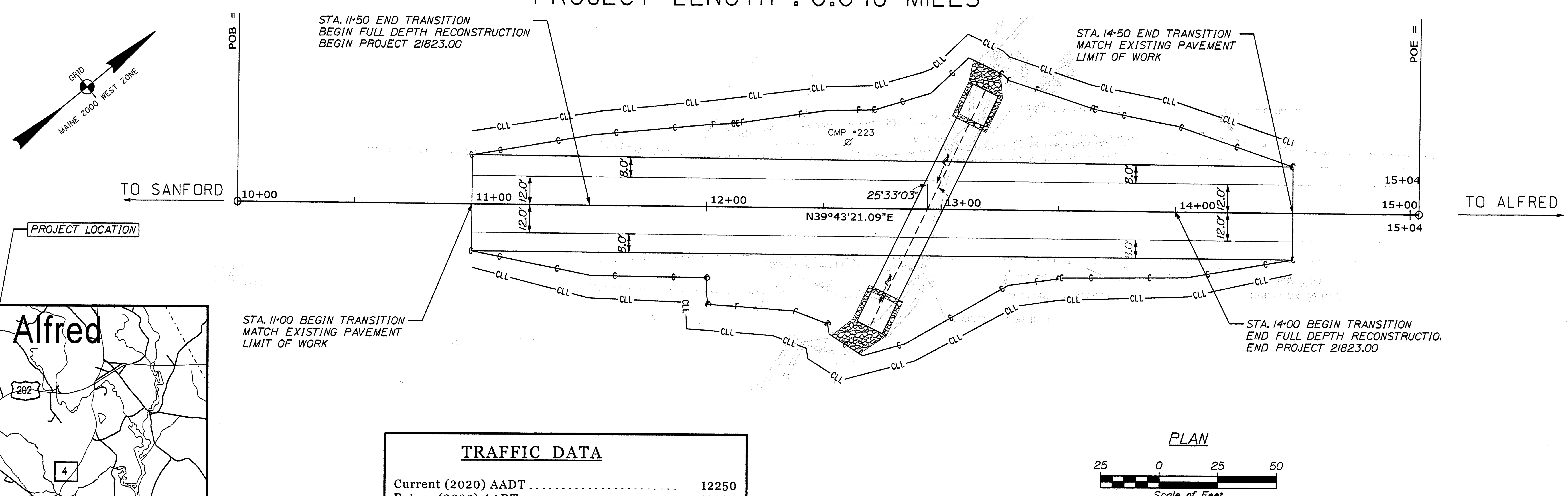
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PLAN LEGEND

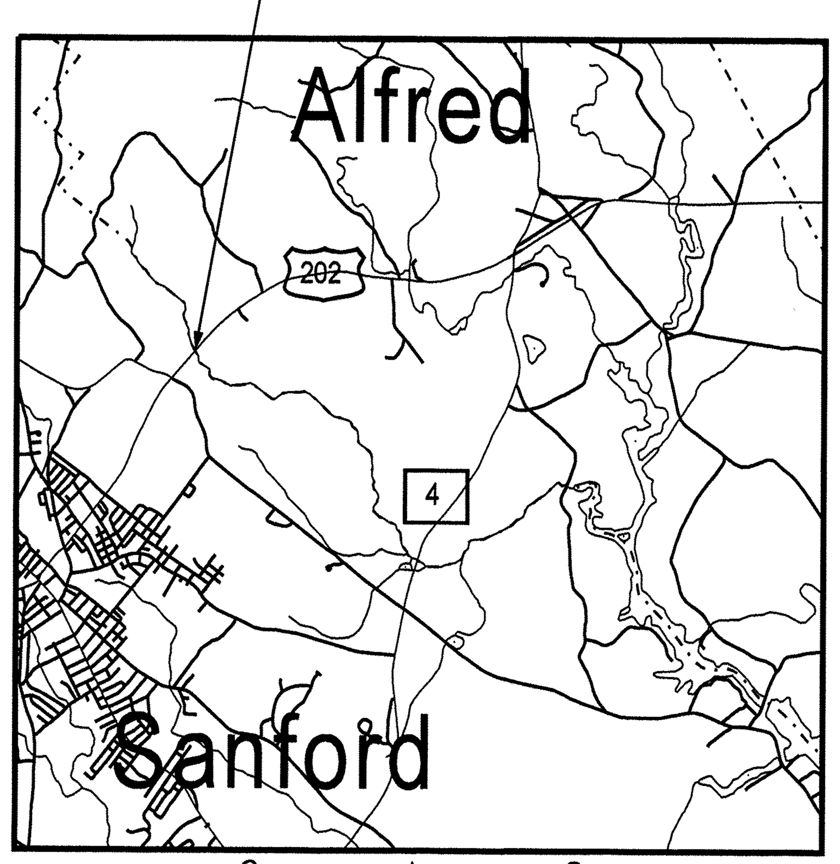
Town, County, State		Catch Basins	Existing / Proposed
Property Lines		Manholes	Existing / Proposed
R/W Lines-Existing		Proposed Underdrain	
R/W Lines-Proposed		Proposed Ditch	
Culvert-Existing		Existing Ditch	
Culvert Proposed		Utility Poles	Existing / Proposed
Curbing	Existing / Proposed	Fire Hydrants	Existing / Proposed
Type 1		Existing Water Line	
Type 3		Existing San. Sewer	
Type 5		Existing San. Sewer Manhole	
Outline of Bodies of Water		Guardrail-Existing	
Exposed Bedrock		Guardrail-Proposed	
Buildings		Guardrail-Cable, Other	
Trees	Conifer / Deciduous	Centerline-Existing	
Tree Line		Centerline-Proposed	
Clearing Limit Line		Travelway-Existing	
Railroad		Travelway-Proposed	
Boring	HB-XXX-###	Probe	P-#.#X
Pavement Core	PC-#	#.# = Depth	
Test Pit	TP-XXX-###	X = W (Weathered Rock), R (Refusal), NR (No Refusal)	

SANFORD - ALFRED
YORK COUNTY
ROUTE 202
COTTAGE STREET BRIDGE
BRIDGE NO. 6630
STATE PROJECT NO. 21823.00
PROJECT LENGTH : 0.048 MILES

INDEX OF SHEETS



PROJECT LOCATION



LOCATION MAP

TRAFFIC DATA

Current (2020) AADT	12250
Future (2032) AADT	12990
DHV - % of AADT	10
Design Hour Volume	1299
% Heavy Trucks (AADT)	6
Directional Distribution (DHV)	57
Design Speed (mph)	45
Functional Class:	OTHER PRINCIPAL ARTERIAL
Corridor Priority	1

PROJECT LOCATION:	LARGE CULVERT (#910881) LOCATED ON THE ALFRED-SANFORD TOWN LINE.
PROGRAM AREA:	HIGHWAY PROGRAM
SCOPE OF WORK:	LARGE CULVERT REPLACEMENT

WIN 21823.00 STATE PROJECT NO. 21823.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
COMMISSIONER: DATE 4-17-2020
CHIEF ENGINEER: DATE 4-16-2020

SIGNATURE
P.E. NUMBER
DATE 4/9/2020

PROJECT INFORMATION

PROGRAM	HIGHWAY PROGRAM
PROJECT MANAGER	LARAY HAMILTON
DESIGNER	YOSUF SULTAN
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SANFORD/ALFRED
ROUTE 202
TITLE SHEET

SHEET NUMBER
1
OF 14

Filename: ...\00\HIGHWAY\MSTA\001_Title.dgn Division: HIGHWAY Username: Matthew.Gallagher Date:4/9/2020

NOTES:

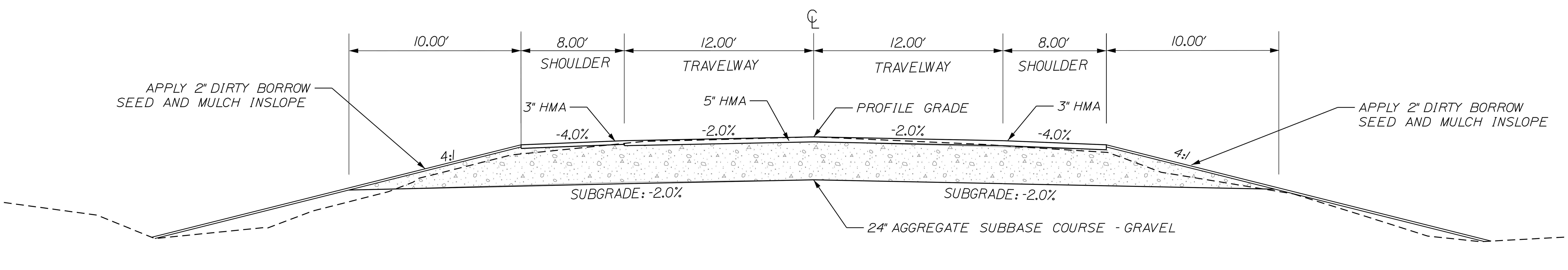
1. THE PAVEMENT. BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.

2. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW SIDE SHOULDER, THE LOW SIDE SHOULDER SHALL HAVE THE SAME SLOPE AS THE TRAVELWAY.

3. CROWNS FOR BOTH NORMAL AND SUPERELEVATION SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.

4. THE GRAVEL QUANTITY CALCULATION IS BASED ON A 2" LOAM OR DIRTY BORROW DEPTH. THE ACTUAL DEPTH MAY VARY. SEE THE GENERAL NOTES.

