



DUPAGECOUNTY

STORMWATER MANAGEMENT



Fawell Dam Modification & Restoration

Fish Passage Improvement

Overview



Fawell Dam

Background

- Constructed by IDNR between 1969 and 1971
- Ownership transferred to DuPage County in 1998

Location

- West Branch DuPage River
- Between Naperville & Warrenville
- McDowell Grove Forest Preserve



Functionality



Fawell Dam

Description

- Dam crest approximately 26 ft. high and nearly 1,500 ft. long
- Reservoir storage of nearly 5,000 acre-ft.
- Culverts are 80 ft. long with a slope of 5%

Gate Operations

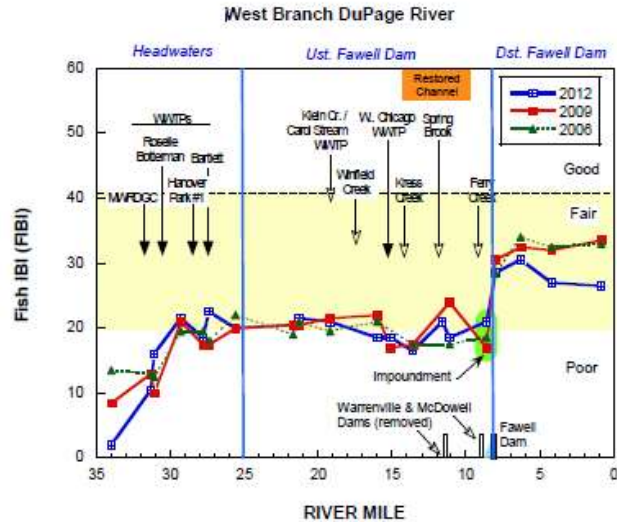
- Three 10 ft. by 10 ft. slide gates and culverts
- Gates are opened and closed as a function of upstream water levels



Barrier to Aquatic Life



Several fish species are present downstream of Fawell Dam that have not been found upstream of the dam.



Proposed Solution



Retrofit Existing Structure to Allow for Fish Passage

Lower at least two of the box culverts

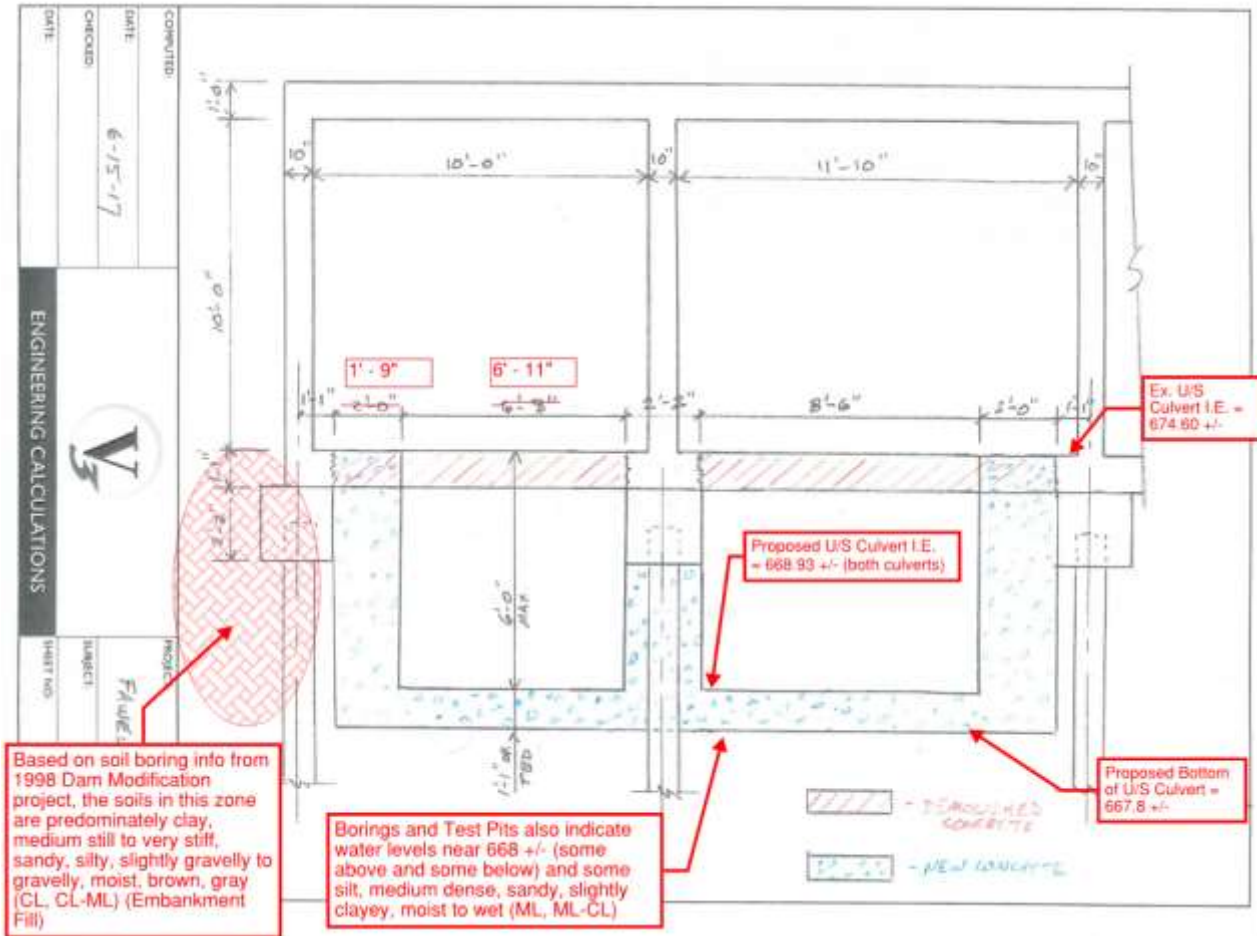
- Lowering the sill that is currently above the natural river bed will eliminate the physical barrier to fish.
- The flat slope within the culverts will allow for lower velocities that are conducive to fish passage.

