STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

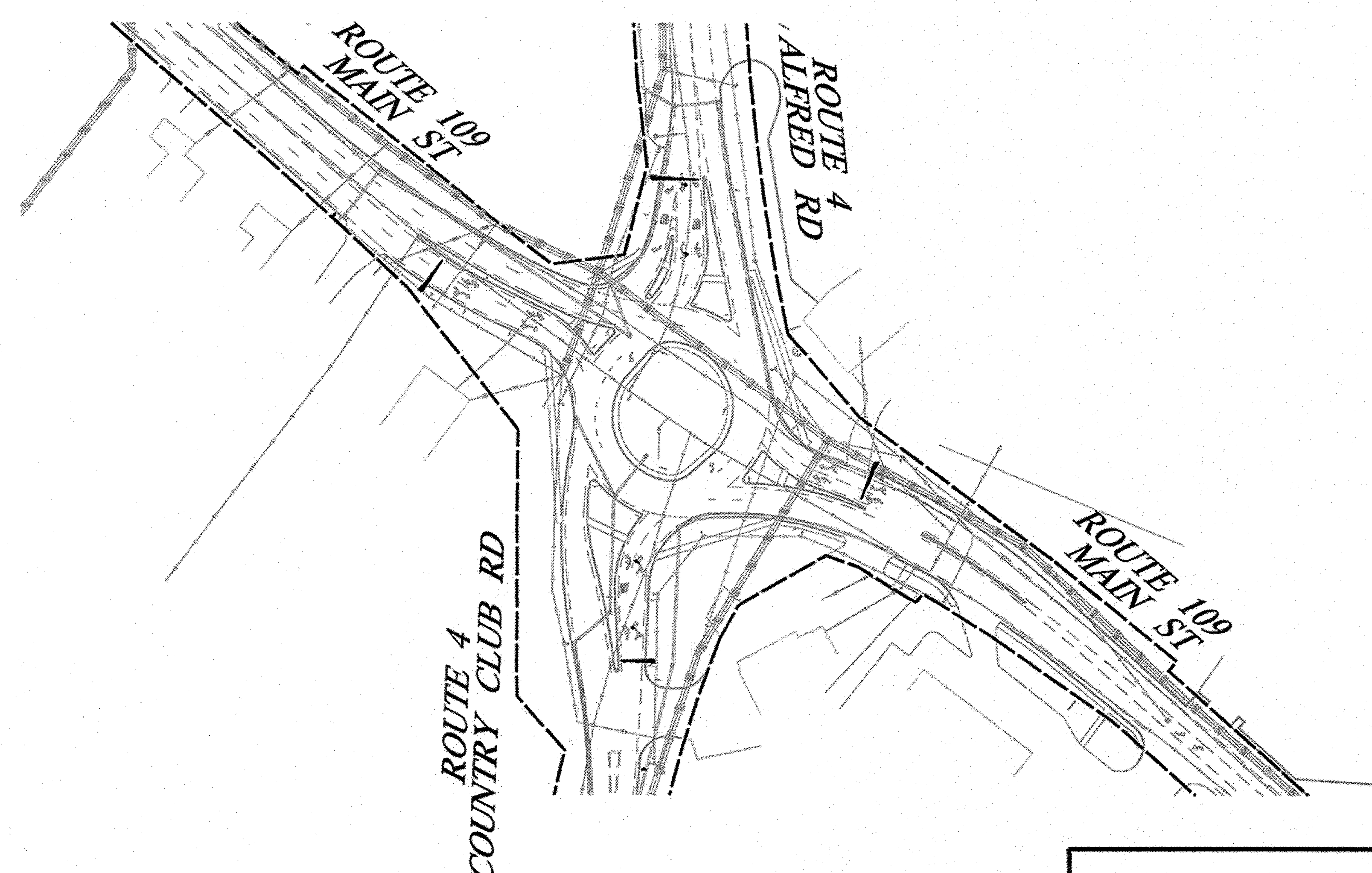
PLAN LEGEND

Town, County, State		Centerline-Existing	
Property Lines		Centerline-Proposed	
R/W Lines-Existing		Travelway-Existing	
R/W Lines-Proposed		Travelway-Proposed	
Culvert-Existing		Railroad	
Culvert Proposed		Catch Basins	Existing / Proposed
Curbing	Existing / Proposed	Manholes	Existing / Proposed
Type 1		Proposed Underdrain	
Type 3		Proposed Ditch	
Type 5		Existing Ditch	
Outline of Bodies of Water		Utility Poles	Existing / Proposed
Exposed Bedrock		Fire Hydrants	Existing / Proposed
Buildings		Existing Water Line	
Trees	Conifer / Deciduous	Existing San. Sewer	
Tree Line		Existing San. Sewer Manhole	
Clearing Limit Line	CLL	Guardrail-Existing	
Boring	HB-XXX-###	Guardrail-Proposed	
		Guardrail-Cable, Other	

	Existing	Proposed
Mast Arm Pole		
Steel Strain Pole		

SANFORD
YORK COUNTY
OVERHEAD LANE USE SIGNING FOR ROUNDABOUT
FEDERAL PROJECT NO. 2297400
STATE WIN 022974.00

INDEX OF SHEETS



LAYOUT SCALE

100 0 100 200

Scale in Feet

PROJECT LOCATION:	In the City of Sanford at the Intersection of Route 109 (Main Street) and Route 4 (Alfred Road/Country Club Road)
PROGRAM AREA:	Multimodal
OUTLINE OF WORK:	Highway Safety and Spot Improvements Traffic Sign Relocation and Other Incidental Work

vhb

WIN 022974.00

STATE OF MAINE DEPARTMENT OF TRANSPORTATION

APPROVED	DATE
COMMISSIONER:	2-27-20
CHIEF ENGINEER:	2-26-2020

STATE OF MAINE MARK SUENNEN No. 11481 LICENSED PROFESSIONAL ENGINEER

SIGNATURE	
P.E. NUMBER	11481
DATE	2/20/20

PROJECT INFORMATION	
PROGRAM	MULTIMODAL
PROJECT MANAGER	G. DOSTIE
DESIGNER	D. SCHANDEL
CONSULTANT	VHB
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SANFORD
ROUTE 109 AND ROUTE 4
TITLE SHEET

SHEET NUMBER 1 OF 12

Date:$date$ Username: jarobert Division: HIGHWAY Filename: 001_Title.dgn

GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE 2014 EDITION OF THE MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) STANDARD SPECIFICATIONS.
2. CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE 2014 EDITION OF THE MAINEDOT STANDARD DETAILS AND THE MAINEDOT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL (LATEST EDITION AND REVISIONS) UNLESS OTHERWISE INDICATED IN THESE PLANS.
3. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.
4. THE CONTRACTOR SHALL CONTACT DIG SAFE PRIOR TO ANY EXCAVATION WORK.
5. ALL STATIC PORTIONS OF SIGNS SHALL HAVE ASTM D4956 TYPE XI RETROREFLECTIVE SHEETING.
6. RIGHT-OF-WAY INFORMATION SHOWN ON THESE PLANS IS FROM THE MAINEDOT PROPERTY OFFICE AND IS INTENDED FOR INFORMATIONAL PURPOSES ONLY.
7. NO NEW SURVEY WAS CONDUCTED FOR THE DESIGN OF THIS PROJECT. ALL DESIGN WAS BASED ON PREVIOUS MAINEDOT PROJECT 12799.00 SUPPLEMENTED BY FIELD VERIFICATION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING THEIR OWN ACTUAL ELEVATION AND CROSS-SECTION INVESTIGATIONS FOR MAST ARM PLACEMENT.
9. FOR UTILITY CONFLICTS THAT ARISE DURING EXCAVATION WORK THE CONTRACTOR SHALL ALERT THE RESIDENT. THE RESIDENT WILL DETERMINE WHETHER THE FOUNDATION CAN BE MOVED TO AVOID THE CONFLICT OR IF THE UTILITY CAN BE MOVED TO ACCOMODATE THE FOUNDATION. THE CONTRACT CARRIES A QUANTITY OF CONDUIT IF THE UTILITY IS MOVED. ADDITIONAL ELECTRICAL WIRE OR WORK ASSOCIATED WITH ELECTRICAL WIRE IS INCIDENTAL TO THE CONDUIT.

SALVAGING SIGNS AND SIGN SUPPORTS:

1. THE DEPARTMENT HAS THE RIGHT OF FIRST REFUSAL ON SALVAGING REMOVED EQUIPMENT FOR THIS PROJECT. THE CONTRACTOR SHALL TAKE CARE WHEN REMOVING SIGNS AND SIGN SUPPORTS TO AVOID ADDITIONAL WEAR AND TEAR TO THE EXISTING HARDWARE. THE CONTRACTOR SHALL TRANSPORT AND DELIVER ALL ACCEPTED SALVAGED MATERIALS, EQUIPMENT AND HARDWARE TO THE MAINE DEPARTMENT OF TRANSPORTATION SIGN SHOP. DELIVERY OF SALVAGED MATERIALS SHALL BE COORDINATED THROUGH THE RESIDENT. FOR SALVAGING STEEL SIGN SUPPORTS, EACH SUPPORT SALVAGED SHALL BE IDENTIFIED BY THE APPROXIMATE STREET ADDRESS FROM WHICH IT WAS REMOVED, ITS OVERALL LENGTH, AND ITS SIZE (IF KNOWN).

CLEAR ZONE AND GUARDRAIL PROTECTION:

1. THE CLEAR ZONE, AS DEFINED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AASHTO ROADSIDE DESIGN GUIDE AND LATEST ERRATA FROM TABLE 3-1 "SUGGESTED CLEAR-ZONE DISTANCES (IN FEET) FROM EDGE OF TRAVELED LANE."

STRIPING:

1. THE CONTRACTOR SHALL CORDINATE WITH MAINEDOT REGION 1 MAINTENANCE FOR THE ARROW PAVEMENT MARKING UPGRADES IN THE PROJECT AREA.

TRAFFIC CONTROL:

1. ALL TRAFFIC CONTROL EQUIPMENT, DEVICES, AND TEMPORARY TRAFFIC CONTROLS SHALL CONFORM TO THE 2009 EDITION OF THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CHAPTER 6 AND THE 2014 EDITION OF THE MAINEDOT STANDARD DETAILS.
2. ALL TEMPORARY TRAFFIC CONTROL SIGNS, SIGN SUPPORT STRUCTURES, CHANNELIZING DEVICES, FLASHING ARROW PANELS (FAP), PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) AND OTHER TRAFFIC CONTROL EQUIPMENT ALONG THE ROADSIDE SHALL MEET OR EXCEED NCHRP 350 TEST LEVEL 2 (TL-2) REQUIREMENTS.
3. ALL TEMPORARY TRAFFIC CONTROL SIGNS SHALL HAVE ASTM D4956 TYPE VII, TYPE VIII, OR TYPE IX SUPER HIGH INTENSITY OR PRISMATIC FLUORESCENT RETROREFLECTIVE SHEETING AND SHALL BE MAINTAINED IN LIKE-NEW CONDITION. ALL ORANGE CONSTRUCTION SIGNS SHALL BE FLUORESCENT ORANGE WITH TYPE IX SHEETING. PLACEMENT OF CONSTRUCTION SIGNS SHALL BE ADJUSTED TO AVOID OBSTRUCTING EXISTING SIGNS AND TO ENSURE PROPER SIGHT LINES TO THE CONSTRUCTION SIGNS AS DETERMINED BY THE RESIDENT.
4. ANY SIGNS, EQUIPMENT, OR DEVICES FOUND TO BE DAMAGED OR UNSERVICEABLE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. ALL SHOULDER AND LANE CLOSURES SHALL REQUIRE APPROVAL OF THE RESIDENT A MINIMUM OF TWO WORKING DAYS IN ADVANCE OF THE LANE CLOSURE.
6. THE CONTRACTOR SHALL SUBMIT A LIGHTING PLAN FOR NIGHT WORK FOR APPROVAL.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2297400

WIN
022974.00

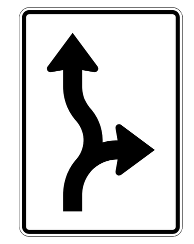
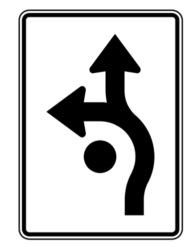
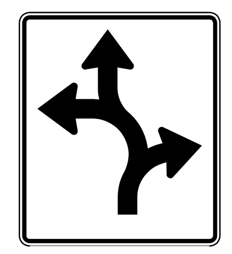
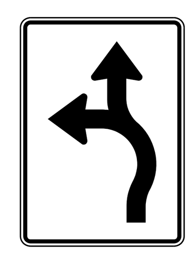
vhb

PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	DS	JAR 07/19
CHECKED-REVIEWED	MDS	MDS 07/19
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

