Subject:	**Sacramento River Hydraulic Modeling—HEC-RAS 2D to Support Aquatics Effects Analysis (Final Draft)**
Project feature:	Intakes
Prepared for:	California Department of Water Resources (DWR) / Delta Conveyance Office (DCO)
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1. Purpose

The purpose of this technical memorandum (TM) is to document the results of the hydraulic river modeling that are expected to be used by DCO to evaluate, interpret, and generate results associated with the effects of the Sacramento River hydraulics on aquatic resources that may result from construction and operation of the proposed intake facilities for the Delta Conveyance Project (project).

1.1 TM Organization

This TM is organized as follows:

- Purpose
- Background
- Model Scenarios
- Model Development
- Model Scenarios—Description and Results
- References
- Document History and Quality Assurance

2. Background

The project would use water intake structures located on the banks of the Sacramento River to divert water into the proposed project conveyance system. The intake sites are located between the towns of Clarksburg and Courtland along the east (left, looking downstream) bank of the Sacramento River. Potential intake sites were evaluated by the DCA as documented in the TM *Intake Site Identification and Evaluation* (DCA, 2021c).

Three intake sites were selected for use in the various options being considered by DCO as part of the Environmental Impact Report (EIR) for the project. These intake sites were evaluated in the hydraulic modeling analysis in this TM and are shown on Figure 1. These intakes are listed below, in upstream to downstream order, with their corresponding river stations (river mile), and diversion capacities used for the hydraulic modeling described in this TM:

- Intake C-E-2 (sometimes referred to as Intake 2 herein and as Intake A in the EIR): river mile 41.527, diversion capacity = 1,500 cubic feet per second (cfs)

- Intake C-E-3 (sometimes referred to as Intake 3 herein and as Intake B in the EIR): river mile 39.717, diversion capacity = 3,000 cfs
- Intake C-E-5 (sometimes referred to as Intake 5 herein and as Intake C in the EIR): river mile 37.190, diversion capacity = 3,000 cfs (1,500 cfs capacity is also used in the EIR, but was not modeled since behavior is very similar to 3,000 cfs capacity)

One intake or a combination of two or three intakes would be used to accomplish the overall water diversion needs of the project, depending on the EIR option.

The nature of these water intake structures requires their placement along the bank of the Sacramento River, with a portion of the structure projecting into the flowing river to divert water. These structures constrict a small portion of the conveyance capacity of the river along the respective length of each intake and have an overall effect on river hydraulics. The effect on river hydraulics is dependent on the combination of intakes used to achieve project needs, the type of fish screen utilized, construction versus operations phases, and the respective water diversion rates.

The cylindrical tee intake fish screen type and associated facilities were evaluated in this hydraulic analysis. This fish screen type is described in greater detail in two related TMs, as follows: *Intake Structural Configuration and Fish Screen Type Analysis* (DCA, 2021d) and *Intake Screen Sizing—North Delta Intakes* (DCA, 2021b).

The construction phase of the intake structures requires the use of cofferdams to dewater the construction area, with the cofferdam footprint projecting farther into the river than in the permanent condition. The construction phase was evaluated for all of the various intake site combinations considered in this analysis. The construction phase of the intake structures is referred to as “construction” throughout this TM. The final operable configuration of the intake structures is referred to as “permanent” throughout this TM.

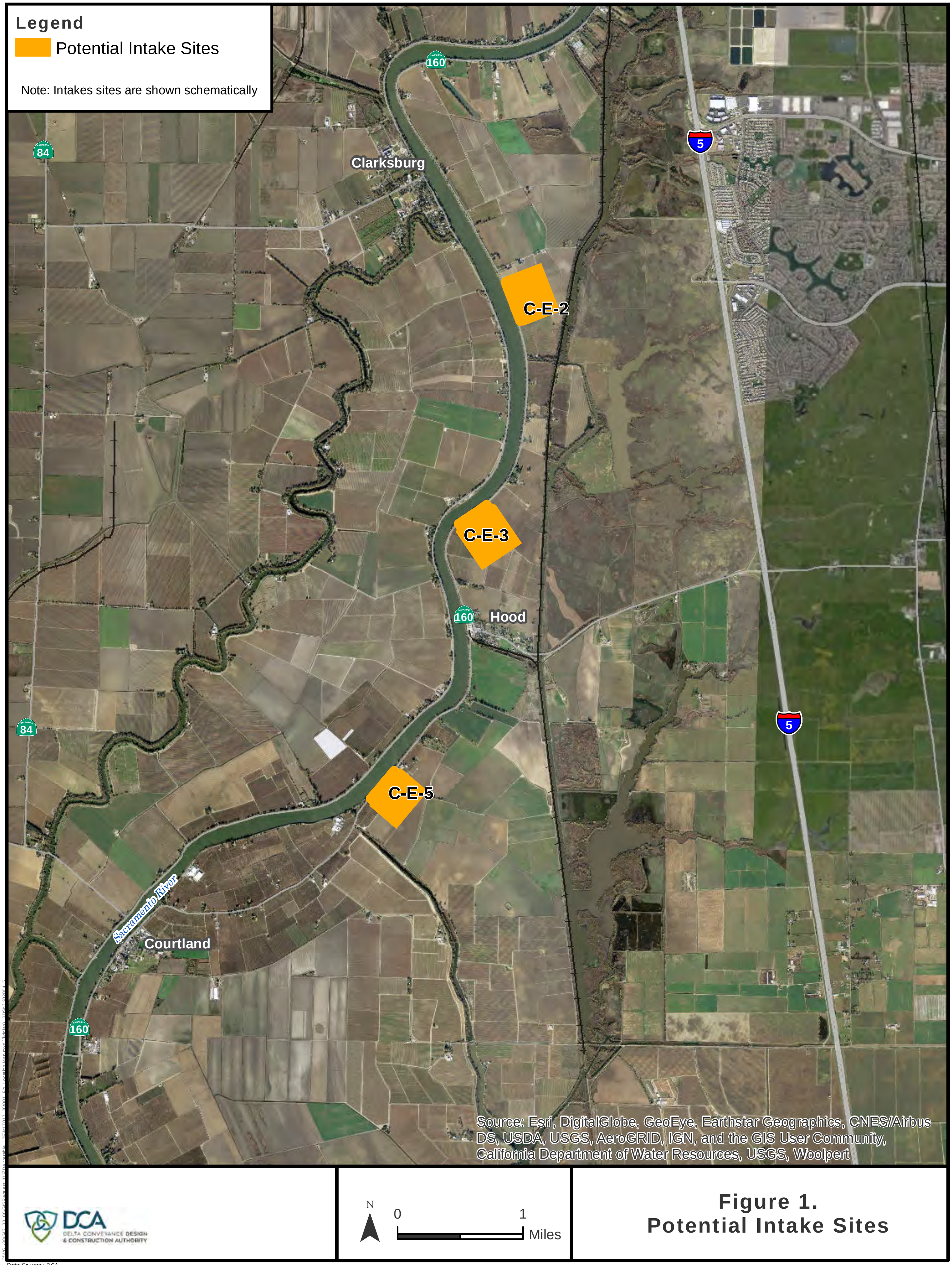

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Figure 1.
Potential Intake Sites

Data Source: DCA

3. Model Scenarios

Multiple modeling scenarios were developed in conjunction with DWR's EIR team to evaluate the flow characteristics and differences in the Sacramento River based differing combinations of intake sites, variable diversion flows, and permanent versus construction phase conditions. The model scenarios were developed using the U.S. Army Corp of Engineers (USACE) Hydrologic Engineering Center's River Analysis System (HEC-RAS), version 6.0. The model scenarios were developed as a two-dimensional (2D) hydraulics model. The intake facility configurations used in the modeling are consistent with those presented in the *Delta Conveyance Engineering Project Report Central & Eastern Options*, Volume 2, *Engineering Concept Drawings* (DCA, 2021a).

The model scenarios evaluated and documented in this TM are listed in Table 1 with the results for each scenario presented using graphical output information in Attachment 1. Section 5 discusses each modeling scenario. Model scenarios are grouped in Table 1 into model runs with similar river conditions at the upstream and downstream boundaries. The model scenario groups use varying water diversion flows at the intakes and different intake combinations and screen types, and they vary by permanent or construction conditions. The models are grouped into the following five categories:

- **Group 1:** River condition at USACE 1957 design flow of 110,000 cfs at Sacramento River–American River confluence (USACE Sacramento District, 1957)
- **Group 2:** River condition at a DWR-selected high flow of 50,000 cfs at Freeport
- **Group 3:** River condition at a DWR-selected moderate flow of 30,000 cfs at Freeport
- **Group 4:** River condition at a DWR-selected low flow of 18,000 cfs at Freeport
- **Group 5:** River condition using a DWR-selected actual low-flow hydrology spanning a 7-day flow hydrograph at Freeport (refer to limitations regarding these runs in Section 5.5)

Table 1. Model Scenarios

Scenario (Group/Run)	Description	Screen Type	Intakes (C-E-#)	Flow (cfs)	Intake Condition	Intake Diversion Flow (cfs)	Comments
1A	Design flood flow—steady state	N/A	N/A	110,000	N/A	0	Existing condition
1B		Tee	3, 5	110,000	Permanent	0	Maximum river velocity during zero diversion at intakes
1C		Tee	3, 5	110,000	Construction	0	Maximum river velocity during construction
1D		Tee	3,5	110,000	Permanent	3,000 at 3 & 5	Maximum river velocity during operation, 6,000-cfs total diversion
1E		Tee	2, 3, 5	110,000	Permanent	0	Maximum river velocity during zero diversion at intakes
1F		Tee	2, 3, 5	110,000	Construction	0	Maximum river velocity during construction
1G		Tee	2, 3, 5	110,000	Permanent	3,000 at 3 & 5; 1,500 at 2	Maximum river velocity during operation, 7,500-cfs total diversion
2A	High flow—steady state	N/A	N/A	50,000	N/A	0	Existing condition
2B		Tee	3, 5	50,000	Permanent	0	High river velocity during zero diversion at intakes
2C		Tee	3, 5	50,000	Construction	0	High river velocity during construction
2D		Tee	3, 5	50,000	Permanent	3,000 at 3 & 5	High river velocity during operation, 6,000-cfs total diversion
2E		Tee	2, 3, 5	50,000	Permanent	0	High river velocity during zero diversion at intakes
2F		Tee	2, 3, 5	50,000	Construction	0	High river velocity during construction
2G		Tee	2, 3, 5	50,000	Permanent	3,000 at 3 & 5; 1,500 at 2	High river velocity during operation, 7,500-cfs total diversion
3A	Moderate flow—steady state	N/A	N/A	30,000	N/A	0	Existing condition
3B		Tee	3, 5	30,000	Permanent	0	Moderate river velocity during zero diversion at intakes
3C		Tee	3, 5	30,000	Construction	0	Moderate river velocity during construction
3D		Tee	3, 5	30,000	Permanent	3,000 at 3 & 5	Moderate river velocity during operation, 6,000-cfs total diversion
3E		Tee	3, 5	30,000	Permanent	2,000 at 3 & 5	Moderate river velocity during operation, 4,000-cfs total diversion
3F		Tee	3, 5	30,000	Permanent	1,000 at 3 & 5	Moderate river velocity during operation, 2,000-cfs total diversion
3G		Tee	2, 3, 5	30,000	Permanent	0	Moderate river velocity during zero diversion at intakes
3H		Tee	2, 3, 5	30,000	Construction	0	Moderate river velocity during construction
3I		Tee	2, 3, 5	30,000	Permanent	3,000 at 3 & 5; 1,500 at 2	Moderate river velocity during operation, 7,500 total diversion
3J		Vertical	3–5	30,000	Permanent	3,000 at 3 & 5	Moderate river velocity during operation, 6,000-cfs total diversion

Table 1. Model Scenarios

Scenario (Group/Run)	Description	Screen Type	Intakes (C-E-#)	Flow (cfs)	Intake Condition	Intake Diversion Flow (cfs)	Comments
4A	Low flow—steady state	N/A	N/A	18,000	N/A	0	Existing condition
4B		Tee	3, 5	18,000	Permanent	0	Low river velocity during zero diversion at intakes
4C		Tee	3, 5	18,000	Construction	0	Low river velocity during construction
4D		Tee	3, 5	18,000	Permanent	3,000 at 3 & 5	Low river velocity during operation, 6,000-cfs total diversion
4E		Tee	3, 5	18,000	Permanent	2,000 at 3 & 5	Low river velocity during operation, 4,000-cfs total diversion
4F		Tee	3, 5	18,000	Permanent	1,000 at 3 & 5	Low river velocity during operation, 2,000-cfs total diversion
4G		Tee	2, 3, 5	18,000	Permanent	0	Low river velocity during zero diversion at intakes
4H		Tee	2, 3, 5	18,000	Construction	0	Low river velocity during construction
4I		Tee	2, 3, 5	18,000	Permanent	3,000 at 3 & 5; 1,500 at 2	Low river velocity during operation, 7,500-cfs total diversion
4J		Vertical	3, 5	18,000	Permanent	3,000 at 3 & 5	Low river velocity during operation, 6,000-cfs total diversion
5A	Time series	N/A	N/A	Hydrograph	None	0	Existing condition
5B	Point 1: Highest flow, low tide	Tee	3, 5	Hydrograph	Permanent	3,000 at 3 & 5	Low tide, time step 12/01/2016 02:00 on flow hydrograph, 6,000-cfs diversion
5C	Point 2: 18,000 cfs, dropping tide	Tee	3, 5	Hydrograph	Permanent	3,000 at 3 & 5	Dropping tide, time step 12/01/2016 11:00 on flow hydrograph, 6,000-cfs diversion
5D	Point 3: 13,000 cfs, high tide	Tee	3, 5	Hydrograph	Permanent	3,000 at 3 & 5	High tide, time step 12/01/2016 18:00 on flow hydrograph, 6,000-cfs diversion

N/A = not applicable for existing conditions runs

4. Model Development

The Sacramento River hydraulic model was developed using the USACE Hydrologic Engineering Center's River Analysis System (HEC-RAS), version 6.0. The model was developed as a 2D flow hydraulics model.

4.1 Sacramento River Full-System Model

A full-system 1D model of the Sacramento River was obtained in January 2020 from DWR and used as the starting point for 2D model development. The full-system 1D model provided by DWR encompasses the entire Sacramento River system and its tributaries, extending from Keswick Dam in Redding, California, downstream to Suisun Bay near the Town of Collinsville and the confluence with the San Joaquin River. The full-system model was used to understand the most recent hydraulic model information of the Sacramento River along river reach SAC R08. The full-system model cross sections and Manning's *n* values were used as points of reference for the 2D models.

4.2 Coordinate System and Datum

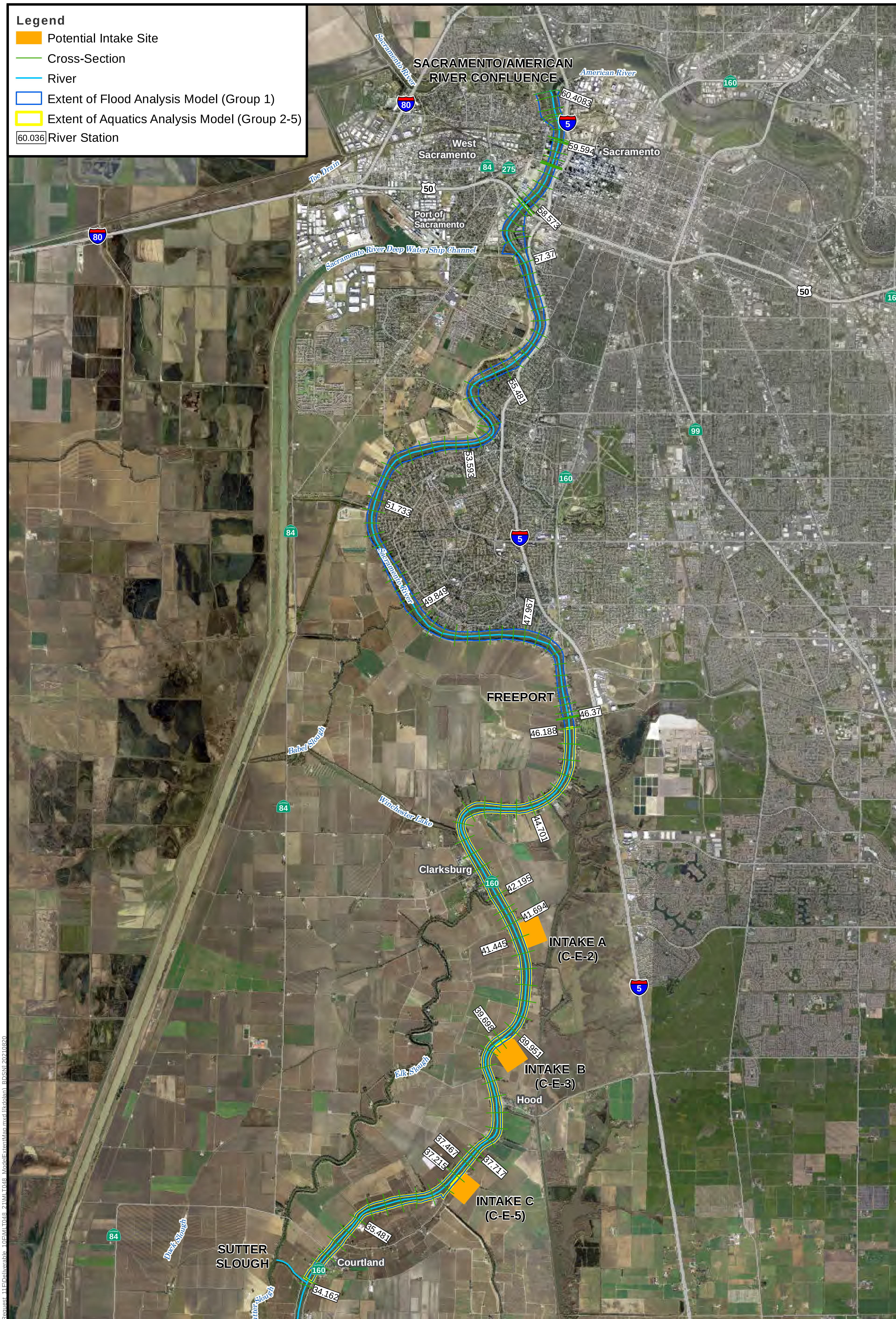
The spatial coordinate system used for the hydraulic modeling is North American Datum (NAD) 1983 State Plane California II FIPS 0403 feet, which uses U.S. feet as the linear unit. The vertical datum used is the North American Vertical Datum of 1988 (NAVD 88), which uses U.S. feet as the linear unit.

4.3 Terrain and Bathymetric Data

Bathymetric surveys were obtained in January 2020 from DWR for the Sacramento River extending from its confluence with the American River near downtown Sacramento, downstream to its confluence with Sutter Slough near Courtland (DWR, 2019). The bathymetric data were supplemented outside the landside toe of the levees using lidar from the Central Valley Floodplain Evaluation and Delineation Program (CVFED) to cover the topography outside the levee portion of the model. That topography does not play a role in the hydraulic modeling, but is included for consistency with the project features added to the model for analysis. The terrain data are a 1-foot grid cell resolution raster and were used to create the existing conditions terrain surface in the baseline 2D model in HEC-RAS.

4.4 Model Domain—2D Flow Area

The terrain surface and 2D flow areas are the main components of 2D models developed in HEC-RAS. The 2D flow area is made up of grid cells that HEC-RAS uses to perform hydraulic calculations. Every grid cell face is used by HEC-RAS like a cross section performing calculations from one grid cell to the next adjacent cell. The smaller the grid cell size, the more calculations the software performs. For this modeling effort, a default grid cell size of 25 feet by 25 feet was used to develop the 2D flow area. The 2D flow area extends across the river from left bank levee centerline to right bank levee centerline from the upstream boundary to the downstream boundary. Figure 2 shows the extents of the model domain.



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For Illustration Purposes Only

N

0 1.4 Miles

Figure 2.
Model Extent Map

Data Source: DCA, DWR

Two model domains were developed for these model runs with the upstream boundary variable, as follows:

1) the upstream boundary at the Sacramento River–American River confluence was used for model runs at flood flow rates since that model configuration was also used for flood flow analyses prepared under separate documentation (DCA, 2022);
2) the upstream boundary near Freeport was used for all other model runs described in this TM since the focus of the runs was for local flow characteristics and effects at the intakes and the reduced model extent helped reduce model run times.

The downstream boundary of the 2D flow area is the confluence of the Sacramento River with Sutter Slough.

4.5 Model Extents and Boundaries Conditions

As noted above, the upstream boundary location varies depending on model run; Models 1A through 1G have the upstream boundary at the confluence of the Sacramento and American Rivers. All other models use Freeport as the upstream boundary. The downstream boundary location was established near the Town of Courtland at the confluence of the Sacramento River and Sutter Slough. Table 2 lists the boundary condition values for flow and stage used in HEC-RAS.

Downstream boundary stages were developed, as described below, using the river flow at the downstream end of the model domain. The diverted flow was subtracted from the upstream flow and used to estimate the downstream stage. Note that the downstream stages at these river flow rates has significant tidal variation. As such, the downstream stage varies with available data for the stage at the flow rate. However, the variations are small and do not materially change the results of the analyses relative to the flow characteristics at the intake structures.

The downstream stage boundary condition for Group 1 was derived from the USACE 1957 profile water surface elevation at the downstream limit of the model domain, which is the Sacramento River confluence with Sutter Slough.

Downstream stage boundary conditions for Groups 2 through 5 were derived from historical data at the U.S. Geological Survey's Sutter Slough at Courtland water level gauge, accessed through the California Data Exchange Center. Historical stage data were obtained at a 15-minute resolution for 2016 through 2019. Time periods with flows within a narrow band around the target flow were identified, and the historical stages during these periods were averaged to produce an average stage for the given flows of concern. The historical data reflect the tidal variability of stage near the Sacramento River–Sutter Slough confluence, and thus average stages were applied as the downstream boundary condition.

Tidal water level variations range from 0 feet to about 3.5 feet at Sutter Slough. The higher tidal water level variations are typical for lower river flows and no variation is evident at flood flows.

Table 2. Flows and Boundary Conditions

Model Group	Upstream Boundary Flow (cfs)[a]	Downstream Boundary Stage (Feet)[b]				
		Models with no Diversion	Models with 7,500-cfs Diversion	Models with 6,000-cfs Diversion	Models with 4,000-cfs Diversion	Models with 2,000-cfs Diversion
1	110,000	20.71	19.0	19.3	N/A	N/A
2	50,000	10.0	9.0	9.1	N/A	N/A
3	30,000	7.2	6.6	6.3	6.9	7.1
4	18,000	5.94	5.1	5.0	4.9	5.3
5	Flow hydrograph	Stage hydrograph	N/A	Stage Hydrograph minus 0.6-ft	N/A	N/A

[a] For Model Group 1, the upstream boundary flow is applied at river station 60.4083. For Model Groups 2 through 5 the upstream boundary flow is applied at river station 46.188.

[b] For Model Groups 1 through 5, the downstream boundary stage is applied at river station 34.254.

4.6 Model Calibration

Model calibration included simulations for both Model Group 1 and the lower flow models, Groups 2 through 5.

Flood flow (Group 1) models were calibrated as described for flood flow analyses prepared under separate documentation (DCA, 2022) and used the 1957 USACE design profile. In summary, a flood baseline flow of 110,000-cfs was used at the upstream boundary and multiple models with varying Manning's n values were developed. The water surface elevation profile of each model was compared against the 1957 design profile to find the best fit. The model profile using Manning's n value of 0.025 produced the best fit and was used as the calibration model.

The lower flow models (Model Groups 2-5) were calibrated against real-time data along Sacramento River Reach R08. A calibration flow of 34,000-cfs was used with a downstream stage of 7.46 feet at Sutter Slough. A calibration target stage of 9.82 feet was used at Freeport. Multiple models with varying Manning's n values were developed – with n values of 0.028, 0.025, and 0.022. For the historical calibration event, boundary conditions were set using data obtained from the California Data Exchange Center website for stations SUT (Sutter Slough at Courtland), FPT (Sacramento River at Freeport), and IST (Sacramento River at I Street) to set inflow and downstream stage boundary conditions. Water levels at Freeport and I Street were obtained from the California Data Exchange Center website (Stations FPT and IST) as water level calibration targets. Water levels at FPT were used as the primary calibration target for Model Groups 2 through 5, but a water level at IST was also considered to help provide a longer and better fit.

Comparison of the model calibration water surface elevation profiles in Figure 3 shows that a Manning's n value of 0.028 results in predicted water levels too high at the Freeport target location. The results for Manning's n values of 0.025 and 0.022 were similar to the target elevation at Freeport. A Manning's n value of 0.025 was chosen as the calibration value since it provides a good fit in the area of interest at the intakes, it matched the calibration n value for Model Group 1, and it provides a reasonable fit for the entire model domain.

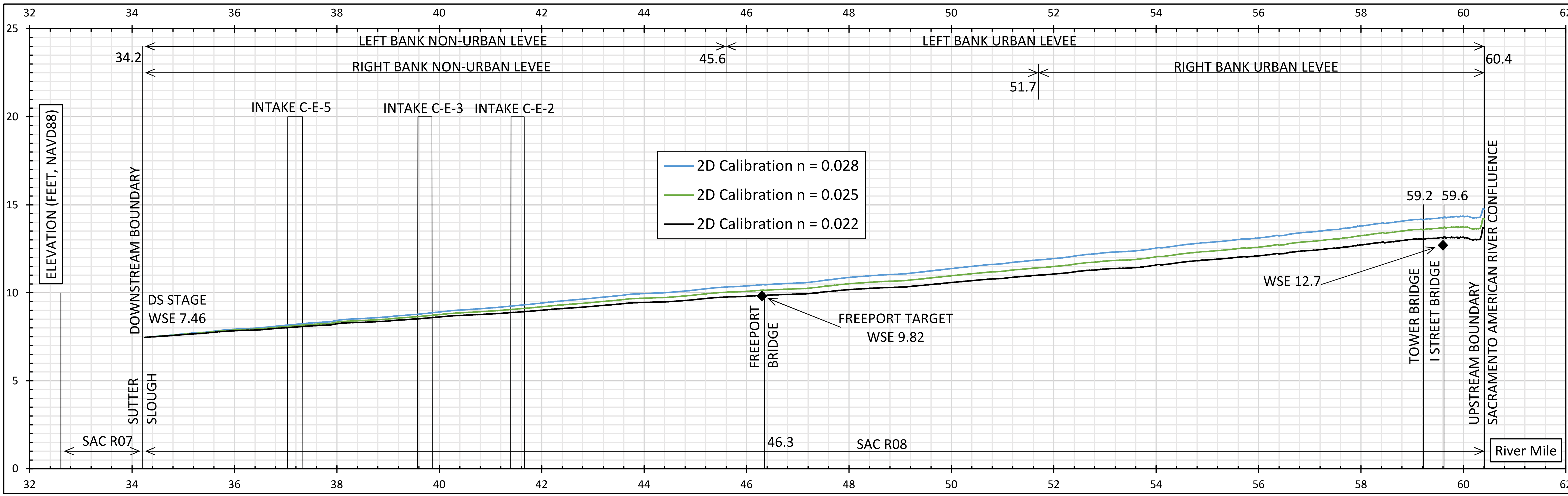

Figure 3. Water Surface Elevation Profiles for Calibration of Model Groups 2-5

4.7 Intake Screens

The intake screens' conceptual design and sizing is covered in the *Delta Conveyance Engineering Project Report Central & Eastern Options*, Volume 2, *Engineering Concept Drawings* (DCA, 2021a) and the TM *Intake Screen Sizing—North Delta Intakes* (DCA, 2021b). The sections below summarize the relevant information used to model the proposed intakes in HEC-RAS.

4.7.1 Cylindrical Tee Screen Intake Structure

The tee screen intake structure incorporated into the model includes the following elements:

- Upstream and downstream sheet pile training walls
- River side face of the concrete intake structure (headwall)
- 8-foot-diameter cylindrical screens and outlet manifold
- Excavation of existing levee side slope in front of screen area
- Structural slab and riprap blanket under the screen cylinder
- 24-inch-diameter log boom support piles
- Cofferdam (for construction conditions)

For construction conditions, only the training walls and cofferdam are included. For permanent conditions, all elements except the cofferdam are included.

Figure 4 illustrates how the proposed tee screen and structure configuration were modeled for the analysis. The shaded area represents the model geometry, and the actual concept design is shown in the background. Since the model is only 2D (versus 3D), the actual screen elements had to be approximated using 2D shapes that represent the same flow area and projection into the river. The cylindrical screens extend 11 feet beyond the intake structure headwall and 8 feet from top of screen to bottom of screen. The cylindrical screens were modeled with varying top elevations depending on intake location: Intake C-E-2 was modeled with a screen top elevation of -5.0 and a slab and riprap elevation of -13.0. Intakes C-E-3 and C-E-5 were modeled with a similar screen top elevation of -9.0 and a slab and riprap elevation of -17.0.

As noted above, the 2D HEC-RAS modeling software has a limitation in modeling cylinders like the tee screens given they occupy 3D space. The approach taken in constructing the model geometry to represent the tee screens involved building the cylindrical volume occupied by the tee screens directly into the terrain as the step shape shown in Figure 4.. The step shape used to model the screen units was continuous along the face of the structure for the length of the screens.

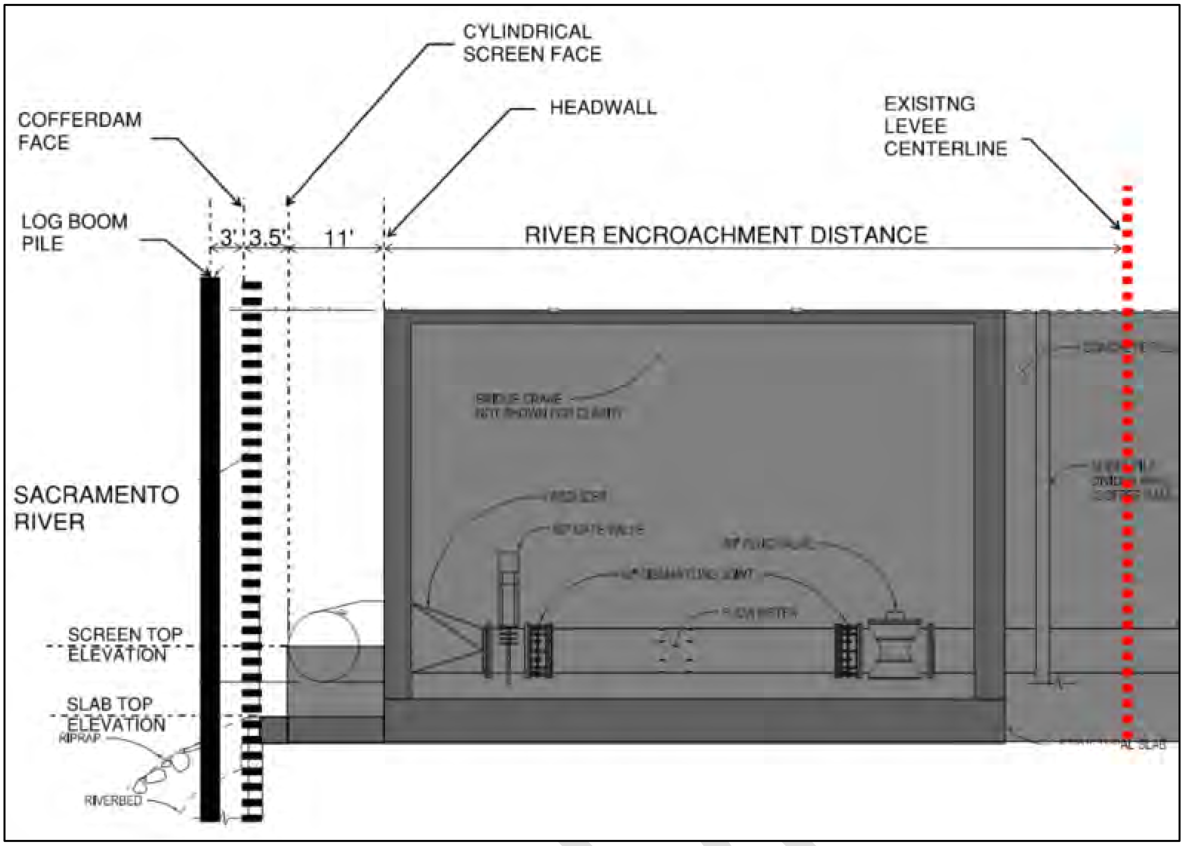

Figure 4. Profile Schematic of Tee Screen Model Elements

The log boom support piles would be aligned along the length of each intake structure located 17.5 feet from the intake headwall to the pile centerline. The support pile was modeled in HEC-RAS by building each pile directly into the terrain for the permanent scenarios only and excluding the piles from the construction model scenarios. The piles are modeled as 24-inch diameter piles with a 1-foot taper each side of centerline for model compatibility and to allow some obstruction area for debris buildup. For the construction scenarios, the cofferdam was modeled with the cofferdam face projecting 5 feet farther into the river than the intake headwall.

The overall tee screen intake structure geometry was developed from CAD design files with a terrain surface developed to represent the intake structure footprint. The intake structure terrain surface was merged with the existing conditions terrain surface in HEC-RAS to create the proposed conditions with project terrain for the tee screens. Figure 5 illustrates proposed conditions versus existing conditions at Intake C-E-3. A similar approach was taken at modeling the structures at Intake C-E-2 and Intake C-E-5 for both tee and vertical screen options and for the construction condition where a cofferdam is used.

Existing Condition At Intake C-E-3 | **Site With Project At Intake C-E-3**

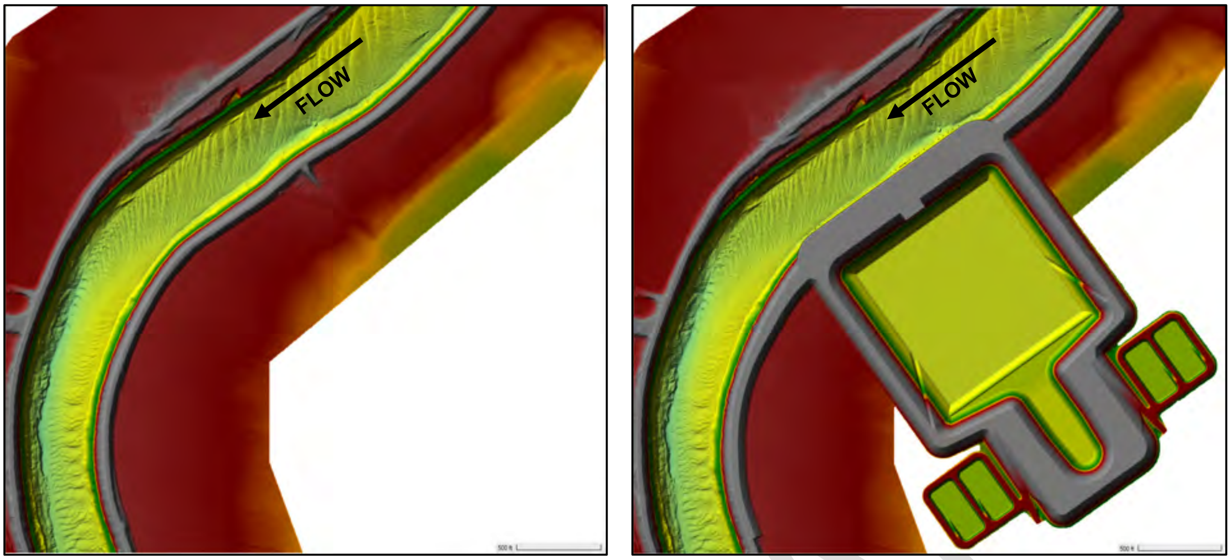

Figure 5. Model Plan View at Intake C-E-3

The cylindrical tee screens' conceptual design includes rotating cylinders that intake water and are supported by a manifold at the center, as shown on Figure 6. Multiple tee screens are lined along the face of the intake structure with each cylinder (i.e., half of each tee screen unit) 10.83 feet long and 8 feet in diameter; the manifold between cylinders is 7.67 feet long.

The water-diverting function of the tee screen cylinders was modeled in HEC-RAS using the hydraulic connection option which connects the Sacramento River flow to a landside storage area. Figure 6 shows the intake structure, river bathymetry, log boom piles, and the flat step area where the cylindrical tee screens are built directly into the terrain surface in HEC-RAS. The gray rectangles are the 2D model hydraulic connections used to divert Sacramento River water to a landside storage area. Two hydraulic units make up each tee screen unit. So, each pair of rectangles represent one tee screen unit as shown on Figure 6. A rating curve with a constant flow (equal to the diversion flow rate divided by twice the number of screen units) was used by the model for diverting water from the river across the length of each hydraulic connection.

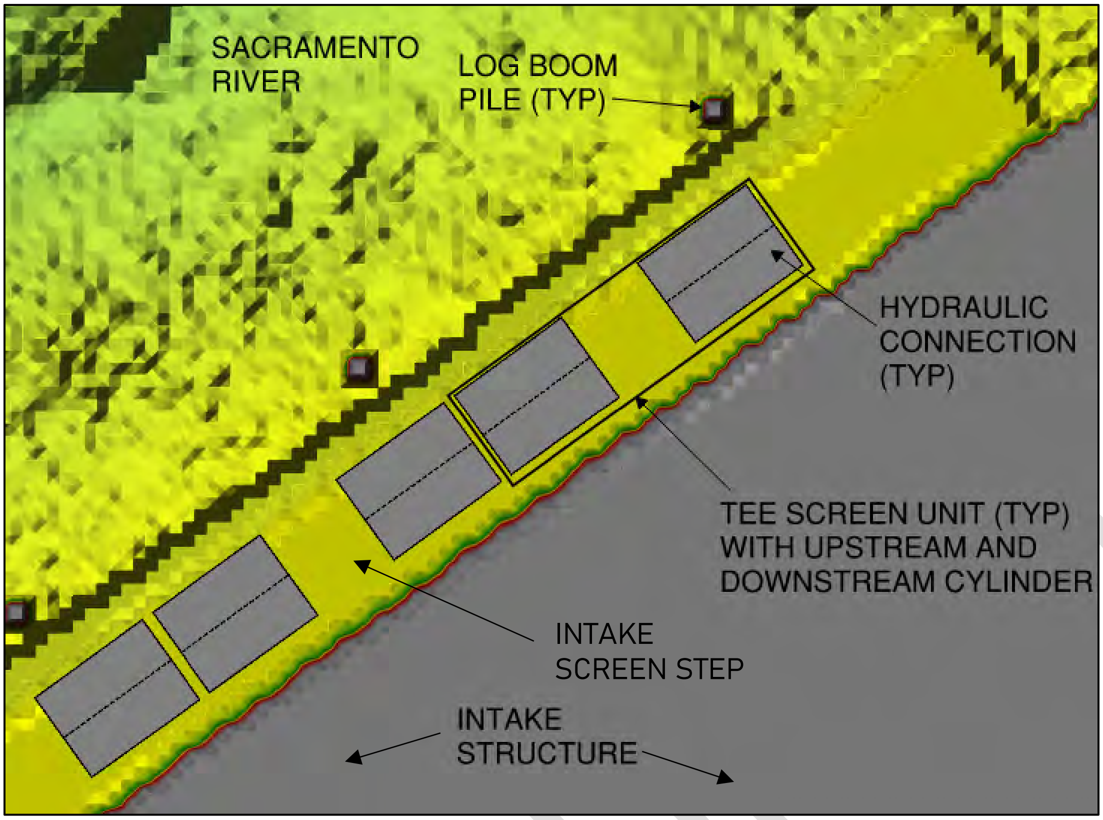

Figure 6. Model Plan View of Tee Screens With Hydraulic Connections

Table 4 lists the information used in developing the hydraulic model geometry and flow data of the tee screen intake structure. The hydraulic connections used to model the tee screens' flow diversion include a rating curve that diverts the diversion flow preassigned to each hydraulic connection, as defined above.

Table 4. Cylindrical Tee Screen Information Used to Develop Hydraulic Model

Intake	Flow Diversion Capacity (cfs)	Structure length (ft)	Flow per unit length (cfs/ft)	Number of Tee Screens	Flow per Screen (cfs)	Tee Screen Length (ft)	Diameter (ft)
C-E-2	1,500	469	3.20	15	100	29.33	8
C-E-3	3,000	964	3.11	30	100	29.33	8
C-E-5	3,000	964	3.11	30	100	29.33	8

4.7.2 Typical Section—Tee Screen Intake Structure

Figure 7 is a typical cross section cut across the terrain surfaces used in HEC-RAS to represent the cylindrical tee screen intake structures as they would be incorporated into the existing levees. The sketch shows the permanent tee screen intake structure profile with a step area near the bottom representing the geometry of the tee screen cylinders. Permanent in-river grading is also shown on the profile. The cofferdam construction condition with no in-river grading is represented by the cofferdam construction condition. The sketch also shows the existing conditions profile with the river levee.

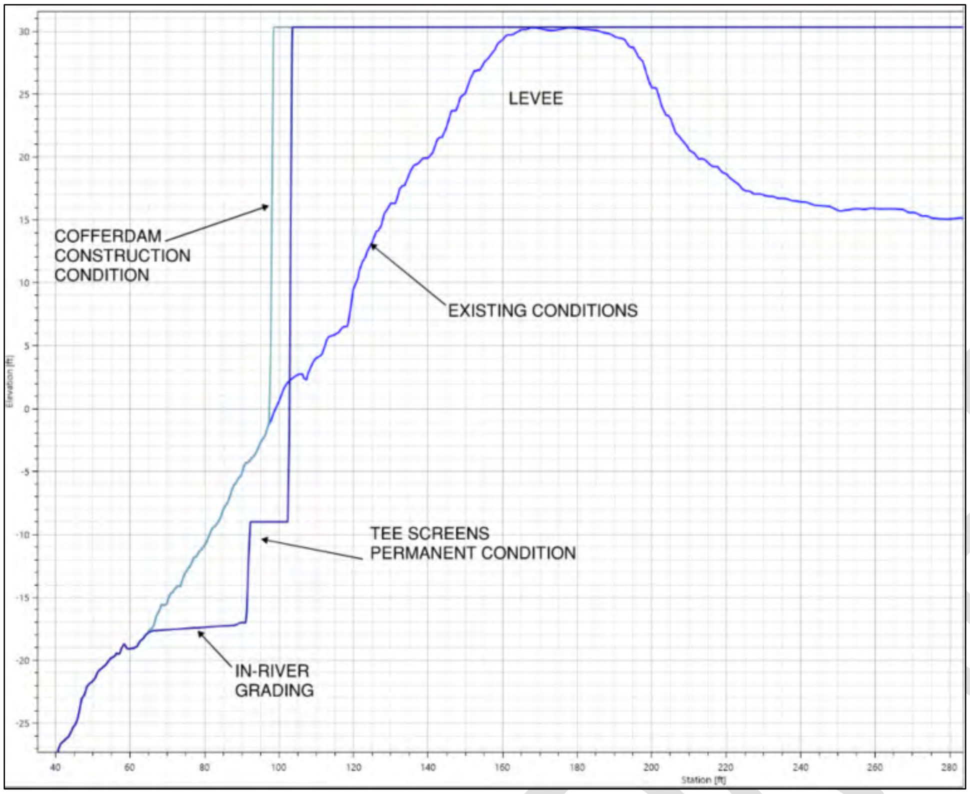

Figure 7. Typical Intake Screen Structure Sections for Cylindrical Tee Screens and Vertical Flat Plate Screens

4.7.3 Model Limitations

The model development approach discussed in the sections above includes the use of the terrain surfaces and hydraulic connections within HEC-RAS to accurately model the intake structures. This modeling approach is effective at understanding the river hydraulics from an overall perspective; however, the modeled near-field hydraulics defined as the zone from just outside (riverside) of the log boom piles to the intake structure face and screens are not considered representative of the expected flow conditions in the river. The HEC-RAS 2D model cannot properly reflect the flow complexity near the face of the intake structure as vertical effects within the water column are depth-averaged for a 2D model, and 3D effects are not included.

5. Model Scenarios—Description and Results

This section briefly summarizes the model scenarios and associated results. These results, documented by the graphical output information presented in Attachment 1, will be used by the DWR EIR Team to evaluate, interpret, and generate results associated with the effects of the Sacramento River hydraulics on aquatic resources that may result from construction and operation of the proposed intake facilities for the project.

5.1 Modeling Results

The results for each group and all models are included in Attachment 1. Results include the following:

- Lateral velocity profile plots
  - Lateral velocity profile plots are developed at four cross sections across the river in front of each intake structure and show the cross-channel velocity results. Cross sections are taken upstream of the screens, at the intake structure centerline, downstream of the screens, and 500 feet downstream of the intake structure. A key map showing the cross-section locations for each intake is provided in Attachment 1.
- Velocity contour maps
  - Velocity contour maps show river velocities for each model run in front of each intake. The velocity legend and static velocity arrows provide perspective on river conditions at the intakes.
- Critical streak line
  - Critical streak line maps are developed only for model runs where the intakes are diverting flow. The water particle tracing line shown on these maps is derived from model results and shows the influence the intakes have on the river while diverting. Flow between the critical streak line and the near bank ends up being diverted into the intake. An approximate measurement is provided on these maps upstream of the intakes to show the estimated river water capture zone as a portion of the river from water's edge on the left bank to water's edge on the right bank.
- Overall velocity plots V > < 0.91 fps
  - Overall velocity plots are a series of maps along the river showing model results where velocities are greater or less than 0.91 fps. The 0.91 fps velocity standard is intended to help illustrate areas where Delta smelt are capable of swimming upstream. A key map showing each velocity map location is provided. These velocity maps follow the river from Scribner's Bend down to Sutter Slough. Velocity results are color coded for each model to show locations along the river where velocities are greater or less than 0.91 fps.

5.2 Group 1 Model Scenario Descriptions: Model Runs 1A–1G

There are seven models in Group 1, Models 1A–1G. These models have the upstream boundary at Sacramento/American River Confluence and have a flow of 110,000 cfs. The downstream boundary is set using the stage listed in Table 2.

5.2.1 Model 1A

Model 1A represents existing conditions; the intakes are not included in the model terrain surface. The 2D flow area extends from Sacramento River–American River confluence downstream to the Sutter Slough bifurcation. Results from this model run are the baseline for comparison with models within this group. Existing river conditions show near maximum river velocities with the river center ranging from 5 to 7 fps.

5.2.2 Model 1B

Model 1B represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes not diverting flow

5.2.3 Model 1C

Model 1C represents proposed conditions in the construction phase; a cofferdam is temporarily installed around tee screen Intakes C-E-3 and C-E-5. The cofferdam is modeled directly into the terrain surface. Model 1D

Model 1D represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes diverting 3,000 cfs each.

5.2.4 Model 1E

Model 1E represents proposed conditions in the permanent phase; tee screen Intakes C-E-2, C-E-3, and C-E-5 are modeled directly into the terrain surface with the intakes not diverting flow.

5.2.5 Model 1F

Model 1F represents proposed conditions in the construction phase; a cofferdam is temporarily installed around tee screen Intakes C-E-2, C-E-3, and C-E-5. The cofferdam is modeled directly into the terrain surface. Model 1G

Model 1G represents proposed conditions in the permanent phase; tee screen Intakes C-E-2, C-E-3, and C-E-5 are modeled directly into the terrain surface with the intakes diverting 1,500 cfs at Intake 2 and 3,000 cfs at Intakes 3 and 5.

5.3 Group 2 Model Scenario Descriptions: Model Runs 2A–2G

There are seven models in Group 2, Models 2A–2G. These models have the upstream boundary at Freeport and have a flow of 50,000 cfs. The downstream boundary is set using the stage listed in Table 2.

5.3.1 Model 2A

Model 2A represents existing conditions; the intakes are not included in the model terrain surface. The 2D flow area extends from Freeport down to the Sutter Slough bifurcation. Results from this model run are the baseline for comparison with models within this group. Existing river conditions show high river velocities with the river center ranging from 3 to 5 fps.

5.3.2 Model 2B

Model 2B represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes not diverting flow.

5.3.3 Model 2C

Model 2C represents proposed conditions in the construction phase; a cofferdam is temporarily installed around tee screen Intakes C-E-3 and C-E-5. The cofferdam is modeled directly into the terrain surface.

5.3.4 Model 2D

Model 2D represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes diverting 3,000 cfs each.

5.3.5 Model 2E

Model 2E represents proposed conditions in the permanent phase; tee screen Intakes C-E-2, C-E-3, and C-E-5 are modeled directly into the terrain surface with the intakes not diverting.

5.3.6 Model 2F

Model 2F represents proposed conditions in the construction phase; a cofferdam is temporarily installed around tee screen Intakes C-E-2, C-E-3, and C-E-5. The cofferdam is modeled directly into the terrain surface.

5.3.7 Model 2G

Model 2G represents proposed conditions in the permanent phase; tee screen Intakes C-E-2, C-E-3, and C-E-5 are modeled directly into the terrain surface with the intakes diverting 1,500 cfs at Intake 2 and 3,000 cfs at Intakes 3 and 5.

5.4 Group 3 Model Scenario Descriptions: Model Runs 3A–3I

There are 10 models in Group 3, Models 3A–3J. These models have the upstream boundary at Freeport and have a flow of 30,000 cfs. The downstream boundary is set using the stage listed in Table 2.

5.4.1 Model 3A

Model 3A represents existing conditions; the intakes are not included in the model terrain surface. The 2D flow area extends from Freeport down to the Sutter Slough bifurcation.

5.4.2 Model 3B

Model 3B represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes not diverting flow.

5.4.3 Model 3C

Model 3C represents proposed conditions in the construction phase; a cofferdam is temporarily installed around tee screen Intakes C-E-3 and C-E-5. The cofferdam is modeled directly into the terrain surface.

5.4.4 Model 3D

Model 3D represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes diverting 3,000 cfs each.

5.4.5 Model 3E

Model 3E represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes diverting 2,000 cfs each.

5.4.6 Model 3F

Model 3F represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes diverting 1,000 cfs each.

5.4.7 Model 3G

Model 3G represents proposed conditions in the permanent phase; tee screen Intakes C-E-2, C-E-3, and C-E-5 are modeled directly into the terrain surface with the intakes not diverting.

5.4.8 Model 3H

Model 3H represents proposed conditions in the construction phase; a cofferdam is temporarily installed around tee screen Intakes C-E-2, C-E-3, and C-E-5. The cofferdam is modeled directly into the terrain surface.

5.4.9 Model 3I

Model 3I represents proposed conditions in the permanent phase; tee screen Intakes C-E-2, C-E-3, and C-E-5 are modeled directly into the terrain surface with the intakes diverting 1,500 cfs at Intake C-E-2 and 3,000 cfs at Intakes C-E-3 and C-E-5.

5.5 Group 4 Model Scenario Descriptions: Model Runs 4A–4I

There are 10 models in Group 4, Models 4A–4J. These models have the upstream boundary at Freeport and have a flow of 18,000 cfs. The downstream boundary is set using the stage listed in Table 2.

5.5.1 Model 4A

Model 4A represents existing conditions; the intakes are not included in the model terrain surface. The 2D flow area extends from Freeport down to the Sutter Slough bifurcation.

5.5.2 Model 4B

Model 4B represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes not diverting flow.

5.5.3 Model 4C

Model 4C represents proposed conditions in the construction phase; a cofferdam is temporarily installed around tee screen Intakes C-E-3 and C-E-5. The cofferdam is modeled directly into the terrain surface.

5.5.4 Model 4D

Model 4D represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes diverting 3,000 cfs each.

5.5.5 Model 4E

Model 4E represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes diverting 2,000 cfs each.

5.5.6 Model 4F

Model 4F represents proposed conditions in the permanent phase; tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes diverting 1,000 cfs each. Results from this model show river velocities greater than existing conditions before diversion at the intakes.

5.5.7 Model 4G

Model 4G represents proposed conditions in the permanent phase; tee screen Intakes C-E-2, C-E-3, and C-E-5 are modeled directly into the terrain surface with the intakes not diverting.

5.5.8 Model 4H

Model 4H represents proposed conditions in the construction phase; a cofferdam is temporarily installed around tee screen Intakes C-E-2, C-E-3, and C-E-5. The cofferdam is modeled directly into the terrain surface.

5.5.9 Model 4I

Model 4I represents proposed conditions in the permanent phase; tee screen Intakes C-E-2, C-E-3, and C-E-5 are modeled directly into the terrain surface with the intakes diverting 1,500 cfs at Intake 2 and 3,000 cfs at Intakes 3 and 5.

5.6 Group 5 Model Scenario Descriptions: Model Runs 5A–5D

There are four models in Group 5, Models 5A–5D. These models show the effects on the river at various tide conditions over a short duration with constant diversion amounts at the intakes. These models have the upstream boundary at Freeport and run a low-flow hydrograph. The hydrographs used extend over a 7-day period based on measured conditions in December 2016. The downstream boundary is a corresponding low stage hydrograph, as listed in Table 2. The flow and stage hydrographs are shown on Figure 8.

Note that these runs represent an extreme case where the full 6,000 cfs is diverted at the two intakes over the full duration of the low-flow hydrograph. The runs in Group 5 do not represent the actual diversion scenario during a period with this type of flow pattern since limitations to diversion rates would be expected to be applied to the project for actual operations, especially at the high tide conditions included in this low-flow hydrograph.

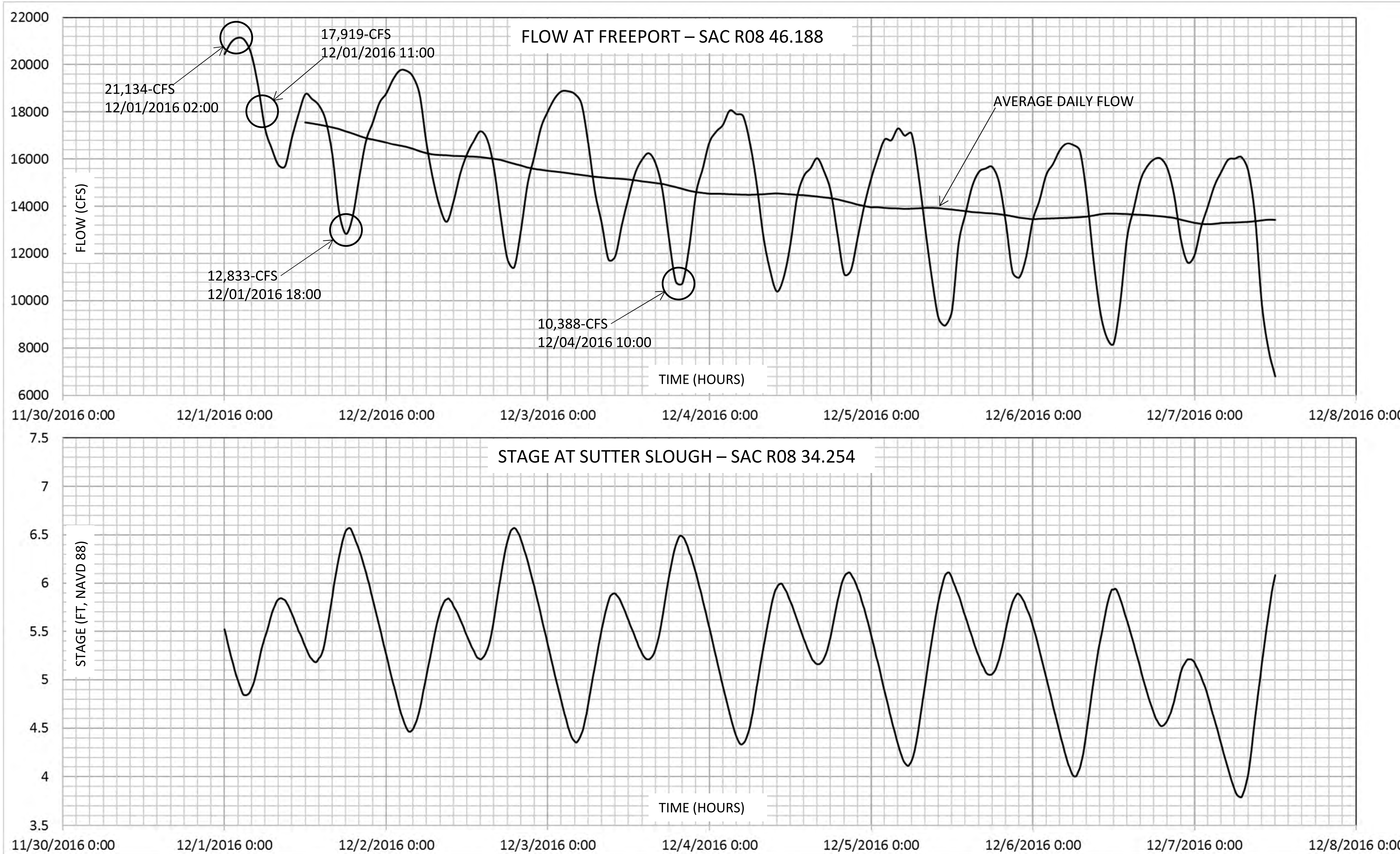

Figure 8. Flow and Stage Hydrographs

5.6.1 Model 5A

Model 5A represents existing conditions, the intakes are not included in the model terrain surface. The 2D flow area extends from Freeport down to the Sutter Slough bifurcation. Results from this model run are the baseline for comparison with models within this group.

5.6.2 Models 5B–5D

Models 5B–5D are the same model, but different time steps along the hydrograph were chosen for evaluation. The model geometry represents proposed conditions in the permanent phase, tee screen Intakes C-E-3 and C-E-5 are modeled directly into the terrain surface with the intakes diverting 3,000 cfs each. Model 5B corresponds to a high flow and low stage (near low tide)—time step 12/01/2016 02:00 on the hydrographs. Model 5C corresponds to a moderate flow and moderate stage (rising tide)—time step 12/01/2016 11:00 on the hydrographs. Model 5D corresponds to a low flow and high stage (near high tide)—time step 12/01/2016 18:00 on the hydrographs.

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7. Document History and Quality Assurance

Reviewers listed have completed an internal quality review check and approval process for deliverable documents that is consistent with procedures and directives identified by the EDM and the DCA.

			Approval Names and Roles			
Rev	Date	Version Description	Prepared by	Internal Quality Control review by	Consistency review by	Approved for submission by
0	08/30/2021	Initial submission	Jordan Vazquez / EDM Hydraulic Modeling Engineer	Kyle Winslow / EDM Hydraulic Modeling SME	Phil Ryan / EDM Design Manager Gwen Buchholz / DCA Environmental Consultant	Terry Krause / EDM Project Manager
1	02/22/2022	Final Draft submission	Jordan Vazquez / EDM Hydraulic Modeling Engineer	Kyle Winslow / EDM Hydraulic Modeling SME	Phil Ryan / EDM Design Manager Gwen Buchholz / DCA Environmental Consultant	Terry Krause / EDM Project Manager
This interim document is considered preliminary and was prepared under the responsible charge of Philip K. Ryan, California Professional Engineering License C41087.						

Attachment 1
Model Results by Scenario/Group

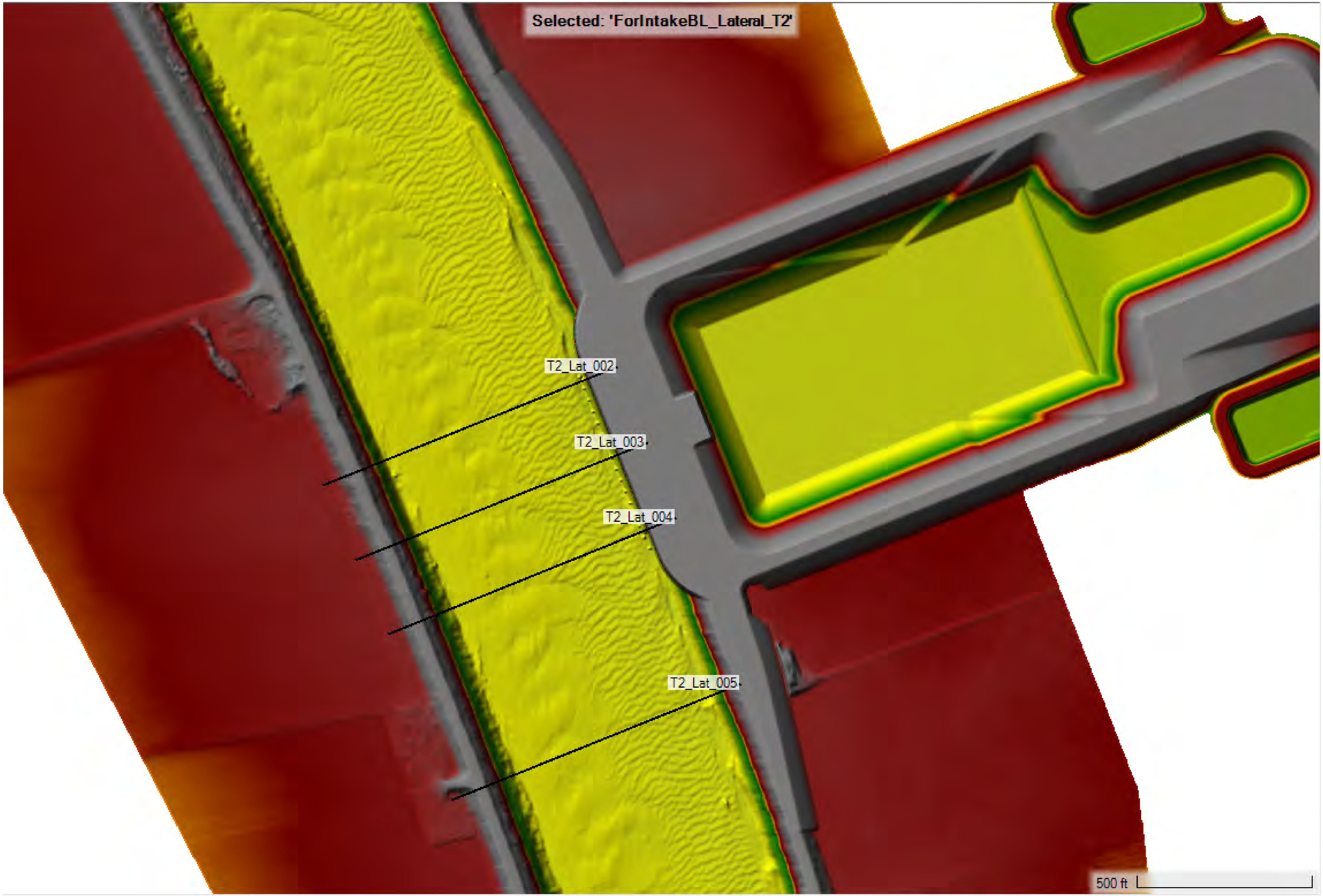
Group 1
Max Flood Flow Steady State Runs

INDEX

Cross Section Velocity Plots near Intake Structures

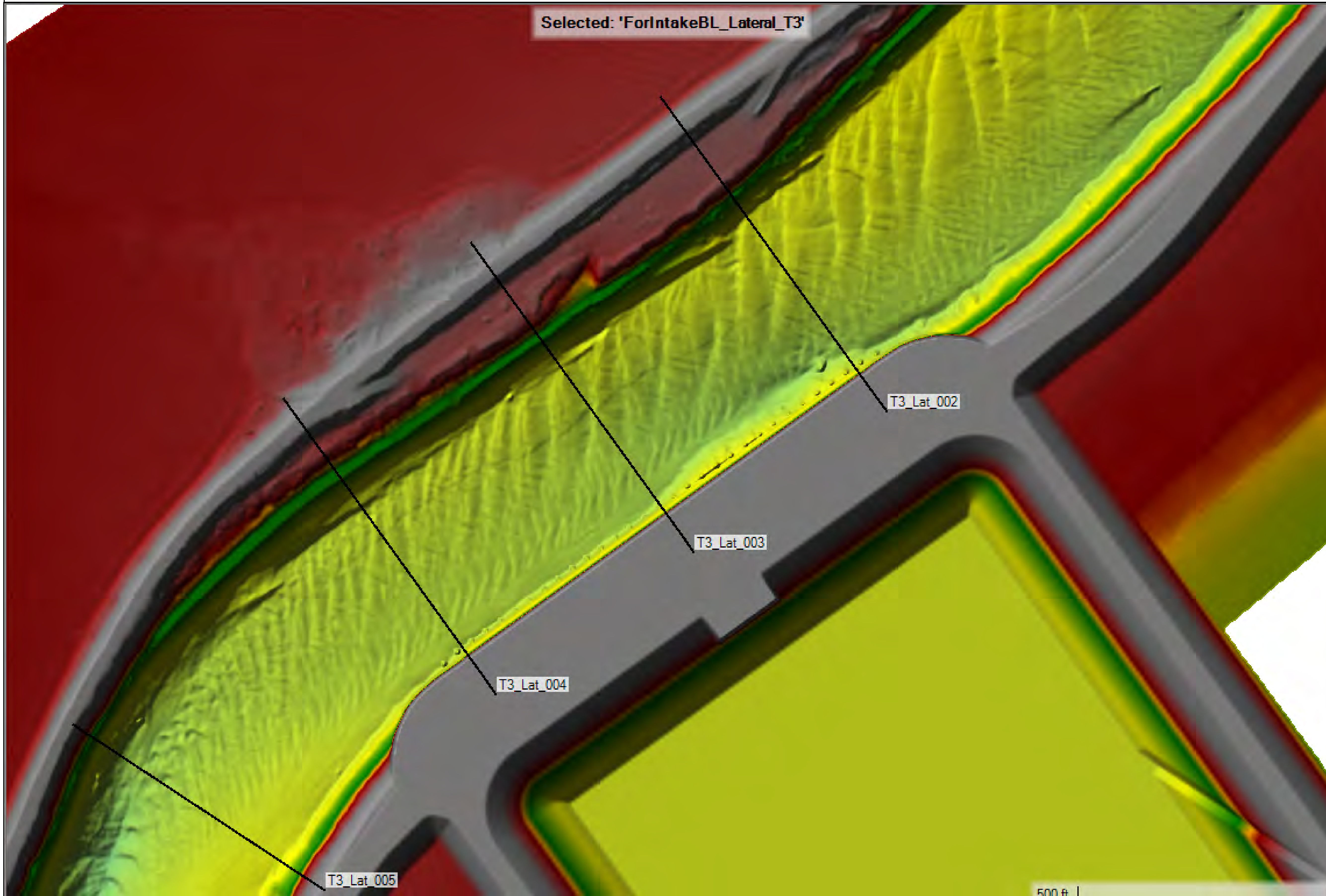
CROSS-SECTION LOCATIONS – INTAKE C-E-2 (A)

TEE SCREENS



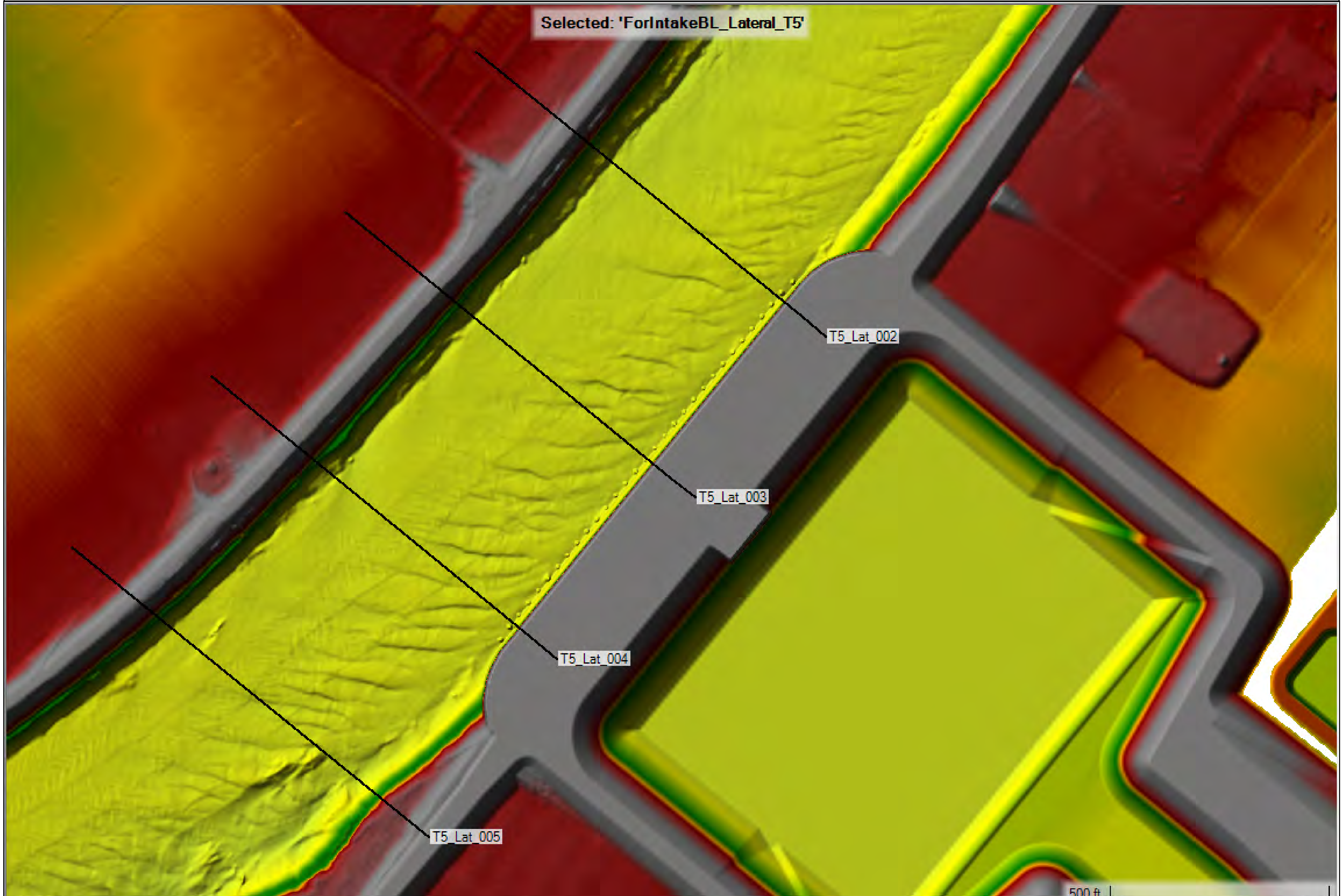
CROSS-SECTION LOCATIONS – INTAKE C-E-3 (B)

TEE SCREENS



CROSS-SECTION LOCATIONS – INTAKE C-E-5 (C)

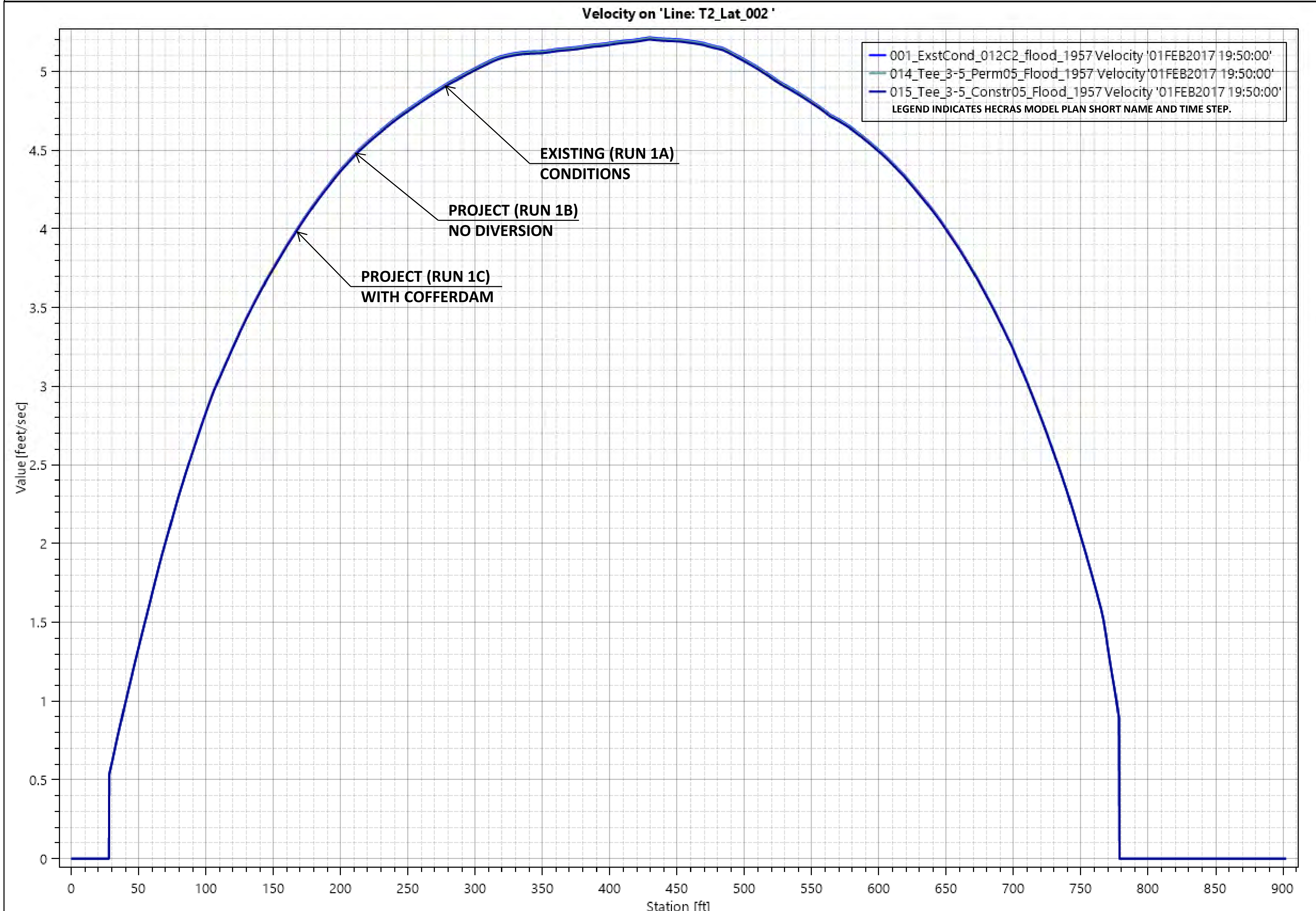
TEE SCREENS



RUN 1A vs 1B vs 1C
INTAKE C-E-2 (A)

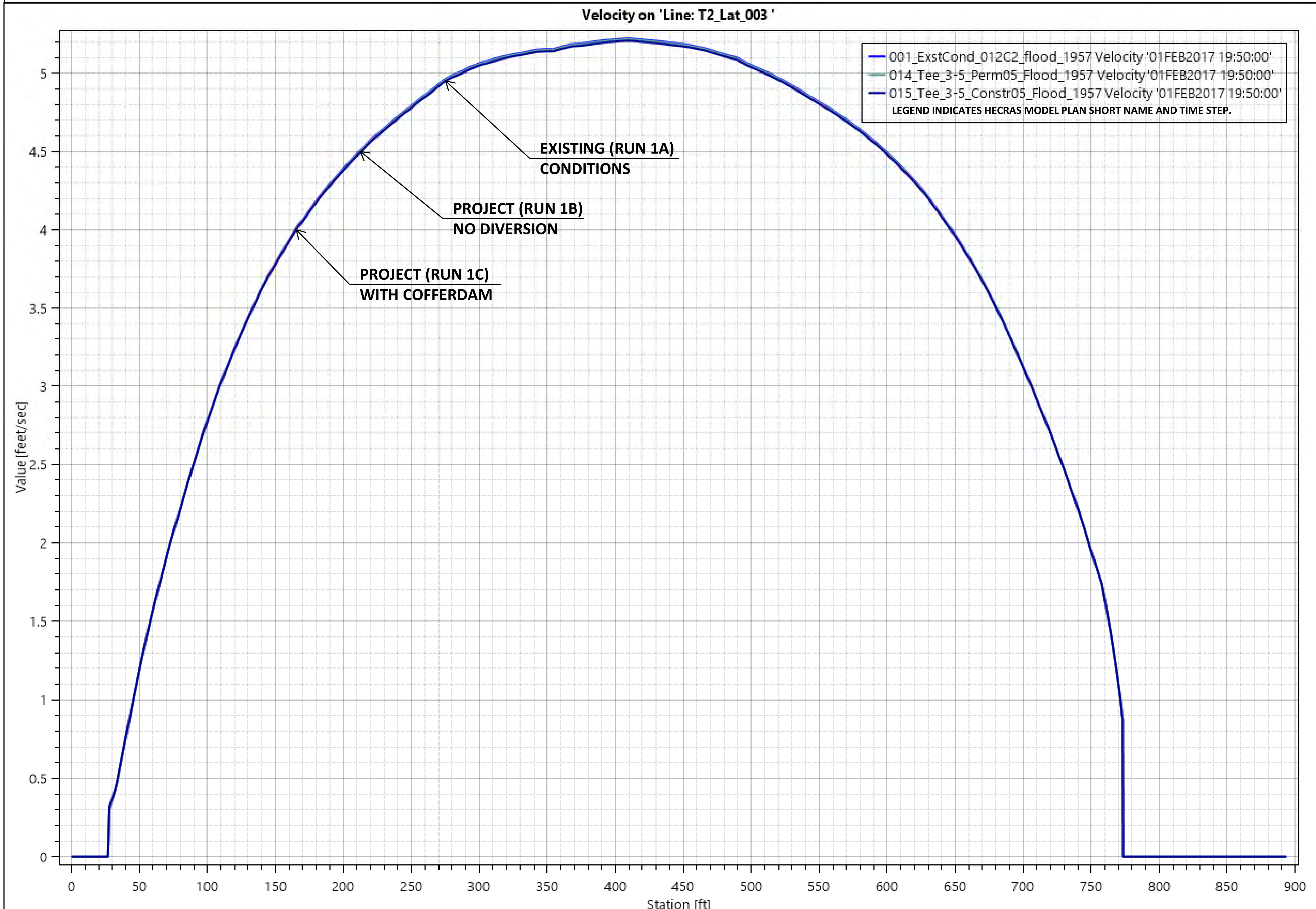
RUN 1A vs 1B vs 1C – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T2_LAT_002



