

Maine Department of Transportation  
Geotechnical Group

Report of

**GEOTECHNICAL REPORT FOR  
RECONSTRUCTION OF ROUTE 1  
IN THE TOWN OF THOMASTON IN KNOX COUNTY**

Prepared by

Kalia Breskin, P.E.  
Senior Geotechnical Engineer



Reviewed by

Meredith Kirkmann, P.E.  
Geotechnical Design Engineer

Knox County

PIN 17890.00  
Federal STP-1789(000)  
September 16, 2014

Soils Report No. 2014-21



End Project

Begin Project

Location Map  
A 2.24 mile portion of Routes 1/131  
Thomaston, Maine  
Knox County  
WIN 17890.00 Federal No. STP-1789(000)  
USGS 7.5' Series Topographic  
Thomaston Quadrangle  
DeLORME Map 8 Grid A2

Map Scale 1:24000

## Table of Contents

Section	Page No.
<b>1.0 INTRODUCTION</b>	<b>1</b>
1.1 General	1
1.2 Summary of Recommendations	1
<b>2.0 SITE AND SUBSURFACE CONDITIONS</b>	<b>2</b>
2.1 General Site Conditions	2
2.2 Mapped Soils Information	2
2.3 Subsurface Investigation	2
2.4 Subsurface Conditions	3
2.5 Existing Pavement	4
2.6 Subsurface Bedrock	4
2.7 Existing Retaining Walls	5
2.9 Groundwater	5
<b>3.0 EVALUATION AND RECOMMENDATIONS</b>	<b>5</b>
3.1 Subgrade Soils	5
3.2 Existing Gravel	5
3.3 Pavement Design	5
3.4 Groundwater	5
3.5 Bedrock Excavation	6
3.6 Frost Action	6
3.7 Construction Considerations	6
<b>Appendices:</b>	
Appendix A	<b>Plans</b> Geoplans As-Built Plans – 1928, 1929 and 1962
Appendix B	<b>Field Exploration Data</b> Soils Descriptions Boring Logs Pavement Core Summary Sheet Pavement Core Photographs GPR Data
Appendix C	<b>Lab Test Data</b> Lab Testing Summary Sheet Grain Size Curves

## **1.0 INTRODUCTION**

### **1.1 General**

The Maine Department of Transportation (MDOT) is planning highway improvements to a section of Route 1 in the Town of Thomaston in Knox County, Maine. This portion of the highway is part of the National Highway System. The project begins 0.32 miles east of the Warren town line and extends easterly for 2.24 miles. A Project Location Map is included in this report.

The existing highway was built with Portland Cement Concrete (PCC) pavement from the beginning of the project to approximately Station 118+50, approximately 2 miles into the project.

This project is needed to improve the horizontal alignment, add and improve sidewalks and drainage, and pave shoulders. The scope includes highway reconstruction with removal of the original PCC for most of the project however a 380-ft long section in the business area of town will be rehabilitated by milling existing Hot Mix Asphalt (HMA) pavement and placing new pavement on the milled surface. This report summarizes the site subsurface conditions and discusses our recommendations for the proposed reconstruction.

### **1.2 Summary of Recommendations**

These recommendations are discussed in detail in Section 3.0, Evaluation and Recommendations.

Existing subbase gravel does not meet the requirements of MaineDOT Standard Specification 703.06, Aggregate for Base and Subbase, and cannot be reused as gravel on this project.

Clay-silt soils will need to be protected if possible from construction traffic. If these soils are disturbed it may be necessary to overexcavate and replace with granular materials.

Where old pavement is encountered at subgrade, it should be removed and replaced with granular material to ensure that water is not trapped in the subbase gravel.

## **2.0 SITE AND SUBSURFACE CONDITIONS**

### **2.1 General Site Conditions**

Route 1 runs easterly through Town of Thomaston. The original highway was constructed in 1928 and 1929 with Portland Cement Concrete (PCC) pavement over varying base materials. The original highway had 10-foot lanes paved with PCC and 3-foot gravel shoulders, with base sections of variable gravel, 8-inch gravel base and an 18-inch stone base section. Concrete slabs were 40-feet long and 10-feet wide with thickness varying from 7-inches to 9-inches. The original PCC pavement is under Hot Mix Asphalt (HMA) pavement of varying thickness. For most of the project shoulder widths are variable and shoulders are unpaved except in the village center. Plans from 1962 show construction from Station 118+50 to the end of the project with a 24-inch gravel base course and 5-inches of bituminous pavement. This section of highway has 12-foot lanes and 6-foot paved shoulders. The project location map is included as Sheet 1 and as-built plans are included in Appendix A, Plans.

The surrounding land is fully developed with a variety of commercial and residential uses. A small urban park extends for 650-ft along the right side of the roadway in the village center. Properties along this project are listed on the National Register of Historic Places and the business district is a Historic District.

### **2.2 Mapped Soils Information**

Surficial soils mapping by the Maine Geologic Survey (MGS) for the Thomaston quadrangle shows the native soils to be Presumpscot Formation. An area of shallow bedrock is indicated on the south side of the highway at the base of the hill east of the Rte 131 intersection. Presumpscot Formation soils are glaciomarine silts, sands, and clays deposited on the sea floor during the late glacial period. This unit overlies Till of irregular thickness in the area of Thomaston, and areas of Till can be found exposed and near the ground surface within this soil unit.

Natural Resources Conservation Survey (NRCS) mapping shows disturbed "urban land" soils and Swanville silty soils for much of the project, although a small area of Peru fine sand is indicated between Kossuth and Beechwood streets.

No wetland areas are shown adjacent to the highway on the National Wetlands Inventory (NWI) map of this project.

### **2.3 Subsurface Investigation**

The subsurface investigation for this project was performed by MaineDOT and included 11 solid stem auger borings in June 2012 and a Falling Weight Deflectometer (FWD) analysis in December 2011, to determine the scope of the project. Twenty-four borings were done in November 2012 for geotechnical design. Many of these borings were solid stem auger probes with samples taken off the auger flights, but fourteen of the 2012 borings included Standard Penetration Tests and split-spoon samples. All highway borings were done in or near the existing roadway. Boring locations are shown on the Geoplans, Appendix A.

Ground Penetrating Radar was also done for a more accurate determination of HMA pavement depth and condition and to investigate the location of the remaining PCC pavement.

## 2.4 Subsurface Conditions

Subgrade soils encountered in our investigation included gravel, sand and silt of varying densities. Most tests indicated medium dense to dense soils, although loose soils were encountered in some explorations. A summary of pavement material thickness and native soils at subgrade level found in our borings is shown in the following table.

**Table 1. Pavement and Soils Summary**

Station	Offset	HMA	PCC	Sub-base	Subgrade soils
12+10	11 RT	9.5"		2.9'	Blue grey, moist, very soft clayey Silt, trace sand, trace gravel
18+50	11 LT	8"		1.8'	Olive, wet, very loose, silty fine to medium Sand, trace clay
23+00	10 RT	8"		1'	Olive brown, moist clayey Silt, trace fine sand
28+00	9 RT	8"	6"	2.8'	Olive brown, moist very stiff clayey Silt, trace fine sand
33+00	7.5 RT	7"	7"	3.6'	Olive, wet very loose silty fine Sand, trace gravel
38+50	7 RT	5"	7"	2.3'	Brown, wet silty fine to medium Sand
43+00	7.5 LT	5"	5"	3.2'	Brown, moist, loose Silt, some fine sand, trace clay
49+55	6 LT	5"	5"	4'	stopped on probable boulder
54+00	6.5 LT	5.5"	8"	2.3'	Light brown, damp, fine to medium Sand, some silt
58+50	9.5 RT	6.5"		3'	Olive Brown, moist, medium dense, sand Silt, trace gravel
63+00	7 LT	6"	6"	1.6'	Light brown, moist, silty fine to medium Sand
68+00	8 RT	5"	7"	3'	Light brown, damp, dense, fine to medium sandy Silt, little gravel, cobbles
72+00	6 RT	8"		1'	Light brown, damp, fine to medium Sand (possible trench fill)
75+00	5 RT	6"	6"	2'	Light brown, moist silty fine to medium SAND
84+00	10 RT	6"		2.5'	Olive brown, moist loose silty fine to medium Sand, trace gravel
88+00	6.5 RT	5"	6"	2.9'	Olive brown, moist, loose silty fine to medium Sand
91+00	5 RT	7"	6"	2.9'	Light brown, damp, medium dense Silt, some fine to medium sand, trace gravel
93+75	17.5 RT	4"		1.7'	Brown, damp fine to medium sand, little gravel, little silt
101+00	8 RT	6"	7"		Olive brown, moist, stiff clayey Silt, little fine sand
106+00	8 LT	7"	6"	2.2'	Brown, damp, fine to medium Sand, little gravel, little silt
111+00	6 RT	5"	7"	3'	Olive brown, moist, loose fine to medium Sand, some silt, little gravel
115+00	6.5 RT	6"	6"	6'	Brown, damp gravelly fine to coarse Sand, trace silt
119+80	6 RT	5"		3.4'	Olive, moist, stiff Silt, some clay, little fine sand, trace gravel
125+20	19 LT	6"		6.2'	Brown, damp, fine to medium Sand, little gravel, little silt

Boring logs are included in Appendix B, Field Exploration Data and Appendix C, Lab Test Data.

## 2.5 Existing Pavement

PCC pavement was found in most borings known to be within the original pavement structure. According to GPR data, the PCC ends approximately 150-feet north of Pine Street. There are other areas where no PCC was encountered in borings. Some of these borings were well beyond the limits of the original pavement structure, and PCC may have been removed in other locations due to utility work. The existing pavement is in poor condition, and the edge of PCC is clearly visible as a crack in the HMA pavement.

As-built plans show the PCC slabs to be 40-feet long and 10-feet wide. Longitudinal steel reinforcing bars were placed 1-foot 7-inches apart across each slab and transverse bars were 1-foot 10.5-inches apart with closer spacing at the ends of each slabs. A note on these 1928 plans indicates that 440.5-feet of concrete pavement from Station 88+90 to Station 93+30 of the current plans was built in 1916 and was not part of the 1928 project.

Pavement cores were taken at Stations 12+10, 33+00, 54+00, 75+00, 91+00 and 119+80. PCC in most of these cores was removed in one or two pieces and was in good to excellent condition. HMA was removed in small pieces, and different layers are clearly visible: this area has been overlaid many times. Photographs of pavement cores are included in Appendix B.

GPR data taken on or near the existing edge of pavement appears to indicate substantially thicker HMA beyond the PCC pavement on the Left side of the highway than on the Right side, however this data was adjusted to match the pavement depth found in borings, and explorations on the Left were limited by utility conflicts. Average, minimum and maximum HMA thickness from GPR is given in the following table.

<u>Location</u>	<u>Overall Average</u>	<u>Minimum</u>	<u>Maximum</u>
Primary Lanes	6.1-inches	4.0-inches	8.8-inches
Left Shoulder	9.5-inches	5.5-inches	15.2-inches
Right Shoulder	5.6-inches	1.6-inches	9.1-inches

GPR data shows thickness of the HMA; PCC thickness is not included in this calculation. This equipment is towed behind a truck, and the truck must move around parked cars on the shoulders so this data is not a consistent distance from the highway centerline. In most areas the HMA pavement over PCC appears to be on the order of 6-inches thick. This corresponds reasonably well with the thickness in the pavement cores taken.

## **2.6 Subsurface Bedrock**

Refusal was encountered at Station 18+50, 11.0 Feet Left. No bedrock core was taken, and it is not known if this was bedrock refusal or a boulder. A boring at 49+55 was stopped for what appeared from drill action to be a boulder. Small bedrock outcrops are shown on the plans between Stations 39+00 and 44+00 on the Right. Shallow bedrock is shown on the MGS Surficial Geology Map of the Thomaston Quadrangle, south of the highway in the area from approximately Station 39+00 to Station 44+00.

## **2.7 Existing Retaining Walls**

Retaining walls support some residential and commercial properties abutting the project, but no impacts to these existing walls are proposed.

## **2.8 Groundwater**

Shallow groundwater was encountered in a boring at Station 18+50 at a depth of 3.3 feet below ground surface (bgs). This boring encountered refusal at a depth of 6.6-ft bgs, and soils were very loose in the stratum where groundwater was found.

## **3.0 EVALUATION AND RECOMMENDATIONS**

### **3.1 Subgrade Soils**

Soils at pavement subgrade were generally found to be loose to medium dense sandy silt and silty sand. Clay-silt soils were found at pavement subgrade in some borings west of Oyster River Road. The clay-silt soils will need to be protected from construction traffic and water where possible. Disturbed clay-silt soils should be overexcavated and replaced with granular material. A layer of old pavement material was mentioned by the driller approximately 1.5-feet below the concrete at Station 68+00. Old pavement at pavement subgrade should be excavated and replaced with granular material.

Contaminated soils were found at the intersection of Route 131 and Route 1. Construction and treatment in this area will be described in a Special Provision 203 to be provided by the MaineDOT Groundwater and Hazardous Waste unit.

### **3.2 Existing Gravel**

Depth of existing base and subbase gravel was variable, and in places it appears that the same material may have been used as fill and gravel. No samples of existing gravel met the requirements of Standard Specification 703.06, Aggregate for Base and Subbase. New gravel meeting the requirements of the Standard Specification will be required for base or subbase gravel for all new construction on this project.

### **3.3 Pavement Design**

Falling Weight Deflectometer testing is not meaningful on this highway as PCC pavement distorts with the subgrade deflections. A Resilient Modulus of 4200 psi is appropriate for the silty sand/sandy silt soils at pavement subgrade. Pavement design for this project was done by the MDOT pavement group.

### **3.4 Groundwater**

Shallow groundwater was encountered at Station 18+50 over shallow bedrock. This boring was very close to an existing culvert, and the groundwater may be flowing under this pipe. The proposed system of underdrains and ditches should correct any problems with subsurface drainage, and minimize the risk of fine soil particles piping into the new base or subbase gravel.

### **3.5 Bedrock Excavation**

No surface bedrock excavation is anticipated for this project, however bedrock and large boulders may be encountered in cut areas or in underdrain trenches. A small quantity of structural rock excavation may be required for construction of underdrain systems.

### **3.6 Frost Action**

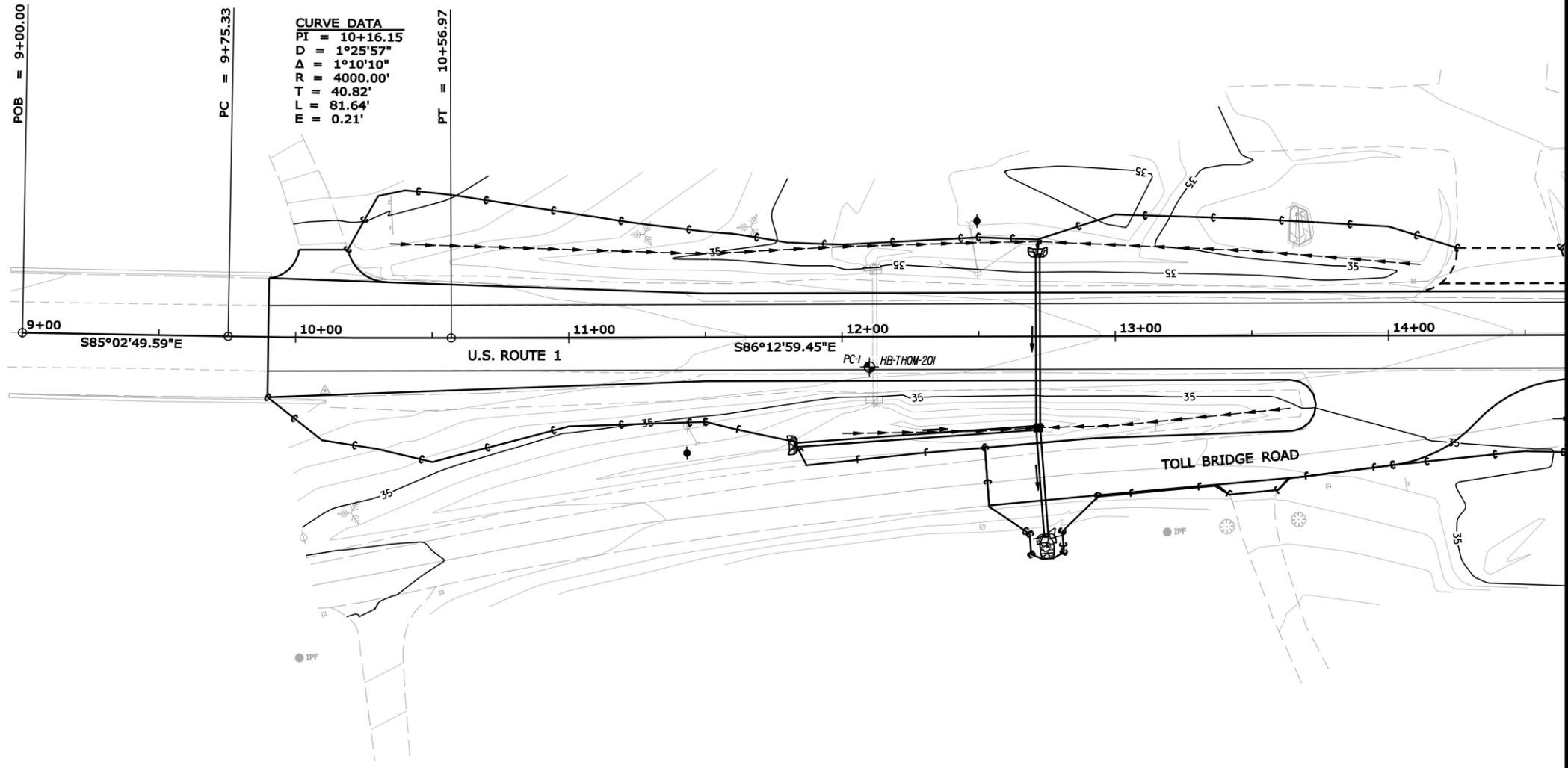
Frost penetration into granular subgrade is estimated to be approximately 3.5 feet for snow-free pavement over either fine-grained or coarse-grained soils in this coastal location. Trapped groundwater above this depth is likely to freeze and cause deformation of the pavement surface.

### **3.7 Construction Considerations**

Clay-silt soils at pavement subgrade may lose strength under construction traffic or when exposed to water. These soils should be protected from water and disturbance. It is recommended that if these soils become disturbed in place, they should be overexcavated at pavement subgrade by one foot, and replaced with granular material. Use of a geotextile may also be appropriate to ensure that new gravel is not contaminated by underlying clay silt soils.

**Appendix A**  
**Plans**  
Geoplans  
As-Built Plans

**LEGEND**  
 ⊕ SOLID STEM AUGER W/DESCRIPTIONS  
 ● PAVEMENT CORE



**CURVE DATA**  
 PI = 10+16.15  
 D = 1°25'57"  
 Δ = 1°10'10"  
 R = 4000.00'  
 T = 40.82'  
 L = 81.64'  
 E = 0.21'

POB = 9+00.00

PC = 9+75.33

PT = 10+56.97

<b>STATE OF MAINE</b>	
<b>DEPARTMENT OF TRANSPORTATION</b>	
<b>STP-1789(000)</b>	
<b>WIN 17890.00</b>	
<b>HIGHWAY PLANS</b>	
<b>THOMASTON ROUTE 1\131</b>	<b>SHEET NUMBER</b>
<b>GEOPLANS</b>	<b>1</b>
<b>OF 19</b>	

PROJ. MANAGER	BY	DATE
DESIGN DETAILED		
CHECKED-REVIEWED		
DESIGNS DETAILED	K. BRESLIN	AUG. 2014
DESIGNS DETAILED	T. WHITE	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

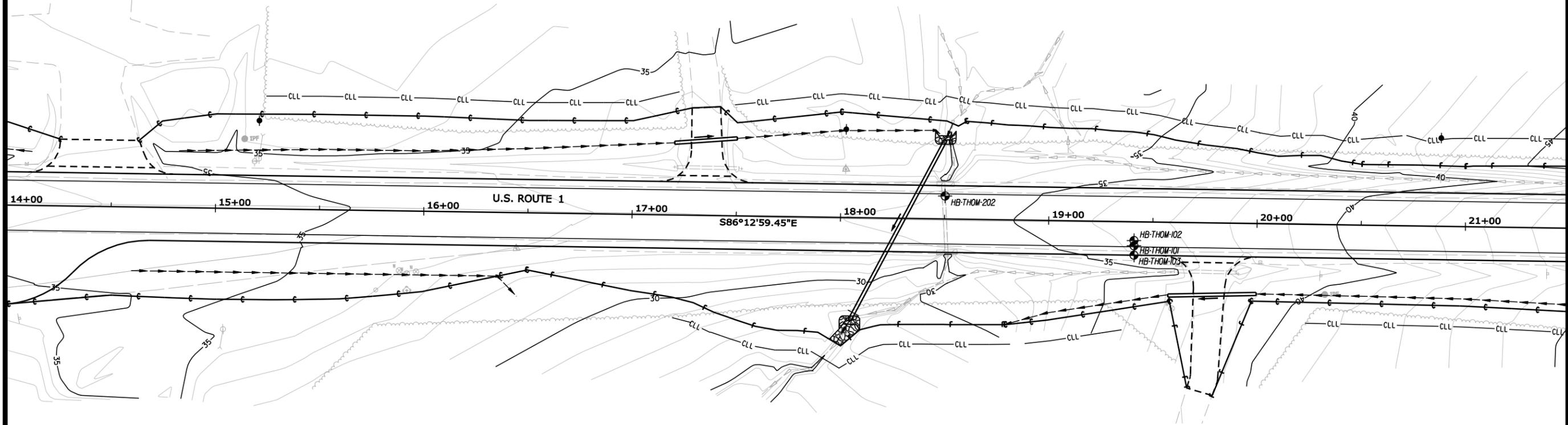
SIGNATURE	P.E. NUMBER	DATE

Date: 9/29/2015

Username: terry.white

Division: GEOTECH

Filename: ... \geotech\msta\002\_Geoplan2.dgn

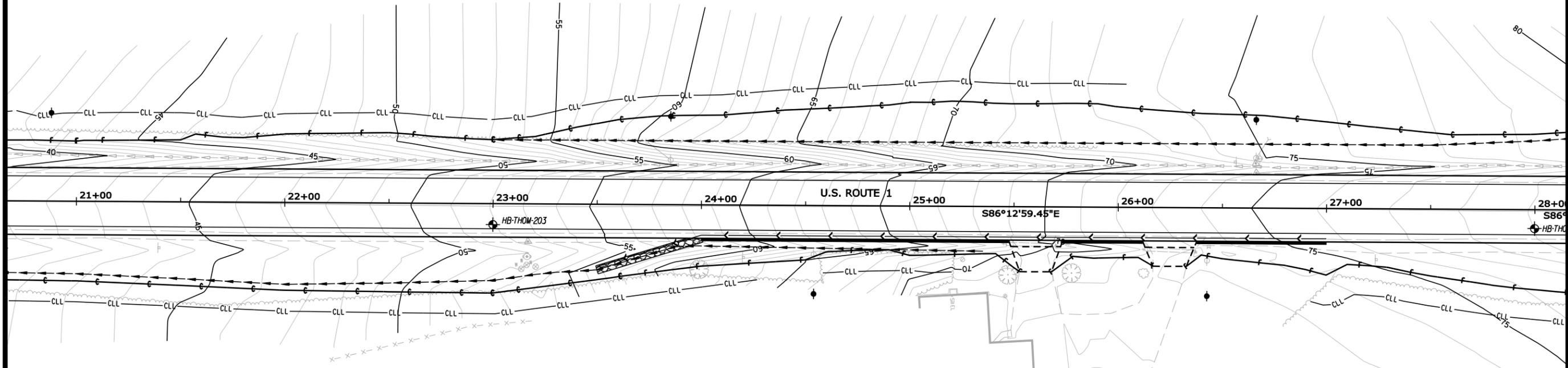


STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)  
 WIN  
 17890.00  
 HIGHWAY PLANS

PROJ. MANAGER	BY	DATE
DESIGN DETAILED		
CHECKED-REVIEWED		
DESIGNS DETAILED	K. BRESLIN	AUG. 2014
DESIGNS DETAILED	T. WHITE	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

THOMASTON  
 ROUTE 1 \131  
 GEOPANS

SHEET NUMBER  
 2  
 OF 19



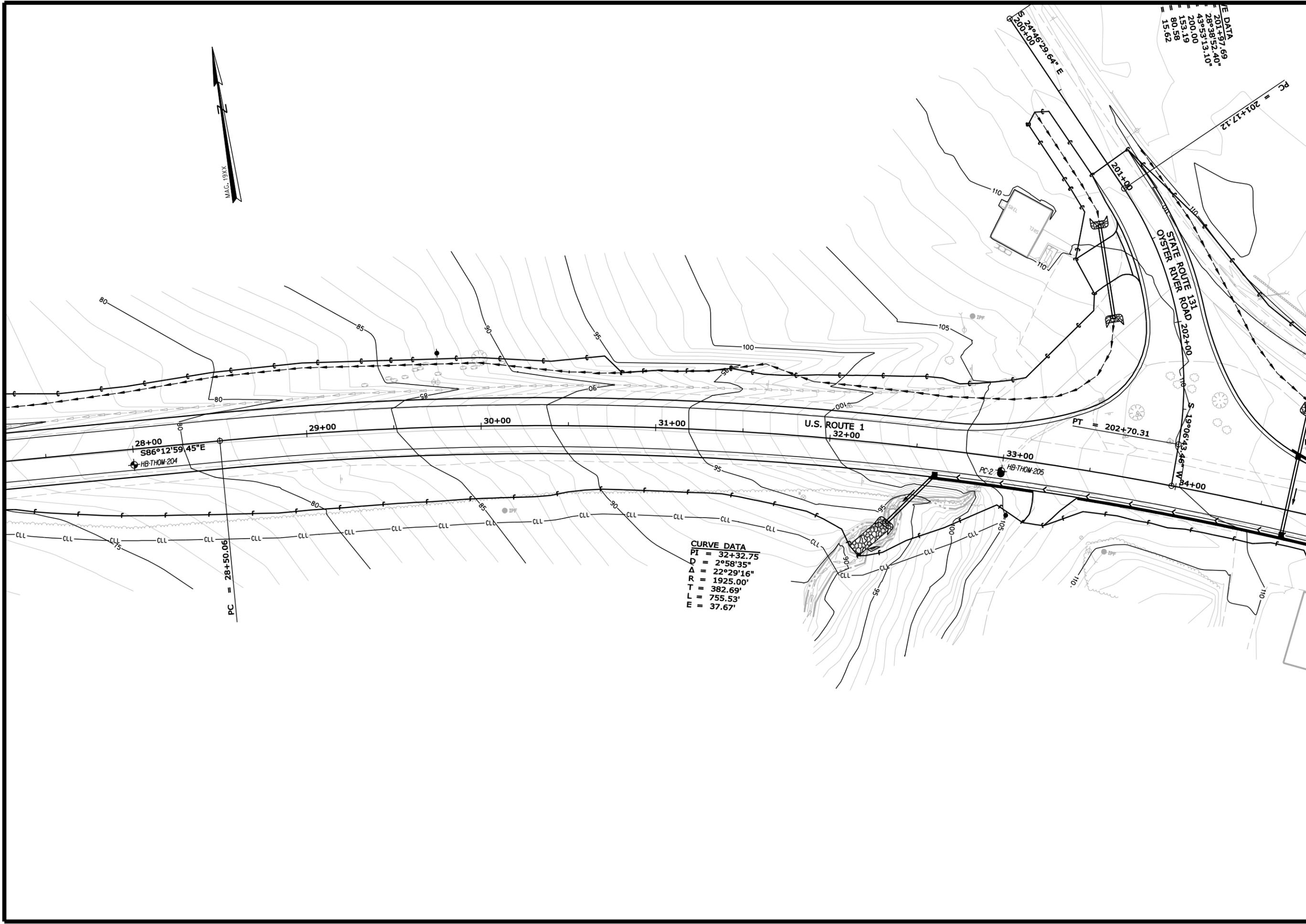
STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)

WIN  
 17890.00  
 HIGHWAY PLANS

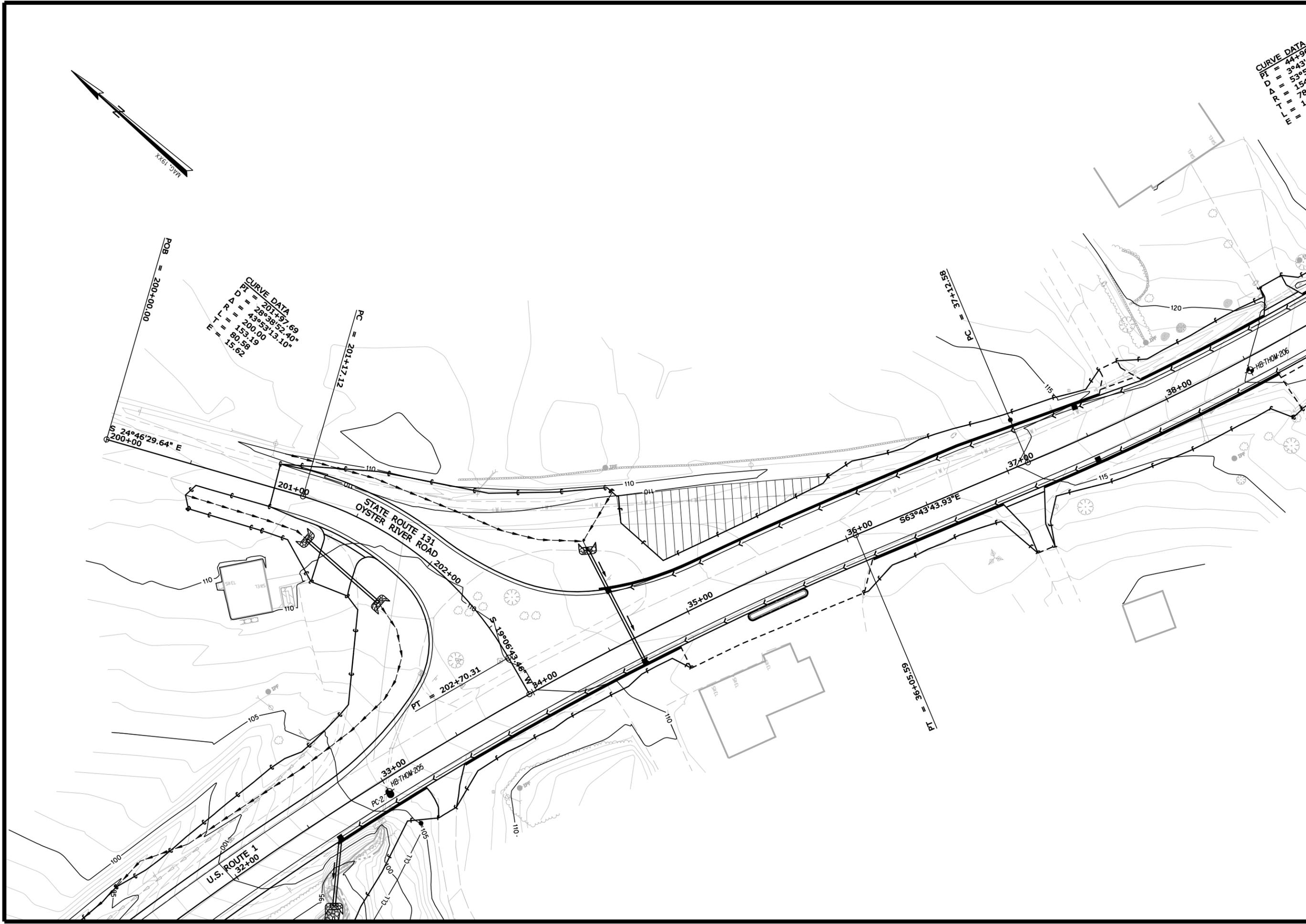
PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGNS-DETAILED	K. BRESLIN	AUG. 2014
DESIGNS-DETAILED	T. WHITE	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

THOMASTON  
 ROUTE 1 \131  
 GEOPANS

SHEET NUMBER  
**3**  
 OF 19



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
STP-1789(000)		WIN 17890.00	
HIGHWAY PLANS			
THOMASTON ROUTE 1\131		GEOPLANS	
SHEET NUMBER		4	
OF 19			
PROJ. MANAGER	BY	DATE	
CHECKED-REVIEWED			
DESIGNS DET AILED	K. BRESLIN	AUG. 2014	
DESIGNS DET AILED	T. WHITE		
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
SIGNATURE	P.E. NUMBER	DATE	

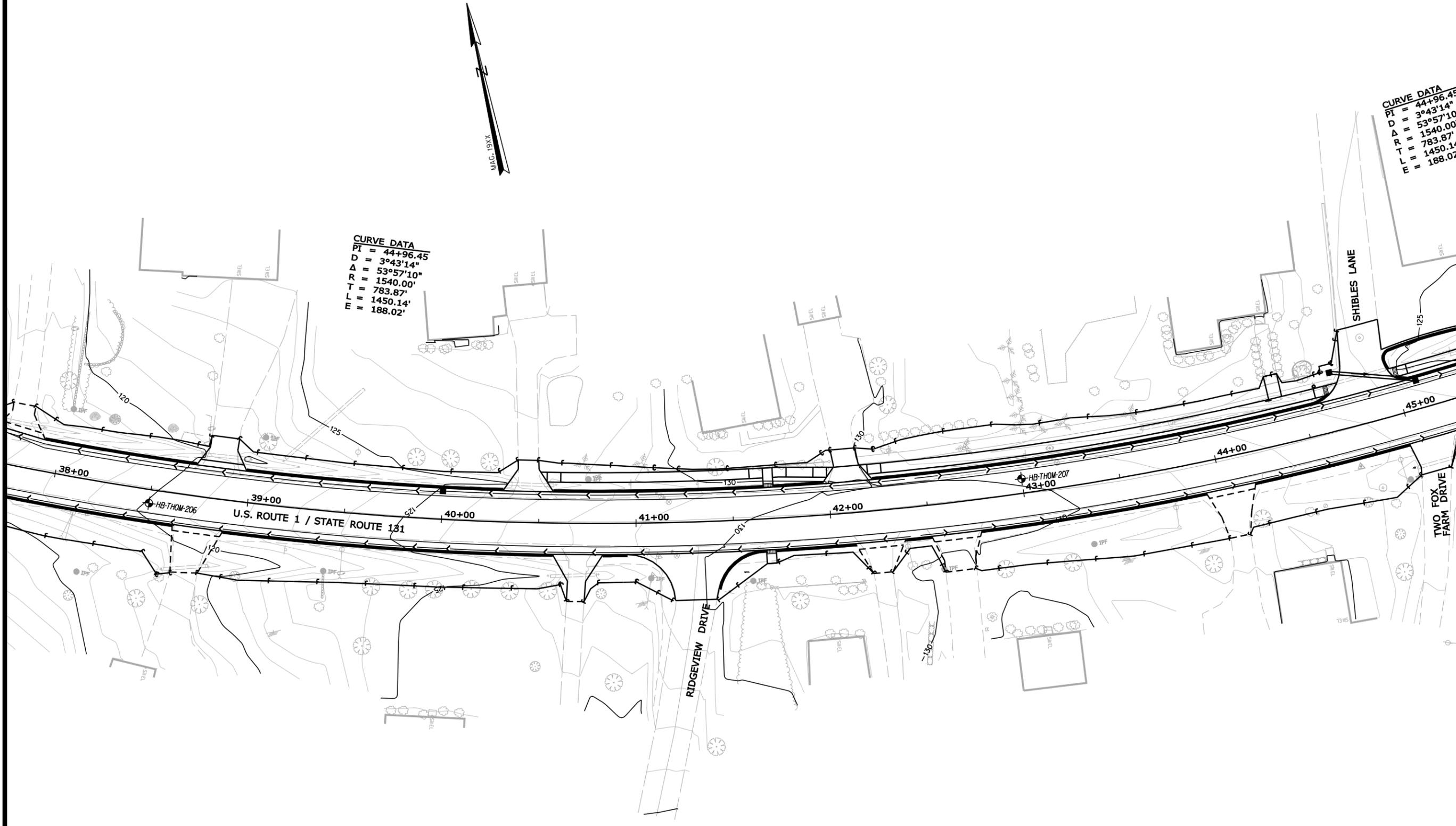


STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)  
 WIN  
 17890.00  
 HIGHWAY PLANS

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGNS-DETAILED	K. BRESLIN	AUG. 2014
DESIGNS-DETAILED	T. WHITE	AUG. 2014
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