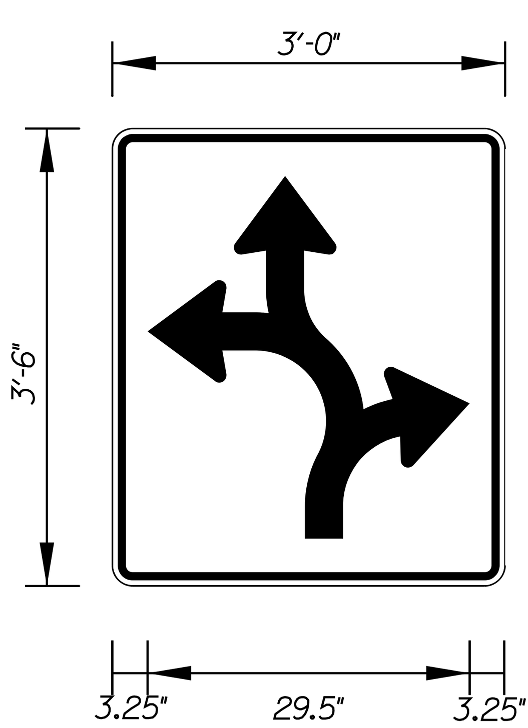
SANFORD
ROUTE 109 (MAIN STREET) AT
ROUTE 4 (ALFRED RD/COUNTRY CLUB RD)

GENERAL NOTES

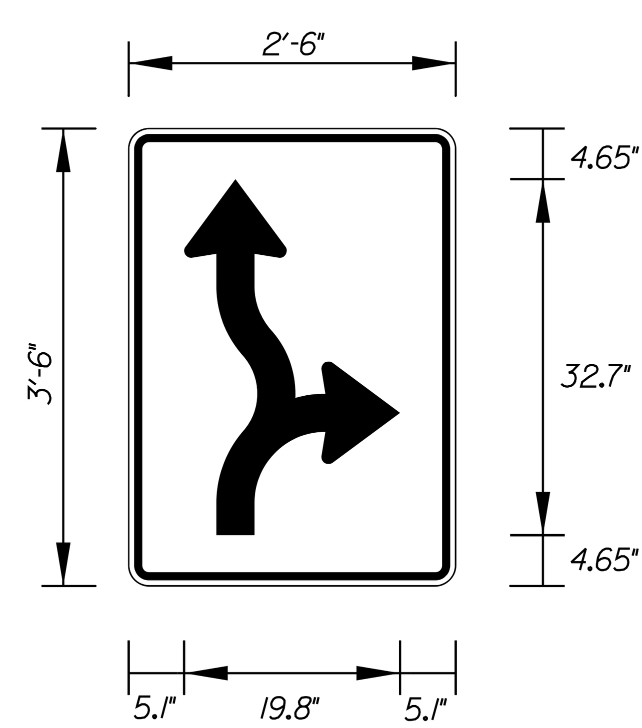
SHEET NUMBER
2
OF 12

Location ID	Size of Sign		Text	Text Dimensions (Inches)			Number of Signs Required	Color		Border Radius	Area in Square Feet	Post
	Width	Height		Letter Height	Vertical Spacing	Arrow RTE.MKR.		Back-ground	Legend Border			
R3-6R(FH)	30"	42"				Through/Right Fishhook	2	White	Black	1.88"	8.75 (17.50)	Mount to New Mast Arm
R3-6(FH)	30"	42"				Through/Left Fishhook	2	White	Black	1.88"	8.75 (17.50)	Mount to New Mast Arm
R3-6LR(FH)	36"	42"				Through/Left/ Right Fishhook	1	White	Black	1.88"	10.50 (10.50)	Mount to New Mast Arm
R3-6(FHM)	30"	42"				Through Fishhook	1	White	Black	1.88"	8.75 (8.75)	Mount to New Mast Arm
R3-5(FH)	30"	42"		6 D		Left Fishhook	2	White	Black	1.88"	8.75 (17.50)	Mount to New Mast Arm
R3-5R	30"	36"		6 D		Right	1	White	Black	1.88"	7.50 (7.50)	Mount to New Mast Arm

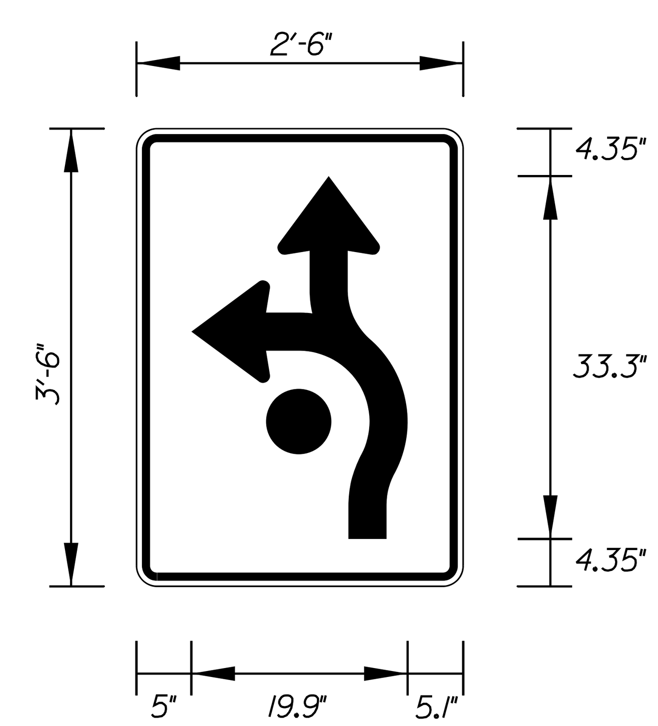
SHSB - Text Dimensions Shall Conform to "Standard Highway Signs Book" - 2012 Edition.



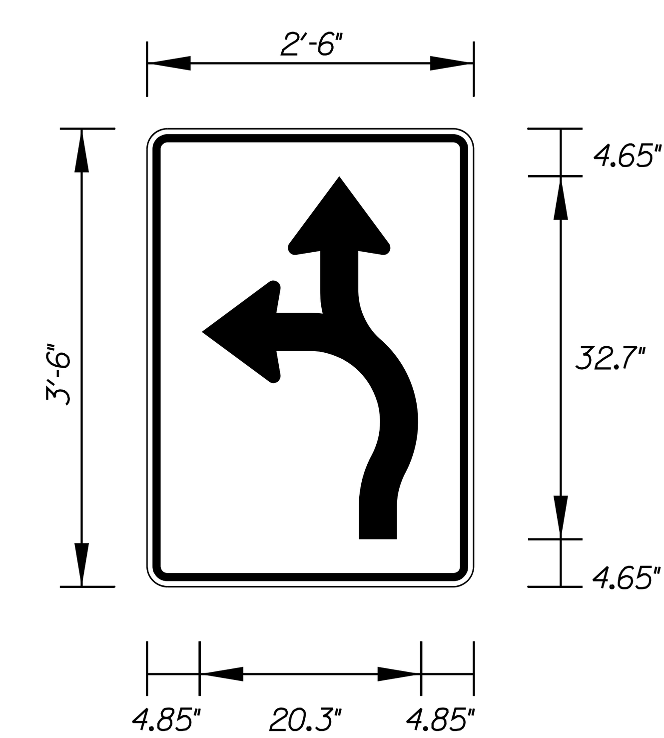
R3-6LR(FH)



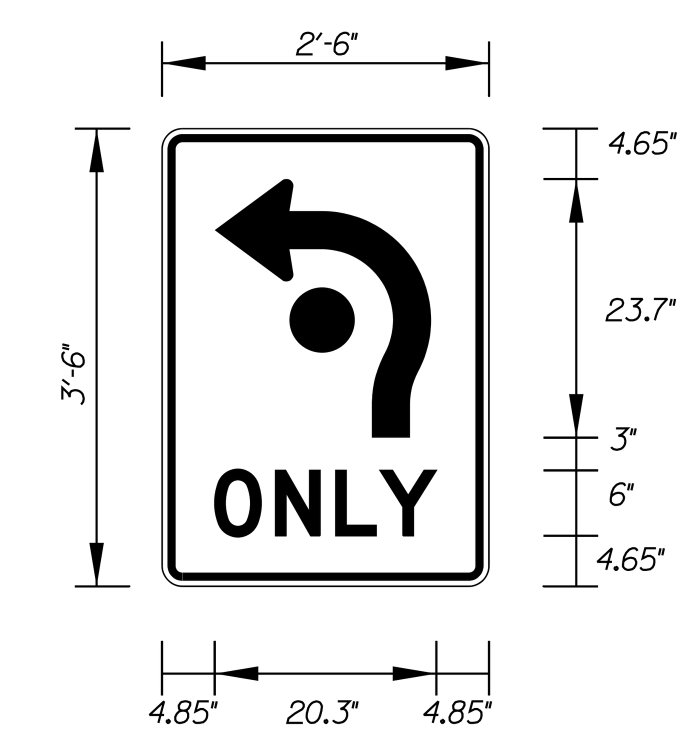
R3-6R(FH)



R3-6(FH)



R3-6(FHM)



R3-5(FH)

Filename: 003_SignSummary.dgn
Division: HIGHWAY
Username: dschandel
Date:$date$

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2297400

WIN
022974.00

		BY	DATE
PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	DS	JAR	07/19
CHECKED-REVIEWED	MDS	MDS	07/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 109 (MAIN STREET) AT
ROUTE 4 (ALFRED RD/COUNTRY CLUB RD)

SIGN SUMMARY SHEET
1 OF 2

Location ID	Size of Sign		Text	Text Dimensions (Inches)			Number of Signs Required	Color		Border Radius	Area in Square Feet	Post
	Width	Height		Letter Height	Vertical Spacing	Arrow RTE.MKR.		Back-ground	Legend Border			
DI-3	72"	42"	↑ Wells ↰ Alfred N. Berwick →	6 D 6 D 6 D		Through Left Fishhook Right	1	Green	White	3.00"	21.00 (21.00)	Mount to Mast Arm Upright

SHSB - Text Dimensions Shall Conform to "Standard Highway Signs Book" - 2012 Edition.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2297400

WIN
022974.00

vhb

		BY	DATE
PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	DS	JAR	07/19
CHECKED-REVIEWED	MDS	MDS	07/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

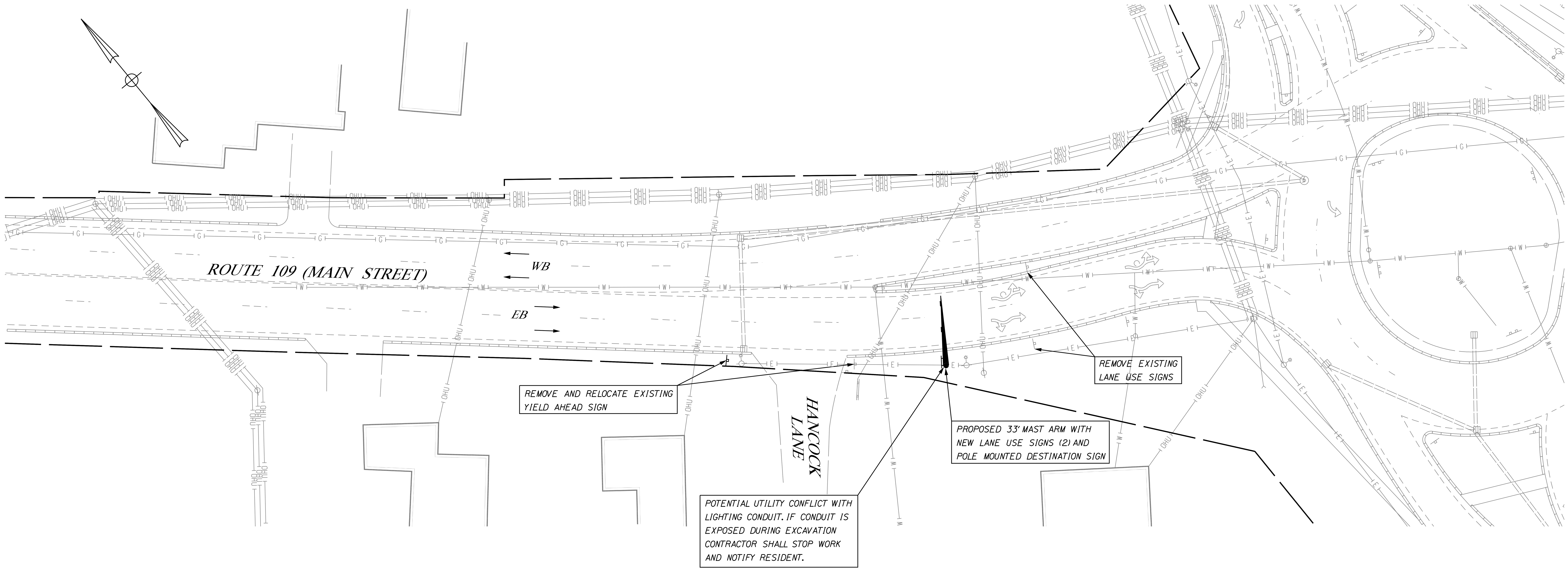
SANFORD
ROUTE 109 (MAIN STREET) AT
ROUTE 4 (ALFRED RD/COUNTRY CLUB RD)

