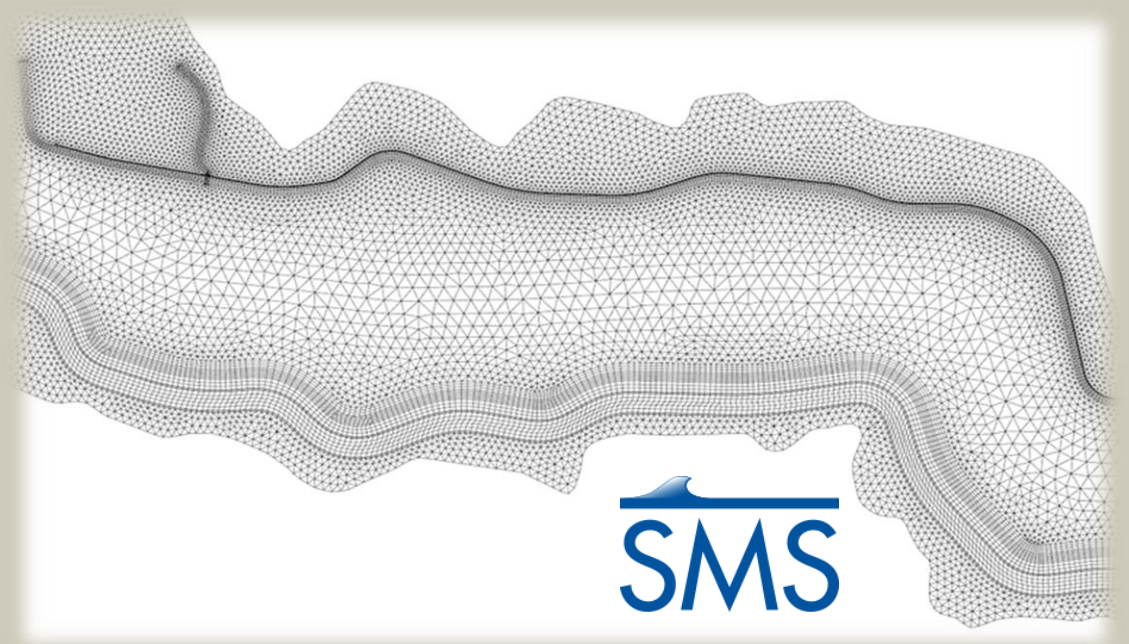

HYDRO_AS-2D Model Interface Enhancements

Tom Moreland
Aquaveo, LLC

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SMS Development Highlights

- Options for Merging Meshes
- Mesh Building Enhancements
- New Tools in Dataset Toolbox
- 1D Summary Tables
- Dynamic Model Interface for HYDRO_AS-2D
- Performance and Display Optimization

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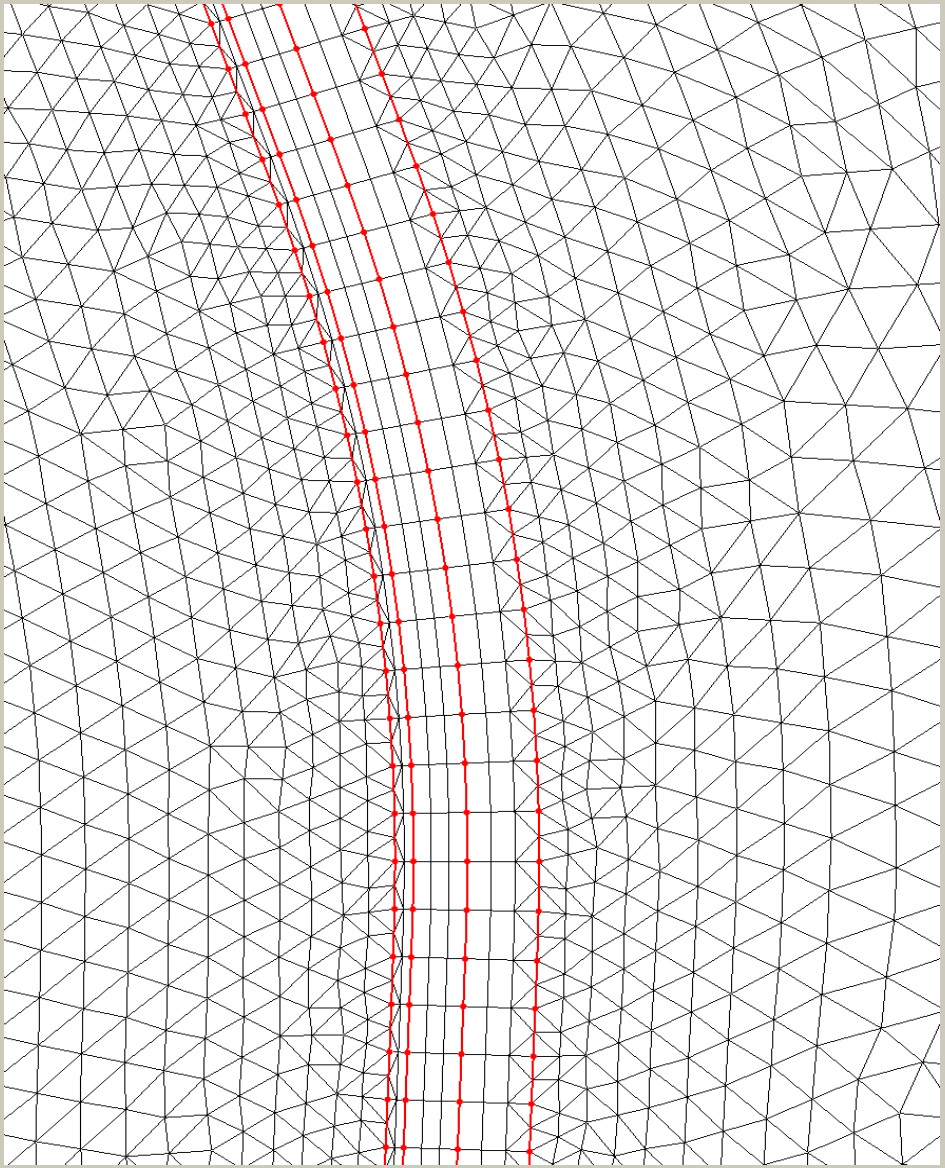
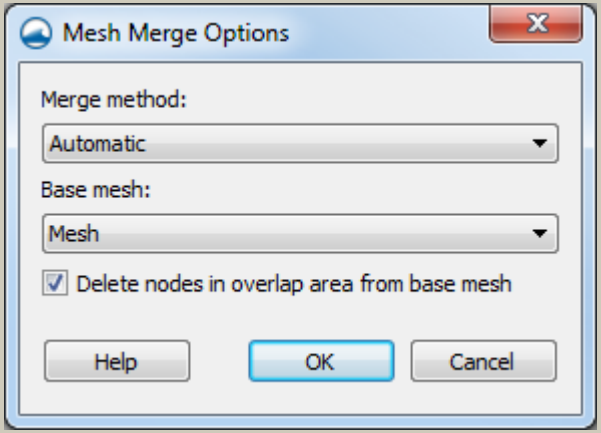
Merging Meshes



Merge Methods:

- Automatic
- Overlapping
- Non-Overlapping



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Mesh Building Enhancements

- Redistribute Vertices on Arcs
  - Size Function
  - Source Arc
- Arc Offsetting
- Arc Smoothing
- Convert Elements to Arcs