THOMASTON  
 ROUTE 1\131  
 GEOPLANS

SHEET NUMBER  
**5**  
 OF 19



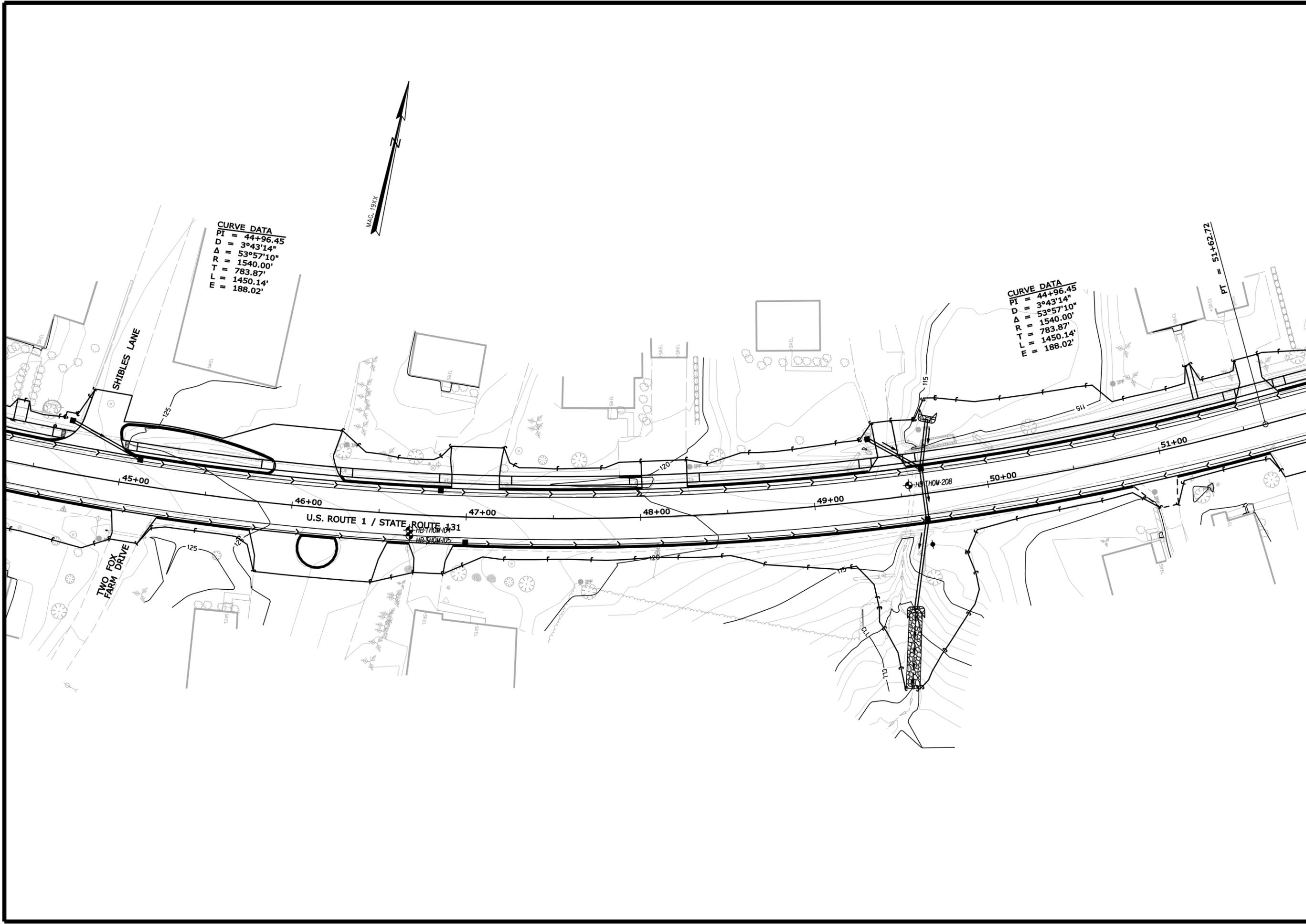
STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)  
 WIN  
 17890.00  
 HIGHWAY PLANS

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGNS-DETAILED	K. BRESLIN	AUG. 2014
DESIGNS-DETAILED	T. WHITE	AUG. 2014
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

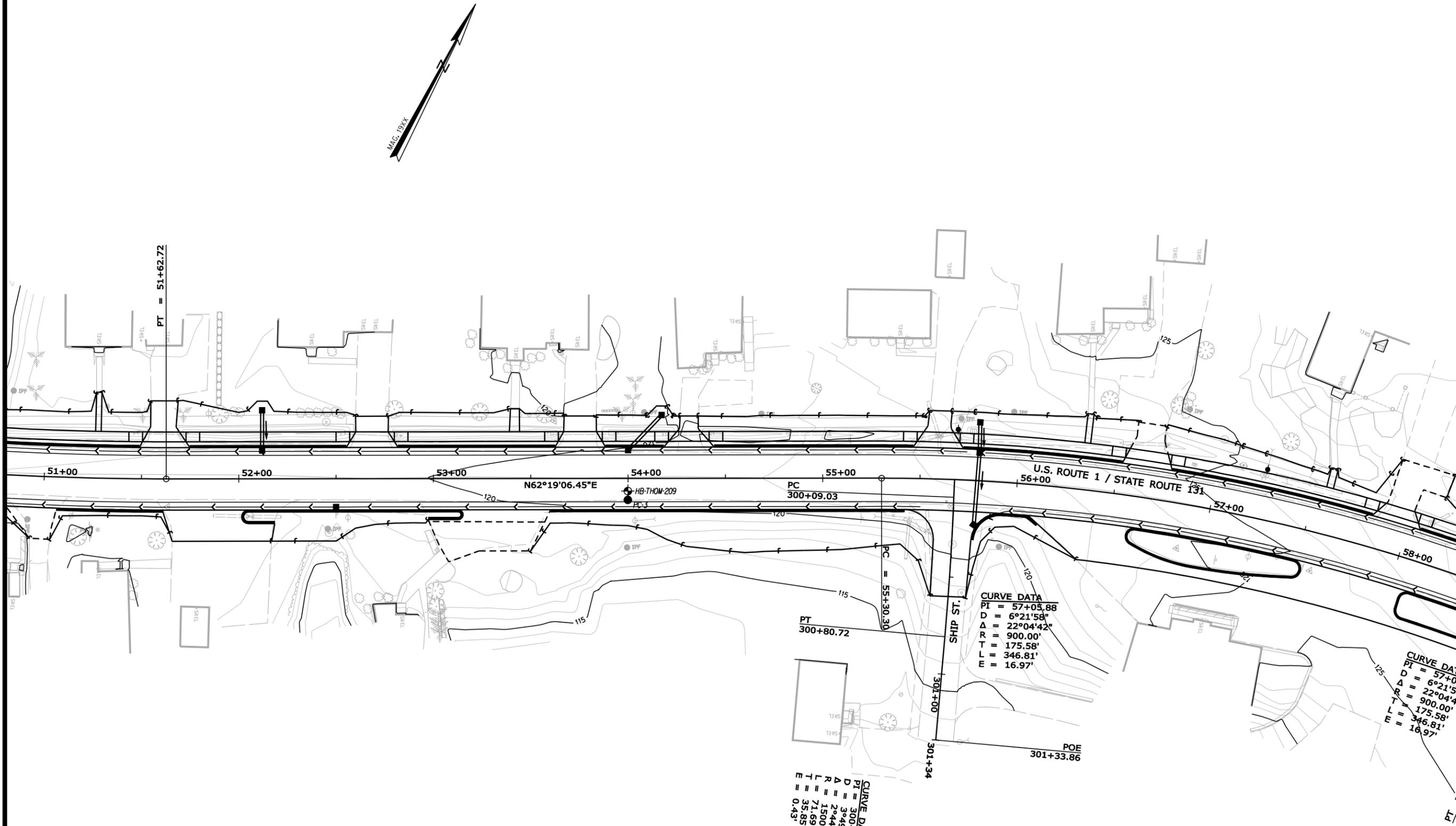
SIGNATURE	P.E. NUMBER	DATE

THOMASTON  
 ROUTE 1 \ 131  
 GEOPLANS

SHEET NUMBER  
 6  
 OF 19



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
STP-1789(000)		WIN	
17890.00		HIGHWAY PLANS	
THOMASTON		BY	
ROUTE 1 \ 131		DATE	
GEOPLANS		SIGNATURE	
		AUG 2014	
		P.E. NUMBER	
		DATE	
SHEET NUMBER		PROJ. MANAGER	
7		DESIGN DETAILED	
OF 19		CHECKED/REVIEWED	
		DESIGN DETAILED	
		DESIGN DETAILED	
		REVISIONS 1	
		REVISIONS 2	
		REVISIONS 3	
		REVISIONS 4	
		FIELD CHANGES	



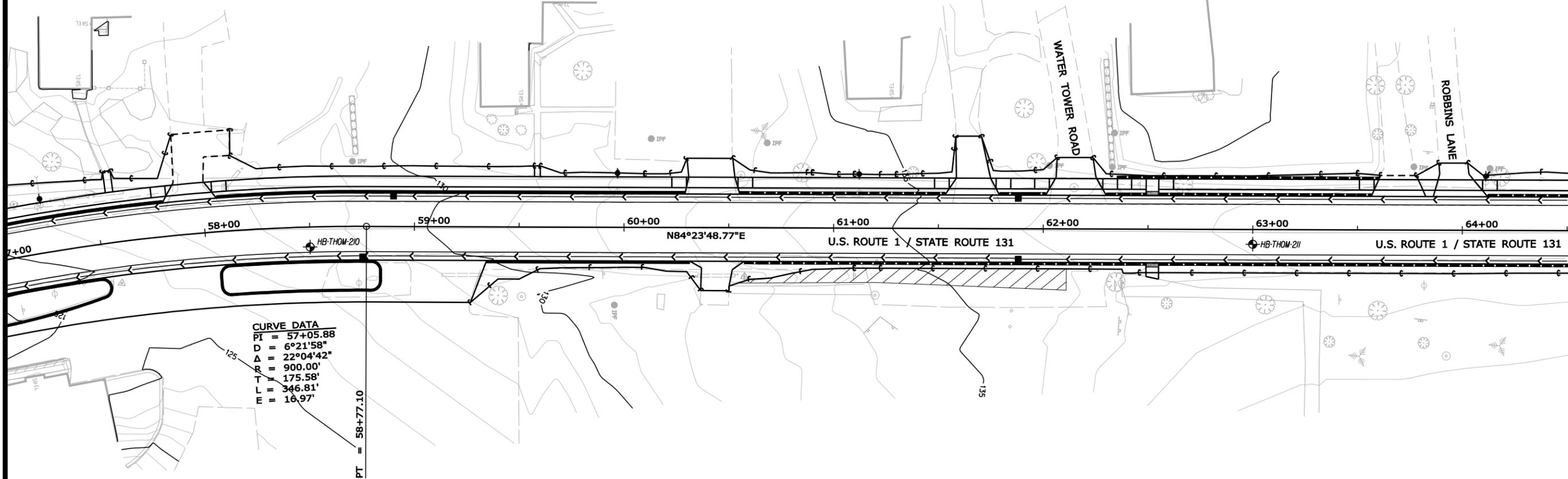
STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGNS-DETAILED	K. BRESLIN	AUG. 2014
DESIGNS-DETAILED	T. WHITE	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

THOMASTON  
 ROUTE 1\131  
 GEOPLANS

SHEET NUMBER  
 8  
 OF 19

WIN  
 17890.00  
 HIGHWAY PLANS



**CURVE DATA**  
 PI = 57+05.88  
 D = 6°21'58"  
 Δ = 22°04'42"  
 R = 900.00'  
 T = 175.58'  
 L = 346.81'  
 E = 16.97'

PT = 58+77.10

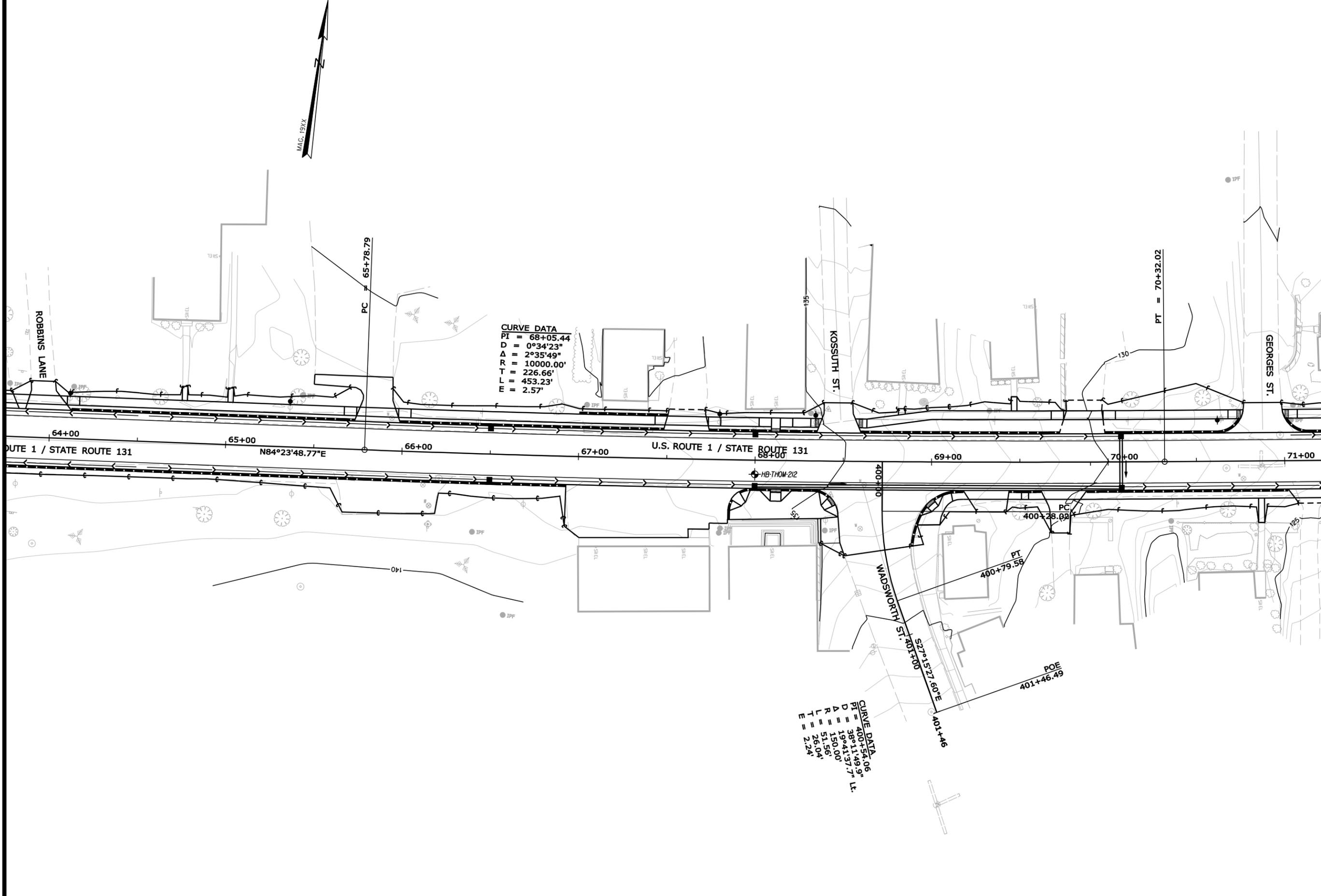


STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)  
 WIN  
 17890.00  
 HIGHWAY PLANS

PROJ. MANAGER	BY	DATE
DESIGN DETAILED		
CHECKED-REVIEWED		
DESIGNS DETAILED	K. BRESLIN	AUG. 2014
DESIGNS DETAILED	T. WHITE	AUG. 2014
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

THOMASTON  
 ROUTE 1 \ 131  
 GEOPLANS

SHEET NUMBER  
 9  
 OF 19

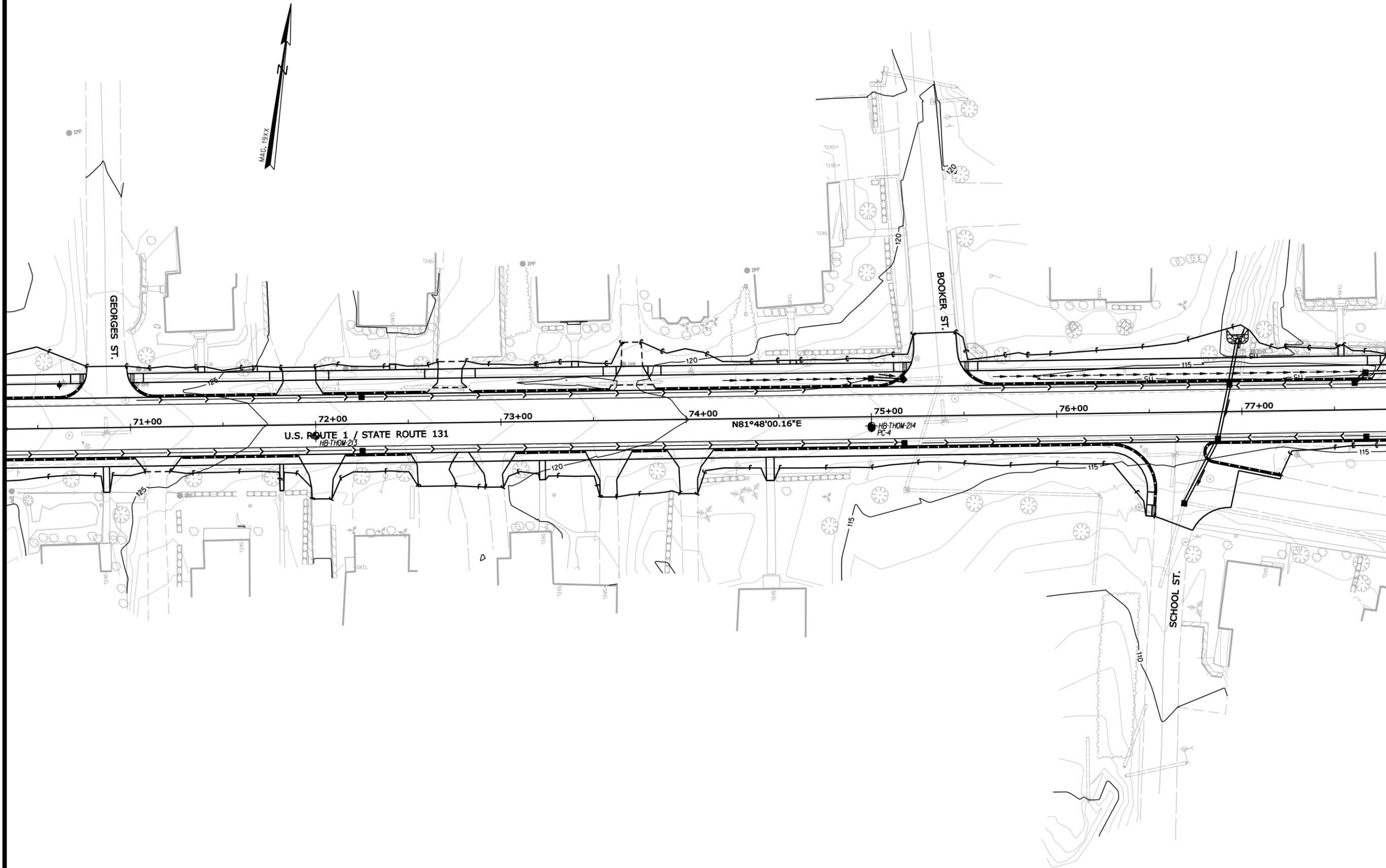


**CURVE DATA**  
 PI = 68+05.44  
 D = 0°34'23"  
 Δ = 2°35'49"  
 R = 10000.00'  
 T = 226.66'  
 L = 453.23'  
 E = 2.57'

**CURVE DATA**  
 PI = 400+54.06  
 D = 36°11'49.9"  
 Δ = 19°41'00"  
 R = 150.00'  
 T = 51.56'  
 L = 26.04'  
 E = 2.24'



<b>STATE OF MAINE</b>		<b>DEPARTMENT OF TRANSPORTATION</b>	
<b>STP-1789(000)</b>		<b>WIN 17890.00</b>	
<b>HIGHWAY PLANS</b>			
<b>THOMASTON ROUTE 1\131</b>		<b>GEOPLANS</b>	
<b>SHEET NUMBER</b>		<b>10</b>	
<b>OF 19</b>			
<b>PROJ. MANAGER</b>	<b>BY</b>	<b>DATE</b>	
DESIGN-DETAILED	T. WHITE	AUG. 2014	
CHECKED-REVIEWED	K. BRESLIN		
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
<b>SIGNATURE</b>		<b>P.E. NUMBER</b>	
<b>DATE</b>		<b>DATE</b>	



SHEET NUMBER  
**11**  
 OF 19

THOMASTON  
 ROUTE 1 \ 131  
 GEOPLANS

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGNS-DETAILED	K. BRESLIN	AUG. 2014
DESIGNS-DETAILED	T. WHITE	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE	P.E. NUMBER	DATE

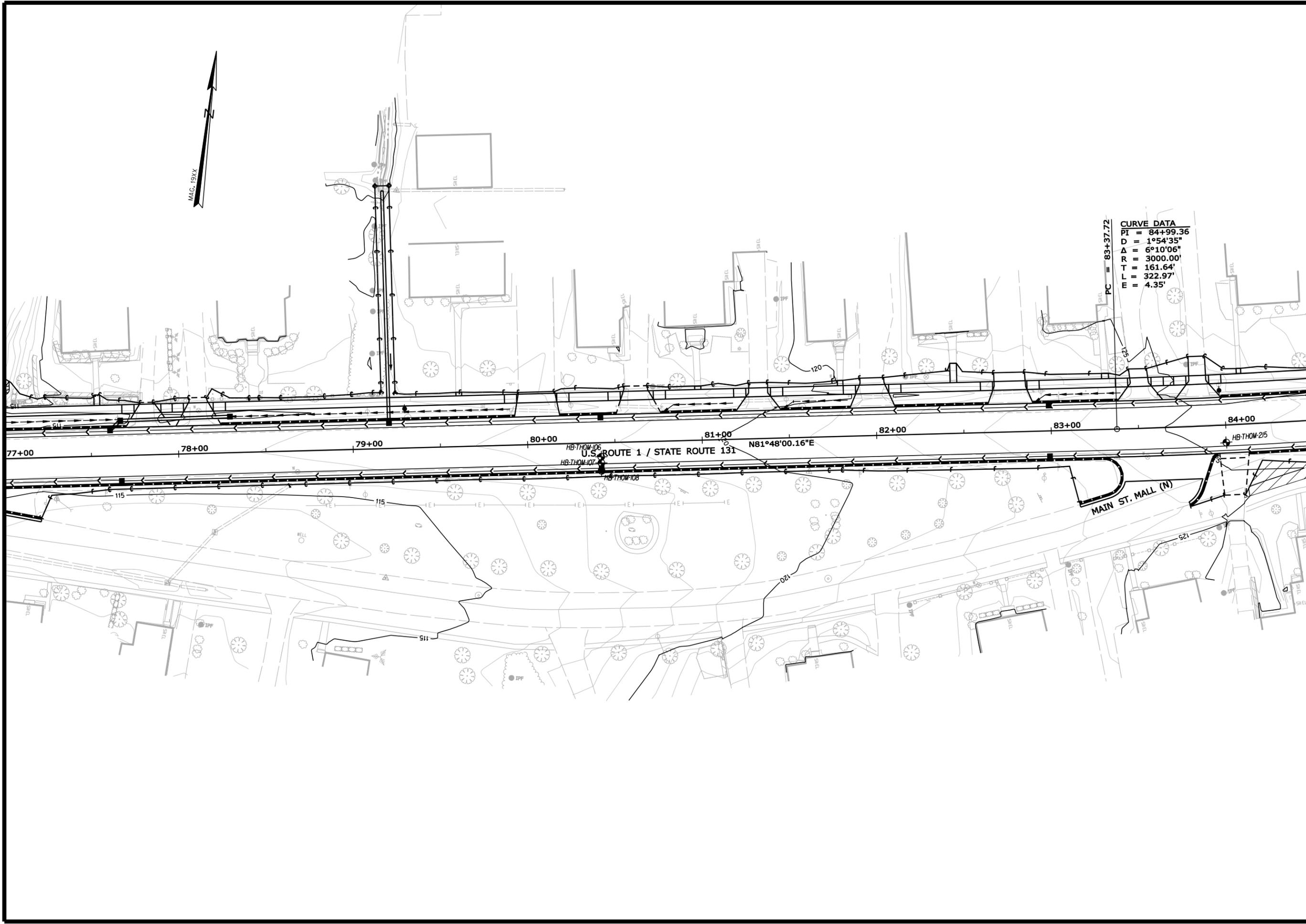
STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)  
 WIN  
 17890.00  
 HIGHWAY PLANS

Date: 9/29/2015

Username: terry.white

Division: GEOTECH

Filename: ... \geotech\msto\012\_Geoplans2.dgn



PC = 83+37.72

**CURVE DATA**  
 PI = 84+99.36  
 D = 1°54'35"  
 Δ = 6°10'06"  
 R = 3000.00'  
 T = 161.64'  
 L = 322.97'  
 E = 4.35'

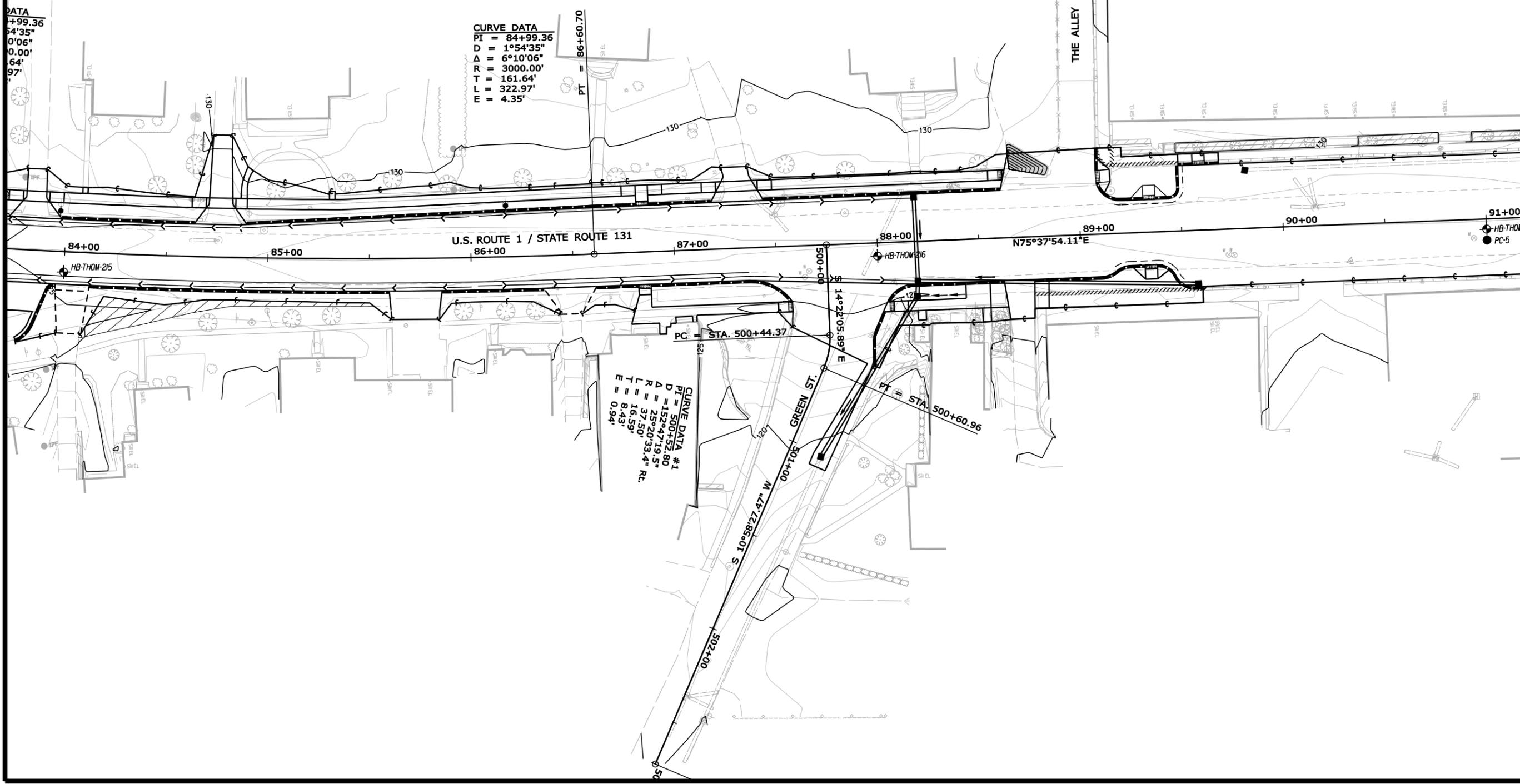
STATE OF MAINE		STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION		DEPARTMENT OF TRANSPORTATION	
STP-1789(000)		STP-1789(000)	
WIN		WIN	
17890.00		17890.00	
HIGHWAY PLANS		HIGHWAY PLANS	
PROJ. MANAGER	BY	DATE	DATE
DESIGN-DETAILED			
CHECKED-REVIEWED			
DESIGNS-DETAILED	K. BRESLIN	AUG. 2014	
DESIGNS-DETAILED	T. WHITE		
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
THOMASTON		THOMASTON	
ROUTE 1 \ 131		ROUTE 1 \ 131	
GEOPLANS		GEOPLANS	
SHEET NUMBER		SHEET NUMBER	
12		12	
OF 19		OF 19	

Filename: ... \geotech\msta\013\_Geoplans.dgn

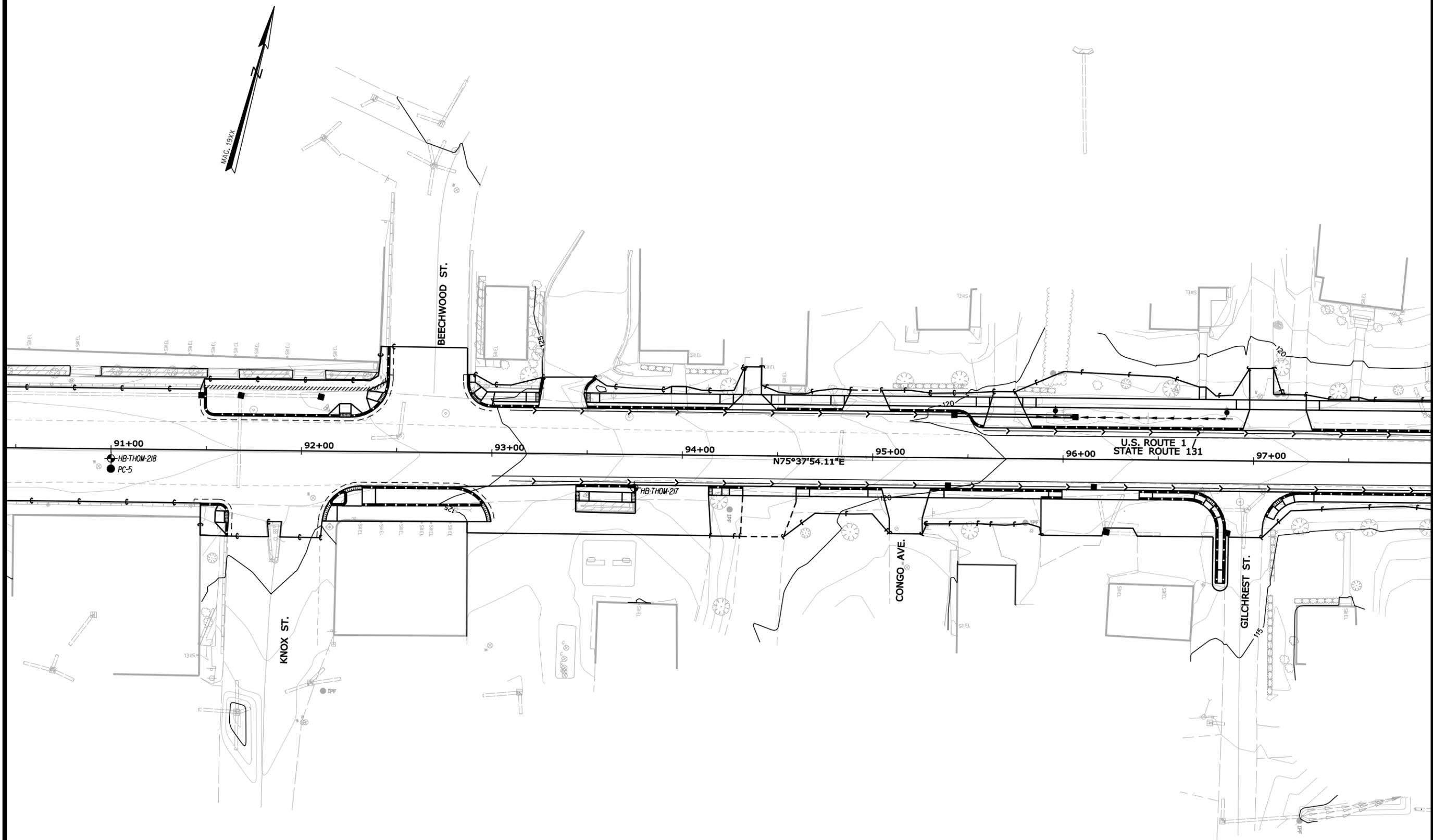
Username: terry.white

Date: 9/29/2015

Division: GEOTECH



STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-1789(000)		SHEET NUMBER <b>13</b> OF 19	
THOMASTON ROUTE 1 \131 GEOPLANS		STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-1789(000) WIN 17890.00 HIGHWAY PLANS	
PROJ. MANAGER	BY	DATE	
CHECKED-REVIEWED			SIGNATURE
DESIGNS DET AILED	K. BRESLIN	AUG. 2014	
DESIGNS DET AILED			P.E. NUMBER
REVISIONS 1			DATE
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

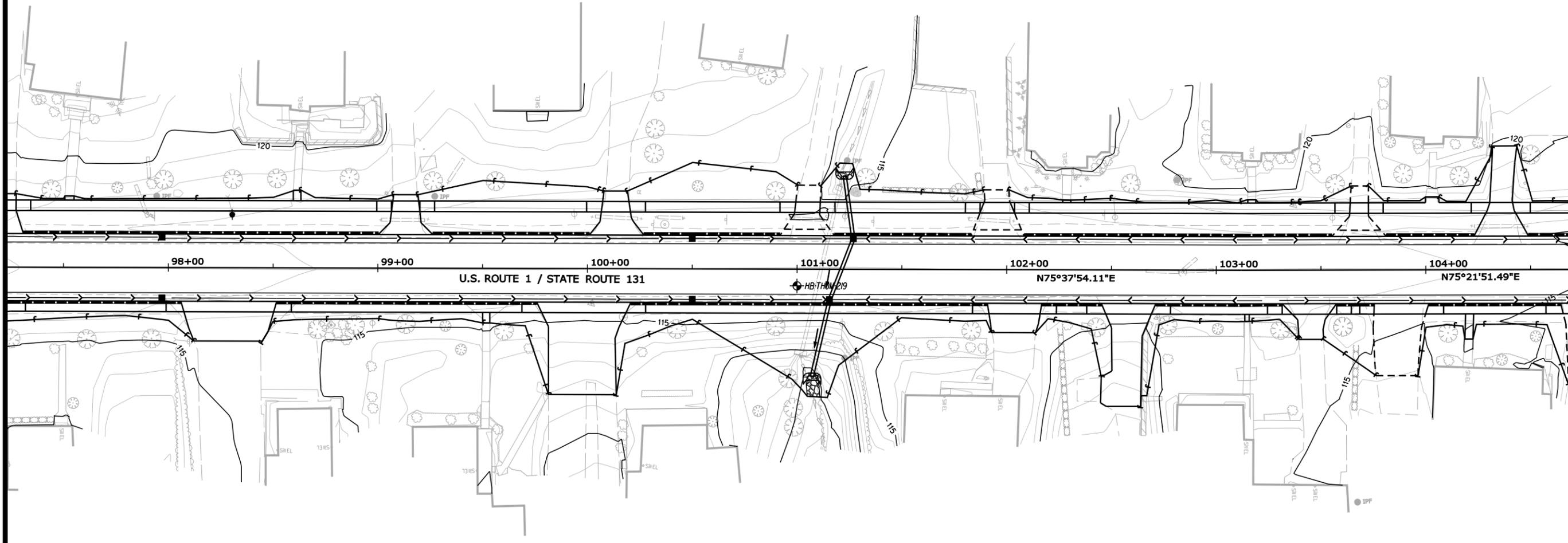


STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)  
 WIN  
 17890.00  
 HIGHWAY PLANS

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGNS-DETAILED	K. BRESLIN	AUG. 2014
DESIGNS-DETAILED	T. WHITE	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

