

GENERAL NOTES

1. DESIGN SPECIFICATIONS:
  - PENNDOT DESIGN MANUAL, PART 4, STRUCTURES.
  - 1989 AASHTO "GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS", INCLUDING THE 1992 AND 2002 INTERIMS.
  - 2002 AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES", 17TH EDITION, INCLUDING THE 1993 AND 1994 INTERIMS.
  - 2001 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", 4TH EDITION, INCLUDING INTERIMS THROUGH 2006.
  - DESIGN IS IN ACCORDANCE WITH THE WORKING STRESS DESIGN METHOD. (NO INCREASE IN ALLOWABLE UNIT STRESSES ARE PERMITTED EXCEPT FOR GROUP III LOADINGS WHICH PERMITS A 33% OVERSTRESS.)
2. CONSTRUCTION SPECIFICATIONS AND WORKMANSHIP:
  - PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH THE CURRENT VERSION OF THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408, AASHTO/AWS/D1.5 - BRIDGE WELDING CODE AND THE CONTRACT SPECIAL PROVISIONS. (USE AASHTO/AWS D1.1 FOR WELDING NOT COVERED IN AASHTO/AWS/D1.5)
3. DESIGN LOADS:
  - WIND LOAD:
    - THE WIND LOAD INCLUDES A GUST FACTOR OF 1.3 AND A DRAG FACTOR OF 1.2 AND IS BASED ON A MAXIMUM 50-YEAR MEAN WIND VELOCITY AT 30'-0" ABOVE THE GROUND SURFACE OF 80 MPH.
    - PRECAST CONCRETE PANELS ARE DESIGNED FOR A WIND PRESSURE OF 28 PSF.
  - ICE LOAD: 3 PSF APPLIED TO ONE SIDE OF PANEL AND POST.
  - SEISMIC LOAD: SEISMIC ACCELERATION COEFFICIENT "A" EQUAL TO 0.15.
4. WALL HEIGHTS MUST EQUAL OR EXCEED THE ACOUSTICAL PROFILE.
5. PANEL HEIGHTS:
  - 2'-0" MINIMUM TO 9'-0" MAXIMUM.
  - PROVIDE STACKED PANELS WHEN THE WALL HEIGHT EXCEEDS 9'-0".
6. HORIZONTAL PANEL JOINTS:
  - MINIMIZE THE NUMBER OF HORIZONTAL PANEL JOINTS.
  - PROVIDE UNIFORM STEPS.
  - IF STEPS ARE REQUIRED, THE ELEVATION DIFFERENCE BETWEEN ADJACENT PANELS IS NOT PERMITTED TO BE LESS THAN 6" OR GREATER THAN 2'-0".
7. GROUND MOUNTED SOUND BARRIER WALLS MUST BE PROTECTED BY CONCRETE BARRIERS UNLESS THE WALL IS LOCATED BEYOND THE HORIZONTAL CLEAR ZONE OR IF THE BOTTOM OF PANELS ARE A MINIMUM OF 5'-0" ABOVE THE EDGE OF PAVEMENT.
8. PROVIDE EPOXY COATED OR GALVANIZED REINFORCEMENT BARS IN THE PANELS WHERE THE WALL IS WITHIN 14'-0" OF THE EDGE OF TRAVEL LANE. EPOXY COATED OR GALVANIZED REINFORCEMENT MAY BE REQUIRED IF FUTURE WIDENING IS ANTICIPATED.
9. ALL DIMENSIONS SHOWN ARE HORIZONTAL, EXCEPT AS NOTED.
10. DIMENSIONS SHOWN ARE FOR A NORMAL TEMPERATURE OF 68 DEGREES F.
11. REINFORCEMENT IN SOME SECTIONS IS NOT SHOWN FOR CLARITY.
12. FOR ADDITIONAL INFORMATION REFER TO BC-776M.

DESIGN TABLE NOTES

1. DESIGN TABLES SHOWN FOR THE PRECAST CONCRETE PANELS ARE DEVELOPED FOR A WIND PRESSURE OF 28 PSF. USE THE INFORMATION SHOWN IN THE TABLES FOR ALL HEIGHT ZONES.
2. THE DESIGN POST SPACING (CENTER TO CENTER OF POST) IS TO BE THE ACTUAL POST SPACING ROUNDED UP TO THE NEXT HIGHEST INCREMENT OF POST SPACING SHOWN ON THE DESIGN TABLES.
3. THE DESIGN WALL HEIGHT IS TO BE THE ACTUAL WALL HEIGHT ROUNDED UP TO THE NEXT HIGHEST INCREMENT OF WALL HEIGHT SHOWN ON THE DESIGN TABLES.
4. THE DESIGN PANEL HEIGHT IS TO BE THE ACTUAL PANEL HEIGHT ROUNDED UP TO THE NEXT HIGHEST INCREMENT OF PANEL HEIGHT SHOWN ON THE DESIGN TABLES.
5. PANEL HEIGHTS ARE PERMITTED TO BE ANY DIMENSION REQUIRED, BUT ARE NOT PERMITTED TO BE LESS THAN 2'-0" OR GREATER THAN 9'-0".

INDEX OF SHEETS

SHT. NO.	SHEET TITLE
1	GENERAL NOTES - 1
2	GENERAL NOTES - 2
3	GEOMETRY AND LAYOUT - 1
4	GEOMETRY AND LAYOUT - 2
5	PRECAST CONCRETE PANEL DETAILS - 1
6	PRECAST CONCRETE PANEL DETAILS - 2