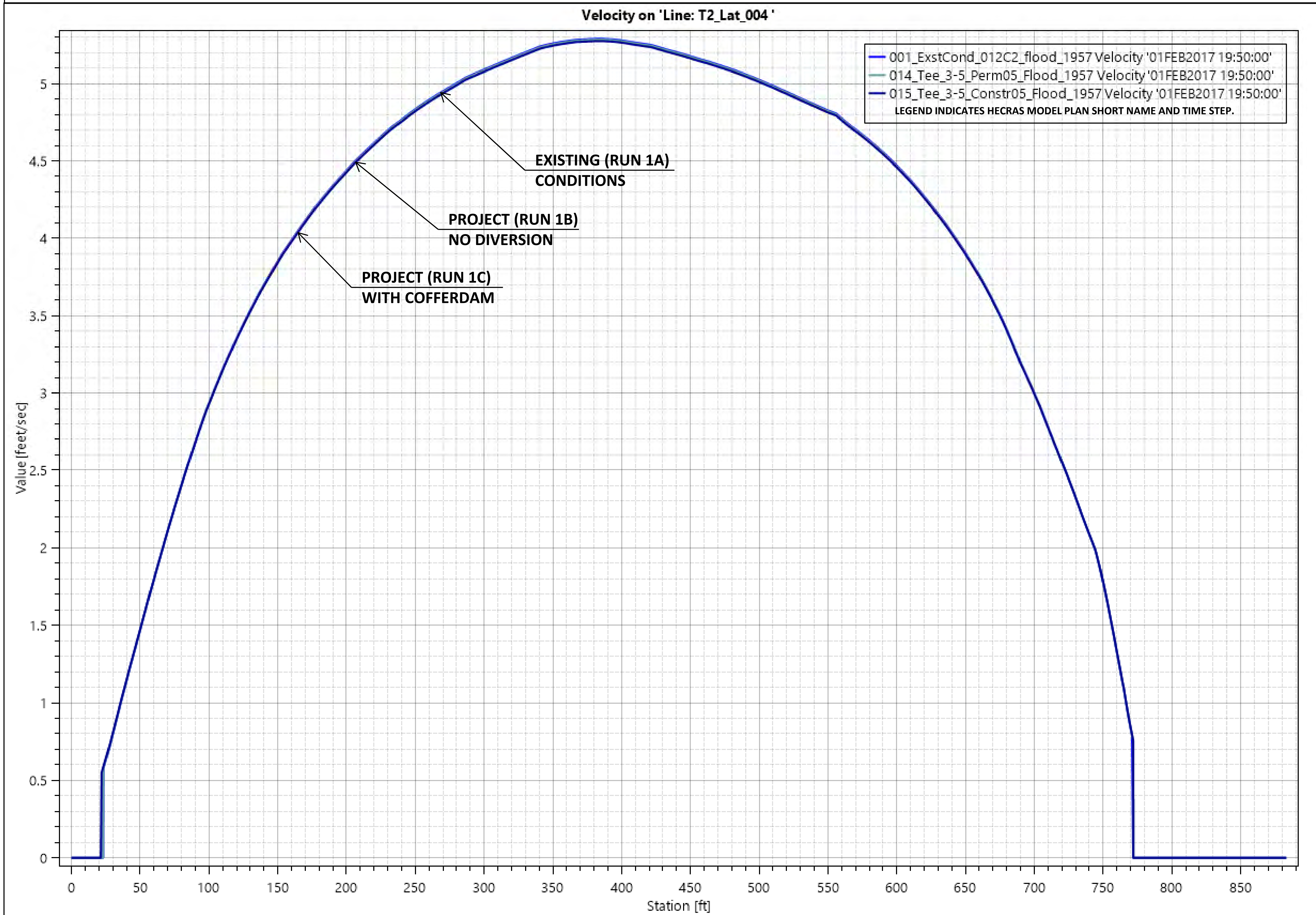
RUN 1A vs 1B vs 1C – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T2_LAT_003



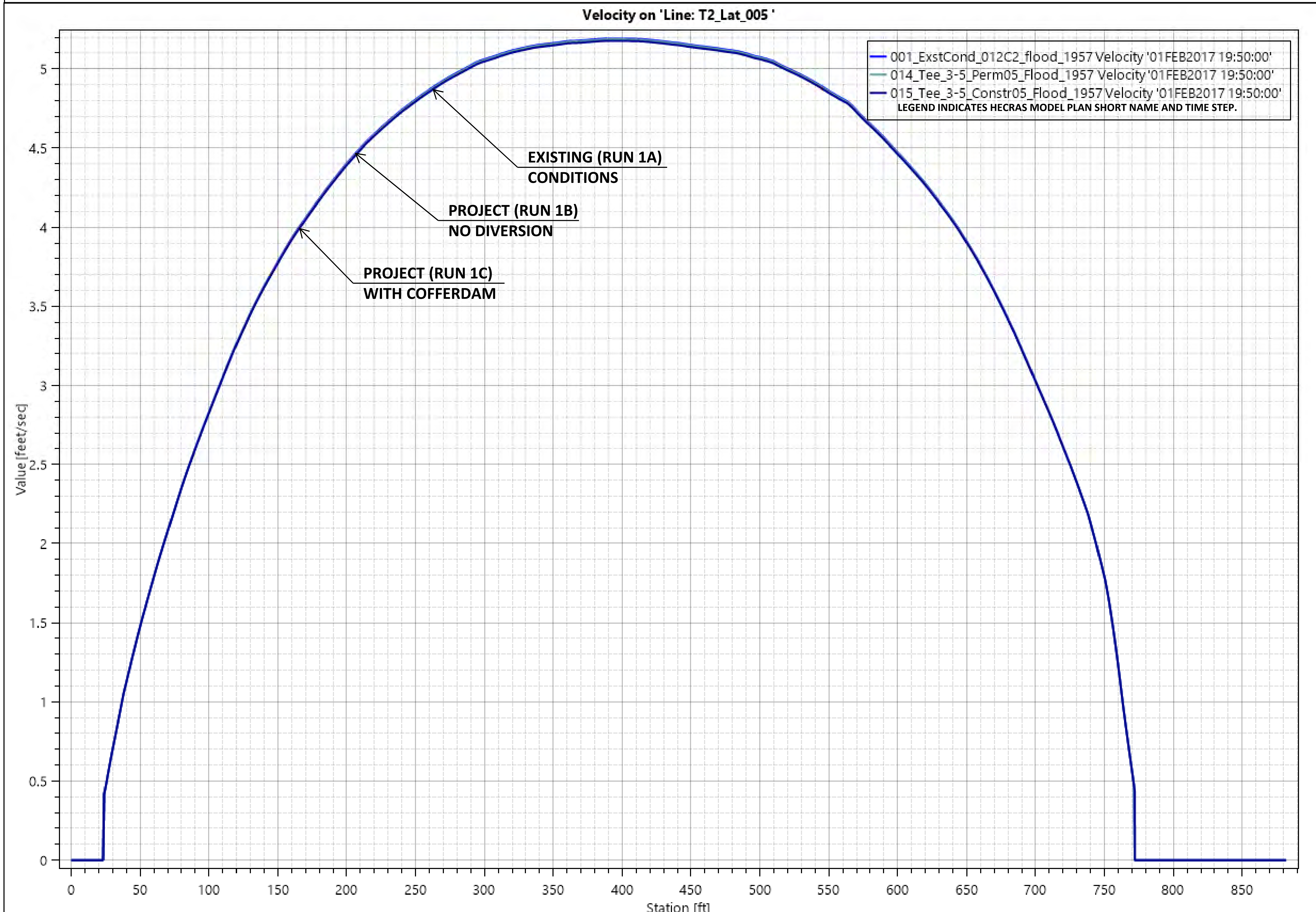
RUN 1A vs 1B vs 1C – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T2_LAT_004



RUN 1A vs 1B vs 1C – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

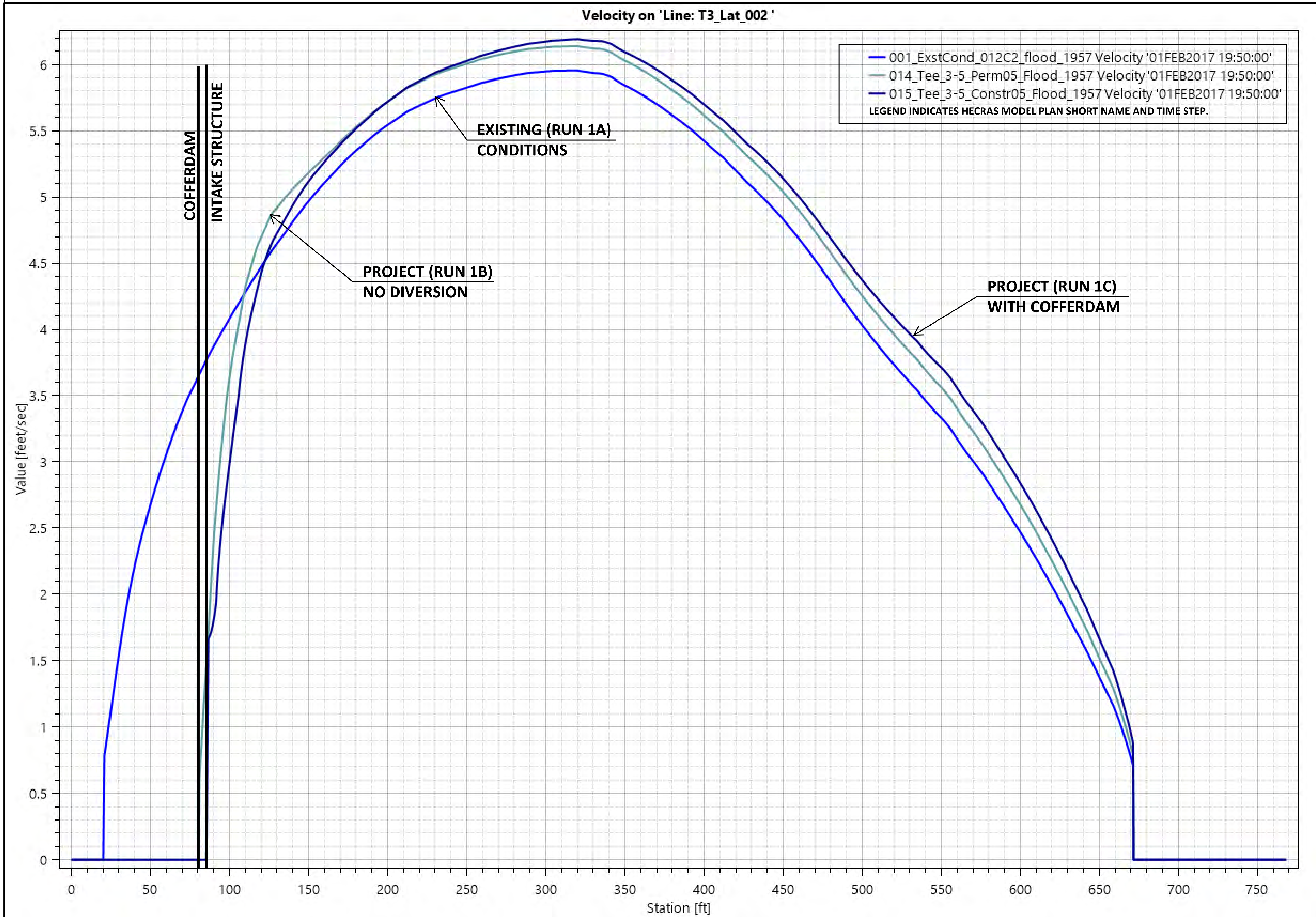
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T2_LAT_005



RUN 1A vs 1B vs 1C
INTAKE C-E-3 (B)

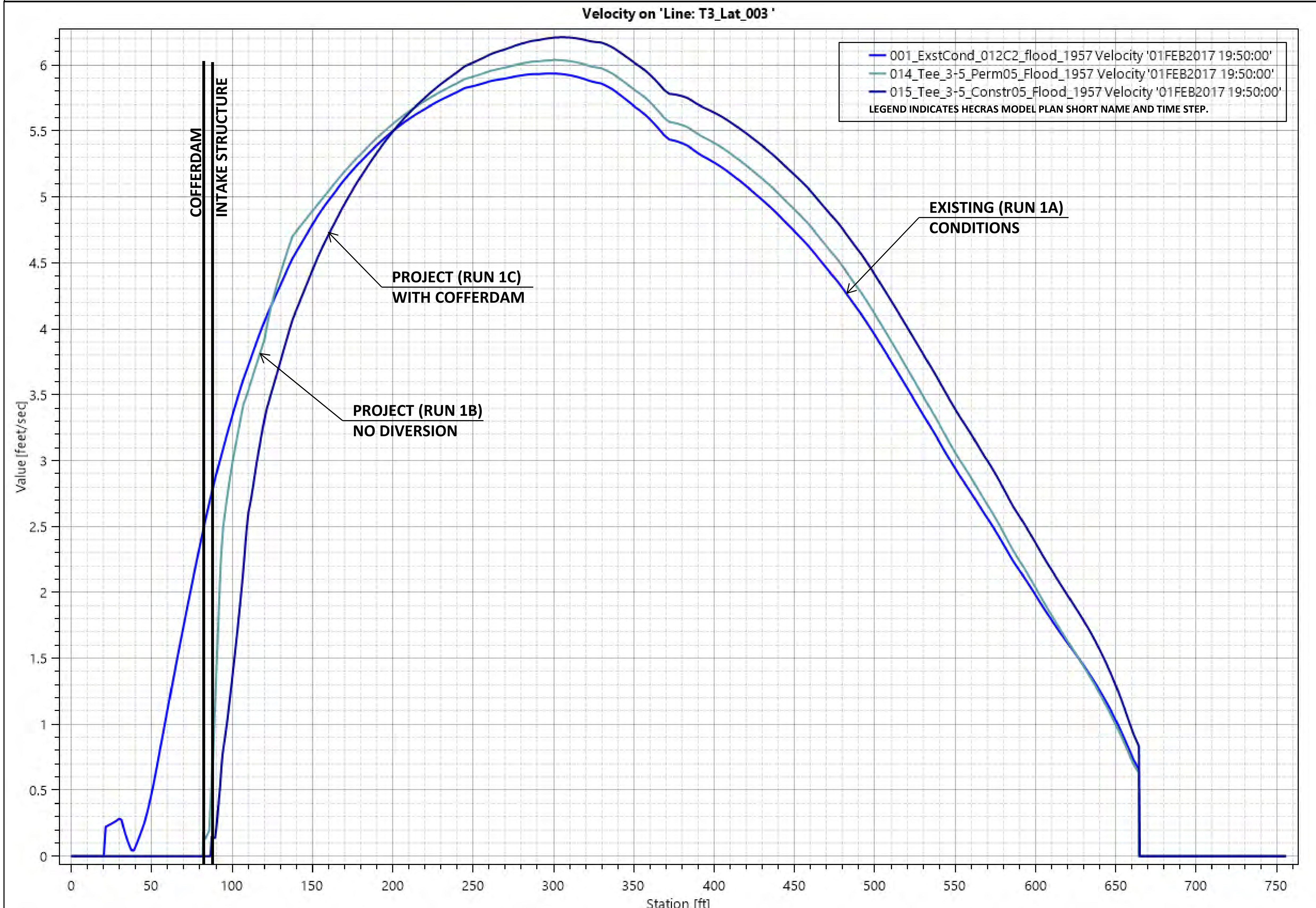
RUN 1A vs 1B vs 1C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



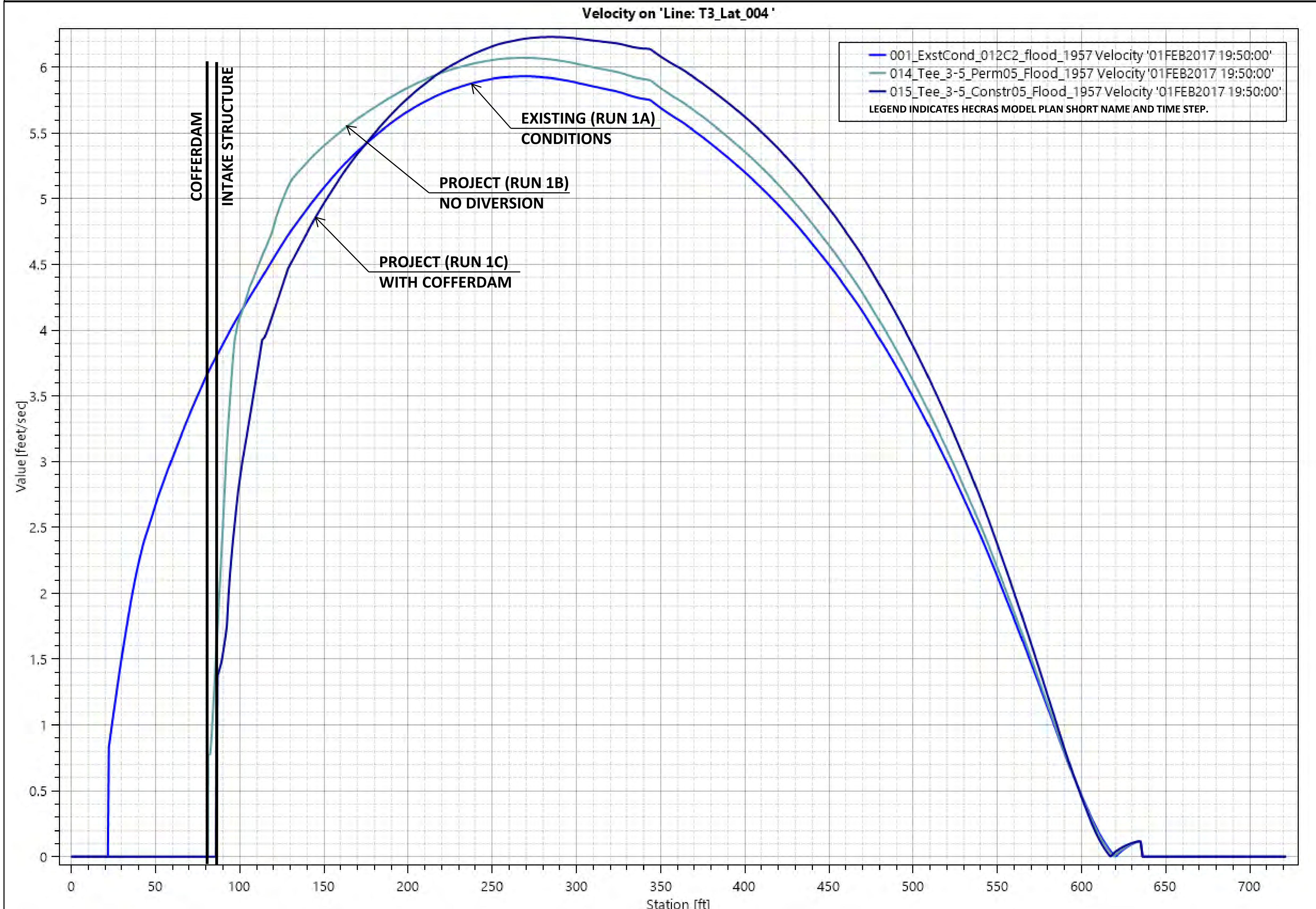
RUN 1A vs 1B vs 1C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



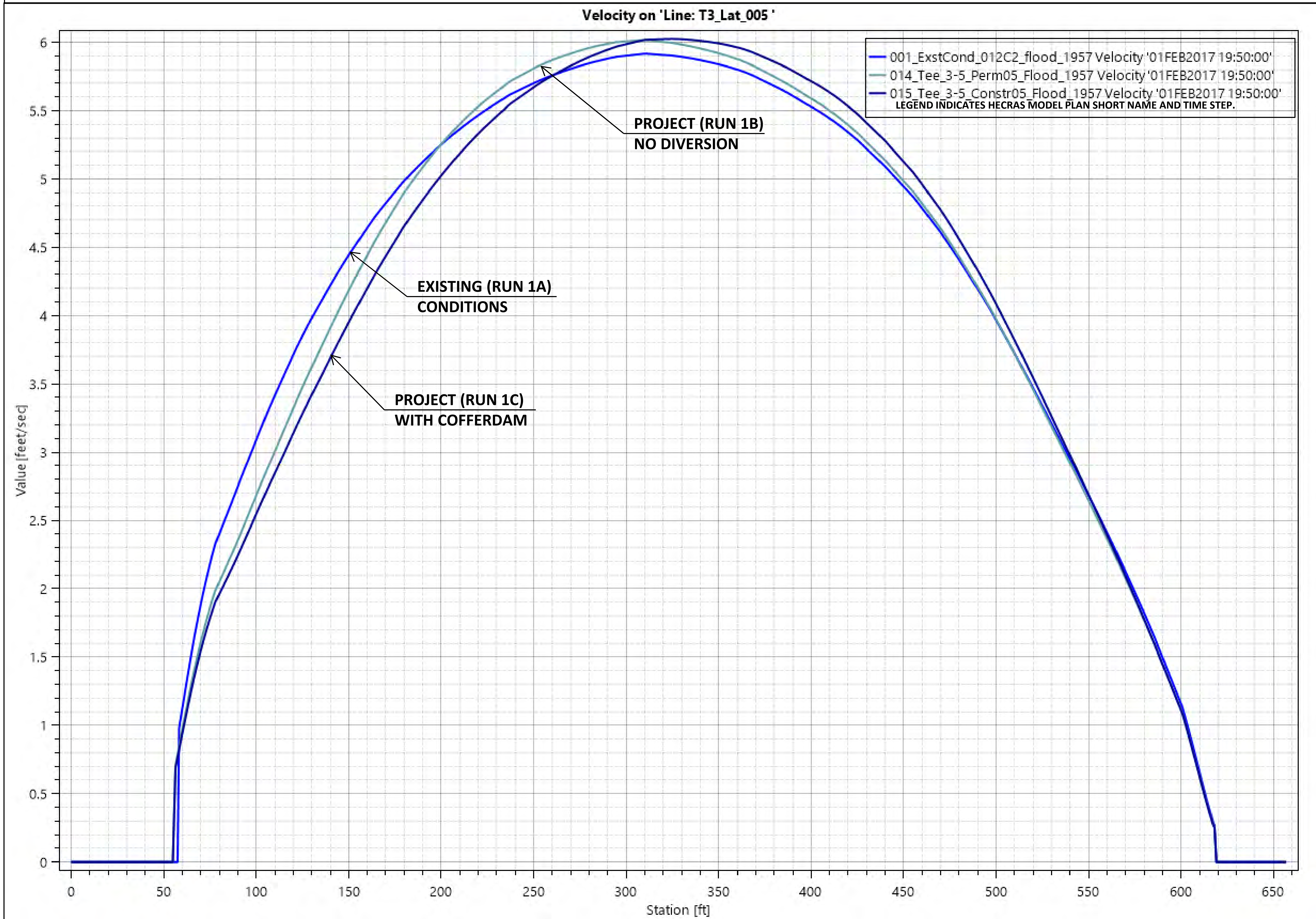
RUN 1A vs 1B vs 1C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 1A vs 1B vs 1C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

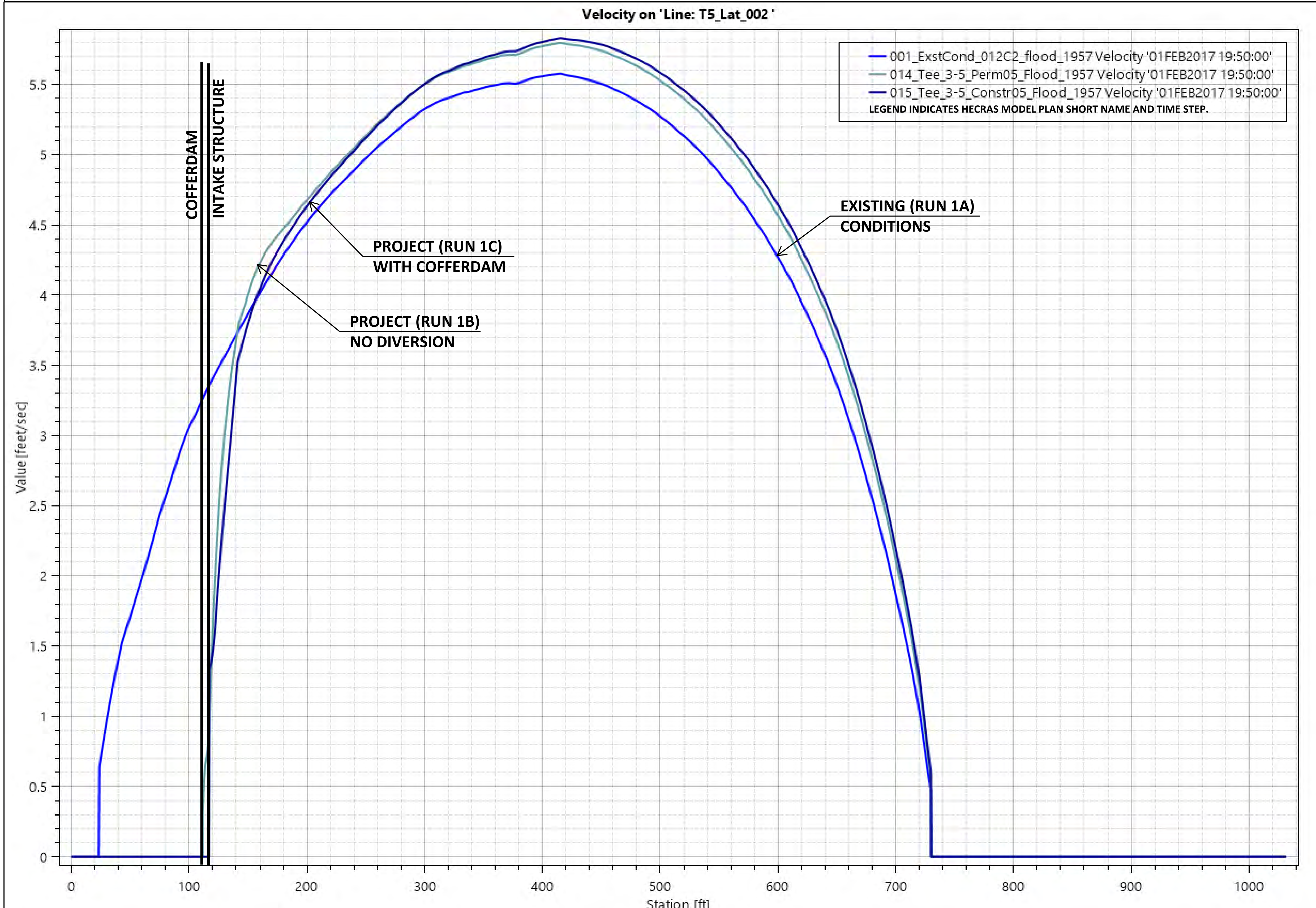
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 1A vs 1B vs 1C
INTAKE C-E-5 (C)

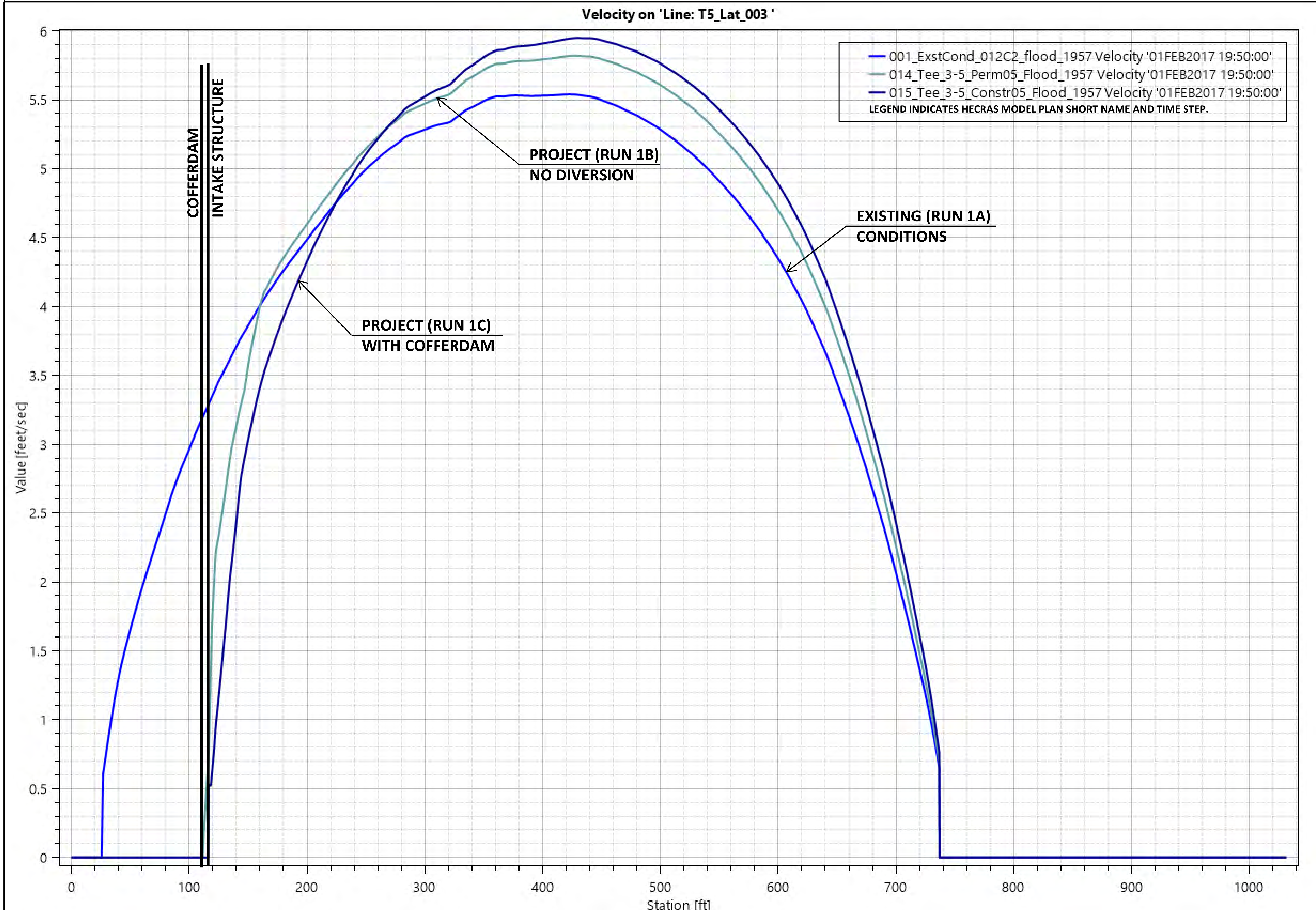
RUN 1A vs 1B vs 1C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



RUN 1A vs 1B vs 1C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



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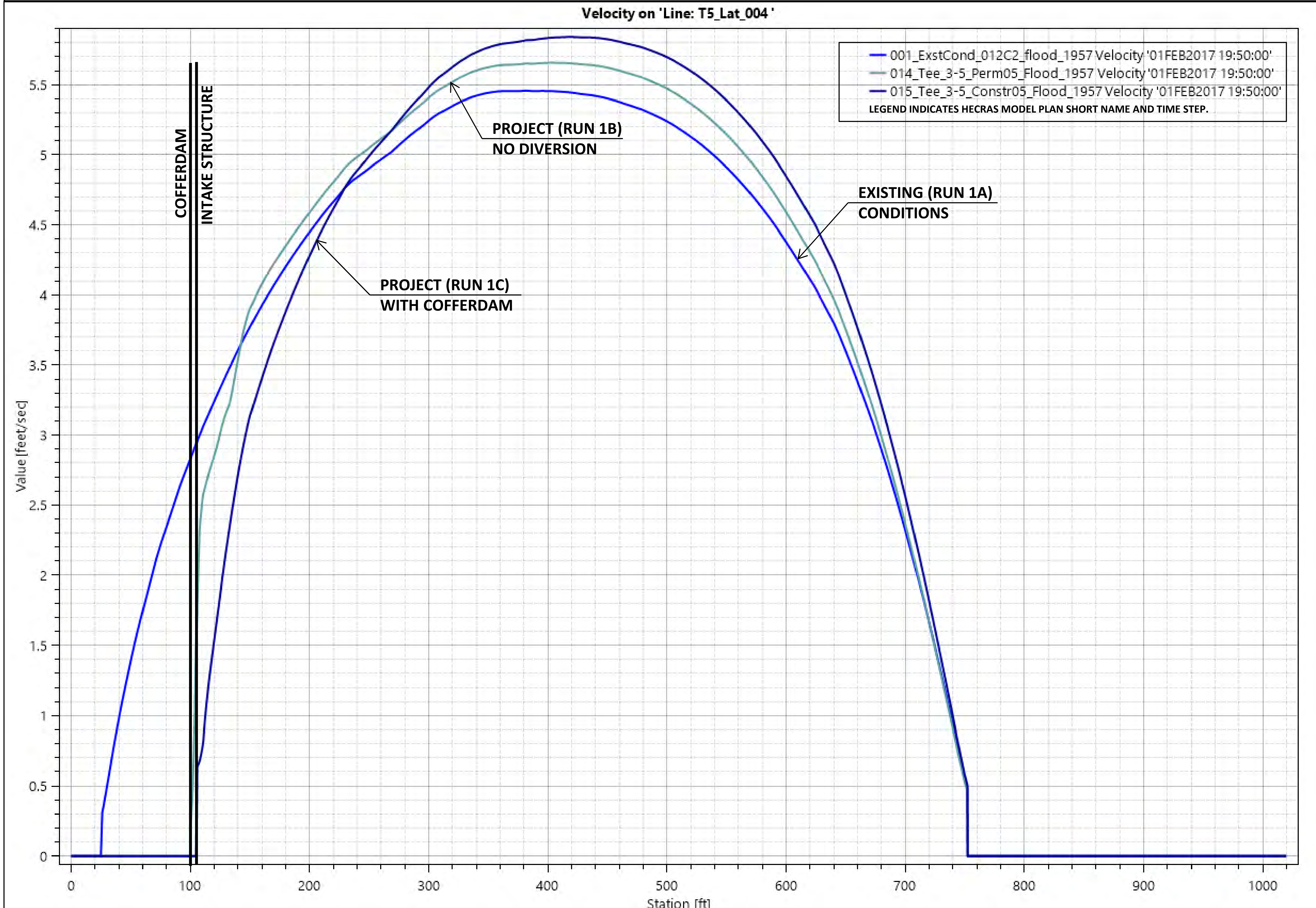
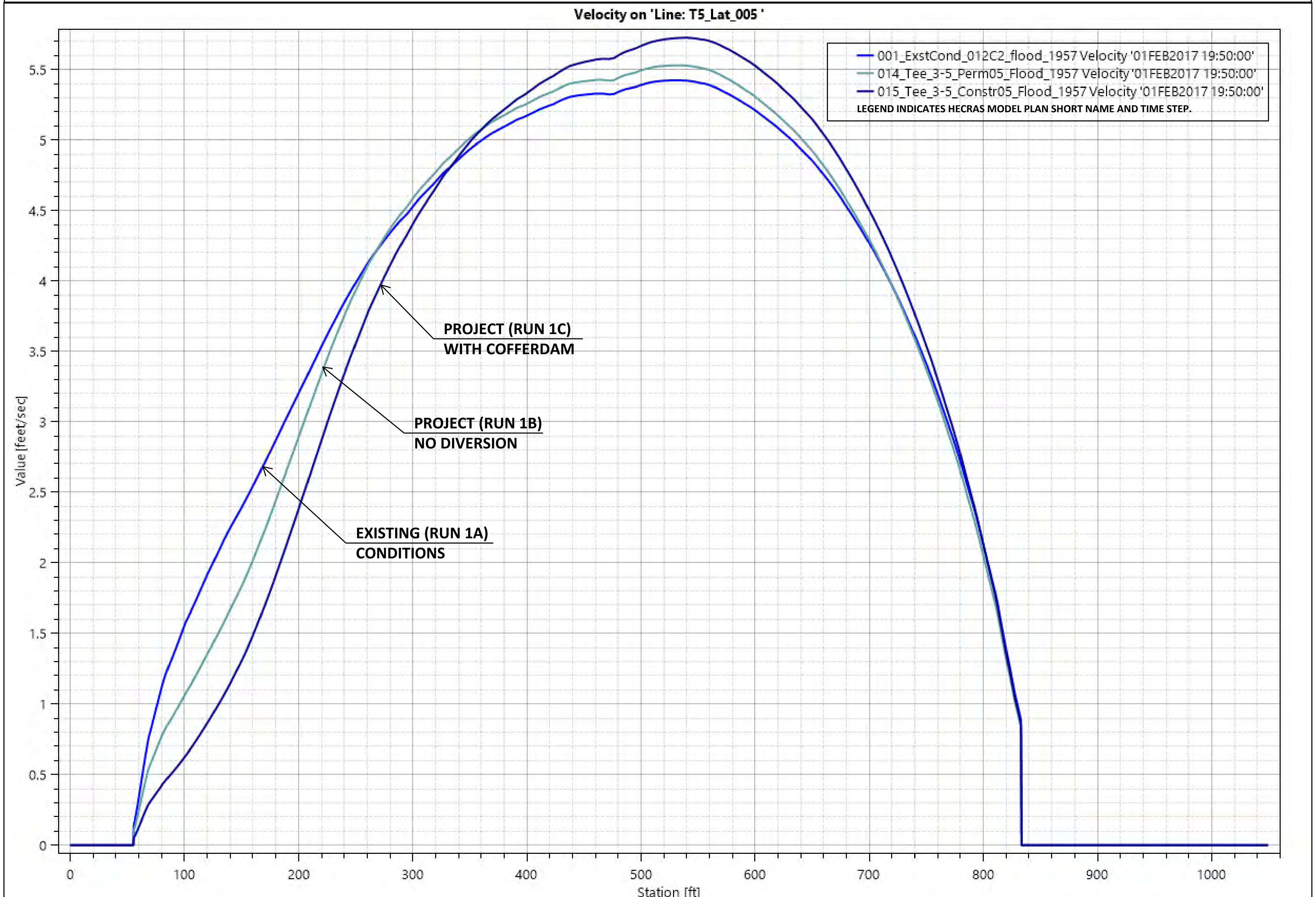
CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 1A vs 1B vs 1C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

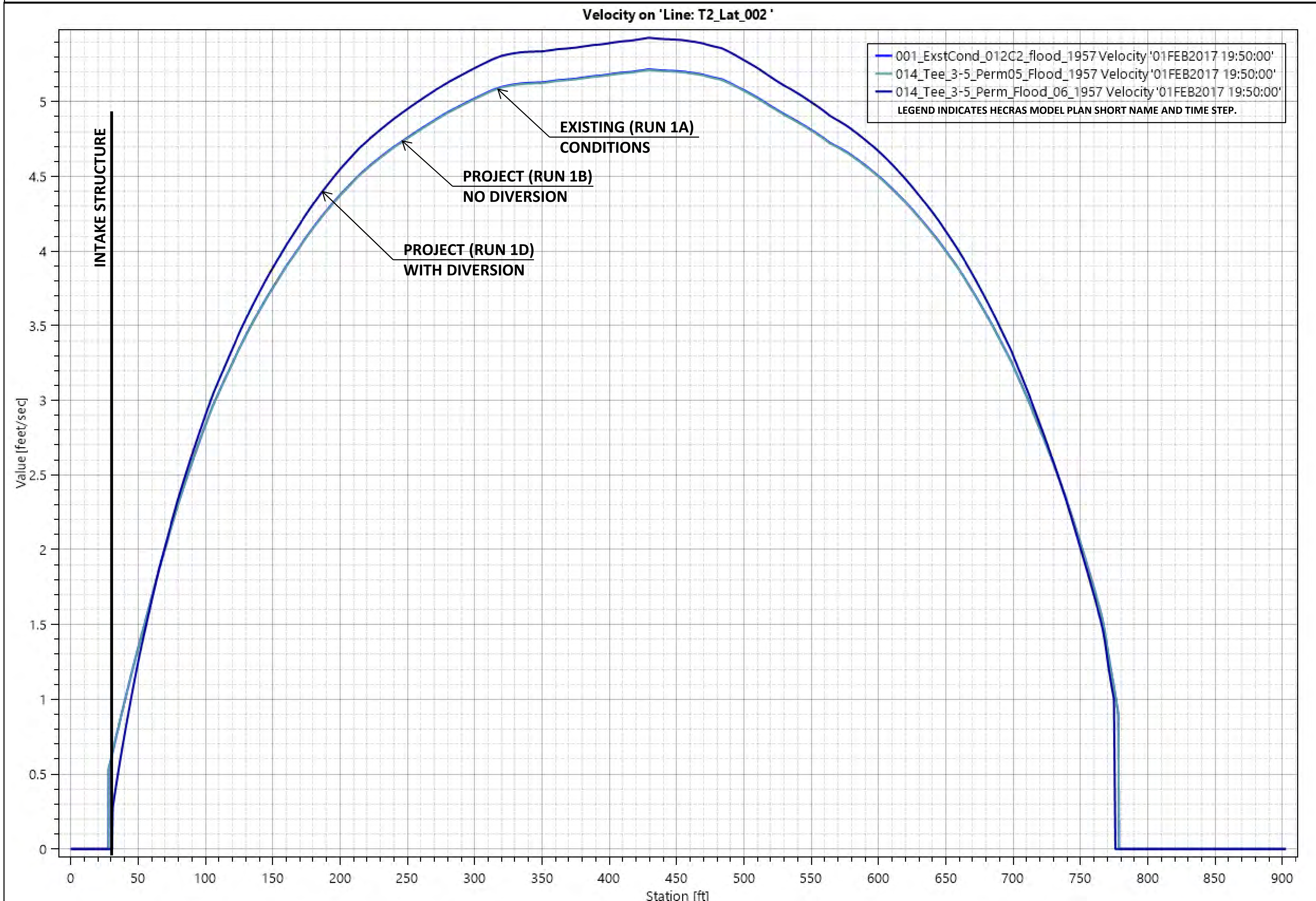
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



RUN 1A vs 1B vs 1D
INTAKE C-E-2 (A)

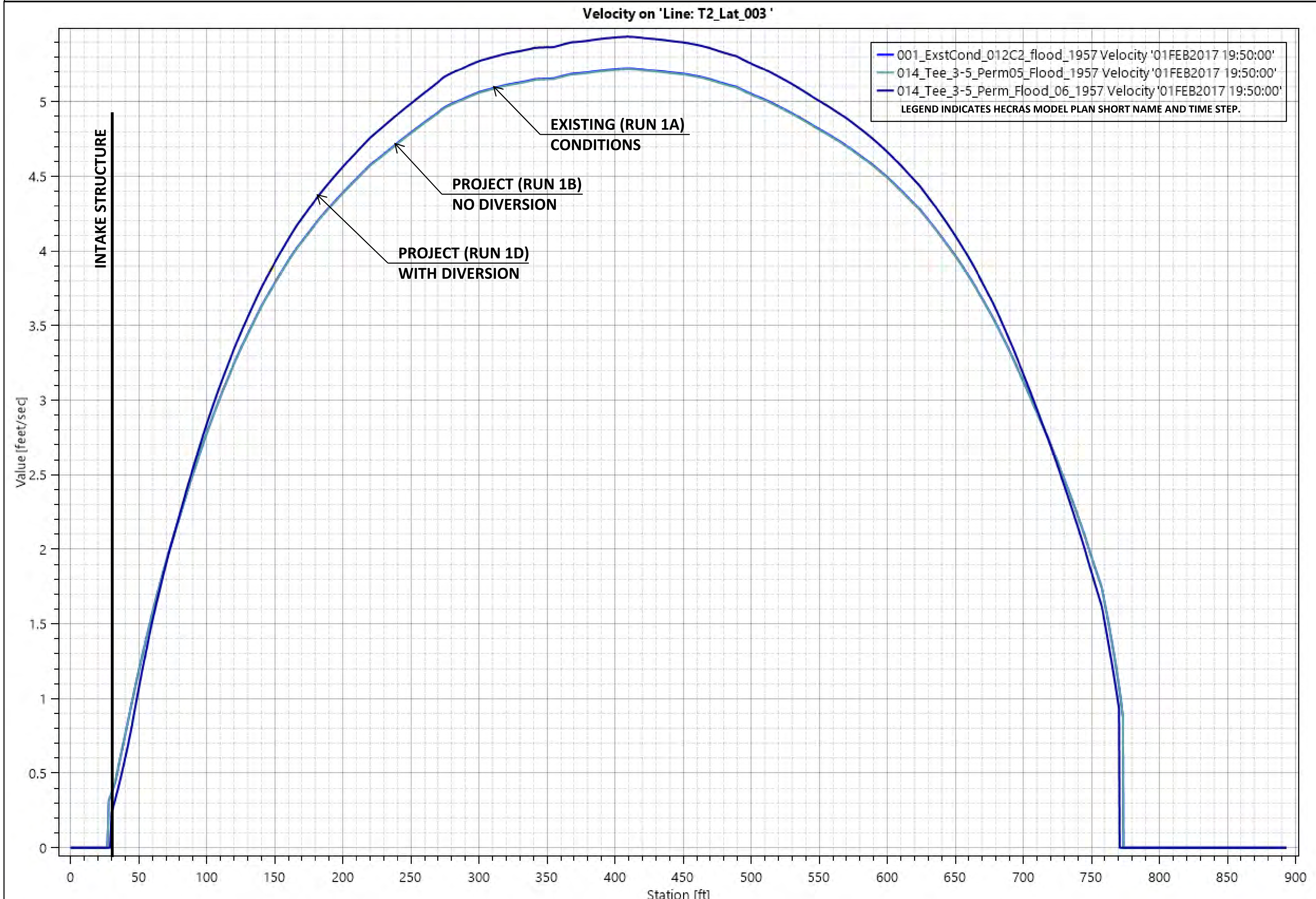
RUN 1A vs 1B vs 1D – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T2_LAT_002



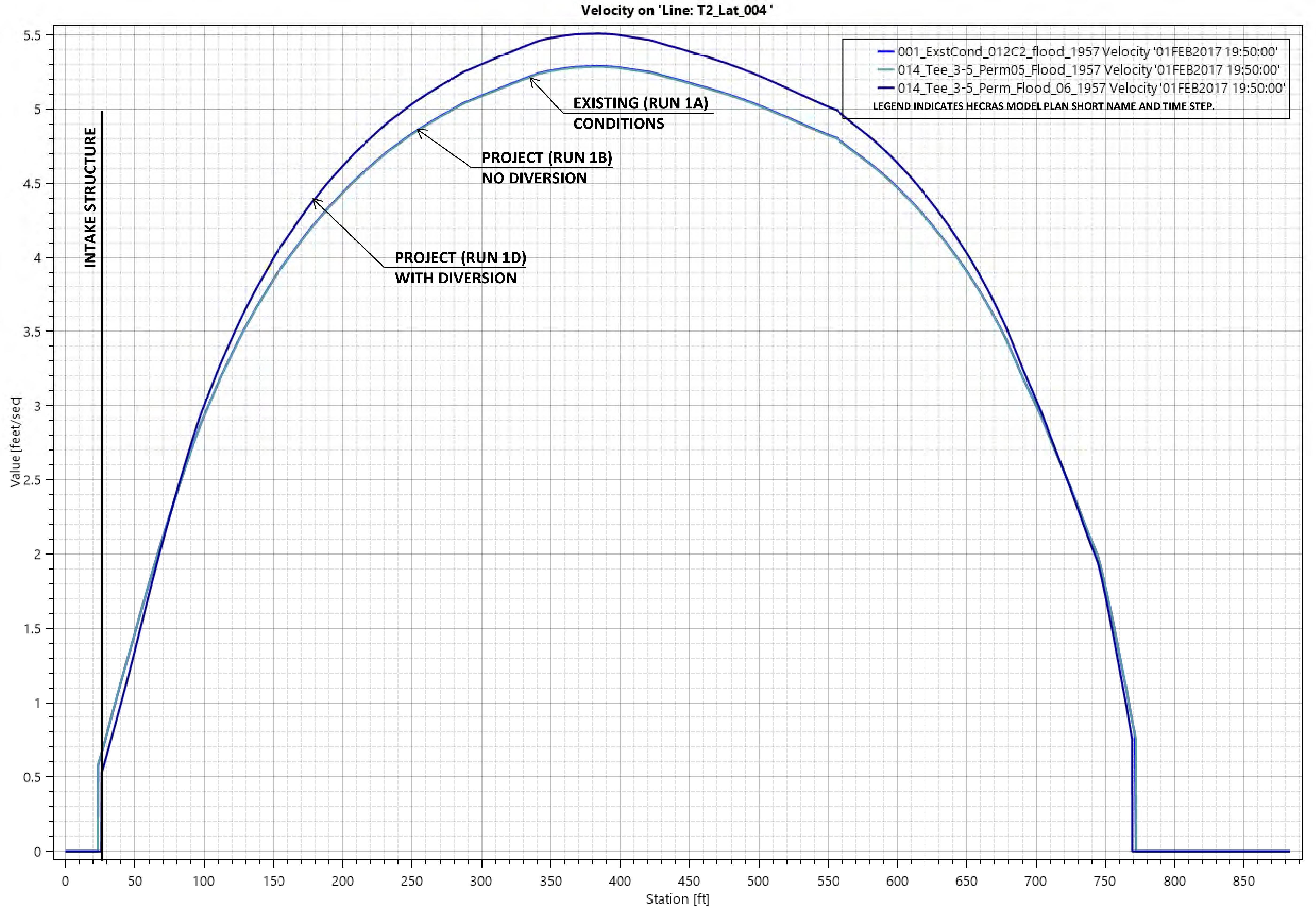
RUN 1A vs 1B vs 1D – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T2_LAT_003



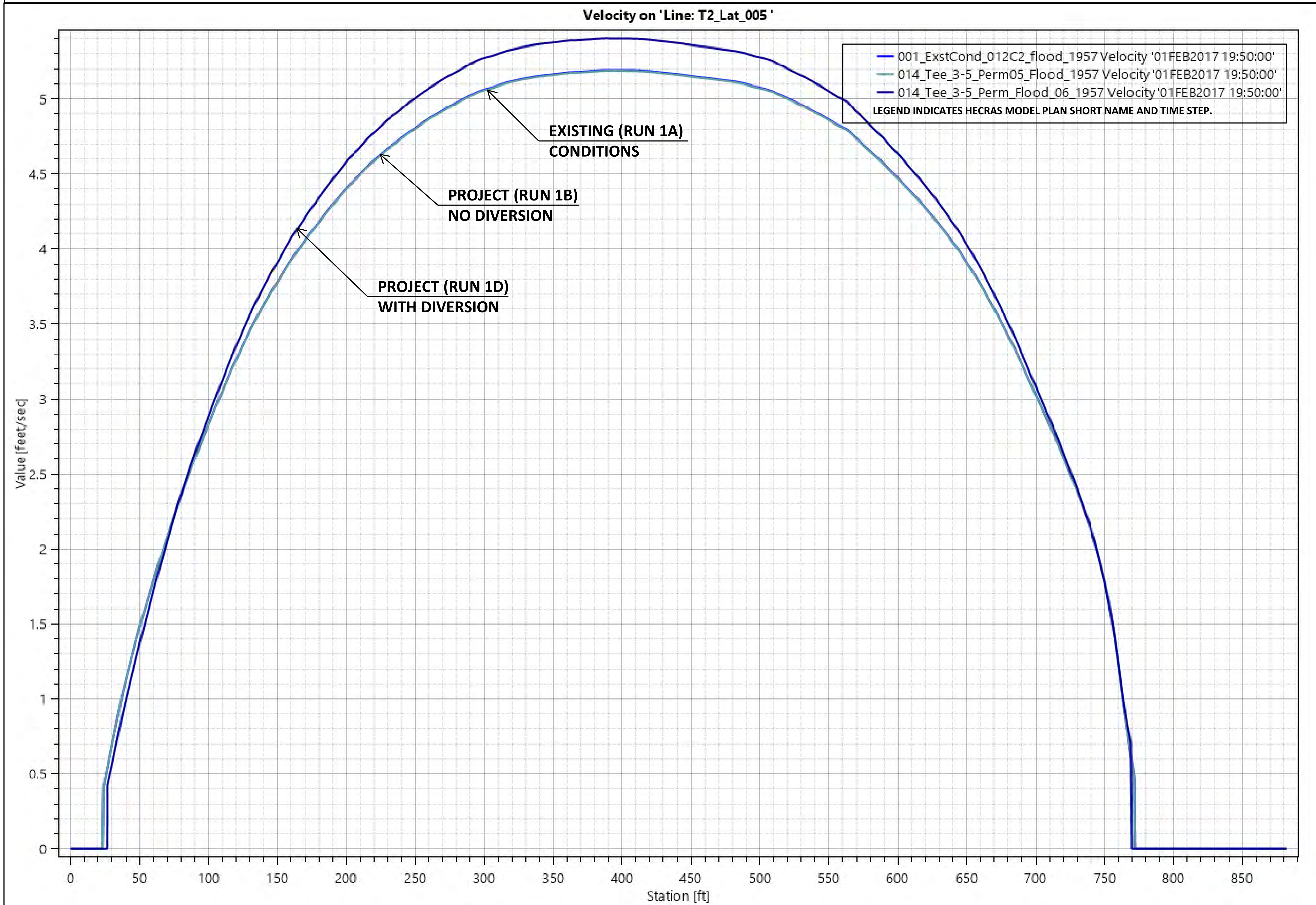
RUN 1A vs 1B vs 1D – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T2_LAT_004



RUN 1A vs 1B vs 1D – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

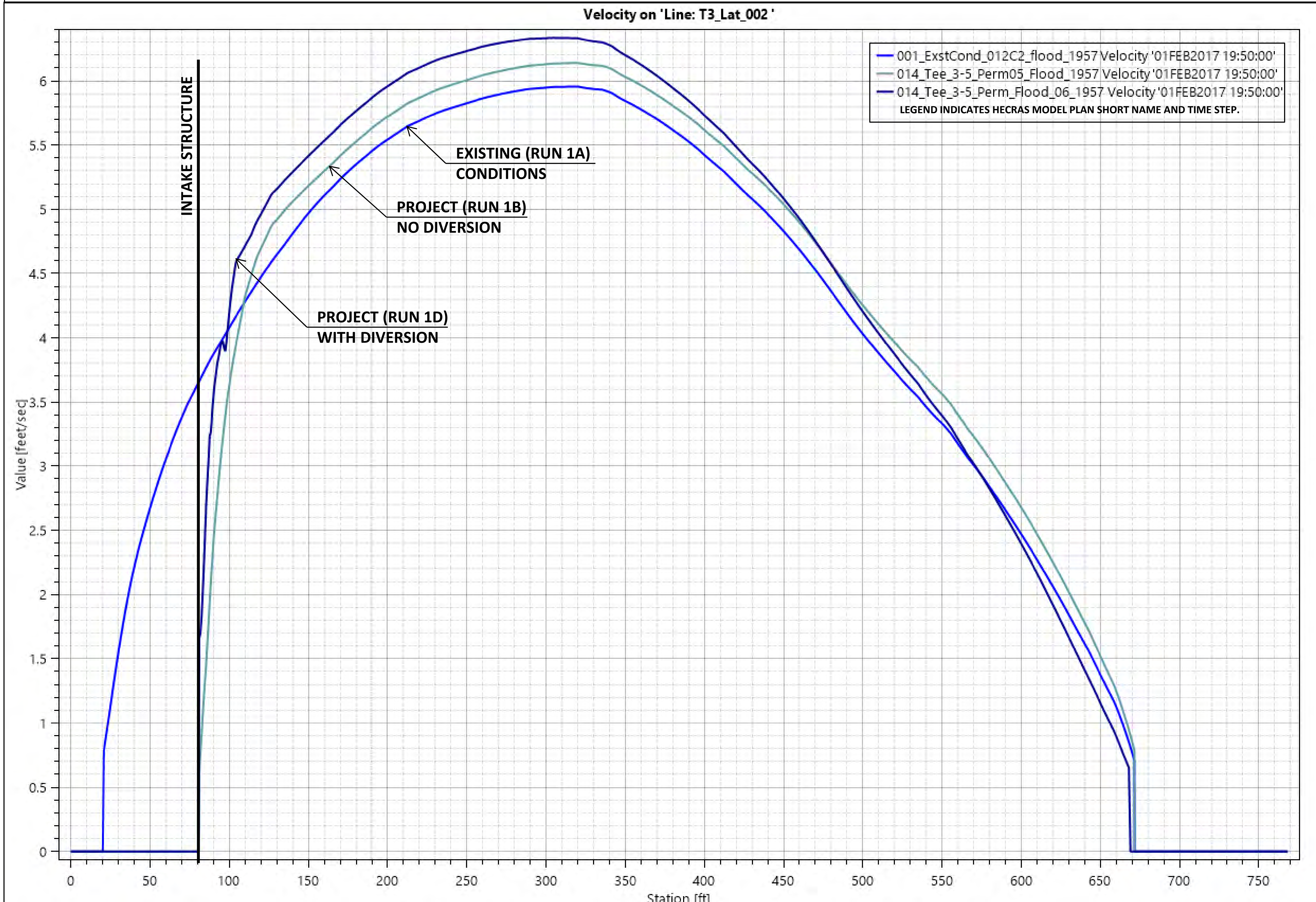
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T2_LAT_005



RUN 1A vs 1B vs 1D
INTAKE C-E-3 (B)

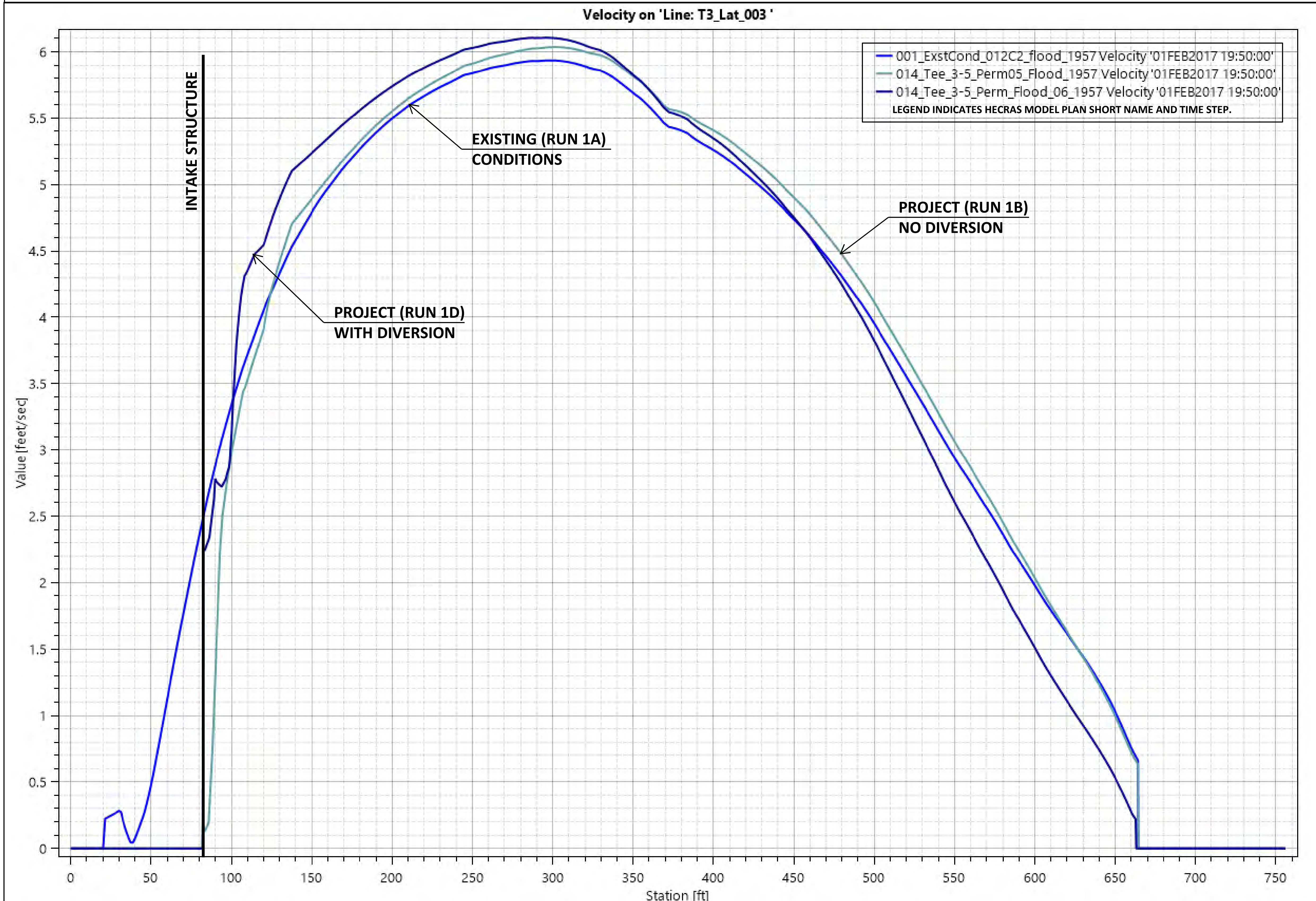
RUN 1A vs 1B vs 1D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



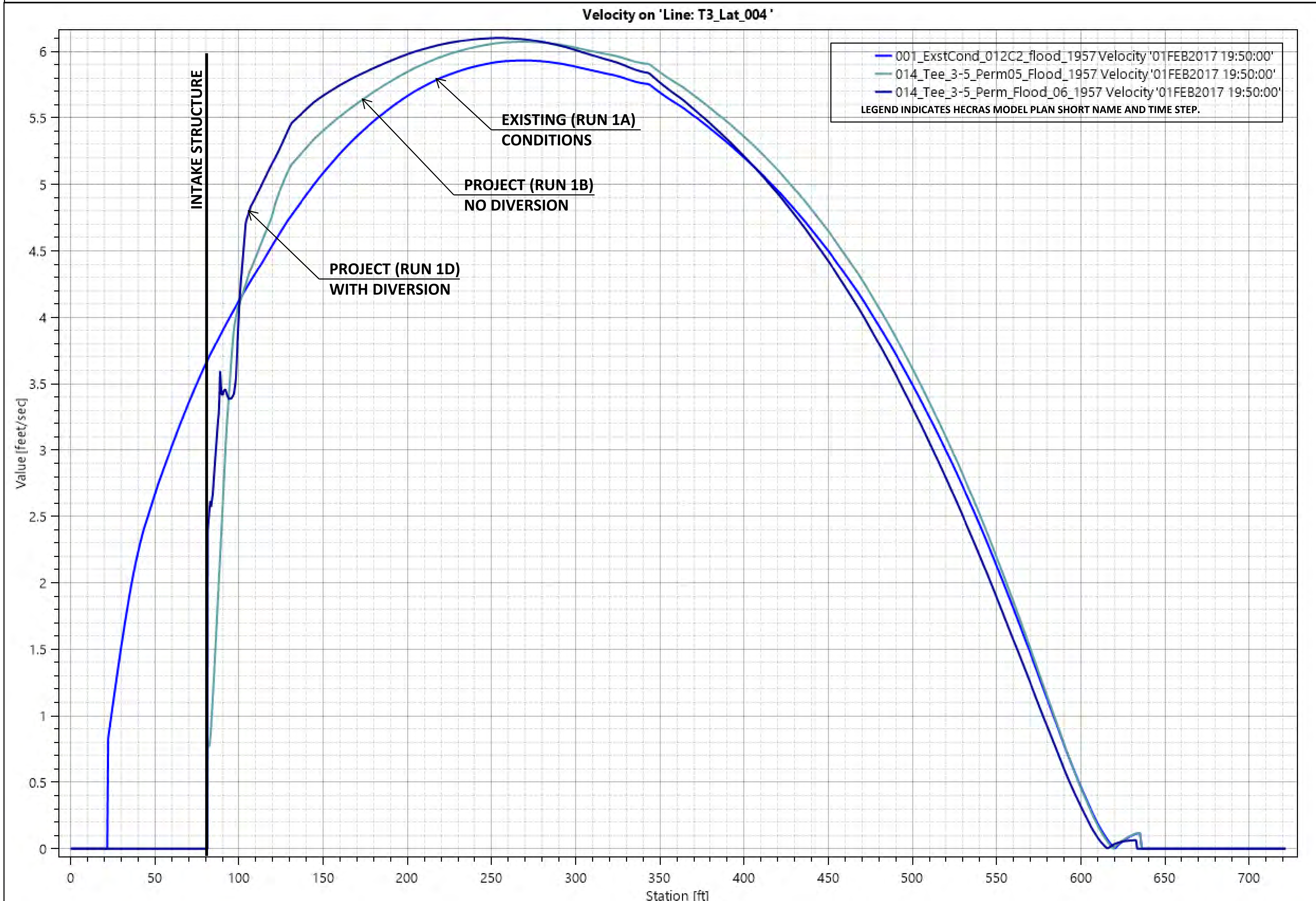
RUN 1A vs 1B vs 1D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



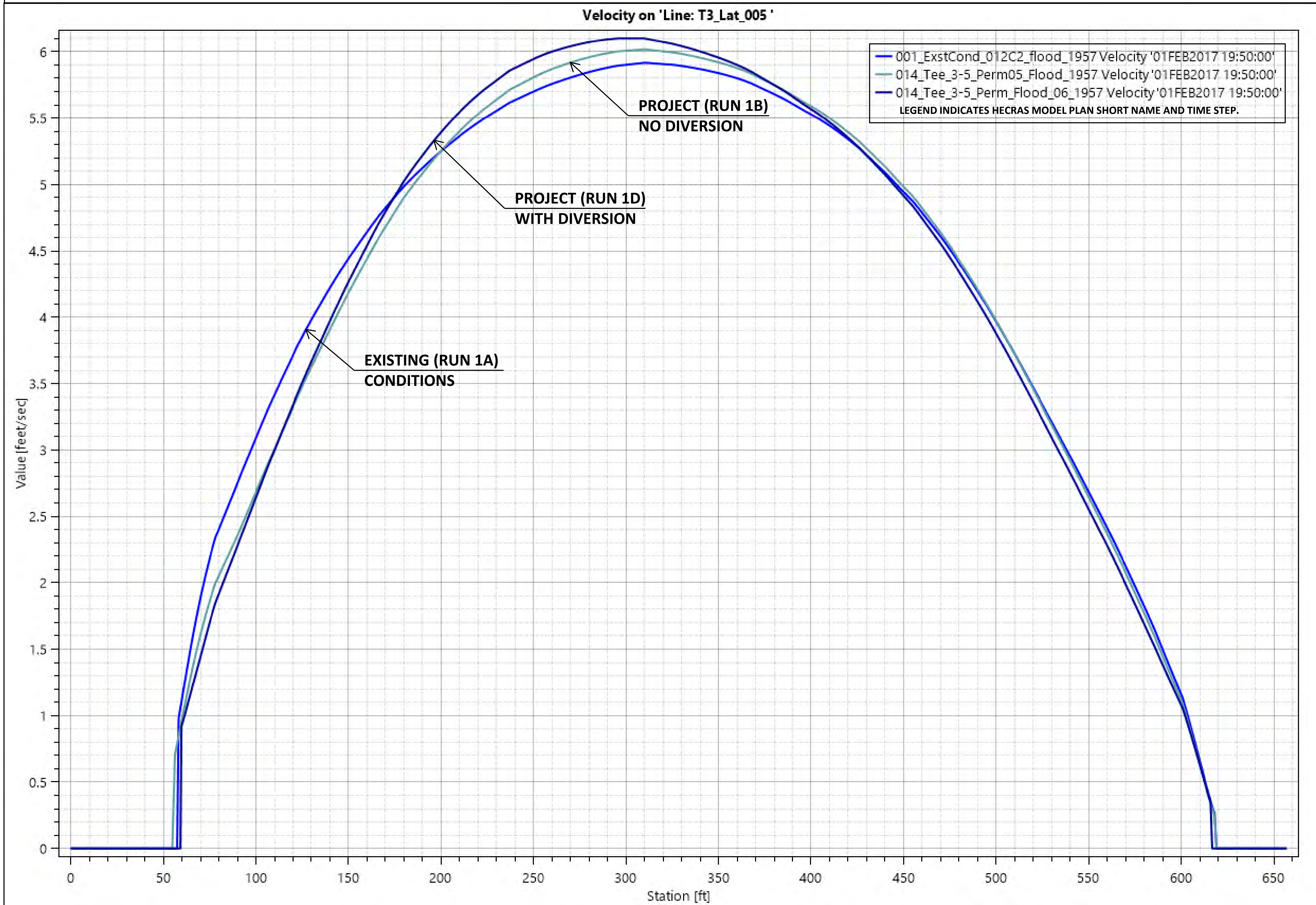
RUN 1A vs 1B vs 1D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 1A vs 1B vs 1D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

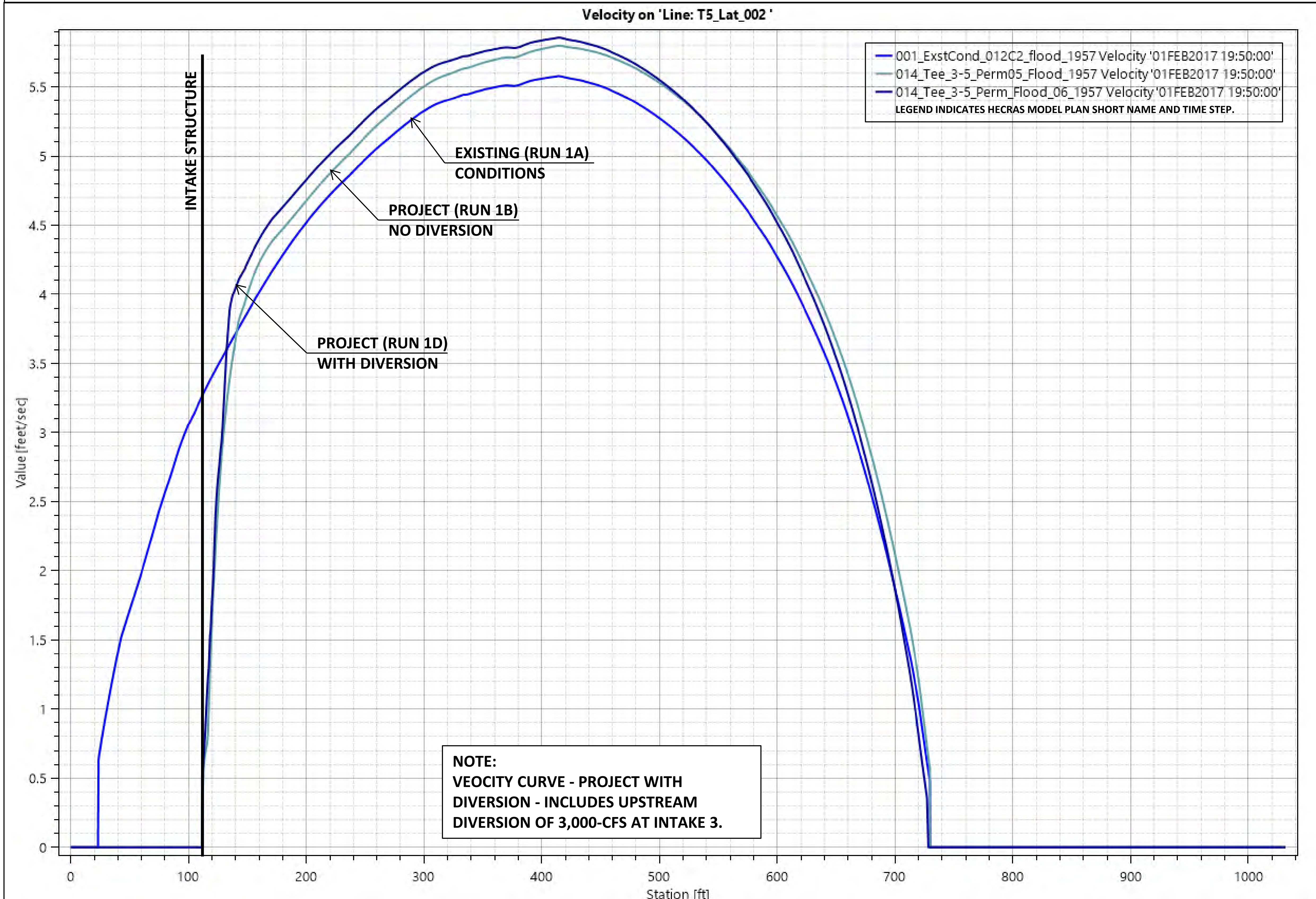
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 1A vs 1B vs 1D
INTAKE C-E-5 (C)

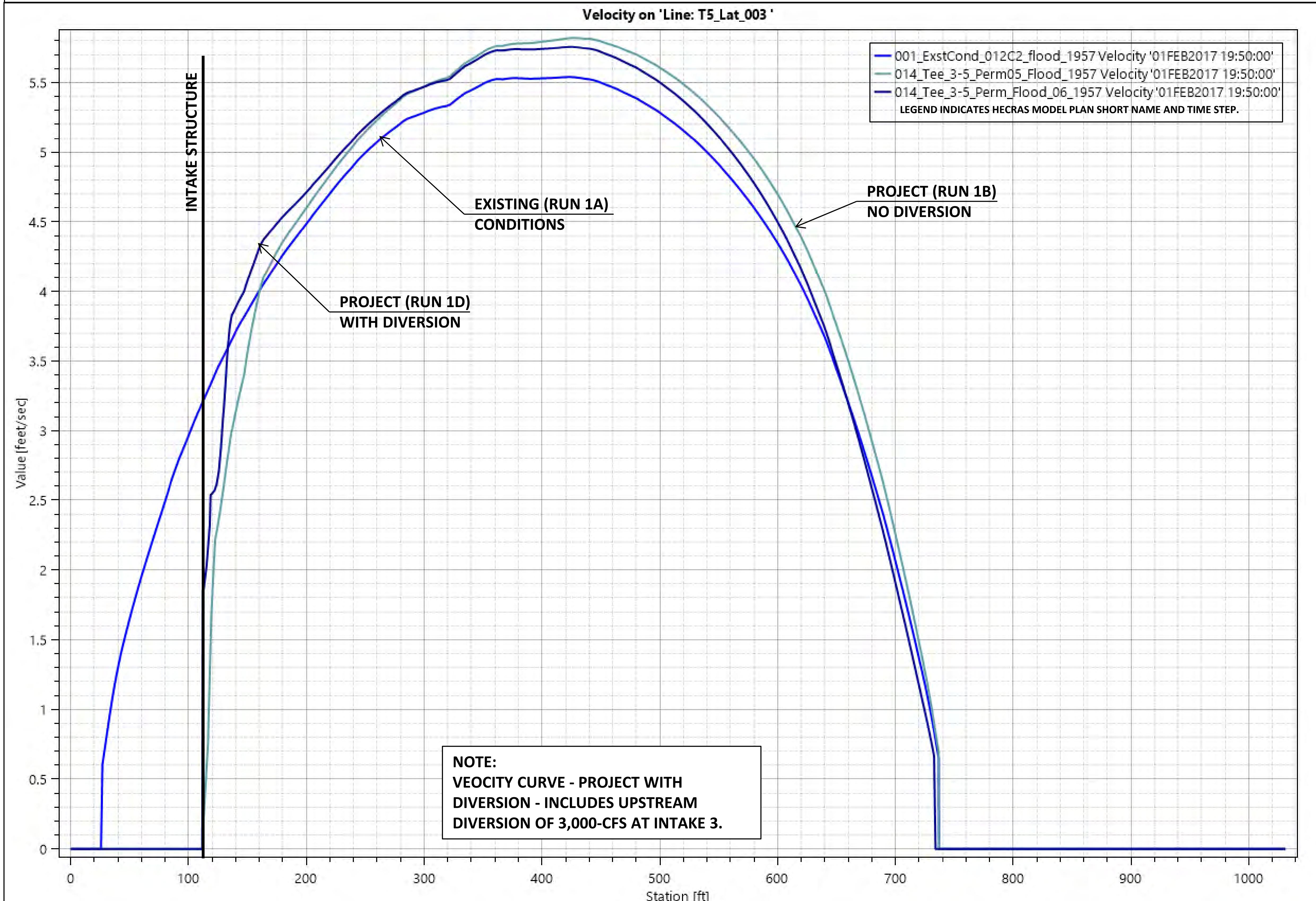
RUN 1A vs 1B vs 1D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