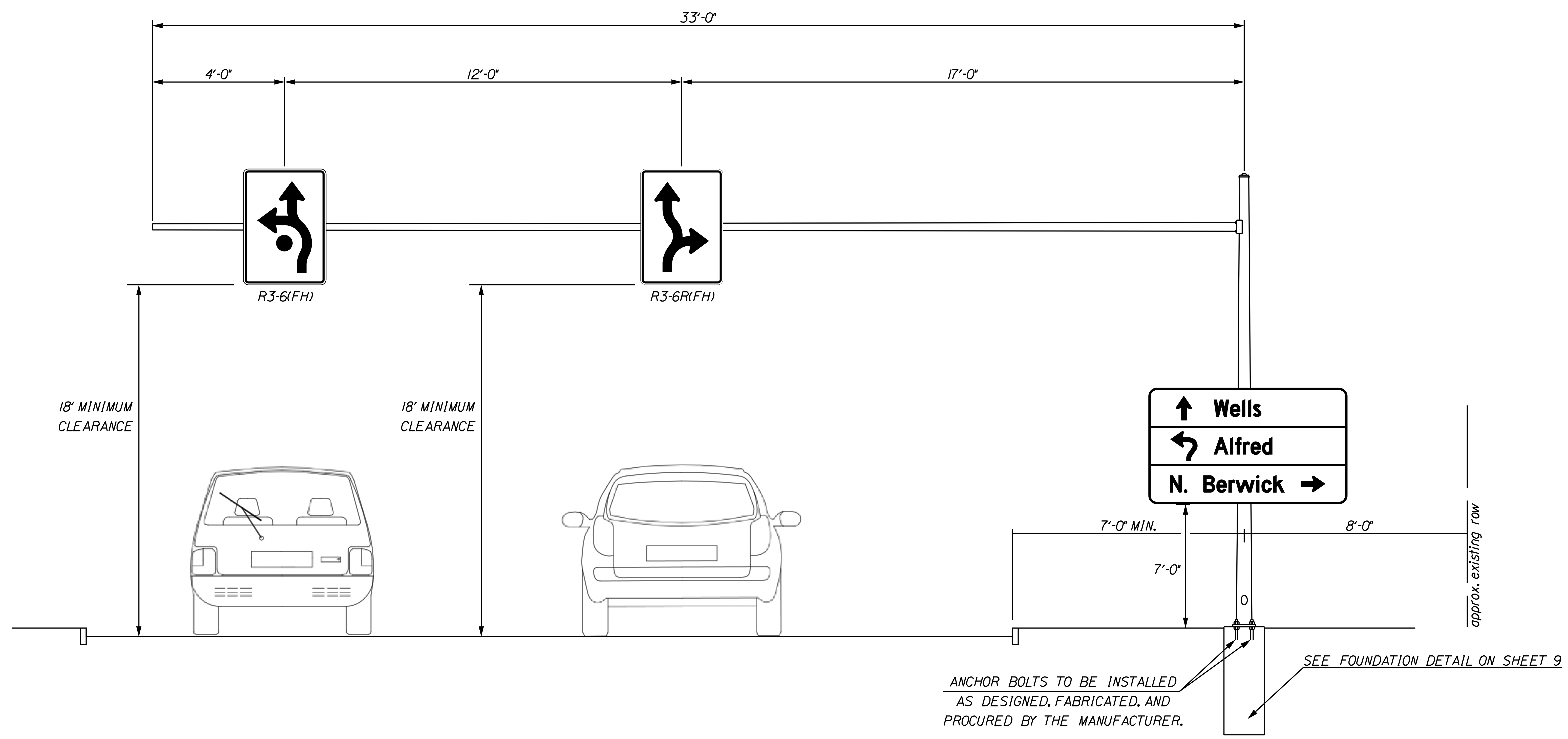
SIGN SUMMARY SHEET
2 OF 2

SHEET NUMBER
4
OF 12

Filename: 004_SignSummary 2.dgn
Division: HIGHWAY
Username: dschandel
Date:$date$

Filename: 005_Sign_01.dgn Division: HIGHWAY Username: dschandel Date:$date$





LOOKING SOUTH ALONG ROUTE 109/ROUTE 4A (MAIN ST)

(NOT TO SCALE)

PLAN

25 0 25 50

Scale of Feet

* - RIGHT-OF-WAY REFERENCE STATE PROJECT NO. 12799.00, DOT FILE NO. 16-447, FEB 2008

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2297400

WIN 022974.00

vhb

PROJ. MANAGER	B. KEEZER	BY	DATE
DESIGN-DETAILED	DS	JAR	07/19
CHECKED-REVIEWED	MDS	MDS	07/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

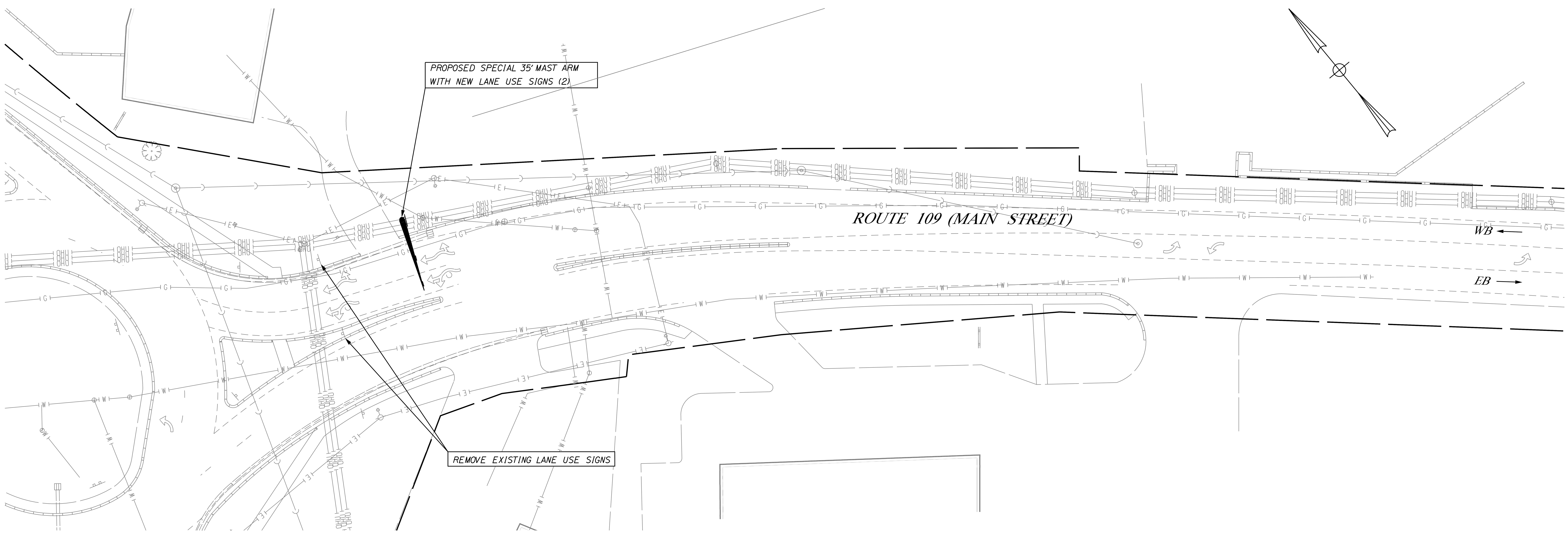
SANFORD
ROUTE 109 (MAIN STREET) AT
ROUTE 4 (ALFRED RD/COUNTRY CLUB RD)

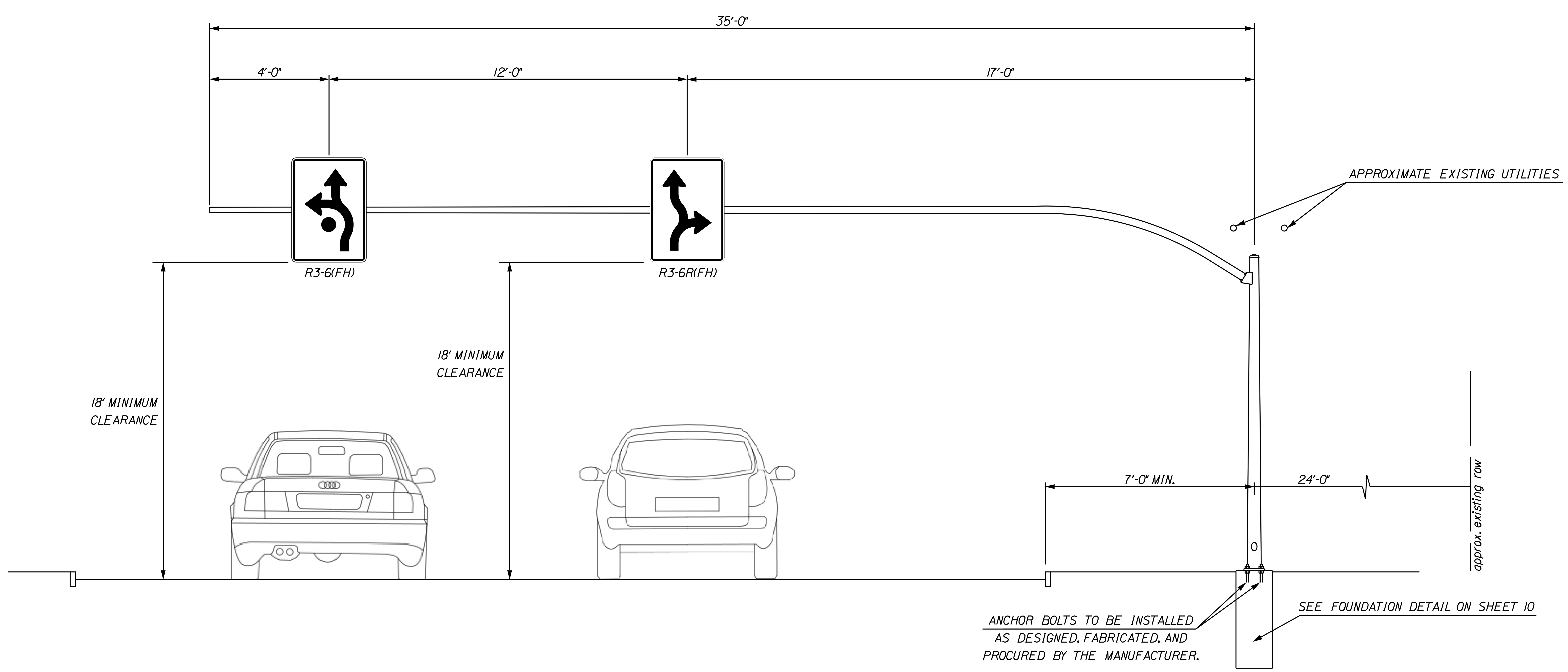
OVERHEAD SIGN PLAN

SHEET NUMBER

5

OF 12





LOOKING NORTH ALONG ROUTE 109/ROUTE 4A (MAIN ST)
(NOT TO SCALE)

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE STATE PROJECT NO. 12799.00, DOT FILE NO. 16-447, FEB 2008

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2297400

WIN
022974.00

vhb

		BY	DATE
PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	DS	JAR	07/19
CHECKED-REVIEWED	MDS	MDS	07/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

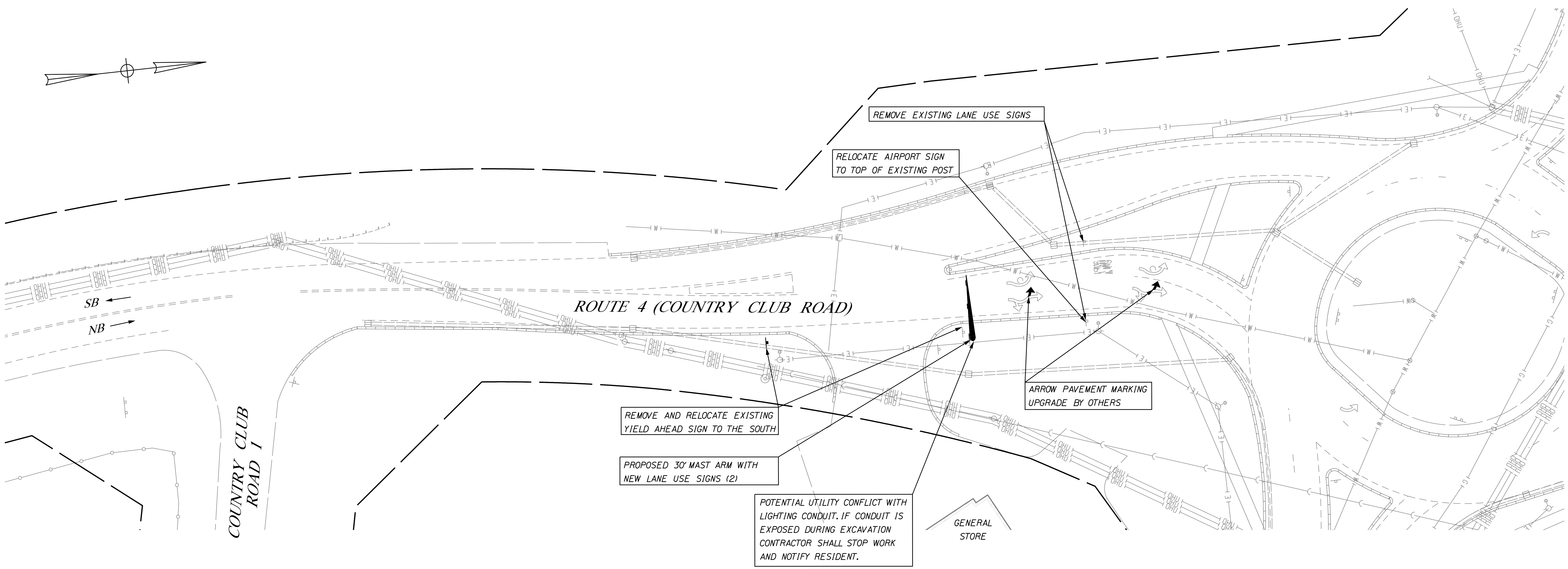
SANFORD
ROUTE 109 (MAIN STREET) AT
ROUTE 4 (ALFRED RD/COUNTRY CLUB RD)