MATERIAL NOTES

1. REFER TO BC-776M FOR MATERIAL NOTES.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF PROJECT DELIVERY

STANDARD  
GROUND MOUNTED SOUND BARRIERS  
PRECAST CONCRETE PANELS

GENERAL NOTES - 1

RECOMMENDED APR. 29, 2016

Thomas P. Maciore  
CHIEF BRIDGE ENGINEER

RECOMMENDED APR. 29, 2016

Brian S. Thompson  
DIRECTOR, BUR. OF PROJECT DELIVERY

SHEET 1 OF 6

BD-676M

BC-736M	REINFORCEMENT BAR FABRICATION DETAILS
BC-776M	GROUND MOUNTED SOUND BARRIERS PRECAST CONCRETE PANELS
BC-777M	GROUND MOUNTED SOUND BARRIERS PRECAST CONCRETE POSTS
BC-778M	GROUND MOUNTED SOUND BARRIERS STEEL POSTS
BC-779M	STRUCTURE MOUNTED SOUND BARRIER WALLS
BD-627M	MOMENT SLABS
BD-677M	GROUND MOUNTED SOUND BARRIERS PRECAST CONCRETE POSTS
BD-678M	GROUND MOUNTED SOUND BARRIERS STEEL POSTS
BD-679M	STRUCTURE MOUNTED SOUND BARRIER WALLS

REFERENCE DRAWINGS

NOTES TO DESIGNER

- THE DISTRICT ENVIRONMENTAL MANAGER HAS REVIEWED AND ACCEPTED THE ACOUSTIC REQUIREMENTS OF THE PROPOSED WALL.

DISTRICT ENVIRONMENTAL MANAGER
3. DETERMINE HEIGHT ZONE AND WIND PRESSURE REQUIRED FOR WALL DESIGN AND INDICATE ON CONTRACT DRAWINGS.

4. DETERMINE ACCEPTABLE POST TYPE. PROVIDE EITHER PRECAST CONCRETE POSTS OR STEEL POSTS. DO NOT MIX POST TYPES WITHOUT PERMISSION FROM THE DISTRICT BRIDGE ENGINEER.

5. SPECIFY IF THE REINFORCEMENT BARS ARE UNCOATED, EPOXY COATED OR GALVANIZED.

6. SPECIFY IF THE WELDED WIRE FABRIC IS UNCOATED, EPOXY COATED OR GALVANIZED.

7. PROVIDE A CONSTANT POST SPACING FOR THE ENTIRE LENGTH OF WALL. THE CONSTANT POST SPACING MAY BE INTERRUPTED TO MISS DRAINAGE PIPES, UTILITIES, AND/OR ANY OTHER PHYSICAL FEATURES. VARIATIONS MUST BE ACCEPTED BY THE DISTRICT BRIDGE ENGINEER.

8. GROUND MOUNTED SOUND WALLS MUST BE PROTECTED BY CONCRETE BARRIERS UNLESS THE WALL IS LOCATED BEYOND THE HORIZONTAL CLEAR ZONE OR IF THE BOTTOM OF PANELS ARE A MINIMUM OF 5'-0" ABOVE THE EDGE OF PAVEMENT.

9. INDICATE IF THE TOP OF PANELS ARE STEPPED OR SLOPED. SLOPED PANELS ARE THE PREFERRED OPTION FOR MOST ARCHITECTURAL SURFACE TREATMENTS.

10. THE FOLLOWING INFORMATION MUST BE SHOWN ON THE CONTRACT DRAWINGS ( IF APPLICABLE):
  - OVERALL WALL LENGTH
  - HORIZONTAL GEOMETRY
  - VERTICAL GEOMETRY
  - ACOUSTIC PROFILE ELEVATIONS
  - EXISTING GROUND LINE ELEVATIONS
  - FINISHED GROUND LINE ELEVATIONS
  - GENERAL NOTES
  - FOUNDATION NOTES
  - STAKE-OUT PLAN
  - DETAILS
  - REINFORCEMENT BAR SCHEDULE FOR ALL CAST-IN-PLACE CONCRETE
  - ANY OTHER INFORMATION REQUIRED TO CONSTRUCT THE SOUND BARRIER WALL

11. THE FOLLOWING GEOTECHNICAL INFORMATION MUST BE INDICATED ON THE DESIGN PLANS:
  - PERMITTED FOUNDATION TYPES (SPREAD FOOTINGS AND/OR DRILLED CAISSONS)
  - FOUNDATION DESIGN PARAMETERS (SITE SPECIFIC)
  - APPROXIMATE TOP OF ROCK ELEVATIONS ALONG LENGTH OF WALL
  - APPROXIMATE GROUND WATER ELEVATIONS ALONG LENGTH OF WALL
  - TYPE OF SOIL TO DETERMINE CAISSON LENGTH IF NO FOUNDATION DESIGN PARAMETERS ARE SPECIFIED
  - TOP AND BOTTOM CAISSON ELEVATIONS
  - TOP AND BOTTOM OF FOOTING ELEVATIONS
  - ANY OTHER INFORMATION REQUIRED TO CONSTRUCT THE SOUND BARRIER WALL

12. PROVIDE FIRE HYDRANT OPENINGS OR OTHER HIGHWAY ACCESS OPENINGS AS REQUIRED IN THE PRECAST CONCRETE PANELS. PROVIDE REINFORCEMENT AROUND OPENINGS IN ACCORDANCE WITH DETAILS SHOWN ON BC-776M TO PRECLUDE CRACKING.

13. SLOPE THE FINISHED GROUND LINE AWAY FROM THE SOUND BARRIER WALL.

14. INDICATE IF THE ARCHITECTURAL SURFACE TREATMENT TOLERANCES AS PROVIDED IN PUBLICATION 408, SECTION 1086.3 ARE APPLICABLE.

15. THE FOLLOWING INFORMATION MUST BE SPECIFIED ON THE DESIGN PLANS OR INDICATED IN THE CONTRACT SPECIAL PROVISIONS:
  - ARCHITECTURAL SURFACE TREATMENTS ON THE RESIDENTIAL AND ROADWAY SIDES OF THE PRECAST CONCRETE SOUND BARRIER PANELS AND POSTS. INDICATE THE MINIMUM, MAXIMUM AND AVERAGE DEPTHS. ARCHITECTURAL SURFACE TREATMENTS ARE NOT RECOMMENDED ON PRECAST CONCRETE POSTS WITHOUT APPROVAL FROM THE DISTRICT BRIDGE ENGINEER.
  - COLOR OF THE INTEGRAL PIGMENTATION FOR PRECAST CONCRETE SOUND BARRIER PANELS AND THE PRECAST CONCRETE POSTS.
  - COLOR OF JOINT SEALANT AND/OR CAULKING COMPOUND, NON-SHRINK GROUT, AND ANTIGRAFFITI COATING.
  - LIMITS OF ANTIGRAFFITI COATING.
  - PAINT COLOR OF STEEL COMPONENTS.