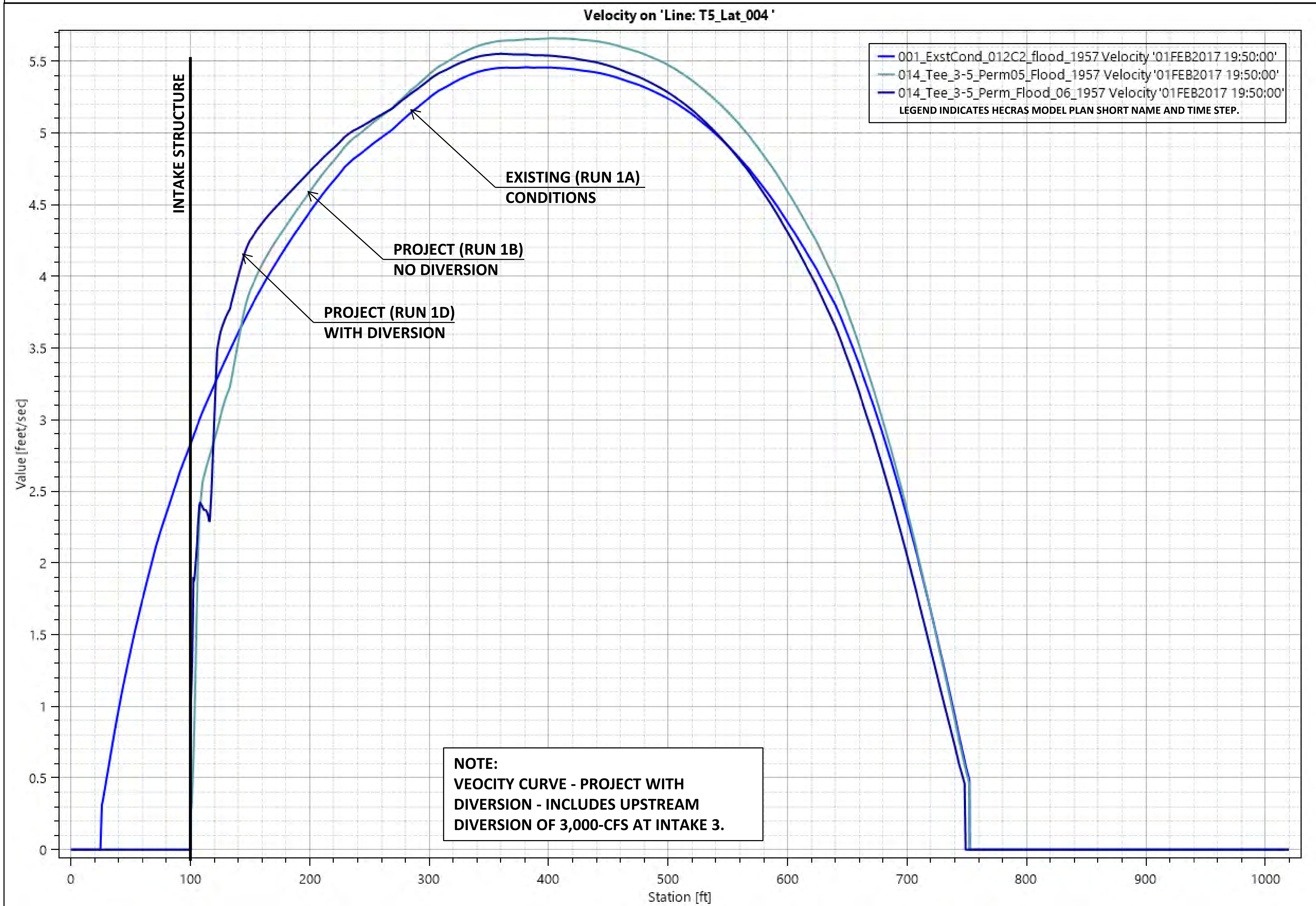
RUN 1A vs 1B vs 1D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



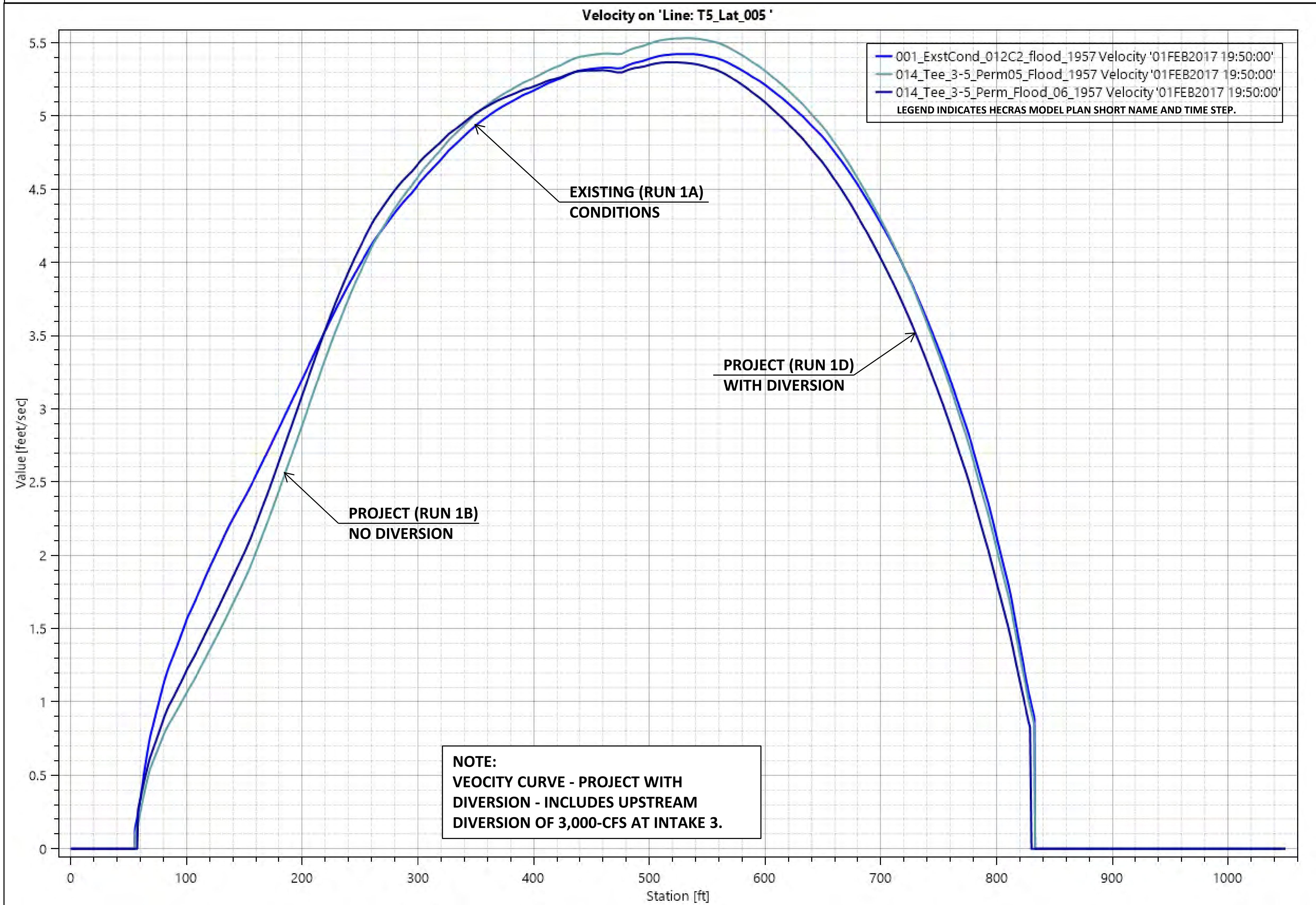
RUN 1A vs 1B vs 1D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 1A vs 1B vs 1D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

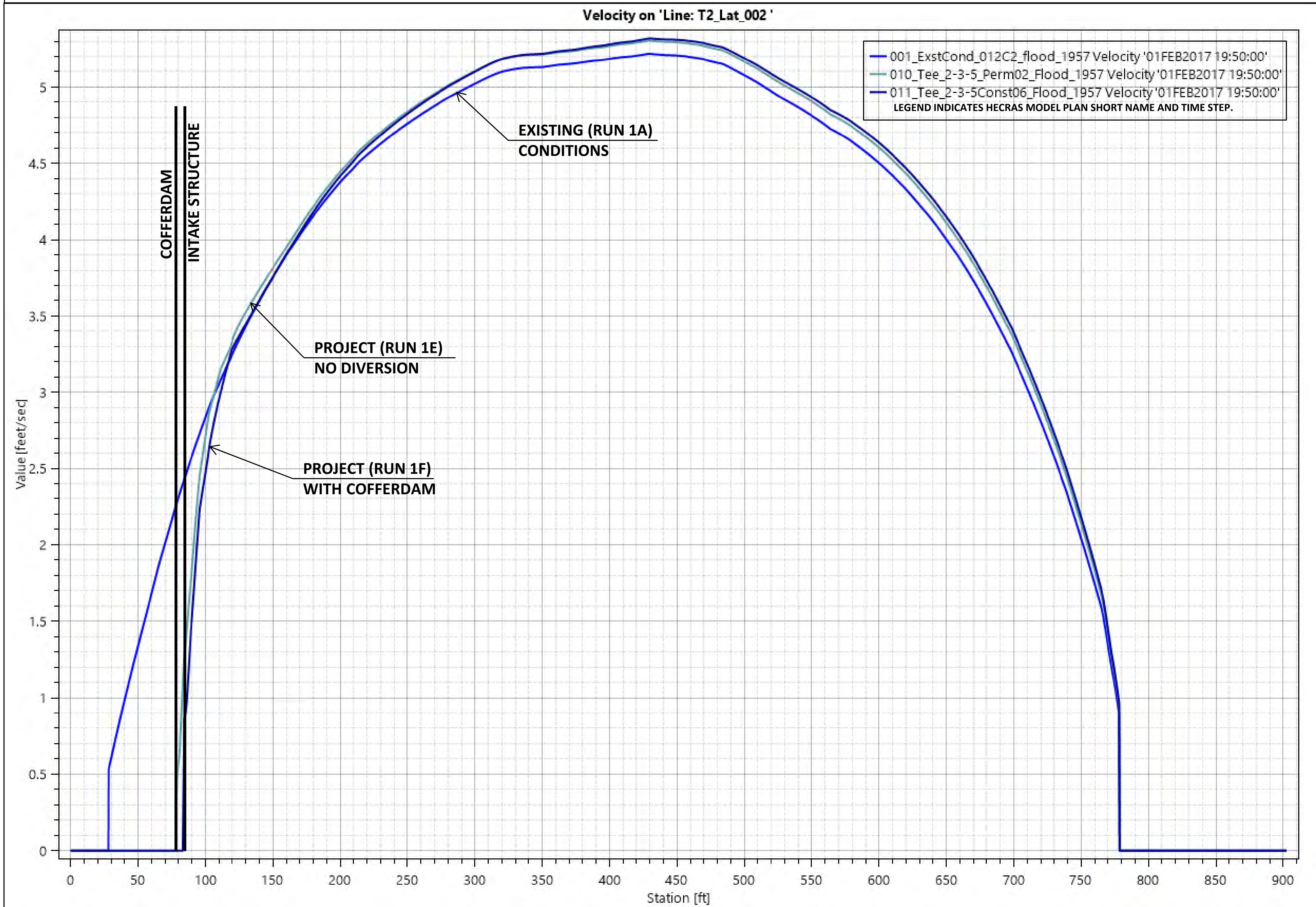
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



RUN 1A vs 1E vs 1F
INTAKE C-E-2 (A)

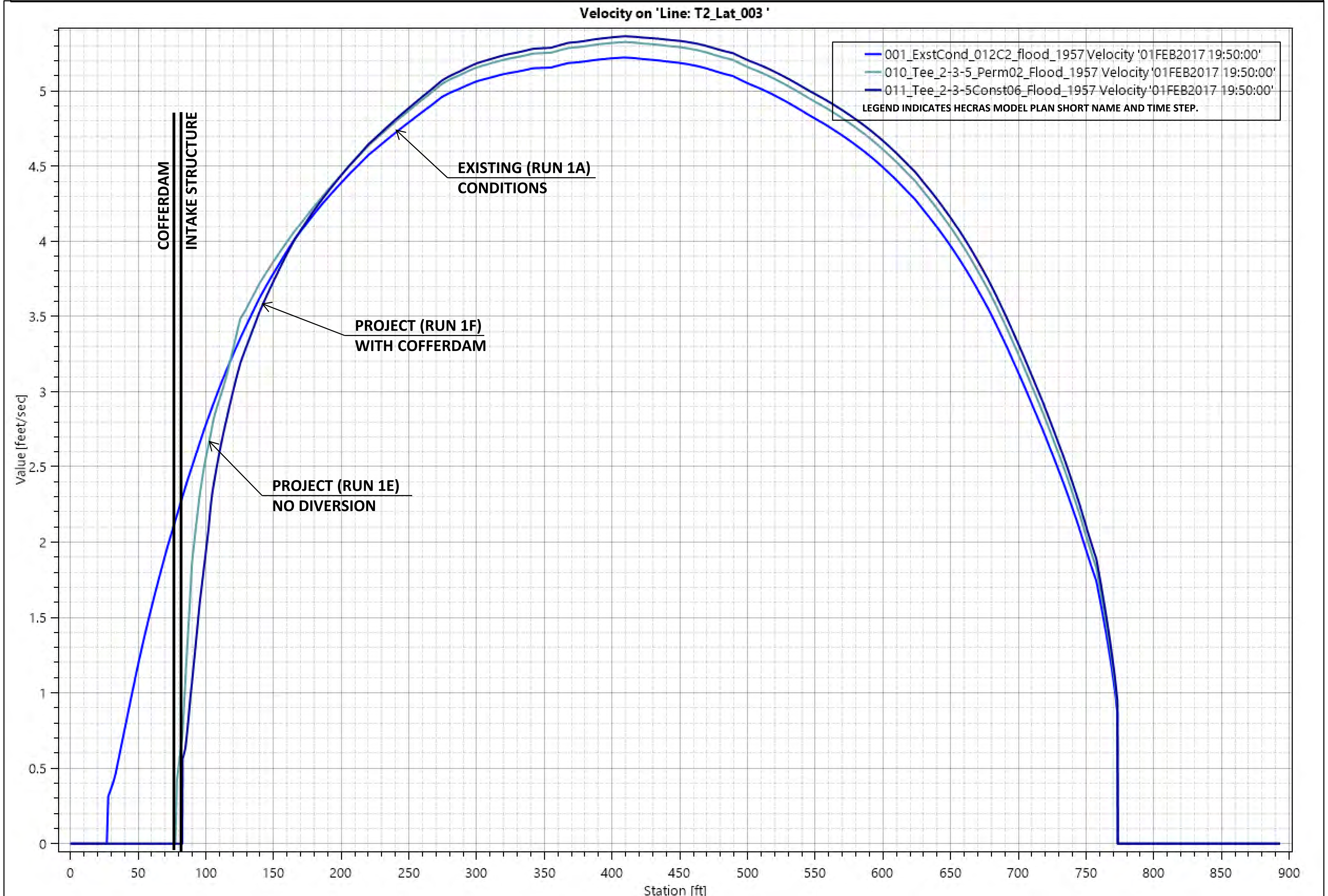
RUN 1A vs 1E vs 1F – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T2_LAT_002



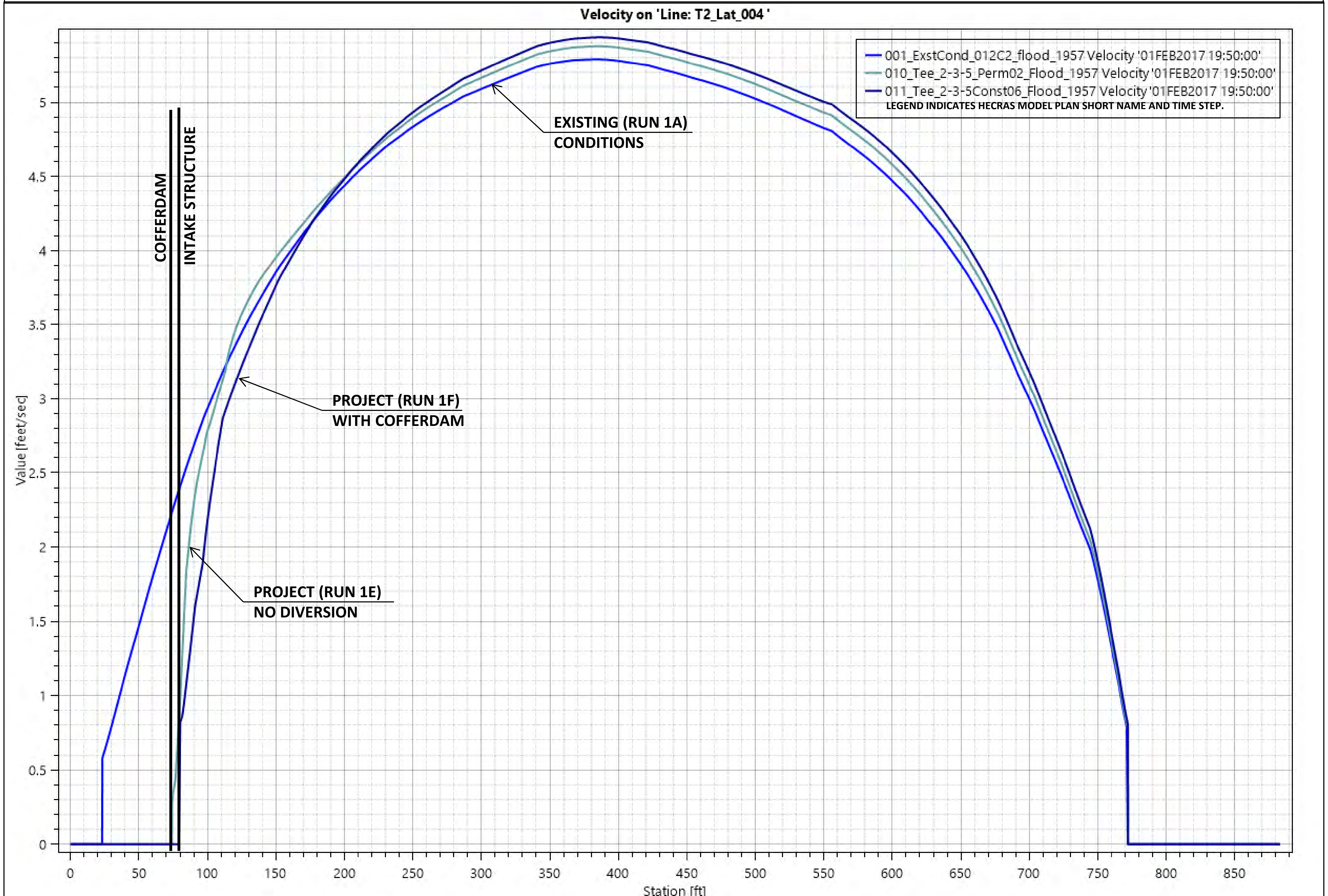
RUN 1A vs 1E vs 1F – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T2_LAT_003



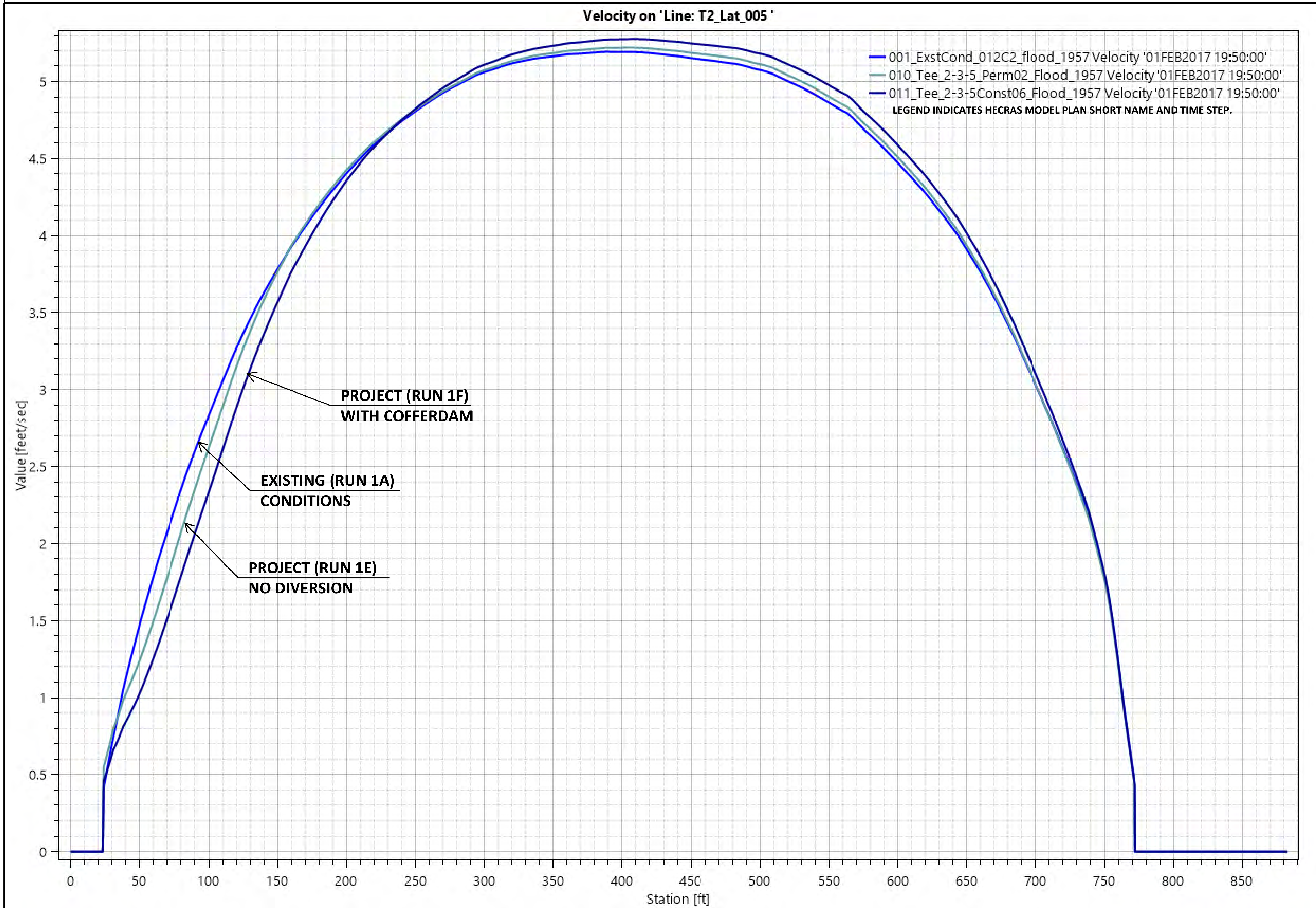
RUN 1A vs 1E vs 1F – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T2_LAT_004



RUN 1A vs 1E vs 1F – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

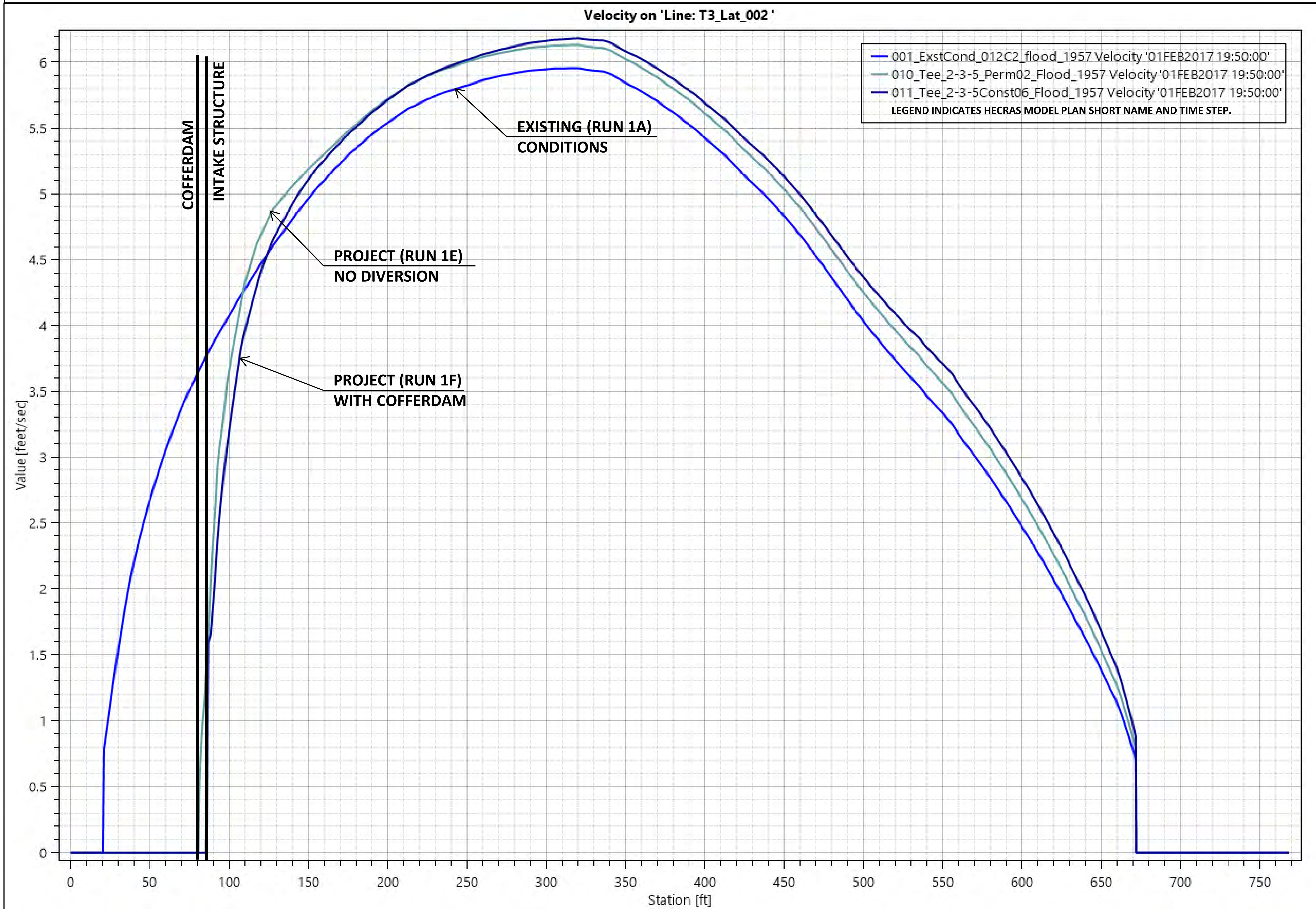
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T2_LAT_005



RUN 1A vs 1E vs 1F
INTAKE C-E-3 (B)

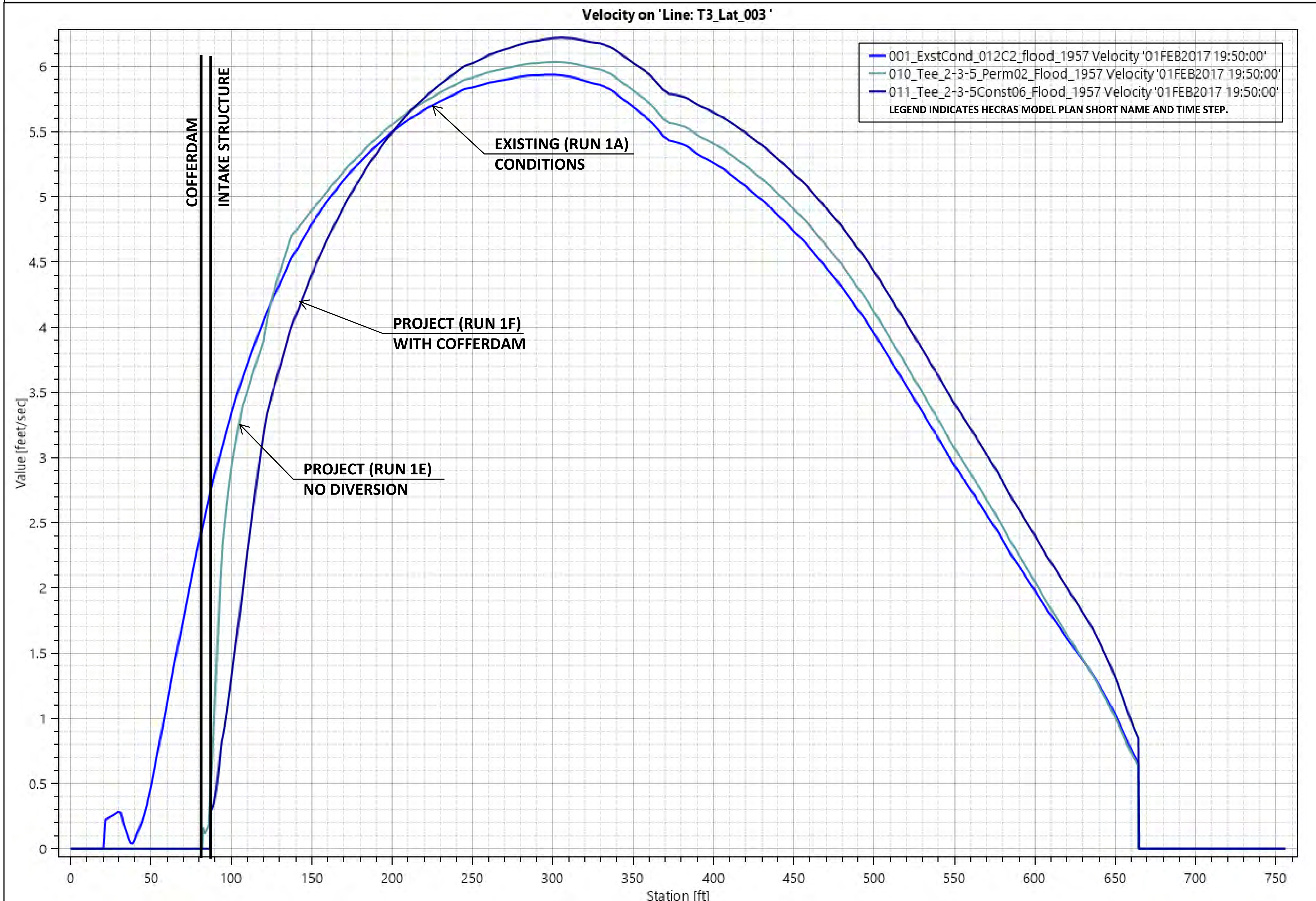
RUN 1A vs 1E vs 1F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



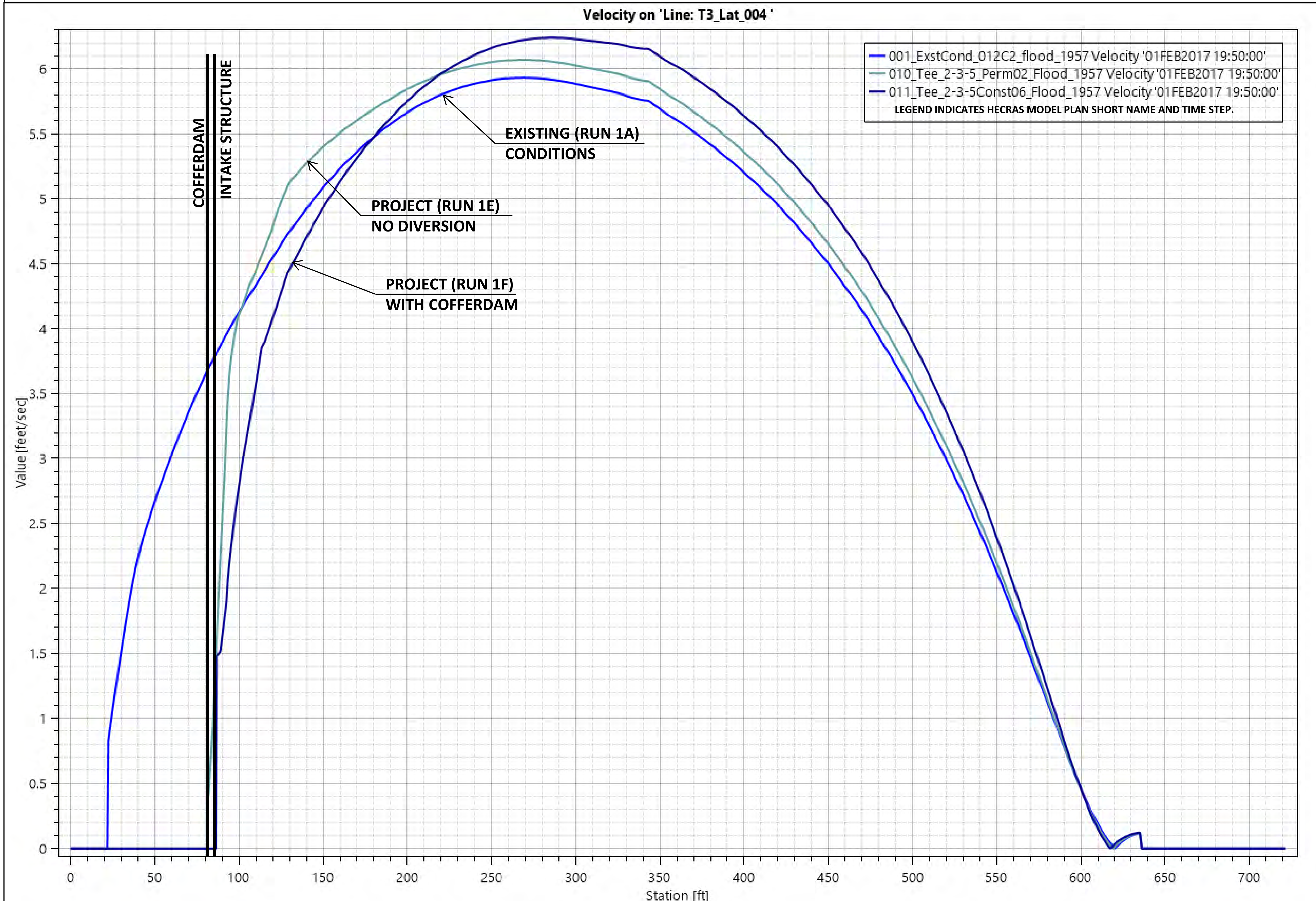
RUN 1A vs 1E vs 1F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



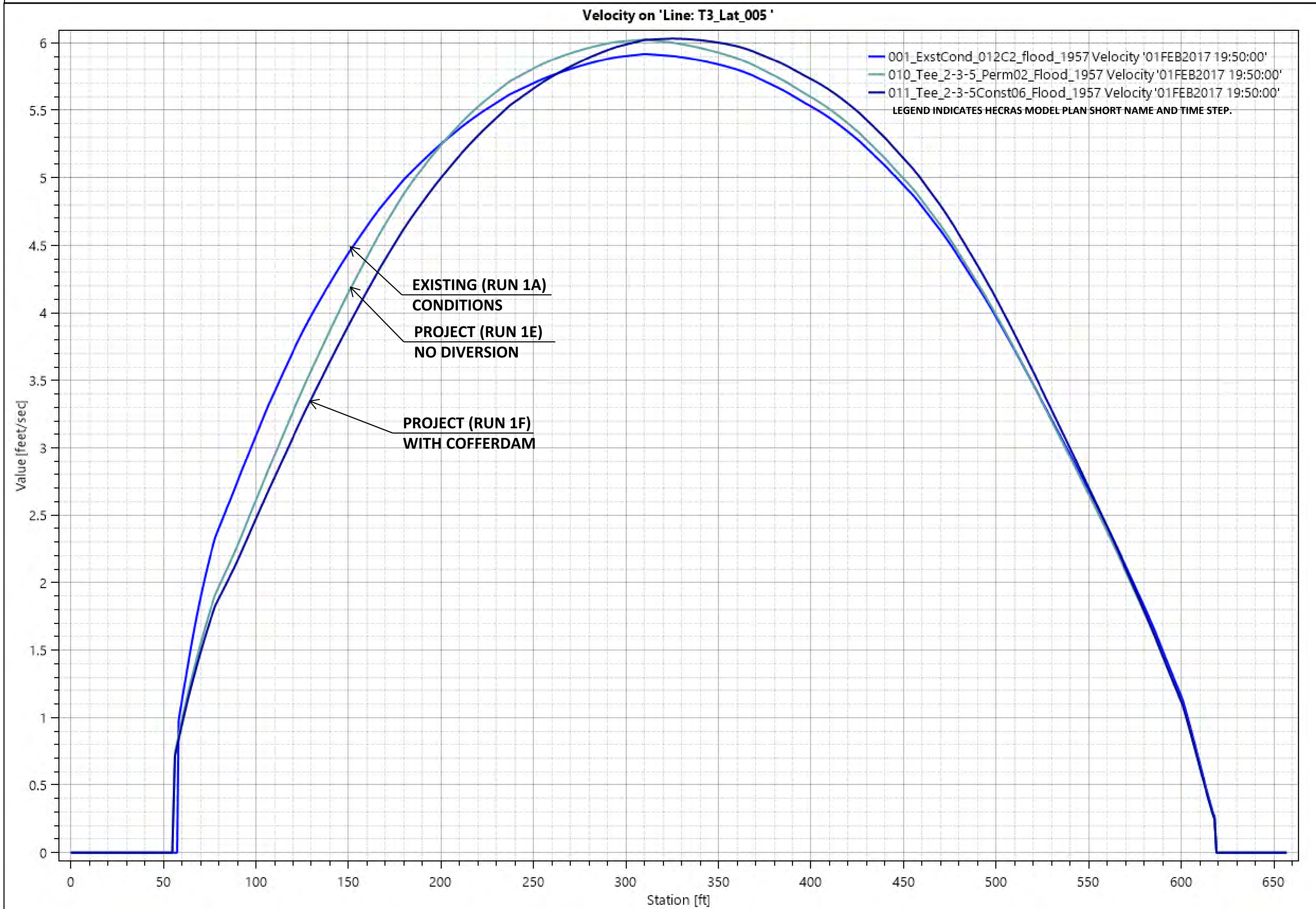
RUN 1A vs 1E vs 1F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 1A vs 1E vs 1F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

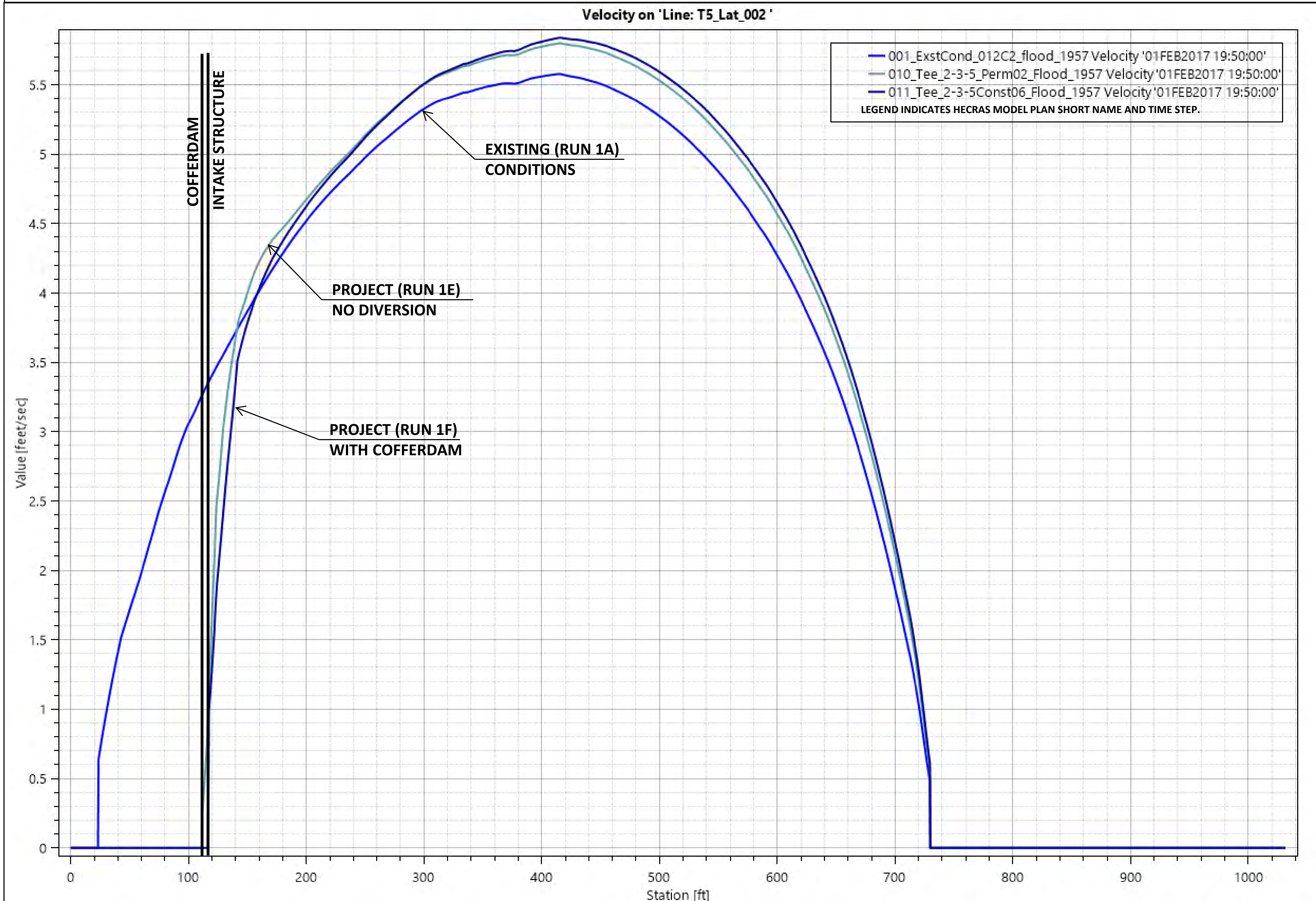
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 1A vs 1E vs 1F
INTAKE C-E-5 (C)

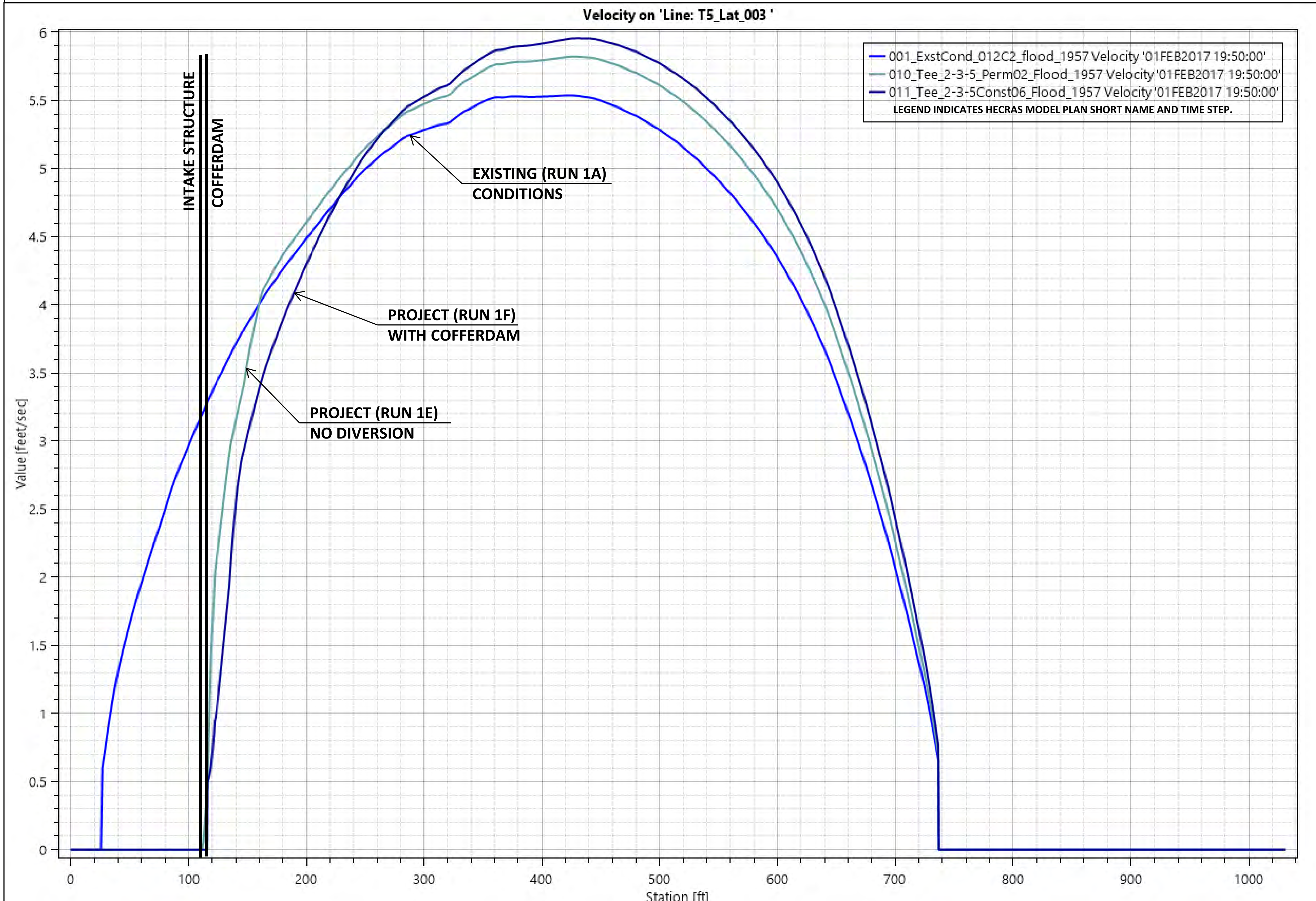
RUN 1A vs 1E vs 1F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



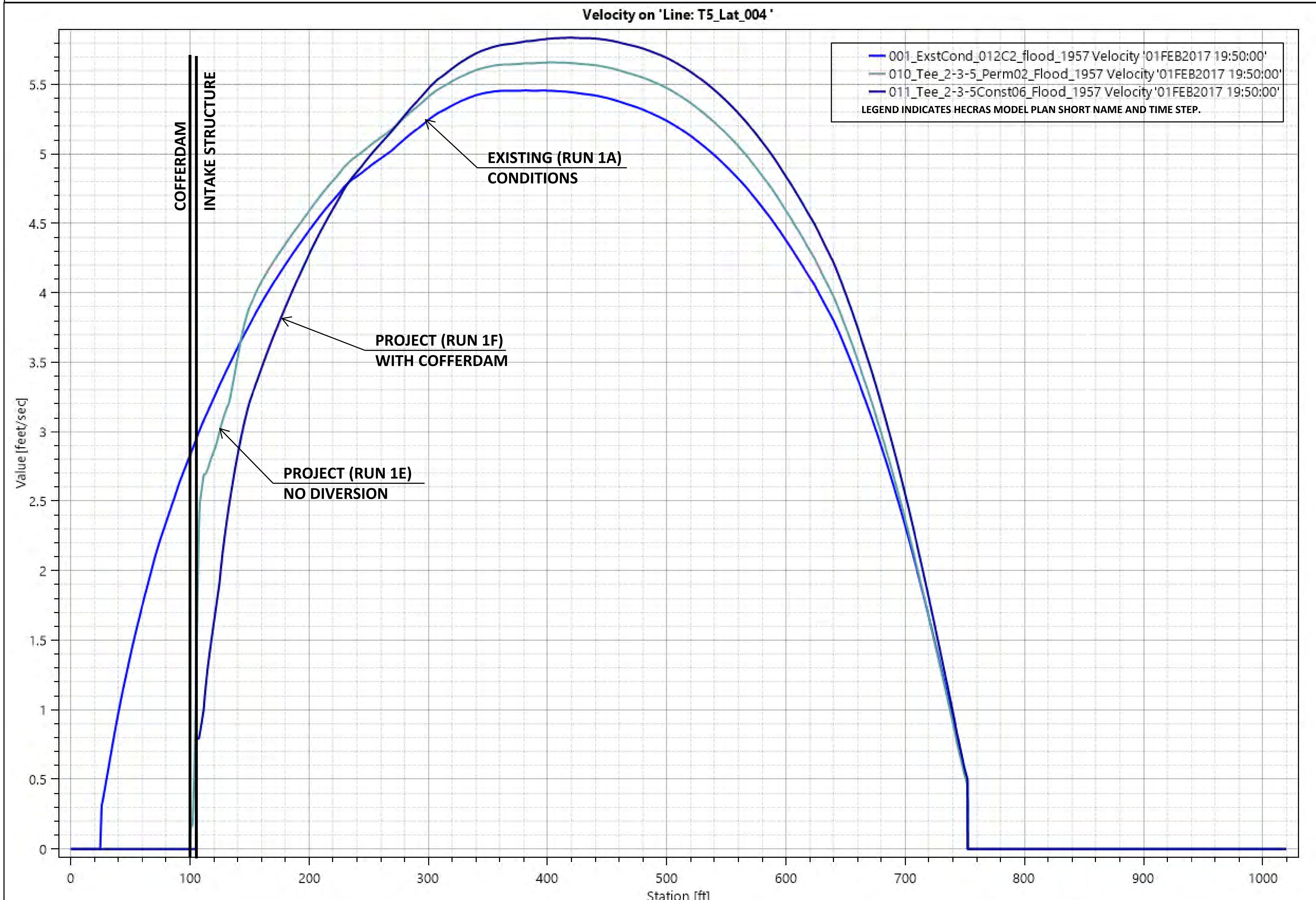
RUN 1A vs 1E vs 1F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



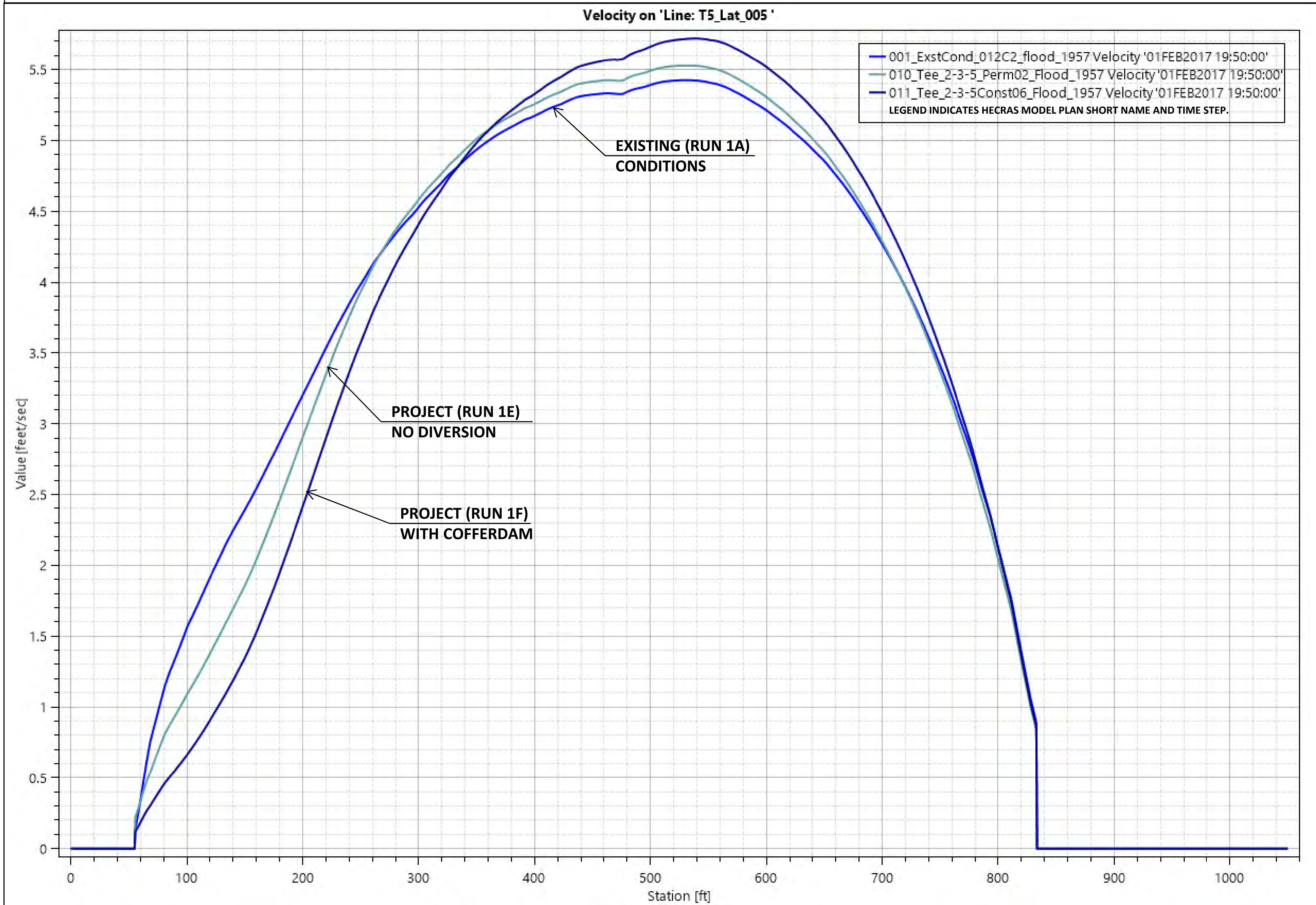
RUN 1A vs 1E vs 1F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 1A vs 1E vs 1F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

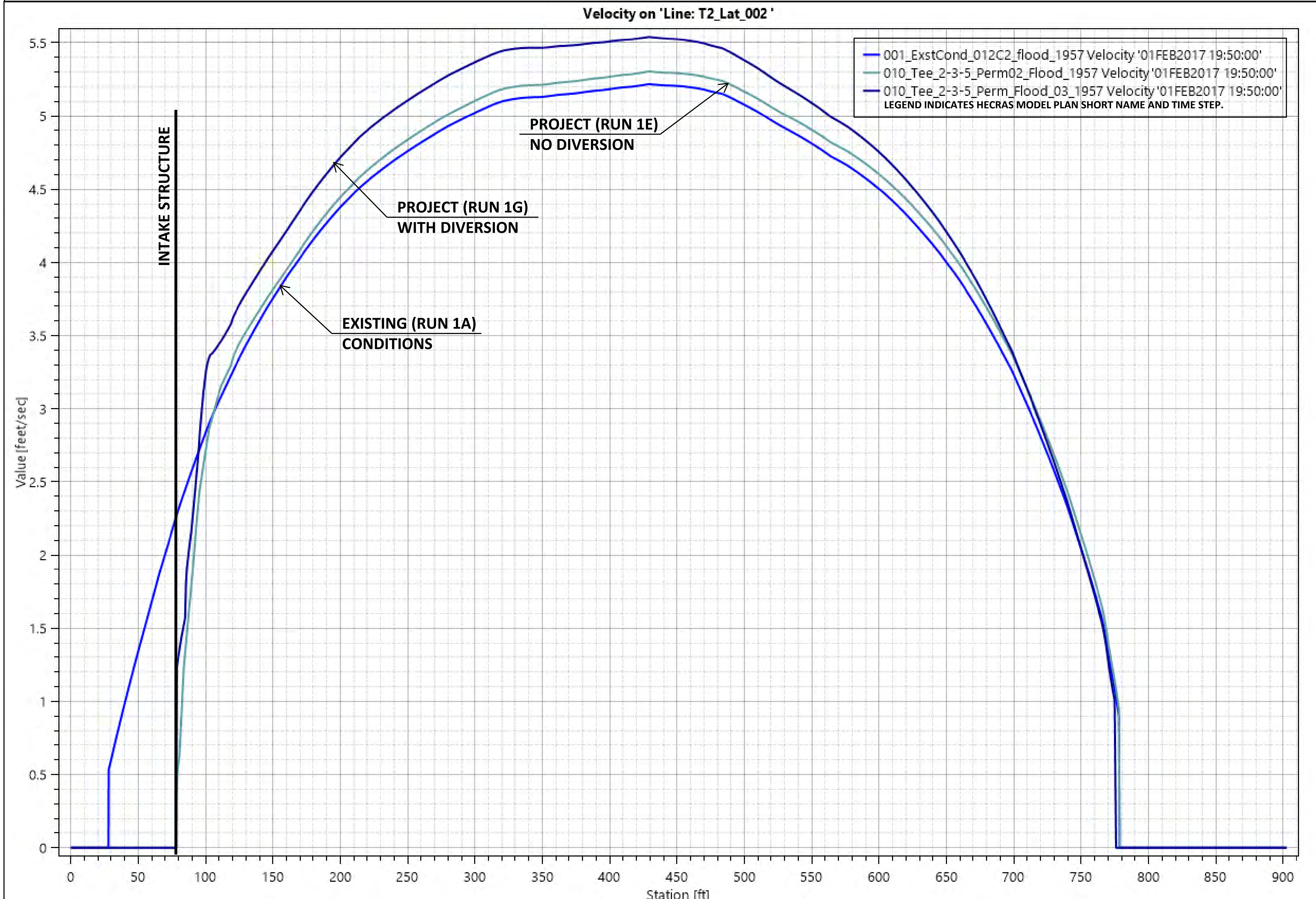
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



RUN 1A vs 1E vs 1G
INTAKE C-E-2 (A)

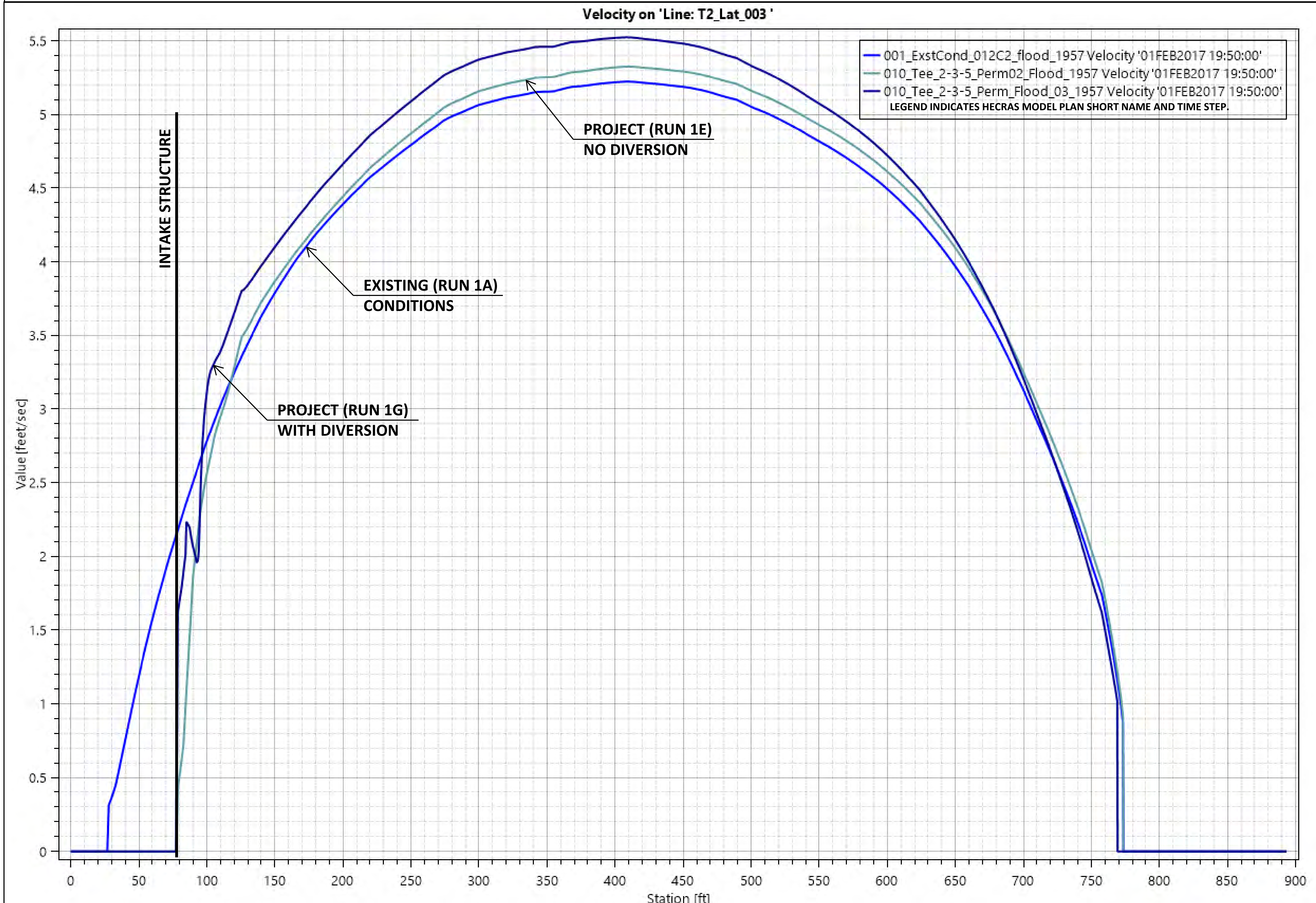
RUN 1A vs 1E vs 1G – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T2_LAT_002



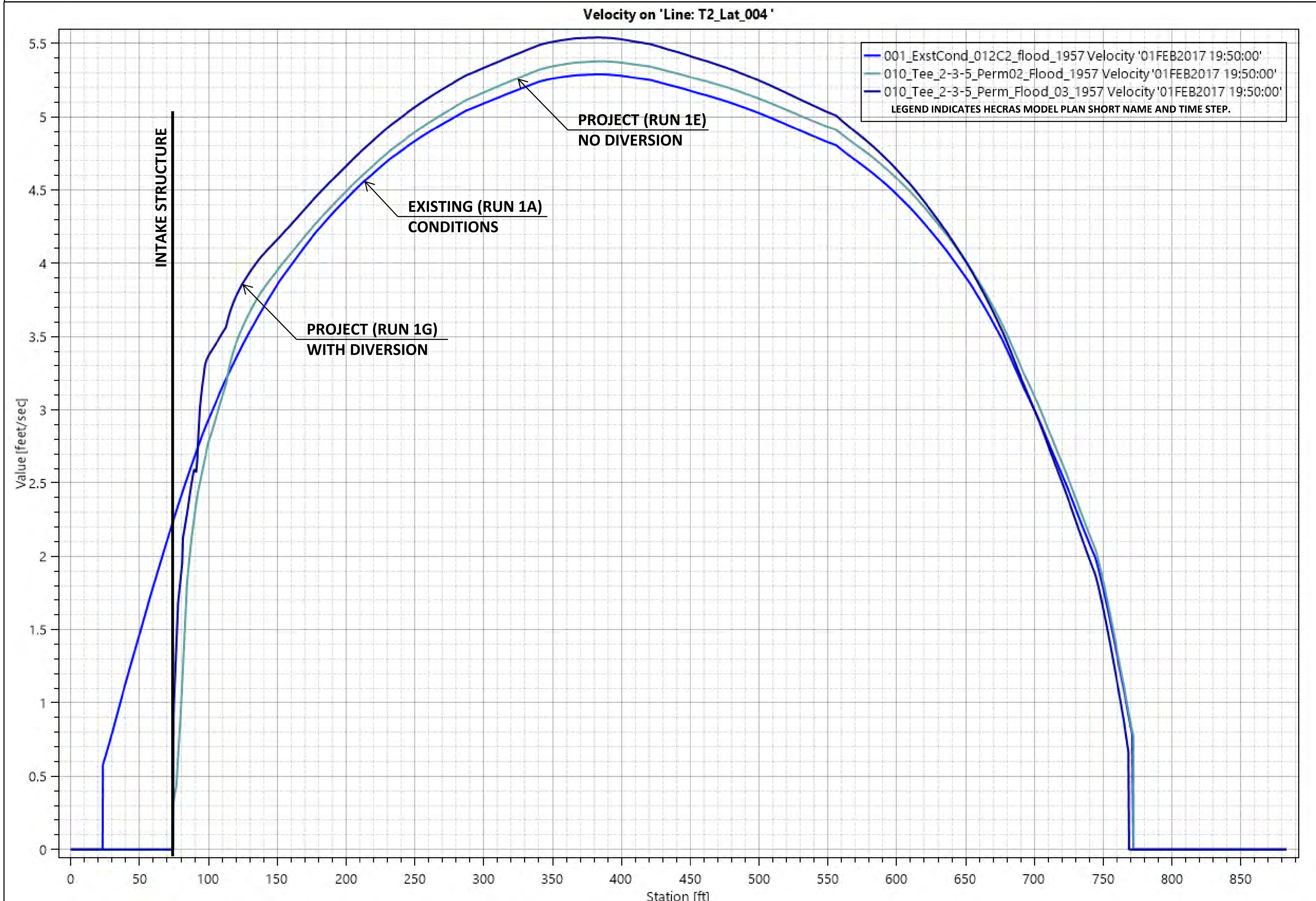
RUN 1A vs 1E vs 1G – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T2_LAT_003



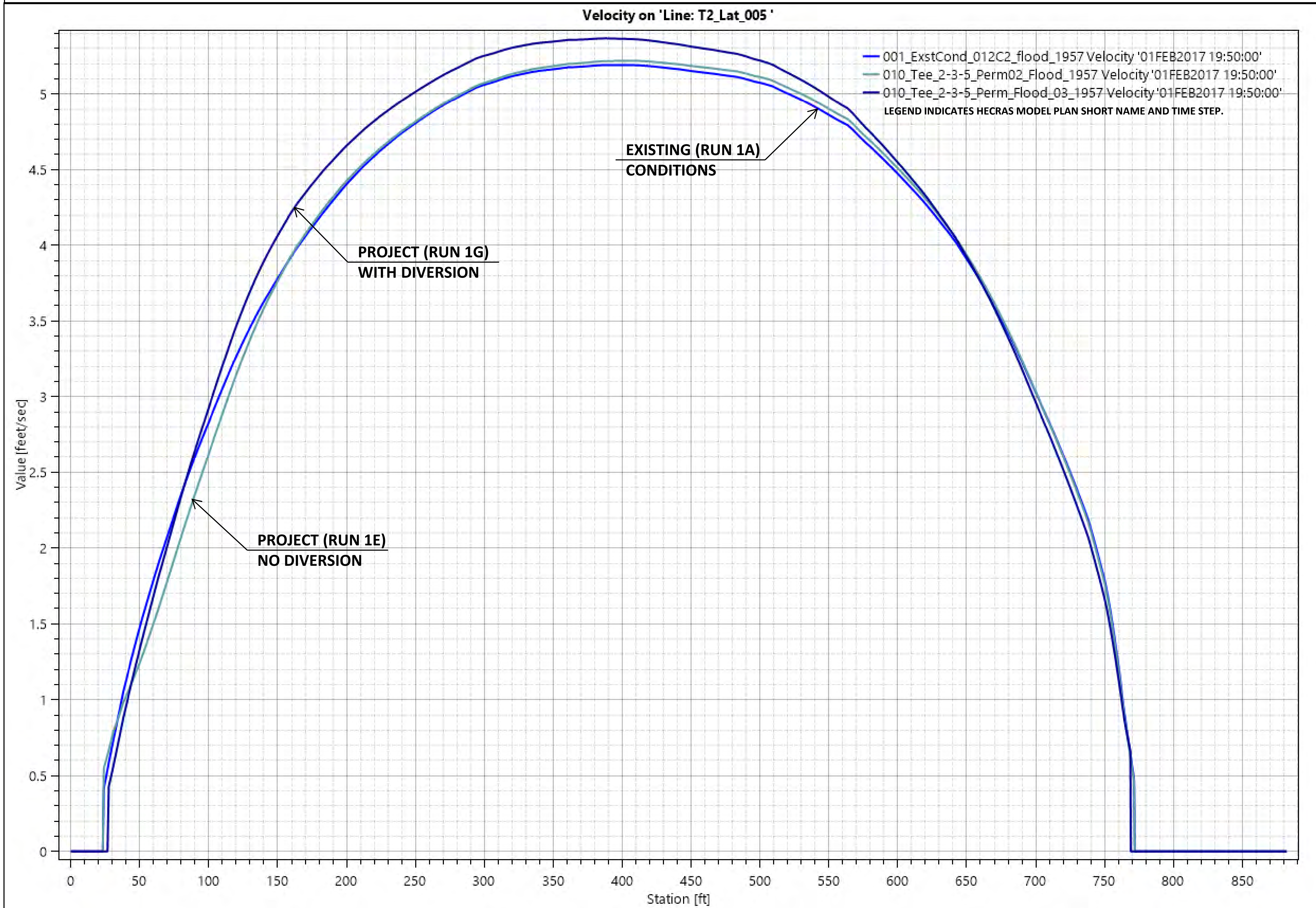
RUN 1A vs 1E vs 1G – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T2_LAT_004



RUN 1A vs 1E vs 1G – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

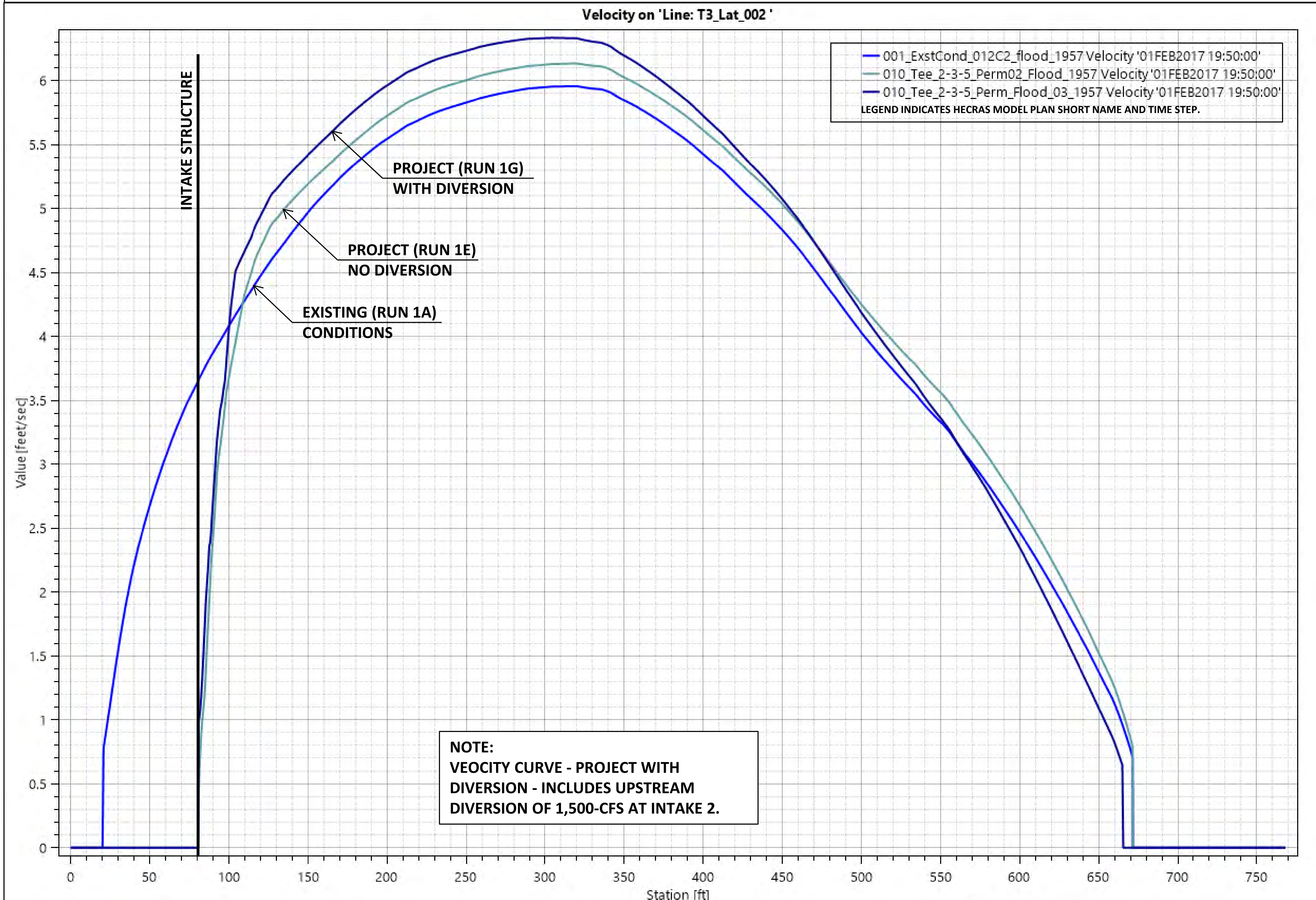
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T2_LAT_005



RUN 1A vs 1E vs 1G
INTAKE C-E-3 (B)

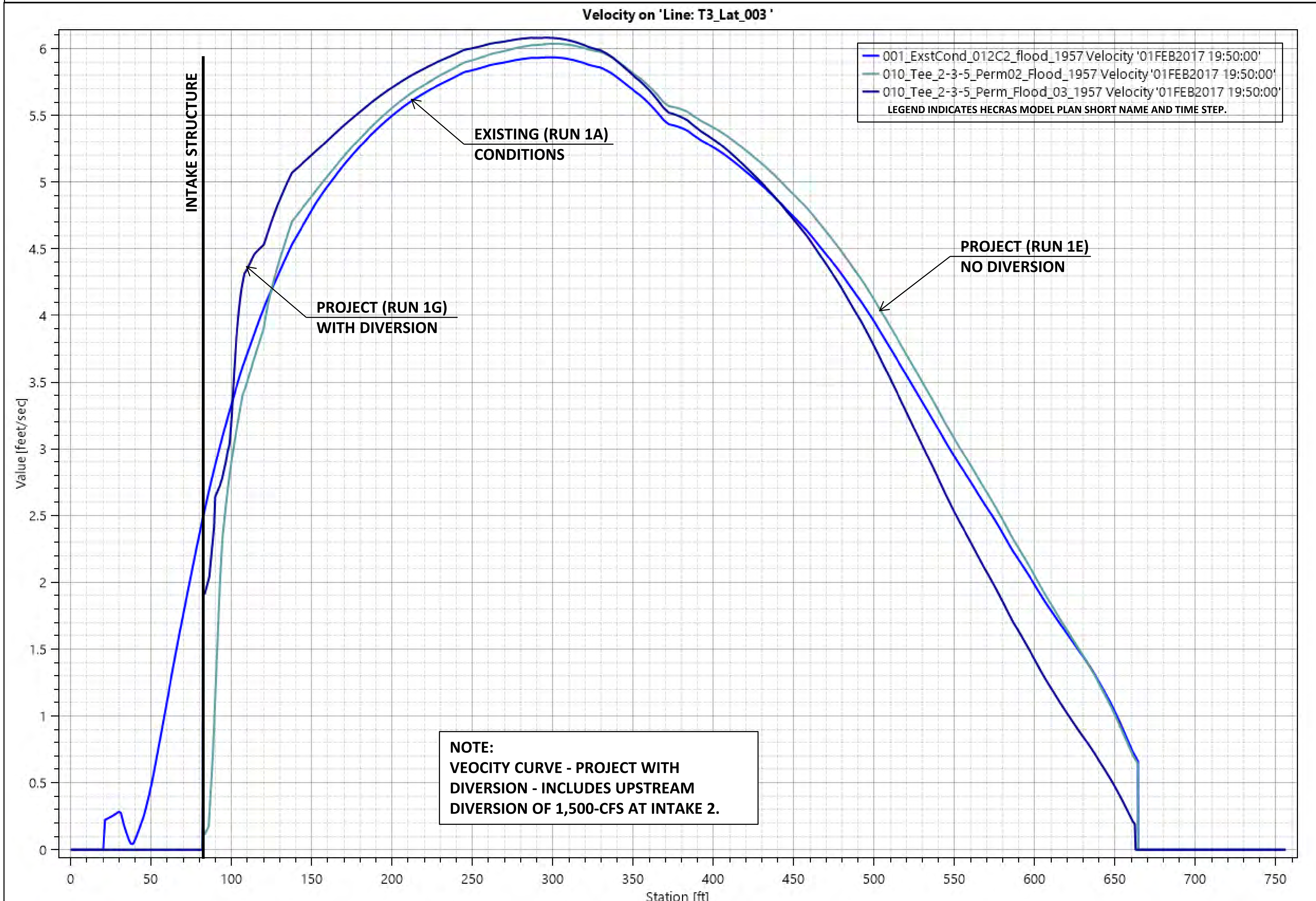
RUN 1A vs 1E vs 1G – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