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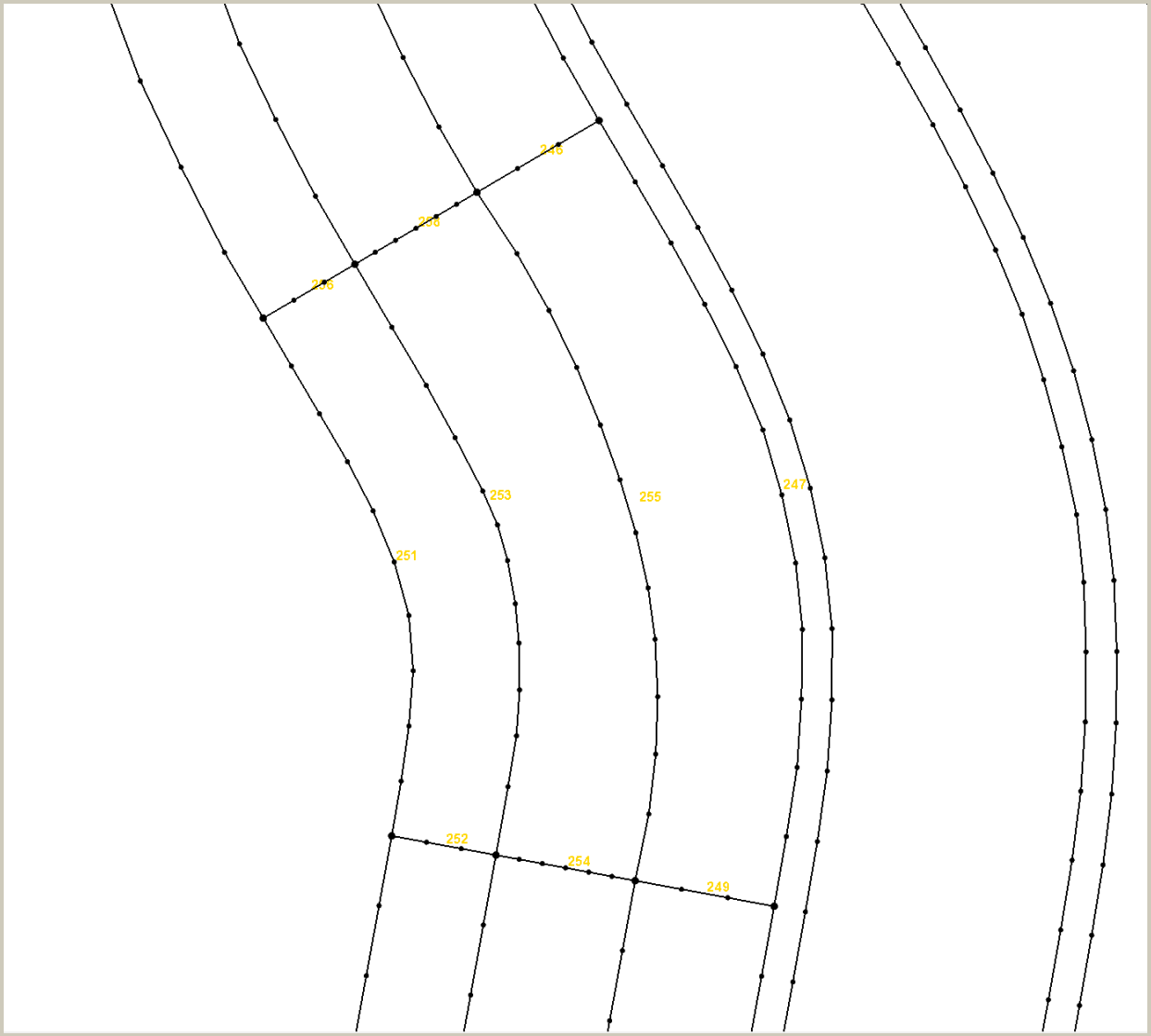
Redistribute Vertices Based on Source Arc



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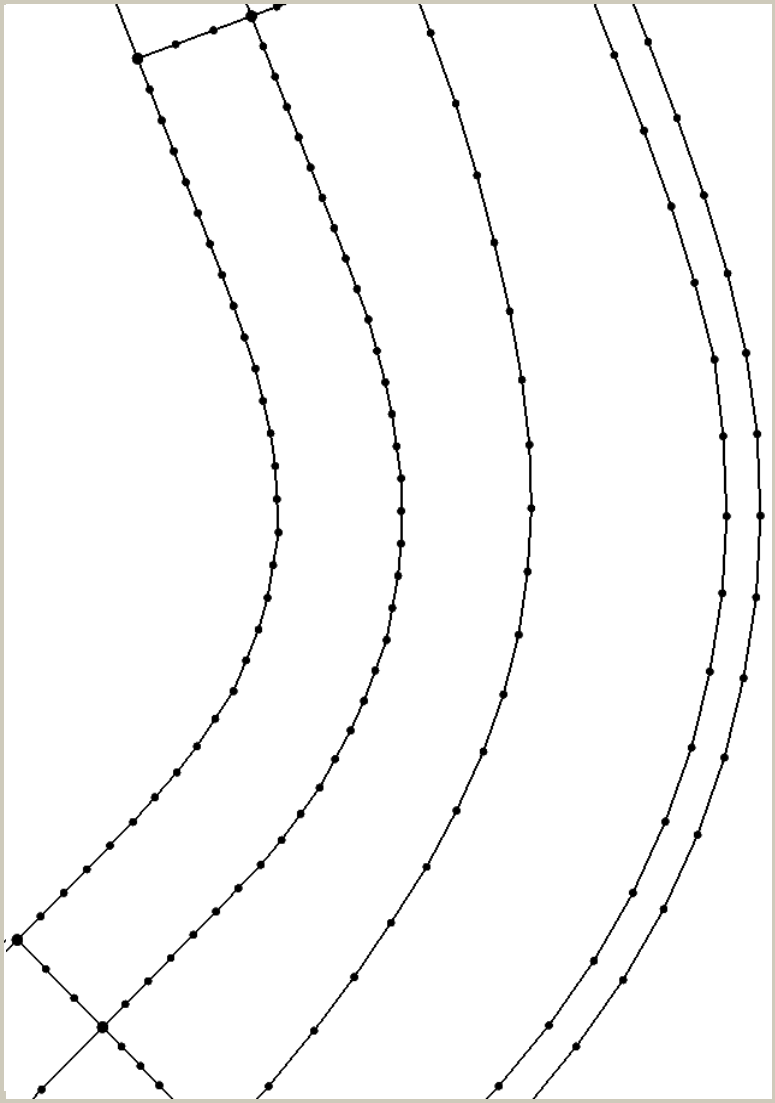
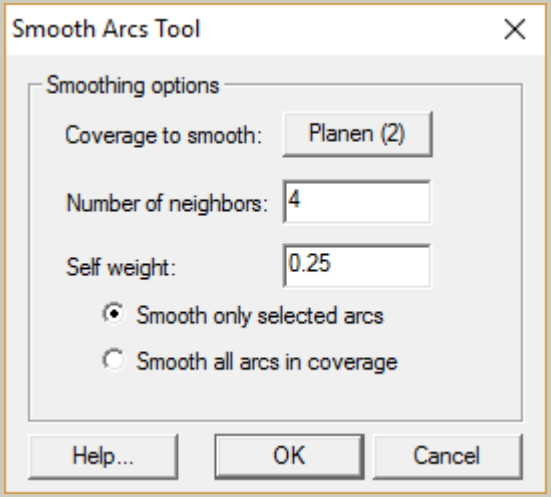
Arc Smoothing