5. THE ALGEBRAIC DIFFERENCE BETWEEN THE SHOULDER AND TRAVELWAY CROSS SLOPES "ROLLOVER" SHALL NOT EXCEED 8%.



TYPICAL SECTION

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STATE PROJECT NO. 21823.00

WIN 21823.00

HIGHWAY PLANS

PROJ. MANAGER LARAY HAMILTON		BY	DATE
DESIGN-DETAILED	YUSUF SULTAN	$detailer1$	$projdate1$
CHECKED-REVIEWED	------	------	------
DESIGN2-DETAILED2	$designer2$	$detailer2$	$projdate2$
DESIGN3-DETAILED3	$designer3$	$detailer3$	$projdate3$
REVISIONS 1	------		$revdate1$
REVISIONS 2	------		$revdate2$
REVISIONS 3	$revision3$		$revdate3$
REVISIONS 4	$revision4$		$revdate4$
FIELD CHANGES	$fieldchange$		$fielddate$

SIGNATURE

P.E. NUMBER

DATE

SANFORD - ALFRED
ROUTE 202

TYPICAL SECTIONS

SHEET NUMBER

2

OF 14

Filename: ...\HIGHWAY\MSTA\001_Typical.dgn Division: HIGHWAY Username: Yusuf.Sultan Date:4/3/2020

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.203	PAVMENT BUTT JOINTS	214	SY
203.20	COMMON EXCAVATION	1522	CY
203.24	COMMON BORROW	230	CY
203.25	GRANULAR BORROW	203	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	1268	CY
403.2081	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM HMA SURFACE	130	T
403.2131	HOT MIX ASPHALT 12.5 MM NOMINAL MAXIMUM, BASE	250	T
409.15	BITUMINOUS TACK COAT APPLIED	100	G
508.13	SHEET WATERPROOFING MEMBRANE (175SY)	1	LS
511.07	COFFERDAM UPSTREAM	1	LS
511.07	COFFERDAM DOWNSTREAM	1	LS
534.7101	PRECAST CONCRETE BOX CULVERT- STATE SUPPLIED	1	LS
610.08	PLAIN RIPRAP	50	CY
613.319	EROSION CONTROL BLANKET	450	SY
615.10	DIRTY BORROW	30	CY
618.14	SEEDING METHOD NUMBER 2	4	UN
619.12	MULCH	4	UN
620.58	EROSION CONTROL GEOTEXTILE	150	SY
627.733	4 INCH WHITE OR YELLOW PAINTED PAVE MARK LINE	600	LF
627.78	TEMPORARY 4" PAINTED PAVEMENT MARKING LINE,WHITE,YELLOW	600	LF
629.05	HAND LABOR, STRAIGHT TIME	40	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDES OPERATOR)	20	HR
631.172	TRUCK - LARGE (INCLUDES OPERATOR)	40	HR
631.18	CHAIN SAW RENTAL (INCLUDES OPERATOR)	10	HR
631.22	FRONT END LOADER (INCLUDES OPERATOR)	10	HR
639.19	FIELD OFFICE TYPE B	1	EA
652.311	TYPE II BARRICADE	5	EA
652.312	TYPE III BARRICADE	2	EA
652.33	DRUM	20	EA
652.34	CONE	50	EA
652.35	CONSTRUCTION SIGNS	310	SF
652.36	MAINTENANCE OF TRAFFIC CONTROL DEVICES	48	CD
652.38	FLAGGERS	600	HR
652.61	STAGED CONSTRUCTION AND TRAFFIC CONTROL	1	LS
656.75	TEMPORARY SOIL EROSION & WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS

Filename: ...\HIGHWAY\MSTA\001_Estimate.dgn Division: HIGHWAY Username: Yusuf.Sulton Date:4/3/2020

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STATE PROJECT NO. 21823.00
WIN 21823.00

	BY	DATE
PROJ. MANAGER LARAY HAMILTON		
DESIGN-DETAILED YUSUF SULTAN		
CHECKED-REVIEWED		
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE
P.E. NUMBER
DATE

SANFORE - ALFRED
ROUTE 202

ESTIMATED QUANTITIES

SHEET NUMBER
3
OF 14

GENERAL NOTES

1. CLEARING LIMITS SHALL BE 10 FEET BEYOND AND PARALLEL TO THE CONSTRUCTION SLOPE LINES OR AS SHOWN ON THE PLANS UNLESS OTHERWISE AUTHORIZED BY THE RESIDENT. ALL CLEARING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO SEPARATE PAYMENT WILL BE MADE. THE CLEARING LIMIT SHALL BE APPROVED BY THE RESIDENT.

2. GRUBBING IN FILL AREAS HAS BEEN SHOWN ON THE CROSS SECTIONS AND THE QUANTITIES NOTED. THESE LIMITS ARE APPROXIMATE AND HAVE BEEN USED FOR ESTIMATING PURPOSES ONLY. ACTUAL GRUBBING LIMITS MAY VARY BASED ON FIELD CONDITIONS AS DIRECTED BY THE RESIDENT.

3. INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.

4. ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OF OFF THE PROJECT IN ACCEPTABLE WASTE AREAS REVIEWED BY THE RESIDENT. GRADING, SEEDING, AND MULCHING OF WASTE AREAS SHALL BE CONSIDERED INCIDENTAL.

5. REQUIRED DITCH PROTECTION SHOWN ON THE PLANS OR IN THE CONSTRUCTION NOTES IS FOR ESTIMATING PURPOSES ONLY. THE ACTUAL TYPE AND LOCATION OF DITCH PROTECTION MAYBE ALTERED BY THE RESIDENT.

6. GRANULAR BORROW USED TO BACKFILL MUCK EXCAVATION OR IN LOW WET AREAS TO 1 FOOT ABOVE WATER LEVEL OR OLD GROUND SHALL MEET REQUIREMENTS FOR GRANULAR BORROW MATERIAL FOR UNDERWATER BACKFILL SPECIFIED IN STANDARD SPECIFICATION 703.19.

7. EXISTING INSLOPES IN PROPOSED FILL AREAS SHALL BE BENCHED BY EXCAVATING STEPS OF SUFFICIENT WIDTH TO PERMIT PLACING AND COMPACTING THE FILL MATERIAL ALONG WITH THE MATERIAL REMOVED.

8. DRIVEWAY FILL SIDE SLOPES SHALL BE THE SAME AS THE NON-GUARDRAIL FILL SLOPES UNLESS OTHERWISE NOTED ON THE PLANS.

9. UNLESS OTHERWISE NOTED SEEDING METHOD NO. 1 SHALL BE UTILIZED ON ALL LAWNS AND DEVELOPED AREAS; SEEDING METHOD NO. 2 SHALL BE UTILIZED ON ALL OTHER AREAS.

10. All INSPLOE AND DITCHES IN CUT AREAS SHALL BE GRADED AS SHOWN ON THE TYPICALS OR FLATTER, OR DIRECTED BY THE RESIDENT.

11. THE CONTRACTOR SHALL PLAN AND CONDUCT WORK SO THAT UPON COMPLETION OF THE PROJECT THERE IS NO DROP-OFF FROM THE EDGE OF THE SHOULDER PAVEMENT.

12. DIRTY BORROW HAS BEEN ESTIMATED FOR ALL DISTURBED SLOPE AREAS OTHER THAN LAWN AREAS. ACTUAL PLACEMENT OF DIRTY BORROW SHALL BE AS NOTED ON THE PLANS OR DESIGNATED BY THE RESIDENT.

13. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING MAILBOXES TO ENSURE THAT THE MAIL WILL BE DELIVERABLE. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

14. ANY DAMAGE TO THE SLOPES CAUSED BY THE CONTRACTOR'S EQUIPMENT, PERSONNEL OR OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT. ALL WORK, EQUIPMENT, AND MATERIALS REQUIRED TO MAKE REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.

15. THE PROJECT GEOTECHNICAL REPORT TITLED GEOTECHNICAL REPORT 21823 SANFORD - ALFRED, GEOTECHNICAL DESIGN REPORT CAN BE ACCESSED AT THE MAINEDOT WEBSITE HTTP://WWW.MAINE.GOV/MDOT/CONTRACTORS/.

16. AREAS REQUIRING FILL ON THE PROJECT WILL COME FROM SUITABLE EXCAVATION FROM EXCAVATION, DITCH AND INSLOPE OR EQUIPMENT RENTAL AREAS.

17. GEOTECHNICAL INFORMATION FURNISHED OR REFERRED TO IN THE BID DOCUMENTS IS FOR THE USE OF THE BIDDERS. NO ASSURANCE IS GIVEN THAT THE INFORMATION OR INTERPRETATIONS WILL BE REPRESENTATIVE OF THE ACTUAL SUBSURFACE CONDITIONS THROUGHOUT THE CONSTRUCTION SITE. MAINEDOT WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSION DRAWN FROM THE GEOTECHNICAL INFORMATION. THE BORING LOGS PROVIDED IN THE BID DOCUMENTS (IF ANY) PRESENT FACTUAL AND INTERPRETIVE SUBSURFACE INFORMATION COLLECTED AT DISCRETE LOCATIONS. DATA PROVIDED MAY NOT BE REPRESENTATIVE OF THE SUBSURFACE CONDITIONS BETWEEN BORING LOCATIONS.

18. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT AND LAYOUT OF WORK BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.

19. FINAL STRIPING FOR THE PROJECT SHALL BE DONE BY THE CONTRACTOR PER THE STRIPING LAYOUT IN THE CONTRACT DOCUMENTS OR AS PROVIDED BY THE DEPARTMENT. PAYMENT SHALL BE MADE UNDER APPROPRIATE CONTRACT ITEMS.

CONSTRUCTION NOTES

1. JOINTS BETWEEN EXISTING AND PROPOSED PAVEMENT SHALL BE SAW CUT. PAVEMENT WILL BE CONSIDERED INCIDENTAL TO THE PAVING ITEMS.