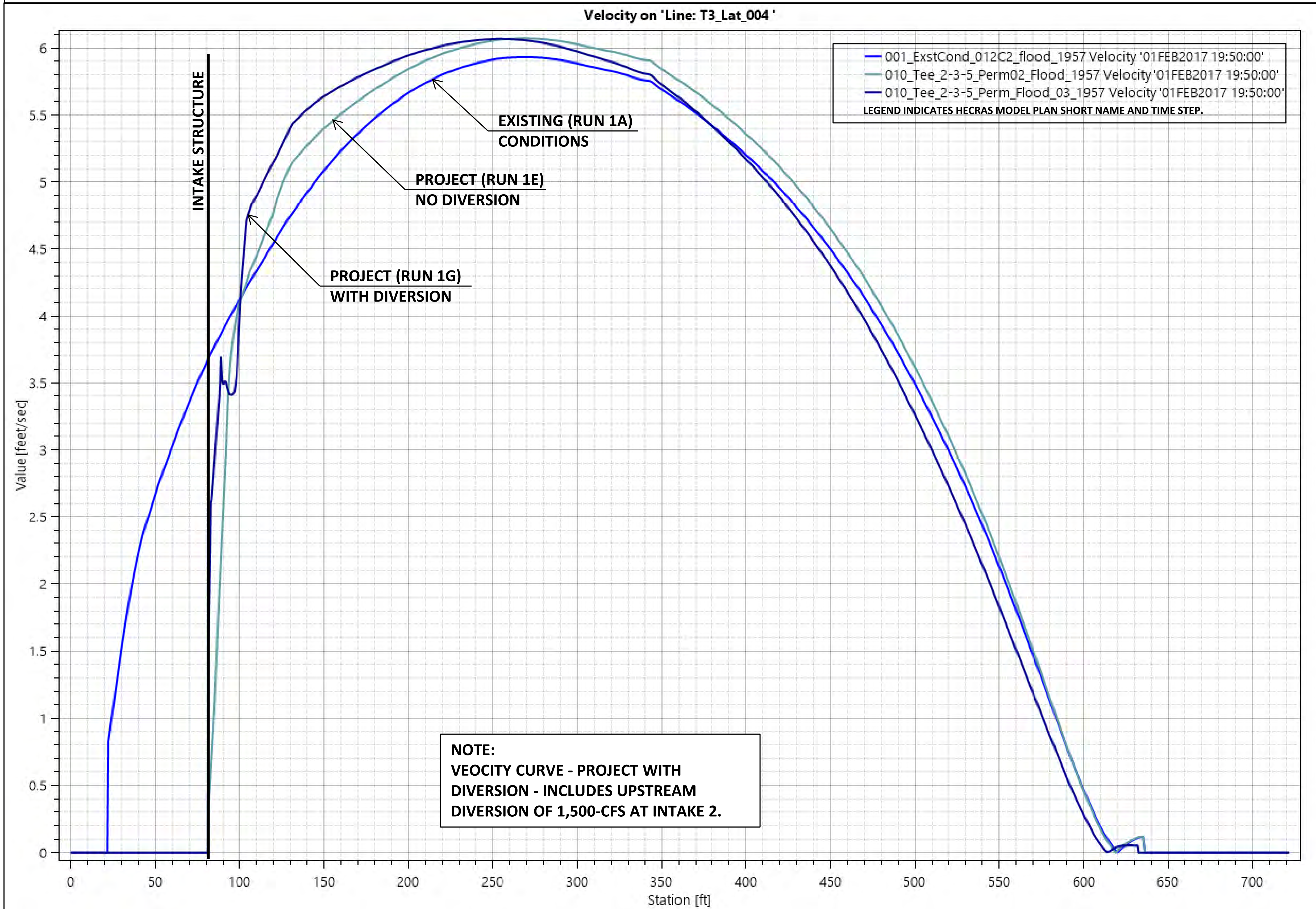
RUN 1A vs 1E vs 1G – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



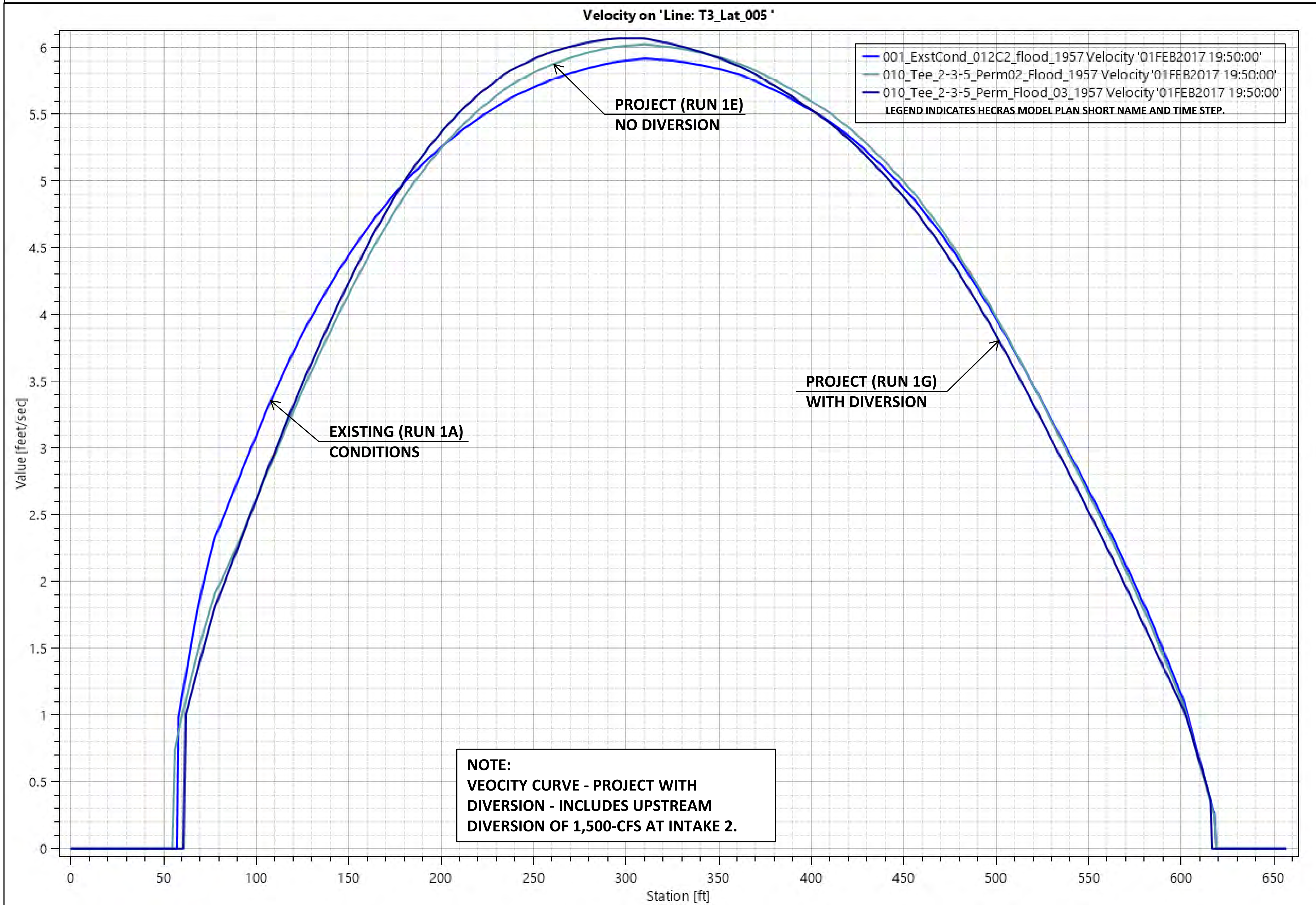
RUN 1A vs 1E vs 1G – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 1A vs 1E vs 1G – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

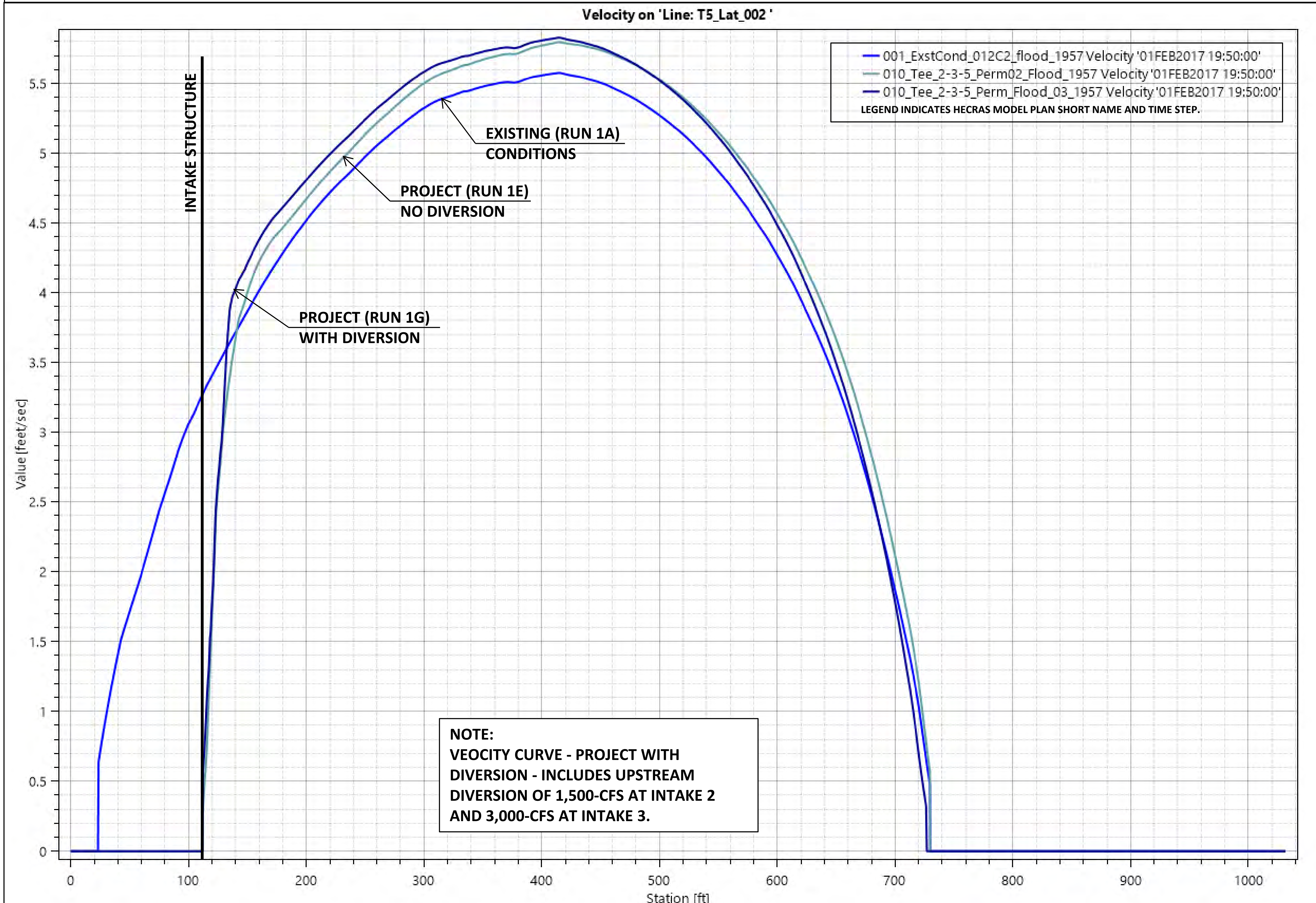
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 1A vs 1E vs 1G
INTAKE C-E-5 (C)

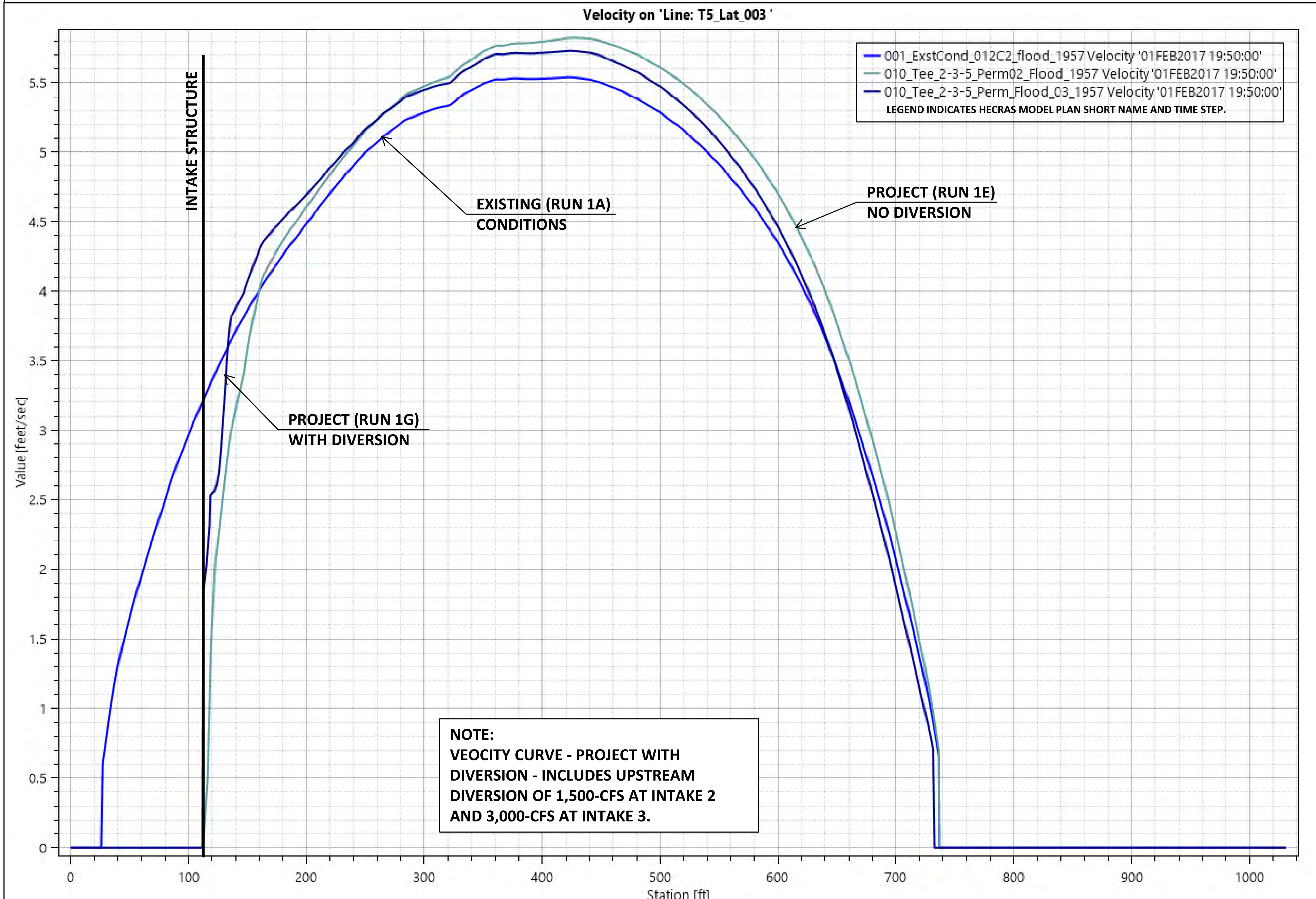
RUN 1A vs 1E vs 1G – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



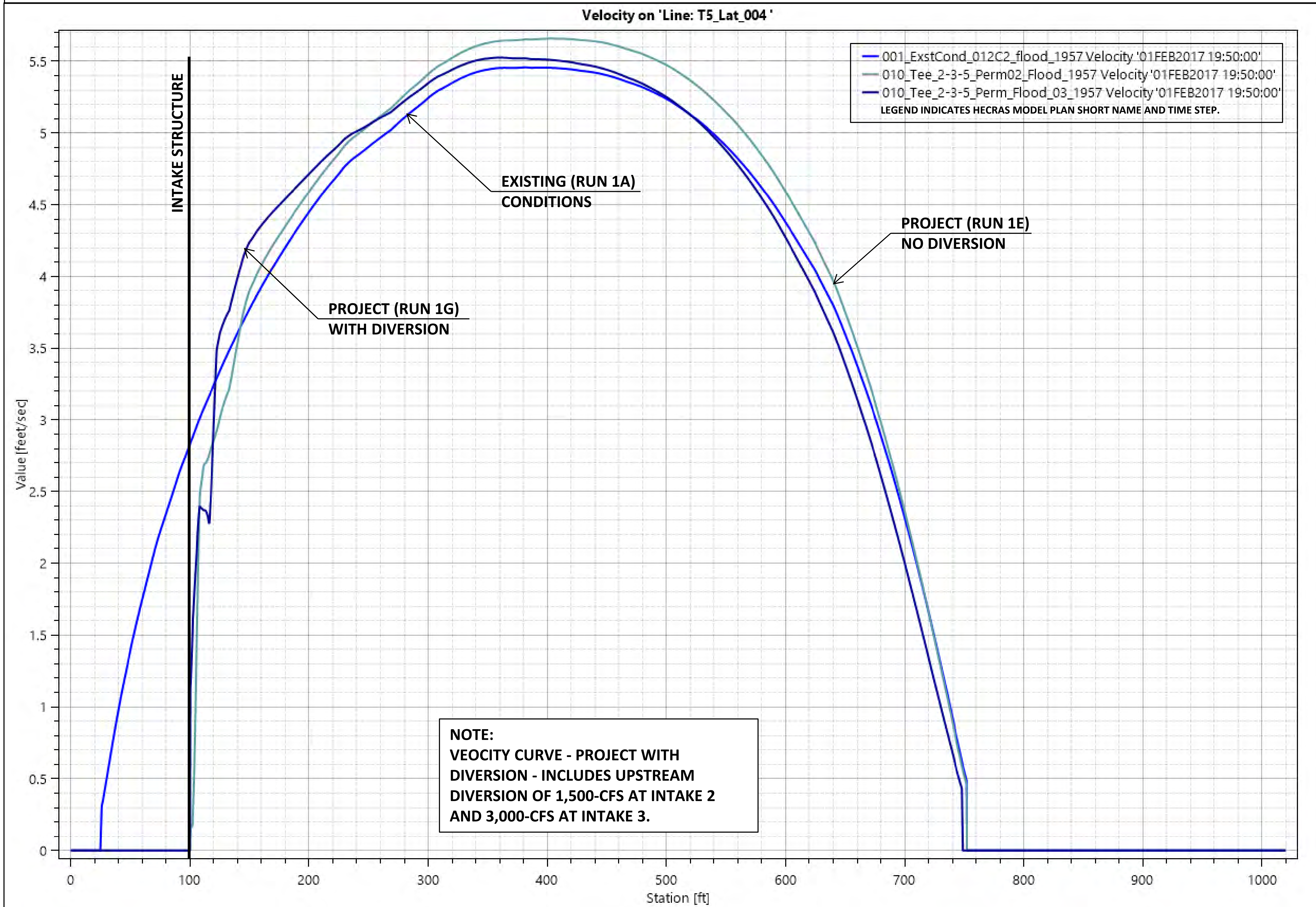
RUN 1A vs 1E vs 1G – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



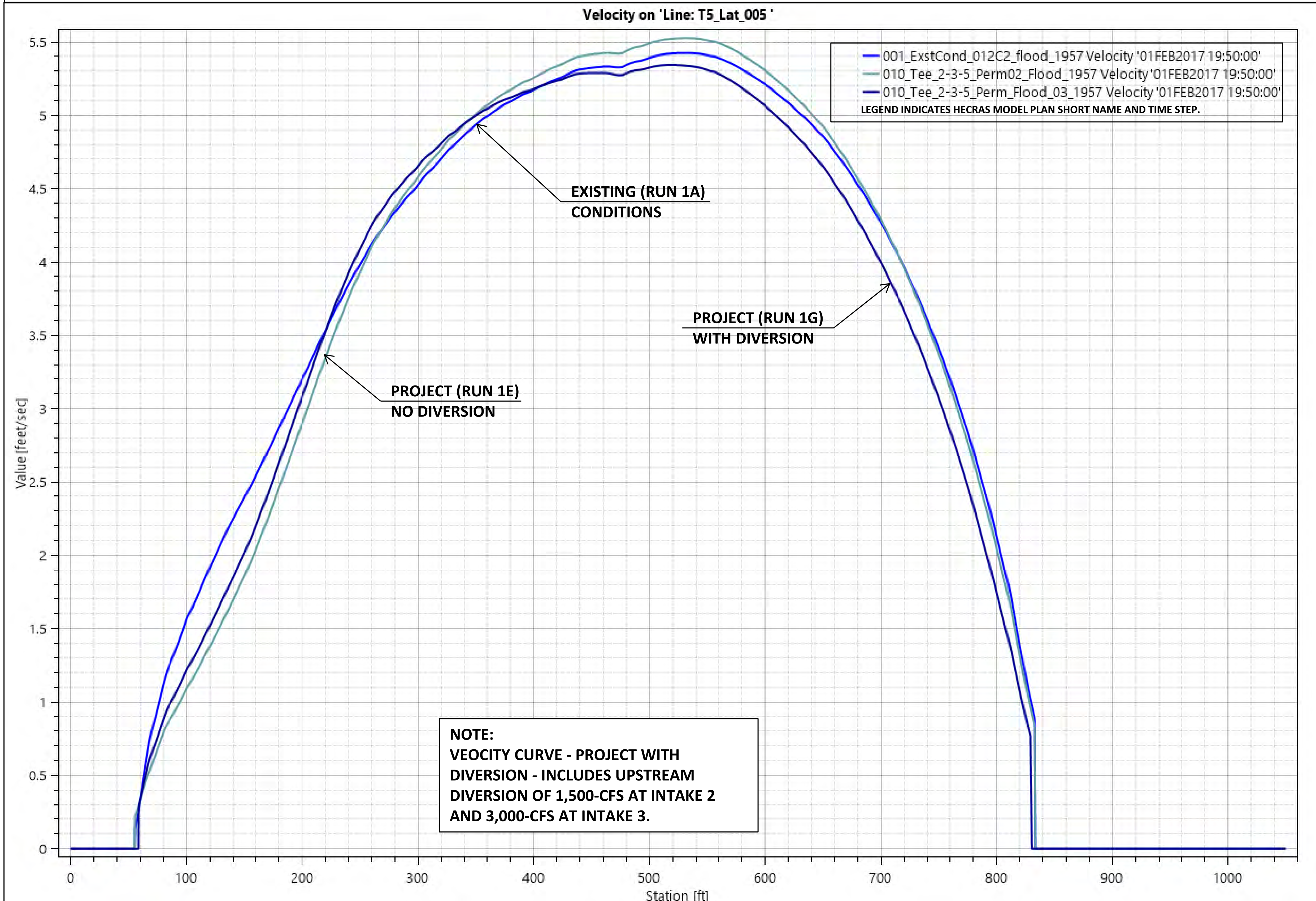
RUN 1A vs 1E vs 1G – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 1A vs 1E vs 1G – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

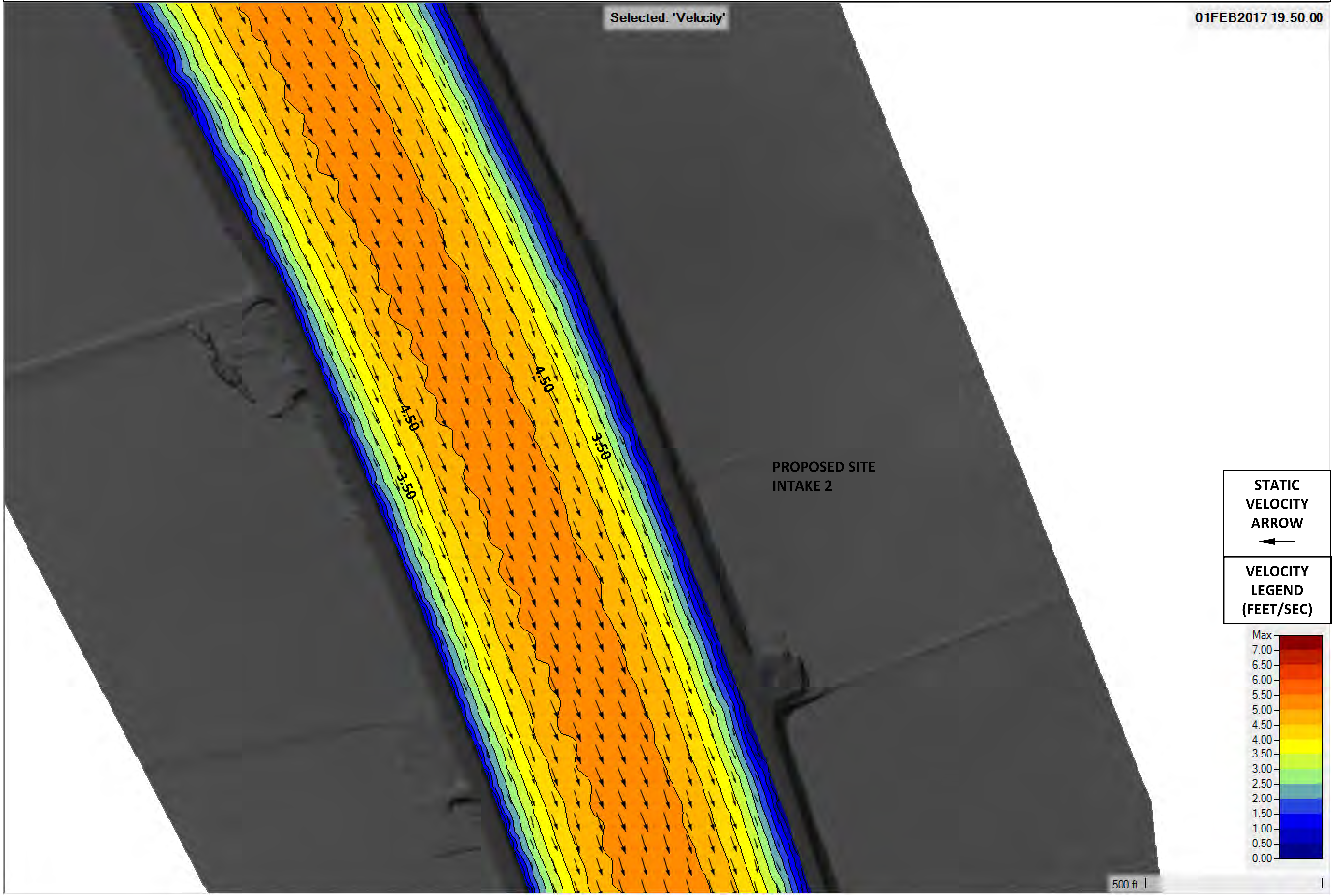
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



Velocity Contour Plots at Intake Structures

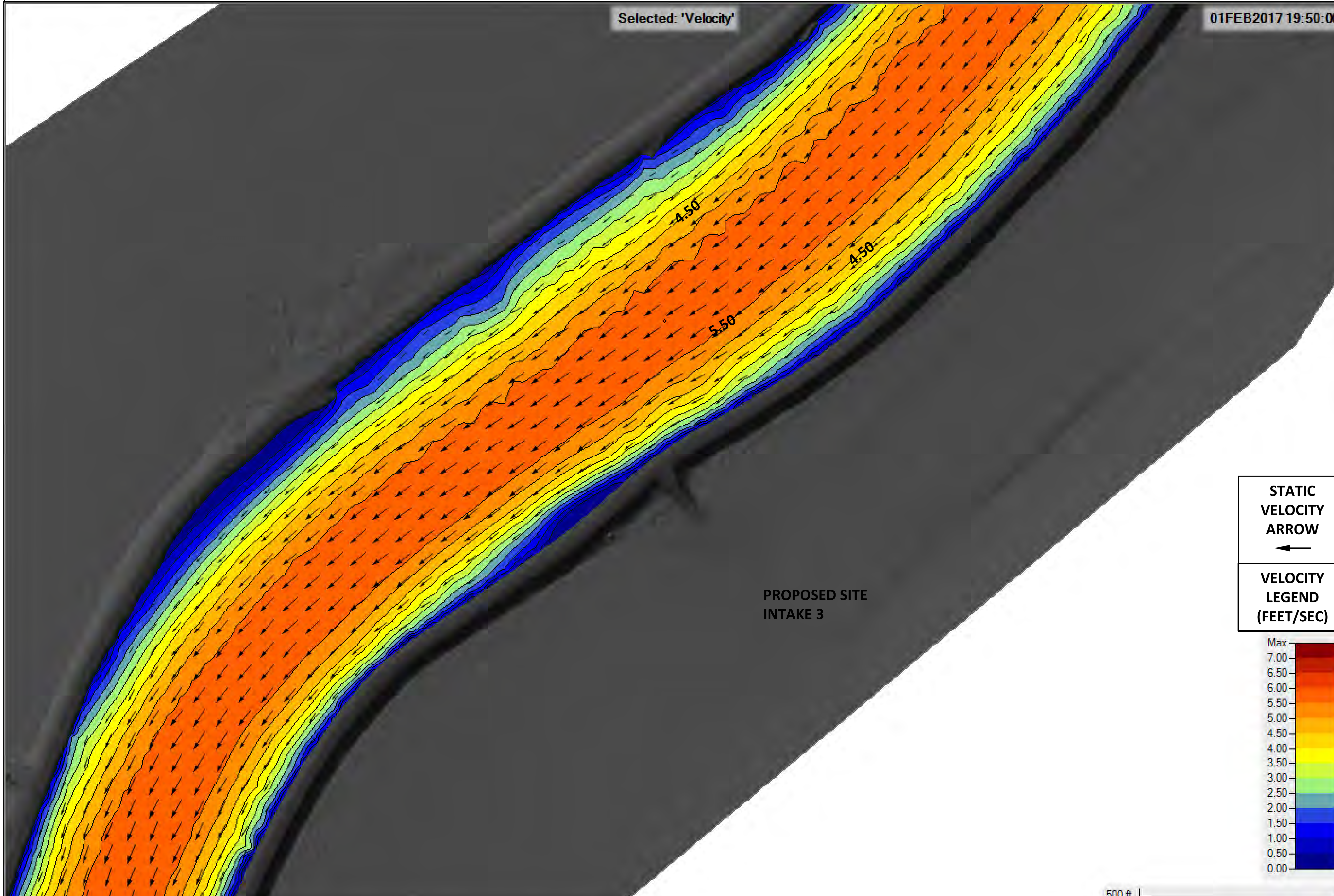
RUN 1A - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 110,000-CFS AT SAC/AME RIVER CONFLUENCE



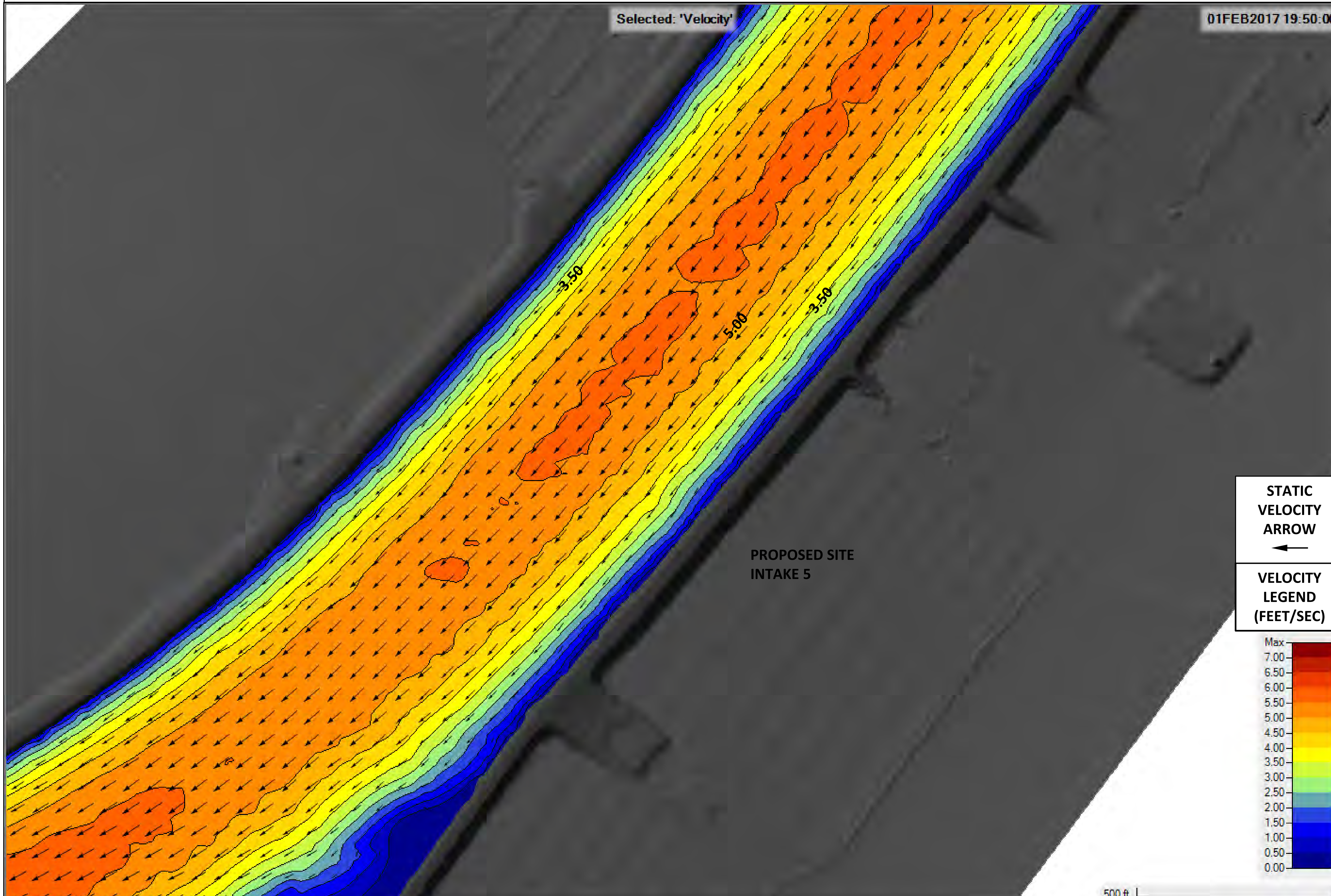
RUN 1A - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 110,000-CFS AT SAC/AME RIVER CONFLUENCE



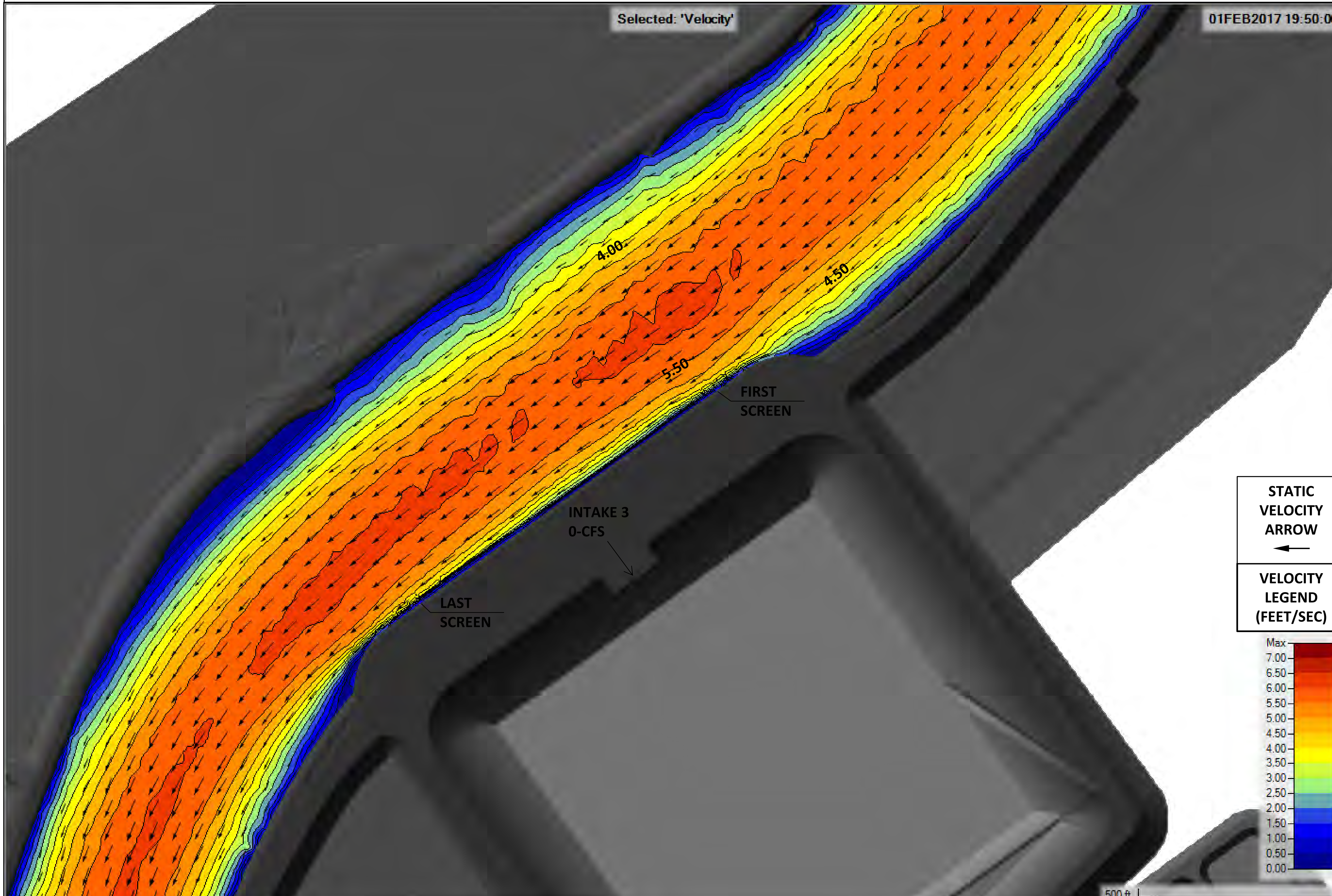
RUN 1A - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 110,000-CFS AT SAC/AME RIVER CONFLUENCE



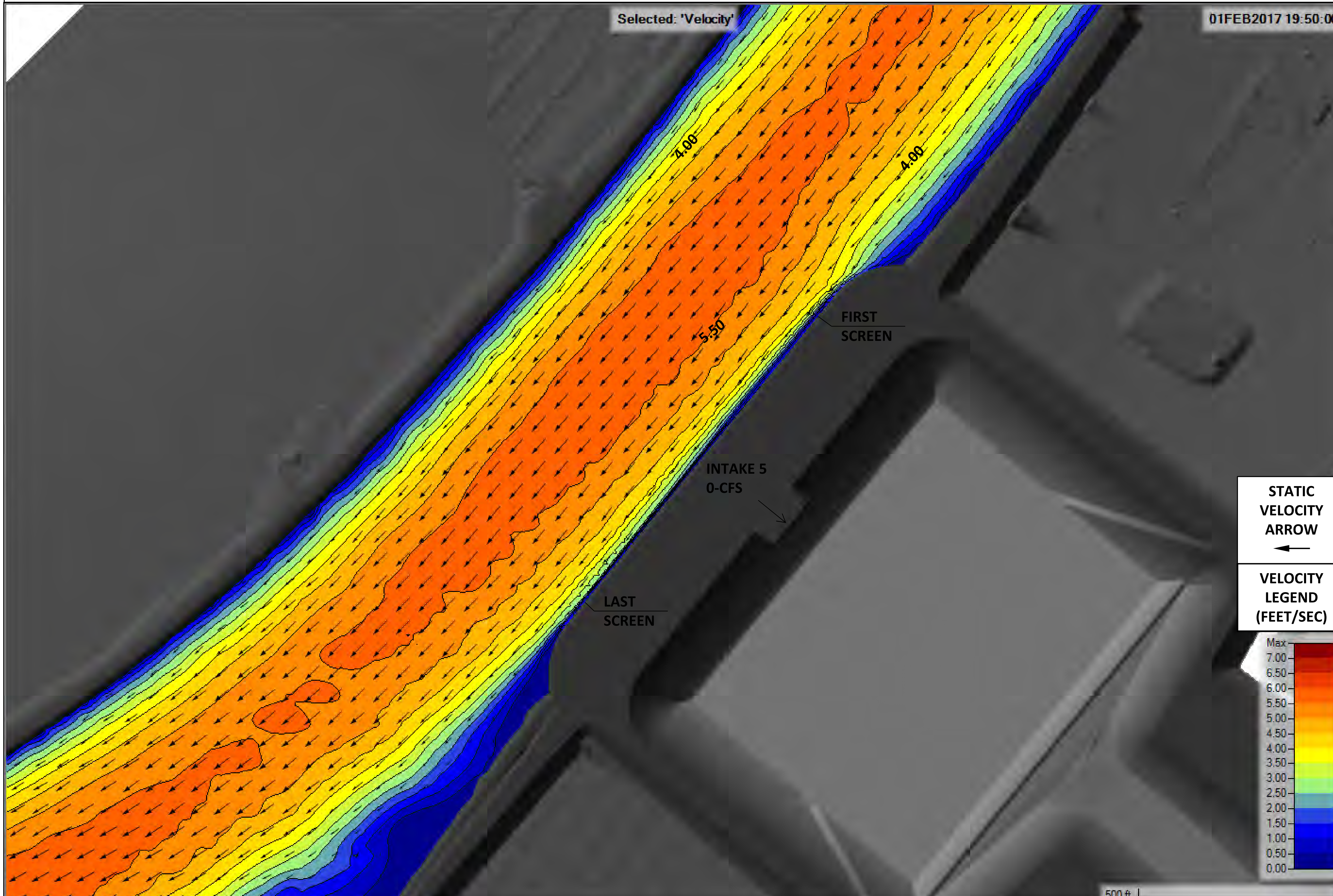
RUN 1B - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



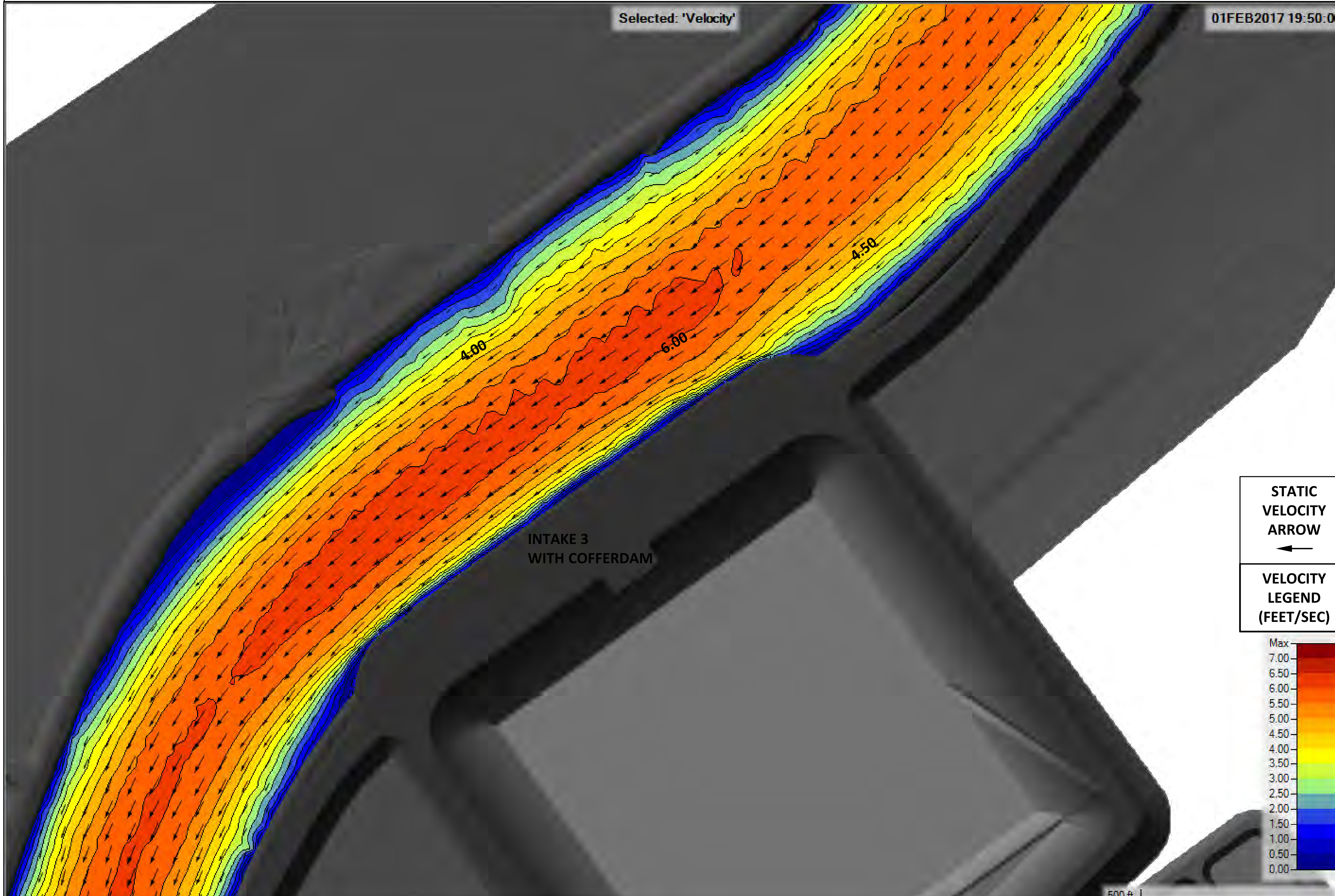
RUN 1B - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



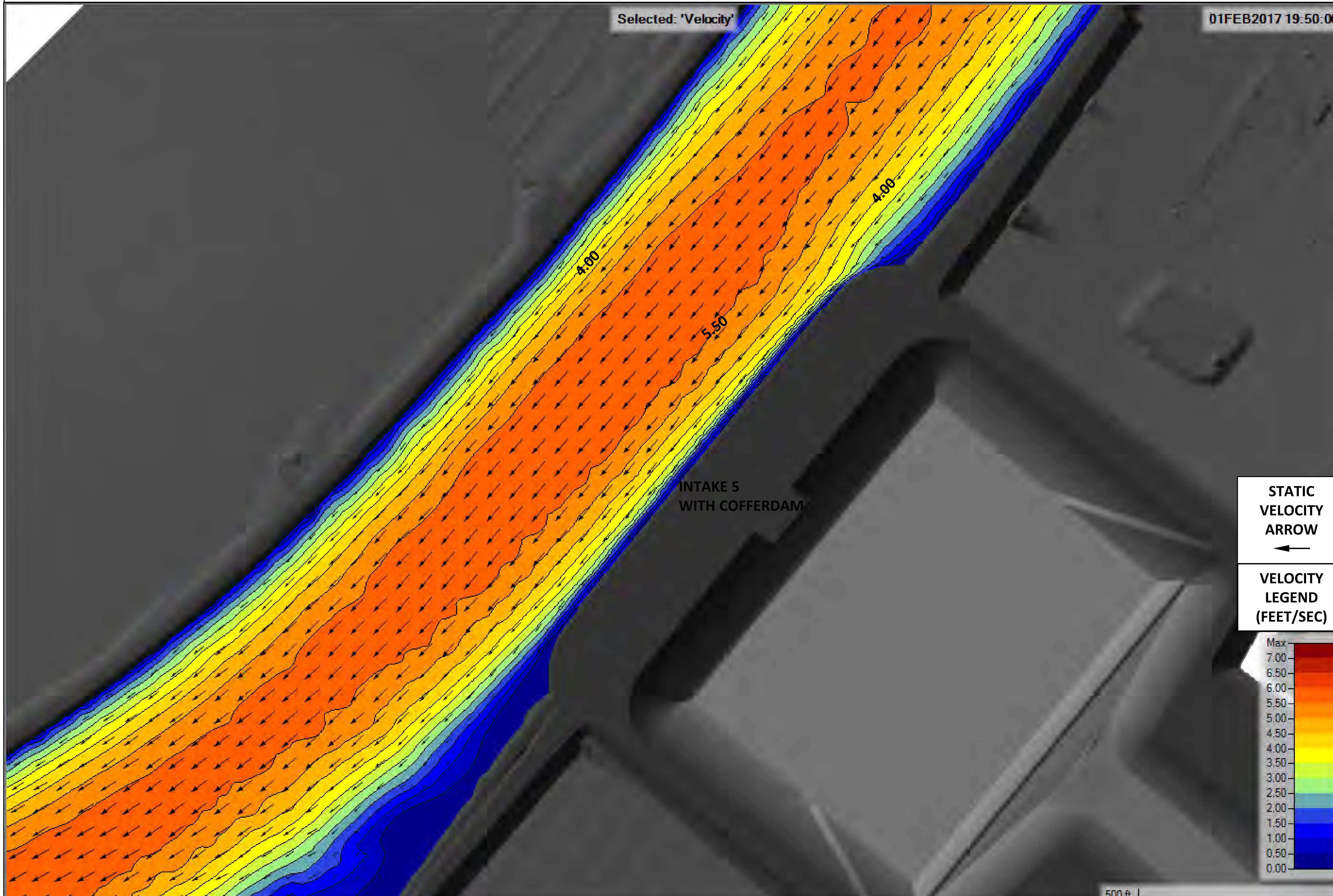
RUN 1C - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



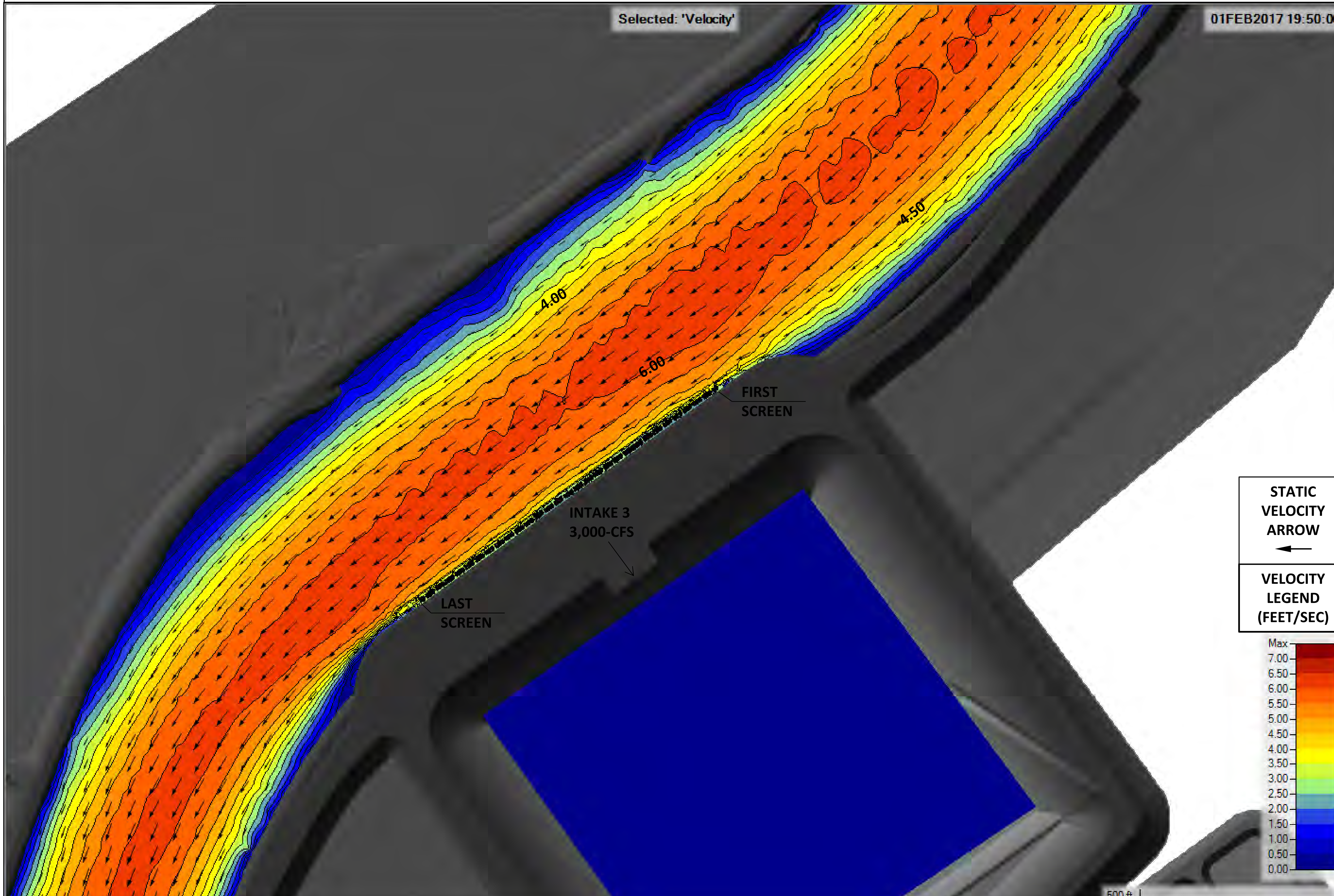
RUN 1C - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



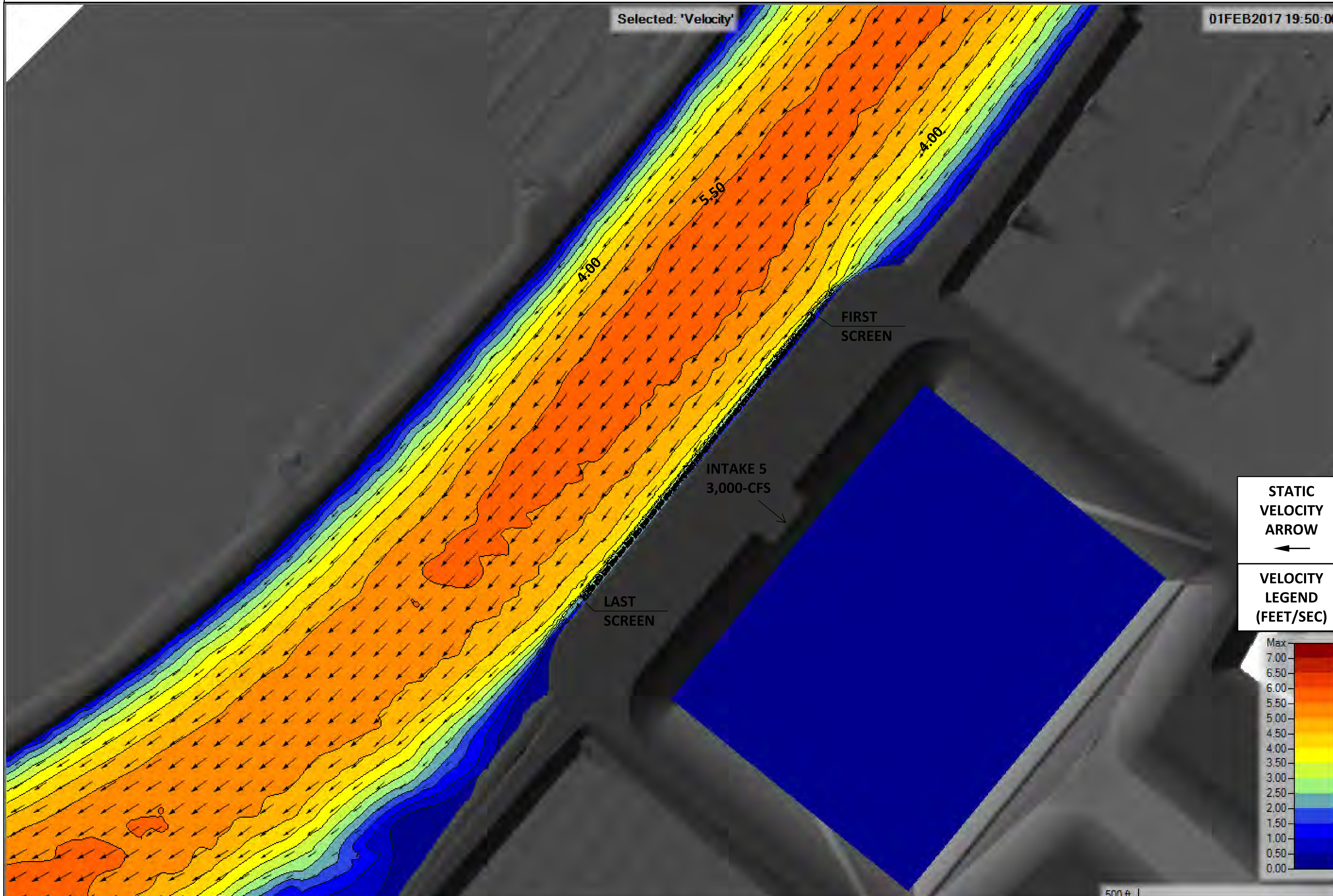
RUN 1D - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 FULL DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



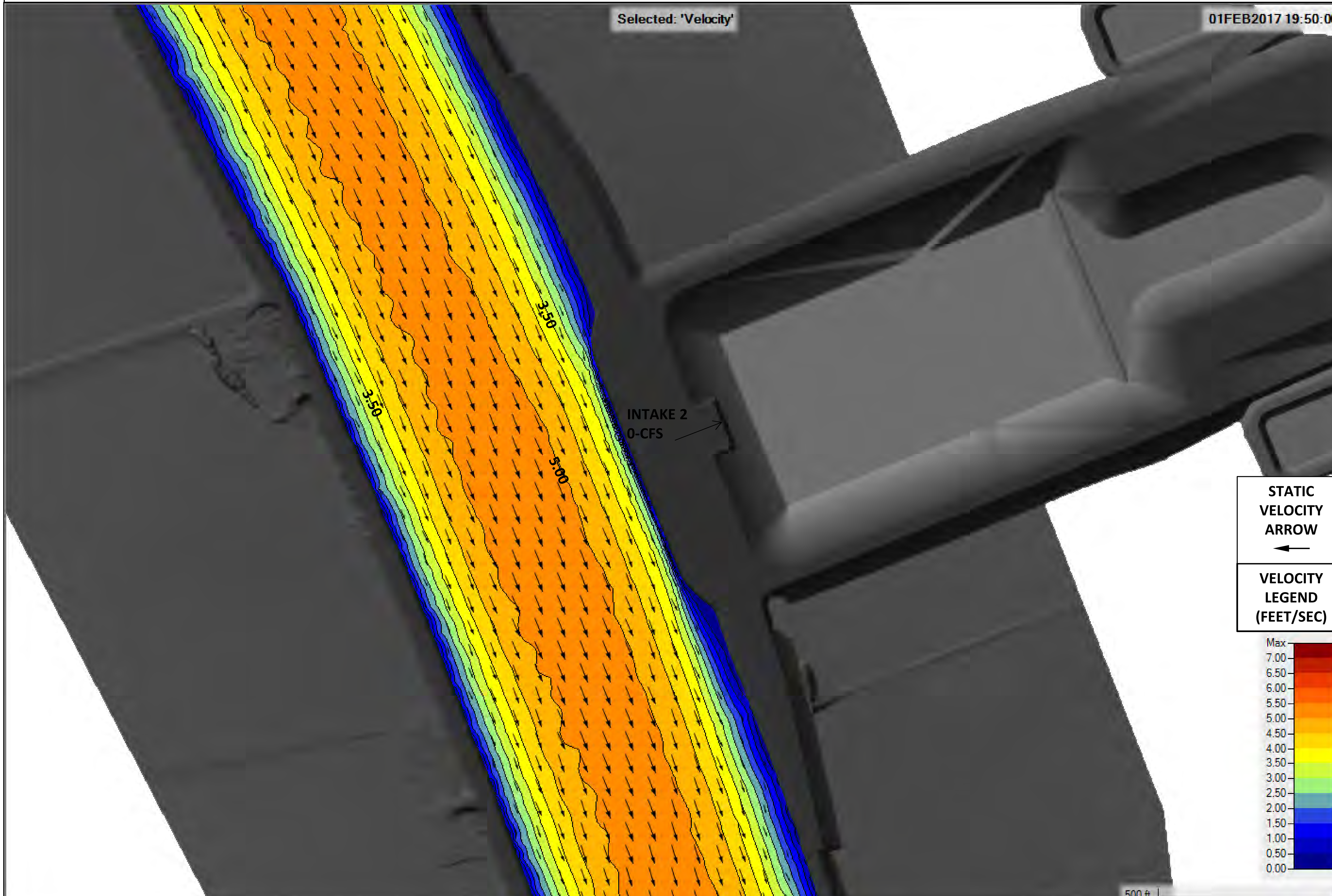
RUN 1D - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 FULL DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



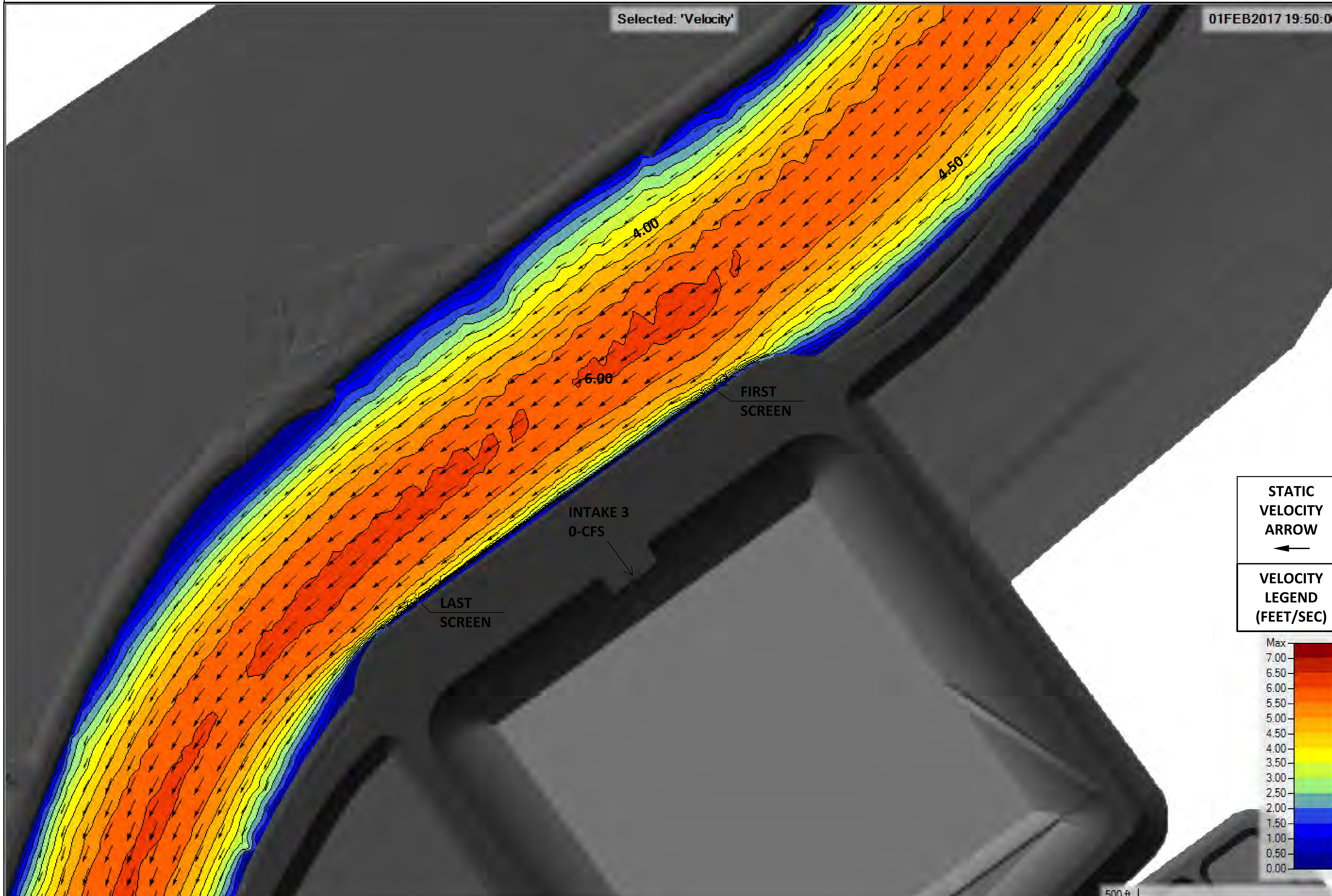
RUN 1E - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



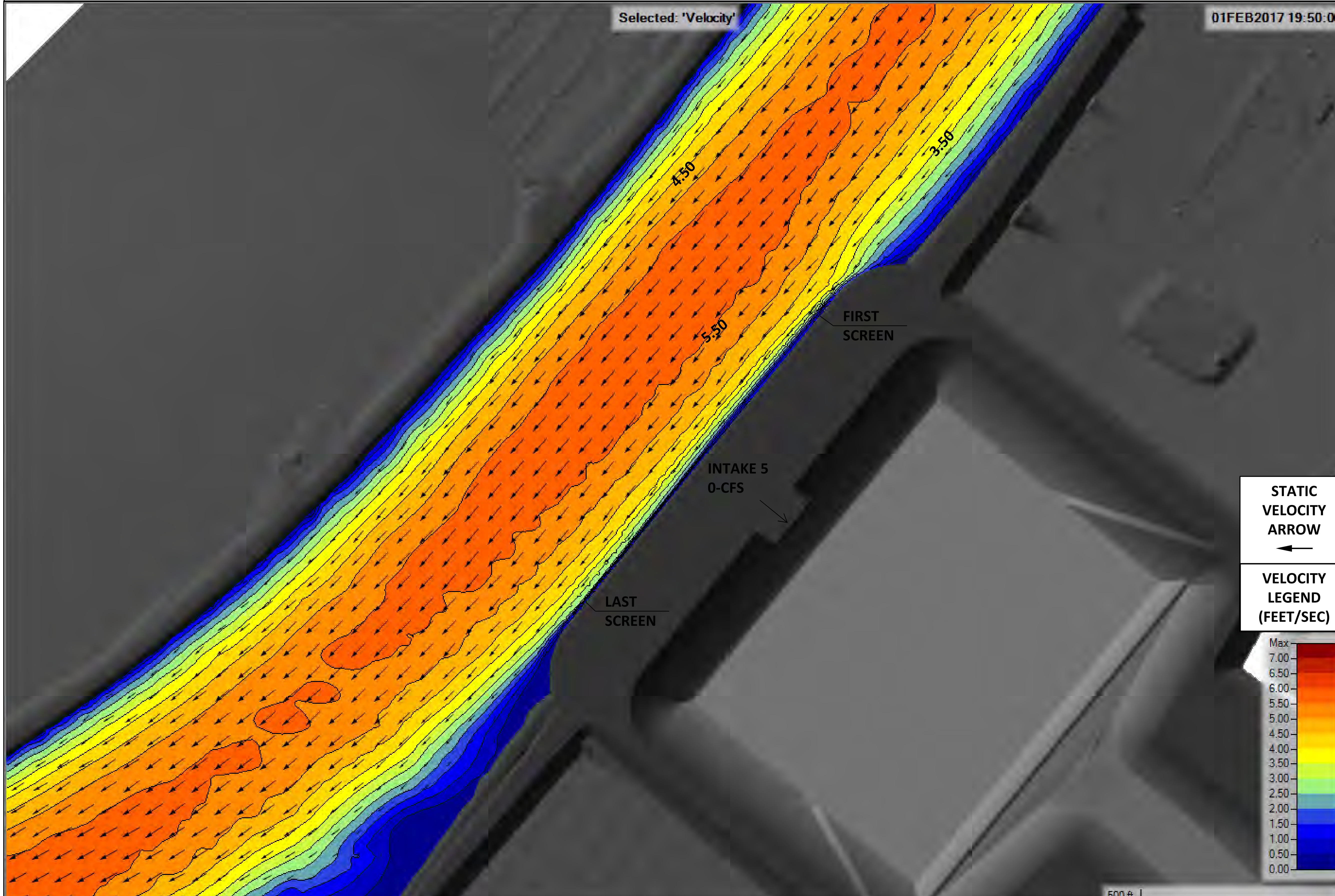
RUN 1E - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



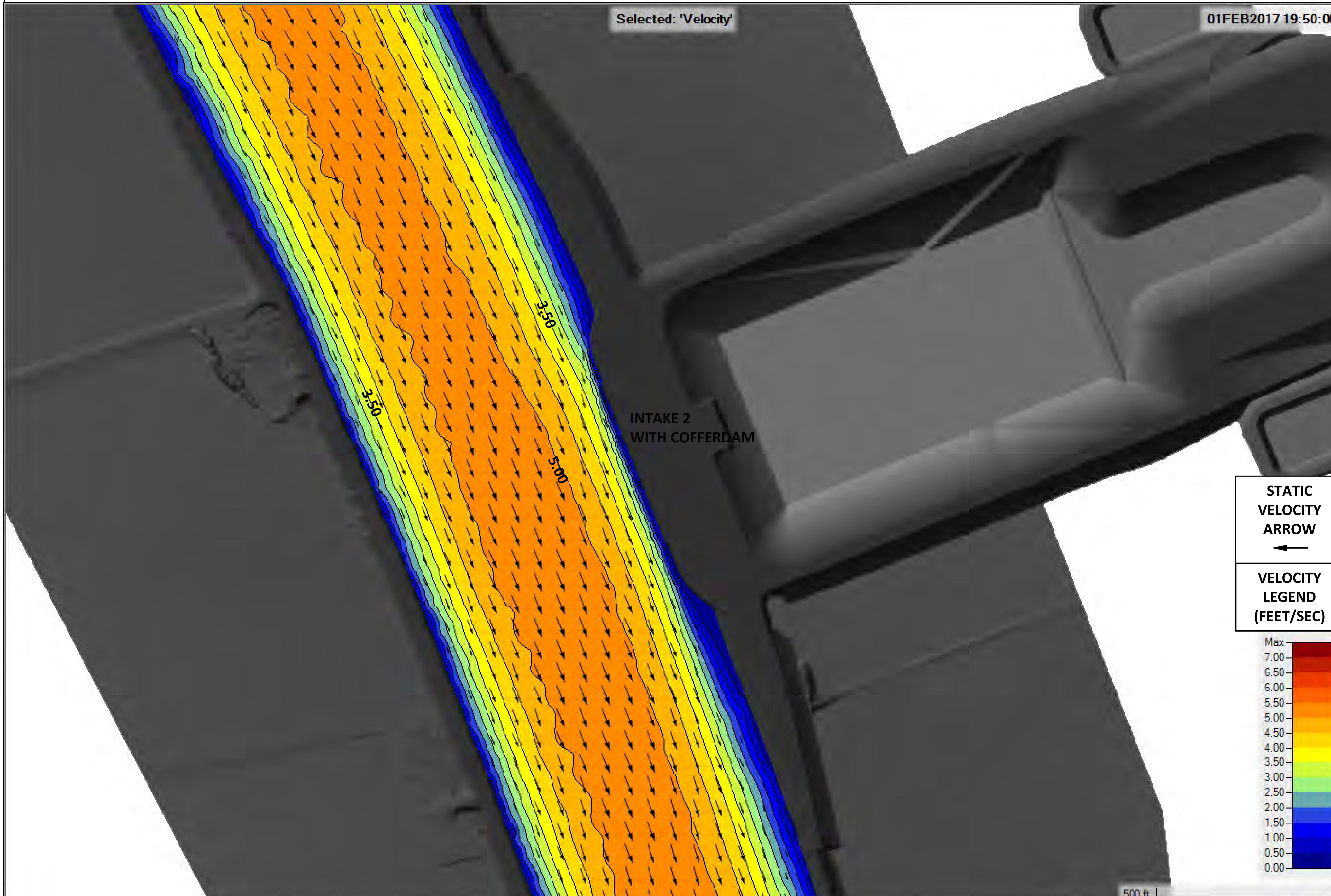
RUN 1E - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



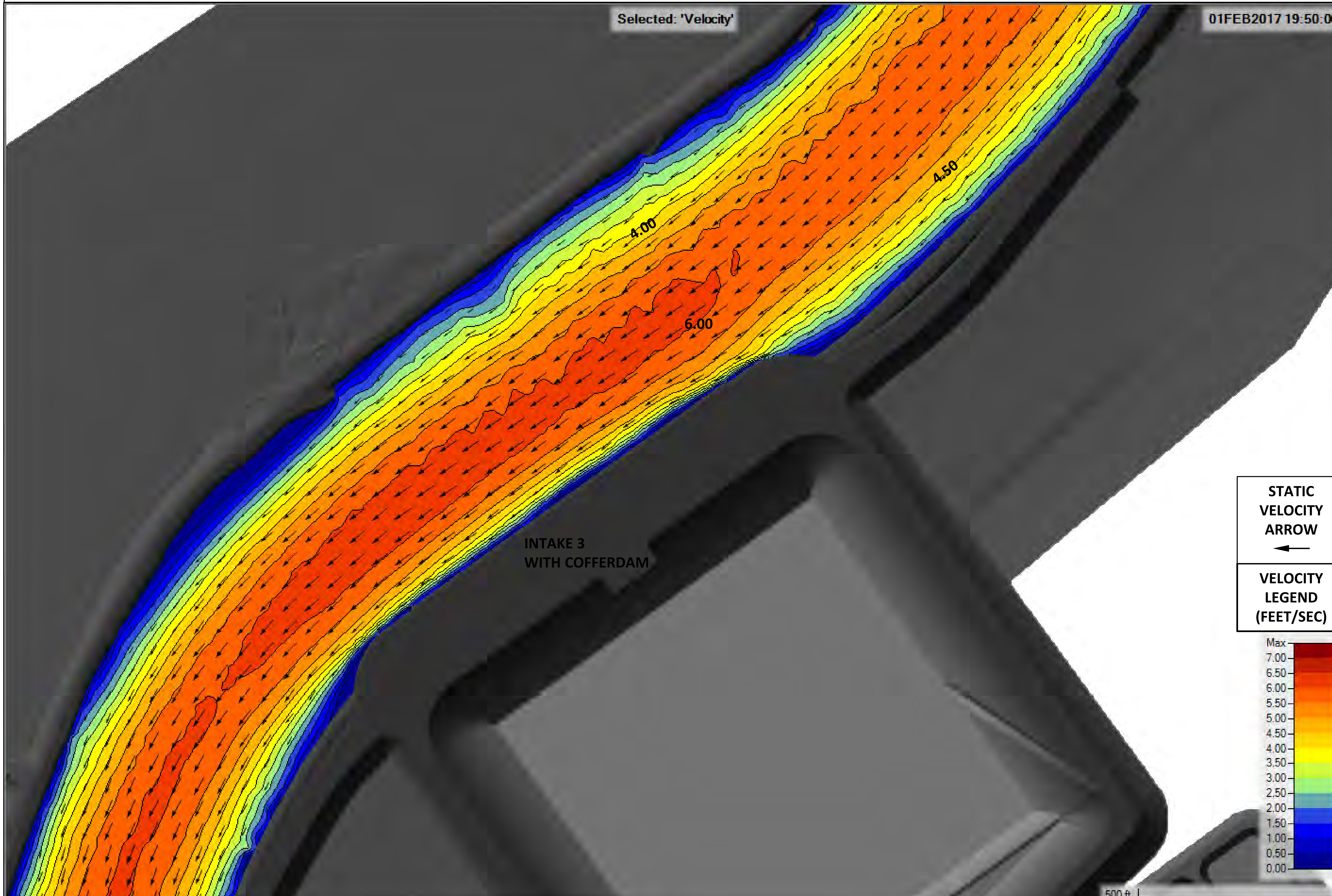
RUN 1F - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



