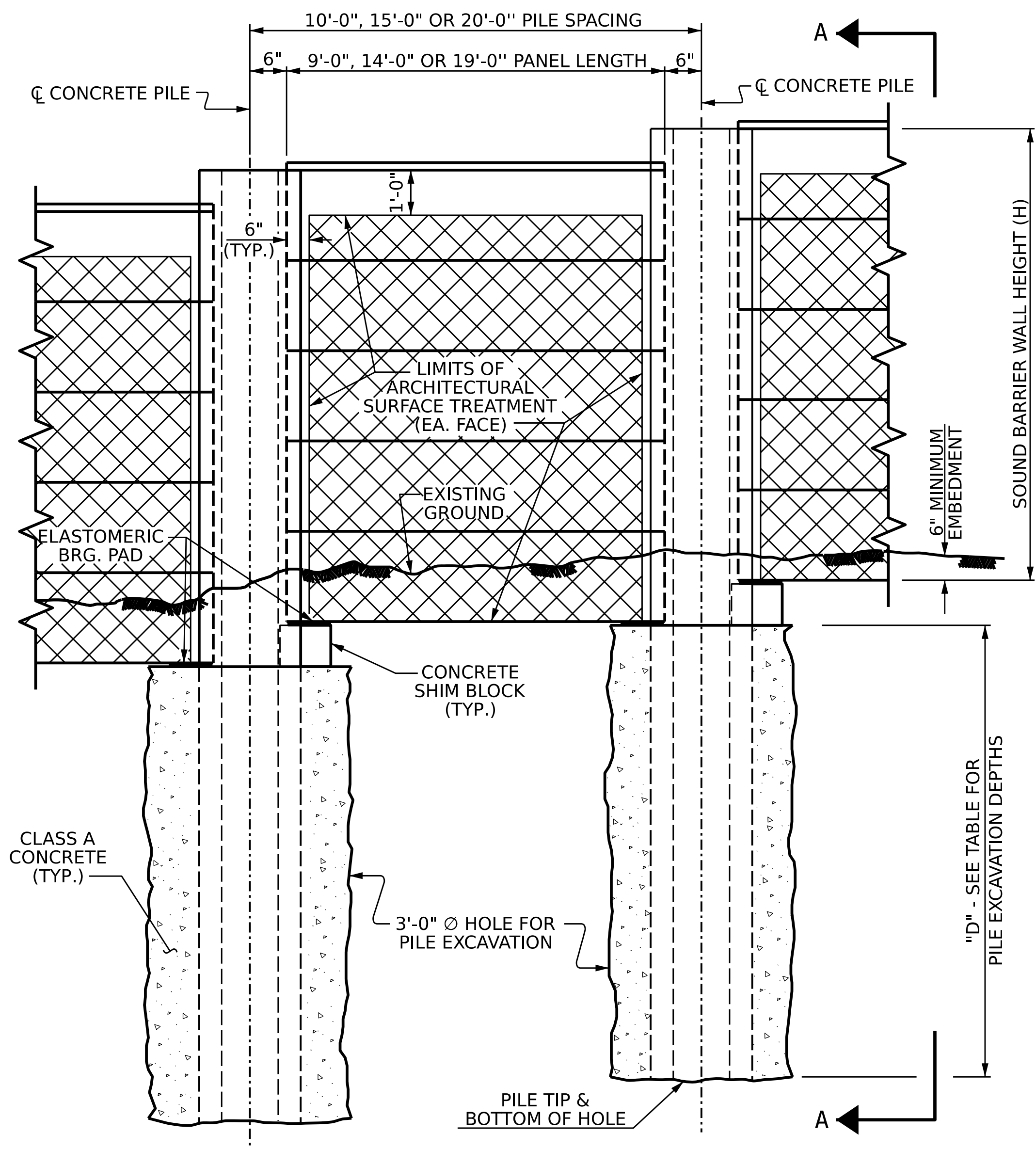
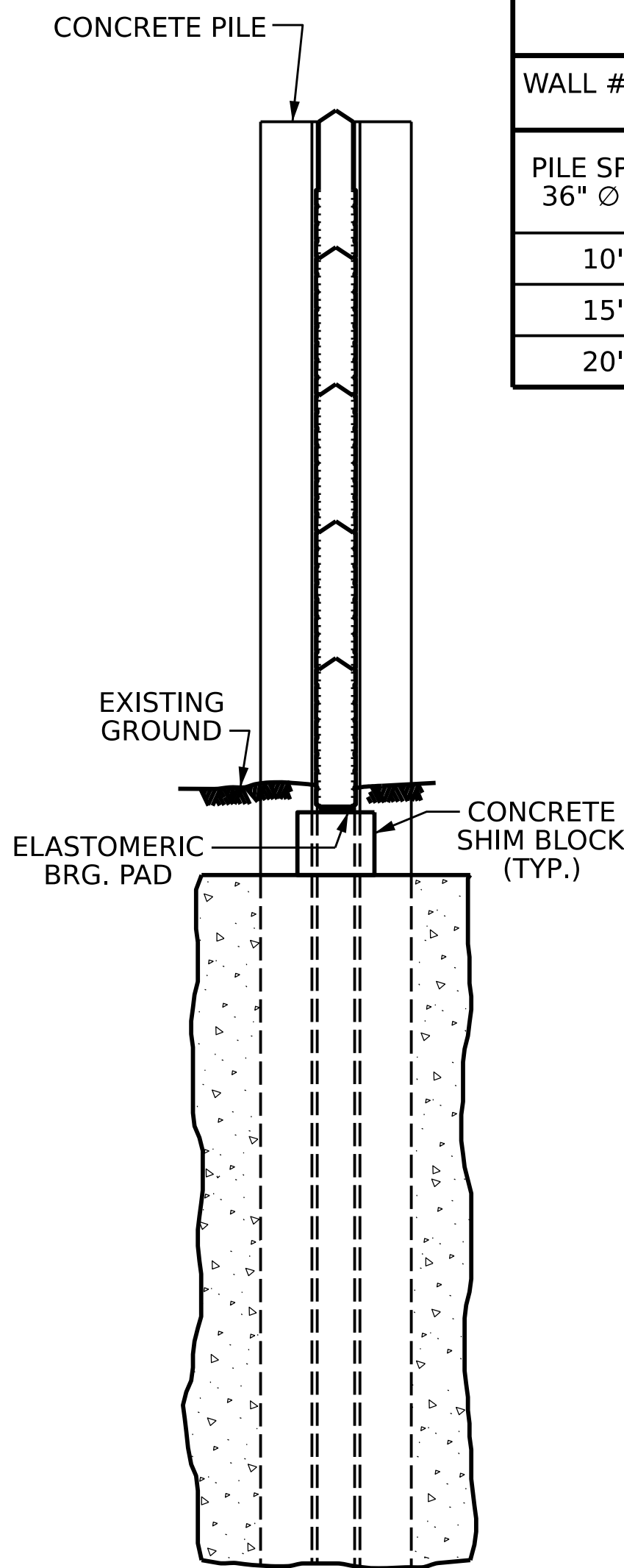


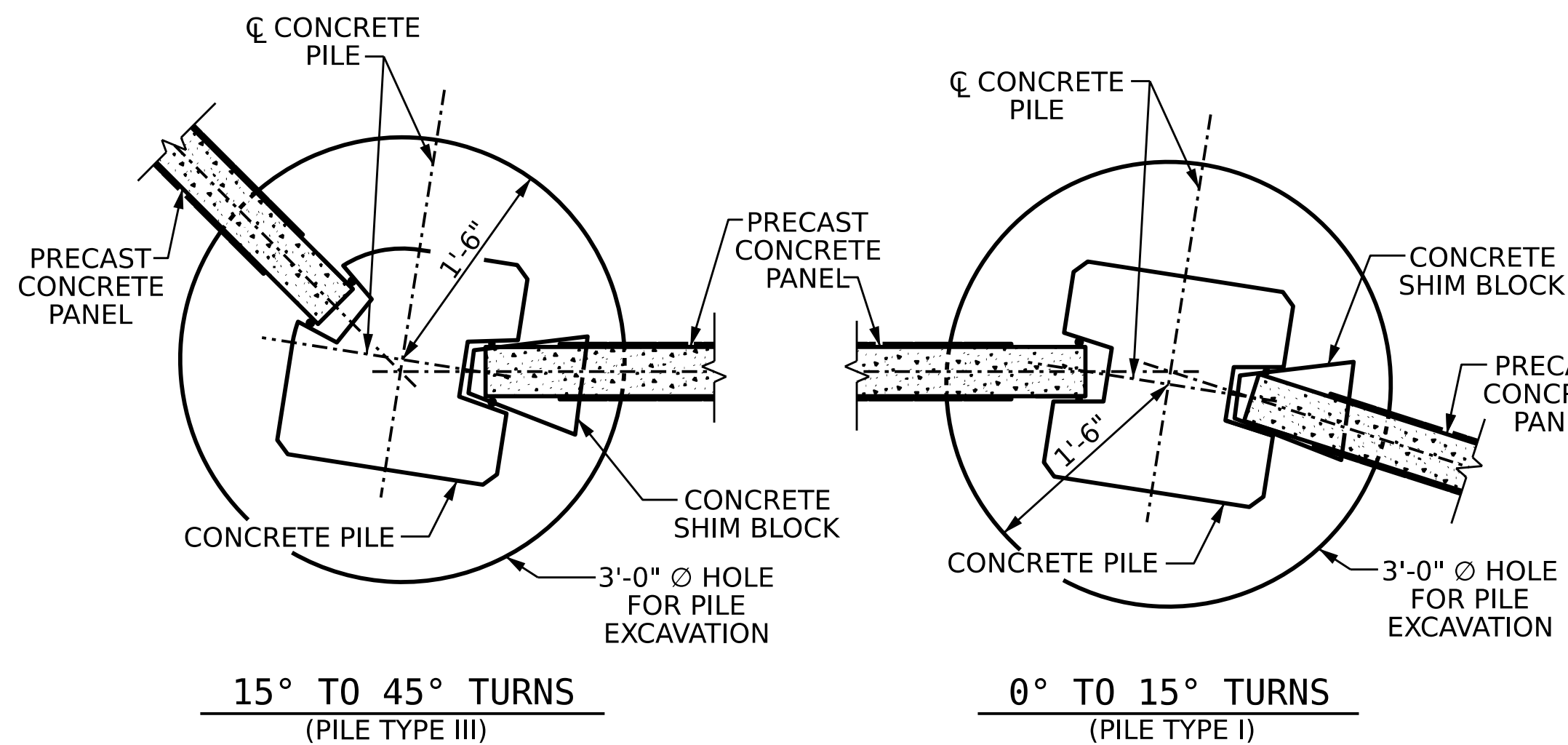
8/26/21



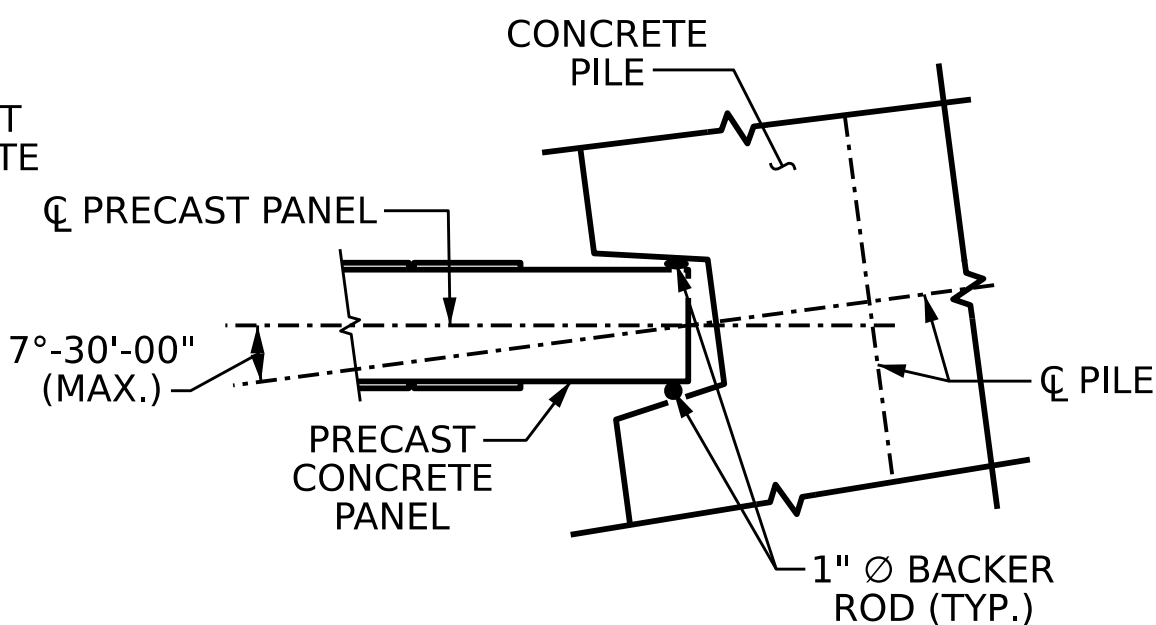
ELEVATION



SECTION A-A



TYPICAL WALL TURN DETAILS



PILE ROTATION LIMIT FOR WALL TURN

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

PILE EXCAVATION DEPTHS "D"

WALL #1 FROM : STA. 20+06.21 -L- TO : STA. 41+13.22 -L-

PILE SPACING 36" Ø HOLE	TABLE 27-3 WALL HEIGHT (H)			
	H ≤ 15'	15' < H ≤ 20'	20' < H ≤ 25'	25' < H ≤ 30'
10'-0"	8'-0"	9'-0"	10'-0"	11'-0"
15'-0"	9'-0"	10'-0"	11'-0"	12'-0"
20'-0"	10'-0"	11'-0"	12'-0"	14'-0"

PILE REINFORCING STEEL

WIND EXPOSURE CATEGORY B, DESIGN WIND PRESSURE = 27 PSF

PILE SPACING	MAXIMUM WALL HEIGHT (H)	PILE TYPE I VERTICAL REINFORCING STEEL	PILE TYPE II VERTICAL REINFORCING STEEL	PILE TYPE III VERTICAL REINFORCING STEEL	PILE TYPE III ALT. VERTICAL REINFORCING STEEL
10' - 0"	H ≤ 20'	4 - #5 EA. FACE	4 - #5 EA. FACE	3 - #5 SHORT FACE 4 - #5 LONG FACE	3 - #5 SHORT FACE 4 - #5 LONG FACE
	20' < H ≤ 25'	4 - #6 EA. FACE	4 - #5 EA. FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE
	25' < H ≤ 30'	4 - #7 EA. FACE	4 - #7 EA. FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE
15' - 0"	H ≤ 20'	4 - #6 EA. FACE	4 - #5 EA. FACE	3 - #6 SHORT FACE 4 - #6 LONG FACE	3 - #6 SHORT FACE 4 - #6 LONG FACE
	20' < H ≤ 25'	4 - #7 EA. FACE	4 - #7 EA. FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE
	25' < H ≤ 30'	4 - #8 EA. FACE	4 - #8 EA. FACE	3 - #10 SHORT FACE 4 - #10 LONG FACE	3 - #10 SHORT FACE 4 - #10 LONG FACE
20' - 0"	H ≤ 20'	4 - #6 EA. FACE	4 - #6 EA. FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE
	20' < H ≤ 25'	4 - #8 EA. FACE	4 - #8 EA. FACE	3 - #9 SHORT FACE 4 - #9 LONG FACE	3 - #9 SHORT FACE 4 - #9 LONG FACE
	25' < H ≤ 30'	4 - #10 EA. FACE	4 - #10 EA. FACE	3 - #11 SHORT FACE 4 - #11 LONG FACE	3 - #11 SHORT FACE 4 - #11 LONG FACE

BILL OF MATERIAL

SOUND BARRIER WALL	50,045 S.F.
ARCHITECTURAL SURFACE TREATMENT	89,194 S.F.

QUANTITIES PROVIDED ARE APPROXIMATE AND ARE FOR BID PURPOSES ONLY.

ARCHITECTURAL SURFACE TREATMENT

TEXTURE OPTION:	ASHLAR STONE
STAIN OPTION:	GREY PALETTE COLOR #FS 36270



12/03/2024

NOTES

FOR SOUND BARRIER WALL, SEE SPECIAL PROVISIONS.

CONSTRUCT SOUND 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 6" MINIMUM EMBEDMENT OF THE BOTTOM PANEL.

USE CLASS AA CONCRETE FOR PANELS AND CLASS A CONCRETE FOR PILE EXCAVATION BACKFILL, IN ACCORDANCE WITH ARTICLE 1000-3 OF THE STANDARD SPECIFICATIONS.

AT THE CONTRACTOR'S OPTION, USE 10'-0", 15'-0", OR 20'-0" PILE SPACINGS. STANDARD PRECAST CONCRETE PANELS MAY BE USED WITH THE 10'-0" AND 15'-0" PILE SPACING. FOR 20'-0" PILE SPACING, PANELS DESIGNED AND MANUFACTURED BY A THIRD PARTY VENDER SHALL BE USED.

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

PLACE 1" 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.