2. 534.7101 PRECAST CONCRETE BOX CULVERT
   - CONSTRUCTION IN ACCORDANCE WITH SECTION 534 - PRECAST STRUCTURAL CONCRETE.
   - THE FOLLOWING SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM:
     - EXCAVATION BELOW SUBGRADE.
     - REMOVAL OF EXISTING DRAINAGE.
     - PRECAST CONCRETE TOE WALLS.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STATE PROJECT NO. 21823.00

WIN
021823.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	LARAY HAMILTON	
DESIGN-DETAILED	YUSUF SULTAN $detailer1$	$projdate1$
CHECKED-REVIEWED	------ ------	------
DESIGN2-DETAILED2	$designer2$ $detailer2$	$projdate2$
DESIGN3-DETAILED3	$designer3$ $detailer3$	$projdate3$
REVISIONS 1	------	$revdate1$
REVISIONS 2	------	$revdate2$
REVISIONS 3	$revision3$	$revdate3$
REVISIONS 4	$revision4$	$revdate4$
FIELD CHANGES	$fieldchange$	$fielddate$

SIGNATURE

P.E. NUMBER

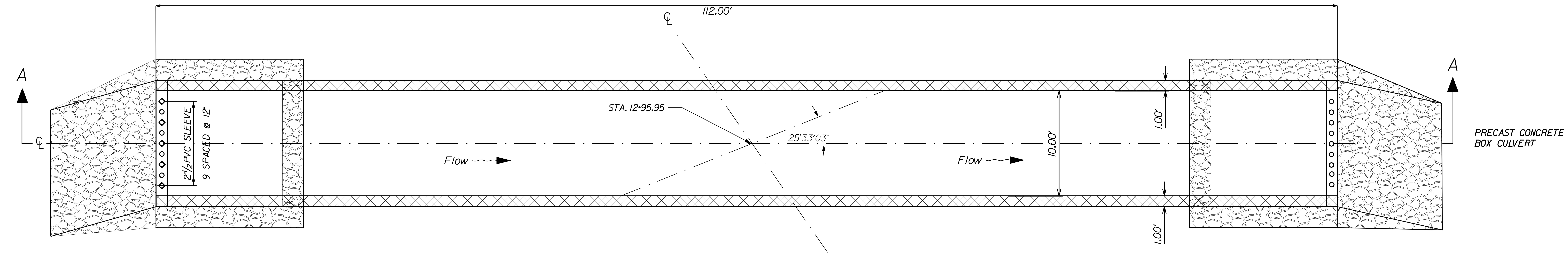
DATE

SANFORD - ALFRED
ROUTE 202

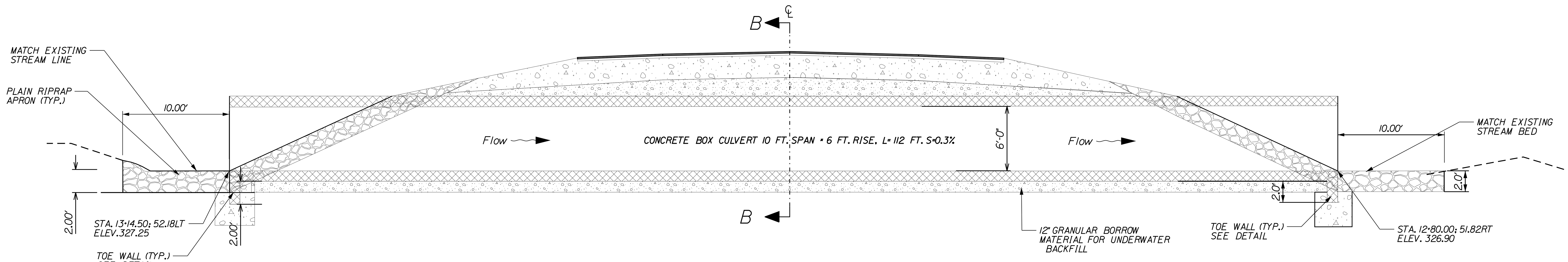
GENERAL NOTES

SHEET NUMBER
4
OF 14

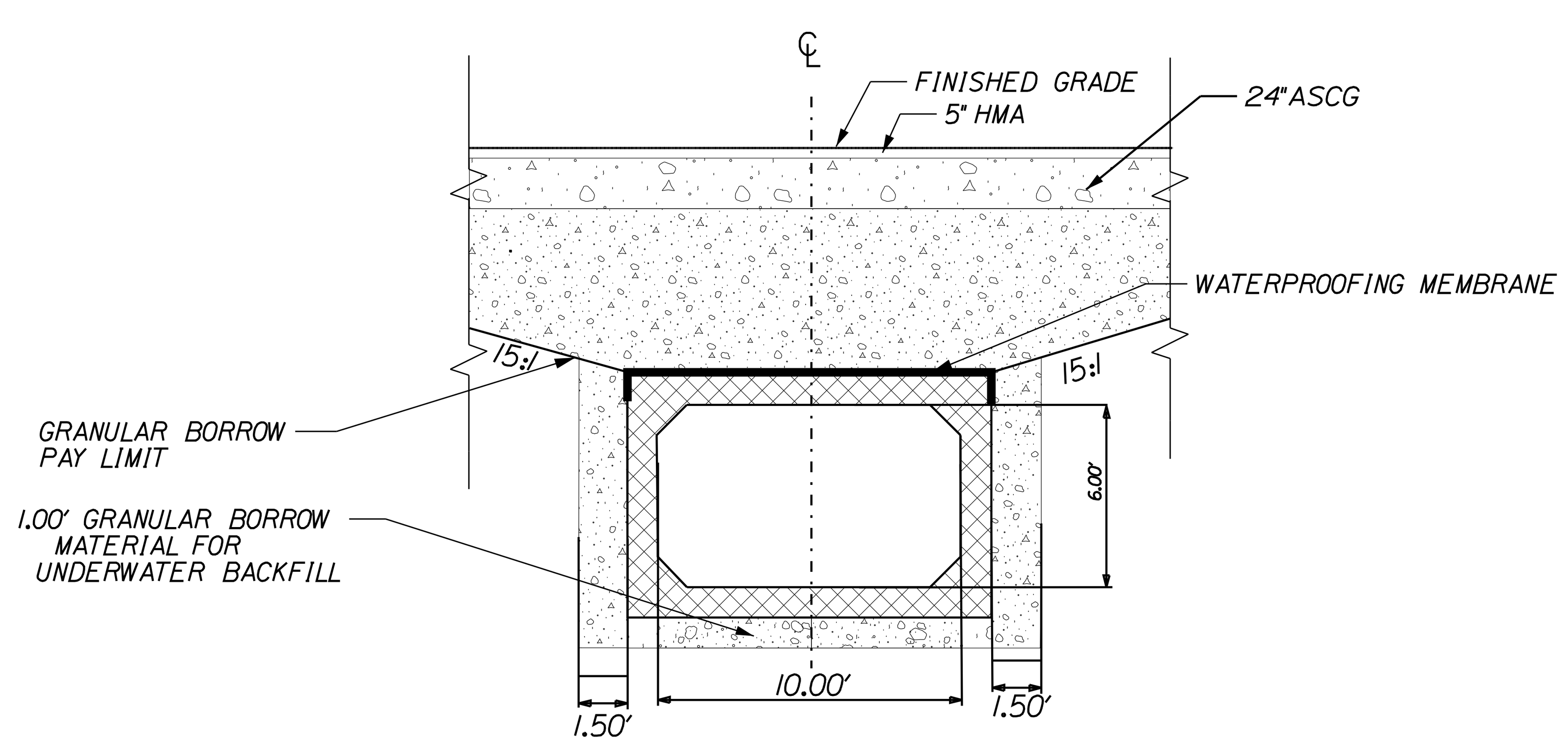
Filename: ...\MSTA\001_GeneralNotes.dgn Division: HIGHWAY Username: Yusuf.Sulton Date:4/22/2020



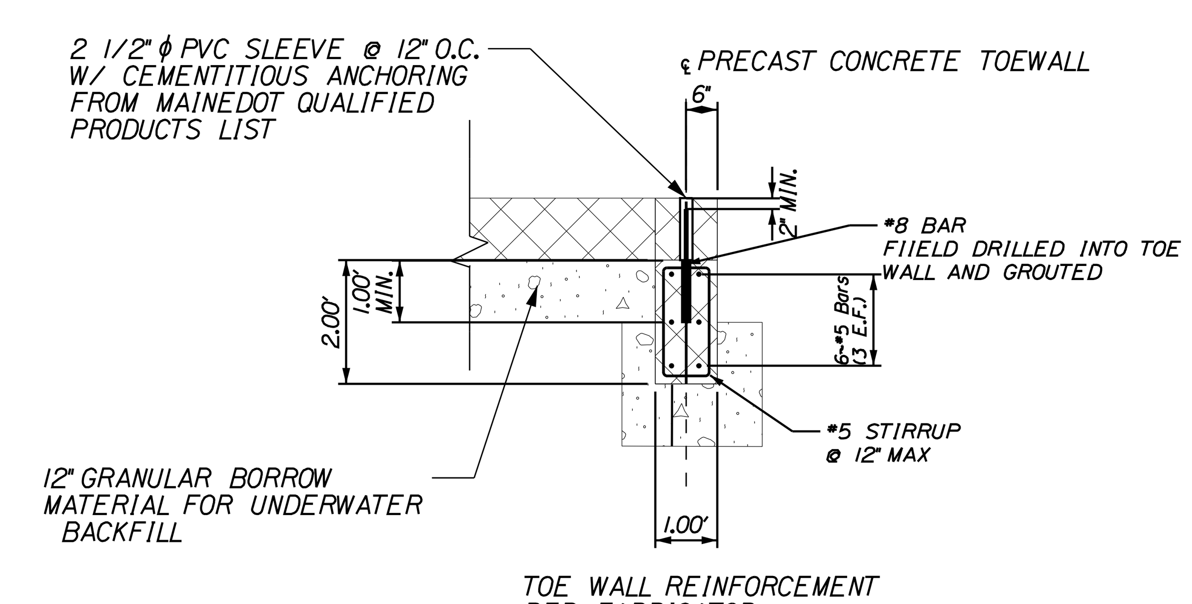
PRECAST CONCRETE BOX CULVERT - PLAN



PRECAST CONCRETE BOX TRANSVERSE SECTION A-A



BOX CULVERT SECTION B-B



PRECAST CONCRETE TOE WALL DETAIL

PRECAST CONCRETE BOX NOTES

1. THE PRECAST UNITS SHALL BE DESIGNED TO CARRY CONSTRUCTION LOADINGS WITH A MINIMUM FILL COVER OF 18" OVER THE TOP OF THE UNITS.
2. THE CONSTRUCTION, HANDLING, AND ASSEMBLY OF THE PRECAST UNITS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 534 PRECAST STRUCTURAL CONCRETE, AND WITH THE MANUFACTURER'S SPECIFICATIONS AS APPLICABLE.
3. INSTALL STANDARD MEMBRANE WATERPROOFING OVER THE TOP AND TO 12" DOWN THE EXTERIOR SIDES OF THE PRECAST UNITS WITHIN THE LIMITS OF THE BACKFILL OVER THE TOP OF THE STRUCTURE.
4. THE PRECAST CONCRETE BOX CULVERT SHALL BE BEDDED ON A 1-FOOT LAYER OF COMPACTED GRANULAR BORROW MATERIAL FOR UNDERWATER BACKFILL.
5. COFFERDAMS ARE TO BE PLACED AT BOTH THE DOWNSTREAM AND UPSTREAM ENDS OF THE PRECAST CONCRETE BOX CULVERT TO ALLOW CONSTRUCTION OF THE BOX CULVERT IN DRY.

