38.94'	N 34°31'41" E	0°26'46"
C6	5000.00'	41.78'	41.78'	N 34°30'43" E	0°28'44"



TOWN OF CUMBERLAND  
MIDDLE ROAD IMPROVEMENTS  
CUMBERLAND, MAINE

MIDDLE ROAD PLAN AND PROFILE  
STA 29+50 TO STA 35+50

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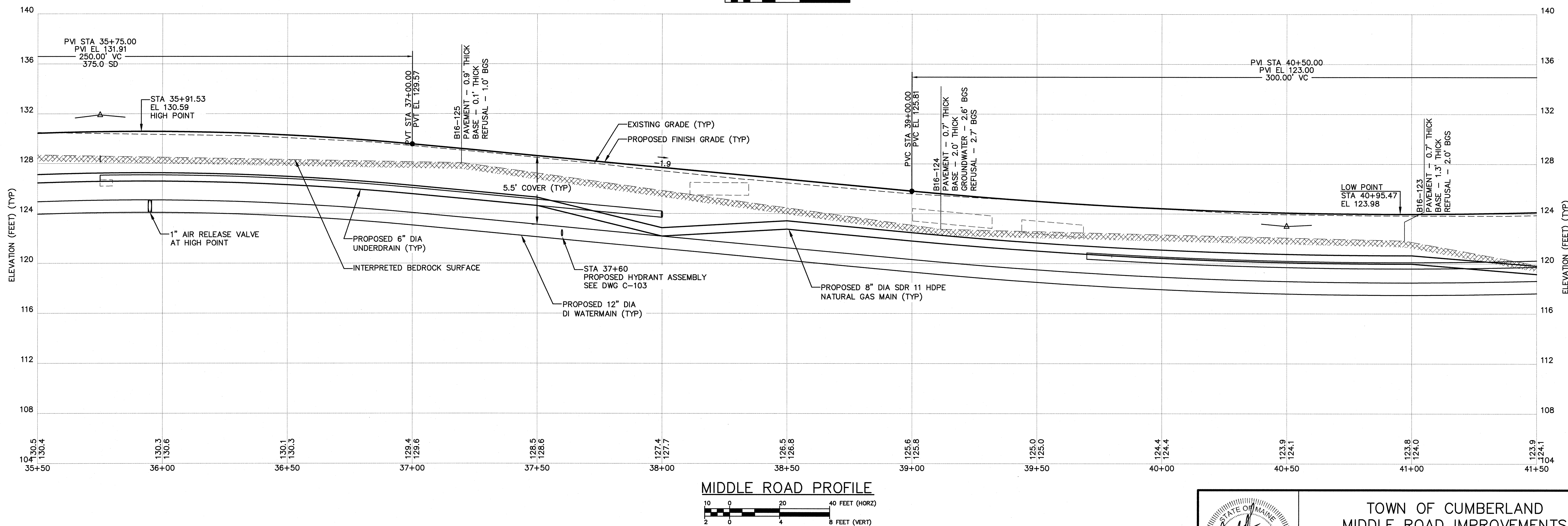
DESIGN BY: JCM  
DRAWN BY: SJM  
DATE: 5/2016

CHECKED BY: *[Signature]*  
LMN: PLANPROF  
CTB: SME-STD

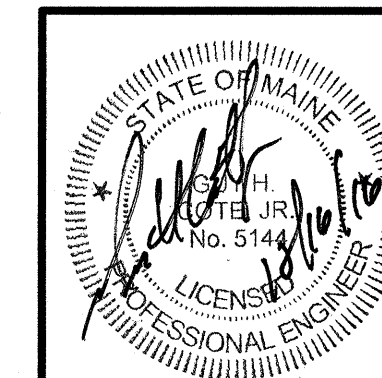
JOB NO. 16047.00 DWG FILE BASE C-205

REV.	BY	DATE	STATUS
	JCM	12/2016	ISSUED FOR BID





	JCM	12/2016	ISSUED FOR BID
REV.	BY	DATE	STATUS



MIDDLE ROAD PLAN AND PROFILE  
STA 35+50 TO STA 41+50

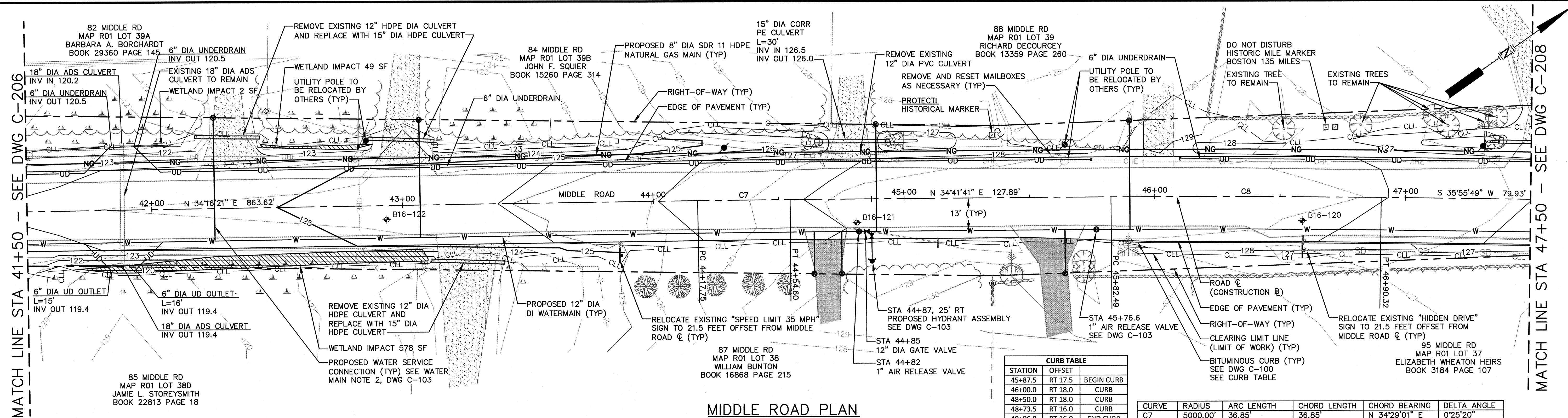
Sevee & Maher Engineers, Inc.