OVERHEAD SIGN PLAN

SHEET NUMBER
6
OF 12

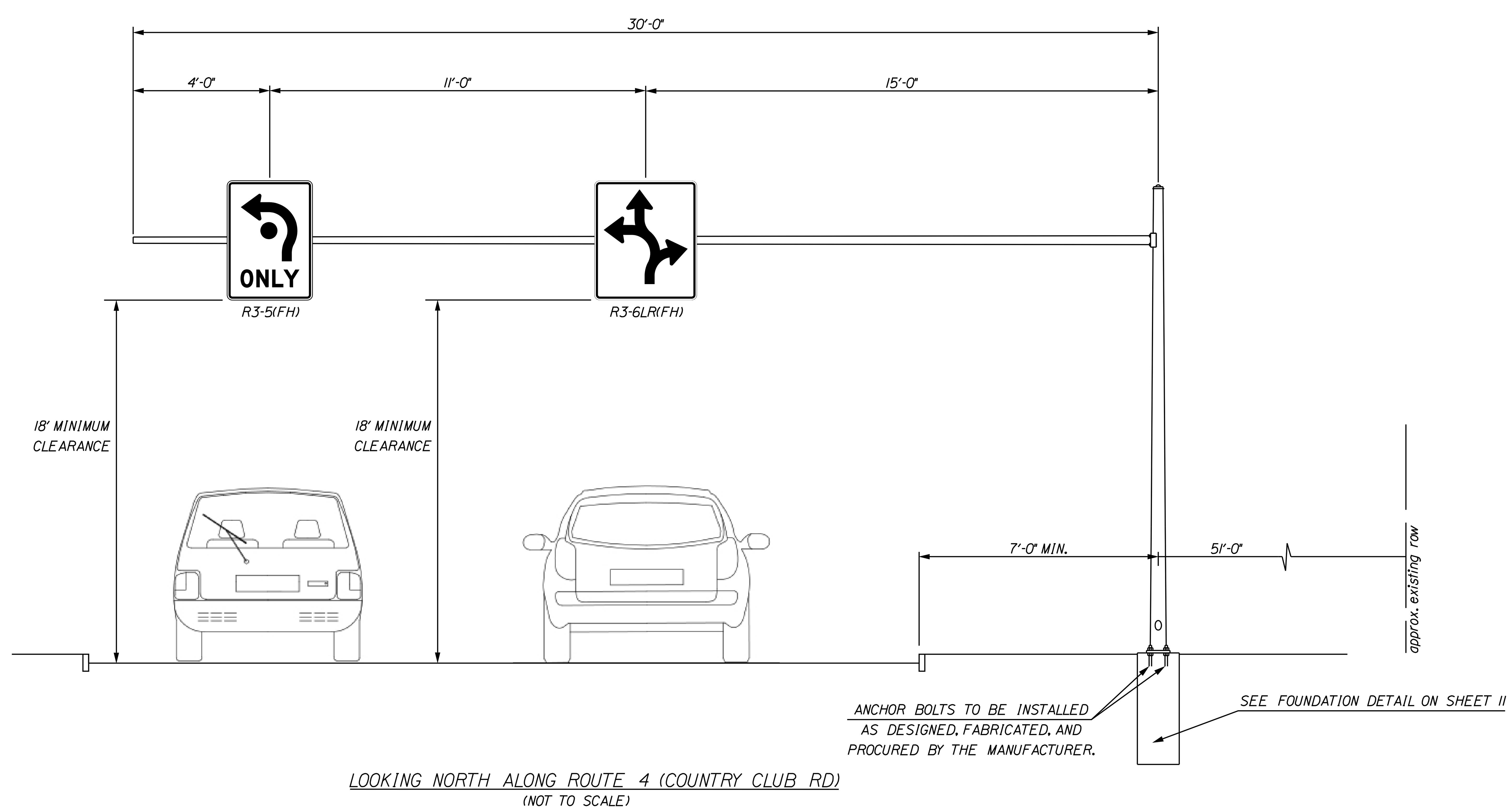
Filename: 006_Sign_02.dgn
Division: HIGHWAY
Username: dschandel
Date:$date$

Filename: 007_Sign_03.dgn   Division: HIGHWAY   Username: dschandel   Date:$date$



PLAN

25 0 25 50
Scale of Feet



LOOKING NORTH ALONG ROUTE 4 (COUNTRY CLUB RD)
(NOT TO SCALE)

* - RIGHT-OF-WAY REFERENCE STATE PROJECT NO. 12799.00, DOT FILE NO. 16-447, FEB 2008

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2297400

WIN 022974.00

vhb

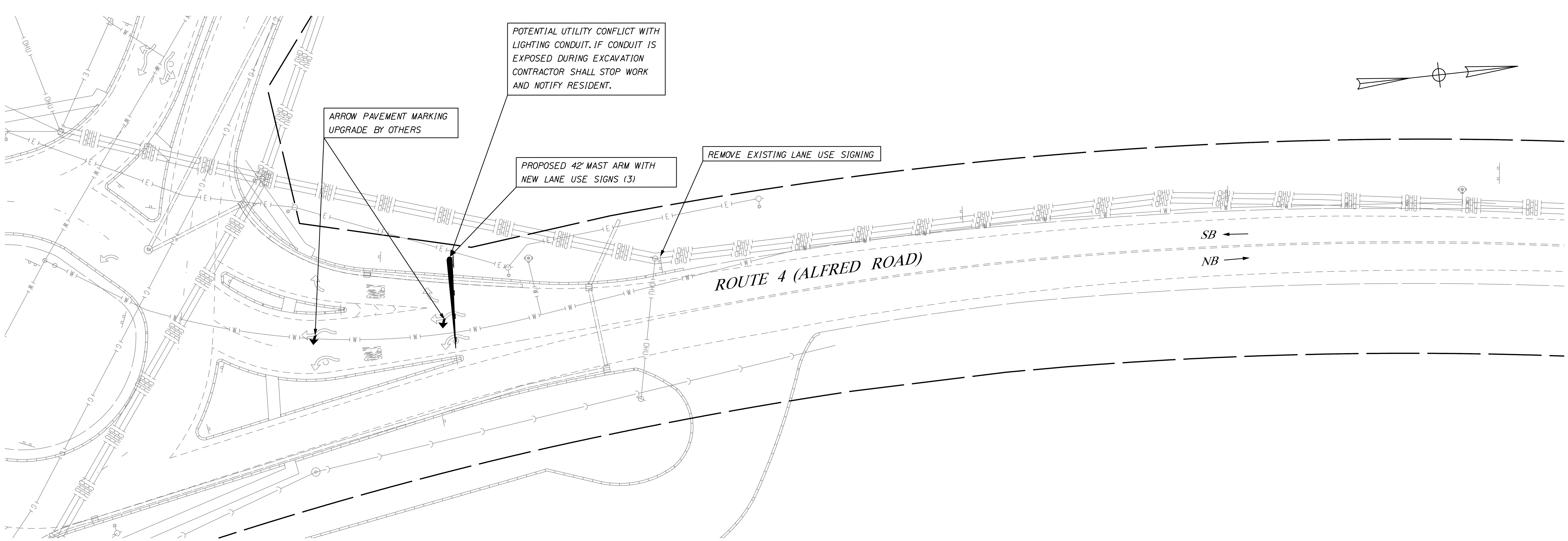
		BY	DATE
PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	DS	JAR	07/19
CHECKED-REVIEWED	MDS	MDS	07/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 109 (MAIN STREET) AT
ROUTE 4 (ALFRED RD/COUNTRY CLUB RD)

OVERHEAD SIGN PLAN

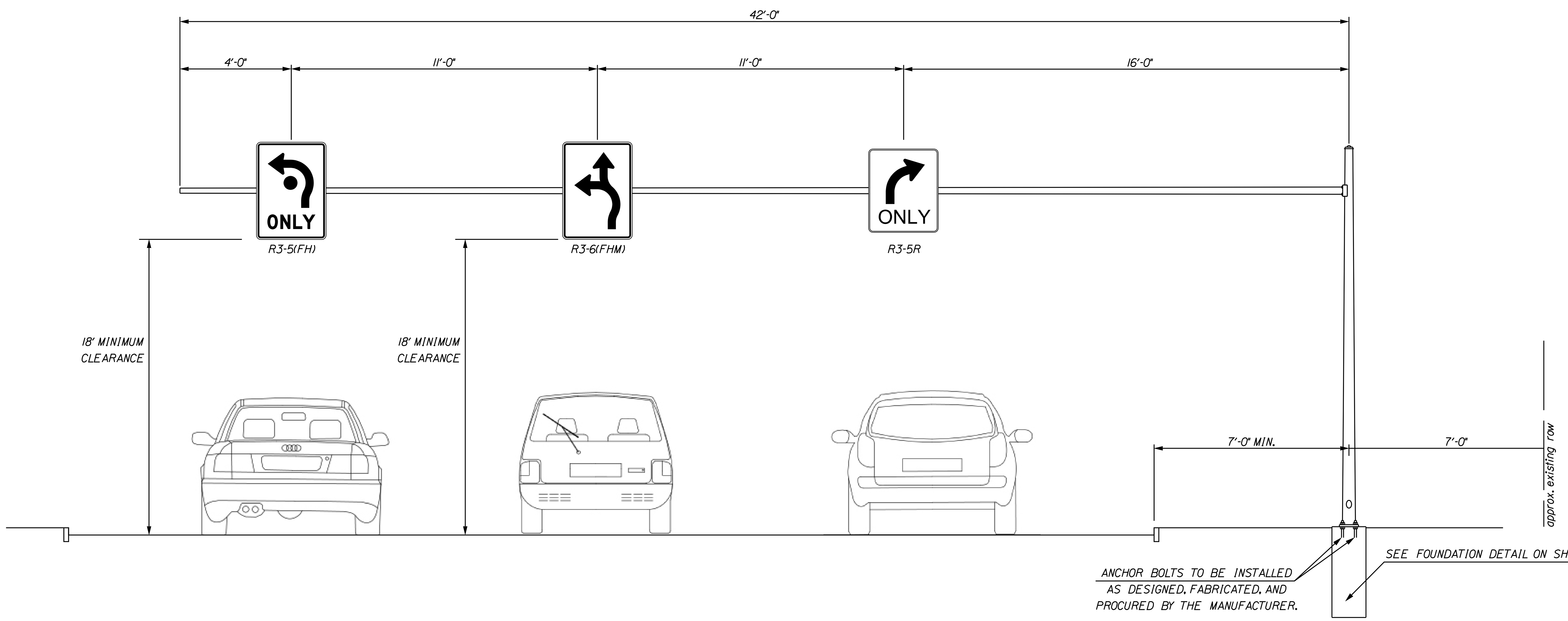
SHEET NUMBER
7
OF 12

Filename: 008_Sign_04.dgn Division: HIGHWAY Username: dschandel Date:$date$



PLAN

25 0 25 50
Scale of Feet



LOOKING SOUTH ALONG ROUTE 4 (ALFRED RD)
(NOT TO SCALE)