16. PROVIDE FEDERAL COLOR NUMBERS IN ACCORDANCE WITH FEDERAL STANDARD NUMBER 595A OR 595B.

17. PROVIDE COMPLETE DETAILS AND DESIGN, IF REQUIRED, WHERE A GROUND MOUNTED SOUND BARRIER IS CONNECTED TO A STRUCTURE MOUNTED SOUND BARRIER. REFER TO BD-679M FOR DETAILS.

18. DESIGN COMPUTATIONS AND DETAILS ARE REQUIRED FOR ANY PORTION OF THE STRUCTURE FOR WHICH THE INFORMATION IS NOT TAKEN DIRECTLY FROM THE SOUND BARRIER STANDARDS.

19. SPECIFY IF A SOUND BARRIER ABSORPTIVE CONCRETE FACING IS REQUIRED ON THE FACE OF THE PRECAST CONCRETE PANELS. SOUND ABSORPTIVE PANELS MUST BE APPROVED BY THE DEPARTMENT USING THE NEW PRODUCT EVALUATION PROCESS. DESIGNER MUST PREPARE DESIGN CALCULATIONS FOR THE FOUNDATIONS DUE TO THE INCREASED PANEL WEIGHT.

20. IF NEEDED DETAILS ARE NOT FOUND IN THE SOUND BARRIER STANDARDS A SPECIAL SUBMISSION REQUESTING APPROVAL FOR SPECIFIC DETAILS MUST BE MADE TO THE CHIEF BRIDGE ENGINEER.
- DESIGN PARAMETERS
1. PRECAST CONCRETE PANELS:
  - PANELS ARE DESIGNED FOR WIND PRESSURE EQUAL TO 28 PSF.
  - PANELS ARE DESIGNED USING A 5 INCH STRUCTURAL THICKNESS.
  - PANELS ARE DESIGNED FOR AN ADDITIONAL CONCRETE WEIGHT OF 1½ INCH TO ACCOUNT FOR ARCHITECTURAL SURFACE TREATMENTS.
    - THE AVERAGE ARCHITECTURAL SURFACE TREATMENT THICKNESS, PER SIDE OF PANEL, IS PERMITTED TO VARY FROM 0 TO 1½ INCH BUT THE TOTAL AVERAGE ARCHITECTURAL SURFACE TREATMENT THICKNESS, ON BOTH SIDES OF THE PANEL, MUST NOT BE GREATER THAN 1½ INCH.
    - DESIGN CALCULATIONS ARE REQUIRED FOR PANELS WHICH HAVE A TOTAL AVERAGE ARCHITECTURAL SURFACE TREATMENT GREATER THAN 1½ INCH.
  - PANELS ARE DESIGNED AS SIMPLY SUPPORTED BEAMS SPANNING BETWEEN POSTS.
  - PANELS ARE DESIGNED USING A 1'-0" STRIP WIDTH.
  - PANELS ARE DESIGNED FOR THE FOLLOWING IN ACCORDANCE WITH THE PCI DESIGN HANDBOOK, 5th EDITION, 1999:
    - PANELS ARE DESIGNED FOR STRIPPING FORCES CAUSED BY FORM SUCTION AND IMPACT WHEN THE PANELS ARE STRIPPED FROM THE FORMS IN ACCORDANCE WITH SECTION 5.2.3 AND TABLE 5.2.1 USING AN EQUIVALENT STATIC LOAD MULTIPLIER EQUAL TO 1.50.
      - PROVIDE A MINIMUM CONCRETE STRENGTH, AT TIME OF STRIPPING, EQUAL TO 4,000 PSI.
    - PANEL THICKNESS AND REINFORCING IS DESIGNED FOR STRIPPING AND LIFTING AT TOP OF PANEL USING A TWO-POINT PICK-UP OR FOUR-POINT PICK-UP IN ACCORDANCE WITH FIGURE 5.2.4.
    - PANELS ARE DESIGNED FOR TRANSPORTATION IN ACCORDANCE WITH SECTION 5.2.11 AND TABLE 5.2.1 USING AN EQUIVALENT STATIC LOAD MULTIPLIER EQUAL TO 1.50.
    - THE FLEXURAL TENSILE STRESSES IN THE CONCRETE ARE CALCULATED USING THE UNCRACKED GROSS SECTION BASED ON THE STRUCTURAL THICKNESS. THE STRESSES ARE COMPARED AGAINST THE MODULUS OF RUPTURE REDUCED BY A SAFETY FACTOR OF 1.50 IN ACCORDANCE WITH SECTION 5.2.4.1.- PANELS ARE NOT DESIGNED FOR TRAFFIC IMPACT LOADING.
- ARCHITECTURAL SURFACE TREATMENTS
1. THE FOLLOWING ARCHITECTURAL SURFACE TREATMENTS ARE PERMITTED ON THE FACE OF THE PRECAST CONCRETE PANELS AND ARE TO BE INDICATED ON THE CONTRACT DRAWINGS AND IN THE CONTRACT SPECIAL PROVISIONS IF REQUIRED:
  - NON-FORM LINER FINISHES:
    - SMOOTH FINISH
    - BROOMED FINISH
    - FUZZY OR RAKED FINISH (PERMITTED ON ONE SIDE ONLY)
    - EXPOSED AGGREGATE
  - FORM LINER FINISHES:
    - ASHLAR STONE
    - CUT STONE
    - FRACTURE FIN
    - GRAPE STAKE
    - SHIP LAP
    - ANY OTHER TREATMENT PERMITTED BY THE DEPARTMENT

2. THE AVERAGE ARCHITECTURAL SURFACE TREATMENT THICKNESS, PER SIDE OF PANEL, IS PERMITTED TO VARY FROM 0 TO 1½ INCH, BUT THE TOTAL AVERAGE ARCHITECTURAL SURFACE TREATMENT, ON BOTH SIDES OF THE PANEL, MUST NOT BE GREATER THAN 1½ INCH UNLESS OTHERWISE INDICATED ON THE CONTRACT DRAWINGS.