LOCATION OF FIRE HYDRANT ACCESS PORTS SHALL BE FIELD LOCATED AND VERIFIED BY THE ENGINEER. ADDITIONAL REINFORCING SHALL BE AS NOTED ON SHEET 5 OF 6 AND SHALL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.

SOUND BARRIER WALL 1 SHALL BE MADE WITH ABSORPTIVE MATERIALS RATHER THAN REFLECTIVE MATERIALS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR LAYOUT AND DETAILS OF #3 TIE BARS, SEE STD. SBW3.

PROJECT NO. **I-5880**

FORSYTH COUNTY

STATION: **20+01.06 -L-**

SHEET 1 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
**SOUND BARRIER
WALL 1**
(CONCRETE PILES)

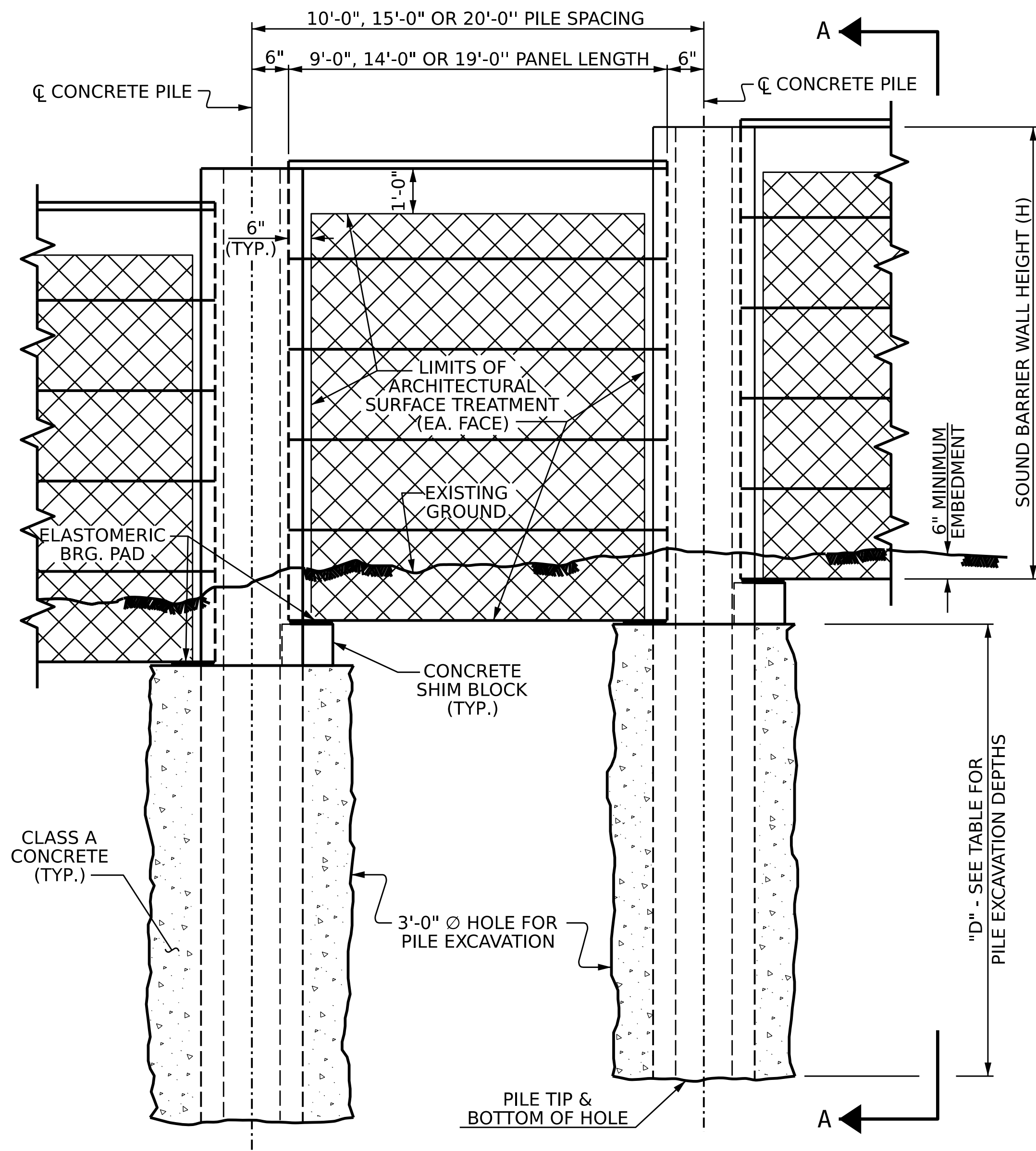
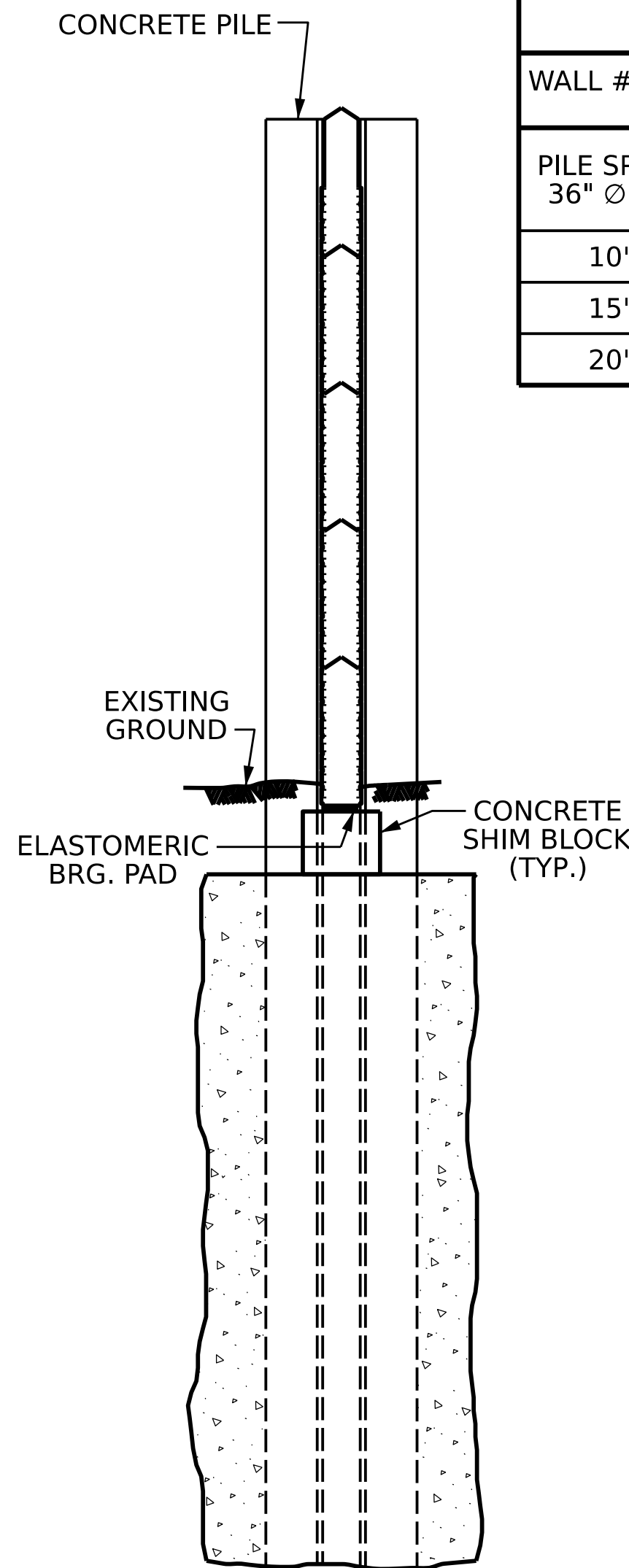
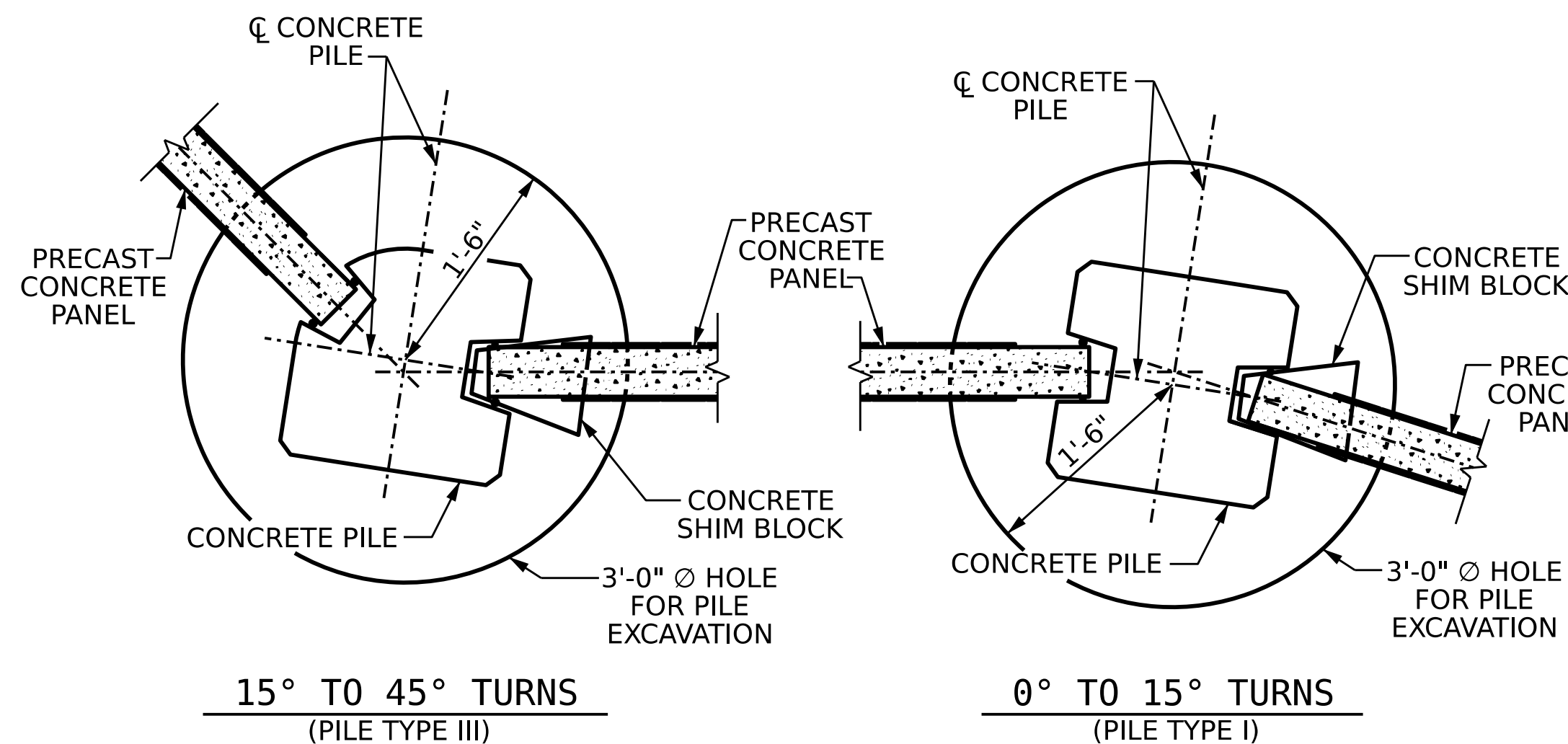
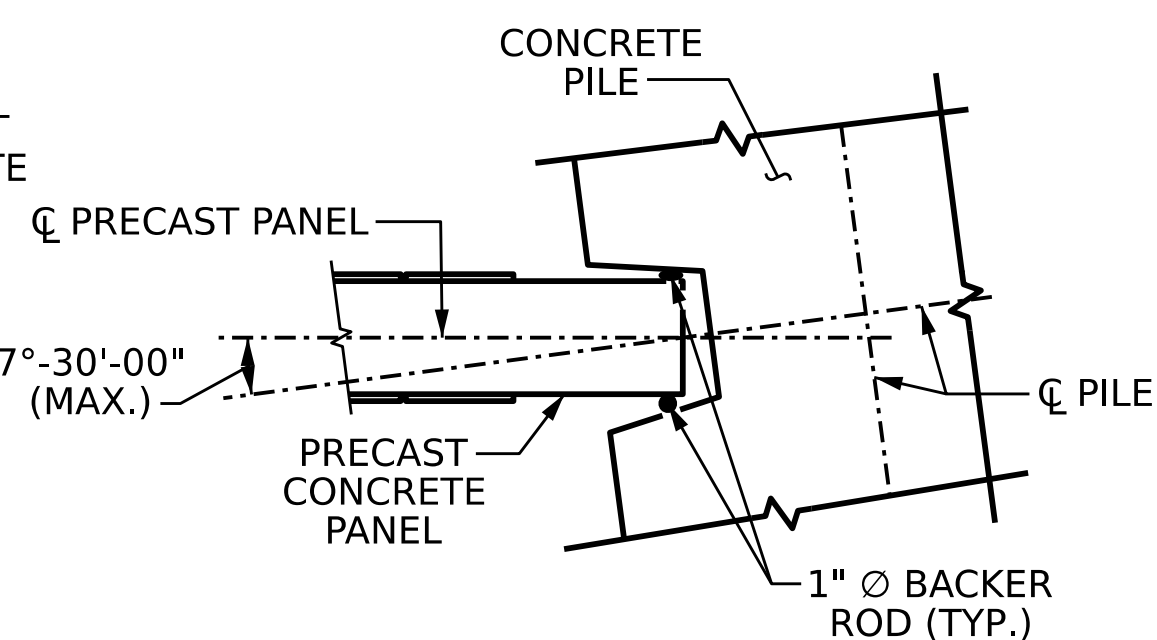
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	
1			3		W-1
2			4		TOTAL SHEETS 6

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

STD. NO. SBW1

ASSEMBLED BY: D. SHACKELFORD	DATE: 11/26/2024
CHECKED BY: K.W. ALFORD	DATE: 11/27/2024
DRAWN BY: MAA	6/11
CHECKED BY: CM	6/11
REV. 10/17	MAA/THC
REV. 05/18	MAA/THC
REV. 12/23	BNB/AYG

12/3/2024
C:\Users\drshackelford\OneDrive\Desktop\I5880\420.001.I5880.SMU.SBW1.001.dgn
drshackelford

**ELEVATION****SECTION A-A****TYPICAL WALL TURN DETAILS****PILE ROTATION LIMIT FOR WALL TURN**

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

PILE EXCAVATION DEPTHS "D"WALL #4 FROM : STA. 41+89.28 -L-
TO : STA. 51+73.88 -L-

PILE SPACING 36" Ø HOLE	TABLE 27-3 WALL HEIGHT (H)			
	H ≤ 15'	15' < H ≤ 20'	20' < H ≤ 25'	25' < H ≤ 30'
10'-0"	8'-0"	9'-0"	10'-0"	11'-0"
15'-0"	9'-0"	10'-0"	11'-0"	12'-0"
20'-0"	10'-0"	11'-0"	12'-0"	14'-0"

PILE REINFORCING STEEL

WIND EXPOSURE CATEGORY B, DESIGN WIND PRESSURE = 27 PSF

PILE SPACING	MAXIMUM WALL HEIGHT (H)	PILE TYPE I	PILE TYPE II	PILE TYPE III	PILE TYPE III ALT.
		VERTICAL REINFORCING STEEL	VERTICAL REINFORCING STEEL	VERTICAL REINFORCING STEEL	VERTICAL REINFORCING STEEL
10' - 0"	H ≤ 20'	4 - #5 EA. FACE	4 - #5 EA. FACE	3 - #5 SHORT FACE 4 - #5 LONG FACE	3 - #5 SHORT FACE 4 - #5 LONG FACE
	20' < H ≤ 25'	4 - #6 EA. FACE	4 - #5 EA. FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE
	25' < H ≤ 30'	4 - #7 EA. FACE	4 - #7 EA. FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE
15' - 0"	H ≤ 20'	4 - #6 EA. FACE	4 - #5 EA. FACE	3 - #6 SHORT FACE 4 - #6 LONG FACE	3 - #6 SHORT FACE 4 - #6 LONG FACE
	20' < H ≤ 25'	4 - #7 EA. FACE	4 - #7 EA. FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE
	25' < H ≤ 30'	4 - #8 EA. FACE	4 - #8 EA. FACE	3 - #10 SHORT FACE 4 - #10 LONG FACE	3 - #10 SHORT FACE 4 - #10 LONG FACE
20' - 0"	H ≤ 20'	4 - #6 EA. FACE	4 - #6 EA. FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE
	20' < H ≤ 25'	4 - #8 EA. FACE	4 - #8 EA. FACE	3 - #9 SHORT FACE 4 - #9 LONG FACE	3 - #9 SHORT FACE 4 - #9 LONG FACE
	25' < H ≤ 30'	4 - #10 EA. FACE	4 - #10 EA. FACE	3 - #11 SHORT FACE 4 - #11 LONG FACE	3 - #11 SHORT FACE 4 - #11 LONG FACE

BILL OF MATERIAL

SOUND BARRIER WALL	27,890 S.F.
ARCHITECTURAL SURFACE TREATMENT	50,186 S.F.