Modify Gate Operation Plan to Maintain Flood Control Functionality

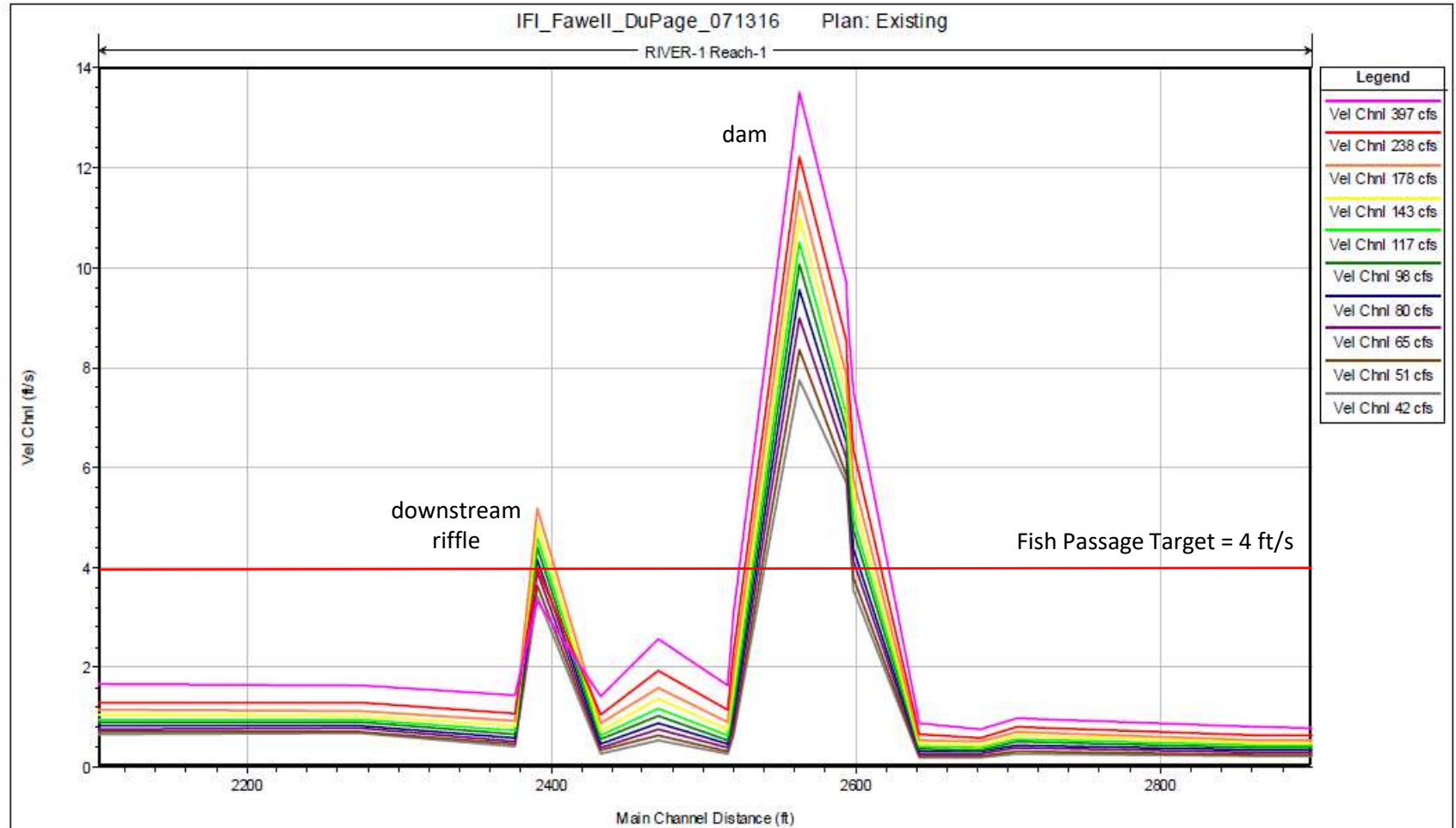
Modifications to the dam structure and gate operations will have to comply with County and State ordinances and regulations

