

MAINE DEPARTMENT OF TRANSPORTATION
HIGHWAY PROGRAM
GEOTECHNICAL GROUP
AUGUSTA, MAINE

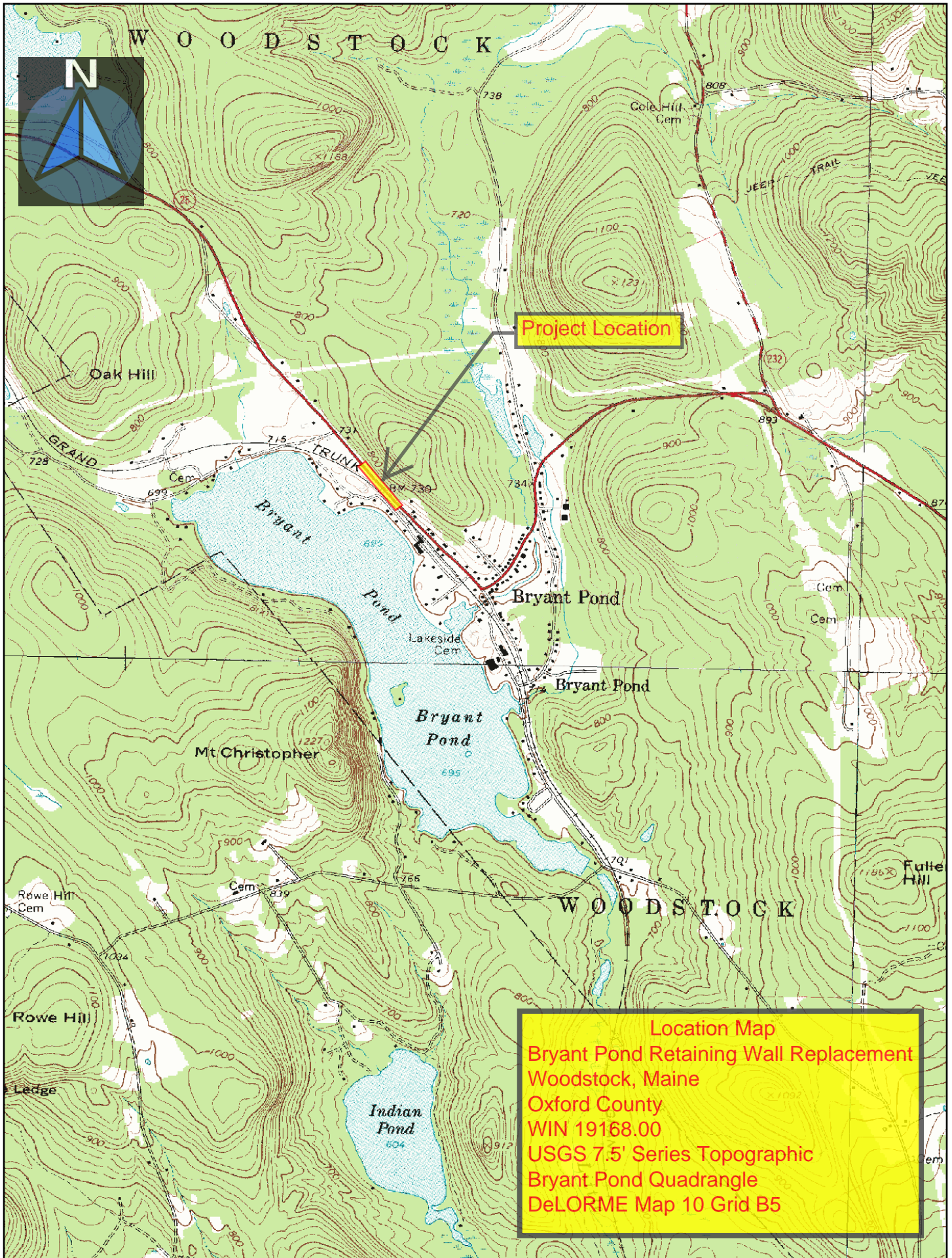
**SUBSURFACE INVESTIGATION FOR
RETAINING WALL REPAIR
WOODSTOCK, MAINE**

Prepared by:

Kitty Breskin, P.E.
Geotechnical Design Engineer

Reviewed by:

Karen Gross
Geotechnical Design Engineer



Map Scale 1:24000

The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch. Road names used on this map may not match official road names.

General Site Conditions

MaineDOT proposes to repair a retaining wall on Route 26 in Bryant Pond, approximately 0.1 miles west of Pine Point Road. The existing wall is cast-in-place concrete built in 1941, and is in poor condition. The plans for the 1941 project show cuts of as much as five feet in the area of the wall, with a change of horizontal alignment towards the railroad tracks.

Traffic along this highway is on the order of 5000 vehicles per day. The roadway consists of two 12 foot lanes with narrow shoulders. The narrowest point from the existing face of wall to the face of the guardrail is approximately 31 feet at the south end of the wall, although for most of the length of the wall more width is available. The guardrail protects traffic from a steep slope down to railroad tracks of the St. Lawrence & Atlantic Railroad, and it cannot be moved for this project.

The existing pavement is in fair to poor condition. No paving will be done as part of this project, but the Contractor should exercise reasonable caution to prevent additional pavement damage.



Existing Wall

The existing wall was built in 1941. It is a cast-in-place concrete gravity wall with a face batter of 1" per foot, a minimum width at the top of 12", and a batter at the back of the concrete of 1h:4v. No reinforcing steel is visible in the wall face

although 1333 lbs of reinforcing steel are listed on the plans. Expansion joints are every 25 feet. A 6" perforated ACCMP drain is shown behind the heel, with 4" weep holes spaced 25 feet on center. Subgrade embedment is shown as 3.5 feet. Pay limits for the construction slope are shown as 1h:4v starting 16" behind the wall, with a slope of 1.1v:1h behind the excavation. The material used for backfill is described as "clean gravel". This wall cannot feasibly be replaced with a gravity wall, and construction would be problematic for any type of wall replacement. The existing wall will be repaired using soil nails or dowels and a shotcrete facing. The original plan and sections are attached to this report.



Mapped Data

The Maine Geologic Survey Surficial Geology map for this area shows the hill behind this retaining wall to be a Till drumlin. The map shows a clear change of soil types at Route 26, with ice-contact deposits between the road and Bryant Pond. These soil types should be granular materials. Mapping by NRCS shows soils surrounding this wall to be "Colton gravelly loamy sand" with very low fines content. Shallow bedrock is indicated further up the hill. Neither the MGS nor NRCS maps indicate shallow bedrock in the lower portion of this drumlin. Portions of both MGS and NRCS maps are attached to this report.

Subsurface Investigation

Three borings were done for this project on December 8, 2012, through the Right shoulder near the north and south ends of the wall at Stations 2+31, 2+38 and

3+61. It was not feasible to drill above the wall. Refusal was encountered at depths between 2 feet and 5 feet below ground surface. No cores were taken, but these refusals appear to have been on bedrock. Dense sand was encountered below grade. No lab testing was done on these soils. Boring logs are attached to this report.

Other Soils Information

Many large rocks are visible on the slope surface. Some are clearly boulders, but it is not obvious whether some may be bedrock outcrops. No rock excavation is shown on the original sections; although 4500 cy of rock excavation for structures is listed on the original estimate no location is indicated. I have discussed subsurface conditions with nearby property owners, and the property a few hundred feet south of the wall has a dug well behind his home that extends to 25 feet. The developer of land at the top of the hill says that bedrock was reached at shallow depths in wells for those properties.