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2182300

WIN
021823.00

	BY	DATE
PROJ. MANAGER LARAY HAMILTON		
DESIGN-DETAILED	Y.SULTAN	MAY 2019
CHECKED-REVIEWED		
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

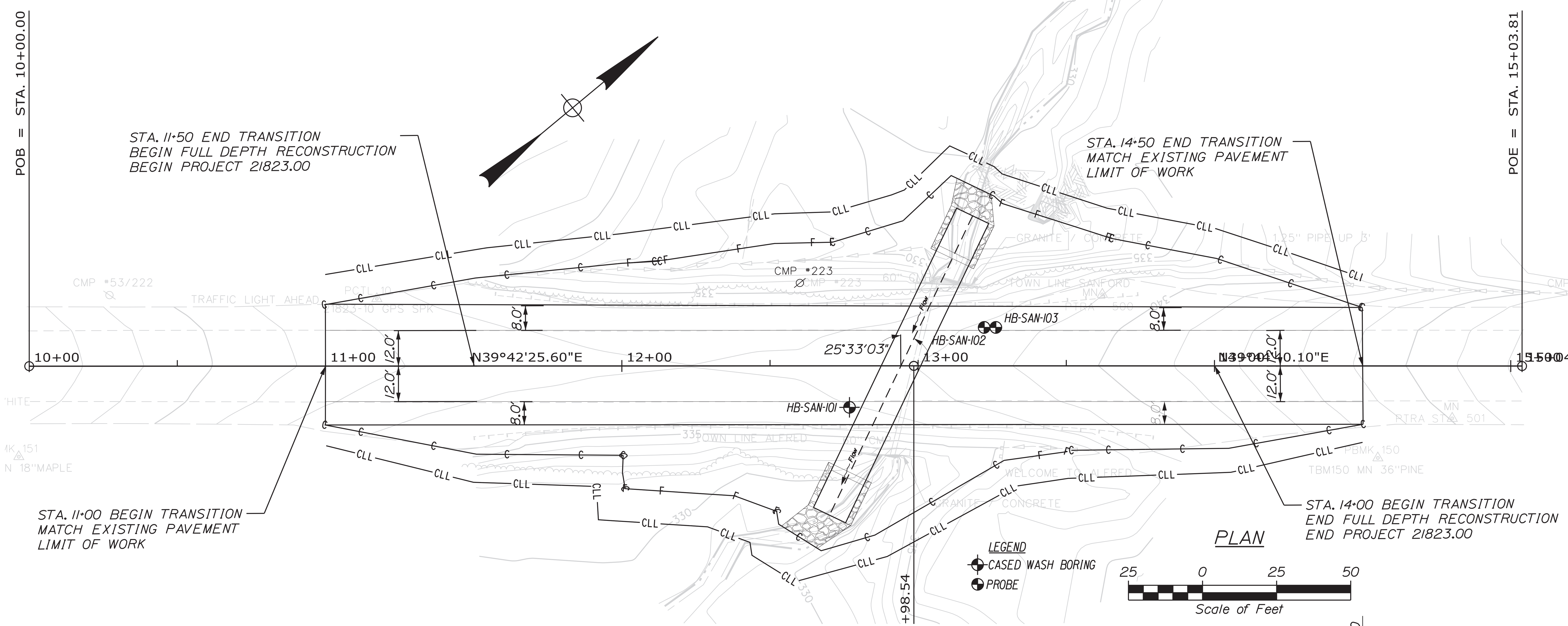
SANFORD - ALFRED
ROUTE 202

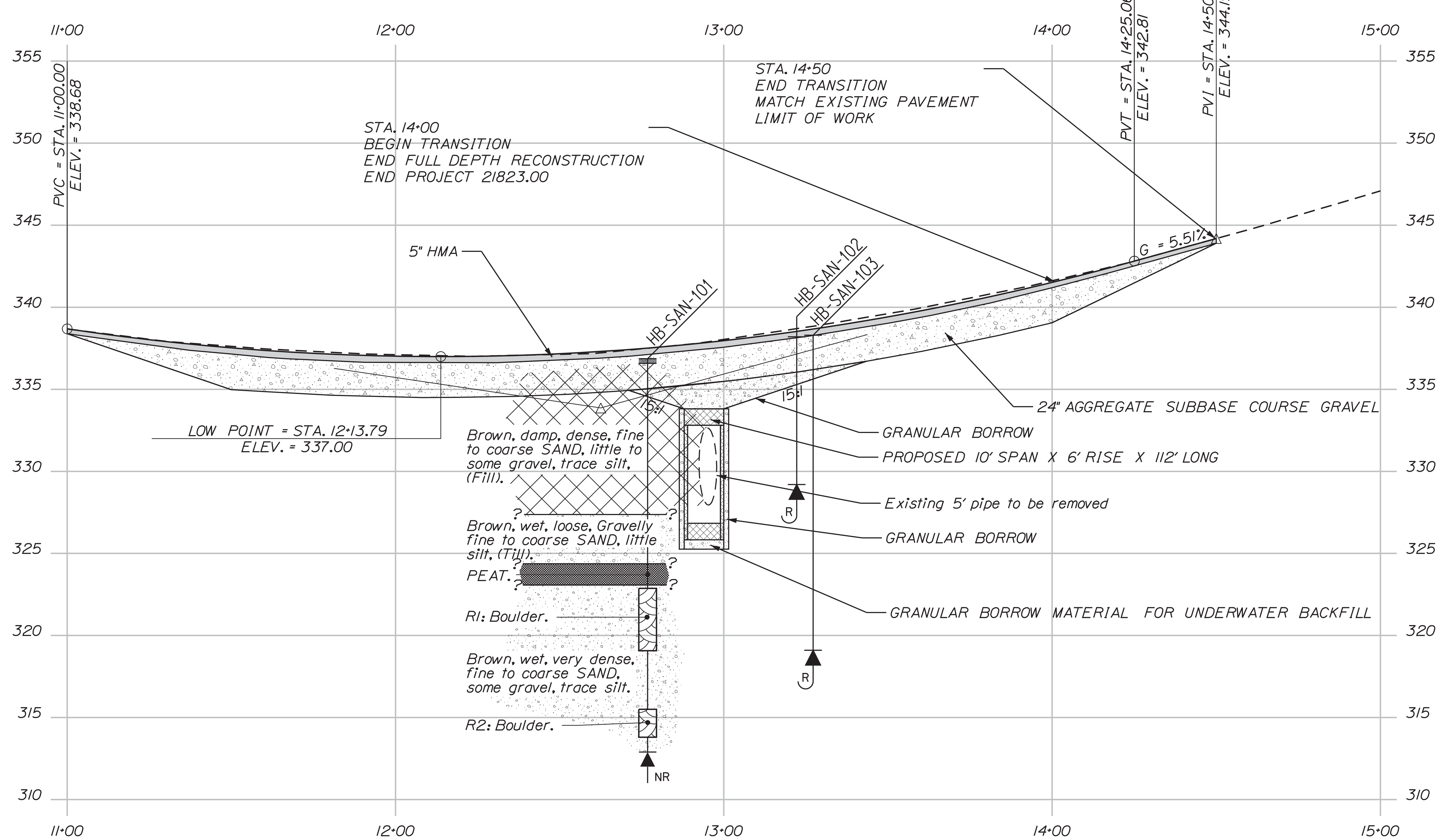
SPECIAL DETAIL
PRECAST BOX CULVERT

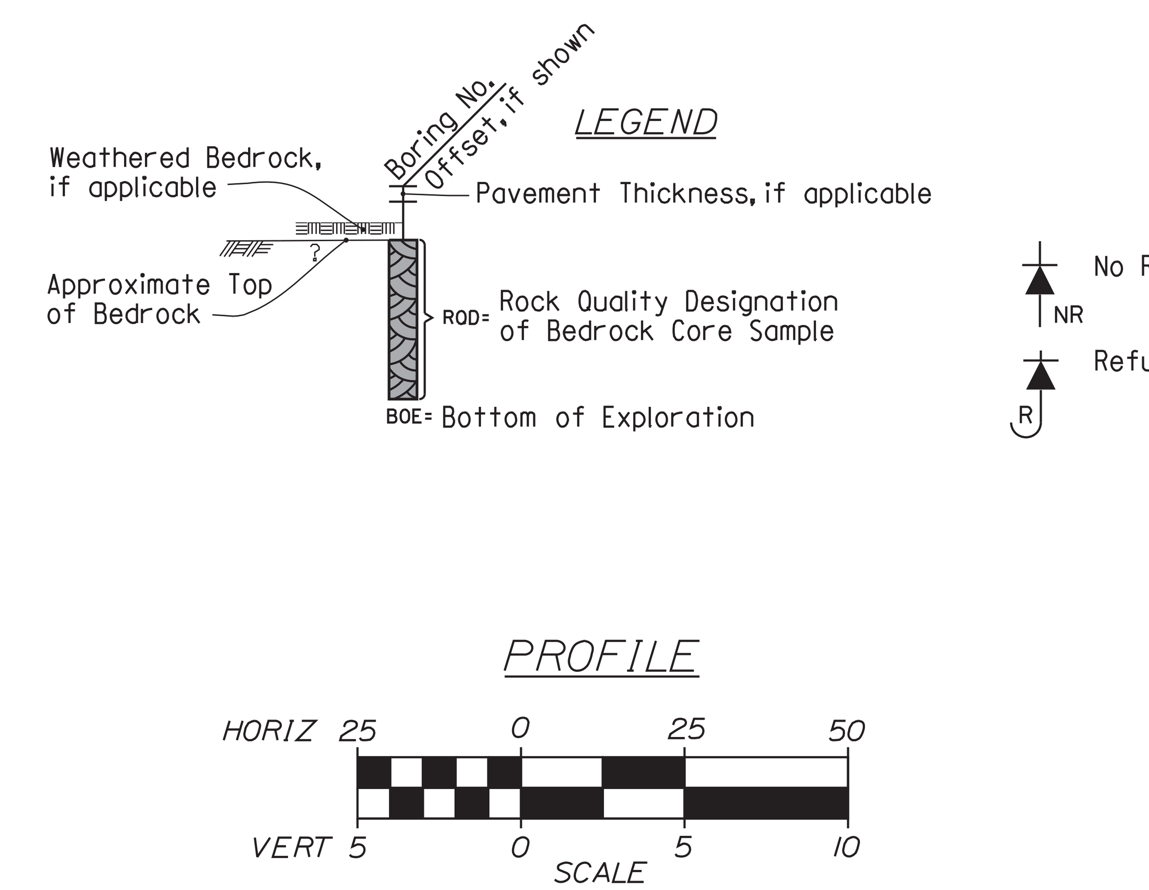
SHEET NUMBER

5

OF 13







Note: This generalized interpretive soil profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretations of widely spaced explorations and samples. Actual soil and bedrock transitions may vary and are probably more erratic. For more specific information refer to the exploration logs.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