* - RIGHT-OF-WAY REFERENCE STATE PROJECT NO. 12799.00, DOT FILE NO. 16-447, FEB 2008

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2297400

WIN 022974.00

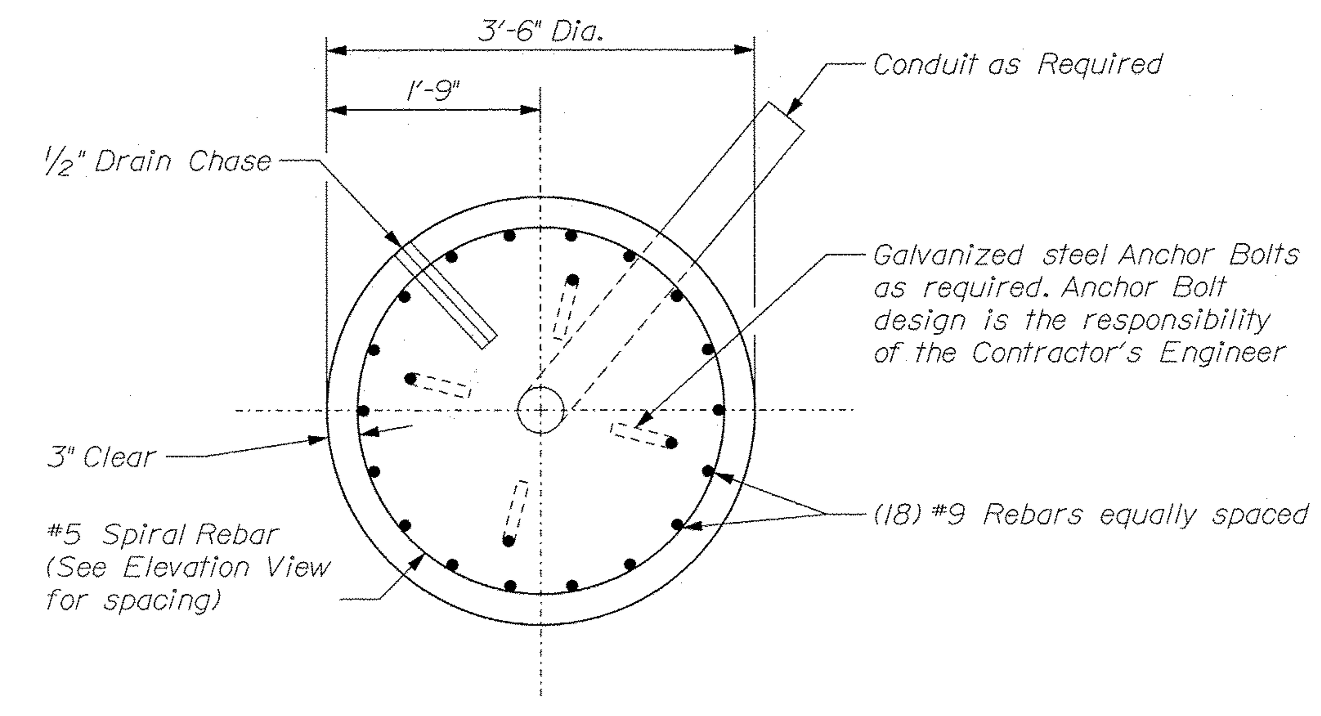
vhb

		BY	DATE
PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	DS	JAR	07/19
CHECKED-REVIEWED	MDS	MDS	07/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 109 (MAIN STREET) AT
ROUTE 4 (ALFRED RD/COUNTRY CLUB RD)

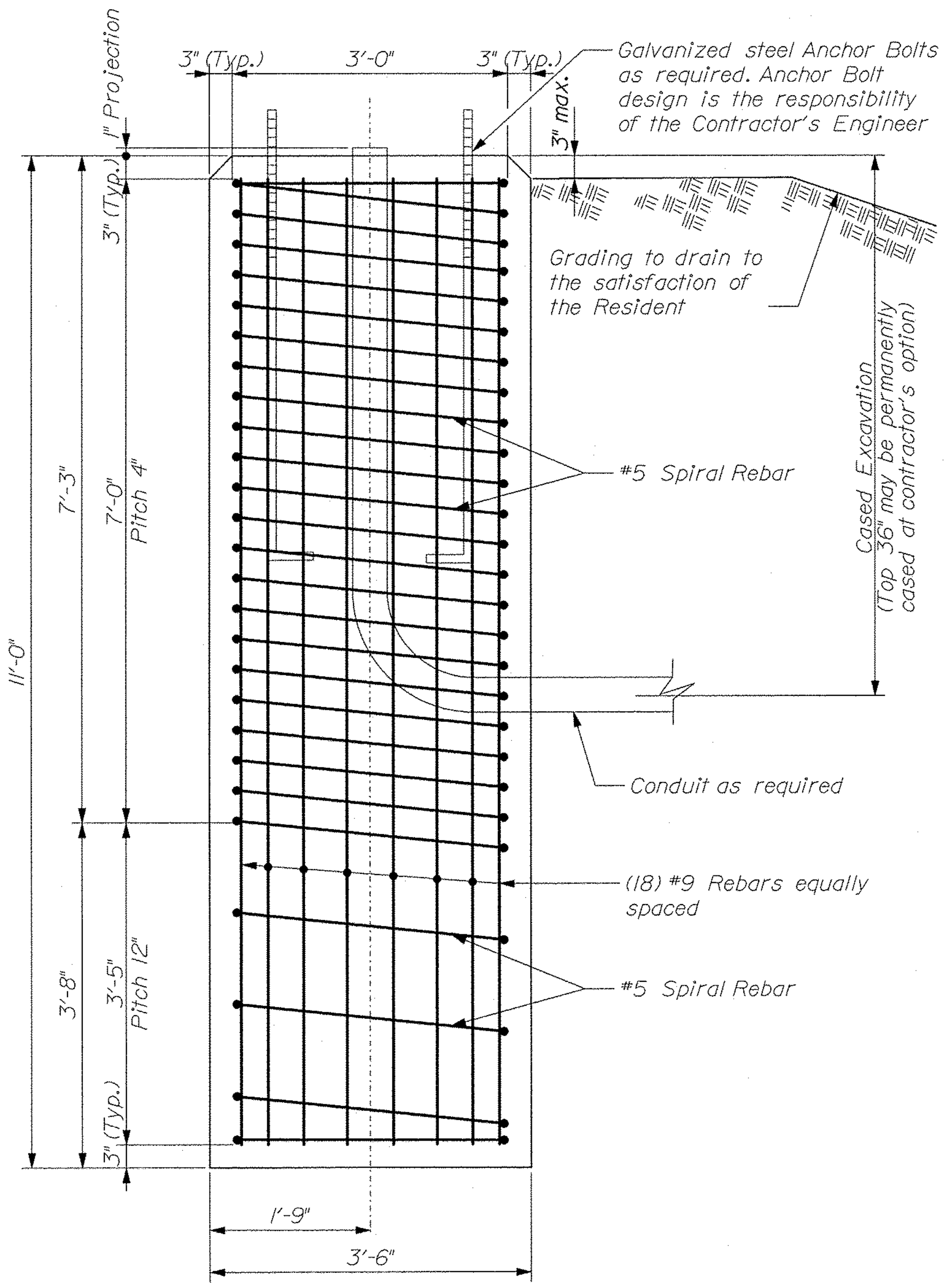
OVERHEAD SIGN PLAN

SHEET NUMBER
8
OF 12



Drilled Shaft Plan View

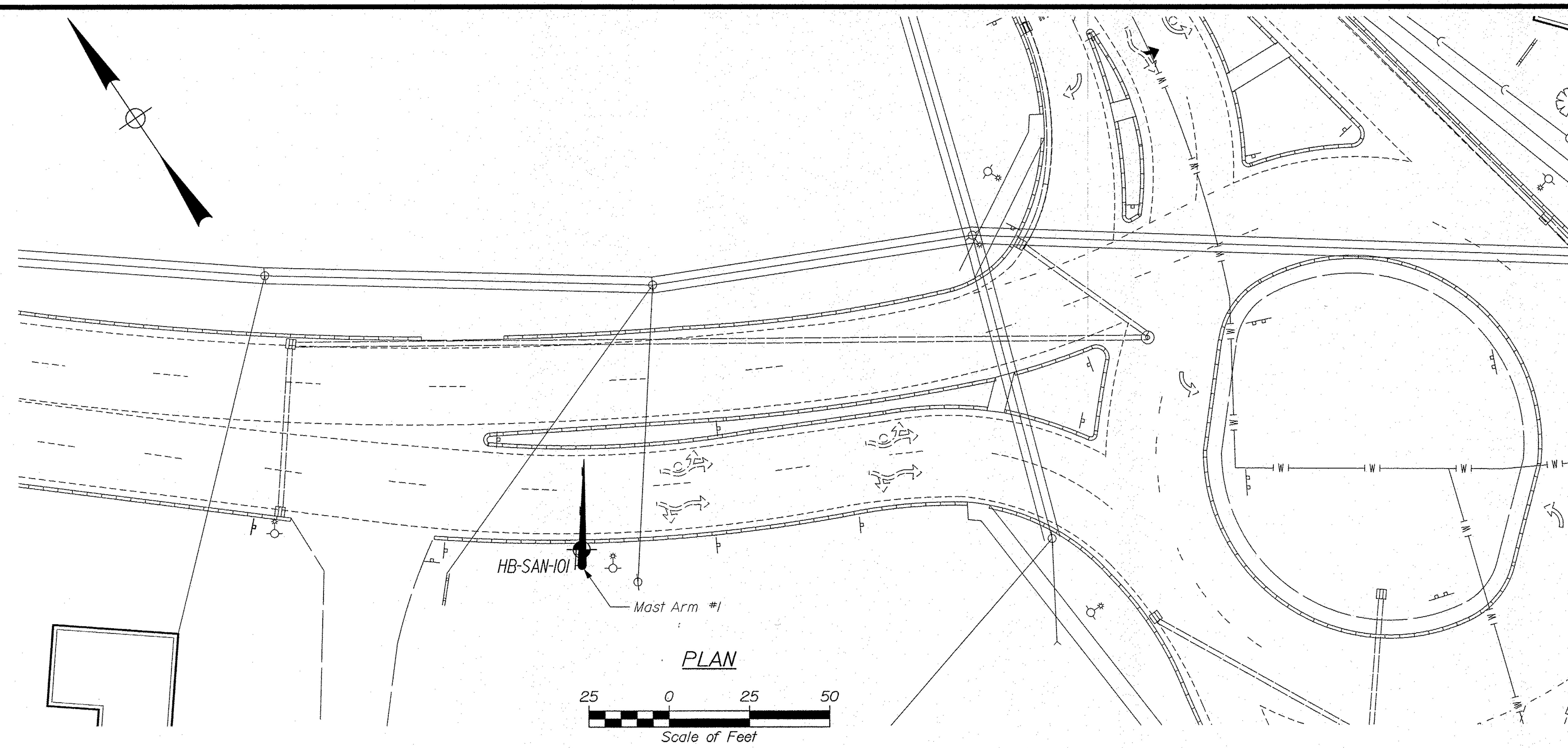
Scale: ¾" = 1'-0"



Drilled Shaft Elevation View

Scale: ¾" = 1'-0"

MAST ARM #1



PLAN

NOTES:

1. All reinforcing steel is to be grade 60 and conform to MaineDOT Standard Specification requirements along with any project specific Supplementals or Special Provisions.

2. All rebar shall have 3" cover unless otherwise noted.

3. Should there be a discrepancy between these Details and actual observed field conditions report it to the Resident immediately.

4. Do not proceed with dependent work until any such discrepancy is resolved to the satisfaction of the Resident.

5. Concrete to be Class LP with f'c = 5,000 PSI.

Maine Department of Transportation

Soil/Rock Exploration Log

US CUSTOMARY UNITS

Project: Overhead Signs Routes 109/4	Location: Sanford, Maine	Boring No.: HB-SAN-101	WIN: 22974.00
Driller: MaineDOT	Elevation (ft.)	Auger ID/OD: 5" Dia.	
Operator: Doggett/Aaron/Niles	Datum: NAVD88	Sampler: Standard Split Spoon	
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"	
Date Start/Finish: 10/9/2019; 10:30-11:30	Drilling Method: Solid Stem Auger	Core Barrel: N/A	
Boring Location: TBD	Casing ID/OD: N/A	Water Level*: None Observed	
Hammer Efficiency Factor: 0.886	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	1D	24/12	0.00 - 2.00	3/5/9/9	14	21	SSA	-0.2		2" SOD. 0.2	
										Brown, damp, medium dense, fine to coarse SAND, some gravel, trace silt, (Fill).	
								-4.5		4.5	
5	2D	24/20	5.00 - 7.00	16/27/36/33	63	93				Brown, damp, very dense, fine to coarse SAND, little silt, trace gravel.	
								-8.0		8.0	
10	3D	24/21	10.00 - 12.00	10/25/34/27	59	87				Brown, moist, very dense, fine to coarse SAND, little silt, little gravel.	
								-12.0		12.0 Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
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-101

