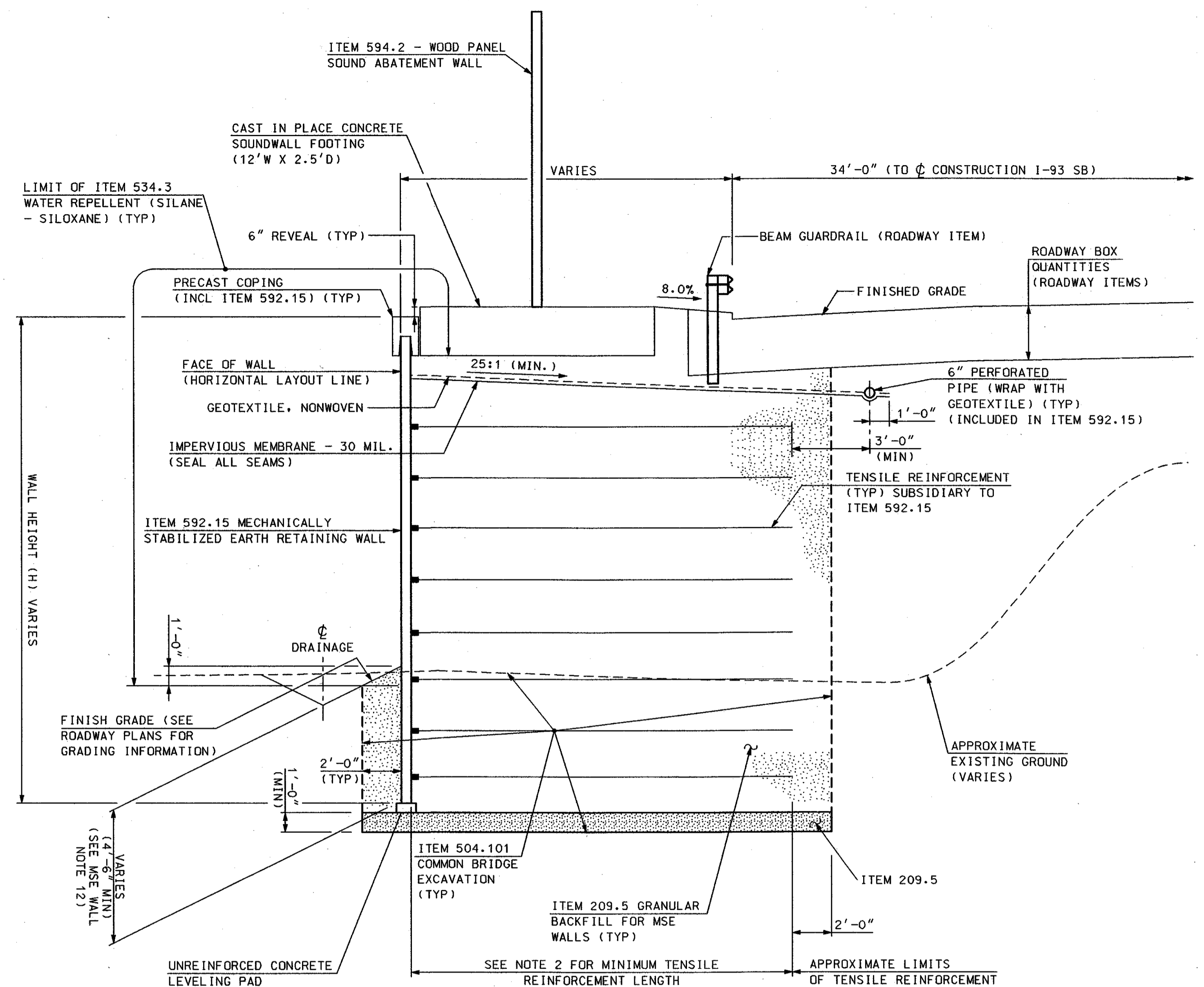


TYPICAL SECTION
STA. 3112+90+ - STA. 3114+50+
NOT TO SCALE



TYPICAL SECTION
STA. 3114+50+ - STA. 3115+75+
NOT TO SCALE

█ - GRANULAR BACKFILL FOR MSE WALLS

FOUNDATION NOTES:

- REFER TO THE BORING LOGS FOR A DESCRIPTION OF THE SUBSURFACE MATERIALS. MISCELLANEOUS FILL INCLUDING MUCK DISPOSAL FILL, TOPSOIL, AND THE ORGANIC SOIL DEPOSIT ARE UNACCEPTABLE FOR SUPPORT OF THE MSE WALL AND SHALL BE REMOVED DOWN TO THE SURFACE OF THE UNDISTURBED GLACIAL LACUSTRINE DEPOSIT OR ALLUVIAL DEPOSIT. THE HORIZONTAL LIMITS OF UNSUITABLE MATERIAL REMOVAL AND REQUIRED REPLACEMENT MATERIALS ARE INDICATED ON THE TYPICAL SECTIONS. THE NHDOT GEOTECHNICAL SECTION SHOULD BE CONTACTED DURING CONSTRUCTION FOR ASSISTANCE IN DETERMINING THE LIMITS OF UNSUITABLE MATERIAL REMOVAL.
- BASED ON LIMITED INFORMATION FROM THE EXISTING I-93 SB PLANS AND AVAILABLE SUBSURFACE DATA, EXCAVATION OF UNSUITABLE MATERIAL DOWN TO APPROXIMATELY EL. 112 COULD BE REQUIRED NORTH OF APPROXIMATELY STA. 3115+75. SOUTH OF THIS SEGMENT, EXCAVATION TO ONE FOOT BELOW THE BOTTOM OF THE LEVELING PAD TO ACCOMMODATE THE ONE FOOT OF ITEM 209.5 IS GENERALLY EXPECTED. THE ACTUAL LIMITS OF UNSUITABLE EXCAVATION SHALL BE DETERMINED IN THE FIELD, AS DIRECTED.
- THE COST OF ANY LATERAL SUPPORT SYSTEMS AND DEWATERING REQUIRED FOR THE EXCAVATION OF UNSUITABLE MATERIALS AND PLACEMENT OF ITEM 209.5 WITHIN THE POTENTIAL DEEP EXCAVATION SEGMENT AT THE NORTH END OF THE WALL (I.E., NORTH OF APPROXIMATELY STA. 3115+75) SHALL BE SUBSIDIARY TO ITEM 504.101.
- THE SILTY MATERIALS ARE GENERALLY EXPECTED AT THE BOTTOM OF EXCAVATION GRADE. THE CONTRACTOR SHALL EXCAVATE AND DEWATER THE EXCAVATION IN CLOSE CONFORMANCE TO THE REQUIREMENTS OF SECTION 504 TO PREVENT DISTURBANCE OF THE SILTY BEARING MATERIALS. BEARING MATERIALS THAT ARE DISTURBED BY INADEQUATE EXCAVATION AND DEWATERING PROCEDURES SHALL BE REMOVED AND REPLACED WITH ITEM 209.5 AT NO COST TO THE DEPARTMENT. ALL DEWATERING COST SHALL BE SUBSIDIARY TO ITEM 504.101.

NOTES:

- SEE BRIDGE SHEET 3 FOR MSE WALL NOTES.
- THE MINIMUM REINFORCEMENT LENGTH (L) SHALL BE $\geq 0.85H$ BETWEEN STA. 3112+89.65 AND STA. 3115+00, AND $\geq 0.7H$ BETWEEN STA. 3115+00 AND THE NORTH END OF THE WALL.
- THE CONTRACTOR MAY SUBSTITUTE 12 INCHES OF STRUCTURAL FILL FOR THE BOTTOM 12 INCHES OF ITEM 209.5 BELOW THE WALL TO IMPROVE DEWATERING OR FOR OTHER PURPOSES AT NO ADDITIONAL COST TO THE DEPARTMENT.

PRELOAD NOTES:

- PRELOADING THE MSE WALL SITE IS REQUIRED FROM THE PROPOSED SB BRIDGE, NORTH ABUTMENT CENTERLINE OF BEARING TO STA. 3114+50, PRIOR TO CONSTRUCTION OF THE MSE WALL.
- THE MINIMUM TOP OF THE FULL HEIGHT PRELOAD IS EL. 143. THE PRELOAD LIMITS ARE INDICATED ON THE SITE PLAN AND ON THE CROSS SECTIONS.
- ALL PRELOAD SIDE SLOPES SHALL HAVE GRADE NO STEEPER THAN 1.5H:1V.
- THE MINIMUM WAITING PERIOD FOR THE PRELOAD AFTER IT HAS BEEN CONSTRUCTED FULL HEIGHT IS 30 DAYS. PRELOAD EXCAVATION IN FRONT OF THE WALL SHALL BE PAID UNDER ITEM 203.7 - REHANDLING SURCHARGE MATERIAL (ROADWAY ITEM).

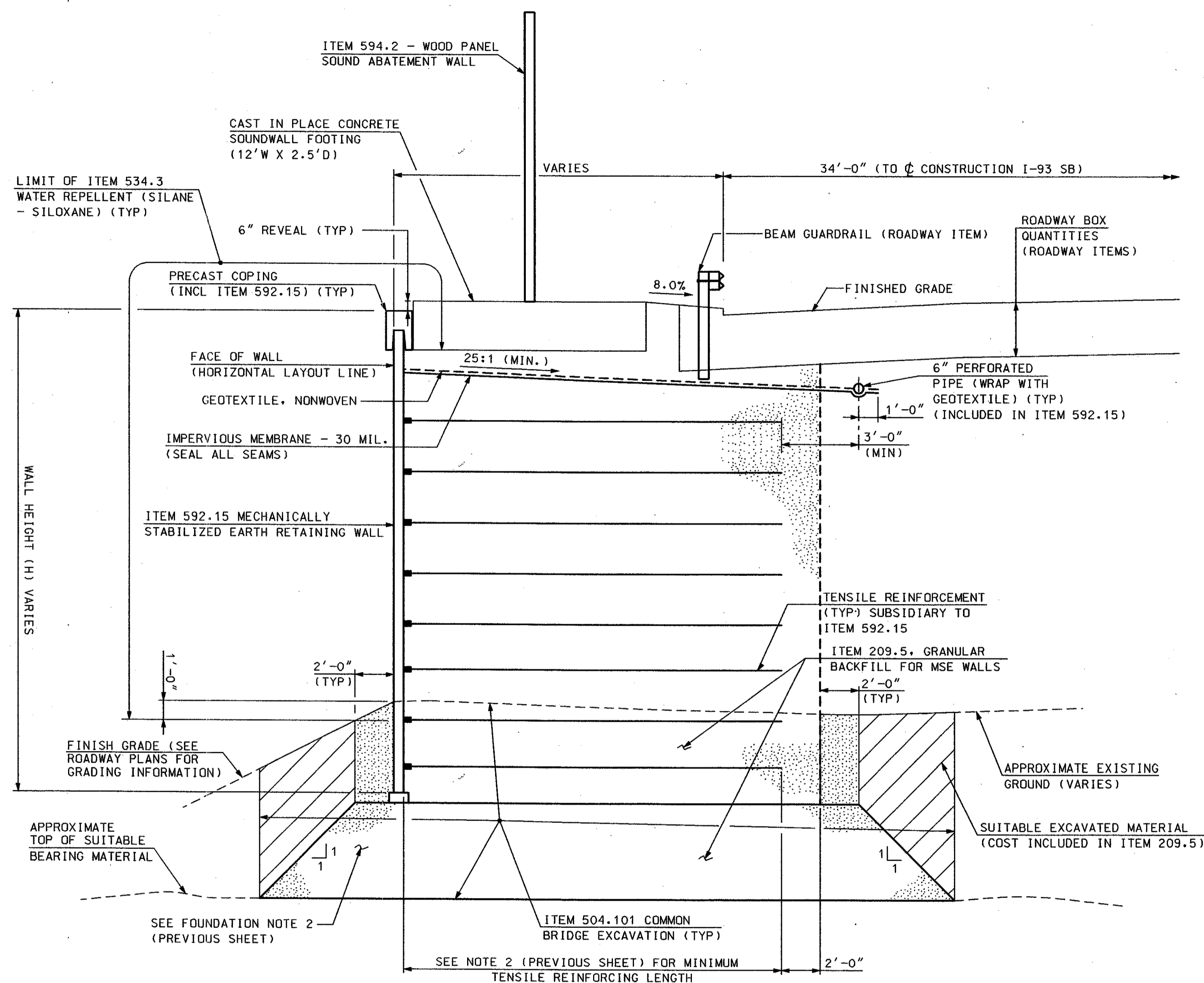
NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 5-2010

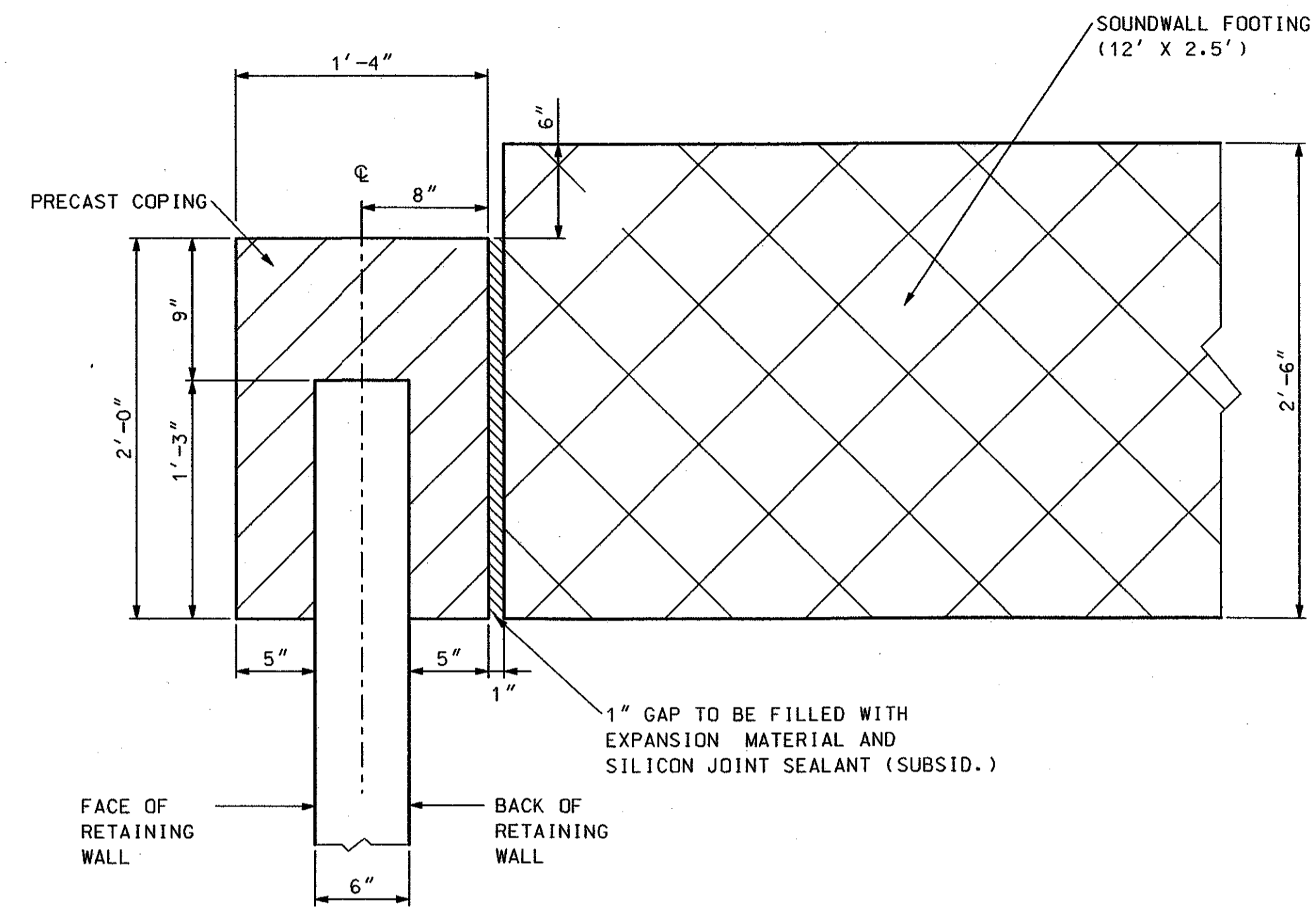
Hoyle, Tanner & Associates, Inc.

HTA PROJECT NO.	MODEL
913001	13933DDETL1W04HTA
SUBDIRECTORY	DGN LOCATOR
XX	13933DDETL1W04HTA
	SHEET SCALE

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN			
TOWN	TOWN OF SALEM	BRIDGE NO.	N/A
STATE PROJECT	13933-D		
LOCATION	I-93 SOUTHBOUND NORTH OF NH ROUTE 38		
RETAINING WALL #4 - TYPICAL SECTIONS (1 OF 2)			
REVISIONS AFTER PROPOSAL	BY	DATE	BY
	JCC	05/10	TMC
	JCC	05/10	TMC
	JTL	05/10	EGW
ISSUE DATE	FEDERAL PROJECT NO.		SHEET NO.
REV. DATE	A000(124)		149
			658



TYPICAL SECTION
 STA. 3115+75± - STA. 3116+95±
 NOT TO SCALE



TYPICAL SECTION
 RETAINING WALL COPING
 AND SOUNDWALL FOOTING

SCALE: 1 1/2" = 1'

NOTE: DETAILS AND NOTES
 MAY NOT BE CURRENT.
 CLOSELY REVIEW BEFORE
 USING DETAILS.

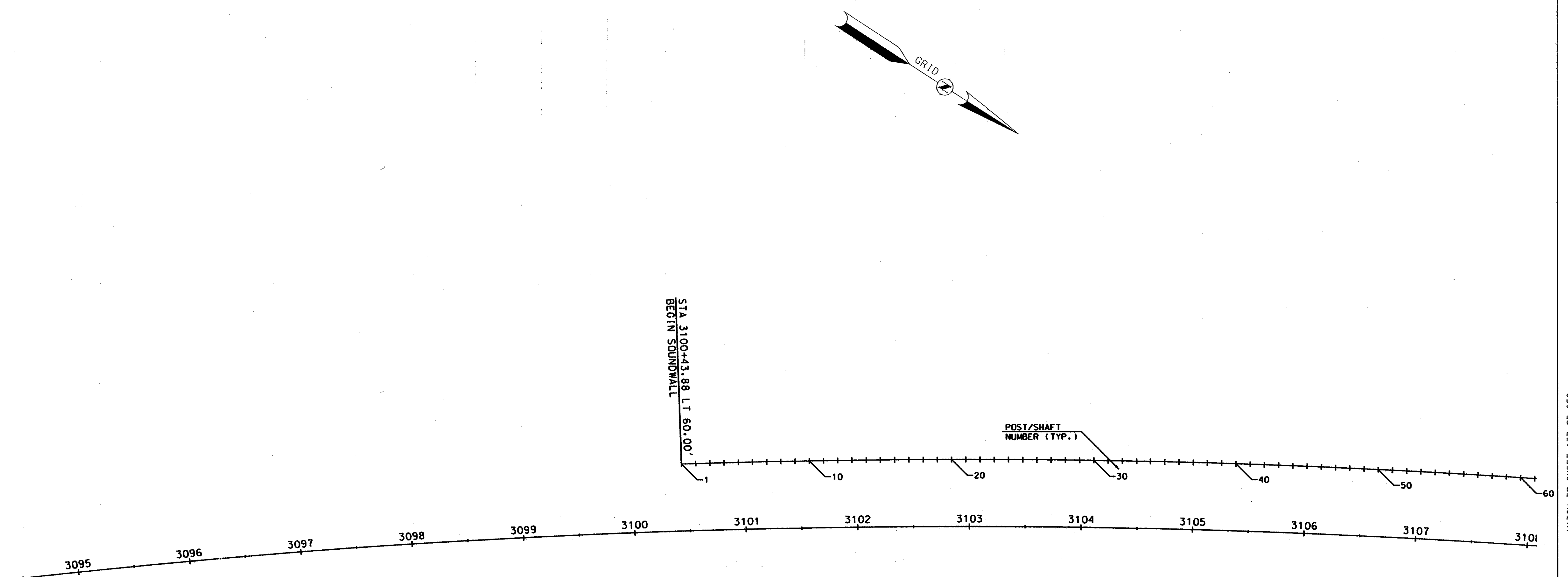
SAMPLE PLAN
 DATE: 5-2010

Hoyle, Tanner
 & Associates, Inc.