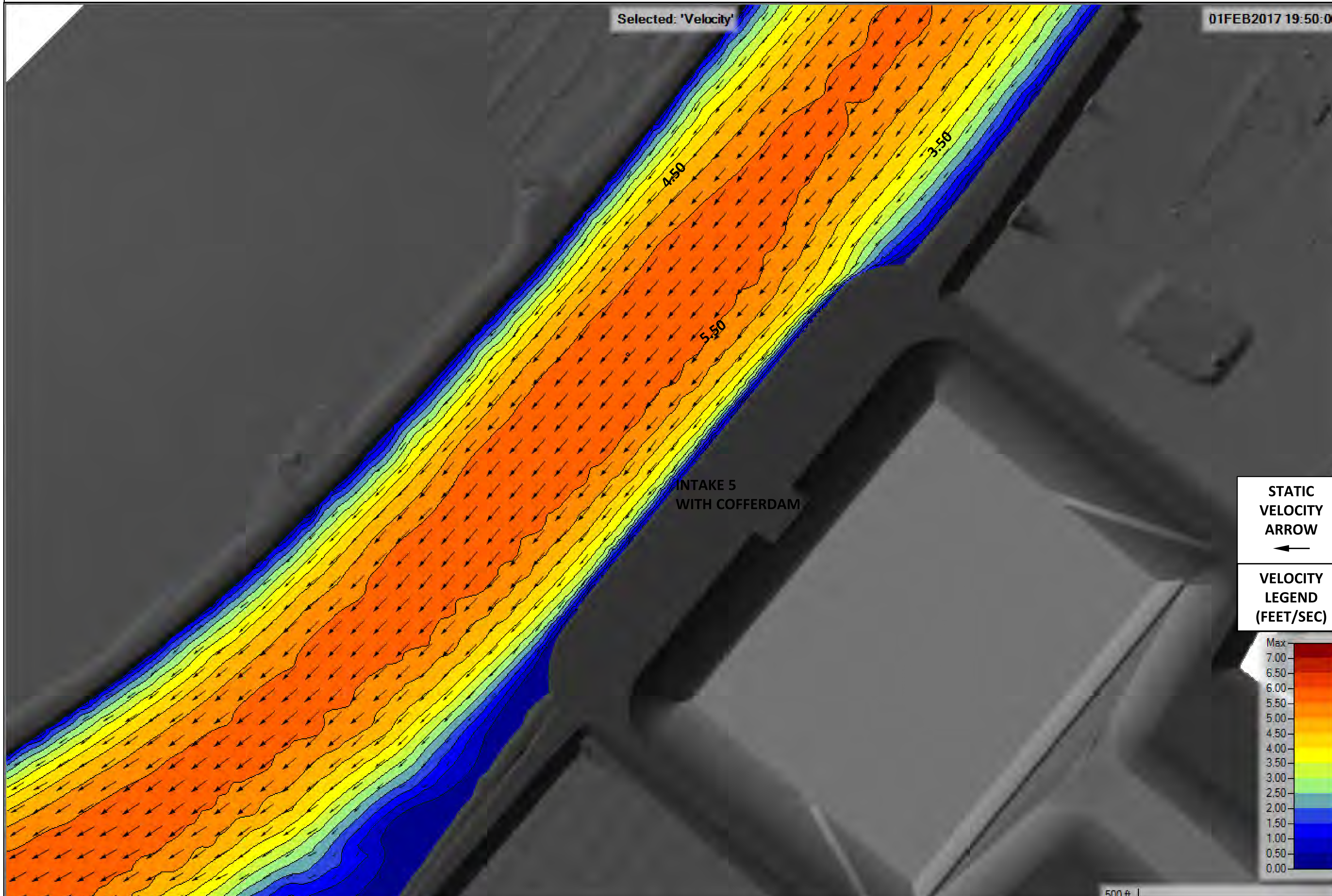
RUN 1F - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



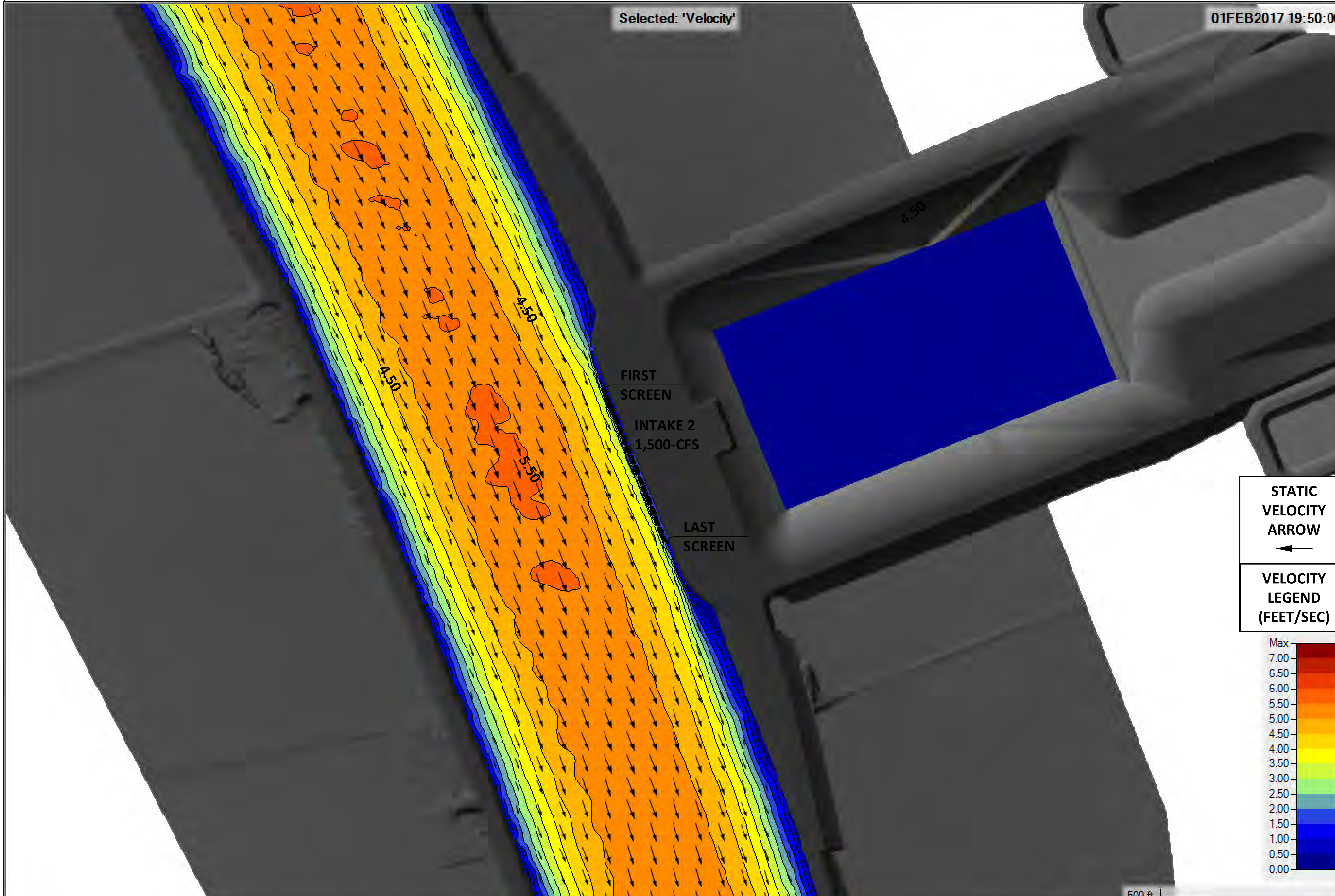
RUN 1F - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



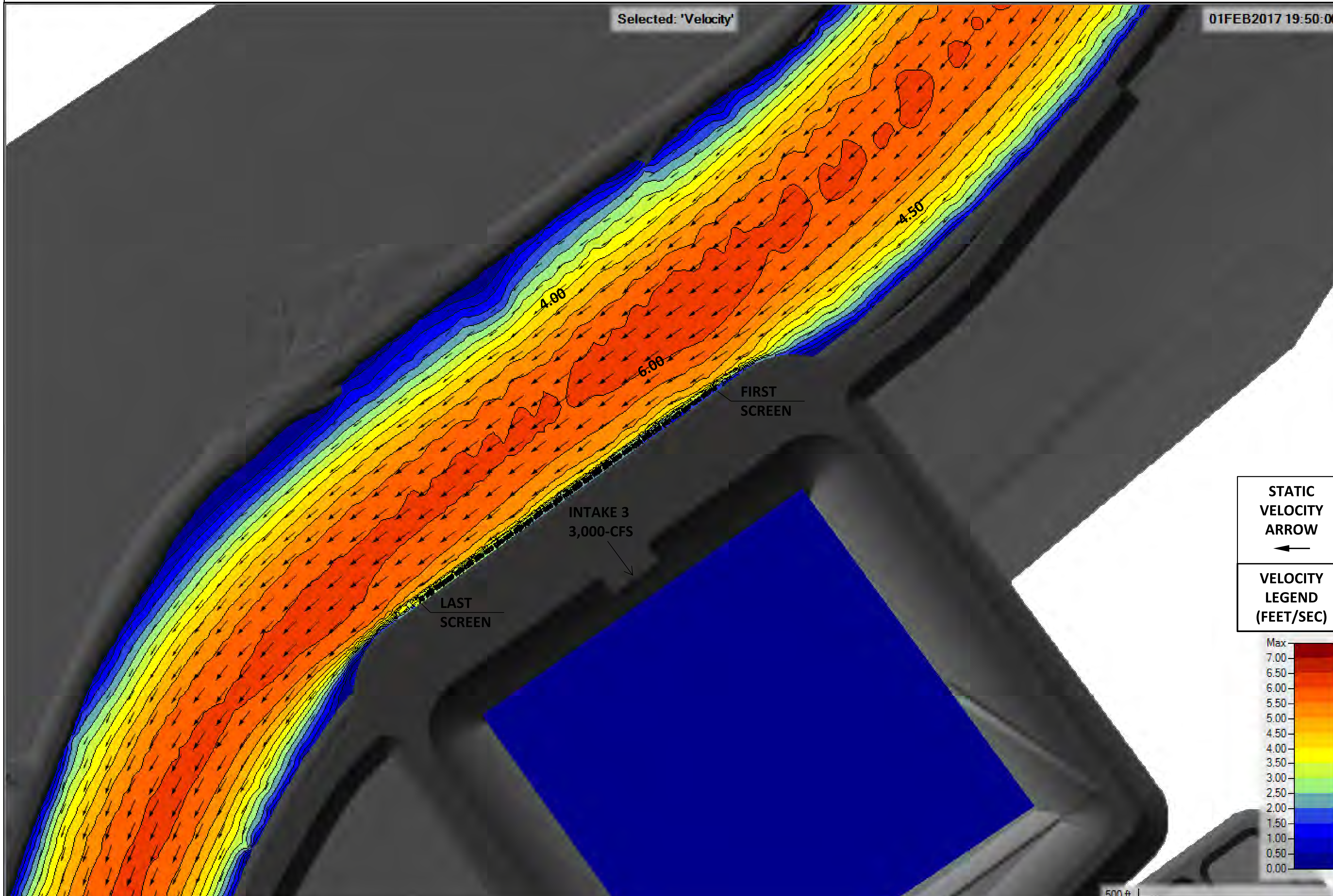
RUN 1G - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 FULL DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



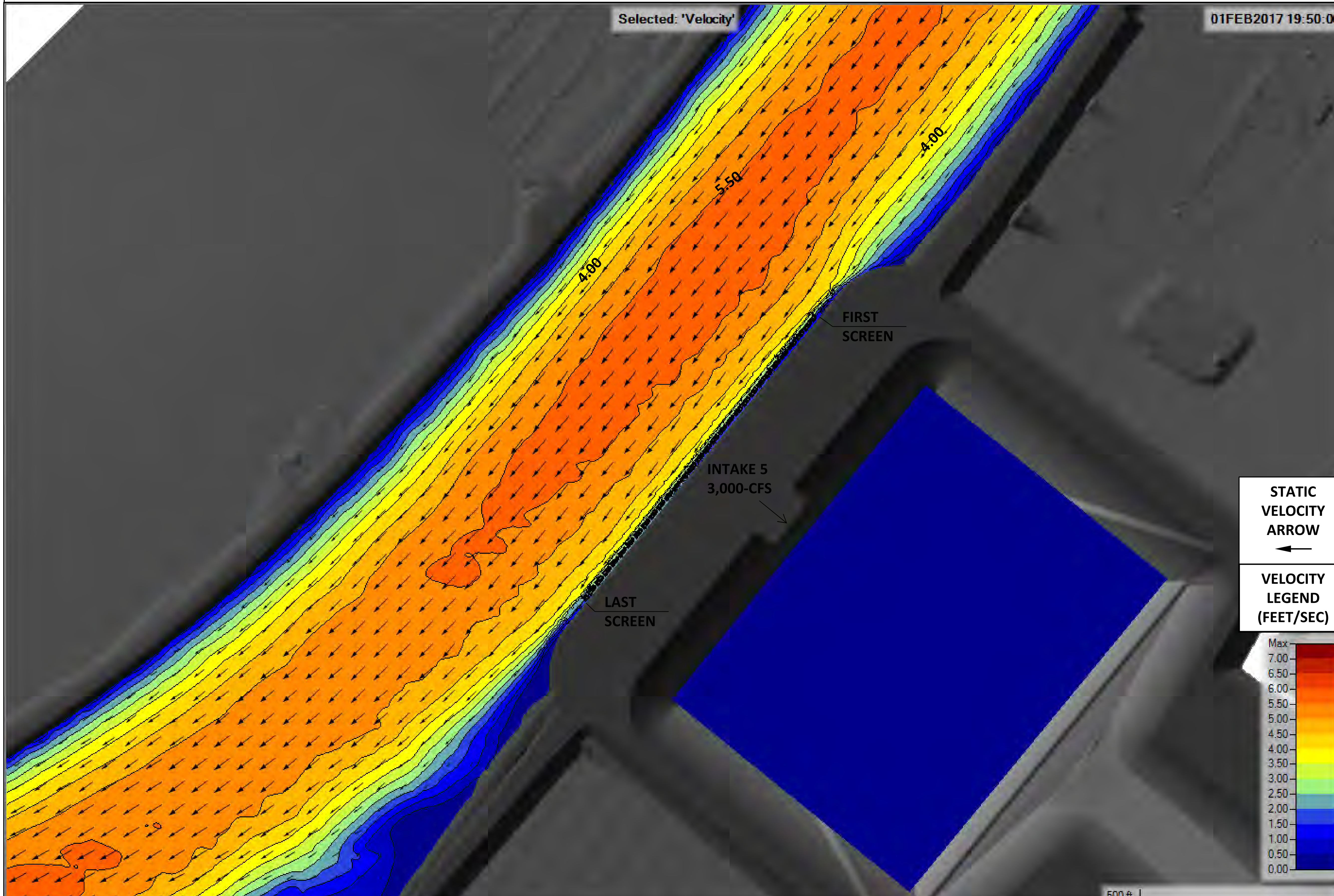
RUN 1G - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 FULL DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



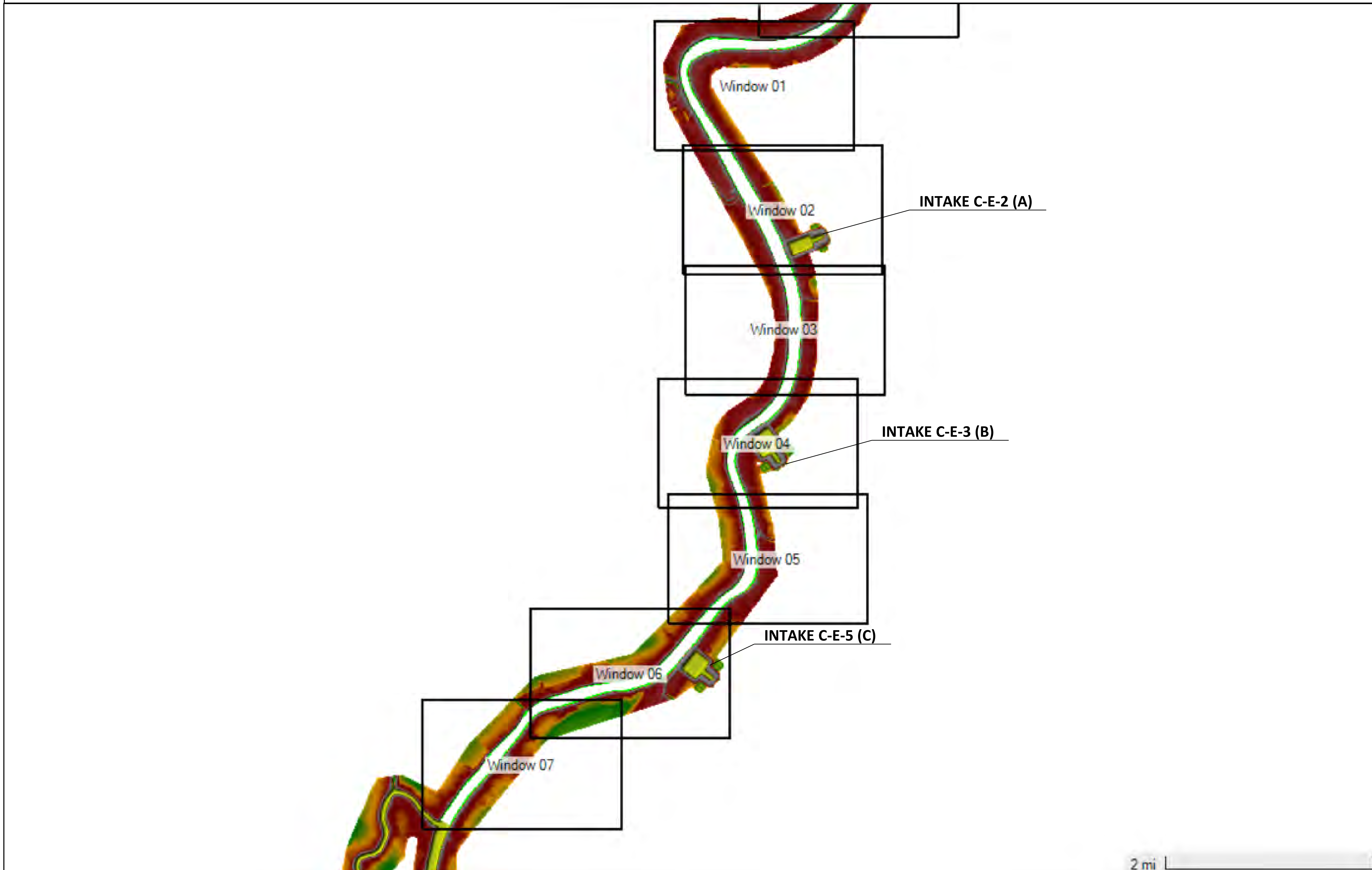
RUN 1G - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 FULL DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



0.91 fps Velocity Exceedance Plots

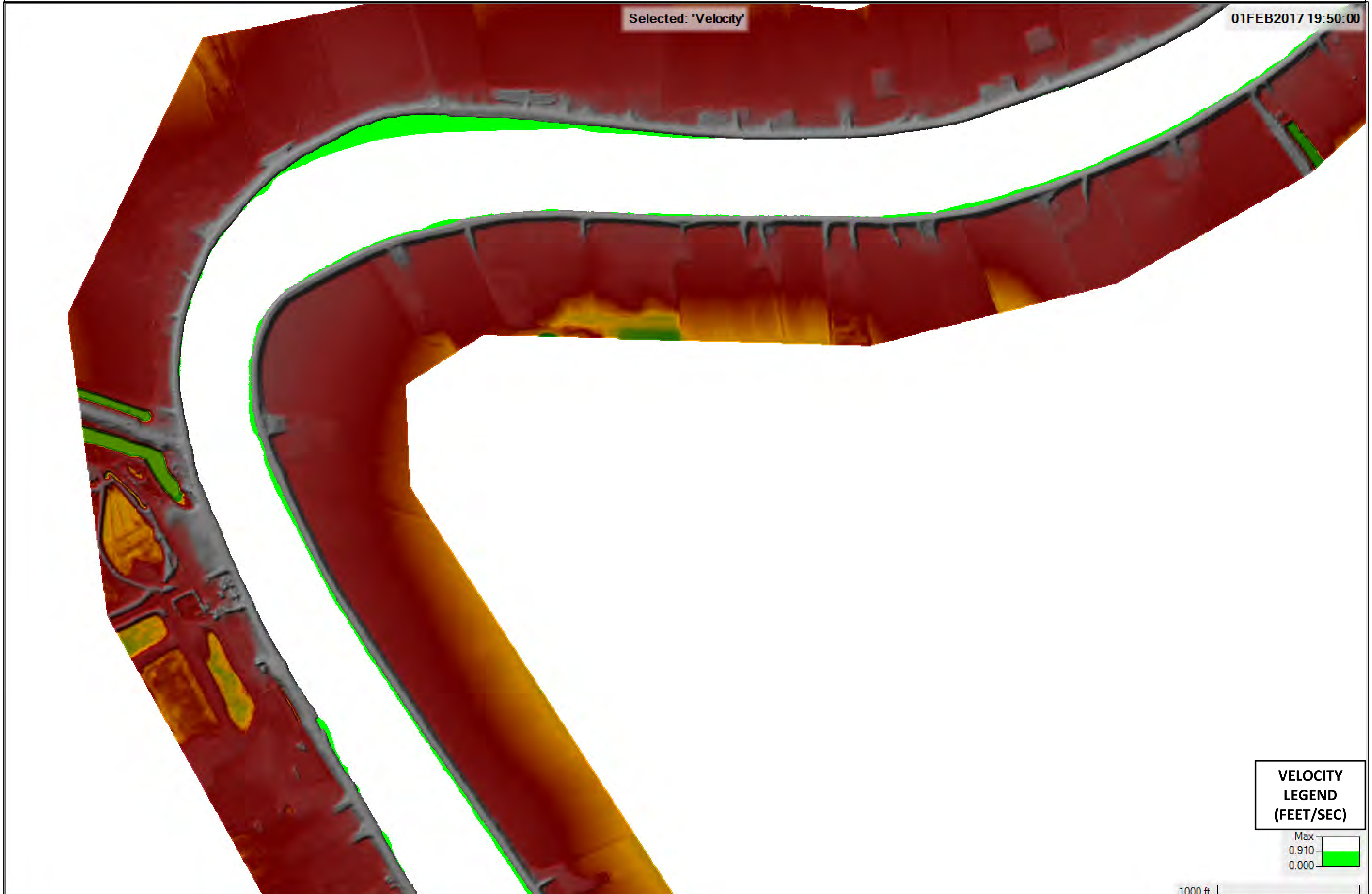
WINDOW LOCATIONS KEY



RUN 1A

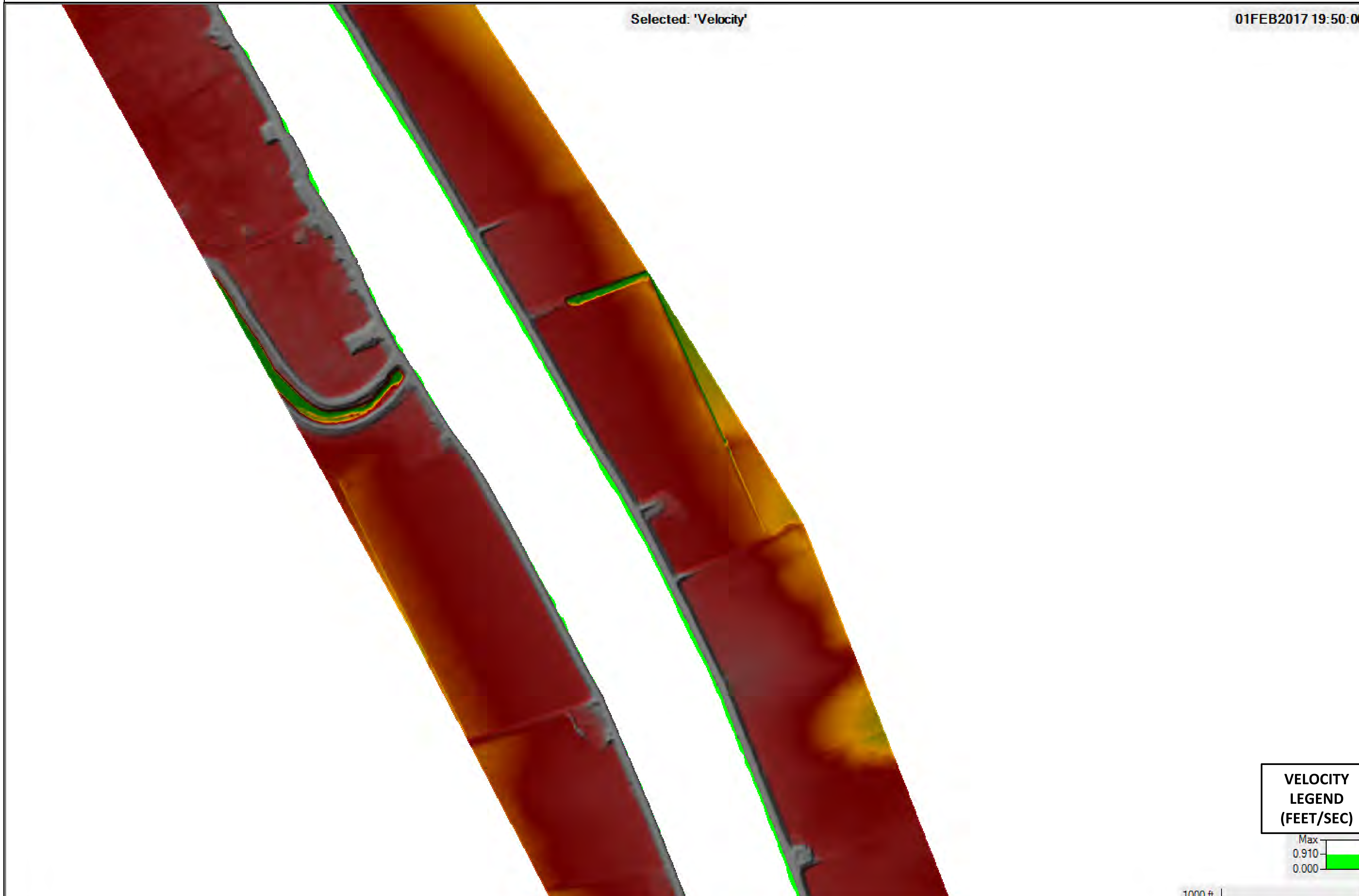
RUN 1A – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 110,000-CFS AT SAC/AME RIVER CONFLUENCE



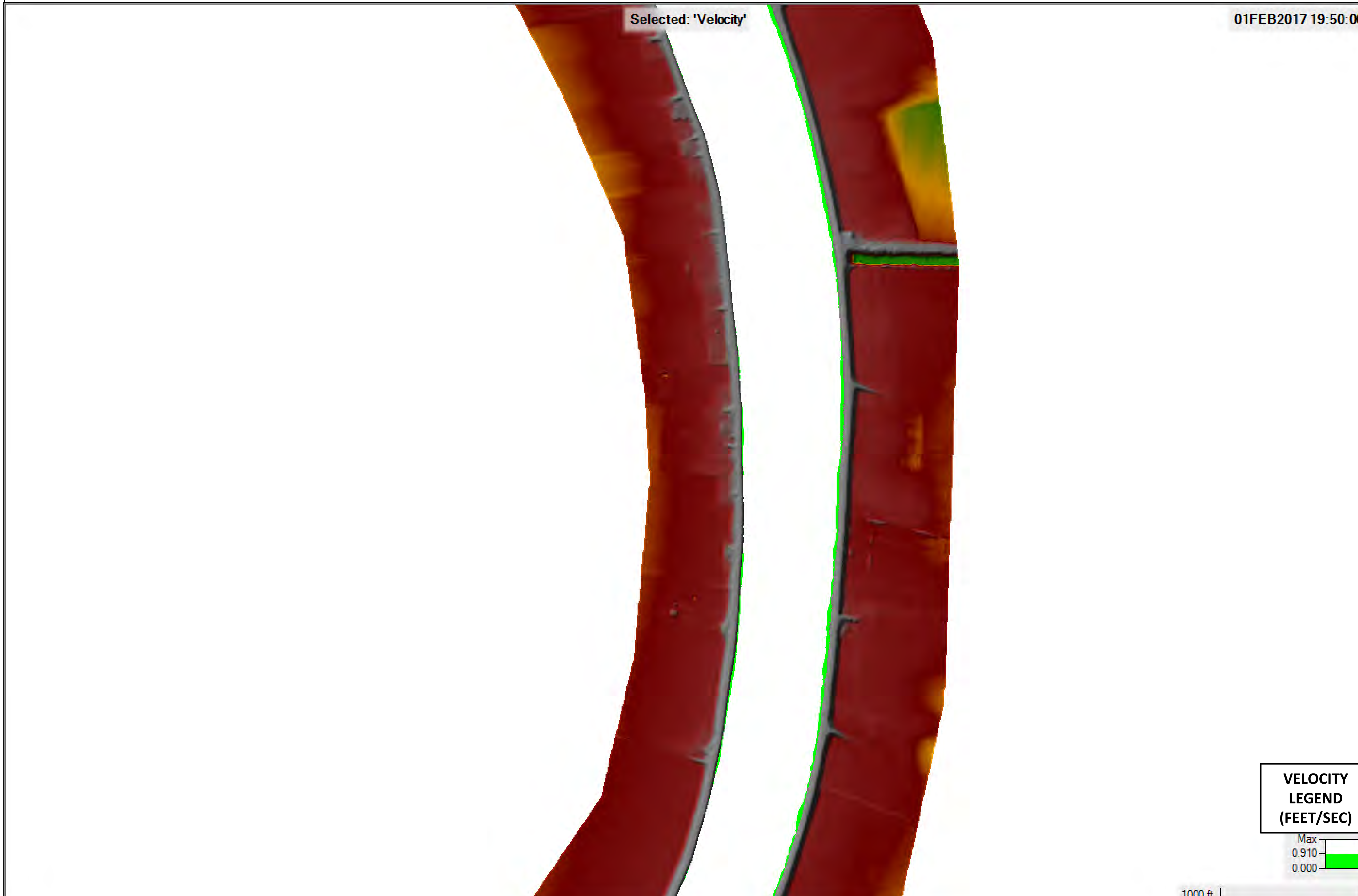
RUN 1A – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 110,000-CFS AT SAC/AME RIVER CONFLUENCE



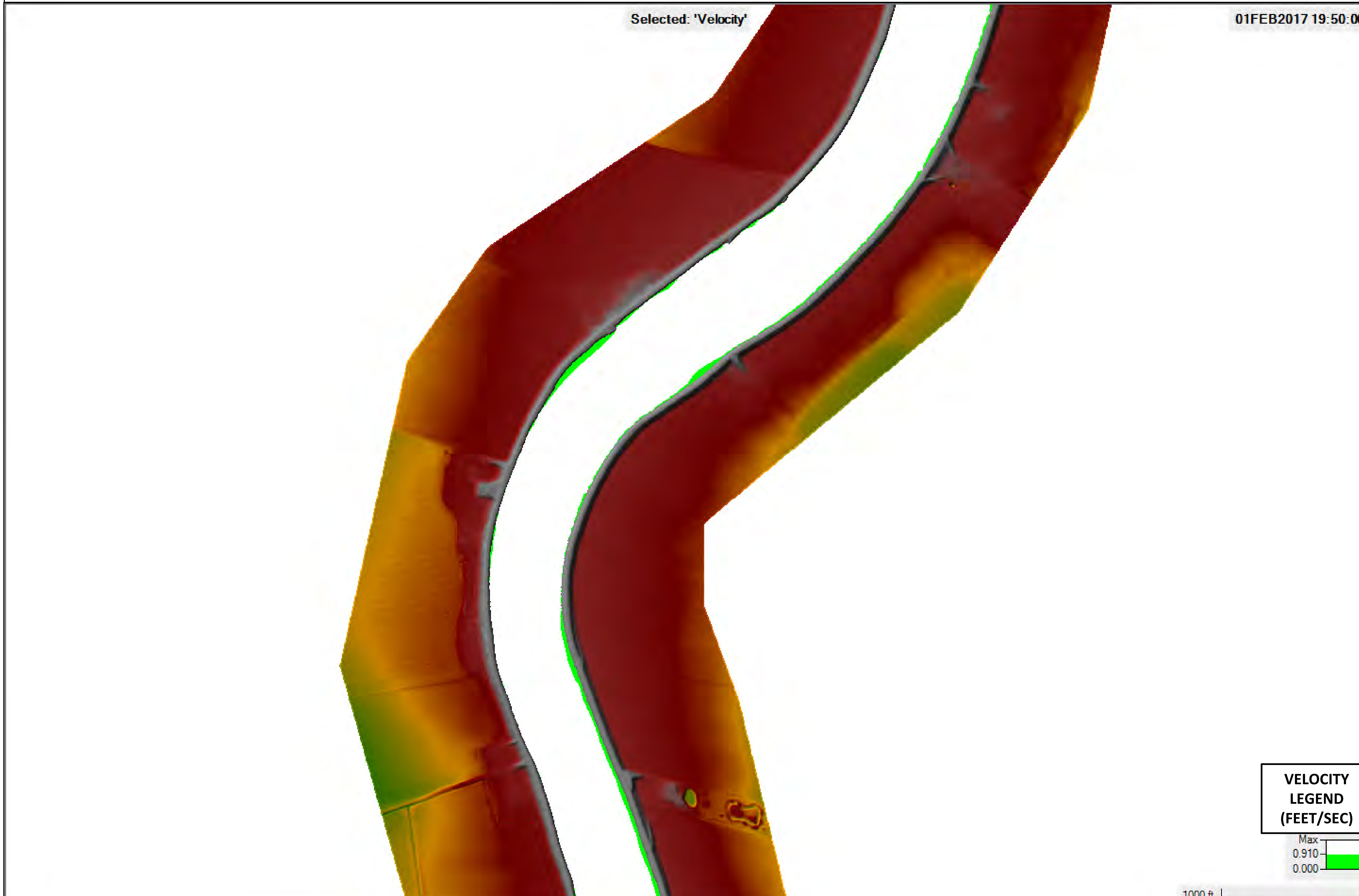
RUN 1A – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 110,000-CFS AT SAC/AME RIVER CONFLUENCE



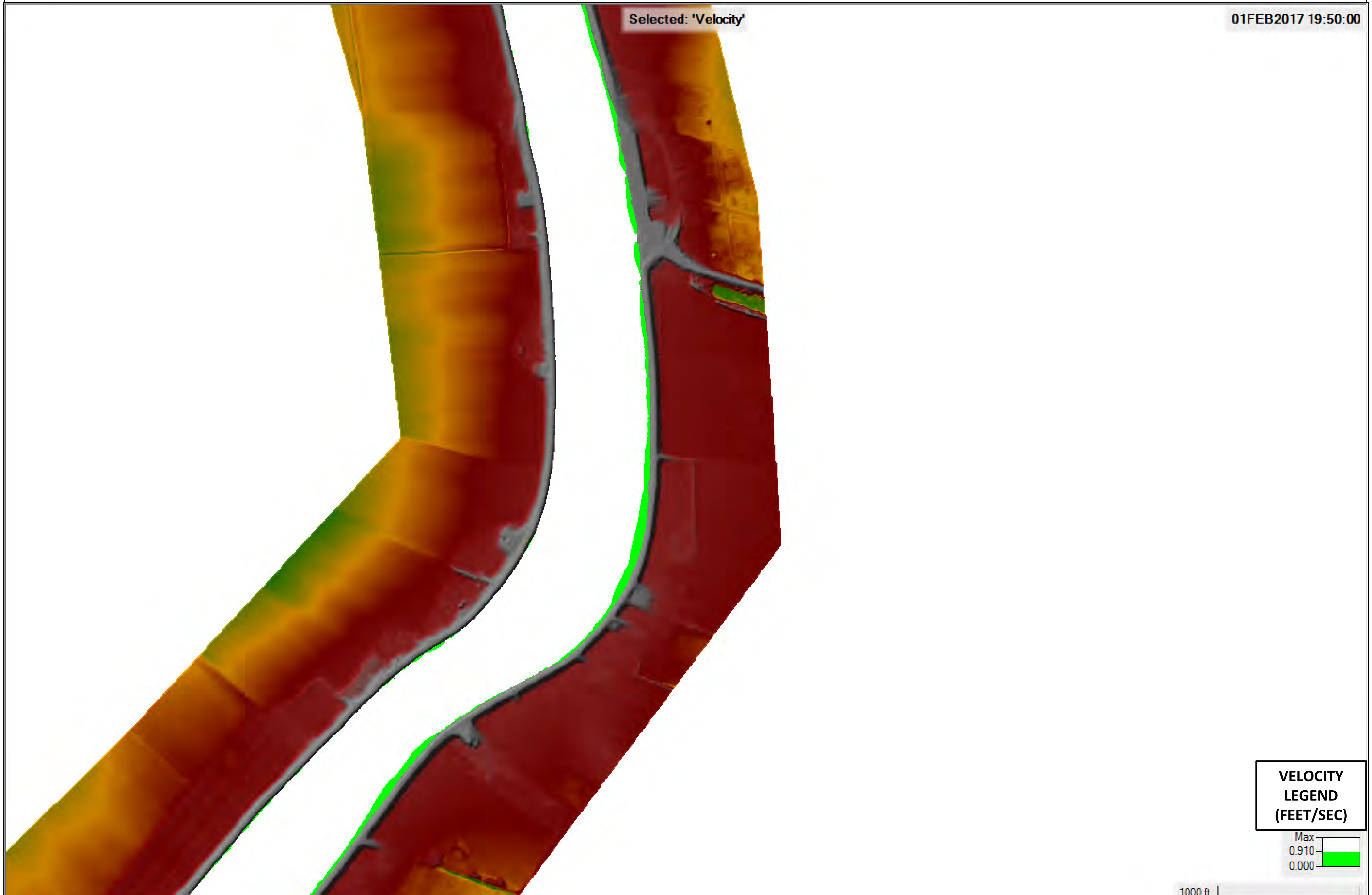
RUN 1A – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 110,000-CFS AT SAC/AME RIVER CONFLUENCE



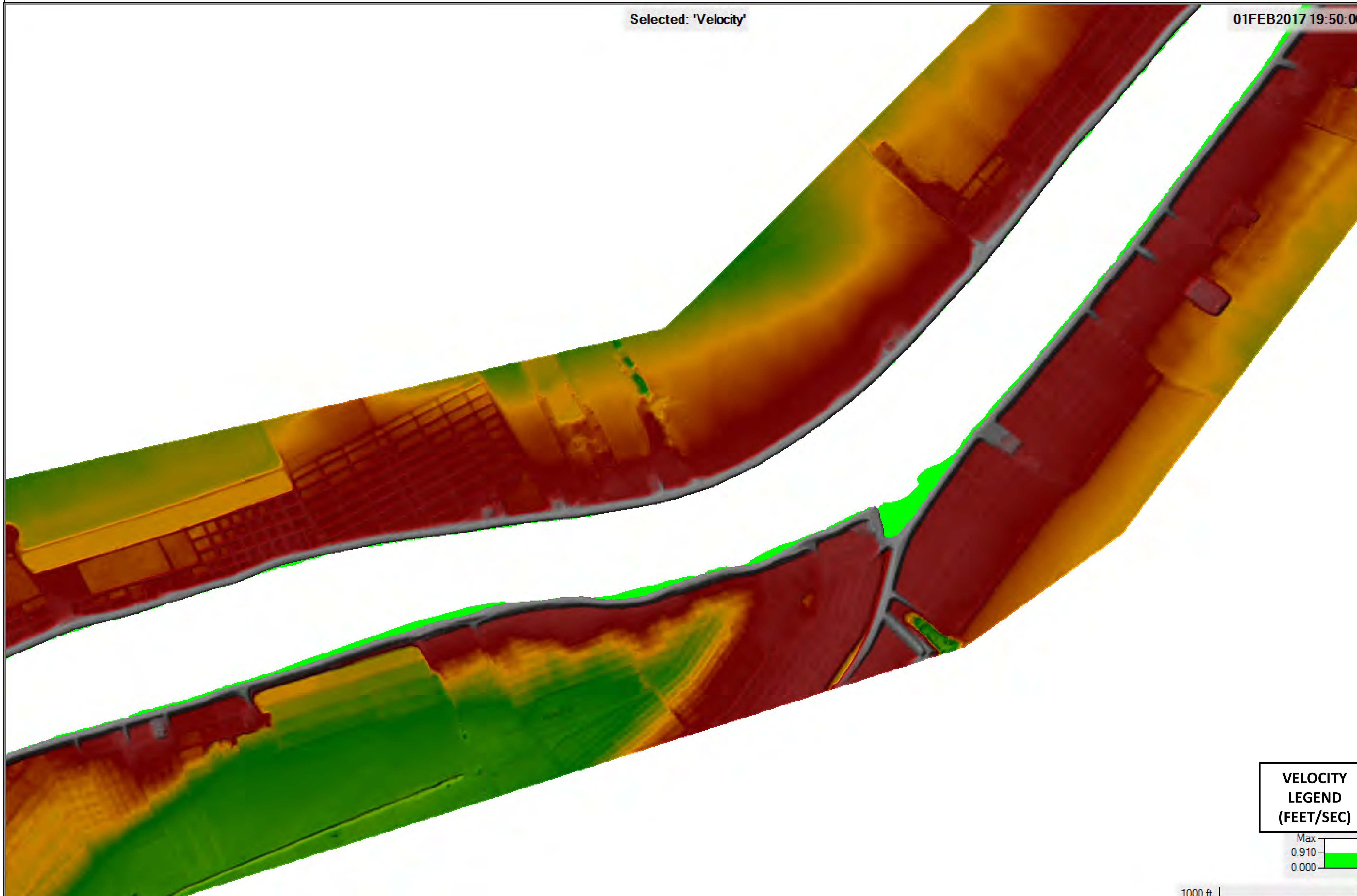
RUN 1A – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 110,000-CFS AT SAC/AME RIVER CONFLUENCE



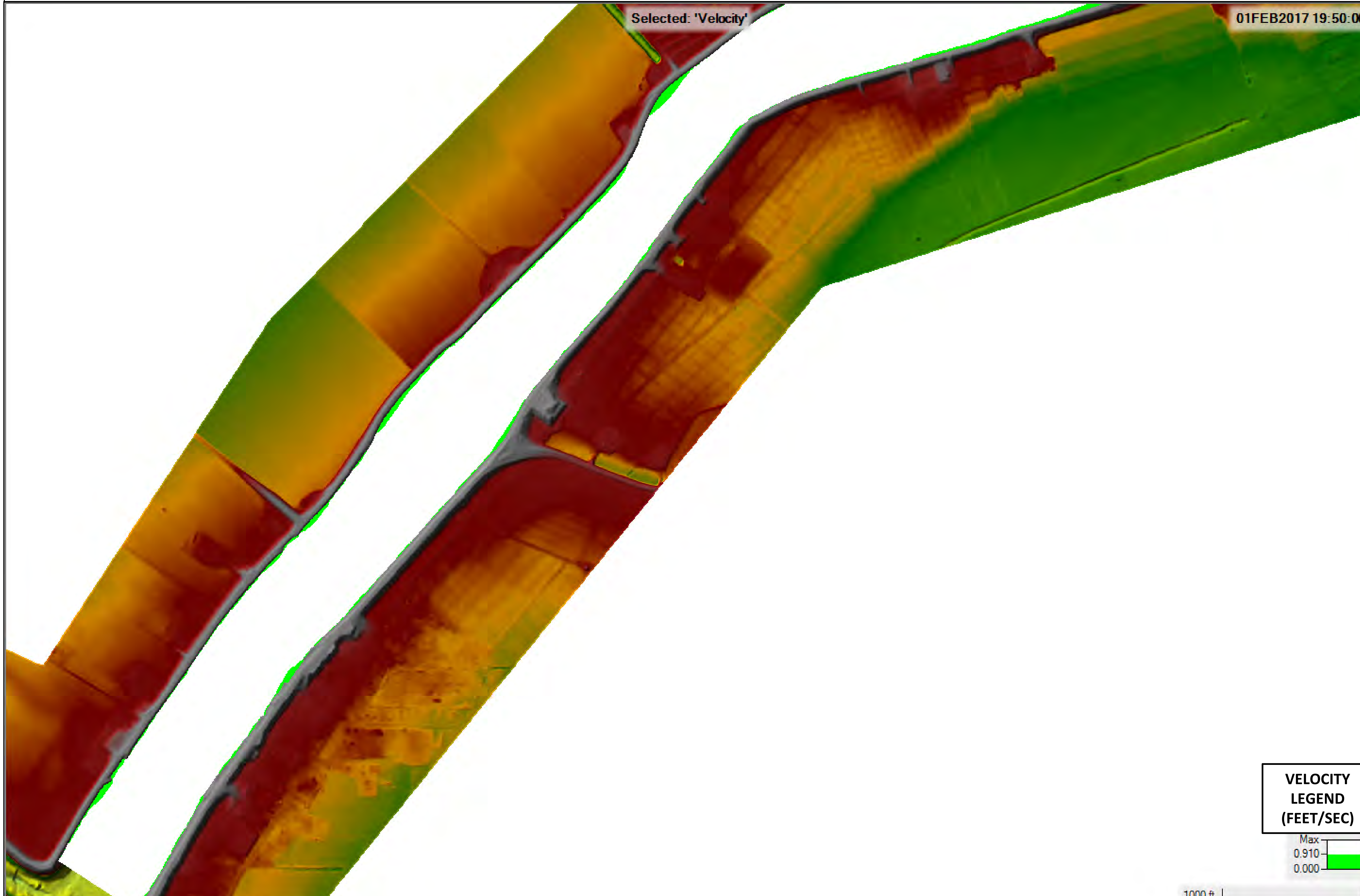
RUN 1A – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 110,000-CFS AT SAC/AME RIVER CONFLUENCE



RUN 1A – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

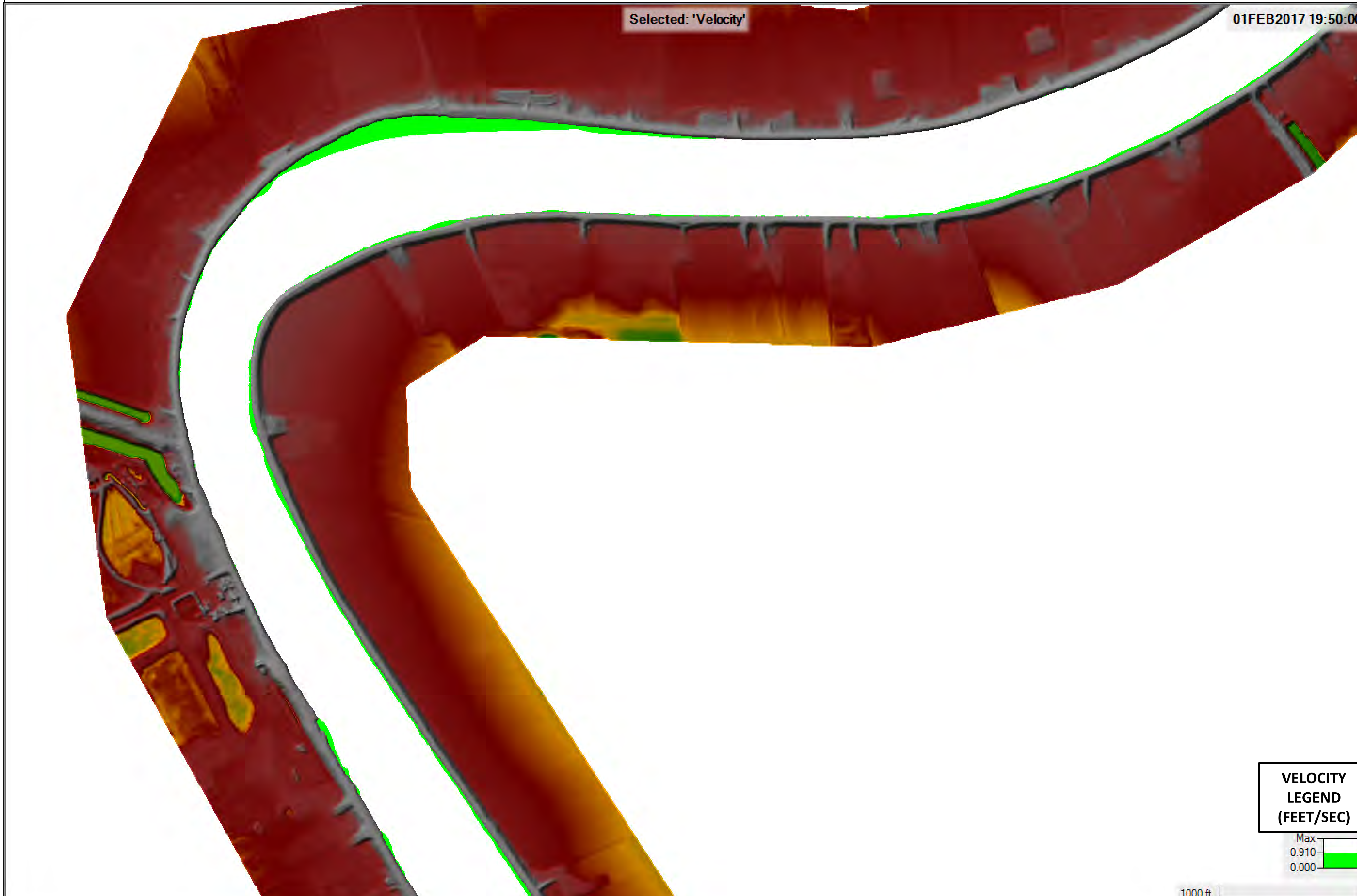
MODEL SCENARIO EXISTING CONDITIONS – 110,000-CFS AT SAC/AME RIVER CONFLUENCE



RUN 1B

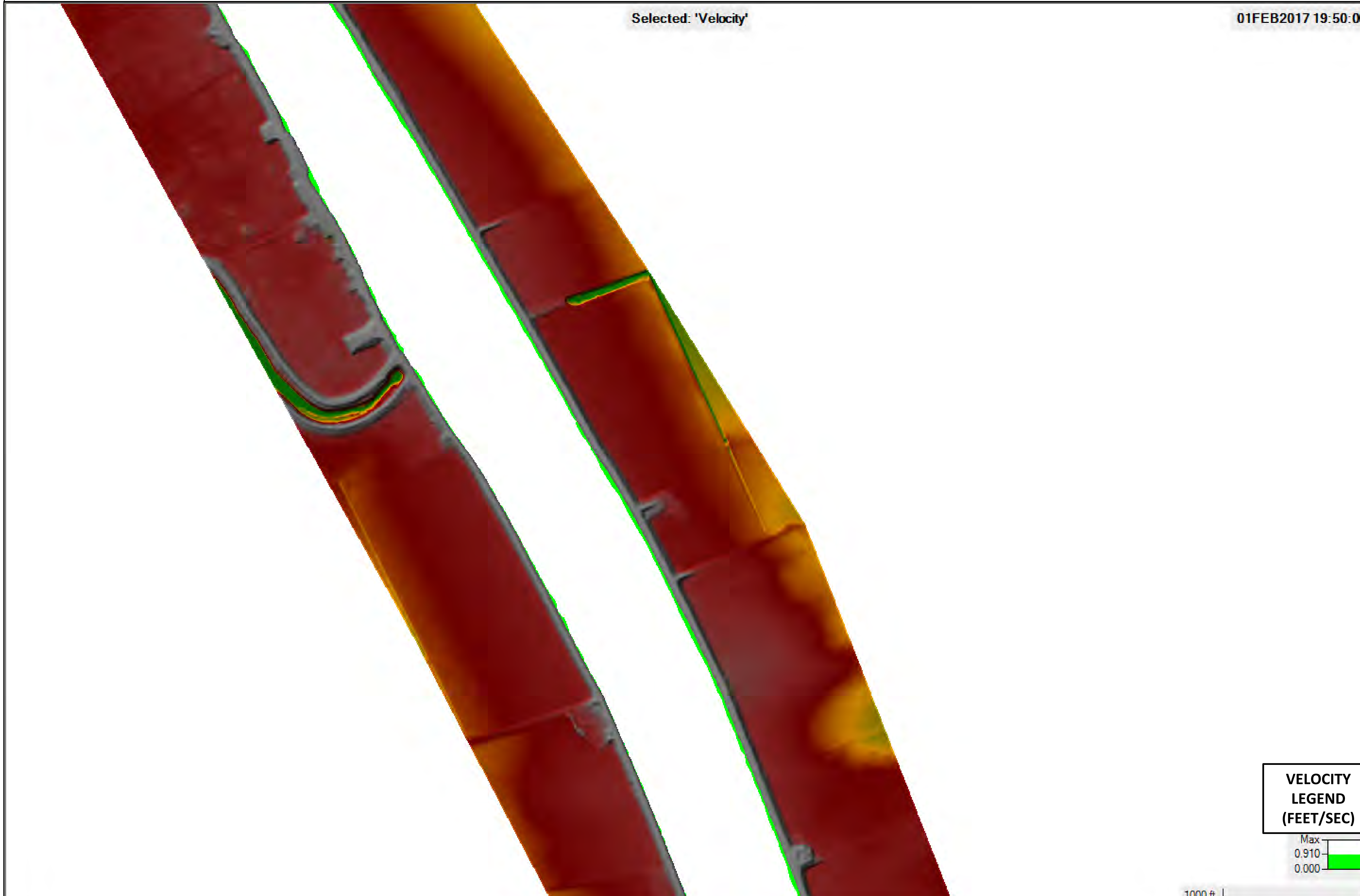
RUN 1B – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



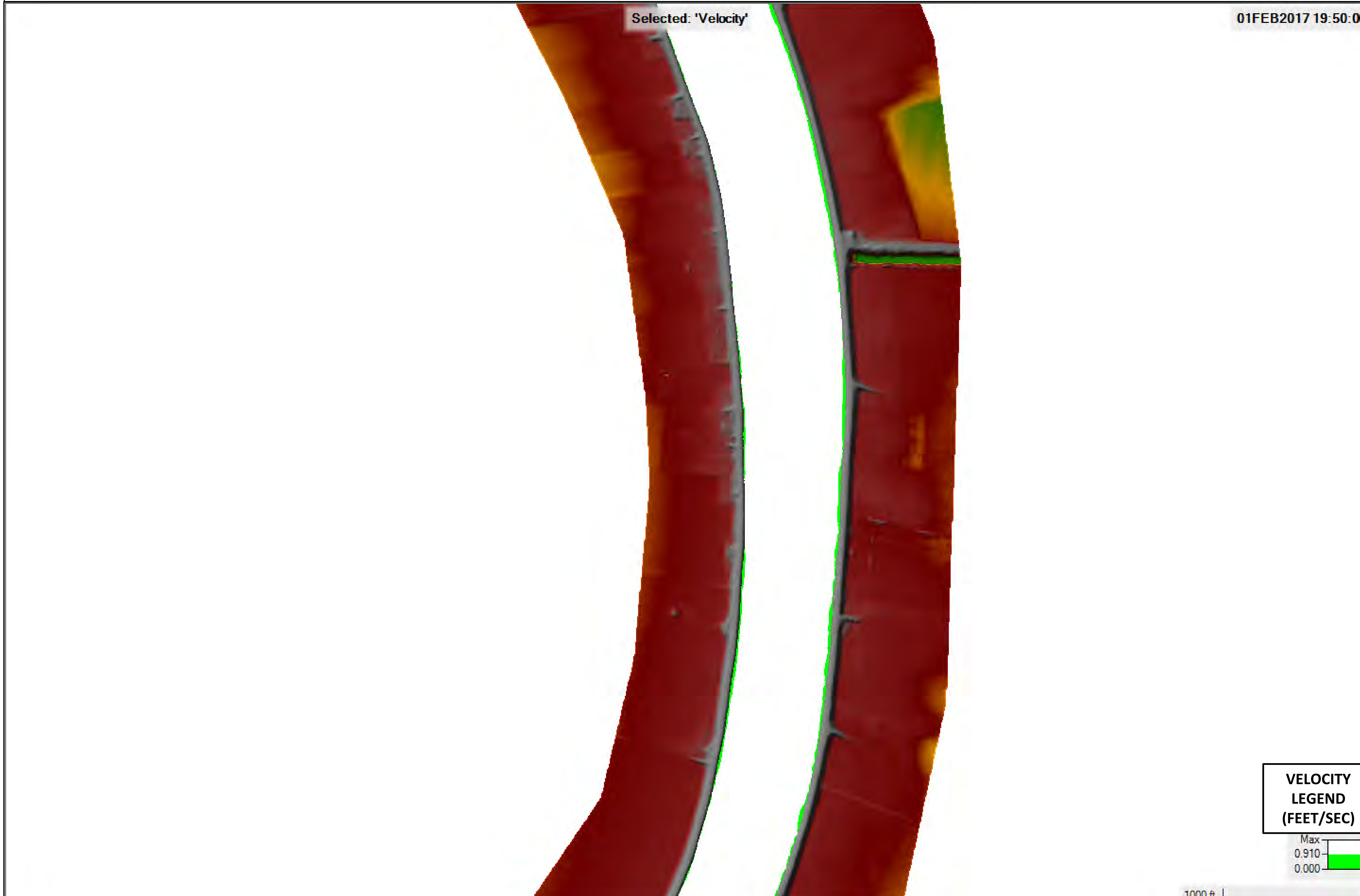
RUN 1B – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



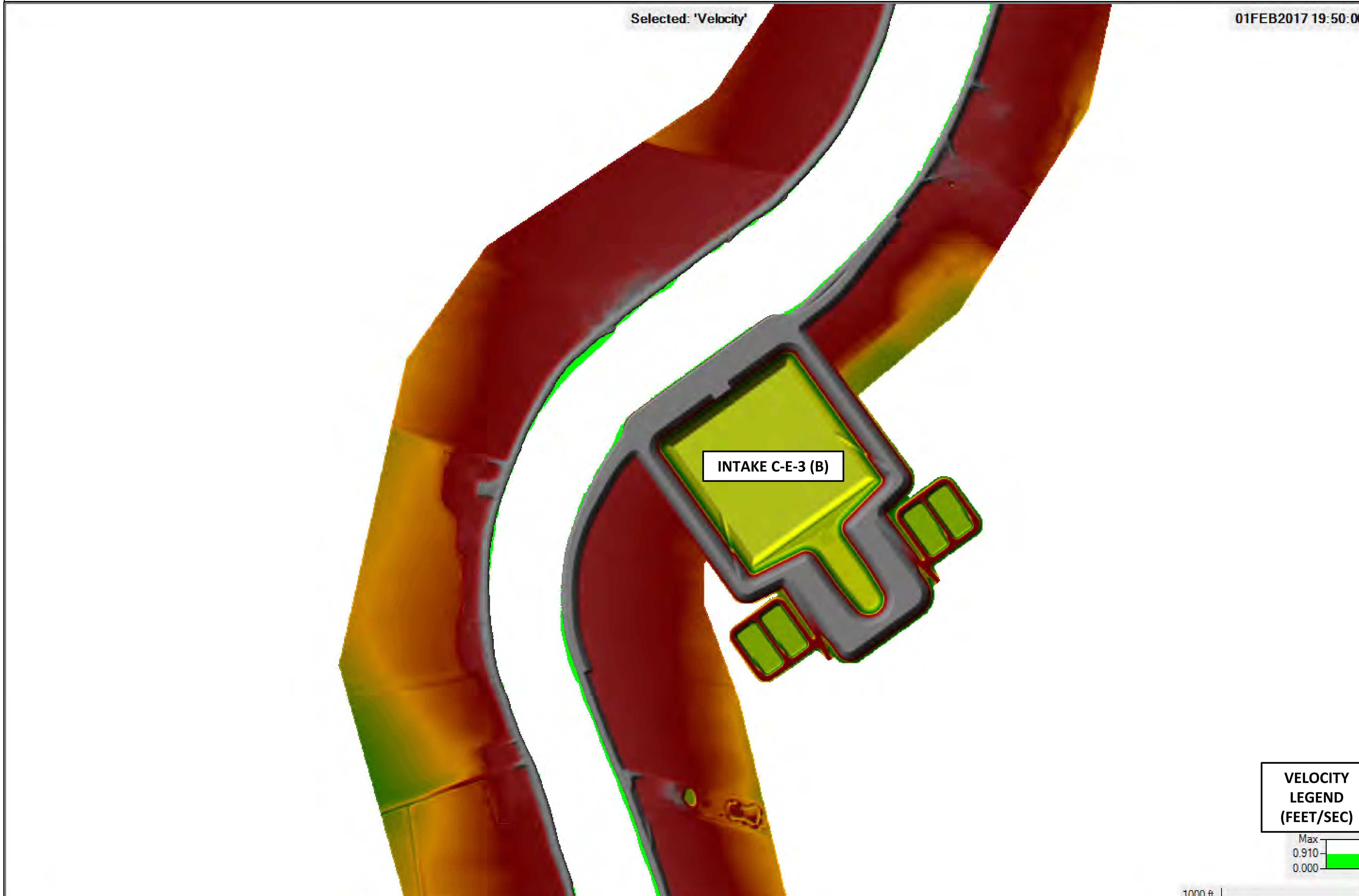
RUN 1B – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



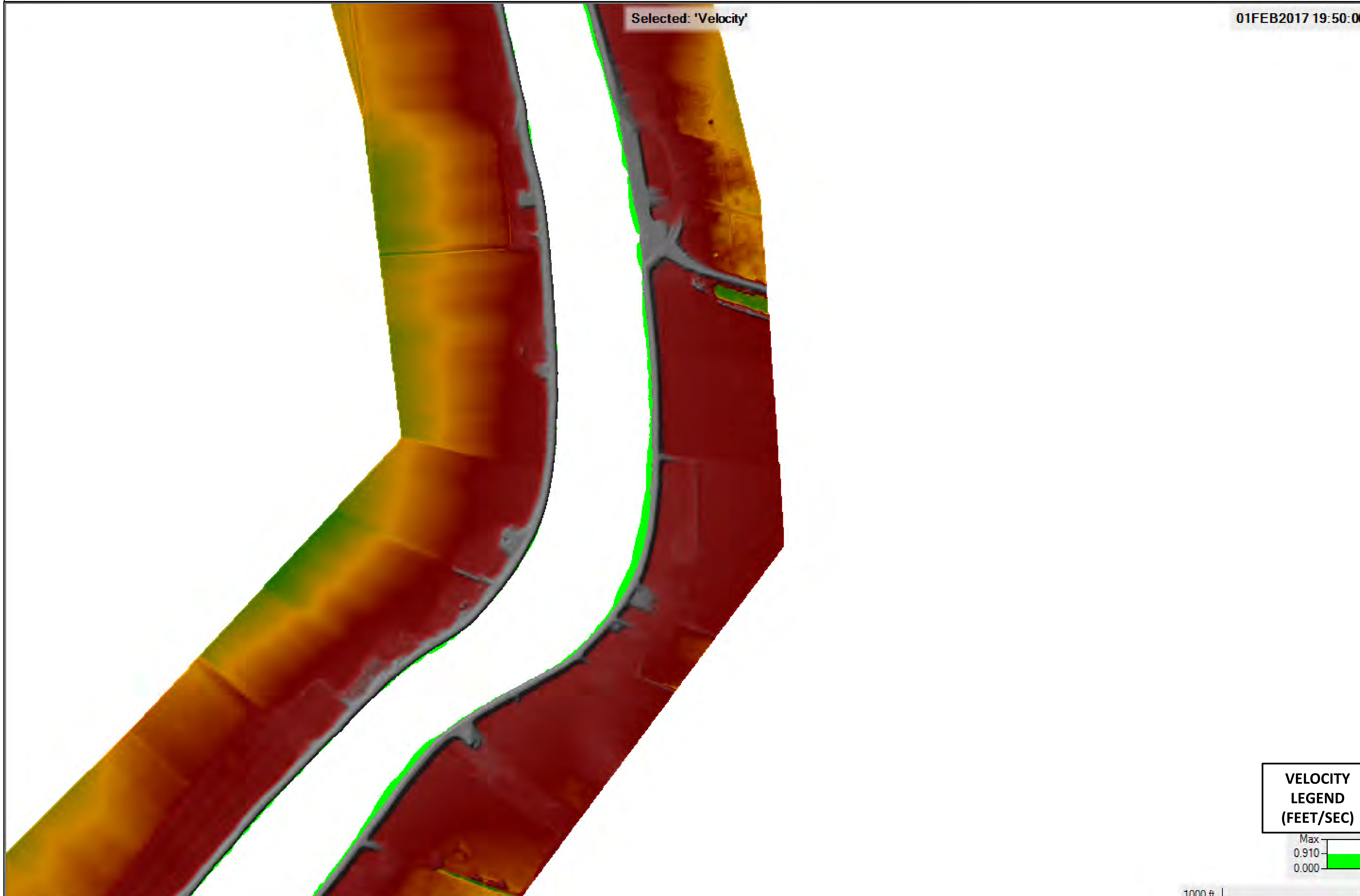
RUN 1B – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



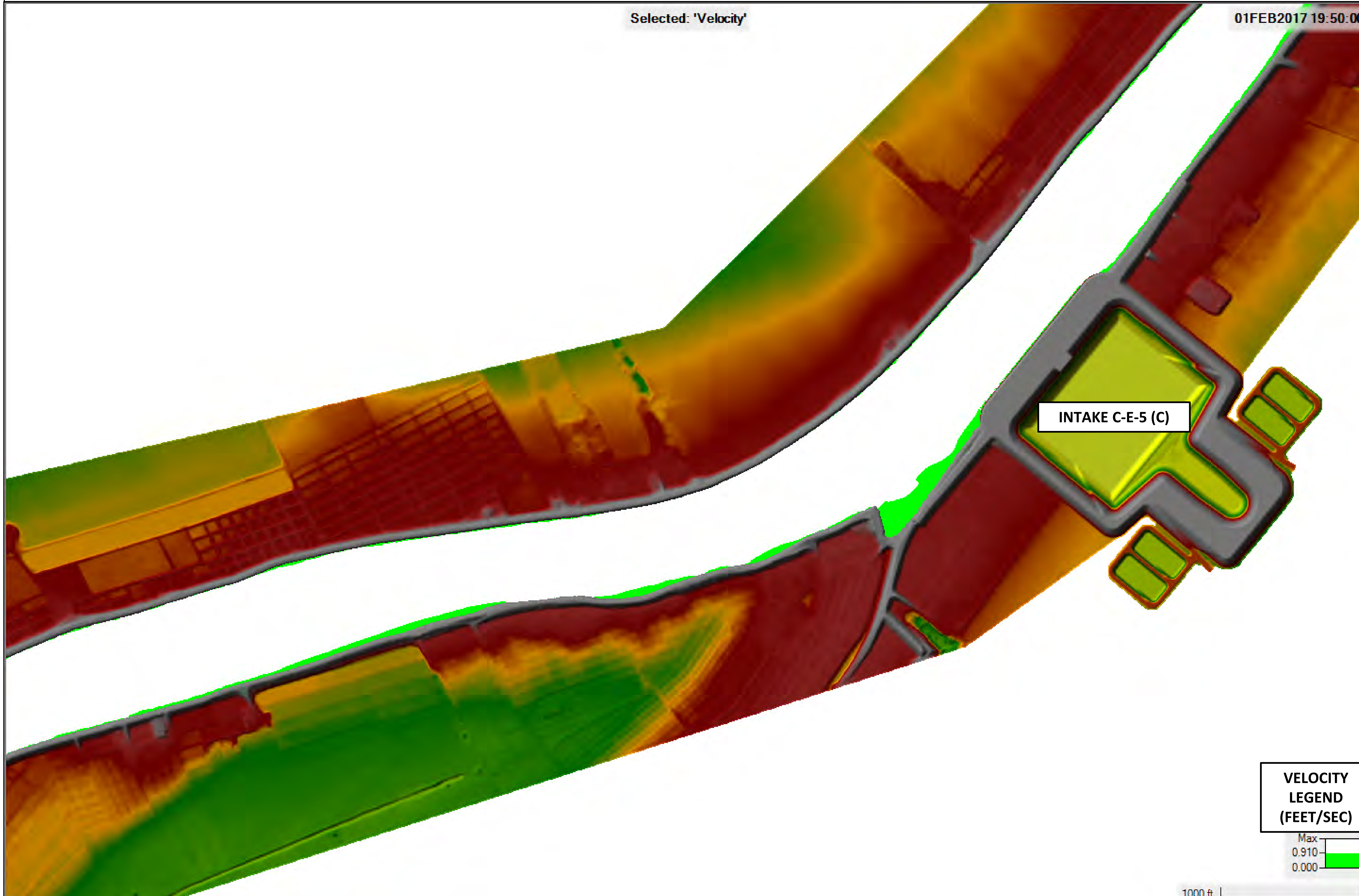
RUN 1B – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



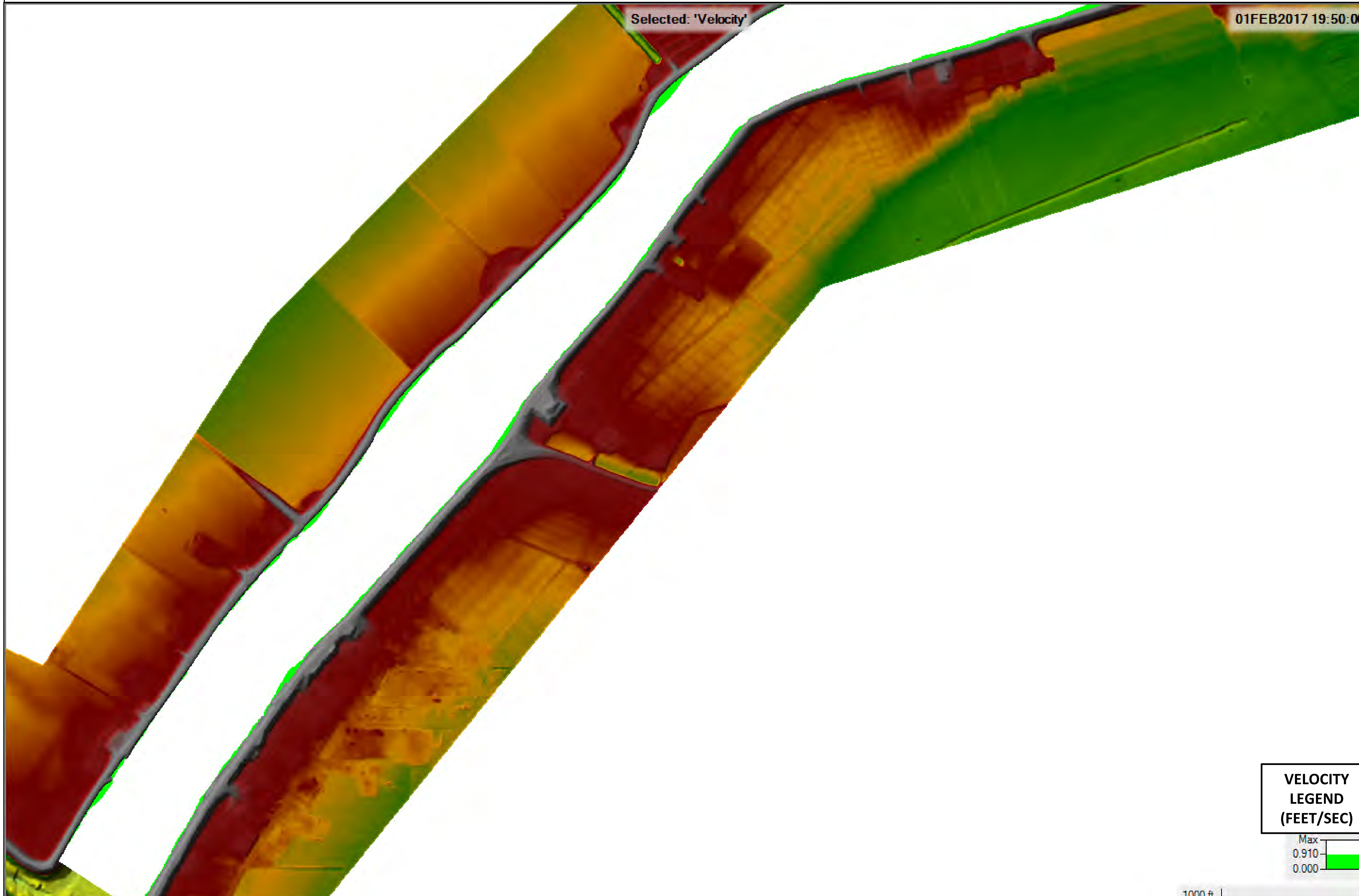
RUN 1B – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1B – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

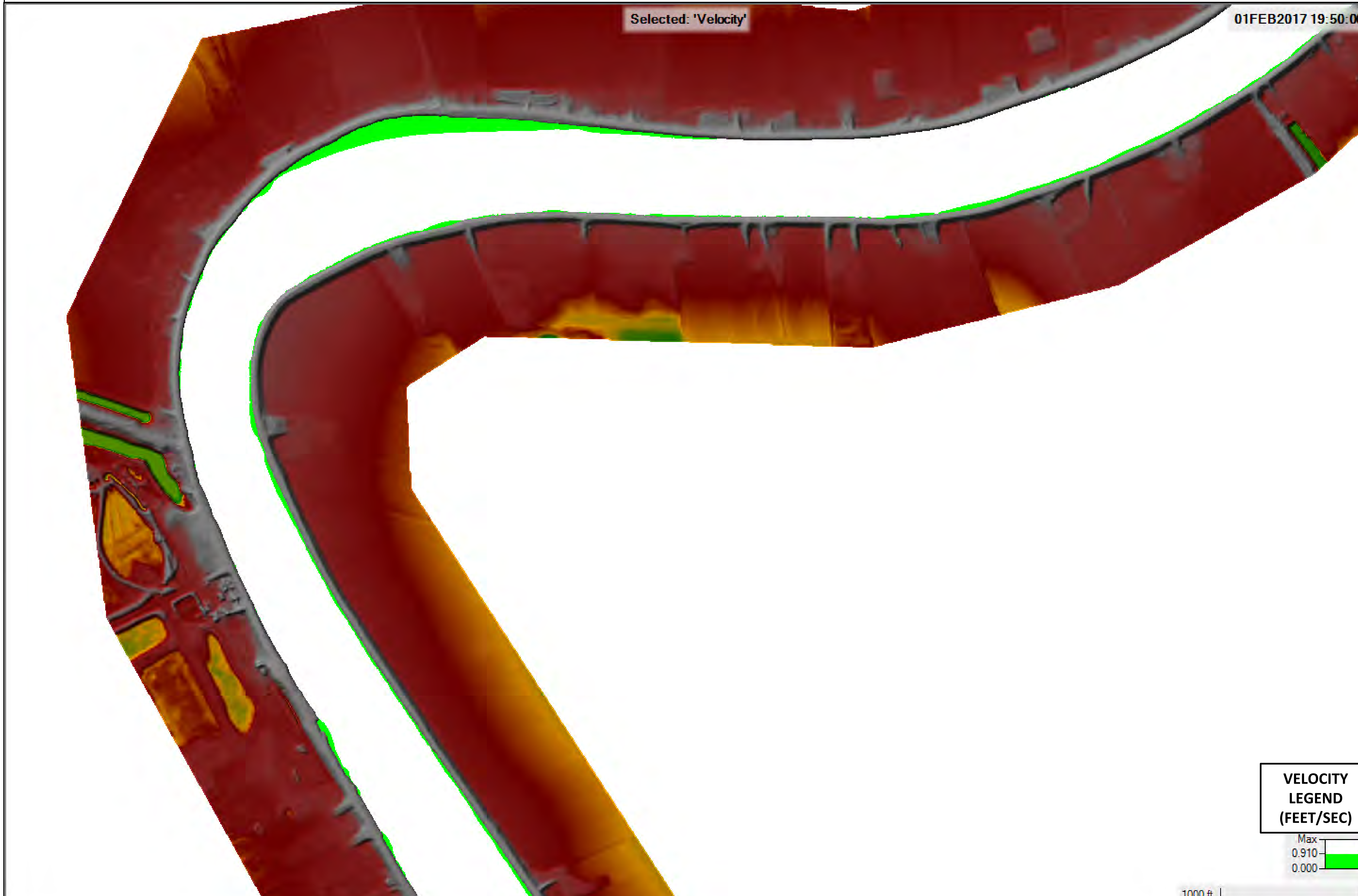
MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1C