3. FORM LINER ARCHITECTURAL SURFACE TREATMENTS ARE NOT RECOMMENDED ON THE PRECAST CONCRETE POSTS.

4. AVOID USING FORM LINER FINISHES ON BOTH SIDES OF THE PRECAST CONCRETE PANELS. A FORM LINER FINISH, ON ONE SIDE OF THE PANEL, ALONG WITH A STAMPED FINISH, ON THE OTHER SIDE OF THE PANEL, IS PERMITTED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF PROJECT DELIVERY

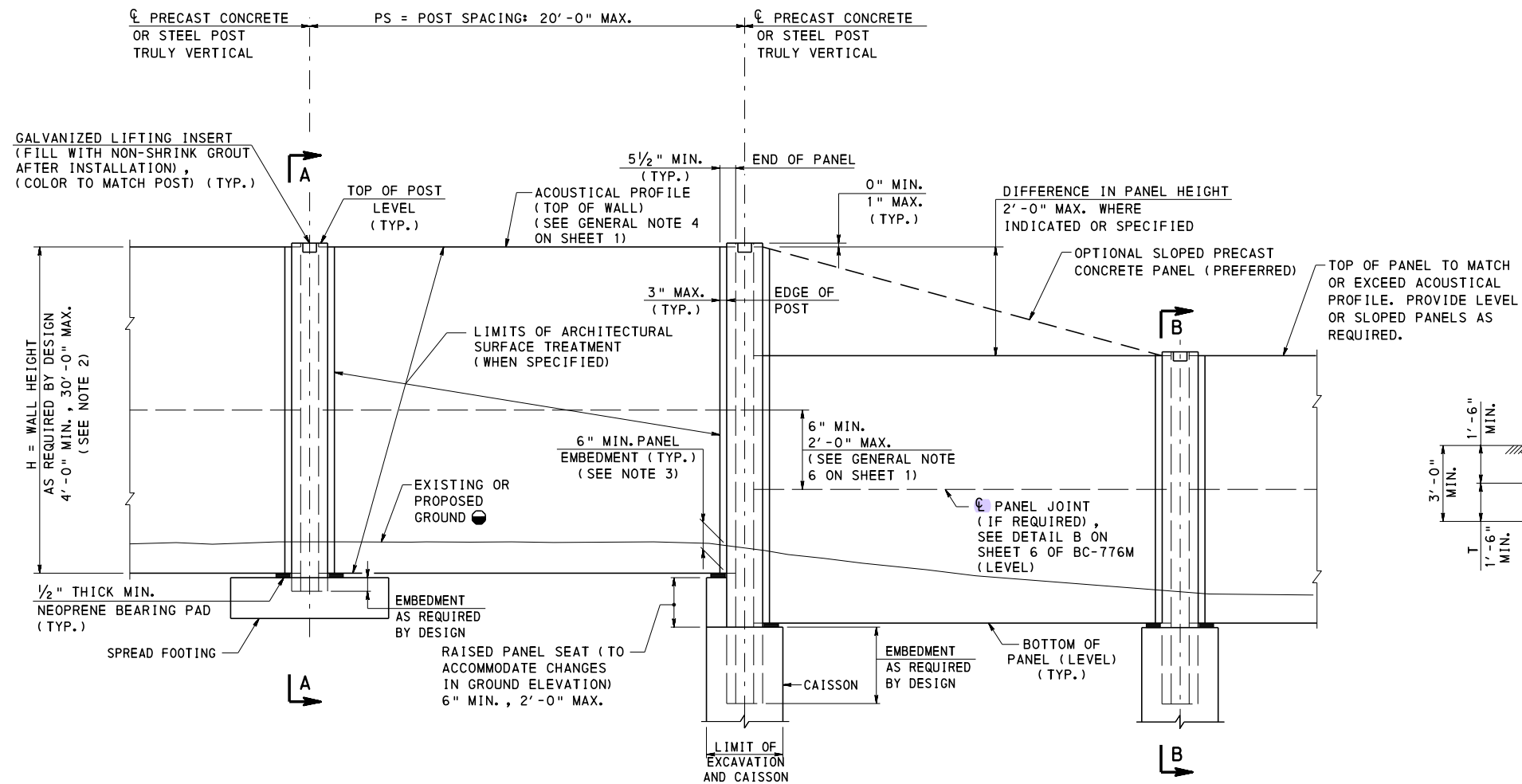
STANDARD  
GROUND MOUNTED SOUND BARRIERS  
PRECAST CONCRETE PANELS

GENERAL NOTES - 2

RECOMMENDED APR. 29, 2016  
Thomas P. Maciore  
CHIEF BRIDGE ENGINEER

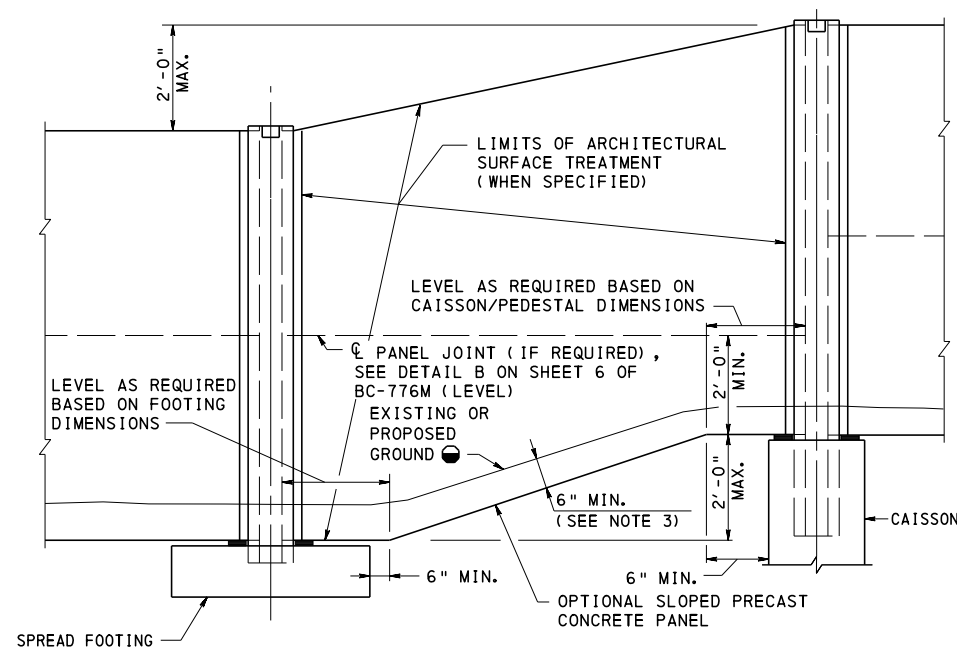
RECOMMENDED APR. 29, 2016  
Brenda S. Thompson  
DIRECTOR, BUR. OF PROJECT DELIVERY