Redistribute Existing Vertices Based on Self-Weighting and Neighbor Arcs



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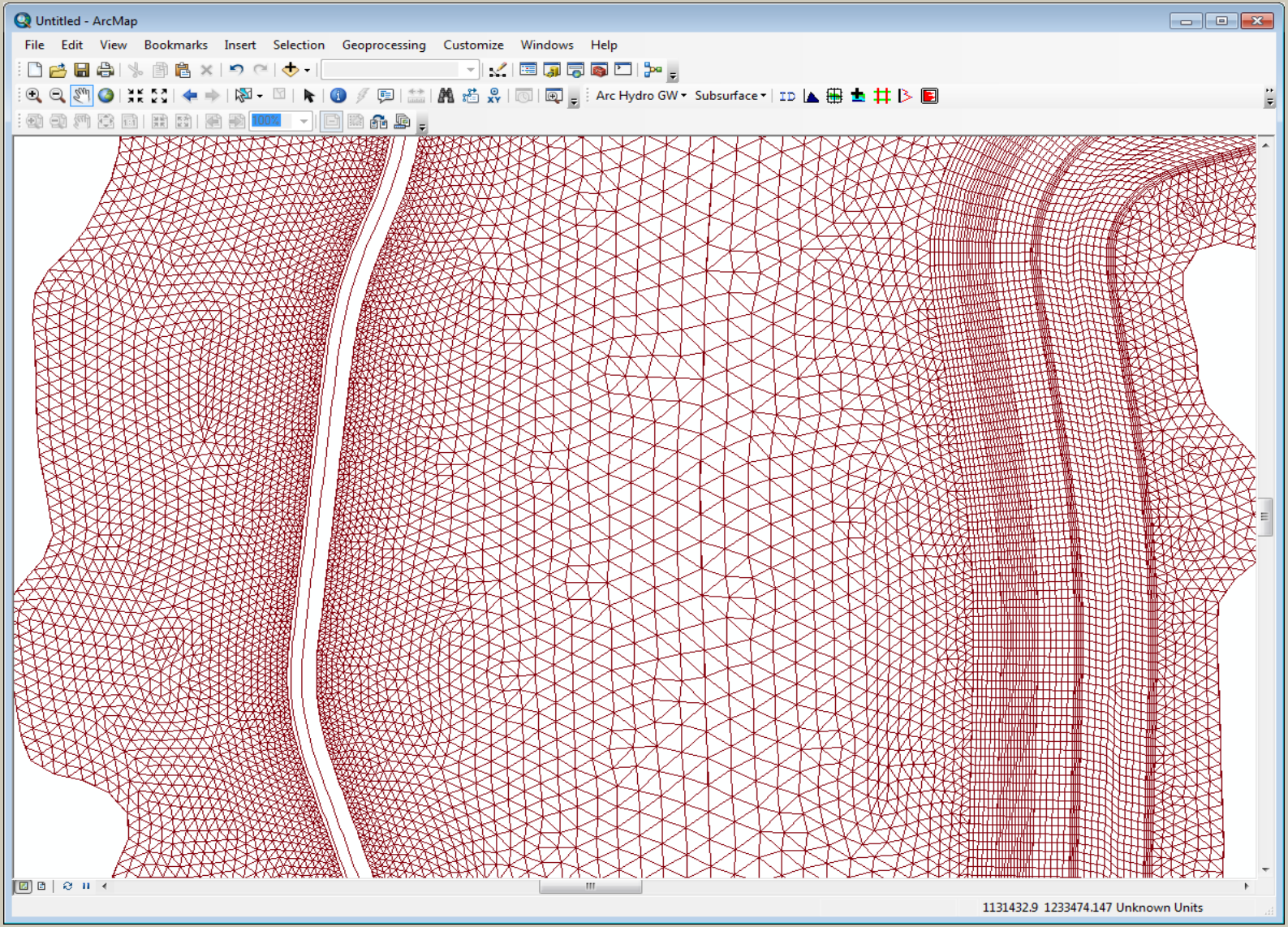
Convert Elements to Arcs



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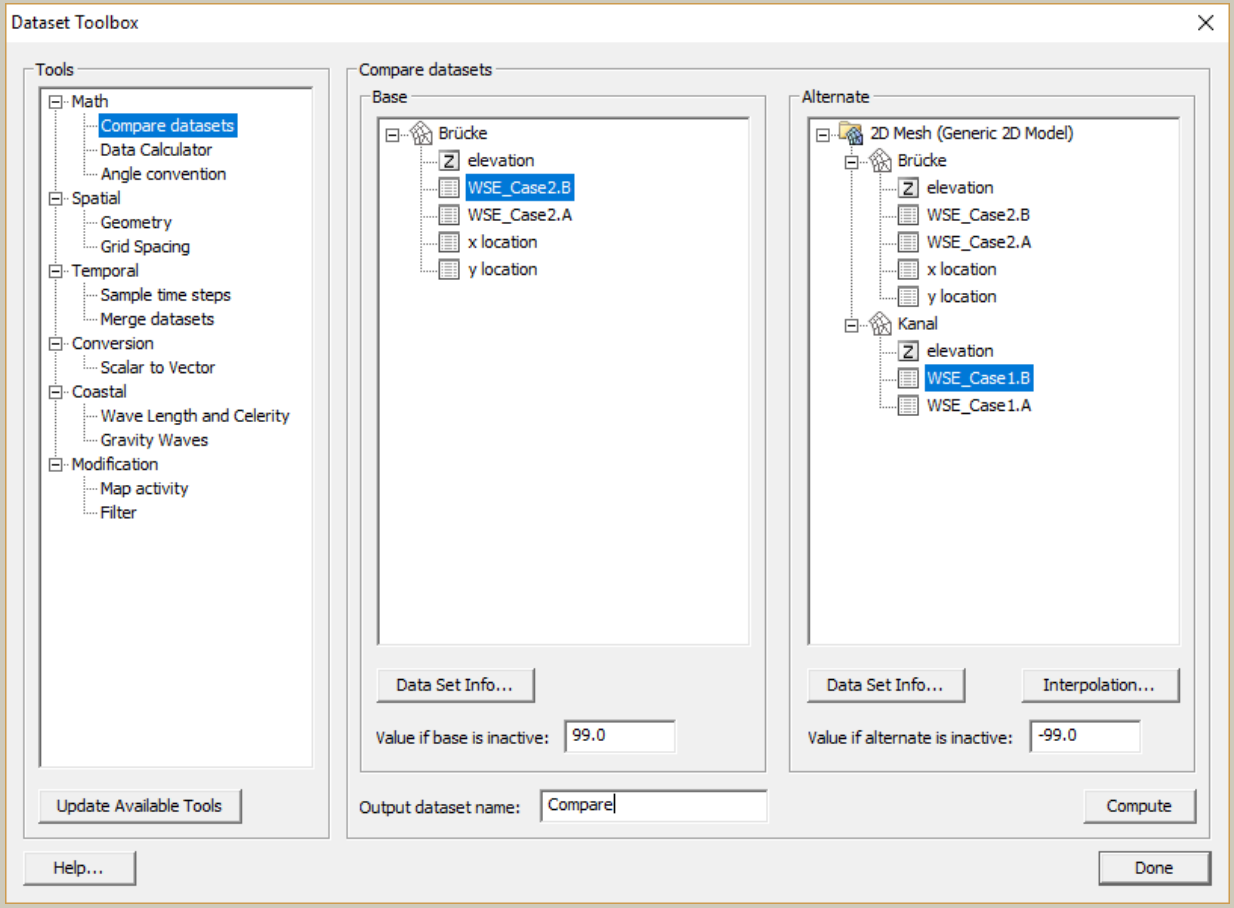
Dataset Toolbox