QUANTITIES PROVIDED ARE APPROXIMATE AND ARE FOR BID PURPOSES ONLY.

ARCHITECTURAL SURFACE TREATMENT

TEXTURE OPTION:	ASHLAR STONE
STAIN OPTION:	GREY PALETTE COLOR #FS 36270



12/03/2024

NOTES

FOR SOUND BARRIER WALL, SEE SPECIAL PROVISIONS.

CONSTRUCT SOUND 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 6" MINIMUM EMBEDMENT OF THE BOTTOM PANEL.

USE CLASS AA CONCRETE FOR PANELS AND CLASS A CONCRETE FOR PILE EXCAVATION BACKFILL, IN ACCORDANCE WITH ARTICLE 1000-3 OF THE STANDARD SPECIFICATIONS.

AT THE CONTRACTOR'S OPTION, USE 10'-0", 15'-0", OR 20'-0" PILE SPACINGS. STANDARD PRECAST CONCRETE PANELS MAY BE USED WITH THE 10'-0" AND 15'-0" PILE SPACING. FOR 20'-0" PILE SPACING, PANELS DESIGNED AND MANUFACTURED BY A THIRD PARTY VENDER SHALL BE USED.

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

PLACE 1" 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.

LOCATION OF FIRE HYDRANT ACCESS PORTS SHALL BE FIELD LOCATED AND VERIFIED BY THE ENGINEER. ADDITIONAL REINFORCING SHALL BE AS NOTED ON SHEET 5 OF 6 AND SHALL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR LAYOUT AND DETAILS OF #3 TIE BARS, SEE STD. SBW3.

PROJECT NO. **I-5880****FORSYTH** COUNTYSTATION: **41+89.28 -L-**

SHEET 2 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGHSTANDARD
**SOUND BARRIER
WALL 4**
(CONCRETE PILES)

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			W-2
2			4			TOTAL SHEETS 6

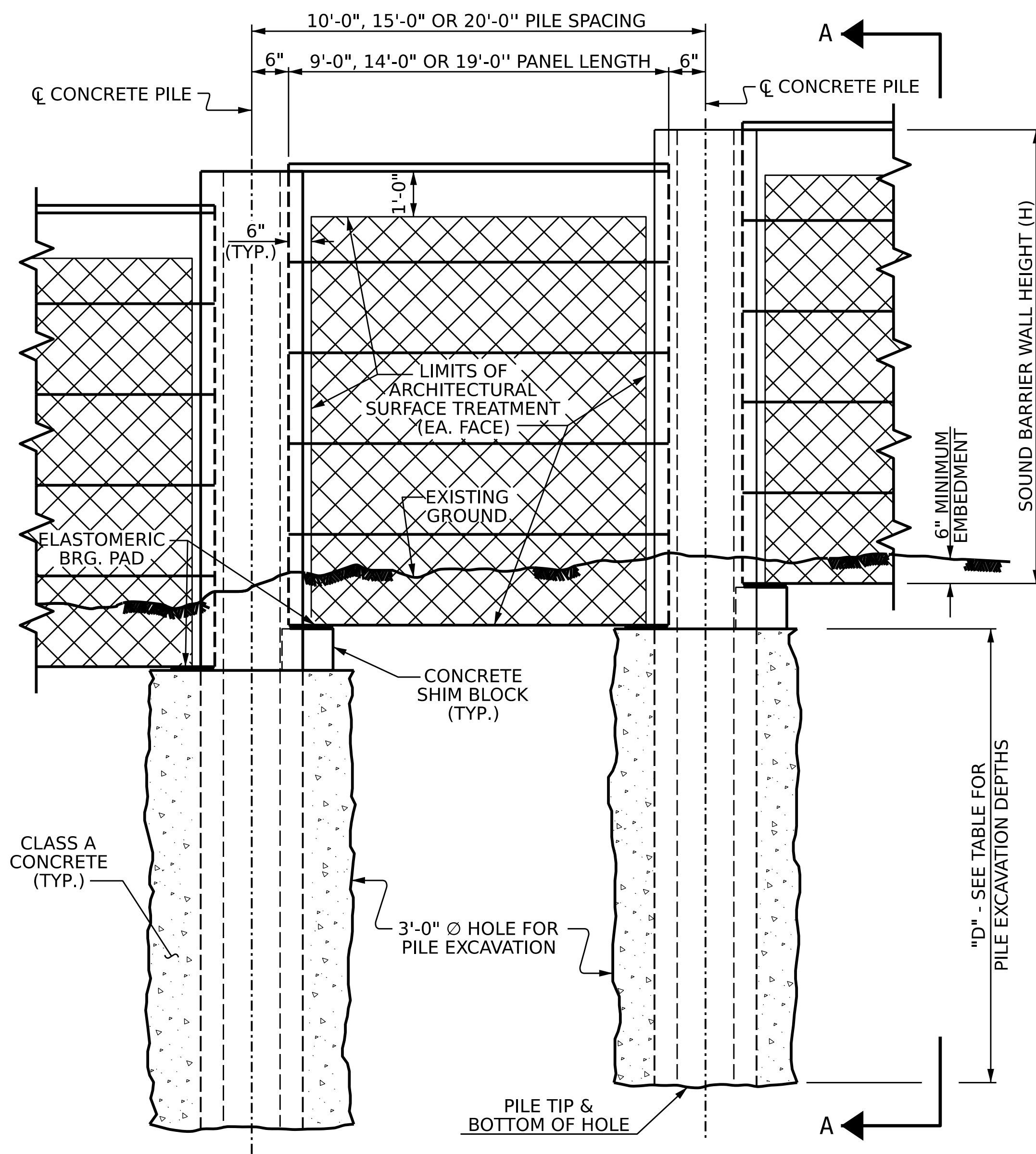
DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

STD. NO. SBW1

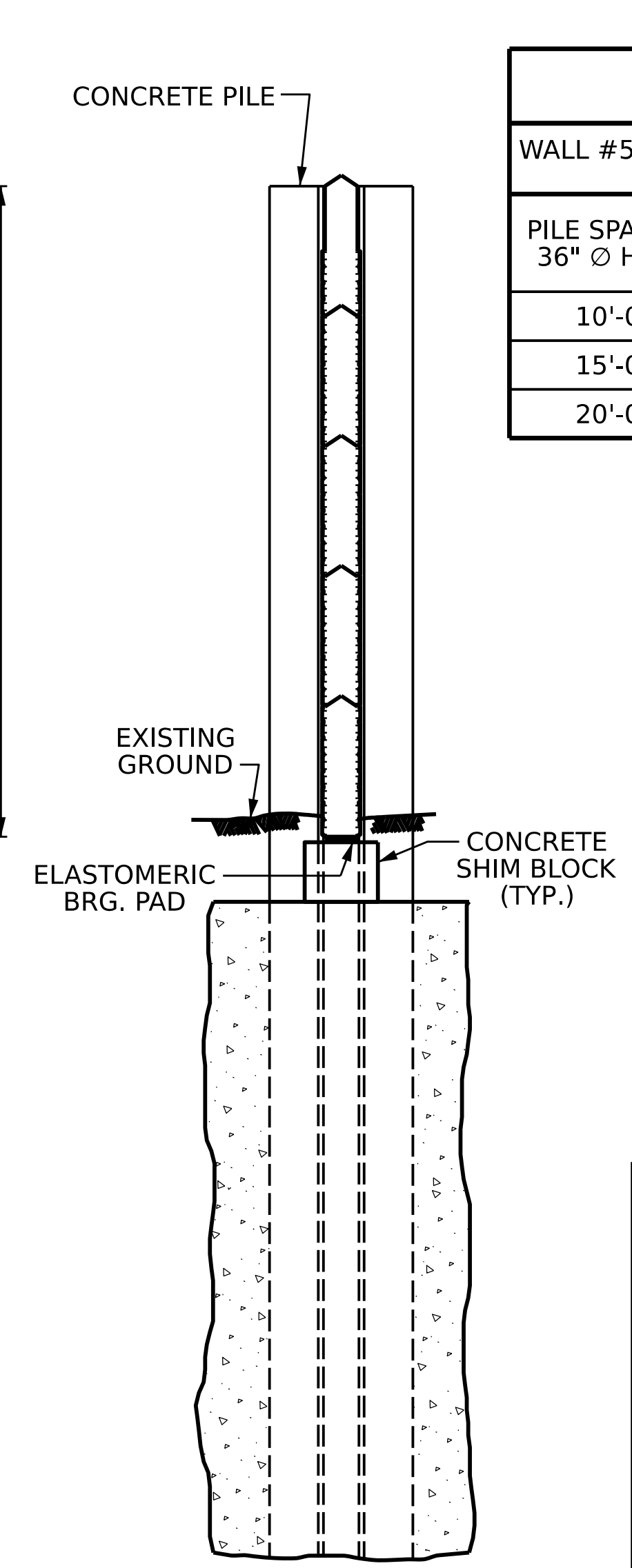
ASSEMBLED BY:	D. SHACKELFORD	DATE :	11/26/2024
CHECKED BY :	K.W. ALFORD	DATE :	11/27/2024
DRAWN BY :	MAA	6/11	REV. 10/17 MAA/THC
CHECKED BY :	GM	6/11	REV. 05/18 MAA/THC
			REV. 12/23 BNB/AYG

12/3/2024
C:\Users\drshackelford\Desktop\I5880\421.003.I5880_SMU.SBW4.001.dgn
drshackelford

8/26/21

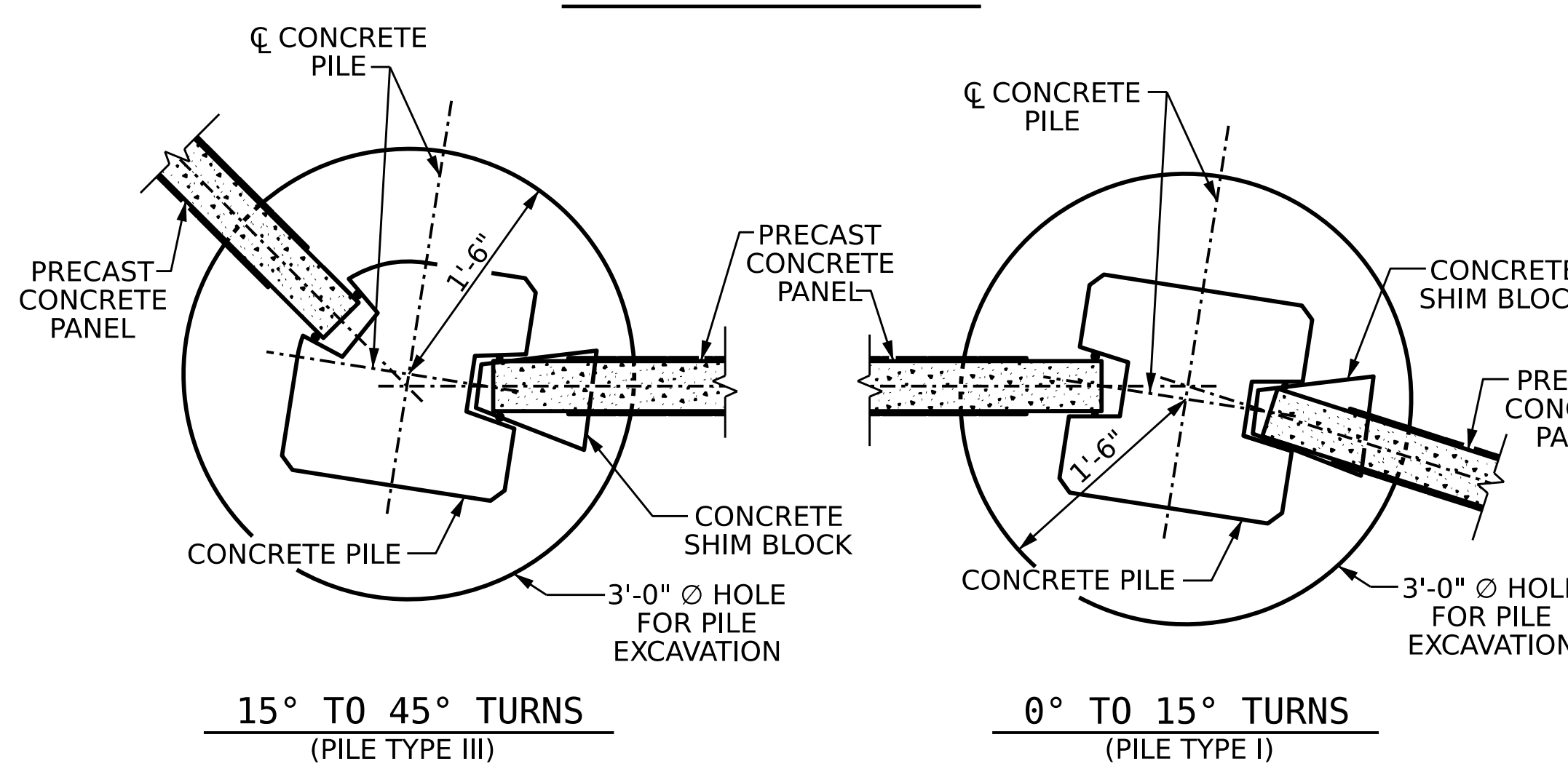


ELEVATION

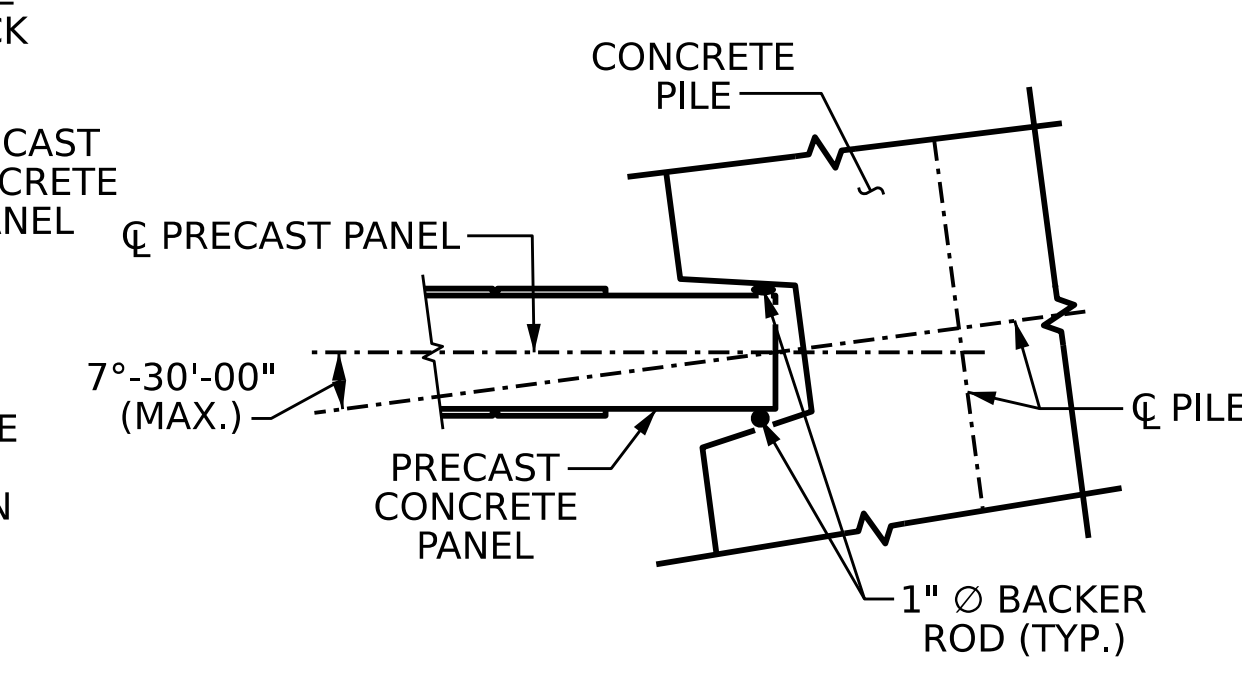


SECTION A-A

PILE EXCAVATION DEPTHS "D"				
WALL #5 FROM : STA. 24+42.26 -L- TO : STA. 35+36.72 -L-				
PILE SPACING 36" Ø HOLE	TABLE 27-3 WALL HEIGHT (H)			
	H ≤ 15'	15' < H ≤ 20'	20' < H ≤ 25'	25' < H ≤ 30'
10'-0"	8'-0"	9'-0"	10'-0"	11'-0"
15'-0"	9'-0"	10'-0"	11'-0"	12'-0"
20'-0"	10'-0"	11'-0"	12'-0"	14'-0"



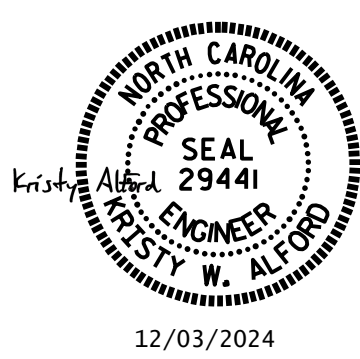
TYPICAL WALL TURN DETAILS



PILE ROTATION LIMIT FOR WALL TURN

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

BILL OF MATERIAL	
SOUND BARRIER WALL	21,895 S.F.
ARCHITECTURAL SURFACE TREATMENT	38,800 S.F.
QUANTITIES PROVIDED ARE APPROXIMATE AND ARE FOR BID PURPOSES ONLY.	
ARCHITECTURAL SURFACE TREATMENT	
TEXTURE OPTION:	ASHLAR STONE
STAIN OPTION:	GREY PALETTE COLOR #FS 36270



NOTES

- FOR SOUND BARRIER WALL, SEE SPECIAL PROVISIONS.
- CONSTRUCT SOUND 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 6" MINIMUM EMBEDMENT OF THE BOTTOM PANEL.
- USE CLASS AA CONCRETE FOR PANELS AND CLASS A CONCRETE FOR PILE EXCAVATION BACKFILL, IN ACCORDANCE WITH ARTICLE 1000-3 OF THE STANDARD SPECIFICATIONS.
- AT THE CONTRACTOR'S OPTION, USE 10'-0", 15'-0", OR 20'-0" PILE SPACINGS. STANDARD PRECAST CONCRETE PANELS MAY BE USED WITH THE 10'-0" AND 15'-0" PILE SPACING. FOR 20'-0" PILE SPACING, PANELS DESIGNED AND MANUFACTURED BY A THIRD PARTY VENDER SHALL BE USED.
- FOR SOUND BARRIER WALL STATIONS, OFFSETS, AND WALL ENVELOPE, SEE ROADWAY PLANS.
- PLACE 1" 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.
- LOCATION OF FIRE HYDRANT ACCESS PORTS SHALL BE FIELD LOCATED AND VERIFIED BY THE ENGINEER. ADDITIONAL REINFORCING SHALL BE AS NOTED ON SHEET 5 OF 6 AND SHALL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.
- SOUND BARRIER WALL 5 SHALL BE MADE WITH ABSORPTIVE MATERIALS RATHER THAN REFLECTIVE MATERIALS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR LAYOUT AND DETAILS OF #3 TIE BARS, SEE STD. SBW3.