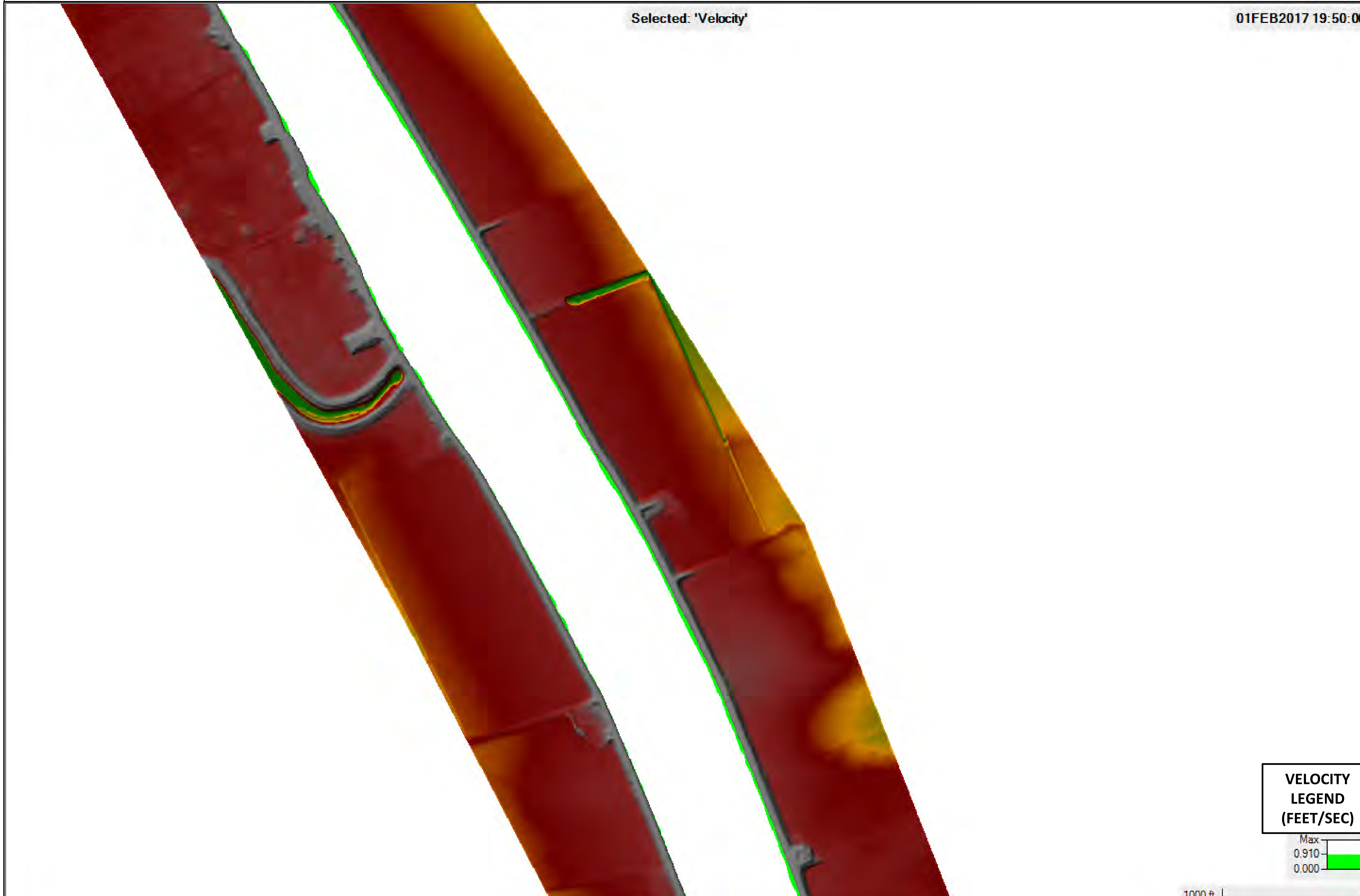
RUN 1C – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



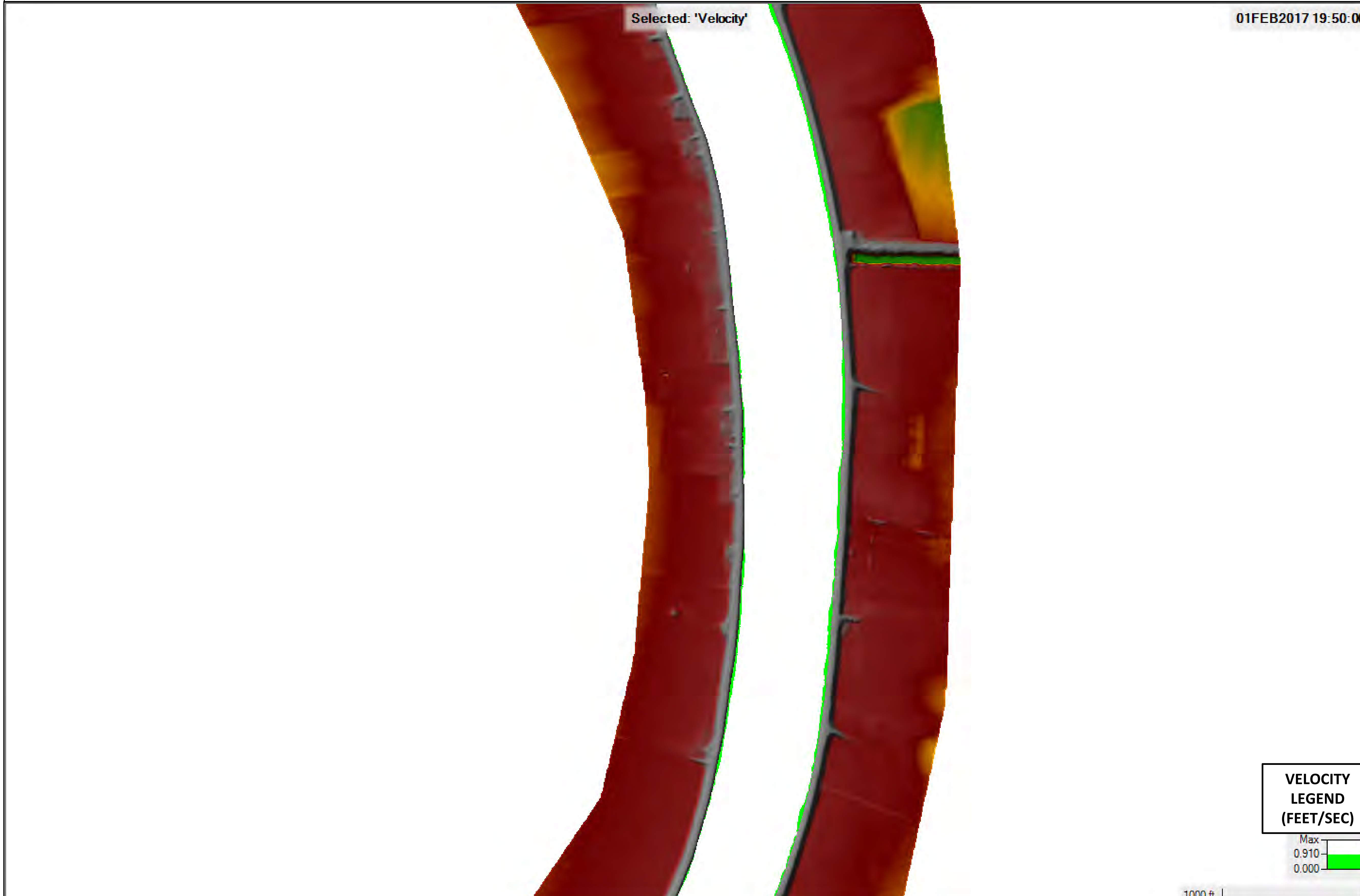
RUN 1C – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



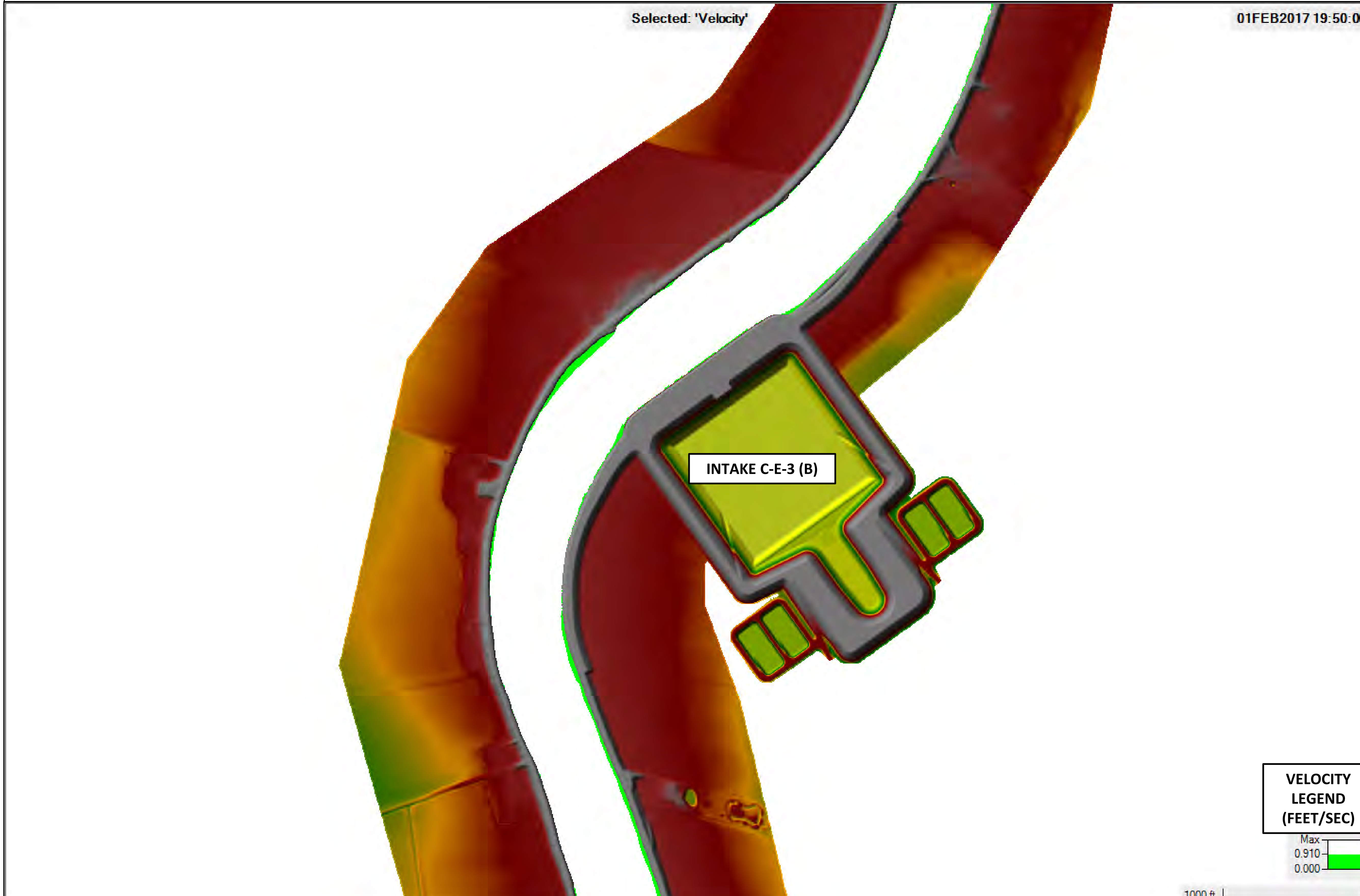
RUN 1C – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



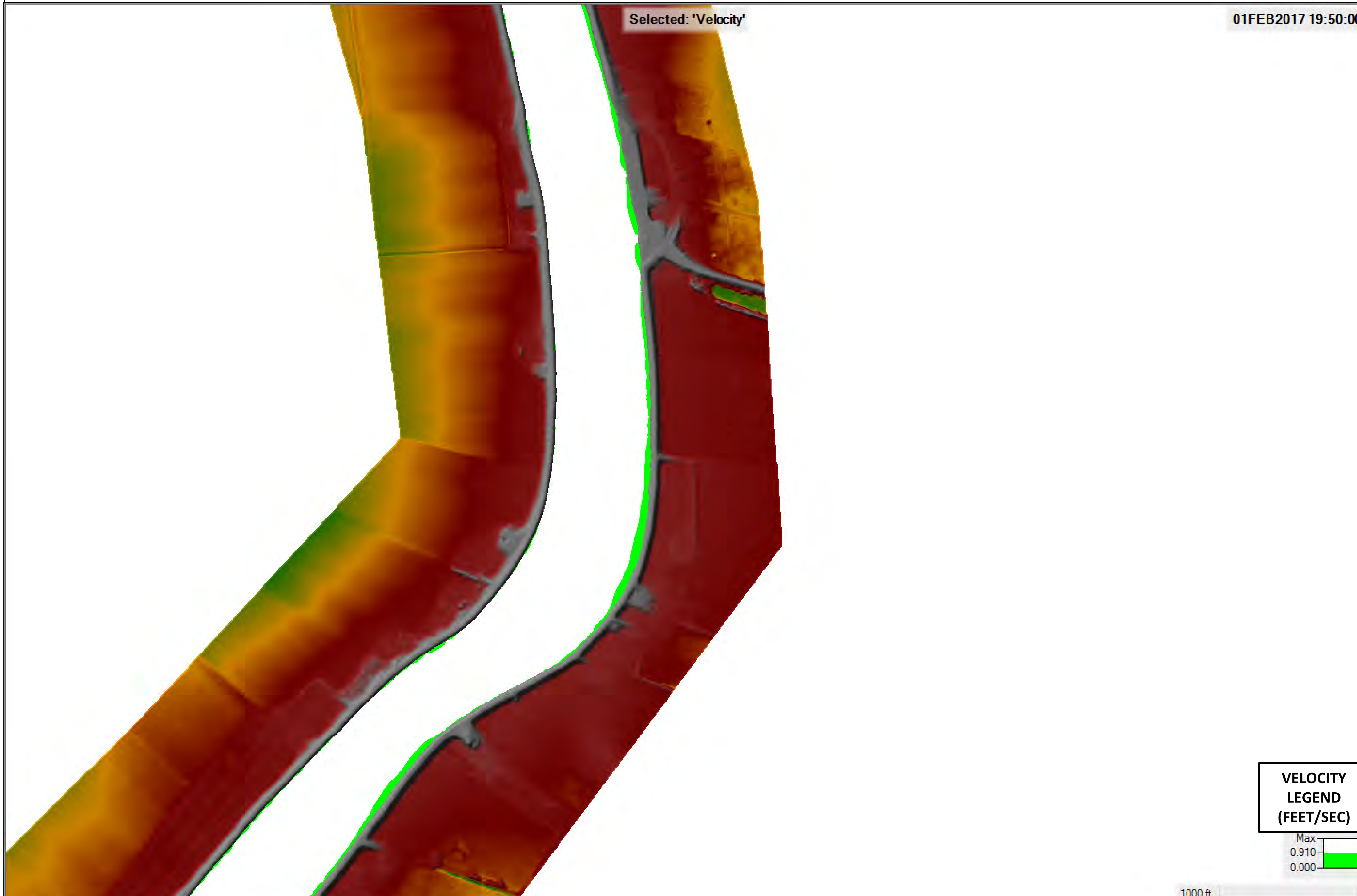
RUN 1C – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



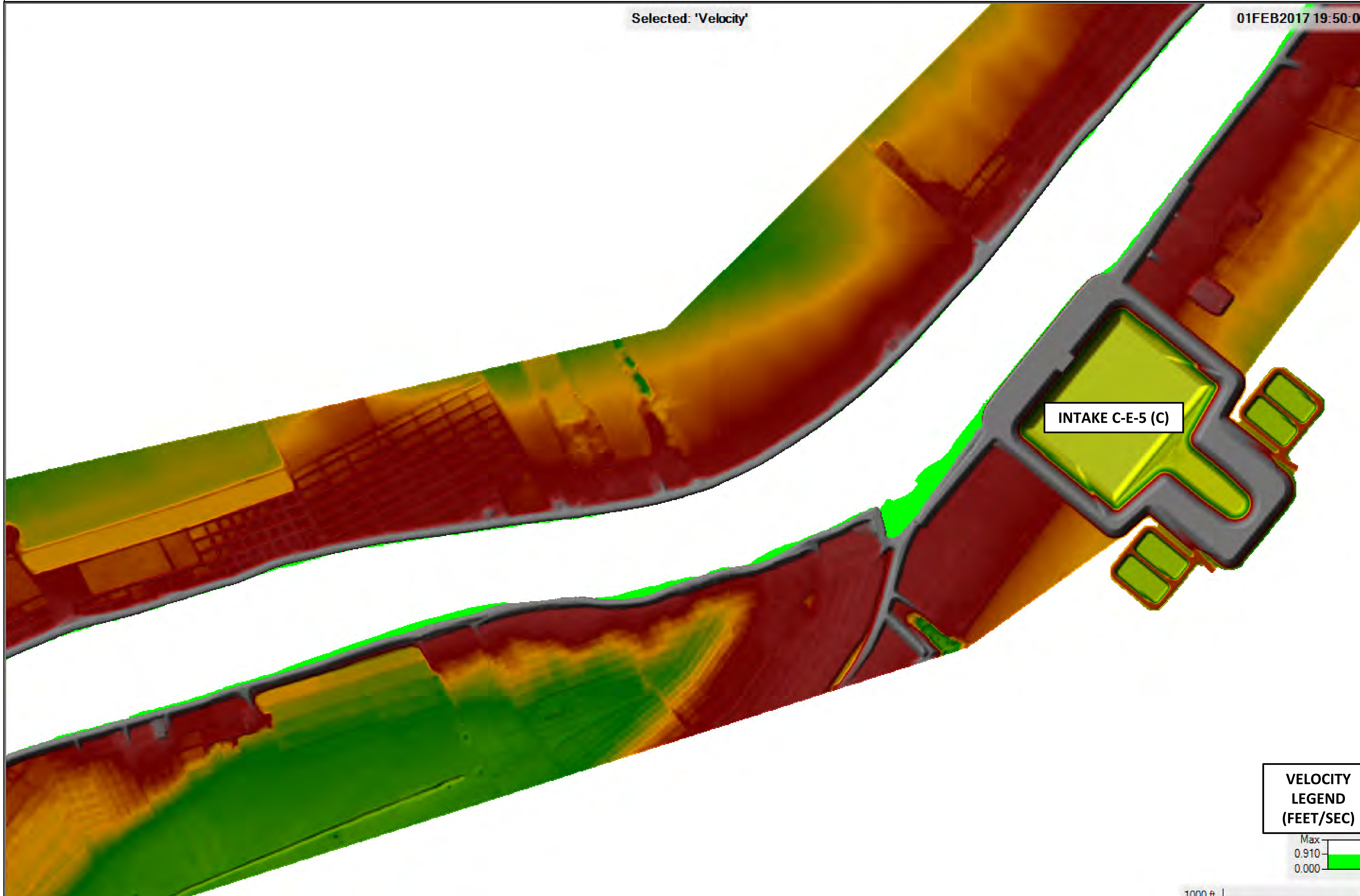
RUN 1C – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



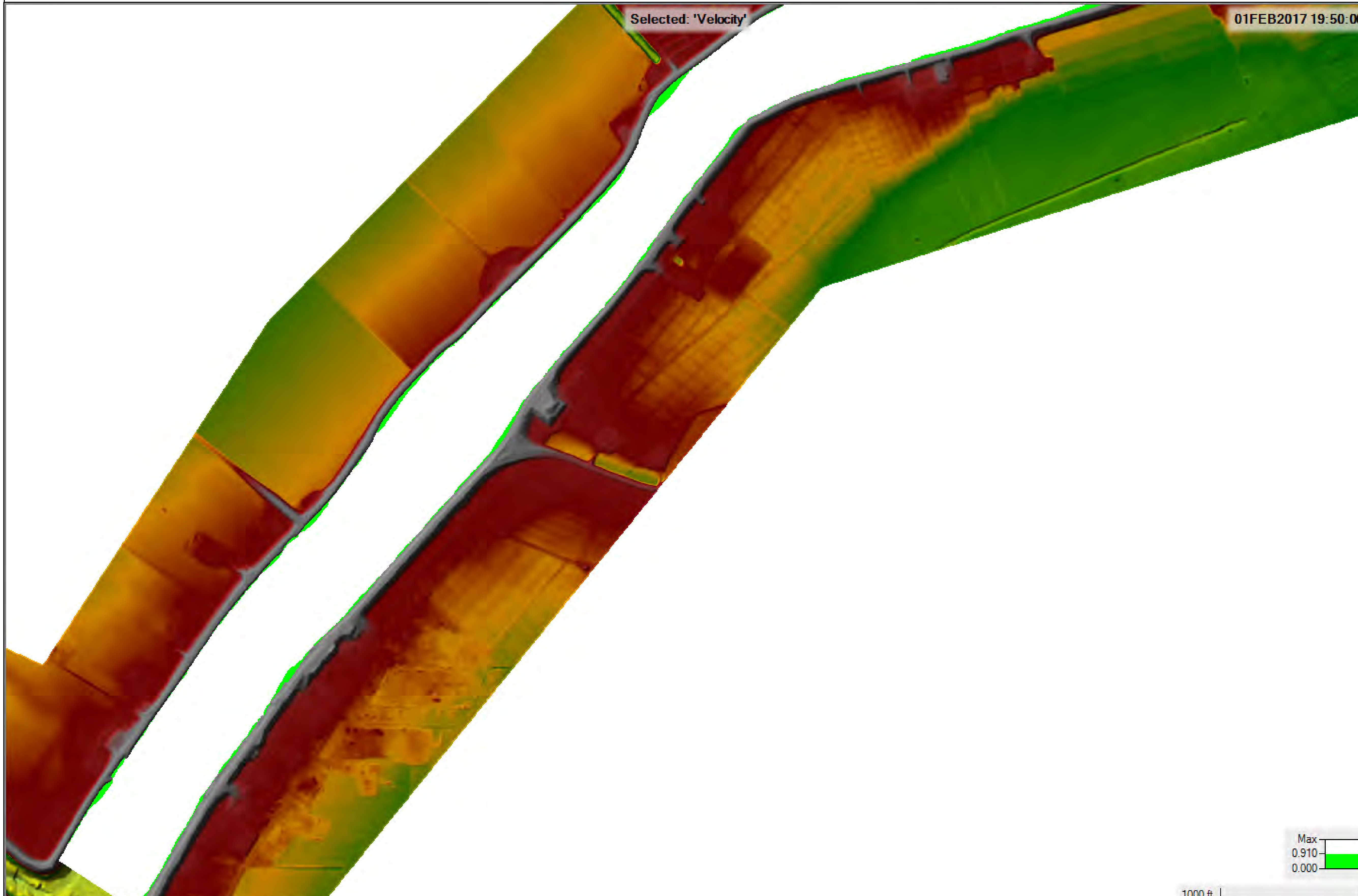
RUN 1C – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1C – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

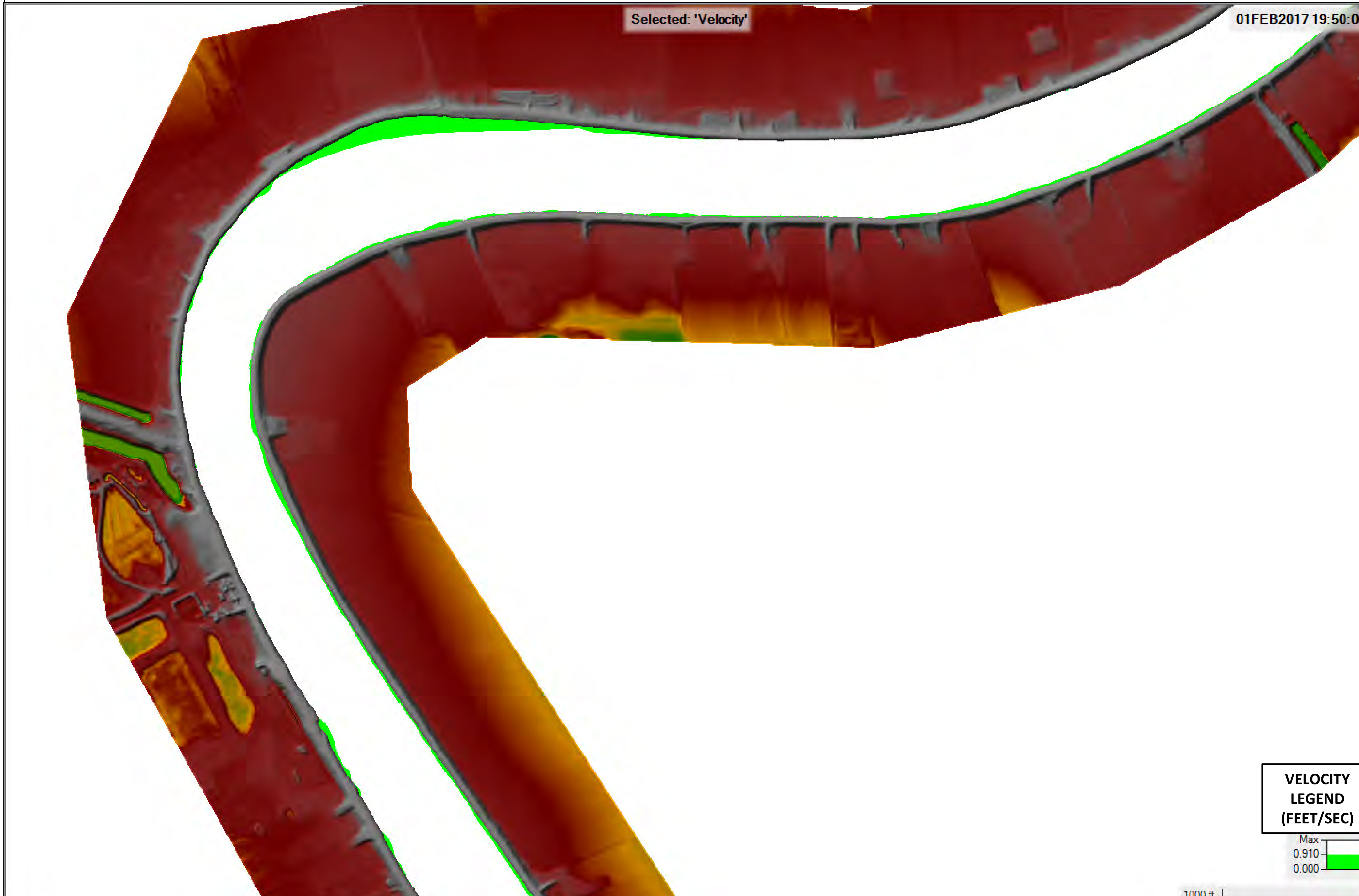
MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1D

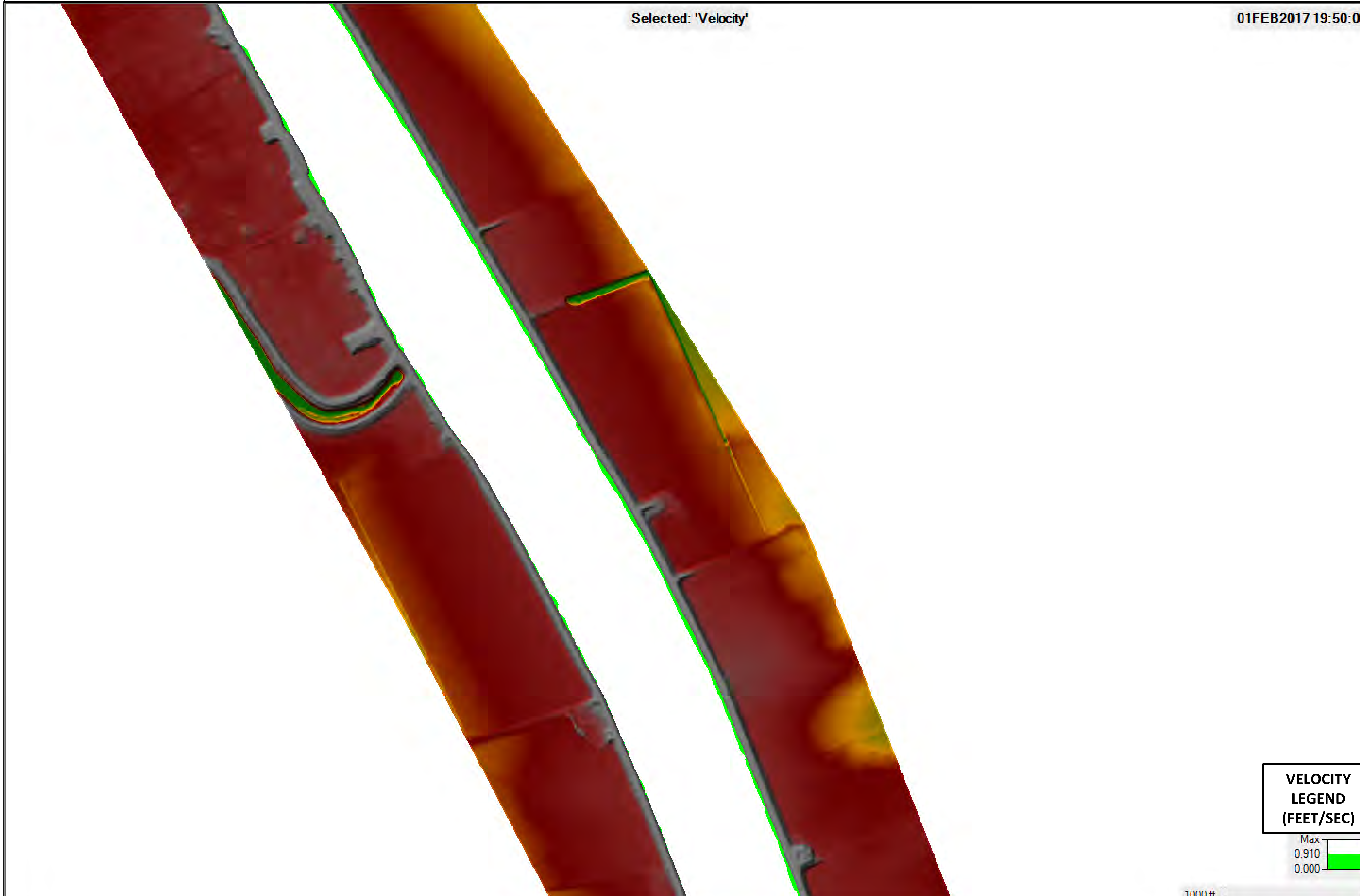
RUN 1D – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1D – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

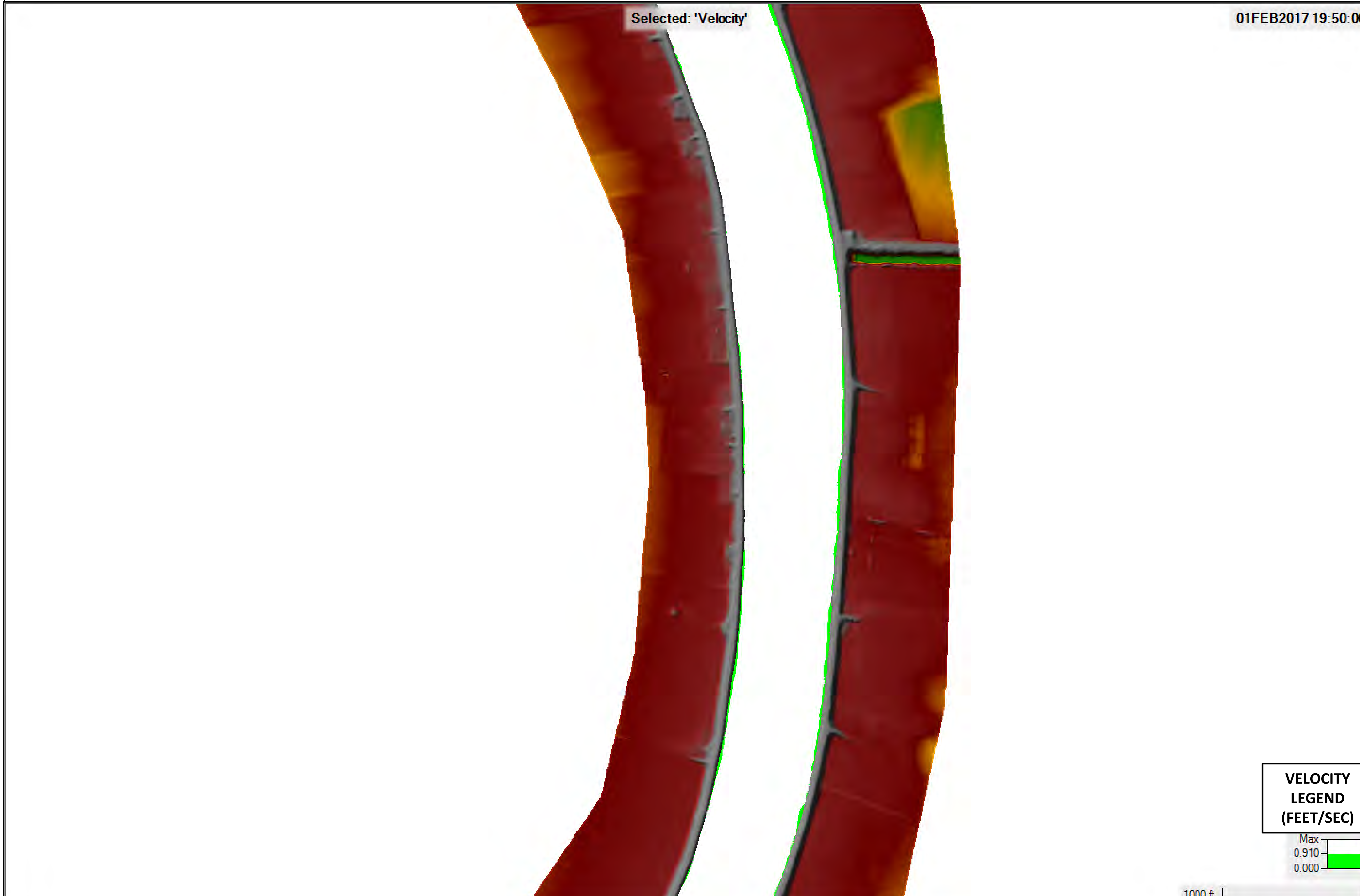
MODEL SCENARIO WITH INTAKES 3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



VELOCITY LEGEND (FEET/SEC)

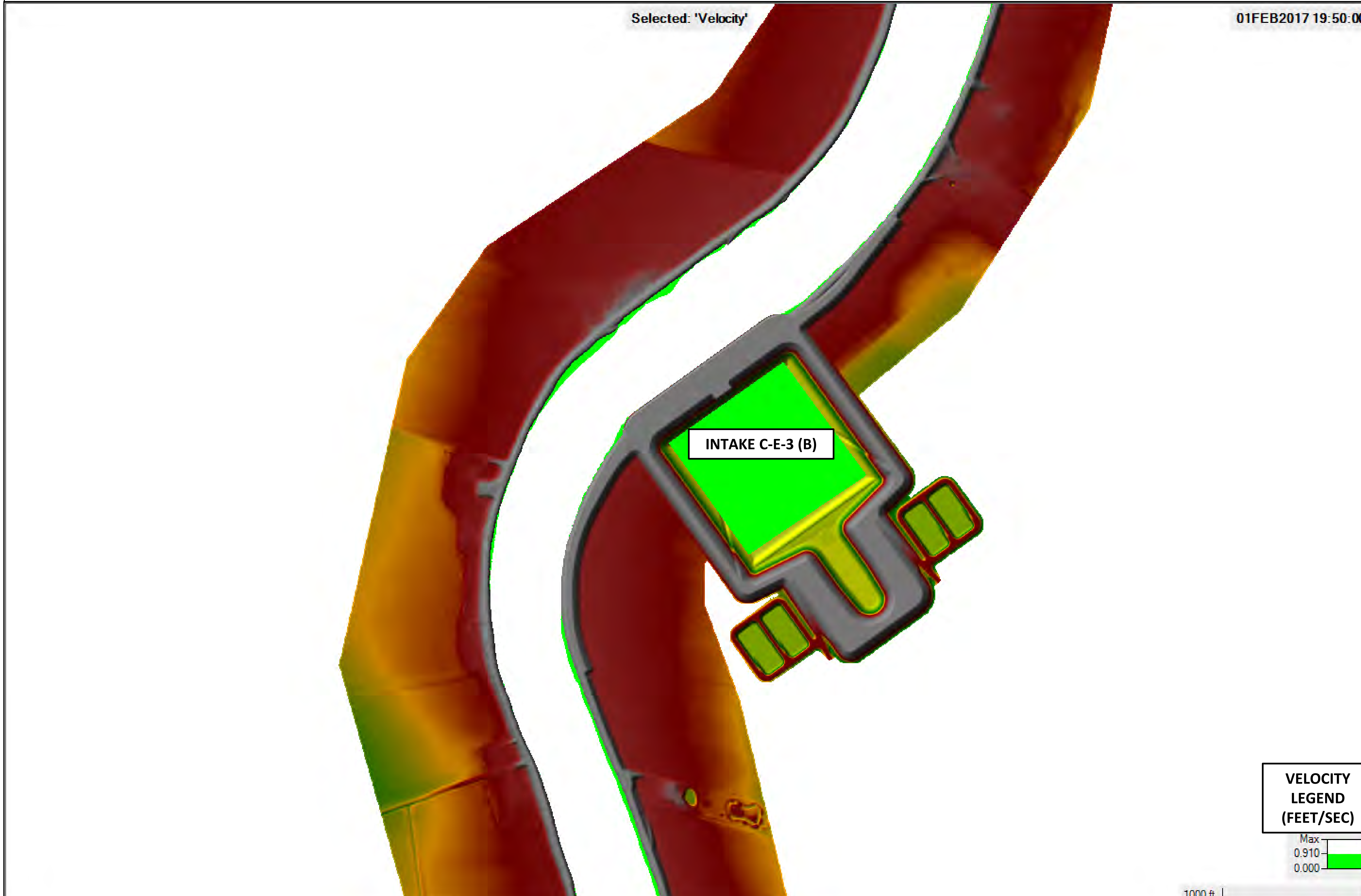
RUN 1D – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



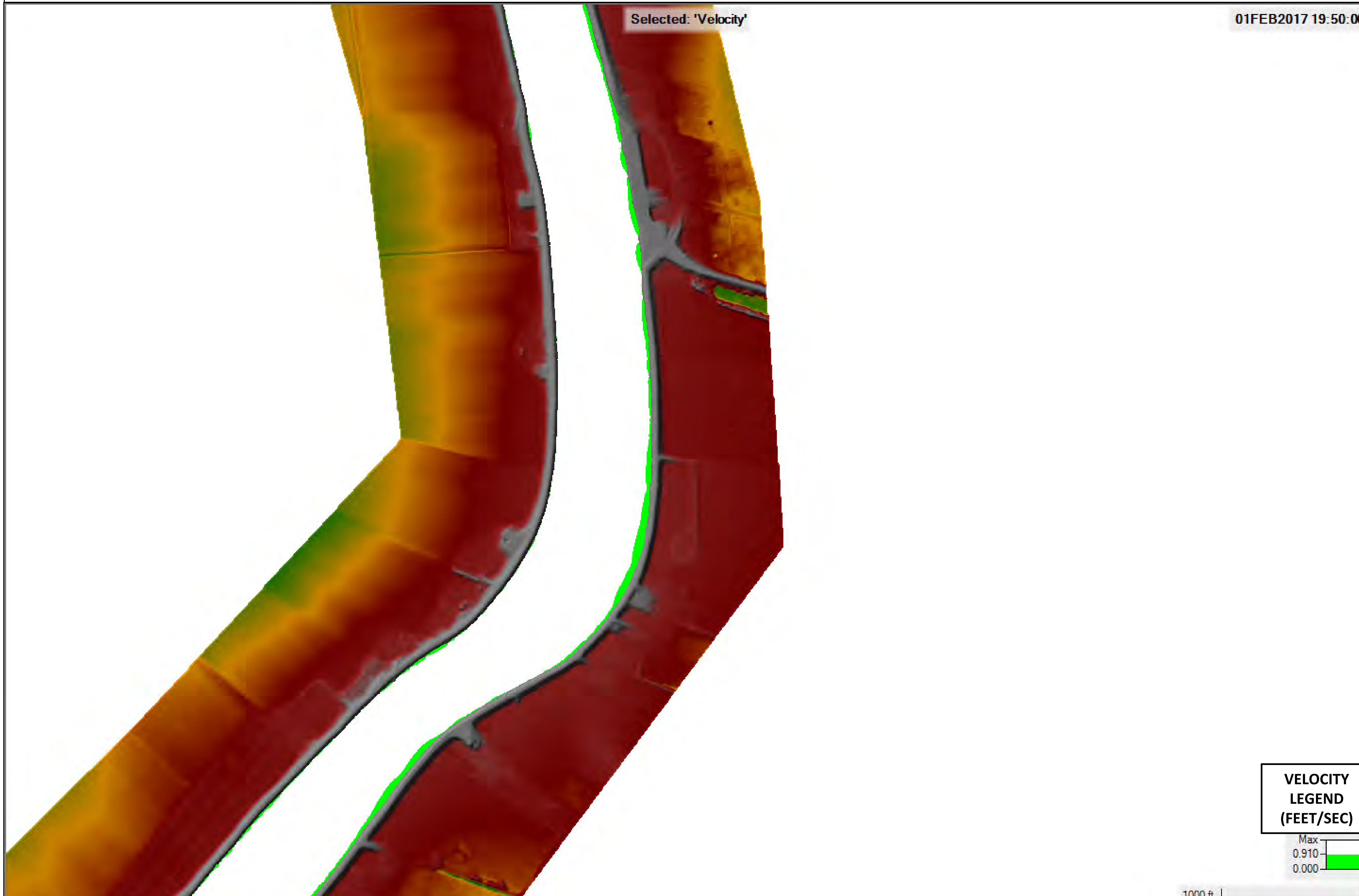
RUN 1D – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



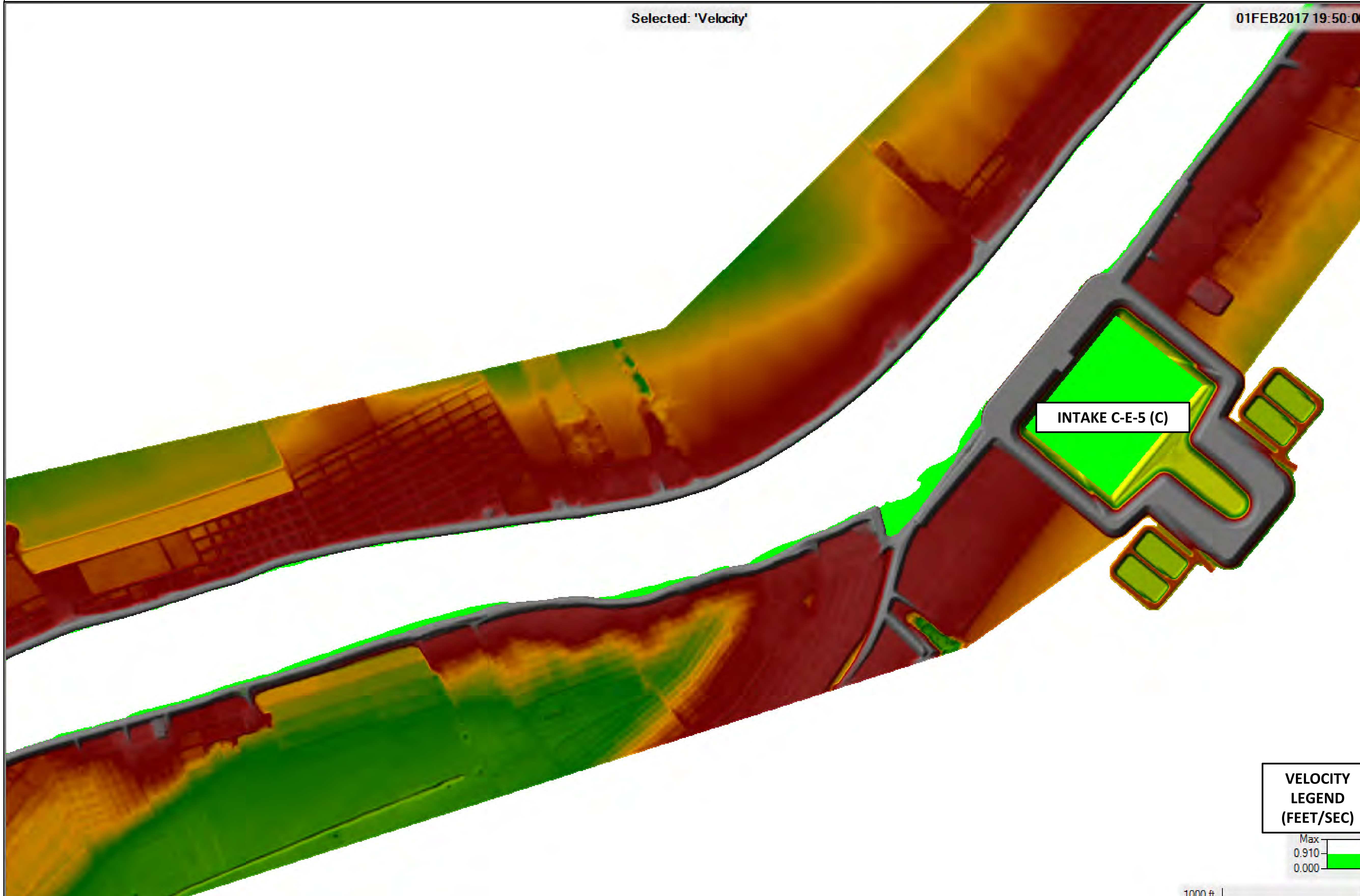
RUN 1D – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



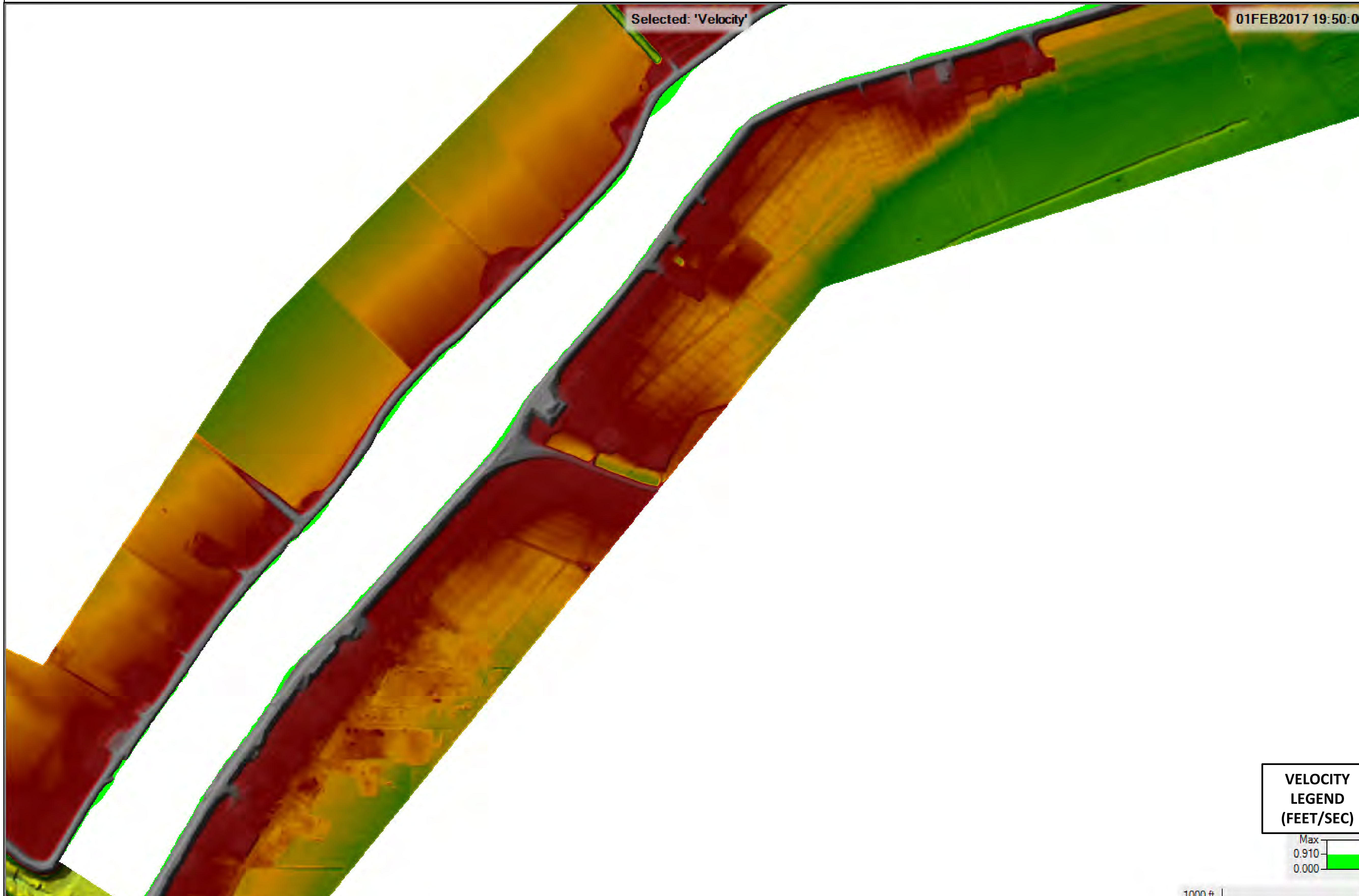
RUN 1D – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1D – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

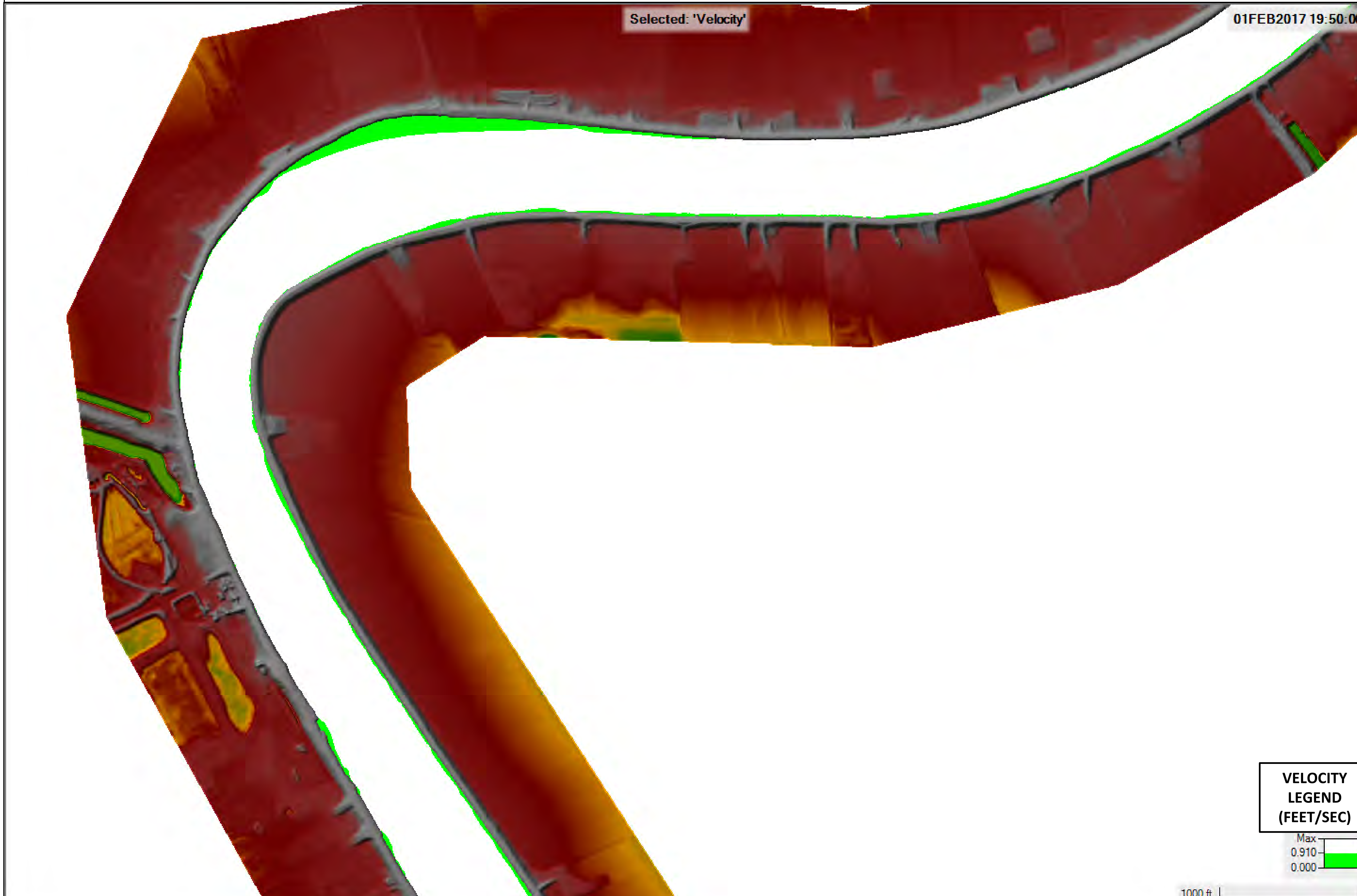
MODEL SCENARIO WITH INTAKES 3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1E

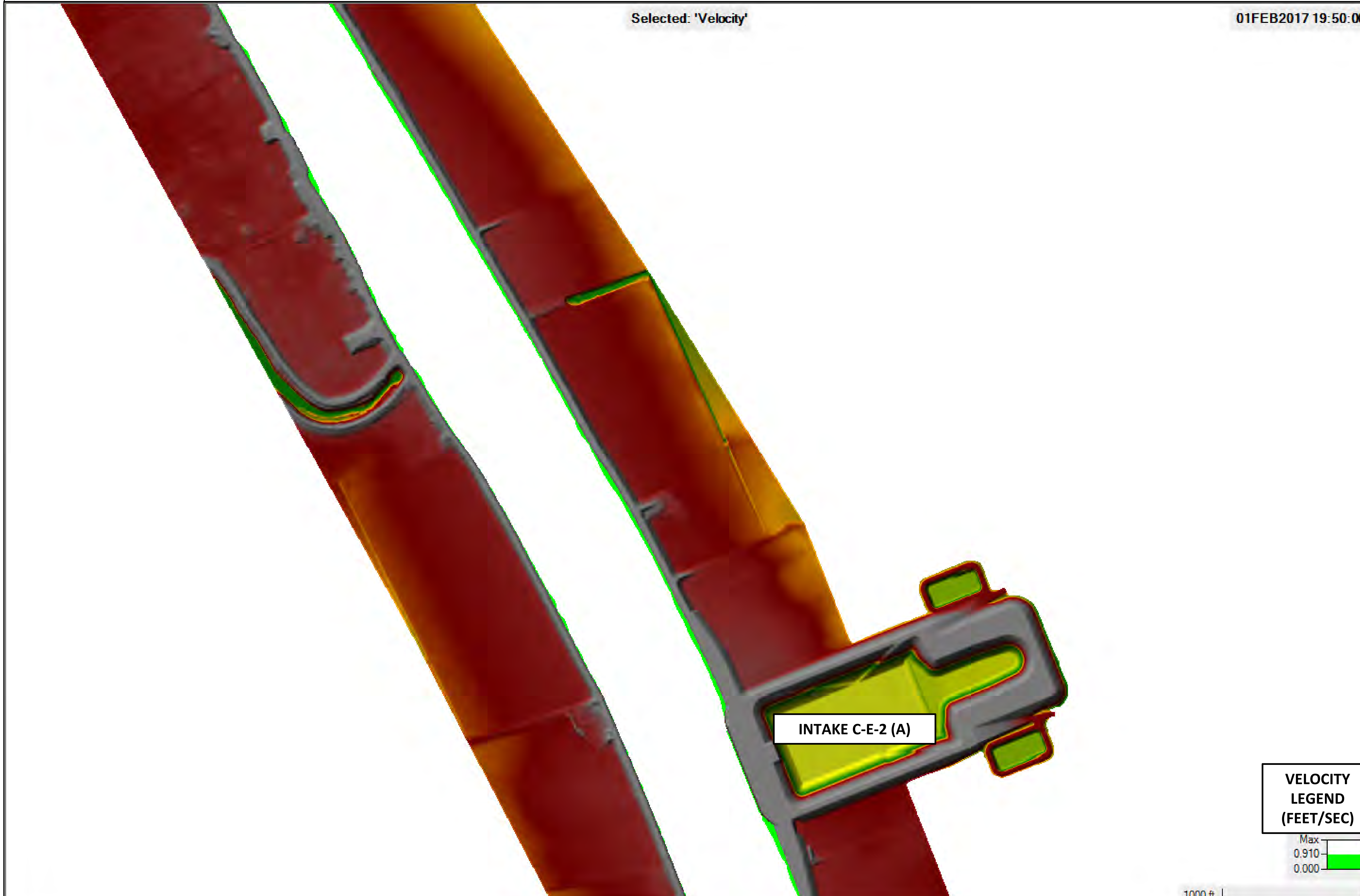
RUN 1E – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



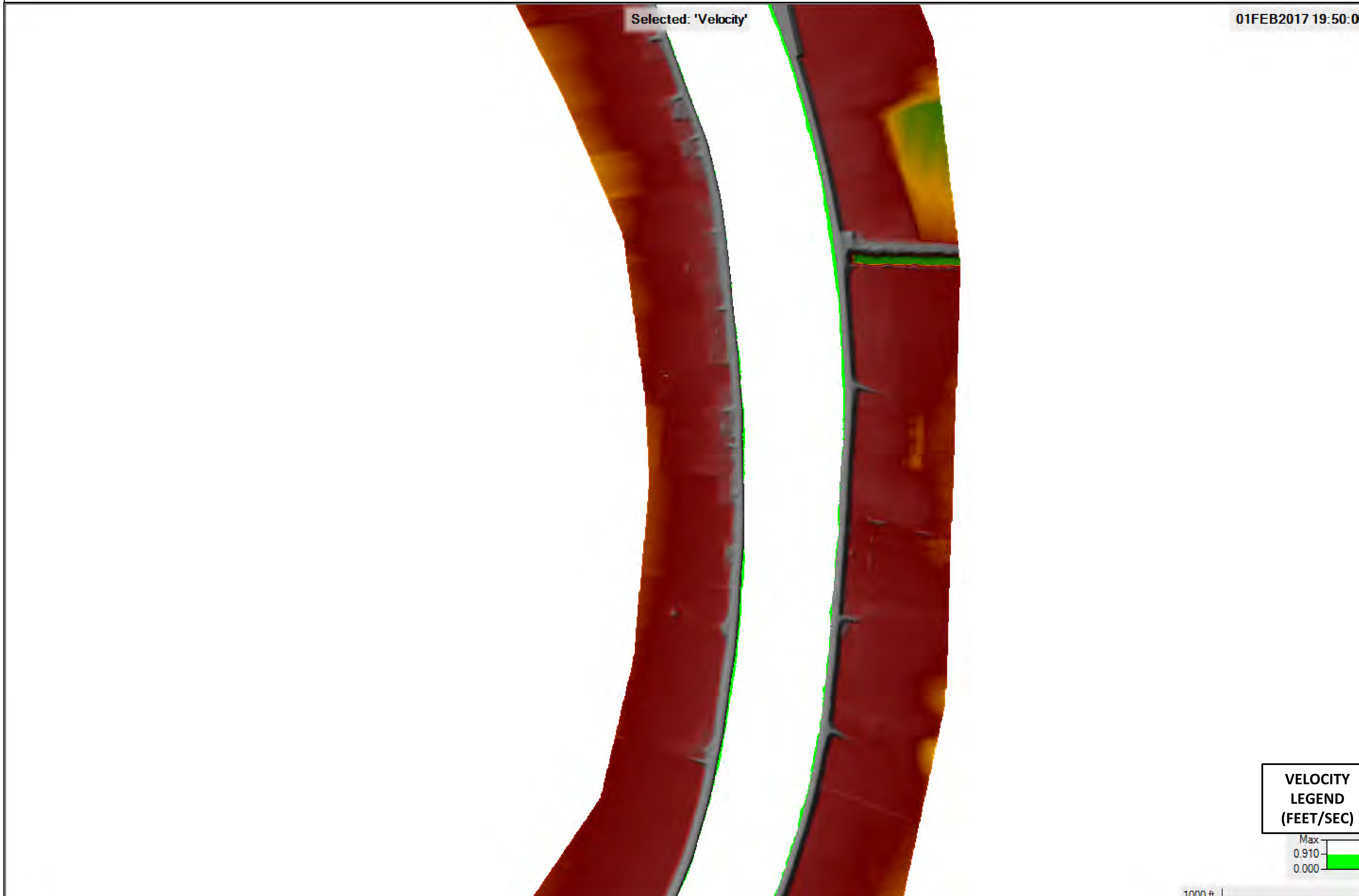
RUN 1E – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



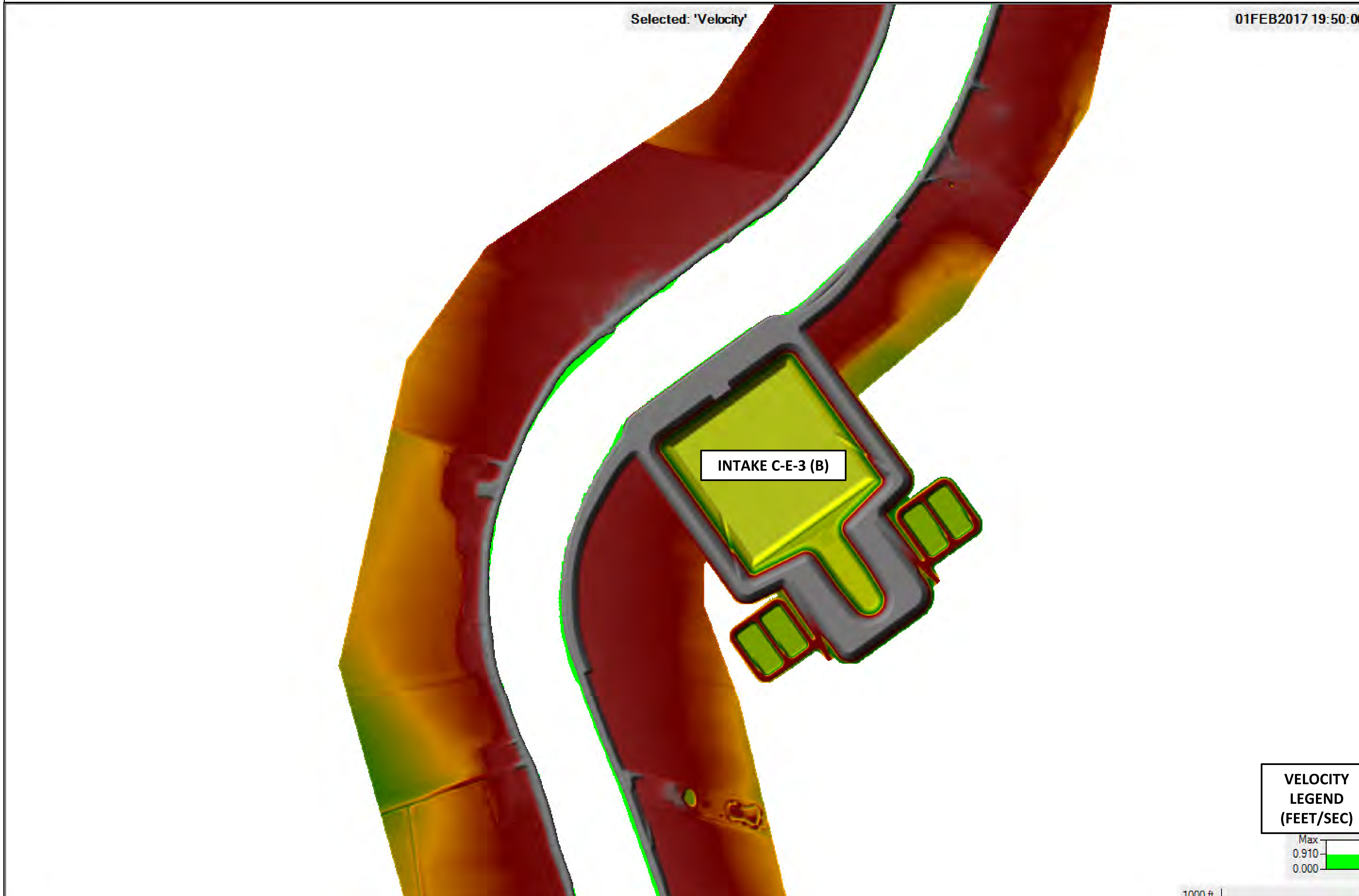
RUN 1E – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



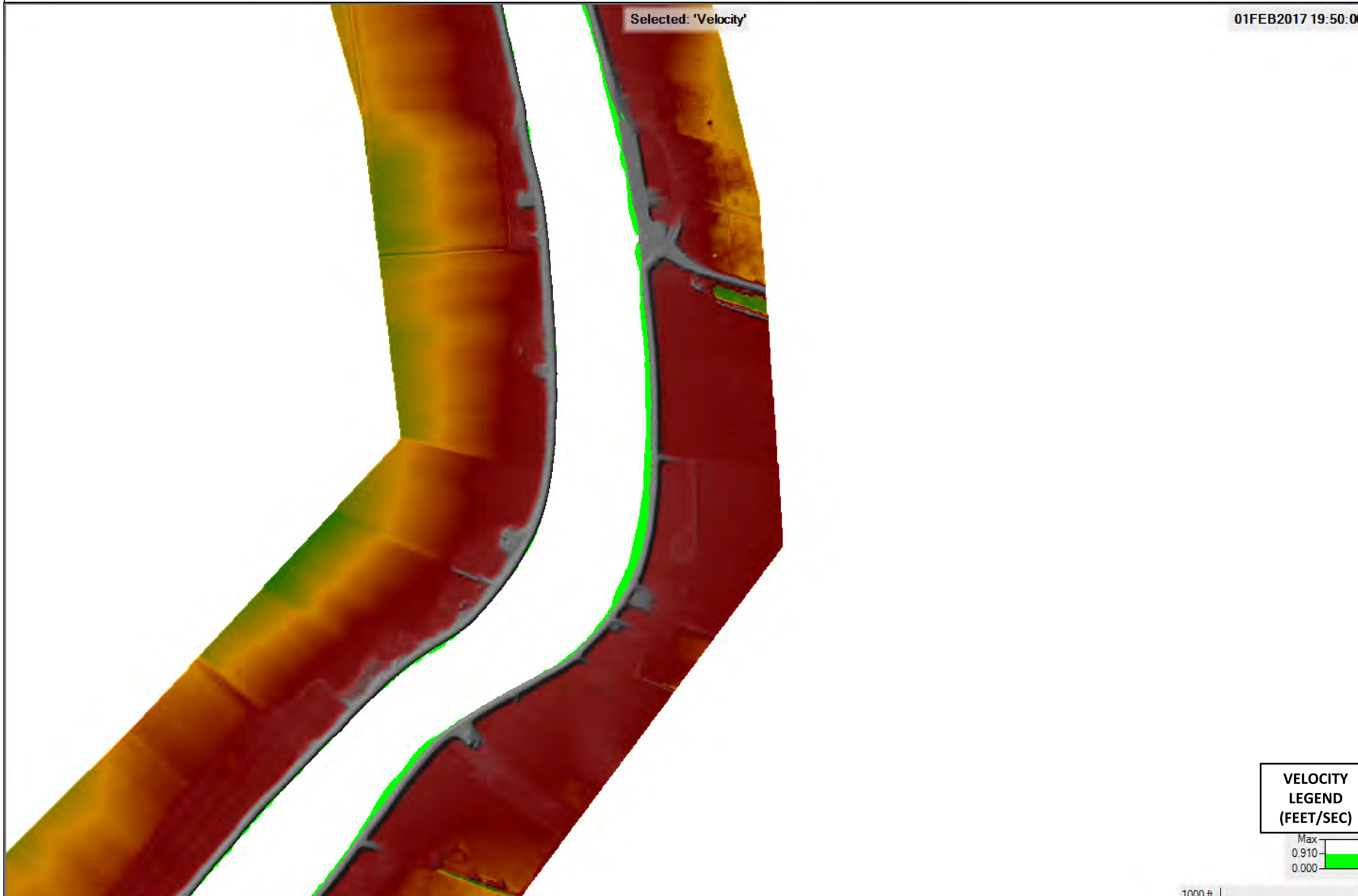
RUN 1E – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



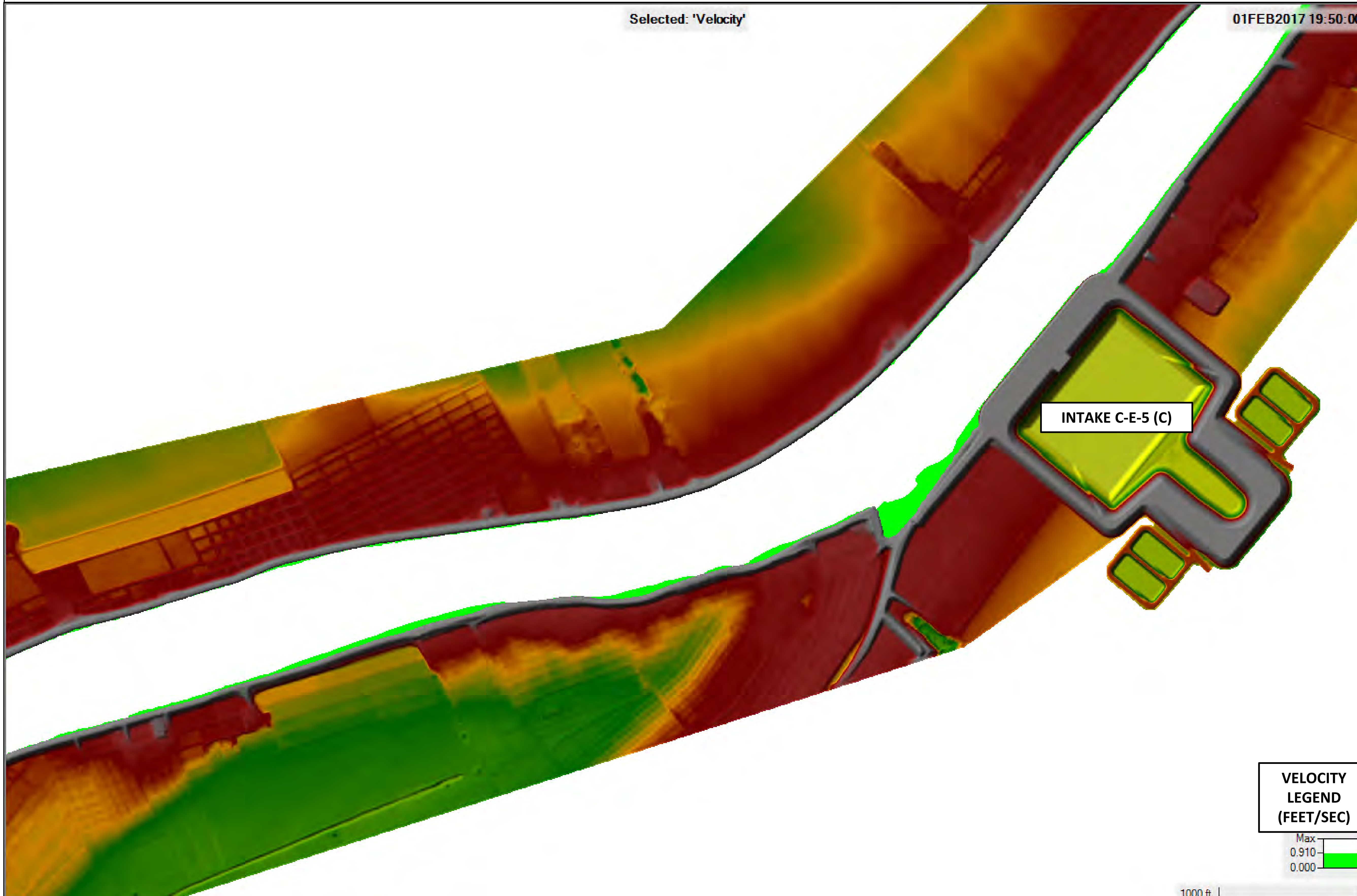
RUN 1E – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



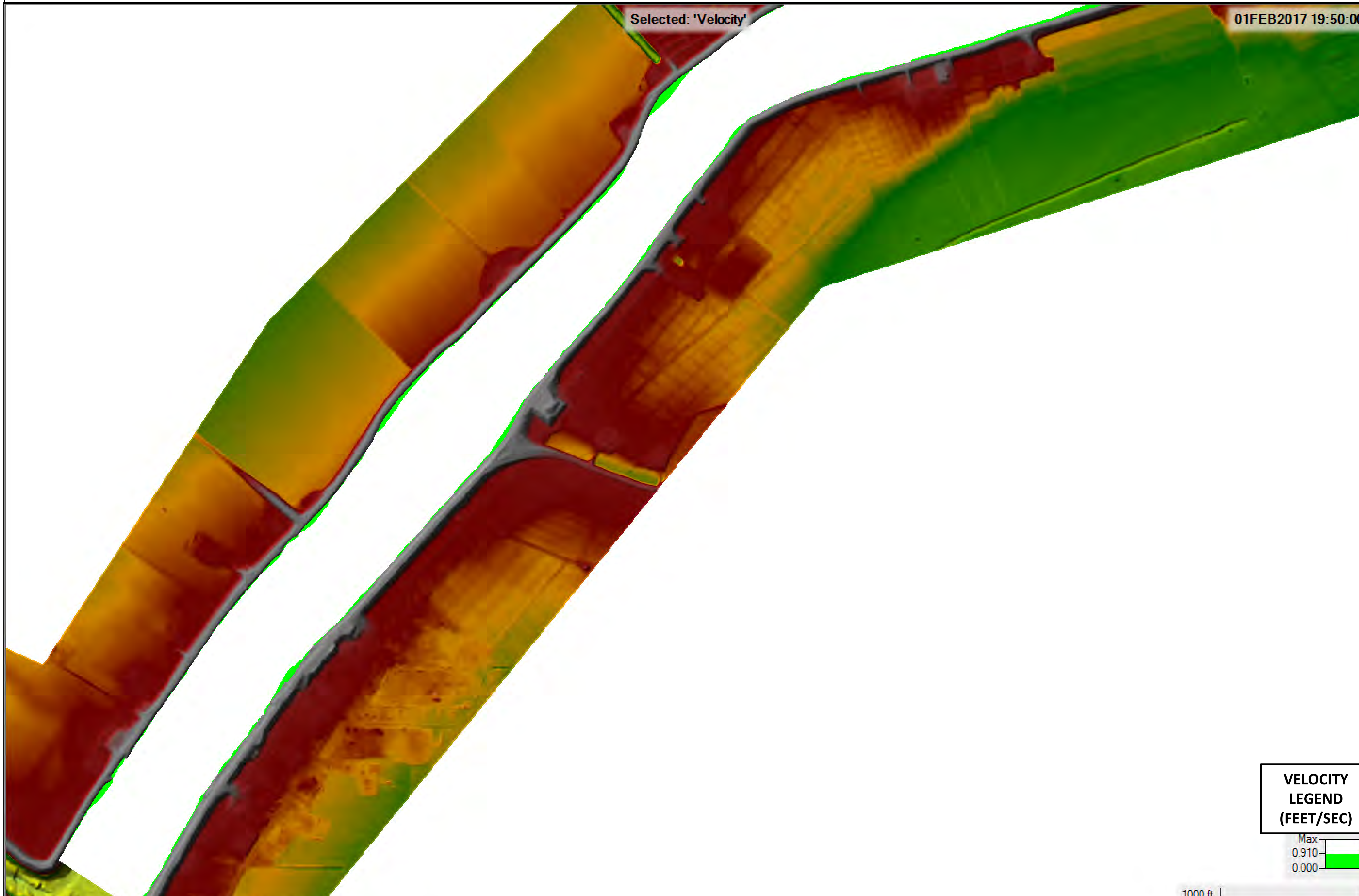
RUN 1E – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1E – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