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN 22974.00

HIGHWAY PLANS

STATE OF MAINE Kathleen Maguire 7120 LICENSED PROFESSIONAL ENGINEER

SIGNATURE

7120

P.E. NUMBER

1/15/2020

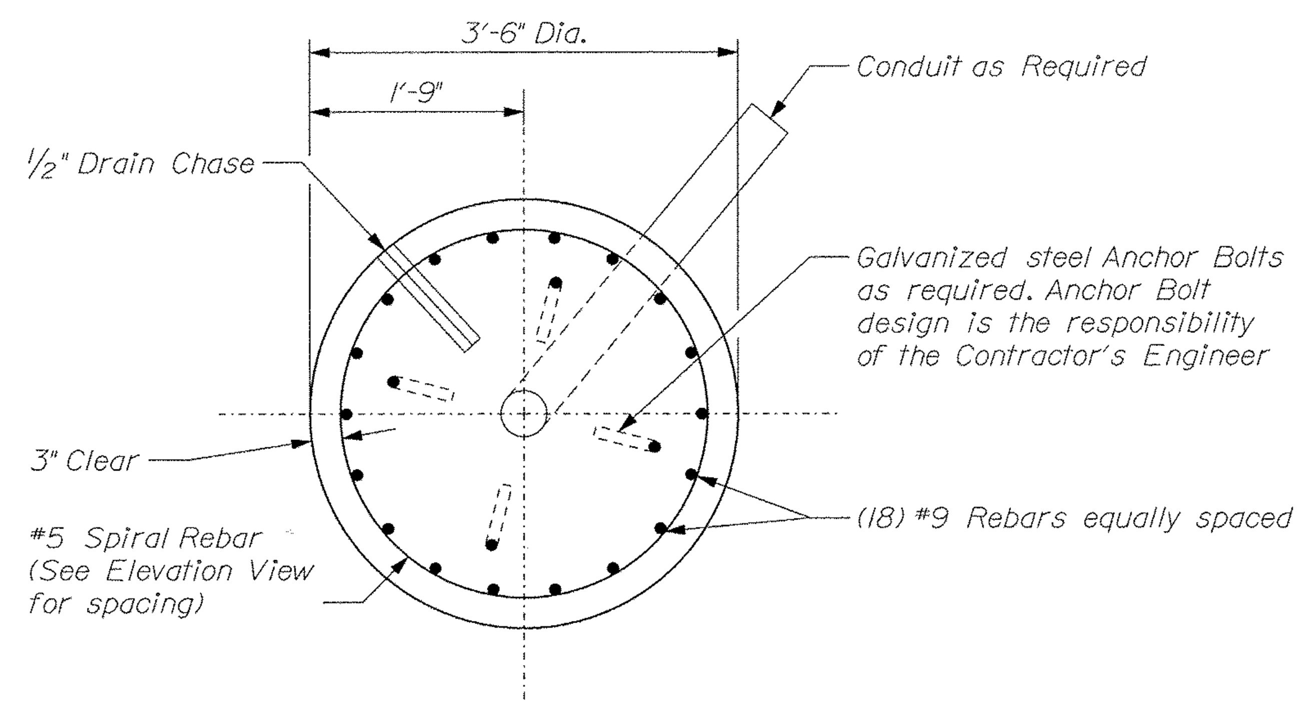
DATE

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

SANFORD
ROUTES 109/4

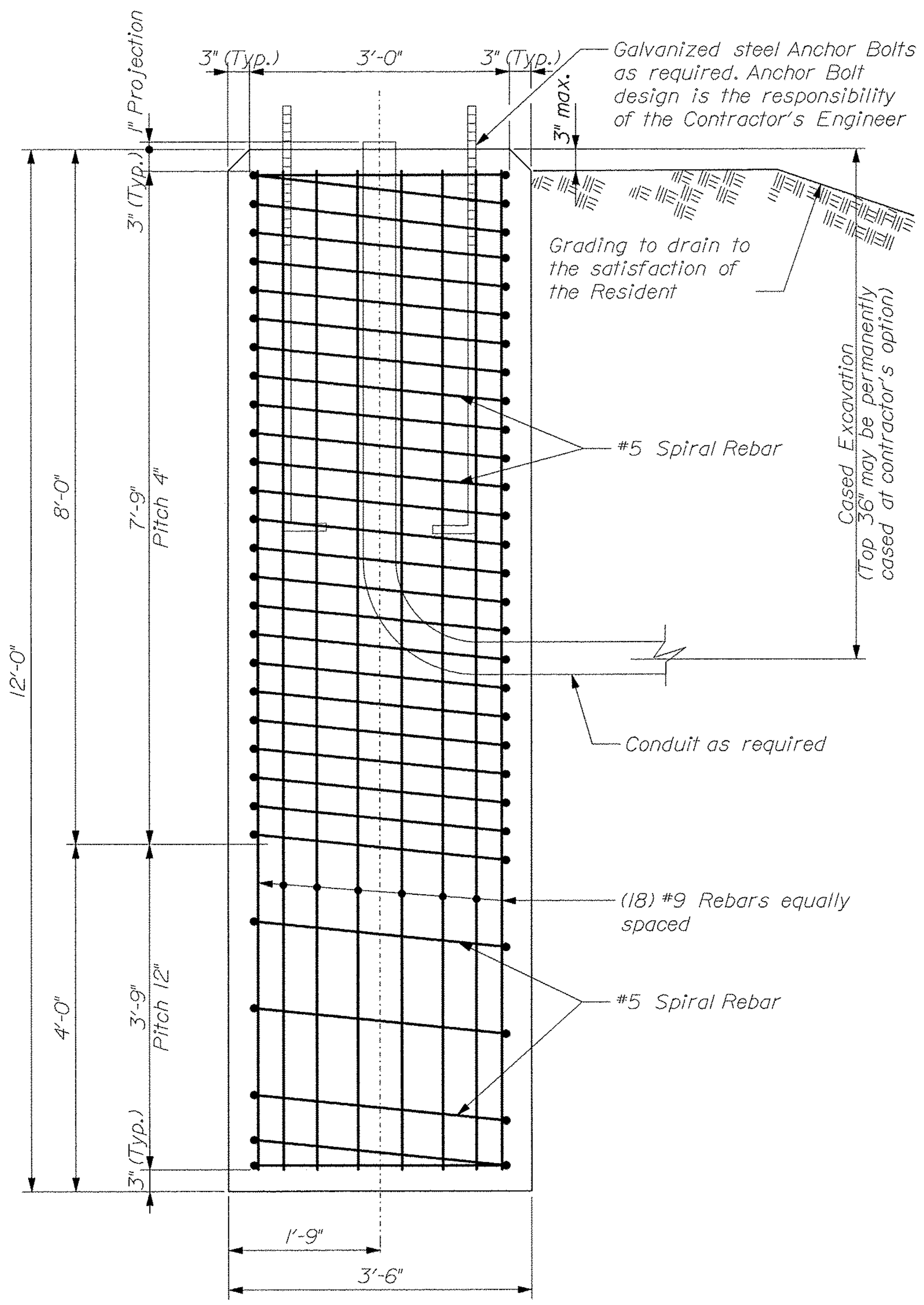
BORING LOCATION PLAN & MAST ARM FOUNDATION #1 WITH BORING LOG

SHEET NUMBER



Drilled Shaft Plan View

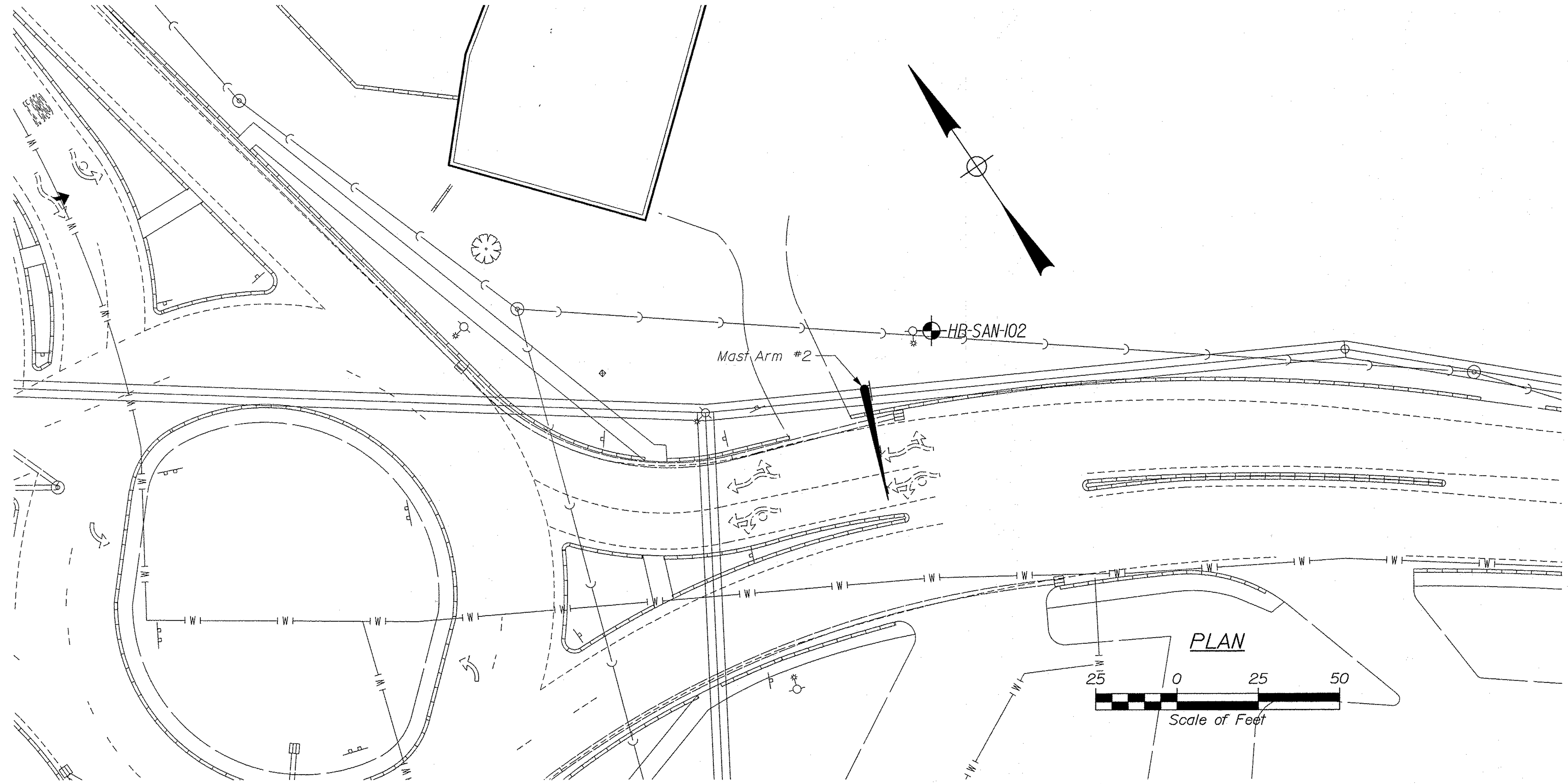
Scale: ¾" = 1'-0"



Drilled Shaft Elevation View

Scale: ¾" = 1'-0"

MAST ARM #2



NOTES:

1. All reinforcing steel is to be grade 60 and conform to MaineDOT Standard Specification requirements along with any project specific Supplementals or Special Provisions.

2. All rebar shall have 3" cover unless otherwise noted.

3. Should there be a discrepancy between these Details and actual observed field conditions report it to the Resident immediately.

4. Do not proceed with dependent work until any such discrepancy is resolved to the satisfaction of the Resident.

5. Concrete to be Class LP with f'c = 5,000 PSI.

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS	Project: Overhead Signs Routes 109/4 Location: Sanford, Maine	Boring No.: HB-SAN-102 WIN: 22974.00
Driller: MaineDOT	Elevation (ft.)	Auger ID/OD: 5" Dia.
Operator: Daggett/Aaron/Niles	Datum: NAVD88	Sampler: Standard Split Spoon
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish: 10/9/2019; 08:30-09:30	Drilling Method: Solid Stem Auger	Core Barrel: N/A
Boring Location: TBD	Casing ID/OD: N/A	Water Level*: None Observed
Hammer Efficiency Factor: 0.886	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	1D	24/11	0.00 - 2.00	4/7/8/11	15	22	SSA	-0.3		4" SOD. 0.3	
										Brown, damp, medium dense, fine to coarse SAND, little gravel, little silt, (Fill).	
								-4.0		4.0	
5	2D	24/20	5.00 - 7.00	12/23/38/31	61	90				Brown, dry, very dense, fine to coarse SAND, little silt.	
								-8.0		8.0	
10	3D	24/19	10.00 - 12.00	7/21/35/30	56	83				Brown, damp, very dense, fine to medium SAND, some silt, little gravel.	
								-12.0		12.0 Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
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

Filename: ...\MSTA\002_BLP&MAF WBL2.dgn Division: GEOTECH Username: Kate.Maguire Date:1/15/2020