SHEET 2 OF 6  
BD-676M



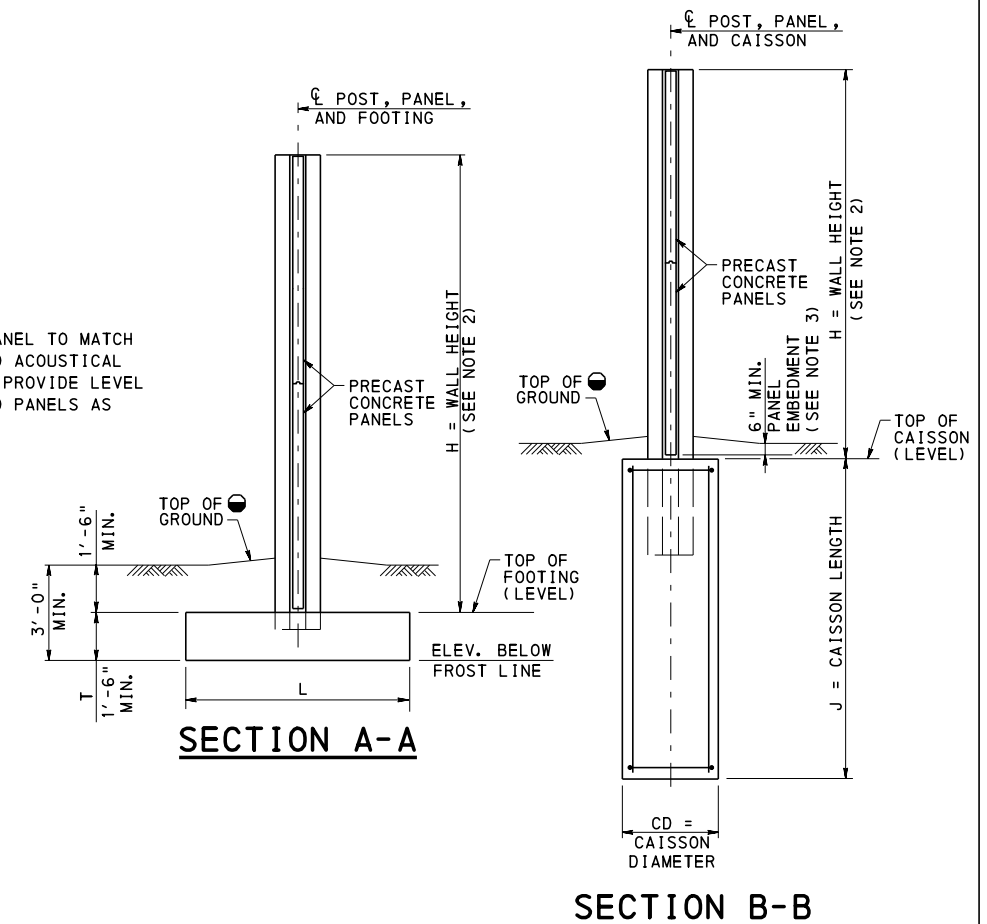
## GROUND MOUNTED SOUND BARRIER ELEVATION

(PRECAST CONCRETE POST SHOWN, STEEL POST SIMILAR)



## OPTIONAL SLOPED BOTTOM PANEL ELEVATION

(USE IN PLACE OF RAISED PANEL SEAT)



### LEGEND:

- GRADE GROUND TO DRAIN WATER AWAY FROM THE WALL. FILL DEPTH ON EACH SIDE OF WALL TO BE WITHIN 1'-0" DIFFERENCE.

### NOTES:

- FOR ADDITIONAL INFORMATION REFER TO NOTES ON SHEETS 1 AND 2.
- WALL HEIGHT IS DEFINED AS FOLLOWS:
  - POST WITH BASE PLATE: H = HEIGHT FROM TOP OF BASE PLATE TO TOP OF WALL
  - POST WITHOUT BASE PLATE: H = HEIGHT FROM TOP OF FOOTING/CAISSON TO TOP OF WALL
- PANEL EMBEDMENT MAY NEED TO BE INCREASED TO ACCOMMODATE BASE PLATES AND ANCHOR BOLT PROJECTIONS.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
 BUREAU OF PROJECT DELIVERY