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	TOWN OF SALEM			BRIDGE NO.	NA		STATE PROJECT	13933-D	
LOCATION	1-93 SOUTHBOUND NORTH OF NH ROUTE 38								
RETAINING WALL #4 - TYPICAL SECTIONS (2 OF 2)									
BRIDGE SHEET									
5 OF 13									
FILE NUMBER									
-									
TOTAL SHEETS									
658									
HTA PROJECT NO.	MODEL			DESIGNED	BY	DATE	CHECKED	BY	DATE
913001	13933DDETL2W04HTA			DRAWN	JCC	05/10	TMC	05/10	
REACTORY	DGN LOCATOR	SHEET SCALE		QUANTITIES	JTL	05/10	EGW	05/10	
XX	13933DDETL2W04HTA			ISSUE DATE	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS	
				REV. DATE	A000(124)		150	658	

SDR PROCESSED	\$SDRNAME\$	DATE	\$SDRDATE\$
NEW DESIGN	\$DESIGNNAME\$	DATE	\$DESIGNDATE\$
SHEET CHECKED	\$CHECKEDNAME\$	DATE	\$CHECKEDDATE\$
AS BUILT DETAILS		DATE	

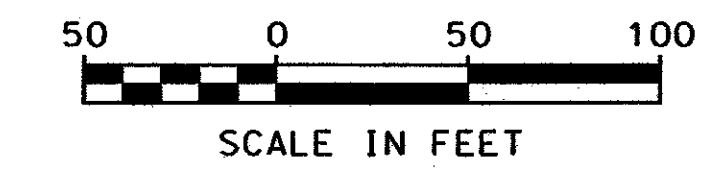
REVISIONS AFTER PROPOSAL				
NUMBER	DATE	STATION	STATION	DESCRIPTION



- NOTES: 1. STATION AND OFFSET INFORMATION PROVIDED FOR BERM LAYOUT ONLY. SEE CROSS SECTIONS.
 2. SEE "SOUNDWALL POST LOCATION TABLES" FOR SOUNDWALL POST LAYOUT INFORMATION.

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 5-2010



<i>Nobis Engineering, Inc.</i>			LOWELL RD SOUNDWALLS		
DATE PLOTTED	NOBIS PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
09/20/2010	77150	GENsound06NOB	13933D	176	658

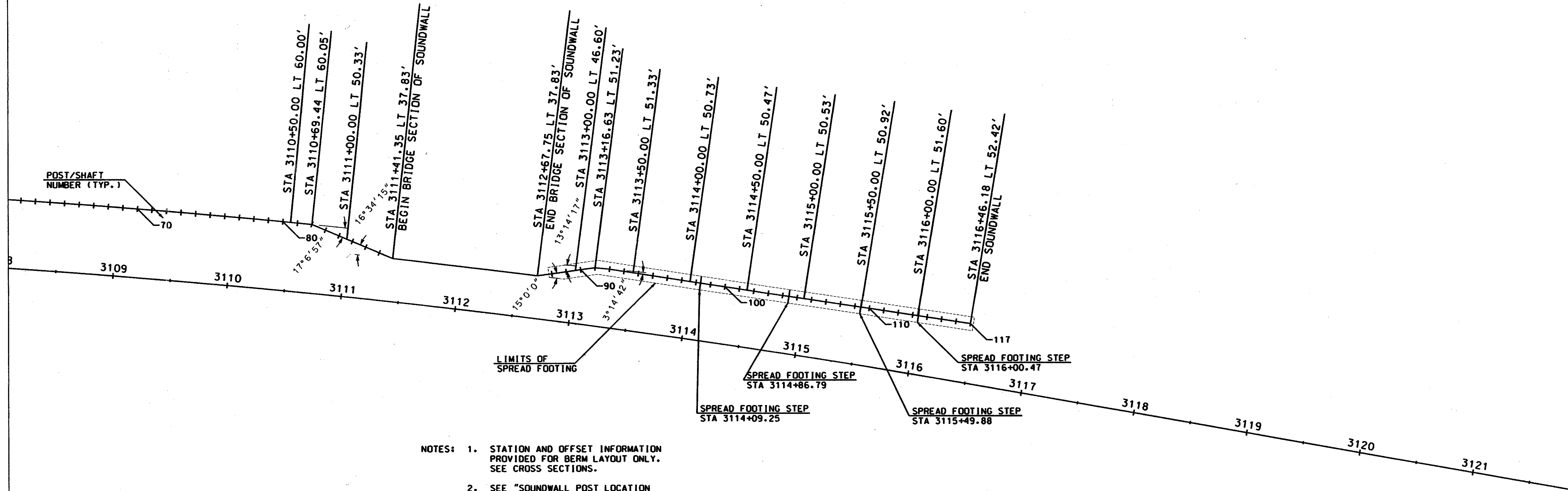
REVISIONS AFTER PROPOSAL		STATION	DESCRIPTION

NUMBER	DATE	STATION	DESCRIPTION

DATE	\$DRDATE\$	DATE	\$DESIGNDATE\$	DATE	\$CHECKDATE\$

AS BUILT DETAILS	DATE

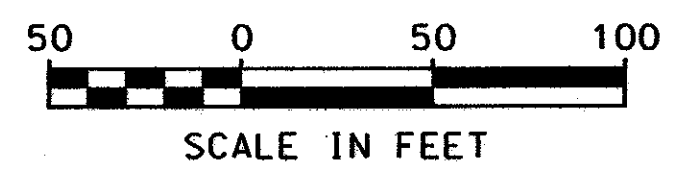
MATCH TO SHEET 176 OF 658



- NOTES:
1. STATION AND OFFSET INFORMATION PROVIDED FOR BERM LAYOUT ONLY. SEE CROSS SECTIONS.
 2. SEE "SOUNDWALL POST LOCATION TABLES" FOR SOUNDWALL POST LAYOUT INFORMATION.

SAMPLE PLAN
DATE: 5-2010

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

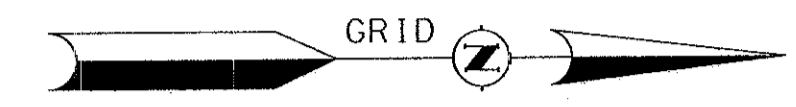


Nobis Engineering, Inc.		LOWELL RD SOUNDWALLS			
DATE PLOTTED	NOBIS PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
09/20/2010	77150	GENsound06NOB	13933D	177	658

REVISIONS AFTER PROPOSAL

NUMBER	DATE	STATION	DESCRIPTION

AS PROCESSED	AS BUILT	DATE	DATE	DESIGNATOR	DESIGNATOR

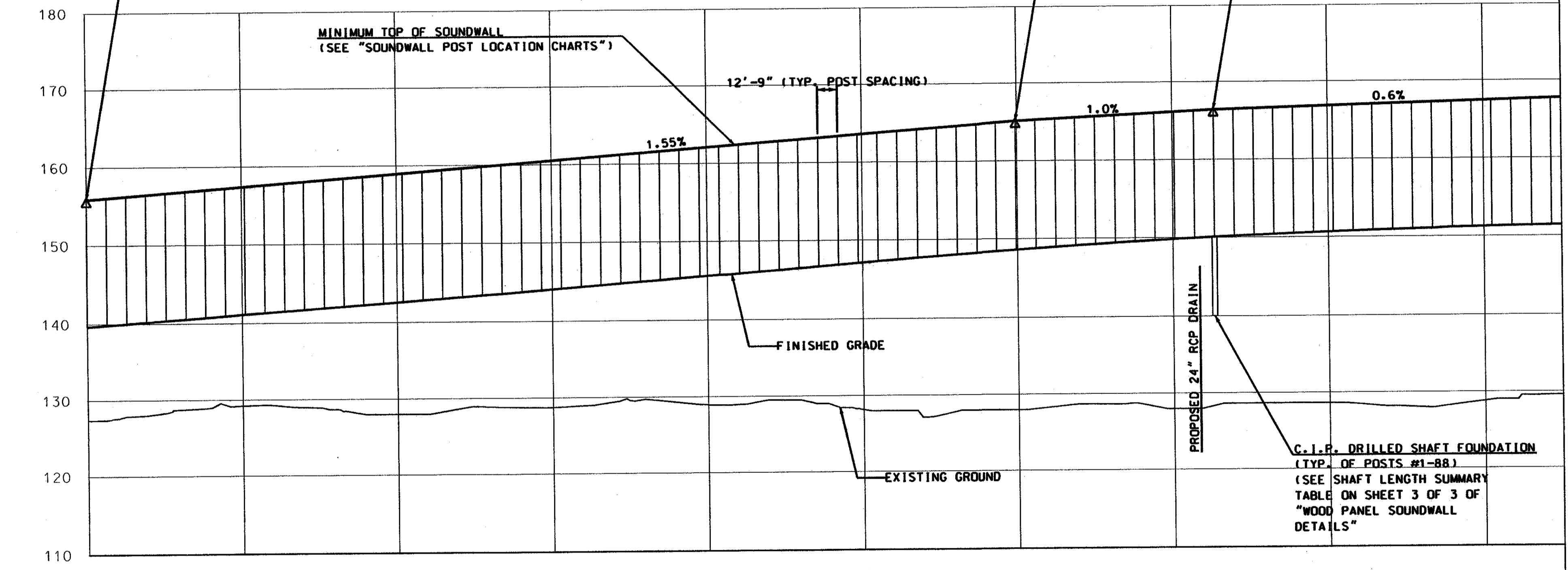


I-93 SOUTHBOUND
STA 3100+43.88 LT 60.00'
BEGIN SOUNDWALL

POST #1
ELEV. = 155.85

POST #48
ELEV. = 165.14
STA 3106+38.57 LT 60.03'

POST #58
ELEV. = 166.41
STA 3107+64.90 LT 60.03'



SCALE:
1" = 50' HORIZ.
1" = 10' VERT.

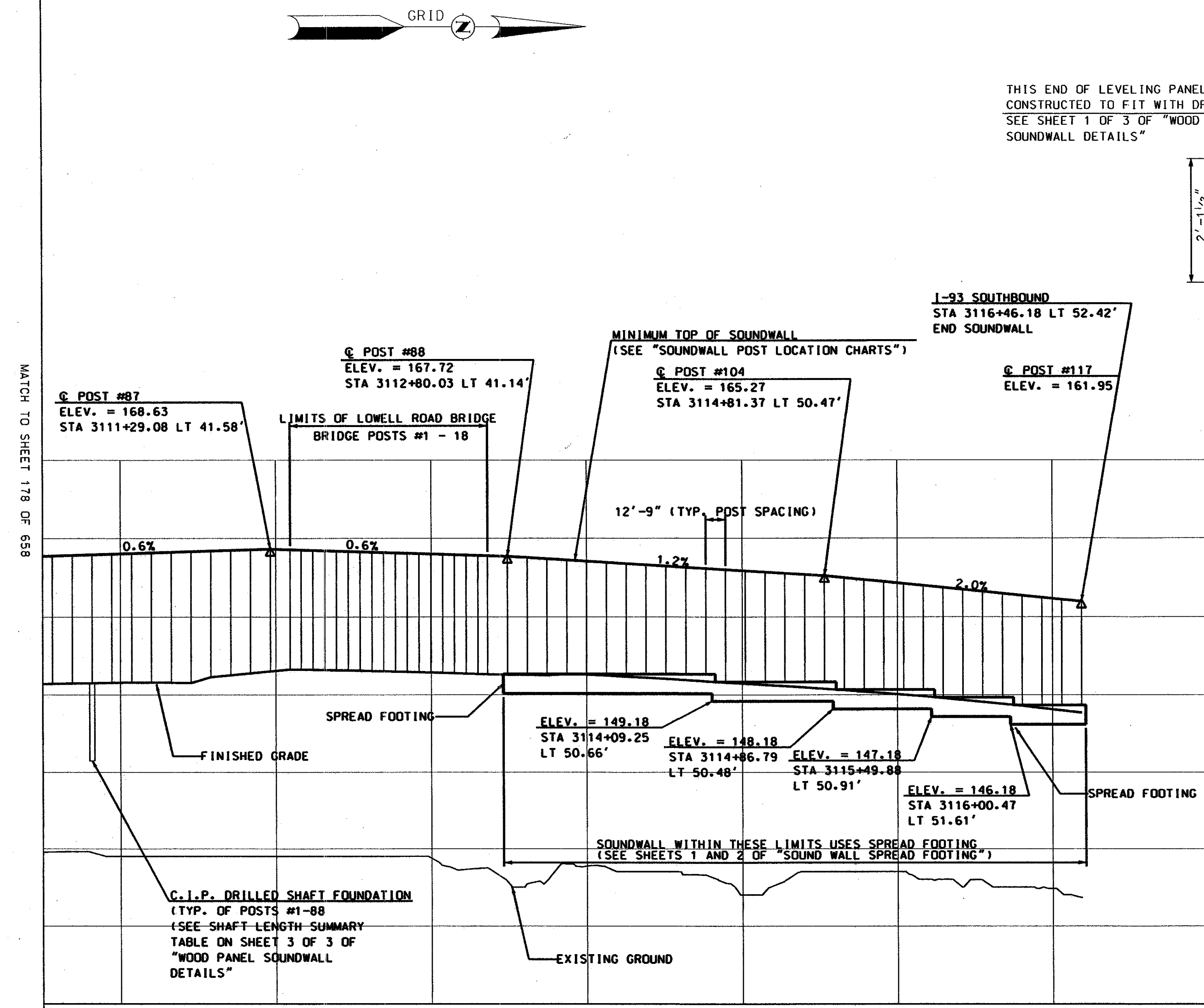
NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.

SAMPLE PLAN
DATE: 5-2010

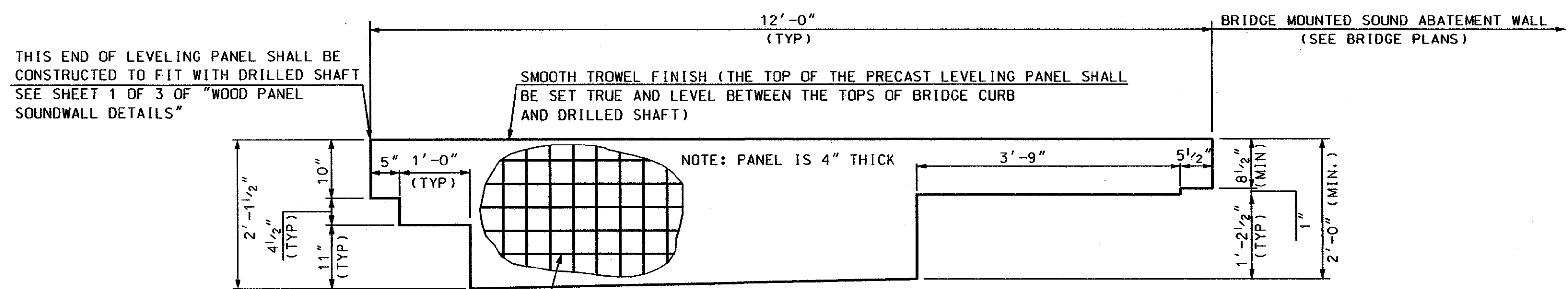
Nobis Engineering, Inc.		LOWELL RD SOUNDWALLS			
DATE PLOTTED	NOBIS PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
09/20/2010	77150	P01sound06NOB	13933D	178	658

MATCH TO SHEET 179 OF 658

SDR PROCESSED	\$ORNAME\$	DATE	\$DATE\$
NEW DESIGN	\$DESIGNNAME\$	DATE	\$DATE\$
SHEET CHECKED	\$CHECKEDNAME\$	DATE	\$DATE\$
AS BUILT DETAILS		DATE	

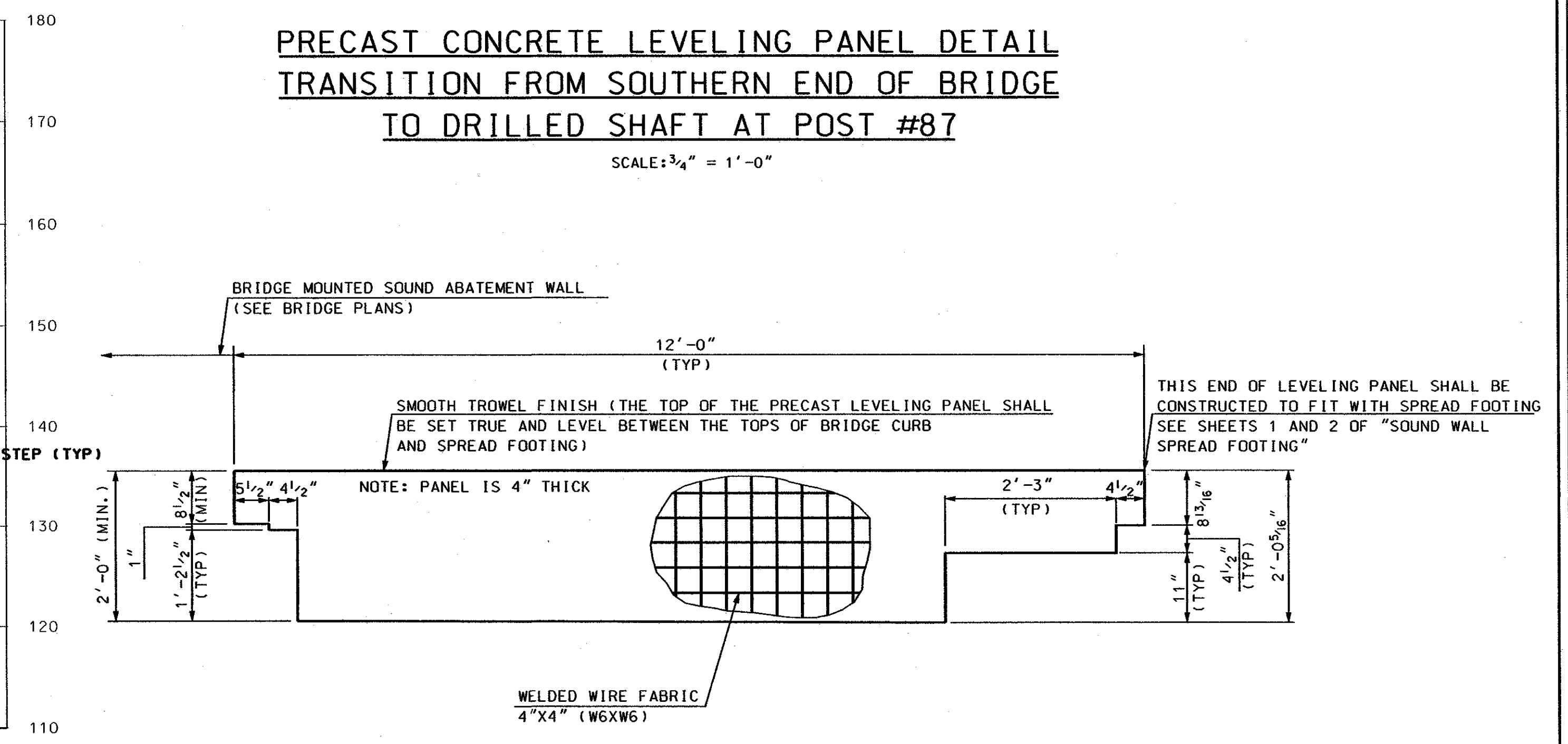


SCALE:
1" = 50' HORIZ.
1" = 10' VERT.