JCB NO. 10047 00 DWG FILE PAGE

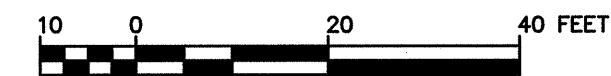
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C-206



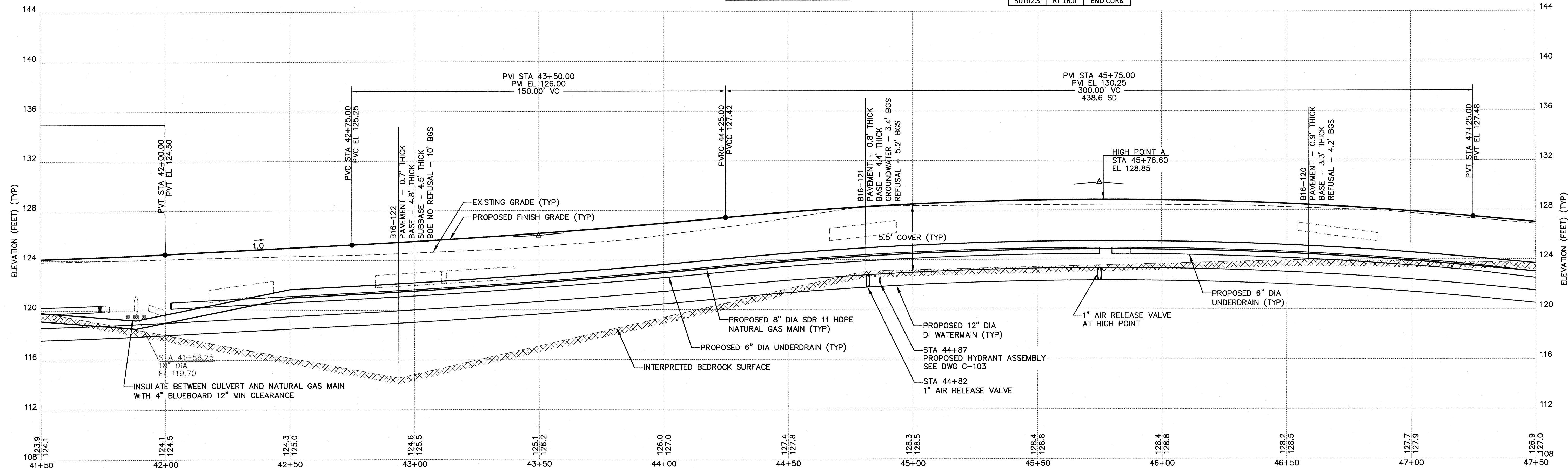


MIDDLE ROAD PLAN

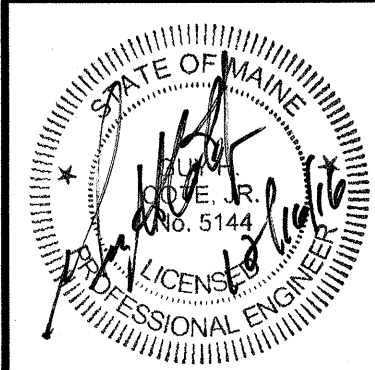
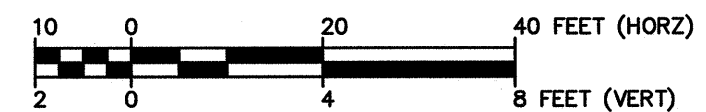


STATION	OFFSET	
45+87.5	RT 17.5	BEGIN CURB
46+00.0	RT 18.0	CURB
48+50.0	RT 18.0	CURB
48+73.5	RT 16.0	CURB
49+06.0	RT 16.0	END CURB
49+24.5	RT 16.0	BEGIN CURB
50+02.5	RT 16.0	END CURB

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C7	5000.00'	36.85'	36.85'	N 34°29'01" E	0°25'20"
C8	5000.00'	107.83'	107.83'	N 35°18'45" E	1°14'08"



