

**ELEVATION**  
(CONCRETE BARRIER IN FRONT OF SOUND BARRIER WALL NOT SHOWN FOR CLARITY, SEE ROADWAY PLANS)

**SECTION A-A**  
(CONCRETE BARRIER IN FRONT OF SOUND BARRIER WALL NOT SHOWN FOR CLARITY, SEE ROADWAY PLANS)

| PILE EXCAVATION DEPTHS "D"               |                 |              |               |
|--|-----------------|--------------|---------------|
| 3'-0" Ø HOLE                             |                 |              |               |
| WALL -NW8- (STA. 10+00 TO 28+75 -NW8-)   |                 |              |               |
| STATION                                  | MAX WALL HEIGHT | PILE SPACING | SHAFT * DEPTH |
| STA. 92+91.45 -L- TO STA. 93+11.84 -L-   | 17'-0"          | 15'-0"       | 21'-0"        |
| STA. 93+26.65 -L- TO STA. 94+91.71 -L-   | 14'-0"          | 15'-0"       | 19'-0"        |
| STA. 95+06.71 -L- TO STA. 98+80.90 -L-   | 15'-0"          | 15'-0"       | 18'-6"        |
| STA. 98+95.90 -L- TO STA. 102+12.16 -L-  | 16'-0"          | 15'-0"       | 19'-6"        |
| STA. 102+28.21 -L- TO STA. 107+09.28 -L- | 16'-0"          | 15'-0"       | 20'-0"        |
| STA. 107+25.32 -L- TO STA. 108+58.60 -L- | 16'-0"          | 15'-0"       | 15'-6"        |
| STA. 108+72.68 -L- TO STA. 111+68.11 -L- | 13'-0"          | 15'-0"       | 14'-0"        |

\* FOUNDATION EXCAVATION DEPTHS ARE MEASURED FROM 1 FOOT BELOW THE FINISHED GRADE.