THOMASTON  
 ROUTE 1\131  
 GEOPLANS

SHEET NUMBER  
**14**  
 OF 19

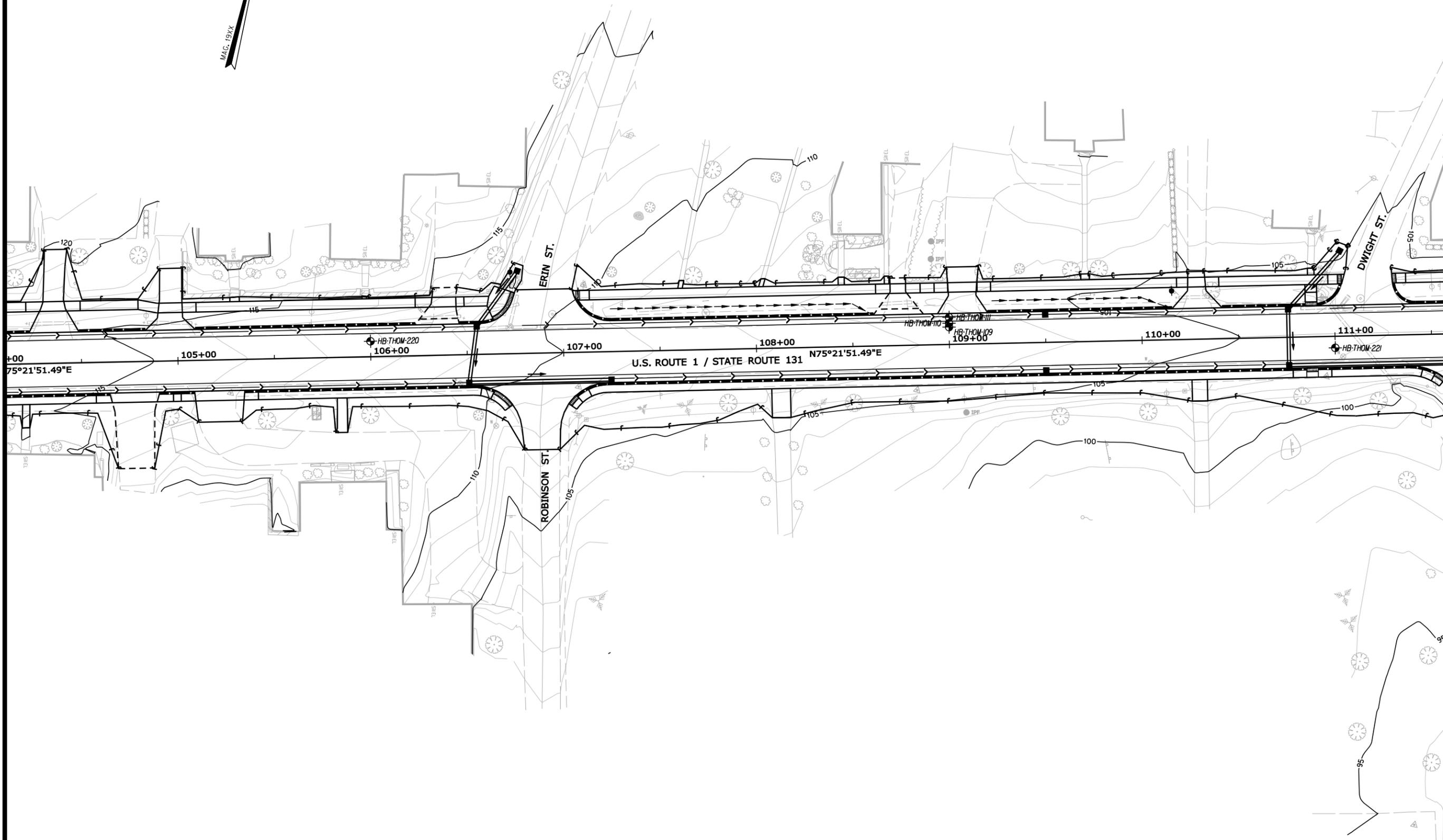


STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)  
 WIN  
 17890.00  
 HIGHWAY PLANS

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGNS-DETAILED	K. BRESLIN	AUG. 2014
DESIGNS-DETAILED	T. WHITE	AUG. 2014
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

THOMASTON  
 ROUTE 1\131  
 GEOPLANS

SHEET NUMBER  
**15**  
 OF 19



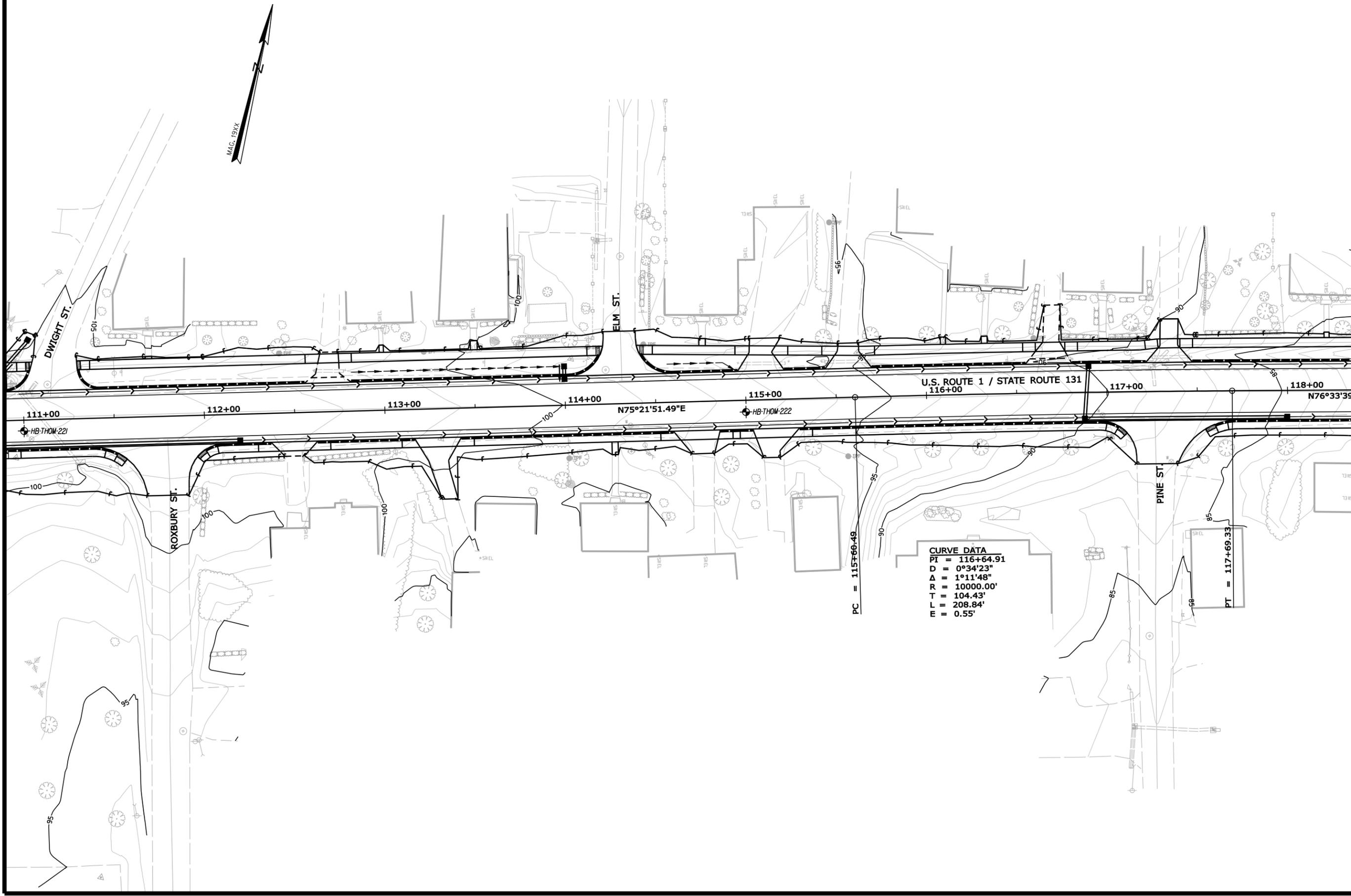
STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)

PROJ. MANAGER	BY	DATE
CHECKED-REVIEWED	T. WHITE	AUG. 2014
DESIGNS DET AILED	K. BRESLIN	
DESIGNS DET AILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

THOMASTON  
 ROUTE 1 \ 131  
 GEOPLANS

SHEET NUMBER  
**16**  
 OF 19

WIN  
 17890.00  
 HIGHWAY PLANS



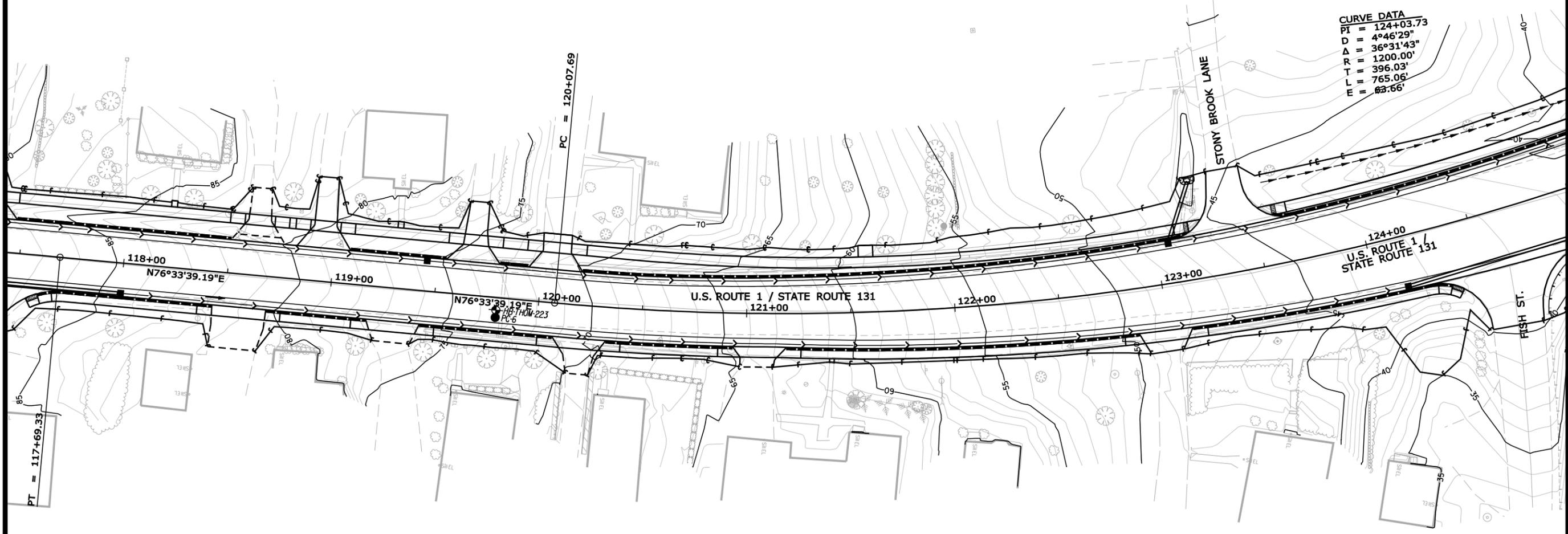
STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)

WIN  
 17890.00  
 HIGHWAY PLANS

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGNS-DETAILED	K. BRESLIN	AUG. 2014
DESIGNS-DETAILED	T. WHITE	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

THOMASTON  
 ROUTE 1 \131  
 GEOPLANS

SHEET NUMBER  
 17  
 OF 19



**CURVE DATA**

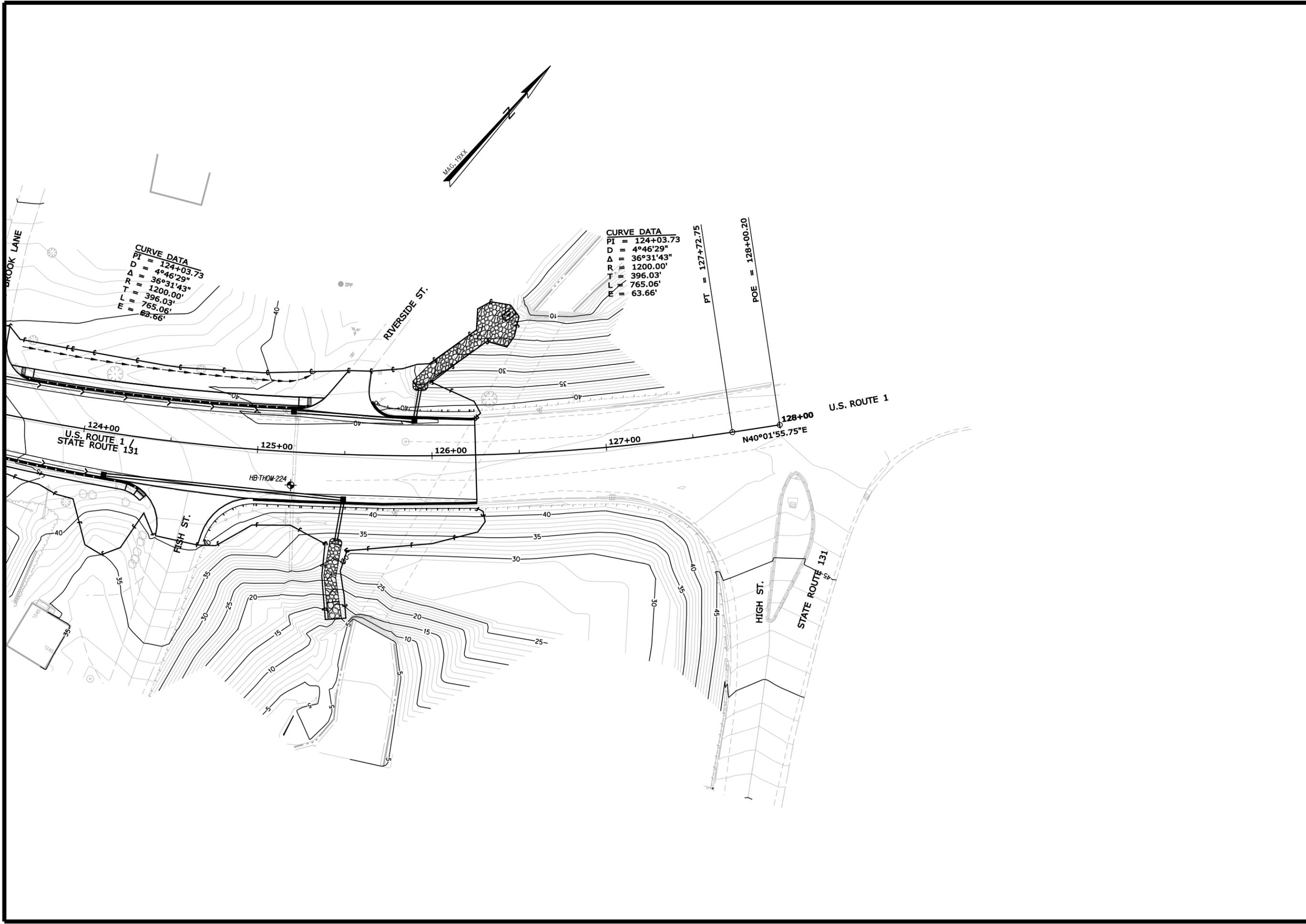
PI	= 124+03.73
D	= 4°46'29"
Δ	= 36°31'43"
R	= 1200.00'
L	= 396.03'
E	= 765.06'
F	= 83.66'

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STP-1789(000)
WIN
17890.00
HIGHWAY PLANS

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGNS-DETAILED	K. BRESKIN	AUG. 2014
DESIGNS-DETAILED	T. WHITE	AUG. 2014
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

THOMASTON ROUTE 1 \ 131
GEOPLANS

SHEET NUMBER
<b>18</b>
OF 19



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 STP-1789(000)

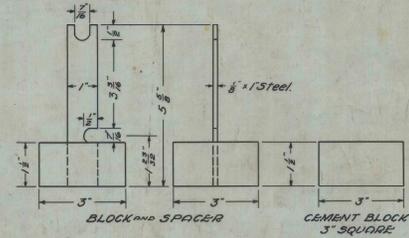
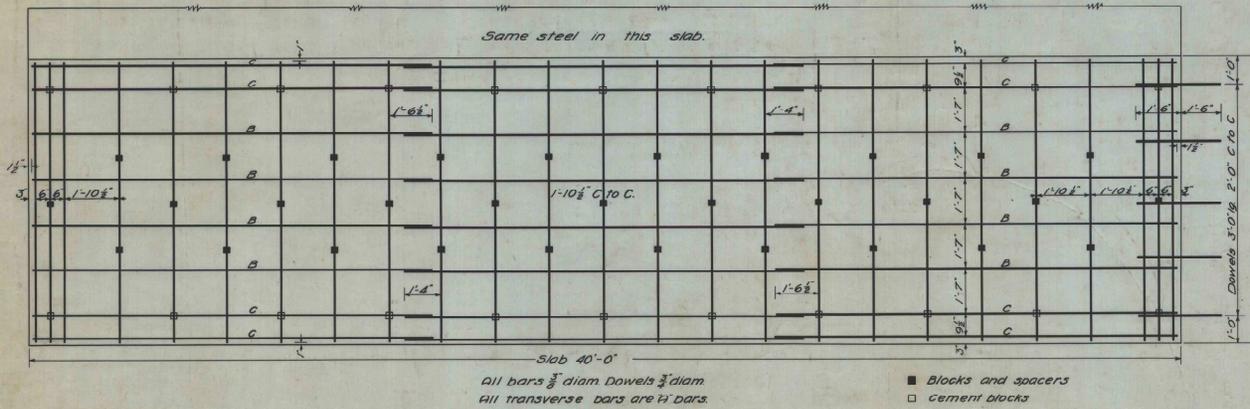
WIN  
 17890.00  
 HIGHWAY PLANS

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN-DETAILED	K. BRESLIN	AUG. 2014
DESIGN-DETAILED	T. WHITE	AUG. 2014
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

THOMASTON  
 ROUTE 1 \ 131  
 GEOPLANS

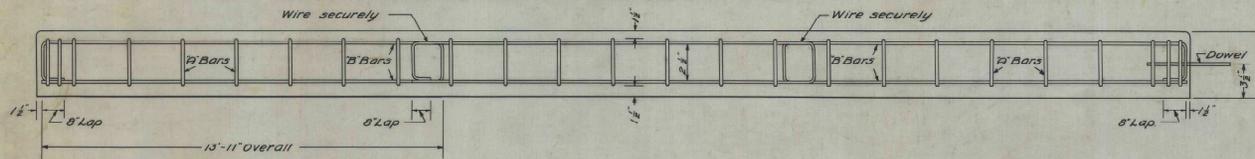
SHEET NUMBER  
**19**  
 OF 19

PLAN OF PAVEMENT REINFORCEMENT

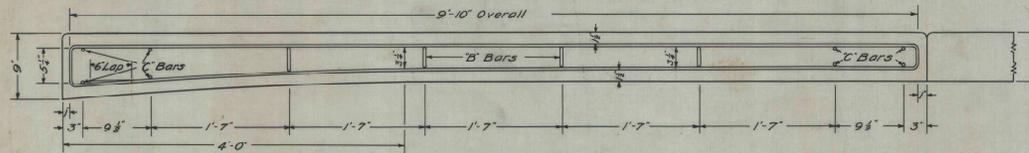


Blocks to be made of one part portland cement and two parts of approved sand and cured under cover for seven days.

LONGITUDINAL SECTION SHOWING DETAIL OF "B" BARS



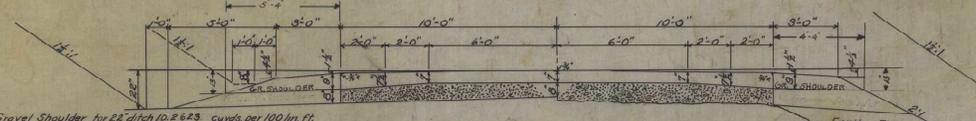
TRANSVERSE SECTION SHOWING DETAIL OF "A" BARS



REINFORCING DATA	
Bars $\frac{3}{8}$ " dia. Plain steel	0.376 lb. per lin. ft.
Dowels $\frac{3}{8}$ "	1.302
Dowels 3'-0" lg.	$\frac{1}{2}$ " Encased in metal tube
"B" Bars bent 9'-10" overall, lapped 6' & wired	
"A" -	13'-11" - 3'
"C" -	straight 13'-11" lg. Top & bottom.
Ends are $\frac{1}{4}$ " from edge of slab.	
Each 10'x40' slab contains -25 "B" Bars -12 "A" Bars & 24 "C" Bars made up in 3 sections. Each section to be securely wired before placing.	
Each 10'x40' slab contains a minimum of 22 cement blocks & 31 blocks and spacers to support steel. See detail.	
Total weight of steel including dowels 10.70 lbs. per sq. yd.	

Drawn by W.A. RAY

STANDARD SECTIONS CONCRETE PAVEMENT

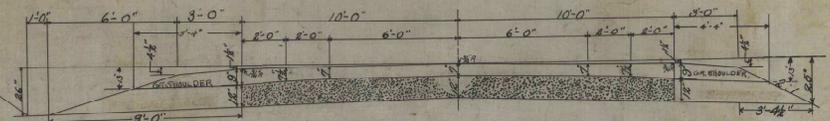


Gravel Shoulder for 28" ditch 10.2623 cu yds. per 100 lin. ft.

Where in the opinion of the engineer soil conditions are suitable base and gravel shoulders may be omitted

8" GRAVEL BASE VARIABLE GRAVEL BASE

Concrete Pavement 44,2560 cu yds. per 100 lin. ft.  
8" Gravel Base 55,452.6 cu yds. per 100 lin. ft.



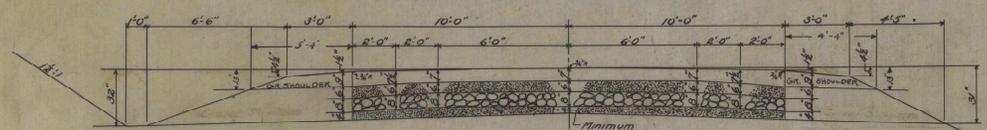
Gravel Shoulder 10.2623 cu yds. per 100 lin. ft.

12" GRAVEL BASE

12" Gravel Base 60,444.0 Cu yds. per 100 lin. ft.  
Gravel Shoulder for Guard Rail 10.8923 cu yds. per 100 lin. ft.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITIES	REMARKS
16-A	EARTH EXCAVATION	3200 C.Y.	
16-B	ROCK EXCAVATION	470 C.Y.	
16-C	TREES REMOVED	3 EACH	
16	EXC. FOR STRUCTURES	150 C.Y.	
17-A	COMMON BORROW	6600 C.Y.	
28	GRAVEL BASE COURSE	7000 C.Y.	
31	CEMENT CONCRETE PAVEMENT	4558 C.Y.	
32-A	REIN. FOR PAVEMENT	241,600 LBS.	
32-A	CLASS "A" CONCRETE	110 C.Y.	
32-B	" B "	30 C.Y.	
36	STEEL FOR CONCRETE STRUCT	800 LBS.	
40-A	12" C.M.P.	260 L.F.	
40-B	15" C.M.P.	60 L.F.	
42-C	18" CONCRETE PIPE	72 L.F.	
42-D	24" " "	88 L.F.	
45	PLAIN R.I.P.R.P.	700 C.Y.	
50-H	WIRE CABLE GUARD RAIL	2476 L.F.	
50-F	ANCHOR BOLTS FOR G.R.	25 EACH	



Gravel Shoulder 10.2623 cu yds. per 100 lin. ft.

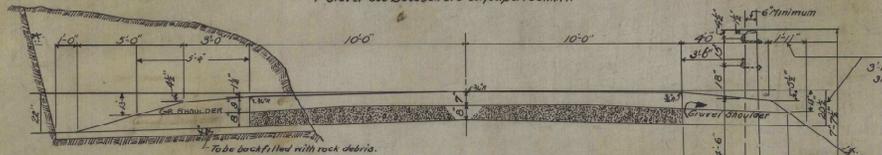
Gravel Shoulders to be paved as Gravel Base

Location and depth of ditch to be governed by local conditions.

STONE BASE

6" Gravel Base 370,370 cu yds. per 100 lin. ft.  
8" Stone Base 49,382.2 cu yds. per 100 lin. ft.  
4" Gravel Sub-Base 30,761.3 cu yds. per 100 lin. ft.

Gravel Shoulder 8.9164 cu yds. per 100 lin. ft.



LEDGE

GUARD RAIL

- B. Full bank (in inches) for W.
- W. Unwidened width of pavement (in feet)
- C. Distance from  $\frac{1}{2}$  to edge of shoulder (in feet)
- D. " "  $\frac{1}{2}$  to outside edge of ditch (in feet)

Gravel Shoulders 10.8923 FOR GUARD RAIL PER 100 L.F.

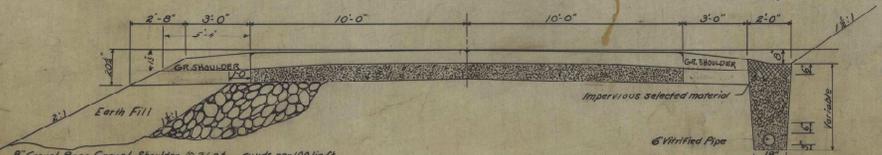
WIDENED AND SUPERELEVATED GRAVEL BASE

For inside ditch on widened or unwidened super-elevated curves. Depth of ditch in inches below center grade equals thickness of section at  $\frac{1}{2}$  plus  $\frac{1}{2}$  x B.

Curves of 2° or more to be super-elevated.

For outside ditch on super-elevated curves. Depth of ditch in inches below center grade equals thickness of section at  $\frac{1}{2}$  plus  $\frac{1}{2}$  x B.

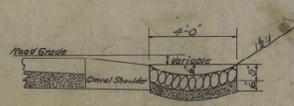
"B" equals Degree of Curve x  $\frac{1}{2}$  with a minimum of 6" super-elevation. Maximum super-elevation equals 1/2 per foot width of pavement. All curves to have full super-elevation at approximately 50 into the curve from 20 x 27 with a 150 run-off. Curves of 3° or more to be widened according to Formula B-4 where "B" equals Degree of Curve.



8" Gravel Base Gravel Shoulder 10.2623 cu yds. per 100 lin. ft.

STONE FILL

TILE UNDERDRAIN



COBBLE GUTTER

CULVERTS

STA.	SIZE	LG.	KIND	REMARKS
131+40	18	46	CONCRETE PIPE	TWO HEADWALLS PLACED
140+80	18	44	" "	" " PLACED
161+41	24	72	" "	" " PLACED
98+79	24"	58'	" "	" "
110+36	24"	36'	" "	" "
124+91	2' x 3'	6'	CONC. BOX	ONE " RAISE W.M. ON R
178+23	15"	36'	CONC. PIPE	TWO "
130+92	2' x 2'	20'	CONC. BOX	ONE "
190+16	15"	36'	CONC. PIPE	TWO "
13-12+20			DRIVEWAY C.M.P.	
3-15+20			" "	





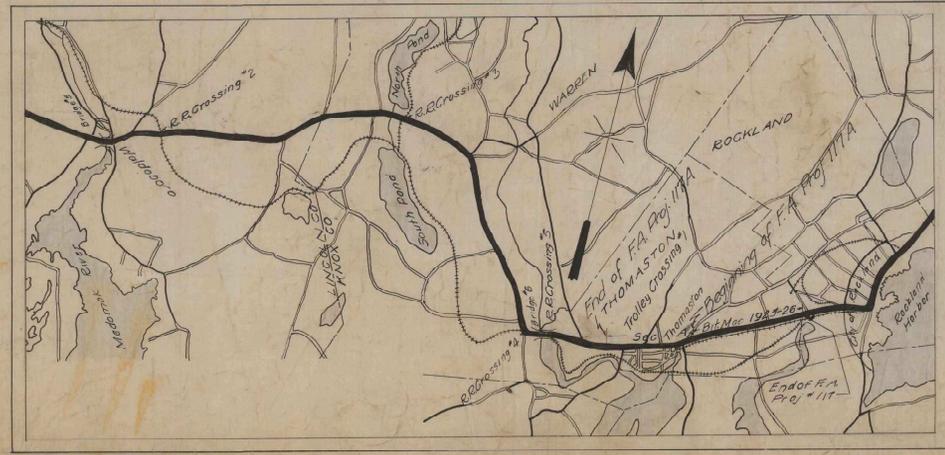
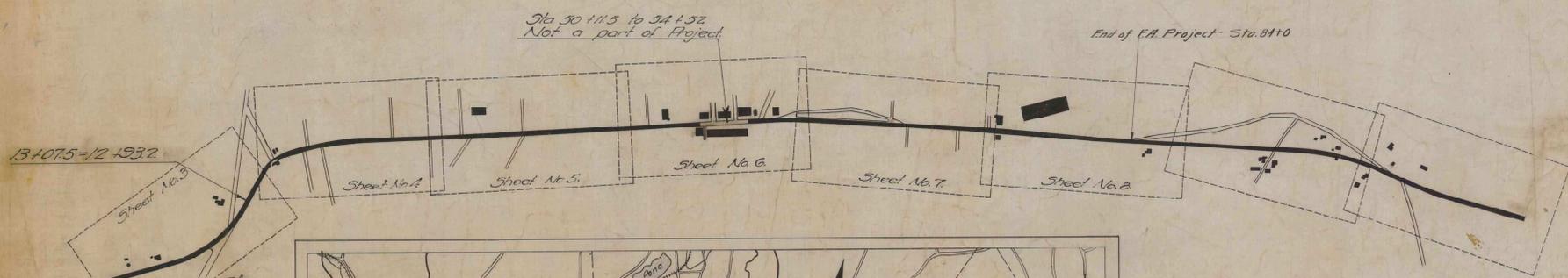
**STATE OF MAINE**  
**STATE HIGHWAY COMMISSION**

**PLAN AND PROFILE**  
**STATE HIGHWAY "D"**  
**THOMASTON**  
**KNOX COUNTY**  
FEDERAL AID PROJECT NO. 117A

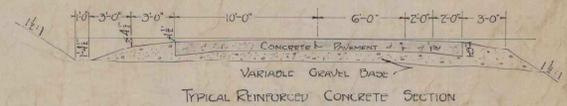
CONVENTIONAL SIGNS	
STATE OR NATIONAL LINE	SURVEY LINE
COUNTY LINE	CULVERT
TOWN LINE	DROP INLET
UNFENCED PROPERTY	TROLLEY POLE
FENCE	POWER POLE
RIGHT OF WAY LINE	TEL. POLE
TRAVELED WAY	MARSH
RAILROAD	TREES
RETAINING WALL	STONE WALL

INDEX OF SHEETS		
SHEET NO. 1	TITLE PAGE	STA. 0+0 TO 8+40
SHEET NO. 2	TYPICAL SECTIONS	
SHEET NO. 3 TO 8	PLAN AND PROFILE	STA. 0+0 TO 8+40
SHEET NO. 9 TO 16	CROSS-SECTIONS	STA. 0+0 TO 8+40
SHEET NO.	BRIDGES	STA.
SHEET NO.	SPECIAL DETAILS	

TOTAL LENGTH 1.510 MILES  
 SCALES: PLAN 1"=50 FT.  
 PROFILE HOR. 1"=50 FT.  
 VER. 1"=5 FT.  
 CROSS SECTIONS 1"=5 FT.



A PORTION OF KNOX COUNTY  
App. Scale 1"=1 mi.



NOTE - ALL WORK CONTEMPLATED UNDER THIS CONTRACT TO BE COVERED BY AND IN CONFORMITY WITH THE SPECIFICATIONS ADOPTED JULY 13, 1927, EXCEPT AS MODIFIED ON THIS PLAN.

APPROVED:  
 MAINE STATE HIGHWAY COMMISSION  
*Clay A. Sweet*  
 CHAIRMAN  
*Edwin J. Clifford*  
 CHIEF ENGINEER

APPROVED:  
 U. S. BUREAU OF PUBLIC ROADS  
 [Signature Box]  
 DISTRICT ENGINEER  
 [Signature Box]  
 CHIEF ENGINEER  
 [Signature Box]  
 DIRECTOR



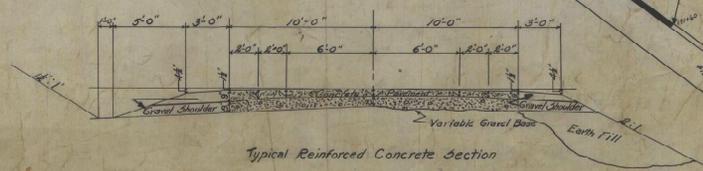
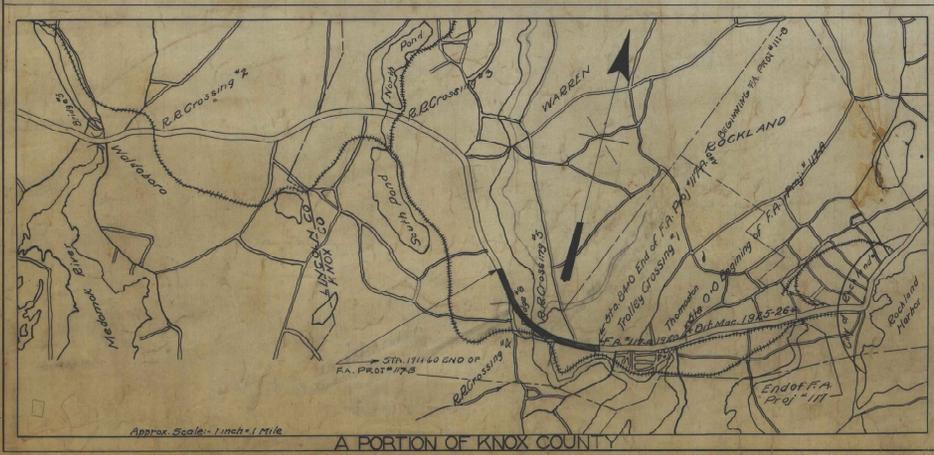
STATE OF MAINE  
STATE HIGHWAY COMMISSION

PLAN AND PROFILE  
STATE HIGHWAY "D"  
**THOMASTON & WARREN**  
KNOX COUNTY  
FEDERAL AID PROJECT NO. 117-B

CONVENTIONAL SIGNS	
STATE OR NATIONAL LINE	—————
COUNTY LINE	—————
TOWN LINE	—————
UNFENCED PROPERTY	—————
FENCE	—————
RIGHT OF WAY LINE	—————
TRAVELED WAY	—————
RAILROAD	—————
RETAINING WALL	—————
SURVEY LINE	—————
CULVERT	—————
DROP INLET	—————
TROLLEY POLE	—————
POWER POLE	—————
TEL. POLE	—————
MARSH	—————
TREES	—————
STONE WALL	—————

INDEX OF SHEETS		
SHEET No. 1	TITLE PAGE	STA. 34100 TO 44900 - 51100 TO 11160
SHEET No. 2-3	TYPICAL SECTIONS	
SHEET No. 4-11	PLAN AND PROFILE	STA. . . . .
SHEET No. 12-21	CROSS-SECTIONS	STA. . . . .
SHEET No.	BRIDGES	STA. . . . .
SHEET No.	SPECIAL DETAILS	

TOTAL LENGTH 2.000 MILES  
 SCALES { PLAN 1 IN. = 50 FT.  
 PROFILE { HOR. 1 IN. = 50 FT.  
 VER. 1 IN. = 5 FT.  
 CROSS SECTIONS 1 IN. = 5 FT.



APPROVED:  
MAINE STATE HIGHWAY COMMISSION  
*Charles P. Pinsky*  
CHAIRMAN  
*Clayton*  
VICE CHAIRMAN  
*Frederick*  
SECRETARY

APPROVED:  
U. S. BUREAU OF PUBLIC ROADS  
DISTRICT ENGINEER  
CHIEF ENGINEER  
DIRECTOR

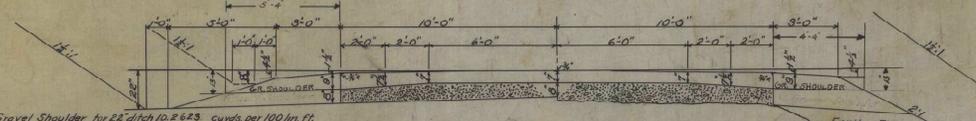
Note: All work contemplated under this contract fully covered by and in conformity with the specifications adopted, except as modified on this plan.

Approx. Scale: 1 inch = 1 mile

A PORTION OF KNOX COUNTY

Tom + Warren

STANDARD SECTIONS CONCRETE PAVEMENT

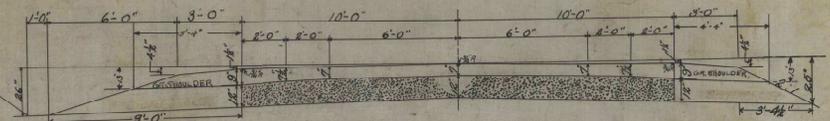


Gravel Shoulder for 28" ditch 10.2623 cu yds. per 100 lin. ft.

Where in the opinion of the engineer soil conditions are suitable base and gravel shoulders may be omitted

8" GRAVEL BASE VARIABLE GRAVEL BASE

Concrete Pavement 44,2560 cu yds. per 100 lin. ft.  
8" Gravel Base 55,452.6 cu yds. per 100 lin. ft.



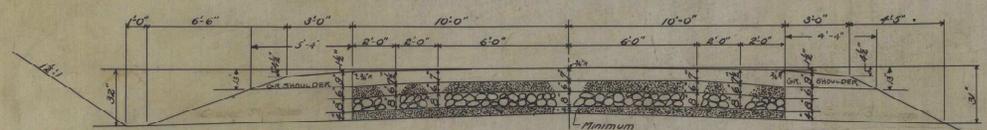
Gravel Shoulder 10.2623 cu yds. per 100 lin. ft.