MIDDLE ROAD PROFILE



TOWN OF CUMBERLAND  
MIDDLE ROAD IMPROVEMENTS  
CUMBERLAND, MAINE

MIDDLE ROAD PLAN AND PROFILE  
STA 41+50 TO STA 47+50

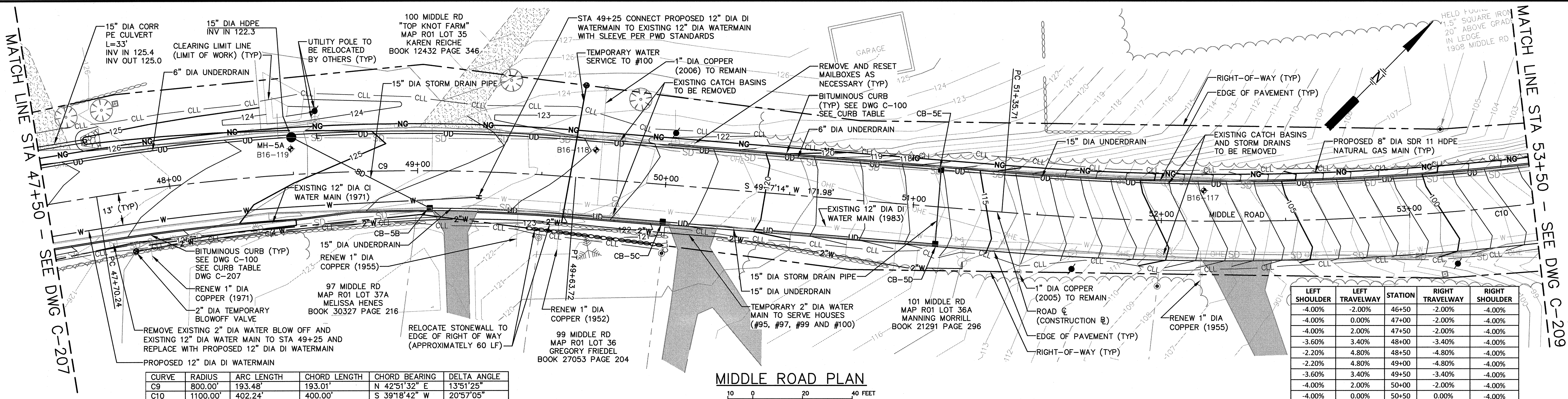
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LMN: PLANPROF  
CTB: SME-STD

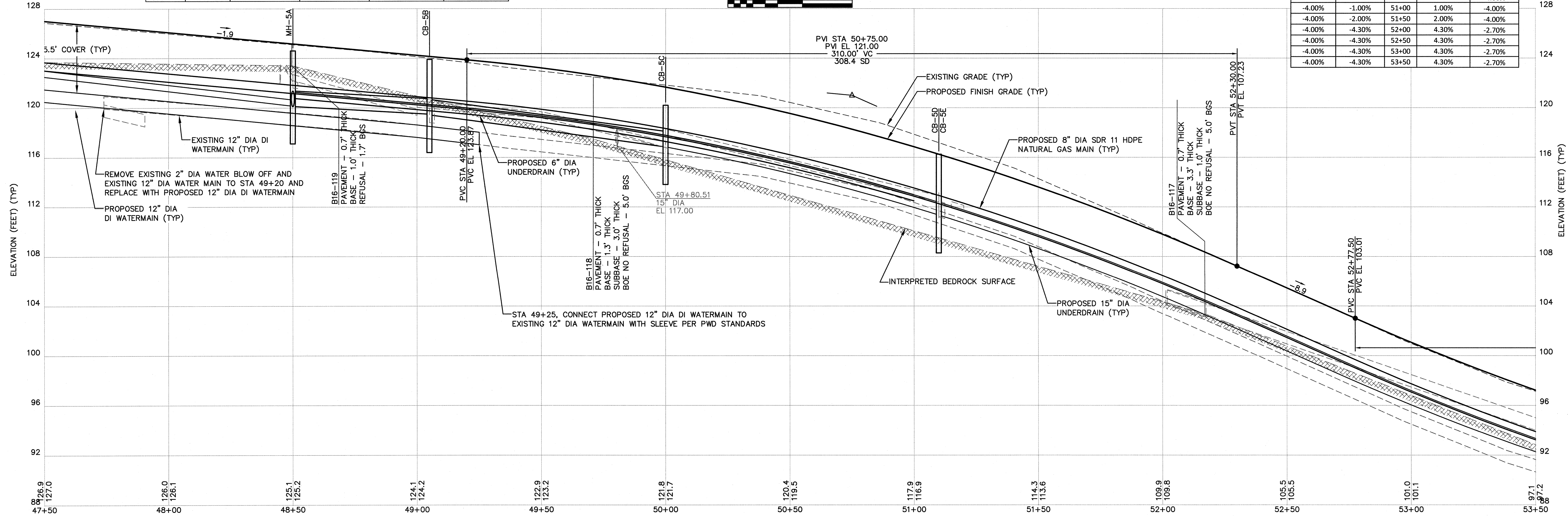
JOB NO. 16047.00 DWG FILE BASE C-207

REV.	BY	DATE	STATUS
1	JCM	12/2016	ISSUED FOR BID





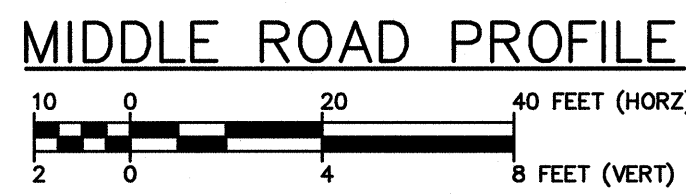
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C9	800.00'	193.48'	193.01'	N 42°51'32" E	13°51'25"
C10	1100.00'	402.24'	400.00'	S 39°18'42" W	20°57'05"



