NOTE TO DESIGNER:
MODIFY DETAIL AS NEEDED TO MEET WATERLINE OWNERS REQUIREMENTS.

WATER SERVICE ADJUSTMENT DETAIL - PROFILE VIEW

WATER SERVICE ADJUSTMENT DETAIL - PLAN VIEW

WATER SERVICE CONNECTION DETAIL

WATER SERVICE ADJUSTMENT DETAIL NO SCALE
1/4"elia anchor bolts at 12" o.c. around entire perimeter of culvert embedded in concrete

3/4" x 6" x 6" wire mesh reinforcing throughout concrete mass and concrete edge protection

<table>
<thead>
<tr>
<th>DIMENSIONS</th>
<th>TYPICAL SPAN AND RISE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATION</td>
<td>SPAN (FT-IN)</td>
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</tbody>
</table>

CONCRETE EDGE PROTECTION

SLOPE VARIES

CONCRETE CUTOFF WALL

COFFERDAM

-note: include reinforcing details if unit price is PER CY/ YD OR CLASS GENERAL CONCRETE. include anchor bolts in the unit price bid per linear foot of culvert. quantities are based on the dimensions in the table.

DETAIL

BEDDING FOR STRUCTURAL STEEL PLATE PIPE ARCH CULVERT

NO SCALE
# HYDRAULIC DATA SUMMARY

<table>
<thead>
<tr>
<th>STATION</th>
<th>STREAM NAME</th>
<th>DRAINAGE AREA</th>
<th>SIZE / TYPE</th>
<th>DESIGN FLOOD</th>
<th>BASE FLOOD (%)</th>
<th>OVERTOPPING FLOOD (%)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Structure</td>
<td>Magnitude</td>
<td>Frequency</td>
<td>Magnitude</td>
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<td>H.W. ELEV</td>
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</tbody>
</table>

**NOTES:**

1. N.W. ELEVATIONS SHOWN ARE BASED UPON YEAR FLOW ANALYSIS UNLESS NOTED IN REMARKS COLUMN.
2. OVERTOPPING IS DEFINED AS FLOW OVER THE ROAD. FLOW THROUGH A SIGNIFICANT RELIEF STRUCTURE OR FLOW OVER THE BASIN DIVIDE WHEREVER IT OCCURS.
3. THE FLOOD SPECIFIED IS SUBJECT TO THE EXTENT TO WHICH THE FLOoding ANALYSIS INCORPORATES THE EFFECT OF FEDERAL AND POLICY GUIDES: MINIMUM RATING INTENT 1 (DEC 2010).
4. HIGH WATER ELEVATIONS MAY VARY SLIGHTLY DEPENDING ON THE FLOW OPTION SELECTED.
5. PROCEDURE MEMORANDUM NO.20 HYDRAULICS MANUAL CHAPTER 9 APPENDIX N.

**REMARKS**

(FLOOD OF RECORD, Qp(max), etc.)
NOTE TO DESIGNER:
AS IN M 361 
- UNNOVED LOW HEAD CONCRETE PRESSURE PIPE SHOULD BE USED FOR SYPHONS THAT WILL HAVE A HEAD GREATER THAN 20 FEET.
RIPRAP LINED DITCH

EXISTING GROUND OR FINISHED GRADE

DITCH WIDTH

PERMANENT EROSION CONTROL GEOTEXTILE

HIGH STONEABILITY CLASS "C"

4" PLANT MIX SURFACING

EDGE OF PAVEMENT

PLANT MIX SHOULDER APRON

AVERAGE WIDTH

EXISTING SLOPE VARIES

PLANT MIX LINED DITCH

AVERAGE WIDTH

SEA TOP SURFACE

GRADE TO DRAIN

RESHAP AND COMPACT EXISTING SLOPES AS NECESARY TO PROVIDE SUITABLE PAVING. NO CLEANS, SEAP TOP SURFACE TO SHEET METAL. POTENTIAL EXISTING SLOPES ARE REQUIRED TO ENGINEER'S APPROVAL. RESHAPING PAID FOR WITH GRADE MOUNTS. COMPACTION TO BE INCLUDED IN COST OF OTHER ITEMS.
NOTES TO DESIGNER:
1. TYPICALLY USED FOR AFS LESS THAN 10,000 FT.
2. CONSIDER FILLING RIPRAP HOLES WITH CRANLAGAN BEDDING.
DETAIL

RIPRAP REVEGETATION TYPICAL

ENDMENIENT PROTECTION

MINIMUM T FOR:
CLASS I RIPRAP = 2'-0"
CLASS II RIPRAP = 2'-6"
CLASS III RIPRAP = 3'-0"

NOTES:

1. Fill riprap voids with granular bedding or a material of similar gradation obtained on site to provide a uniform surface for the placement of topsoil as approved by the project manager.

2. Place topsoil with a minimum thickness of 6".

3. This detail is to be used as a visual guide for riprap revegetation. Refer to the plan sheets and cross sections for specific elevations and geometric configuration of the riprap layout.

4. Refer to the special provisions for planting and seeding specifications.

LEGEND

TOPSOIL WITH EROSION CONTROL BLANKET/MULCH COVER

RANDOM RIPRAP

GRANULAR BEDDING

EXISTING GROUND

PERMANENT EROSION CONTROL GEOTEXTILE

EXCAVATION

RIPRAP REVEGETATION DETAIL
NO SCALE
SPECIAL DESIGN CURB INLET - PLAN VIEW

SPECIAL DESIGN CURB INLET - SECTION VIEW

NOTES:
1. See plans for locations and quantities.
2. Plan station and offset for special design curb inlet is center of structure.
3. Standard unless otherwise noted on plans.
4. Set all final inlet grate elevations to ensure that positive drainage is provided.

CURVED VANE STYLE #

STRAIGHT BAR STYLE #

# PROVIDE SPECIAL DESIGN CURB INLETS WITH CURVED VANE UNLESS OTHERWISE NOTED IN THE PLANS.
* GRATE ELEVATIONS FOR SPECIAL DESIGN CURB INLETS SHOWN IN PLANS ARE 1 IN. LESS THAN GUTTER FLOW LINE ELEVATION.