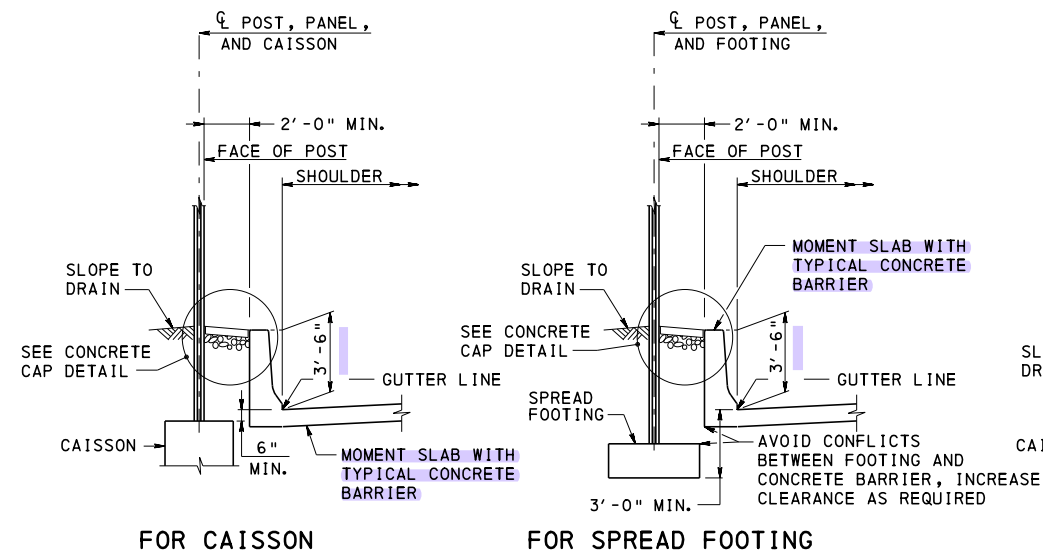
**STANDARD**  
**GROUND MOUNTED SOUND BARRIERS**  
**PRECAST CONCRETE PANELS**

**GEOMETRY AND LAYOUT -1**

RECOMMENDED APR. 29, 2016  
*Thomas P. Maciore*  
 CHIEF BRIDGE ENGINEER

RECOMMENDED APR. 29, 2016  
*Brian S. Thompson*  
 DIRECTOR, BUR. OF PROJECT DELIVERY

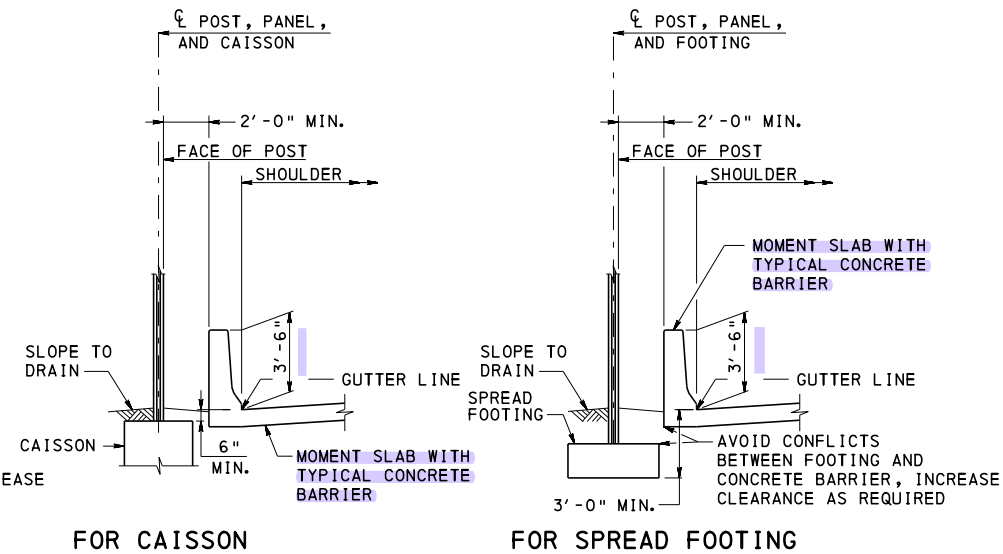
SHEET 3 OF 6  
**BD-676M**



FOR CAISSON

FOR SPREAD FOOTING

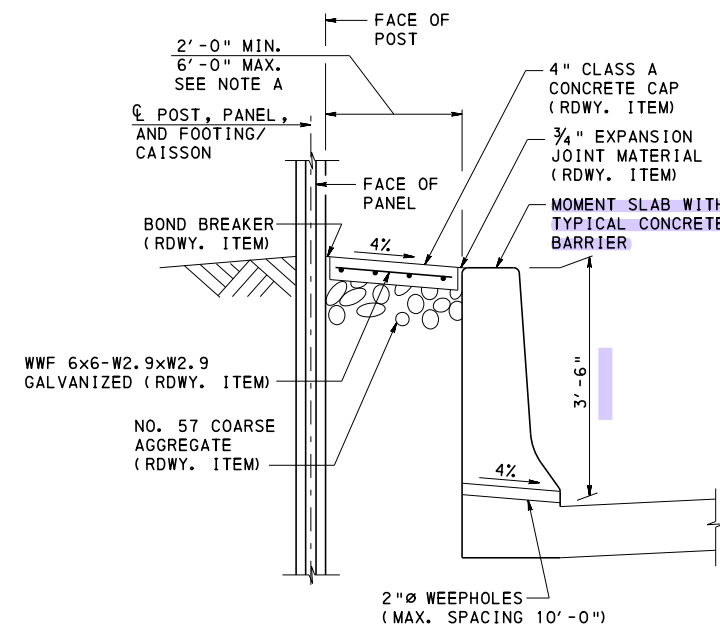
**SECTION - GROUND MOUNTED  
SOUND BARRIER WALL  
ADJACENT TO ROADWAY BARRIER  
OPTION 1 (SEE NOTE 2)**



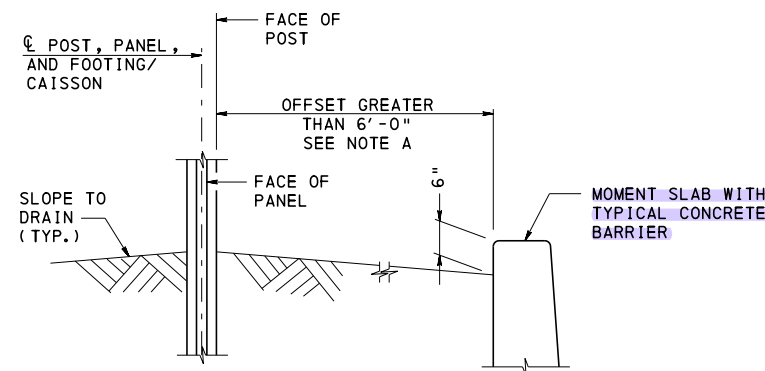
FOR CAISSON

FOR SPREAD FOOTING

**SECTION - GROUND MOUNTED  
SOUND BARRIER WALL  
ADJACENT TO ROADWAY BARRIER  
OPTION 2 (SEE NOTE 2)**



**CONCRETE CAP DETAIL**



**NOTE A:**  
IF OFFSET IS GREATER THAN 6'-0" CONCRETE CAP MAY BE ELIMINATED AND SUBSTITUTED WITH PLANTINGS OR ROCK SLOPE PROTECTION. ALTERNATE DETAILS MUST BE SUBMITTED TO THE DISTRICT BRIDGE ENGINEER FOR ACCEPTANCE.