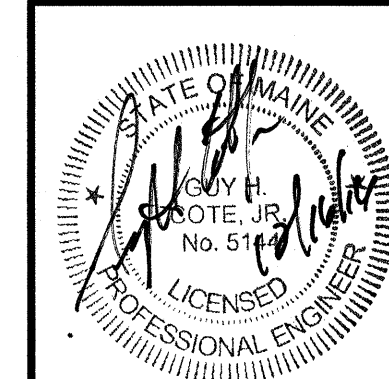
LEFT SHOULDER	LEFT TRAVELWAY	STATION	RIGHT TRAVELWAY	RIGHT SHOULDER
-4.00%	-2.00%	46+50	-2.00%	-4.00%
-4.00%	0.00%	47+00	-2.00%	-4.00%
-4.00%	2.00%	47+50	-2.00%	-4.00%
-3.60%	3.40%	48+00	-3.40%	-4.00%
-2.20%	4.80%	48+50	-4.80%	-4.00%
-2.20%	4.80%	49+00	-4.80%	-4.00%
-3.60%	3.40%	49+50	-3.40%	-4.00%
-4.00%	2.00%	50+00	-2.00%	-4.00%
-4.00%	0.00%	50+50	0.00%	-4.00%
-4.00%	-1.00%	51+00	1.00%	-4.00%
-4.00%	-2.00%	51+50	2.00%	-4.00%
-4.00%	-4.30%	52+00	4.30%	-2.70%
-4.00%	-4.30%	52+50	4.30%	-2.70%
-4.00%	-4.30%	53+00	4.30%	-2.70%
-4.00%	-4.30%	53+50	4.30%	-2.70%

STRUCTURE	DIA	LOCATION STATION & OFFSET	RIM EL	INV IN	FROM STRUCTURE	INV OUT	TO STRUCTURE	PIPE
INLET	-	48+47.3, 23.6 RT	-	122.3	FIELD	122.0	MH-5A	7 LF OF 15" DIA HDPE S=0.043'/'
MH-5A	4'	48+50, 15' LT	125.6	122.0 121.6	6" INLET 6" UD	120.7	CB-5B	58 LF OF 15" DIA HDPE S=0.020'/'
CB-5B	4'	49+05, 15' RT	123.9	119.5	MH-5A	119.4	CB-5C	95 LF OF 15" DIA HDPE S=0.021'/'
CB-5C	4'	50+00, 15' RT	120.2	117.4	CB-5B	117.3	CB-5D	106 LF OF 15" DIA HDPE S=0.05'/'
CB-5D	4'	51+10, 15' RT	116.2	112.5	CB-5C	111.9	CB-5E	27 LF OF 15" DIA HDPE S=0.0644'/'
CB-5E	4'	51+10, 15' LT	116.0	109.7 110.7	6" UD CB-5D	109.6	CB-5F	332 LF OF 15" DIA HDPE S=0.068'/'
CB-5F	4'	54+50, 15' LT	91.0	87.1	CB-5E	EXISTING	OUTLET	CONNECT TO EXISTING 24" DIA SD
CB-5G	4'	57+15, 15' RT	87.9	84.8	6" UD	84.7	OUTLET	16 LF OF 15" HDPE S=0.006'/'

STATION	OFFSET	DESCRIPTION
50+00.0	LT 16.0	BEGIN CURB
54+50.0	LT 16.0	CURB
55+02.5	LT 25.0	END CURB



REV.	BY	DATE	STATUS
	JCM	12/2016	ISSUED FOR BID



TOWN OF CUMBERLAND  
MIDDLE ROAD IMPROVEMENTS  
CUMBERLAND, MAINE

MIDDLE ROAD PLAN AND PROFILE  
STA 47+50 TO STA 53+50

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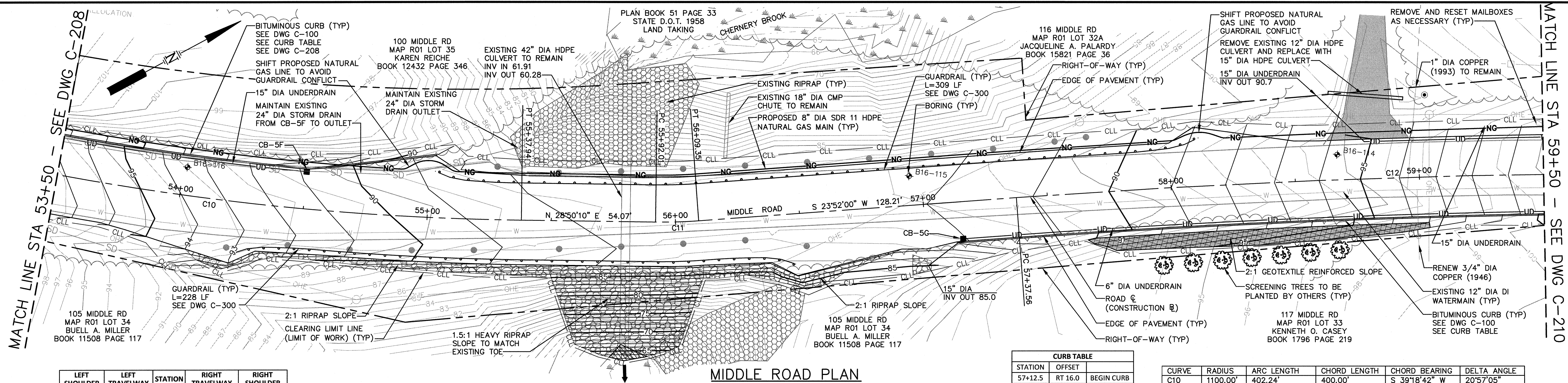
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LMN: PLANPROF  
CTB: SME-STD