- No adverse flooding impact
- Dam safety compliance

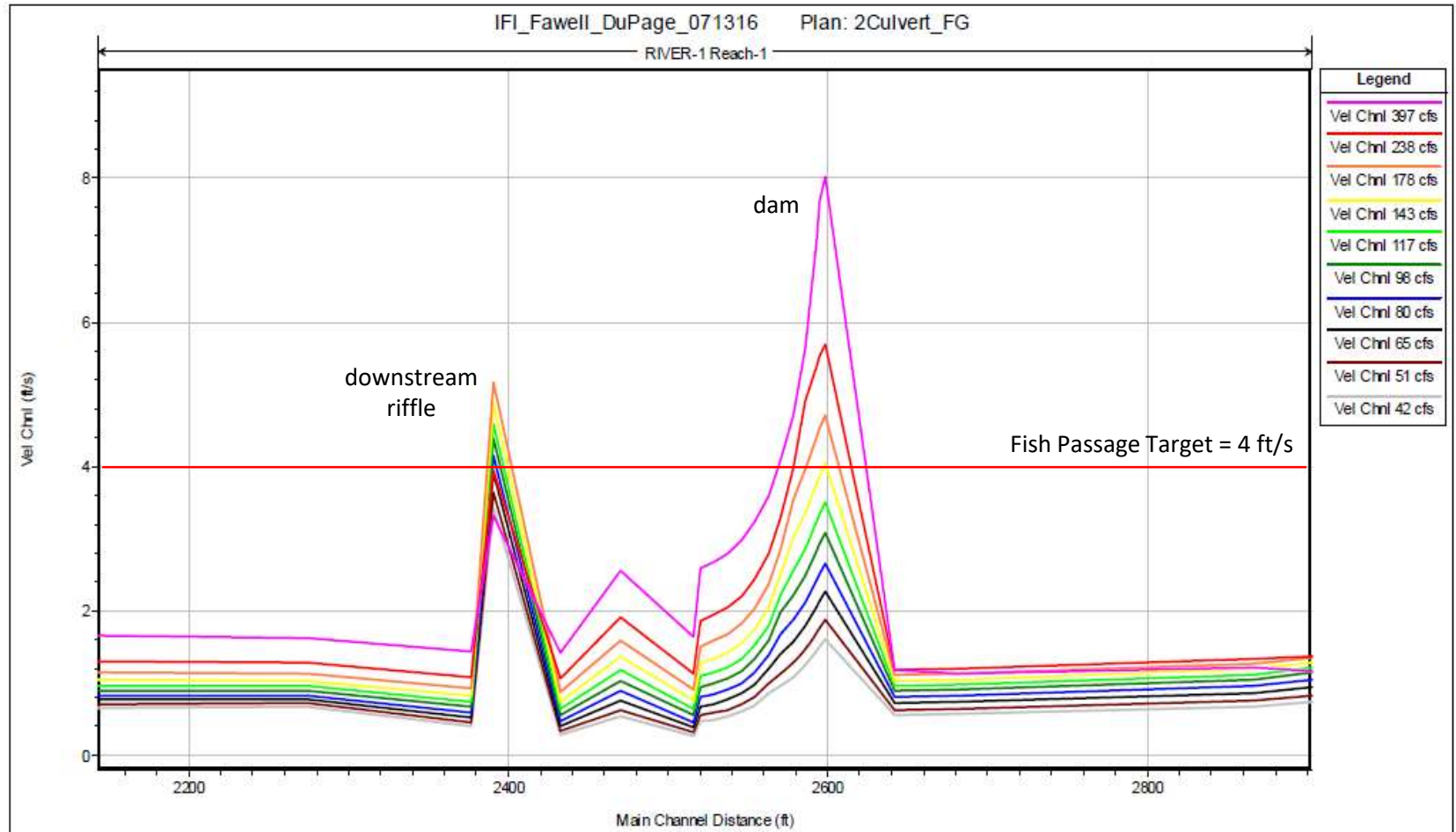
STRUCTURAL CONSIDERATIONS



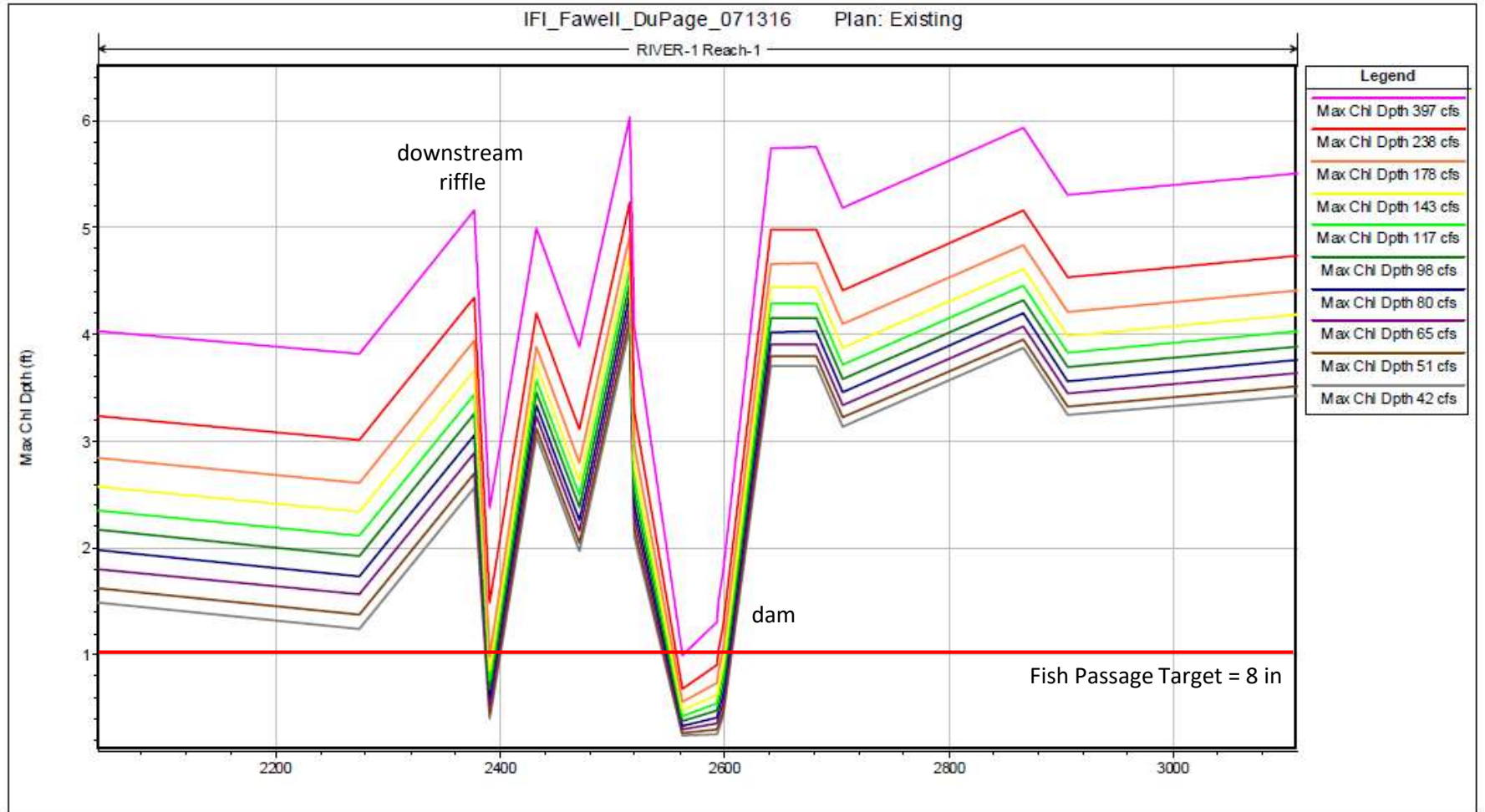
Water Velocities - Existing



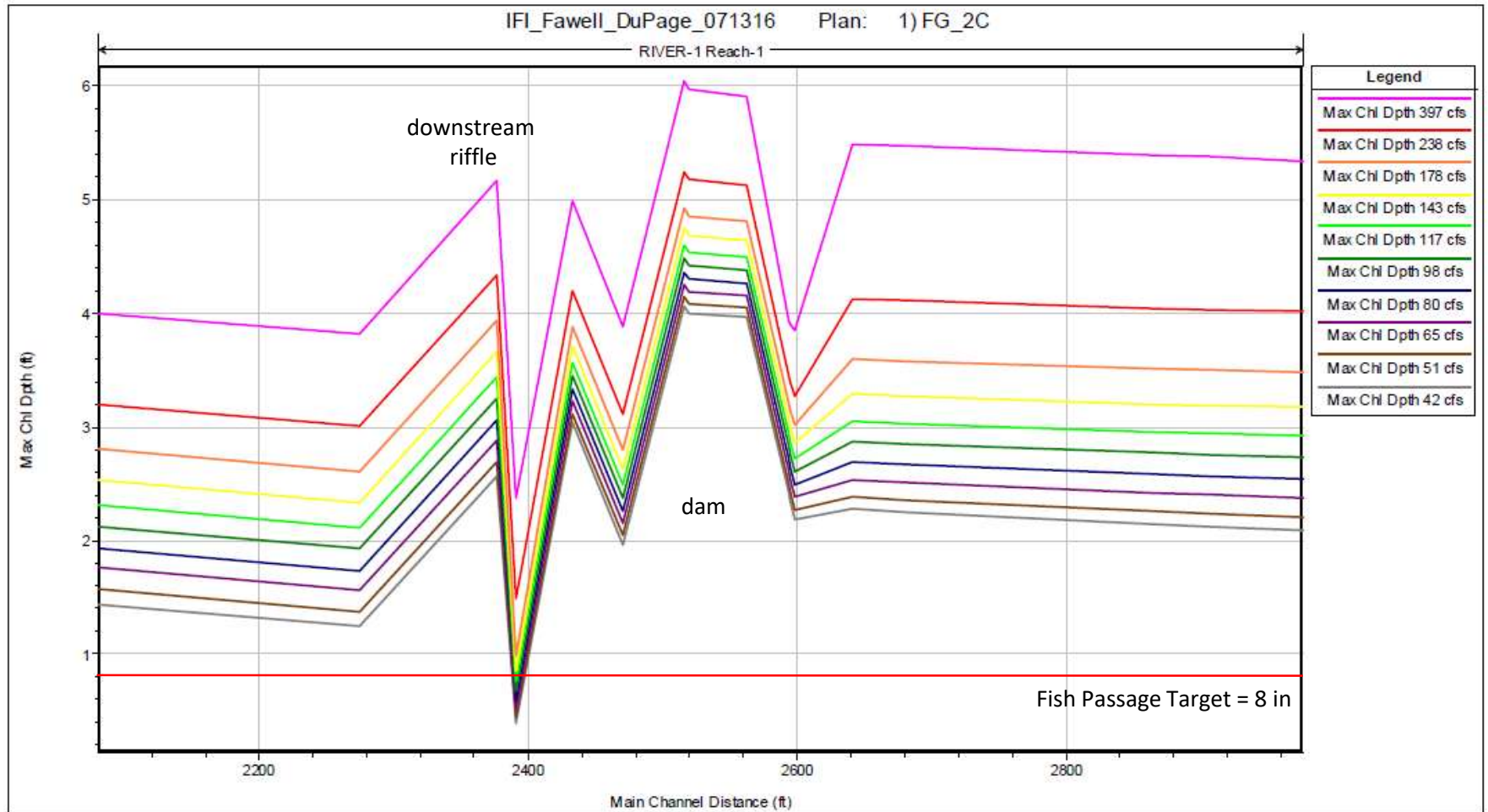
Water Velocities - Modified



Water Depth - Existing



Water Depth - Modified



Timeline



Hydraulic Analysis

Two hydraulic models:

- FEQ
- HEC-RAS

Geotechnical Analysis

- Analyze material under wingwalls and culverts

Structural & Constructability Analysis

- Tollway conducting fatal flaw analysis

Permitting

INDR and DuPage County

- Exact schedule dependent on hydraulic and structural analysis

Questions



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