Compare Datasets on Different Geometry

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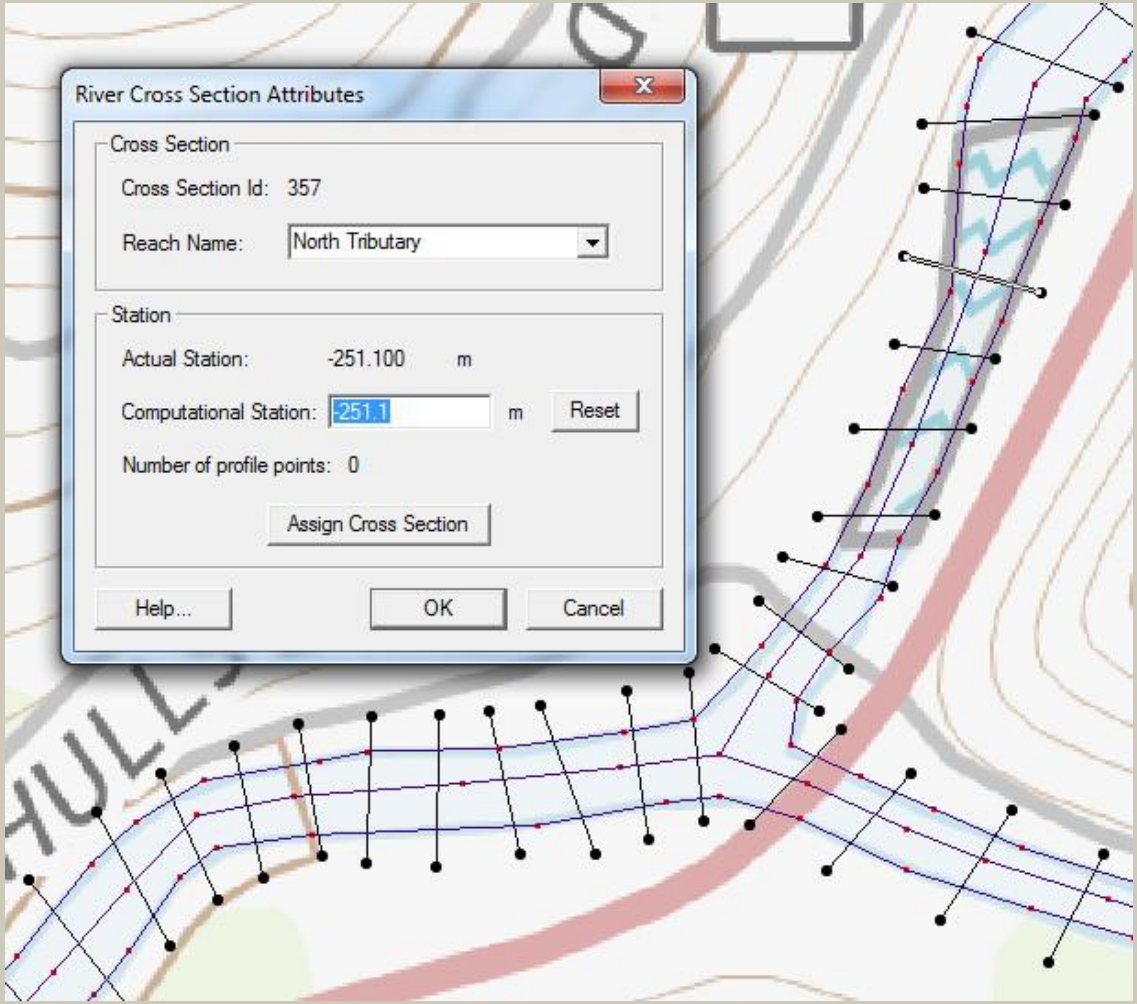
1D Summary Tables



Extract from 2D Solution

- Summary Tables
- Compare with 1D Models

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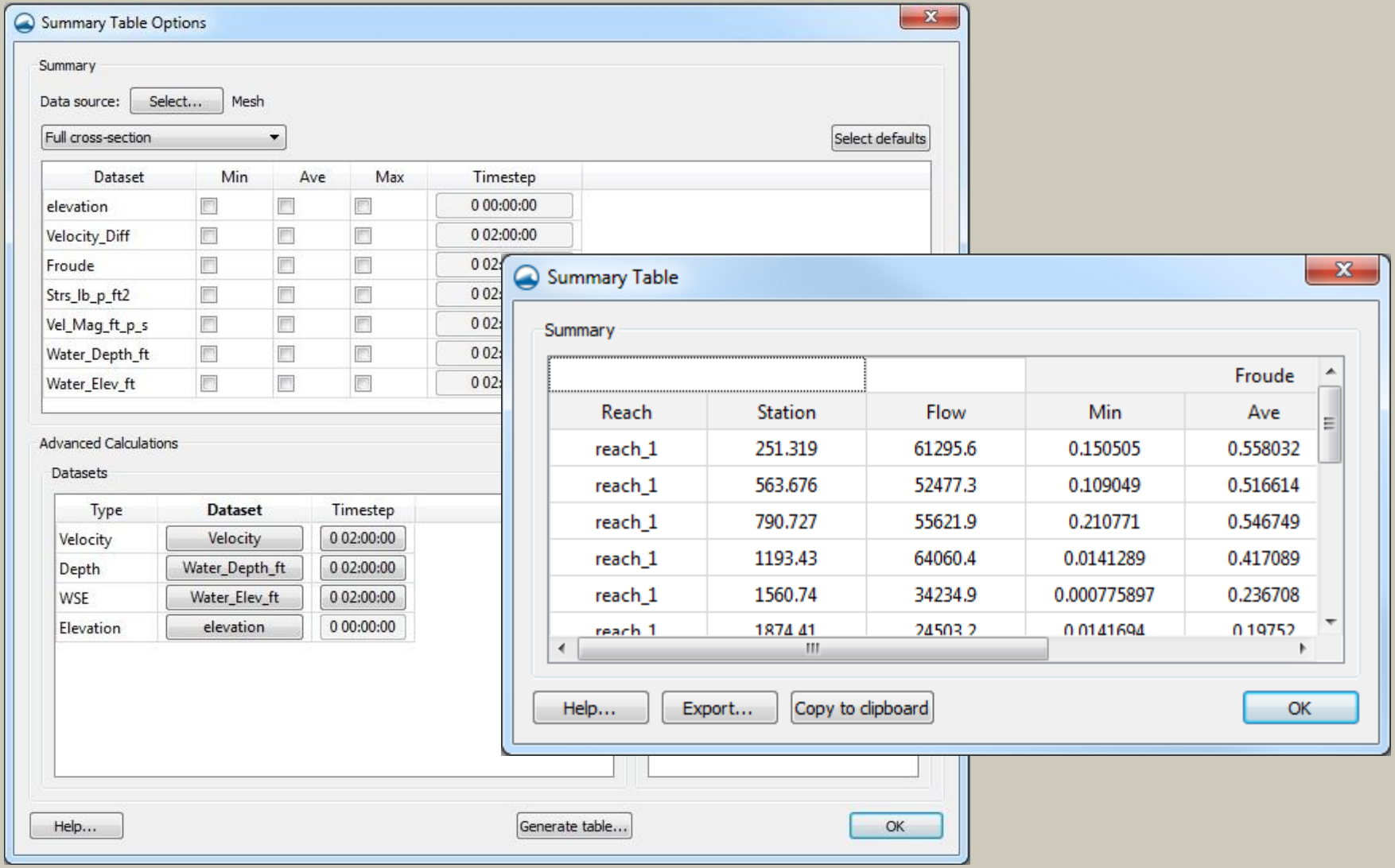
1D Summary Tables



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Developments Coming Soon

- Dynamic Model Interface for HYDRO_AS-2D
- Expanded Online Data Sources
- SMS Performance
  - Parallelization and Utilization of Multiple CPU Cores
  - Better GPU Hardware Utilization
- Display Refinement with Anti-Aliasing

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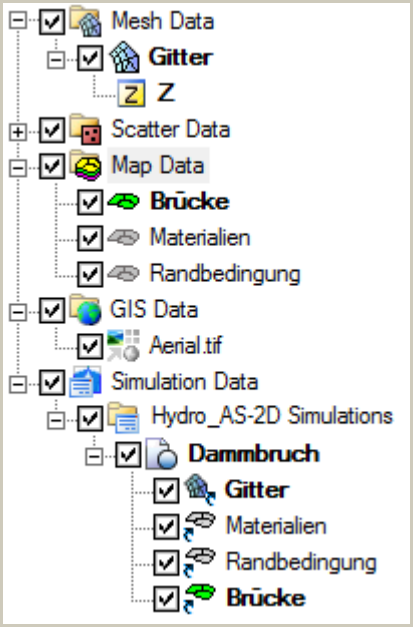
Future: Dynamic Model Interface (DMI)

- Successor to the “Generic Model Interface” in SMS
- No need to load .2dm
- Interface defined in XML
- Simulation based approach