C-208

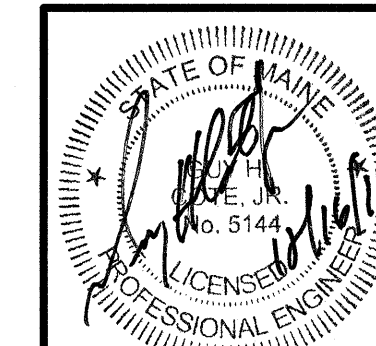
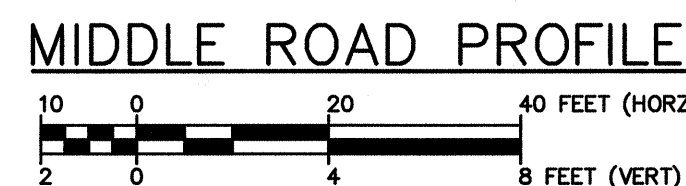
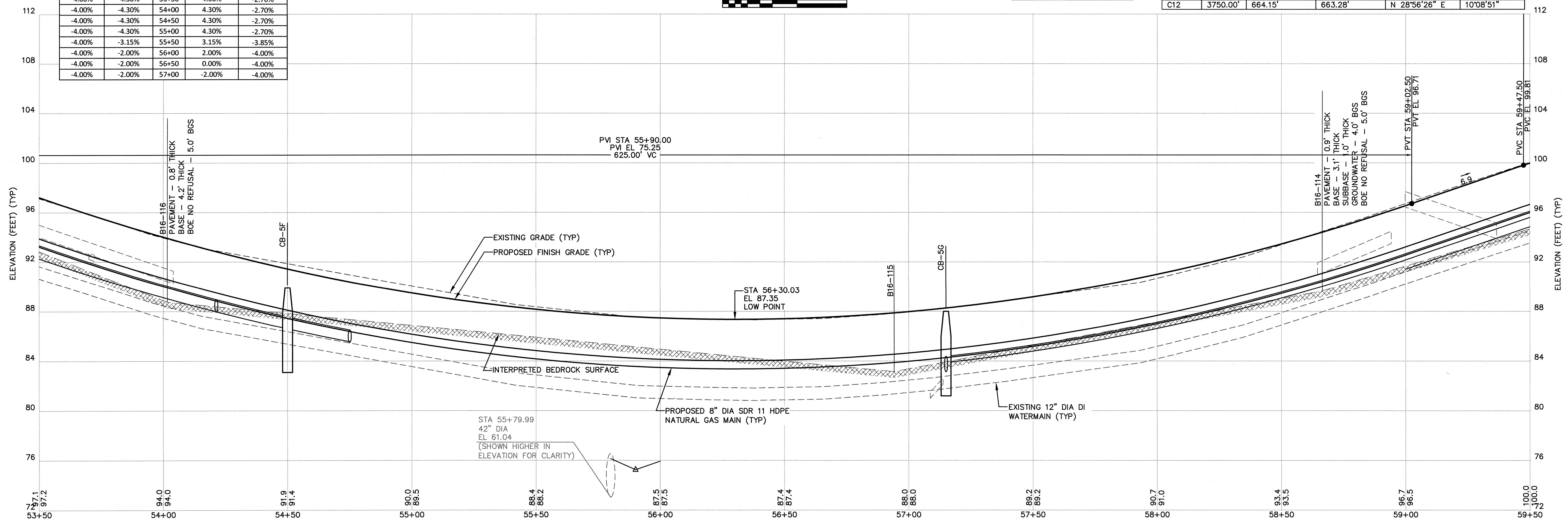




LEFT SHOULDER	LEFT TRAVELWAY	STATION	RIGHT TRAVELWAY	RIGHT SHOULDER
-4.00%	-4.30%	53+50	4.30%	-2.70%
-4.00%	-4.30%	54+00	4.30%	-2.70%
-4.00%	-4.30%	54+50	4.30%	-2.70%
-4.00%	-4.30%	55+00	4.30%	-2.70%
-4.00%	-3.15%	55+50	3.15%	-3.85%
-4.00%	-2.00%	56+00	2.00%	-4.00%
-4.00%	-2.00%	56+50	0.00%	-4.00%
-4.00%	-2.00%	57+00	-2.00%	-4.00%

CURB TABLE		
STATION	OFFSET	
57+12.5	RT 16.0	BEGIN CURB
61+17.0	RT 16.0	END CURB

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C10	1100.00'	402.24'	400.00'	S 39°18'42\"	20°57'05\"
C11	200.00'	17.35'	17.34'	N 26°21'05\"	4°58'09\"
C12	3750.00'	664.15'	663.28'	N 28°56'26\"	10°08'51\"



TOWN OF CUMBERLAND  
MIDDLE ROAD IMPROVEMENTS  
CUMBERLAND, MAINE

MIDDLE ROAD PLAN AND PROFILE  
STA 53+50 TO STA 59+50

**SME**

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LMN: PLANPROF  
CTB: SME-STD

