COARSE BACKFILL (SEE NOTE 8)
X1 - SILL CONTROL POINT ELEVATION (SEE NOTE 2)
HEADER BOULDER, TYPICAL
TOP OF BANK TYPICAL
TOE OF BANK TYPICAL

X3

X4

PLAN VIEW

COARSE BACKFILL (SEE NOTE 8)
X1 - SILL CONTROL POINT ELEVATION (SEE NOTE 2)
HEADER BOULDER, TYPICAL
TOP OF BANK TYPICAL
TOE OF BANK TYPICAL

X3

X4

PLAN VIEW

STREAM BED
FILTER FABRIC (SEE NOTE 7)
COARSE BACKFILL (SEE NOTE 8)
X1 - SILL CONTROL POINT ELEVATION
HEADER BOULDER (SEE NOTE 6)
X2 - POOL CONTROL POINT ELEVATION

PROFILE A - A'

APPROXIMATE BASE FLOW WATER LEVEL
STREAM BANK STABILIZATION, IF SPECIFIED (SEE NOTE 10)
TOE OF SLOPE
HEADER BOULDER, TYPICAL
EXISTING GROUND
STREAM BED (SEE NOTES 3, 9E)
FOOTER BOULDER, TYPICAL

CROSS SECTION B - B'

APPROXIMATE BASE FLOW WATER LEVEL
STREAM BANK STABILIZATION, IF SPECIFIED (SEE NOTE 10)
TOE OF SLOPE
HEADER BOULDER, TYPICAL
EXISTING GROUND
STREAM BED (SEE NOTES 3, 9E)
FOOTER BOULDER, TYPICAL

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BOULDER SILL

DRAFT - NOT TO BE USED FOR CONSTRUCTION
NOTES:

1. A BOULDER SILL MAY BE USED ALONE OR IN COMBINATION WITH A CONSTRUCTED RIFFLE.

2. AN ELEVATION CONTROL POINT SHALL BE DESIGNATED AT THE CENTER OF THE SILL TO ESTABLISH PART OF THE PROFILE. POOL ELEVATION CONTROL POINTS OR EXCAVATION TO A SPECIFIED MAXIMUM POOL DEPTH SHALL BE DESIGNATED TO ESTABLISH THE REMAINING PROFILE. SURVEY OF CONTROL POINTS SHALL BE REQUIRED TO ESTABLISH ACCURATE INSTALLATION WITHIN THE TOLERANCE SPECIFIED BY THE DESIGNER.

3. NO PART OF THE SILL SHALL BE PLACED ABOVE THE ELEVATION OF THE STREAM BED.

4. IF PLANS DESIGNATE THE USE OF MULTIPLE BOULDER SILLS A TABLE OF ALL STATION LOCATIONS AND CONTROL POINT ELEVATIONS SHALL BE PROVIDED IN THIS DETAIL OR PROVIDED ELSEWHERE IN THE PLANS AND REFERENCED HEREIN.

5. TYPICAL RIFFLE AND POOL CROSS SECTIONS SHALL BE PROVIDED ELSEWHERE IN THE PLANS TO ESTABLISH THE DIMENSIONS OF THE CHANNEL GRADING INTO WHICH THE BOULDER SILLS ARE TO BE INSTALLED.


8. COARSE BACKFILL OF THE BOULDERS SHALL BE OF A TYPE, SIZE, AND GRADATION AS SPECIFIED BY THE DESIGNER. COARSE BACKFILL SHALL BE PLACED TO A THICKNESS EQUAL TO THE DEPTH OF THE HEADER AND ANY FOOTER BOULDERS AND SHALL EXTEND UPSTREAM FROM THE SILL A DISTANCE SPECIFIED BY THE DESIGNER.

9. THE BOULDER SILL IS GENERALLY CONSTRUCTED AS FOLLOWS:
   A. OVER-EXCAVATE STREAM BED TO A DEPTH EQUAL TO THE TOTAL THICKNESS OF THE HEADER AND FOOTER BOULDERS.
   B. PLACE FOOTER BOULDERS. A LAYER OF BEDDING MATERIAL UNDER THE FOOTER BOULDERS MAY BE SPECIFIED BY THE DESIGNER. THERE SHALL BE NO GAPS BETWEEN BOULDERS.
   C. INSTALL FILTER FABRIC.
   D. PLACE COURSE BACKFILL BEHIND THE FOOTER BOULDERS.
   F. PLACE COARSE BACKFILL BEHIND HEADER BOULDERS ENSURING THAT ANY VOIDS BETWEEN THE BOULDERS ARE FILLED.

10. STREAM BANK STABILIZATION, IF SPECIFIED, SHALL BE ADDED TO THIS DETAIL OR DETAILED SEPARATELY AND REFERENCED HEREIN.

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DIMENSIONS (VALUES TO BE PROVIDED BY DESIGNER)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>VALUES</th>
<th>TYPICAL UNIT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td></td>
<td>FT. (NAVD)</td>
<td>SILL CONTROL POINT ELEVATION</td>
</tr>
<tr>
<td>X2</td>
<td></td>
<td>FT. (NAVD)</td>
<td>POOL CONTROL POINT ELEVATION</td>
</tr>
<tr>
<td>X3</td>
<td></td>
<td>FT.</td>
<td>STREAM BED WIDTH</td>
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<td>FT.</td>
<td>CHANNEL WIDTH</td>
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<tr>
<td>X5</td>
<td></td>
<td>FT.</td>
<td>LENGTH OF SILL EMBEDDED IN SOIL</td>
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<tr>
<td>X6</td>
<td></td>
<td>FT.</td>
<td>LENGTH OF COARSE BACKFILL</td>
</tr>
<tr>
<td>X7</td>
<td></td>
<td>IN. OR FT.</td>
<td>BOULDER WIDTH</td>
</tr>
<tr>
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<td></td>
<td>IN. OR FT.</td>
<td>BOULDER LENGTH</td>
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<tr>
<td>X9</td>
<td></td>
<td>IN. OR FT.</td>
<td>BOULDER THICKNESS (DEPTH)</td>
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<td>X10</td>
<td></td>
<td>IN. OR FT.</td>
<td>BOULDER PLACEMENT OFFSET</td>
</tr>
<tr>
<td>X11</td>
<td></td>
<td>IN. OR FT.</td>
<td>APPROXIMATE BASE FLOW DEPTH</td>
</tr>
</tbody>
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