PRECAST CONCRETE LEVELING PANEL DETAIL
TRANSITION FROM SOUTHERN END OF BRIDGE
TO DRILLED SHAFT AT POST #87

SCALE: 3/4" = 1'-0"



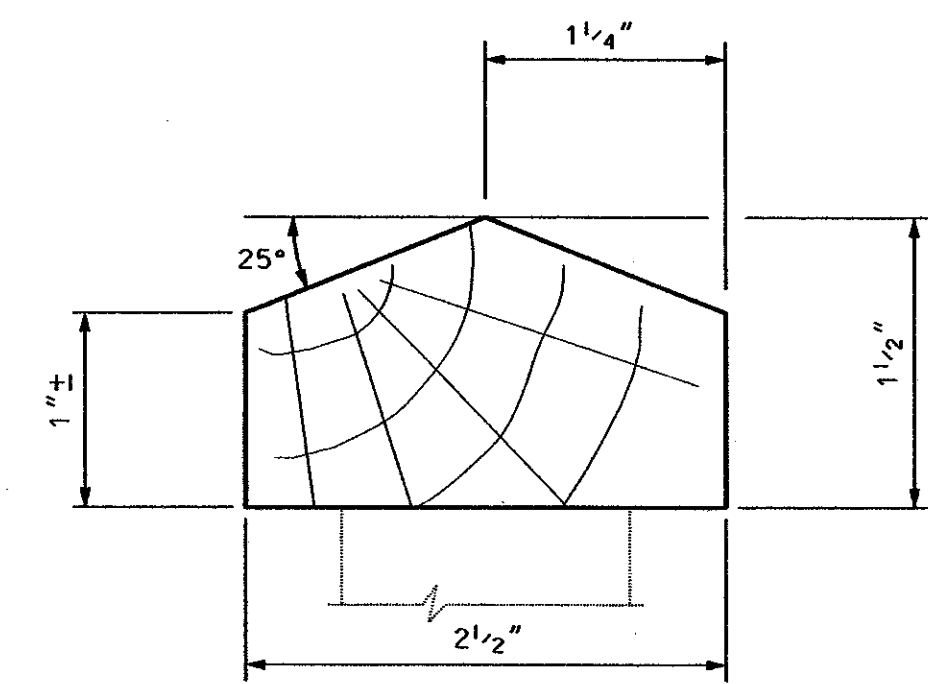
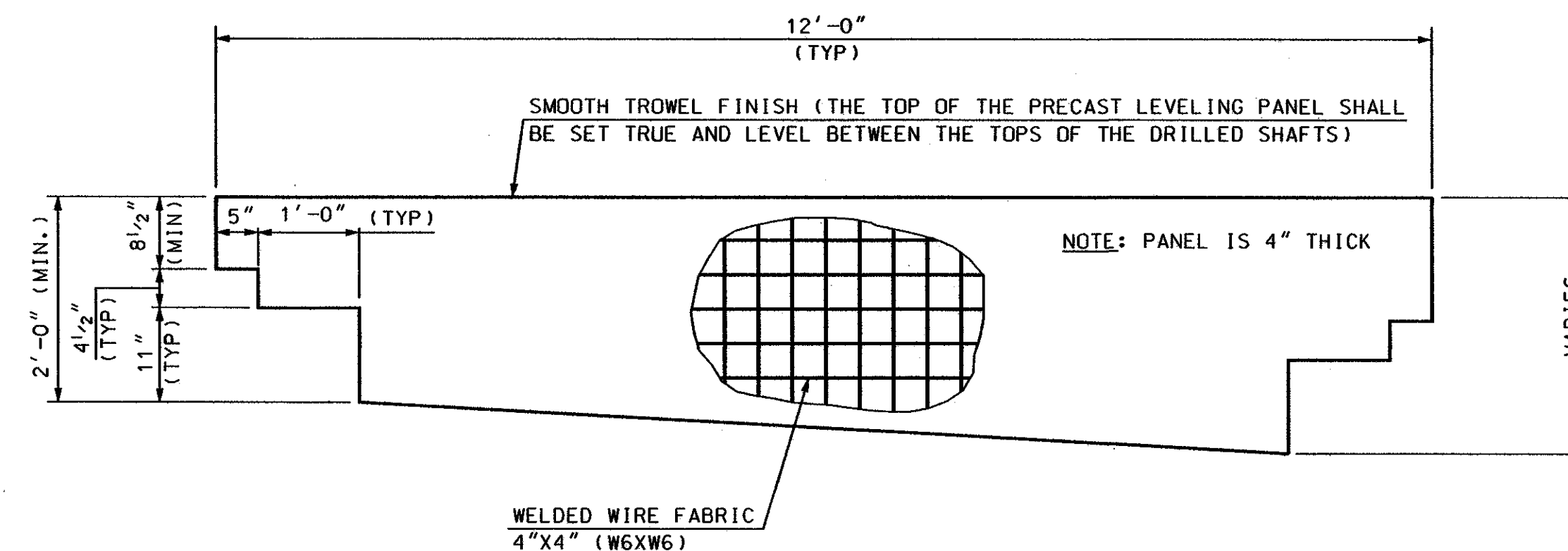
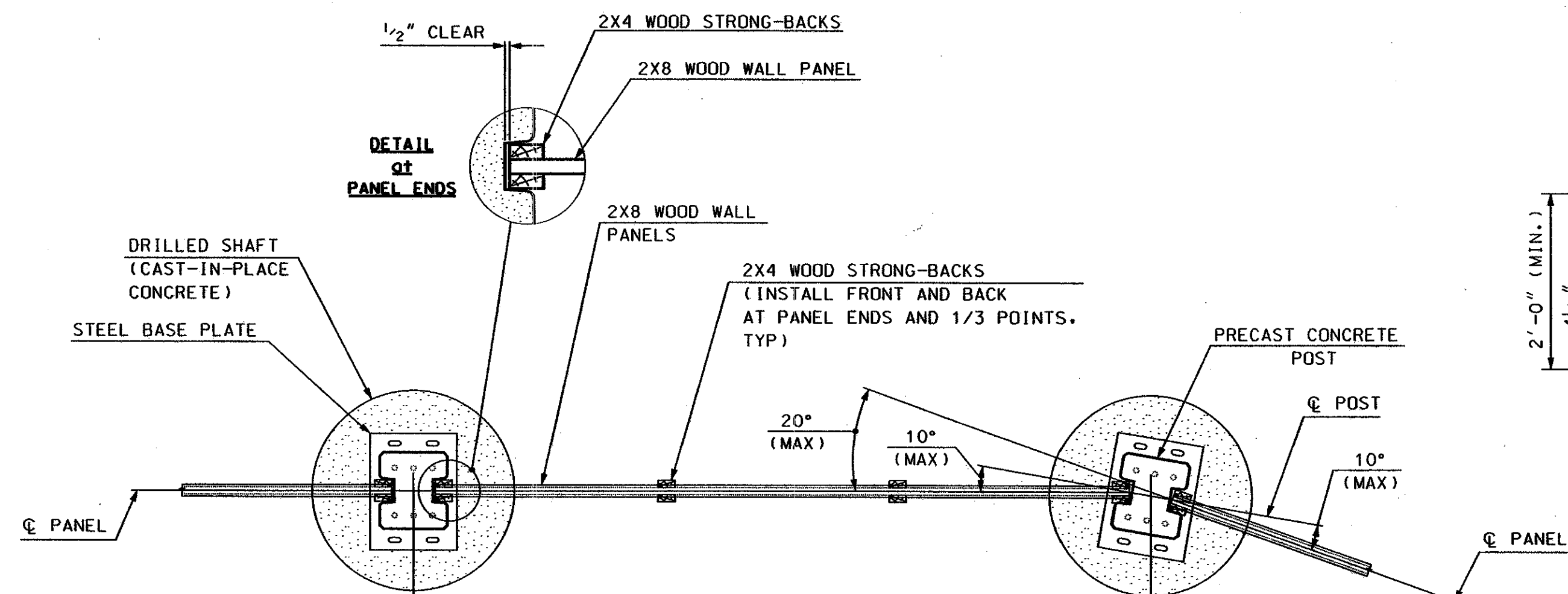
PRECAST CONCRETE LEVELING PANEL DETAIL
TRANSITION FROM NORTHERN END OF BRIDGE
TO SPREAD FOOTING AT POST #88

SCALE: 3/4" = 1'-0"

NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.

SAMPLE PLAN
DATE: 5-2010

Nobis Engineering, Inc.		LOWELL RD SOUNDWALLS			
DATE PLOTTED	NOBIS PROJECT NO.	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
09/20/2010	77150	P02sound06NOB	13933D	179	658



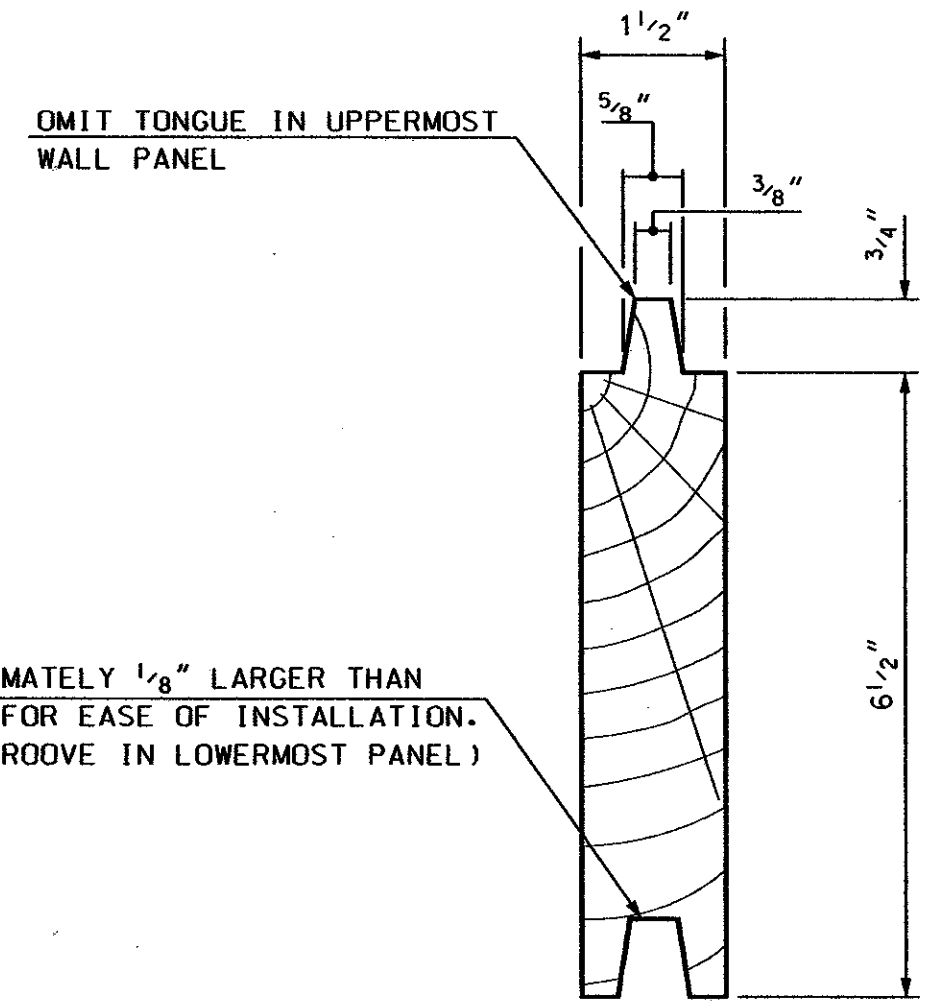
SOUNDWALL - PLAN
SCALE: 1/2" = 1'-0"

PRECAST CONCRETE LEVELING PANEL DETAIL
SCALE: 3/4" = 1'-0"

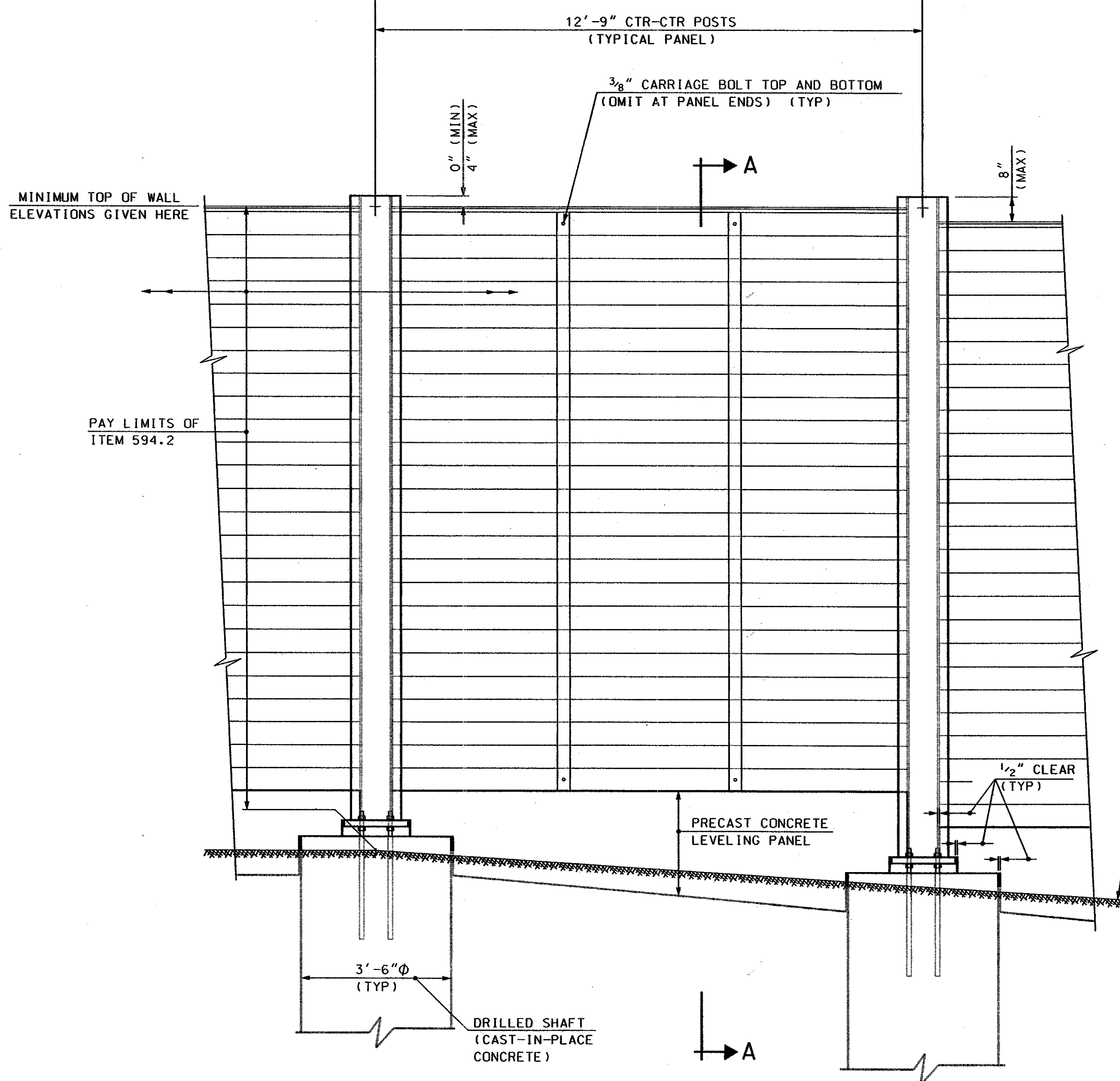
WOOD WALL CAP DETAIL
SCALE: 1" = 1"

SAMPLE PLAN
DATE: 5-2010

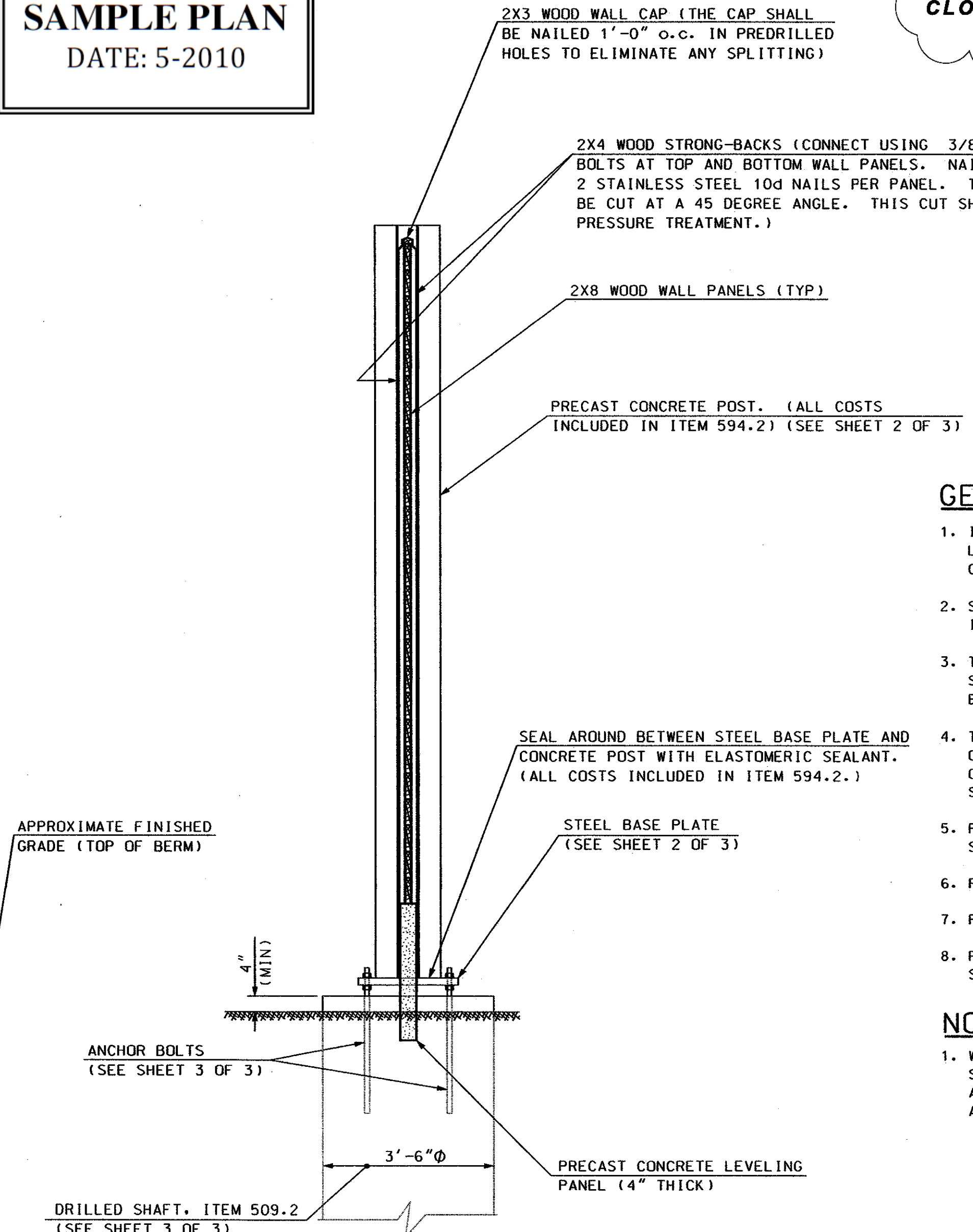
NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