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
22974.00

HIGHWAY PLANS

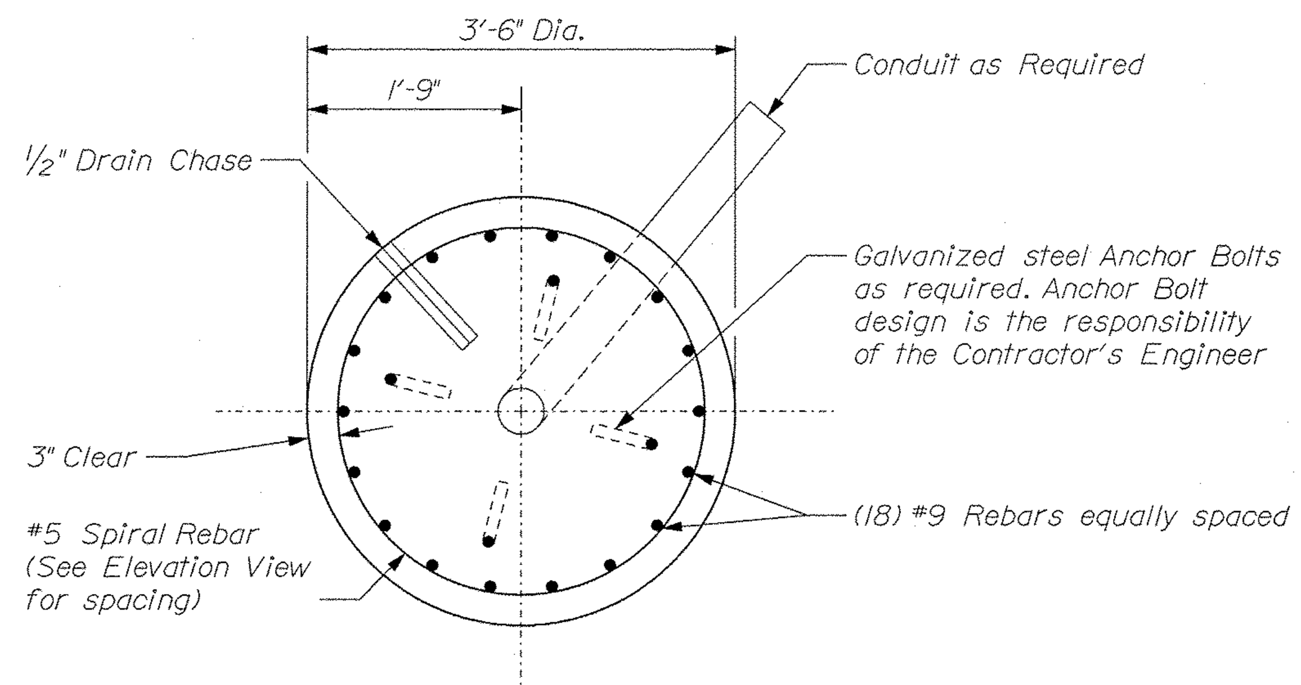
STATE OF MAINE
Kathleen Maguire
7120
LICENSED
PROFESSIONAL ENGINEER

SIGNATURE
7120
P.E. NUMBER
1/15/2020
DATE

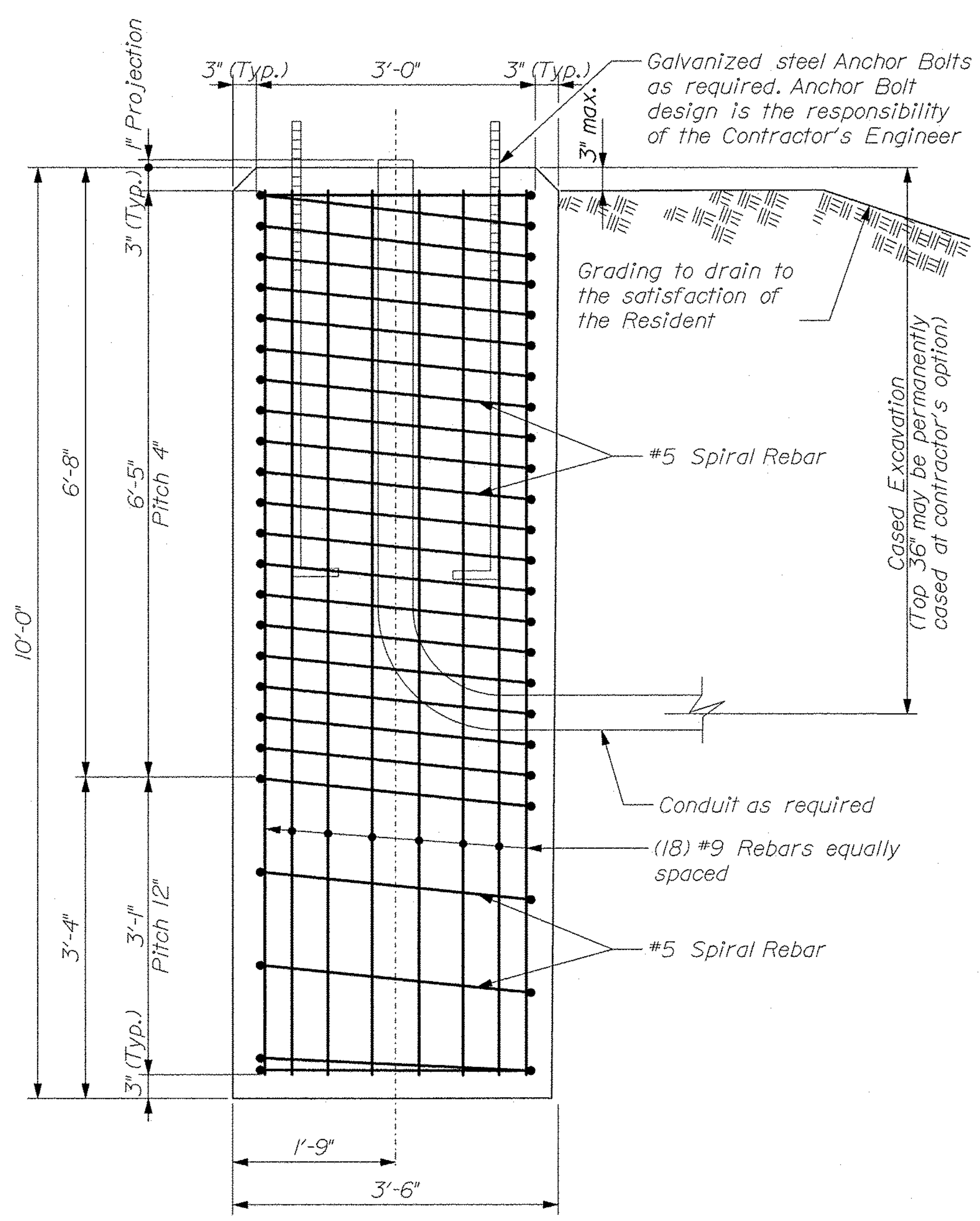
	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN2-DETAILED2	K.MAGUIRE / T.WHITE	JAN 2020
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTES 109/4
BORING LOCATION PLAN & MAST ARM FOUNDATION #2 WITH BORING LOG

SHEET NUMBER

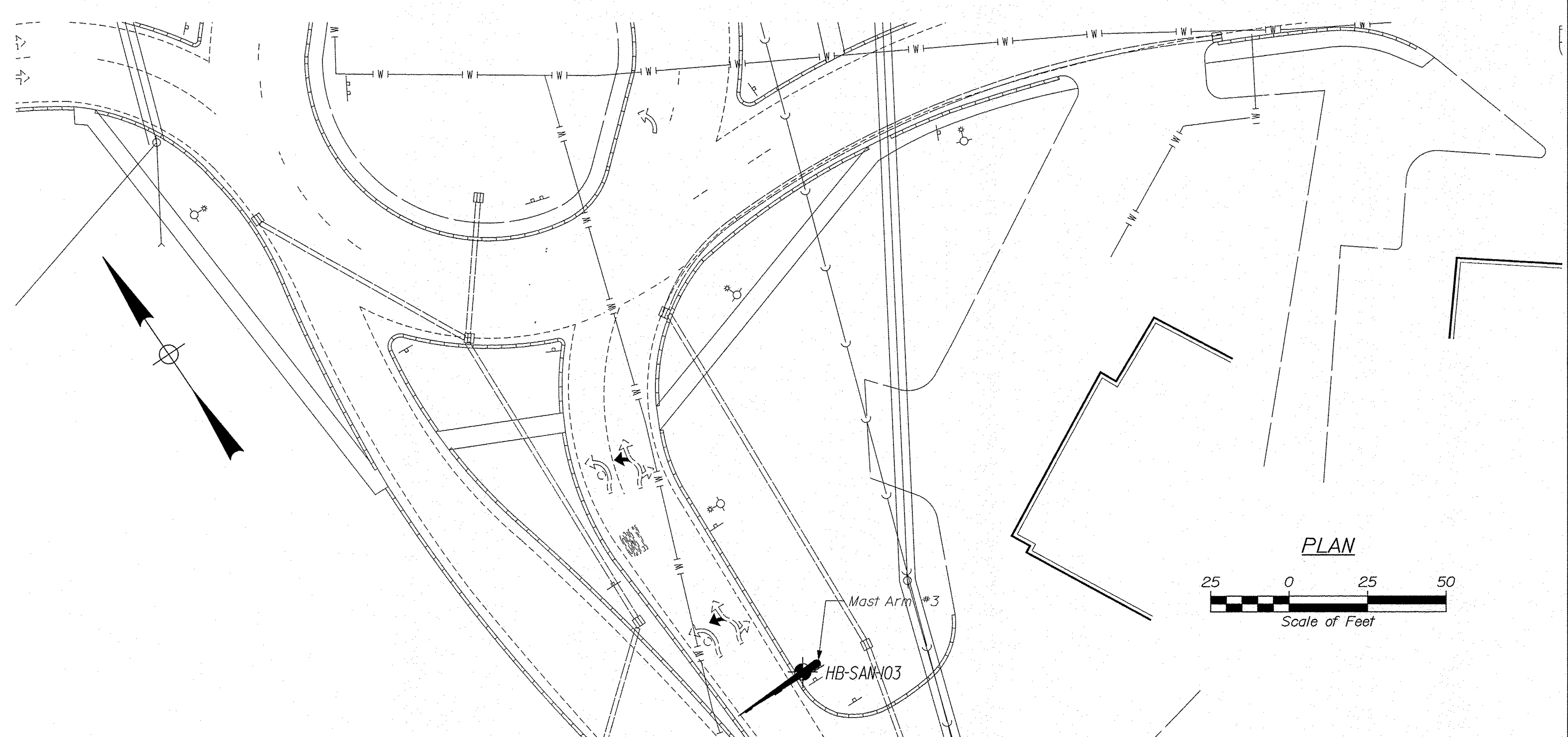


Drilled Shaft Plan View
Scale: ¾" = 1'-0"



Drilled Shaft Elevation View
Scale: ¾" = 1'-0"

MAST ARM #3



NOTES:

1. All reinforcing steel is to be grade 60 and conform to MaineDOT Standard Specification requirements along with any project specific Supplementals or Special Provisions.

2. All rebar shall have 3" cover unless otherwise noted.

3. Should there be a discrepancy between these Details and actual observed field conditions report it to the Resident immediately.

4. Do not proceed with dependent work until any such discrepancy is resolved to the satisfaction of the Resident.

5. Concrete to be Class LP with f'c = 5,000 PSI.

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Overhead Signs Routes 109/4
Location: Sanford, Maine

Boring No.: HB-SAN-103
WIN: 22974.00

Driller:	MaineDOT	Elevation (ft.)		Auger ID/OD:	5" Dia.
Operator:	Daggett/Aaron/Niles	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	B. Wilder	Rig Type:	CME 45C	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	10/9/2019; 11:30-12:15	Drilling Method:	Solid Stem Auger	Core Barrel:	N/A
Boring Location:	TBD	Casing ID/OD:	N/A	Water Level*:	None Observed
Hammer Efficiency Factor: 0.886		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	1D	24/15	0.00 - 2.00	14/16/17/26	33	49	SSA	-0.2		2" SOD. 0.2 Light brown, damp, dense, fine to coarse SAND, trace gravel, trace silt.	
5	2D	24/22	5.00 - 7.00	15/21/22/22	43	63				Similar to above.	
								-8.0		8.0	
10	3D	24/19	10.00 - 12.00	8/21/21/29	42	62				Brown, damp, dense, fine to coarse SAND, some gravel, little silt.	
								-12.0		12.0 Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
15											
20											
25											

Remarks:

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

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Page 1 of 1
Boring No.: HB-SAN-103