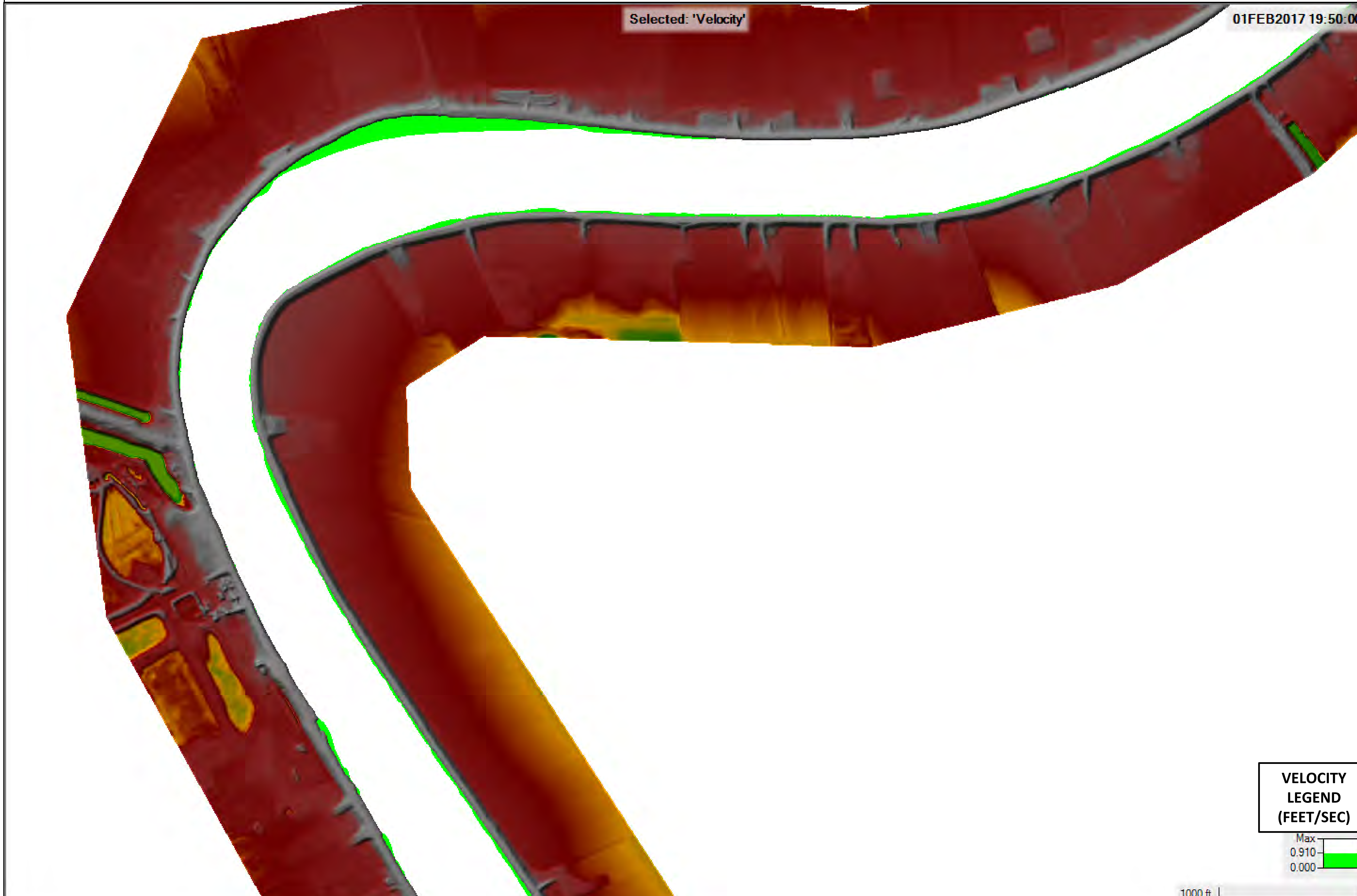
MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1F

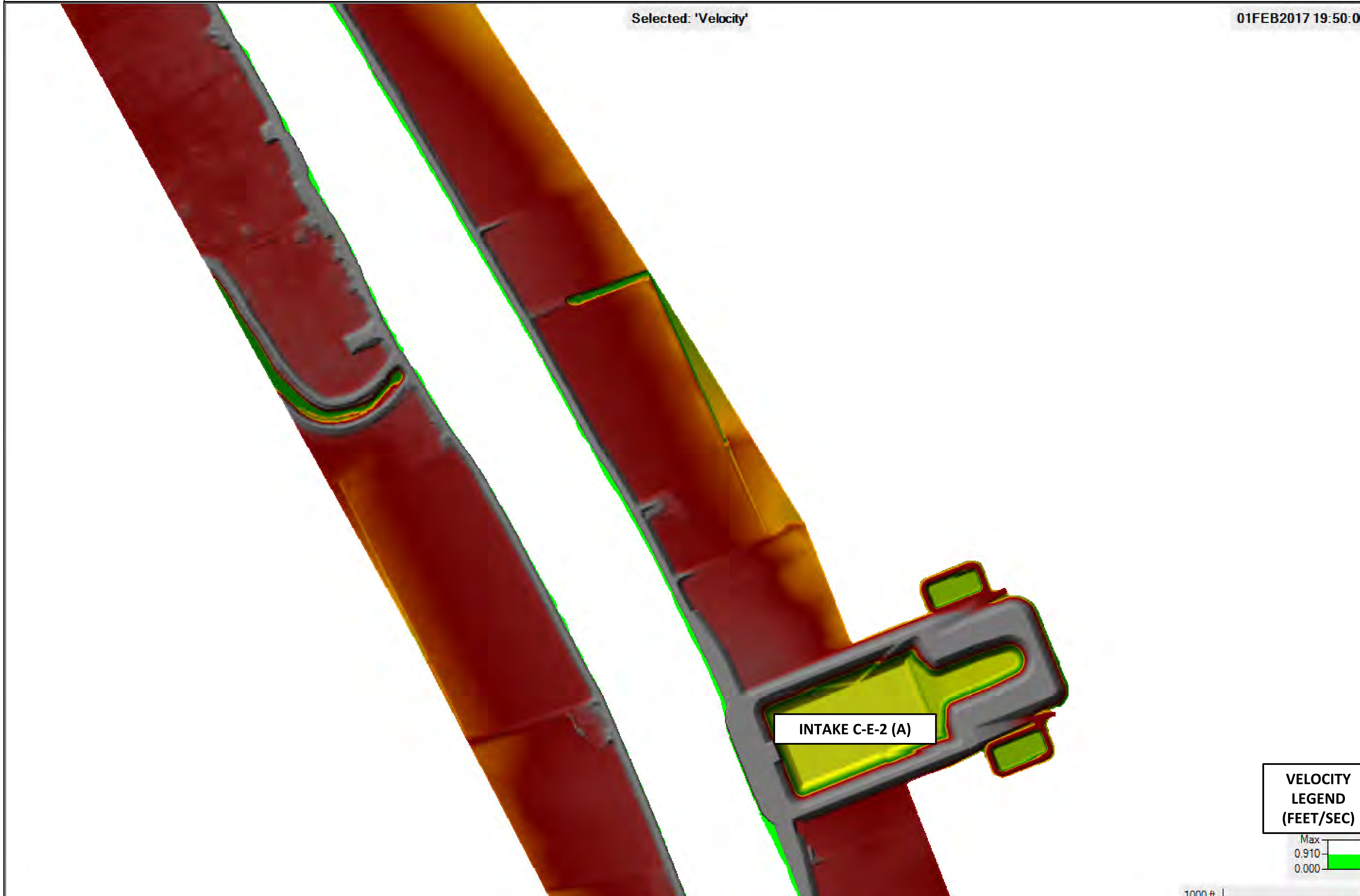
RUN 1F – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



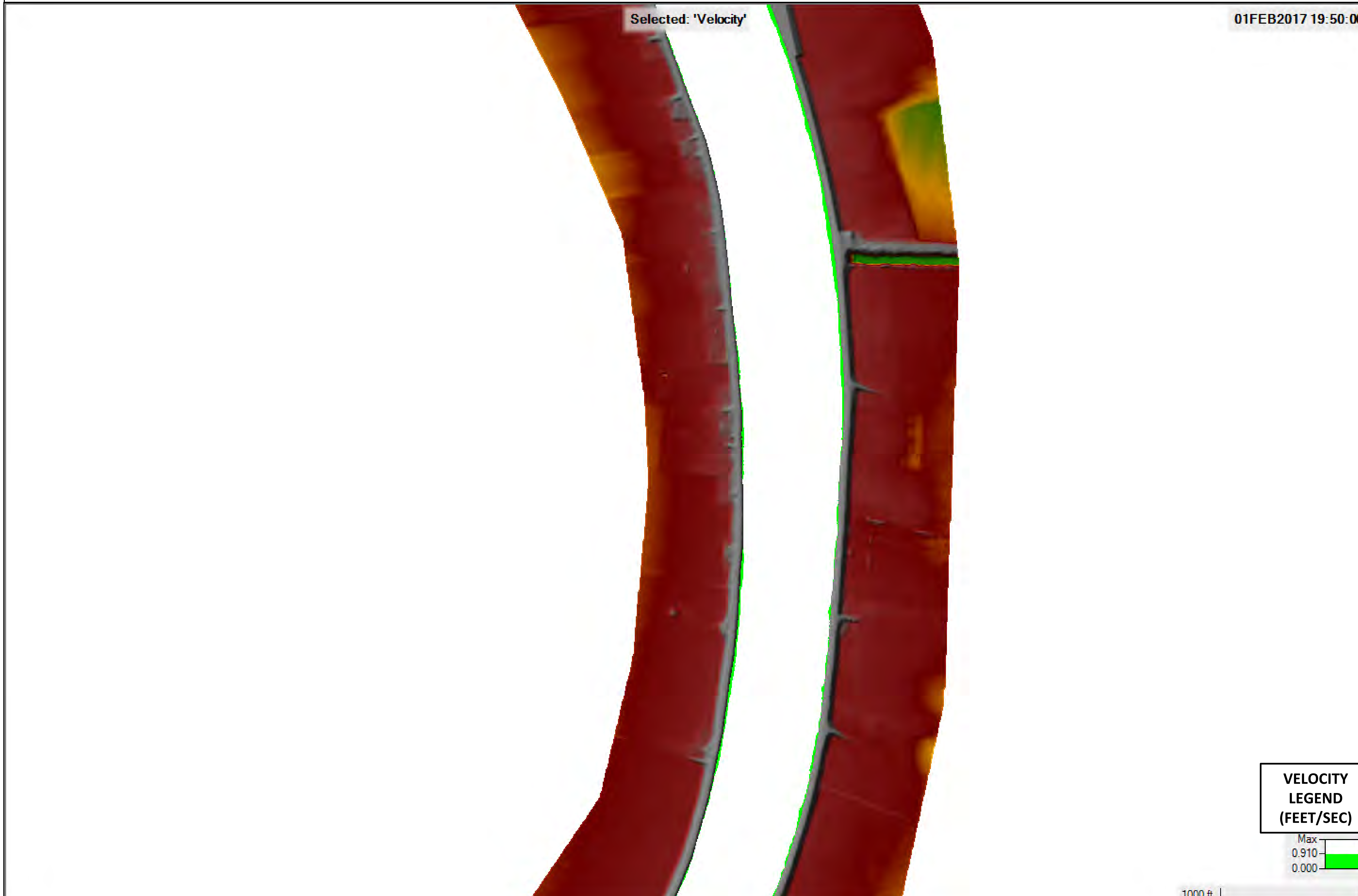
RUN 1F – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



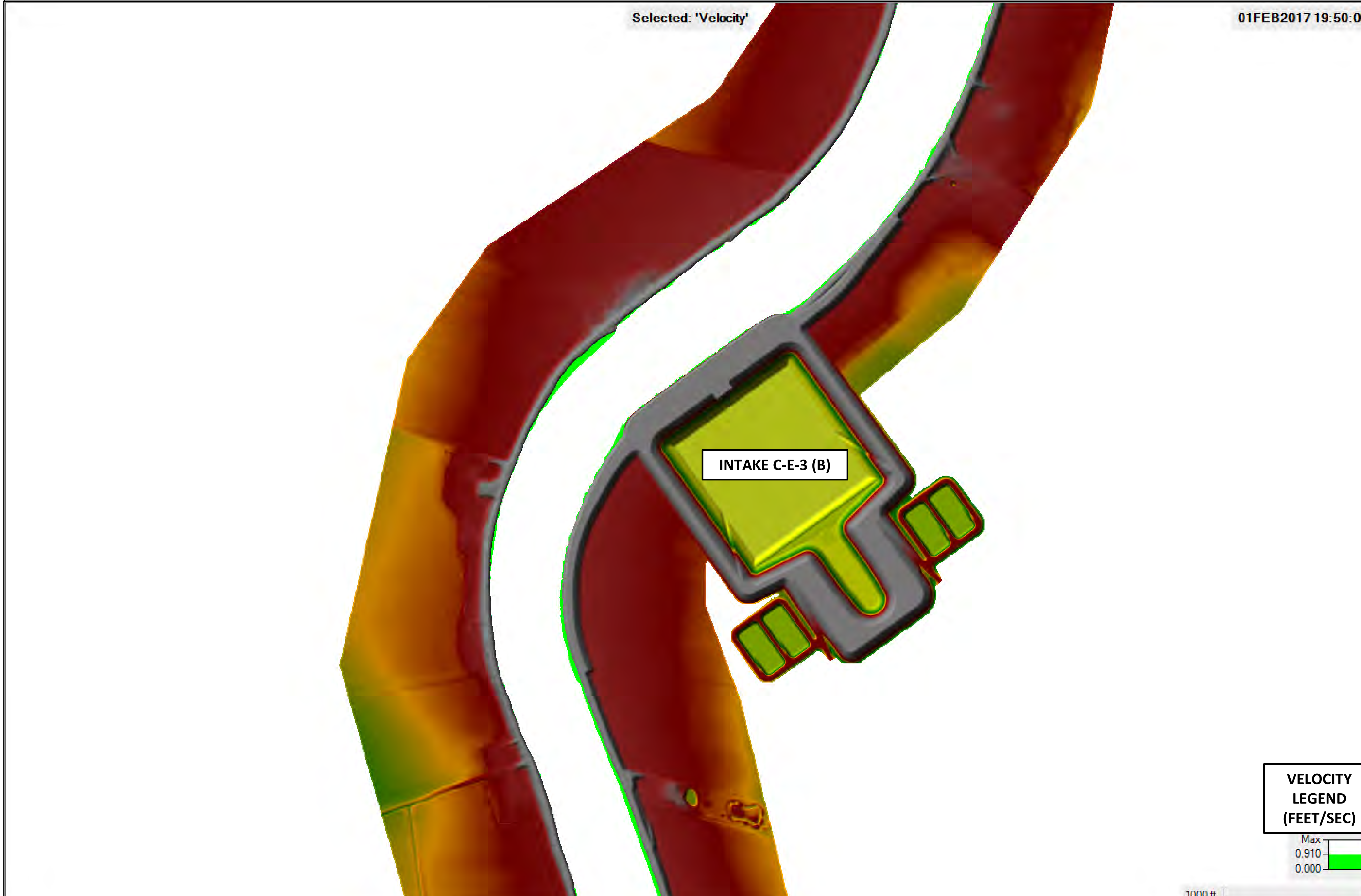
RUN 1F – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



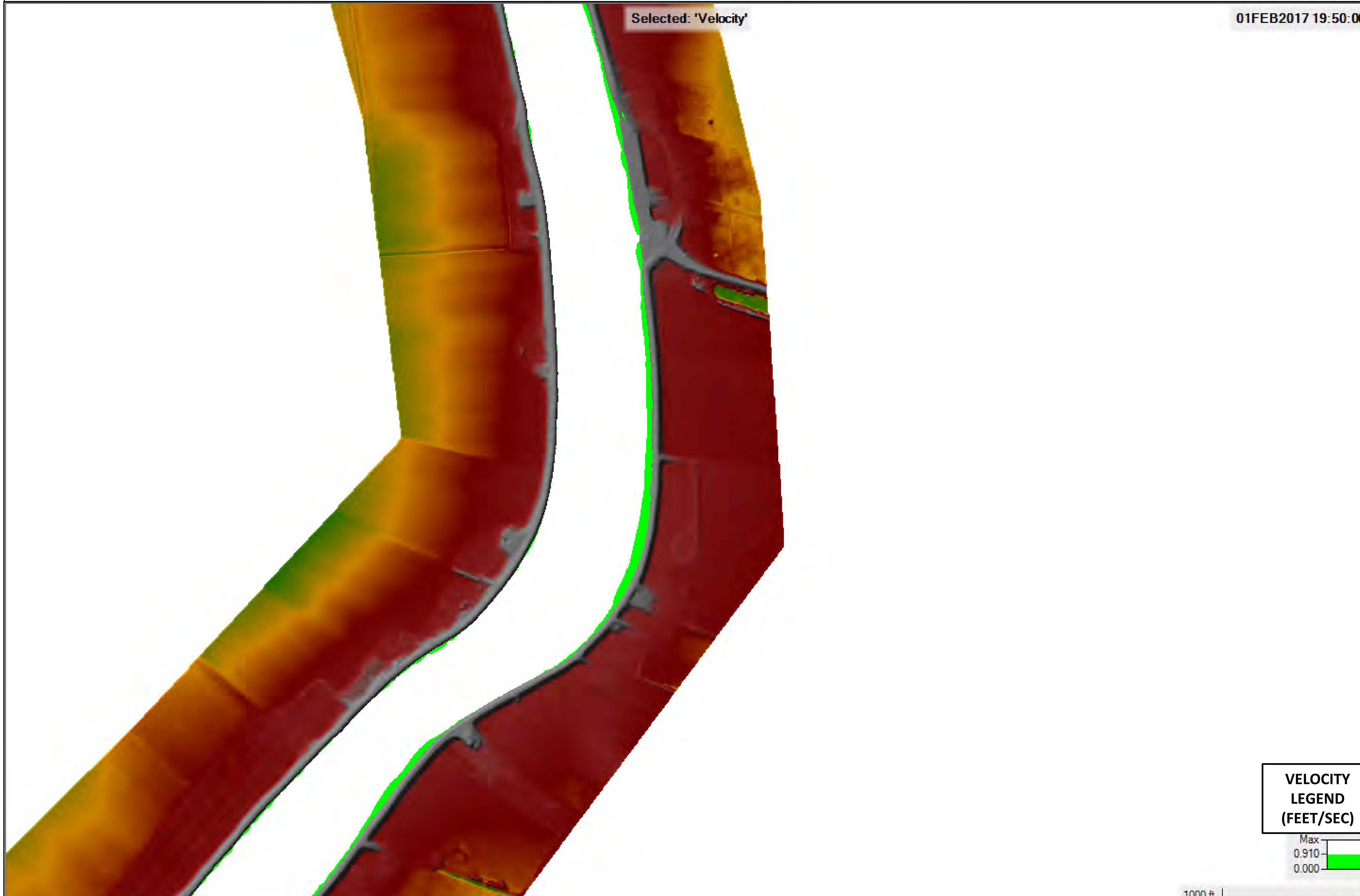
RUN 1F – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



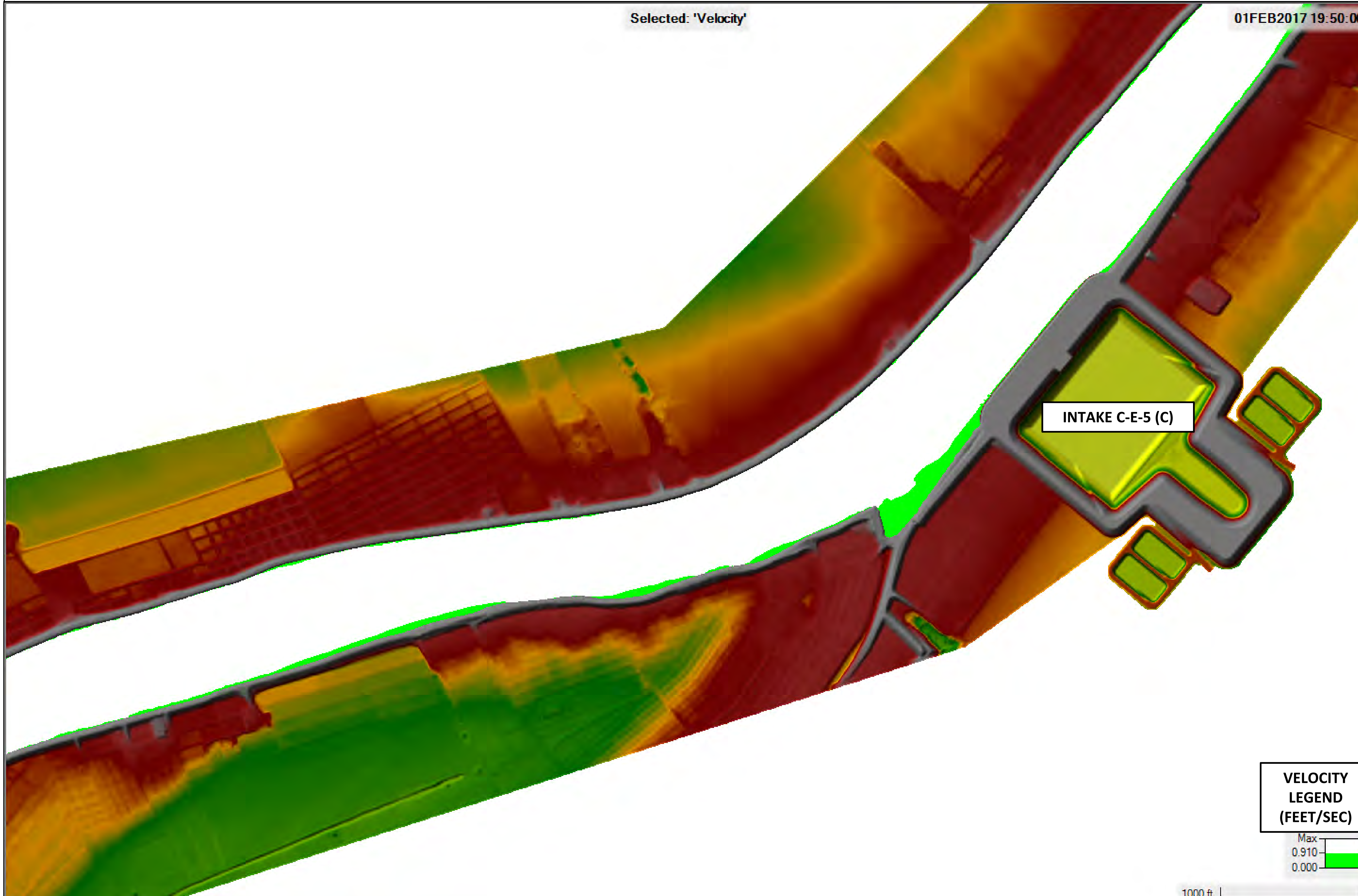
RUN 1F – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



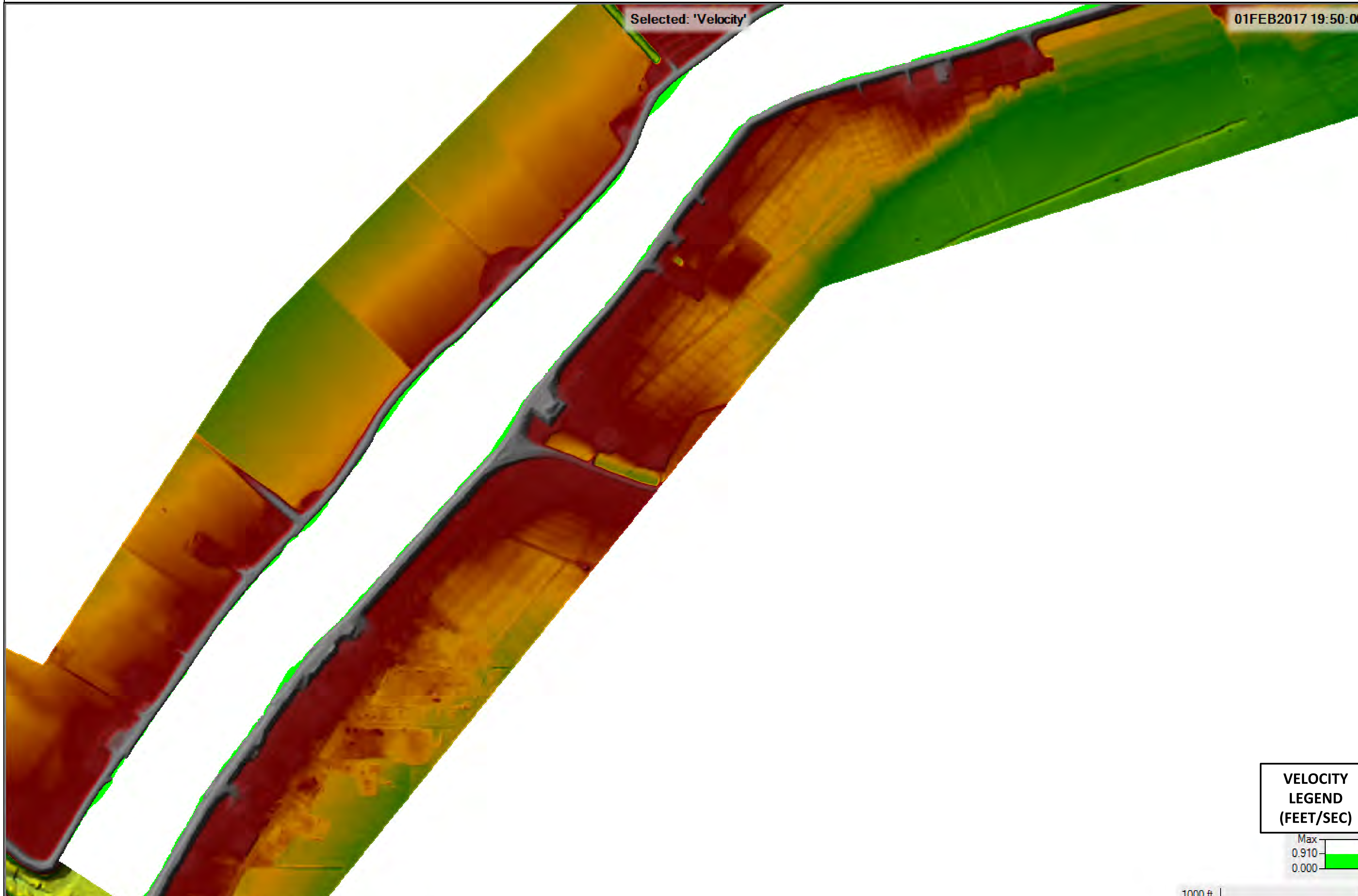
RUN 1F – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1F – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

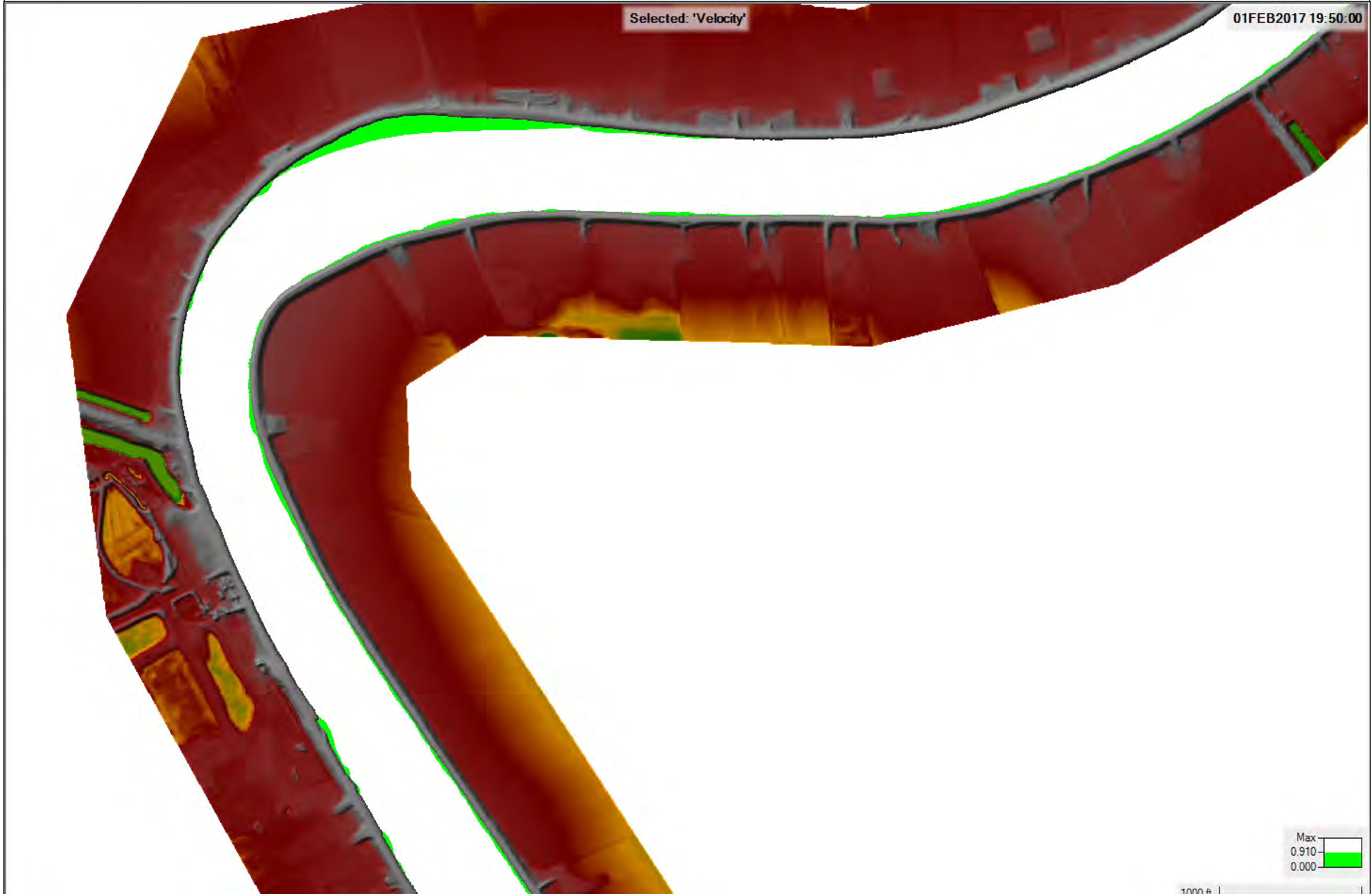
MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1G

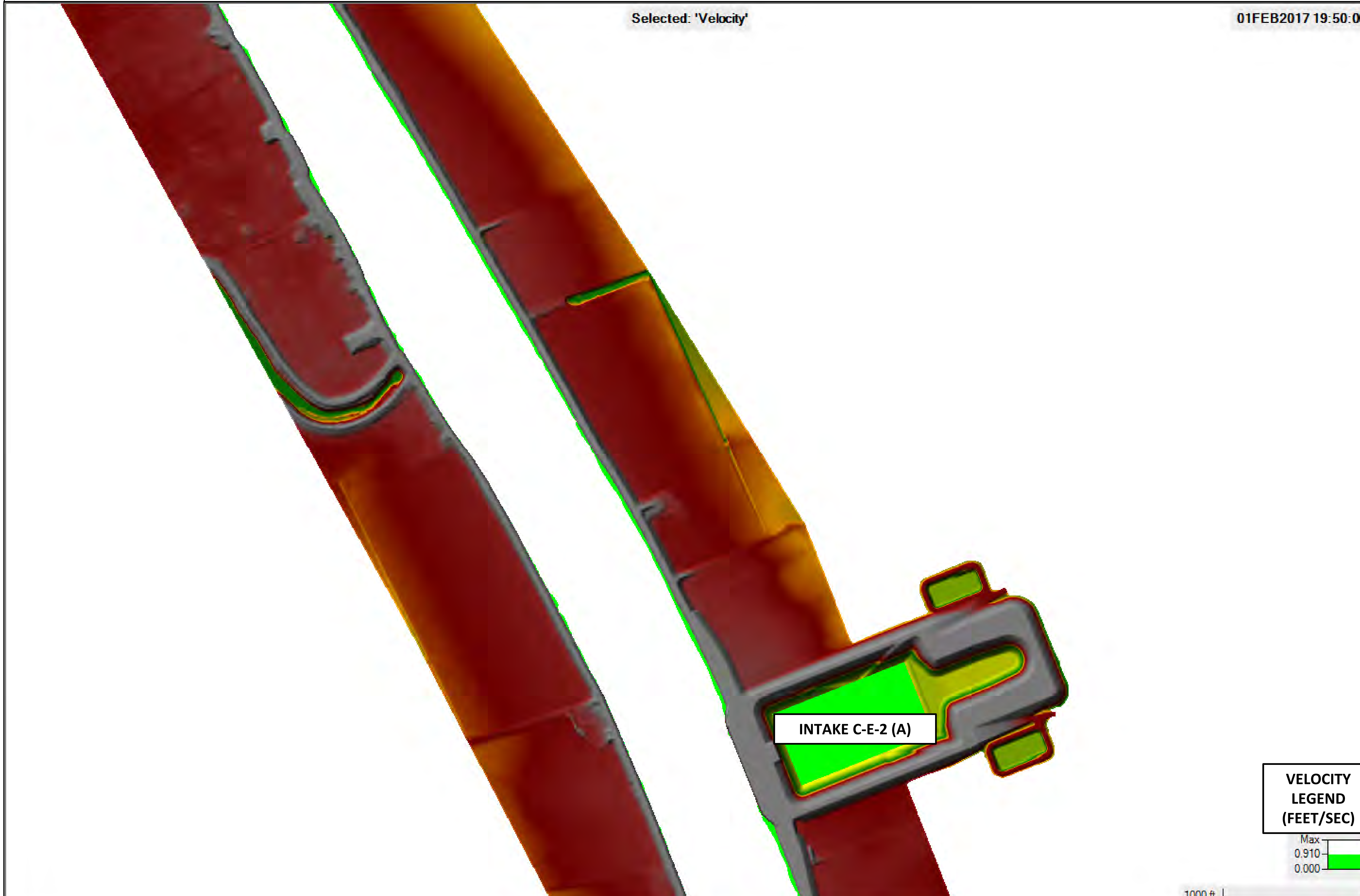
RUN 1G – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



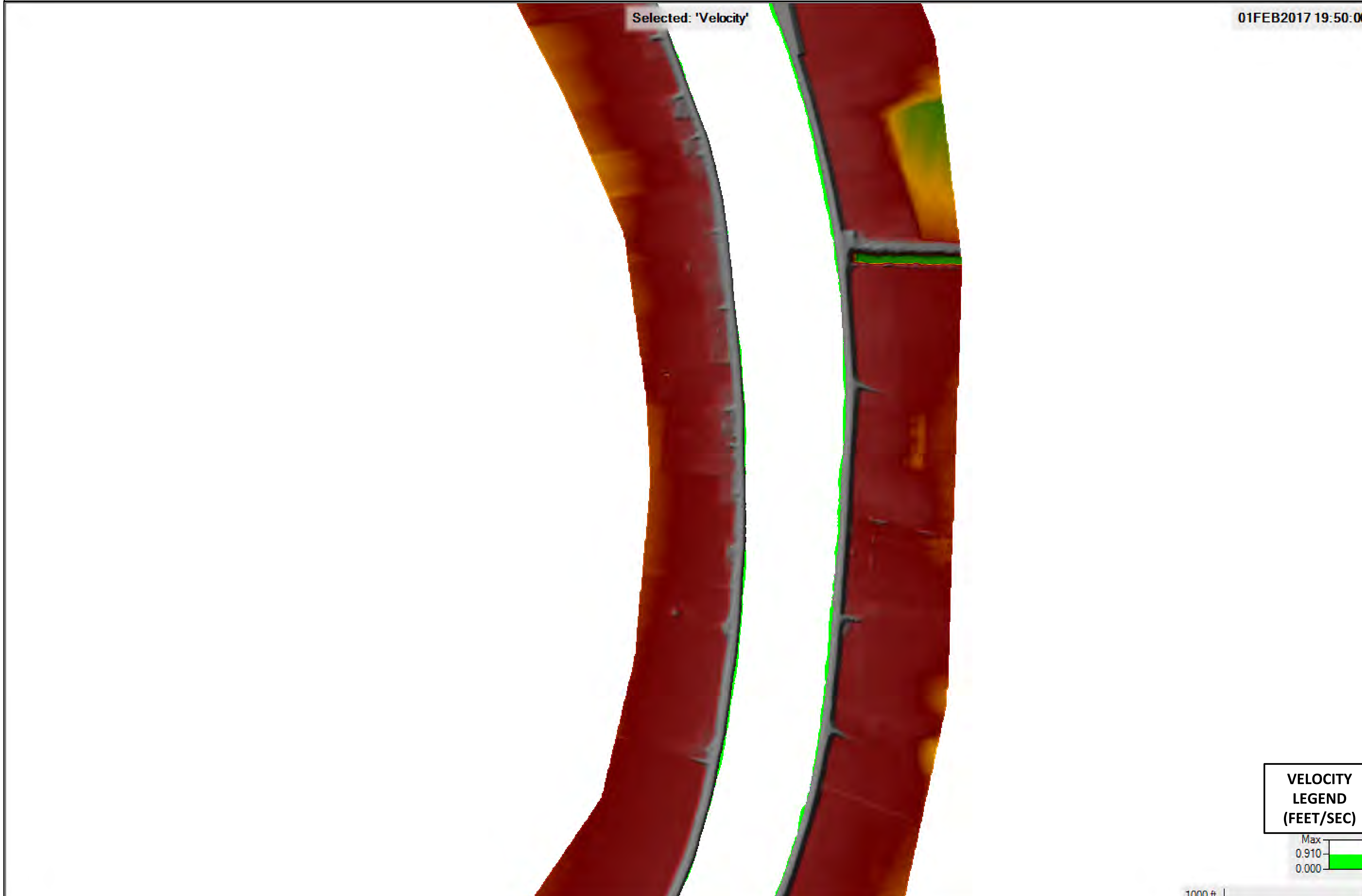
RUN 1G – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



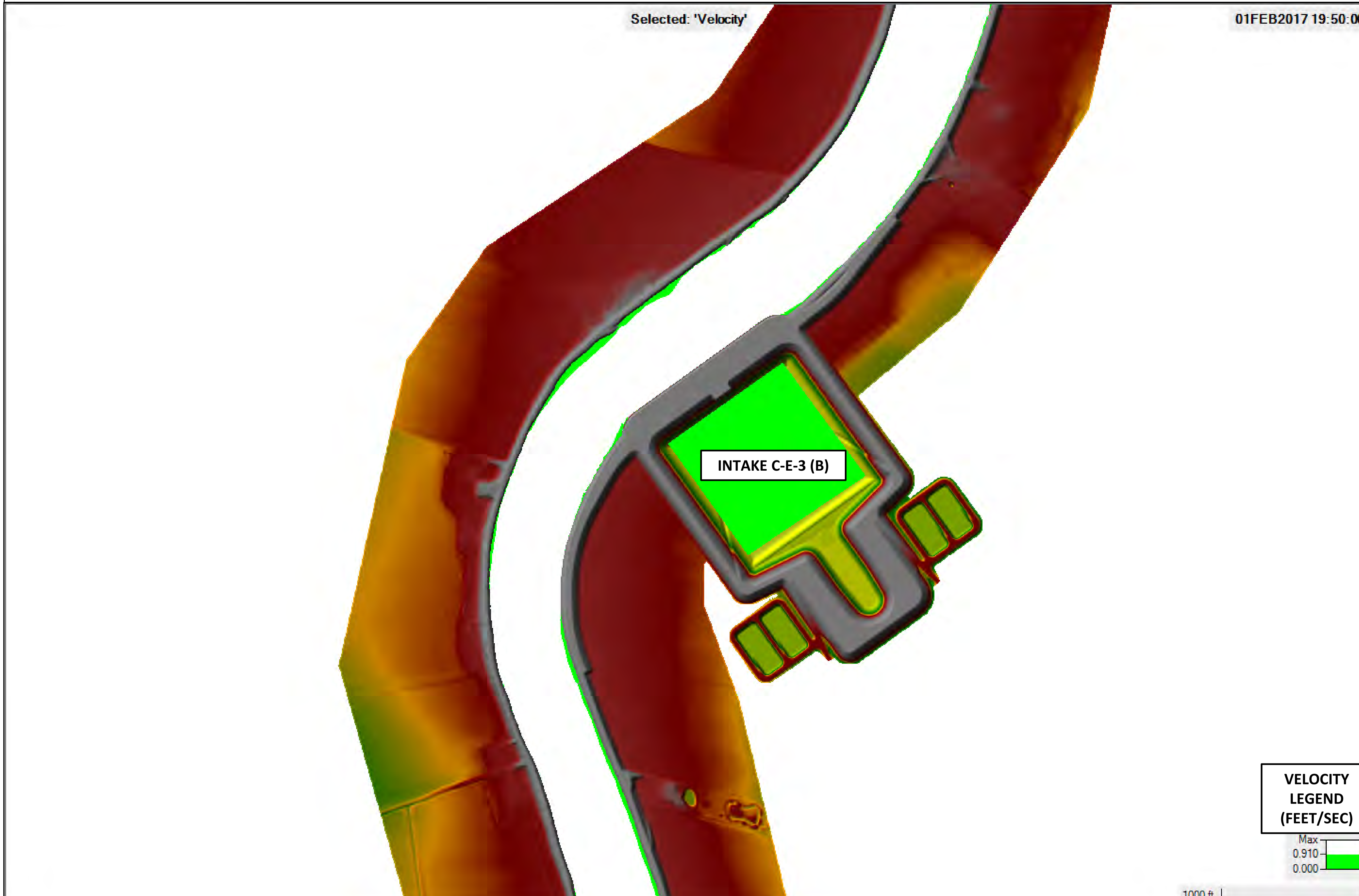
RUN 1G – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



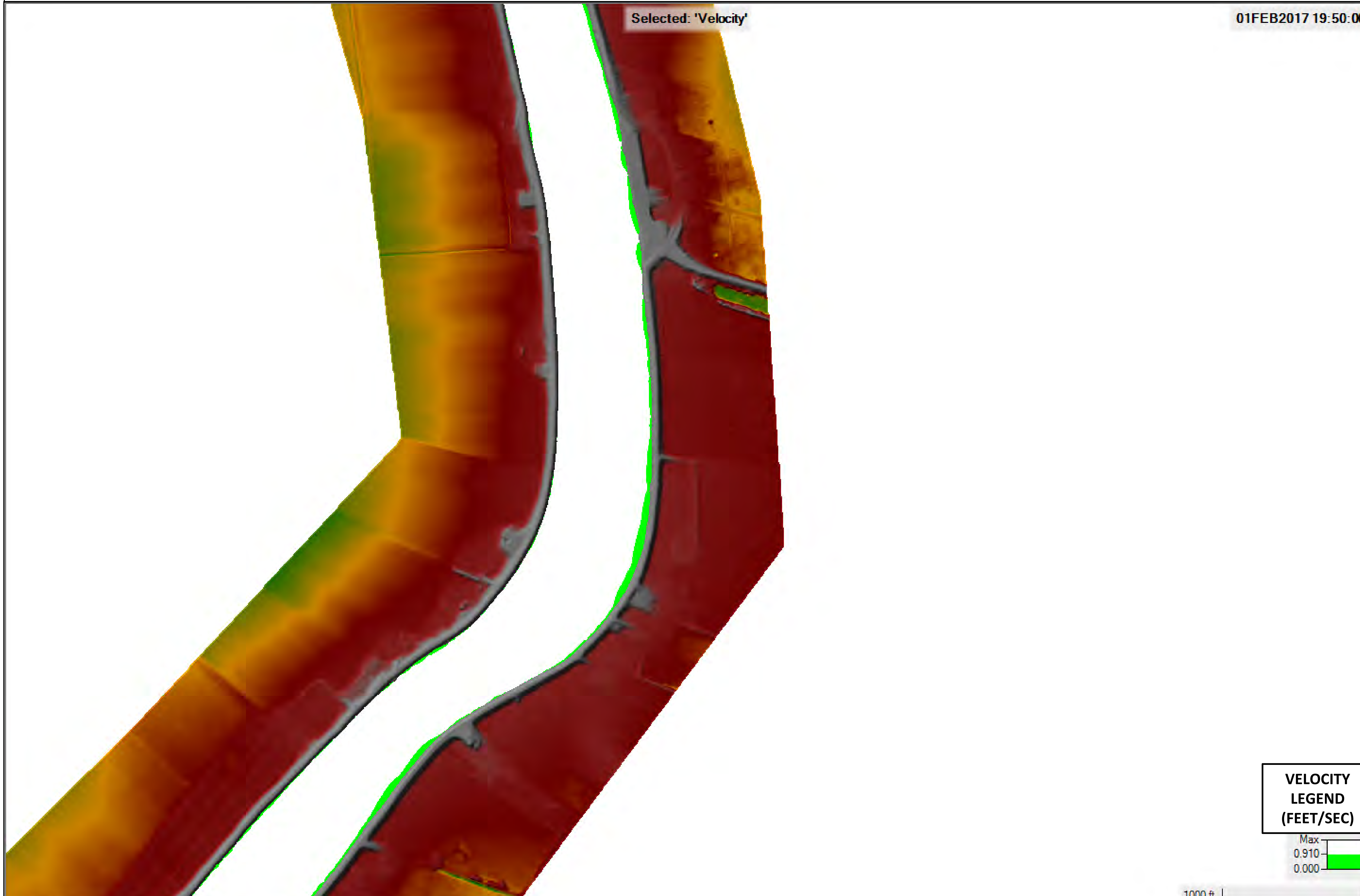
RUN 1G – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



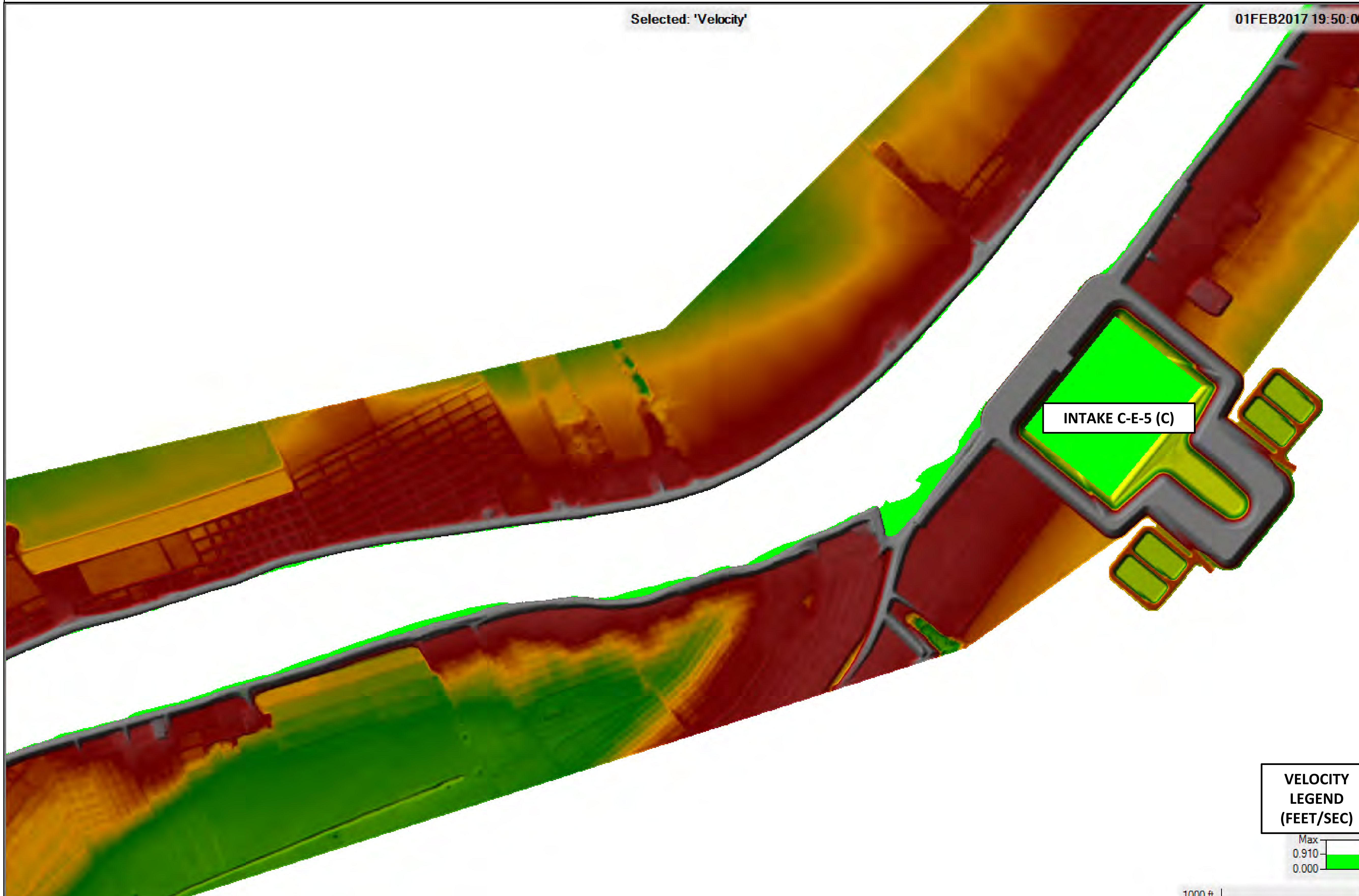
RUN 1G – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 DIVERSION– 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



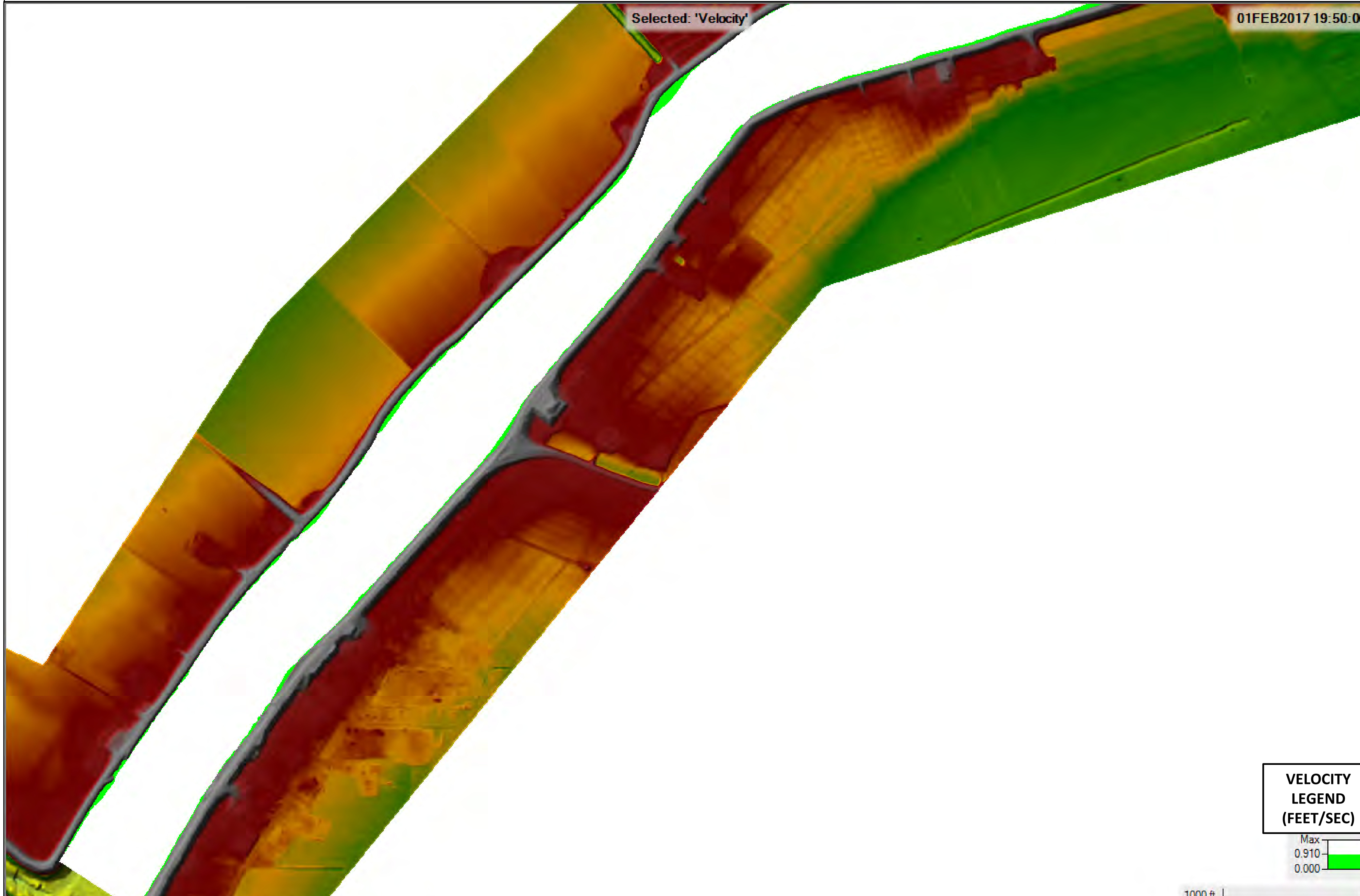
RUN 1G – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 DIVERSION– 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS



RUN 1G – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 DIVERSION – 110,000-CFS AT SAC/AME RIVER CONFLUENCE – TEE SCREENS

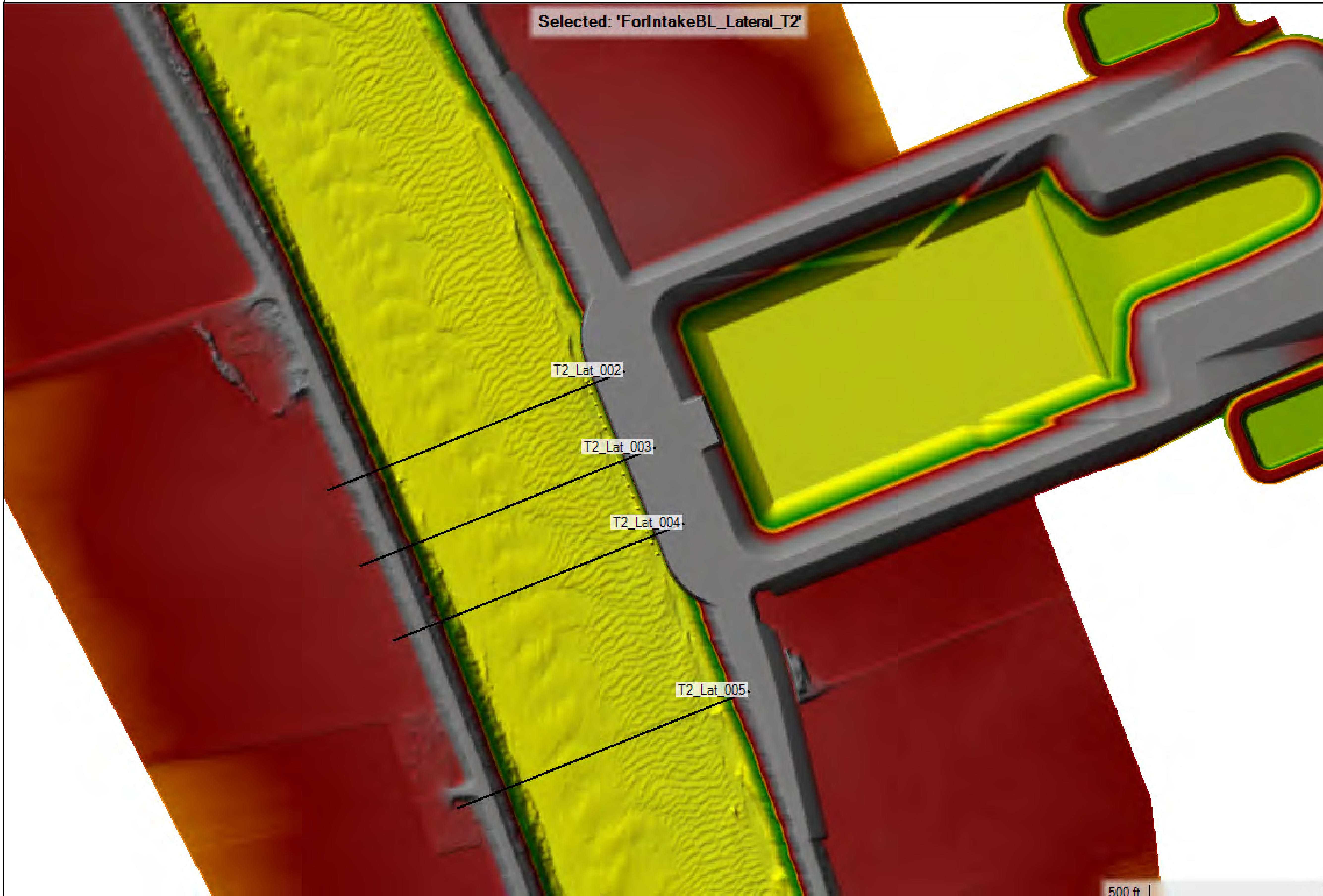


Group 2
High Flow Steady State Runs

INDEX

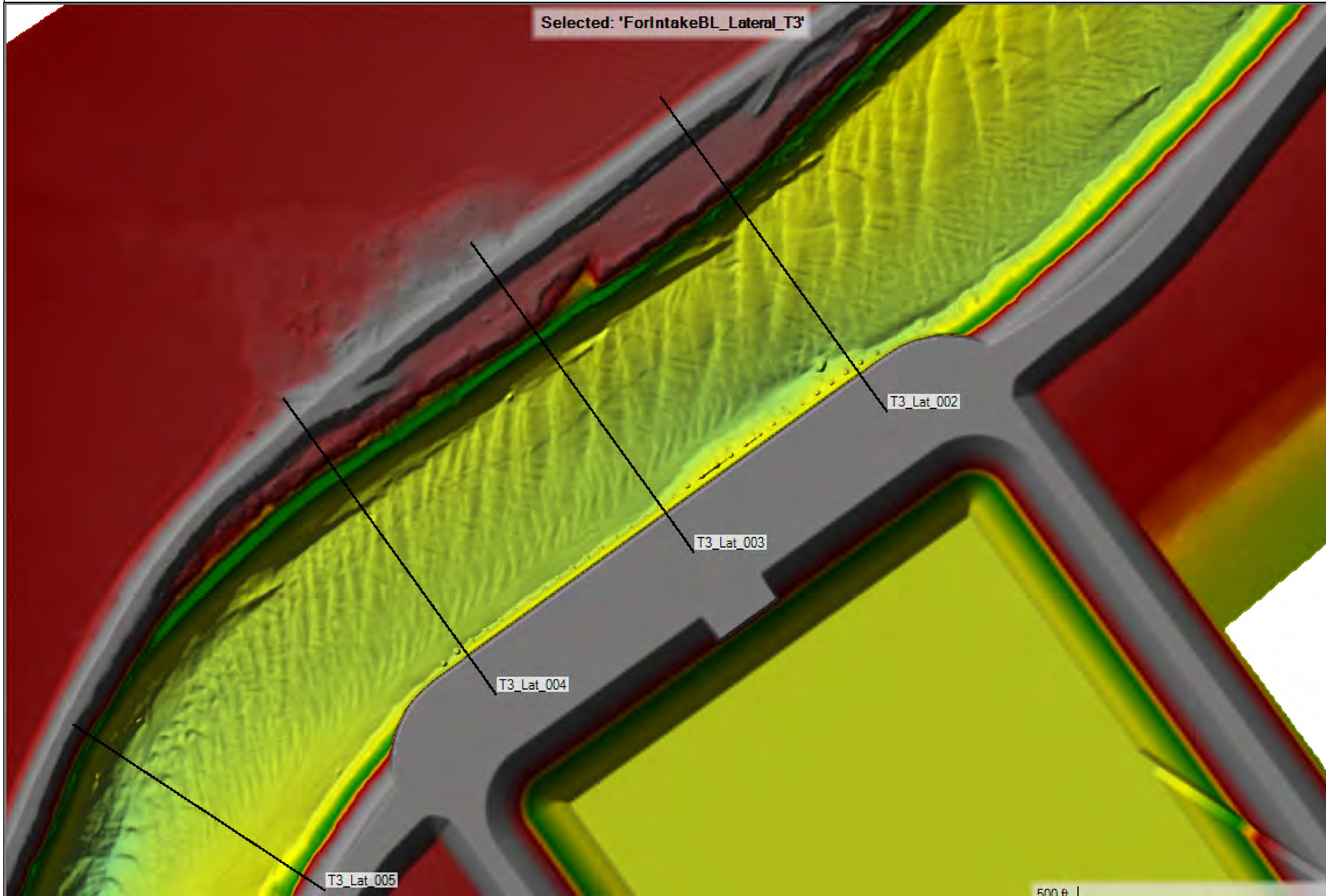
Cross Section Velocity Plots near Intake Structures

CROSS-SECTION LOCATIONS – INTAKE C-E-2 (A)
TEE SCREENS



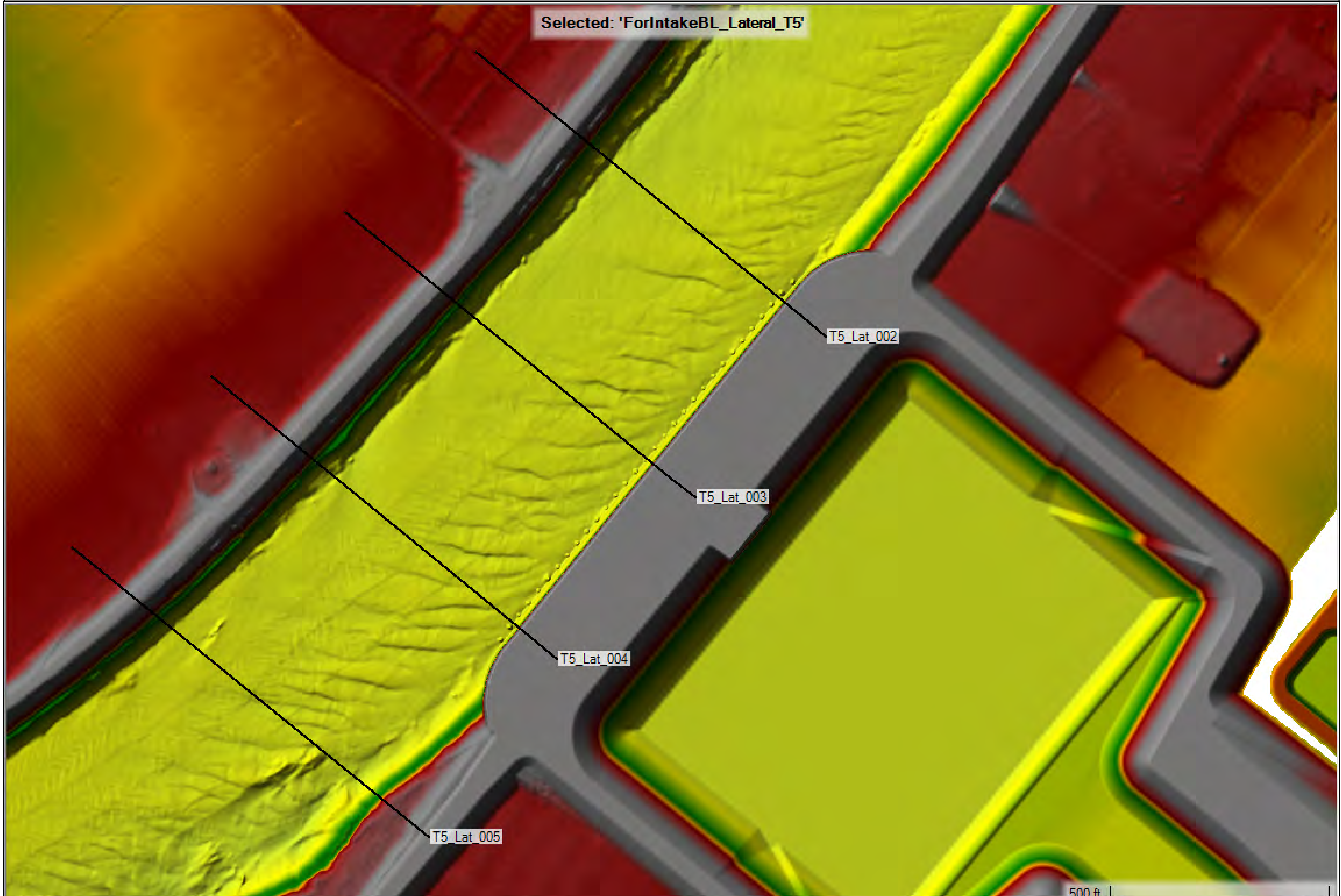
CROSS-SECTION LOCATIONS – INTAKE C-E-3 (B)

TEE SCREENS



CROSS-SECTION LOCATIONS – INTAKE C-E-5 (C)

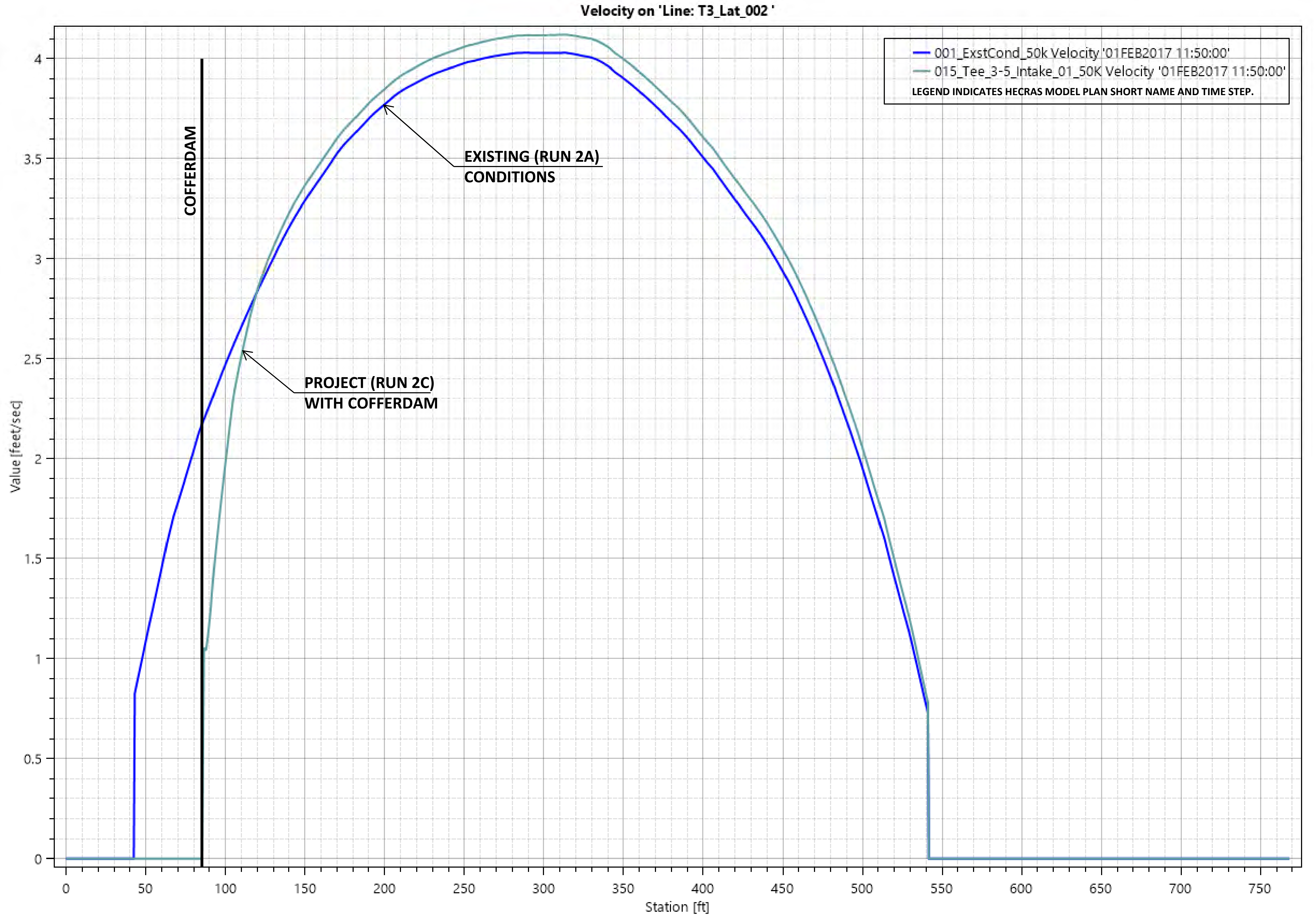
TEE SCREENS



RUN 2A vs 2C
INTAKE C-E-3 (B)

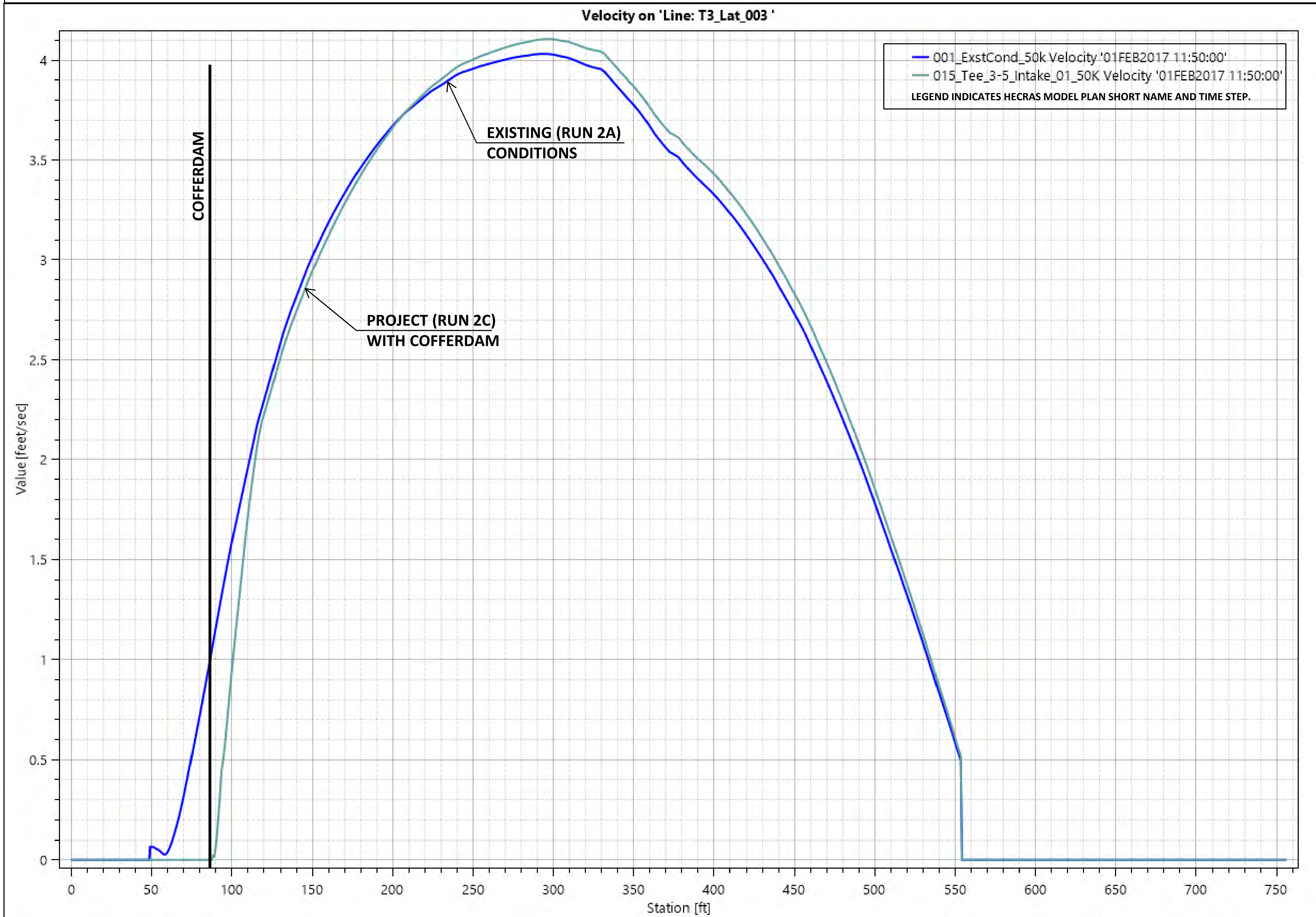
RUN 2A vs 2C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



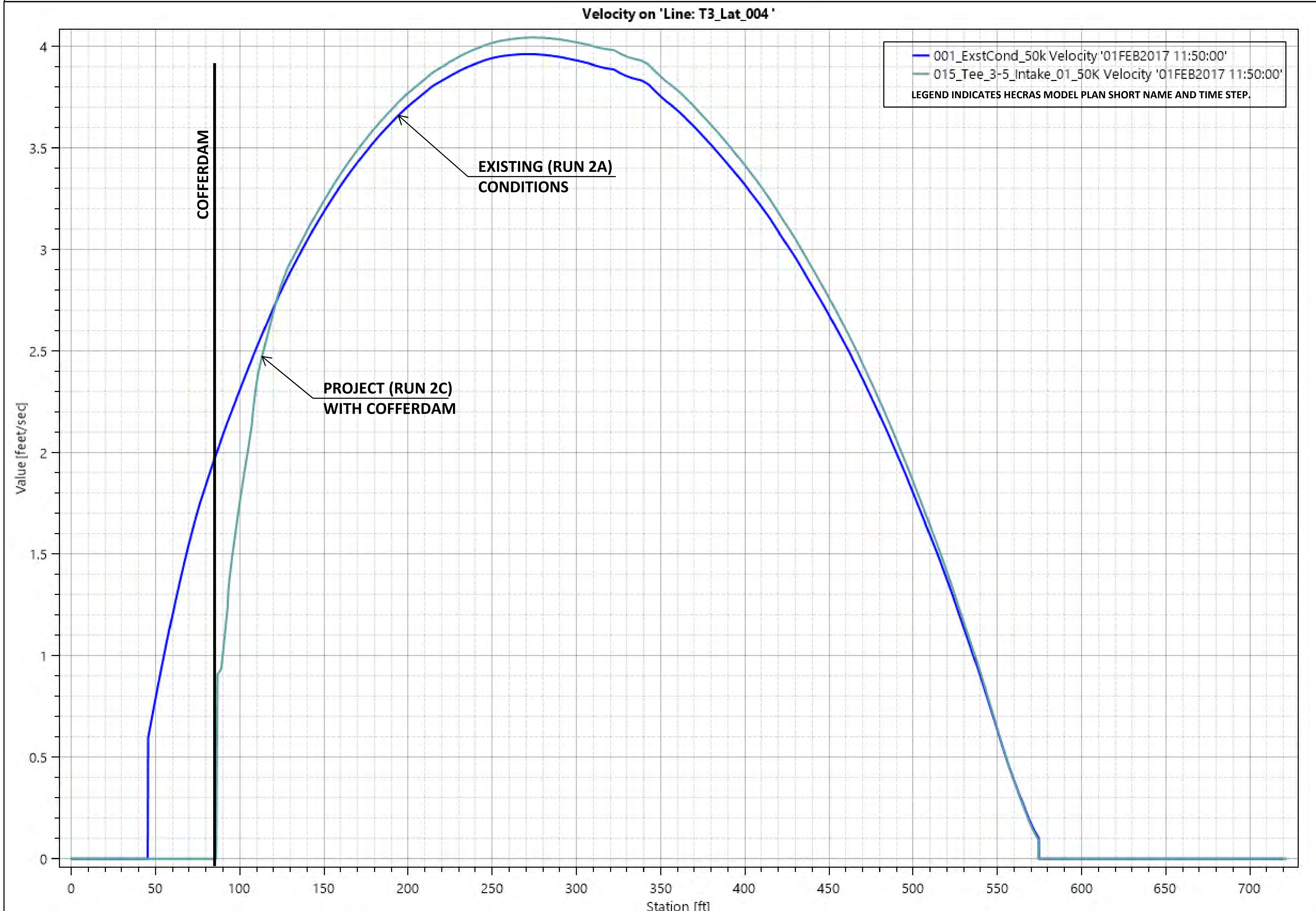
RUN 2A vs 2C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