Attachments:

Plan and sections

As-built plan, detail and section

MGS surficial geology map

NRCS maps

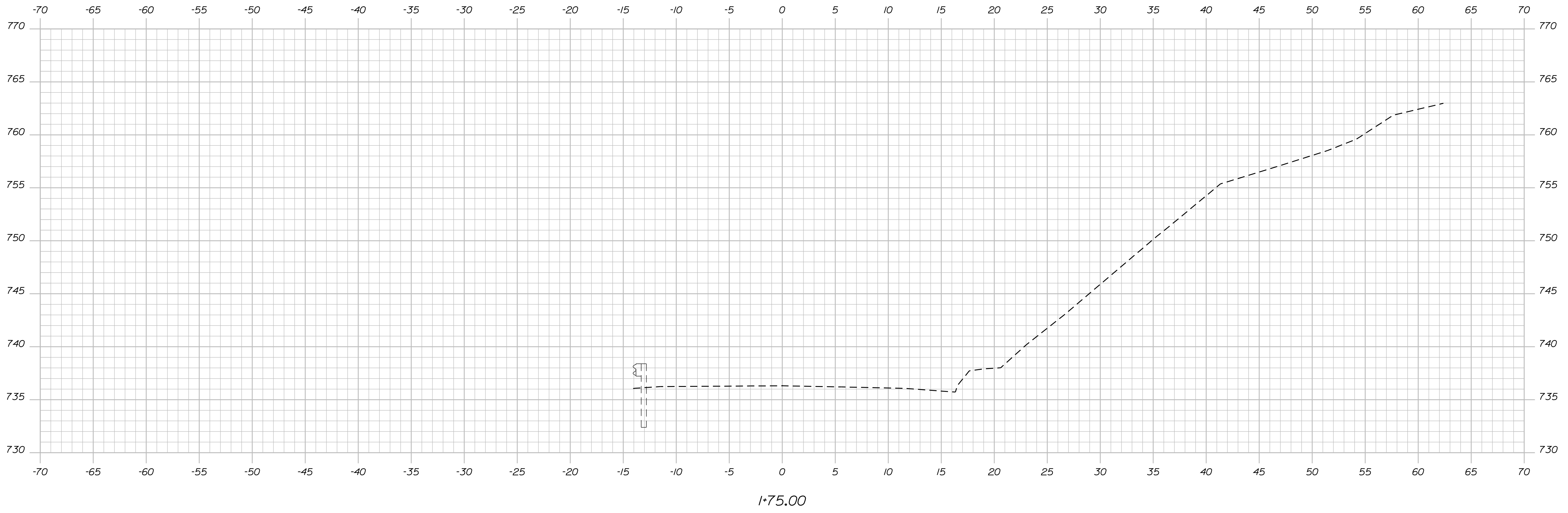
Boring logs

Date: 1/9/2012

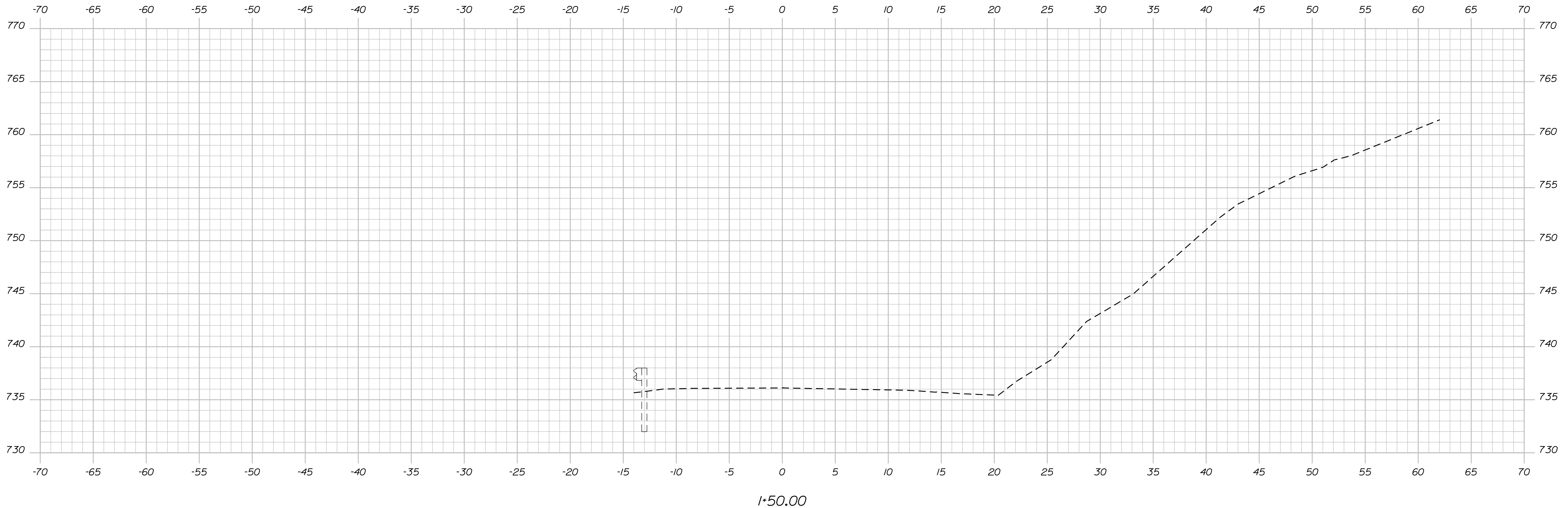
Username: kity.breskin

Division: GEOTECH

Filename: ... \msta\022_highway_1+50_003.dgn



1:75.00



1:50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
19168.00
PIN
PIN 19168.00

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED	DESIGNER	DATE
CHECKED-REVIEWED	BY	DATE
DESIGNS-DETAILED	DESIGNER	DATE
DESIGNS-DETAILED	DESIGNER	DATE
REVISIONS 1	BY	DATE
REVISIONS 2	BY	DATE
REVISIONS 3	BY	DATE
REVISIONS 4	BY	DATE
FIELD CHANGES	BY	DATE