12" GRAVEL BASE

12" Gravel Base 60,444.0 Cu yds. per 100 lin. ft.  
Gravel Shoulder for Guard Rail 10.8923 cu yds. per 100 lin. ft.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QUANTITIES	REMARKS
16-A	EARTH EXCAVATION	3200 C.Y.	
16-B	ROCK EXCAVATION	470 C.Y.	
16-C	TREES REMOVED	3 EACH	
16	EXC. FOR STRUCTURES	150 C.Y.	
17-A	COMMON BORROW	6600 C.Y.	
28	GRAVEL BASE COURSE	7000 C.Y.	
31	CEMENT CONCRETE PAVEMENT	4558 C.Y.	
32-A	REIN. FOR PAVEMENT	241,600 LBS.	
32-A	CLASS "A" CONCRETE	110 C.Y.	
32-B	" B "	30 C.Y.	
36	STEEL FOR CONCRETE STRUCT	800 LBS.	
40-A	12" C.M.P.	260 L.F.	
40-B	15" C.M.P.	60 L.F.	
42-C	18" CONCRETE PIPE	72 L.F.	
42-D	24" " "	88 L.F.	
45	PLAIN R.I.P.P.A.P.	700 C.Y.	
50-H	WIRE CABLE GUARD RAIL	2476 L.F.	
50-F	ANCHORAGES FOR G.R.	25 EACH	



Gravel Shoulder 10.2623 cu yds. per 100 lin. ft.

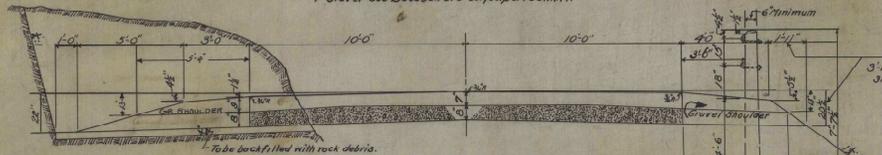
Gravel Shoulders to be paved as Gravel Base

Location and depth of ditch to be governed by local conditions.

STONE BASE

6" Gravel Base 370,370 cu yds. per 100 lin. ft.  
8" Stone Base 49,382.2 cu yds. per 100 lin. ft.  
4" Gravel Sub-Base 30,761.3 cu yds. per 100 lin. ft.

Gravel Shoulder 8.9164 cu yds. per 100 lin. ft.



LEGEND

- B. Full bank (in inches) for W.
- W. Unwidened width of pavement (in feet)
- C. Distance from  $\frac{1}{2}$  to edge of shoulder (in feet)
- D. " "  $\frac{1}{2}$  to outside edge of ditch (in feet)

LEDGE

GUARD RAIL

Gravel Shoulders 10.8923 FOR GUARD RAIL PER 100 LIN. FT.

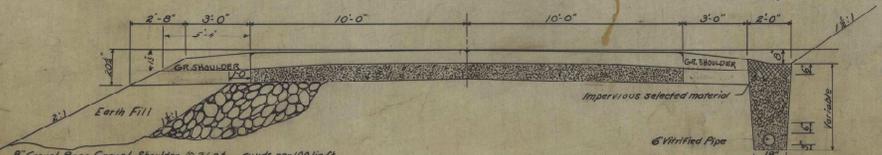
WIDENED AND SUPERELEVATED GRAVEL BASE

For inside ditch on widened or unwidened super-elevated curves. Depth of ditch in inches below center grade equals thickness of section at  $\frac{1}{2}$  plus  $\frac{1}{2} \times B$ .

Curves of 2° or more to be super-elevated.

For outside ditch on super-elevated curves. Depth of ditch in inches below center grade equals thickness of section at  $\frac{1}{2}$  plus  $\frac{1}{2} \times B$ , minus  $\frac{1}{2} \times B$ .

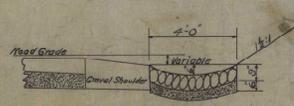
"B" equals Degree of Curve x 2' with a minimum of 6" super-elevation. Maximum super-elevation equals 1/2 per foot width of pavement. All curves to have full super-elevation at approximately 50 into the curve from 20 x 27 with a 150 run-off. Curves of 3° or more to be widened according to Formula B-4 where D equals Degree of Curve.



6" Gravel Base Gravel Shoulder 10.2623 cu yds. per 100 lin. ft.

STONE FILL

TILE UNDERDRAIN



COBBLE GUTTER

CULVERTS

STA.	SIZE	LG.	KIND	REMARKS
131+40	18	46	CONCRETE PIPE	TWO HEADWALLS PLACED
140+80	18	44	" "	" " PLACED
161+41	24	72	" "	" " PLACED
98+79	24"	58'	" "	" "
110+36	24"	36'	" "	" "
124+91	2' x 3'	6'	CONC. BOX	ONE " RAISE W.M. ON R
178+23	15"	36'	CONC. PIPE	TWO "
180+98	2' x 2'	20'	CONC. BOX	ONE "
190+16	15"	36'	CONC. PIPE	TWO "
13-18+20			DRIVEWAY C.M.P.	
3-15+20			" "	



# STATE OF MAINE STATE HIGHWAY COMMISSION

## PLANS

### THOMASTON KNOX COUNTY

### STATE PROJECT NO. 26-1(504)

TOTAL LENGTH 0.379 MILES

SCALES { PLAN 1 IN. = 50 FT.  
 PROFILE { HOR. 1 IN. = 50 FT.  
 VER. 1 IN. = 5 FT.  
 CROSS SECTIONS 1 IN. = 5 FT.

#### CONVENTIONAL SIGNS

STATE OR NATIONAL LINE	-----	SURVEY LINE	
COUNTY LINE	-----	CULVERT	
TOWN LINE	-----	DROP INLET	
UNFENCED PROPERTY	-----	TROLLEY POLE	
FENCE	-----	POWER POLE	
RIGHT OF WAY LINE	-----	TEL. POLE	
TRAVELED WAY	-----	MARSH	
RAILROAD	-----	TREES	
RETAINING WALL	-----	STONE WALL	

#### INDEX OF SHEETS

SHEET NO. 1	TITLE PAGE	STA. 3+00 TO STA. 23+00
SHEET NO. 2	TYPICAL SECTIONS	
SHEET NO. 3	QUANTITIES	
SHEET NO. 4-7 & 7A	STANDARD DETAILS	7A - STANDARD BARRICADE DETAIL
SHEET NO. 14-17	PLAN AND PROFILE	STA. 3+00 TO STA. 23+00 & SIDE RDS.
SHEET NO. 18-38	CROSS-SECTIONS	STA. 3+00 TO STA. 23+00 & SIDE RDS.
SHEET NO. 8-11	BRIDGES	STA.
SHEET NO. 12 & 13	SPECIAL DETAILS TYPE "A" GUARD RAIL, OLD COUNTY ROAD INTERSECTION, & ROUTE 131 INTERSECTION	

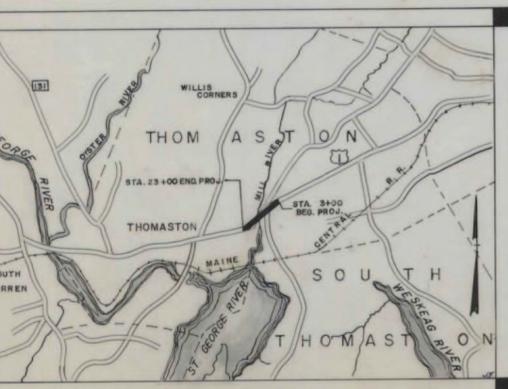
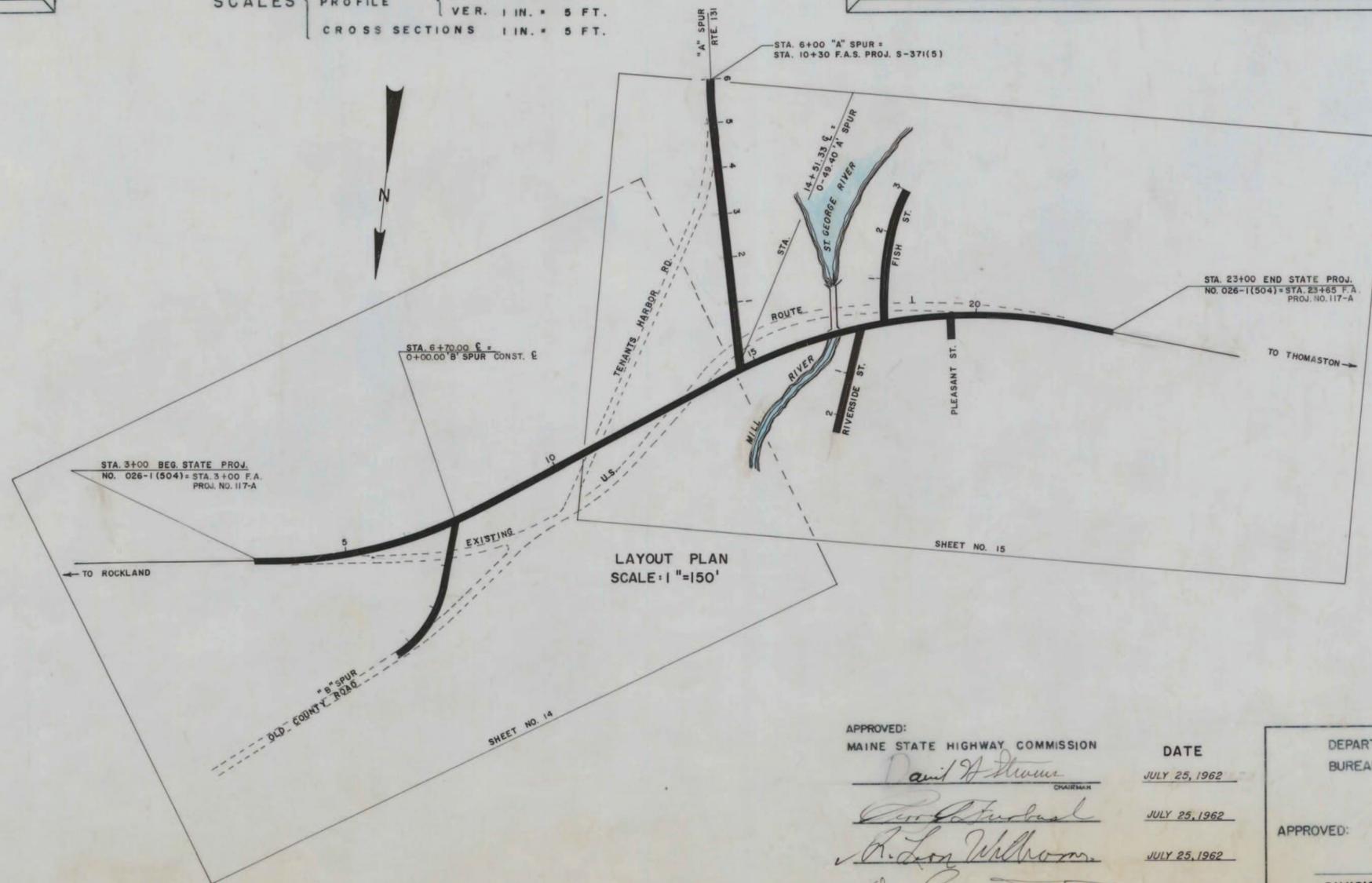
*Sheets 8-11 to be deleted*

#### TRAFFIC DATA

ADT	1962	---	6910
ADT	1982	---	9675
DHV			1451
D			65%
T			9%
V			50 m.p.h.

#### NOTE:

ALL WORK CONTEMPLATED UNDER THIS CONTRACT TO BE GOVERNED BY AND IN CONFORMITY WITH THE SPECIFICATIONS ADOPTED JANUARY 1956 EXCEPT AS MODIFIED ON THESE PLANS AND IN THE SPECIFICATIONS.



APPROVED:  
MAINE STATE HIGHWAY COMMISSION

*David H. Stouffer*  
CHAIRMAN  
*Robert L. ...*  
*R. Lee Wilborn*  
CHIEF ENGINEER

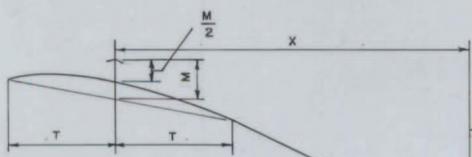
DATE  
JULY 25, 1962  
JULY 25, 1962  
JULY 25, 1962  
JULY 25, 1962

DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS  
REGION I

APPROVED:  
\_\_\_\_\_  
DIVISION ENGINEER

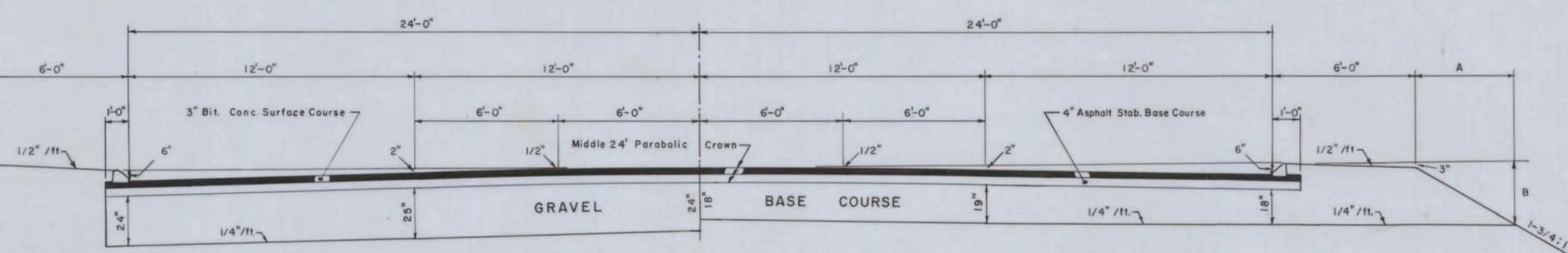
\_\_\_\_\_  
DATE

# 3" BITUMINOUS CONCRETE SURFACE COURSE\*



Where "X" = 7' Or Less, "T" = X - 2',  
Otherwise "T" = 5'.

To Avoid Property Damage And To Save  
Shade Trees, This Formula May Be  
Modified By The Engineer.



- A 18" Gravel Base = 4'-6"
- 24" Gravel Base = 5'-4"
- B 18" Gravel Base = 2'-9-1/2"
- 24" Gravel Base = 3'-3-1/2"

24" Gravel Base Course = 380.25cy./100 Lin. Ft.

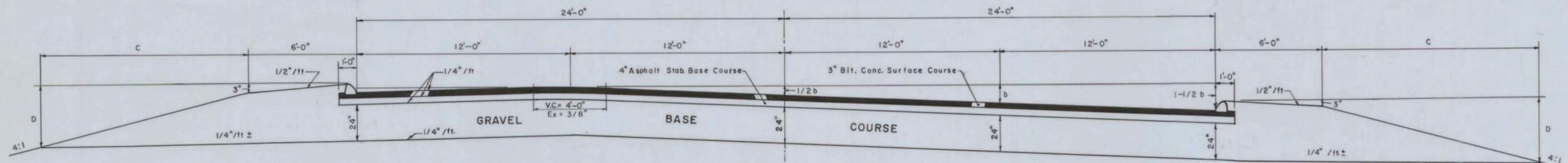
## NORMAL

18" Gravel Base Course = 287.65cy./100 Lin. Ft.

Gravel Shoulder For:

18" Gravel Base Course = 67.28cy/100 Lin.Ft.  
24" Gravel Base Course = 85.08cy/100 Lin.Ft.

Sta. 9+50 to Sta. 13+00



24" Gravel Base Course = 370.22cy/100 Lin. Ft.

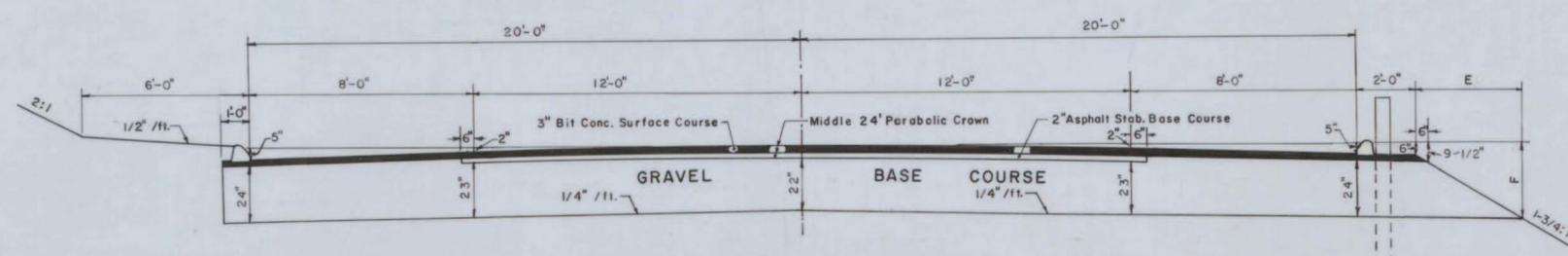
## SUPERELEVATED

18" Gravel Base Course = 277.62cy/100 Lin. Ft.

Gravel Shoulder For:

18" Gravel Base Course = 95.45cy/100 Lin. Ft.  
24" Gravel Base Course = 126.80cy/100 Lin. Ft.

Sta. 3+00 to Sta. 9+50  
Sta. 13+00 to Sta. 23+00



- C 18" Gravel Base = 10'-9"
- 24" Gravel Base = 12'-11"
- D 18" Gravel Base = 2'-11"
- 24" Gravel Base = 3'-6"

## "A" SPUR

16" Gravel Base Course = 241.65cy/100 Lin. Ft. (Sta. 1+50 to Sta. 2+75)  
22" Gravel Base Course = 327.58cy/100 Lin. Ft. (Sta. 2+75 to Sta. 5+00)

- E 18" Gravel Base = 3'-1"
- 24" Gravel Base = 4'-0"
- F 18" Gravel Base = 2'-3"
- 24" Gravel Base = 2'-9-1/2"

NOTE:  
For All Sections Depth Of Ditch Depends On Local  
Conditions. Depth Of Base As Shown May  
Be Changed To Meet Local Conditions.

\* NOTE:  
The Pavement And Base Depths As Shown On The  
Plans Are Intended To Be Nominal.

18" Gravel Base	24" Gravel Base
6+75 to 9+75	2+00 to 6+75
11+75 to 19+25	9+75 to 11+75
	19+25 to 24+00

# STATE OF MAINE STATE HIGHWAY COMMISSION

## PLANS

### THOMASTON KNOX COUNTY

### STATE PROJECT NO. 26-1(504)

TOTAL LENGTH 0.379 MILES

SCALES { PLAN 1 IN. = 50 FT.  
 PROFILE { HOR. 1 IN. = 50 FT.  
 VER. 1 IN. = 5 FT.  
 CROSS SECTIONS 1 IN. = 5 FT.

#### CONVENTIONAL SIGNS

STATE OR NATIONAL LINE	-----	SURVEY LINE	
COUNTY LINE	-----	CULVERT	
TOWN LINE	-----	DROP INLET	
UNFENCED PROPERTY	-----	TROLLEY POLE	
FENCE	-----	POWER POLE	
RIGHT OF WAY LINE	-----	TEL. POLE	
TRAVELED WAY	-----	MARSH	
RAILROAD	-----	TREES	
RETAINING WALL	-----	STONE WALL	

#### INDEX OF SHEETS

SHEET NO. 1	TITLE PAGE	STA. 3+00 TO STA. 23+00
SHEET NO. 2	TYPICAL SECTIONS	
SHEET NO. 3	QUANTITIES	
SHEET NO. 4-7 & 7A	STANDARD DETAILS	7A - STANDARD BARRICADE DETAIL
SHEET NO. 14-17	PLAN AND PROFILE	STA. 3+00 TO STA. 23+00 & SIDE RDS.
SHEET NO. 18-38	CROSS-SECTIONS	STA. 3+00 TO STA. 23+00 & SIDE RDS.
SHEET NO. 8-11	BRIDGES	STA.
SHEET NO. 12 & 13	SPECIAL DETAILS TYPE "A" GUARD RAIL, OLD COUNTY ROAD INTERSECTION, & ROUTE 131 INTERSECTION	

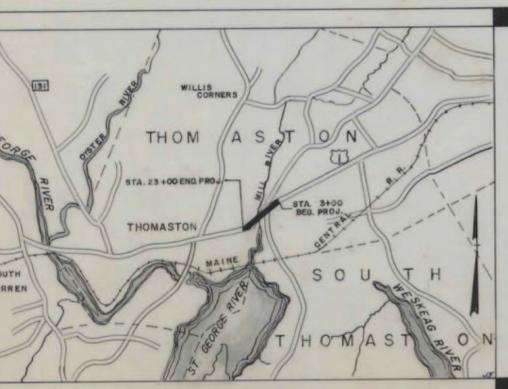
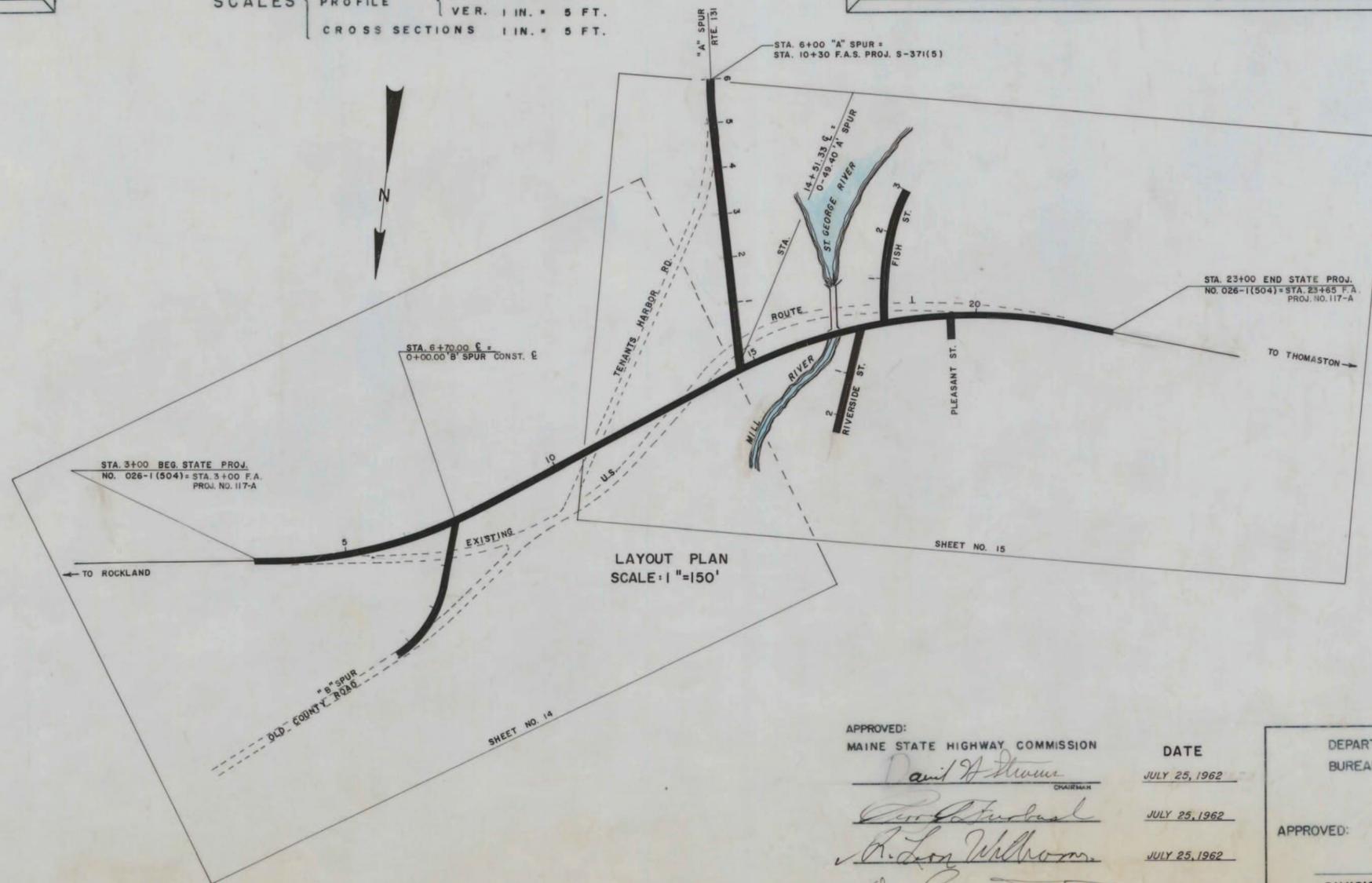
*Sheets 8-11 to be waived*

#### TRAFFIC DATA

ADT	1962	---	6910
ADT	1982	---	9675
DHV			1451
D			65%
T			9%
V			50 m.p.h.

#### NOTE:

ALL WORK CONTEMPLATED UNDER THIS CONTRACT TO BE GOVERNED BY AND IN CONFORMITY WITH THE SPECIFICATIONS ADOPTED JANUARY 1956 EXCEPT AS MODIFIED ON THESE PLANS AND IN THE SPECIFICATIONS.



PORTION OF KNOX COUNTY Scale: 1" = 1 Mi.

APPROVED:  
MAINE STATE HIGHWAY COMMISSION

*David H. Stouffer*  
CHAIRMAN  
*Robert L. ...*  
*R. Lee Wilborn*  
CHIEF ENGINEER

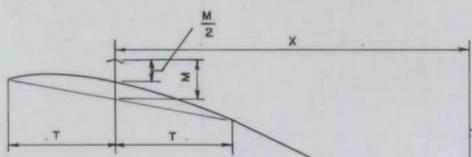
DATE  
JULY 25, 1962  
JULY 25, 1962  
JULY 25, 1962  
JULY 25, 1962

DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS  
REGION I

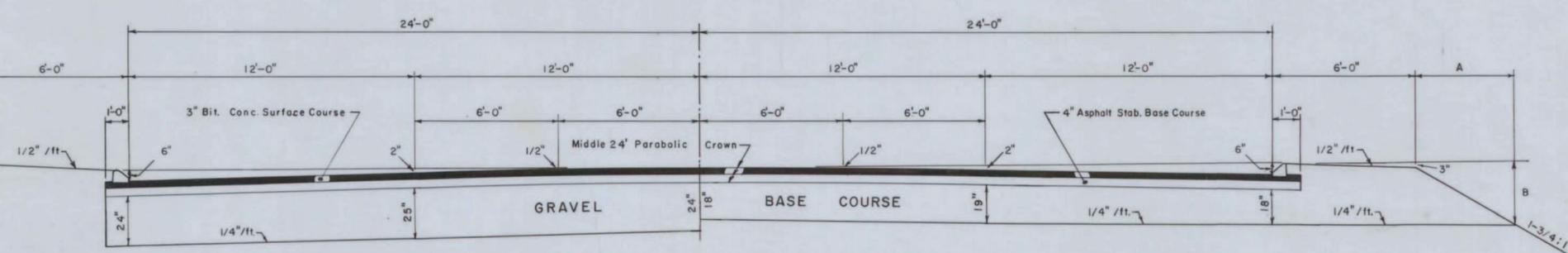
APPROVED:  
\_\_\_\_\_  
DIVISION ENGINEER

\_\_\_\_\_  
DATE

# 3" BITUMINOUS CONCRETE SURFACE COURSE\*



To Avoid Property Damage And To Save  
Shade Trees, This Formula May Be  
Modified By The Engineer.



- A 18" Gravel Base = 4'-6"
- 24" Gravel Base = 5'-4"
- B 18" Gravel Base = 2'-9-1/2"
- 24" Gravel Base = 3'-3-1/2"

24" Gravel Base Course = 380.25cy./100 Lin. Ft.

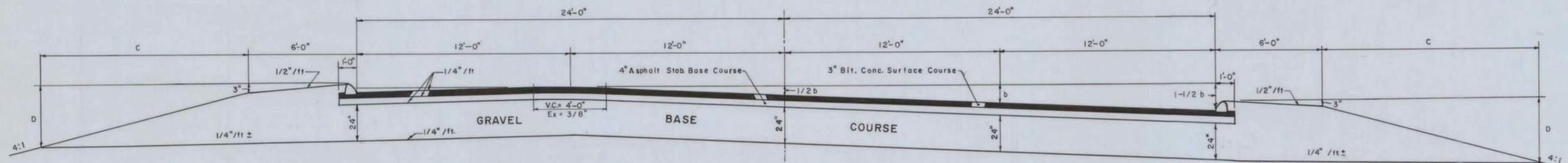
## NORMAL

18" Gravel Base Course = 287.65cy./100 Lin. Ft.

Gravel Shoulder For:

- 18" Gravel Base Course = 67.28cy/100 Lin.Ft.
- 24" Gravel Base Course = 85.08cy/100 Lin.Ft.

Sta. 9+50 to Sta. 13+00



24" Gravel Base Course = 370.22cy/100 Lin. Ft.

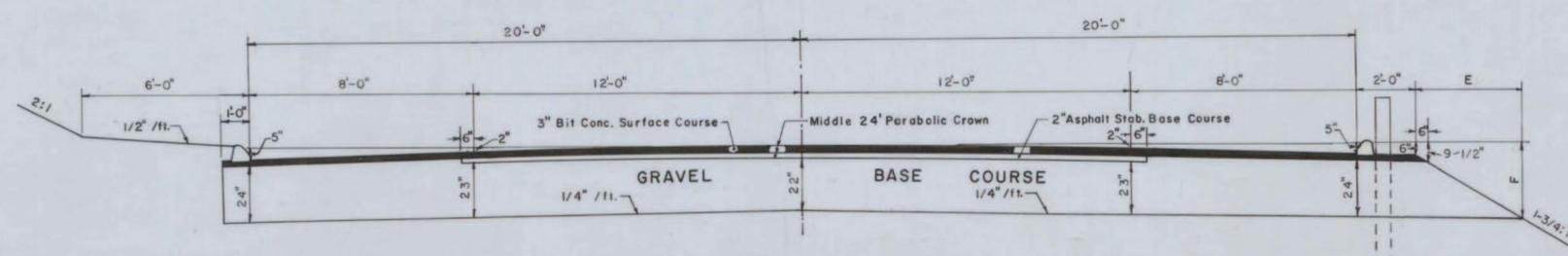
## SUPERELEVATED

18" Gravel Base Course = 277.62cy/100 Lin. Ft.

Gravel Shoulder For:

- 18" Gravel Base Course = 95.45cy/100 Lin. Ft.
- 24" Gravel Base Course = 126.80cy/100 Lin. Ft.

Sta. 3+00 to Sta. 9+50  
Sta. 13+00 to Sta. 23+00



- C 18" Gravel Base = 10'-9"
- 24" Gravel Base = 12'-11"
- D 18" Gravel Base = 2'-11"
- 24" Gravel Base = 3'-6"

## "A" SPUR

16" Gravel Base Course = 241.65cy/100 Lin. Ft. (Sta. 1+50 to Sta. 2+75)  
22" Gravel Base Course = 327.58cy/100 Lin. Ft. (Sta. 2+75 to Sta. 5+00)

- E 18" Gravel Base = 3'-1"
- 24" Gravel Base = 4'-0"
- F 18" Gravel Base = 2'-3"
- 24" Gravel Base = 2'-9-1/2"

NOTE:  
For All Sections Depth Of Ditch Depends On Local  
Conditions. Depth Of Base As Shown May  
Be Changed To Meet Local Conditions.

\* NOTE:  
The Pavement And Base Depths As Shown On The  
Plans Are Intended To Be Nominal.

18" Gravel Base	24" Gravel Base
6+75 to 9+75	2+00 to 6+75
11+75 to 19+25	9+75 to 11+75
	19+25 to 24+00

**DRAINAGE - AS BUILT - 1963**

STATION	A.C.C.M.P.		R.C.P.		A.C.C.M.P.		A.C.C.M.P.		C.M.P.		CATCH BASINS				DROP INLETS		MAN-HOLES		UNDERDRAINS				REMARKS	
	LEFT EXTENSION		RIGHT EXTENSION								F	H	C	D	E	A	B	A	B	TYPE		TYPE C		
	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH										SIZE	LENGTH	SIZE		LENGTH
in Lines:																								
5+50			18"	44'	18"	76'																		R.C.P. Class III
7+25 Rt							15"	12'																Plus Curb, Conn Class III
8+94 s=8x29° Lt	42"	28'	42"	116'	42"	14'																		
11+40	18"	12'	15"	42'																				
14+15 Lt							15"	36'																
14+30			24"	68'	24"	20'																		R.C.P. Class III
15+70 Lt							15"	12'																
16+80 Rt							15"	16'																
17+50	24"	22'	24"	42'																				R.C.P. Class III
19+60 Rt							15"	18'																
22+90			15"	30'																				R.C.P. Class III
22+92 to 23+50 Lt							15"	58'																
22+92 to 23+20 Rt							15"	28'																
driveways -																								
12+00 s Lt									15"	30'														
landrain -																								
3+10 to 7+70 Lt																								
9+38 to 11+38 Lt																								
11+42 to 14+28 Lt																								
17+52 to 19+58 Rt																								
19+62 to 22+88 Rt																								
landrain Outlets -																								
170 to 7+91 Lt																								
spur:																								
0+00			15"	40'																				
2+15	15"	14'	18"	36'	18"	10'																		
5+04 Lt																								
landrain -																								
2+17 to 5+02 Lt																								
metal Sluice -																								
0+80 Rt																								
3+50 Rt																								
spur:																								
0+60	15"	8'	15"	32'																				
1+23 s=8x36° Lt	42"	16'	42"	116'	42"	18'																		
metal Sluice -																								
1+70 Rt																								
inside Street																								
1+75							15"	40'																