**NOTES:**

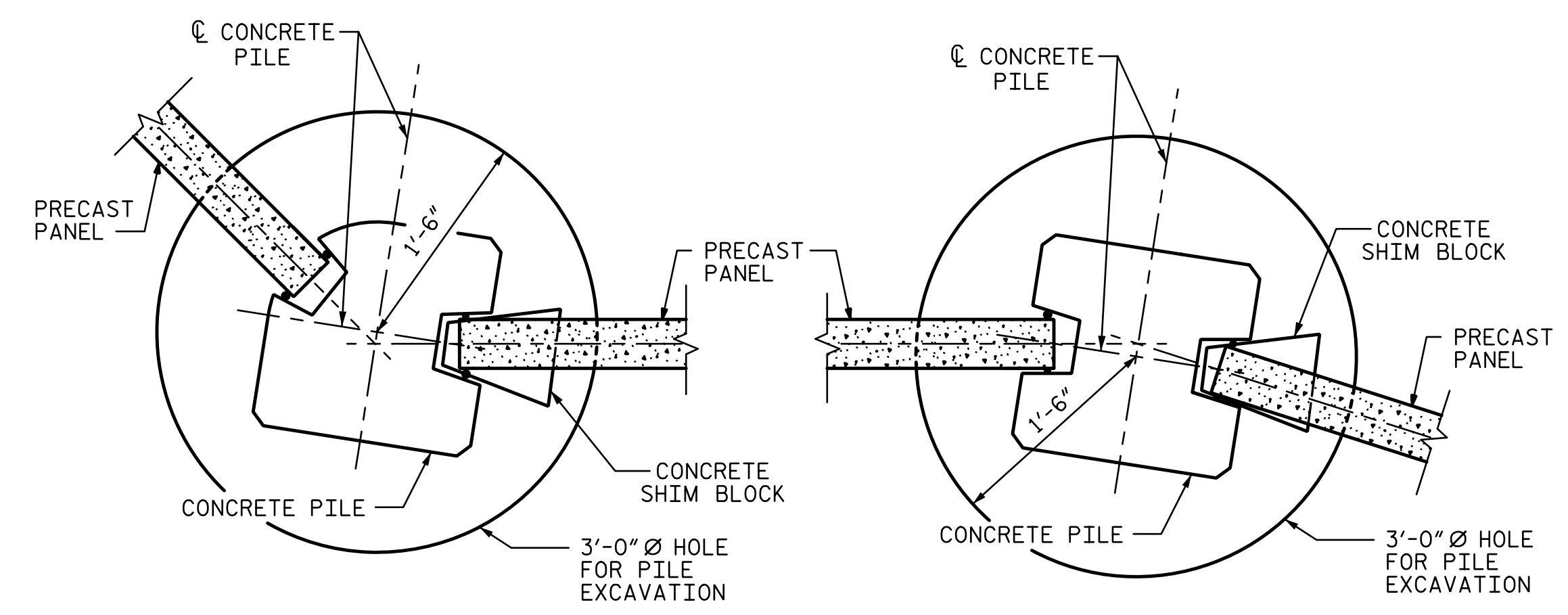
- FOR SOUND BARRIER WALL, SEE SPECIAL PROVISIONS.
- CONSTRUCT SOUND BARRIER WALL TO LINES AND GRADES SHOWN ON THE ROADWAY PLANS.
- PROVIDE PANELS WITH A FLAT BOTTOM.
- VERIFY THE LOCATION OF UNDERGROUND UTILITIES BEFORE DRILLING HOLES TO ENSURE SUFFICIENT CLEARANCE IS AVAILABLE.
- ADJUST PILE EXCAVATION ELEVATIONS TO MAINTAIN 6" MINIMUM EMBEDMENT OF THE BOTTOM PANEL.
- USE CLASS AA FOR PANELS AND CLASS A CONCRETE PILE EXCAVATION BACKFILL, IN ACCORDANCE WITH ARTICLE 1000-4 OF THE STANDARD SPECIFICATIONS.
- 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.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR ELASTOMERIC BEARING DETAILS, SEE "SOUND BARRIER WALL DETAILS" SHEET 1 OF 3.
- FOR CONCRETE SHIM BLOCK DETAILS, SEE "SOUND BARRIER WALL DETAILS" SHEET 1 OF 3.
- FOR PRECAST PANEL DETAILS, SEE "SOUND BARRIER WALL DETAILS" SHEET 1 OF 3.
- FOR CONCRETE PILE DETAILS, SEE "SOUND BARRIER WALL DETAILS" SHEETS 1 & 2 OF 3.
- AT THE CONTRACTOR'S OPTION, USE CONTINUOUS FLIGHT AUGER PILES IN LIEU OF PILE EXCAVATION FOR SOUND BARRIER WALL FOUNDATION. SEE "CONTINUOUS FLIGHT AUGER PILES FOR SOUND BARRIER WALLS" SPECIAL PROVISION.
- THE ARCHITECTURAL CONCRETE SURFACE TREATMENT SHALL MATCH THE APPEARANCE (STONE SIZE AND SHAPE, STONE TEXTURE, PATTERN AND RELIEF) OF NATURAL STONE TO RESEMBLE A DRY STACKED STONE PATTERN WITH FEDERAL STANDARD 595 COLOR \* FS30450 STAIN.