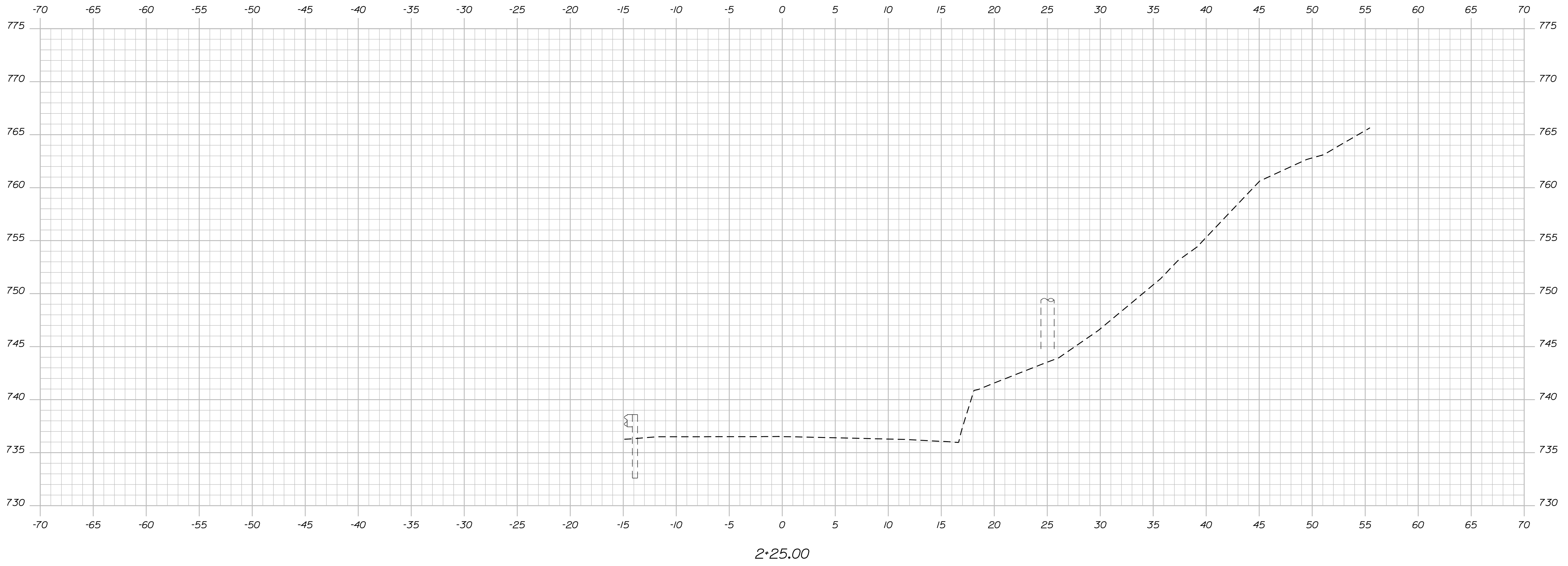
CROSS SECTIONS

SHEET NUMBER
22
OF _

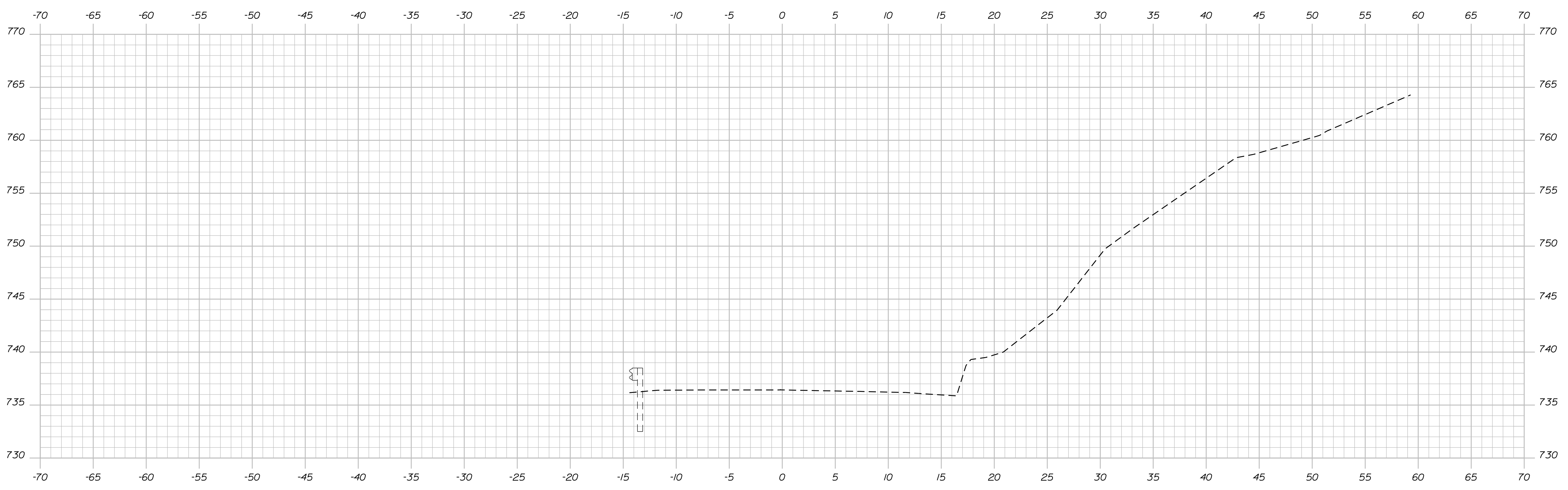
Date: 1/9/2012

Username: kity.breskin

Filename: ... \msta\023_highway_2+00_004.dgn Division: GEOTECH



2+25.00



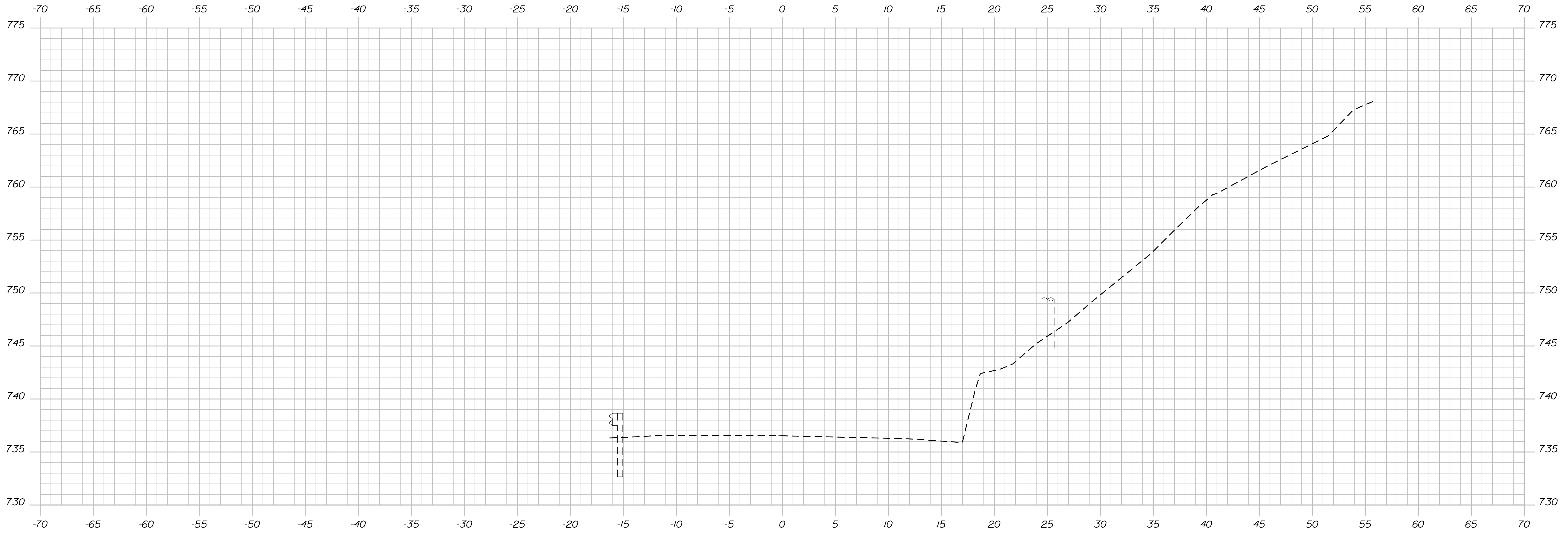
2+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
19168.00
PIN 19168.00

PROJ. MANAGER	BY	DATE
DESIGN DETAILED	DESIGNER	DATE
CHECKED-REVIEWED	DESIGNER	DATE
DESIGNS DETAILED	DESIGNER	DATE
DESIGNS DETAILED	DESIGNER	DATE
REVISIONS 1	REVISION	DATE
REVISIONS 2	REVISION	DATE
REVISIONS 3	REVISION	DATE
REVISIONS 4	REVISION	DATE
FIELD CHANGES	FIELD	DATE