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HIGHWAY PLANS

WIN
22974.00

STATE OF MAINE
Kathleen Maguire
7120
LICENSED PROFESSIONAL ENGINEER

SIGNATURE
P.E. NUMBER
DATE
1/15/2020

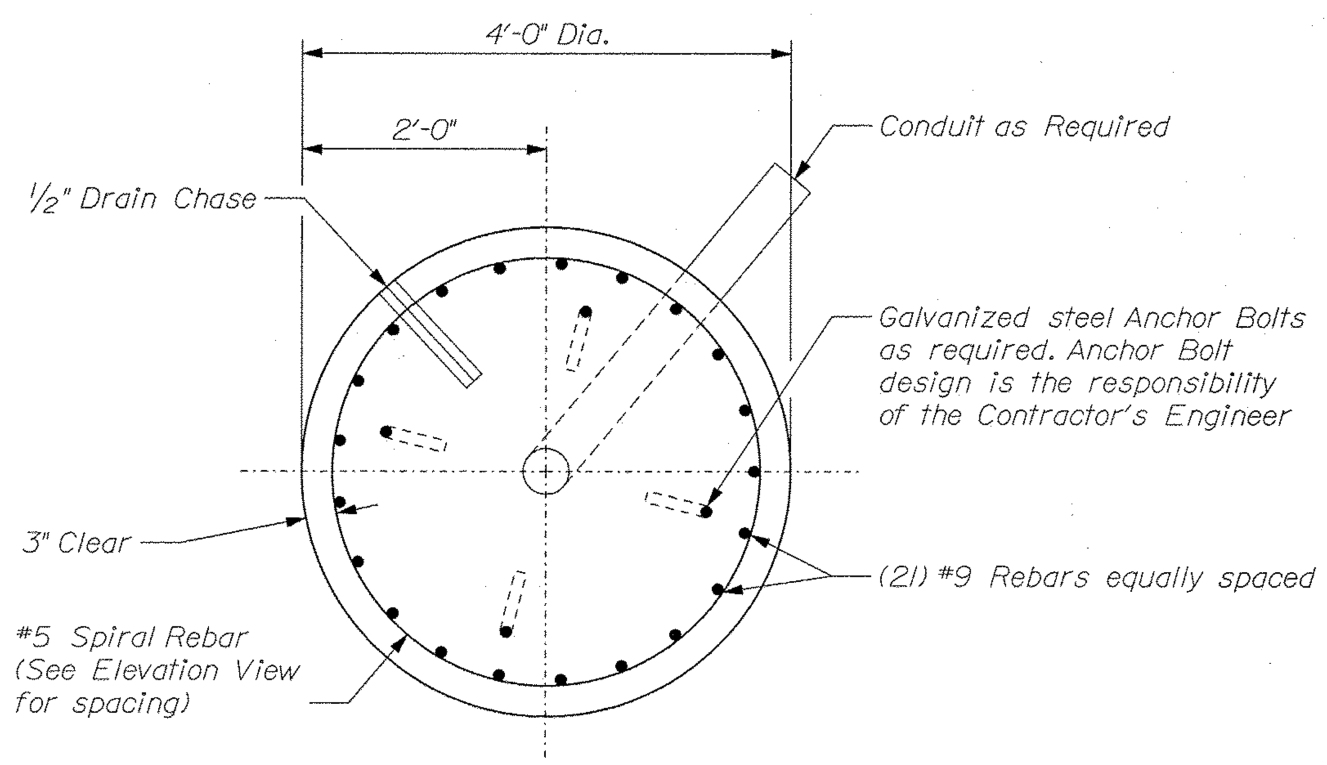
	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED	K.MAGUIRE	
DESIGN2-DETAILED2	T.WHITE	JAN 2020
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTES 109/4

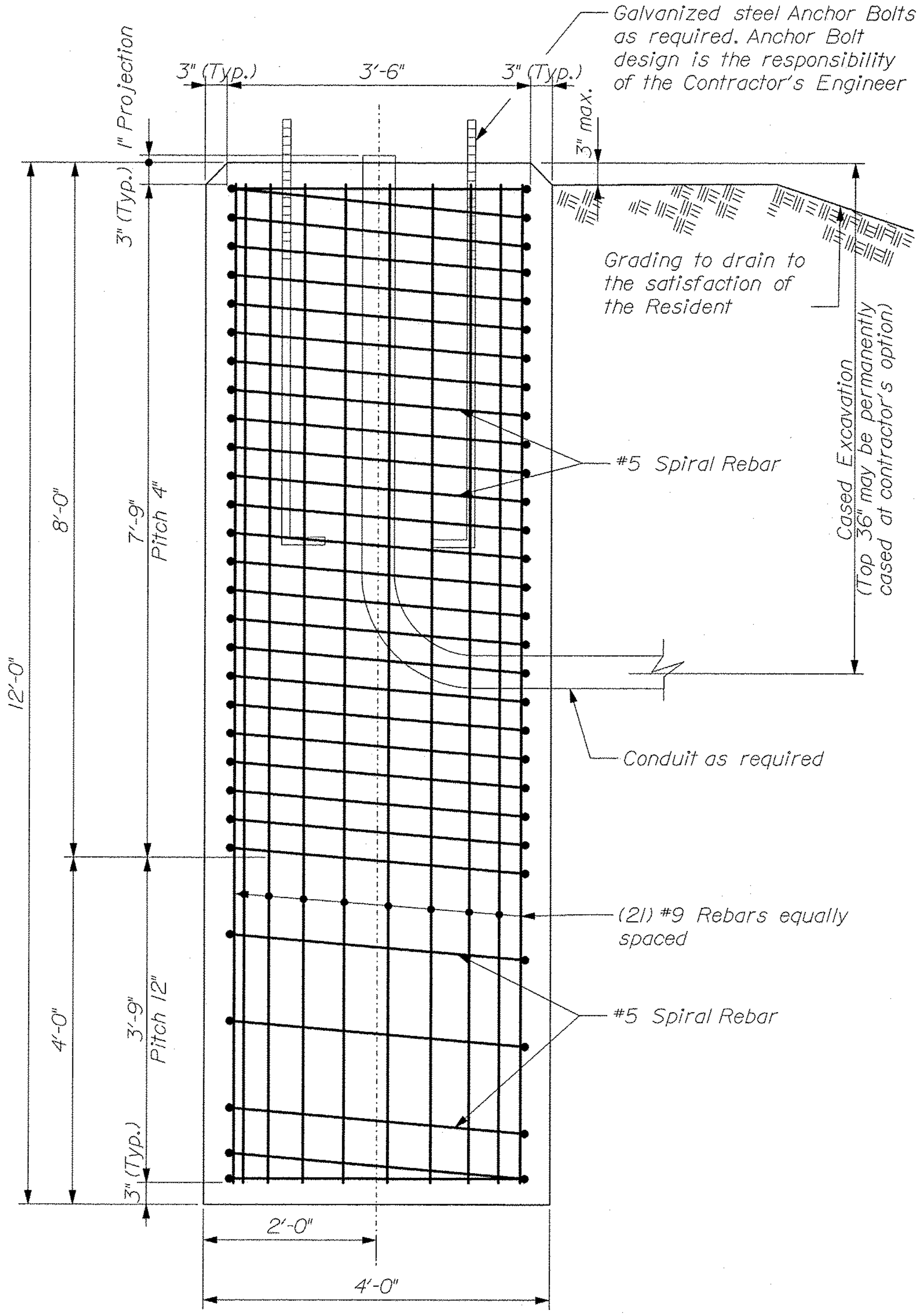
BORING LOCATION PLAN & MAST ARM FOUNDATION #3 WITH BORING LOG

SHEET NUMBER
11
OF 12

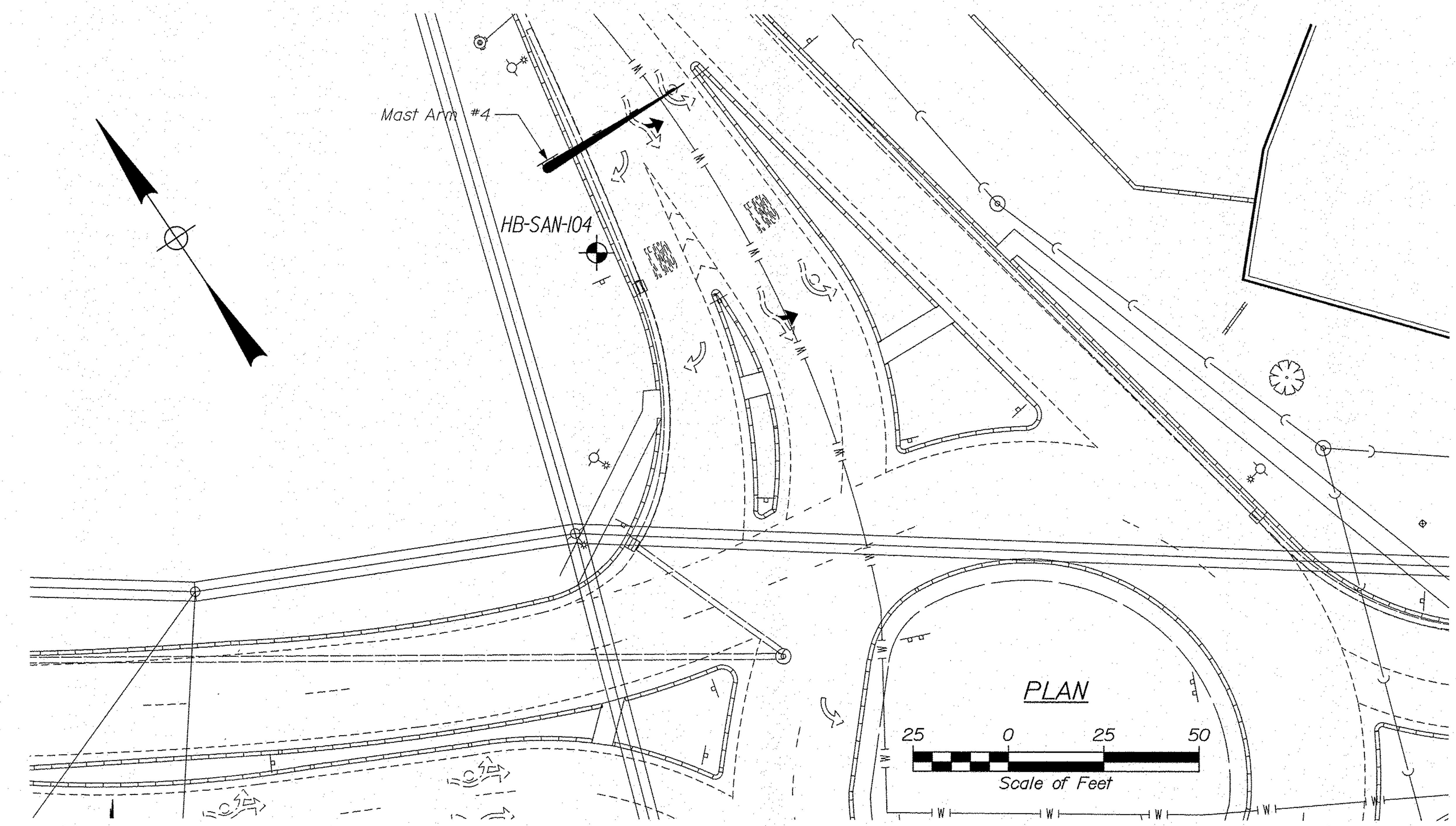
Filename: ...\MSTA\003_BLP&MAF WBL3.dgn Division: GEOTECH Username: Kate.Maguire Date:1/15/2020



Drilled Shaft Plan View
Scale: ¾" = 1'-0"



Drilled Shaft Elevation View
Scale: ¾" = 1'-0"
MAST ARM #4



NOTES:

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3. Should there be a discrepancy between these Details and actual observed field conditions report it to the Resident immediately.

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5. Concrete to be Class LP with f'c = 5,000 PSI.

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Overhead Signs Routes 109/4
Location: Sanford, Maine
Boring No.: HB-SAN-104
WIN: 22974.00

Driller:	MaineDOT	Elevation (ft.)		Auger ID/OD:	5" Dia.
Operator:	Daggett/Aaron/Niles	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	B. Wilder	Rig Type:	CME 45C	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	10/9/2019; 09:30-10:30	Drilling Method:	Solid Stem Auger	Core Barrel:	N/A
Boring Location:	TBD	Casing ID/OD:	N/A	Water Level*:	None Observed
Hammer Efficiency Factor: 0.886		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
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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
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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	1D	24/15	0.00 - 2.00	6/9/24/29	33	49	SSA	-0.2		2" SOD. 0.2 Brown, damp, dense, Gravelly fine to coarse SAND, trace silt.	
								-4.0		4.0	
5	2D	24/22	5.00 - 7.00	9/22/24/25	46	68				Brown, damp, very dense, fine to coarse SAND, little gravel, little silt.	
								-8.5		8.5	
10	3D	24/20	10.00 - 12.00	15/22/35/41	57	84				Brown, moist, very dense, fine to coarse SAND, little silt.	
								-12.0		12.0 Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
15											
20											
25											

Remarks:

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

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Page 1 of 1
Boring No.: HB-SAN-104

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HIGHWAY PLANS

WIN
22974.00

STATE OF MAINE
Kathleen Maguire
7120
LICENSED PROFESSIONAL ENGINEER

SIGNATURE 7120
P.E. NUMBER 1/15/2020
DATE

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

SANFORD
ROUTES 109/4

BORING LOCATION PLAN & MAST ARM FOUNDATION #4 WITH BORING LOG

SHEET NUMBER
12
OF 12

Filename: ...\MSTA\012_BLP&MAF WBL 4.dgn Division: GEOTECH Username: Kate.Maguire Date:1/15/2020