WOOD WALL PANEL DETAIL
SCALE: 1/2" = 1'-0"



SOUNDWALL - ELEVATION
SCALE: 1/2" = 1'-0"



SECTION A-A
SCALE: 1/2" = 1'-0"

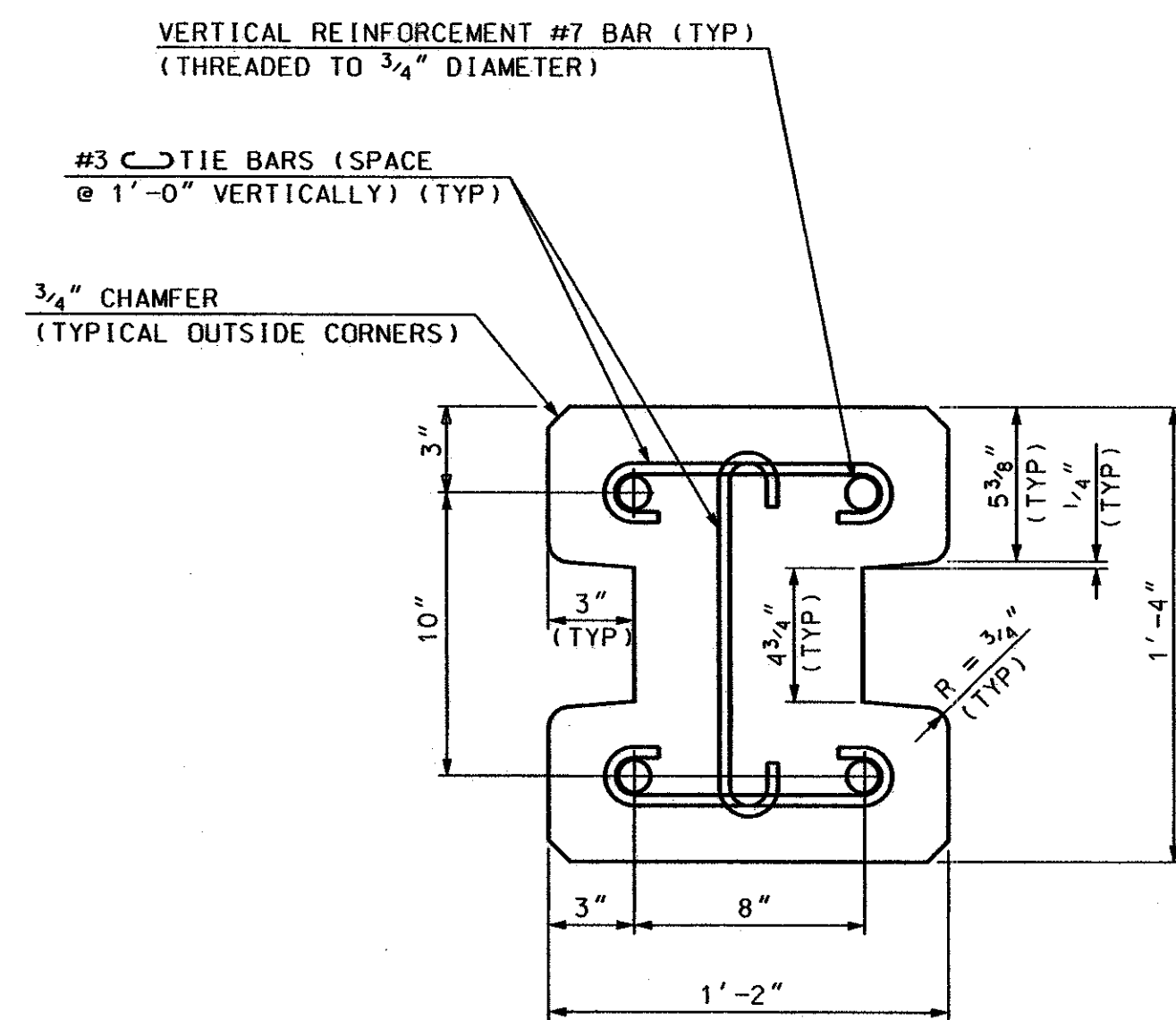
GENERAL NOTES

- ITEM 594.2, WOOD PANEL SOUND ABATEMENT WALL SHALL INCLUDE ALL LUMBER, PRECAST CONCRETE POSTS, LEVELING PANELS, STEEL BASE PLATES, ANCHOR BOLTS, AND ALL HARDWARE NECESSARY FOR CONSTRUCTION OF THE SOUNDWALL AS DETAILED ON THE PLANS.
- SEE SECTION 594 SPECIAL PROVISION FOR ADDITIONAL WOOD PANEL SOUNDWALL INFORMATION INCLUDING LUMBER REQUIREMENTS.
- THE ANGLE BETWEEN THE PRECAST CONCRETE POST AND WALL PANEL SHALL NOT EXCEED 10 DEGREES. POSTS SHALL BE HORIZONTALLY ALIGNED TO ACHIEVE THE PROPOSED WALL ALIGNMENT WITH ANGLE POINTS NOT TO EXCEED 20 DEGREES.
- TRANSITIONS IN TOP OF WALL ELEVATION SHALL BE AS DETAILED ON THE PLANS. IN THE CASE WHERE THE TOP OF WALL ELEVATION IS THE SAME ON BOTH SIDES OF A POST THE MAXIMUM ALLOWABLE DISTANCE FROM THE TOP OF WALL TO TOP OF POST SHALL BE 4". IN THE CASE WHERE THE TOP OF WALL ELEVATION VARIES ON BOTH SIDES OF A POST THE MAXIMUM ALLOWABLE DISTANCE FROM THE TOP OF WALL TO TOP OF POST SHALL BE 8".
- FOR PRECAST CONCRETE NOTES AND POST DETAILS AND STEEL BASE PLATE NOTES AND DETAILS SEE SHEET 2 OF 3.
- FOR DRILLED SHAFT NOTES AND DETAILS SEE SOUNDWALL SHEET 3 OF 3.
- FOR SUMMARY OF SOUNDWALL QUANTITIES SEE SOUNDWALL SHEET 3 OF 3.
- FOR LAYOUT OF SOUNDWALL (INCLUDING POST/SHAFT NUMBERS, COORDINATES AND WALL ELEVATIONS) SEE PLAN SHEETS INCLUDED ELSEWHERE IN THIS CONTRACT.

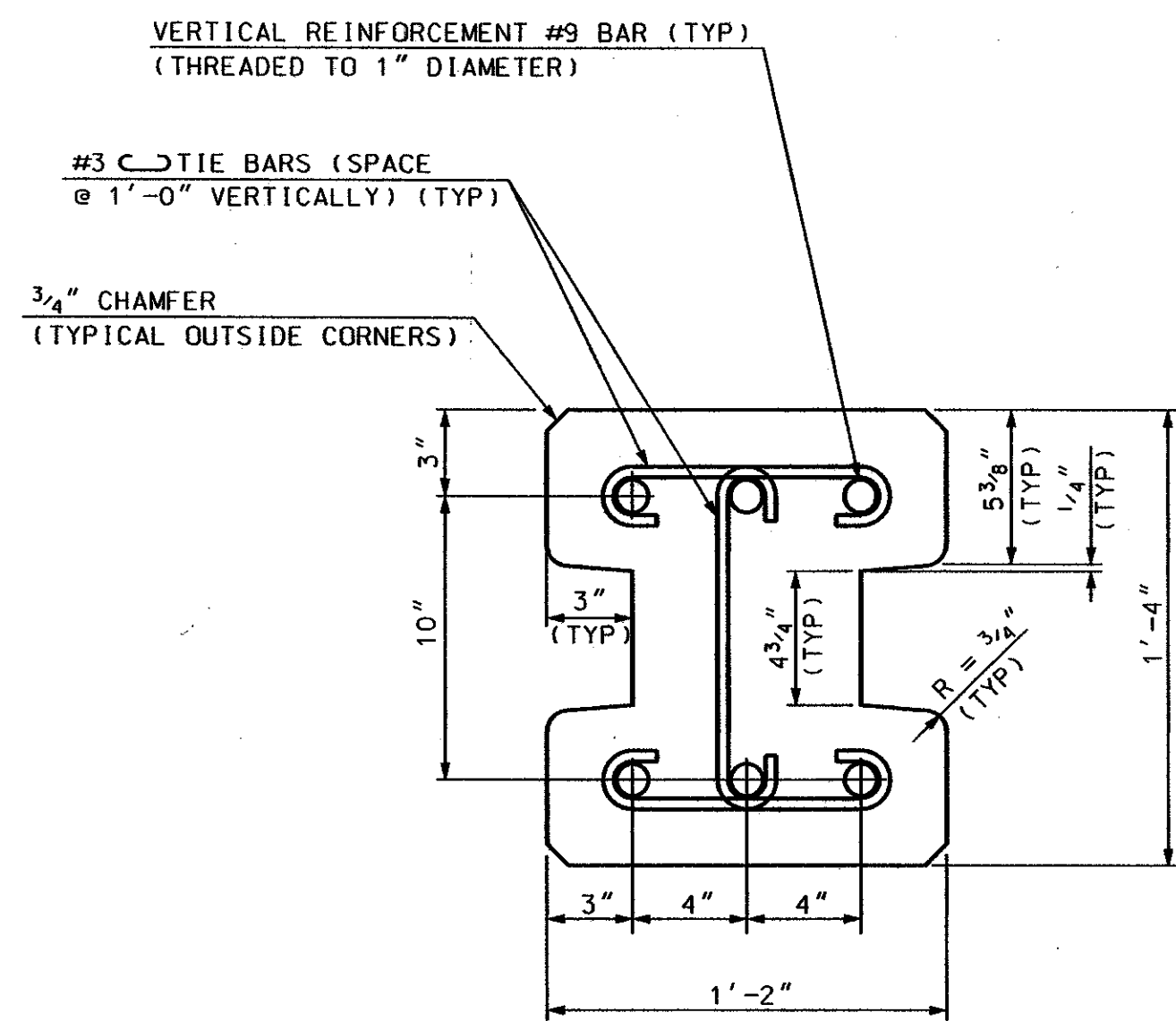
NOTE TO DESIGNER:

- WOOD PANEL SOUNDWALL DESIGNED IN ACCORDANCE WITH AASHTO GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS 1989, WITH INTERIMS, FOR A WIND SPEED OF 90 MPH AND EXPOSURE CATEGORY C, WITH $0 < H < 14$, $C_c = 0.80$. ("H" IS THE DISTANCE FROM AVERAGE LEVEL ADJOINING GROUND SURFACE TO CENTROID OF LOADED AREA IN EACH HEIGHT ZONE)

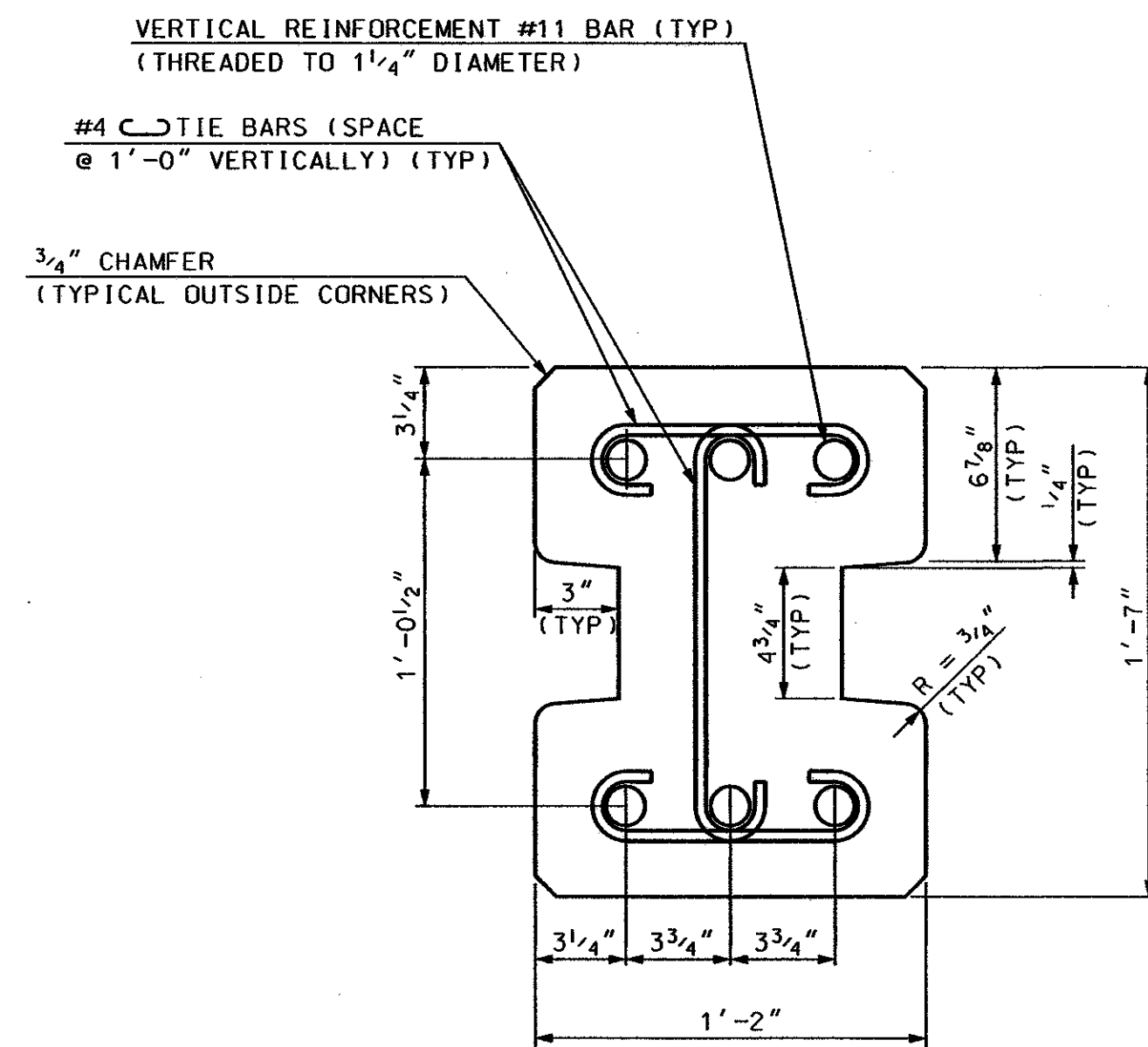
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN SALEM-MANCHESTER			BRIDGE NO.			STATE PROJECT I3933-D			
LOCATION									
WOOD PANEL SOUNDWALL (1 of 3)									
REVISIONS AFTER PROPOSAL		BY DATE		BY DATE		BRIDGE SHEET		OF	
		DESIGNED NHDOT 9/05		CHECKED NHDOT 9/05		FILE NUMBER			
		DRAWN RAJ 2/03		CHECKED ACJ/ABH 9/05					
		QUANTITIES		CHECKED					
		ISSUE DATE XX		FEDERAL PROJECT NO.		SHEET NO.		TOTAL SHEETS	
		REV. DATE				180		658	
SUBDIRECTORY		DGN LOCATOR		SHEET SCALE					
English/SNDWALL		Detail		AS NOTED					



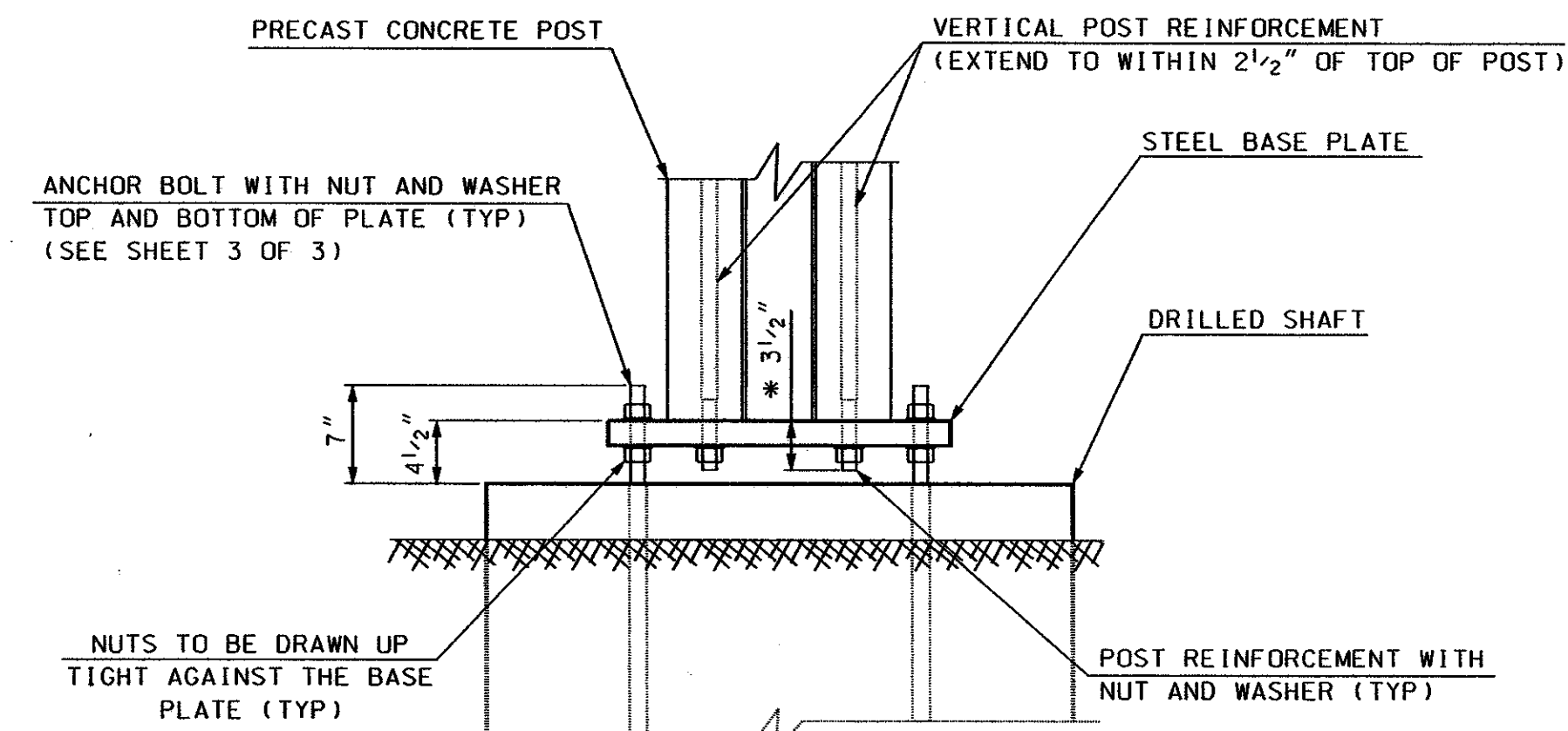
POST SECTION DETAIL
for WALL HEIGHT UP TO 10'
SCALE: 2" = 1'-0"