CROSS SECTIONS

SHEET NUMBER
23
OF _



2+50.00

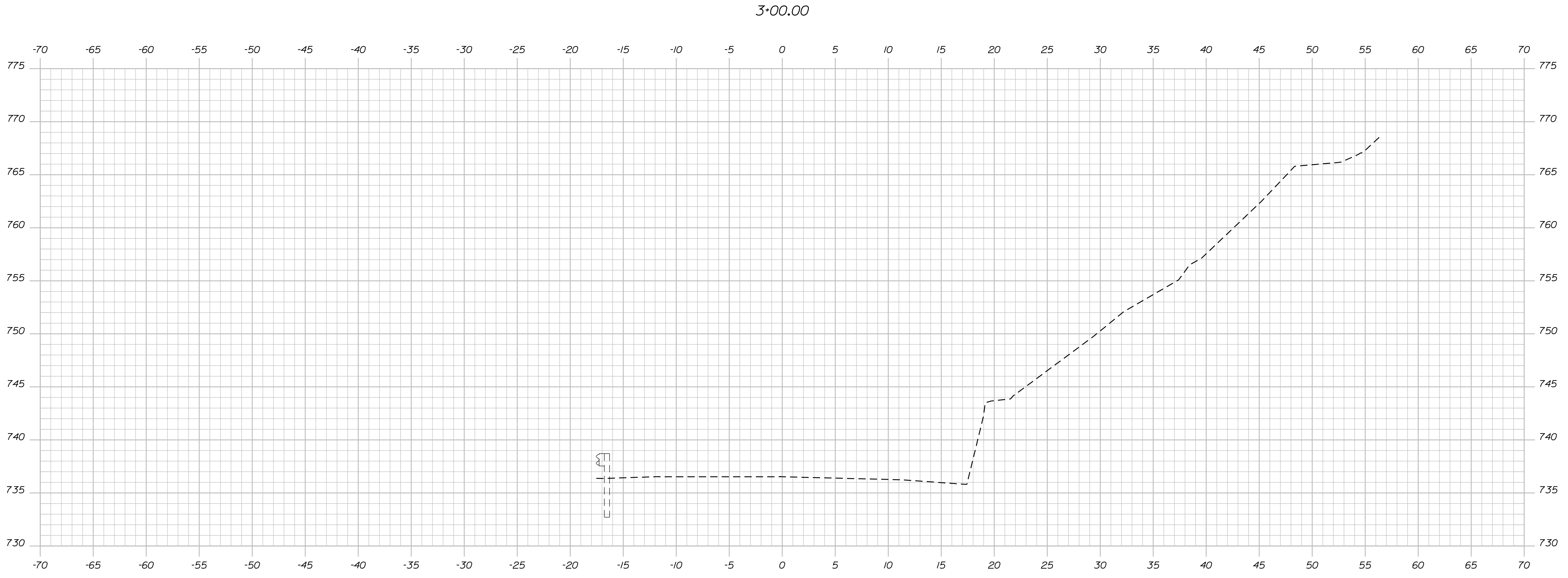
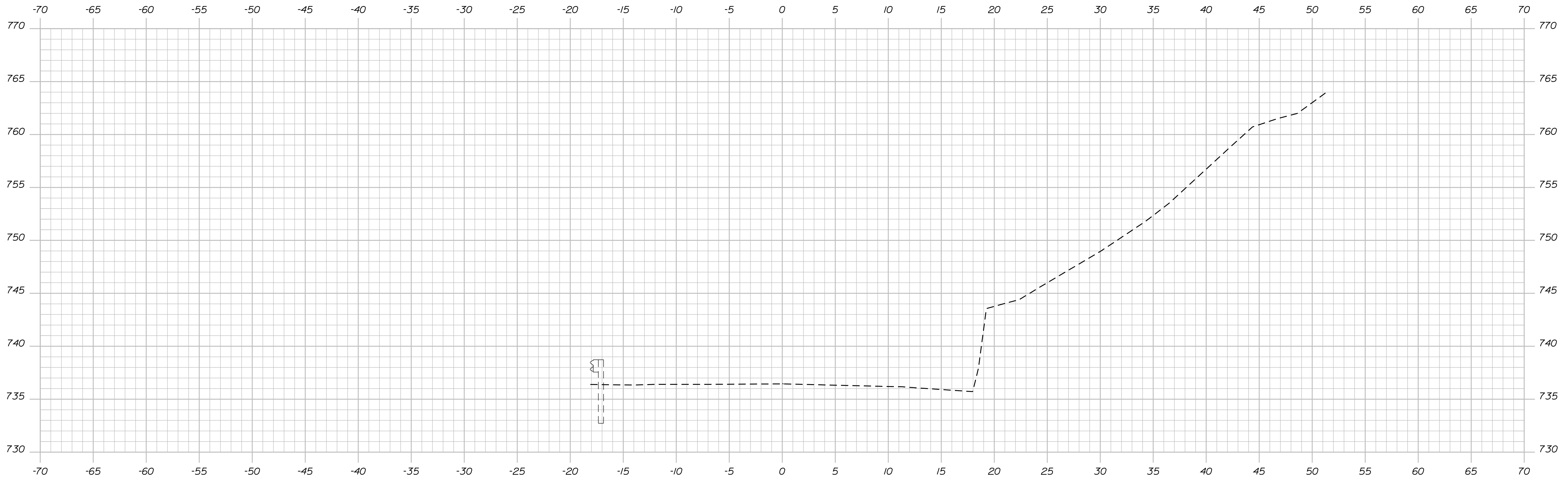
Sta. 2+50.00 to Sta. 2+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
19168.00
PIN
PIN 19168.00

PROJ. MANAGER	BY	DATE
\$projmgr1\$	\$author1\$	\$today1\$
CHECKED-REVIEWED		SIGNATURE
DESIGN-DETAILED		P.E. NUMBER
DESIGNS-DETAILED2		DATE
DESIGNS-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CROSS SECTIONS

SHEET NUMBER
24
OF _



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
19168.00
PIN
PIN 19168.00

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED	DESIGNER	DATE
CHECKED-REVIEWED	BY	DATE
DESIGNS DET AILED	DESIGNER	DATE
DESIGNS DET AILED	DESIGNER	DATE
REVISIONS 1	BY	DATE
REVISIONS 2	BY	DATE
REVISIONS 3	BY	DATE
REVISIONS 4	BY	DATE
FIELD CHANGES	BY	DATE

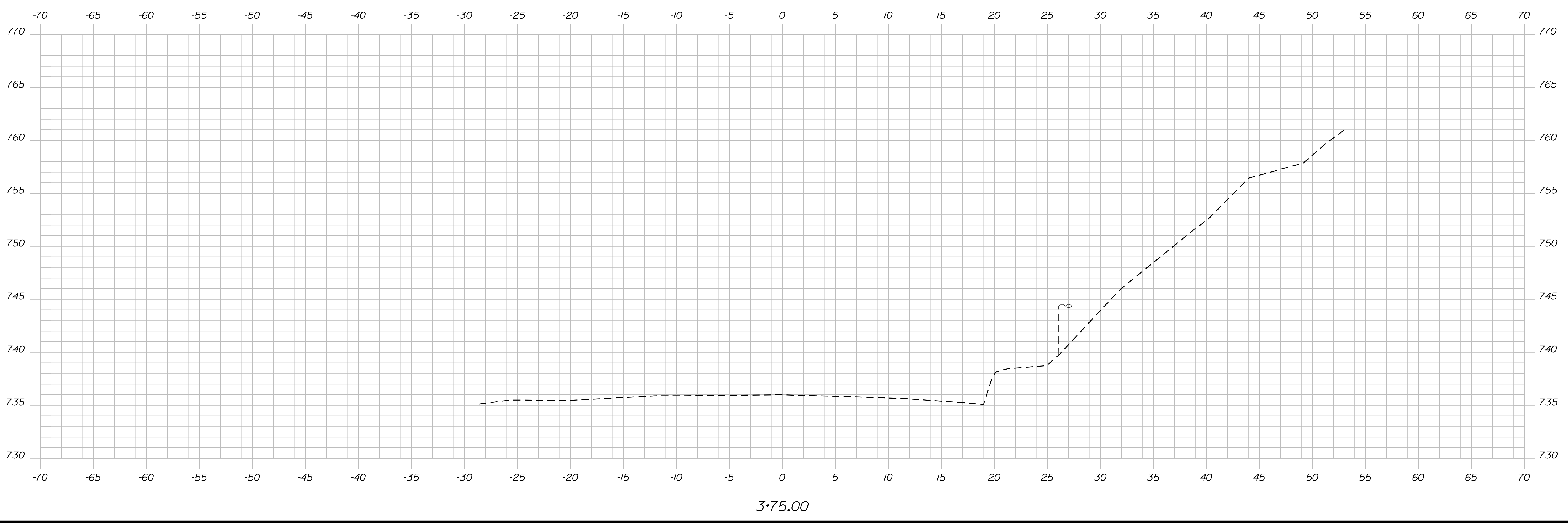
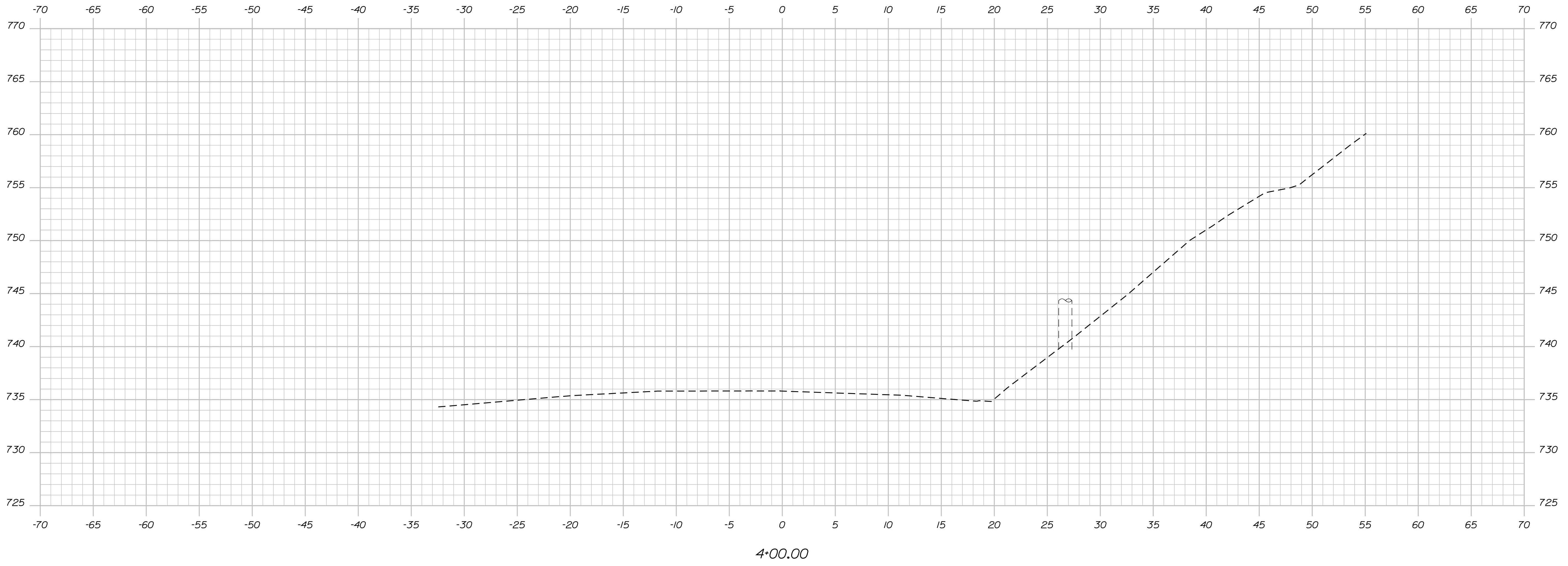
CROSS SECTIONS

