**PART PLAN AT ABUTMENT**

(Square structure with concrete railing)

(SBR-1-20 shown, SBR-3-20 similar)

**ELEVATION**

- Approach slab
- Bridge terminal assembly
- Curb
- Poured backfill with geotextile fabric
- 6" perforated corrugated plastic pipe
- Neoprene sheathing
- Elastomeric bearing assembly
- Top of slope
- 2HVP slope or flatter
- 2" pef, see sheet 3/4
- Fasteners
- Approach slab
- Neoprene sheathing, 3" wide, centered on joint
- C.J.
- Section A-A

**SHOULDER BREAK LINE**

- Edge of deck
- Face of approach railing & toe of curb
- 2" pef
- Neoprene sheeting

**TIE OF RAILING**

- Face of approach railing & toe of curb
- 1" pef
- C.J.

**SHAPED AREA INDICATES LIMITS OF DIAPHRAGM PROTRUSION UNDERNEATH RAILING (TOP)**

**NEOPRENE SHEETING**

- Shaped area indicates limits of diaphragm protrusion beneath railing (top)
- 2" pef
- Neoprene sheeting
- Edge of deck

**PART PLAN AT ABUTMENT**

(Structure with left forward skew and concrete railing)

(SBR-1-20 shown, SBR-3-20 similar)

**DIAPHRAGM**

- Knuckle
- Face of approach railing & toe of curb
- 1" pef
- C.J.

**NOTE ON SHEET 1**

- C.J. = Construction joint. Refer to bow section 30A.7.3 for design requirements.
- PEf = Prefurmed expansion joint filler
- 6HVP = See project plans and/or CMS 506.05 for additional neoprene sheathing placement requirements.
- C.J. = See roadway typical section for location of shoulder break line.
- 6" = Top of slope. On super-elevated structures, a laterally sloping "top of slope" may be used to avoid excessively long #20gauls.
- See roadway standard drawing MDG-5.3 or MDG-5.2 for bridge terminal assembly details, state on the project plans when standard drawing applies.
- The contractor may elect to submit an alternate procedure that places the diaphragm and deck concrete in the same pour. However, this requires approval of the engineer.
GENERAL NOTES:

LIMITATIONS:

THIS STANDARD DRAWING PROVIDES PREFERRED AND/OR TYPICAL DETAILS FOR INTERNAL ABUTMENTS, TREAT THE ABUTMENT DIMENSIONS, CONSTRUCTION JOINTS AND REINFORCING SHOWN IN THIS DRAWING AS TYPICAL. THEY SHOULD NOT BE USED AS THE ONLY BASIS FOR DESIGN. THEY SHOULD ONLY BE USED AS A POINT OF REFERENCE FOR THE ABUTMENT. DO NOT REFERENCE THESE DRAWINGS IN THE CONTRACT PLANS AND DO NOT USE AS THE ONLY BASIS FOR DESIGN.

PROVIDE ALL INFORMATION REQUIRED TO CONSTRUCT THE ABUTMENT IN THE CONTRACT PLANS.

THE INTEGRAL ABUTMENT DETAILS PRESENTED IN THIS DRAWING ARE INTENDED FOR USE ON STRAIGHT OR CURVED ALIGNMENTS WITH TANGENT SUPERSTRUCTURES WITH A MAXIMUM SKW OF 3°. AT SKW’S GREATER THAN 3°, THE MAXIMUM PERMISSIBLE EXPANSION LENGTH OF STEEL AND CONCRETE BEAMS AND GIRDERS IS 157,000 TOTAL STRUCTURE LENGTH, ASSUMING 2/3 MOVEMENT COULD OCCUR IN ONE DIRECTION AT 3° SKW. THE MAXIMUM PERMISSIBLE EXPANSION LENGTH FOR INTEGRAL STEEL BEAM AND GIRDERS IS 157,000 TOTAL STRUCTURE LENGTH, ASSUMING 2/3 MOVEMENT COULD OCCUR IN ONE DIRECTION. FOR SKW’S BETWEEN 3° AND 30°, STRAIGHT LINE INTERPOLATION SHALL BE USED TO DETERMINE THE MAXIMUM PERMISSIBLE EXPANSION LENGTH.