**FINAL ESTIMATED QUANTITIES AS BUILT - 1963**

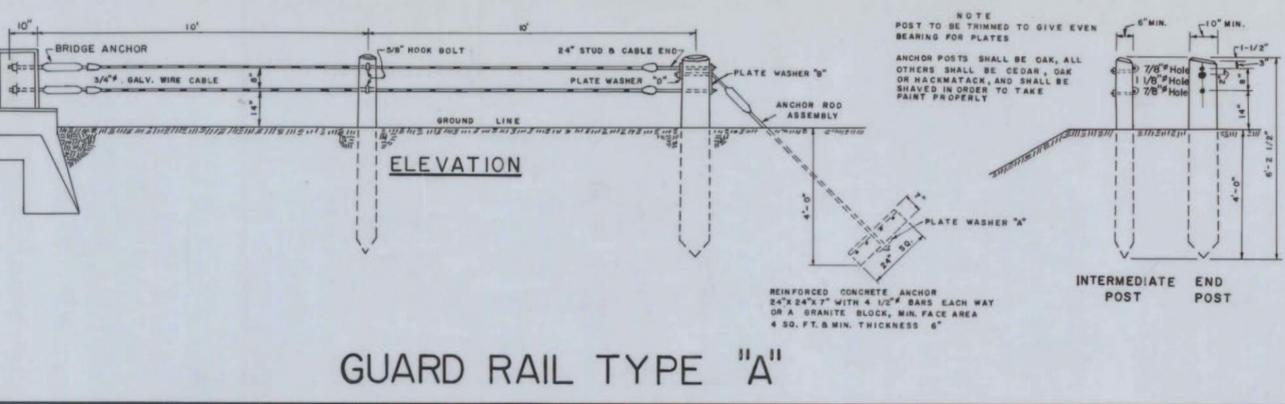
ITEM NO	DESCRIPTION	QUANTITY	UNIT
202-5	REMOVING TREES (9"-24")	26	EACH
202-6	REMOVING TREES (OVER 24")	9	EACH
203-9	EARTH EXCAVATION	10,270	CU. YDS.
	ROCK EXCAVATION	0	CU. YDS.
203-13	REMOVE EXISTING CONCRETE PAVEMENT	2,065.1	SG. YDS.
	EXCAVATION FOR SLOPE GRAVEL BLANKET	0	CU. YDS.
204-10	STRUCTURAL EARTH EXCAVATION - DRAINAGE	2,013	CU. YDS.
	STRUCTURAL ROCK EXCAVATION - DRAINAGE	79.61	CU. YDS.
204-12	STR. EARTH EXCAV., ABUTS. AND RET. WALLS	234	CU. YDS.
204-13	STR. ROCK EXCAV., ABUTS. AND RET. WALLS	9.6	CU. YDS.
204-16	STRUCTURAL EARTH EXCAVATION - CHANNEL	1,429.3	CU. YDS.
204-17	STRUCTURAL ROCK EXCAVATION - CHANNEL	1.0	CU. YDS.
205-8	COMMON BORROW	71,714	CU. YDS.
205-9	GRANULAR BORROW	1,446	CU. YDS.
207-10	MACHINE AERATING	0	HRS.
209-6	BULLDOZER GRADING (INCLUDING OPERATOR)	6	HRS.
209-7	GRADER RENTAL (INCLUDING OPERATOR)	3	HRS.
209-8	ALL PURPOSE EXCAVATOR RENTAL (INCLUDING OPERATORS)	0	HRS.
209-9	TRUCK RENTAL (INCLUDING OPERATOR)	14	HRS.
301-10	GRAV. MATERIAL ASPH. FOR ASPH. STAB. BASE COURSE - IN PLACE MEAS.	1,500.5	CU. YDS.
302-7	GRAVEL BASE COURSE - IN PLACE MEASUREMENT	12,359	CU. YDS.
	GRAVEL FOR FOUNDATIONS	20.3	CU. YDS.
	GRAVEL BASE COURSE FOR SLOPE BLANKET	0	CU. YDS.
308-5	OVERHAUL (IN PLACE MEASURE)	93,612	YD. MI.
308-6	OVERHAUL (PIT MEASURE)	7,532	YD. MI.
309-5	STRIPPING PITS	546	CU. YDS.
310-6	SPRINKLING	127	UNITS
311-6	CALCIUM CHLORIDE	405	TONS
311-7	SULFITE ROAD BINDER	0	UNITS
313-21	PROCESSED & PREPARED ASPH. STAB. BASE CRS.	15,476	S. Y.
401-11	GRAVEL SURFACE COURSE	170	CU. YDS.
404-28	BIT. CONC. SURFACE COURSE, TYPE "A"	3,025.27	TONS
404-30	BIT. CONC. SURFACE COURSE, TYPE "A" (HAND PLACED)	95.08	TONS
501-7	ROAD TAR	512	GALS.
508-8	SAND FILLED EMULSIFIED ASPHALT SEALING COMPOUND (BLACK)	617.5	SG. YDS.
601-11	15-INCH CORRUGATED METAL PIPE	72	LIN. FT.
602-11	15-INCH ASPHALT COATED CORR. METAL PIPE	206	LIN. FT.
602-12	18-INCH ASPHALT COATED CORR. METAL PIPE	101	LIN. FT.
602-14	24-INCH ASPHALT COATED CORR. METAL PIPE	43	LIN. FT.
602-17	42-INCH ASPHALT COATED CORR. METAL PIPE	79	LIN. FT.
603-11	15-INCH REINFORCED CONC. PIPE - CLASS III	152	LIN. FT.
603-12	18-INCH REINFORCED CONC. PIPE - CLASS III	88	LIN. FT.
603-13	24-INCH REINFORCED CONC. PIPE - CLASS III	110	LIN. FT.
603-16	42-INCH REINFORCED CONC. PIPE - CLASS III	124	LIN. FT.
603-25	42-INCH REINFORCED CONC. PIPE - CLASS IV	124	LIN. FT.
605-26	CATCH BASINS - TYPE "F"	1	EACH
605-28	CATCH BASINS - TYPE "H"	19.75	EACH
606-10	UNDERDRAIN, TYPE "B"	1,660	LIN. FT.
606-12	15-INCH UNDERDRAIN, TYPE "C"	285	LIN. FT.
606-13	18-INCH UNDERDRAIN, TYPE "C"	412	LIN. FT.
606-15	24-INCH UNDERDRAIN, TYPE "C"	206	LIN. FT.
606-16	UNDERDRAIN OUTLETS	40	LIN. FT.
701-43	PORTLAND CEM. CONC. RIGID FRAME STR. INCLUDING SIDEWALKS, CURB & FRAME FOOTINGS	347.24	CU. YDS.
701-47	PORTLAND CEMENT	520.9	BBLS.
701-54	PORTLAND CEMENT FOR RIPRAP GROUT	19.25	BBLS.
705-13	REINFORCING STEEL, DELIVERED	41,293	LBS.
705-14	REINFORCING STEEL, PLACING	41,293	LBS.
801-8	REMOVAL OF EXISTING CONCRETE	0.85	CU. YDS.
803-7	COFFERDAMS	L.S.	L.S.
804-6	FRENCH DRAINS	179.9	CU. YDS.
901-14	GRANITE EDGING	343.4	LIN. FT.
901-15	GRANITE EDGING, CIRCULAR	37.8	LIN. FT.
905-23	GUARD RAIL - TYPE "A"	393.8	LIN. FT.
905-27	GUARD RAIL - TYPE "E"	1,586.2	LIN. FT.
905-31	ANCHOR FOR TYPES "A" & "B", GUARD RAIL	4	EACH
905-35	GUARD POSTS - TYPE "A"	12	EACH
905-37	GUARD RAIL TYPE "E" - TERMINAL SECTION	6	EACH
905-38	GUARD RAIL TYPE "E", CURVED	350.0	LIN. FT.
907-10	HAND LAID RIPRAP	146.7	CU. YDS.
908-9	LOAM BORROW	1,262	CU. YDS.
909-7	SODDING	726.6	SG. YDS.
910-12	SEEDING - METHOD NO. 1	15.4	UNITS
910-13	SEEDING - METHOD NO. 2	197.2	UNITS
910-226	2"2 1/2" NORWAY MAPLE - ACER PLATANOIDES	15	EACH
910-227	3"4" NORWAY MAPLE - ACER PLATANOIDES	5	EACH
910-265	8"10" YELLOWSTEM WEEPING WILLOW - SALIX ALBA NIOBE	8	EACH
910-417	8"10" EUROPEAN MOUNTAIN ASH - SORBUS AUOPARJA	7	EACH
910-426	6"8" FLOWERING CRAB - MALUS HOPE OR MALUS FLORIBUNDA	15	EACH
910-633	2"3" JAPANESE ROSE - ROSA MULTIFLORA	75	EACH
910-658	2"3" ROSE ACACIA - ROBINIA HISPIDA	50	EACH
912-7	HAY MULCH	6.38	TONS
913-7	ASPHALT MULCH BINDER	950	GALS.
914-6	PROJECT MARKERS	3	EACH
915-6	RIGHT OF WAY MONUMENTS	14	EACH
916-6	UNDERDRAIN OUTLET MARKERS	1	EACH
917-6	TRAFFIC OFFICERS	584	M. HRS.
917-7	HAND LABOR - STRAIGHT TIME	67	M. HRS.
919-7	METAL SLUICE	96	LIN. FT.
926-7	REMOVAL OR RAZING BUILDINGS NO. 1	-NO-	L.S.
926-8	REMOVAL OR RAZING BUILDINGS NO. 2	-NO-	L.S.
926-9	REMOVAL OR RAZING BUILDINGS NO. 3	L.S.	L.S.
926-10	REMOVAL OR RAZING BUILDINGS NO. 4	L.S.	L.S.
926-11	REMOVAL OR RAZING BUILDINGS NO. 5	L.S.	L.S.
926-12	REMOVAL OR RAZING BUILDINGS NO. 6	-NO-	L.S.
926-13	REMOVAL OR RAZING BUILDINGS NO. 7	L.S.	L.S.
926-14	REMOVAL OR RAZING BUILDINGS NO. 8	L.S.	L.S.
929-10	PORTABLE BARRICADES	2	EACH
930-13	PORTABLE BARRICADES WITH FLASHING LIGHTS	2	EACH

B.P.R.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	26-1(504)	3	38

**SUMMARY OF EARTH EXCAVATION AND BORROW QUANTITIES**

<b>EARTH EXCAVATION FOR ESTIMATE</b>	
Earth Excavation (from cross sections)	8,771
Earth From Drives	733
Excavating Abandoned Roads	67
(1) Total Earth Excavation	9,571
<b>FILL FOR COMMON BORROW CALCULATIONS</b>	
Common Fill (from cross sections)	69,610
3" Fill Over Abandoned Roads	89
(2) Total Fill	69,699
<b>AVAILABLE EARTH EXCAVATION FOR COMMON BORROW CALCULATIONS</b>	
(1) Total Earth Excavation	9,571
<b>COMPUTATION OF COMMON BORROW FOR ESTIMATE</b>	
(2) Total Fill	69,699
Total Available Earth	9,571 x 0.85 = 8,134
(3) Total Fill Minus Total Available Earth	69,699 - 8,134 = 61,565
Common Borrow = (3)	61,565 x 1.15 = 70,799
* 1,796 Cu. Yds. Deducted Unsuitable Material Excavated Before Placing Embankment	

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
931-8	BITUMINOUS CONC. CURB	4,905.5	LIN. FT.
938-1	WARNING LIGHTS AND ILLUMINATING SIGNS	4	GROUP



**GUARD RAIL TYPE "A"**

TYPE "E" GUARD RAIL INST. 1963 - TERM. SECTION

"B" STA. 1+05 TO STA. 1+42.5 RT. 37.5 L.F. 1  
 "B" STA. 0+62 TO STA. 1+48 LT. 87.5 L.F. 1  
 "E" STA. 7+40 TO STA. 16+89 RT. 99 L.F. 1

CURVED:  
 "B" STA. 1+42 TO STA. 1+79 RT. (R:148) 37.5 L.F. 1  
 "B" STA. 1+48 TO STA. 1+70 LT. (R:28) 25 L.F. 1  
 "E" STA. 7+40 RT. TO "B" STA. 0+62 LT. (R:97) 87.5 L.F. 1

**CONTROL POINTS**

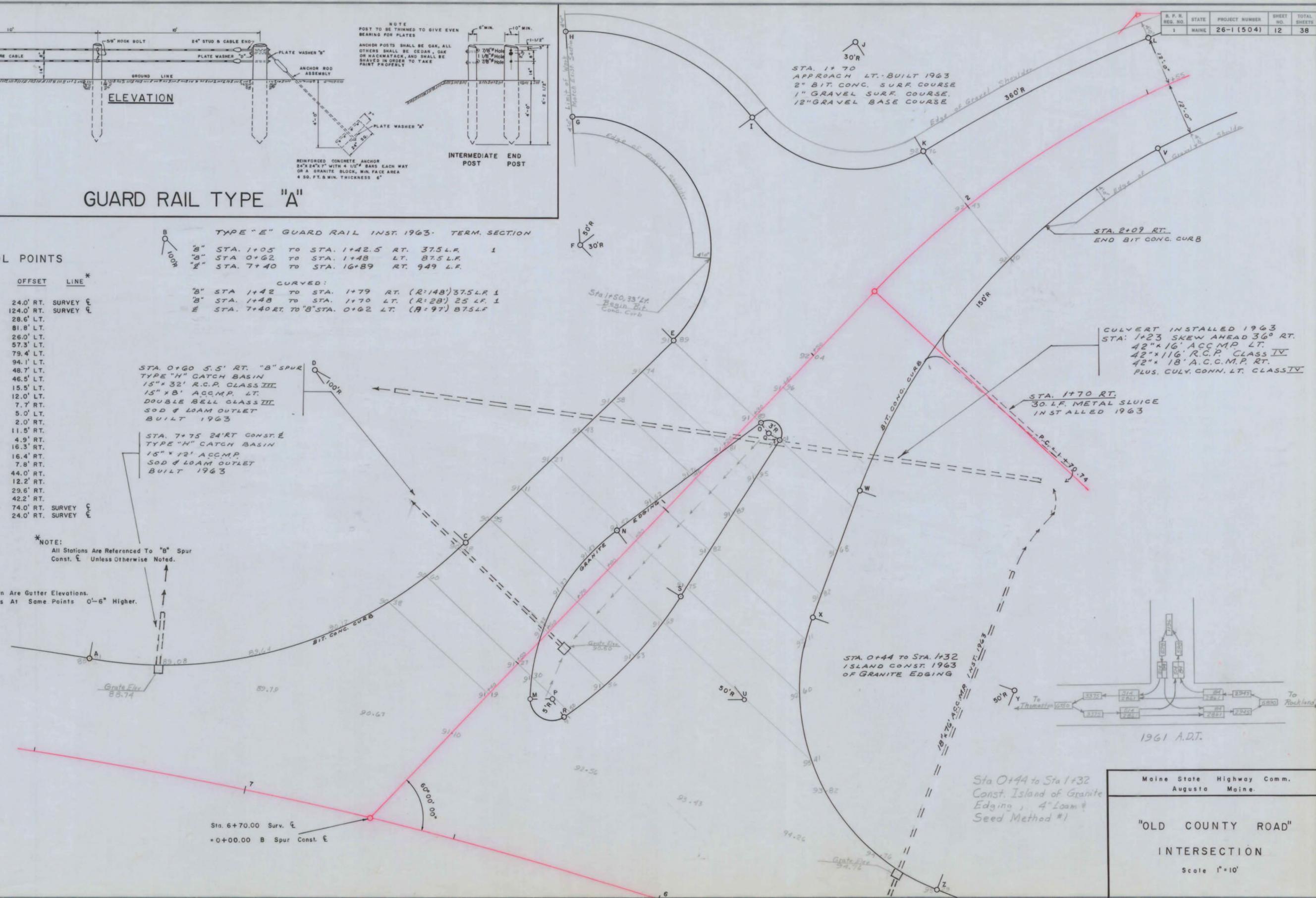
POINT	STATION	OFFSET	LINE
A	7+41.1	24.0' RT.	SURVEY
B	7+41.1	124.0' RT.	SURVEY
C	0+62.0	28.6' LT.	
D	0+67.6	81.8' LT.	
E	1+30.0	26.0' LT.	
F	1+31.2	57.3' LT.	
G	1+52.0	79.4' LT.	
H	1+65.5	94.1' LT.	
I	1+78.7	48.7' LT.	
J	2+03.1	46.5' LT.	
K	2+00.0	15.5' LT.	
L	2+55.0	12.0' LT.	
M	0+45.8	7.7' RT.	
N	0+88.5	5.0' LT.	
O	1+30.0	2.0' RT.	
P	0+49.5	11.5' RT.	
Q	1+29.3	4.9' RT.	
R	0+48.2	16.3' RT.	
S	0+87.3	16.4' RT.	
T	1+30.0	7.8' RT.	
U	0+80.2	44.0' RT.	
V	1+46.0	12.2' RT.	
W	1+34.2	29.6' RT.	
X	1+04.9	42.2' RT.	
Y	5+40.6	74.0' RT.	SURVEY
Z	5+40.6	24.0' RT.	SURVEY

STA. 0+60 5.5' RT. "B" SPUR  
 TYPE "H" CATCH BASIN  
 15" x 32' R.C.P. CLASS III  
 15" x 8' ACC.M.P. LT.  
 DOUBLE BELL CLASS III  
 SOD & LOAM OUTLET  
 BUILT 1963

STA. 7+75 24' RT. CONST.  
 TYPE "H" CATCH BASIN  
 15" x 12' ACC.M.P.  
 SOD & LOAM OUTLET  
 BUILT 1963

\*NOTE: All Stations Are Referenced To "B" Spur Const. Unless Otherwise Noted.

NOTE: Elevations Shown Are Gutter Elevations. Curb Elevations At Same Points 0'-6" Higher.



Maine State Highway Comm.  
 Augusta Maine.

**"OLD COUNTY ROAD"**

INTERSECTION

Scale 1"=10'

TYPE "E" GUARD RAIL TERMINAL SECTION

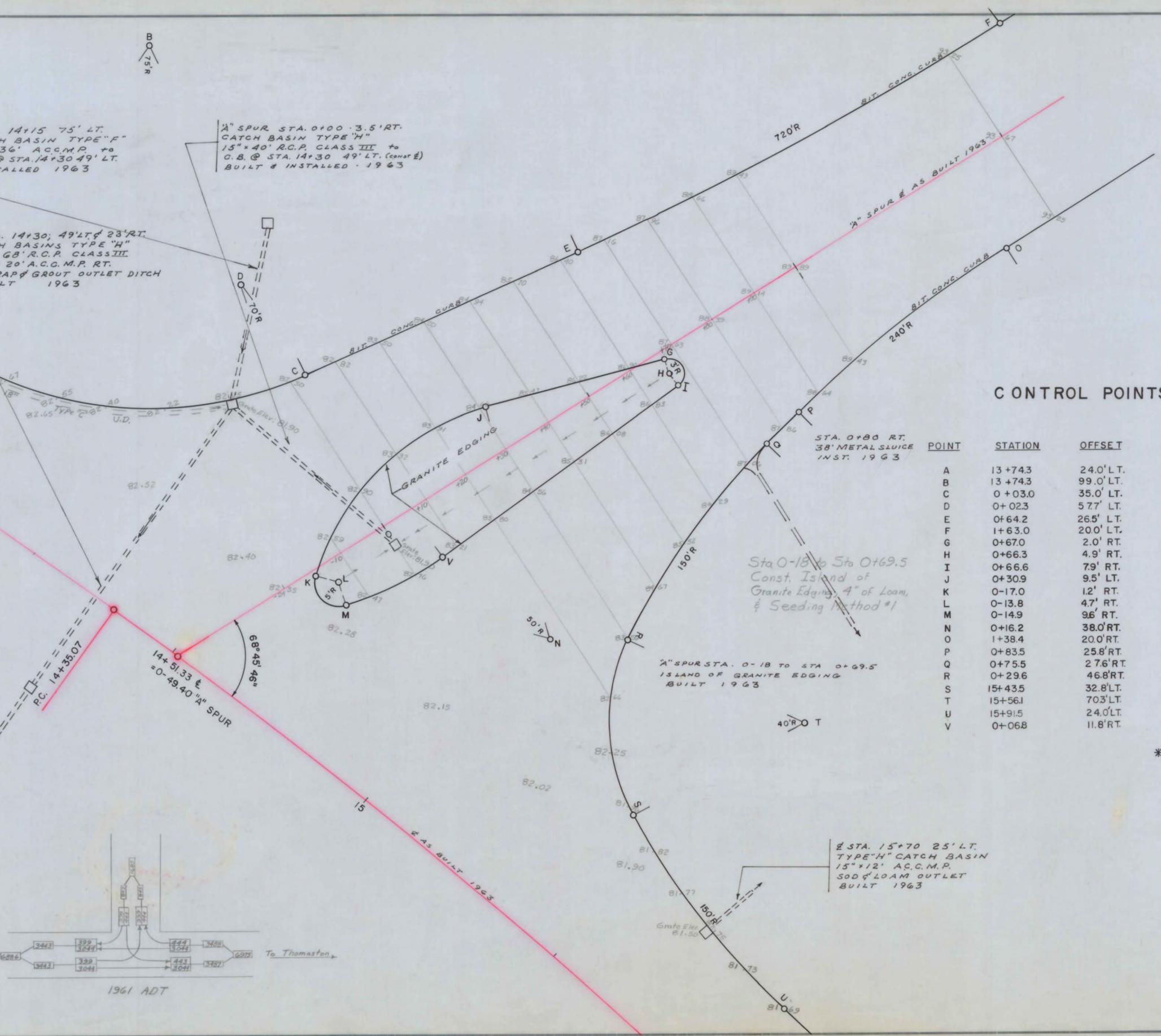
"A" SPUR STA. 0+85 TO STA. 4+10 RT. = 325' 1  
 CURVED:  
 "A" SPUR STA. 0+35 TO STA. 0+85 RT. (R=149') 50'  
 "A" SPUR STA. 0+35 RT. TO STA. 15+37 LT. (R=38') 37.5'  
 "A" SPUR STA. 15+37 TO STA. 15+85 LT. (R=146') 50'  
 INSTALLED 1963

NOTE: Elevations Shown Are Gutter Elevations.  
 Curb Elevations At Same Points 0'-6" Higher.

14+15 75' LT.  
 H BASIN TYPE "F"  
 36' ACC.M.P. TO  
 STA. 14+30 49' LT.  
 CALLED 1963

"A" SPUR STA. 0+00 - 3.5' RT.  
 CATCH BASIN TYPE "H"  
 15" x 40' R.C.P. CLASS III to  
 C.B. @ STA. 14+30 49' LT. (CONST. E)  
 BUILT & INSTALLED 1963

14+30; 49' LT. & 23' RT.  
 H BASIN TYPE "H"  
 68' R.C.P. CLASS III  
 20' A.C.C.M.P. RT.  
 GROUT OUTLET DITCH  
 LT 1963



C CONTROL POINTS

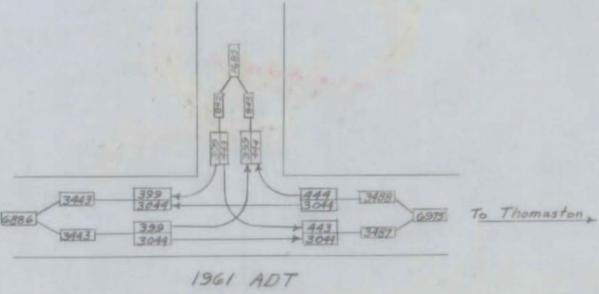
POINT	STATION	OFFSET	LINE*
A	13+74.3	24.0' LT.	SURVEY E
B	13+74.3	99.0' LT.	SURVEY E
C	0+03.0	35.0' LT.	
D	0+02.3	5.77' LT.	
E	0+64.2	26.5' LT.	
F	1+63.0	20.0' LT.	
G	0+67.0	2.0' RT.	
H	0+66.3	4.9' RT.	
I	0+66.6	7.9' RT.	
J	0+30.9	9.5' LT.	
K	0-17.0	1.2' RT.	
L	0-13.8	4.7' RT.	
M	0-14.9	9.6' RT.	
N	0+16.2	38.0' RT.	
O	1+38.4	20.0' RT.	
P	0+83.5	25.8' RT.	
Q	0+75.5	2.76' RT.	
R	0+29.6	46.8' RT.	
S	15+43.5	32.8' LT.	SURVEY E
T	15+56.1	70.3' LT.	SURVEY E
U	15+91.5	24.0' LT.	SURVEY E
V	0+06.8	11.8' RT.	

\* NOTE: ALL STATIONS ARE REFERENCED TO "A" SPUR E UNLESS OTHERWISE NOTED

Sta 0-18 to Sta 0+69.5  
 Const. Island of  
 Granite Edging, 4" of Loam,  
 & Seeding Method #1

"A" SPUR STA. 0-18 TO STA 0+69.5  
 ISLAND OF GRANITE EDGING  
 BUILT 1963

E STA. 15+70 25' LT.  
 TYPE "H" CATCH BASIN  
 15" x 12' A.C.C.M.P.  
 SOD & LOAM OUTLET  
 BUILT 1963



B. P. R. REG. NO.	STATE	PROJECT NUMBER	ST. NO.
1	MAINE	26-1 (504)	

NOTE: ALL PAVEMENT SUPER ELEVATIONS SHOW PLAN ARE FOR 12' LT. OF E

**General Notes:**

All Entrances and Drives to be Constructed of 3" Gravel Surface Course & 12" Gravel Base Course Unless Otherwise Noted or Directed by the Engineer.  
 All Clearing Required on this Project Will be Made Incidental to Item #203-9, Earth Excav.  
 Apply 2" Loam, Seeding Method #2, Hay Mulch & Asphalt Mulch Binder to All Slopes Between Sta 3+00 to Sta 21+50 Lt & Sta 5+00 to Sta 18+00-Lt Unless Otherwise Noted.  
 All Utility Facilities are to be Adjusted by the Respective Utilities Unless Otherwise Noted  
 Const. Sidewalk with 2" Bit Conc Surface Course & 8" Gravel Base Course  
 Install All Culverts in Fill Areas by Precompacted Embankment Method

UNDERDRAIN TYPE "B"  
 STA. 3+10 TO STA. 7+70 LT. 460 L.F.  
 STA. 9+38 TO STA. 11+38 LT. 200 L.F.  
 UNDERDRAIN OUTLET  
 STA. 7+70 22' LT. TO STA. 7+91 59' LT. 40 L.F.  
 INSTALLED 1963

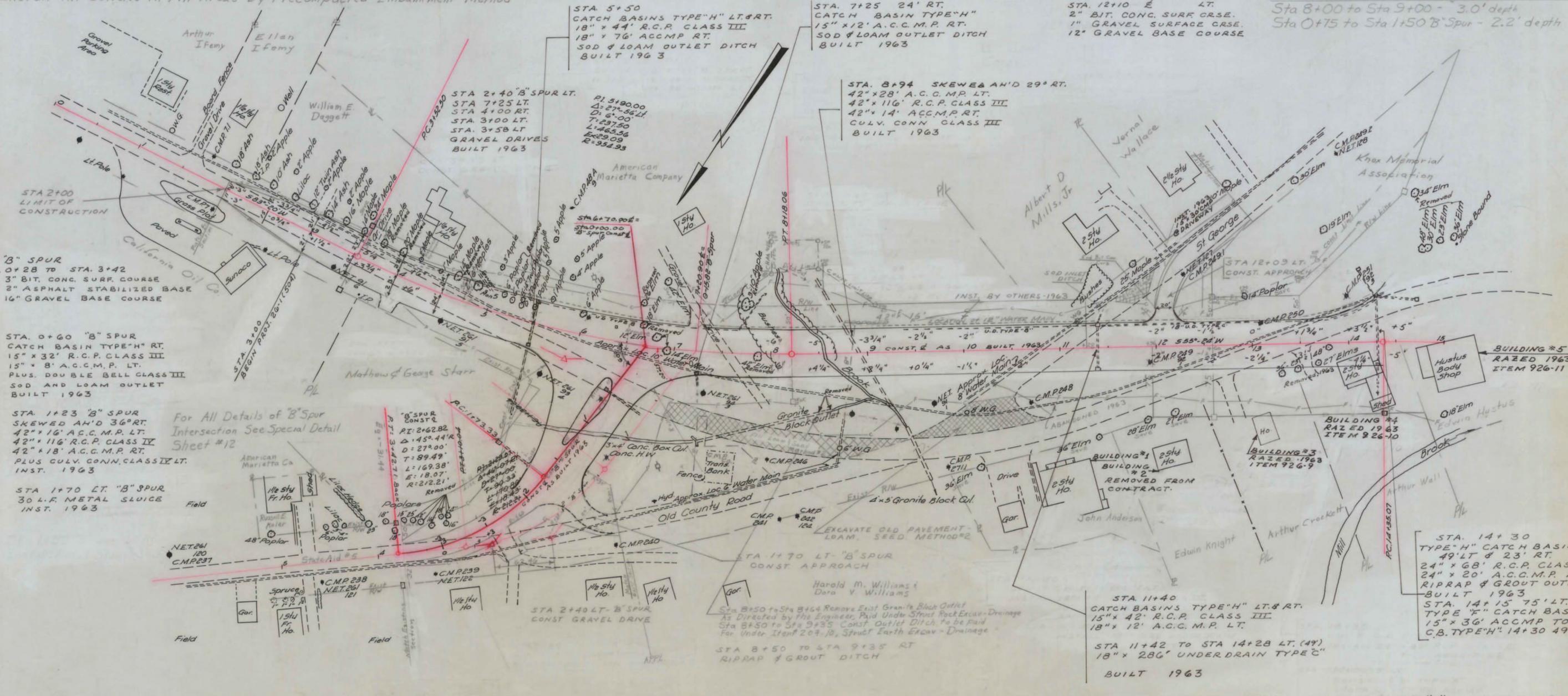
BIT. CONC. CURB - LEFT:  
 STA. 3+07 TO STA. 3+55 48 L.F.  
 STA. 3+72 TO STA. 7+15 332 L.F.  
 STA. 7+35 TO STA. 12+05 472 L.F.  
 STA. 12+31 TO STA. 3+64 "B" SPUR LT. 868 L.F.  
 RIGHT:  
 STA. 3+16 TO STA. 3+88 72.5 L.F.  
 STA. 4+08 TO STA. 2+09 "B" SPUR RT 322.5 L.F.  
 STA. 1+75 "B" SPUR LT. TO STA. 0+50 RIVERSIDE ST RT. 1174.5 L.F.  
 BUILT 1963

Sod Slope: Sta 3+00 to Sta 5+00 Lt

EXISTING CONCRETE PAVEMENT REMOVED: STA. 2+00 TO STA. 5+56 1963

APPROACHES BUILT 1963  
 STA. 1+70 "B" SPUR LT. & STA. 2+10 E LT.  
 2" BIT. CONC. SURF. CRSE.  
 1" GRAVEL SURFACE CRSE.  
 12" GRAVEL BASE COURSE

Earth Excavation before Placing Embankment - Item  
 Sta 8+00 to Sta 9+00 - 3.0' depth  
 Sta 0+75 to Sta 1+50 "B" Spur - 2.2' depth



"B" SPUR  
 STA. 0+28 TO STA. 3+42  
 3" BIT. CONC. SURF. COURSE  
 2" ASPHALT STABILIZED BASE  
 16" GRAVEL BASE COURSE

STA. 0+60 "B" SPUR  
 CATCH BASIN TYPE "H" RT.  
 15" x 32' R.C.P. CLASS III  
 15" x 8' A.C.C.M.P. LT.  
 PLUS DOUBLE BELL CLASS III  
 SOD AND LOAM OUTLET  
 BUILT 1963

STA. 1+23 "B" SPUR  
 SKEWED AN'D 36° RT.  
 42" x 16' A.C.C.M.P. LT.  
 42" x 116' R.C.P. CLASS III  
 42" x 18' A.C.C.M.P. RT.  
 PLUS CULV. CONN. CLASS IV LT.  
 INST. 1963

STA. 1+70 LT. "B" SPUR  
 30 L.F. METAL SLUICE  
 INST. 1963

UTILITIES:  
 CAMDEN & ROCKLAND WATER CO.  
 CENTRAL MAINE POWER CO.  
 NEW ENGLAND TEL & TEL. CO.  
 TOWN OF THOMASTON (SEWER)

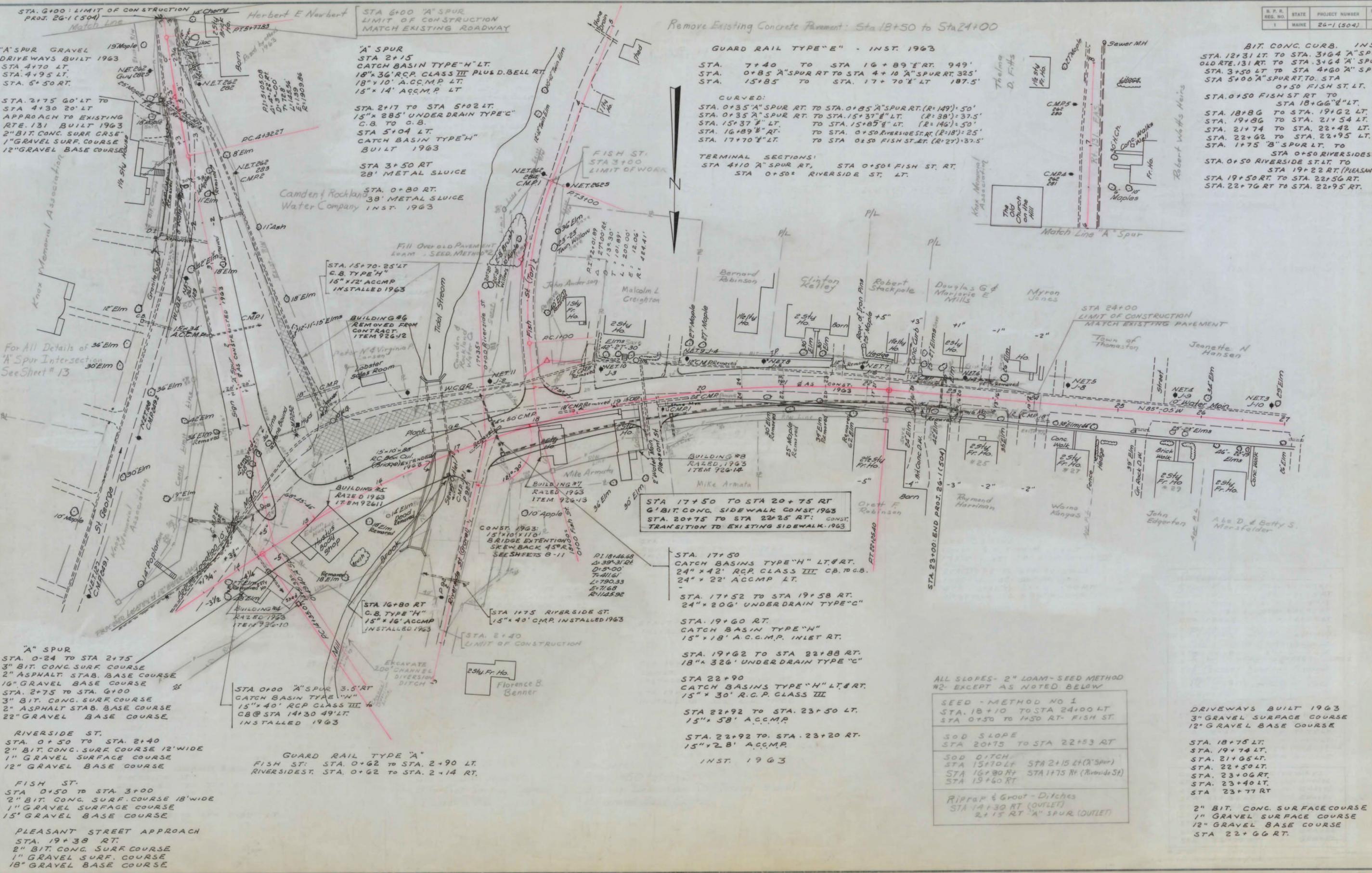
Proposed CMP Pole  
 Existing CMP Pole to be Removed

NOTE: STA 0+70 TO STA 2+50 "B" SPUR  
 LOOSE FILL TO BE RECOMPACTED  
 TO REQUIRED DENSITY TO BE  
 Paid For Under Item 203-9, Earth Excavation

GUARD RAIL TYPE "E" INST. 1963  
 STA. 1+05 "B" SPUR RT. TO STA. 1+42 "B" SPUR RT.  
 STA. 0+62 "B" SPUR LT. TO STA. 1+48 "B" SPUR LT.  
 STA. 7+40 "E" RT. TO STA. 16+89 "E" RT.

STA. 1+42 "B" CURVED: TO STA. 1+79 "B" SPUR RT. (R:148)  
 STA. 1+48 "B" SPUR LT. TO STA. 1+70 "B" SPUR LT. (R:28)  
 STA. 0+62 "B" SPUR LT. TO STA. 7+40 "E" RT. (R:97)

TERM. SECTIONS: 1+79 "B" SPUR RT; 1+05 "B" SPUR RT; 1+70 "B" SPUR



Remove Existing Concrete Pavement: Sta 18+50 to Sta 24+00

GUARD RAIL TYPE "E" - INST. 1963  
 STA. 7+40 TO STA 16+89 "E" RT. 949'  
 STA. 0+85 "A" SPUR RT TO STA 4+10 "A" SPUR RT. 325'  
 STA. 15+85 TO STA. 17+70 "E" LT 187.5'

CURVED:  
 STA. 0+35 "A" SPUR RT. TO STA. 0+85 "A" SPUR RT. (R=149') 50'  
 STA. 0+35 "A" SPUR RT. TO STA. 15+37 "E" LT. (R=38') 37.5'  
 STA. 15+37 "E" LT. TO STA. 15+85 "E" LT. (R=146') 50'  
 STA. 16+89 "E" RT. TO STA. 0+50 RIVERSIDE ST. RT. (R=18') 25'  
 STA. 17+70 "E" LT. TO STA 0+50 FISH ST. RT. (R=27') 37.5'

TERMINAL SECTIONS:  
 STA 4+10 "A" SPUR RT. STA 0+50 FISH ST. RT.  
 STA 0+50 RIVERSIDE ST. LT.

BIT. CONC. CURB. 1 IN.  
 STA. 12+31 LT. TO STA. 3+64 "A" SPUR  
 OLD RTE. 131 RT. TO STA. 3+64 "A" SPUR  
 STA. 3+50 LT TO STA 4+60 "A" SPUR  
 STA 5+00 "A" SPUR RT. TO STA  
 0+50 FISH ST. LT.  
 STA. 0+50 FISH ST RT TO  
 STA 18+66 "E" LT.  
 STA. 18+86 TO STA. 21+54 LT.  
 STA. 19+86 TO STA. 21+54 LT.  
 STA. 21+74 TO STA. 22+42 LT.  
 STA. 22+62 TO STA. 22+95 LT.  
 STA. 1+75 "B" SPUR LT. TO  
 STA 0+50 RIVERSIDE ST  
 STA. 0+50 RIVERSIDE ST. LT. TO  
 STA 19+22 RT. (PLEASANT)  
 STA. 19+50 RT. TO STA. 22+56 RT.  
 STA. 22+76 RT TO STA. 22+95 RT.

"A" SPUR GRAVEL DRIVEWAYS BUILT 1963  
 STA. 4+70 LT.  
 STA. 4+95 LT.  
 STA. 5+50 RT.

STA. 2+75 GO' LT TO STA 4+30 20' LT  
 APPROACH TO EXISTING RTE. 131 BUILT 1963  
 2" BIT. CONC. SURF CRSE  
 1" GRAVEL SURF. COURSE  
 12" GRAVEL BASE COURSE

For All Details of "A" Spur Intersection See Sheet # 13

"A" SPUR  
 STA. 0+24 TO STA 2+75  
 3" BIT. CONC. SURF COURSE  
 2" ASPHALT STAB. BASE COURSE  
 16" GRAVEL BASE COURSE  
 STA. 2+75 TO STA. 6+00  
 3" BIT. CONC. SURF COURSE  
 2" ASPHALT STAB. BASE COURSE  
 22" GRAVEL BASE COURSE

RIVERSIDE ST.  
 STA. 0+50 TO STA. 2+40  
 2" BIT. CONC. SURF COURSE 12' WIDE  
 1" GRAVEL SURFACE COURSE  
 12" GRAVEL BASE COURSE

FISH ST.  
 STA 0+50 TO STA 3+00  
 2" BIT. CONC. SURF. COURSE 18' WIDE  
 1" GRAVEL SURFACE COURSE  
 15" GRAVEL BASE COURSE

PLEASANT STREET APPROACH  
 STA. 19+38 RT.  
 2" BIT. CONC. SURF COURSE  
 1" GRAVEL SURF. COURSE  
 18" GRAVEL BASE COURSE

GUARD RAIL TYPE "A"  
 FISH ST. STA. 0+62 TO STA. 2+90 LT.  
 RIVERSIDE ST. STA. 0+62 TO STA. 2+14 RT.