SHEET NUMBER
25
OF _

Date: 1/9/2012

Username: kity.breskin

Filename: ... \msta\027_highway_3-75_008.dgn Division: GEOTECH



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
19168.00
PIN 19168.00

PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES	BY	DATE	SIGNATURE	P.E. NUMBER	DATE

CROSS SECTIONS

SHEET NUMBER
27
OF _

Dist. No.	9
State	Maine
Project No.	93-H(1)
Year	1935
Sheet No.	1
Total Sheets	13

WOODS & TOUL

STATE OF MAINE
STATE HIGHWAY COMMISSION

PLAN AND PROFILE
STATE HIGHWAY **PP'S 99**

WOODSTOCK
OXFORD COUNTY
FEDERAL AID PROJECT NO. 93-H(1)

CONVENTIONAL SIGNS

STATE OR NATIONAL LINE	— — — — —
COUNTY LINE	— — — — —
TOWN LINE	— — — — —
TOWN LED PROPERTY	— — — — —
FENCE	— — — — —
RIGHT OF WAY LINE	— — — — —
TRAVELED WAY	— — — — —
RAILROAD	— — — — —
RETAINING WALL	— — — — —

SURVEY LINE	— — — — —
CULVERT	— — — — —
DROP INLET	— — — — —
ROCKLE POLE	— — — — —
PAWLE POLE	— — — — —
TEL. POLE	— — — — —
MAIRSH	— — — — —
TREES	— — — — —
STONE WALL	— — — — —

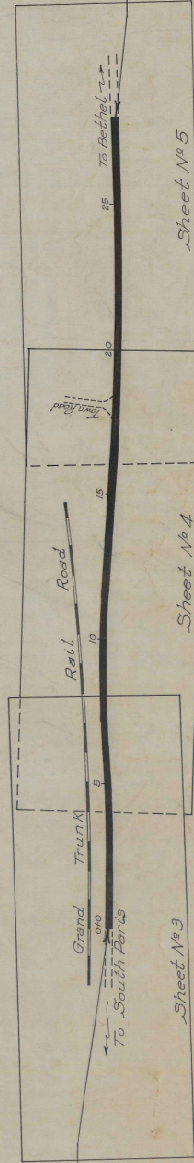
TOTAL LENGTH 0.531 MILES
 PLAN 1" = 50 FT.
 PROFILE HOR. 1" = 50 FT.
 VERT. 1" = 5 FT.
 CROSS SECTIONS 1" = 5 FT.

INDEX OF SHEETS

SHEET NO.	1	TITLE PAGE
SHEET NO.	2	TYPICAL SECTIONS
SHEET NO.	3-5	PLAN AND PROFILE
SHEET NO.	6-13	CROSS-SECTIONS
SHEET NO.		BRIDGES
SHEET NO.		SPECIAL DETAILS

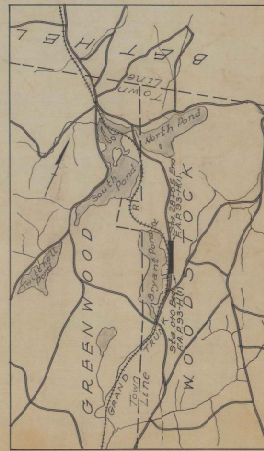
STA. 0+0 - 28+05
 STA. 0+0 - 28+05
 STA. 0+0 - 28+05
 STA.

Sta 0+0 Beginning of
Federal Aid Project
No. 93-H(1).

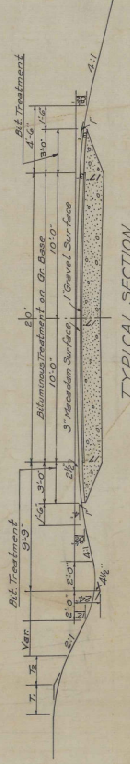


Sta 28+05 End of
Federal Aid Project
No. 93-H(1) Eg us to Sta 1+0
F.A. Proj. 93-E. (Part 2)

LAYOUT PLAN
Scale 1" = 200 ft.



A PORTION OF OXFORD COUNTY
Approx. Scale 1" = 1 mile



TYPICAL SECTION

APPROVED:
MAINE STATE HIGHWAY COMMISSION

[Signature]
CHIEF ENGINEER

[Signature]
CHIEF ENGINEER

All work contemplated under this contract to be governed by and in conformity with the specifications approved June 30, 1935 except as modified on these plans.

RECOMMENDED TO THE
CONTRACT ENGINEER
FOR APPROVAL

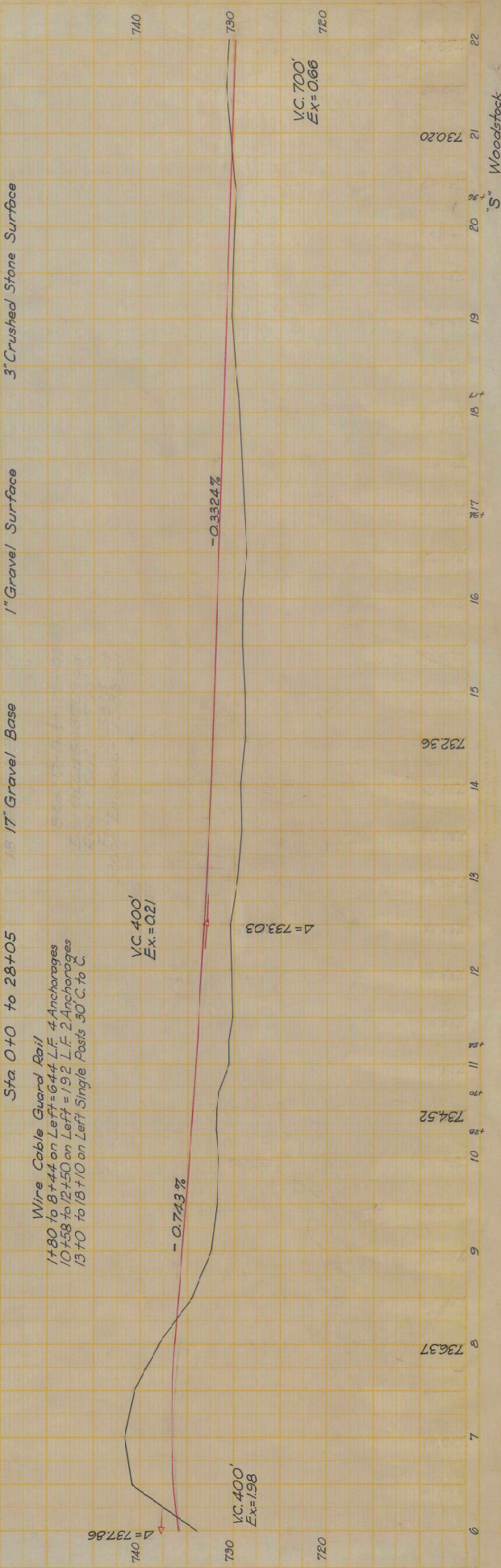
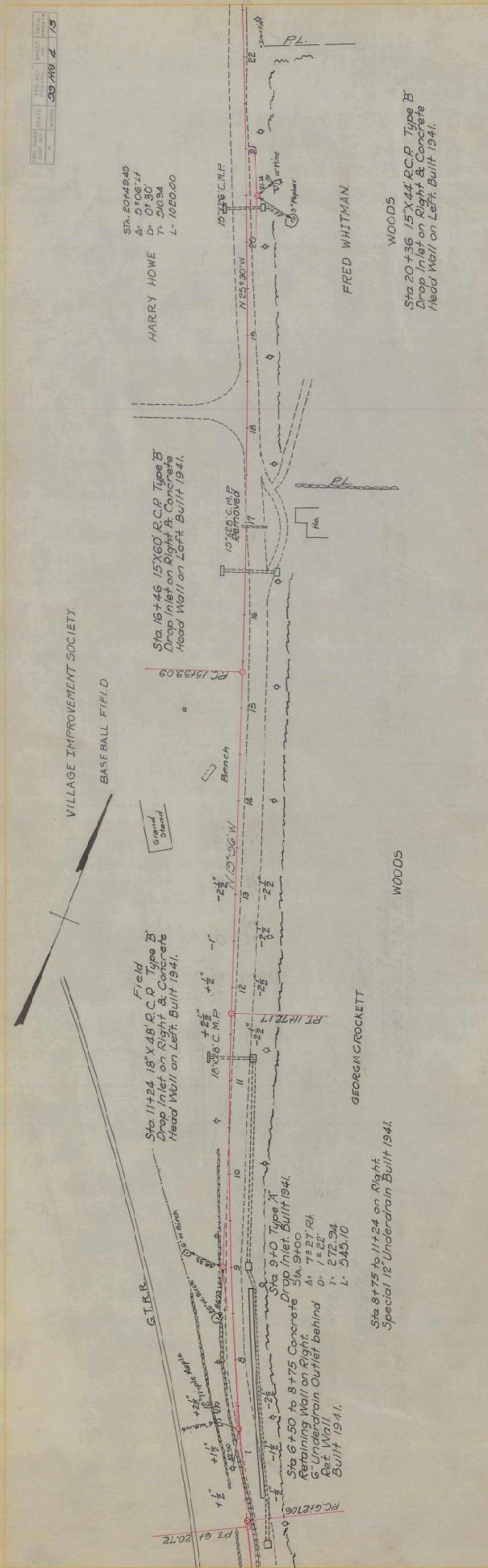
MAINE STATE HIGHWAY COMMISSION
PUBLIC ENGINEERING DIVISION
FEDERAL AID PROJECT