HIGHWAY PLANS

WIN
021823.00

STATE OF MAINE
Cody A. Russell
15866
LICENSED PROFESSIONAL ENGINEER

Cody A. Russell
SIGNATURE
15866
P.E. NUMBER
4/15/2020
DATE

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED	C.RUSSELL	
DESIGN2-DETAILED2	C.RUSSELL	
DESIGN3-DETAILED3	T.WHITE	MAY 2018
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD\ALFRED
ROUTE 202

BORING LOCATION PLAN &
INTERPRETIVE SUBSURFACE PROFILE

Filename: ...\MSTA\003_BORING LOGS1.dgn Division: GEOTECH Username: Cody.A.Russell Date:4/15/2020

Maine Department of Transportation

Soil/Rock Exploration Log

US CUSTOMARY UNITS

Project: Large Culvert Replacement on Route 202

Location: Sanford-Alfred, Maine

Boring No.: HB-SAN-101

WIN: 21823.00

Driller:	MaineDOT	Elevation (ft.)	336.9	Auger ID/OD:	5" Dia. Solid Stem
Operator:	Daggett/Niles	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	B. Wilder	Rig Type:	CME 45C	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	4/23/2018; 08:00-13:00	Drilling Method:	Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location:	12+76.8, 14.1 ft Rt.	Casing ID/OD:	NW-3"	Water Level*:	9.0 ft bgs.
Hammer Efficiency Factor: 0.854		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 = Field Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Field 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_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane 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 No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	336.6		3.5" HMA. 0.3	
	1D	24/18	1.00 - 3.00	6/14/10/8	24	34				Brown, damp, dense, fine to coarse SAND, some gravel, trace silt, (Fill).	G#336644 A-1-b, SW-SM WC=4.2%
5	2D	24/13	5.00 - 7.00	2/9/14/9	23	33				Brown, damp, dense, fine to coarse SAND, little gravel, trace silt, (Fill).	G#336645 A-1-b, SP-SM WC=27.9%
								327.4		9.5	
10	3D	24/10	10.00 - 12.00	3/4/2/2	6	9	7			Brown, wet, loose, Gravelly fine to coarse SAND, little silt, (Till).	G#336646 A-1-b, SW-SM WC=9.8%
							6				
							5	324.4		12.5 Layer of Organic Silt/Peat in wash from 12.5-13.8 ft bgs.	
							97	323.1		13.8	
	R1	48/45	14.00 - 18.00				OPEN HOLE	322.9		14.0 R1: Boulder. R1: Core Times (min:sec) 14.0-15.0 ft (7:42) 15.0-16.0 ft (4:12) 16.0-17.0 ft (3:23) 17.0-17.8 ft (3:00) 94% Recovery	
15											
								319.1		17.8	
20	4D	16.8/10	20.00 - 21.40	31/25/50(4.8")	---					Brown, wet, very dense, fine to coarse SAND, some gravel, trace silt, (Till).	G#336647 A-1-b, SW-SM WC=5.9%
	R2	31.2/9	21.40 - 24.00					315.5		21.4 R2: Boulder. R2: Core Times (min:sec) 21.4-22.4 ft (2:00) 22.4-23.4 ft (4:45)	
								313.8		23.1 23.4-24.0 ft (0:10) 29% Recovery	
								312.9		24.0 Bottom of Exploration at 24.0 feet below ground surface. NO REFUSAL	
25											

Remarks:

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

* 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.

Page 1 of 1

Boring No.: HB-SAN-101

Maine Department of Transportation

Soil/Rock Exploration Log

US CUSTOMARY UNITS

Project: Large Culvert Replacement on Route 202

Location: Sanford-Alfred, Maine

Boring No.: HB-SAN-102

WIN: 21823.00

Drilling Contractor:	MaineDOT	Elevation (ft.)	338.2	Auger ID/OD:	5" Dia.
Operator:	Daggett/Niles	Datum:	NAVD88	Sampler:	N/A
Logged By:	B. Wilder	Rig Type:	CME 45C	Hammer Wt./Fall:	N/A
Date Start/Finish:	4/23/2018-4/23/2018	Drilling Method:	Solid Stem Auger	Core Barrel:	N/A
Boring Location:	13+22.2, 13.0 ft Lt.	Casing ID/OD:	N/A	Water Level*:	None Observed

Definitions:
D = Split Spoon Sample
B = Bucket Sample off Auger Flights
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MV = Unsuccessful Field Vane Shear Test Attempt
V = Field Vane Shear Test, PP = Pocket Penetrometer
MU = Unsuccessful Thin Wall Tube Sample 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 1 Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-value = Raw Field SPT N-value
T_v = Pocket Torvane Shear Strength (psf)
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 No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			Probe, soil samples taken.	
5										
							329.20		9.0 Bottom of Exploration at 9.0 feet below ground surface. REFUSAL	
10										
15										
20										
25										

Remarks:

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

* 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.

Page 1 of 1

Boring No.: HB-SAN-102

Maine Department of Transportation

Soil/Rock Exploration Log

US CUSTOMARY UNITS

Project: Large Culvert Replacement on Route 202

Location: Sanford-Alfred, Maine

Boring No.: HB-SAN-103

WIN: 21823.00

Drilling Contractor:	MaineDOT	Elevation (ft.)	338.3	Auger ID/OD:	5" Dia.
Operator:	Daggett/Niles	Datum:	NAVD88	Sampler:	N/A
Logged By:	B. Wilder	Rig Type:	CME 45C	Hammer Wt./Fall:	N/A
Date Start/Finish:	4/23/2018-4/23/2018	Drilling Method:	Solid Stem Auger	Core Barrel:	N/A
Boring Location:	13+27.2, 13.0 ft Lt.	Casing ID/OD:	N/A	Water Level*:	None Observed

Definitions:
D = Split Spoon Sample
B = Bucket Sample off Auger Flights
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MV = Unsuccessful Field Vane Shear Test Attempt
V = Field Vane Shear Test, PP = Pocket Penetrometer
MU = Unsuccessful Thin Wall Tube Sample 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 1 Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-value = Raw Field SPT N-value
T_v = Pocket Torvane Shear Strength (psf)
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 No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0						SSA			Probe, no soil samples taken.	
5										
10										
15										
							319.10		19.2 Bottom of Exploration at 19.2 feet below ground surface. REFUSAL	
20										
25										

Remarks:

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

* 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.

Page 1 of 1

Boring No.: HB-SAN-103

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 021823.00

HIGHWAY PLANS

STATE OF MAINE Cody A. Russell 15666 LICENSED PROFESSIONAL ENGINEER

Cody A. Russell

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN2-DETAILED2	C.RUSSELL	FEB 2020
DESIGN3-DETAILED3	T.WHITE	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE 15666
P.E. NUMBER 4/15/2020
DATE