PILE REINFORCING STEEL WIND EXPOSURE CATEGORY B, DESIGN WIND PRESSURE = 27 PSF					
PILE SPACING	MAXIMUM WALL HEIGHT (H)	PILE TYPE I	PILE TYPE II	PILE TYPE III	PILE TYPE III ALT.
		VERTICAL REINFORCING STEEL	VERTICAL REINFORCING STEEL	VERTICAL REINFORCING STEEL	VERTICAL REINFORCING STEEL
10' - 0"	H ≤ 20'	4 - #5 EA. FACE	4 - #5 EA. FACE	3 - #5 SHORT FACE 4 - #5 LONG FACE	3 - #5 SHORT FACE 4 - #5 LONG FACE
	20' < H ≤ 25'	4 - #6 EA. FACE	4 - #5 EA. FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE
	25' < H ≤ 30'	4 - #7 EA. FACE	4 - #7 EA. FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE
15' - 0"	H ≤ 20'	4 - #6 EA. FACE	4 - #5 EA. FACE	3 - #6 SHORT FACE 4 - #6 LONG FACE	3 - #6 SHORT FACE 4 - #6 LONG FACE
	20' < H ≤ 25'	4 - #7 EA. FACE	4 - #7 EA. FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE
	25' < H ≤ 30'	4 - #8 EA. FACE	4 - #8 EA. FACE	3 - #10 SHORT FACE 4 - #10 LONG FACE	3 - #10 SHORT FACE 4 - #10 LONG FACE
20' - 0"	H ≤ 20'	4 - #6 EA. FACE	4 - #6 EA. FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE
	20' < H ≤ 25'	4 - #8 EA. FACE	4 - #8 EA. FACE	3 - #9 SHORT FACE 4 - #9 LONG FACE	3 - #9 SHORT FACE 4 - #9 LONG FACE
	25' < H ≤ 30'	4 - #10 EA. FACE	4 - #10 EA. FACE	3 - #11 SHORT FACE 4 - #11 LONG FACE	3 - #11 SHORT FACE 4 - #11 LONG FACE

PROJECT NO. **I-5880**
FORSYTH COUNTY
STATION: **24+42.26 -L-**

SHEET 3 OF 6					
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD SOUND BARRIER WALL 5 (CONCRETE PILES)					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	
1			3		W-3
2			4		TOTAL SHEETS 6

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

ASSEMBLED BY: D. SHACKELFORD	DATE: 11/26/2024
CHECKED BY: K.W. ALFORD	DATE: 11/27/2024
DRAWN BY: MAA	6/11
CHECKED BY: GM	6/11
REV. 10/17	MAA/THC
REV. 05/18	MAA/THC
REV. 12/23	BNB/AYG

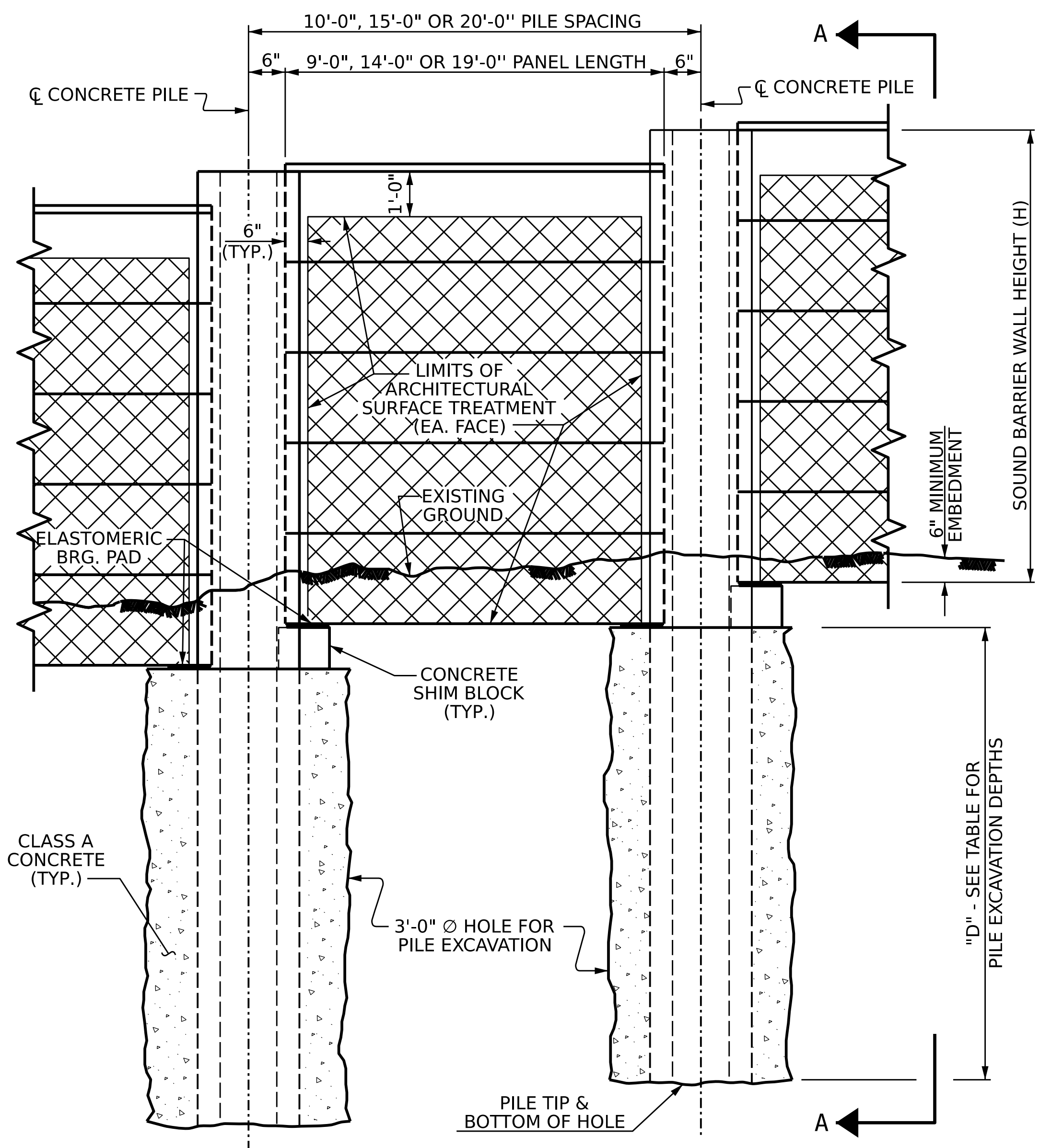
12/3/2024
C:\Users\drshackelford\l\Desktop\I5880\422.005.I5880.SMU.SBW5.001.dgn
drshackelford

STD. NO. SBW1

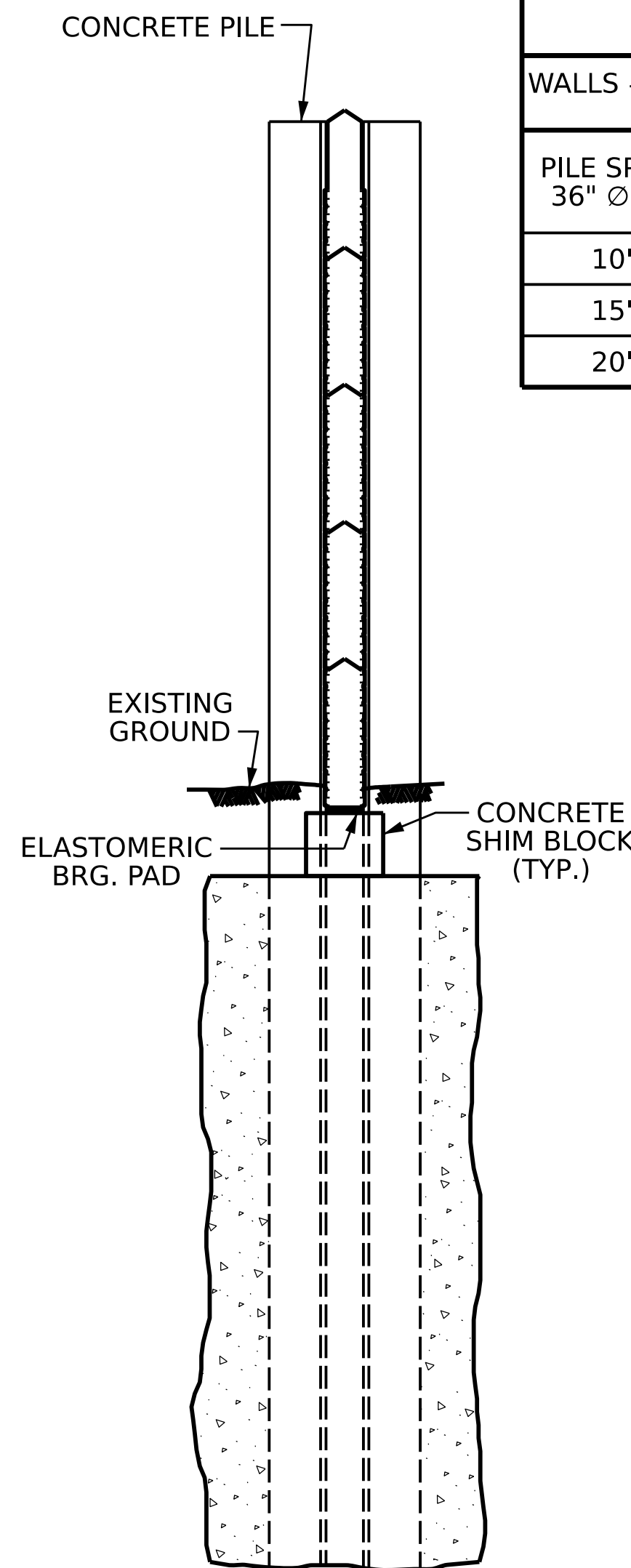
8/26/21

±

±



ELEVATION



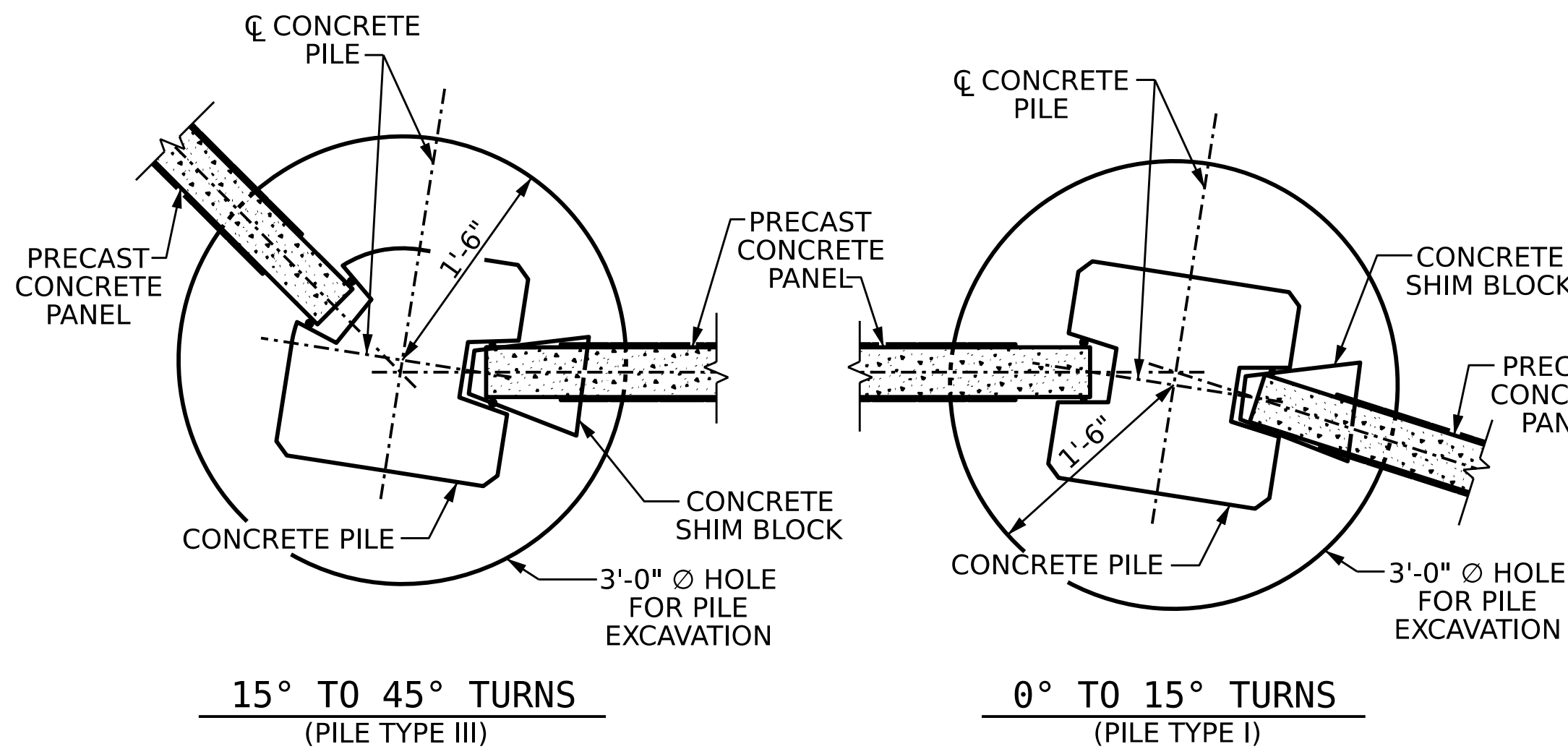
SECTION A-A

PILE EXCAVATION DEPTHS "D"				
WALLS #6 & #7 FROM : STA. 38+06.05 -L- TO : STA. 59+75.04 -L-				
PILE SPACING 36" Ø HOLE	TABLE 27-3 WALL HEIGHT (H)			
	H ≤ 15'	15' < H ≤ 20'	20' < H ≤ 25'	25' < H ≤ 30'
10'-0"	8'-0"	9'-0"	10'-0"	11'-0"
15'-0"	9'-0"	10'-0"	11'-0"	12'-0"
20'-0"	10'-0"	11'-0"	12'-0"	14'-0"