APPROVED

COMMISSIONER
FEDERAL ROAD ADMINISTRATION

BR 5

DATE	BY	SCALE	NO.
1941	W.D.	1" = 40'	75

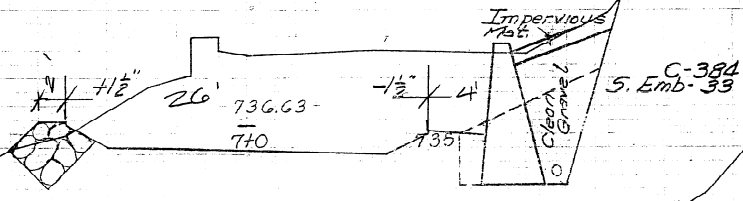


DATE	BY	SCALE	NO.
1941	W.D.	1" = 40'	75

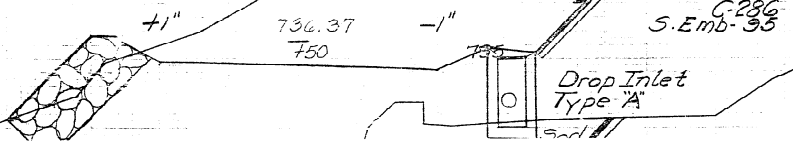
DATE	BY	SCALE	NO.
1941	W.D.	1" = 40'	75

C-406
S. Emb-13

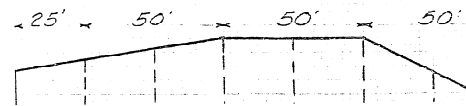
1941 Station 7+0



C-394
S. Emb-33



C-286
S. Emb-35



Bryant Pond Quadrangle, Maine

Surficial geologic mapping by
Woodrow B. Thompson

Digital cartography by:
Susan S. Toiman

Robert G. Martynney
 State Geologist

Cartographic design and editing by:
Robert D. Tucker

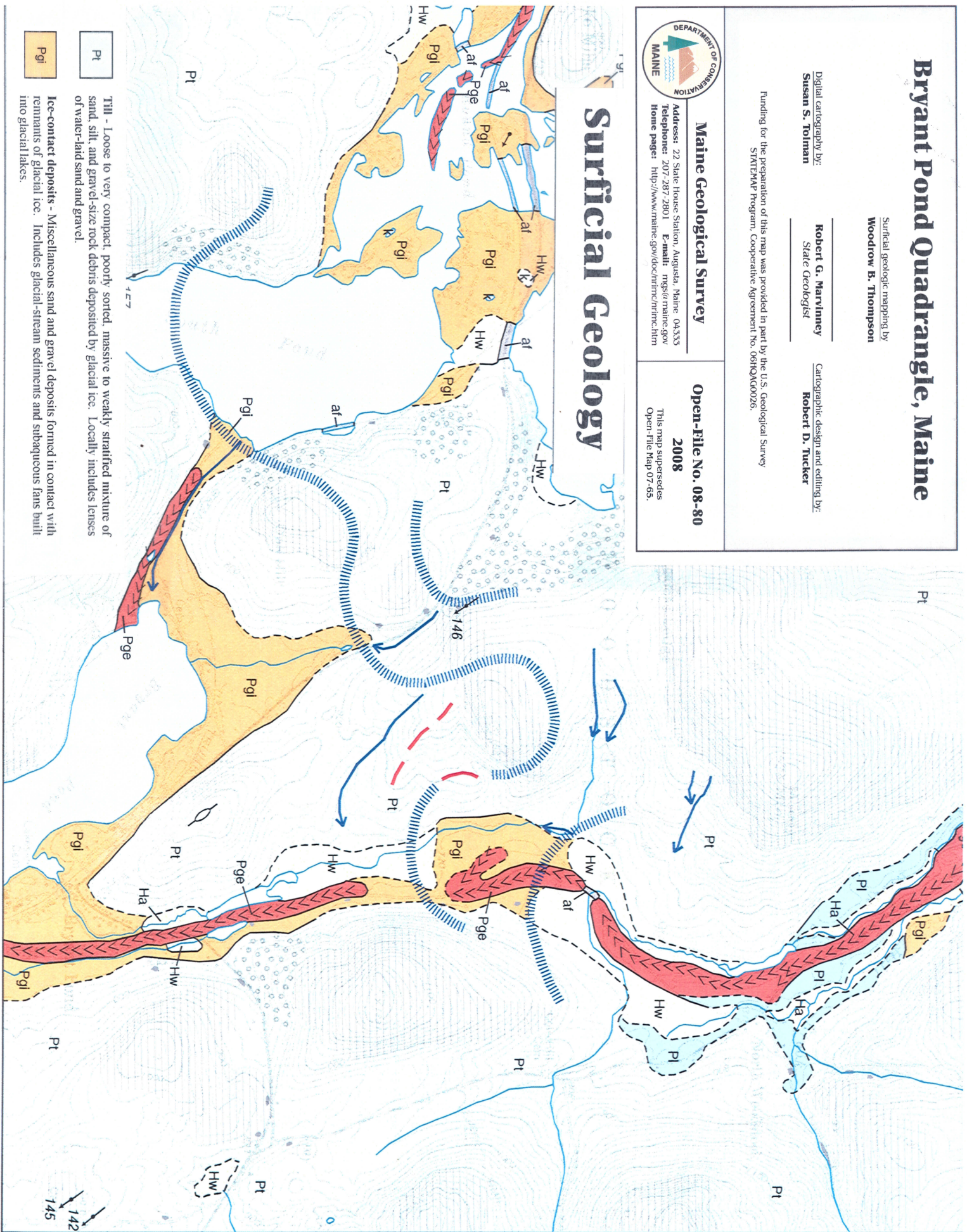
Funding for the preparation of this map was provided in part by the U.S. Geological Survey
 STRATMAP Program, Cooperative Agreement No. 05HQAK00026.



Maine Geological Survey
 Address: 22 State House Station, Augusta, Maine 04333
 Telephone: 207-287-2801 E-mail: mgs@maine.gov
 Home page: <http://www.maine.gov/doc/nr/nrc/nrmc.htm>

Open-file No. 08-80
2008
 This map supersedes
 Open-file Map 07-65.