SANFORD\ALFRED
ROUTE 202

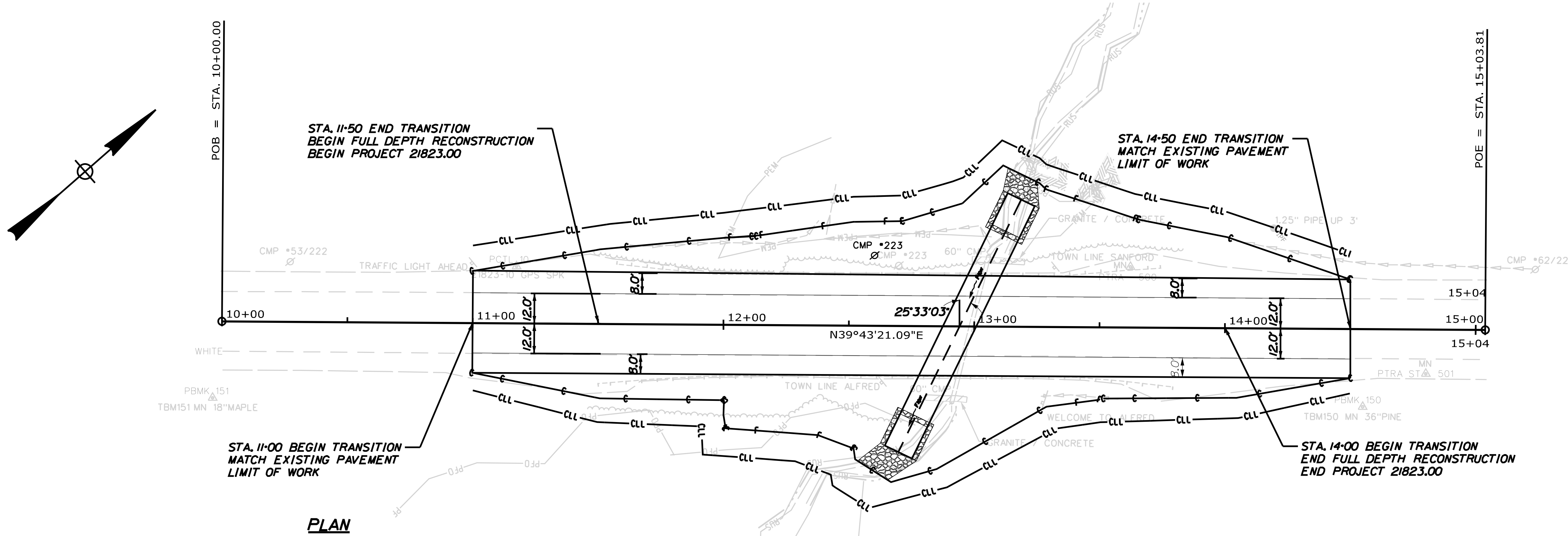
BORING LOGS

SHEET NUMBER

7

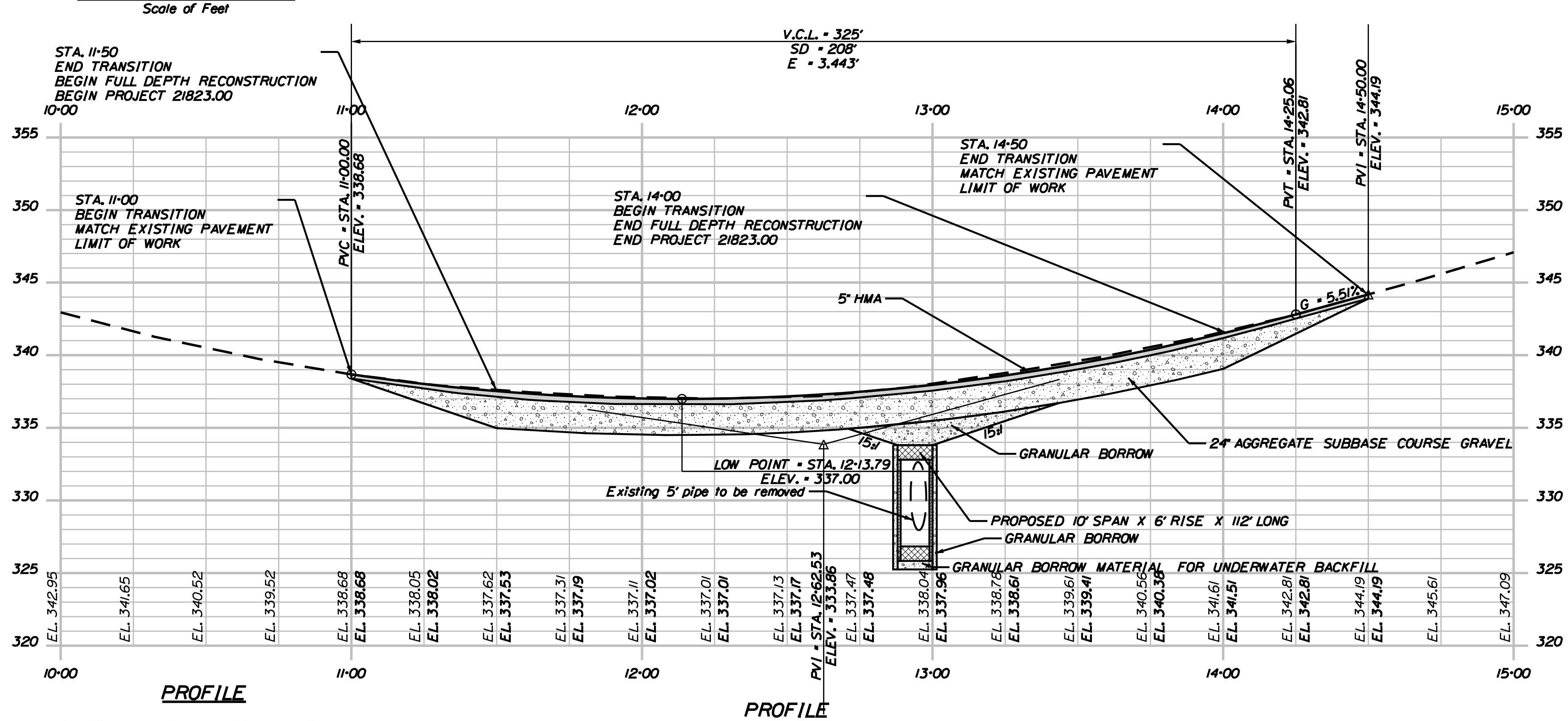
OF 14

Filename: ...\00\HIGHWAY\MSTA\001_HDPlan.dgn Division: HIGHWAY Username: Yusuf.Sultan Date:4/3/2020



PLAN

Scale of Feet: 25 0 25 50



PROFILE

Horiz. 25 0 25 50
Vert. 5 0 5 10
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STATE PROJECT NO. 21823.00

WIN 021823.00

HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER LARAY HAMILTON		
DESIGN-DETAILED	YUSUF SULTAN	$datele1$
CHECKED-REVIEWED		
DESIGN2-DETAILED2	$designer2$	$datele2$
DESIGN3-DETAILED3	$designer3$	$datele3$
REVISIONS 1		
REVISIONS 2		
REVISIONS 3	$revision3$	$revdate3$
REVISIONS 4	$revision4$	$revdate4$
FIELD CHANGES	$fieldchanges$	$fielddate$

SIGNATURE

P.E. NUMBER

DATE

SANFORD - ALFRED
ROUTE 202

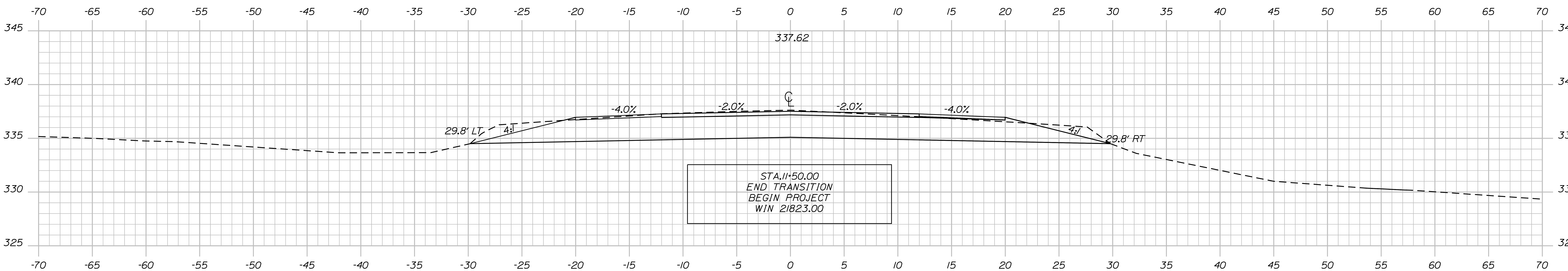
PLANS & PROFILE

SHEET NUMBER

8

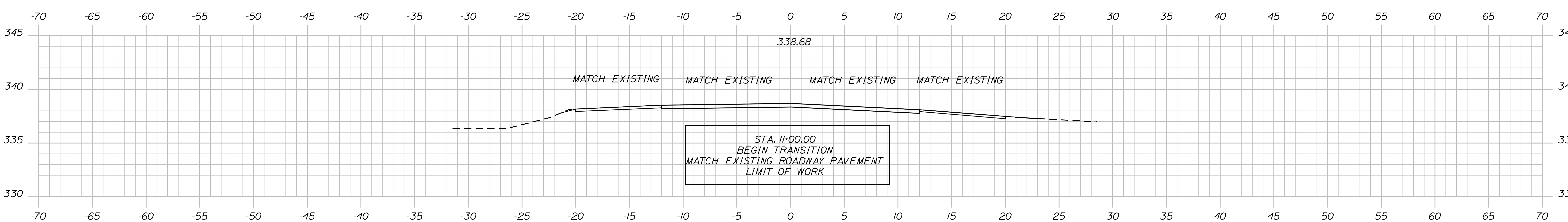
OF 14

Filename: ...\00\HIGHWAY\MSTA\001_Xsect.dgn Division: HIGHWAY Username: Yusuf.Sulton Date:4/3/2020



11+50.00

ITEM NO.	QUANTITY
203.20	195.6 CY
304.10	194.7 CY



11+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STATE PROJECT NO. 2182300

HIGHWAY PLANS

WIN 21823.00

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	LARAY HAMILTON		
DESIGN-DETAILED	Y.SULTAN	$detailer1$	$projdate1$
CHECKED-REVIEWED	-----	-----	-----
DESIGN2-DETAILED2	$designer2$	$detailer2$	$projdate2$
DESIGN3-DETAILED3	$designer3$	$detailer3$	$projdate3$
REVISIONS 1	-----		$revdate1$
REVISIONS 2			$revdate2$
REVISIONS 3	$revision3$		$revdate3$
REVISIONS 4	$revision4$		$revdate4$
FIELD CHANGES	$fieldchange$		$fielddate$