POST SECTION DETAIL
for WALL HEIGHT >10' to 15'
SCALE: 2" = 1'-0"



POST SECTION DETAIL
for WALL HEIGHT >15' to 25'
SCALE: 2" = 1'-0"

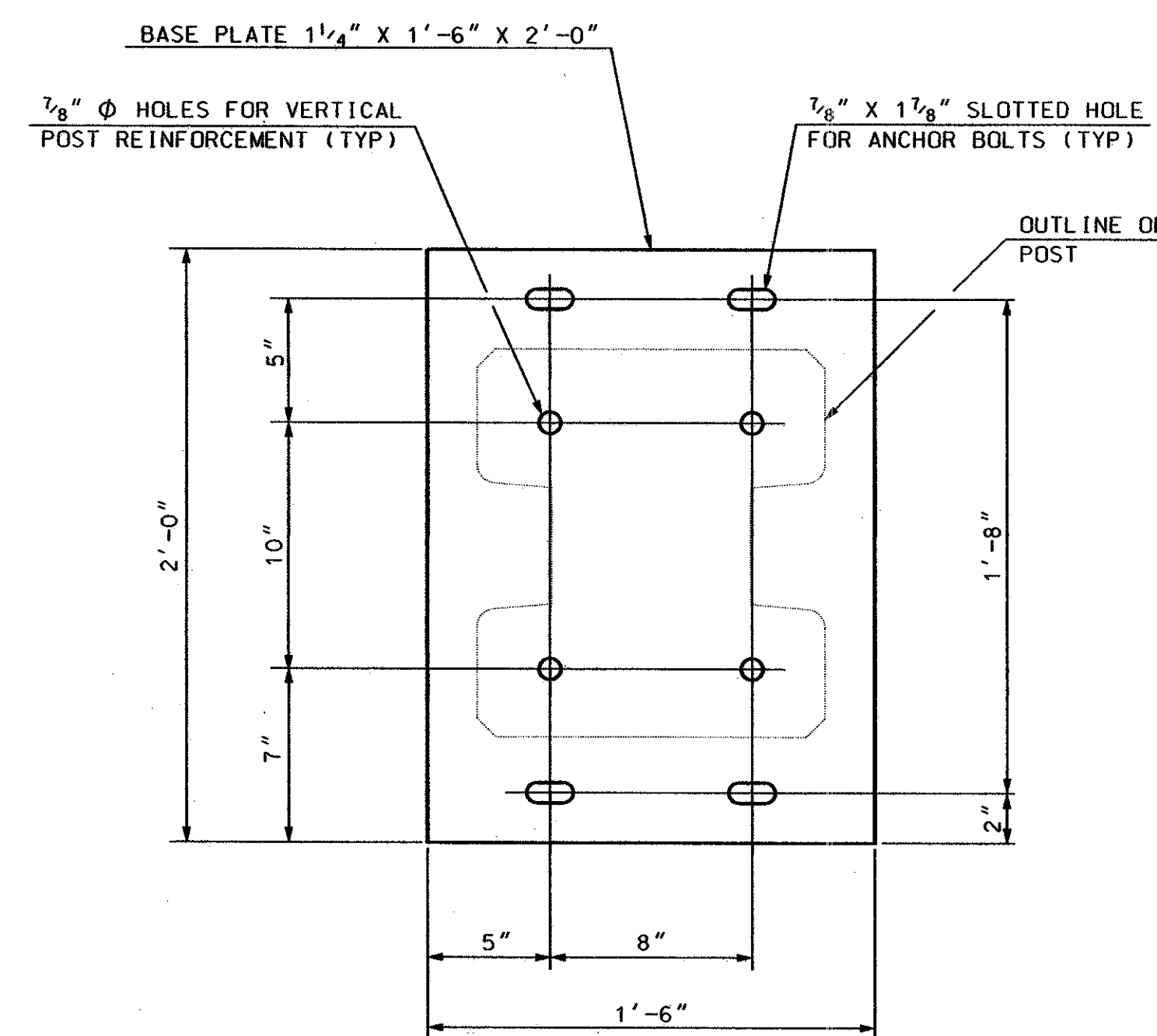


* THE LAST 4" OF THE VERTICAL POST REINFORCEMENT SHALL BE THREADED. 3 1/2" OF THE THREADS SHALL EXTEND BEYOND THE BOTTOM OF THE POST. THE THREADED DIAMETERS SHALL BE : 3/4" FOR #7 BAR
1" FOR #9 BAR
1 1/4" FOR #11 BAR

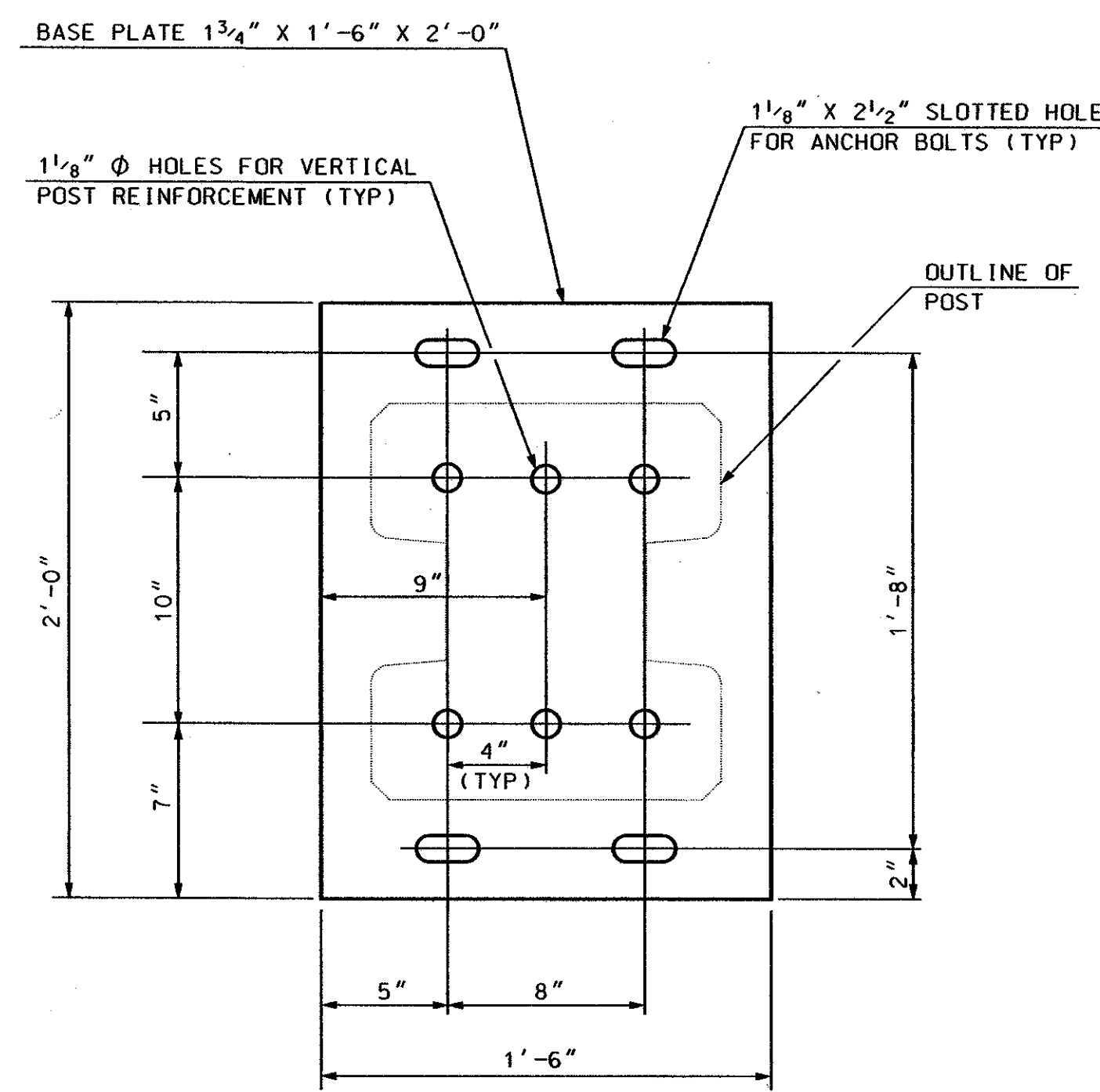
POST CONNECTION DETAIL
SCALE: 1"=1'-0"

PRECAST CONCRETE NOTES

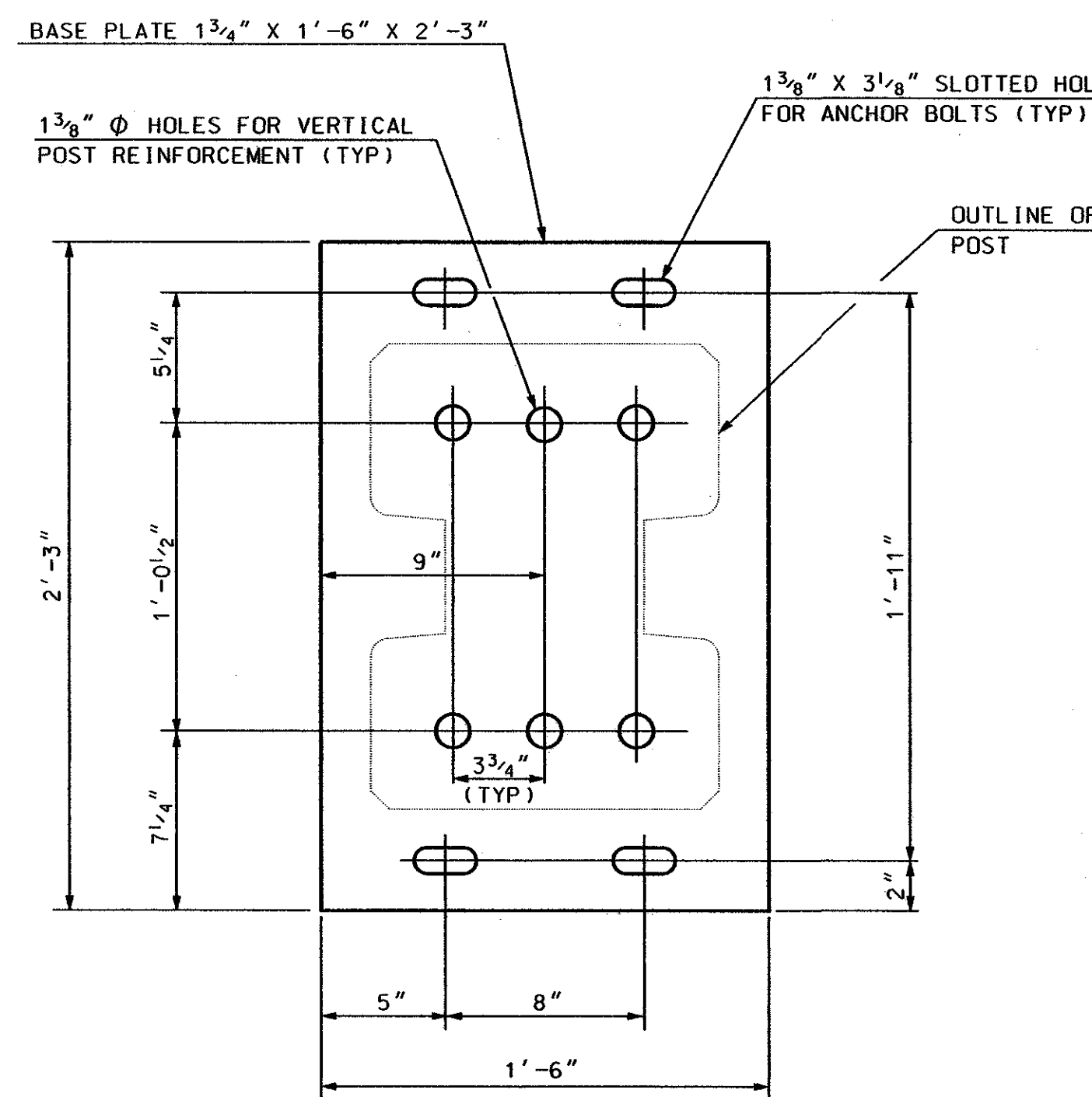
1. CONCRETE FOR THE POSTS AND LEVELING PANELS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI AND SHALL CONFORM TO SECTION 520 FOR CLASS AA CONCRETE UNLESS NOTED OTHERWISE.
2. ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M 31, GRADE 60. VERTICAL REINFORCING STEEL FOR THE POSTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 594. TIE BARS FOR THE POST SHALL BE EITHER GALVANIZED OR EPOXY COATED IN ACCORDANCE WITH SECTION 544.
3. VERTICAL REINFORCING STEEL FOR THE POSTS SHALL HAVE THE LAST 4" THREADED TO THE SIZE SPECIFIED ON THE PLANS IN ACCORDANCE WITH SECTION 550. 3 1/2" OF THE THREADS SHALL EXTEND BEYOND THE BOTTOM OF THE POST.
4. WELDED WIRE FABRIC FOR THE LEVELING PANELS SHALL CONFORM TO SECTION 544 AND BE EITHER GALVANIZED OR EPOXY COATED.
5. COAT ALL SURFACES OF THE PRECAST CONCRETE POSTS AND LEVELING PANELS WITH WATER REPELLENT (SILANE-SILOXANE) IN ACCORDANCE WITH SECTION 534.
6. CLEAR COVER FOR REINFORCEMENT SHALL BE A MIN. OF 2".
7. AFTER INSTALLATION OF POSTS AND LEVELING PANELS, ALL RECESSED DEVICES USED FOR LIFTING, ETC., SHALL BE FILLED WITH NON-SHRINK GROUT.



POST BASE PLATE DETAIL
for WALL HEIGHT UP TO 10'
SCALE: 2" = 1'-0"



POST BASE PLATE DETAIL
for WALL HEIGHT >10' to 15'
SCALE: 2" = 1'-0"



POST BASE PLATE DETAIL
for WALL HEIGHT >15' to 25'
SCALE: 2" = 1'-0"

BASE PLATE AND ANCHOR BOLT NOTES

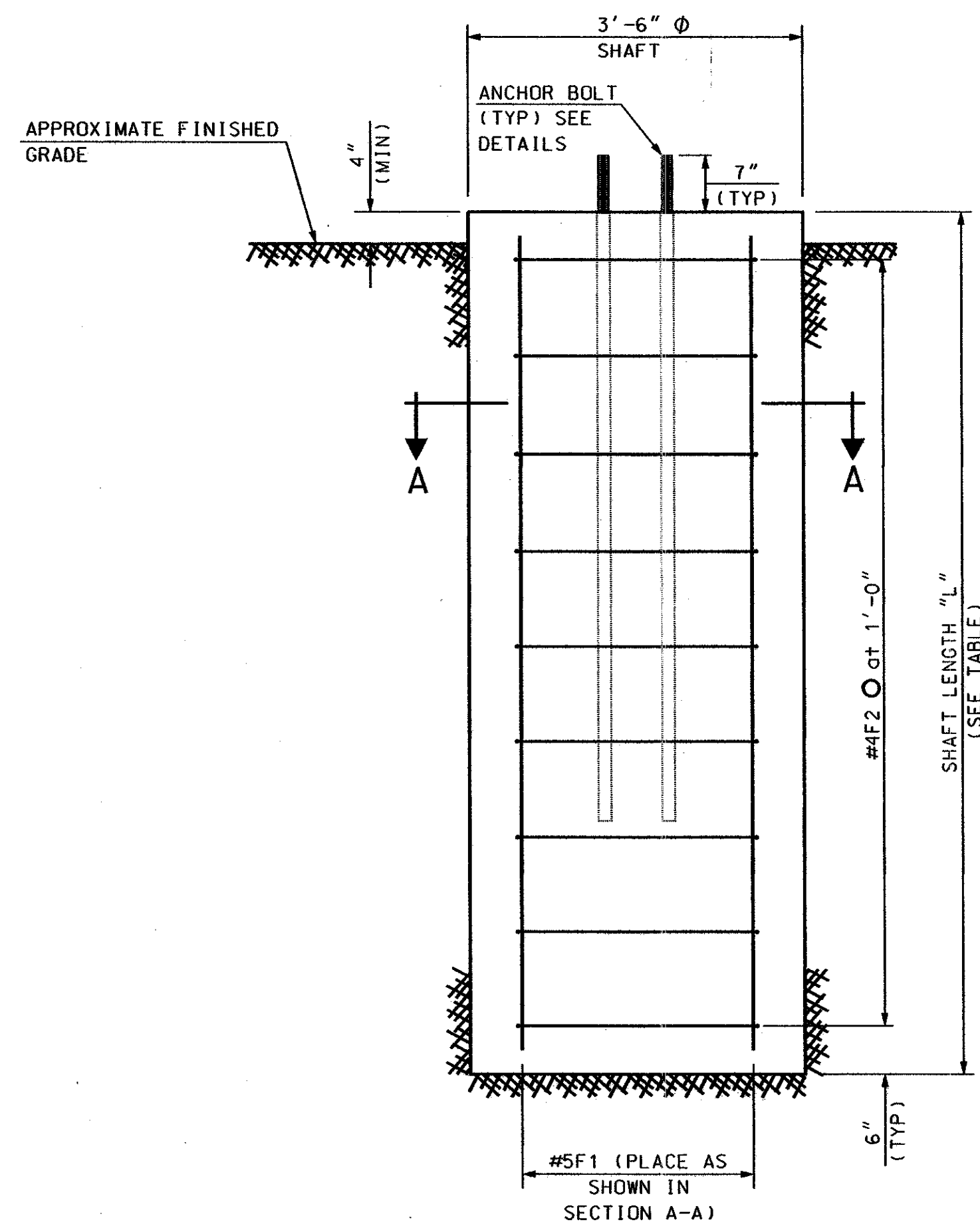
1. STRUCTURAL STEEL FOR BASE PLATES SHALL CONFORM TO AASHTO M 270, GRADE 50.
2. NUTS SHALL CONFORM TO AASHTO M 291, CLASS 10S (GRADE DH). WASHERS SHALL CONFORM TO AASHTO M 293, TYPE 1.
3. ANCHOR BOLTS SHALL CONFORM TO AASHTO M 31, GRADE 60, AND SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.
4. ALL STEEL COMPONENTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 594.