STA 17+50 TO STA 20+75 RT  
 6" BIT. CONC. SIDEWALK CONST 1963  
 STA. 20+75 TO STA 22+25 RT: CONST.  
 TRANSITION TO EXISTING SIDEWALK. 1963

STA. 17+50  
 CATCH BASINS TYPE "H" LT. & RT.  
 24" x 42" R.C.P. CLASS III CB. TO C.B.  
 24" x 22" ACCMP LT.

STA. 17+52 TO STA 19+58 RT.  
 24" x 206' UNDERDRAIN TYPE "C"

STA. 19+60 RT.  
 CATCH BASIN TYPE "N"  
 15" x 18" A.C.C.M.P. INLET RT.

STA. 19+62 TO STA 22+88 RT.  
 18" x 326' UNDERDRAIN TYPE "C"

STA 22+90  
 CATCH BASINS TYPE "H" LT. & RT.  
 15" x 30" R.C.P. CLASS III

STA 22+92 TO STA. 23+50 LT.  
 15" x 58' ACCMP

STA. 22+92 TO STA. 23+20 RT.  
 15" x 2.8' ACCMP  
 INST. 1963

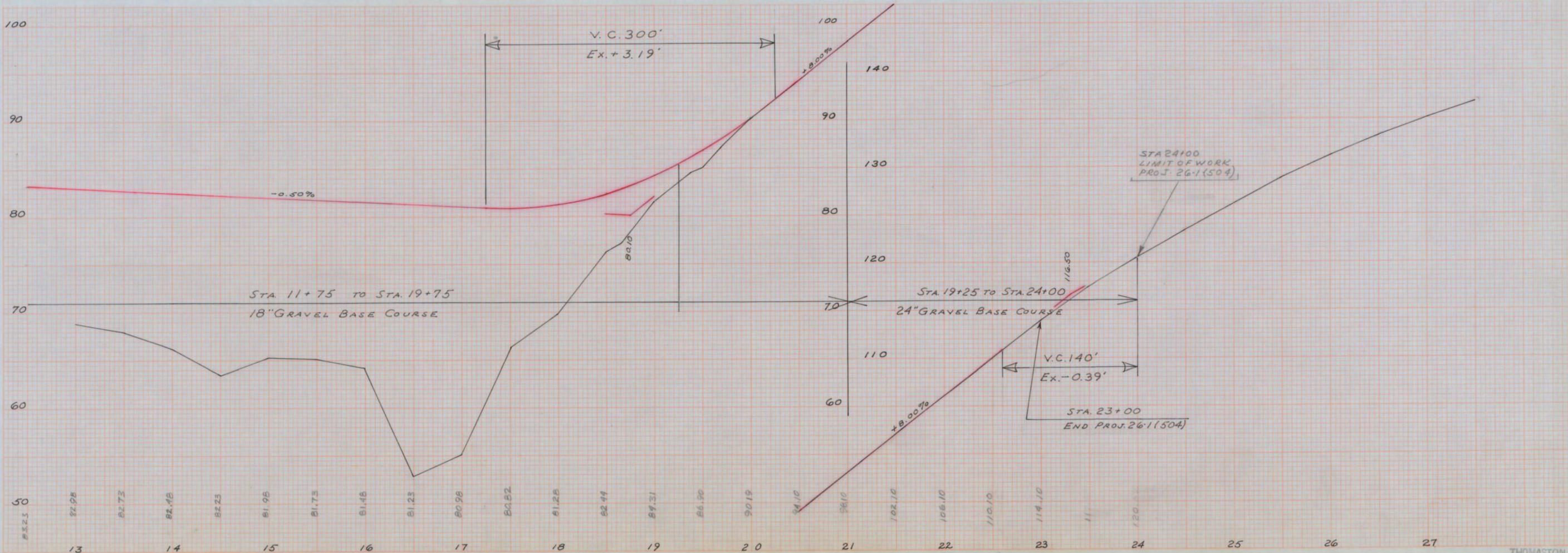
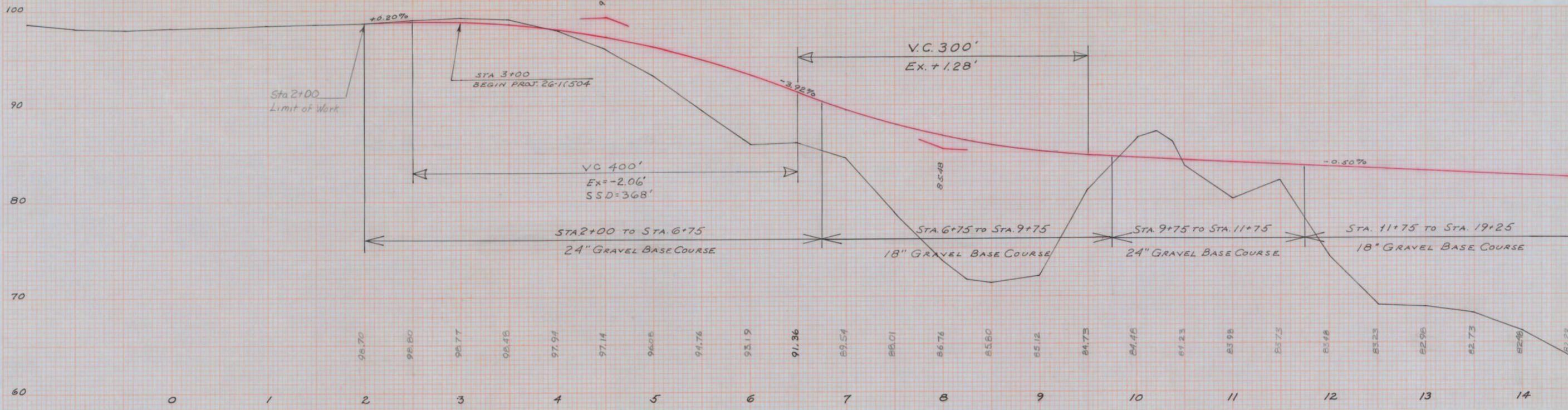
ALL SLOPES - 2" LOAM-SEED METHOD  
 #2 - EXCEPT AS NOTED BELOW

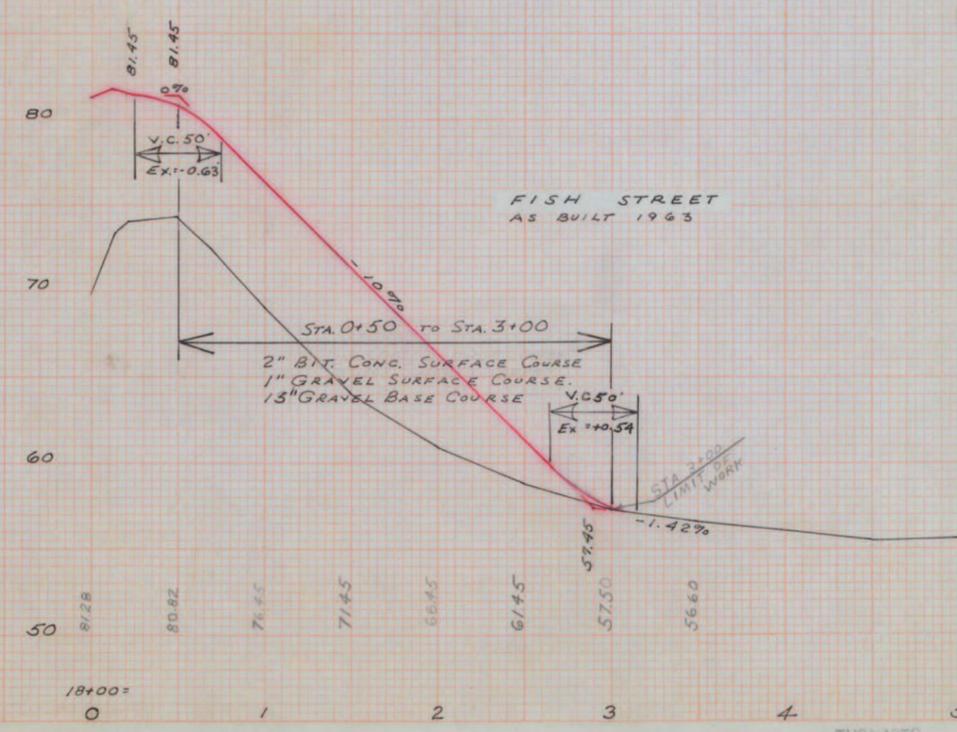
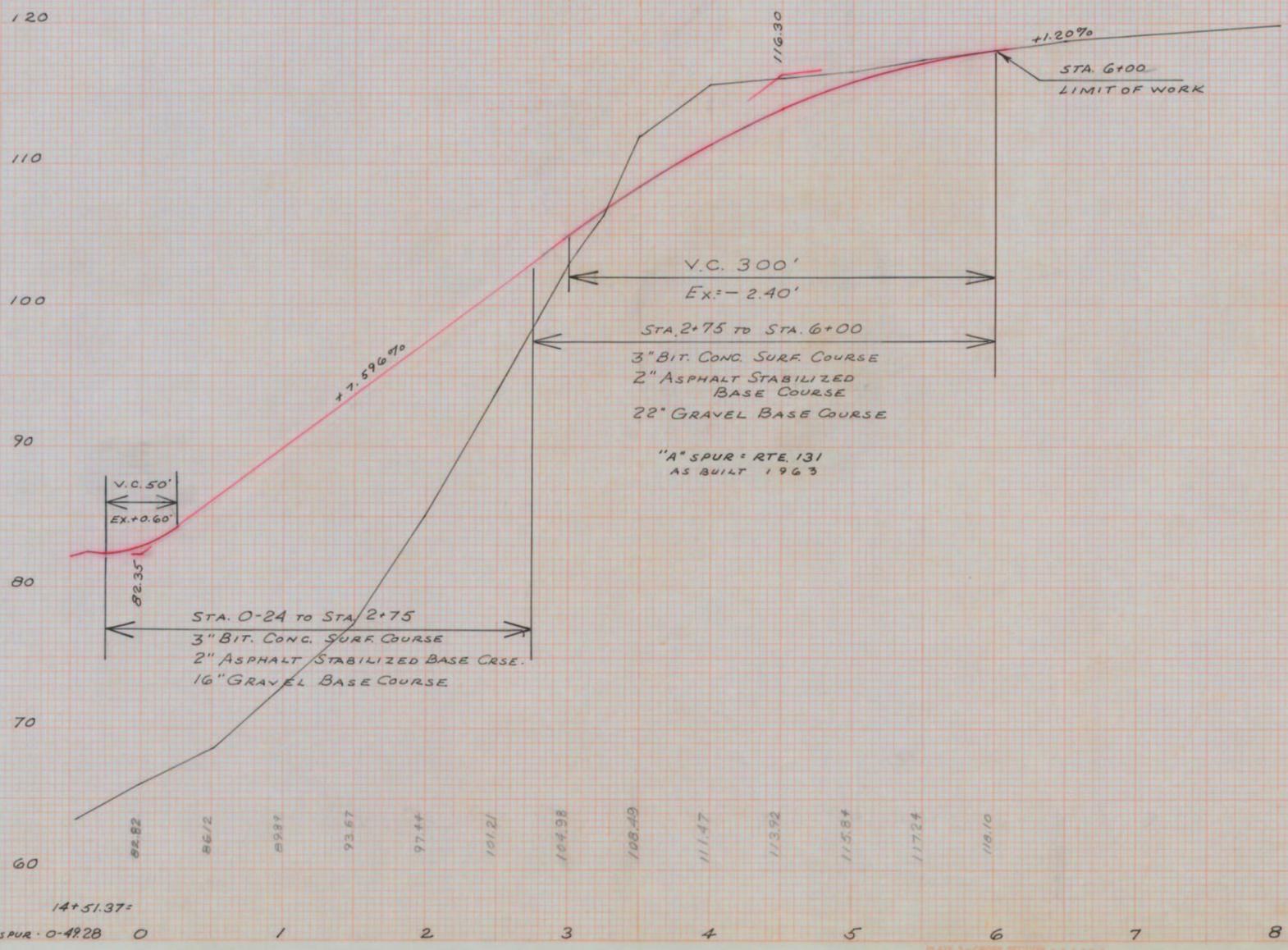
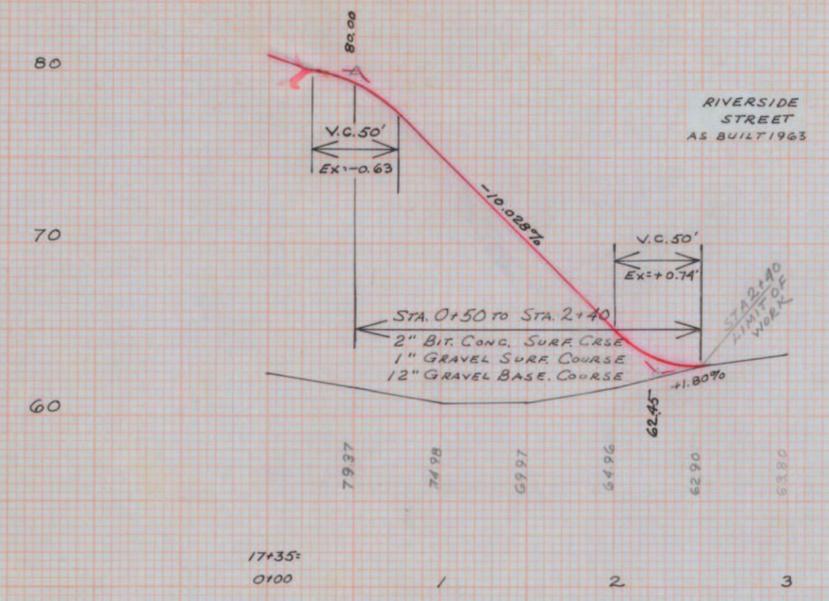
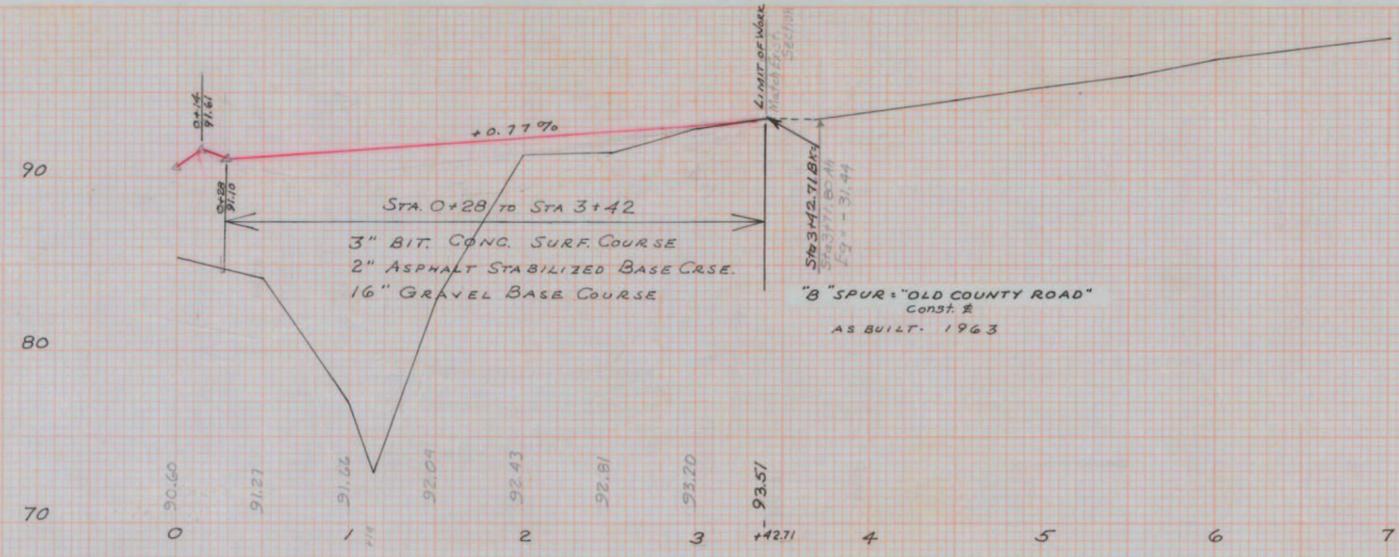
SEED - METHOD NO 1	STA. 18+10 TO STA 24+00 LT
STA 0+50 TO 1+50 RT - FISH ST.	
30 D SLOPE	STA 20+75 TO STA 22+53 RT
SOD DITCH	STA 15+70 LT STA 2+15 LT ("A" SPUR)
	STA 16+80 RT STA 1+75 RT (Riverside St)
	STA 19+60 RT
Riprap & Grout - Ditches	STA 1+130 RT (OUTLET)
	2+15 RT "A" SPUR (OUTLET)

DRIVEWAYS BUILT 1963  
 3" GRAVEL SURFACE COURSE  
 12" GRAVEL BASE COURSE

STA. 18+75 LT.  
 STA. 19+74 LT.  
 STA. 21+05 LT.  
 STA. 22+05 LT.  
 STA. 23+06 RT.  
 STA. 23+40 LT.  
 STA 23+77 RT

2" BIT. CONC. SURFACE COURSE  
 1" GRAVEL SURFACE COURSE  
 12" GRAVEL BASE COURSE  
 STA 22+66 RT.





**Appendix B**  
**Field Exploration Data**  
Soils Descriptions  
Boring Logs  
Pavement Core Summary Sheet  
Pavement Core Photographs  
GPR Data

UNIFIED SOIL CLASSIFICATION SYSTEM				TERMS DESCRIBING DENSITY/CONSISTENCY																							
MAJOR DIVISIONS		GROUP SYMBOLS		TYPICAL NAMES																							
COARSE-GRAINED SOILS  (more than half of material is larger than No. 200 sieve size)	GRAVELS  (more than half of coarse fraction is larger than No. 4 sieve size)	CLEAN GRAVELS	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	<p><b>Coarse-grained soils</b> (more than half of material is larger than No. 200 sieve): Includes (1) clean gravels; (2) silty or clayey gravels; and (3) silty, clayey or gravelly sands. Consistency is rated according to standard penetration resistance.</p> <p style="text-align: center;">Modified Burmister System</p> <table border="0"> <tr> <td style="text-align: center;"><u>Descriptive Term</u></td> <td style="text-align: center;"><u>Portion of Total</u></td> </tr> <tr> <td>trace</td> <td>0% - 10%</td> </tr> <tr> <td>little</td> <td>11% - 20%</td> </tr> <tr> <td>some</td> <td>21% - 35%</td> </tr> <tr> <td>adjective (e.g. sandy, clayey)</td> <td>36% - 50%</td> </tr> </table> <table border="0"> <tr> <td style="text-align: center;"><u>Density of Cohesionless Soils</u></td> <td style="text-align: center;"><u>Standard Penetration Resistance N-Value (blows per foot)</u></td> </tr> <tr> <td>Very loose</td> <td>0 - 4</td> </tr> <tr> <td>Loose</td> <td>5 - 10</td> </tr> <tr> <td>Medium Dense</td> <td>11 - 30</td> </tr> <tr> <td>Dense</td> <td>31 - 50</td> </tr> <tr> <td>Very Dense</td> <td>&gt; 50</td> </tr> </table>	<u>Descriptive Term</u>	<u>Portion of Total</u>	trace	0% - 10%	little	11% - 20%	some	21% - 35%	adjective (e.g. sandy, clayey)	36% - 50%	<u>Density of Cohesionless Soils</u>	<u>Standard Penetration Resistance N-Value (blows per foot)</u>	Very loose	0 - 4	Loose	5 - 10	Medium Dense	11 - 30	Dense	31 - 50	Very Dense	> 50
		<u>Descriptive Term</u>	<u>Portion of Total</u>																								
		trace	0% - 10%																								
		little	11% - 20%																								
	some	21% - 35%																									
	adjective (e.g. sandy, clayey)	36% - 50%																									
<u>Density of Cohesionless Soils</u>	<u>Standard Penetration Resistance N-Value (blows per foot)</u>																										
Very loose	0 - 4																										
Loose	5 - 10																										
Medium Dense	11 - 30																										
Dense	31 - 50																										
Very Dense	> 50																										
(little or no fines)	GP	Poorly-graded gravels, gravel sand mixtures, little or no fines																									
GRAVEL WITH FINES (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures.																									
	GC	Clayey gravels, gravel-sand-clay mixtures.																									
SANDS  (more than half of coarse fraction is smaller than No. 4 sieve size)	CLEAN SANDS  (little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines																								
		SP	Poorly-graded sands, gravelly sand, little or no fines.																								
	SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures																								
		SC	Clayey sands, sand-clay mixtures.																								
FINE-GRAINED SOILS  (more than half of material is smaller than No. 200 sieve size)	SILTS AND CLAYS  (liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity.																								
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.																								
		OL	Organic silts and organic silty clays of low plasticity.																								
	SILTS AND CLAYS  (liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.																								
		CH	Inorganic clays of high plasticity, fat clays.																								
		OH	Organic clays of medium to high plasticity, organic silts																								
HIGHLY ORGANIC SOILS	Pt	Peat and other highly organic soils.																									
<p><b>Desired Soil Observations: (in this order)</b></p> <p>Color (Munsell color chart)  Moisture (dry, damp, moist, wet, saturated)  Density/Consistency (from above right hand side)  Name (sand, silty sand, clay, etc., including portions - trace, little, etc.)  Gradation (well-graded, poorly-graded, uniform, etc.)  Plasticity (non-plastic, slightly plastic, moderately plastic, highly plastic)  Structure (layering, fractures, cracks, etc.)  Bonding (well, moderately, loosely, etc., if applicable)  Cementation (weak, moderate, or strong, if applicable, ASTM D 2488)  Geologic Origin (till, marine clay, alluvium, etc.)  Unified Soil Classification Designation  Groundwater level</p>				<p><b>Rock Quality Designation (RQD):</b></p> <p>RQD = <math>\frac{\text{sum of the lengths of intact pieces of core}^* &gt; 100 \text{ mm}}{\text{length of core advance}}</math></p> <p style="text-align: center;">*Minimum NQ rock core (1.88 in. OD of core)</p> <p style="text-align: center;">Correlation of RQD to Rock Mass Quality</p> <table border="0"> <tr> <td style="text-align: center;"><u>Rock Mass Quality</u></td> <td style="text-align: center;"><u>RQD</u></td> </tr> <tr> <td>Very Poor</td> <td>&lt;25%</td> </tr> <tr> <td>Poor</td> <td>26% - 50%</td> </tr> <tr> <td>Fair</td> <td>51% - 75%</td> </tr> <tr> <td>Good</td> <td>76% - 90%</td> </tr> <tr> <td>Excellent</td> <td>91% - 100%</td> </tr> </table> <p><b>Desired Rock Observations: (in this order)</b></p> <p>Color (Munsell color chart)  Texture (aphanitic, fine-grained, etc.)  Lithology (igneous, sedimentary, metamorphic, etc.)  Hardness (very hard, hard, mod. hard, etc.)  Weathering (fresh, very slight, slight, moderate, mod. severe, severe, etc.)  Geologic discontinuities/jointing:  -dip (horiz - 0-5, low angle - 5-35, mod. dipping - 35-55, steep - 55-85, vertical - 85-90)  -spacing (very close - &lt;5 cm, close - 5-30 cm, mod. close 30-100 cm, wide - 1-3 m, very wide &gt;3 m)  -tightness (tight, open or healed)  -infilling (grain size, color, etc.)  Formation (Waterville, Ellsworth, Cape Elizabeth, etc.)  RQD and correlation to rock mass quality (very poor, poor, etc.)  ref: AASHTO Standard Specification for Highway Bridges  17th Ed. Table 4.4.8.1.2A  Recovery</p>		<u>Rock Mass Quality</u>	<u>RQD</u>	Very Poor	<25%	Poor	26% - 50%	Fair	51% - 75%	Good	76% - 90%	Excellent	91% - 100%										
<u>Rock Mass Quality</u>	<u>RQD</u>																										
Very Poor	<25%																										
Poor	26% - 50%																										
Fair	51% - 75%																										
Good	76% - 90%																										
Excellent	91% - 100%																										
<p><b>Maine Department of Transportation</b>  <b>Geotechnical Section</b>  <b>Key to Soil and Rock Descriptions and Terms</b>  Field Identification Information</p>				<p><b>Sample Container Labeling Requirements:</b></p> <table border="0"> <tr> <td>PIN</td> <td>Blow Counts</td> </tr> <tr> <td>Bridge Name / Town</td> <td>Sample Recovery</td> </tr> <tr> <td>Boring Number</td> <td>Date</td> </tr> <tr> <td>Sample Number</td> <td>Personnel Initials</td> </tr> <tr> <td>Sample Depth</td> <td></td> </tr> </table>		PIN	Blow Counts	Bridge Name / Town	Sample Recovery	Boring Number	Date	Sample Number	Personnel Initials	Sample Depth													
PIN	Blow Counts																										
Bridge Name / Town	Sample Recovery																										
Boring Number	Date																										
Sample Number	Personnel Initials																										
Sample Depth																											

<b>Maine Department of Transportation</b> Soil/Rock Exploration Log US CUSTOMARY UNITS		<b>Project:</b> A 2.24 mile portion of Route 1	<b>Boring No.:</b> HB-THOM-101
		<b>Location:</b> Thomaston, Maine	<b>WIN:</b> 17890.00
<b>Driller:</b> MaineDOT	<b>Elevation (ft.)</b>		<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Giguere/Giles	<b>Datum:</b> NAVD88		<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C		<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 12/14/11-12/14/11	<b>Drilling Method:</b> Soild Stem Auger		<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 19+41, 11.5 ft Rt.	<b>Casing ID/OD:</b> N/A		<b>Water Level*:</b> None Observed
Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger B = Bucket Sample off Auger Flight		Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0	S1		0.58 - 1.40			SSA		-0.58		7" PAVEMENT.		
	S2		1.40 - 4.00					-1.40		Black, damp, fine to coarse SAND, trace gravel, trace silt.	G#261956 A-1-b, SW-SM WC=6.8%	
										Olive-brown, moist, silty, fine to coarse SAND, little gravel.	G#261957 A-4, SM WC=13.1%	
5								-4.00		Bottom of Exploration at 4.00 feet below ground surface. NO REFUSAL		
10												
15												
20												
25												

**Remarks:**  
Offsets are from Existing Roadway CL.

<b>Maine Department of Transportation</b> Soil/Rock Exploration Log US CUSTOMARY UNITS		<b>Project:</b> A 2.24 mile portion of Route 1	<b>Boring No.:</b> HB-THOM-102
		<b>Location:</b> Thomaston, Maine	<b>WIN:</b> 17890.00
<b>Driller:</b> MaineDOT	<b>Elevation (ft.)</b>		<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Giguere/Giles	<b>Datum:</b> NAVD88		<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C		<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 12/14/11-12/14/11	<b>Drilling Method:</b> Soild Stem Auger		<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 19+41, 9.0 ft Rt.	<b>Casing ID/OD:</b> N/A		<b>Water Level*:</b> None Observed
Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger B = Bucket Sample off Auger Flight		Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0						SSA			-0.58	7" PAVEMENT.		
									-1.16	7" CONCRETE.		
									-2.50	Black, damp, fine to coarse SAND, some gravel, trace silt. ≈S1		
									-4.00	Olive-brown, moist, silty, fine to coarse SAND. ≈S2		
5										Bottom of Exploration at 4.00 feet below ground surface. NO REFUSAL		
10												
15												
20												
25												

**Remarks:**  
Offsets are from Existing Roadway CL.

<b>Maine Department of Transportation</b> Soil/Rock Exploration Log US CUSTOMARY UNITS		<b>Project:</b> A 2.24 mile portion of Route 1	<b>Boring No.:</b> HB-THOM-103
		<b>Location:</b> Thomaston, Maine	<b>WIN:</b> 17890.00
<b>Driller:</b> MaineDOT	<b>Elevation (ft.):</b>		<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Giguere/Giles	<b>Datum:</b> NAVD88		<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C		<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 12/14/11-12/14/11	<b>Drilling Method:</b> Soild Stem Auger		<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 19+41, 16.0 ft Rt.	<b>Casing ID/OD:</b> N/A		<b>Water Level*:</b> None Observed
Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger B = Bucket Sample off Auger Flight		Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u</sub> (lab) = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0						SSA			-0.90	Black, damp, fine to coarse SAND, some gravel, trace silt. ≈S1		
										Olive-brown, moist, silty, fine to coarse SAND. ≈S2		
									-4.00	<b>Bottom of Exploration at 4.00 feet below ground surface.</b> NO REFUSAL		
5												
10												
15												
20												
25												

**Remarks:**  
Offsets are from Existing Roadway CL.

<b>Maine Department of Transportation</b> Soil/Rock Exploration Log US CUSTOMARY UNITS		<b>Project:</b> A 2.24 mile portion of Route 1	<b>Boring No.:</b> HB-THOM-104
		<b>Location:</b> Thomaston, Maine	<b>WIN:</b> 17890.00
<b>Driller:</b> MaineDOT	<b>Elevation (ft.):</b>	<b>Auger ID/OD:</b> 5" Dia.	
<b>Operator:</b> Giguere/Giles	<b>Datum:</b> NAVD88	<b>Sampler:</b> Off Flights	
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C	<b>Hammer Wt./Fall:</b> N/A	
<b>Date Start/Finish:</b> 12/14/11-12/14/11	<b>Drilling Method:</b> Soild Stem Auger	<b>Core Barrel:</b> N/A	
<b>Boring Location:</b> 46+68, 9.0 ft Rt.	<b>Casing ID/OD:</b> N/A	<b>Water Level*:</b> None Observed	
Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger B = Bucket Sample off Auger Flight		Definitions: WC = water content, percent = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test	

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0						SSA		-0.46		5 1/2" PAVEMENT.		
	S3		1.00 - 4.00					-1.00		6 1/2" CONCRETE.		
										Brown, damp, gravelly, fine to coarse SAND, some gravel, little silt.	G#261958 A-1-b, SM WC=3.1%	
5								-4.00		Bottom of Exploration at 4.00 feet below ground surface. NO REFUSAL		
10												
15												
20												
25												

**Remarks:**  
Offsets are from Existing Roadway CL.

<b>Maine Department of Transportation</b> Soil/Rock Exploration Log US CUSTOMARY UNITS		<b>Project:</b> A 2.24 mile portion of Route 1	<b>Boring No.:</b> HB-THOM-105
		<b>Location:</b> Thomaston, Maine	<b>WIN:</b> 17890.00
<b>Driller:</b> MaineDOT	<b>Elevation (ft.):</b>		<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Giguere/Giles	<b>Datum:</b> NAVD88		<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C		<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 12/14/11-12/14/11	<b>Drilling Method:</b> Soild Stem Auger		<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 46+68, 11.5 ft Rt.	<b>Casing ID/OD:</b> N/A		<b>Water Level*:</b> None Observed
Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger B = Bucket Sample off Auger Flight		Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u</sub> (lab) = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	
		Definitions: WC = water content, percent = = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test	

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0									-0.46		5½" PAVEMENT.	
											Bottom of Exploration at 0.46 feet below ground surface.	
5												
10												
15												
20												
25												

**Remarks:**  
 Offsets are from Existing Roadway CL.  
 No concrete, waterline at this location.

<b>Maine Department of Transportation</b> Soil/Rock Exploration Log US CUSTOMARY UNITS		<b>Project:</b> A 2.24 mile portion of Route 1	<b>Boring No.:</b> HB-THOM-106
		<b>Location:</b> Thomaston, Maine	<b>WIN:</b> 17890.00
<b>Driller:</b> MaineDOT	<b>Elevation (ft.)</b>		<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Giguere/Giles	<b>Datum:</b> NAVD88		<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C		<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 12/14/11-12/14/11	<b>Drilling Method:</b> Soild Stem Auger		<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 80+42, 8.0 ft Rt.	<b>Casing ID/OD:</b> N/A		<b>Water Level*:</b> None Observed
Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger B = Bucket Sample off Auger Flight		Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u</sub> (lab) = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0						SSA			-0.42	5" PAVEMENT.		
	S4		1.00 - 2.40						-1.00	7" CONCRETE.		
	S5		2.40 - 4.00						-2.40	Black, damp, gravelly, fine to coarse SAND, some silt, little gravel.	G#261959 A-2-4, SM WC=8.3%	
									-4.00	Dark brown, moist, fine to coarse SAND, some silt.	G#261960 A-2-4, SM WC=17.1%	
5										Bottom of Exploration at 4.00 feet below ground surface. NO REFUSAL		
10												
15												
20												
25												

**Remarks:**  
Offsets are from Existing Roadway CL.

<b>Maine Department of Transportation</b> Soil/Rock Exploration Log US CUSTOMARY UNITS		<b>Project:</b> A 2.24 mile portion of Route 1	<b>Boring No.:</b> HB-THOM-107
		<b>Location:</b> Thomaston, Maine	<b>WIN:</b> 17890.00
<b>Driller:</b> MaineDOT	<b>Elevation (ft.):</b>		<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Giguere/Giles	<b>Datum:</b> NAVD88		<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C		<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 12/14/11-12/14/11	<b>Drilling Method:</b> Soild Stem Auger		<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 80+42, 11.5 ft Rt.	<b>Casing ID/OD:</b> N/A		<b>Water Level*:</b> None Observed
Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger B = Bucket Sample off Auger Flight		Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u</sub> (lab) = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	
		Definitions: WC = water content, percent = = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test	

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0									-0.42		5" PAVEMENT.	
											Bottom of Exploration at 0.42 feet below ground surface.	
5												
10												
15												
20												
25												

**Remarks:**  
 Offsets are from Existing Roadway CL.  
 No concrete, waterline near this location.

<b>Maine Department of Transportation</b> Soil/Rock Exploration Log US CUSTOMARY UNITS		<b>Project:</b> A 2.24 mile portion of Route 1	<b>Boring No.:</b> HB-THOM-108
		<b>Location:</b> Thomaston, Maine	<b>WIN:</b> 17890.00
<b>Driller:</b> MaineDOT	<b>Elevation (ft.)</b>		<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Giguere/Giles	<b>Datum:</b> NAVD88		<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C		<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 12/14/11-12/14/11	<b>Drilling Method:</b> Soild Stem Auger		<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 80+42, 16.0 ft Rt.	<b>Casing ID/OD:</b> N/A		<b>Water Level*:</b> None Observed
Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger B = Bucket Sample off Auger Flight		Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0						SSA			-1.00		Black, damp, gravelly, fine to coarse SAND, trace silt. S4	
											Dark brown, moist, fine to coarse SAND, some silt. ≈S5	
									-4.00		<b>Bottom of Exploration at 4.00 feet below ground surface.</b> NO REFUSAL	
5												
10												
15												
20												
25												

**Remarks:**  
Offsets are from Existing Roadway CL.

<b>Maine Department of Transportation</b> Soil/Rock Exploration Log US CUSTOMARY UNITS		<b>Project:</b> A 2.24 mile portion of Route 1	<b>Boring No.:</b> HB-THOM-109
		<b>Location:</b> Thomaston, Maine	<b>WIN:</b> 17890.00
<b>Driller:</b> MaineDOT	<b>Elevation (ft.)</b>		<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Giguere/Giles	<b>Datum:</b> NAVD88		<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C		<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 12/14/11-12/14/11	<b>Drilling Method:</b> Soild Stem Auger		<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 109+00, 9.0 ft Lt.	<b>Casing ID/OD:</b> N/A		<b>Water Level*:</b> None Observed
Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger B = Bucket Sample off Auger Flight		Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	
		Definitions: WC = water content, percent = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test	

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0												
	S6		1.09 - 2.40					-0.46		5 1/2" PAVEMENT.		
								-1.09		7 1/2" CONCRETE.		
	S7		2.40 - 4.00					-2.40		Brown, damp, fine to coarse SAND, some gravel, some silt.		G#261961 A-1-b, SM WC=4.5%
								-4.00		Brown, moist, SILT, trace sand.		G#261962 A-6, CL WC=12.7%
5										Bottom of Exploration at 4.00 feet below ground surface. NO REFUSAL		
10												
15												
20												
25												

**Remarks:**  
Offsets are from Existing Roadway CL.

<b>Maine Department of Transportation</b> Soil/Rock Exploration Log US CUSTOMARY UNITS		<b>Project:</b> A 2.24 mile portion of Route 1	<b>Boring No.:</b> HB-THOM-110
		<b>Location:</b> Thomaston, Maine	<b>WIN:</b> 17890.00
<b>Driller:</b> MaineDOT	<b>Elevation (ft.)</b>		<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Giguere/Giles	<b>Datum:</b> NAVD88		<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C		<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 12/14/11-12/14/11	<b>Drilling Method:</b> Soild Stem Auger		<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 109+00, 11.0 ft Lt.	<b>Casing ID/OD:</b> N/A		<b>Water Level*:</b> None Observed
Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger B = Bucket Sample off Auger Flight		Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	
		Definitions: WC = water content, percent ≈ = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test	

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0						SSA		-0.46		5½" PAVEMENT.		
								-2.10		Brown, damp, fine to coarse SAND, some gravel, trace silt. ≈S6		
								-4.00		Brown, moist, fine to coarse SAND, little gravel, little silt. ≈S7		
5										<b>Bottom of Exploration at 4.00 feet below ground surface.</b> NO REFUSAL		
10												
15												
20												
25												

**Remarks:**  
Offsets are from Existing Roadway CL.

<b>Maine Department of Transportation</b> Soil/Rock Exploration Log US CUSTOMARY UNITS		<b>Project:</b> A 2.24 mile portion of Route 1	<b>Boring No.:</b> HB-THOM-111
		<b>Location:</b> Thomaston, Maine	<b>WIN:</b> 17890.00
<b>Driller:</b> MaineDOT	<b>Elevation (ft.)</b>		<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Giguere/Giles	<b>Datum:</b> NAVD88		<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C		<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 12/14/11-12/14/11	<b>Drilling Method:</b> Soild Stem Auger		<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 109+00, 14.0 ft Lt.	<b>Casing ID/OD:</b> N/A		<b>Water Level*:</b> None Observed
Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger B = Bucket Sample off Auger Flight		Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	
		Definitions: WC = water content, percent ≅ = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test	

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0						SSA					Brown, damp, fine to coarse SAND, some gravel, trace silt. ≅S6	
								-2.10				
								-3.00			Brown, moist, fine to coarse SAND, little gravel, little silt. ≅S7	
											<b>Bottom of Exploration at 3.00 feet below ground surface.</b> NO REFUSAL	
5												
10												
15												
20												
25												

**Remarks:**  
 Offsets are from Existing Roadway CL.  
 Near sewerline.

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/27/12-11/27/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 12+10, 11.0 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.756	Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>	

Definitions:  
D = Split Spoon Sample  
MD = Unsuccessful Split Spoon Sample attempt  
U = Thin Wall Tube Sample  
MU = Unsuccessful Thin Wall Tube Sample attempt  
V = Insitu Vane Shear Test, PP = Pocket Penetrometer  
MV = Unsuccessful Insitu Vane Shear Test attempt

R = Rock Core Sample  
SSA = Solid Stem Auger  
HSA = Hollow Stem Auger  
RC = Roller Cone  
WOH = weight of 140lb. hammer  
WOR/C = weight of rods or casing  
WO1P = Weight of one person

S<sub>u</sub> = Insitu Field Vane Shear Strength (psf)  
T<sub>v</sub> = Pocket Torvane Shear Strength (psf)  
q<sub>u</sub> = Unconfined Compressive Strength (ksf)  
N-uncorrected = Raw field SPT N-value  
Hammer Efficiency Factor = Annual Calibration Value  
N<sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency  
N<sub>60</sub> = (Hammer Efficiency Factor/60%)\*N-uncorrected

S<sub>u(lab)</sub> = Lab Vane Shear Strength (psf)  
WC = water content, percent  
LL = Liquid Limit  
PL = Plastic Limit  
PI = Plasticity Index  
G = Grain Size Analysis  
C = Consolidation Test

Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows				
0									9½" PAVEMENT.		
	1D	24/19	1.00 - 3.00	12/14/10/16	24	30		-0.79	Brown, moist, medium dense, gravelly, fine to coarse SAND, little silt.	G#244228 A-1-b, SM WC=3.9%	
								-3.70			
5	2D/A	24/20	5.00 - 7.00	WOH/WOH/2/5	2	3		-5.50	2D (5.0-5.5 ft) Brown, wet, very loose, silty, fine to medium SAND. 2D/A (5.5-7.0 ft) Blue grey, moist, very soft, clayey-SILT, trace sand, trace gravel	G#244229 A-6, CL WC=50.5% LL=36 PL=23 PI=13	
								-9.00			
10	3D	24/--	10.00 - 12.00	2/2/3/5	5	6		-12.00	Brown, moist, loose, silty, fine SAND, little clay.		
									<b>Bottom of Exploration at 12.00 feet below ground surface.</b> NO REFUSAL		
15											
20											
25											

**Remarks:**

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/27/12-11/27/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 18+50, 11.0 ft Lt.	Casing ID/OD: N/A	Water Level*: 3.3 ft bgs.