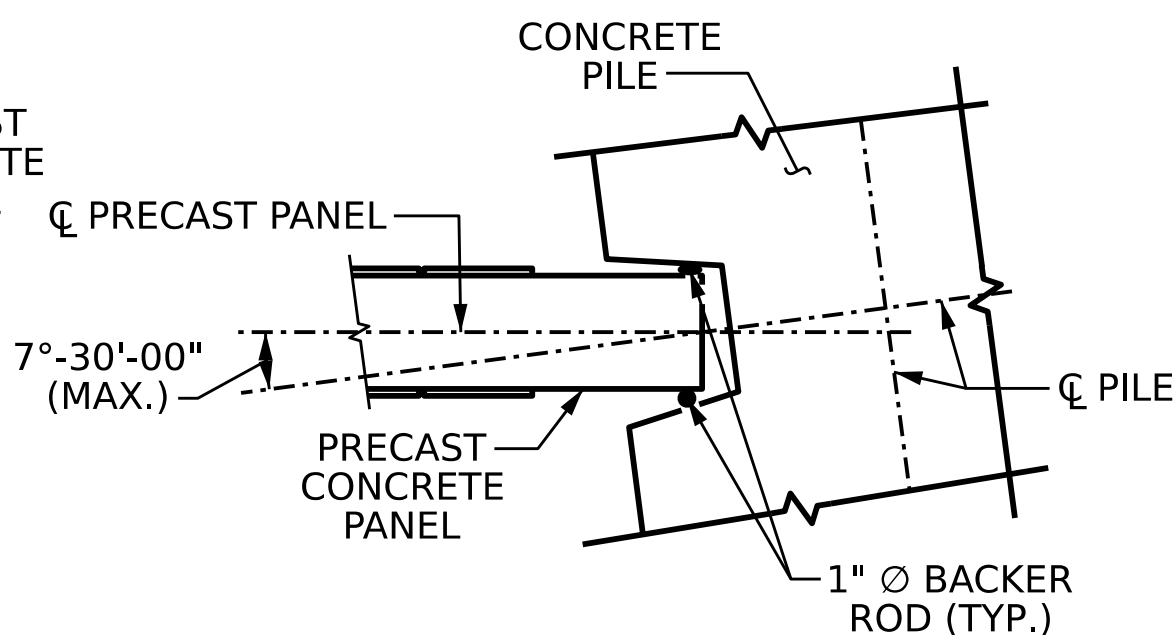
NOTES

- FOR SOUND BARRIER WALL, SEE SPECIAL PROVISIONS.
- CONSTRUCT SOUND 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 6" MINIMUM EMBEDMENT OF THE BOTTOM PANEL.
- USE CLASS AA CONCRETE FOR PANELS AND CLASS A CONCRETE FOR PILE EXCAVATION BACKFILL, IN ACCORDANCE WITH ARTICLE 1000-3 OF THE STANDARD SPECIFICATIONS.
- AT THE CONTRACTOR'S OPTION, USE 10'-0", 15'-0", OR 20'-0" PILE SPACINGS. STANDARD PRECAST CONCRETE PANELS MAY BE USED WITH THE 10'-0" AND 15'-0" PILE SPACING. FOR 20'-0" PILE SPACING, PANELS DESIGNED AND MANUFACTURED BY A THIRD PARTY VENDER SHALL BE USED.
- FOR SOUND BARRIER WALL STATIONS, OFFSETS, AND WALL ENVELOPE, SEE ROADWAY PLANS.
- PLACE 1" 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.
- LOCATION OF FIRE HYDRANT ACCESS PORTS SHALL BE FIELD LOCATED AND VERIFIED BY THE ENGINEER. ADDITIONAL REINFORCING SHALL BE AS NOTED ON SHEET 5 OF 6 AND SHALL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR LAYOUT AND DETAILS OF #3 TIE BARS, SEE STD. SBW3.

PILE REINFORCING STEEL WIND EXPOSURE CATEGORY B, DESIGN WIND PRESSURE = 27 PSF					
		PILE TYPE I	PILE TYPE II	PILE TYPE III	PILE TYPE III ALT.
PILE SPACING	MAXIMUM WALL HEIGHT (H)	VERTICAL REINFORCING STEEL	VERTICAL REINFORCING STEEL	VERTICAL REINFORCING STEEL	VERTICAL REINFORCING STEEL
10' - 0"	H ≤ 20'	4 - #5 EA. FACE	4 - #5 EA. FACE	3 - #5 SHORT FACE 4 - #5 LONG FACE	3 - #5 SHORT FACE 4 - #5 LONG FACE
	20' < H ≤ 25'	4 - #6 EA. FACE	4 - #5 EA. FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE
	25' < H ≤ 30'	4 - #7 EA. FACE	4 - #7 EA. FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE
15' - 0"	H ≤ 20'	4 - #6 EA. FACE	4 - #5 EA. FACE	3 - #6 SHORT FACE 4 - #6 LONG FACE	3 - #6 SHORT FACE 4 - #6 LONG FACE
	20' < H ≤ 25'	4 - #7 EA. FACE	4 - #7 EA. FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE	3 - #8 SHORT FACE 4 - #8 LONG FACE
	25' < H ≤ 30'	4 - #8 EA. FACE	4 - #8 EA. FACE	3 - #10 SHORT FACE 4 - #10 LONG FACE	3 - #10 SHORT FACE 4 - #10 LONG FACE
20' - 0"	H ≤ 20'	4 - #6 EA. FACE	4 - #6 EA. FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE	3 - #7 SHORT FACE 4 - #7 LONG FACE
	20' < H ≤ 25'	4 - #8 EA. FACE	4 - #8 EA. FACE	3 - #9 SHORT FACE 4 - #9 LONG FACE	3 - #9 SHORT FACE 4 - #9 LONG FACE
	25' < H ≤ 30'	4 - #10 EA. FACE	4 - #10 EA. FACE	3 - #11 SHORT FACE 4 - #11 LONG FACE	3 - #11 SHORT FACE 4 - #11 LONG FACE



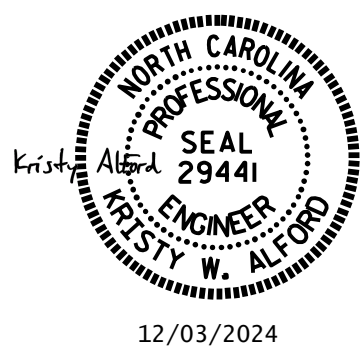
TYPICAL WALL TURN DETAILS



PILE ROTATION LIMIT FOR WALL TURN

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

BILL OF MATERIAL	
SOUND BARRIER WALL	59,040 S.F.
ARCHITECTURAL SURFACE TREATMENT	105,896 S.F.
QUANTITIES PROVIDED ARE APPROXIMATE AND ARE FOR BID PURPOSES ONLY.	
ARCHITECTURAL SURFACE TREATMENT	
TEXTURE OPTION:	ASHLAR STONE
STAIN OPTION:	GREY PALETTE COLOR #FS 36270



PROJECT NO. **I-5880**
FORSYTH COUNTY
STATION: **38+06.05 -L-**

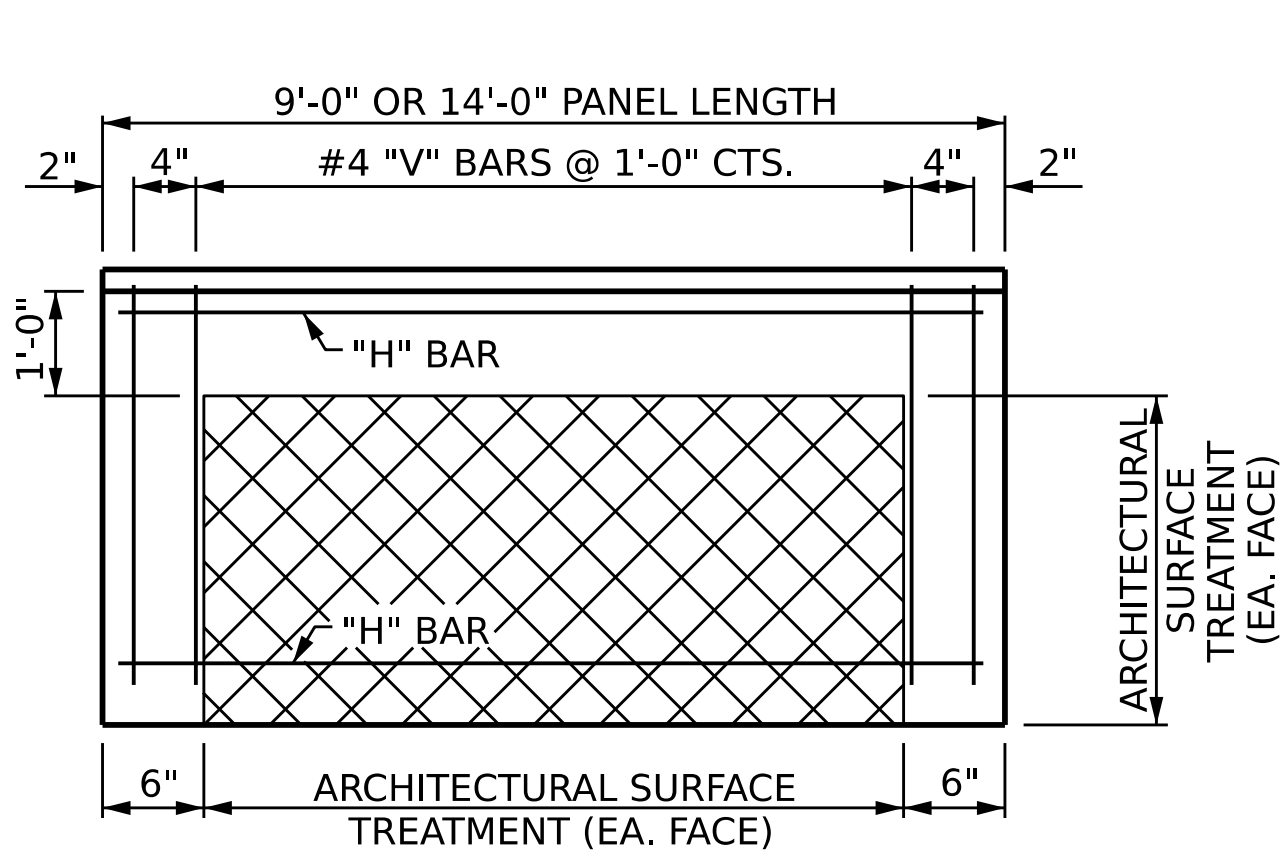
SHEET 4 OF 6

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD SOUND BARRIER WALLS 6 & 7 (CONCRETE PILES)					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED					W-4 TOTAL SHEETS 6

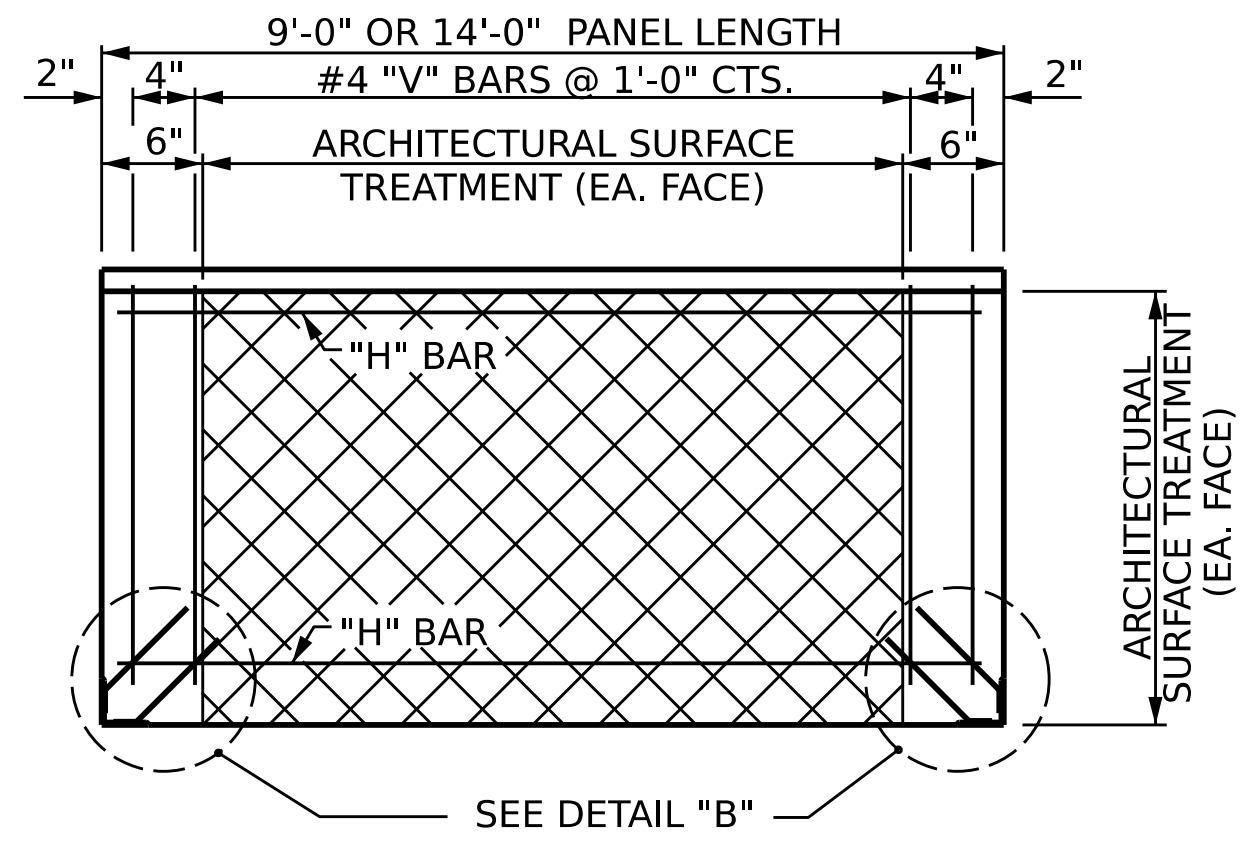
STD. NO. SBW1

ASSEMBLED BY: D. SHACKELFORD	DATE: 11/26/2024
CHECKED BY: K.W. ALFORD	DATE: 11/27/2024
DRAWN BY: MAA	6/11
CHECKED BY: GM	6/11
REV. 10/17	MAA/THC
REV. 05/18	MAA/THC
REV. 12/23	BNB/AYG

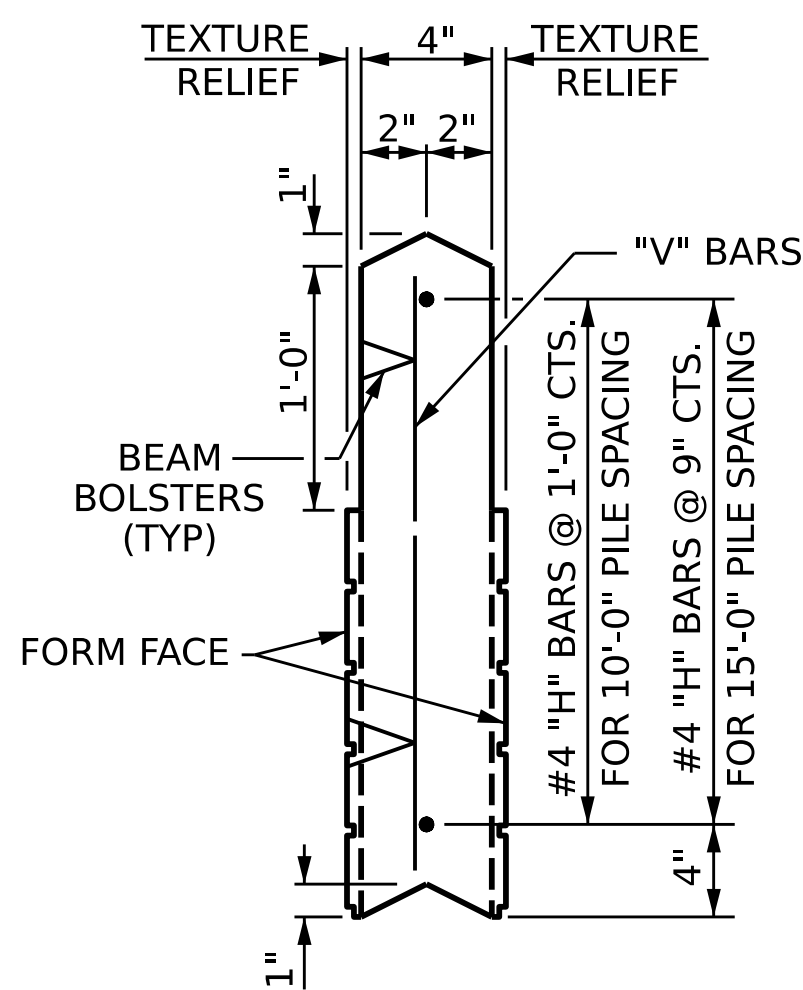
12/3/2024
C:\Users\drshackelford\OneDrive\Desktop\I5880\423.007.I5880_SMU.SBW6&7.001.dgn
drshackelford