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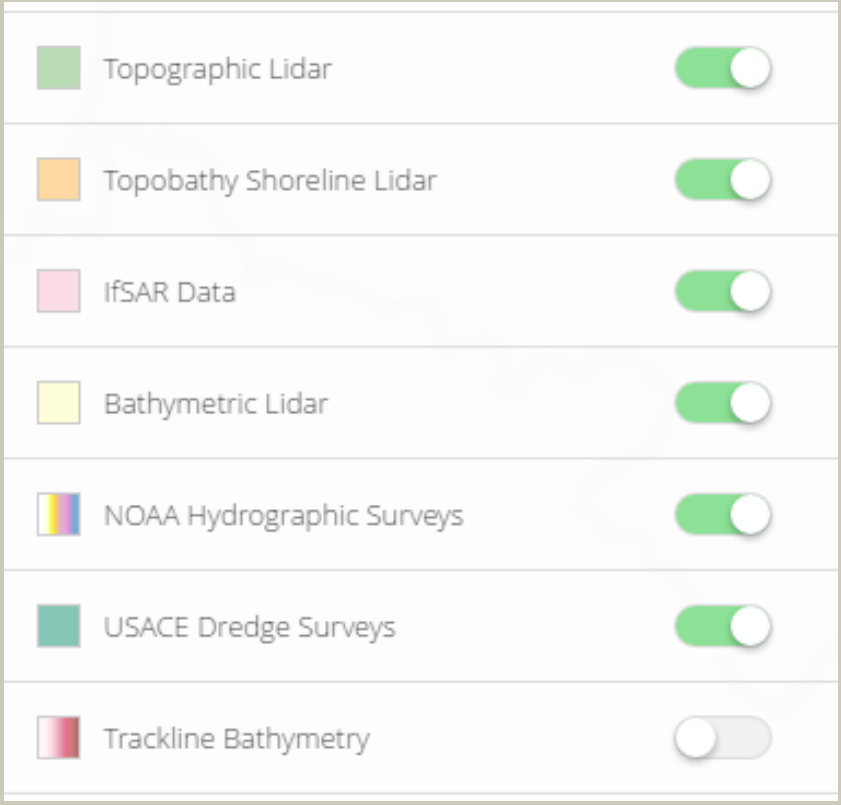
Future: Online Data Sources

- New Maps and Aerial Images
- Elevation and Bathymetry Data
- Land Use Data



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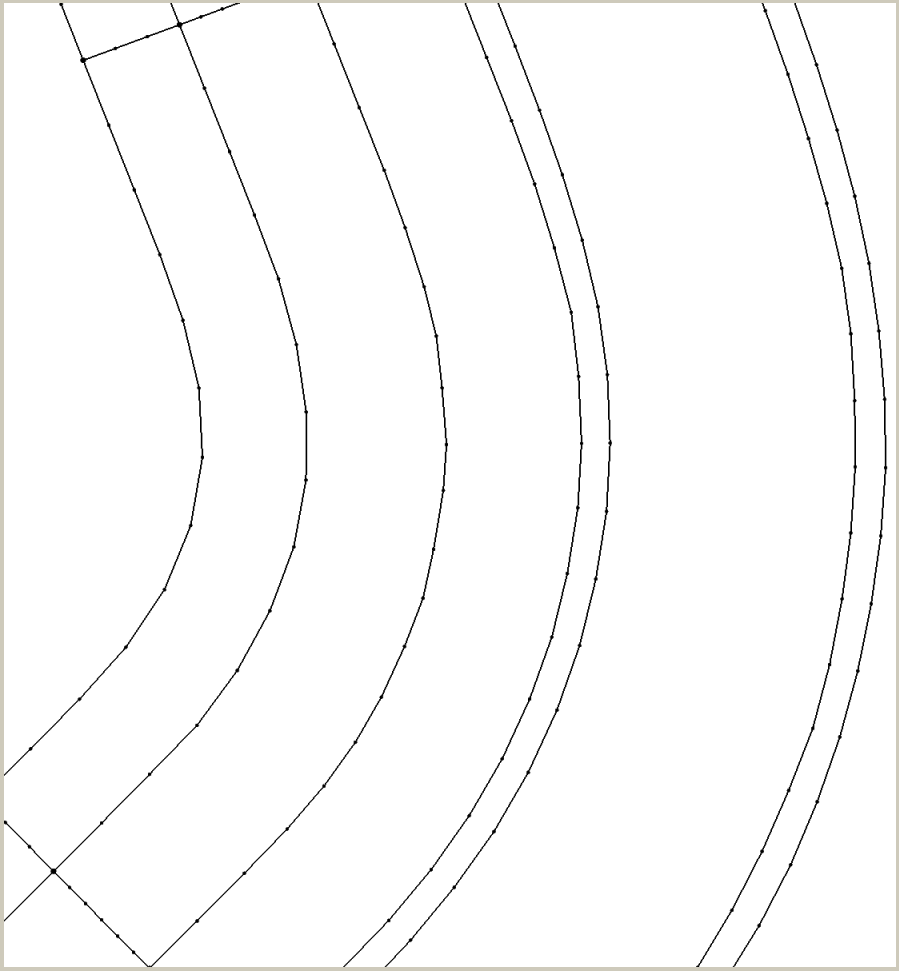
Display Anti-Aliasing



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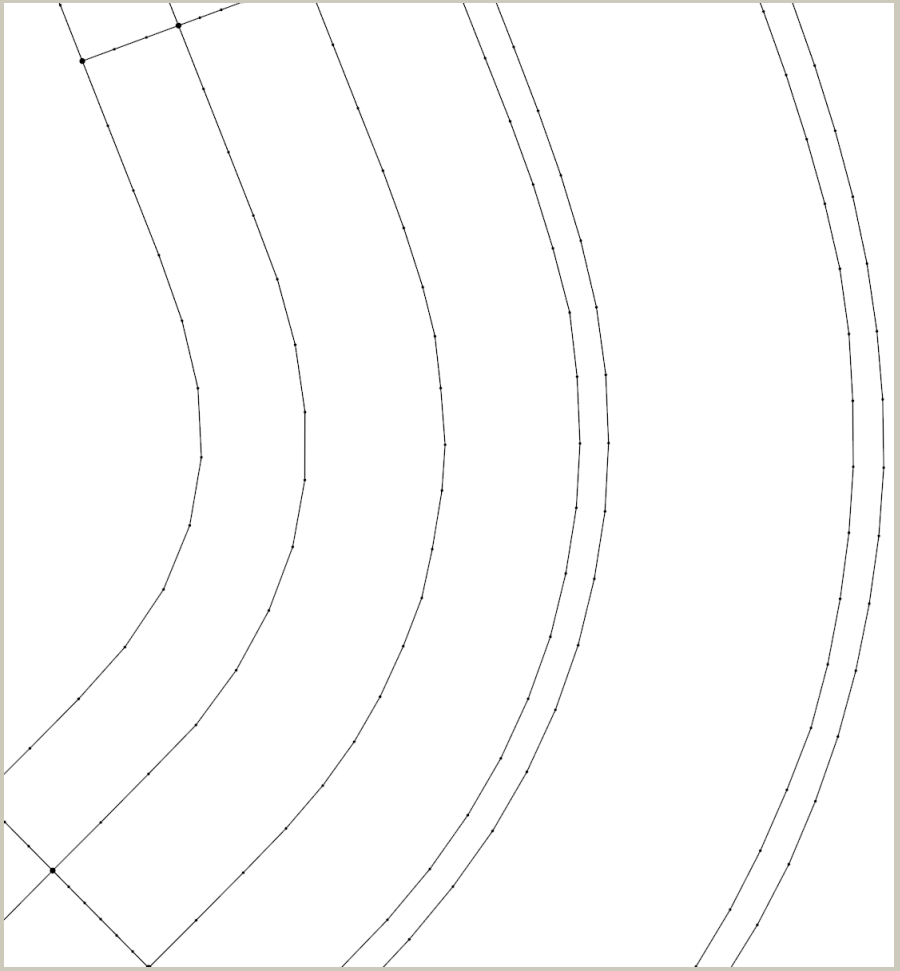

Anti-Aliasing (New)

