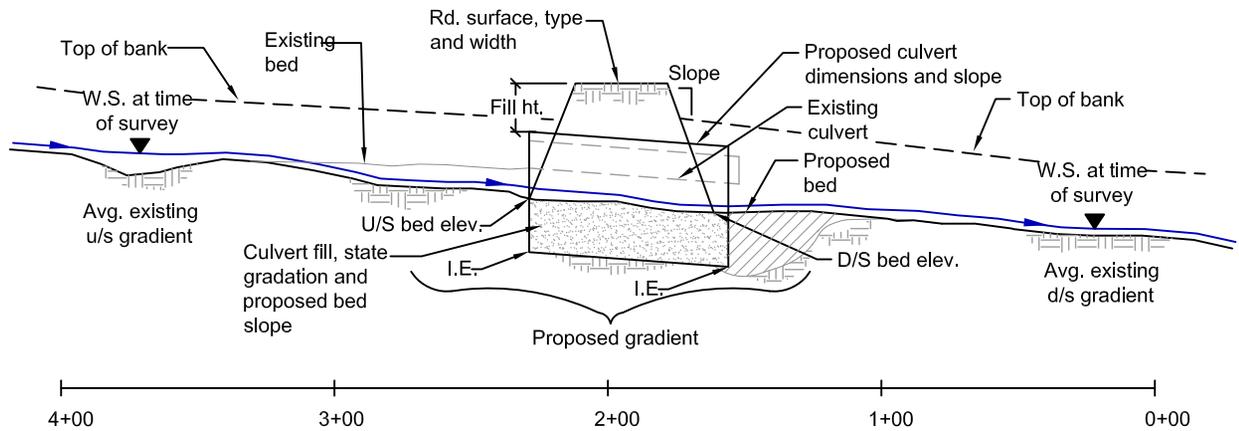


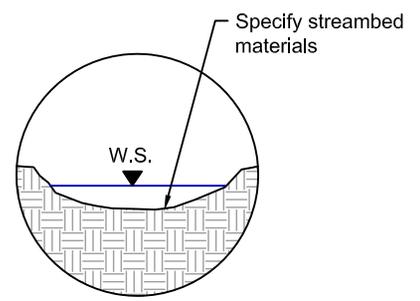
PLAN VIEW
Not to Scale

NOTES:

1. Show road and stream on plan view, indicating changes in alignment and special features that affect the design.
2. Show both the existing and proposed longitudinal profile, current water surface elevation, specify culvert inverts, bed elevations and degree of regrade expected. Length of profile should be at least 40 times the bankfull width plus the length of the culvert.
3. Show proposed culvert cross section with streambed shape. Specify culvert bed materials.
4. Show road drainage plan, including cross culverts, ditch lining, sediment ponds, etc.
5. Show 100-year flood water surface, and top of bank on profile.
6. Show details concerning stream channel characteristics, for instance pool-riffle geometry, size and placement of large wood.
7. Provide a site map with contours and stream layout details.
8. Indicate bankfull width and approximate locations of measurements.