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

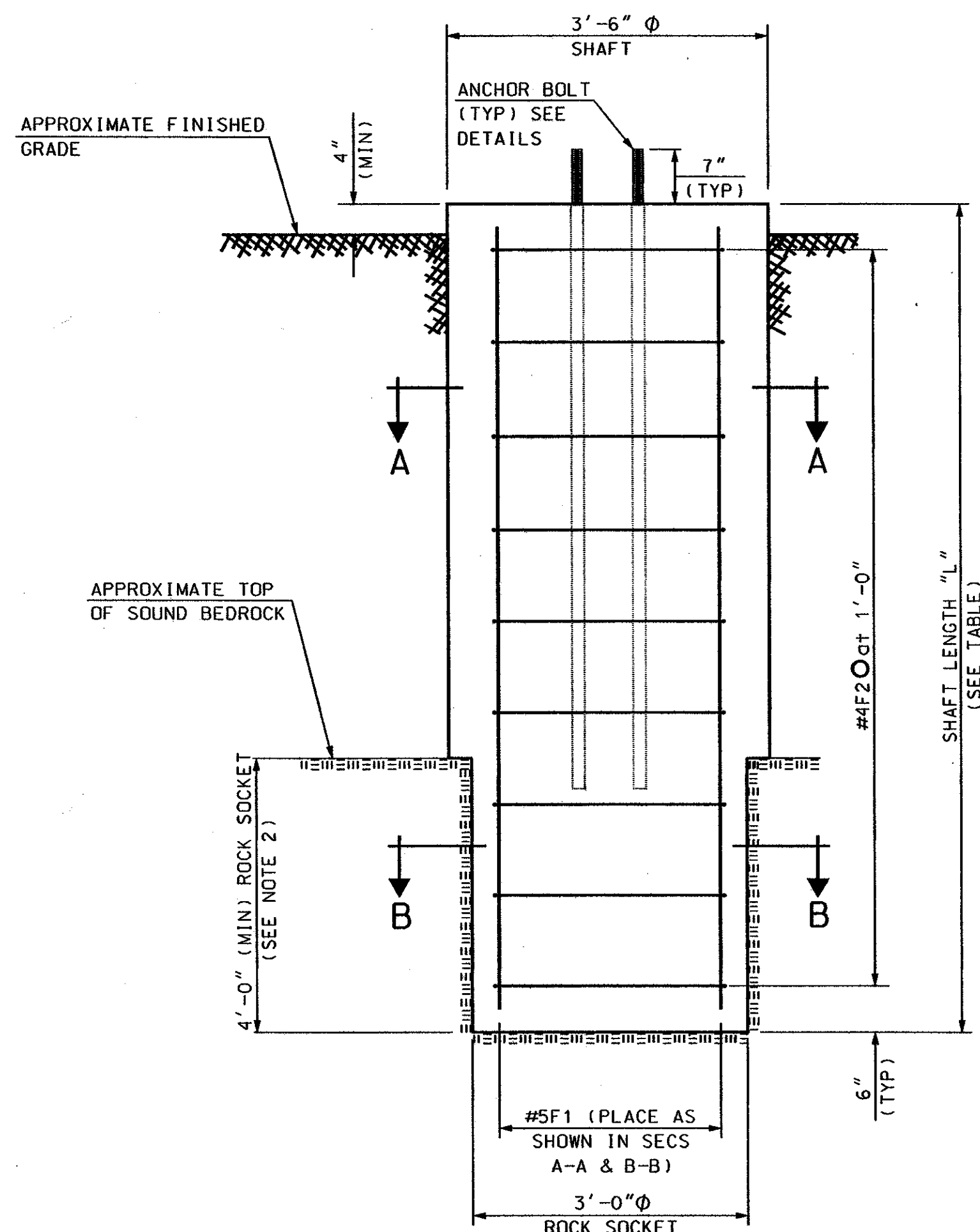
SAMPLE PLAN
DATE: 5-2010

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
English/SNDWALL	Detail2	AS NOTED

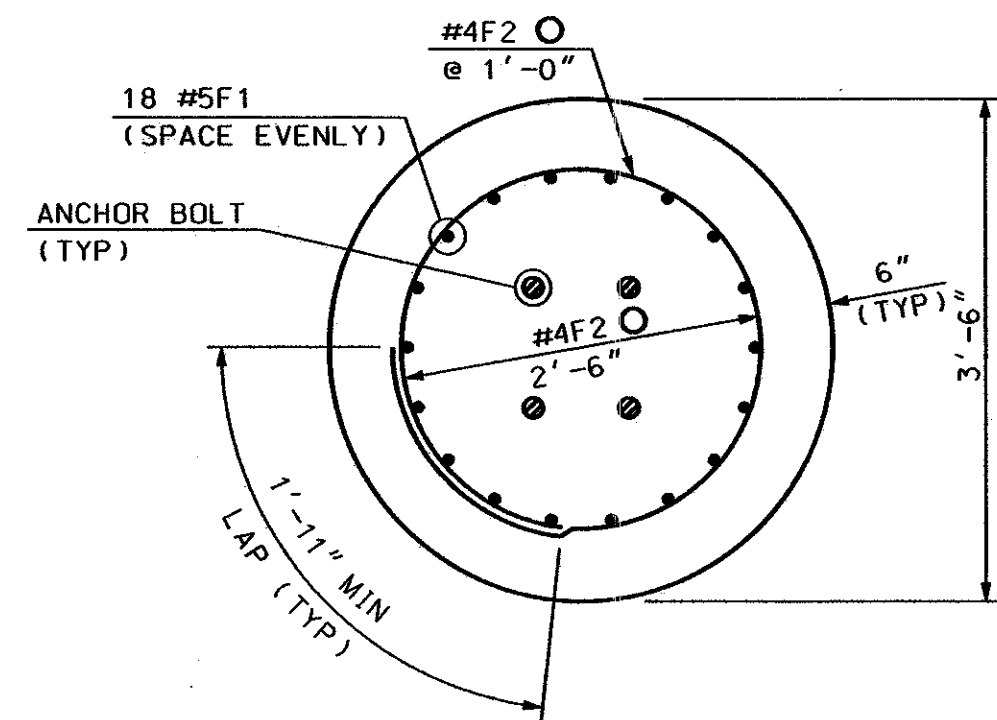
STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION • BUREAU OF BRIDGE DESIGN					
TOWN	SALEM-MANCHESTER	BRIDGE NO.	STATE PROJECT 13933-D		
LOCATION					
WOOD PANEL SOUNDWALL (2 of 3)					BRIDGE SHEET
					OF
DESIGNED	NHDOT	DATE	CHECKED	NHDOT	DATE
DRAWN	SMG/RAJ	2/03	CHECKED	ACJ/ABH	9/05
QUANTITIES			CHECKED		
ISSUE DATE	XX	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS	
REV. DATE			181	658	



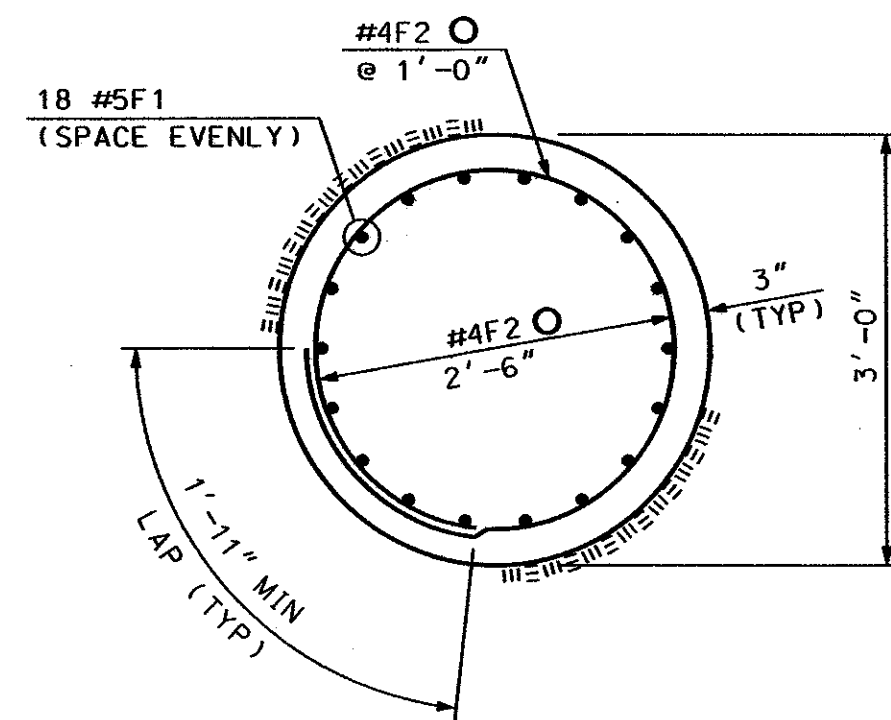
ELEVATION - DRILLED SHAFT IN SOIL
SCALE: 3/4"=1'-0"



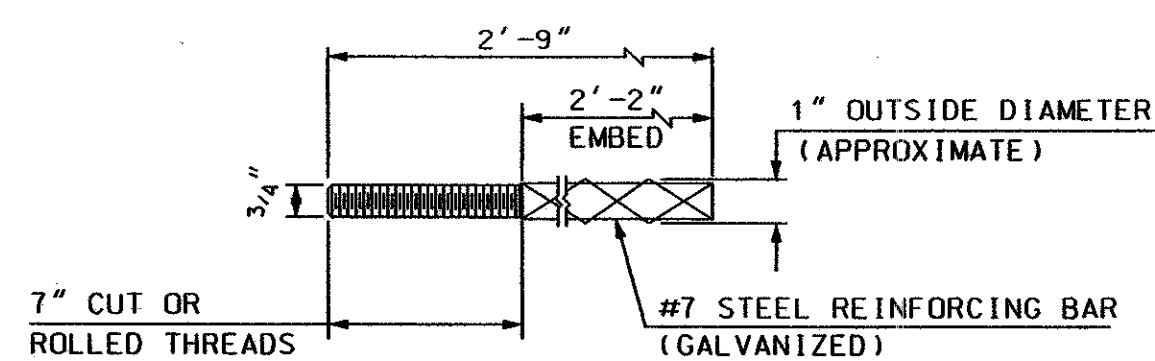
ELEVATION - DRILLED SHAFT IN ROCK
SCALE: 3/4"=1'-0"



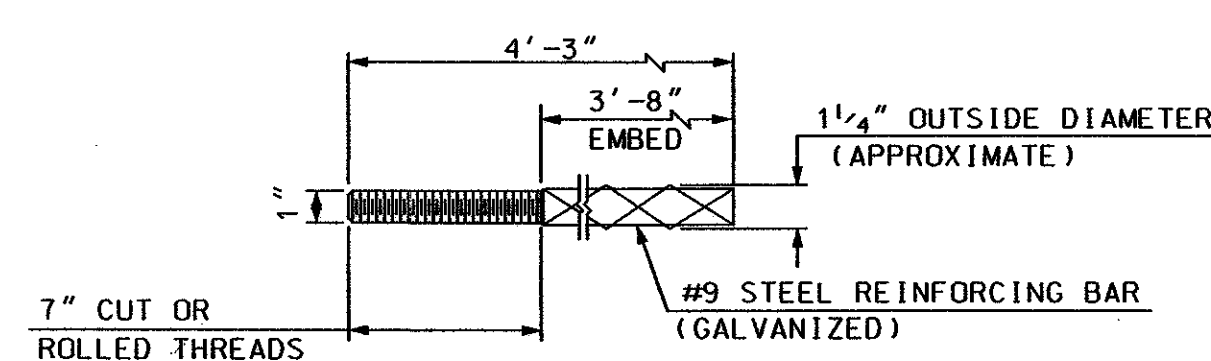
SECTION A-A
(IN SOIL)
SCALE: 3/4"=1'-0"



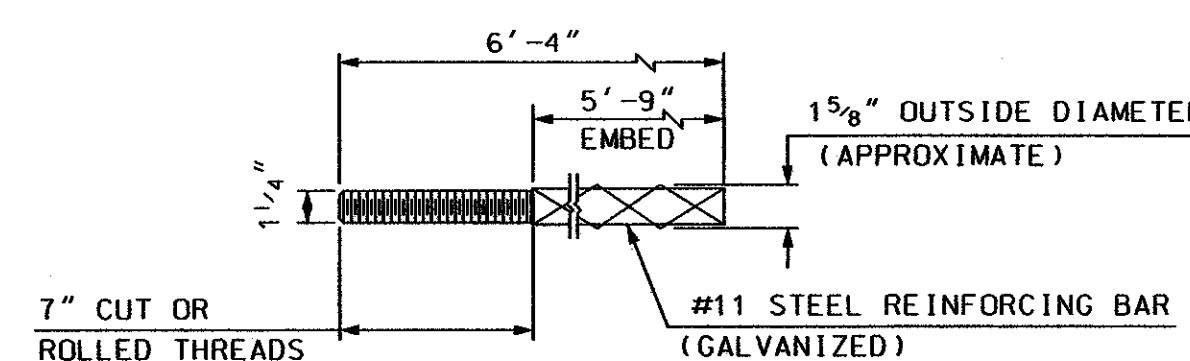
SECTION B-B
(IN ROCK)
SCALE: 3/4"=1'-0"



ANCHOR BOLT DETAIL
for WALL HEIGHT UP TO 10'
NOT TO SCALE



ANCHOR BOLT DETAIL
for WALL HEIGHT >10' to 15'
NOT TO SCALE



ANCHOR BOLT DETAIL
for WALL HEIGHT >15' to 25'
NOT TO SCALE

SUMMARY OF SOUNDWALL QUANTITIES

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
509.1	MOBILIZATION AND DEMOBILIZATION OF DRILLED SHAFT DRILLING EQUIPMENT	1	UNIT
509.2	DRILLED SHAFTS	893	LF
594.2	WOOD PANEL SOUND ABATEMENT WALL	25,582	SF
534.3	WATER REPELLENT (SILANE-SILOXANE) (F)	25	GAL

SHAFT LENGTH SUMMARY TABLES

(FOR POST/SHAFT NUMBERS SEE PLAN SHEETS INCLUDED ELSEWHERE IN THIS CONTRACT)

POST/SHAFTS NUMBERS	SHAFT LENGTH L	NUMBER OF POSTS/SHAFTS
#1 TO #35	10'-0"	35
#36 TO #81	10'-6"	46
#82 TO #87	10'-0"	6

ESTIMATED SHAFT QUANTITIES

(PER INSTALLED FOOT OF 3'-6"Ø SHAFT)

ITEM	UNIT	QUANTITY
CONCRETE CLASS A	CY/LF	0.36
REINFORCING STEEL	LB/LF	25.34

FOR INFORMATION ONLY. COST INCLUDED IN ITEM 509.2.

SHAFT REINFORCING SCHEDULE

BAR MARK	SIZE	UNBENT LENGTH	TYPE
F1	#5	L-6"	—
F2	#4	9'-10"	○

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 5-2010

DRILLED SHAFT NOTES

- DRILLED SHAFT CONSTRUCTION METHODS, CONCRETE AND REINFORCING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE SECTION 509 SPECIAL PROVISION.
- WHERE BEDROCK IS ENCOUNTERED WITHIN THE SPECIFIED SHAFT LENGTH, THE SHAFT SHALL EXTEND A MINIMUM OF 4 FEET INTO SOUND BEDROCK WITH AN OVERALL MINIMUM SHAFT LENGTH OF 5 FEET. IT IS NOT NECESSARY TO EXTEND THE SHAFT IN BEDROCK BEYOND THE SPECIFIED SOIL BASED LENGTHS GIVEN ON THE PLANS.
- WHERE FILL EMBANKMENT IS TO BE CONSTRUCTED ABOVE THE EXISTING GROUND, THE EMBANKMENT SHALL BE BUILT PRIOR TO CONSTRUCTING THE SHAFTS. PLACEMENT AND COMPACTION OF THE FILL SHALL BE IN ACCORDANCE WITH SECTION 203.
- CONCRETE FOR THE DRILLED SHAFTS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI CLASS A CONCRETE AND SHALL CONFORM TO SECTION 520 UNLESS NOTED OTHERWISE.
- ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M 31, GRADE 60. ALL REINFORCING STEEL SHALL BE A MINIMUM OF 3" CLEAR FROM CONCRETE SURFACES UNLESS NOTED OTHERWISE.
- FOR ANCHOR BOLT NOTES, SEE SOUNDWALL SHEET 2 OF 3.

NOTE TO DESIGNER:

- REINFORCING LAYOUT SHOWN IN SECTION A-A AND B-B IS BASED ON A WALL HEIGHT OF 25 FT. MAXIMUM.