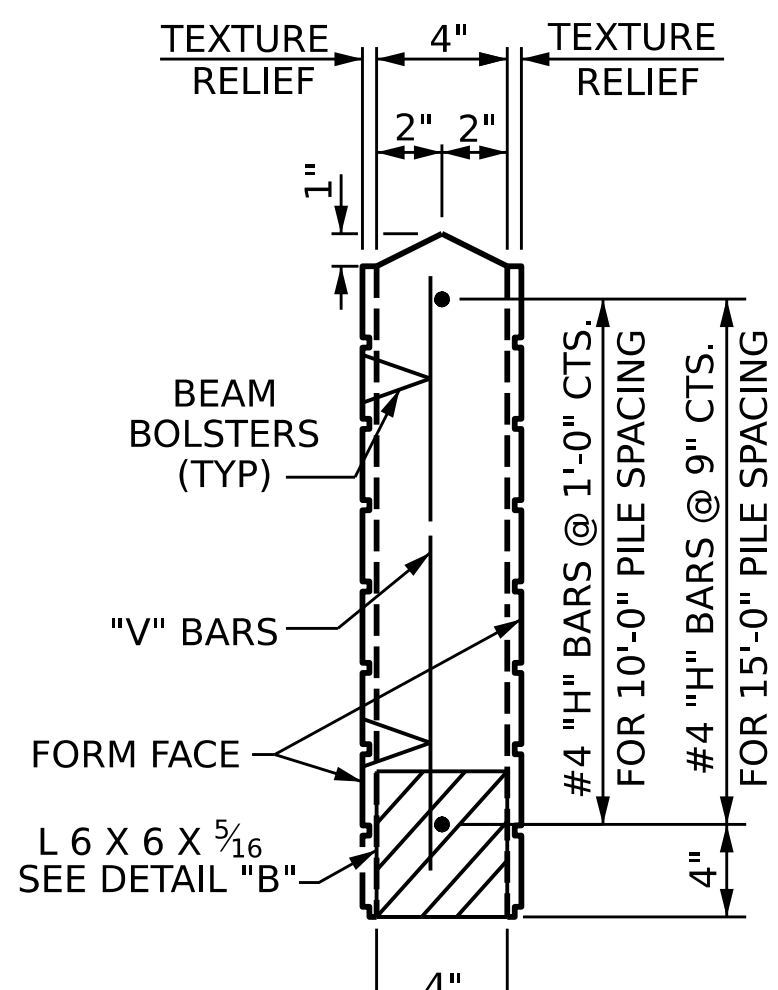
FRONT ELEVATION
OF UPPER PRECAST PANEL



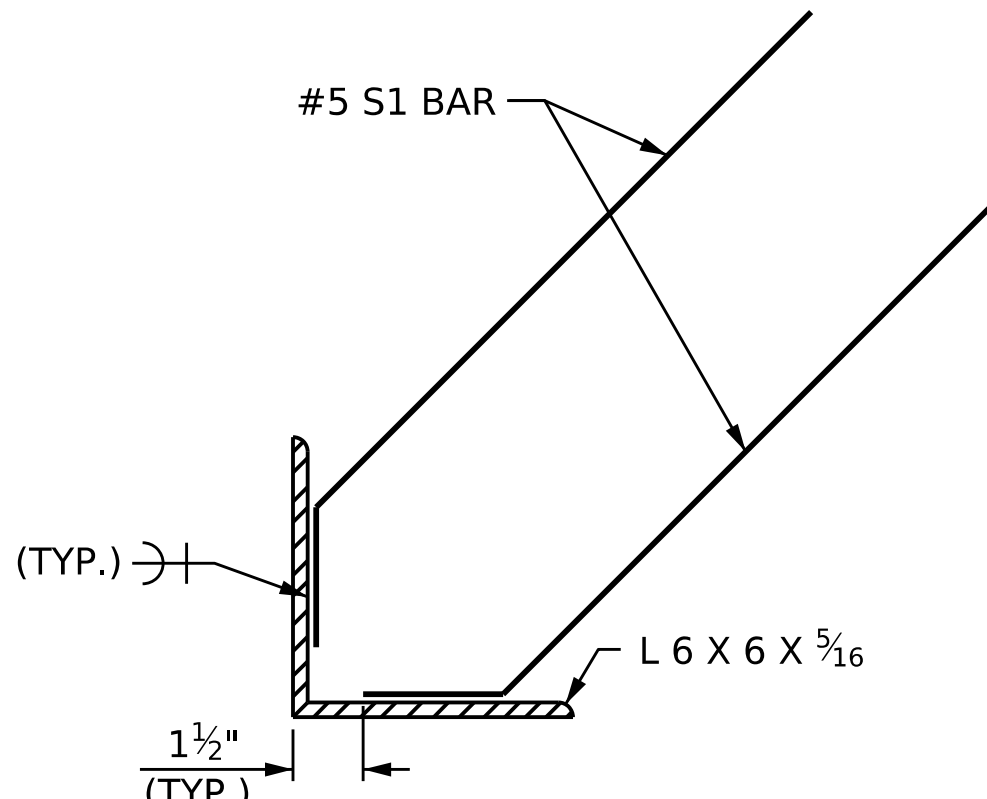
FRONT ELEVATION
OF BOTTOM PRECAST PANEL



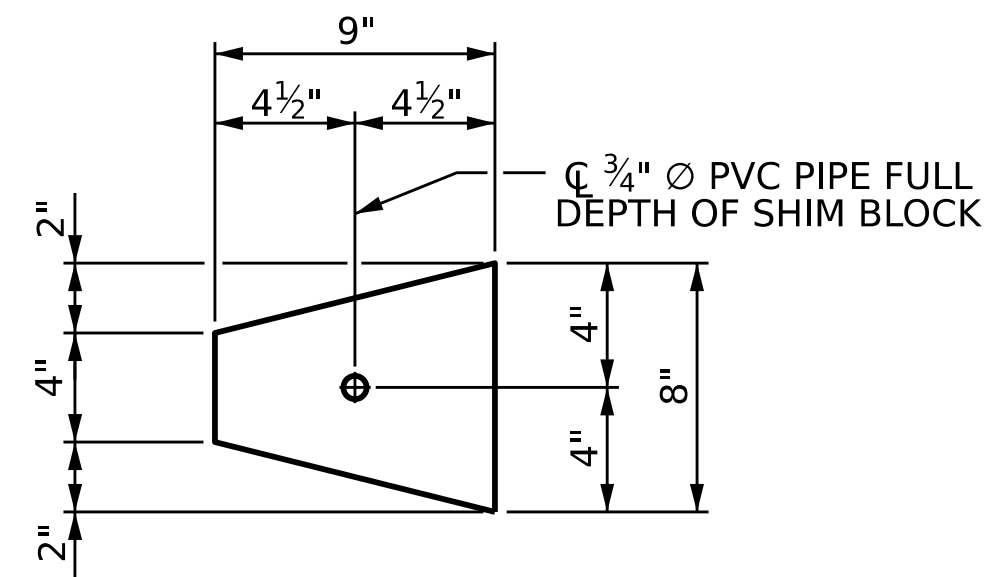
UPPER PANEL



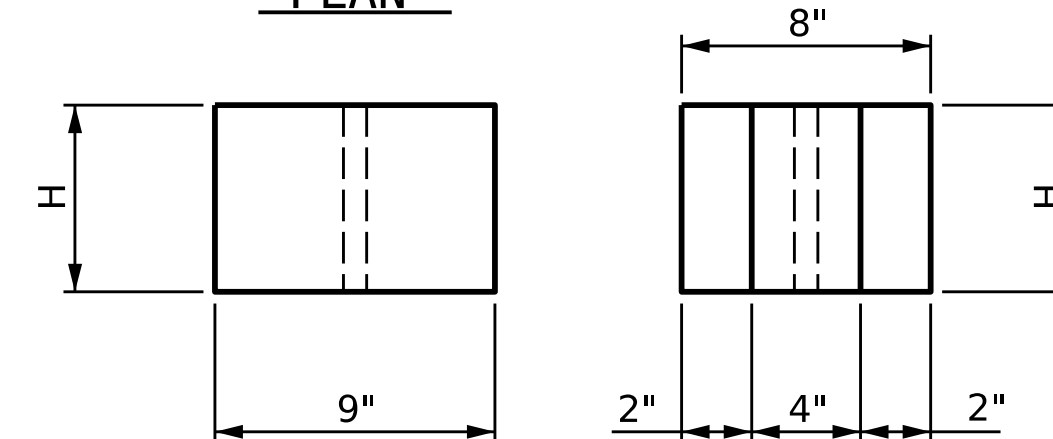
BOTTOM PANEL



DETAIL "B"



PLAN

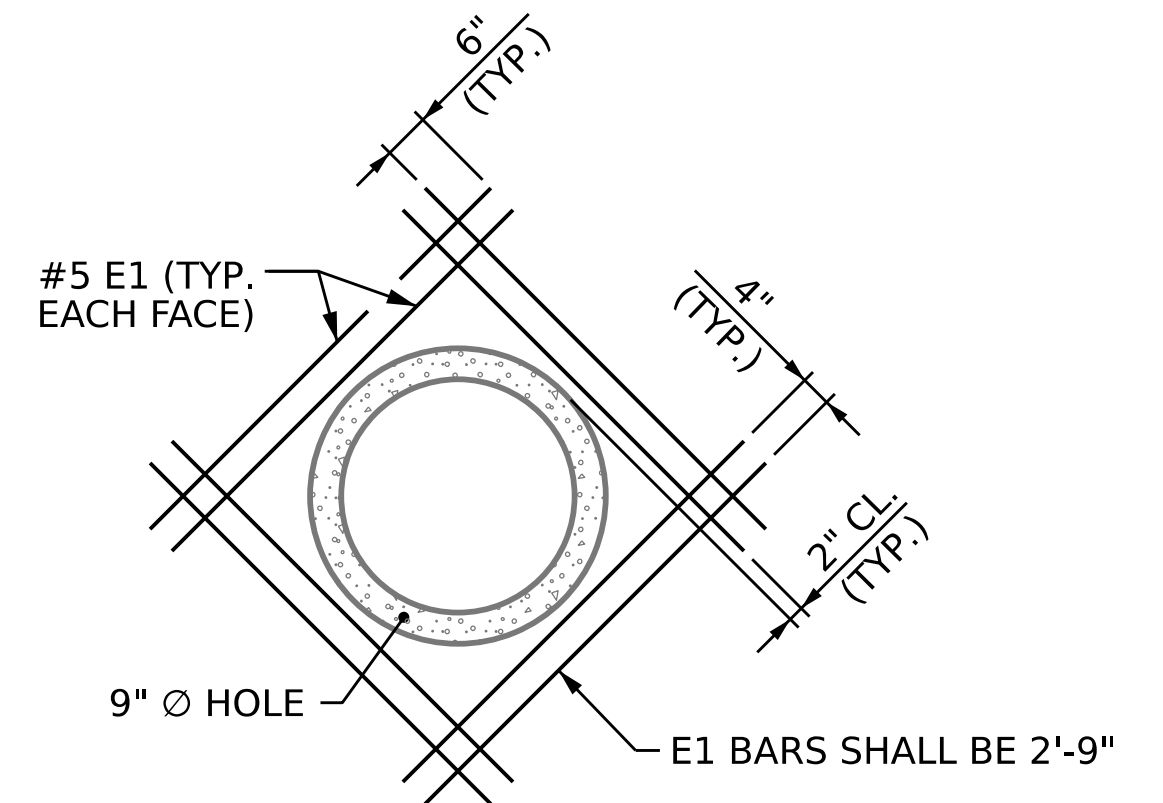


ELEVATION

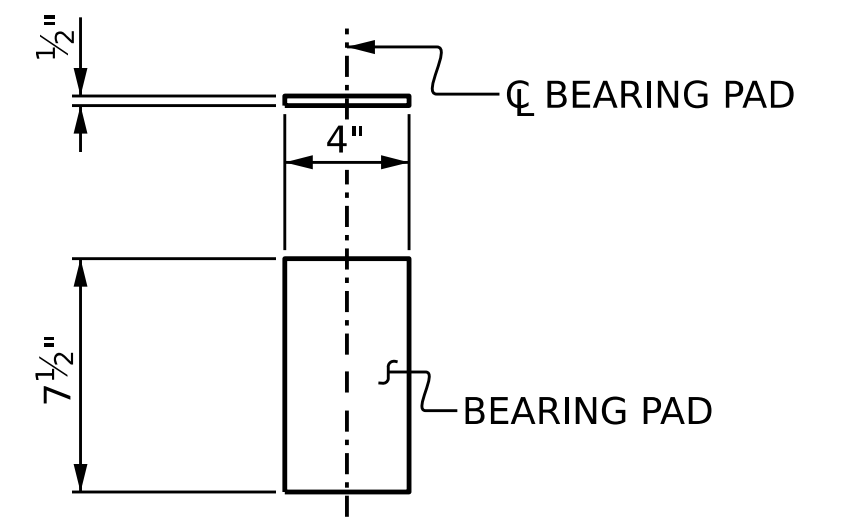
END

CONCRETE SHIM BLOCK

H = 3", 6" or 1'-0"



REINFORCING DETAILS OF
FIRE HYDRANT ACCESS PORT



ELASTOMERIC
BEARING DETAILS

ELASTOMER IN BEARINGS SHALL
BE 50 DUROMETER HARDNESS.

PROJECT NO. **I-5880**
FORSYTH COUNTY
STATION: **20+01.06 -L-**

SHEET 5 OF 6



12/02/2024

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
**SOUND BARRIER WALL
DETAILS**
(CONCRETE PILES)

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					W-5 6

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

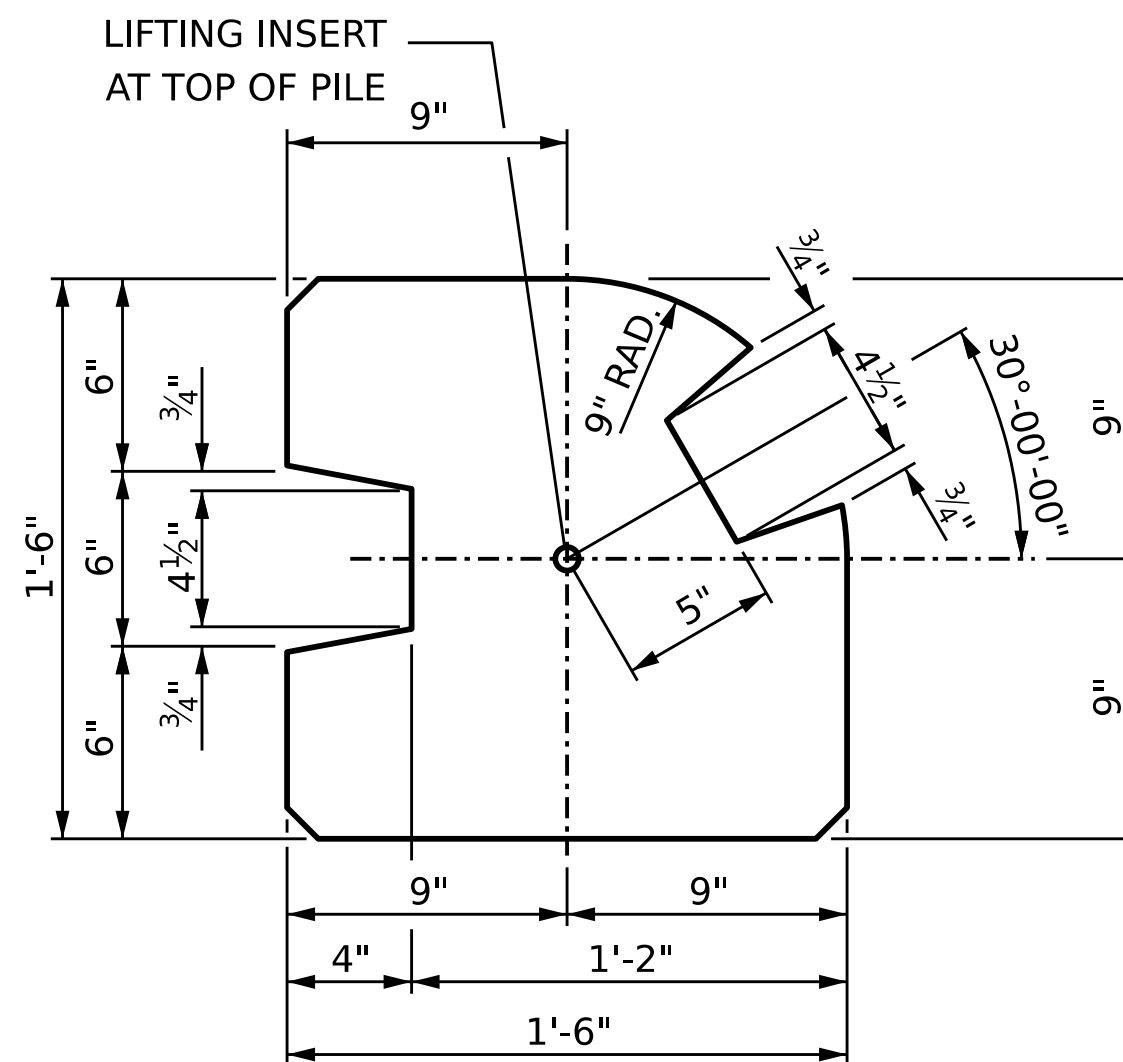
STD. NO. SBW2

ASSEMBLED BY: D. SHACKELFORD DATE: 11/26/2024
CHECKED BY: K.W. ALFORD DATE: 11/27/2024
DRAWN BY: MAA 6/II REV. 10/17 MAA/THC
CHECKED BY: GM 6/II REV. 05/18 MAA/THC
REV. 12/23 BNB/AYG