STREAM PROFILE
Not to Scale



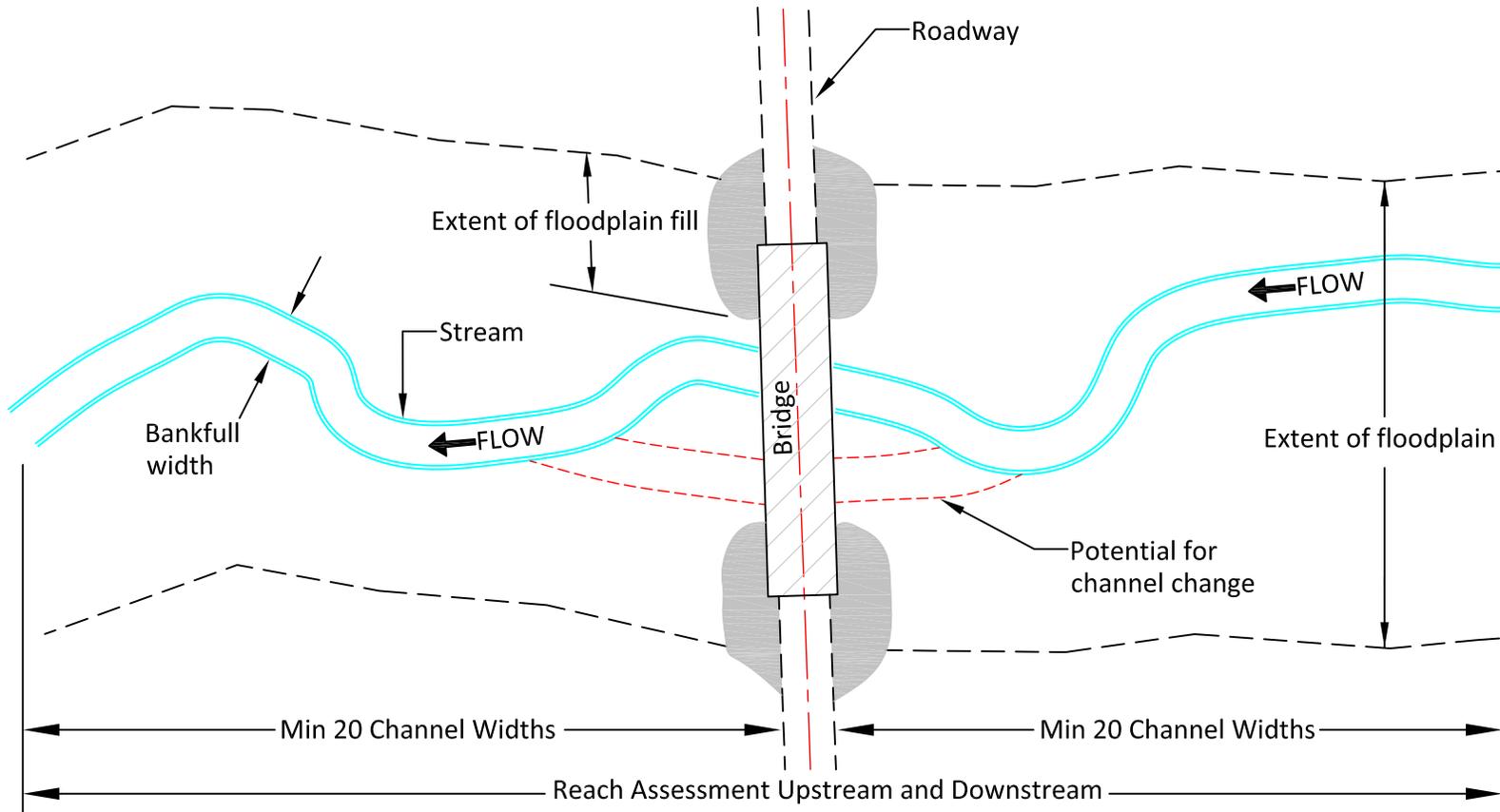
SECTION A-A
Culvert Cross Section



Engineer:
 Drawn by: K. Corwin
 Reviewed by:
 Approved by:

Example Drawing S-1
Culvert Replacement

Date:
6 - 3 - 15
 Sheet:
1 of 1



Reach Assessment:

- Assessment length min 20 channel widths, longer for larger rivers.
- Show basic channel and floodplain geometry.
- Show expected lateral migration during bridge life span.
- Show bridge abutments, foundation, piers, and floodplain fill.
- Show existing infrastructure that affects bridge design.
- Show clearance above 100-year flood water surface with consideration for debris.
- Show existing large wood jams.
- Show revegetation plan and mitigation measures.



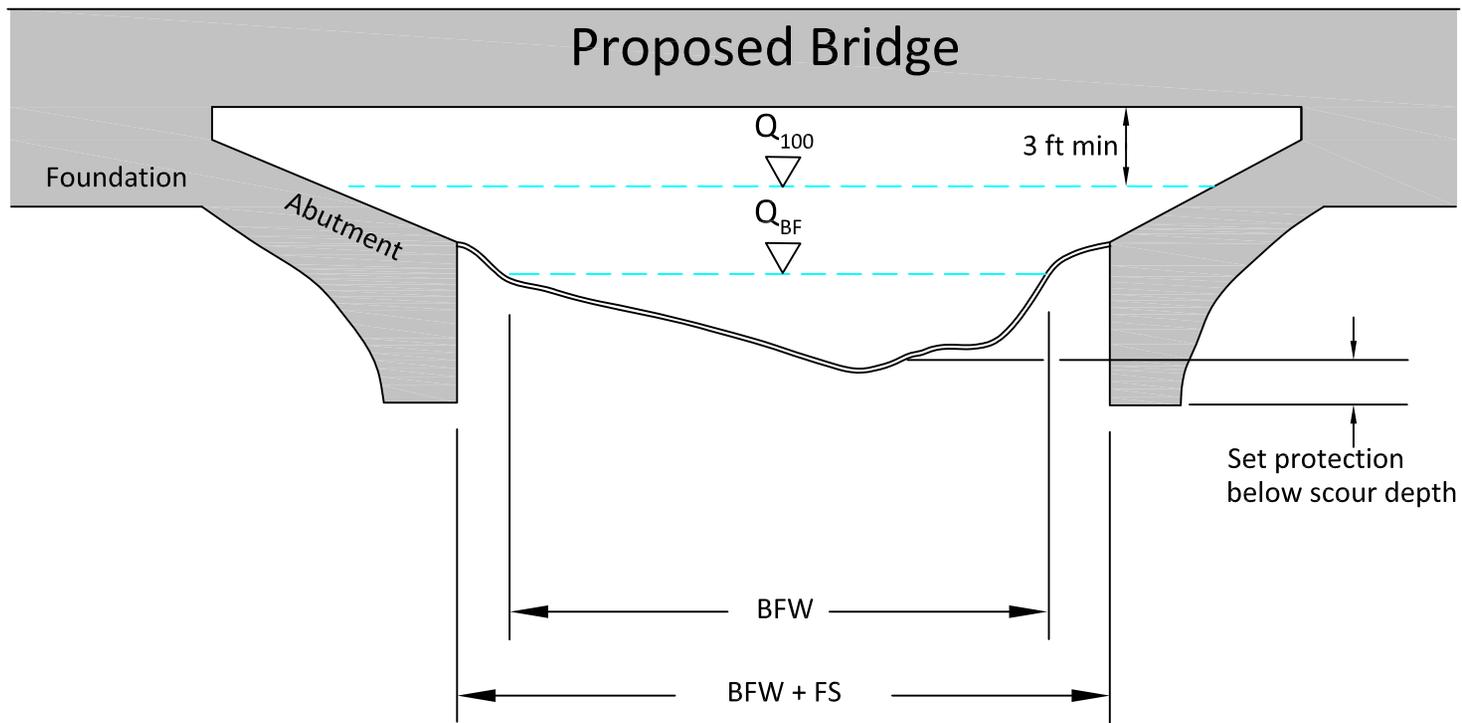
Engineer:
 Drawn by: J. Query
 Reviewed by:
 Approved by:

Example Drawing S-2
Bridge Plan View - Reach Assessment

Date:
 6 - 3 - 15

Sheet:
 1 of 1

Bridge cross section in confined channel (Floodplain width < 3 x BFW).



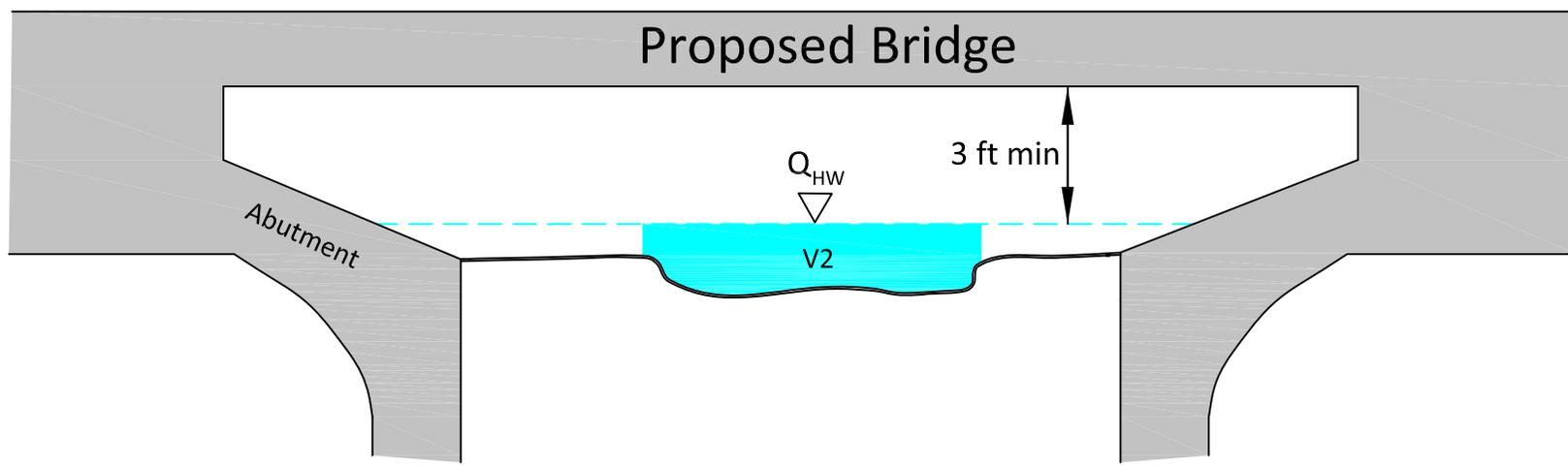
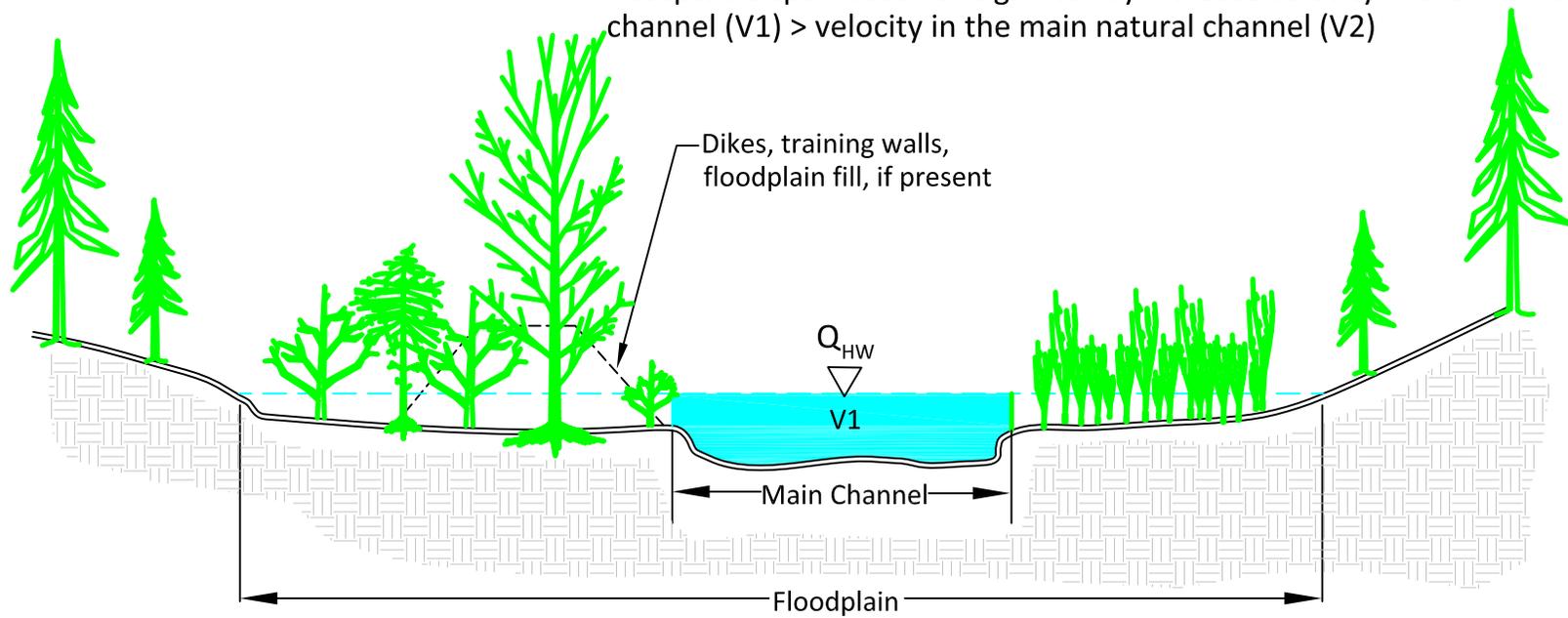
Engineer:
Drawn by: J. Query
Reviewed by:
Approved by:

Example Drawing S-3
Bridge Cross Section - In Confined Channel

Date:
6 - 3 - 15

Sheet:
1 of 1

Bridge cross section in unconfined channel (Floodplain width > 3 x BFW).
 Acceptable span does not significantly increase velocity in the main bridge channel (V_1) > velocity in the main natural channel (V_2)

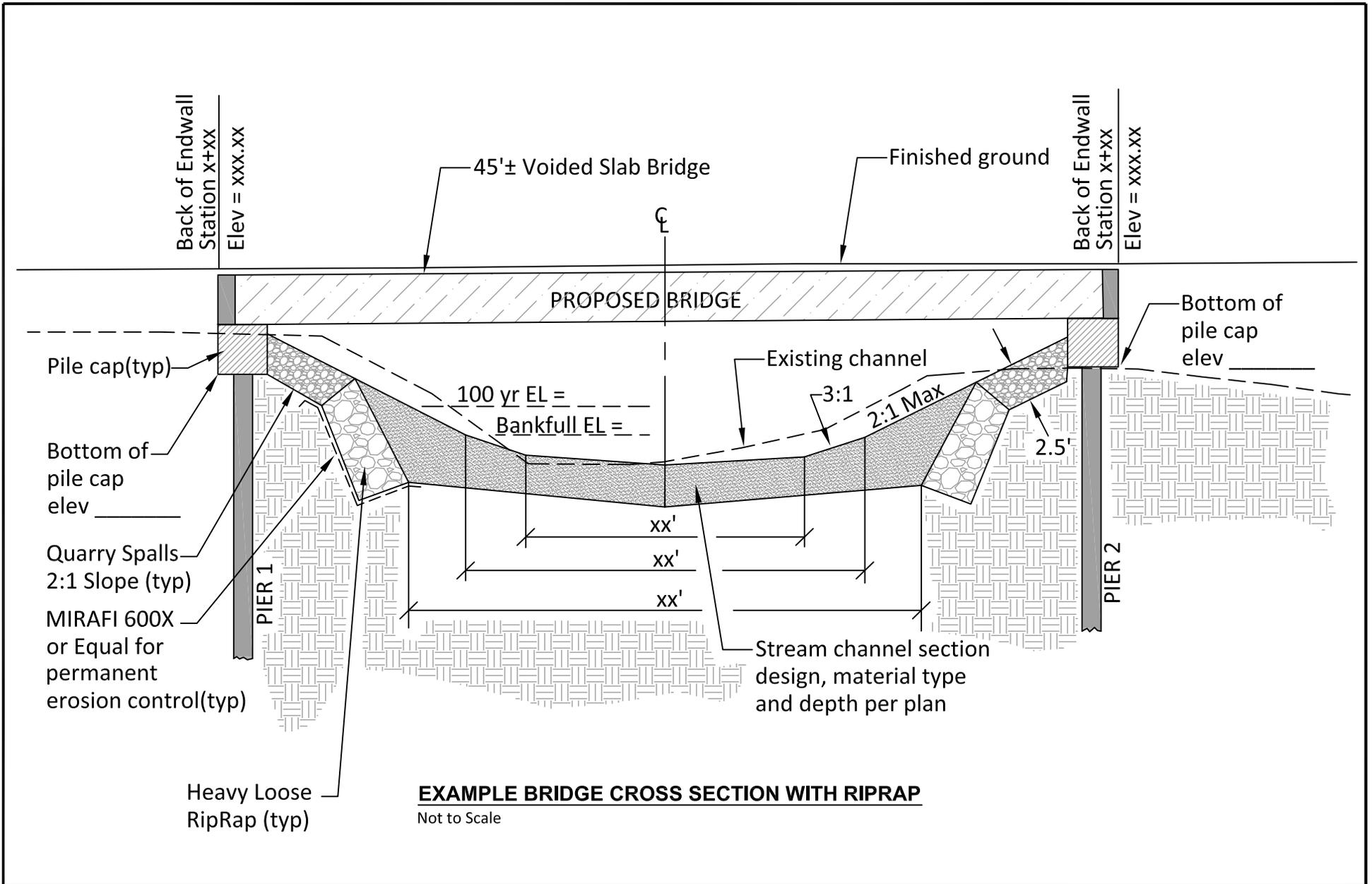


Engineer:
 Drawn by: J. Query
 Reviewed by:
 Approved by:

Example Drawing S-4
Bridge Cross Section - In Unconfined Channel

Date:
 6 - 3 - 15

Sheet:
 1 of 1

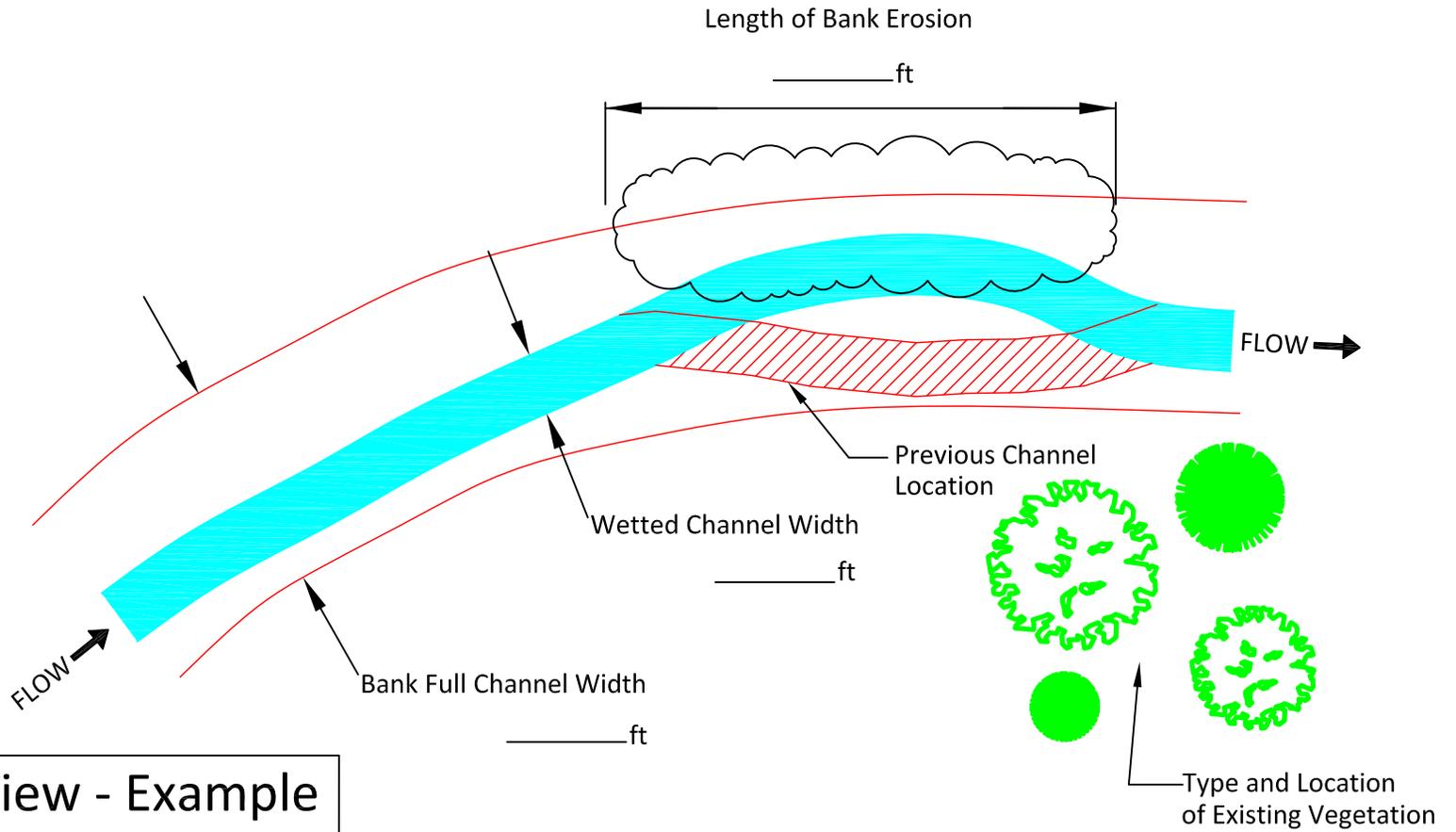


Engineer:
 Drawn by: J. Query
 Reviewed by:
 Approved by:

Example Drawing S-5
Bridge Cross Section - With RipRap

Date:
 6 - 3 - 15

Sheet:
 1 of 1



Plan View - Example

Not to scale

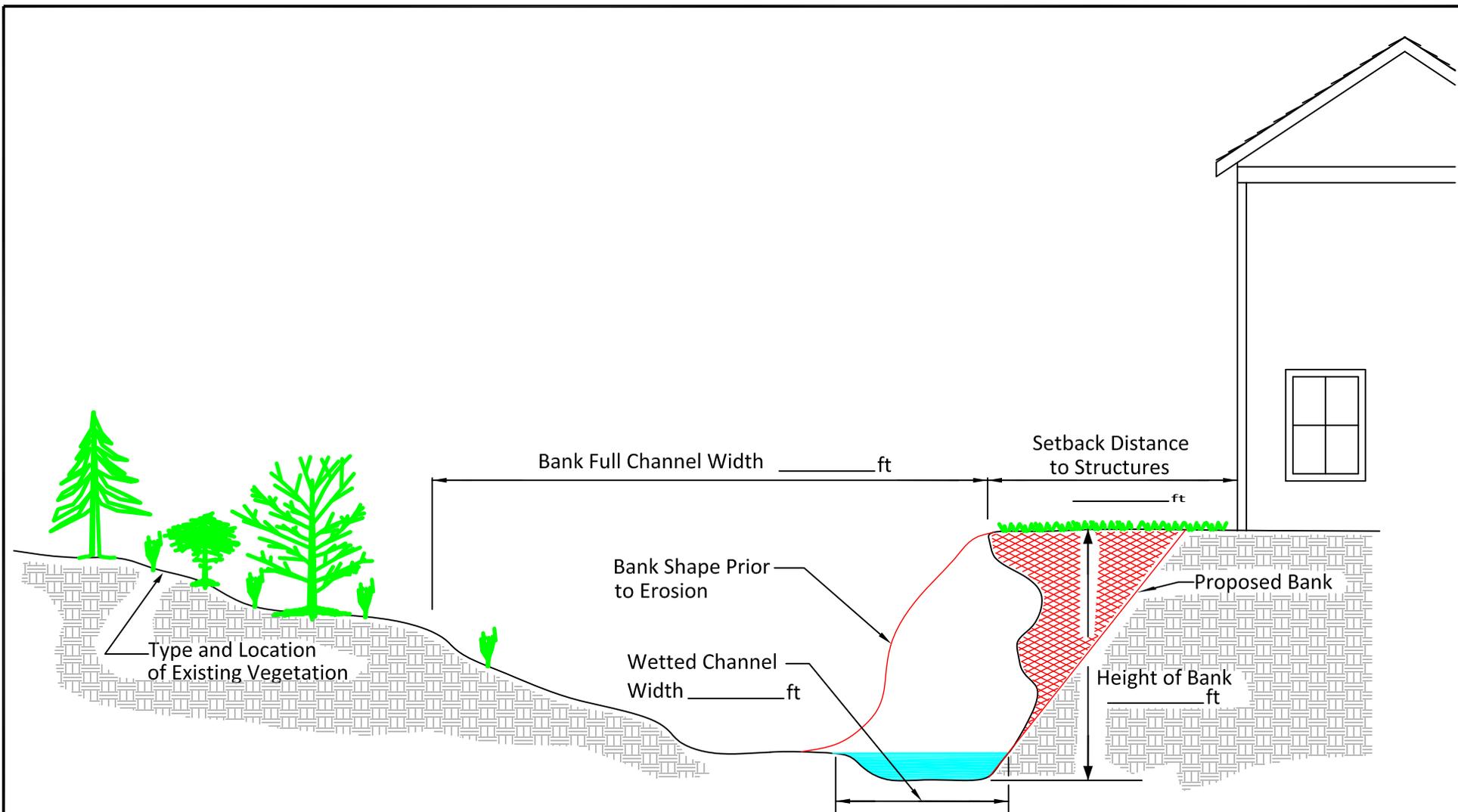


Engineer:
 Drawn by: J. Query
 Reviewed by:
 Approved by:

**Example Drawing S-6a
 Bank Erosion Detail - Plan View**

Date:
 6 - 3 - 15

Sheet:
 1 of 1



Section View - Example

Not to scale

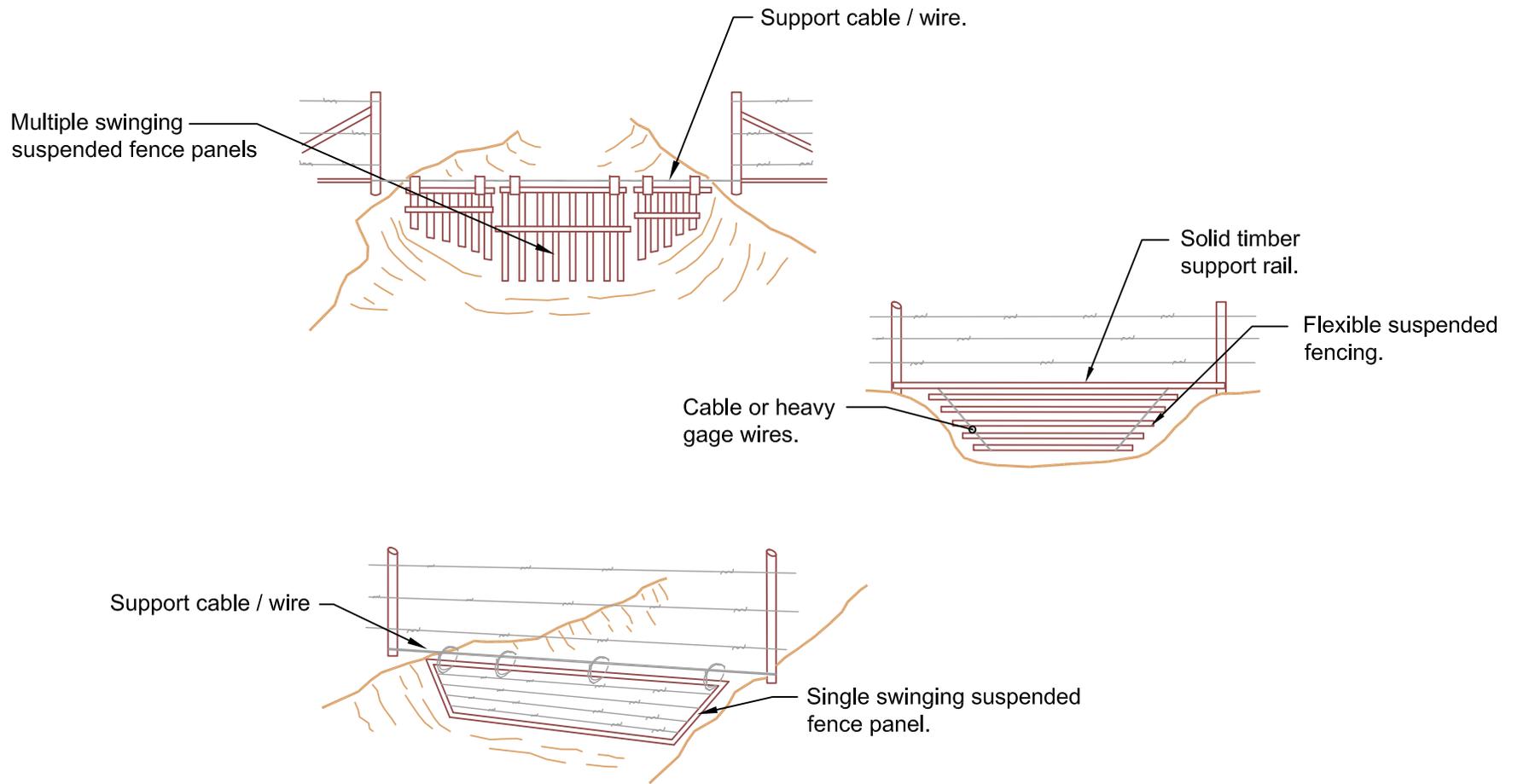


Engineer:
 Drawn by: J. Query
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 Approved by:

Example Drawing S-6b Bank Erosion Detail - Section

Date:
6 - 3 - 15

Sheet:
1 of 1



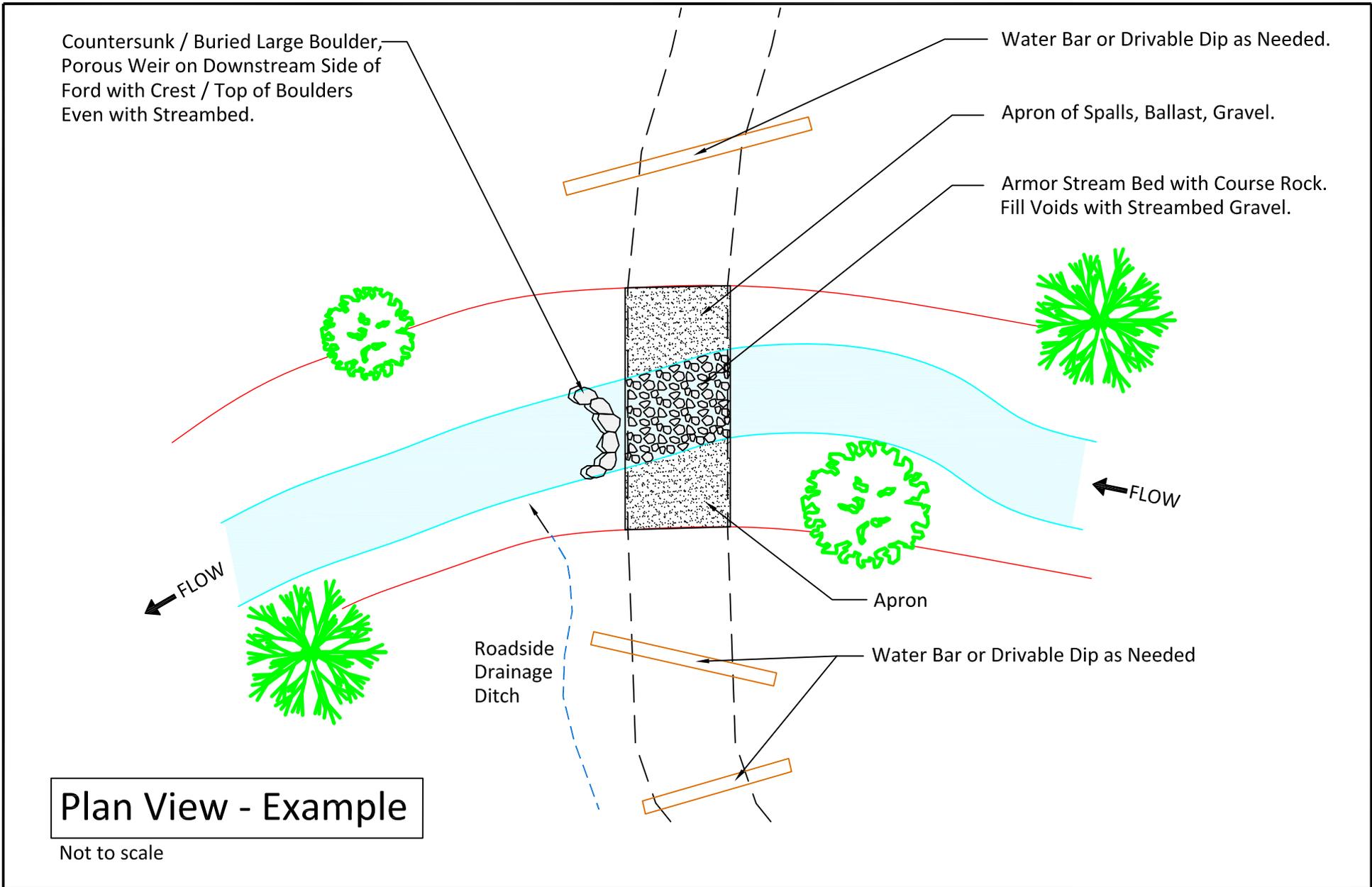
Engineer:
 Drawn by: K. Corwin
 Reviewed by:
 Approved by:

Example Drawing S - 7

Fencing Alternatives For Water Gaps

Date:
 12 - 1 - 14

Sheet:
 1 of 1

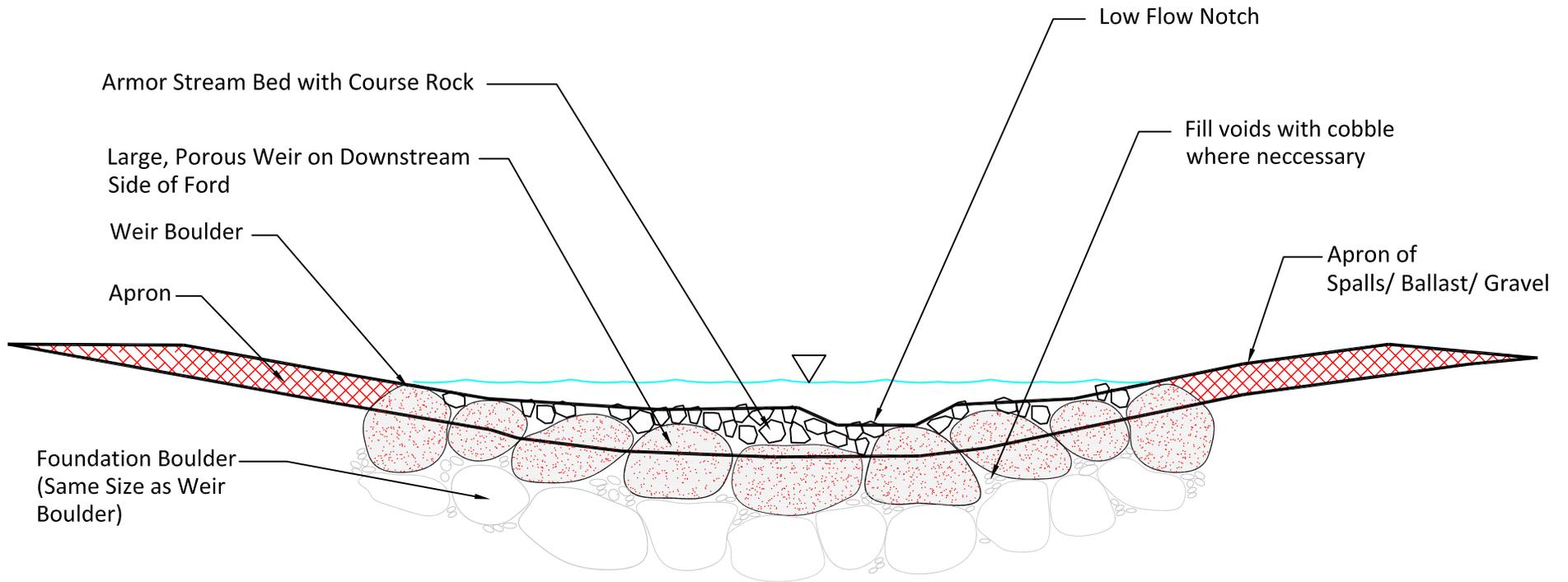


Engineer:
 Drawn by: K. Corwin
 Reviewed by:
 Approved by:

Example Drawing S-8a
Ford Detail - Plan View

Date:
 6 - 3 - 15

Sheet:
 1 of 2



Section View - Example

Not to scale



Engineer:
 Drawn by: K. Corwin
 Reviewed by:
 Approved by:

Example Drawing S-8b
Ford Detail - Section

Date:
 6 - 3 - 15

Sheet:
 2 of 2