INTEGRAL ABUTMENTS SHALL BE SUPPORTED ON A SINGLE ROW OF PROPS AT INTERCOURSE TYPE PLACEMENT. PROPS WITH MINIMUM FRICTION PILE LENGTHS, ARE SHOWN IN THE TABLE BELOW.

PILE LENGTHS, FT.

<table>
<thead>
<tr>
<th>SIZE</th>
<th>MINIMUM LENGTH</th>
<th>CLAY</th>
<th>SAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP14-42</td>
<td>10</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>MP14-63</td>
<td>5</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>MP14-77</td>
<td>4</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>12&quot; CIP</td>
<td>5</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>14&quot; CIP</td>
<td>10</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

IF THE MINIMUM LENGTH SHOWN IN THE TABLE ABOVE CANNOT BE OBTAINED, THEN THE DESIGNER SHALL PROVIDE CALCULATIONS TO SHOW THAT THE SLAB AND BEAM ARE RESTRICTED FROM MOVING IN THE RELEASED DIRECTION. THE DESIGNER SHALL ENSURE THAT ADEQUATE LATERAL RESISTANCE IS AVAILABLE, THAT NO LATERAL DEFORMATION OCCURS AT THE BOTTOM OF THE PILES, AND THAT THE MAXIMUM AXIAL COMPRESSION AND FLEXURE IN THE PILES SATISFY THE RECOMMENDATIONS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

PILE TYPES AND SIZES OTHER THAN THOSE SHOWN IN THE TABLE ABOVE MAY BE USED UNLESS APPROVED BY THE DEPARTMENT. THE MAXIMUM ALLOWABLE SIZE PILE DIAMETER IS 3 3/4" DIAMETER. THE PILE DIAMETER MEASURED AT THE TOP FLANGE OF THE DIAPHRAGM SHALL BE USED AS THE DIAGONAL DISTANCE BETWEEN DIAPHRAGM TOP FLANGES.

LIMITATIONS CONSIDERATIONS:

THE HEIGHT OF THE PILE CIP SHALL NOT EXCEED 7'-0".

INTERNAL ABUTMENTS SHALL BE SUPPORTED ON AT LEAST 4 PILES. FOR PEACE CONSTRUCTION PROJECTS, EACH PHASE SHALL BE SUPPORTED ON AT LEAST 4 PILES.

INTERNAL ABUTMENTS SHALL NOT BE USED WHERE THERE ARE CONCERNS ABOUT SETTLEMENT OR DIFFERENTIAL SETTLEMENT.

DESIGN SPECIFICATIONS:

THIS STRUCTURE SHALL CONFORM TO THE LATEST "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE GDOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

H-83 LIVE LOAD
FUTURE WEARING SURFACE 150# OF 0.060 KSF

DESIGN DATA:

CONCRETE CLASS D2 - COMPRESSIVE STRENGTH 4,500 PSI
CONCRETE CLASS D3 - COMPRESSIVE STRENGTH 5,000 PSI

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 36 OR 50 - YIELD STRENGTH 36,000 OR 50,000 LBS/

THE DESIGNER SHALL SPECIFY THE REQUIRED STEEL GRADE AND YIELD STRENGTH IN THE BRIDGE GENERAL NOTES.

STEELE H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

PAINTING OF STRUCTURAL STEEL:

THE ENTIRE SURFACE AREA EXPOSED WITHIN THE ABUTMENT DIAPHRAGM AND EXTENDING 1'-0" OUTSIDE THE DIAPHRAGM SHALL BE COATED WITH 2-HOUR RATED, INHERENTLY ZINC-RICH PRIMER, LOCALLY SHOP APPLIED. 1/4" LAYER OF COPPER COATING COATING IS REQUIRED ON THE EMBOSSED STEEL SURFACES. THE COST OF APPLYING THE PRIME COAT IS INCIDENTIAL TO THE BID FOR STRUCTURAL STEEL. REPAIR COATING DAMAGED BY WELDING ACCORDING TO AASHTO M142.

ELASTOMERIC BEARING ASSEMBLIES:

UTILIZE A WB-8 FLANGE SHAPE IN LEO OF AN HP SHAPE IN THE REARING ASSEMBLY. THE STRUCTURAL STEEL FOR THE MAIN MEMBER IS WEATHERING STEEL.

INTEGRAL ABUTMENT PARTIAL PLAN

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