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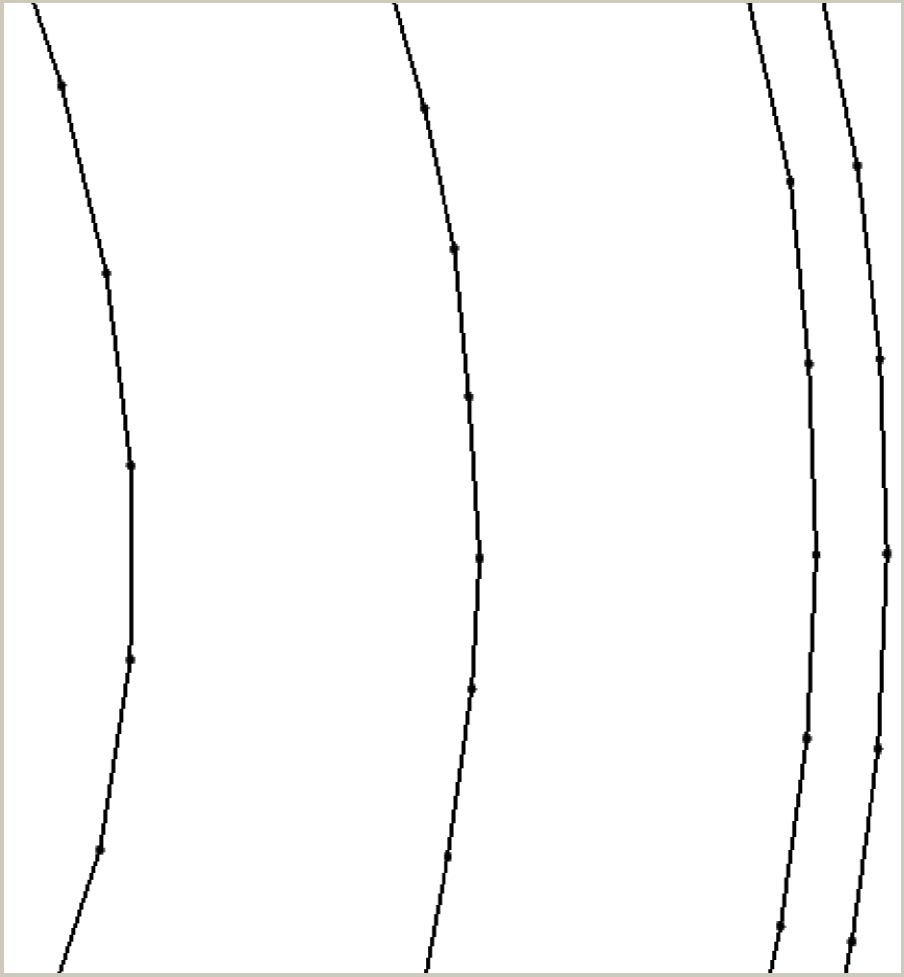
Display Anti-Aliasing



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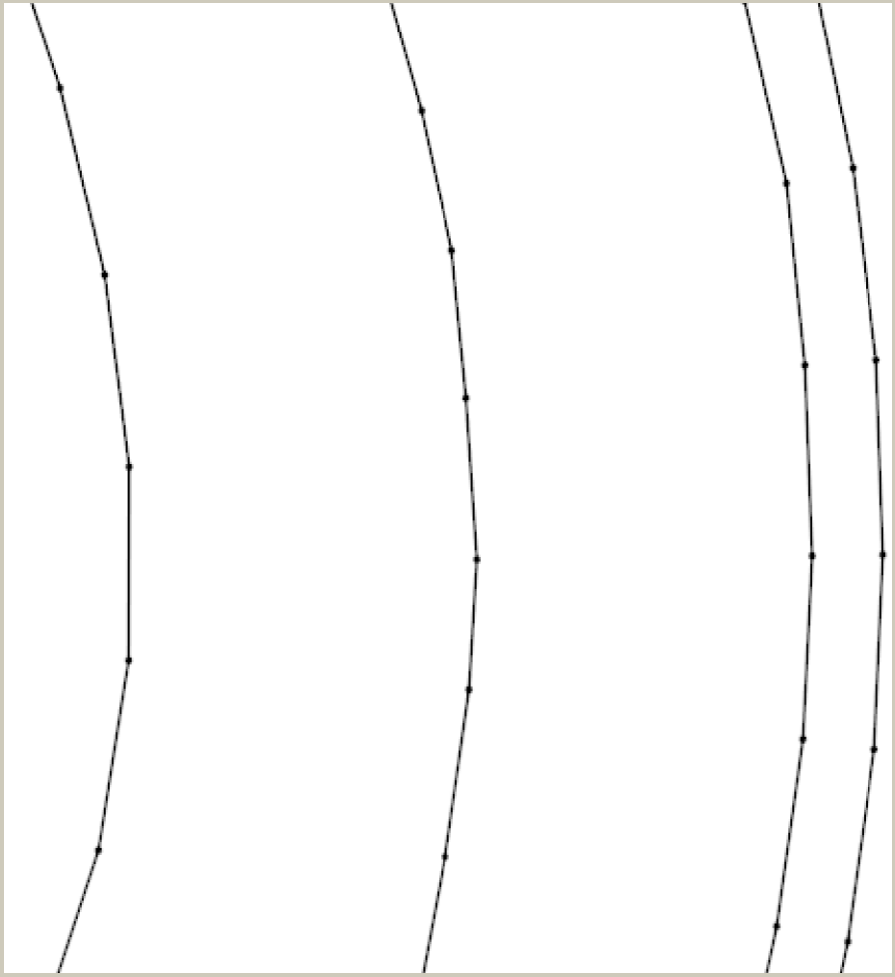

Anti-Aliasing (New)

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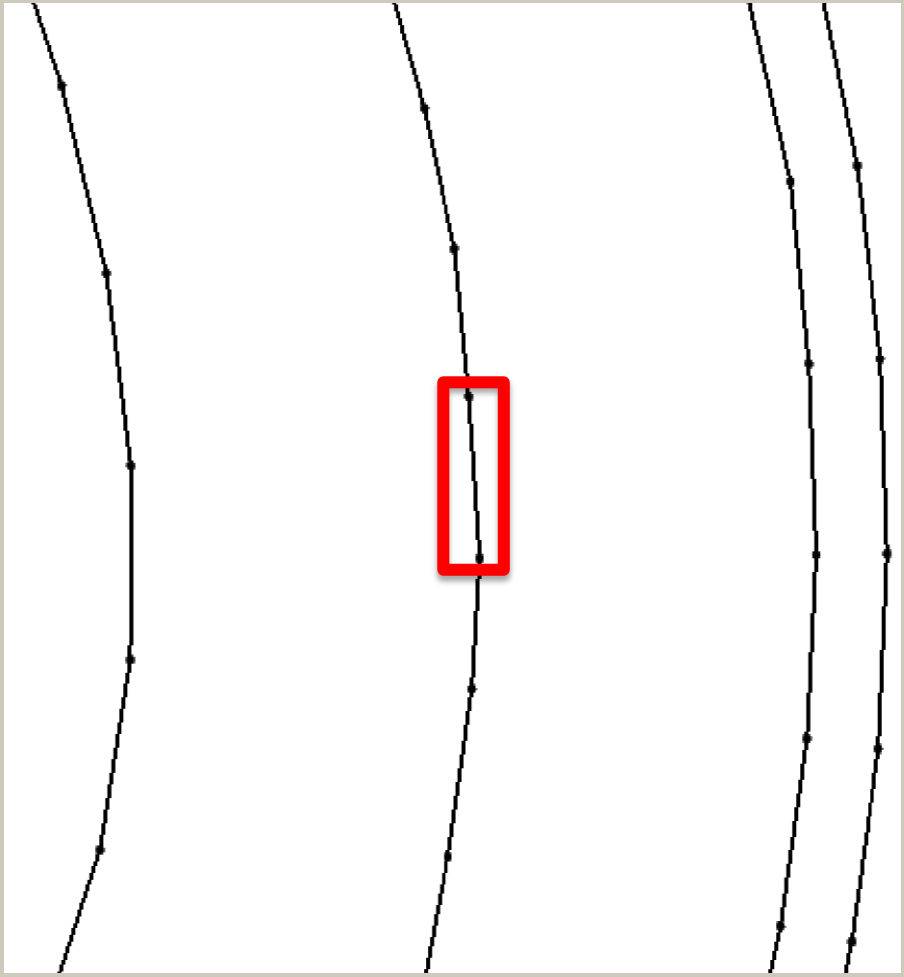