**EXPOSURE CATEGORY D - PILE REINFORCING STEEL**

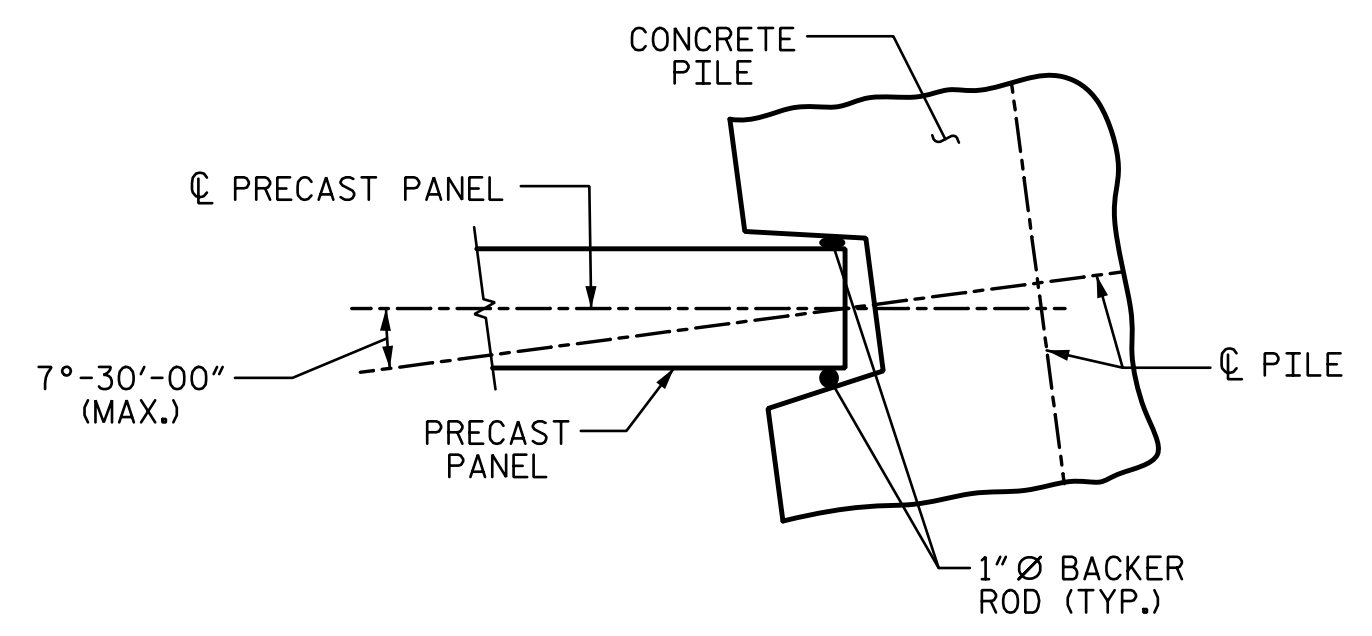
| DESIGN WIND PRESSURE = 62 PSF (0' < H ≤ 14'); 71 PSF (14' < H ≤ 25') |                         |                            |               |                    |                         |   |               |
|--|-------------------------|----------------------------|---------------|--------------------|-------------------------|---|---------------|
| 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          |
| 15'-0"   | H ≤ 15'                 | 4 - #8 EA. FACE            | #3 @ 11" CTS. | 15'-0"             | H ≤ 15'                 | 3 - #9 SHORT FACE<br>4 - #9 LONG FACE   | #3 @ 11" CTS. |
| 15'-0"   | 15' < H ≤ 20'           | 4 - #10 EA. FACE           | #3 @ 10" CTS. | 15'-0"             | 15' < H ≤ 20'           | 3 - #11 SHORT FACE<br>4 - #11 LONG FACE | #3 @ 10" CTS. |
| 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          |
| 15'-0"   | H ≤ 15'                 | 4 - #6 EA. FACE            | #3 @ 11" CTS. | 15'-0"             | H ≤ 15'                 | 3 - #9 SHORT FACE<br>4 - #9 LONG FACE   | #3 @ 11" CTS. |
| 15'-0"   | 15' < H ≤ 20'           | 4 - #8 EA. FACE            | #3 @ 10" CTS. | 15'-0"             | 15' < H ≤ 20'           | 3 - #11 SHORT FACE<br>4 - #11 LONG FACE | #3 @ 10" CTS. |

| BILL OF MATERIAL -NW8-   |             |
|--|-------------|
| SOUND BARRIER WALL   | S.F. 27,473 |
| ARCHITECTURAL SURFACE TREATMENT                                    | S.F. 23,021 |
| QUANTITIES PROVIDED ARE APPROXIMATE AND ARE FOR BID PURPOSES ONLY. |             |

PROJECT NO. U-4751  
NEW HANOVER COUNTY  
 STATION: 92+91.45 -L- = 10+00.00 -NW8-



**TYPICAL WALL TURN DETAILS**



**PILE ROTATION LIMIT FOR WALL TURN**

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

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**SOUND BARRIER WALL NO. -NW8-**

REVISIONS

| NO. | BY: | DATE: | NO. | BY: | DATE: |
|-----|-----|-------|-----|-----|-------|
| 1   |     |       | 3   |     |       |
| 2   |     |       | 4   |     |       |

STV ENGINEERS, INC. 100 Years  
 900 West Trade St., Suite 715  
 Charlotte, NC 28202  
 NC License Number F-5991

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DRAWN BY: MBC DATE: 5-17  
 CHECKED BY: NML DATE: 5-17  
 DESIGN ENGINEER OF RECORD: J. DICHAK DATE: 5-17

SHEET NO. NW-5  
TOTAL SHEETS 17