Hammer Efficiency Factor: 0.756      Hammer Type: Automatic       Hydraulic       Rope & Cathead

Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample attempt V = Insitu Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Insitu Vane Shear Test attempt	R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = weight of 140lb. hammer WOR/C = weight of rods or casing WO1P = Weight of one person	S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>u</sub> = Unconfined Compressive Strength (ksf) N-uncorrected = Raw field SPT N-value Hammer Efficiency Factor = Annual Calibration Value N <sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency N <sub>60</sub> = (Hammer Efficiency Factor/60%)*N-uncorrected
		S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WC = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows					
0										8" PAVEMENT.		
	1D	24/12	1.00 - 3.00	8/8/4/4	12	15			-0.67	Brown, moist, medium dense, fine to coarse SAND, some gravel.	0.67	
									-2.50		2.50	
5	2D	19.2/14	5.00 - 6.60	WOH/WOH/2/40	2	3				Olive, wet, very loose, silty, fine to medium SAND, trace clay.		
									-6.60	<b>Bottom of Exploration at 6.60 feet below ground surface. REFUSAL</b>	6.60	
10												
15												
20												
25												

**Remarks:**

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/27/12-11/27/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 28+00, 9.0 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.756	Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>	

Definitions:  
D = Split Spoon Sample  
MD = Unsuccessful Split Spoon Sample attempt  
U = Thin Wall Tube Sample  
MU = Unsuccessful Thin Wall Tube Sample attempt  
V = Insitu Vane Shear Test, PP = Pocket Penetrometer  
MV = Unsuccessful Insitu Vane Shear Test attempt

R = Rock Core Sample  
SSA = Solid Stem Auger  
HSA = Hollow Stem Auger  
RC = Roller Cone  
WOH = weight of 140lb. hammer  
WOR/C = weight of rods or casing  
WO1P = Weight of one person

S<sub>u</sub> = Insitu Field Vane Shear Strength (psf)  
T<sub>v</sub> = Pocket Torvane Shear Strength (psf)  
q<sub>u</sub> = Unconfined Compressive Strength (ksf)  
N-uncorrected = Raw field SPT N-value  
Hammer Efficiency Factor = Annual Calibration Value  
N<sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency  
N<sub>60</sub> = (Hammer Efficiency Factor/60%)\*N-uncorrected

S<sub>u(lab)</sub> = Lab Vane Shear Strength (psf)  
WC = water content, percent  
LL = Liquid Limit  
PL = Plastic Limit  
PI = Plasticity Index  
G = Grain Size Analysis  
C = Consolidation Test

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows					
0										8" PAVEMENT.		
										6" CONCRETE.		
	1D	24/16	2.00 - 4.00	7/11/9/7	20	25				Brown, moist, medium dense, fine to coarse SAND, some gravel, some silt.	G#244230 A-2-4, SM WC=10.7%	
5	2D	24/20	5.00 - 7.00	4/7/10/13	17	21				Olive brown, moist, very stiff, clayey SILT, trace fine sand.	G#244231 A-6, CL WC=23.2%	
										<b>Bottom of Exploration at 7.00 feet below ground surface.</b> NO REFUSAL		
10												
15												
20												
25												

**Remarks:**

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/28/12-11/28/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 33+00, 7.5 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed

Hammer Efficiency Factor: 0.756      Hammer Type: Automatic       Hydraulic       Rope & Cathead

Definitions:  
D = Split Spoon Sample      R = Rock Core Sample      S<sub>u</sub> = Insitu Field Vane Shear Strength (psf)      S<sub>u(lab)</sub> = Lab Vane Shear Strength (psf)  
MD = Unsuccessful Split Spoon Sample attempt      SSA = Solid Stem Auger      T<sub>v</sub> = Pocket Torvane Shear Strength (psf)      WC = water content, percent  
U = Thin Wall Tube Sample      HSA = Hollow Stem Auger      q<sub>u</sub> = Unconfined Compressive Strength (ksf)      LL = Liquid Limit  
MU = Unsuccessful Thin Wall Tube Sample attempt      RC = Roller Cone      N-uncorrected = Raw field SPT N-value      PL = Plastic Limit  
V = Insitu Vane Shear Test, PP = Pocket Penetrometer      WOH = weight of 140lb. hammer      Hammer Efficiency Factor = Annual Calibration Value      PI = Plasticity Index  
MV = Unsuccessful Insitu Vane Shear Test attempt      WOR/C = weight of rods or casing      N<sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency      G = Grain Size Analysis  
WO1P = Weight of one person      N<sub>60</sub> = (Hammer Efficiency Factor/60%)\*N-uncorrected      C = Consolidation Test

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows					
0									-0.58	7" PAVEMENT.		
	1D	24/17	1.50 - 3.50	11/10/7/8	17	21			-1.17	7" CONCRETE.		
										Brown, damp, medium dense, gravelly, fine to coarse SAND, little silt.	G#244232 A-1-b, SM WC=5.3%	
5	2D	24/20	5.00 - 7.00	WOH/WOH/WOH/2	---				-4.80	Olive, wet, very loose, silty, fine SAND, trace gravel.	G#244233 A-4, SM WC=31.3%	
10	3D	24/18	10.00 - 12.00	7/32/13/10	45	57			-8.60	Brown, wet, dense, silty, fine to coarse SAND, little gravel, (Till).		
									-12.00	Bottom of Exploration at 12.00 feet below ground surface. NO REFUSAL		
15												
20												
25												

Remarks:

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/28/12-11/28/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 43+00, 7.5 ft Lt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.756	Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>	

Definitions:  
D = Split Spoon Sample  
MD = Unsuccessful Split Spoon Sample attempt  
U = Thin Wall Tube Sample  
MU = Unsuccessful Thin Wall Tube Sample attempt  
V = Insitu Vane Shear Test, PP = Pocket Penetrometer  
MV = Unsuccessful Insitu Vane Shear Test attempt

R = Rock Core Sample  
SSA = Solid Stem Auger  
HSA = Hollow Stem Auger  
RC = Roller Cone  
WOH = weight of 140lb. hammer  
WOR/C = weight of rods or casing  
WO1P = Weight of one person

S<sub>u</sub> = Insitu Field Vane Shear Strength (psf)  
T<sub>v</sub> = Pocket Torvane Shear Strength (psf)  
q<sub>u</sub> = Unconfined Compressive Strength (ksf)  
N-uncorrected = Raw field SPT N-value  
Hammer Efficiency Factor = Annual Calibration Value  
N<sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency  
N<sub>60</sub> = (Hammer Efficiency Factor/60%)\*N-uncorrected

S<sub>u(lab)</sub> = Lab Vane Shear Strength (psf)  
WC = water content, percent  
LL = Liquid Limit  
PL = Plastic Limit  
PI = Plasticity Index  
G = Grain Size Analysis  
C = Consolidation Test

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows					
0									-0.42		5" PAVEMENT.	
	1D	24/17	1.00 - 3.00	9/17/14/13	31	39			-0.83		5" CONCRETE.	G#244234 A-1-b, SM WC=5.2%
											Brown, damp, dense, gravelly, fine to coarse SAND, some silt, layer of old pavement.	
5									-4.00		Brown, moist, loose, SILT, some fine sand, trace clay.	G#244235 A-4, ML WC=18.6%
	2D	24/20	5.00 - 7.00	2/2/8/8	10	13			-7.00		Bottom of Exploration at 7.00 feet below ground surface. NO REFUSAL	
10												
15												
20												
25												

**Remarks:**

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/28/12-11/28/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 49+55, 6.0 ft Lt.	Casing ID/OD: N/A	Water Level*: None Observed

Hammer Efficiency Factor: 0.756      Hammer Type: Automatic       Hydraulic       Rope & Cathead

Definitions:  
D = Split Spoon Sample      R = Rock Core Sample      S<sub>u</sub> = Insitu Field Vane Shear Strength (psf)      S<sub>u(lab)</sub> = Lab Vane Shear Strength (psf)  
MD = Unsuccessful Split Spoon Sample attempt      SSA = Solid Stem Auger      T<sub>v</sub> = Pocket Torvane Shear Strength (psf)      WC = water content, percent  
U = Thin Wall Tube Sample      HSA = Hollow Stem Auger      q<sub>u</sub> = Unconfined Compressive Strength (ksf)      LL = Liquid Limit  
MU = Unsuccessful Thin Wall Tube Sample attempt      RC = Roller Cone      N-uncorrected = Raw field SPT N-value      PL = Plastic Limit  
V = Insitu Vane Shear Test, PP = Pocket Penetrometer      WOH = weight of 140lb. hammer      Hammer Efficiency Factor = Annual Calibration Value      PI = Plasticity Index  
MV = Unsuccessful Insitu Vane Shear Test attempt      WOR/C = weight of rods or casing      N<sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency      G = Grain Size Analysis  
WO1P = Weight of one person      N<sub>60</sub> = (Hammer Efficiency Factor/60%)\*N-uncorrected      C = Consolidation Test

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows					
0									-0.42		5" PAVEMENT. ————— 0.42	
	1D	24/15	1.00 - 3.00	11/14/11/5	25	32			-0.83		5" CONCRETE. ————— 0.83	
											Brown, damp, medium dense, gravelly, fine to coarse SAND, little silt.	
5									-4.80		Boulder from 4.8-5.7 ft bgs. ————— 4.80	
									-5.70		Bottom of Exploration at 5.70 feet below ground surface. STOPPED BORING, possible boulder next to Box Concrete Culvert. ————— 5.70	
10												
15												
20												
25												

Remarks:

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/28/12-11/28/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 58+50, 9.5 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.756	Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>	

Definitions:  
D = Split Spoon Sample  
MD = Unsuccessful Split Spoon Sample attempt  
U = Thin Wall Tube Sample  
MU = Unsuccessful Thin Wall Tube Sample attempt  
V = Insitu Vane Shear Test, PP = Pocket Penetrometer  
MV = Unsuccessful Insitu Vane Shear Test attempt

R = Rock Core Sample  
SSA = Solid Stem Auger  
HSA = Hollow Stem Auger  
RC = Roller Cone  
WOH = weight of 140lb. hammer  
WOR/C = weight of rods or casing  
WO1P = Weight of one person

S<sub>u</sub> = Insitu Field Vane Shear Strength (psf)  
T<sub>v</sub> = Pocket Torvane Shear Strength (psf)  
q<sub>u</sub> = Unconfined Compressive Strength (ksf)  
N-uncorrected = Raw field SPT N-value  
Hammer Efficiency Factor = Annual Calibration Value  
N<sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency  
N<sub>60</sub> = (Hammer Efficiency Factor/60%)\*N-uncorrected

S<sub>u(lab)</sub> = Lab Vane Shear Strength (psf)  
WC = water content, percent  
LL = Liquid Limit  
PL = Plastic Limit  
PI = Plasticity Index  
G = Grain Size Analysis  
C = Consolidation Test

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows					
0									-0.54	6 1/2" PAVEMENT.		
	1D	24/14	1.00 - 3.00	9/15/15/15	30	38				Brown, damp, medium dense, gravelly, fine to coarse SAND, some gravel, some silt, old pavement.	G#244236 A-2-4, SM WC=7.3%	
									-3.50			
5	2D	24/--	5.00 - 7.00	6/10/14/10	24	30				Olive brown, moist, medium dense, sandy SILT, trace gravel.	G#244237 A-4, SM WC=11.5%	
									-7.00	<b>Bottom of Exploration at 7.00 feet below ground surface.</b> NO REFUSAL		
10												
15												
20												
25												

**Remarks:**

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/28/12-11/28/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 68+00, 8.0 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed

Hammer Efficiency Factor: 0.756      Hammer Type: Automatic       Hydraulic       Rope & Cathead

Definitions:  
D = Split Spoon Sample      R = Rock Core Sample      S<sub>u</sub> = Insitu Field Vane Shear Strength (psf)      S<sub>u(lab)</sub> = Lab Vane Shear Strength (psf)  
MD = Unsuccessful Split Spoon Sample attempt      SSA = Solid Stem Auger      T<sub>v</sub> = Pocket Torvane Shear Strength (psf)      WC = water content, percent  
U = Thin Wall Tube Sample      HSA = Hollow Stem Auger      q<sub>u</sub> = Unconfined Compressive Strength (ksf)      LL = Liquid Limit  
MU = Unsuccessful Thin Wall Tube Sample attempt      RC = Roller Cone      N-uncorrected = Raw field SPT N-value      PL = Plastic Limit  
V = Insitu Vane Shear Test, PP = Pocket Penetrometer      WOH = weight of 140lb. hammer      Hammer Efficiency Factor = Annual Calibration Value      PI = Plasticity Index  
MV = Unsuccessful Insitu Vane Shear Test attempt      WOR/C = weight of rods or casing      N<sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency      G = Grain Size Analysis  
WO1P = Weight of one person      N<sub>60</sub> = (Hammer Efficiency Factor/60%)\*N-uncorrected      C = Consolidation Test

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows					
0									-0.42		5" PAVEMENT.	
	1D	24/19	1.00 - 3.00	9/33/44/16	77	97			-1.00		7" CONCRETE.	G#244238 A-1-b, SM WC=3.5%
											Brown, damp, very dense, fine to coarse SAND, some gravel, little silt, occasional cobbles, layer of old pavement layer at 2.5 ft bgs.	
5									-4.00		Light brown, damp, dense, fine to medium sandy SILT, little gravel, occasional cobble.	G#244239 A-4, SM WC=8.3%
	2D	24/22	5.00 - 7.00	8/20/27/30	47	59			-7.00		Bottom of Exploration at 7.00 feet below ground surface. NO REFUSAL	
10												
15												
20												
25												

Remarks:

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/28/12-11/28/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 84+00, 10.0 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.756	Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>	

Definitions:  
D = Split Spoon Sample  
MD = Unsuccessful Split Spoon Sample attempt  
U = Thin Wall Tube Sample  
MU = Unsuccessful Thin Wall Tube Sample attempt  
V = Insitu Vane Shear Test, PP = Pocket Penetrometer  
MV = Unsuccessful Insitu Vane Shear Test attempt

R = Rock Core Sample  
SSA = Solid Stem Auger  
HSA = Hollow Stem Auger  
RC = Roller Cone  
WOH = weight of 140lb. hammer  
WOR/C = weight of rods or casing  
WO1P = Weight of one person

S<sub>u</sub> = Insitu Field Vane Shear Strength (psf)  
T<sub>v</sub> = Pocket Torvane Shear Strength (psf)  
q<sub>u</sub> = Unconfined Compressive Strength (ksf)  
N-uncorrected = Raw field SPT N-value  
Hammer Efficiency Factor = Annual Calibration Value  
N<sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency  
N<sub>60</sub> = (Hammer Efficiency Factor/60%)\*N-uncorrected

S<sub>u(lab)</sub> = Lab Vane Shear Strength (psf)  
WC = water content, percent  
LL = Liquid Limit  
PL = Plastic Limit  
PI = Plasticity Index  
G = Grain Size Analysis  
C = Consolidation Test

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows					
0									-0.50	6" PAVEMENT.		
	1D	24/18	1.00 - 3.00	14/18/17/12	35	44				Brown, damp, dense, fine to coarse SAND, some gravel, little silt.	G#244240 A-1-b, SM WC=4.4%	
									-3.00			
5	2D	24/18	5.00 - 7.00	3/4/6/9	10	13				Olive brown, moist, loose, silty, fine to medium SAND, trace gravel.	G#244241 A-4, SM WC=10.9%	
									-7.00	<b>Bottom of Exploration at 7.00 feet below ground surface.</b> NO REFUSAL		
10												
15												
20												
25												

**Remarks:**  
Went down beside concrete slab 1.0 ft.

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/28/12-11/28/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 88+00, 6.5 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.756	Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>	

Definitions:  
D = Split Spoon Sample  
MD = Unsuccessful Split Spoon Sample attempt  
U = Thin Wall Tube Sample  
MU = Unsuccessful Thin Wall Tube Sample attempt  
V = Insitu Vane Shear Test, PP = Pocket Penetrometer  
MV = Unsuccessful Insitu Vane Shear Test attempt

R = Rock Core Sample  
SSA = Solid Stem Auger  
HSA = Hollow Stem Auger  
RC = Roller Cone  
WOH = weight of 140lb. hammer  
WOR/C = weight of rods or casing  
WO1P = Weight of one person

S<sub>u</sub> = Insitu Field Vane Shear Strength (psf)  
T<sub>v</sub> = Pocket Torvane Shear Strength (psf)  
q<sub>u</sub> = Unconfined Compressive Strength (ksf)  
N-uncorrected = Raw field SPT N-value  
Hammer Efficiency Factor = Annual Calibration Value  
N<sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency  
N<sub>60</sub> = (Hammer Efficiency Factor/60%)\*N-uncorrected

S<sub>u(lab)</sub> = Lab Vane Shear Strength (psf)  
WC = water content, percent  
LL = Liquid Limit  
PL = Plastic Limit  
PI = Plasticity Index  
G = Grain Size Analysis  
C = Consolidation Test

Depth (ft.)	Sample Information							Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows				
0								-0.42		5" PAVEMENT.	
	1D	24/19	1.00 - 3.00	16/45/17/15	62	78		-0.92		6" CONCRETE.	
										Brown, damp, very dense, gravelly, fine to coarse SAND, little silt, occasional cobbles.	
5	2D	24/20	5.00 - 7.00	1/3/3/5	6	8		-3.80		Olive brown, moist, loose, silty, fine to medium SAND.	
10	3D	24/24	10.00 - 12.00	6/11/13/18	24	30		-8.50		Olive brown, moist, medium dense, silty, fine to coarse SAND, trace gravel.	
								-12.00		Bottom of Exploration at 12.00 feet below ground surface. NO REFUSAL	

**Remarks:**

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/29/12-11/29/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 91+00, 5.0 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.756	Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>	

Definitions:  
D = Split Spoon Sample  
MD = Unsuccessful Split Spoon Sample attempt  
U = Thin Wall Tube Sample  
MU = Unsuccessful Thin Wall Tube Sample attempt  
V = Insitu Vane Shear Test, PP = Pocket Penetrometer  
MV = Unsuccessful Insitu Vane Shear Test attempt

R = Rock Core Sample  
SSA = Solid Stem Auger  
HSA = Hollow Stem Auger  
RC = Roller Cone  
WOH = weight of 140lb. hammer  
WOR/C = weight of rods or casing  
WO1P = Weight of one person

S<sub>u</sub> = Insitu Field Vane Shear Strength (psf)  
T<sub>v</sub> = Pocket Torvane Shear Strength (psf)  
q<sub>u</sub> = Unconfined Compressive Strength (ksf)  
N-uncorrected = Raw field SPT N-value  
Hammer Efficiency Factor = Annual Calibration Value  
N<sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency  
N<sub>60</sub> = (Hammer Efficiency Factor/60%)\*N-uncorrected

S<sub>u(lab)</sub> = Lab Vane Shear Strength (psf)  
WC = water content, percent  
LL = Liquid Limit  
PL = Plastic Limit  
PI = Plasticity Index  
G = Grain Size Analysis  
C = Consolidation Test

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows					
0												
	1D	14/8	1.08 - 2.25	15/50(2")	---				SSA	-0.58 -1.08	7" PAVEMENT. 6" CONCRETE.	
											Brown, damp, very dense, gravelly, fine to coarse SAND, trace silt. Cobble from 1.8-2.3 ft bgs.	
5	2D	24/22	5.00 - 7.00	5/5/7/9	12	15				-4.00 -7.00	Light brown, damp, medium dense, SILT, some fine to medium SAND, trace gravel.	G#244242 A-4, ML WC=15.2%
											<b>Bottom of Exploration at 7.00 feet below ground surface.</b> NO REFUSAL	
10												
15												
20												
25												

**Remarks:**

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/29/12-11/29/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 101+00, 8.0 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.756	Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>	

Definitions: R = Rock Core Sample      S<sub>u</sub> = Insitu Field Vane Shear Strength (psf)      S<sub>u</sub>(lab) = Lab Vane Shear Strength (psf)  
D = Split Spoon Sample      SSA = Solid Stem Auger      T<sub>v</sub> = Pocket Torvane Shear Strength (psf)      WC = water content, percent  
MD = Unsuccessful Split Spoon Sample attempt      HSA = Hollow Stem Auger      q<sub>u</sub> = Unconfined Compressive Strength (ksf)      LL = Liquid Limit  
U = Thin Wall Tube Sample      RC = Roller Cone      N-uncorrected = Raw field SPT N-value      PL = Plastic Limit  
MU = Unsuccessful Thin Wall Tube Sample attempt      WOH = weight of 140lb. hammer      Hammer Efficiency Factor = Annual Calibration Value      PI = Plasticity Index  
V = Insitu Vane Shear Test, PP = Pocket Penetrometer      WOR/C = weight of rods or casing      N<sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency      G = Grain Size Analysis  
MV = Unsuccessful Insitu Vane Shear Test attempt      WO1P = Weight of one person      N<sub>60</sub> = (Hammer Efficiency Factor/60%)\*N-uncorrected      C = Consolidation Test

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows					
0									-0.50	6" PAVEMENT.		
	1D	24/20	1.50 - 3.50	13/21/28/29	49	62			-1.08	7" CONCRETE.		
										Brown, damp, very dense, gravelly, fine to coarse SAND, little silt, old pavement.	G#244243 A-1-b, SM WC=3.5%	
5	2D	24/6	5.00 - 7.00	9/4/4/8	8	10				Brown, damp, loose SAND, some silt, little gravel.	G#244244 A-2-4, SM WC=5.5%	
10	3D	24/24	10.00 - 12.00	2/6/7/11	13	16			-8.50	Olive brown, moist, stiff, clayey-SILT, little fine sand.		
									-12.00	Bottom of Exploration at 12.00 feet below ground surface. NO REFUSAL		
15												
20												
25												

**Remarks:**



Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Enos/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 11/29/12-11/29/12	Drilling Method: Soilid Stem Auger	Core Barrel: N/A
Boring Location: 119+80, 6.0 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed

Hammer Efficiency Factor: 0.756      Hammer Type: Automatic       Hydraulic       Rope & Cathead

Definitions: D = Split Spoon Sample MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample attempt V = Insitu Vane Shear Test, PP = Pocket Penetrometer MV = Unsuccessful Insitu Vane Shear Test attempt	R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WOH = weight of 140lb. hammer WOR/C = weight of rods or casing WO1P = Weight of one person	S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>u</sub> = Unconfined Compressive Strength (ksf) N-uncorrected = Raw field SPT N-value Hammer Efficiency Factor = Annual Calibration Value N <sub>60</sub> = SPT N-uncorrected corrected for hammer efficiency N <sub>60</sub> = (Hammer Efficiency Factor/60%)*N-uncorrected
		S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WC = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N <sub>60</sub>	Casing Blows					
0									-0.42	5" PAVEMENT.		
	1D	24/20	1.00 - 3.00	16/19/14/13	33	42				Brown, damp, medium dense, fine to coarse SAND, some gravel, little silt.	G#244247 A-1-b, SW-SM WC=3.9%	
									-3.80			
5	2D	24/24	5.00 - 7.00	2/6/7/8	13	16				Olive, moist, stiff, SILT, some clay, little fine sand, trace gravel.	G#244248 A-4, CL WC=21.2%	
									-9.50			
10	3D	15.6/13	10.00 - 11.30	4/5/50(3.6")	---				-11.30	Brown, wet, dense, silty, fine to medium SAND, little gravel.		
										<b>Bottom of Exploration at 11.30 feet below ground surface. SPOON REFUSAL</b>		
15												
20												
25												

**Remarks:**

<b>Driller:</b> MaineDOT	<b>Elevation (ft.):</b>	<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Enos/Giles	<b>Datum:</b> NAVD88	<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C	<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 11/27/12-11/27/12	<b>Drilling Method:</b> Solid Stem Auger	<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 23+00, 10.0 ft Rt.	<b>Casing ID/OD:</b> N/A	<b>Water Level*:</b> None Observed

Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger	Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	Definitions: WC = water content, percent = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test
---	--	---

Depth (ft.)	Sample Information										Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log				
0	S1		0.67 - 1.70			SSA	-0.67	[Graphic Log]	8" PAVEMENT.			
	S2		1.70 - 7.00				-1.70		Dark brown, damp, fine to coarse SAND, little gravel, trace silt.			
									Olive brown, moist, clayey-SILT, trace fine sand.			
5												
							-7.00		Bottom of Exploration at 7.00 feet below ground surface. NO REFUSAL			
10												
15												
20												
25												

**Remarks:**

<b>Driller:</b> MaineDOT	<b>Elevation (ft.):</b>	<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Enos/Giles	<b>Datum:</b> NAVD88	<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C	<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 11/27/12-11/27/12	<b>Drilling Method:</b> Solid Stem Auger	<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 38+50, 7.0 ft Rt.	<b>Casing ID/OD:</b> N/A	<b>Water Level*:</b> None Observed

Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger	Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	Definitions: WC = water content, percent = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test
---	--	---

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0								-0.42		5" PAVEMENT.		
	S3		1.00 - 3.30					-1.00		7" CONCRETE.		
										Brown, damp, gravelly, fine to coarse SAND, trace silt.		
	S4		3.30 - 7.00					-3.30				
										Brown, wet, silty, fine to medium SAND.		
5												
								-7.00				
										Bottom of Exploration at 7.00 feet below ground surface. NO REFUSAL		
10												
15												
20												
25												

**Remarks:**

<b>Driller:</b> MaineDOT	<b>Elevation (ft.):</b>	<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Enos/Giles	<b>Datum:</b> NAVD88	<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C	<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 11/28/12-11/28/12	<b>Drilling Method:</b> Solid Stem Auger	<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 54+00, 6.5 ft Rt.	<b>Casing ID/OD:</b> N/A	<b>Water Level*:</b> None Observed

Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger	Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u</sub> (lab) = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	Definitions: WC = water content, percent = = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test
---	---	---

Depth (ft.)	Sample Information										Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log				
0											5 1/2" PAVEMENT.	
	S5		1.13 - 3.40				-0.46				8" CONCRETE.	
							-1.13				Brown, damp, gravelly, fine to coarse SAND, little silt.	
	S6		3.40 - 7.00				-3.40				Light brown, damp, fine to medium SAND some silt.	
5												
							-7.00					
											Bottom of Exploration at 7.00 feet below ground surface. NO REFUSAL	
10												
15												
20												
25												

**Remarks:**

<b>Driller:</b> MaineDOT	<b>Elevation (ft.):</b>	<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Enos/Giles	<b>Datum:</b> NAVD88	<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C	<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 11/28/12-11/28/12	<b>Drilling Method:</b> Solid Stem Auger	<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 63+00, 7.0 ft Rt.	<b>Casing ID/OD:</b> N/A	<b>Water Level*:</b> None Observed

Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger	Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u</sub> (lab) = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	Definitions: WC = water content, percent = = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test
---	---	---

Depth (ft.)	Sample Information								Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows						
0										6" PAVEMENT.		
	S7		1.00 - 2.60					-0.50		6" CONCRETE.		
	S8		2.60 - 7.00					-1.00		Brown, damp, gravelly, fine to coarse SAND, little silt.		
								-2.60		Light brown, moist, silty, fine to medium SAND.		
5												
								-7.00				
										Bottom of Exploration at 7.00 feet below ground surface. NO REFUSAL		
10												
15												
20												
25												

**Remarks:**

\* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

<b>Driller:</b> MaineDOT	<b>Elevation (ft.):</b>	<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Enos/Giles	<b>Datum:</b> NAVD88	<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C	<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 11/28/12-11/28/12	<b>Drilling Method:</b> Solid Stem Auger	<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 72+00, 6.0 ft Rt.	<b>Casing ID/OD:</b> N/A	<b>Water Level*:</b> None Observed

Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger	Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	Definitions: WC = water content, percent = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test
---	--	---

Depth (ft.)	Sample Information										Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log				
0	S9		0.67 - 1.70			SSA	-0.67	[Graphic Log]	8" PAVEMENT.			
	S10		1.70 - 7.00				-1.70		Brown, damp, fine to coarse SAND, some gravel, trace silt.			
									Light brown, damp, fine to medium SAND. (Possible trench Sand Fill).			
5												
							-7.00		Bottom of Exploration at 7.00 feet below ground surface. NO REFUSAL			
10												
15												
20												
25												

**Remarks:**



<b>Driller:</b> MaineDOT	<b>Elevation (ft.):</b>	<b>Auger ID/OD:</b> 5" Dia.
<b>Operator:</b> Enos/Giles	<b>Datum:</b> NAVD88	<b>Sampler:</b> Off Flights
<b>Logged By:</b> B. Wilder	<b>Rig Type:</b> CME 45C	<b>Hammer Wt./Fall:</b> N/A
<b>Date Start/Finish:</b> 11/29/12-11/29/12	<b>Drilling Method:</b> Solid Stem Auger	<b>Core Barrel:</b> N/A
<b>Boring Location:</b> 93+75, 17.5 ft Rt. Shoulder	<b>Casing ID/OD:</b> N/A	<b>Water Level*:</b> None Observed

Definitions: D = Split Spoon Sample S = Sample off Auger Flight MD = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Insitu Vane Shear Test SSA = Solid Stem Auger	Definitions: S <sub>u</sub> = Insitu Field Vane Shear Strength (psf) T <sub>v</sub> = Pocket Torvane Shear Strength (psf) q <sub>p</sub> = Unconfined Compressive Strength (ksf) S <sub>u(lab)</sub> = Lab Vane Shear Strength (psf) WOH = weight of 140lb. hammer WOR = weight of rods WOC = weight of casing	Definitions: WC = water content, percent = = Similar or Equal too LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test
---	--	---

Depth (ft.)	Sample Information										Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log				
0	S11		0.33 - 2.00			SSA	-0.33		4" PAVEMENT.			
									Brown, damp, fine to coarse SAND, some gravel, trace silt.	-0.33		
	S12		2.00 - 9.20				-2.00		Brown, damp, fine to medium SAND, little gravel, little silt.	-2.00		
5												
10							-9.50		Bottom of Exploration at 9.50 feet below ground surface. NO REFUSAL	-9.50		
15												
20												
25												

**Remarks:**











WALSLEY  
 78890.00  
 PC-1

DATE  
 TIME

#B-Thom-20 11-27-12  
 100-wal-9H

11 Q1421



PC-2  
2-29  
33100 9R  
+ Rib  
001018  
7-182-11  
MOLSTW047



11870.00

THOMASTON

PC-3

11-28-12

54700

11' R+





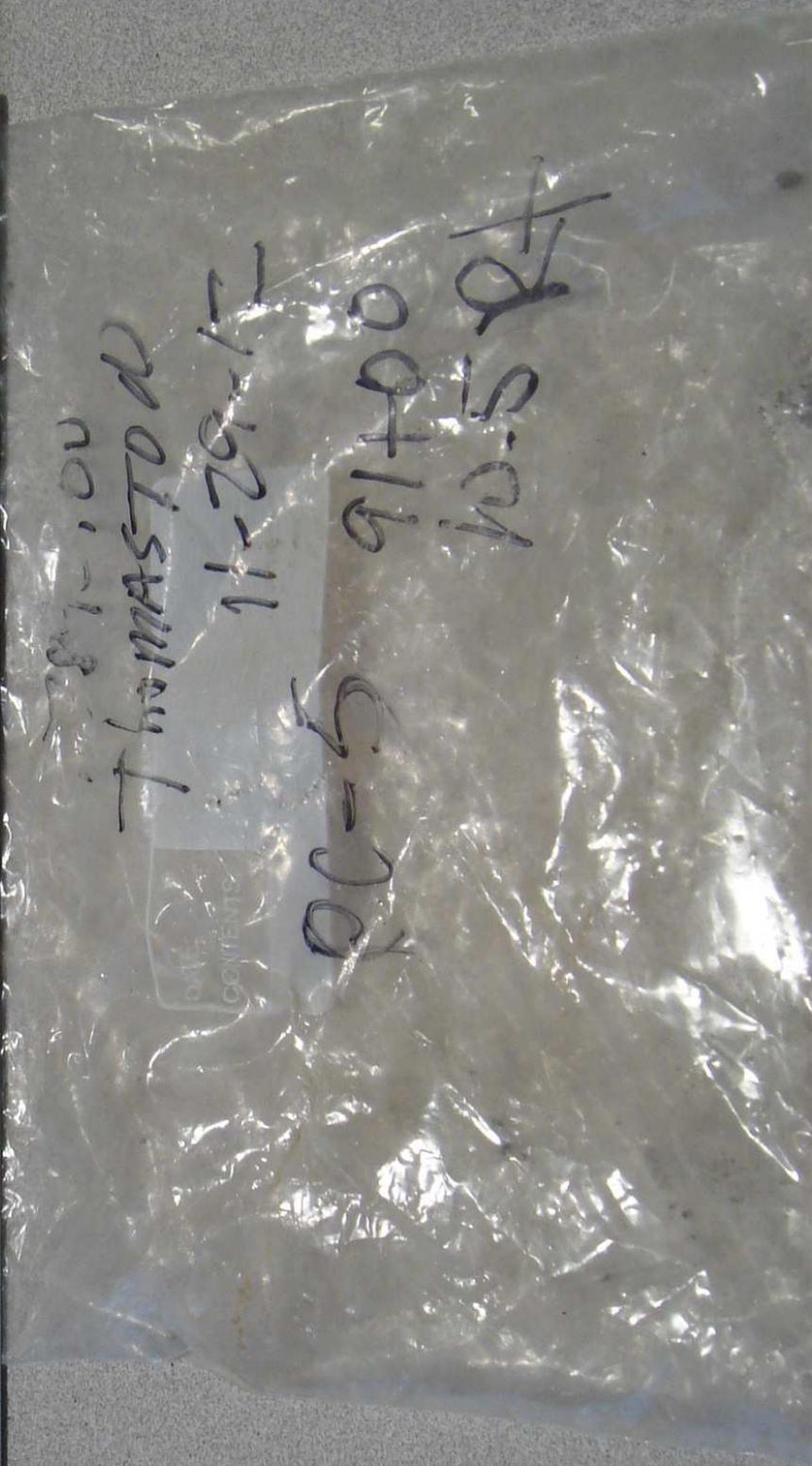
876.00

TRIMASTON

11-28-12

PC-4

DS-00.6k+



78 S-01

00+16

S-02

POLISWAY L

NO. 1182

CONTENTS

17080.00  
11-23-12

PC-b 114480  
9.5 ft  
SHP



**17890.00 Thomaston Route 1 - Two Primary Lanes  
Estimated Pavement Thickness  
Ground Penetrating Radar (GPR)**

**Explanation of Ground Penetrating Radar (GPR) Data Collection and Analysis:**

For Project 17890.00(Thomaston), GPR data was collected at the white line (edge of lane), left wheel path and at the center of both the North and South bound lanes. Data was collected at 1 foot intervals along the entire section. Data is presented for the two primary lanes, the right shoulder area (at the white edge line) and the left shoulder area (at the white edge line). Pavement thickness estimates were developed using Geophysical Survey Systems Inc. (GSSI) RADAN GPR Data Processing Software. Where available, pavement thicknesses from pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