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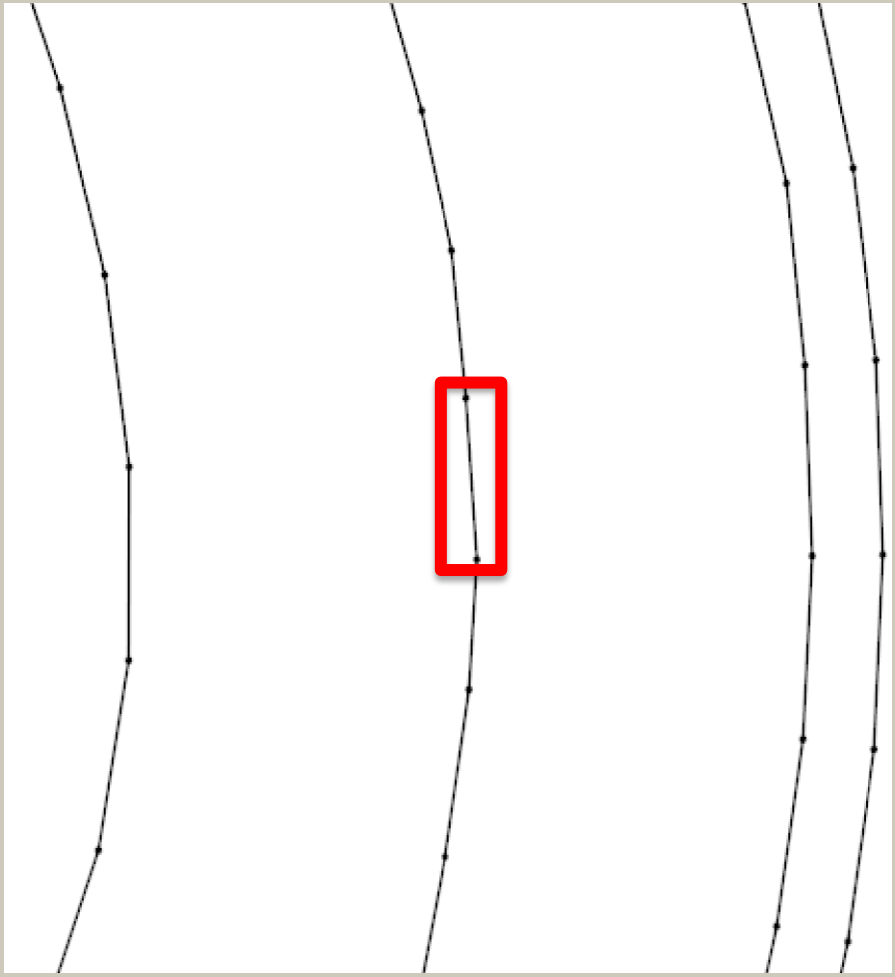

Anti-Aliasing (New)

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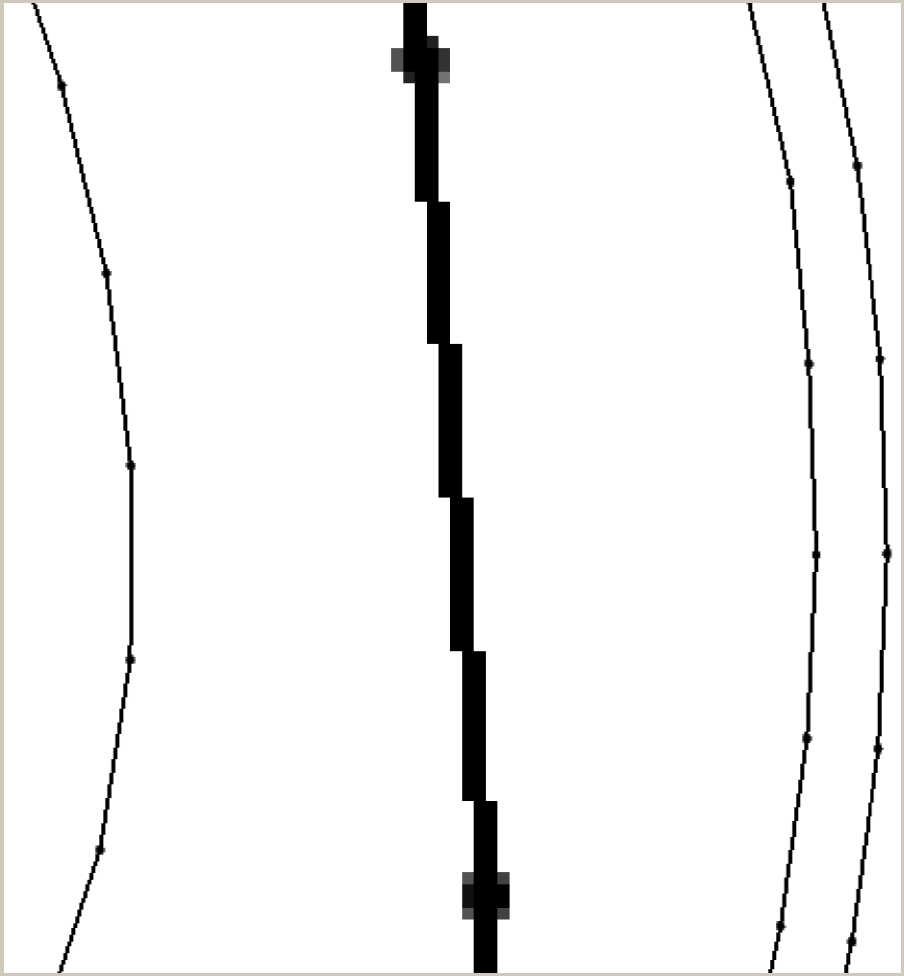

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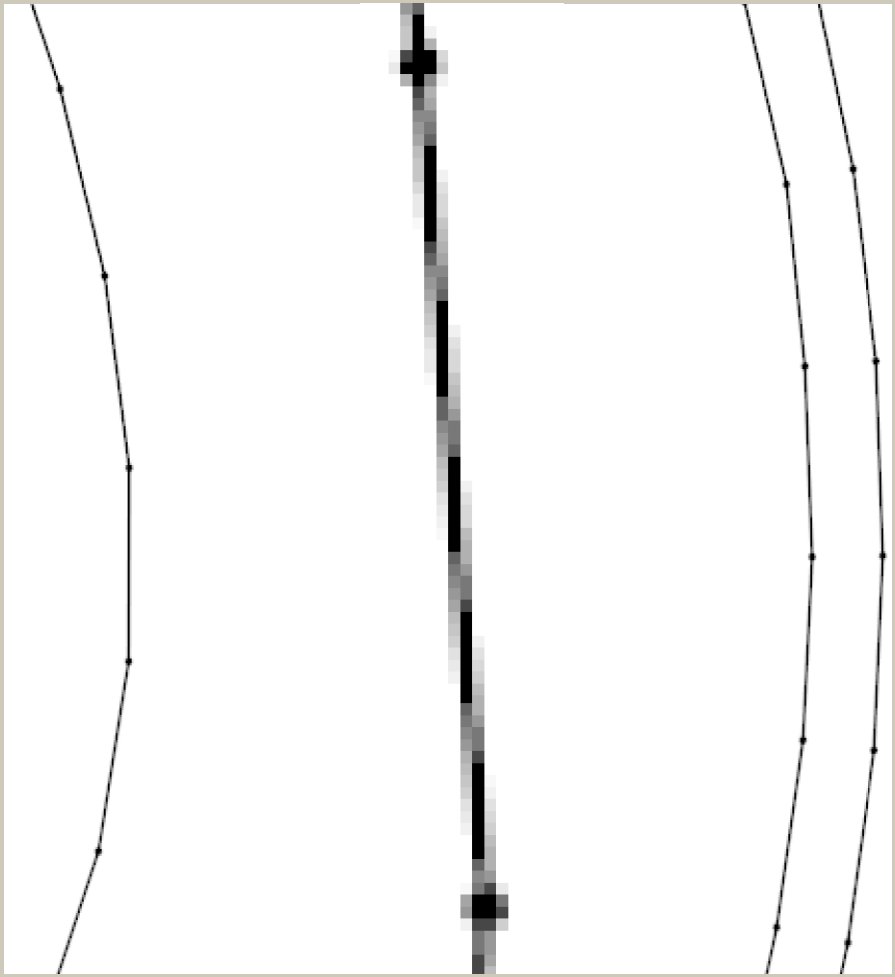