12/2/2024
C:\User's d\shackelford\I5880\STD SBW2 DETAILS.dgn
d\shackelford

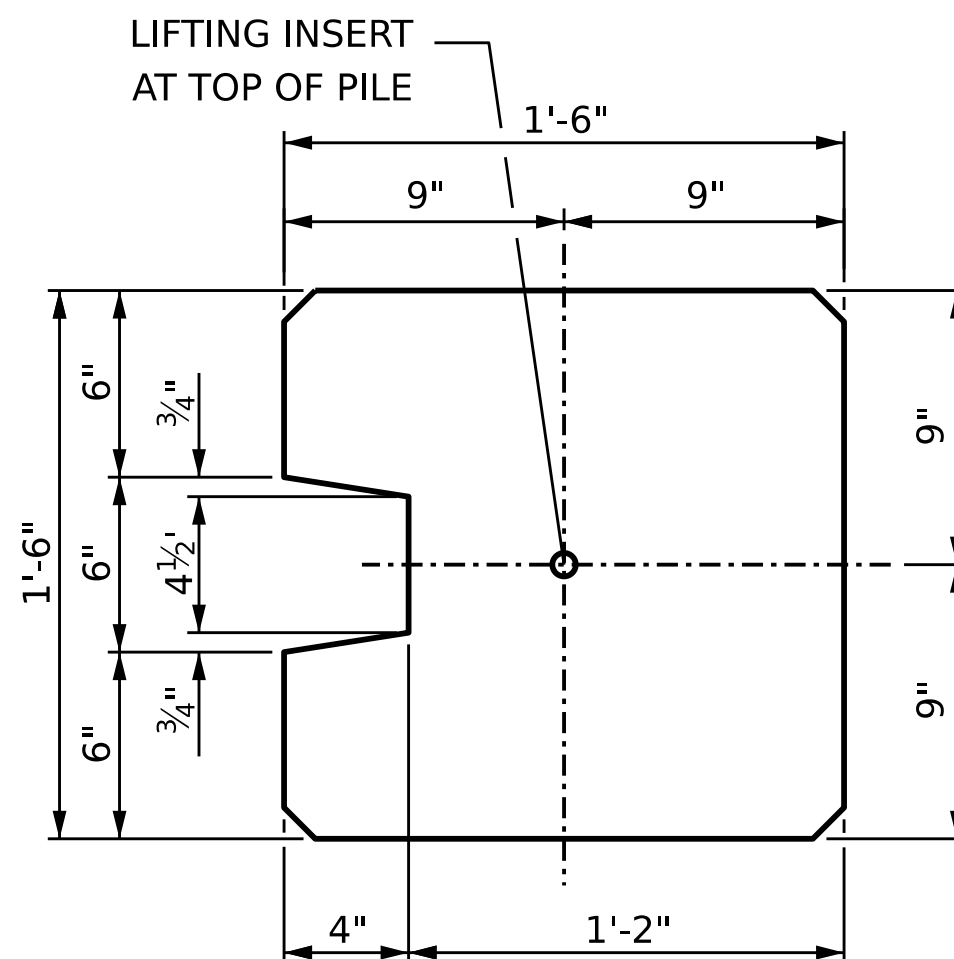
PILE DETAIL

(ALL CORNERS TO BE CHAMFERED 1")



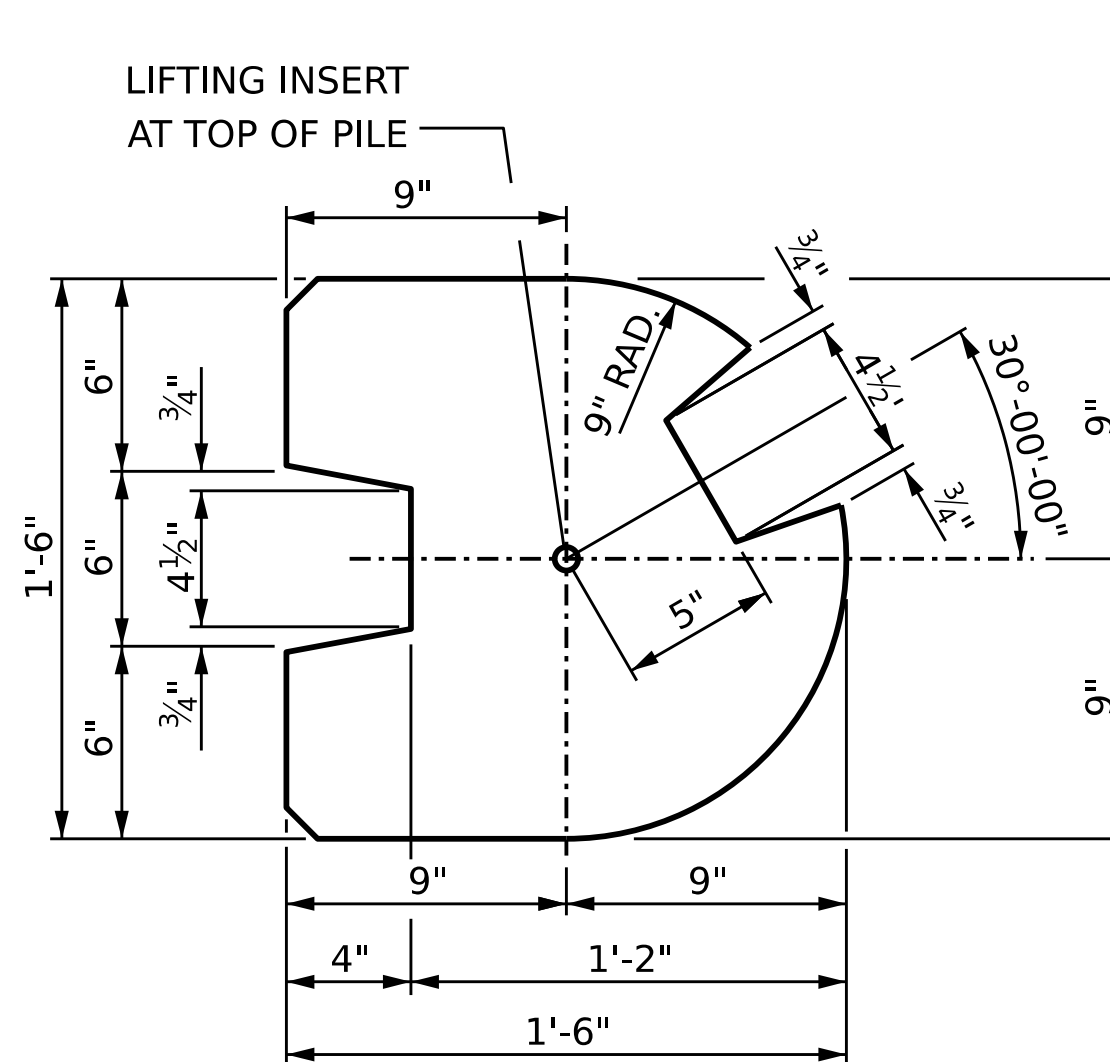
TYPE - I

(AREA = 1.9444 SQ. FT.)



TYPE - II

(AREA = 2.0903 SQ. FT.)

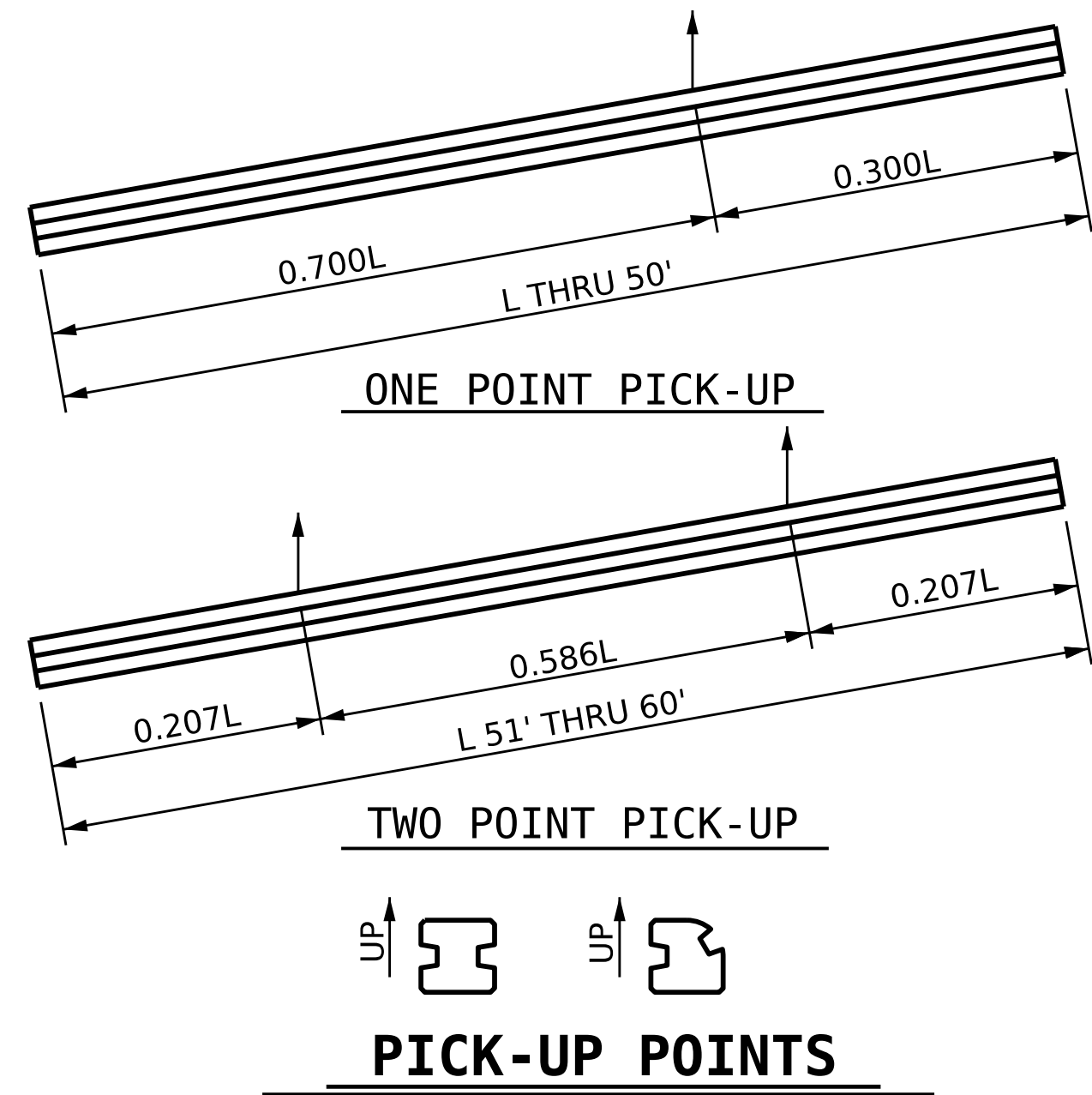
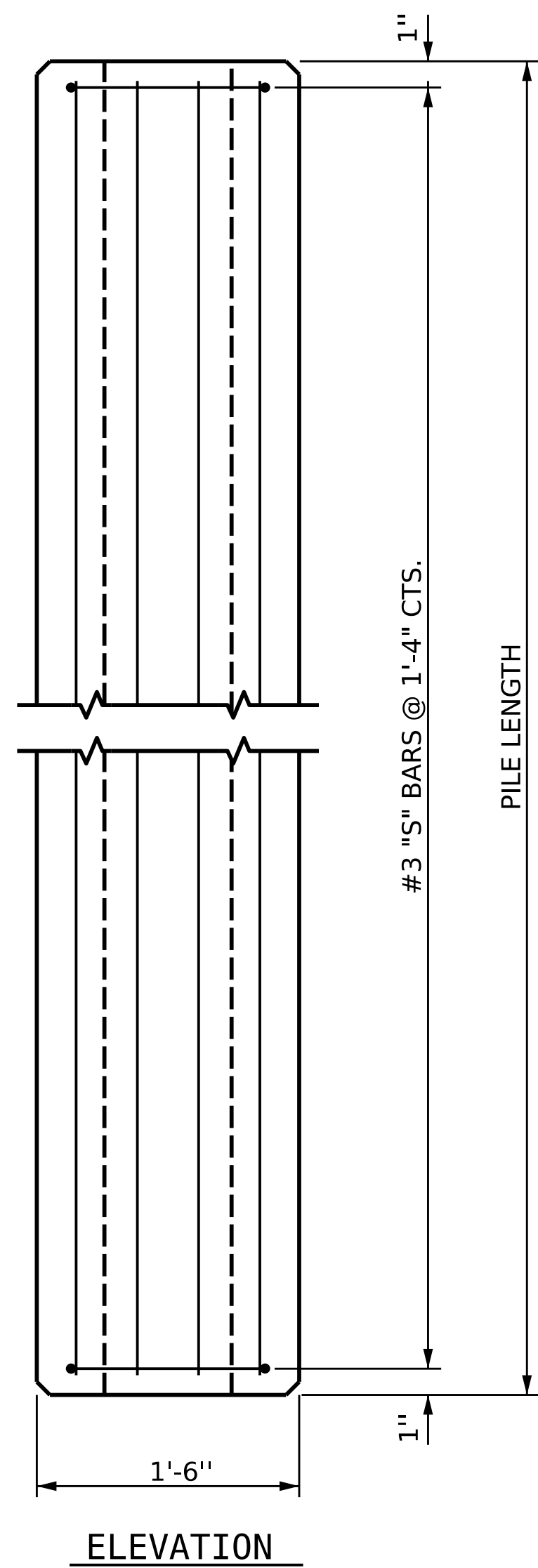


TYPE - III (ALT.)

(AREA = 1.7163 SQ. FT.)

TYPE - III

(AREA = 1.8336 SQ. FT.)



NOTES

CONCRETE DESIGN DATA : $f'c = 5,000$ PSI

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 2" WIDE.

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

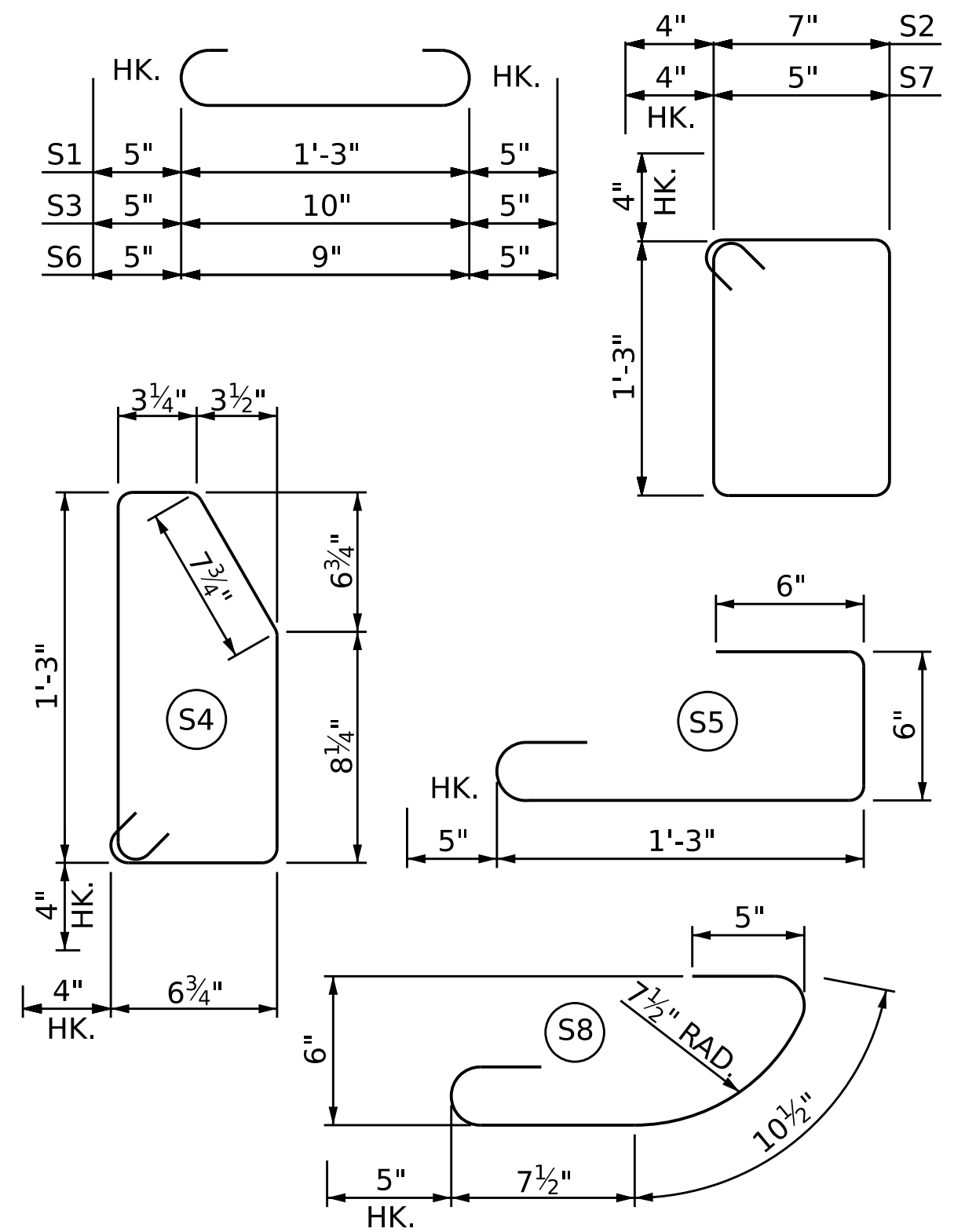
ALL CORNERS TO BE CHAMFERED 1".