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN SALEM-MANCHESTER		BRIDGE NO.		STATE PROJECT 13933-D					
LOCATION									
WOOD PANEL SOUNDWALL (3 of 3)								BRIDGE SHEET	
REVISIONS AFTER PROPOSAL		BY		DATE		BY		DATE	
		DESIGNED		9/05		CHECKED		9/05	
		DRAWN		2/03		CHECKED		9/05	
		QUANTITIES				CHECKED			
		ISSUE DATE		XX		FEDERAL PROJECT NO.		SHEET NO.	
		REV. DATE						182	
SUBDIRECTORY		.DGN LOCATOR		SHEET SCALE				TOTAL SHEETS	
English/SNDWALL		Detail3		AS NOTED				658	

SDR PROCESSED	XX	DATE	XX	REVISIONS AFTER PROPOSAL	DESCRIPTION
	NEW DESIGN	XX	DATE		
SHEET CHECKED	XX	DATE	XX	STATION	STATION
	AS BUILT DETAILS	DATE			

SOUNDWALL LOCATION CHART						
POST/SHAFT NUMBER	NORTHING	EASTING	EXISTING GROUND ELEVATION (FT)	FINISHED GRADE ELEVATION (FT)	MIN. TOP OF WALL ELEVATION (FT)	WALL HEIGHT (FT)
1	96027.1216	1099858.5218	127.38	139.64	155.85	16.21
2	96037.5740	1099851.2205	127.43	139.82	156.05	16.23
3	96048.0385	1099843.9365	127.90	140.00	156.25	16.25
4	96058.5151	1099836.6698	128.03	140.18	156.44	16.26
5	96069.0036	1099829.4205	128.33	140.35	156.64	16.29
6	96079.5041	1099822.1885	128.77	140.53	156.84	16.31
7	96090.0166	1099814.9739	128.89	140.72	157.04	16.32
8	96100.5410	1099807.7766	129.29	140.90	157.23	16.33
9	96111.0772	1099800.5968	129.21	141.09	157.43	16.34
10	96121.6253	1099793.4345	129.33	141.27	157.63	16.36
11	96132.1853	1099786.2895	129.09	141.46	157.83	16.37
12	96142.7570	1099779.1621	128.95	141.64	158.02	16.38
13	96153.3406	1099772.0521	128.81	141.83	158.22	16.39
14	96163.9358	1099764.9597	128.47	142.02	158.42	16.40
15	96174.5428	1099757.8848	128.07	142.21	158.62	16.41
16	96185.1615	1099750.8274	128.00	142.40	158.81	16.41
17	96195.7918	1099743.7876	128.00	142.59	159.01	16.42
18	96206.4338	1099736.7654	128.00	142.79	159.21	16.42
19	96217.0873	1099729.7608	128.29	142.98	159.41	16.43
20	96227.7524	1099722.7738	128.72	143.17	159.60	16.43
21	96238.4291	1099715.8045	128.92	143.36	159.80	16.44
22	96249.1172	1099708.8529	128.82	143.56	160.00	16.44
23	96259.8169	1099701.9189	128.77	143.76	160.20	16.44
24	96270.5280	1099695.0026	128.73	143.96	160.40	16.44
25	96281.2505	1099688.1041	128.80	144.16	160.59	16.43
26	96291.9844	1099681.2233	128.93	144.36	160.79	16.43
27	96302.7297	1099674.3602	129.19	144.56	160.99	16.43
28	96313.4863	1099667.5150	129.58	144.77	161.19	16.42
29	96324.2542	1099660.6875	129.63	144.97	161.38	16.41
30	96335.0334	1099653.8778	129.51	145.17	161.58	16.41
31	96345.8239	1099647.0860	129.24	145.38	161.78	16.40
32	96356.6255	1099640.3121	128.99	145.58	161.98	16.40
33	96367.4384	1099633.5560	128.92	145.79	162.17	16.38
34	96378.2624	1099626.8178	128.96	145.99	162.37	16.38
35	96389.0975	1099620.0975	129.33	146.19	162.57	16.38
36	96399.9438	1099613.3951	129.48	146.40	162.77	16.37
37	96410.8011	1099606.7107	129.48	146.60	162.96	16.36
38	96421.6694	1099600.0442	129.00	146.80	163.16	16.36
39	96432.5488	1099593.3957	128.44	147.01	163.36	16.35
40	96443.4391	1099586.7653	128.35	147.21	163.56	16.35
41	96454.3404	1099580.1528	128.00	147.42	163.76	16.34
42	96465.2526	1099573.5584	128.00	147.61	163.95	16.34
43	96476.1756	1099566.9820	127.80	147.80	164.15	16.35
44	96487.1096	1099560.4237	127.28	148.00	164.35	16.35
45	96498.0544	1099553.8835	127.91	148.19	164.55	16.36
46	96509.0100	1099547.3614	128.00	148.31	164.74	16.43
47	96519.9763	1099540.8575	128.00	148.44	164.94	16.50
48	96530.9534	1099534.3716	128.00	148.56	165.14	16.58
49	96541.9412	1099527.9040	128.04	148.70	165.27	16.57
50	96552.9397	1099521.4545	128.37	148.90	165.39	16.49
51	96563.9488	1099515.0232	128.56	149.10	165.52	16.42

SOUNDWALL LOCATION CHART						
POST/SHAFT NUMBER	NORTHING	EASTING	EXISTING GROUND ELEVATION (FT)	FINISHED GRADE ELEVATION (FT)	MIN. TOP OF WALL ELEVATION (FT)	WALL HEIGHT (FT)
52	96574.9686	1099508.6101	128.65	149.30	165.65	16.35
53	96585.9989	1099502.2153	128.49	149.49	165.78	16.29
54	96597.0398	1099495.8387	128.68	149.62	165.90	16.28
55	96608.0912	1099489.4804	128.23	149.76	166.03	16.27
56	96619.1532	1099483.1403	128.00	149.89	166.16	16.27
57	96630.2256	1099476.8186	128.00	150.02	166.29	16.27
58	96641.3084	1099470.5152	128.41	150.13	166.41	16.28
59	96652.4017	1099464.2301	128.64	150.24	166.49	16.25
60	96663.5053	1099457.9634	128.66	150.35	166.57	16.22
61	96674.6193	1099451.7150	128.65	150.46	166.64	16.18
62	96685.7436	1099445.4850	128.67	150.55	166.72	16.17
63	96696.8782	1099439.2735	128.65	150.64	166.80	16.16
64	96708.0230	1099433.0803	128.62	150.73	166.87	16.14
65	96719.1781	1099426.9056	128.53	150.82	166.95	16.13
66	96730.3433	1099420.7494	128.30	150.89	167.03	16.14
67	96741.5188	1099414.6116	128.17	150.96	167.10	16.14
68	96752.7043	1099408.4923	128.09	151.03	167.18	16.15
69	96763.9000	1099402.3915	128.00	151.10	167.25	16.15
70	96775.1057	1099396.3093	128.31	151.15	167.33	16.18
71	96786.3215	1099390.2455	128.65	151.20	167.41	16.21
72	96797.5473	1099384.2004	128.96	151.25	167.48	16.23
73	96808.7831	1099378.1738	129.00	151.30	167.56	16.26
74	96820.0288	1099372.1658	129.48	151.34	167.64	16.30
75	96831.2844	1099366.1764	129.54	151.38	167.71	16.33
76	96842.5500	1099360.2056	129.59	151.43	167.79	16.36
77	96853.8254	1099354.2535	129.63	151.47	167.87	16.40
78	96865.1106	1099348.3200	129.50	151.51	167.94	16.43
79	96876.4056	1099342.4052	129.00	151.55	168.02	16.47
80	96887.7104	1099336.5090	129.00	151.60	168.10	16.50
81	96899.0249	1099330.6316	129.00	151.60	168.17	16.57
82	96910.3491	1099324.7729	129.00	151.56	168.25	16.69
83	96922.8979	1099322.5168	129.00	151.53	168.33	16.80
84	96935.4467	1099320.2607	129.00	152.27	168.40	16.13
85	96947.9956	1099318.0046	129.00	152.52	168.48	15.96
86	96960.5444	1099315.7486	129.00	152.77	168.56	15.79
87	96973.0932	1099313.4925	129.00	153.02	168.63	15.61
(SEE BRIDGE NO. 076/063 PLANS FOR SOUNDWALL POST DETAILS AND WALL HEIGHT ON BRIDGE)						

**NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.**

SAMPLE PLAN
DATE: 5-2010

STATE OF NEW HAMPSHIRE			
DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN			
POST LOCATION TABLE			
SUBDIRECTORY	DGN	STATE PROJECT NO.	SHEET NO.
English/SNDWALL	13933Ddet04NOB.dgn	13933D	183
TOTAL SHEETS		658	

SDR PROCESSED XX DATE XX
 NEW DESIGN XX DATE XX
 SHEET CHECKED XX DATE XX
 AS BUILT DETAILS DATE

REVISIONS AFTER PROPOSAL
 STATION
 STATION
 DATE
 NUMBER

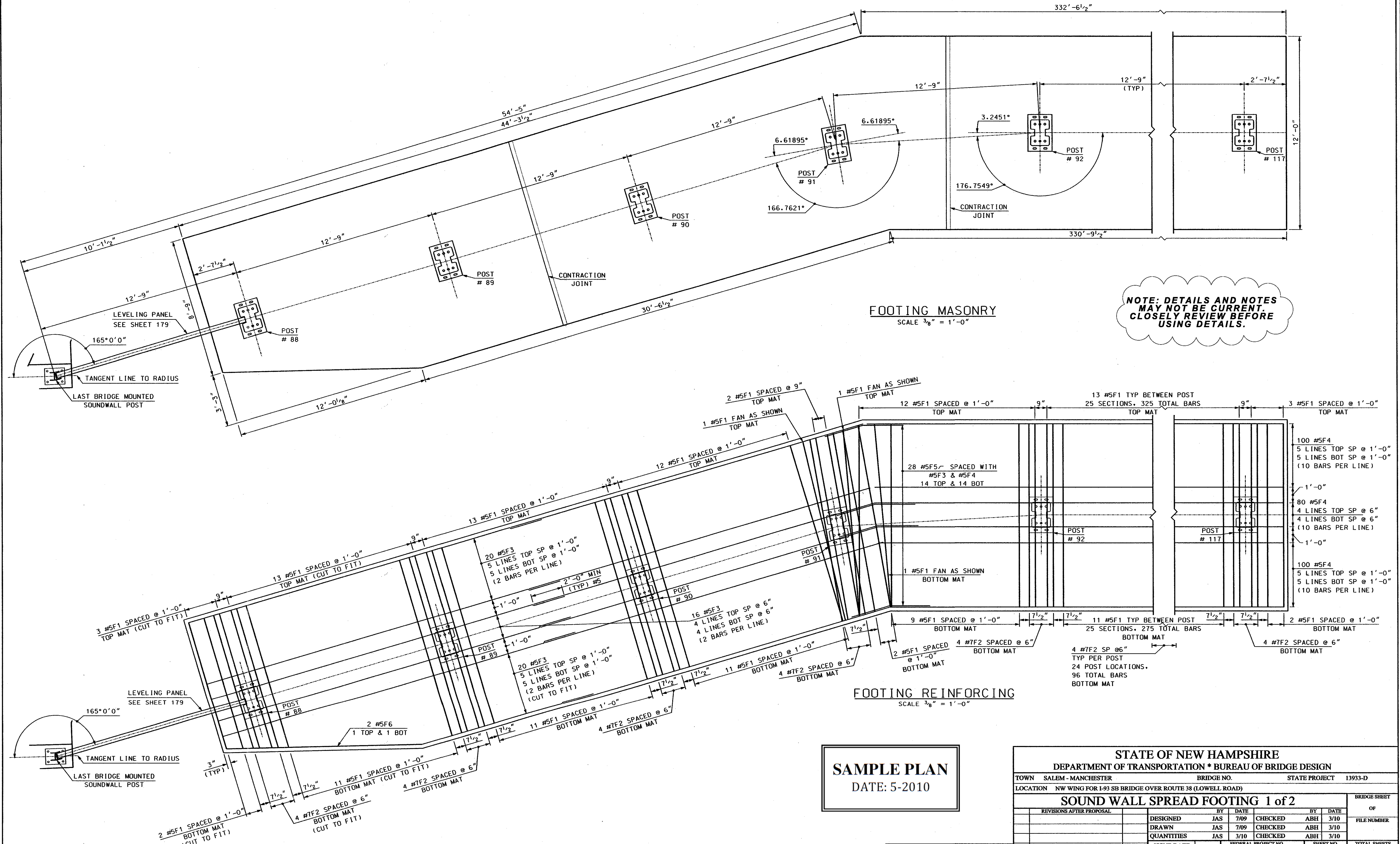
SOUNDWALL LOCATION CHART						
POST/SHAFT NUMBER	NORTHING	EASTING	EXISTING GROUND ELEVATION (FT)	FINISHED GRADE ELEVATION (FT)	MIN. TOP OF WALL ELEVATION (FT)	WALL HEIGHT (FT)
88	97109.1796	1099246.6411	125.69	152.60	167.72	15.12
89	97118.8290	1099238.3072	125.42	152.56	167.56	15.00
90	97128.4783	1099229.9734	125.86	152.52	167.41	14.89
91	97138.1276	1099221.6395	128.00	152.68	167.26	14.58
92	97149.4289	1099215.7368	127.68	152.61	167.10	14.49
93	97161.0463	1099210.4832	127.57	152.48	166.95	14.47
94	97172.6636	1099205.2297	127.00	152.34	166.80	14.46
95	97184.2810	1099199.9761	127.00	152.20	166.65	14.45
96	97195.8983	1099194.7226	127.00	152.05	166.49	14.44
97	97207.5156	1099189.4690	126.60	151.91	166.34	14.43
98	97219.1330	1099184.2155	126.45	151.75	166.19	14.44
99	97230.7503	1099178.9619	125.42	151.60	166.03	14.43
100	97242.3677	1099173.7084	124.00	151.44	165.88	14.44
101	97253.9850	1099168.4548	124.59	151.28	165.73	14.45
102	97265.6024	1099163.2013	125.96	151.12	165.57	14.45
103	97277.2197	1099157.9477	127.00	150.95	165.42	14.47
104	97288.8371	1099152.6942	127.00	150.78	165.27	14.49
105	97300.4544	1099147.4406	127.00	150.61	165.01	14.40
106	97312.0718	1099142.1871	127.00	150.42	164.76	14.34
107	97323.6891	1099136.9336	127.00	150.21	164.50	14.29
108	97335.3065	1099131.6800	127.00	150.01	164.25	14.24
109	97346.9238	1099126.4265	126.00	149.81	163.99	14.18
110	97358.5412	1099121.1729	126.00	149.58	163.74	14.16
111	97370.1585	1099115.9194	125.00	149.33	163.48	14.15
112	97381.7758	1099110.6658	125.84	149.08	163.23	14.15
113	97393.3932	1099105.4123	125.00	148.83	162.97	14.14
114	97405.0105	1099100.1587	125.00	148.56	162.72	14.16
115	97416.6279	1099094.9052	124.90	148.26	162.46	14.20
116	97428.2452	1099089.6516	124.13	147.97	162.21	14.24
117	97439.8626	1099084.3981	123.60	147.68	161.95	14.27
BRIDGE POST DATA						
1	96985.6420	1099311.2364	129.00	153.27	168.56	15.29
2	96991.9768	1099308.0453	129.00	153.25	168.51	15.27
3	96998.7526	1099304.6401	129.00	153.22	168.47	15.25
4	97005.5317	1099301.2416	129.00	153.19	168.42	15.23
5	97012.3142	1099297.6497	129.00	153.17	168.38	15.21
6	97019.1001	1099294.4646	129.00	153.14	168.33	15.19
7	97025.8893	1099291.0862	129.00	153.10	168.29	15.18
8	97032.6818	1099287.7145	129.00	153.07	168.24	15.17
9	97039.4777	1099284.3494	129.00	153.03	168.19	15.16
10	97046.2768	1099280.9911	129.00	153.00	168.15	15.15
11	97053.0793	1099277.6395	129.00	152.96	168.10	15.15
12	97059.8851	1099274.2946	129.00	152.92	168.06	15.14
13	97066.6941	1099270.9564	128.75	152.87	168.01	15.14
14	97073.5065	1099267.6249	127.76	152.83	167.97	15.14
15	97080.3221	1099264.3002	127.32	152.78	167.92	15.14
16	97087.1411	1099260.9821	127.29	152.73	167.88	15.14
17	97093.9632	1099257.6708	127.39	152.68	167.83	15.15
18	97099.5303	1099254.9749	127.44	152.64	167.79	15.15

**NOTE: DETAILS AND NOTES
 MAY NOT BE CURRENT.
 CLOSELY REVIEW BEFORE
 USING DETAILS.**

SAMPLE PLAN
 DATE: 5-2010

STATE OF NEW HAMPSHIRE
 DEPARTMENT OF TRANSPORTATION • BUREAU OF HIGHWAY DESIGN
POST LOCATION TABLE

SUBDIRECTORY	DGN	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
English/SNDWALL	139330de105NOB.dgn	13933D	184	658



FOOTING MASONRY
SCALE 3/8" = 1'-0"