Anti-Aliasing (New)

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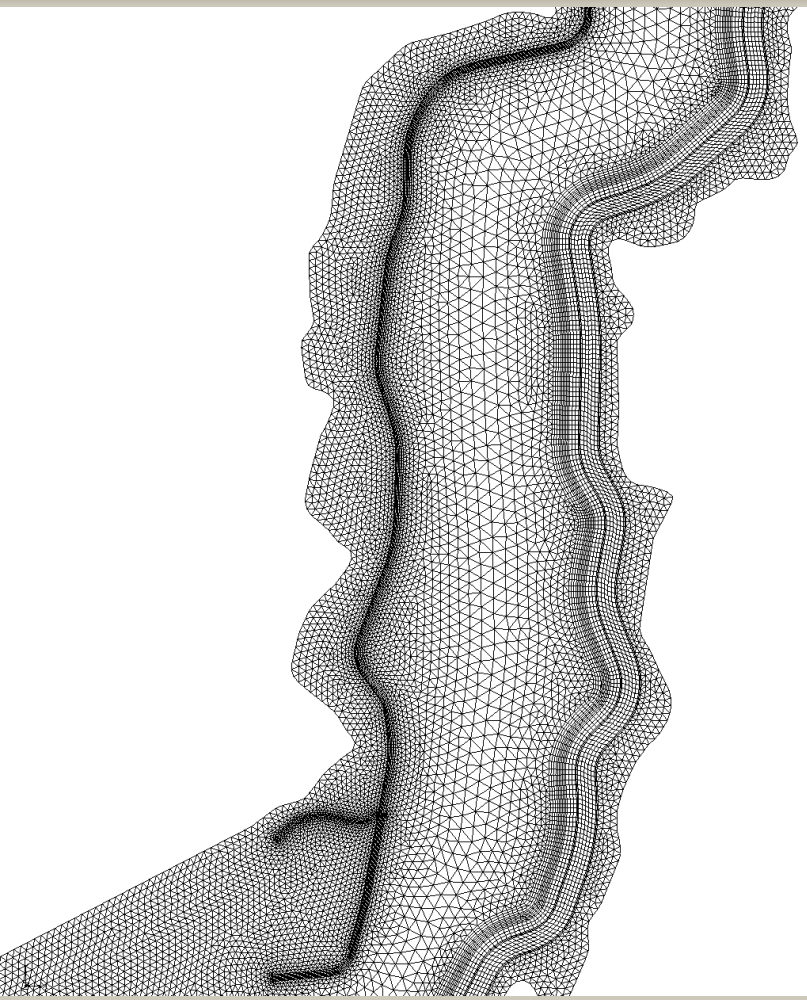

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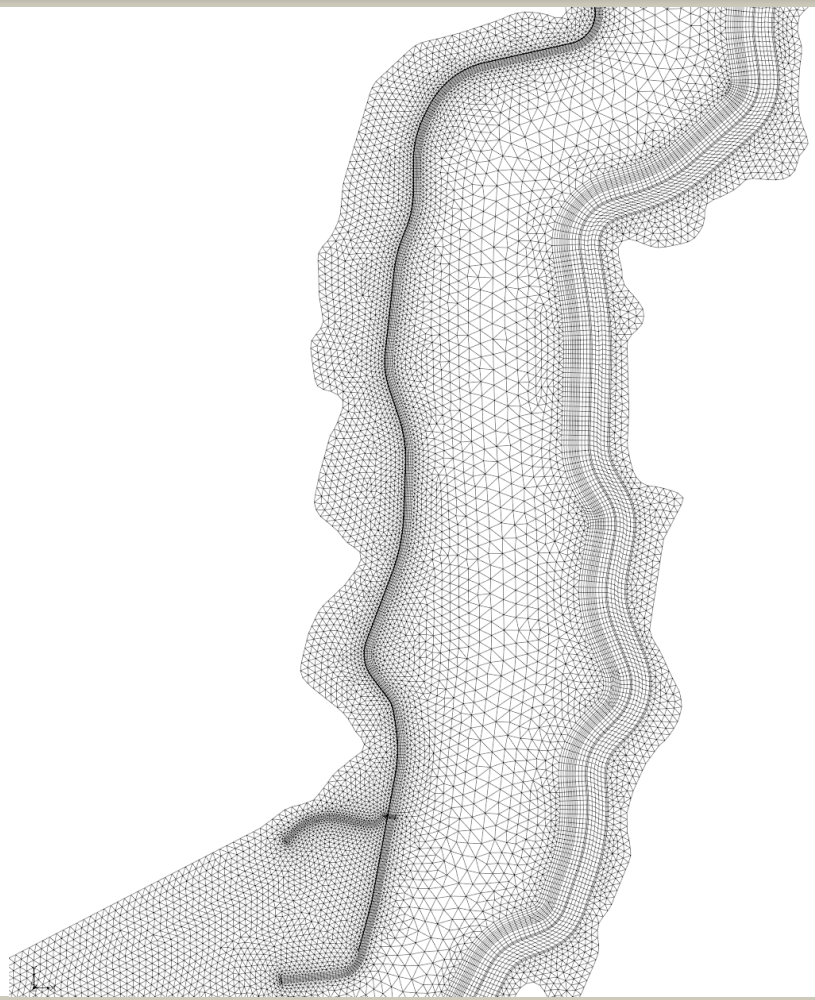

Anti-Aliasing (New)

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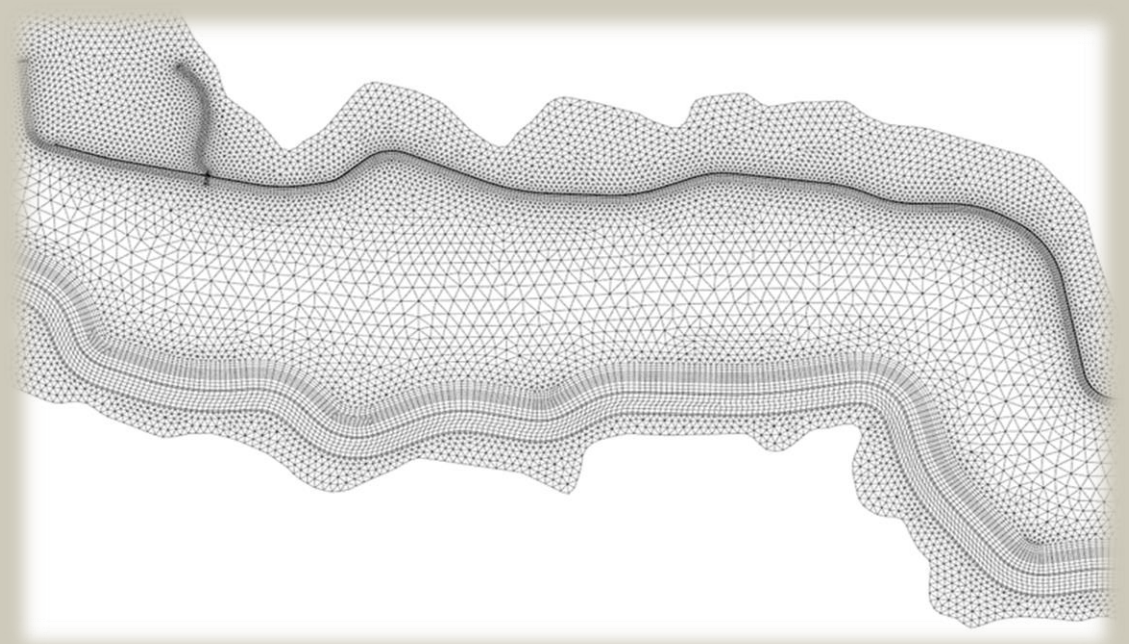

Thank You!
We appreciate feedback from the HYDRO_AS-2D Community

Tom Moreland
moreland@aquaveo.com

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