JOB NO. 16047.00 DWG FILE BASE

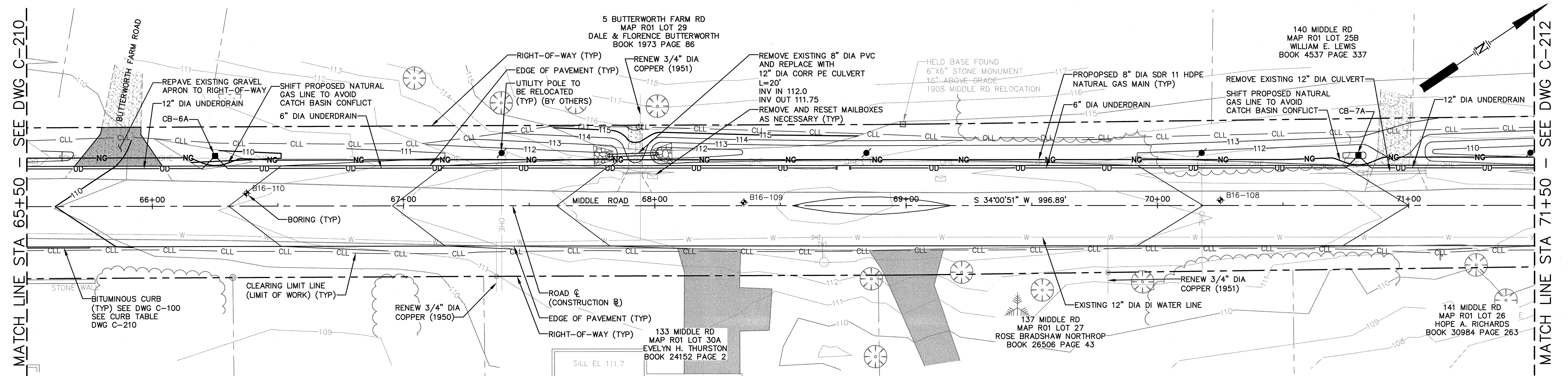
C-209

REV.	BY	DATE	STATUS
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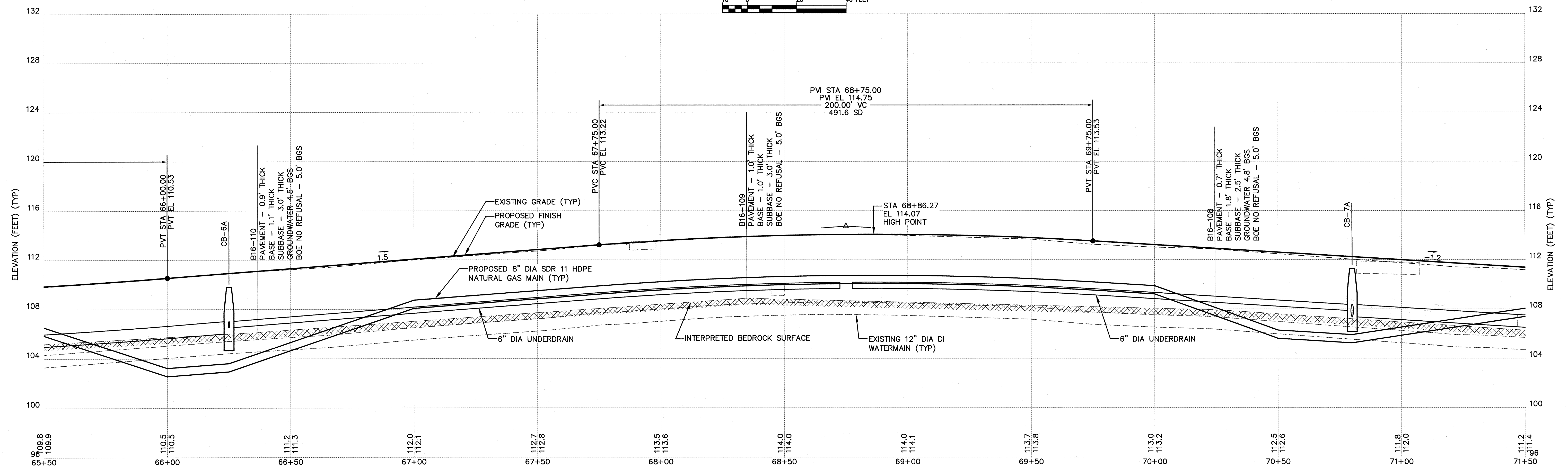






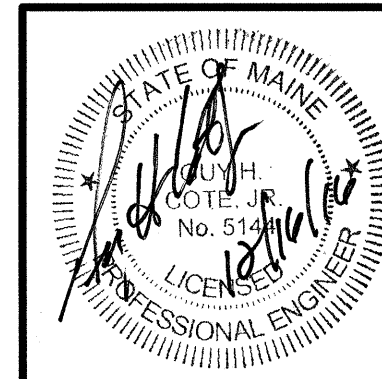


MIDDLE ROAD PLAN



## MIDDLE ROAD PROFILE

	JCM	12/2016	ISSUED FOR BID
REV.	BY	DATE	STATUS




TOWN OF CUMBERLAND  
MIDDLE ROAD IMPROVEMENTS  
CUMBERLAND, MAINE

MIDDLE ROAD PLAN AND PROFILE  
STA 65+50 TO STA 71+50

## SME

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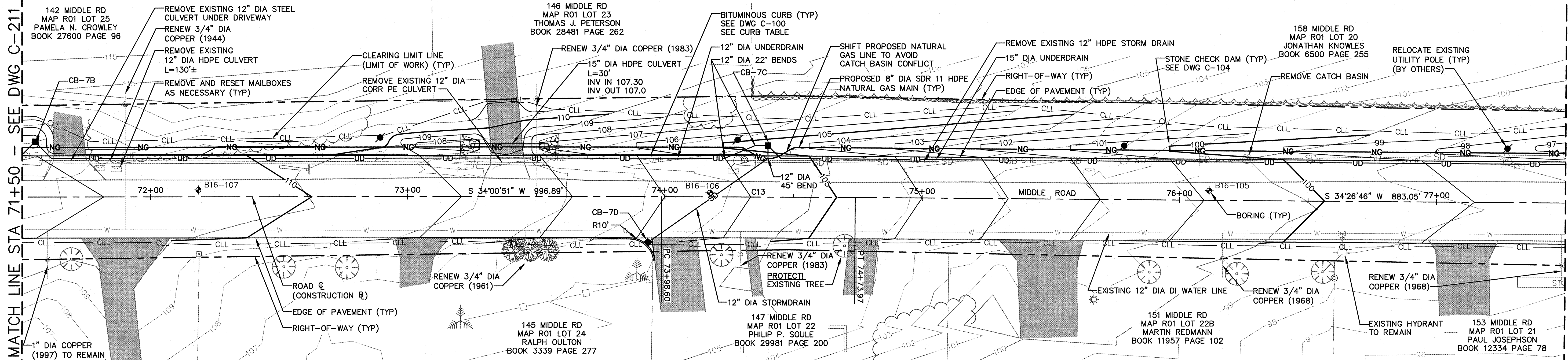
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DRAWN BY: SJM  
DATE: 5/2016  
CHECKED BY:   
LMN: PLANPROF  
CTB: SME-STD