Surficial Geology



Pt - Till - Loose to very compact, poorly sorted, massive to weakly stratified mixture of sand, silt, and gravel-size rock debris deposited by glacial ice. Locally includes lenses of water-laid sand and gravel.

Pgi - Ice-contact deposits - Miscellaneous sand and gravel deposits formed in contact with remnants of glacial ice. Includes glacial-stream sediments and subaqueous fans built into glacial lakes.

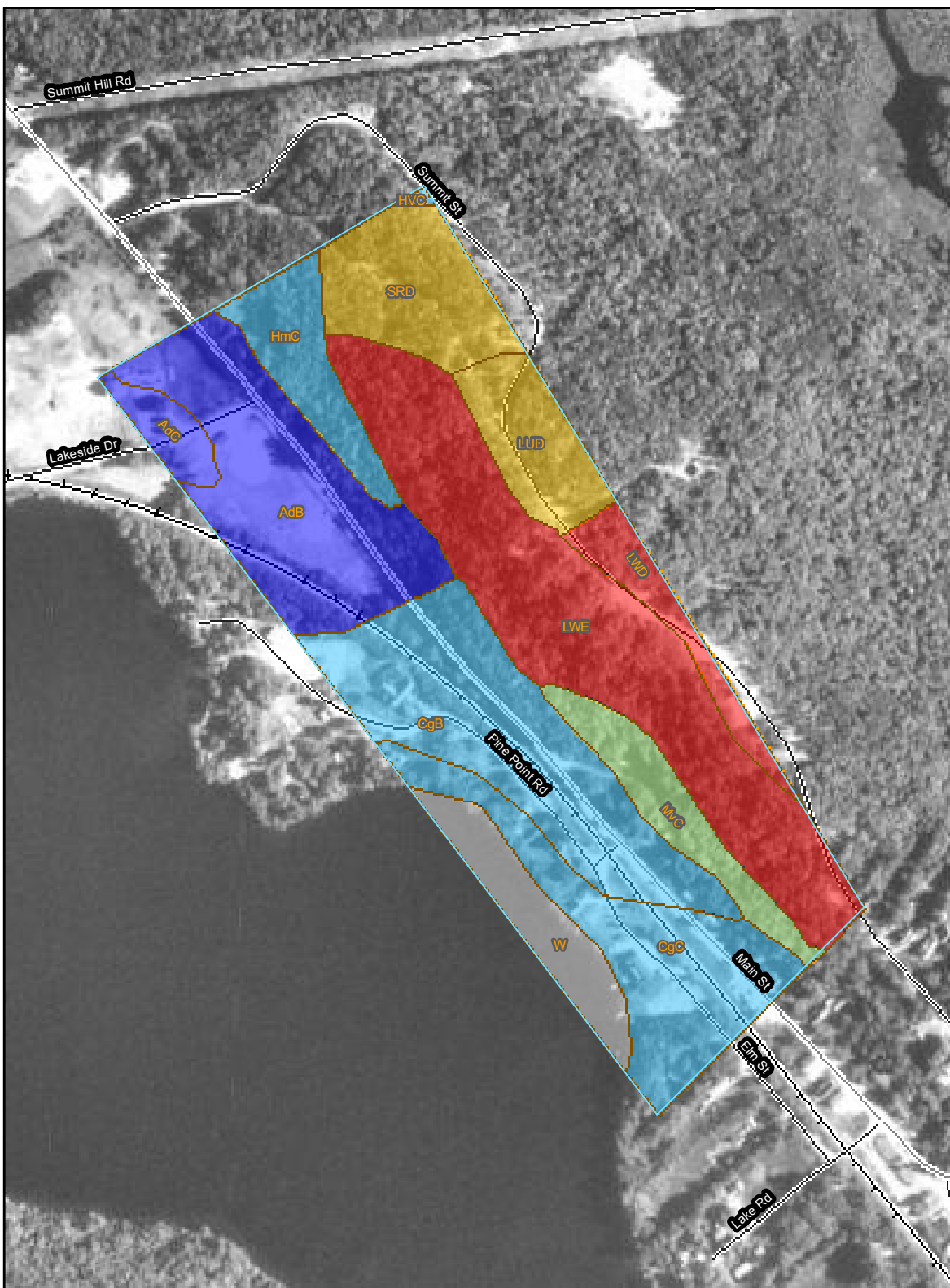
Percent Sand—Oxford County Area, Maine
(woodstock wall)

70° 39' 27"

70° 38' 45"

44° 23' 18"

44° 23' 19"



44° 22' 37"

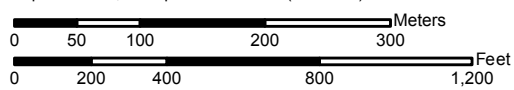
44° 22' 38"

70° 39' 26"

















70° 38' 44"



Map Scale: 1:6,000 if printed on A size (8.5" x 11") sheet.



MAP LEGEND

Area of Interest (AOI)		Area of Interest (AOI)
Soils		Soil Map Units
Soil Ratings		<= 47
		> 47 AND <= 63.9
		> 63.9 AND <= 73.7
		> 73.7 AND <= 86.3
		> 86.3 AND <= 91.2
		Not rated or not available
Political Features		Cities
Water Features		Oceans
		Streams and Canals
Transportation		Rails
		Interstate Highways
		US Routes
		Major Roads
		Local Roads

MAP INFORMATION

Map Scale: 1:6,000 if printed on A size (8.5" x 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000. Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: UTM Zone 19N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Oxford County Area, Maine
 Survey Area Data: Version 13, Sep 23, 2009

Date(s) aerial images were photographed: 6/9/1997

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Percent Sand

Percent Sand— Summary by Map Unit — Oxford County Area, Maine				
Map unit symbol	Map unit name	Rating (percent)	Acres in AOI	Percent of AOI
AdB	Adams loamy sand, 3 to 8 percent slopes	91.2	10.8	15.5%
AdC	Adams loamy sand, 8 to 15 percent slopes	91.2	1.4	2.0%
CgB	Colton gravelly loamy sand, 3 to 8 percent slopes	82.8	11.5	16.4%
CgC	Colton gravelly loamy sand, 8 to 15 percent slopes	86.3	8.2	11.7%
HmC	Hermon sandy loam, 8 to 15 percent slopes, very stony	83.4	3.4	4.9%
HVC	Hermon-Skerry association, strongly sloping, very stony	83.4	0.1	0.1%
LUD	Lyman-Tunbridge-Becket complex, hilly, very stony	63.9	3.6	5.1%
LWD	Lyman-Tunbridge-Monadnock complex, hilly, very stony	47.0	2.3	3.3%
LWE	Lyman-Tunbridge-Monadnock complex, very hilly, very stony	47.0	16.6	23.8%
MvC	Monadnock fine sandy loam, 3 to 15 percent slopes, very stony	73.7	3.4	4.8%
SRD	Skerry-Becket association, moderately steep, very stony	59.3	5.2	7.5%
W	Water		3.4	4.8%
Totals for Area of Interest			70.0	100.0%

Description

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the database, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: percent