**NOTES:**

1. FOR ADDITIONAL INFORMATION REFER TO NOTES ON SHEETS 1 AND 2.
2. DESIGNER TO SELECT WHICH OPTION IS USED BASED ON THE ROADWAY GEOMETRICS, RIGHT-OF-WAY REQUIREMENTS AND ANY ADDITIONAL CONSTRAINTS. OBTAIN ACCEPTANCE FROM THE DISTRICT BRIDGE ENGINEER. (THE DEPARTMENT PREFERS OPTION 1 USING THE CONCRETE CAP.)

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF PROJECT DELIVERY**

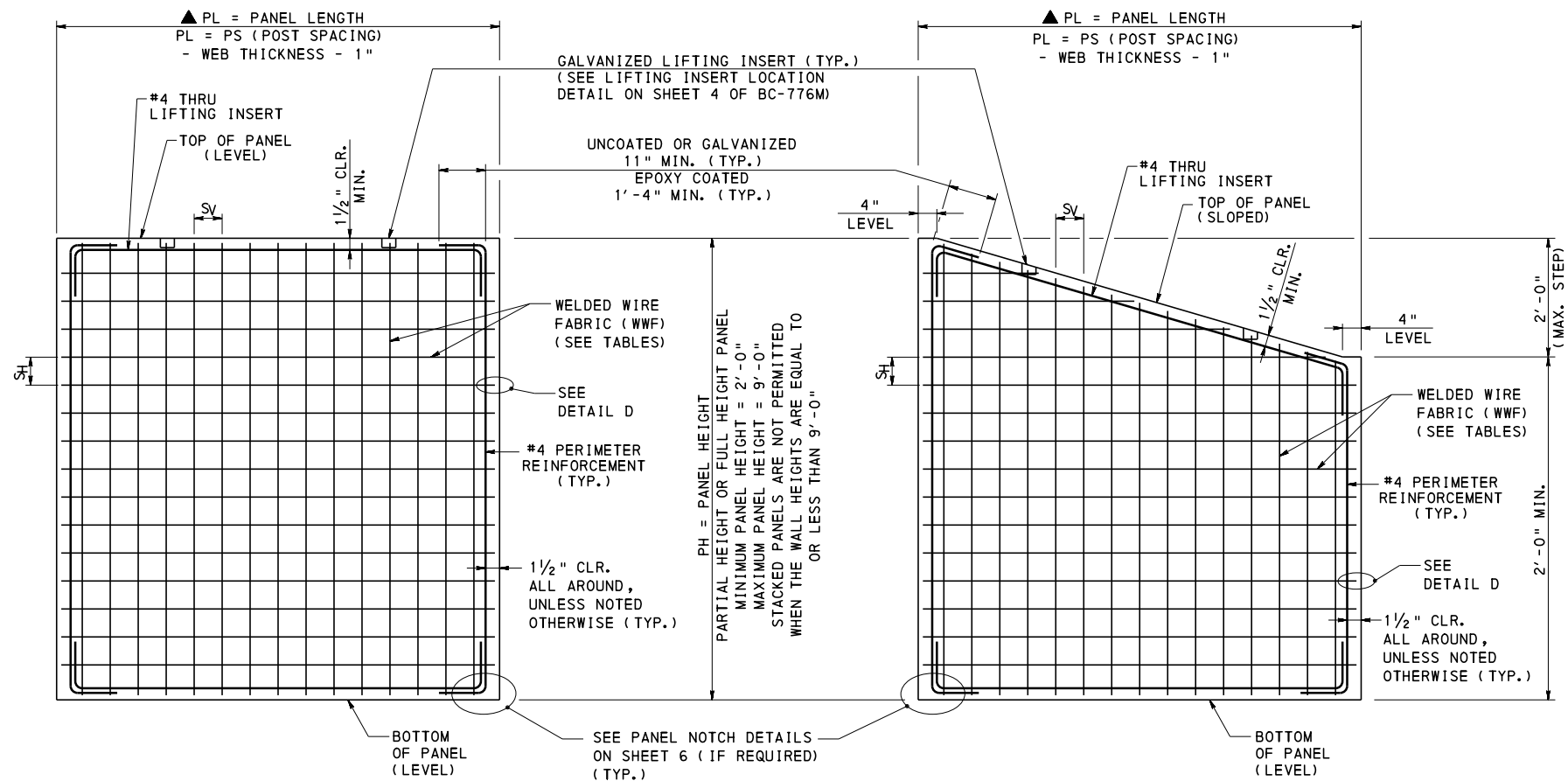
**STANDARD  
GROUND MOUNTED SOUND BARRIERS  
PRECAST CONCRETE PANELS**

**GEOMETRY AND LAYOUT - 2**

RECOMMENDED APR. 29, 2016  
*Thomas P. Maciore*  
CHIEF BRIDGE ENGINEER

RECOMMENDED APR. 29, 2016  
*Brian S. Thompson*  
DIRECTOR, BUR. OF PROJECT DELIVERY

SHEET 4 OF 6  
**BD-676M**

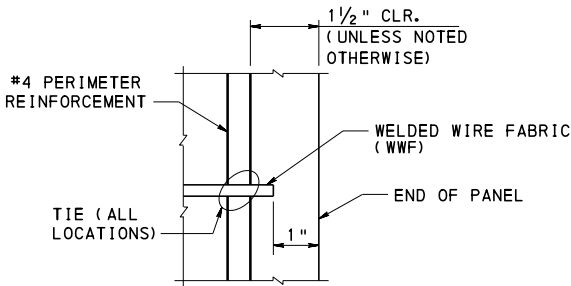


ELEVATION - LEVEL TOP

ELEVATION - SLOPED TOP

### PRECAST CONCRETE PANEL

DIMENSION TABLE	
POST SIZE	"X" (IN.)
PRECAST CONCRETE	5 1/2
W8 (STEEL)	5 1/2
W10 (STEEL)	6 1/2
W12 (STEEL)	7 1/2
20" DIA. PIPE (STEEL)	5 1/2