JOB NO. 16047.00 DWG FILE BASE

C-211



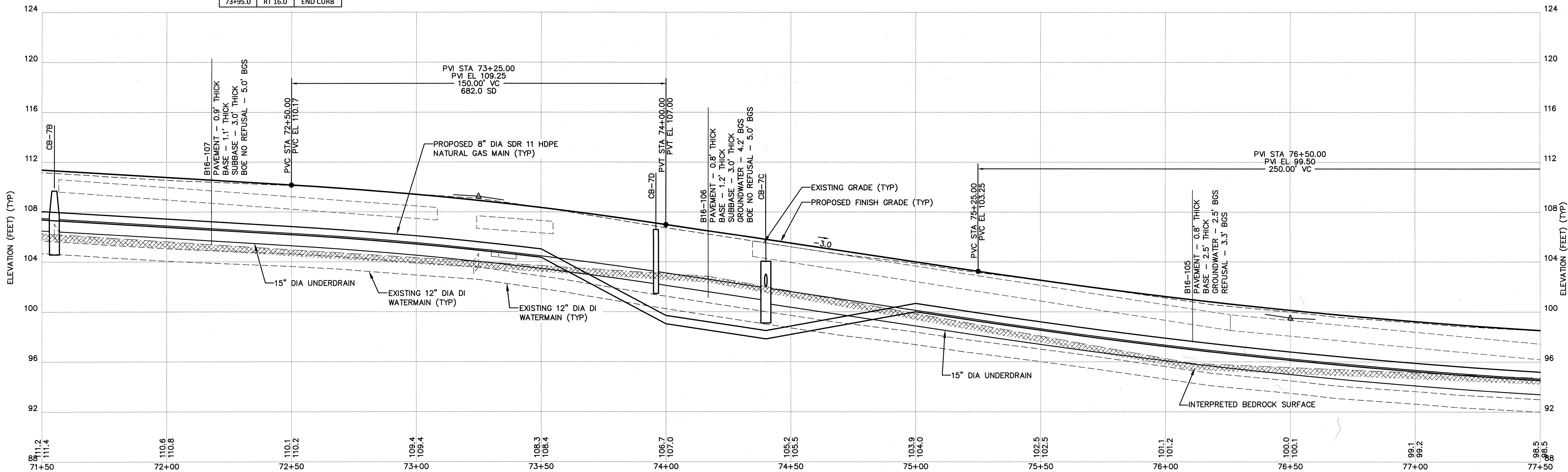
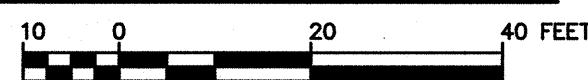
MATCH LINE STA 71+50 - SEE DWG C-211



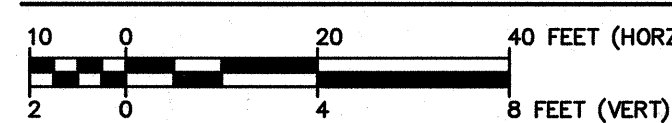
MATCH LINE STA 77+50 - SEE DWG C-213

CURB TABLE			
STATION	OFFSET		
71+75.0	LT 16.0	BEGIN CURB	
73+00.0	LT 16.0	END CURB	
73+45.0	LT 16.0	BEGIN CURB	
74+35.0	LT 16.0	END CURB	
73+45.0	RT 16.0	BEGIN CURB	
73+95.0	RT 16.0	END CURB	

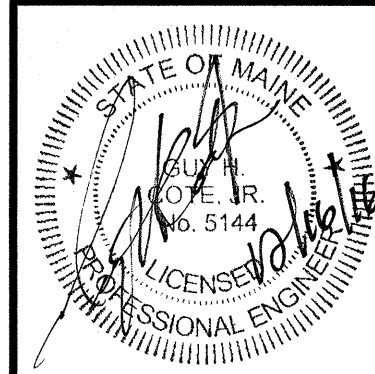
MIDDLE ROAD PLAN



MIDDLE ROAD PROFILE



STRUCTURE	DIA	LOCATION STATION & OFFSET	RIM EL	INV IN	FROM STRUCTURE	INV OUT	TO STRUCTURE	PIPE
UD	-	-	-	110.6	-	108.7	CB-7A	195 LF OF 6\" DIA HDPE S=0.020'/
CB-7A	4'	70+80, 20' LT	111.3	108.7	6\" UD	108.2	CB-7B	76 LF OF 12\" DIA HDPE S=0.012'/
CB-7B	4'	71+55, 20' LT	109.7	107.3	CB-7A	107.2	CB-7C	237 LF OF 12\" DIA HDPE S=0.023'/
CB-7C	4'	74+40, 20' LT	104.5	101.7 101.6	CB-7B CB-7D	101.5	CB-7E	440 LF OF 15\" DIA HDPE S=0.024'/
CB-7D (TYPE F)	2'	73+93, 17.8' RT	106.6	-	CB-7D	102.9	CB-7C	57 LF OF 12\" DIA HDPE S=0.023'/
CB-7E	4'	78+27.5, 25' LT	94.7	92.0	CB-7C	90.8	OUTLET PIPE	54 LF OF 30\" DIA HDPE S=0.015'/
OUTLET PIPE	-	78+26, 22' RT	-	90.8	CB-7E	90.0	DISCHARGE	-



TOWN OF CUMBERLAND  
MIDDLE ROAD IMPROVEMENTS  
CUMBERLAND, MAINE

MIDDLE ROAD PLAN AND PROFILE  
STA 71+50 TO STA 77+50

**SME**

Sevee & Maher Engineers, Inc.