SANFORD - ALFRED
ROUTE 202

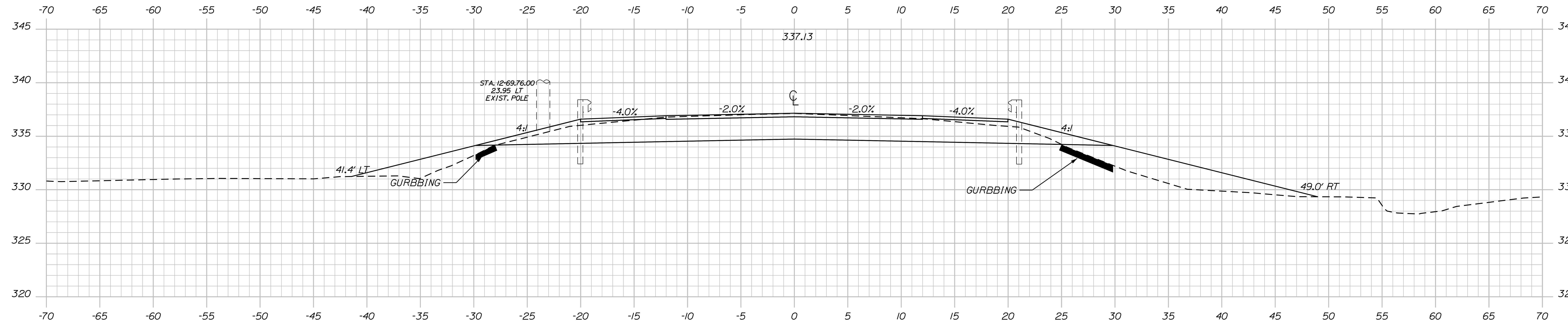
CROSS SECTIONS

SHEET NUMBER

9

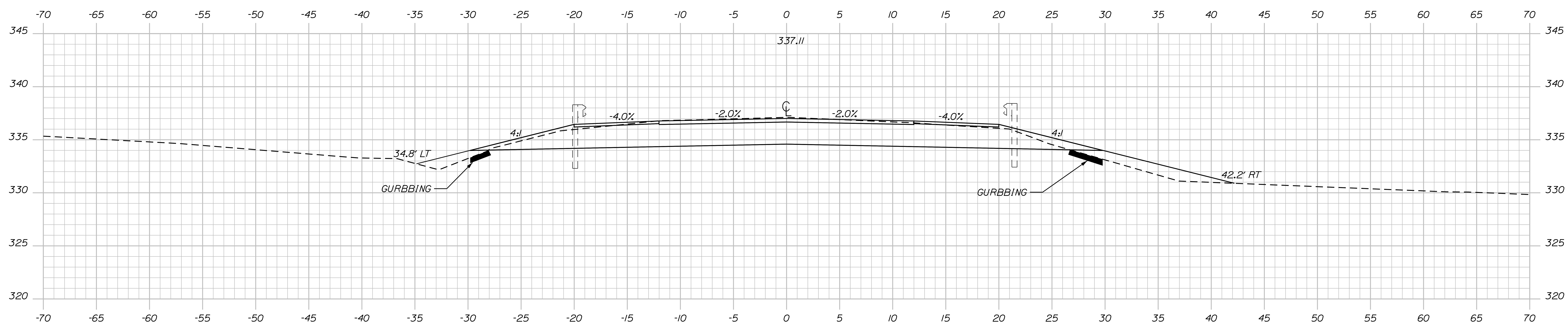
OF 14

Sta. 11+00.00 to Sta. 11+50.00



12+50.00

ITEM NO.	QUANTITY
203.20	201.8 CY
304.10	194.9 CY



12+00.00

ITEM NO.	QUANTITY
203.20	197.6 CY
304.10	193.7 CY

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STATE PROJECT NO. 2182300
WIN 21823.00
HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	LARAY HAMILTON		
DESIGN-DETAILED	Y.SULTAN	$detailer1$	$projdate1$
CHECKED-REVIEWED	______	______	______
DESIGN2-DETAILED2	$designer2$	$detailer2$	$projdate2$
DESIGN3-DETAILED3	$designer3$	$detailer3$	$projdate3$
REVISIONS 1	______		$revdate1$
REVISIONS 2			$revdate2$
REVISIONS 3	$revision3$		$revdate3$
REVISIONS 4	$revision4$		$revdate4$
FIELD CHANGES	$fieldchange$		$fielddate$

SIGNATURE
P.E. NUMBER
DATE

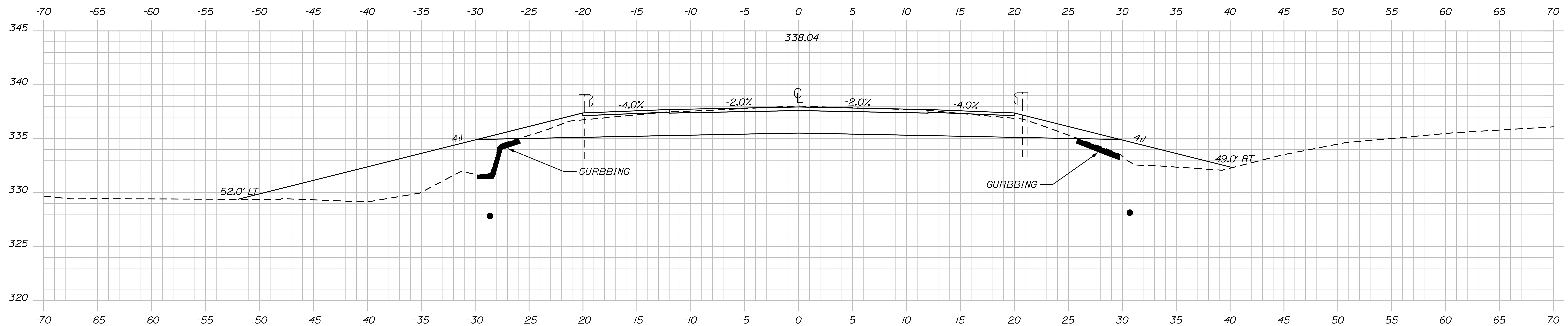
SANFORD - ALFREDR
ROUTE 202

CROSS SECTIONS

SHEET NUMBER
10
OF 14

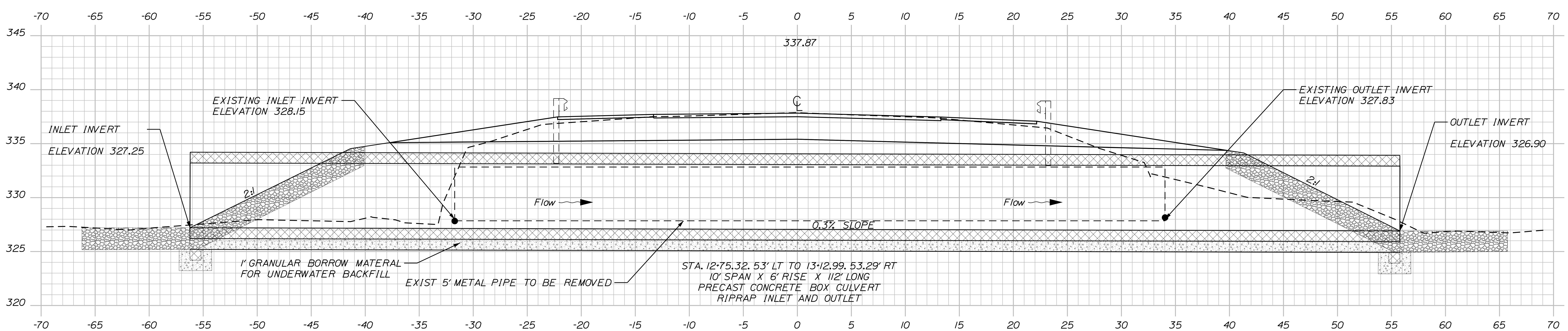
Sta. 12+50.00 to Sta. 12+50.00

Filename: ...\00\HIGHWAY\MSTA\001_Xsect.dgn Division: HIGHWAY Username: Yusuf.Sulton Date:4/3/2020



13+00.00

ITEM NO.	QUANTITY
203.20	90 CY
304.10	38 CY



12+94.15

ITEM NO.	QUANTITY
203.20	390 CY
304.10	279.4 CY

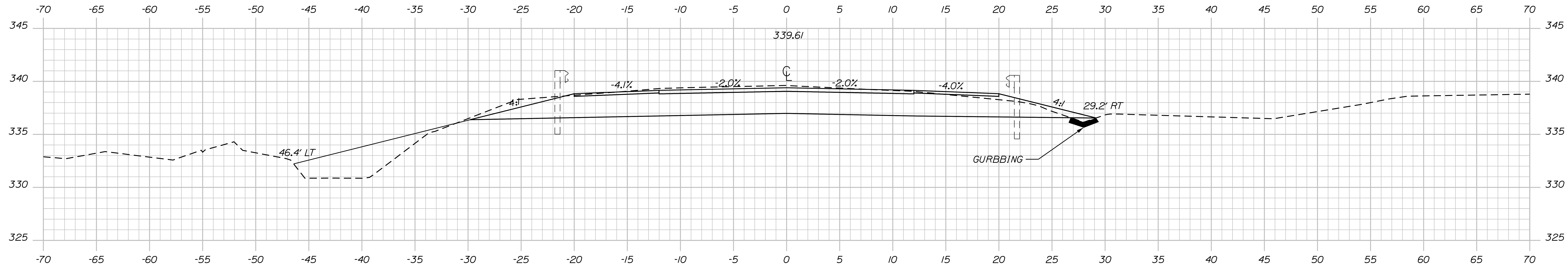
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STATE PROJECT NO. 2182300
WIN 21823.00
HIGHWAY PLANS

SANFORD - ALFRED
ROUTE 202
CROSS SECTIONS

SHEET NUMBER
11
OF 14

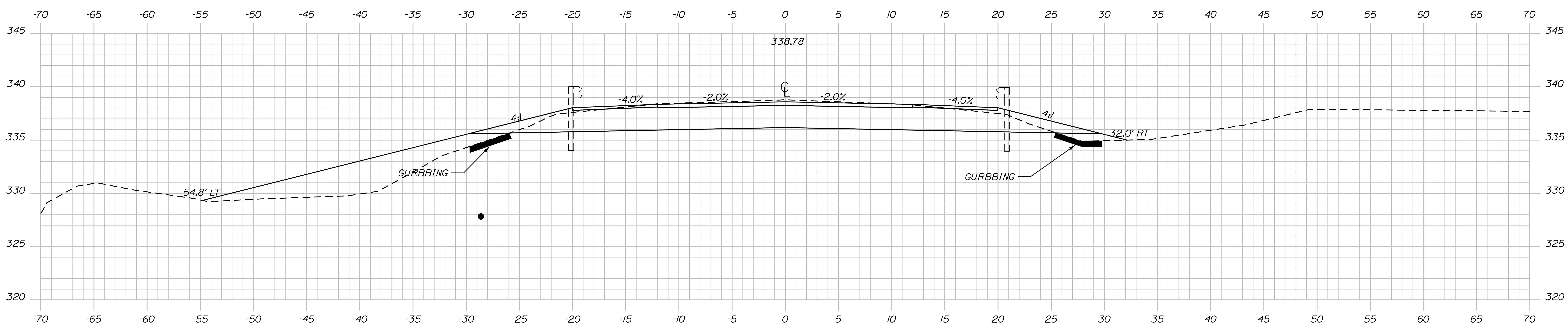
Sta. 12+94.15 to Sta. 13+00.00

Filename: ...\00\HIGHWAY\MSTA\001_Xsect.dgn Division: HIGHWAY Username: Yusuf.Sulton Date:4/3/2020



13+50.00

ITEM NO.	QUANTITY
203.20	110 CY
304.10	90.4 CY



13+25.00

ITEM NO.	QUANTITY
203.20	110 CY
304.10	97.0 CY

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
STATE PROJECT NO. 2182300
WIN 21823.00
HIGHWAY PLANS