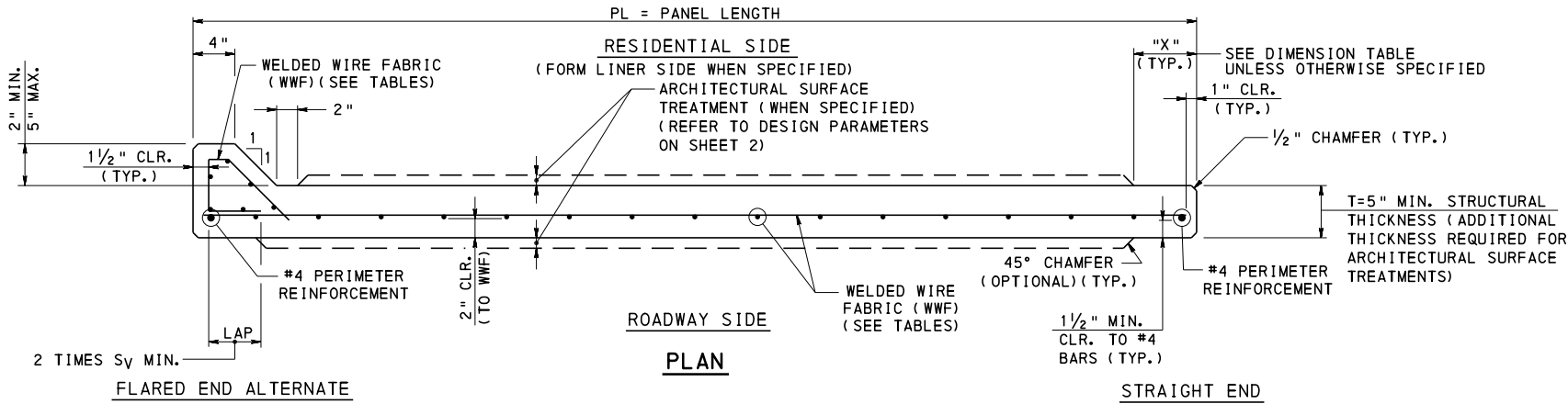
DETAIL D

### NOTES:

- FOR ADDITIONAL INFORMATION REFER TO NOTES ON SHEETS 1 AND 2.
- IF STACKED PANELS ARE REQUIRED REFER TO DETAIL B ON SHEET 6 OF BC-776M.
- DESIGNER TO SPECIFY THE WELDED WIRE FABRIC REQUIREMENTS, INCLUDING THE AREA OF STEEL, AND THE MINIMUM NUMBER OF LIFTING INSERTS REQUIRED FOR ALL PANEL SIZES AS REQUIRED ON THE CONTRACT DRAWINGS. INFORMATION IS PERMITTED TO BE IN TABLE FORM SIMILAR TO THE TABLES SHOWN..

### LEGEND:

- SH= SPACING OF HORIZONTAL BARS  
 SV= SPACING OF VERTICAL BARS  
 ▲ PANEL LENGTH MAY NEED ADJUSTED TO ACCOMMODATE ANGLED AND CORNER POSTS



### PRECAST CONCRETE PANEL

PRECAST CONCRETE PANEL REINFORCEMENT U.S. CUSTOMARY UNITS					
WIND PRESSURE = 28 PSF					
POST SPACING PS (FT.)	PANEL HEIGHT PH (FT.)	WELDED WIRE FABRIC ** WWF AxB-WC×WD	WELDED WIRE STEEL AREA (IN <sup>2</sup> /FT)		MIN. NUMBER OF LIFTING INSERTS
			HORIZONTAL	VERTICAL	
12.0	2.0	WWF 6×6-W8×W4	0.16	0.08	2
	4.0	WWF 6×6-W8×W4	0.16	0.08	2
	6.0	WWF 6×6-W8×W8	0.16	0.16	2
	8.0	WWF 6×4-W8×W12	0.16	0.36	2
	9.0	WWF 6×4-W8×W12	0.16	0.36	4
16.0	2.0	WWF 4×6-W8×W4	0.24	0.08	2
	4.0	WWF 4×6-W8×W4	0.24	0.08	2
	6.0	WWF 4×6-W8×W8	0.24	0.16	2
	8.0	WWF 4×4-W8×W12	0.24	0.36	4
	9.0	WWF 4×4-W8×W12	0.24	0.36	4
20.0	2.0	WWF 6×6-W20×W4	0.40	0.08	2
	4.0	WWF 6×6-W20×W4	0.40	0.08	2
	6.0	WWF 6×6-W20×W8	0.40	0.16	4
	8.0	WWF 6×4-W20×W12	0.40	0.36	4
	9.0	WWF 6×4-W20×W12	0.40	0.36	4

\*\* A = SPACING OF HORIZONTAL BARS (SH)  
 B = SPACING OF VERTICAL BARS (SV)  
 C = HORIZONTAL WIRE SIZE  
 D = VERTICAL WIRE SIZE  
 WWF = WELDED WIRE FABRIC

### COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF PROJECT DELIVERY

### STANDARD GROUND MOUNTED SOUND BARRIERS PRECAST CONCRETE PANELS

### PRECAST CONCRETE PANEL DETAILS - 1

RECOMMENDED APR. 29, 2016  
*Thomas P. Maciore*  
 CHIEF BRIDGE ENGINEER

RECOMMENDED APR. 29, 2016  
*Brian S. Thompson*  
 DIRECTOR, BUR. OF PROJECT DELIVERY

SHEET 5 OF 6  
 BD-676M