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE  
4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021  
Phone 207.829.5016 • Fax 207.829.5692 • www.smeinc.com

DESIGN BY: JCM

DRAWN BY: SJM

DATE: 5/2016

CHECKED BY: *[Signature]*

LMN: PLANPROF

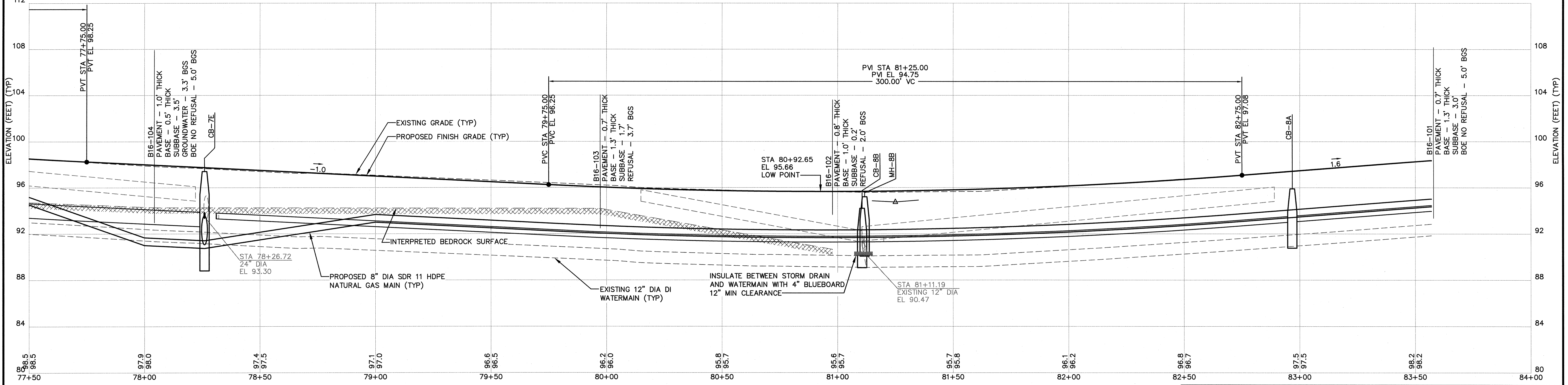
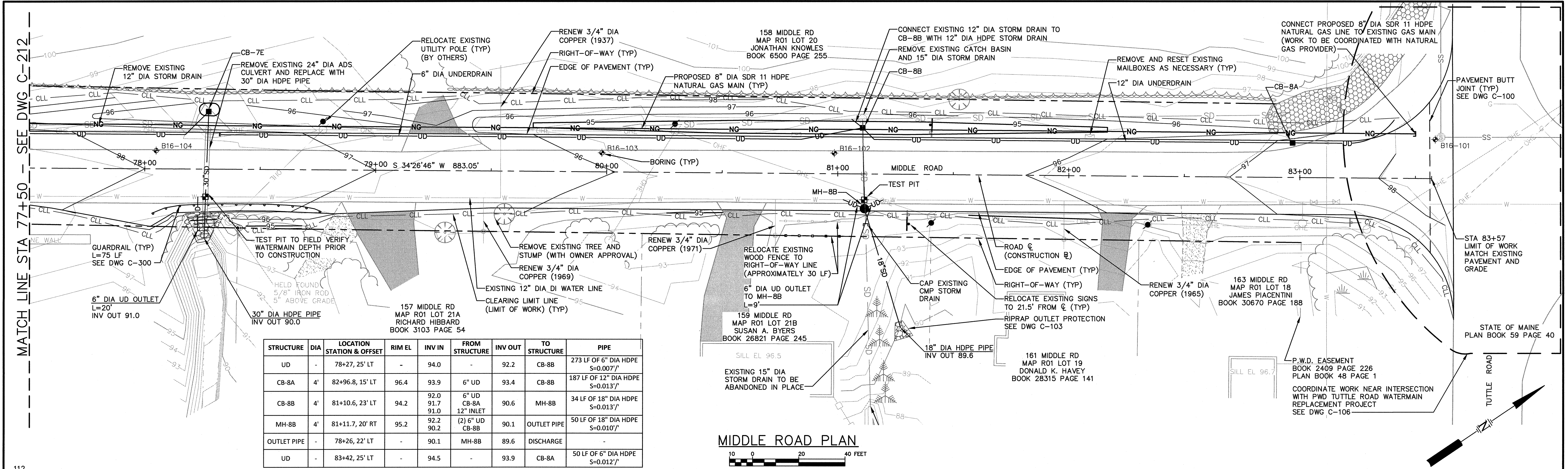
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1	JCM	12/2016	ISSUED FOR BID





MIDDLE ROAD PROFILE

10 0 20 40 FEET (HORIZ)

2 0 4 8 FEET (VERT)

TOWN OF CUMBERLAND  
MIDDLE ROAD IMPROVEMENTS  
CUMBERLAND, MAINE

MIDDLE ROAD PLAN AND PROFILE  
STA 77+50 TO STA 83+57

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