SANFORD - ALFRED
ROUTE 202

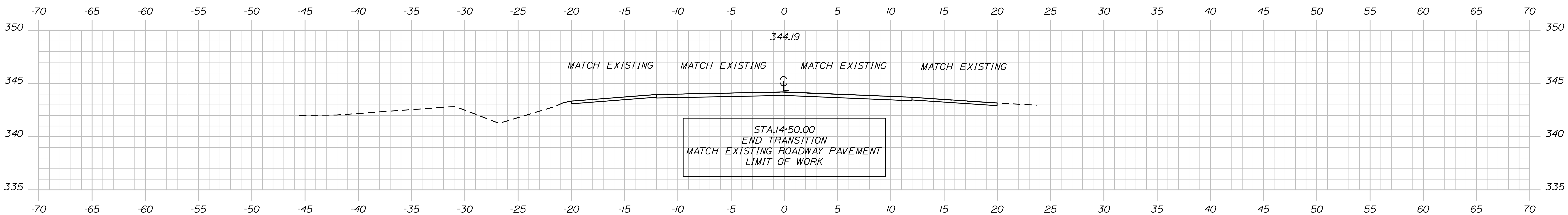
CROSS SECTIONS

SHEET NUMBER
12
OF 14

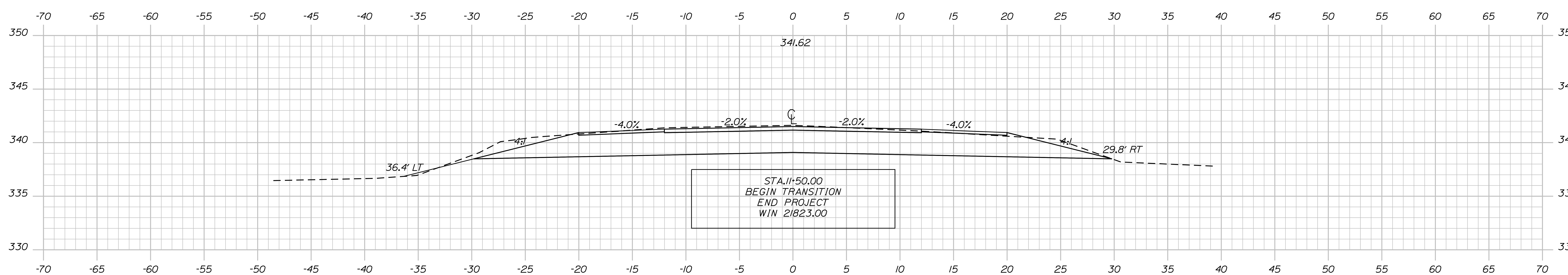
Sta. 13+25.00 to Sta. 13+50.00

Filename: ...\00\HIGHWAY\MSTA\001_Xsect.dgn Division: HIGHWAY Username: Yusuf.Sulton Date:4/3/2020

Filename: ...\00\HIGHWAY\MSTA\001_Xsect.dgn   Division: HIGHWAY   Username: Yusuf.Sultan   Date:4/3/2020



14+50.00



14+00.00

ITEM NO.	QUANTITY
203.20	220 CY
304.10	180 CY

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STATE PROJECT NO. 2182300

HIGHWAY PLANS

WIN
21823.00

		BY	DATE
PROJ. MANAGER	LARAY HAMILTON		
DESIGN-DETAILED	Y.SULTAN	$detailer1$	$projdate1$
CHECKED-REVIEWED	_____	_____	$projdate2$
DESIGN2-DETAILED2	$designer2$	$detailer2$	$projdate2$
DESIGN3-DETAILED3	$designer3$	$detailer3$	$projdate3$
REVISIONS 1	_____		$revdate1$
REVISIONS 2	_____		$revdate2$
REVISIONS 3	$revision3$		$revdate3$
REVISIONS 4	$revision4$		$revdate4$
FIELD CHANGES	$fieldchange$		$fielddate$

SIGNATURE

P.E. NUMBER

DATE

SANFORD - ALFRED
ROUTE 202

CROSS SECTIONS

SHEET NUMBER

13

OF 14

Sta. 14+00.00 to Sta. 14+50.00

Filename: ...\00\ROW\MSTA\014_RWPLAN1.dgn Division: HIGHWAY Username: Yusuf.Sulton Date:4/6/2020

PLAN LEGEND

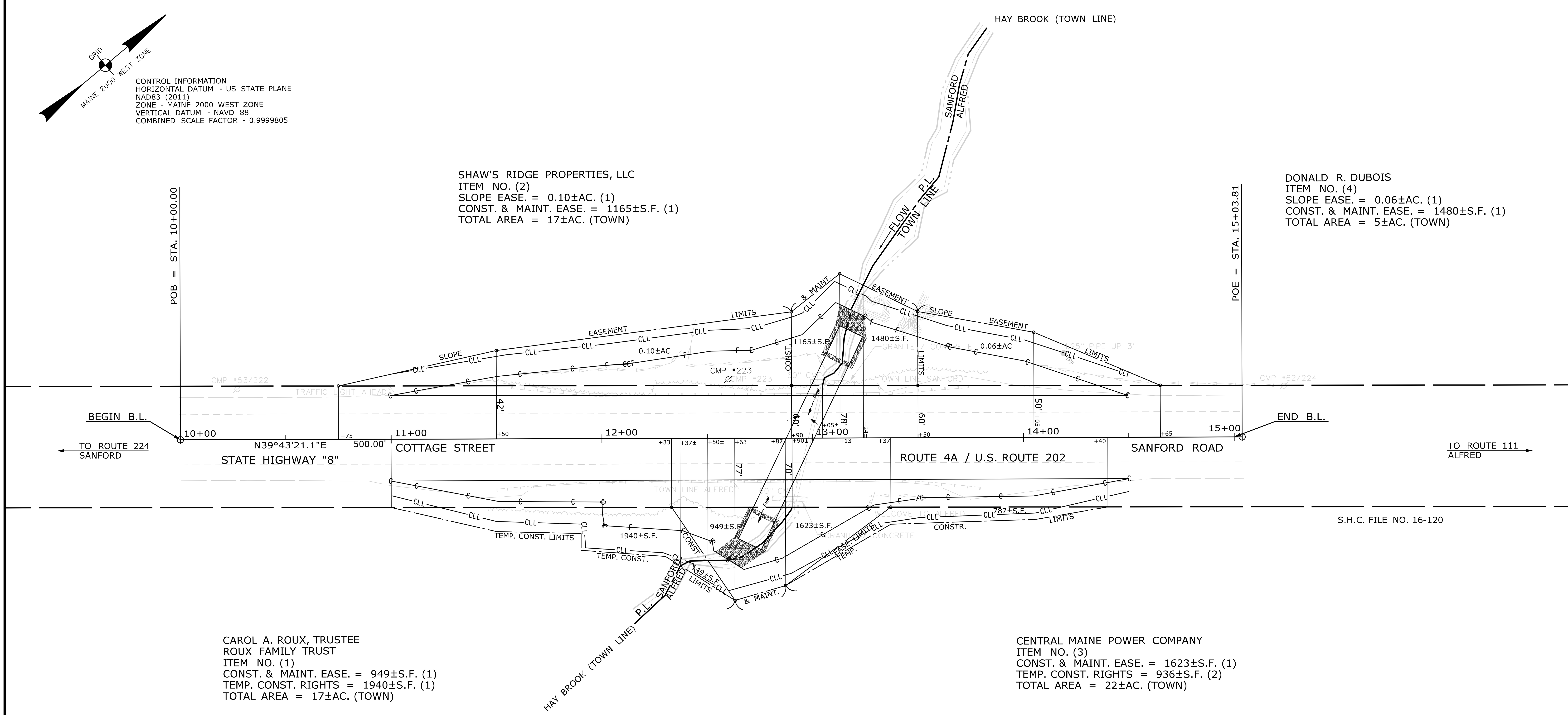
	Existing	Proposed
Town, County, State		P.L.
Approx. Property Lines		
Existing Right of Way		
Limits of Wrought Portion	L.O.W.P.	
Control Of Access	C.O.A.	
New Right of Way		
New Easement		
New Temporary Rights		
New R/W Within Existing R/W		
New R/W Along Existing R/W		
Building		
Clearing Limit Line		CLL
Trees: Conifer, Deciduous		
Tree Line		
Bush Line		
Water Edge		
Ledge		
Rock/Boulder		
Flag Pole		
Fence: Chain Link, Barb Wire, Stockade		
Sign		
Well		
Mailbox		
Sanitary Sewer		
Telephone Line	T	T
Electric Line	E	E
Water Line	W	W
Underdrain Line		
Gas Line	G	G
Guardrail		
Culvert		
Traveled Way		
Ditch		
Catch Basin		
Manhole		
Sewer Manhole		
Utility Pole		
Fire Hydrant		
Curbing		
Cut Line	C	
Fill Line	F	
Stonewall		
Retaining Wall		
Baseline	10+00, 11+00, 12+00	
Monument		
Traverse Point		
Iron Rod Found	IRF	
Pipe Found	IPF	
Replacement Pin Set		

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY ____________
RECEIVED ____________, ____
at ______h______m______M and recorded in
Plan Book ____________, Page ____________
Attest: ____________
REGISTER

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet



EXISTING RIGHT OF WAY REFERENCES:
U.S. ROUTE 202 & 4A:
1) MAINE STATE HIGHWAY COMMISSION, PLAN OF PROPOSED RELOCATION STATE HIGHWAY "U", FILE NO. 16-120, DATED MAY 1940.
2) MAINE STATE HIGHWAY COMMISSION, RIGHT OF WAY MAP, STATE HIGHWAY "U" ALFRED, YORK COUNTY S.H.C. FILE NO. 16-51 DATED MAY 1941. (YCRD BK 19, PG 33)
3) YORK COUNTY COMMISSIONER'S VOLUME 14, PAGE 305
3 RODS WIDE, DATED 1808 AND VOL 18, PAGE 88 3 RODS WIDE DATED 1844.

COTTAGE STREET BRIDGE
OVER
HAY BROOK

BRIDGE NO. 6630

WIN 021823.00

CHECKED	TECH	ITEM
C.W.K.	R.M.C.	EXISTING CONDITION PLAN
J.H.	E.M.S.	FINAL RIGHT OF WAY
J.H.	E.M.S.	AREAS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
SANFORD\ALFRED
RIGHT OF WAY MAP

REVISIONS			
NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK		PAGE	COUNTY RECORD		
NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

STATE HIGHWAY "8"
U.S. ROUTE 202 & ROUTE 4A
SANFORD\ALFRED YORK COUNTY
STATE PROJECT NO. 21823.00

JANUARY 2020	RIGHT-OF-WAY MAP	D.O.T. FILE NO. 16-534
SCALE 1" = 25'	SHEET 1 OF 1	

SHEET NUMBER
14
OF 14