**GPR pavement thickness averages are to be considered for estimating purposes only.  
Actual pavement thickness may vary.**

Analysis Distance (ft) - 100

Overall Average Thickness (in.) 6.1

Overall Minimum Thickness (in.) 4.0

Overall Maximum Thickness (in.) 8.8

**17890.00 Thomaston Route 1 - Two Primary Lanes**

Station Limits		Average Depth (in)									
10+00	11+00	6.8	25+00	26+00	5.9	40+00	41+00	5.3	55+00	56+00	4.9
11+00	12+00	6.4	26+00	27+00	5.6	41+00	42+00	5.7	56+00	57+00	5.2
12+00	13+00	6.4	27+00	28+00	6.4	42+00	43+00	5.7	57+00	58+00	5.2
13+00	14+00	7.0	28+00	29+00	6.7	43+00	44+00	5.8	58+00	59+00	5.4
14+00	15+00	6.4	29+00	30+00	6.1	44+00	45+00	5.8	59+00	60+00	5.4
15+00	16+00	6.5	30+00	31+00	5.9	45+00	46+00	5.6	60+00	61+00	5.7
16+00	17+00	7.1	31+00	32+00	7.0	46+00	47+00	5.9	61+00	62+00	5.8
17+00	18+00	6.1	32+00	33+00	5.5	47+00	48+00	5.6	62+00	63+00	5.6
18+00	19+00	5.9	33+00	34+00	5.6	48+00	49+00	4.5	63+00	64+00	4.9
19+00	20+00	5.7	34+00	35+00	5.6	49+00	50+00	4.0	64+00	65+00	5.2
20+00	21+00	6.0	35+00	36+00	6.2	50+00	51+00	4.1	65+00	66+00	5.3
21+00	22+00	6.5	36+00	37+00	5.9	51+00	52+00	4.2	66+00	67+00	5.5
22+00	23+00	6.2	37+00	38+00	5.3	52+00	53+00	4.4	67+00	68+00	5.3
23+00	24+00	5.7	38+00	39+00	5.4	53+00	54+00	4.6	68+00	69+00	5.7
24+00	25+00	5.5	39+00	40+00	5.4	54+00	55+00	4.9	69+00	70+00	6.3



**17890.00 Thomaston Route 1 - Right Shoulder Area**  
**Estimated Pavement Thickness**  
**Ground Penetrating Radar (GPR)**

**Explanation of Ground Penetrating Radar (GPR) Data Collection and Analysis:**

For Project 17890.00(Thomaston), GPR data was collected at the white line (edge of lane), left wheel path and at the center of both the North and South bound lanes. Data was collected at 1 foot intervals along the entire section. Data is presented for the two primary lanes, the right shoulder area (at the white edge line) and the left shoulder area (at the white edge line). Pavement thickness estimates were developed using Geophysical Survey Systems Inc. (GSSI) RADAN GPR Data Processing Software. Where available, pavement thicknesses from pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

**GPR pavement thickness averages are to be considered for estimating purposes only.**  
**Actual pavement thickness may vary.**

Analysis Distance (ft) - 100

Overall Average  
Thickness (in.) 5.6

Overall Minimum  
Thickness (in.) 1.6

Overall Maximum  
Thickness (in.) 9.1

**17890.00 Thomaston Route 1 - Right Shoulder Area**

Station Limits		Average Depth (in)									
10+00	11+00	7.6	25+00	26+00	6.8	40+00	41+00	5.1	55+00	56+00	7.1
11+00	12+00	7.3	26+00	27+00	8.2	41+00	42+00	4.3	56+00	57+00	4.5
12+00	13+00	7.4	27+00	28+00	8.7	42+00	43+00	4.7	57+00	58+00	4.1
13+00	14+00	7.7	28+00	29+00	7.9	43+00	44+00	4.3	58+00	59+00	5.0
14+00	15+00	9.1	29+00	30+00	8.4	44+00	45+00	4.9	59+00	60+00	4.7
15+00	16+00	8.1	30+00	31+00	8.0	45+00	46+00	5.6	60+00	61+00	4.3
16+00	17+00	7.3	31+00	32+00	9.0	46+00	47+00	6.1	61+00	62+00	3.1
17+00	18+00	8.6	32+00	33+00	7.3	47+00	48+00	5.8	62+00	63+00	4.1
18+00	19+00	8.1	33+00	34+00	7.0	48+00	49+00	7.1	63+00	64+00	5.0
19+00	20+00	6.8	34+00	35+00	6.6	49+00	50+00	6.8	64+00	65+00	4.8
20+00	21+00	7.4	35+00	36+00	6.6	50+00	51+00	6.6	65+00	66+00	4.9
21+00	22+00	7.4	36+00	37+00	6.5	51+00	52+00	7.0	66+00	67+00	4.9
22+00	23+00	6.9	37+00	38+00	6.7	52+00	53+00	6.4	67+00	68+00	4.6
23+00	24+00	7.1	38+00	39+00	6.4	53+00	54+00	6.3	68+00	69+00	4.9
24+00	25+00	6.4	39+00	40+00	5.6	54+00	55+00	7.0	69+00	70+00	5.8



**17890.00 Thomaston Route 1 - Left Shoulder Area**  
**Estimated Pavement Thickness**  
**Ground Penetrating Radar (GPR)**

**Explanation of Ground Penetrating Radar (GPR) Data Collection and Analysis:**

For Project 17890.00(Thomaston), GPR data was collected at the white line (edge of lane), left wheel path and at the center of both the North and South bound lanes. Data was collected at 1 foot intervals along the entire section. Data is presented for the two primary lanes, the right shoulder area (at the white edge line) and the left shoulder area (at the white edge line). Pavement thickness estimates were developed using Geophysical Survey Systems Inc. (GSSI) RADAN GPR Data Processing Software. Where available, pavement thicknesses from pavement cores collected by MaineDOT personnel were used in developing the estimated GPR pavement thicknesses.

**GPR pavement thickness averages are to be considered for estimating purposes only.**  
**Actual pavement thickness may vary.**

Analysis Distance (ft) - 100

Overall Average Thickness (in.) 9.5

Overall Minimum Thickness (in.) 5.5

Overall Maximum Thickness (in.) 15.2

**17890.00 Thomaston Route 1 - Left Shoulder Area**

Station Limits		Average Depth (in)									
10+00	11+00	10.0	25+00	26+00	12.3	40+00	41+00	9.2	55+00	56+00	9.6
11+00	12+00	10.8	26+00	27+00	13.7	41+00	42+00	10.7	56+00	57+00	10.1
12+00	13+00	14.8	27+00	28+00	13.8	42+00	43+00	10.1	57+00	58+00	12.0
13+00	14+00	13.6	28+00	29+00	12.5	43+00	44+00	7.9	58+00	59+00	11.6
14+00	15+00	13.0	29+00	30+00	10.9	44+00	45+00	7.1	59+00	60+00	11.6
15+00	16+00	12.6	30+00	31+00	11.3	45+00	46+00	9.9	60+00	61+00	10.7
16+00	17+00	14.0	31+00	32+00	11.7	46+00	47+00	7.8	61+00	62+00	10.9
17+00	18+00	13.7	32+00	33+00	10.0	47+00	48+00	8.8	62+00	63+00	10.9
18+00	19+00	15.2	33+00	34+00	8.9	48+00	49+00	10.3	63+00	64+00	9.9
19+00	20+00	14.8	34+00	35+00	8.6	49+00	50+00	9.6	64+00	65+00	8.7
20+00	21+00	10.9	35+00	36+00	8.7	50+00	51+00	9.1	65+00	66+00	7.2
21+00	22+00	10.2	36+00	37+00	7.3	51+00	52+00	7.3	66+00	67+00	7.7
22+00	23+00	9.6	37+00	38+00	8.1	52+00	53+00	6.9	67+00	68+00	11.2
23+00	24+00	10.9	38+00	39+00	10.6	53+00	54+00	7.4	68+00	69+00	8.6
24+00	25+00	10.3	39+00	40+00	10.1	54+00	55+00	8.8	69+00	70+00	6.6

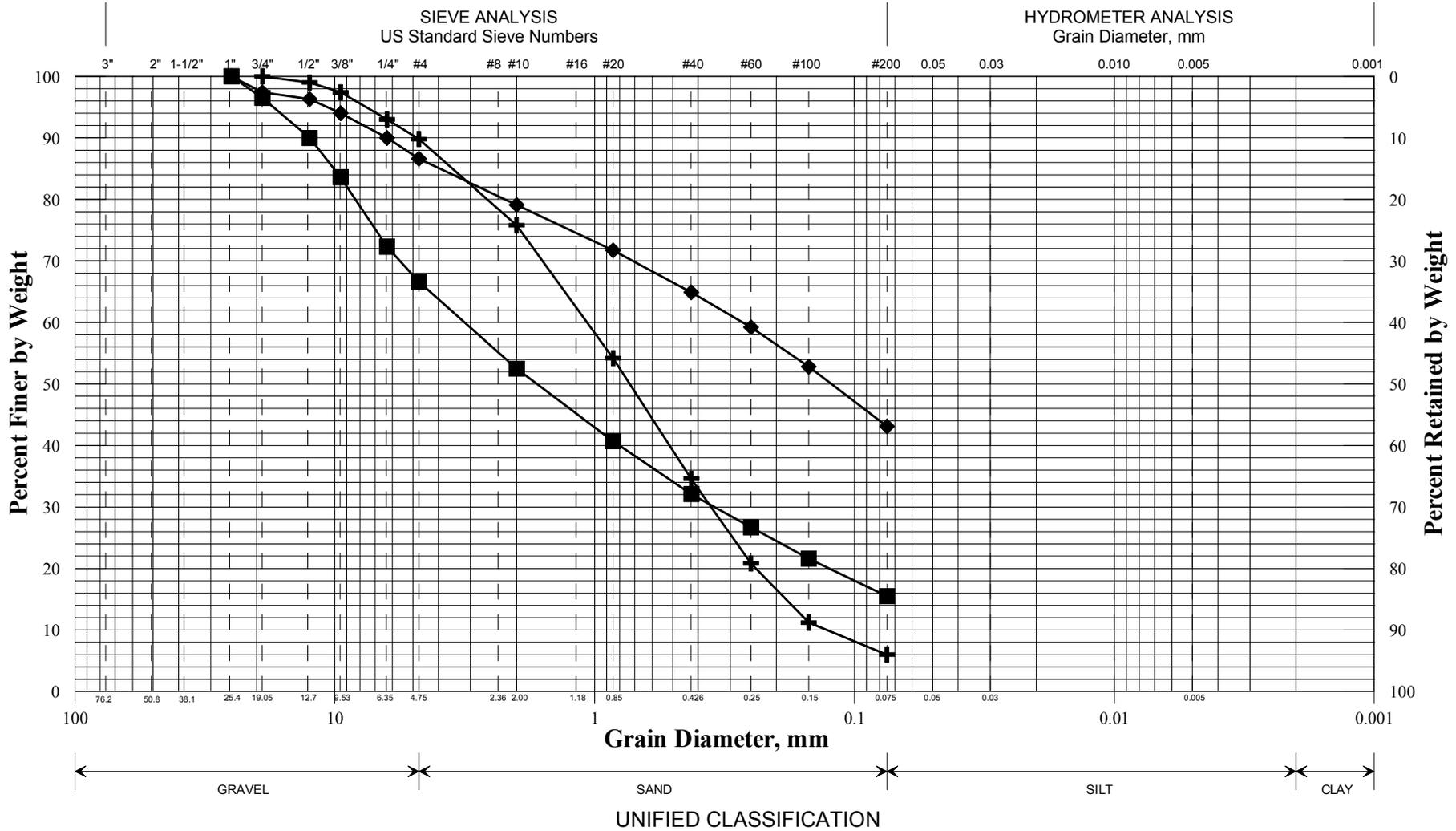


**Appendix C**  
**Laboratory Test Data**  
Lab Testing Summary Sheet  
Grain Size Curves





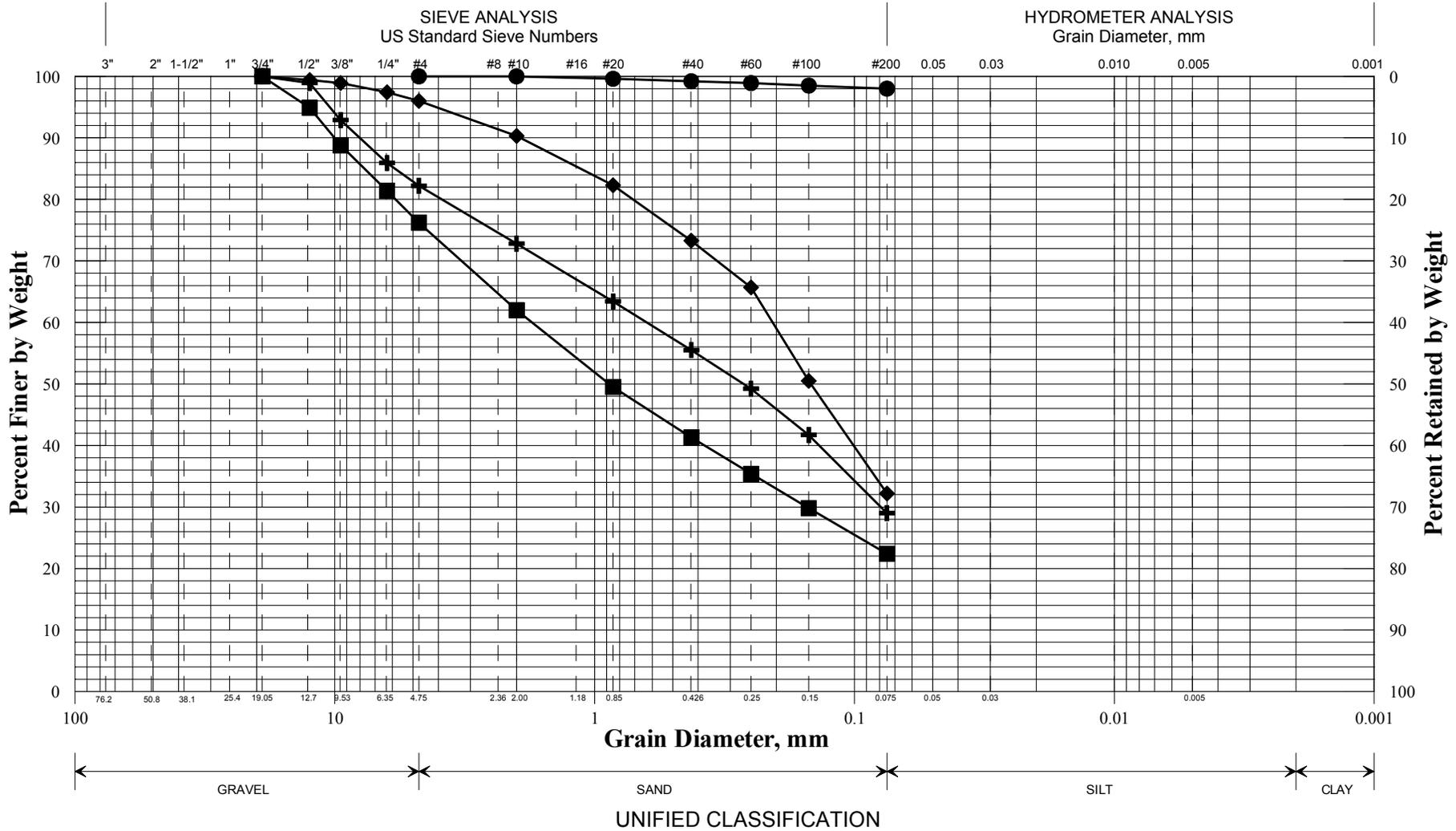
**State of Maine Department of Transportation**  
**GRAIN SIZE DISTRIBUTION CURVE**



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
+	HB-THOM-101/S1	19+41	11.5 RT	0.58-1.4	SAND, trace gravel, trace silt.	6.8			
◆	HB-THOM-101/S2	19+41	11.5 RT	1.4-4.0	Silty SAND, little gravel.	13.1			
■	HB-THOM-104/S3	46+68	9.0 RT	1.0-4.0	SAND, some gravel, little silt.	3.1			
●									
▲									
×									

WIN
017890.00
Town
Thomaston
Reported by/Date
WHITE, TERRY A      1/6/2012

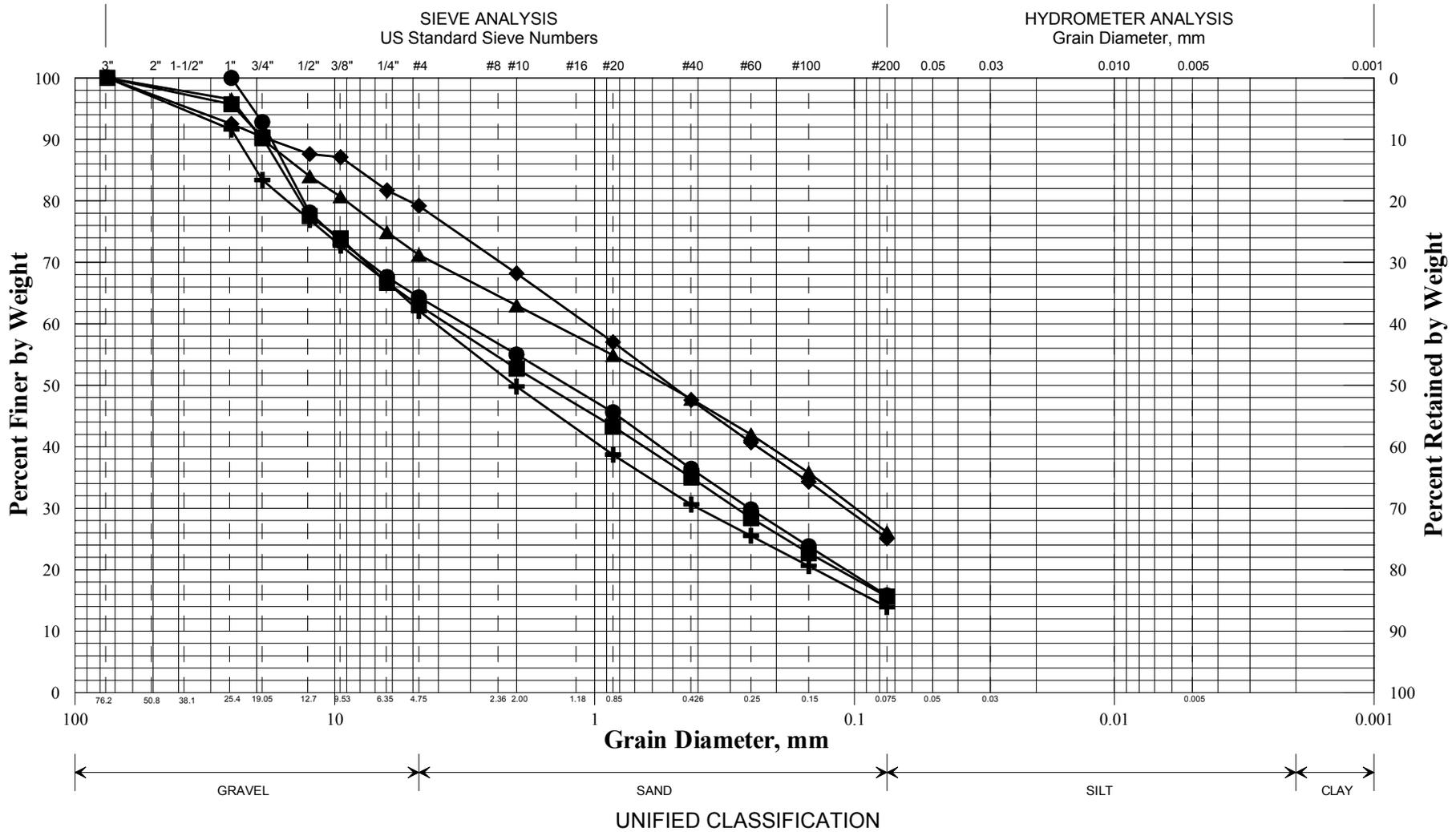
**State of Maine Department of Transportation**  
**GRAIN SIZE DISTRIBUTION CURVE**



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
+	HB-THOM-106/S4	80+42	8.0 RT	1.0-2.4	SAND, some silt, little gravel.	8.3			
◆	HB-THOM-106/S5	80+42	8.0 RT	2.4-4.0	SAND, some silt, trace gravel.	17.1			
■	HB-THOM-109/S6	109+00	9.0 LT	1.09-2.4	SAND, some gravel, some silt.	4.5			
●	HB-THOM-109/S7	109+00	9.0 LT	2.4-4.0	SILT, trace sand.	12.7			
▲									
×									

WIN	
017890.00	
Town	
Thomaston	
Reported by/Date	
WHITE, TERRY A	1/6/2012

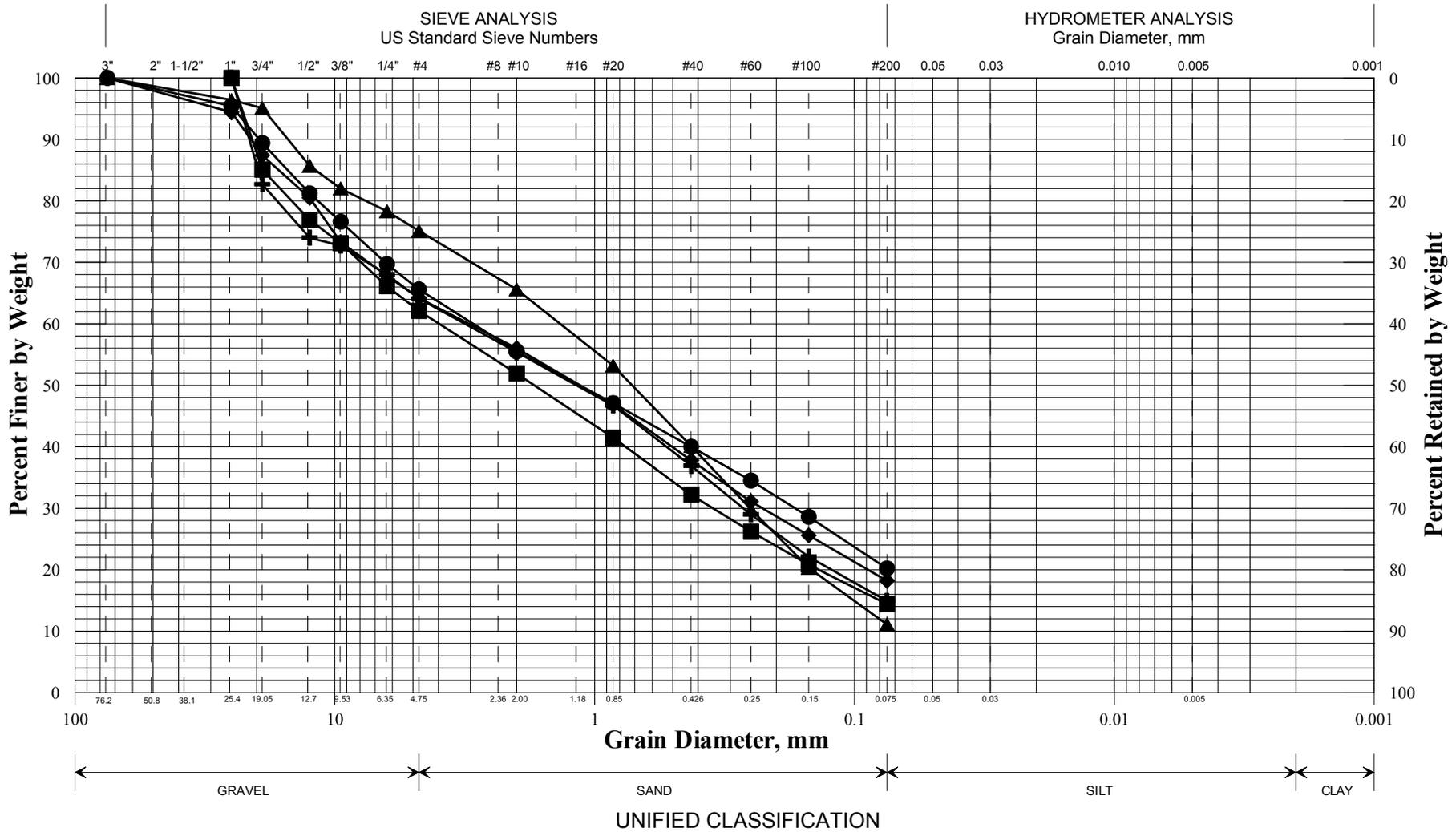
**State of Maine Department of Transportation**  
**GRAIN SIZE DISTRIBUTION CURVE**



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
+	HB-THOM-201/1D	12+10	11.0 RT	1.0-3.0	Gravelly SAND, little silt.	3.9			
◆	HB-THOM-204/1D	28+00	9.0 RT	2.0-4.0	SAND, some silt, some gravel.	10.7			
■	HB-THOM-205/1D	33+00	7.5 RT	1.5-3.5	Gravelly SAND, little silt.	5.3			
●	HB-THOM-207/1D	43+00	7.5 LT	1.0-3.0	Gravelly SAND, little silt.	5.2			
▲	HB-THOM-210/1D	58+50	9.5 RT	1.0-3.0	SAND, some gravel, some silt.	7.3			
×									

WIN
017890.00
Town
Thomaston
Reported by/Date
WHITE, TERRY A      2/14/2013

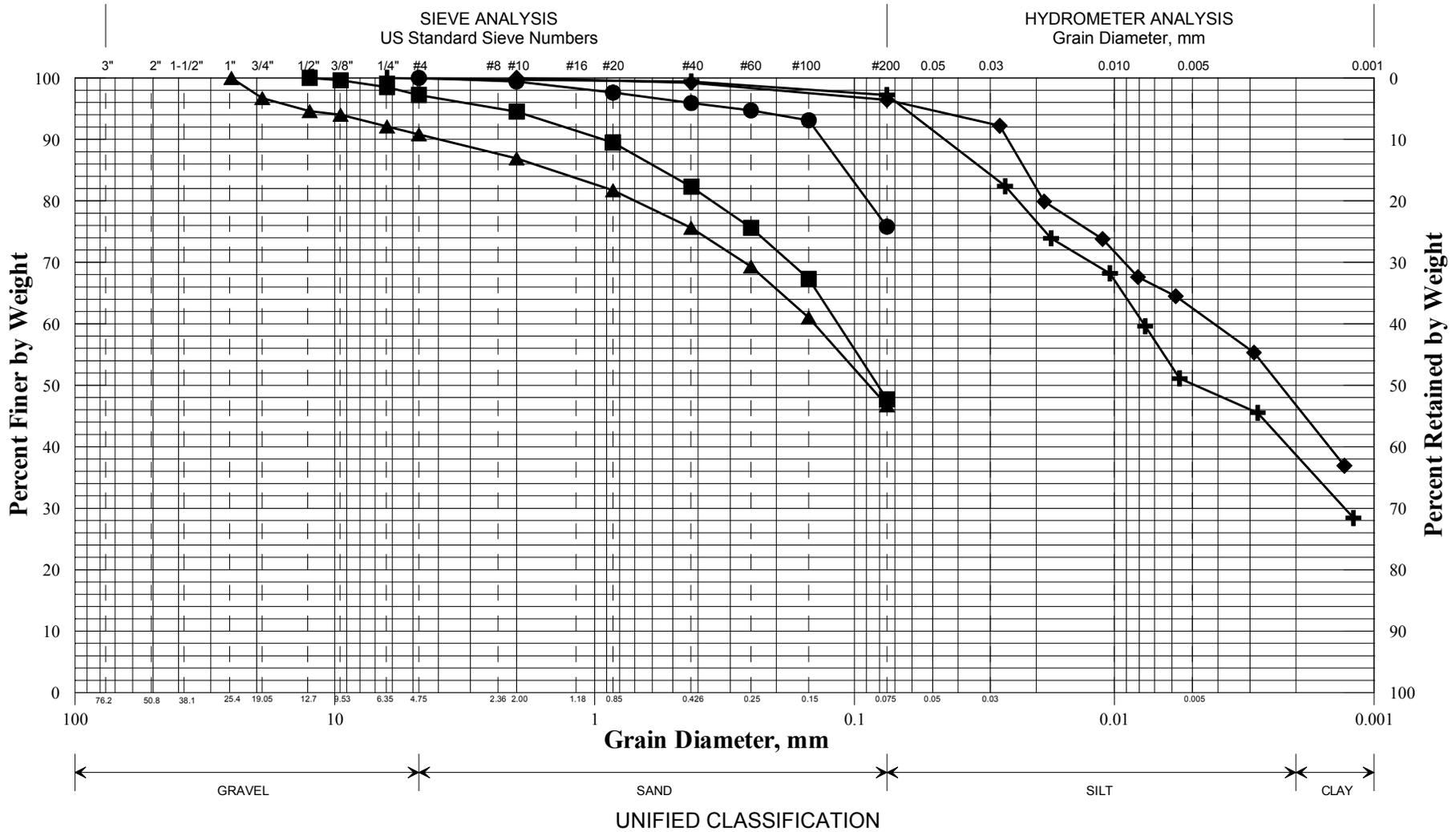
**State of Maine Department of Transportation**  
**GRAIN SIZE DISTRIBUTION CURVE**



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
+	HB-THOM-212/1D	68+00	8.0 RT	1.0-3.0	SAND, some gravel, little silt.	3.5			
◆	HB-THOM-215/1D	84+00	10.0 RT	1.0-3.0	SAND, some gravel, little silt.	4.4			
■	HB-THOM-219/1D	101+00	8.0 RT	1.5-3.5	Gravelly SAND, little silt.	3.5			
●	HB-THOM-221/1D	111+00	6.0 RT	1.0-3.0	SAND, some gravel, little silt.	4.2			
▲	HB-THOM-223/1D	119+80	6.0 RT	1.0-3.0	SAND, some gravel, little silt.	3.9			
×									

WIN
017890.00
Town
Thomaston
Reported by/Date
WHITE, TERRY A      2/14/2013

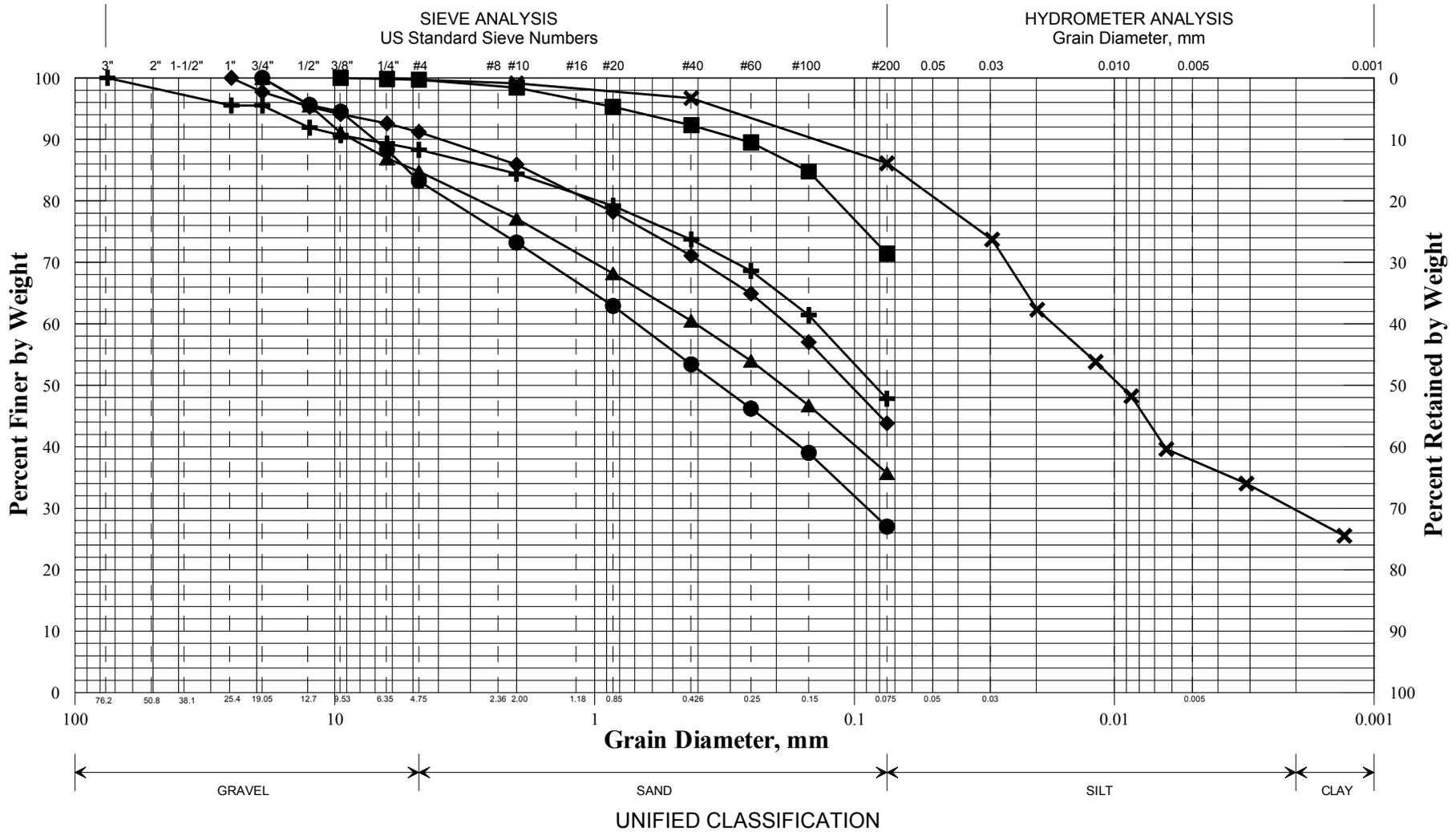
**State of Maine Department of Transportation  
GRAIN SIZE DISTRIBUTION CURVE**



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
+	HB-THOM-201/2DA	12+10	11.0 RT	5.5-7.0	Clayey SILT, trace sand, trace gravel.	50.5	36	23	13
◆	HB-THOM-204/2D	28+00	9.0 RT	5.0-7.0	Clayey SILT, trace silt.	23.2			
■	HB-THOM-205/2D	33+00	7.5 RT	5.0-7.0	Silty SAND, trace garvel.	31.3			
●	HB-THOM-207/2D	43+00	7.5 LT	5.0-7.0	SILT, some sand.	18.6			
▲	HB-THOM-210/2D	58+50	9.5 RT	5.0-7.0	Sandy SILT, trace gravel.	11.5			
×									

WIN
017890.00
Town
Thomaston
Reported by/Date
WHITE, TERRY A      2/14/2013

**State of Maine Department of Transportation**  
**GRAIN SIZE DISTRIBUTION CURVE**



	Boring/Sample No.	Station	Offset, ft	Depth, ft	Description	W, %	LL	PL	PI
+	HB-THOM-212/2D	68+00	8.0 RT	5.0-7.0	Sandy SILT, little gravel.	8.3			
◆	HB-THOM-215/2D	84+00	10.0 RT	5.0-7.0	Silty SAND, trace gravel.	10.9			
■	HB-THOM-218/2D	91+00	5.0 RT	5.0-7.0	SILT, some sand, trace gravel.	15.2			
●	HB-THOM-219/2D	101+00	8.0 RT	5.0-7.0	SAND, some silt, little gravel.	5.5			
▲	HB-THOM-221/2D	111+00	6.0 RT	5.0-7.0	SAND, some silt, little gravel.	16.5			
×	HB-THOM-223/2D	119+80	6.0 RT	5.0-7.0	SILT, some clay, little sand, trace gravel.	21.2			

WIN	
017890.00	
Town	
Thomaston	
Reported by/Date	
WHITE, TERRY A	2/14/2013