#3 @ 1'-4" CTS. TIES TO BE USED WITH ALL PILE TYPES.

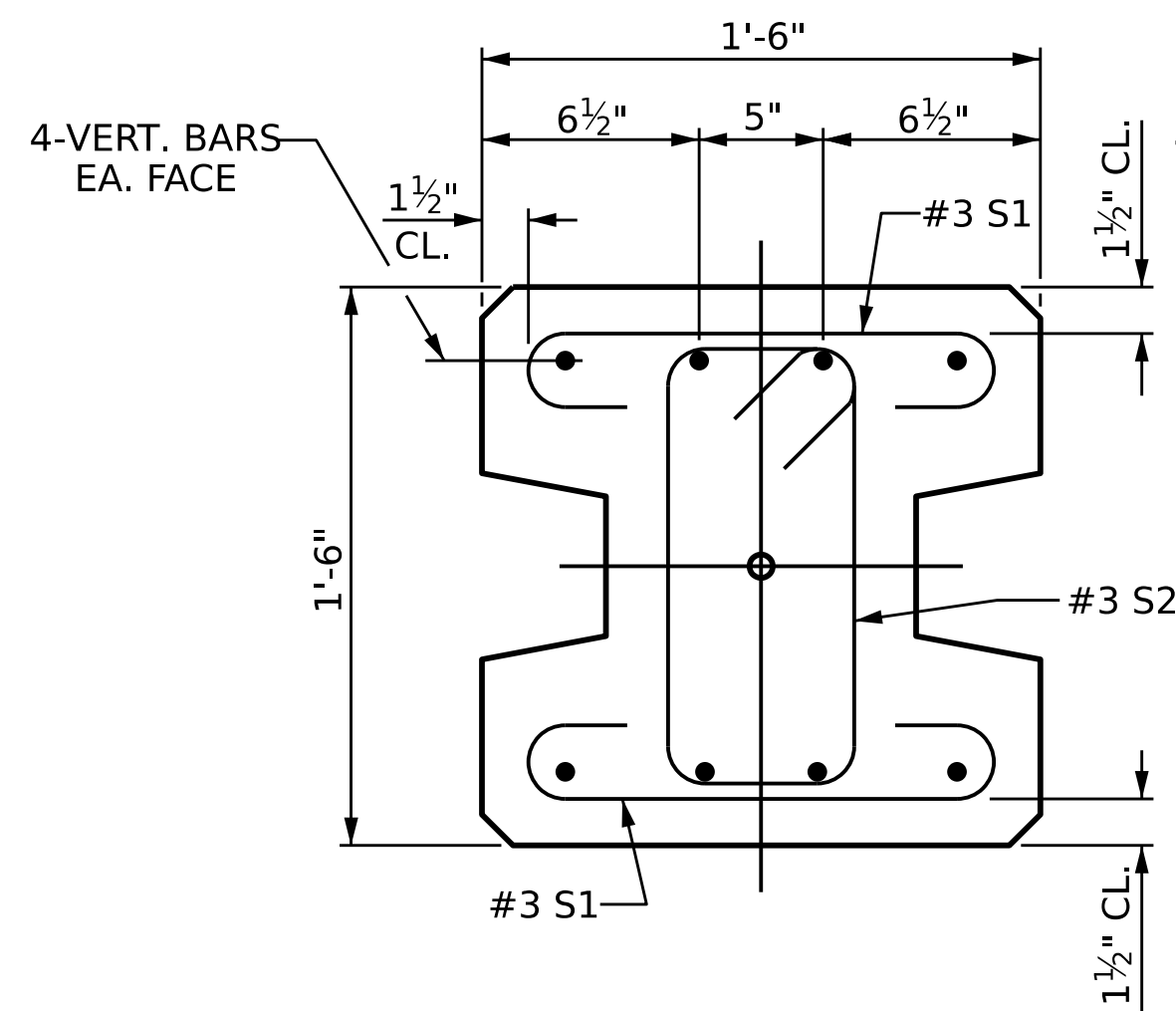
QUANTITIES FOR ONE PRECAST CONCRETE PILE

LENGTH	APPROX. PILE WT. TONS	ONE PICK-UP POINT		TWO PICK-UP POINTS	
		0.300L	0.700L	0.207L	0.586L
10'-0"	1.56	3'-0"	7'-0"		
15'-0"	2.35	4'-6"	10'-6"		
20'-0"	3.14	6'-0"	14'-0"		
25'-0"	3.93	7'-6"	17'-6"		
30'-0"	4.70	9'-0"	21'-0"		
35'-0"	5.49	10'-6"	24'-6"		
40'-0"	6.28	12'-0"	28'-0"		
45'-0"	7.05	13'-6"	31'-6"		
50'-0"	7.84	15'-0"	35'-0"		
55'-0"	8.63			11'-4½"	32'-3"
60'-0"	9.42			12'-5"	35'-2"

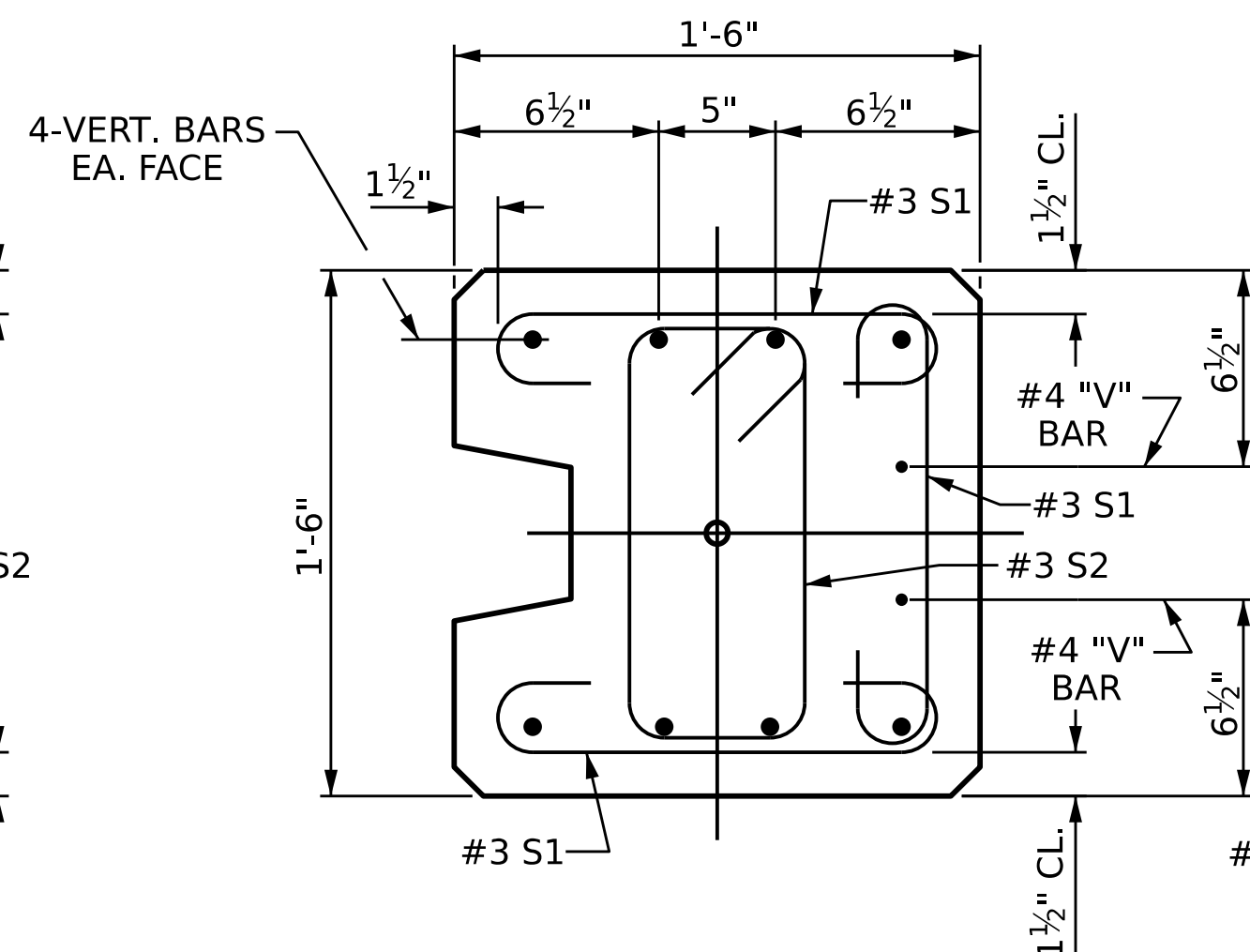
BAR TYPES



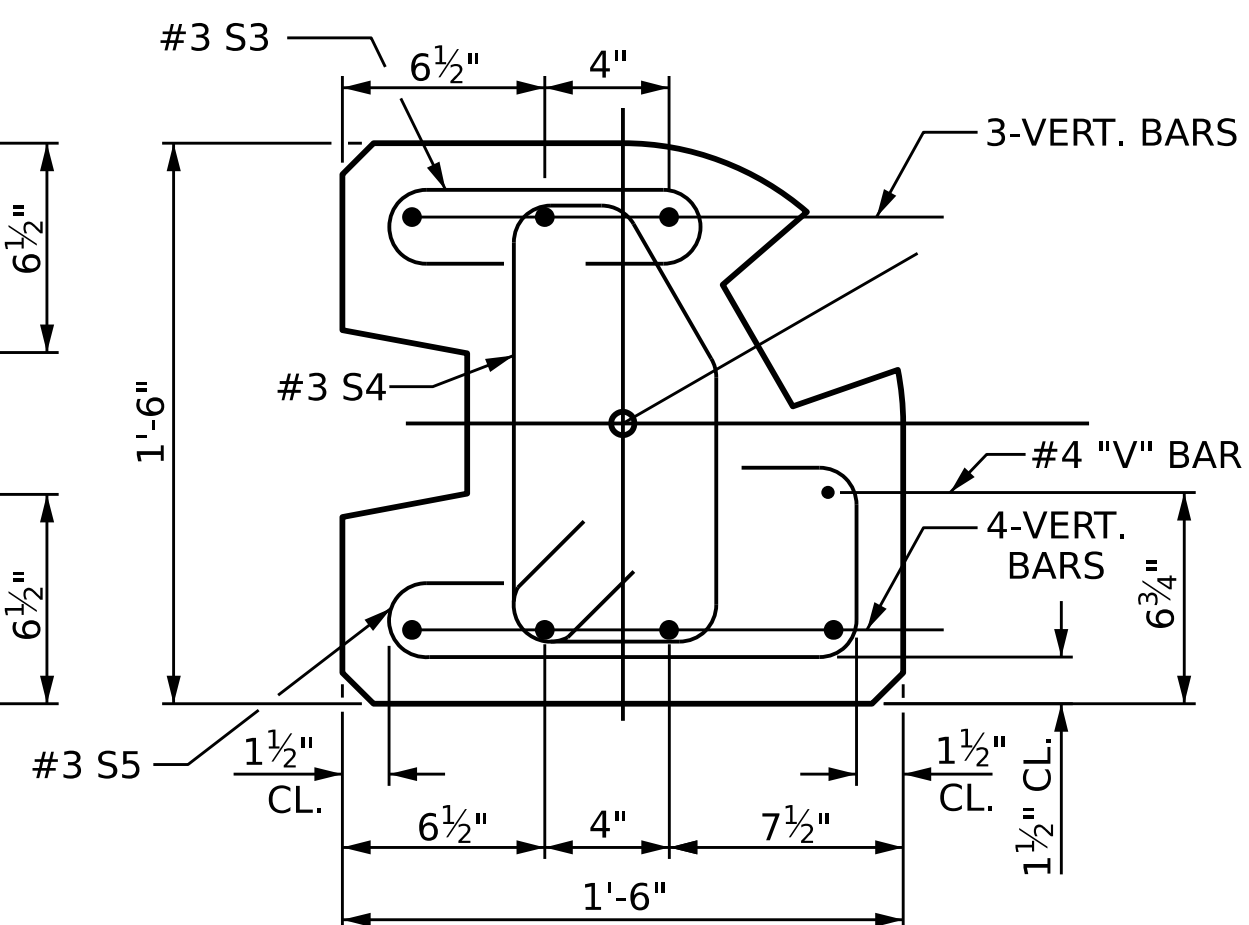
ALL BAR DIMENSIONS ARE OUT TO OUT.



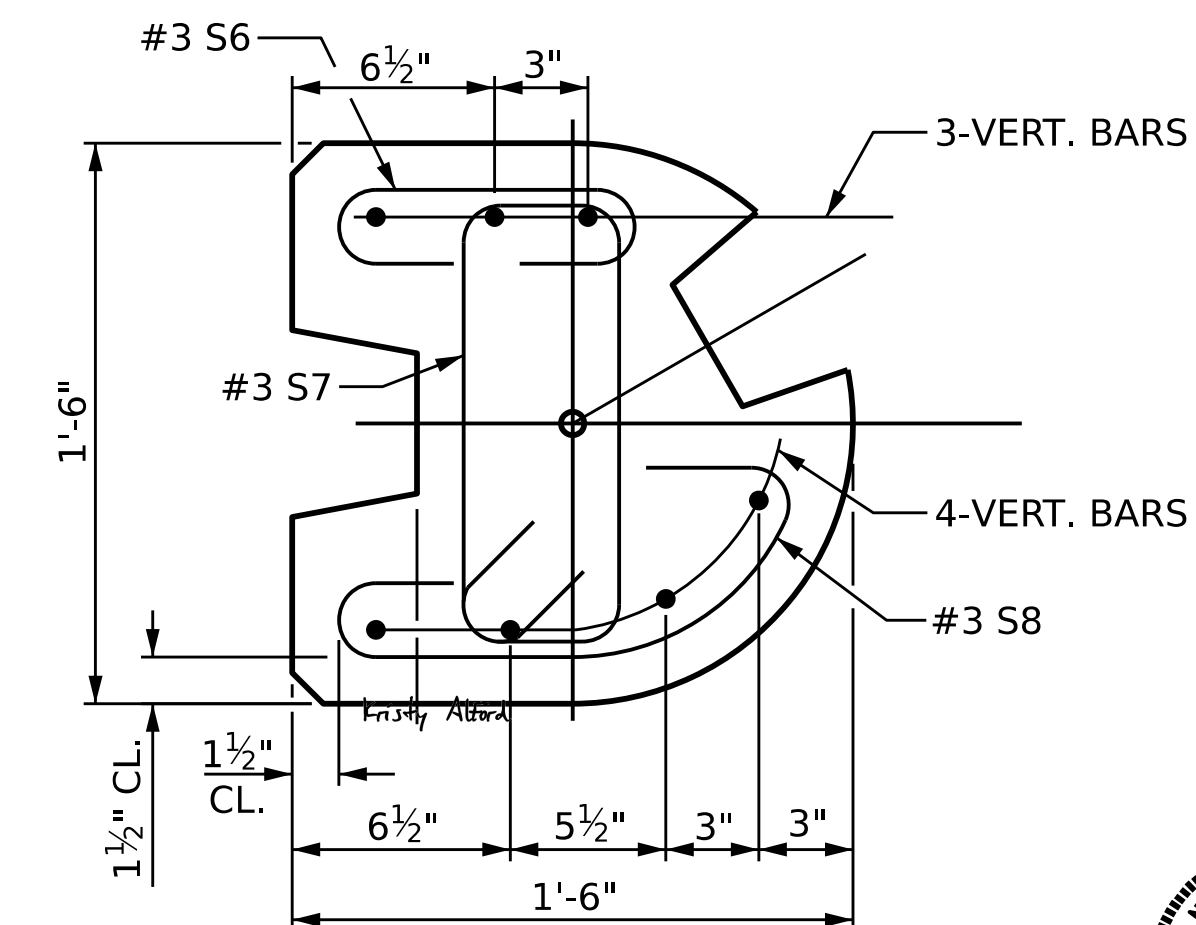
TYPE - I



TYPE - II



TYPE - III



TYPE - III (ALT.)

PILE DETAIL

FOR VERTICAL BAR PILE REINFORCING, SEE SHEET 1 OF 3

ASSEMBLED BY :	D. SHACKELFORD	DATE :	11/26/2024
CHECKED BY :	K.W. ALFORD	DATE :	11/27/2024
DRAWN BY :	MAA	REV.	01/14
CHECKED BY :	GM	REV.	12/17
		REV.	12/23

12/2/2024
C:\Users\drshackelford\OneDrive\Desktop\I5880\STD SBW3 DETAILS.dgn
drshackelford



12/02/2024

PROJECT NO. **I-5880**
FORSYTH COUNTY
STATION: **20+01.06 -L-**

SHEET 6 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

**SOUND BARRIER WALL
DETAILS**
(CONCRETE PILES)

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			W-6
2			4			TOTAL SHEETS 6

STD. NO. SBW3