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Interpret Nulls as Zero: No

Layer Options: Depth Range

Top Depth: 0

Bottom Depth: 200

Units of Measure: Centimeters

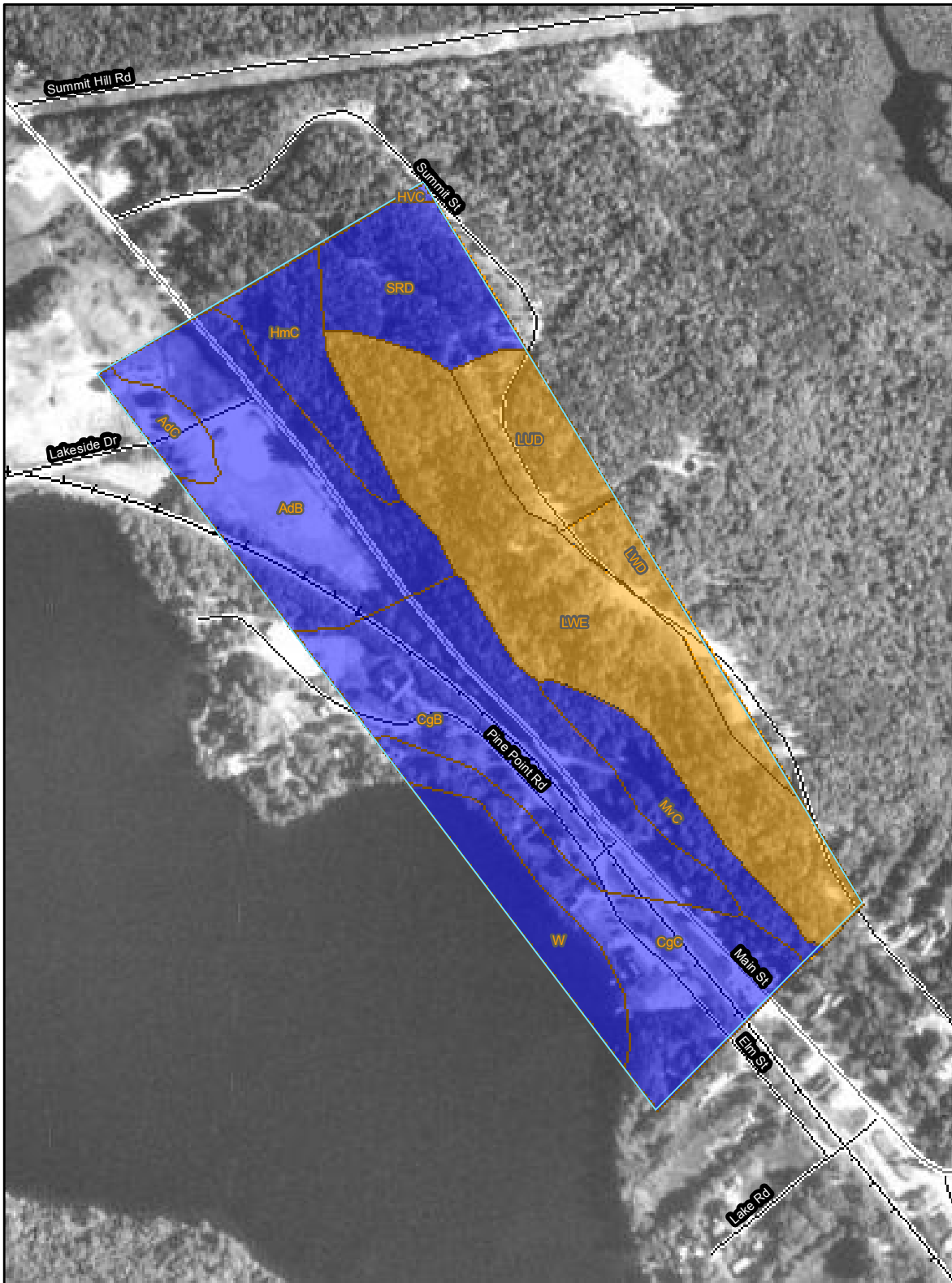
Depth to a Selected Soil Restrictive Layer: Lithic bedrock—Oxford County Area, Maine
(woodstock wall)

70° 39' 27"

70° 38' 45"

44° 23' 18"

44° 23' 19"



44° 22' 37"

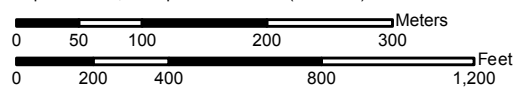
44° 22' 38"

70° 39' 26"

















70° 38' 44"



Map Scale: 1:6,000 if printed on A size (8.5" x 11") sheet.



MAP LEGEND

Area of Interest (AOI)		Area of Interest (AOI)
Soils		Soil Map Units
Soil Ratings		0 - 25
		25 - 50
		50 - 100
		100 - 150
		150 - 200
		> 200
Political Features		Cities
Water Features		Oceans
		Streams and Canals
Transportation		Rails
		Interstate Highways
		US Routes
		Major Roads
		Local Roads

MAP INFORMATION

Map Scale: 1:6,000 if printed on A size (8.5" x 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000. Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: UTM Zone 19N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Oxford County Area, Maine
 Survey Area Data: Version 13, Sep 23, 2009

Date(s) aerial images were photographed: 6/9/1997

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Depth to a Selected Soil Restrictive Layer: Lithic bedrock

Depth to a Selected Soil Restrictive Layer: Lithic bedrock— Summary by Map Unit — Oxford County Area, Maine				
Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
AdB	Adams loamy sand, 3 to 8 percent slopes	>200	10.8	15.5%
AdC	Adams loamy sand, 8 to 15 percent slopes	>200	1.4	2.0%
CgB	Colton gravelly loamy sand, 3 to 8 percent slopes	>200	11.5	16.4%
CgC	Colton gravelly loamy sand, 8 to 15 percent slopes	>200	8.2	11.7%
HmC	Hermon sandy loam, 8 to 15 percent slopes, very stony	>200	3.4	4.9%
HVC	Hermon-Skerry association, strongly sloping, very stony	>200	0.1	0.1%
LUD	Lyman-Tunbridge-Becket complex, hilly, very stony	38	3.6	5.1%
LWD	Lyman-Tunbridge-Monadnock complex, hilly, very stony	38	2.3	3.3%
LWE	Lyman-Tunbridge-Monadnock complex, very hilly, very stony	38	16.6	23.8%
MvC	Monadnock fine sandy loam, 3 to 15 percent slopes, very stony	>200	3.4	4.8%
SRD	Skerry-Becket association, moderately steep, very stony	>200	5.2	7.5%
W	Water	>200	3.4	4.8%
Totals for Area of Interest			70.0	100.0%

Description

A "restrictive layer" is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers.

This theme presents the depth to the user selected type of restrictive layer as described in for each map unit. If no restrictive layer is described in a map unit, it is represented by the "> 200" depth class.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Restriction Kind: Lithic bedrock

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Giguere/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 12/8/11-12/8/11	Drilling Method: Solid Stem Auger	Core Barrel: N/A
Boring Location: 2+38.2, 11.0 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed

Hammer Efficiency Factor: 0.84 **Hammer Type:** Automatic Hydraulic Rope & Cathead

 Definitions: R = Rock Core Sample S_u = Insitu Field Vane Shear Strength (psf) S_{u(lab)} = Lab Vane Shear Strength (psf)
 D = Split Spoon Sample SSA = Solid Stem Auger T_v = Pocket Torvane Shear Strength (psf) WC = water content, percent
 MD = Unsuccessful Split Spoon Sample attempt HSA = Hollow Stem Auger q_p = 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 WOR = weight of rods N₆₀ = SPT N-uncorrected corrected for hammer efficiency G = Grain Size Analysis
 MV = Unsuccessful Insitu Vane Shear Test attempt WO1P = Weight of one person N₆₀ = (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 ₆₀	Casing Blows					
0								SSA	-0.50	6" PAVEMENT. No description given. Bottom of Exploration at 2.50 feet below ground surface. REFUSAL		
											-0.50	
											-2.50	
5												
10												
15												
20												
25												

Remarks:
Boring HB-WOOD-101 AND HB-WOOD-101A are on same field boring log sheet.

Driller: MaineDOT	Elevation (ft.):	Auger ID/OD: 5" Dia.
Operator: Giguere/Giles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 12/8/11-12/8/11	Drilling Method: Solid Stem Auger	Core Barrel: N/A
Boring Location: 3+61.4, 11.9 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed

Hammer Efficiency Factor: 0.84 **Hammer Type:** Automatic Hydraulic Rope & Cathead

 Definitions: R = Rock Core Sample S_u = Insitu Field Vane Shear Strength (psf) S_{u(lab)} = Lab Vane Shear Strength (psf)
 D = Split Spoon Sample SSA = Solid Stem Auger T_v = Pocket Torvane Shear Strength (psf) WC = water content, percent
 MD = Unsuccessful Split Spoon Sample attempt HSA = Hollow Stem Auger q_p = 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 WOR = weight of rods N₆₀ = SPT N-uncorrected corrected for hammer efficiency G = Grain Size Analysis
 MV = Unsuccessful Insitu Vane Shear Test attempt WO1P = Weight of one person N₆₀ = (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 ₆₀	Casing Blows					
0									-0.50		6" PAVEMENT.	
	1D	24/19	1.00 - 3.00	15/20/13/11	33	46					Brown, damp, dense, fine to coarse SAND, some garvel, trace silt.	
5									-4.90		Bottom of Exploration at 4.90 feet below ground surface. REFUSAL	
10												
15												
20												
25												

Remarks: