

NOTES

FOR VISUAL BARRIER WALL, SEE SPECIAL PROVISIONS.

CONSTRUCT VISUAL BARRIER WALL TO LINES AND GRADES SHOWN ON THE ROADWAY PLANS.

PROVIDE PANELS WITH A FLAT BOTTOM.

VERIFY THE LOCATION OF UNDERGROUND UTILITIES BEFORE DRILLING HOLES TO ENSURE SUFFICIENT CLEARANCE IS AVAILABLE.

ADJUST PILE EXCAVATION ELEVATIONS TO MAINTAIN 150mm MINIMUM EMBEDMENT OF THE BOTTOM PANEL.

USE CLASS AA FOR PANELS AND CLASS A FOR CONCRETE PILE EXCAVATION BACKFILL, IN ACCORDANCE WITH ARTICLE 1000-4 OF THE STANDARD SPECIFICATIONS.

AT THE CONTRACTOR'S OPTION, USE EITHER 3.048m OR 4.572m PILE SPACINGS.

FOR VISUAL BARRIER WALL STATIONS, OFFSETS, AND WALL ENVELOPE, SEE ROADWAY PLANS.

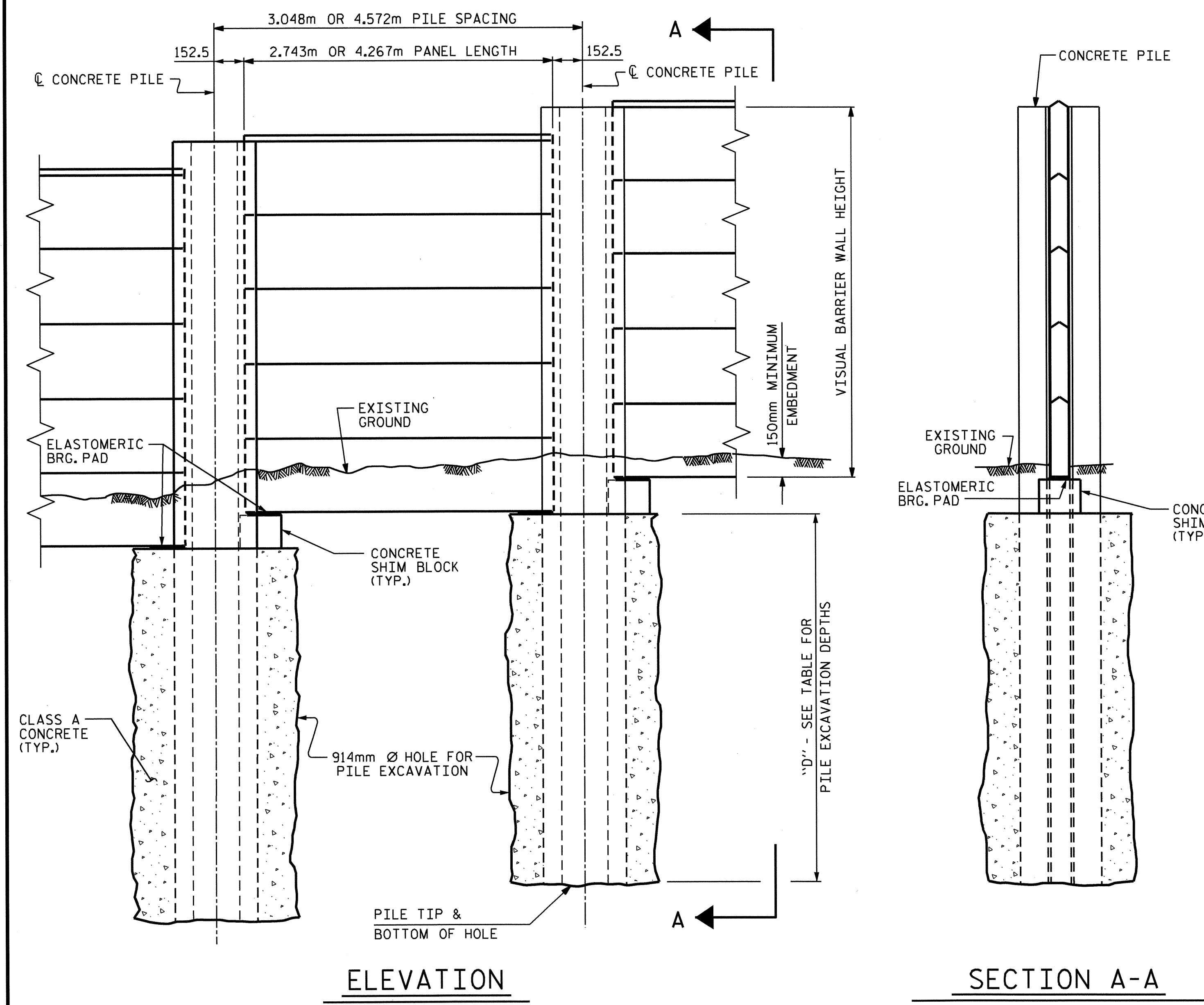
PLACE 25mm Ø BACKER RODS FULL HEIGHT ON EACH SIDE OF THE PRECAST PANELS, SET AND SEAL THE BACKER ROD IN PLACE WITH SEALANT THAT CONFORMS WITH ARTICLE 1028-3 OF THE STANDARD SPECIFICATIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

AT THE CONTRACTOR'S OPTION, USE CONTINUOUS FLIGHT AUGER PILES IN LIEU OF PILE EXCAVATION FOR VISUAL BARRIER WALL FOUNDATIONS. SEE "CONTINUOUS FLIGHT AUGER PILES FOR VISUAL BARRIER WALLS" SPECIAL PROVISION.

914mm Ø PILE EXCAVATION	
WALL STATIONS	
FROM : STA. 65+60.000 -L-	
TO : STA. 72+60.000 -L-	
PILE SPACING	DEPTH "D"
3.048m (W/SLOPE)	2.440m
4.572m (W/SLOPE)	2.750m

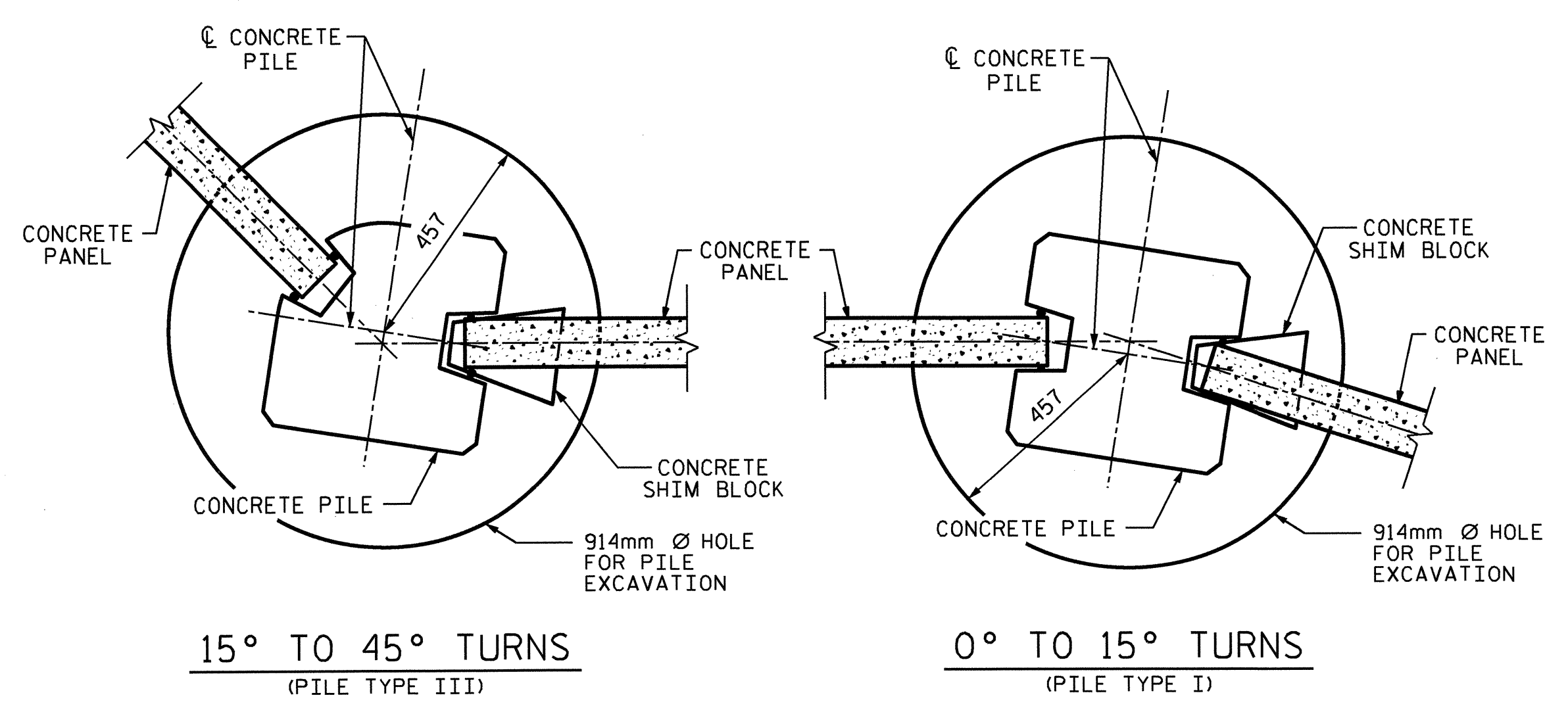


EXPOSURE CATEGORY C - PILE REINFORCING STEEL

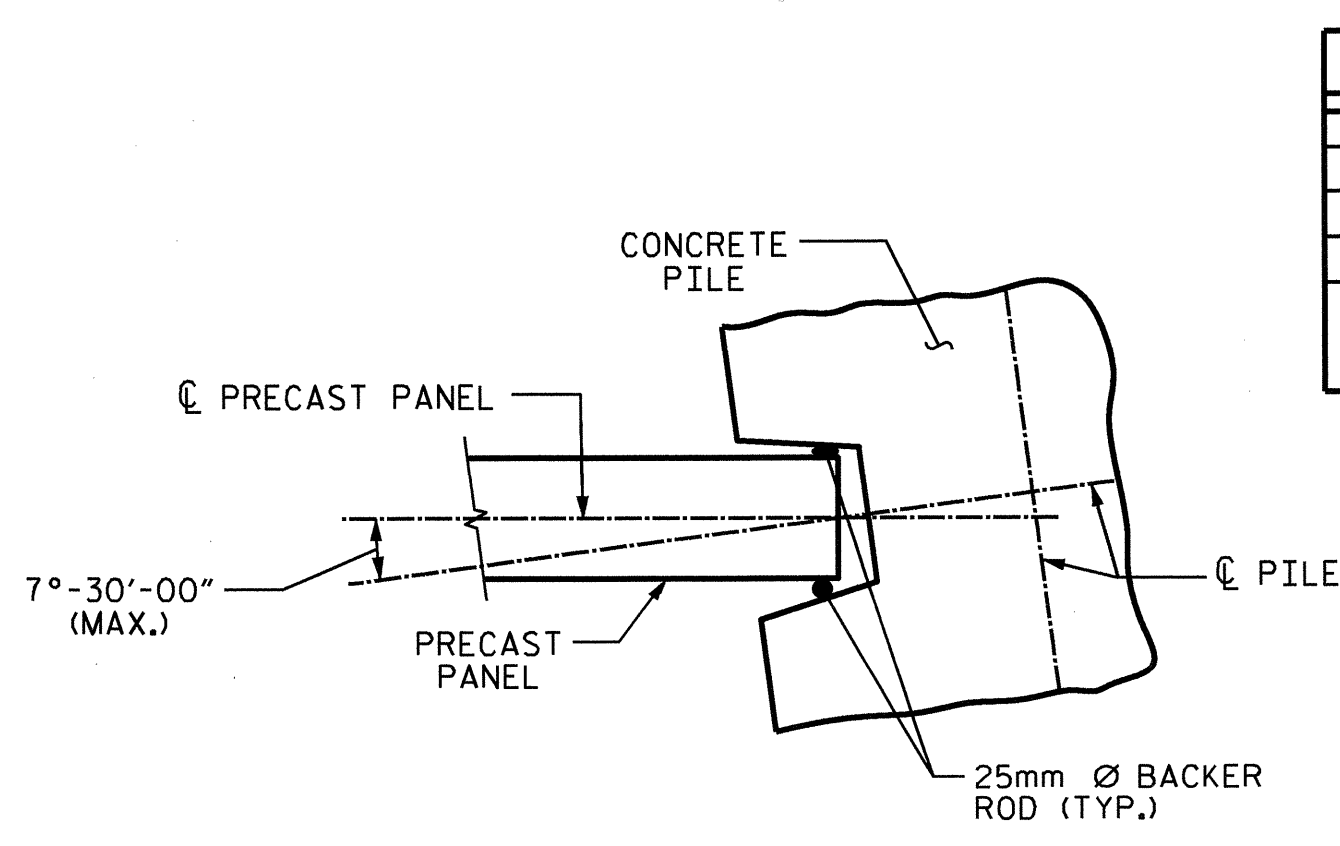
DESIGN WIND PRESSURE =
1.628 kpa (0m < H ≤ 4.267m); 2.011 kpa (4.267m < H ≤ 7.62m)

PILE TYPE I				PILE TYPE III			
PILE SPACING	MAXIMUM WALL HEIGHT (H)	VERTICAL REINFORCING STEEL	TIES	PILE SPACING	MAXIMUM WALL HEIGHT (H)	VERTICAL REINFORCING STEEL	TIES
3.048m	H ≤ 7.62m	4 - #25 EA. FACE	#3 @ 406mm CTS.	3.048m	H ≤ 7.62m	3 - #29 SHORT FACE 4 - #29 LONG FACE	#3 @ 406mm CTS.
	H ≤ 6.1m	4 - #25 EA. FACE	#3 @ 406mm CTS.		4.572m	H ≤ 6.1m	3 - #25 SHORT FACE 4 - #25 LONG FACE
4.572m	6.1m < H ≤ 7.62m	4 - #32 EA. FACE	#3 @ 406mm CTS.	4.572m		6.1m < H ≤ 7.62m	3 - #36 SHORT FACE 4 - #36 LONG FACE

PILE TYPE II				PILE TYPE III ALT.			
PILE SPACING	MAXIMUM WALL HEIGHT (H)	VERTICAL REINFORCING STEEL	TIES	PILE SPACING	MAXIMUM WALL HEIGHT (H)	VERTICAL REINFORCING STEEL	TIES
3.048m	H ≤ 7.62m	4 - #19 EA. FACE	#3 @ 406mm CTS.	3.048m	H ≤ 7.62m	3 - #29 SHORT FACE 4 - #29 LONG FACE	#3 @ 406mm CTS.
	H ≤ 6.1m	4 - #19 EA. FACE	#3 @ 406mm CTS.		4.572m	H ≤ 6.1m	3 - #25 SHORT FACE 4 - #25 LONG FACE
4.572m	6.1m < H ≤ 7.62m	4 - #22 EA. FACE	#3 @ 406mm CTS.	4.572m		6.1m < H ≤ 7.62m	3 - #36 SHORT FACE 4 - #36 LONG FACE



TYPICAL WALL TURN DETAILS



PILE ROTATION LIMIT FOR WALL TURN

(ROTATE THE CONCRETE PILE ±7°-30'-00" TO ACCOMMODATE WALL TURN.)

BILL OF MATERIAL		
VISUAL BARRIER WALL	2,100	SO. METERS
QUANTITIES PROVIDED ARE APPROXIMATE AND ARE FOR BID PURPOSES ONLY.		

PROJECT NO. X-0002CC
CUMBERLAND COUNTY
 STATION: 69+10.000 -L-

SHEET 1 OF 3

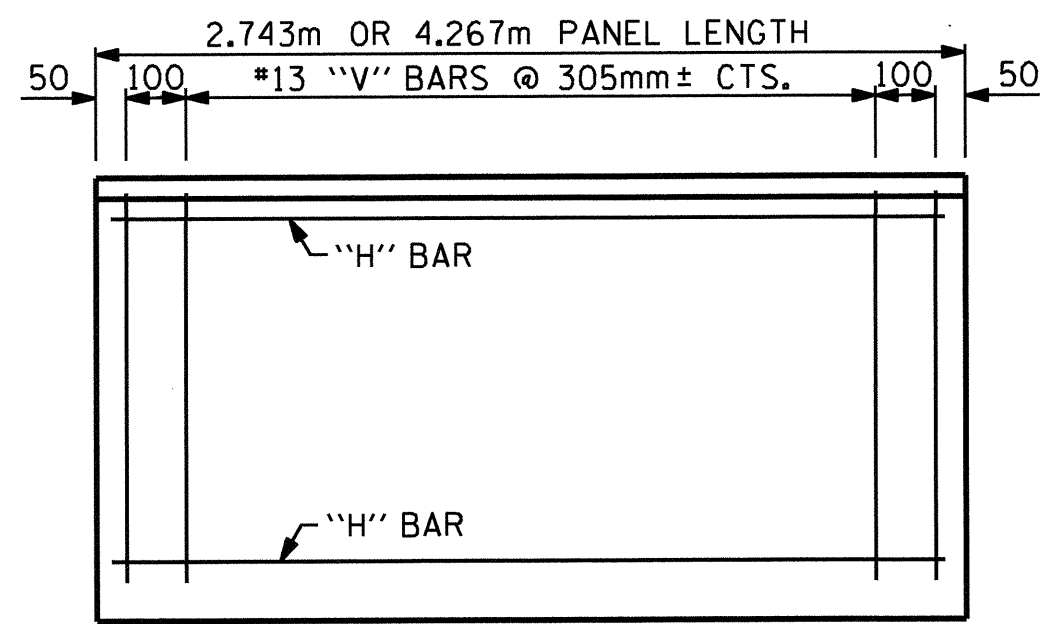
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

VISUAL BARRIER WALL

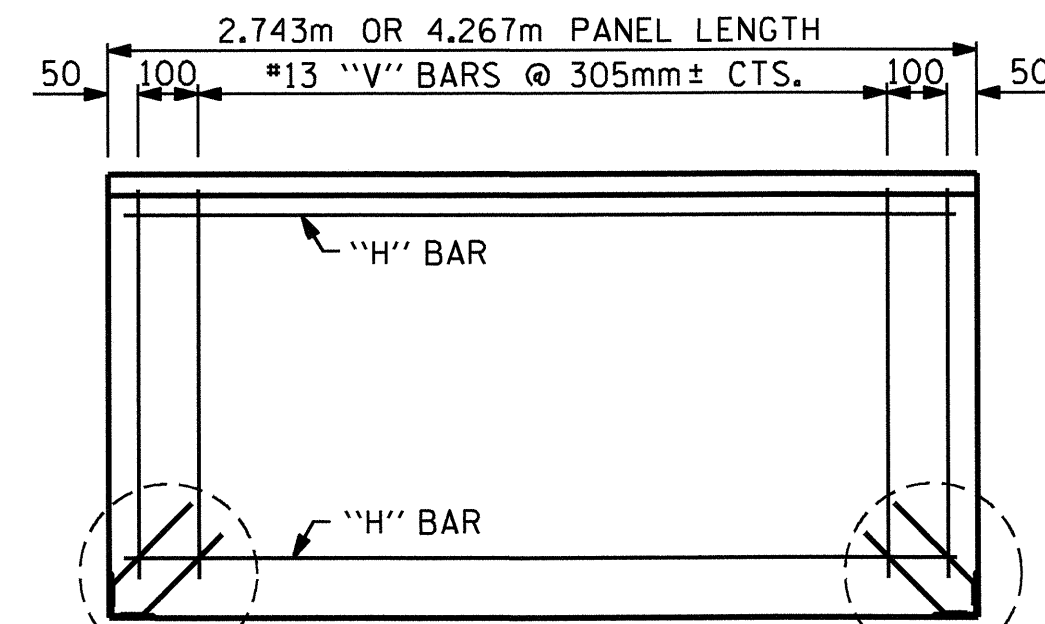


ASSEMBLED BY : J.P. ADAMS	DATE : 11/12/13
CHECKED BY : K.W. ALFORD	DATE : 11/13/13
DRAWN BY : MAA 6/11	ADDED 10/1/11
CHECKED BY : GM 6/11	

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	W-1
1			3			TOTAL SHEETS
2			4			3



FRONT ELEVATION OF UPPER PRECAST PANELS



FRONT ELEVATION OF BOTTOM PRECAST PANEL

QUANTITIES FOR ONE PRECAST PANEL (FOR 3.048m PILE SPACING)

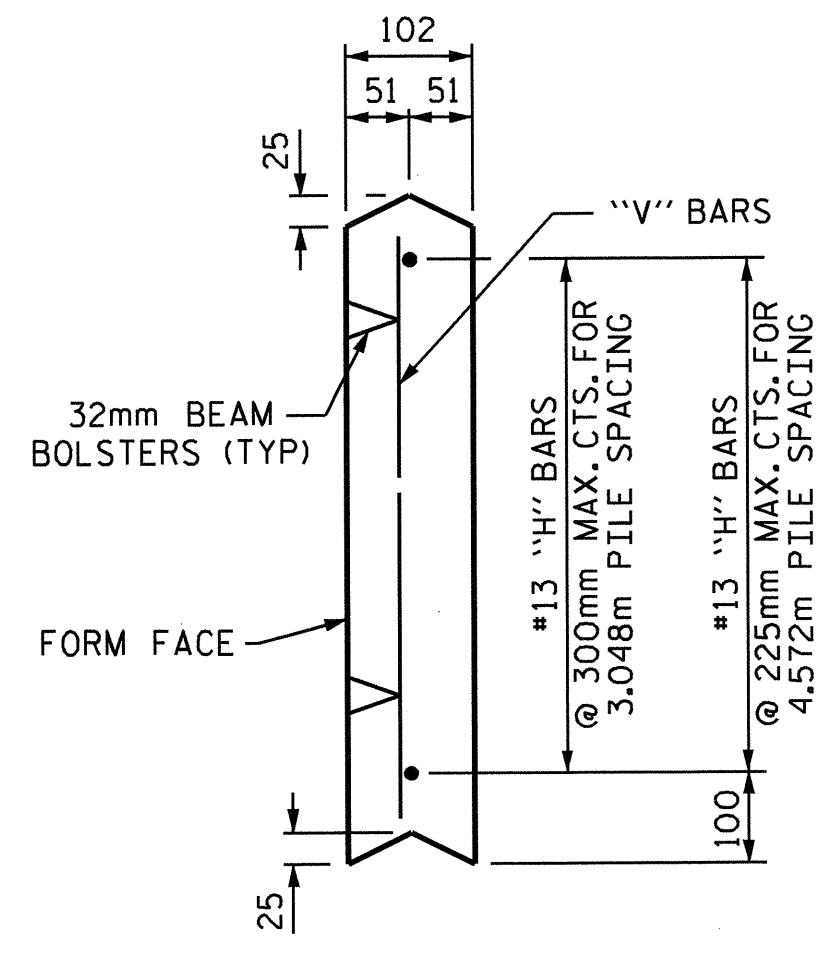
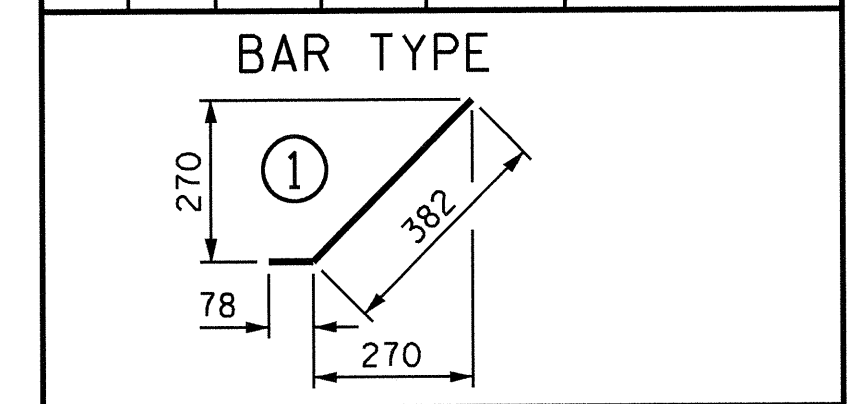
PANEL HEIGHT	CLASS AA CONCRETE	BAR TYPES											
		HORIZONTAL						VERTICAL					
C.M.	NO.	BAR SIZE	TYPE	LENGTH	WEIGHT (kg)	NO.	BAR SIZE	TYPE	LENGTH	WEIGHT (kg)			
610	0.17	3	H1	#13	STR	2640	8	11	V1	#13	STR	500	5
910	0.25	4	H2	#13	STR	2640	11	11	V2	#13	STR	800	9
1220	0.34	5	H3	#13	STR	2640	13	11	V3	#13	STR	1120	12

QUANTITIES FOR ONE PRECAST PANEL (FOR 4.572m PILE SPACING)

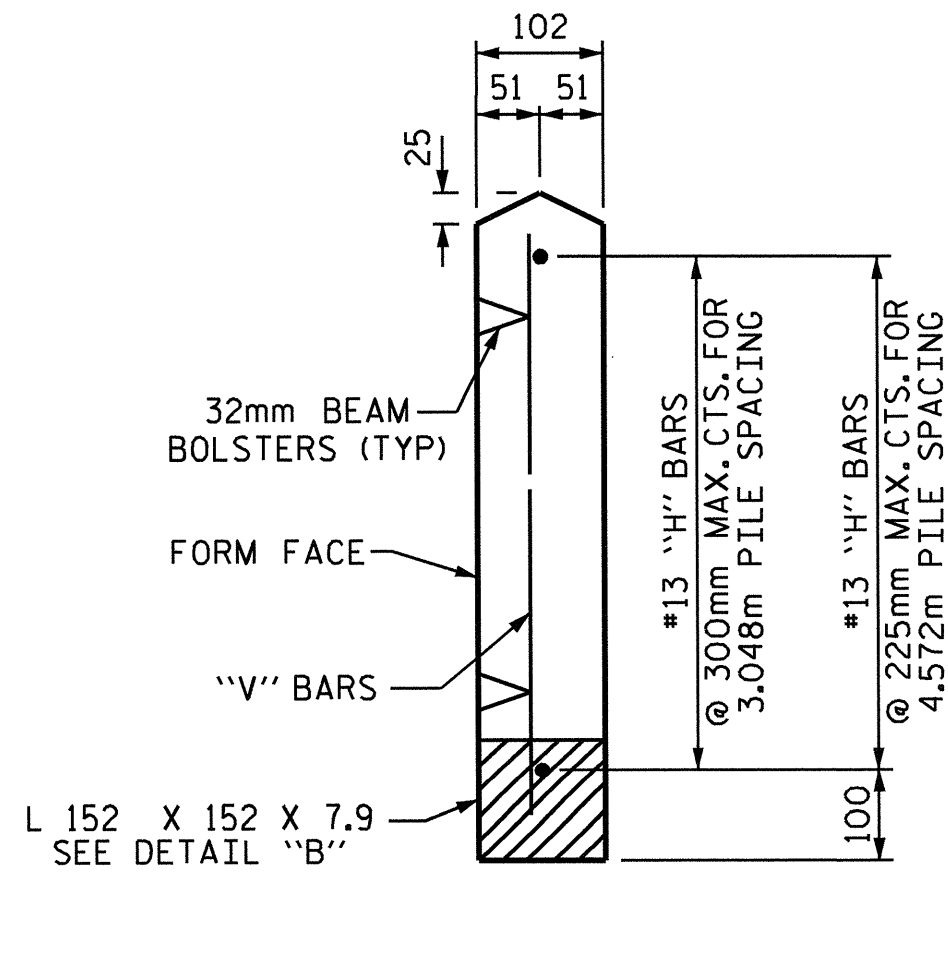
PANEL HEIGHT	CLASS AA CONCRETE	BAR TYPES											
		HORIZONTAL						VERTICAL					
C.M.	NO.	BAR SIZE	TYPE	LENGTH	WEIGHT (kg)	NO.	BAR SIZE	TYPE	LENGTH	WEIGHT (kg)			
910	0.40	5	H1	#13	STR	4160	21	16	V1	#13	STR	800	13
1220	0.53	6	H2	#13	STR	4160	25	16	V2	#13	STR	1120	18
1520	0.66	8	H3	#13	STR	4160	33	16	V3	#13	STR	1420	23
1830	0.80	9	H4	#13	STR	4160	37	16	V4	#13	STR	1720	27

ADDITIONAL BARS FOR ONE BOTTOM PANEL

NO.	BAR SIZE	TYPE	LENGTH	WEIGHT (kg)	
4	S1	16	1	460	3

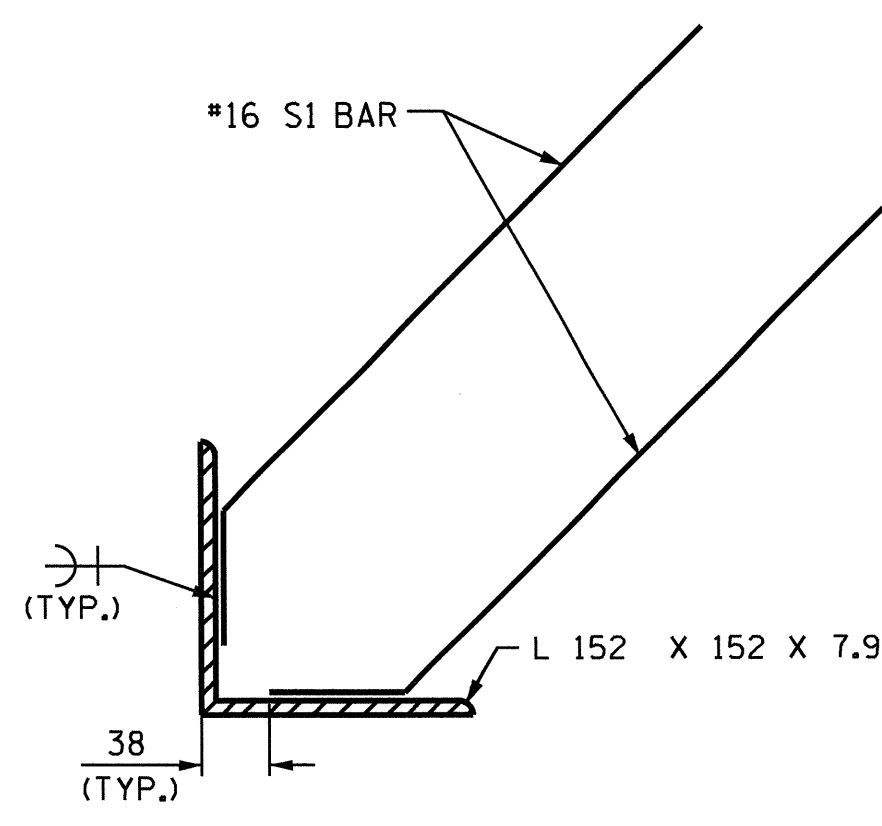


UPPER PANEL

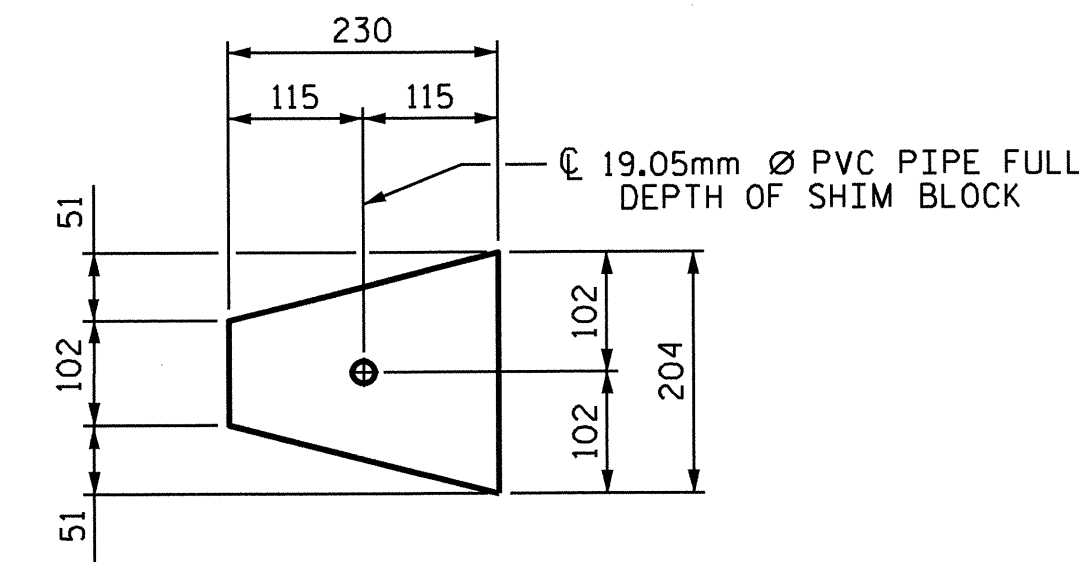


BOTTOM PANEL

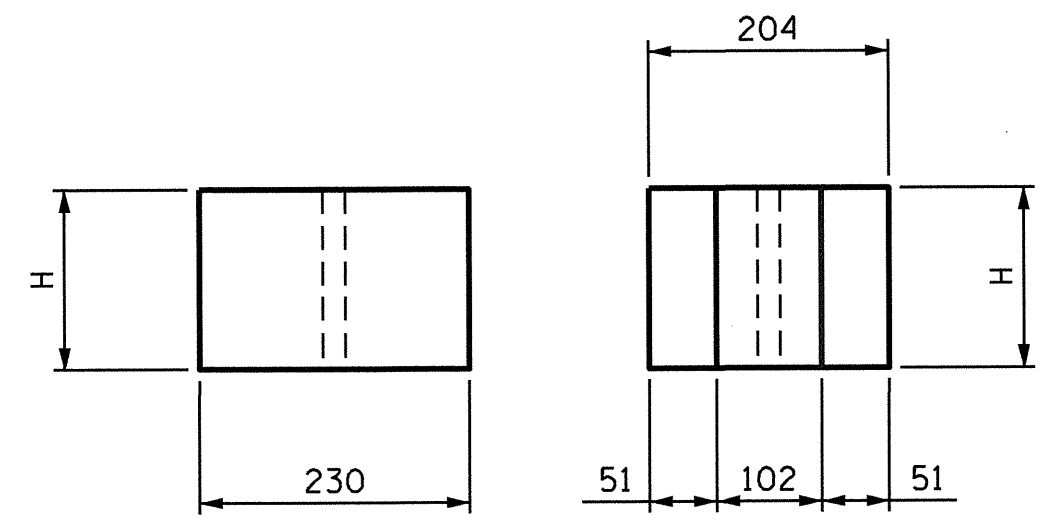
SECTION THROUGH PRECAST PANELS



DETAIL "B"



PLAN

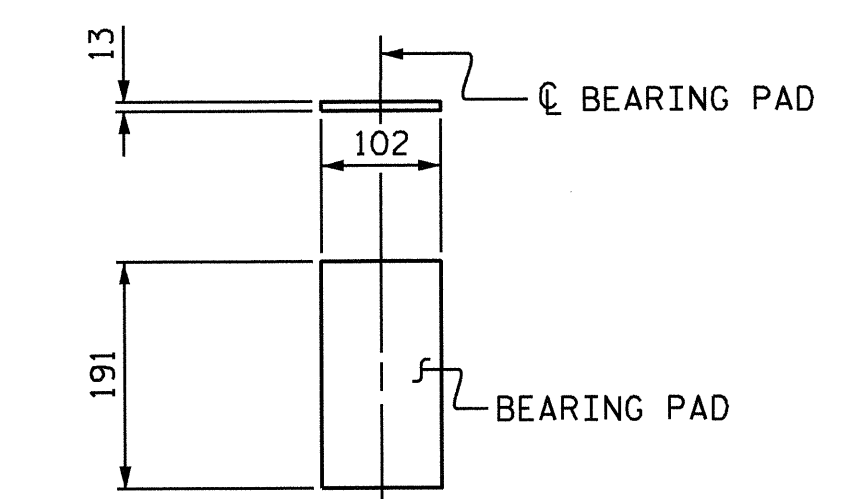


ELEVATION

END

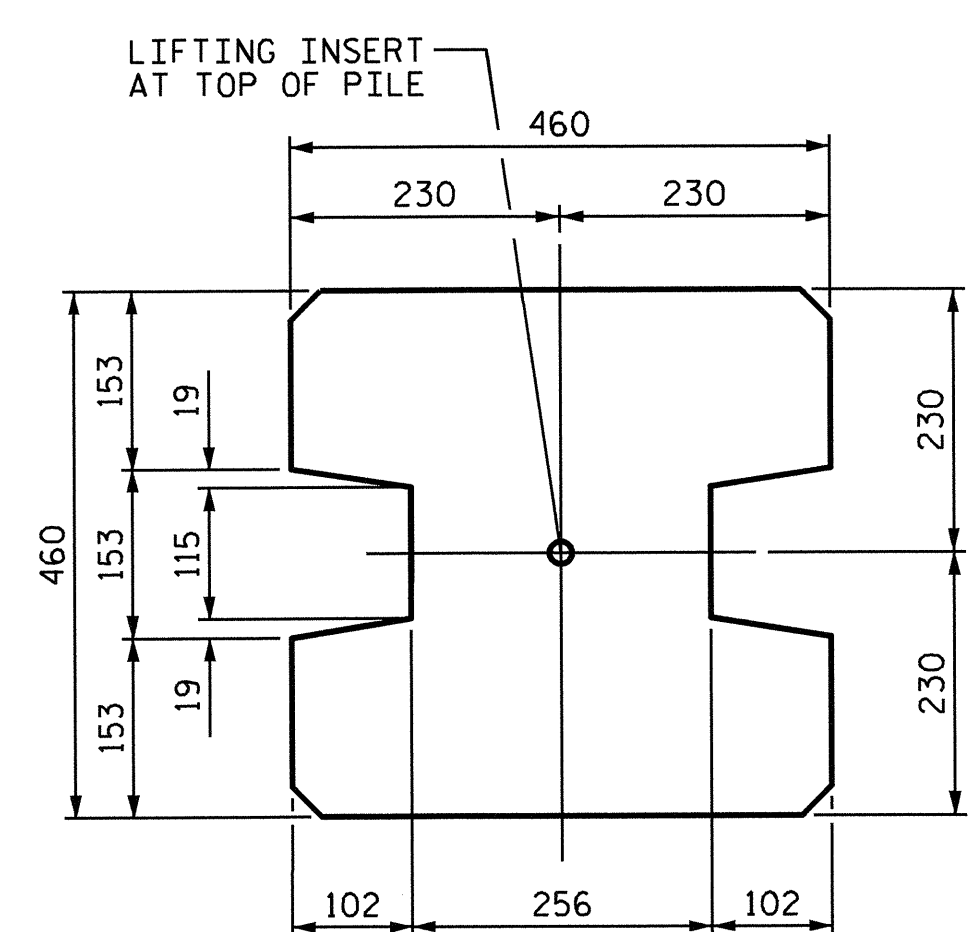
CONCRETE SHIM BLOCK

H = 75mm, 150mm OR 305mm

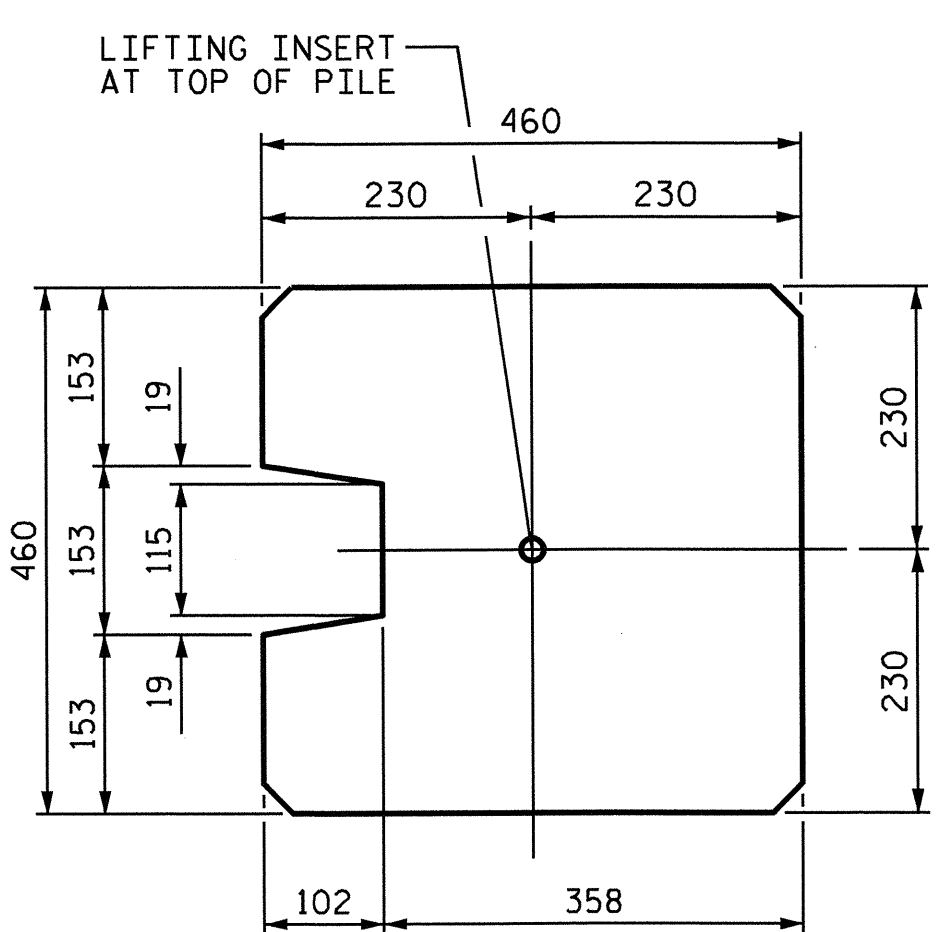


ELASTOMERIC BEARING DETAILS

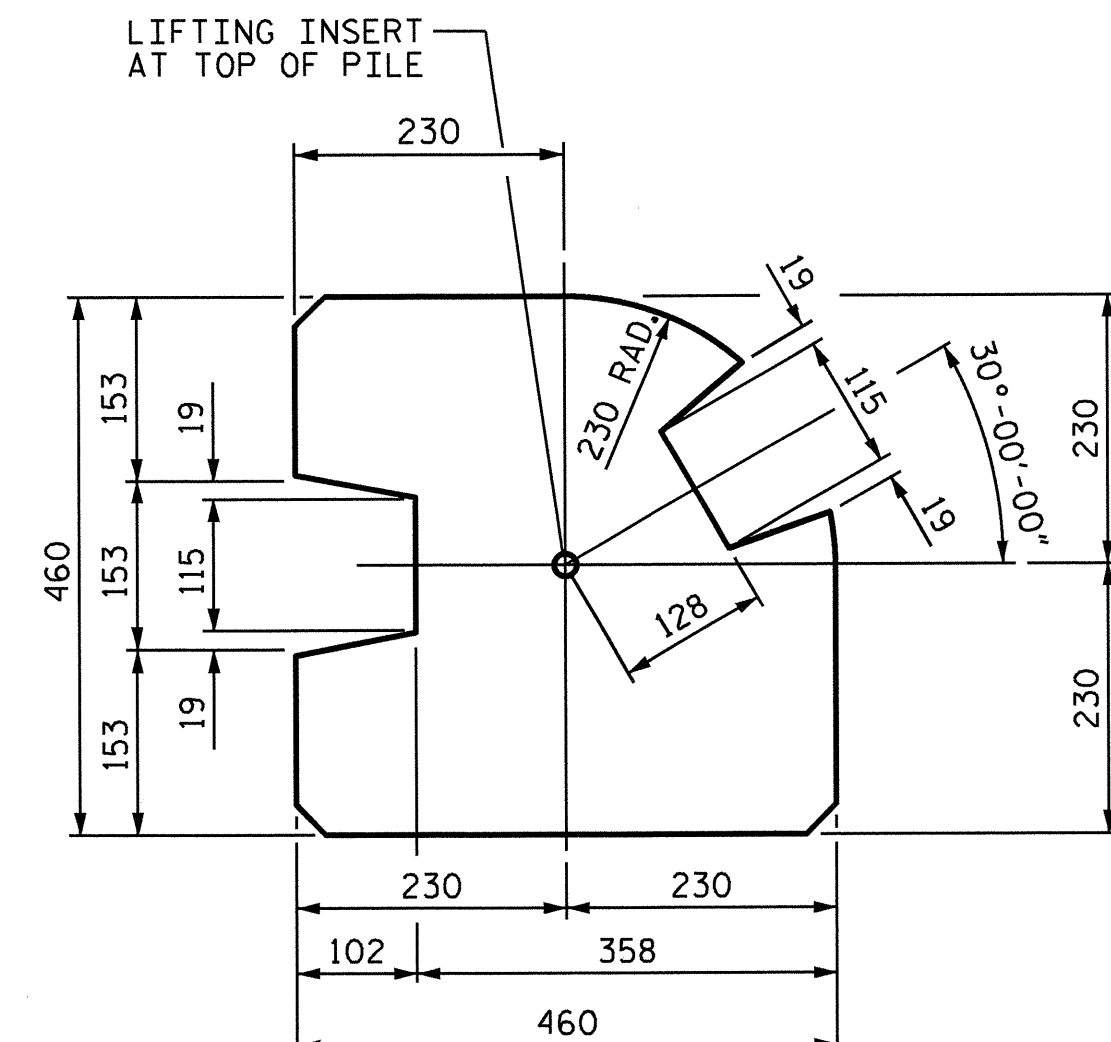
ELASTOMER IN BEARINGS SHALL BE 50 DUROMETER HARDNESS.



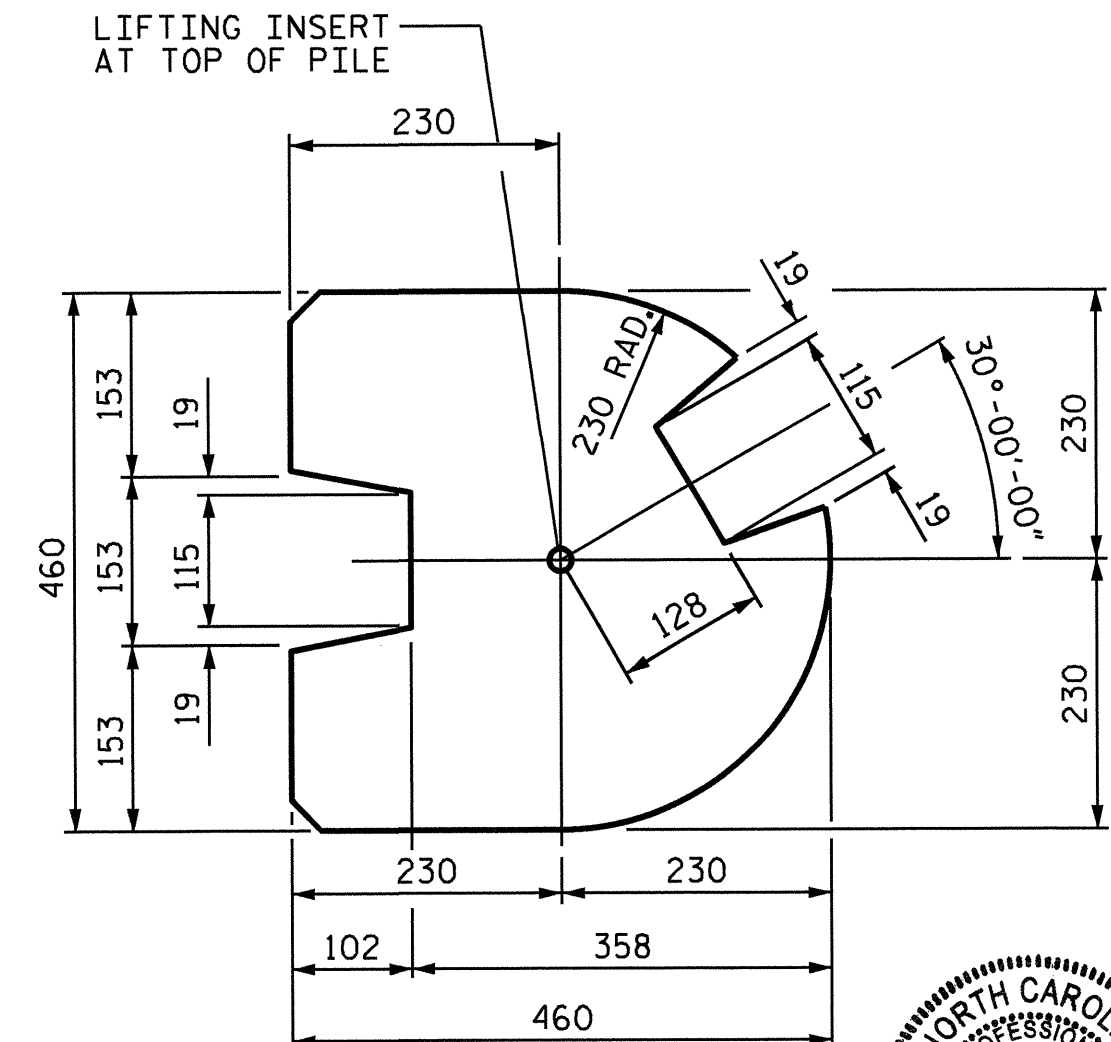
TYPE - I (AREA = 0.181 SO. M.)



TYPE - II (AREA = 0.194 SO. M.)



TYPE - III (AREA = 0.170 SO. M.)



TYPE - III (ALT.) (AREA = 0.159 SO. M.)

PILE DETAIL (ALL CORNERS TO BE CHAMFERED 25mm)

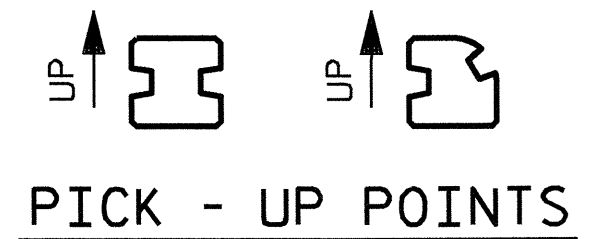
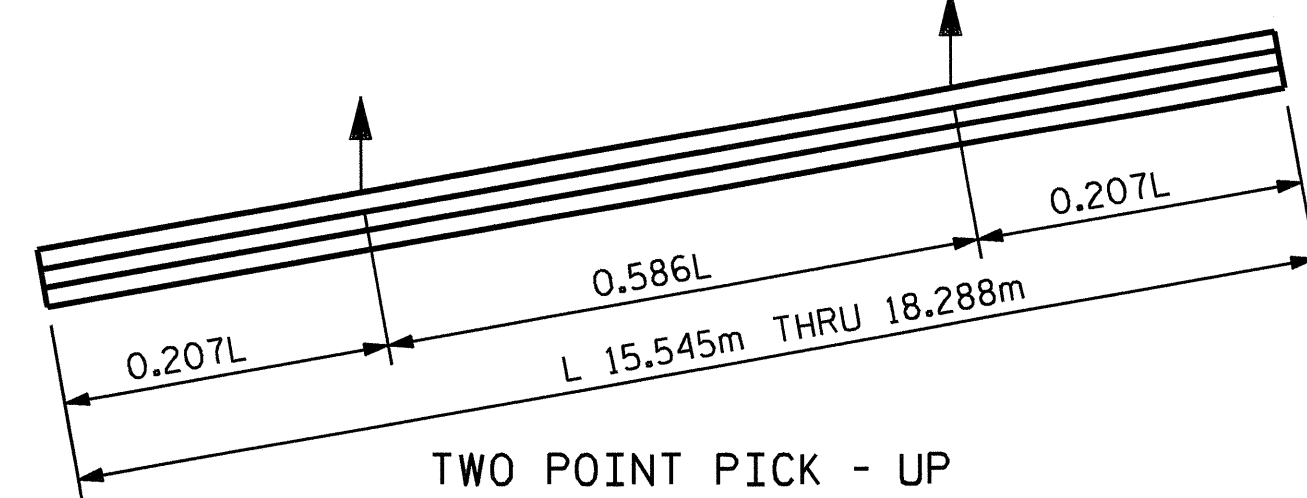
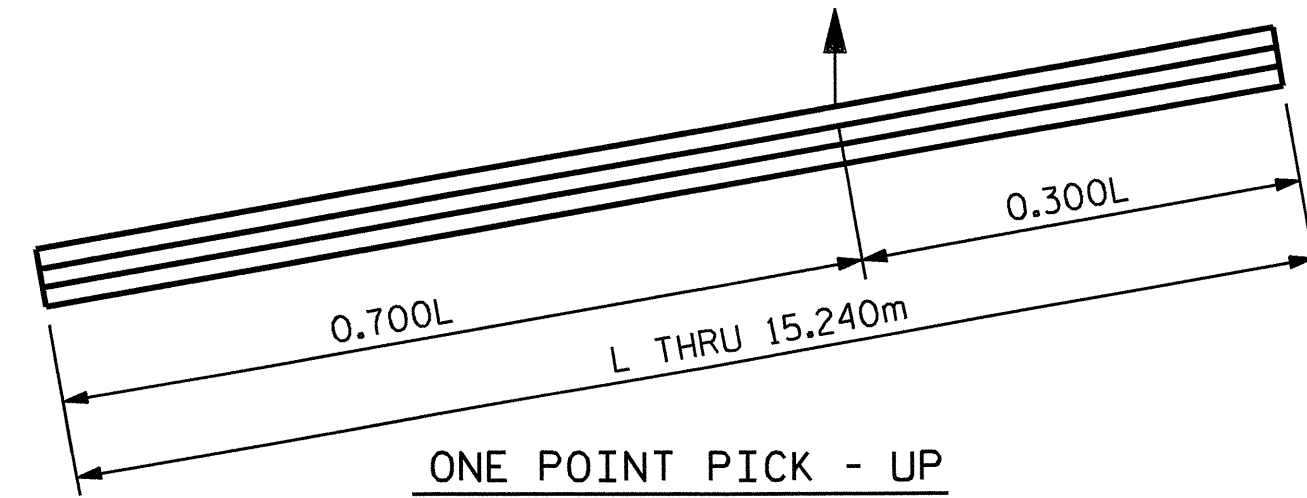
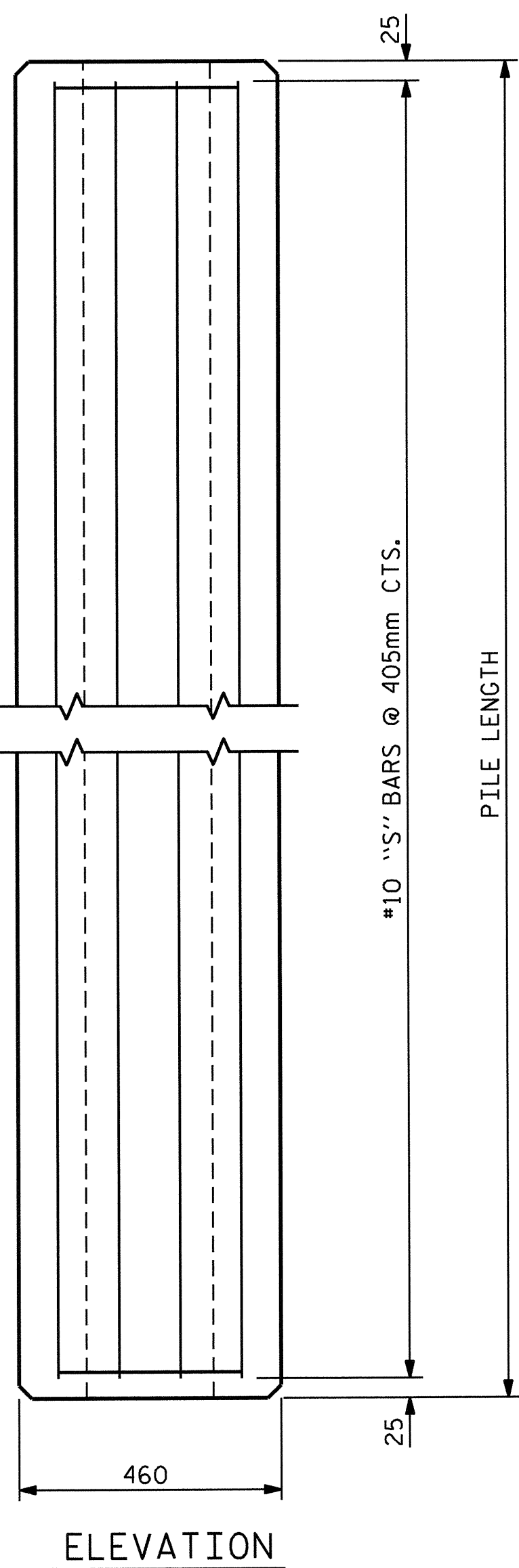


PROJECT NO. X-0002CC
CUMBERLAND COUNTY
STATION: 69+10.000 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						VISUAL BARRIER WALL		REVISIONS		SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:					W-2	
1			3							TOTAL SHEETS	
2			4							3	

ASSEMBLED BY : J.P. ADAMS	DATE : 11/12/13
CHECKED BY : K.W. ALFORD	DATE : 11/13/13
DRAWN BY : MAA 6/11	ADDED 8/31/11
CHECKED BY : GM 6/11	



NOTES

CONCRETE DESIGN DATA : $f'_c = 34.47 \text{ MPa}$

PROPOSED DEVICES FOR LIFTING PILES, RECESS DETAILS, AND PATCHING MATERIAL SHALL BE DETAILED IN SHOP DRAWINGS. AFTER ATTACHMENTS HAVE BEEN REMOVED, OPENINGS SHALL BE REPAIRED SUCH THAT THE APPEARANCE OF THE PILE IS UNIFORM.

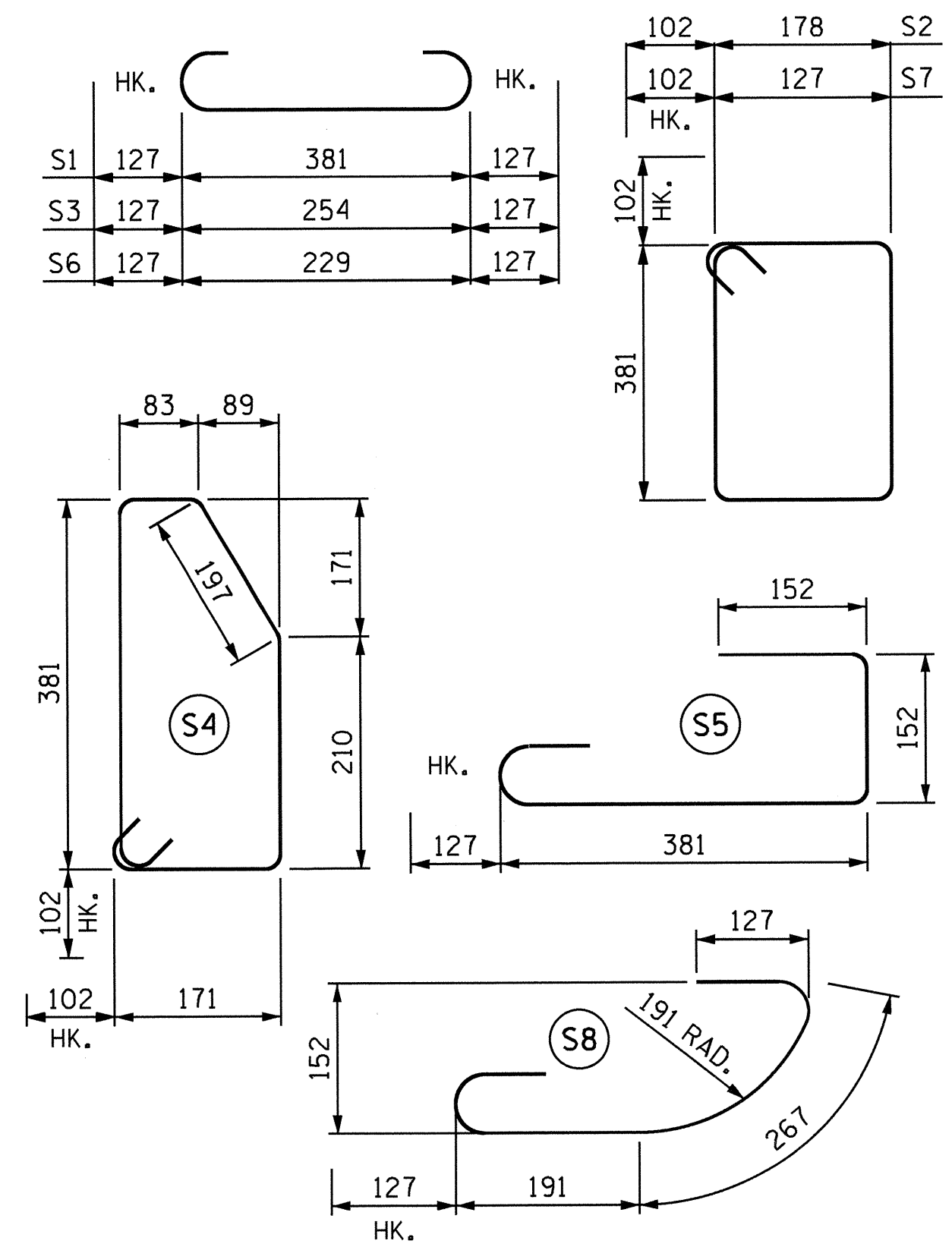
WHERE CAST-IN-PLACE LIFTING DEVICES ARE NOT USED, PICK-UP POINTS TO BE INDICATED WITH A BLACK MARK 50mm WIDE.

THE SLIP-FORM METHOD OF CASTING PILES WILL NOT BE PERMITTED.

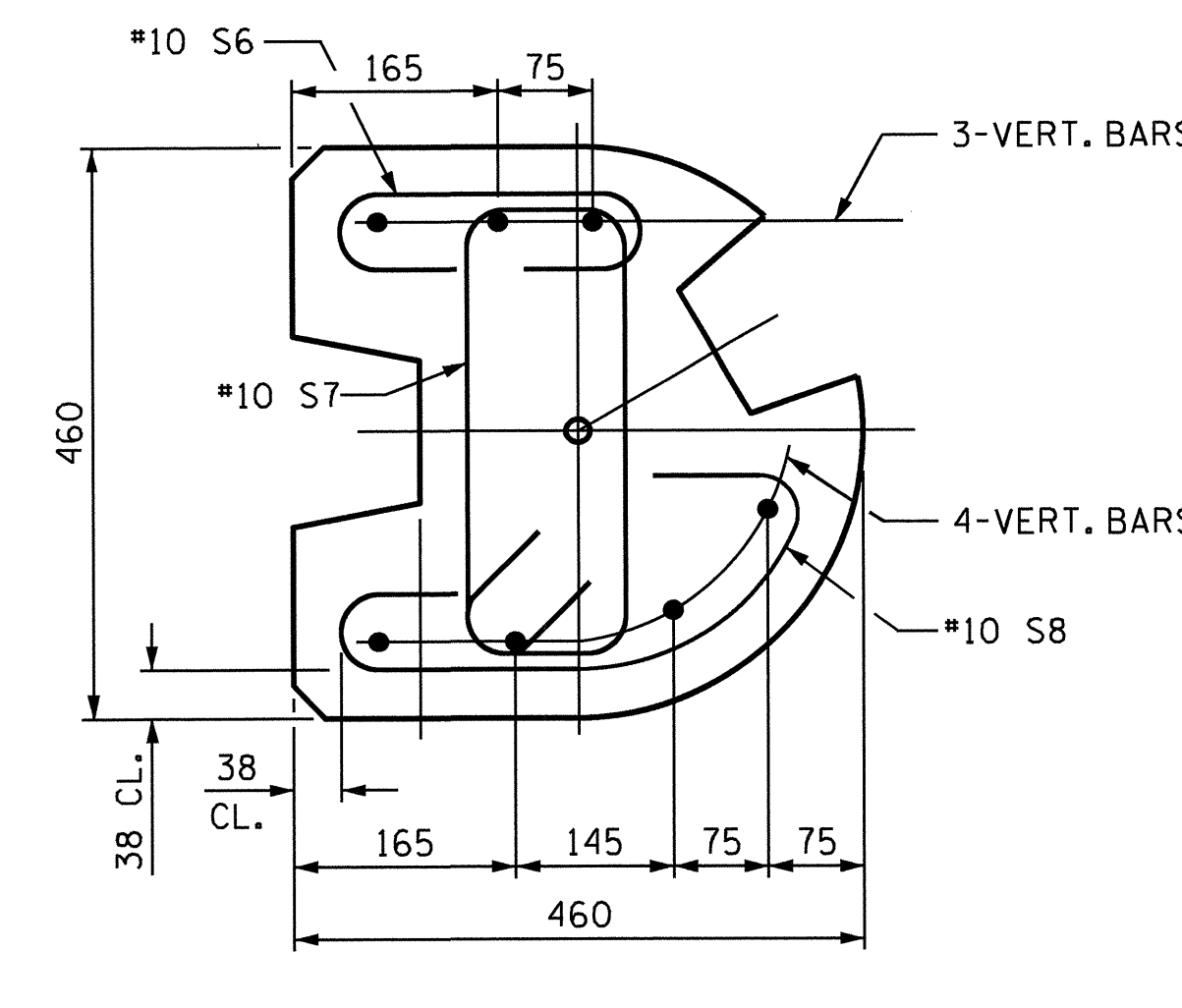
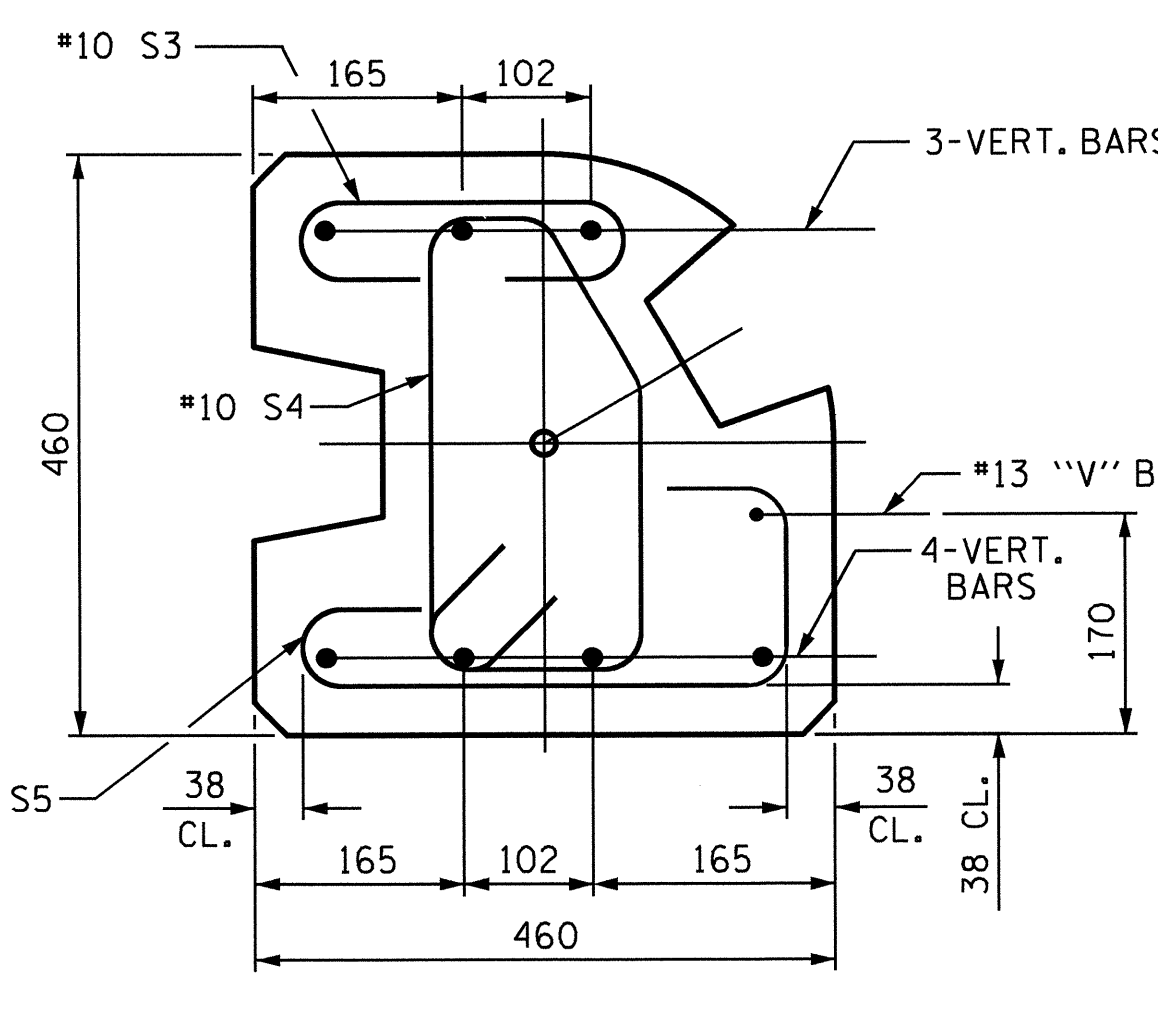
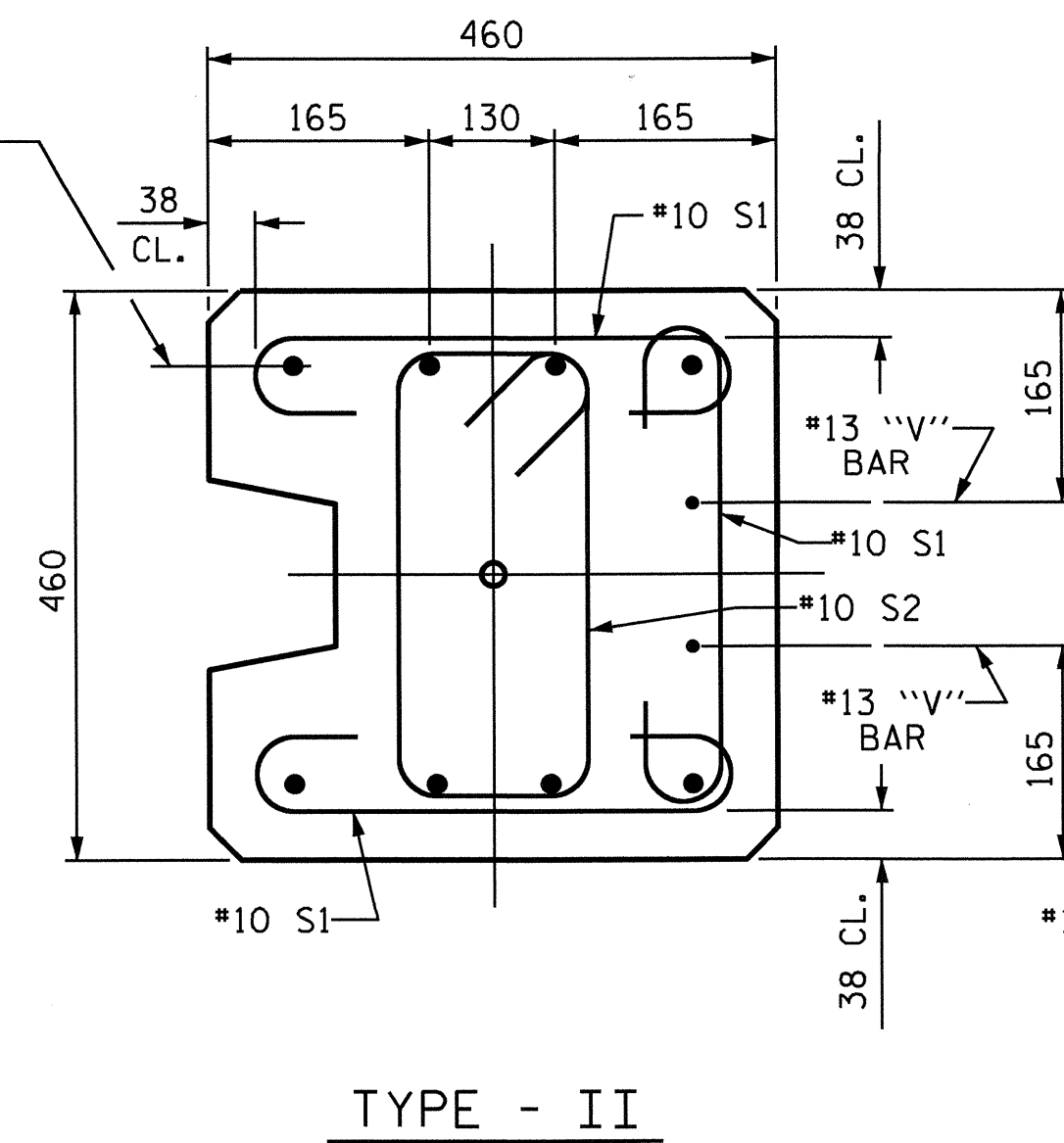
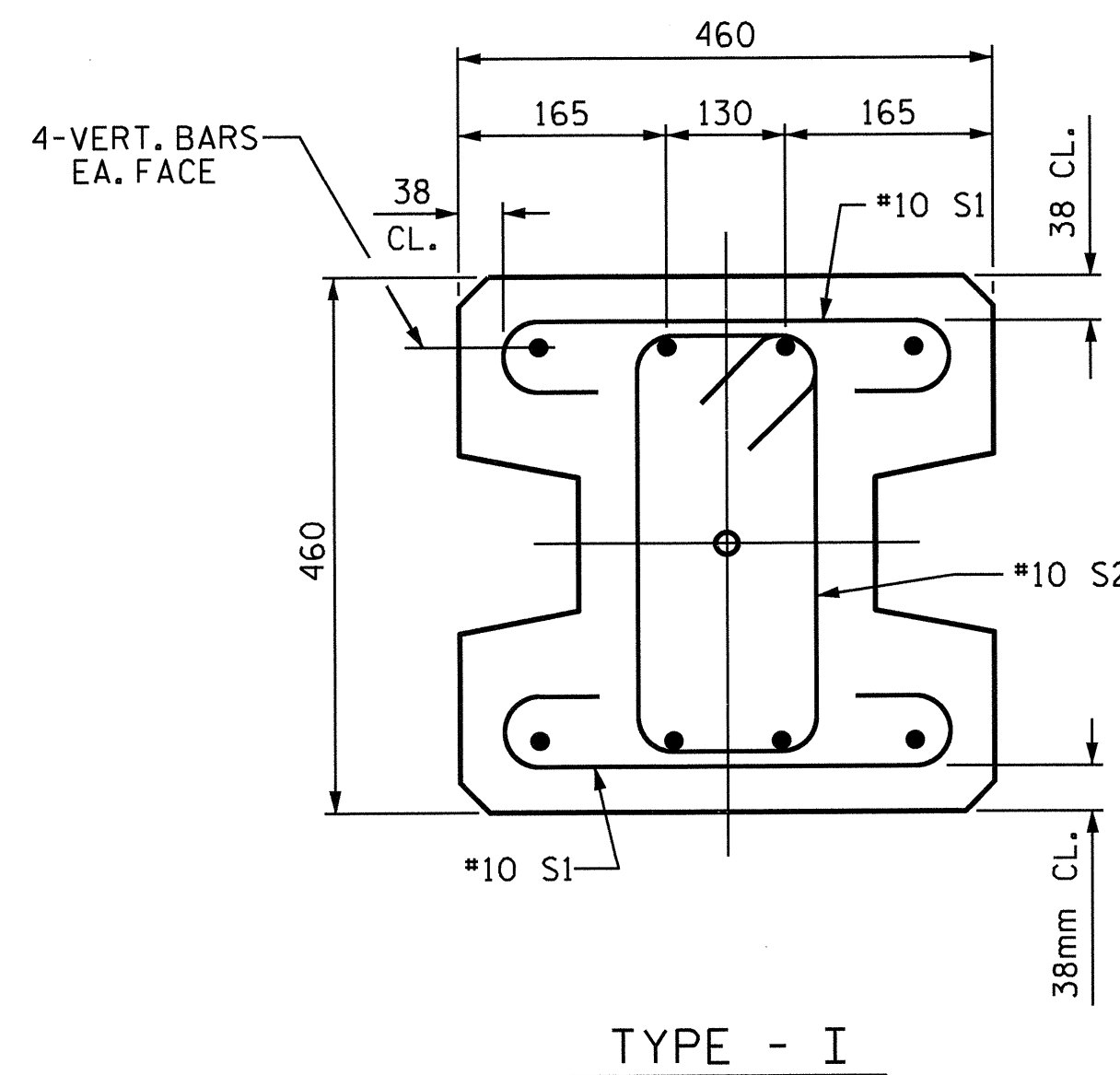
ALL CORNERS TO BE CHAMFERED 25mm.

LENGTH	APPROX. PILE WT. METRIC TONS	ONE PICK-UP POINT		TWO PICK-UP POINT	
		0.300L	0.700L	0.207L	0.586L
3.048m	1.42	914mm	2.134m		
4.572m	2.13	1.372m	3.200m		
6.096m	2.85	1.829m	4.267m		
7.620m	3.57	2.286m	5.334m		
9.144m	4.26	2.743m	6.401m		
10.668m	4.98	3.200m	7.468m		
12.192m	5.70	3.658m	8.534m		
13.716m	6.40	4.115m	9.601m		
15.240m	7.11	4.572m	10.668m		
16.764m	7.83			3.470m	9.824m
18.288m	8.55			3.786m	10.716m

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.



PILE DETAIL

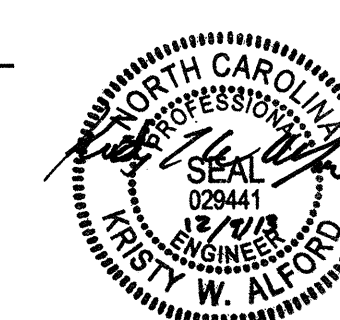
SEE EXPOSURE CATEGORY CHART FOR VERT. BAR PILE REINFORCING (SHEET 1 OF 3)

PROJECT NO. X-0002CC
 CUMBERLAND COUNTY
 STATION: 69+10.000 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

VISUAL BARRIER WALL



ASSEMBLED BY : J.P. ADAMS DATE : 11/27/13
 CHECKED BY : K.W. ALFORD DATE : 11/13/13
 DRAWN BY : MAA 6/11 ADDED 8/31/11
 CHECKED BY : GM 6/11

REVISIONS						SHEET NO. W-3
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 3
2			4			

STD. NO. SBW3