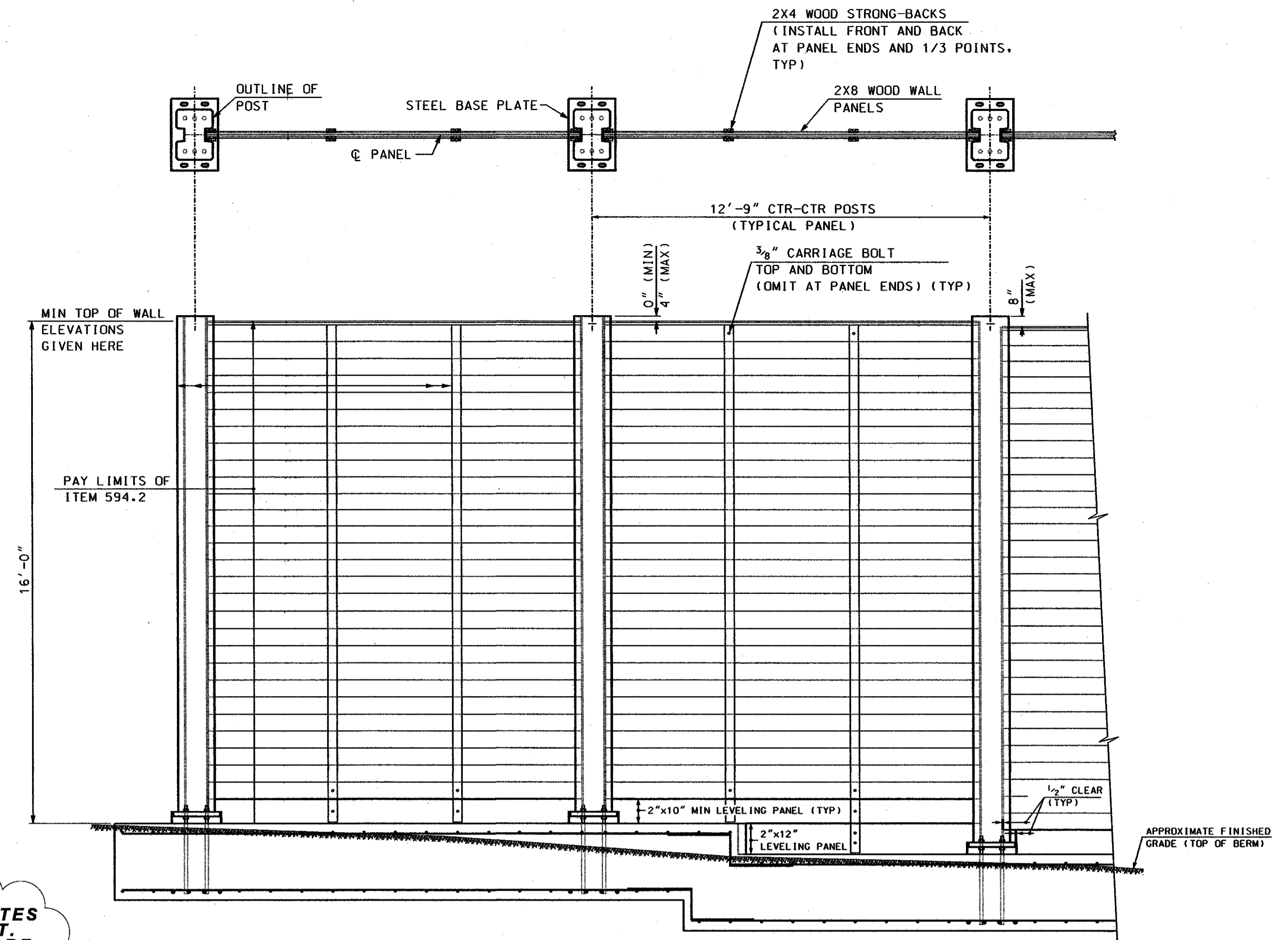
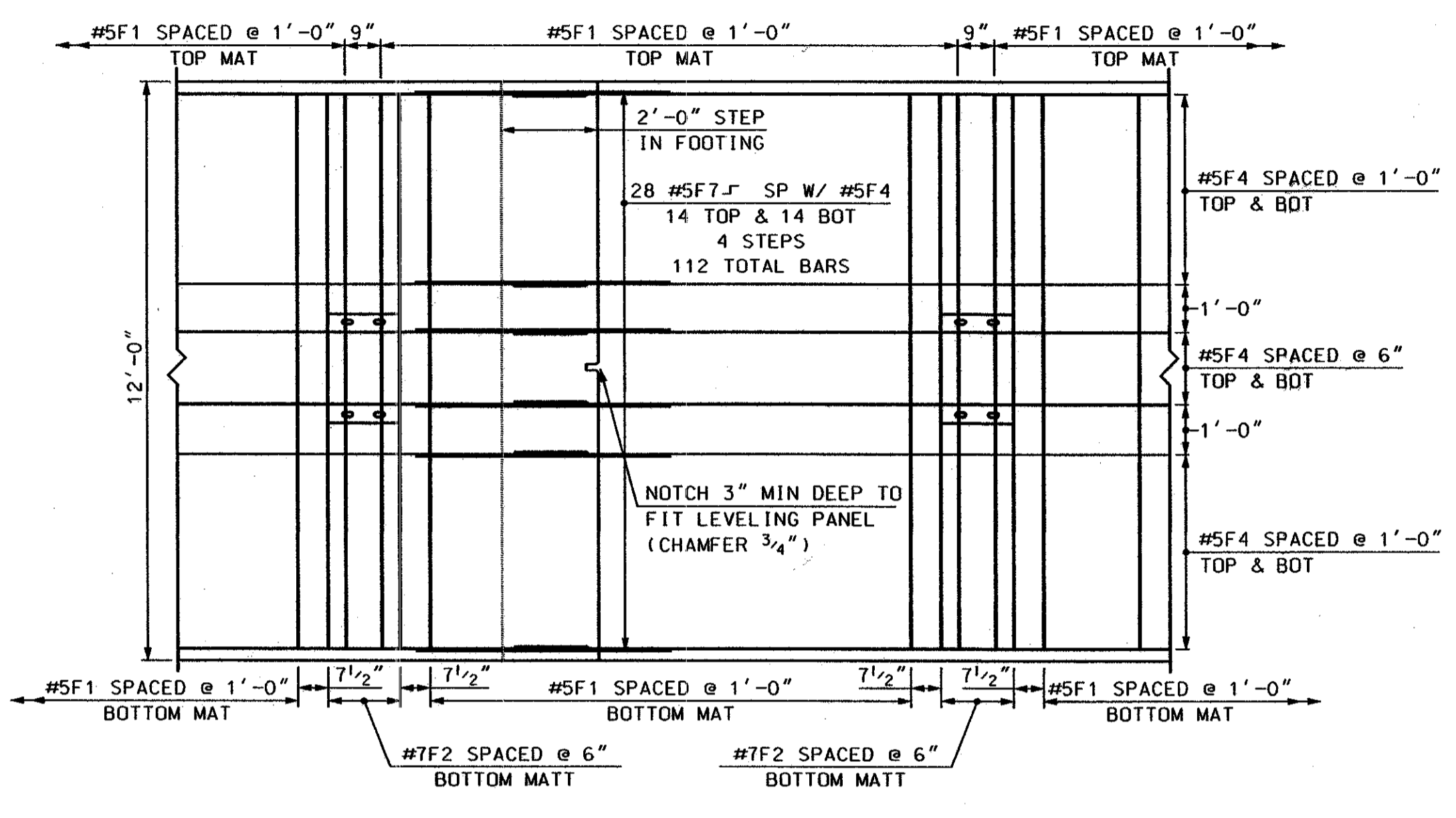
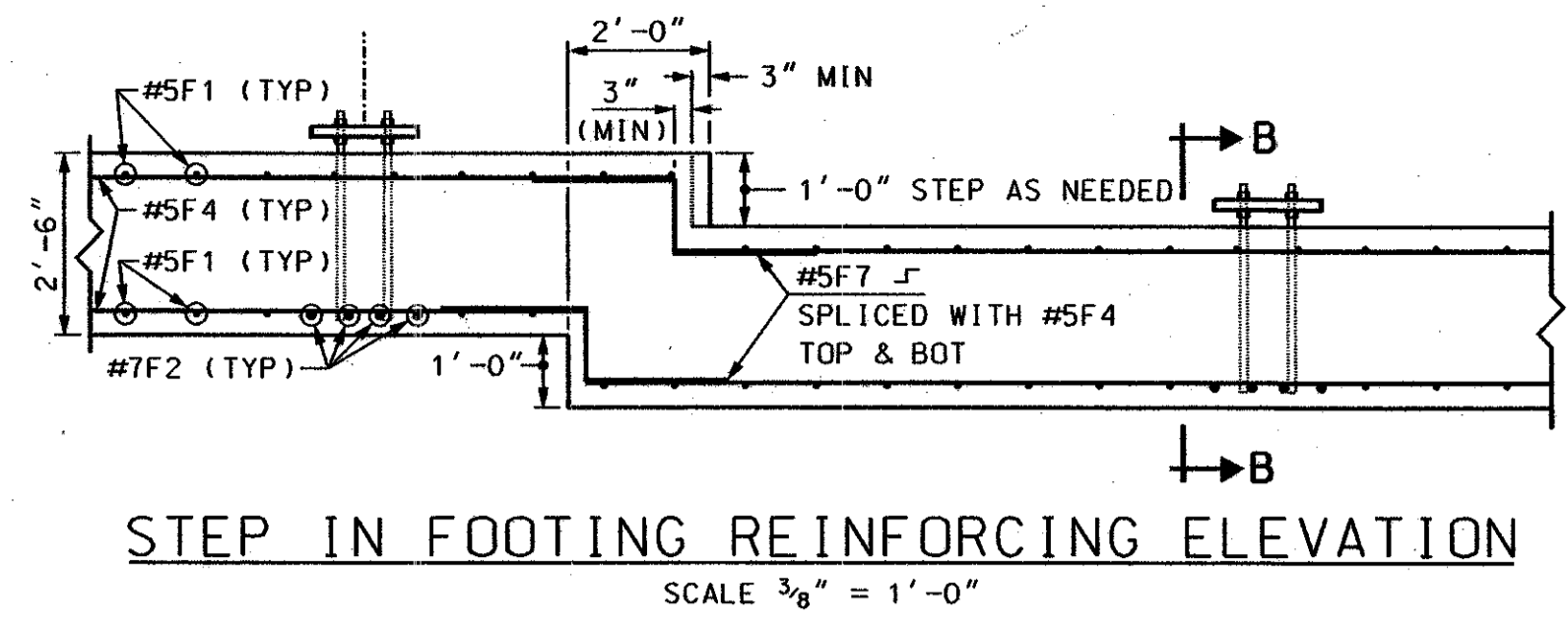
NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.

FOOTING REINFORCING
SCALE 3/8" = 1'-0"

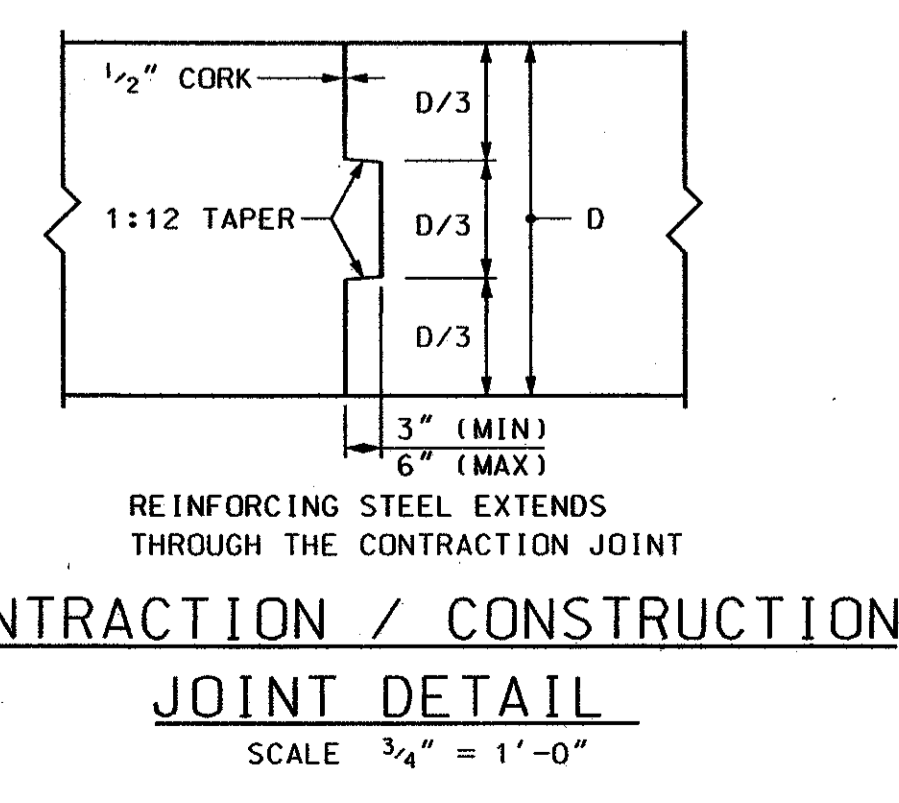
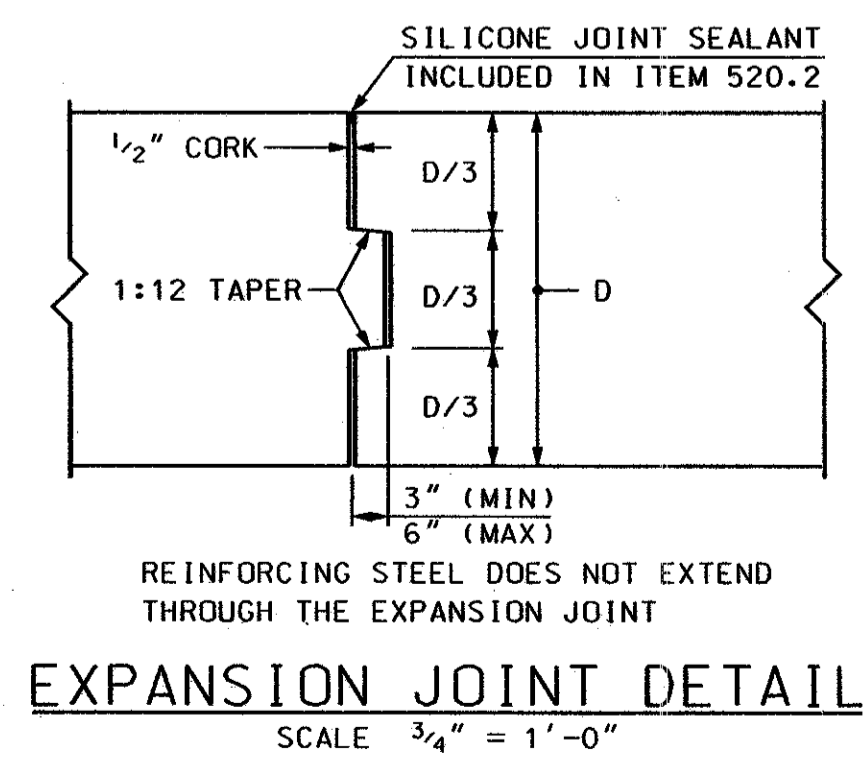
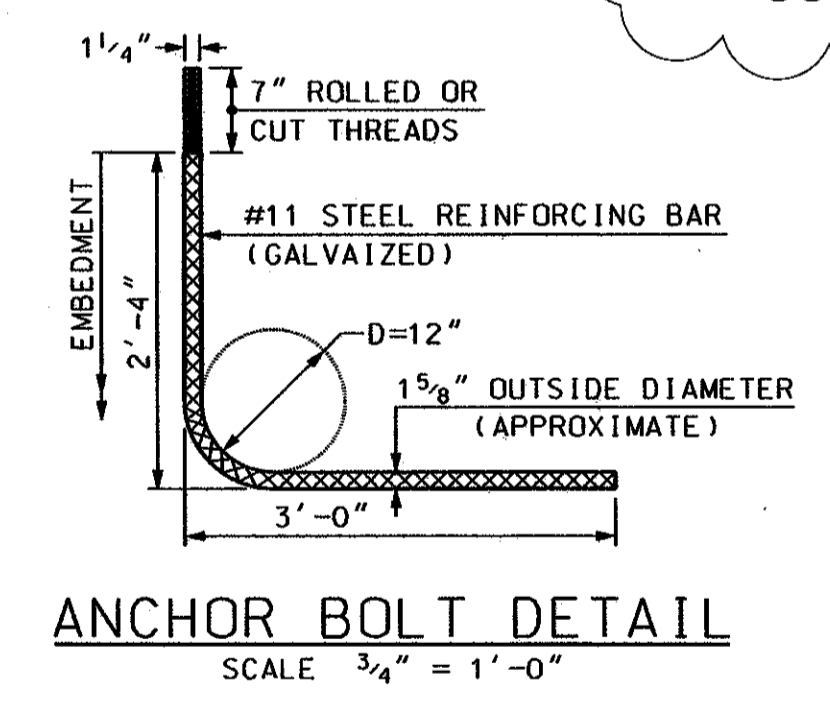
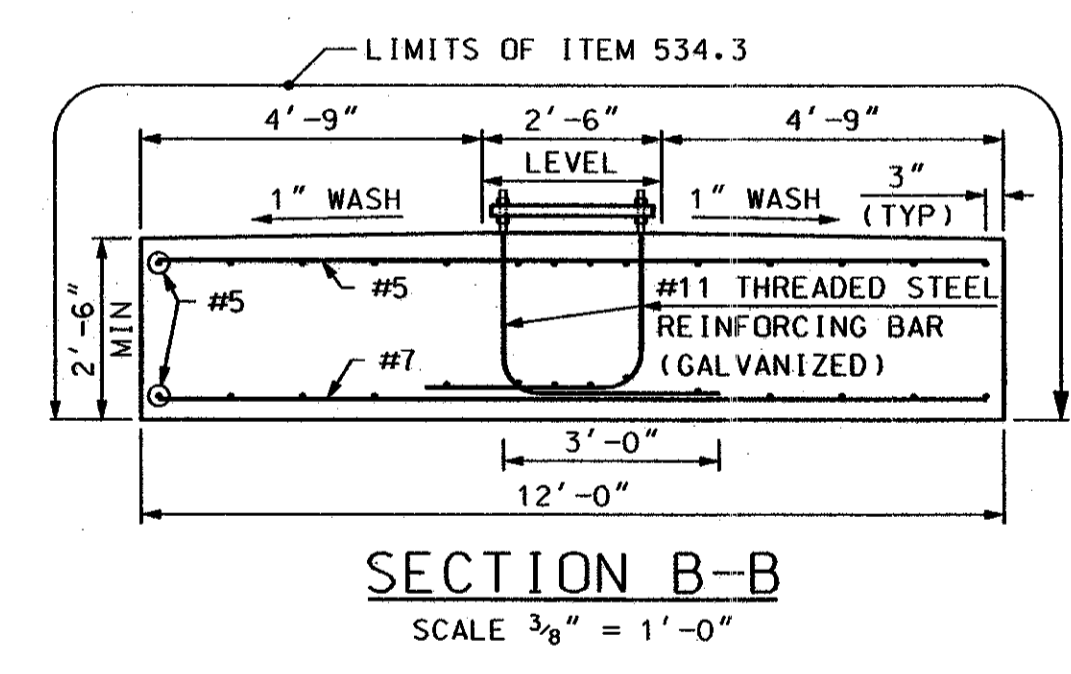
SAMPLE PLAN
DATE: 5-2010

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	SALEM-MANCHESTER	BRIDGE NO.	STATE PROJECT 13933-D						
LOCATION	NW WING FOR I-93 SB BRIDGE OVER ROUTE 38 (LOWELL ROAD)								
SOUND WALL SPREAD FOOTING 1 of 2									
REVISIONS AFTER PROPOSAL		BY	DATE	BY	DATE	BRIDGE SHEET OF			
		DESIGNED	JAS 7/09	CHECKED	ABH 3/10	FILE NUMBER			
		DRAWN	JAS 7/09	CHECKED	ABH 3/10				
		QUANTITIES	JAS 3/10	CHECKED	ABH 3/10				
		ISSUE DATE	FEDERAL PROJECT NO.			SHEET NO.	TOTAL SHEETS		
		REV. DATE				185	658		

DGN LOCATOR	SHEET SCALE
Detail6	AS NOTED



NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



STEP IN FOOTING WALL ELEVATION
SCALE 3/8" = 1'-0"
(SEE SHEET #176 FOR WALL DETAILS)

SOUNDWALL SPREAD FOOTING QUANTITY			
ITEM #	ITEM DESCRIPTION	QUANTITY	UNIT
520.12	CONCRETE CLASS A, ABOVE FOOTINGS (F)	430	CY
534.3	WATER REPELLENT (SILANE-SILOXANE) (F)	65	GAL
544.2	REINFORCING STEEL EPOXY COATED (F)	24,010	LB

(SEE SHEET #182 FOR SOUNDWALL PANEL QUANTITIES)

SOUNDWALL SPREAD FOOTING REINFORCING										
MARK	SIZE	LENGTH	# PIECES	TYPE	B	C	D	H	K	
F1	#5	11'-6"	709	-						EPOXY
F2	#7	11'-6"	120	-						EPOXY
F3	#5	23'-0"	56	-						EPOXY
F4	#5	36'-3"	** 280	-						EPOXY
F5	#5	5'-0"	28	N7	2.50	2.50	0.70	2.40		EPOXY
F6	#5	12'-3"	2	-						EPOXY
F7	#5	5'-0"	* 112	20	2.00	1.00	2.00			EPOXY

* 28 #5F7 BARS PER FOOTING STEP. 4 STEPS. SEE SHEET #177. FINAL LOCATIONS TO BE APPROVED BY THE CONTRACT ADMINISTRATOR.
** F4 BARS MAY NEED TO BE CUT FOR EXPANSION JOINTS AND STEPS. STANDARD LENGTHS OF F4 BARS MAY BE ADJUSTED TO EASE CONSTRUCTION.

SAMPLE PLAN
DATE: 5-2010

JOINTS	
* LOCATIONS	TYPE
BETWEEN POST #89-90	CONTRACTION
BETWEEN POST #91-92	CONTRACTION
BETWEEN POST #93-94	EXPANSION
BETWEEN POST #95-96	CONTRACTION
BETWEEN POST #97-98	CONTRACTION
BETWEEN POST #99-100	EXPANSION
BETWEEN POST #101-102	CONTRACTION
BETWEEN POST #103-104	CONTRACTION
BETWEEN POST #105-106	EXPANSION
BETWEEN POST #107-108	CONTRACTION
BETWEEN POST #109-110	CONTRACTION
BETWEEN POST #111-112	EXPANSION
BETWEEN POST #113-114	CONTRACTION
BETWEEN POST #115-116	CONTRACTION

* FINAL LOCATIONS TO BE APPROVED BY THE CONTRACT ADMINISTRATOR.

NOTE:
1) THE BOTTOM OF THE SOUNDWALL FOOTING SHOULD BE AT LEAST 12 INCHES BELOW THE TOP OF THE MSE COPING (DEFINED AS THE TOP OF WALL) IN ORDER TO PROVIDE SOME EMBEDMENT OF THE FOOTING. THE SAME FOOTING DEPTH BELOW THE TOP OF COPING SHOULD BE PROVIDED FOR THE FULL LENGTH OF THE WALL.

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	SALEM - MANCHESTER	BRIDGE NO.		STATE PROJECT	13933-D				
LOCATION	NW WING FOR L93 SB BRIDGE OVER ROUTE 38 (LOWELL ROAD)								
SOUND WALL SPREAD FOOTING 2 of 2									BRIDGE SHEET
DESIGNED	JAS	7/09	CHECKED	ABH	3/10	BY	DATE	OF	
DRAWN	JAS	7/09	CHECKED	ABH	3/10	FILE NUMBER			
QUANTITIES	JAS	3/10	CHECKED	ABH	3/10				
ISSUE DATE				FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS			
REV. DATE					186	658			

DGN LOCATOR	SHEET SCALE
Detail7	AS NOTED