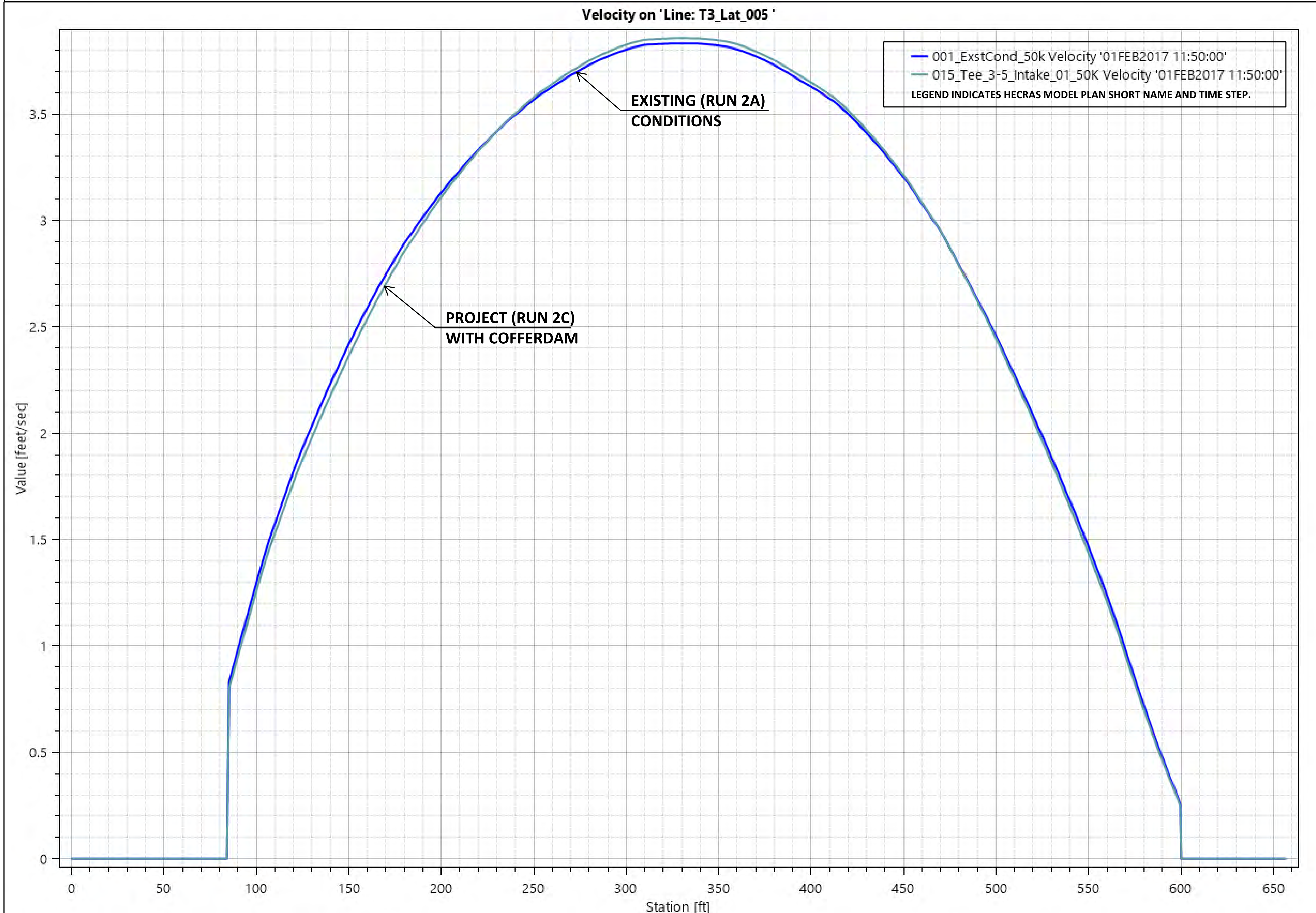
RUN 2A vs 2C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 2A vs 2C – INTAKE C-E-3 (B)– LATERAL VELOCITY PROFILE PLOT

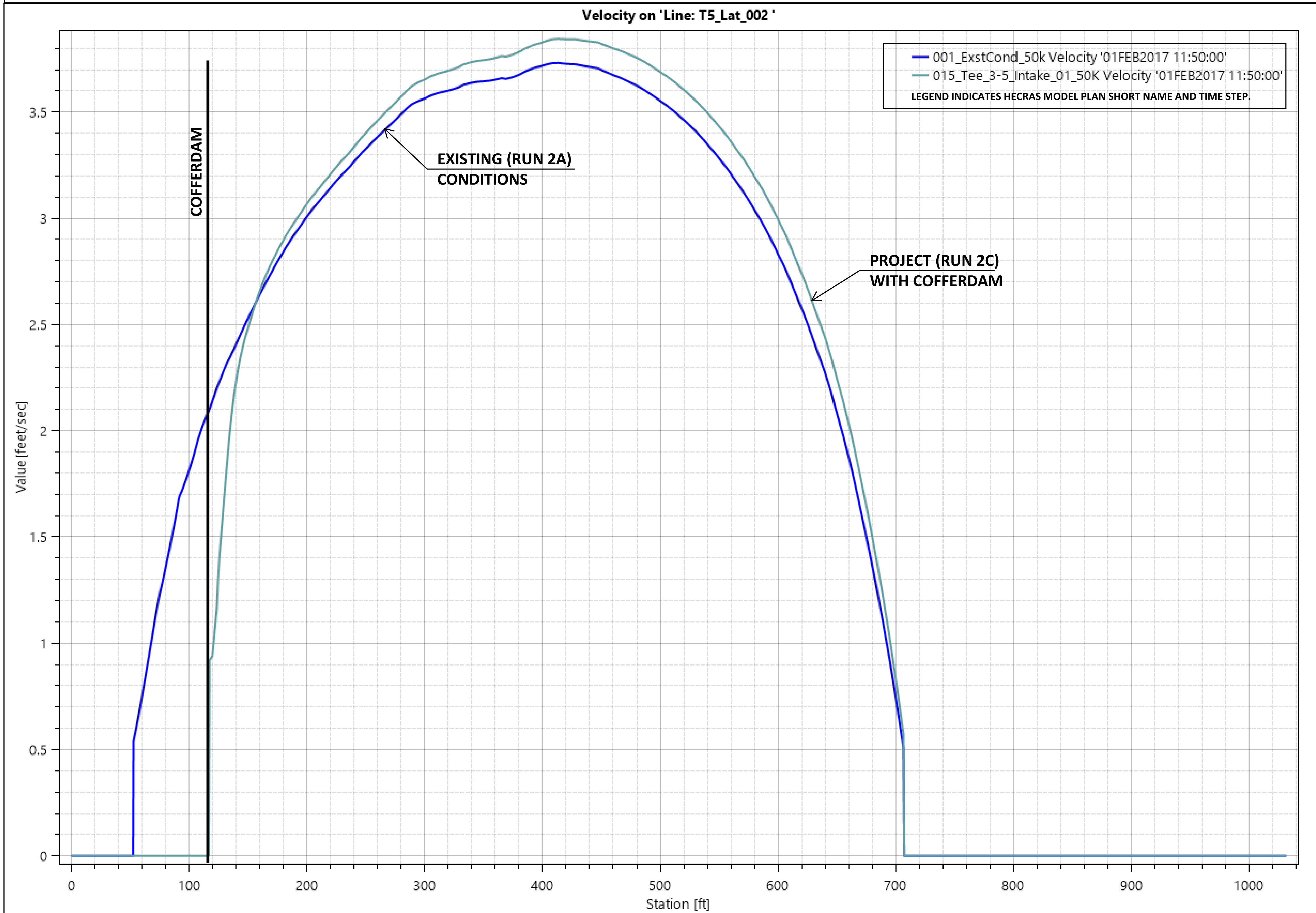
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T3_LAT_005



RUN 2A vs 2C
INTAKE C-E-5 (C)

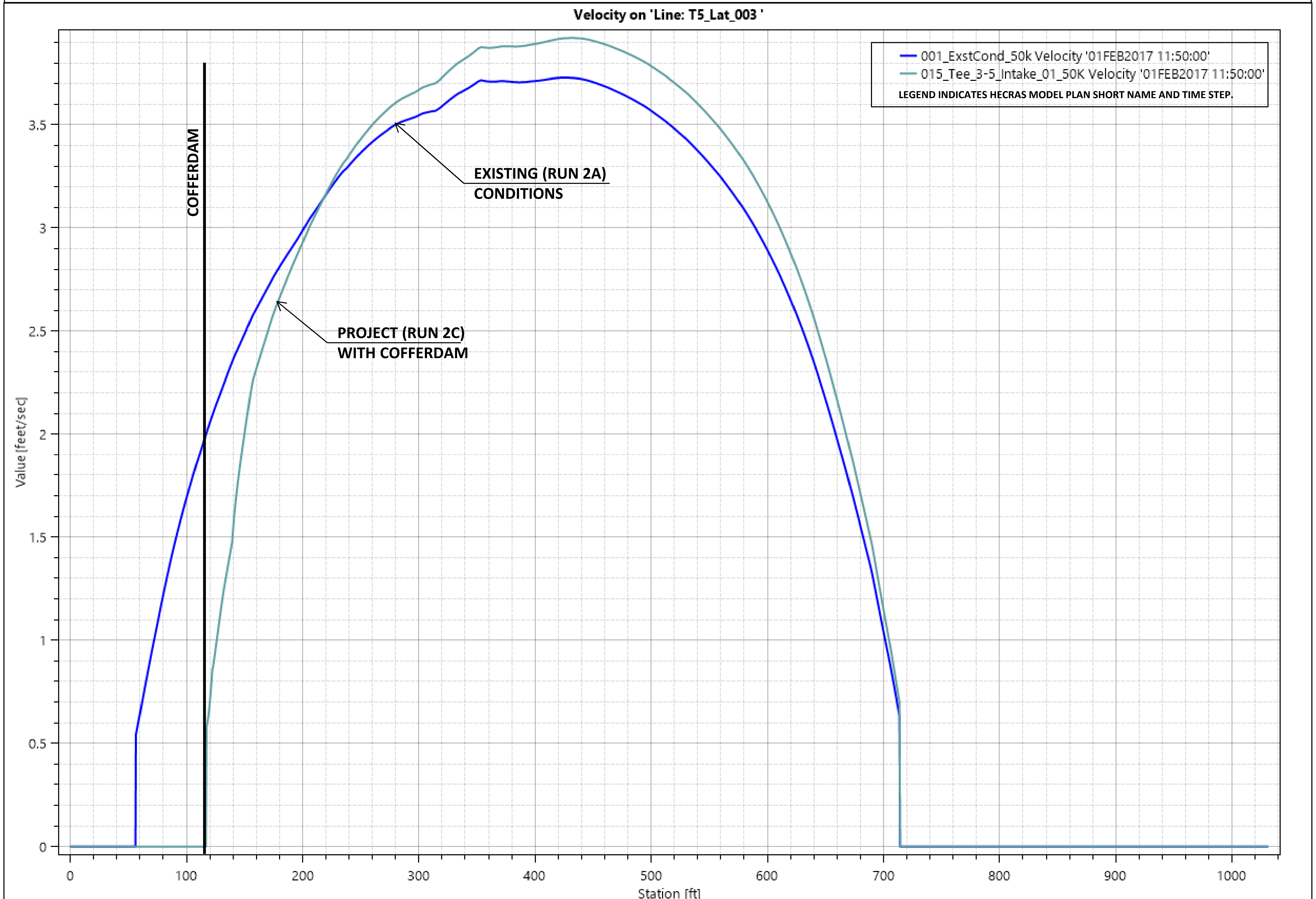
RUN 2A vs 2C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



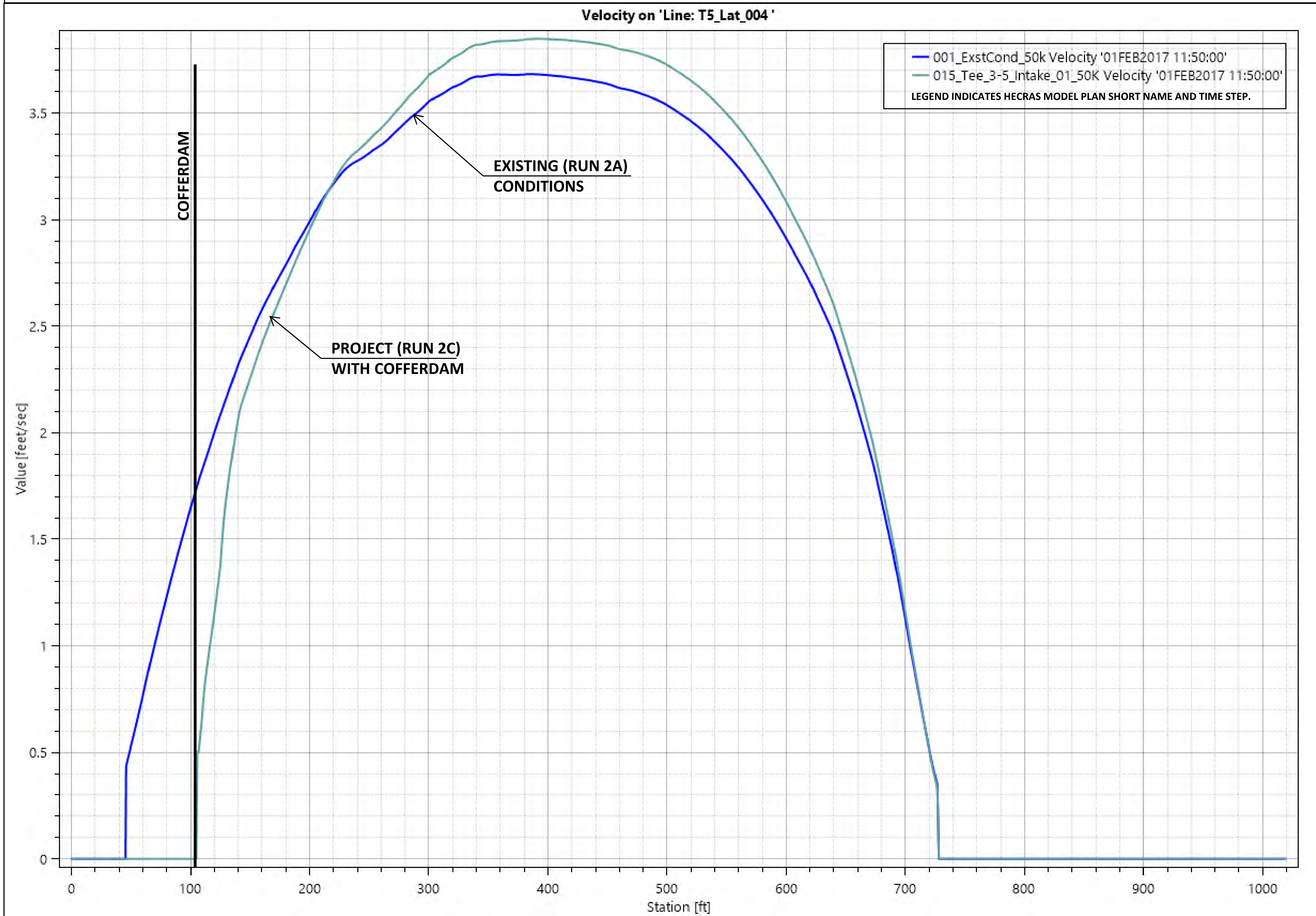
RUN 2A vs 2C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



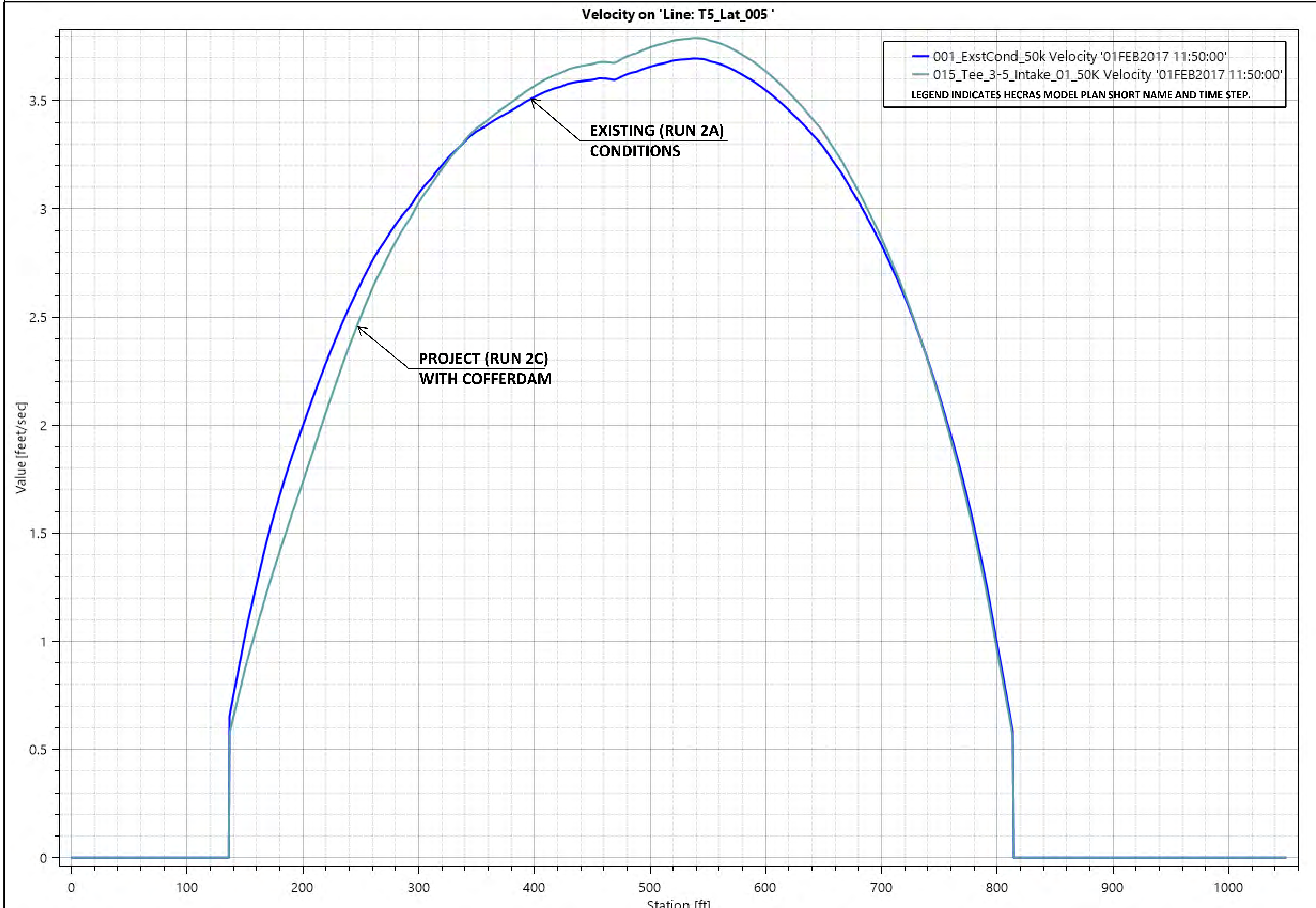
RUN 2A vs 2C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 2A vs 2C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

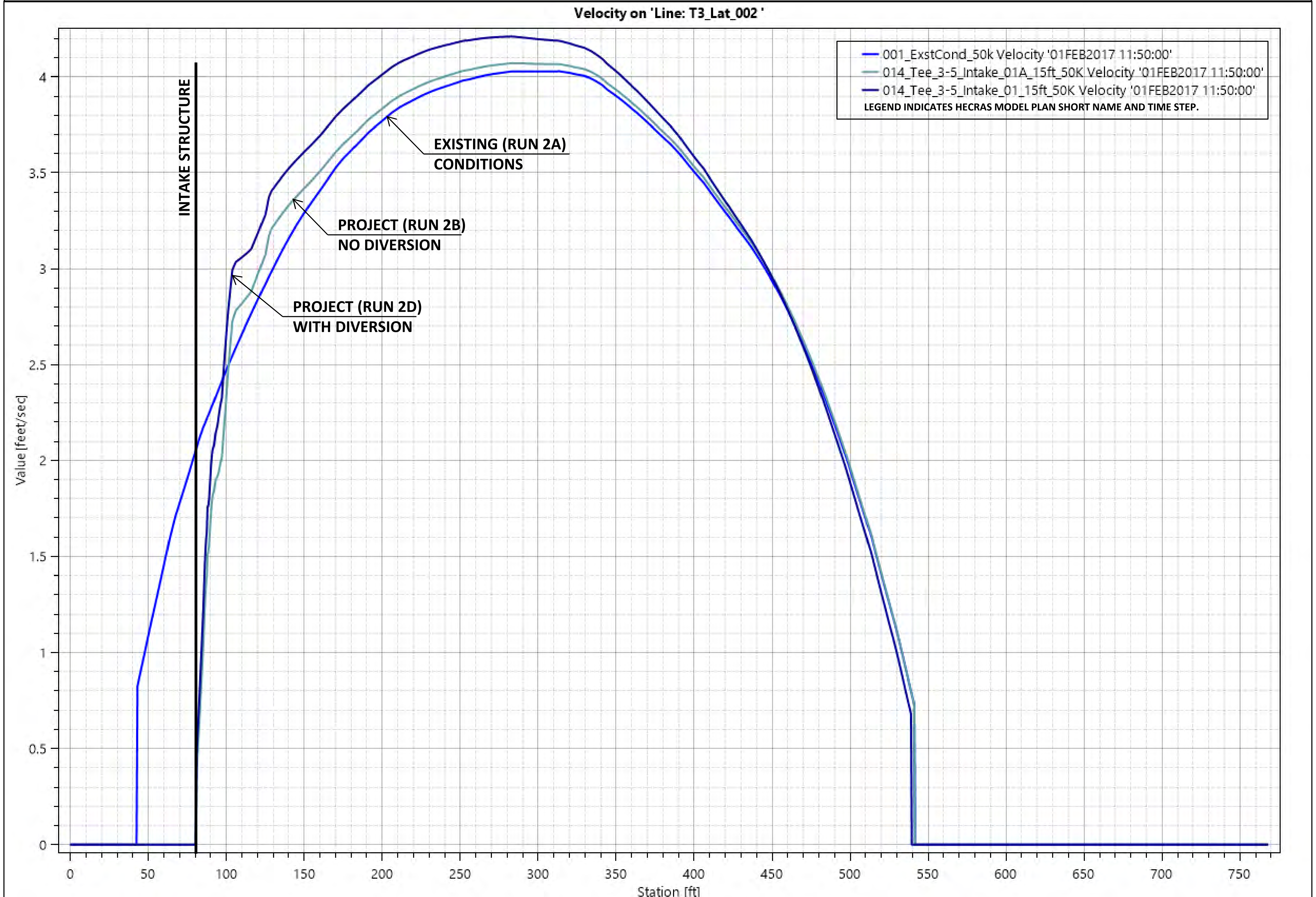
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T5_LAT_005



RUN 2A vs 2B vs 2D
INTAKE C-E-3 (B)

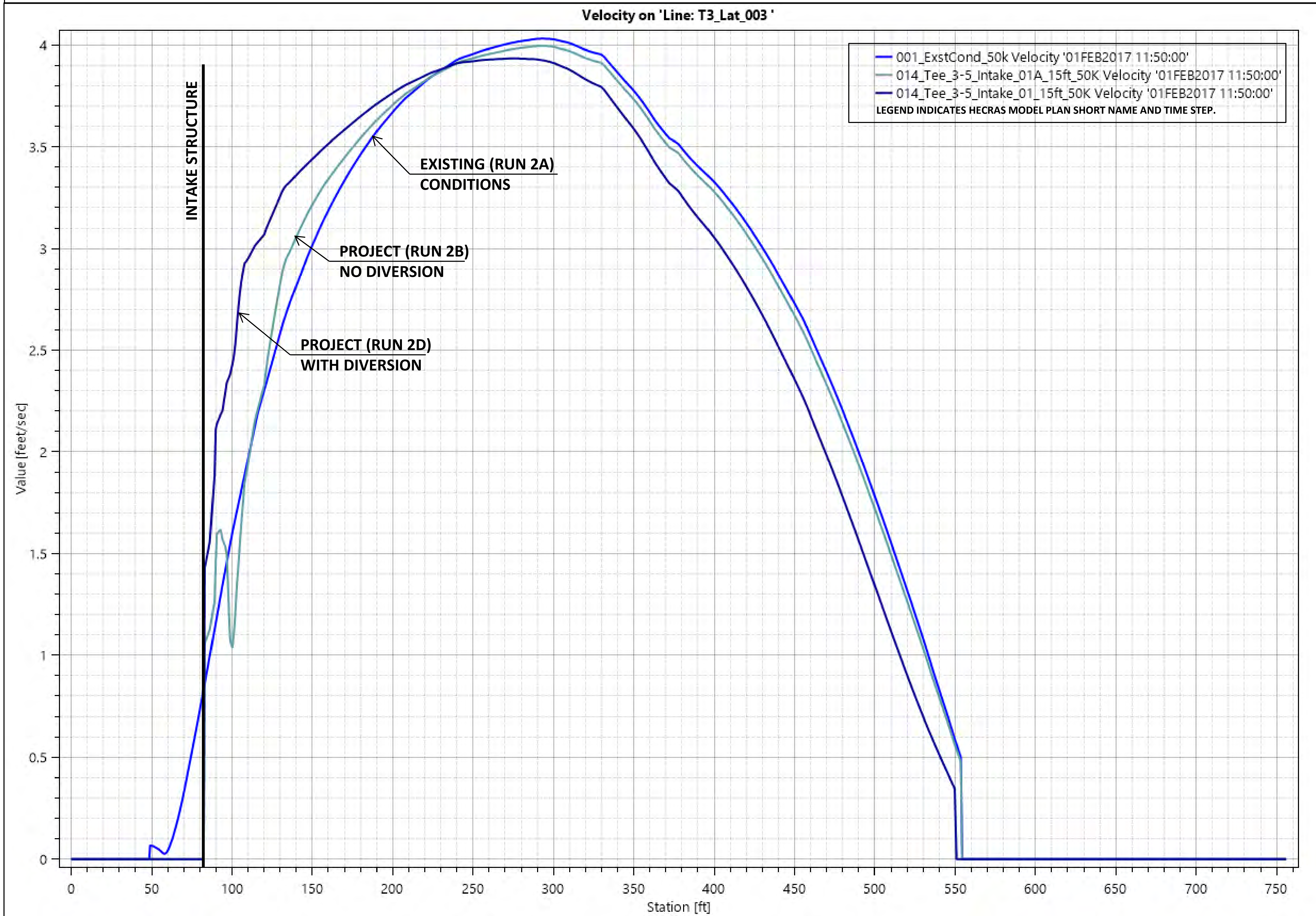
RUN 2A vs 2B vs 2D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



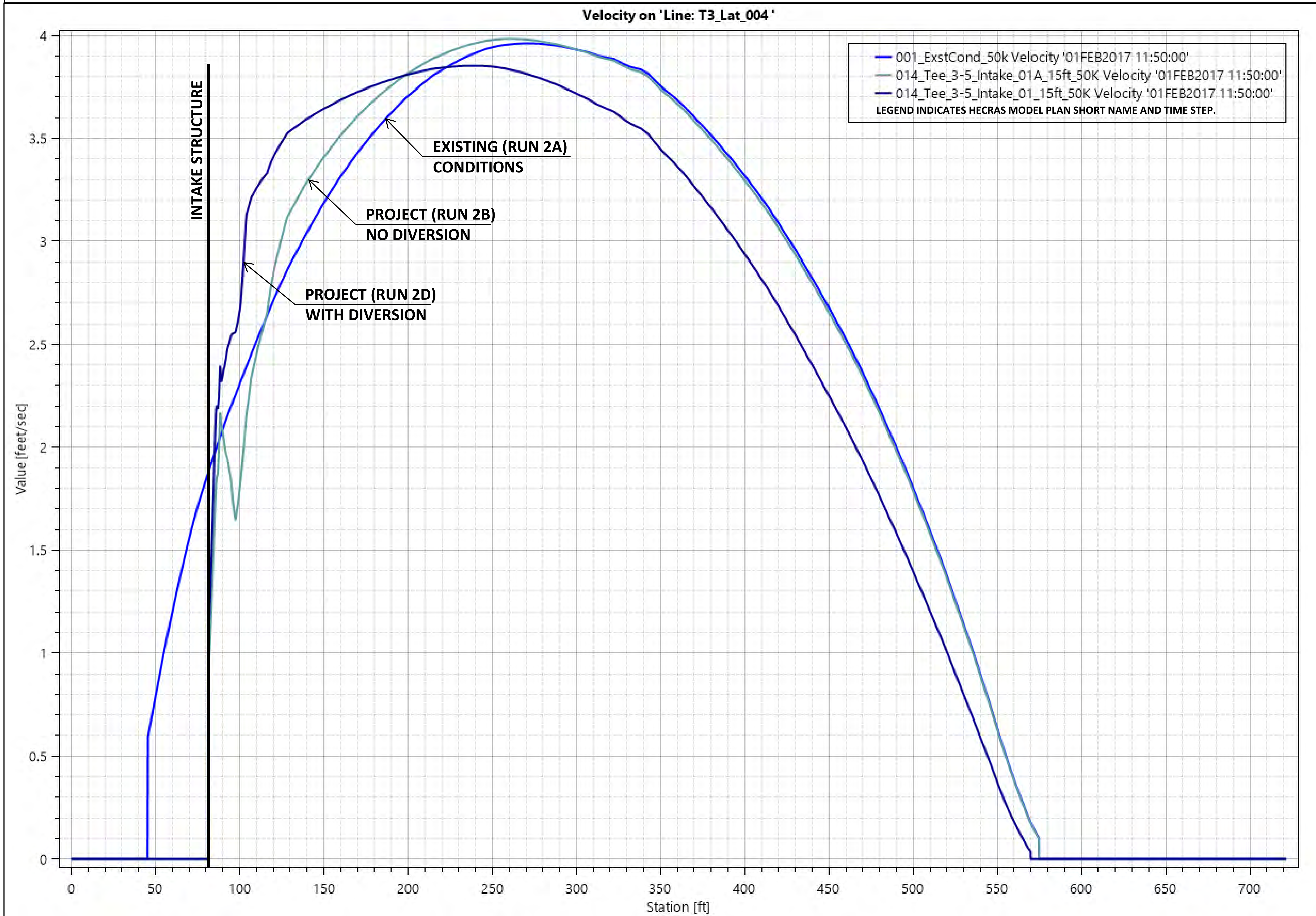
RUN 2A vs 2B vs 2D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



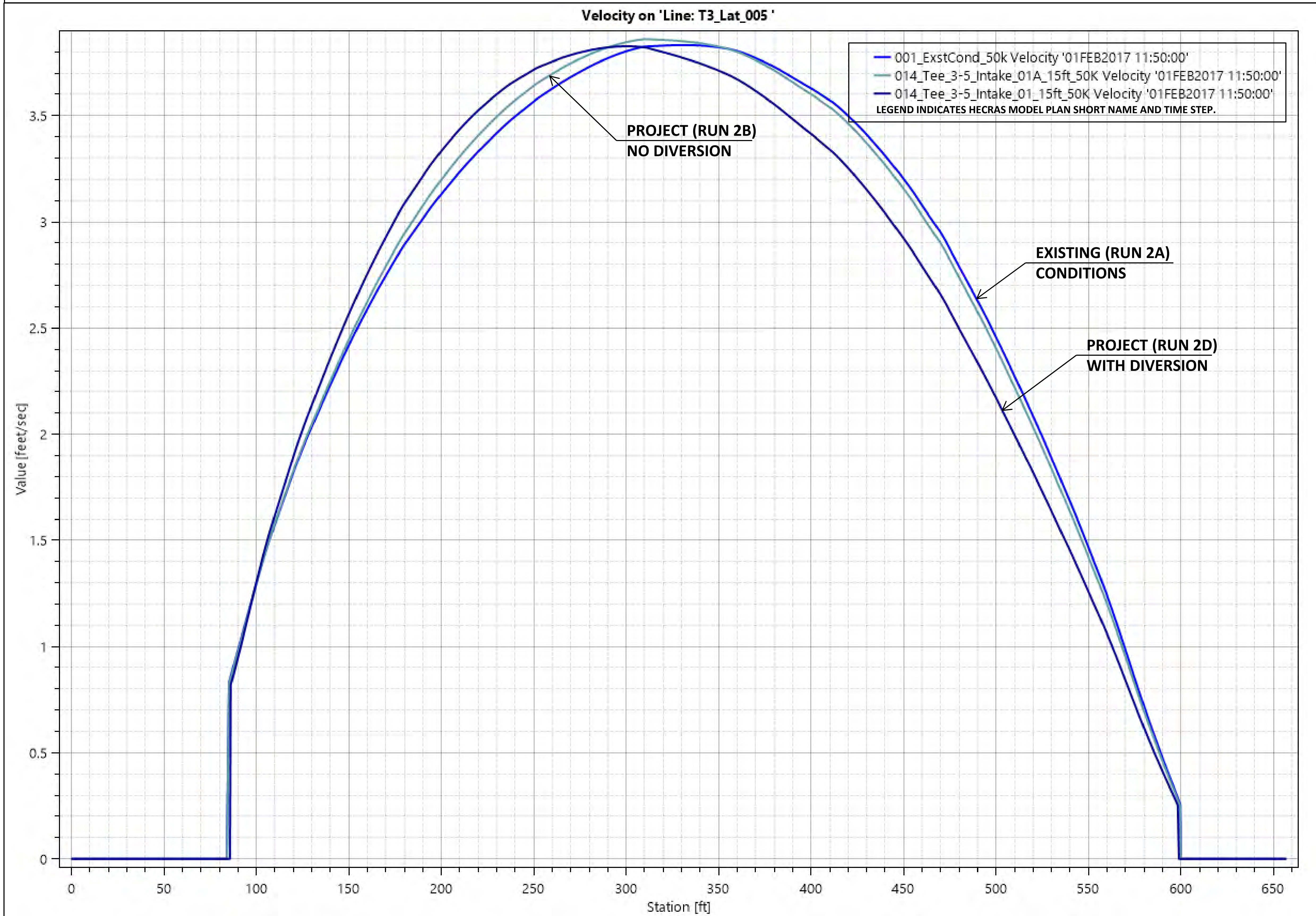
RUN 2A vs 2B vs 2D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 2A vs 2B vs 2D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

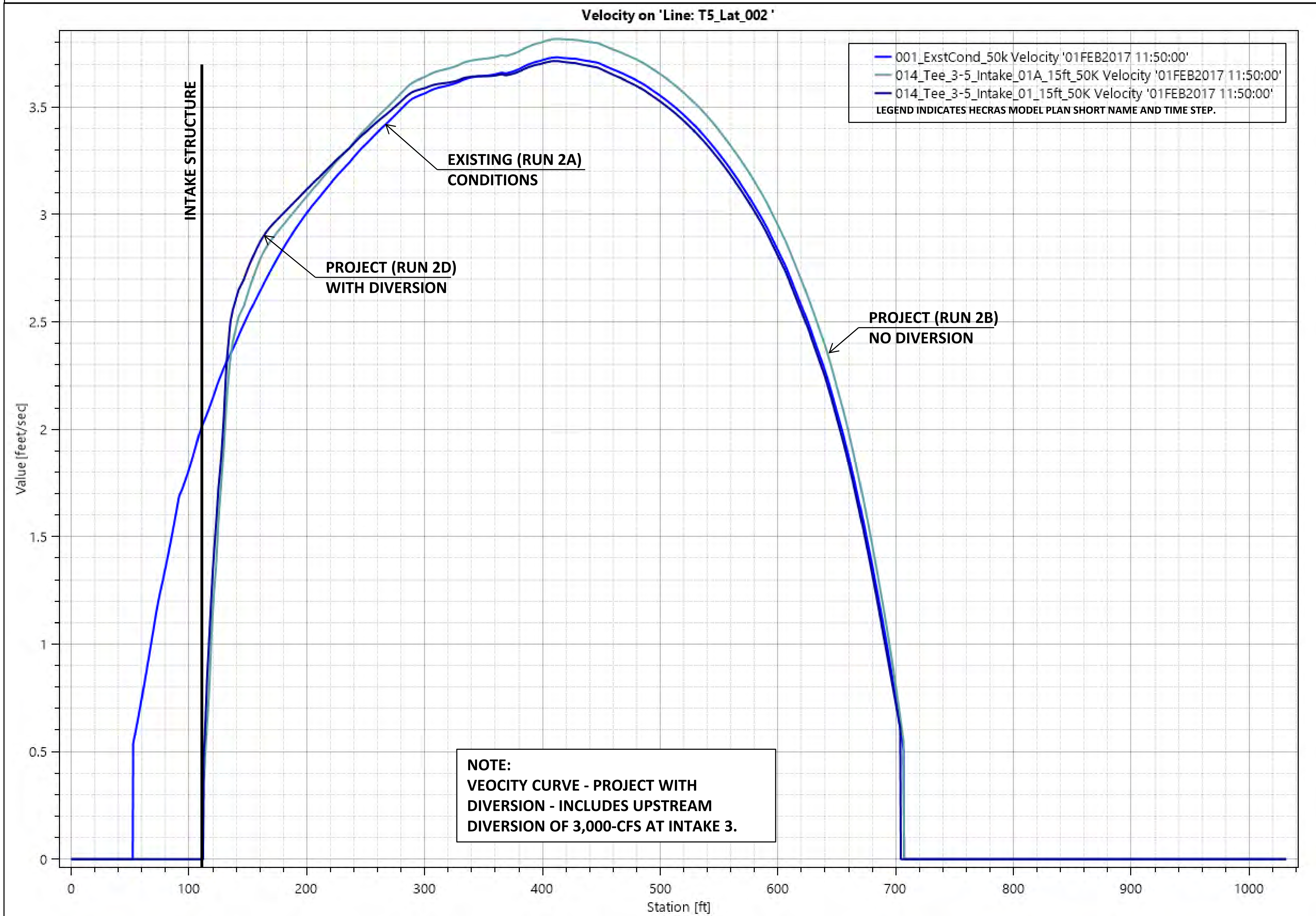
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T3_LAT_005



RUN 2A vs 2B vs 2D
INTAKE C-E-5 (C)

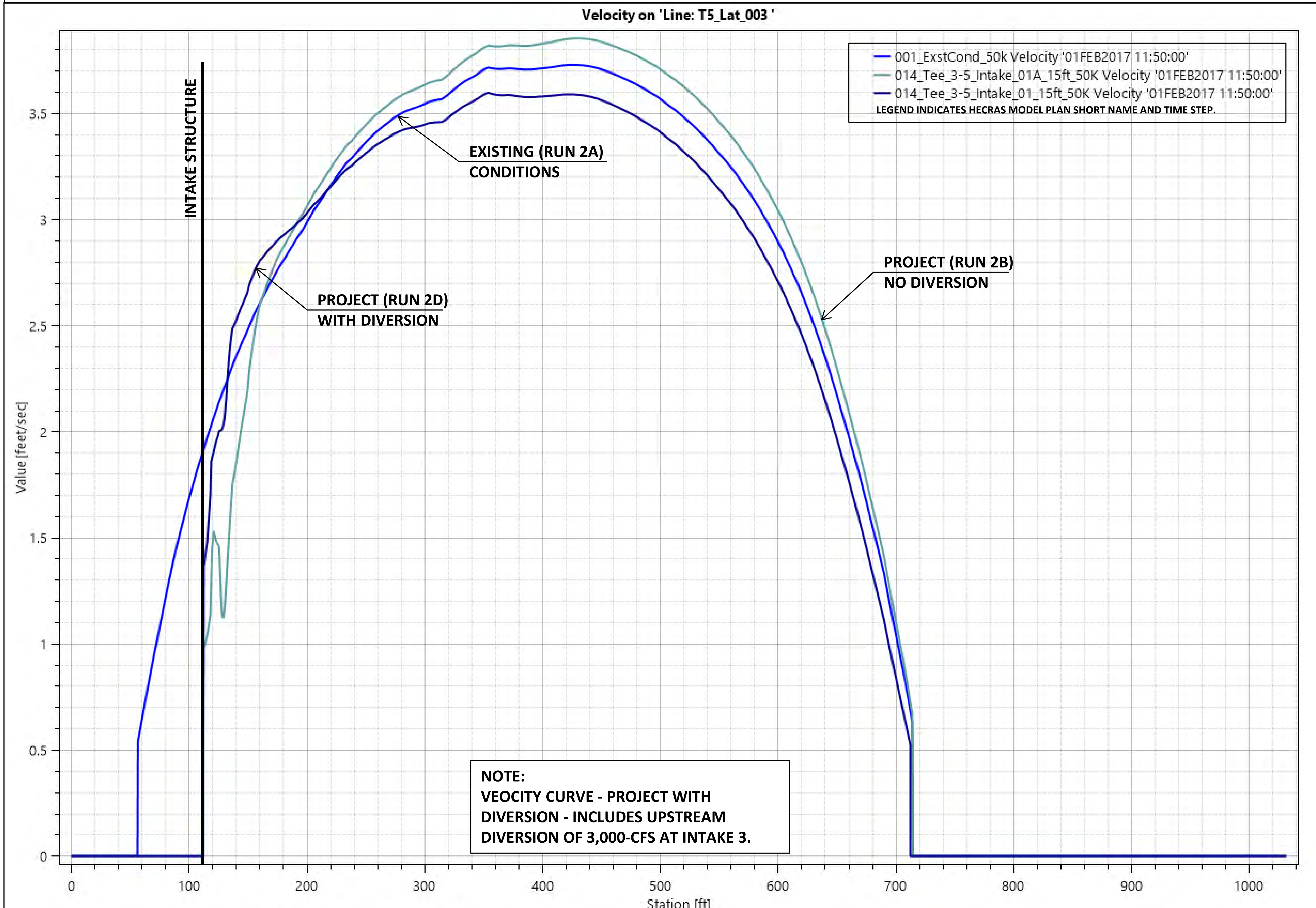
RUN 2A vs 2B vs 2D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



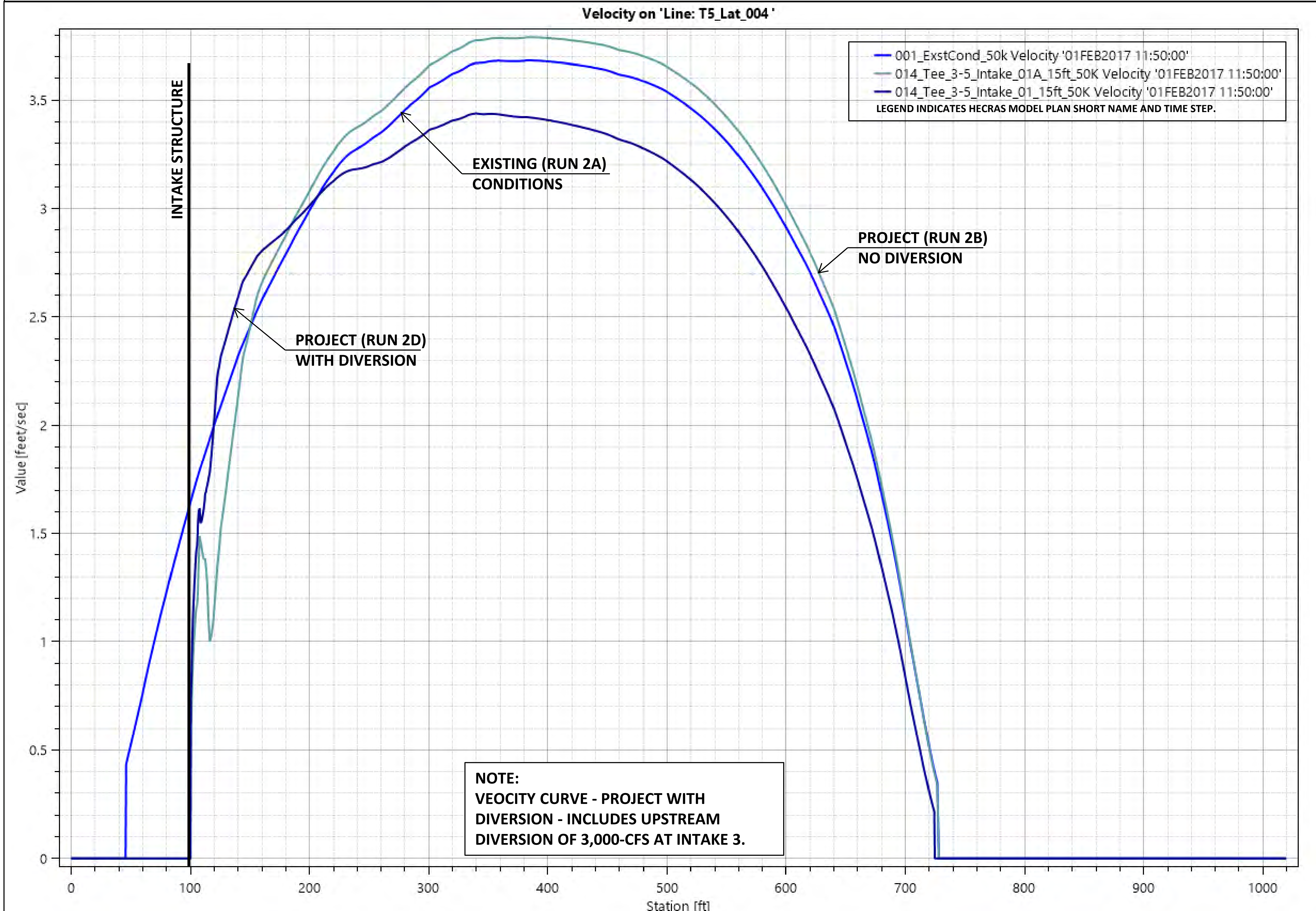
RUN 2A vs 2B vs 2D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



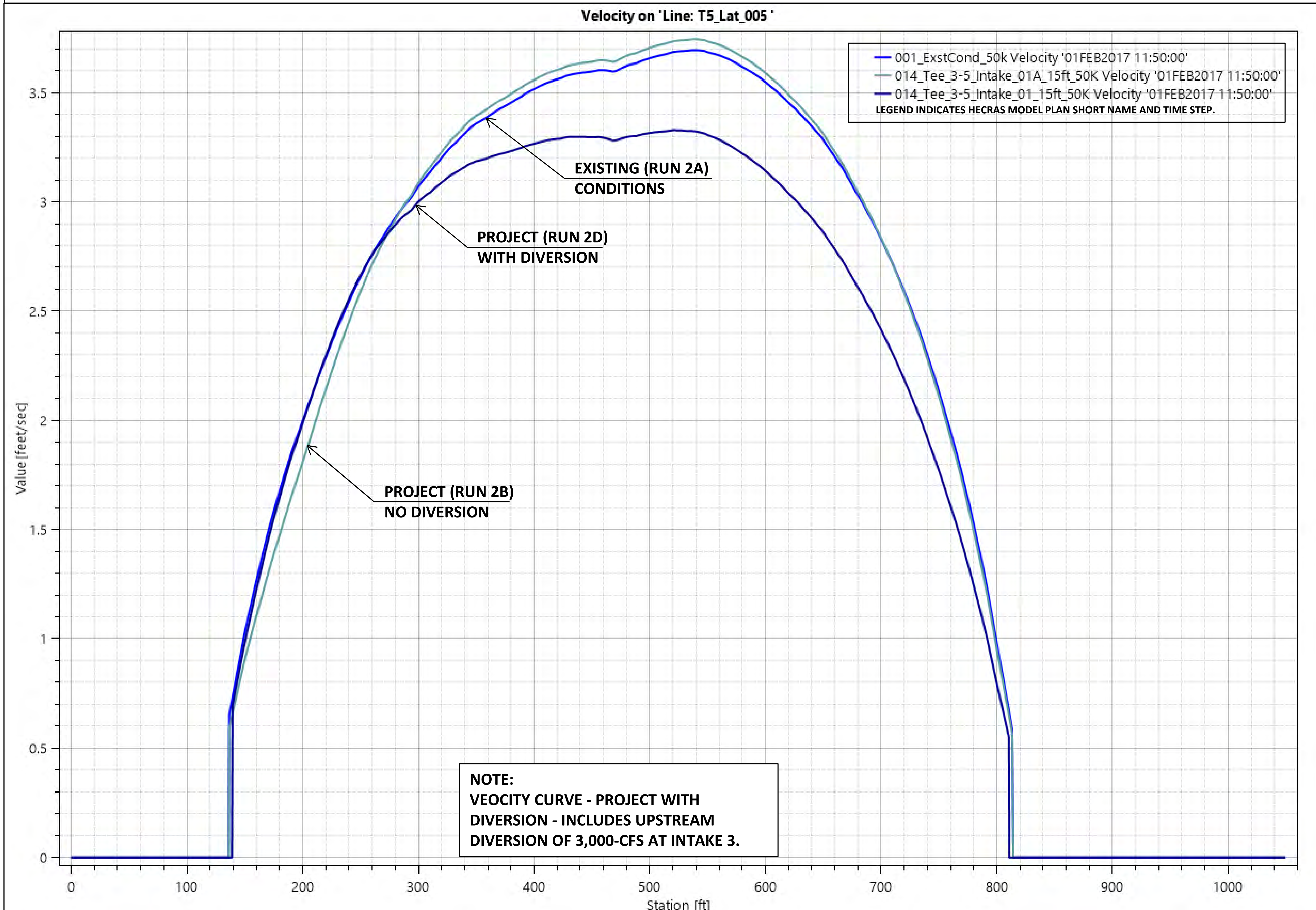
RUN 2A vs 2B vs 2D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 2A vs 2B vs 2D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

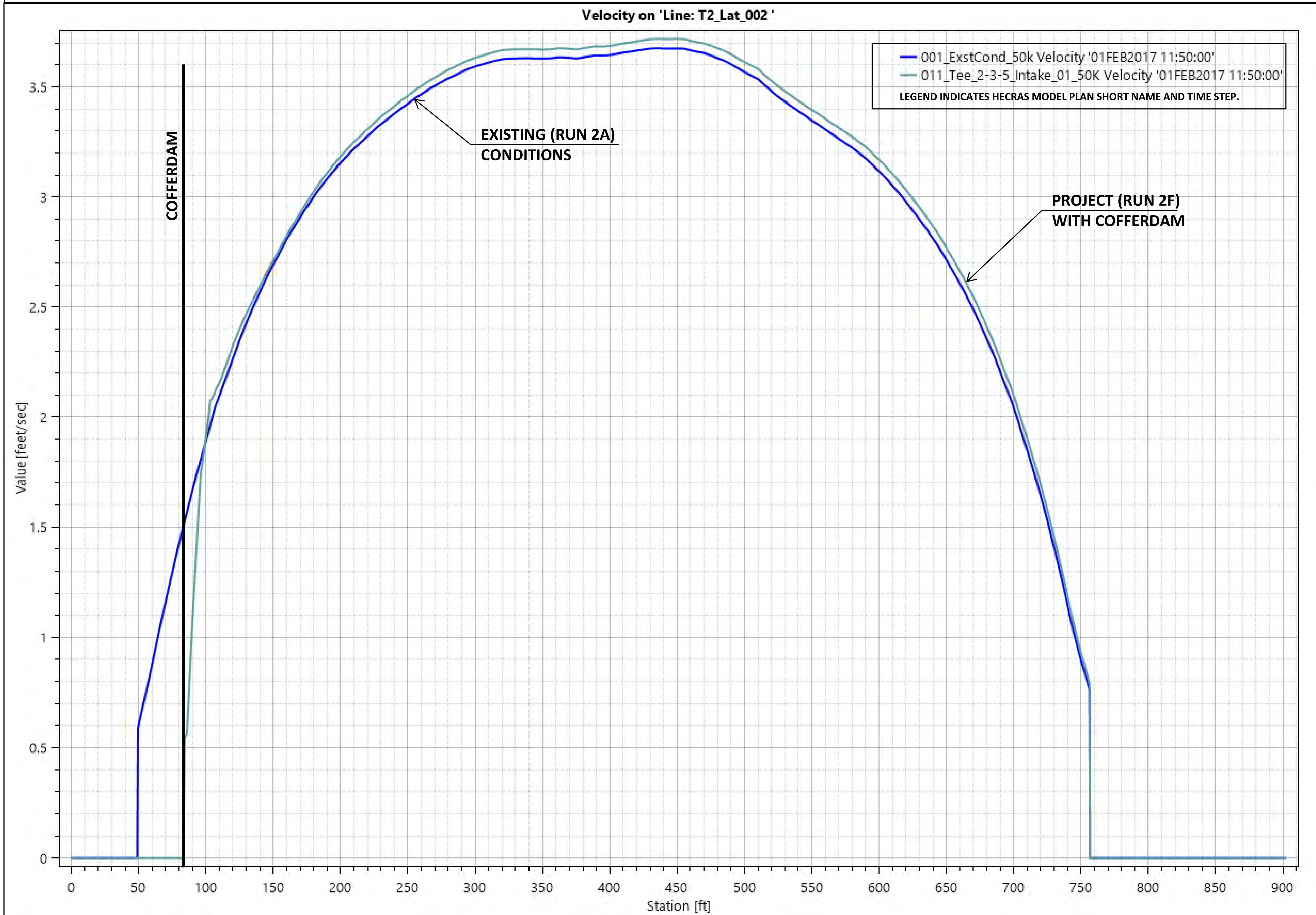
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T5_LAT_005



RUN 2A vs 2F
INTAKE C-E-2 (A)

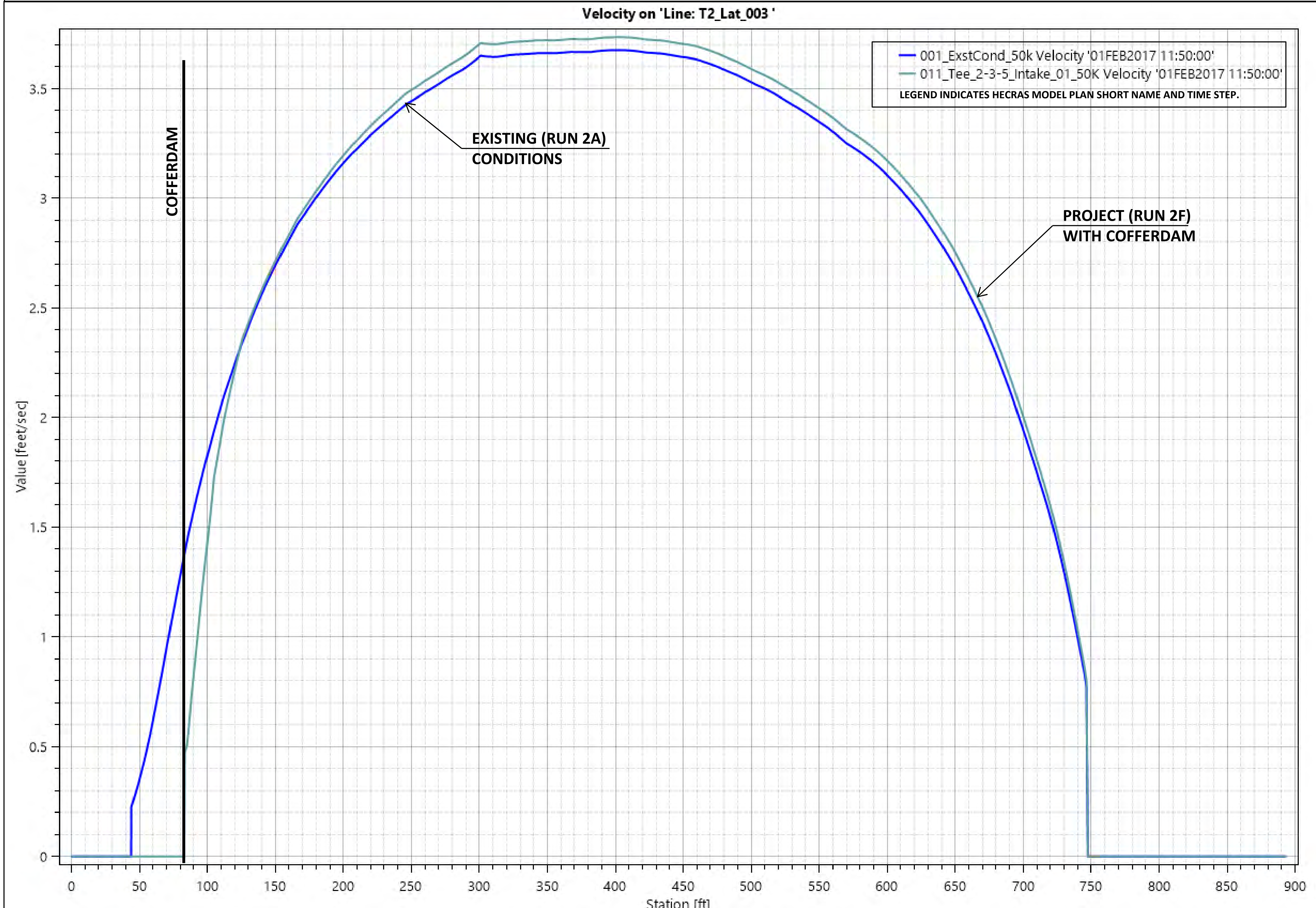
RUN 2A vs 2F – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T2_LAT_002



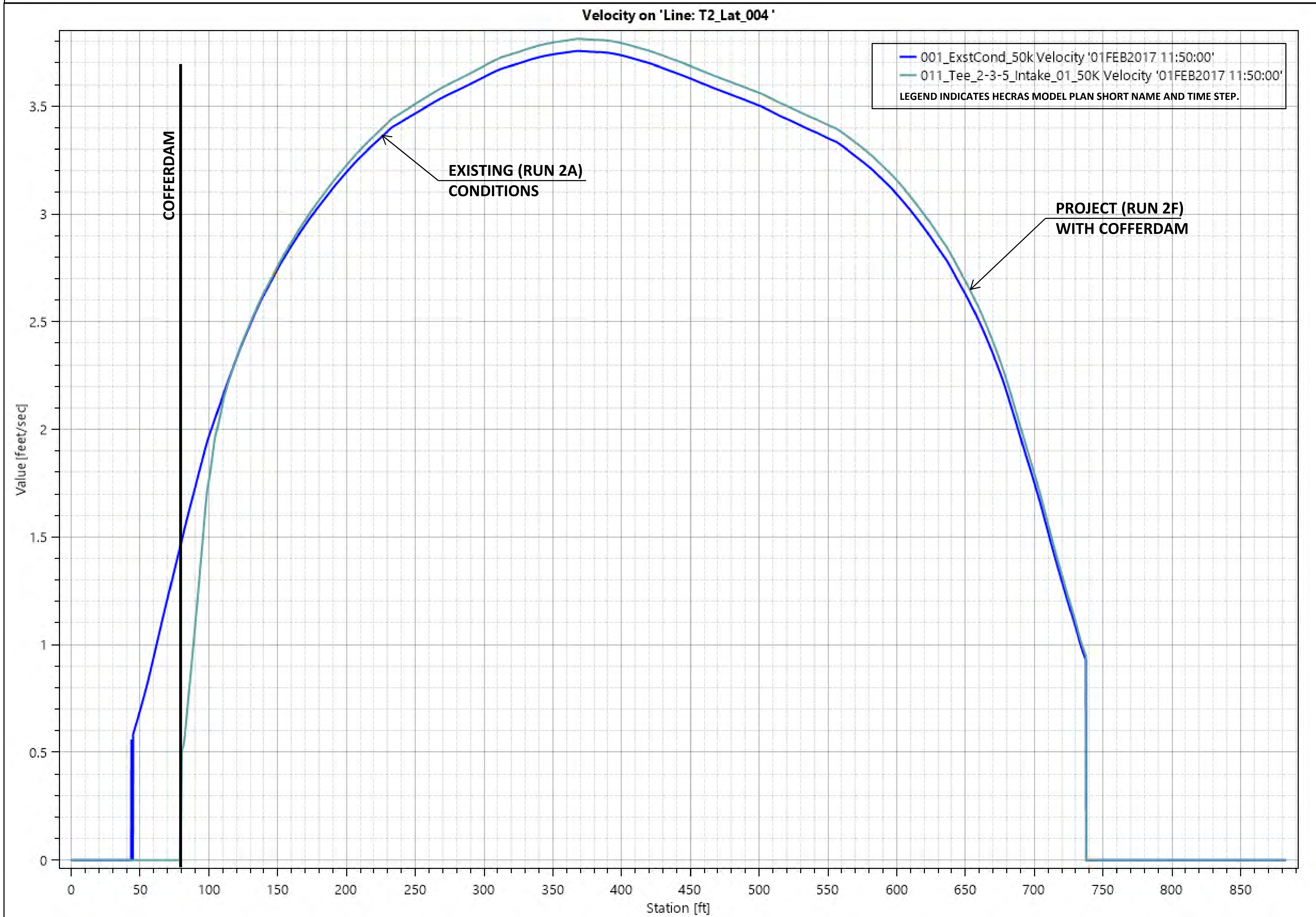
RUN 2A vs 2F – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T2_LAT_003



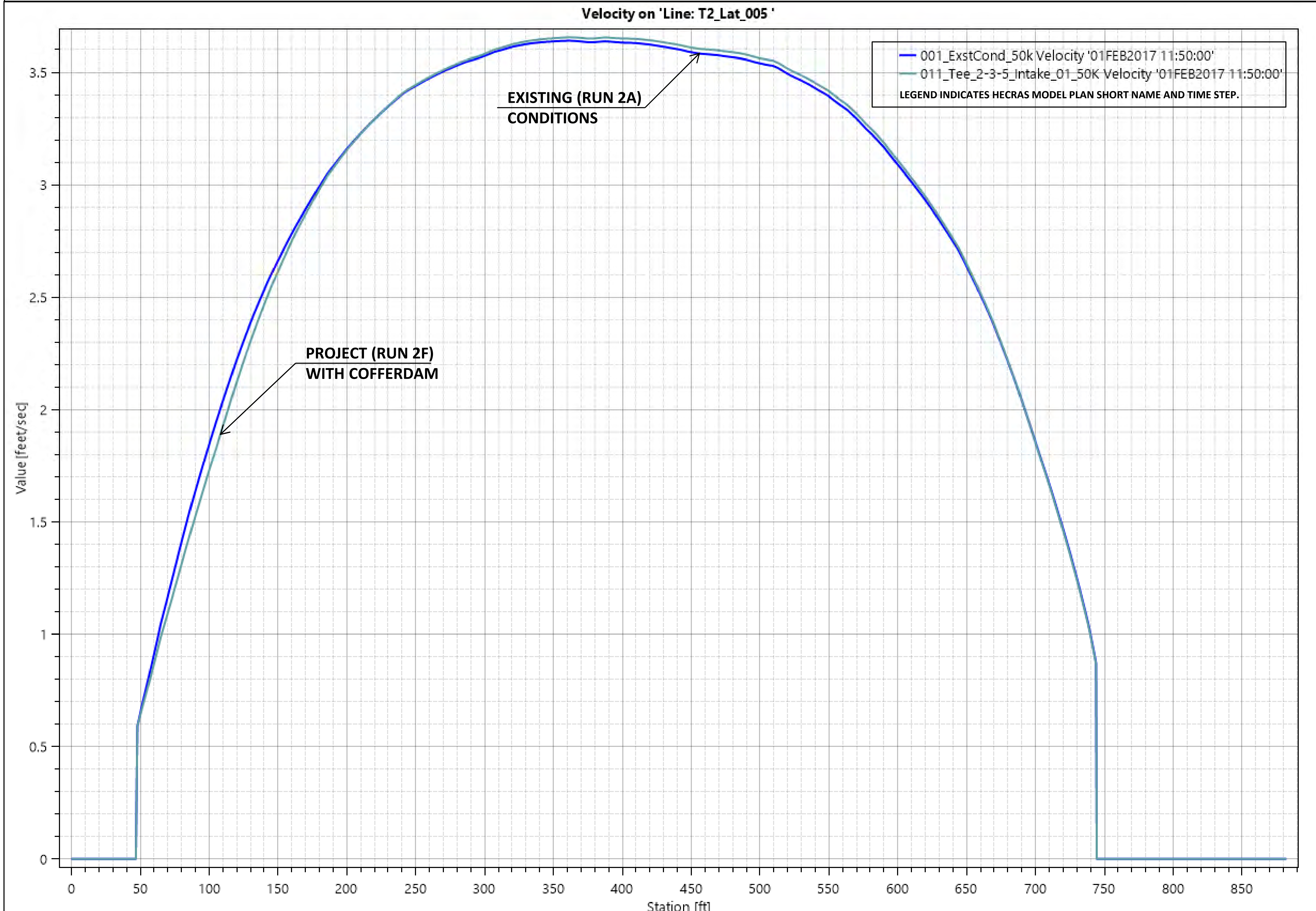
RUN 2A vs 2F – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T2_LAT_004



RUN 2A vs 2F – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

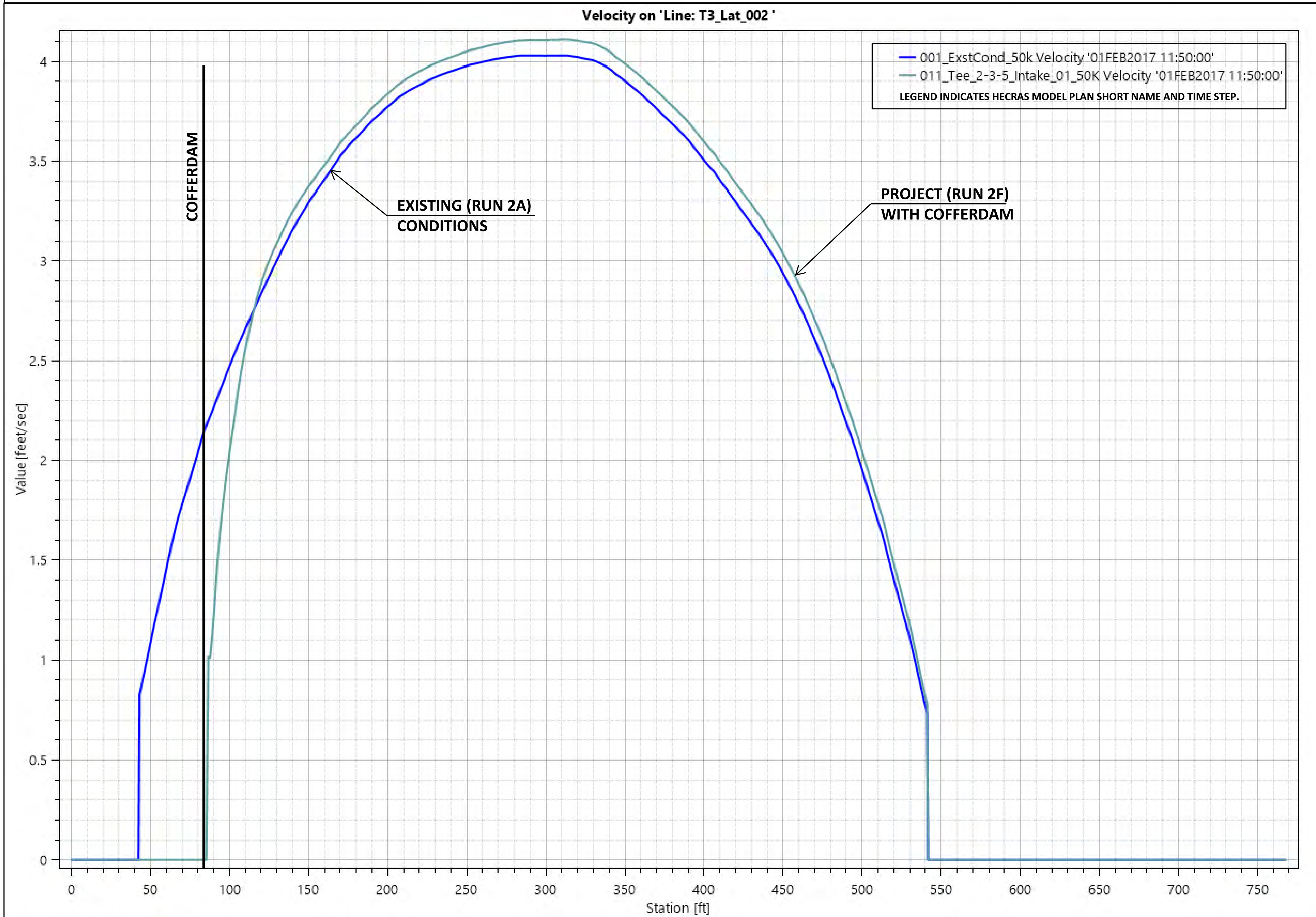
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T2_LAT_005



RUN 2A vs 2F
INTAKE C-E-3 (B)

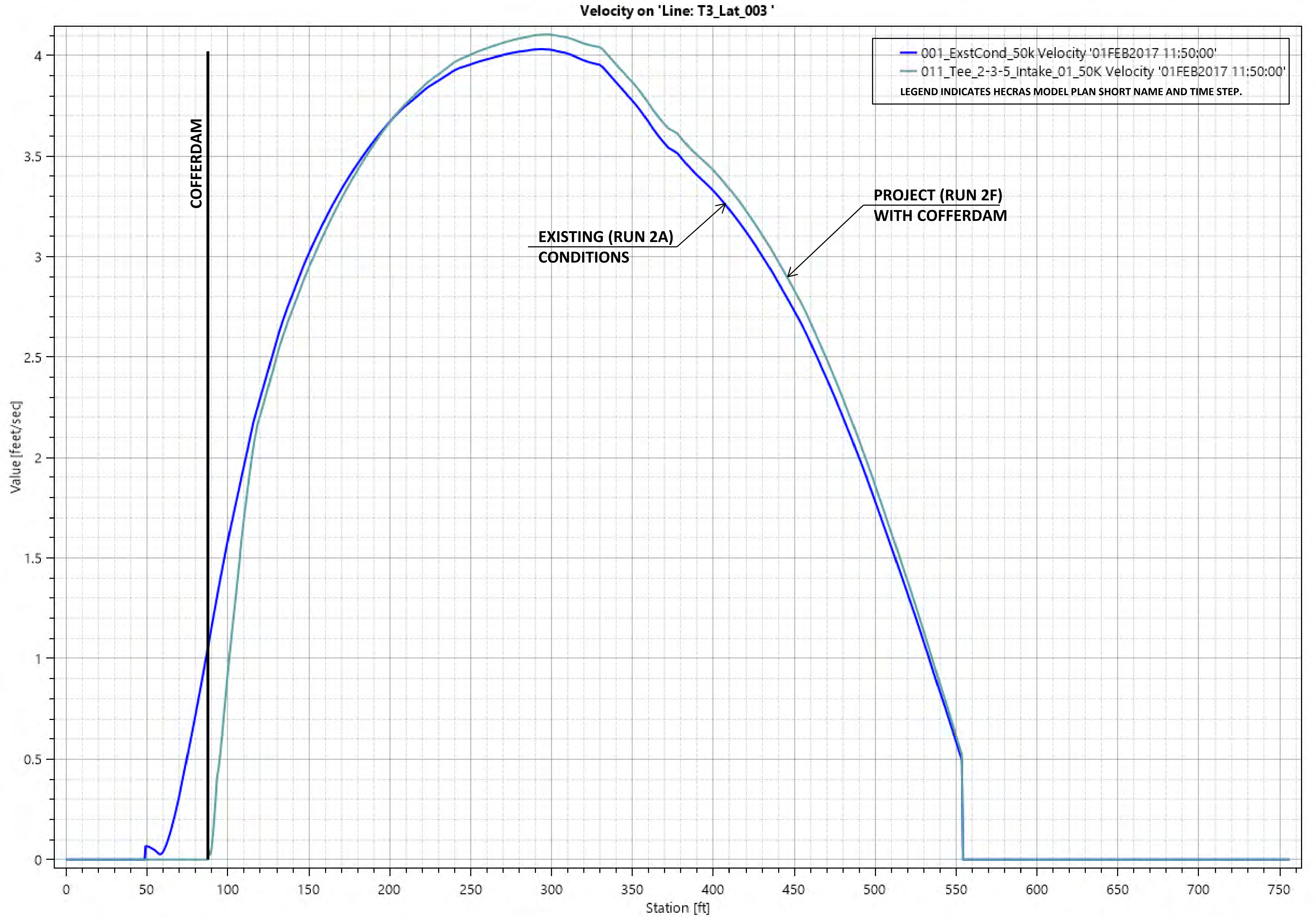
RUN 2A vs 2F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



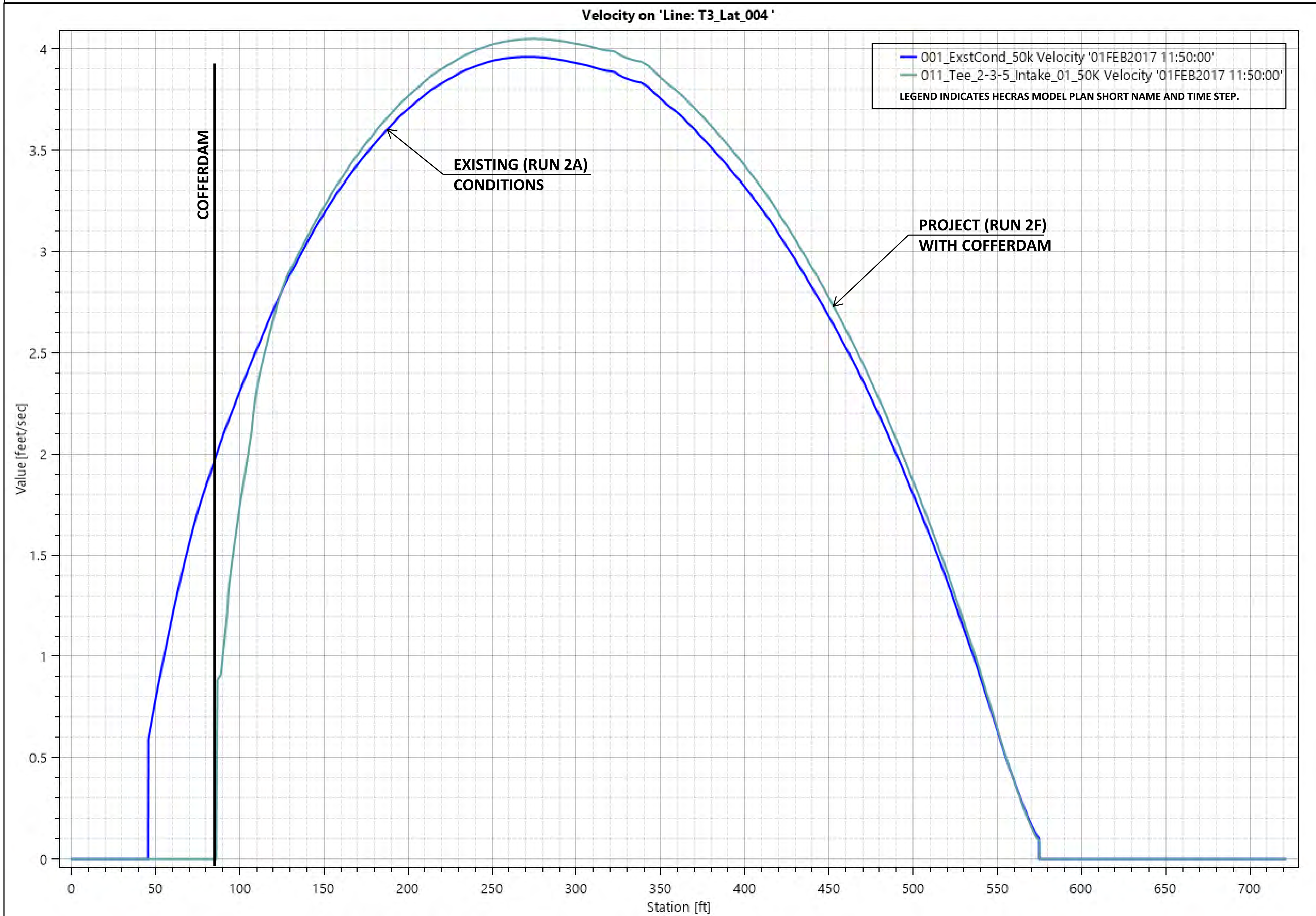
RUN 2A vs 2F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



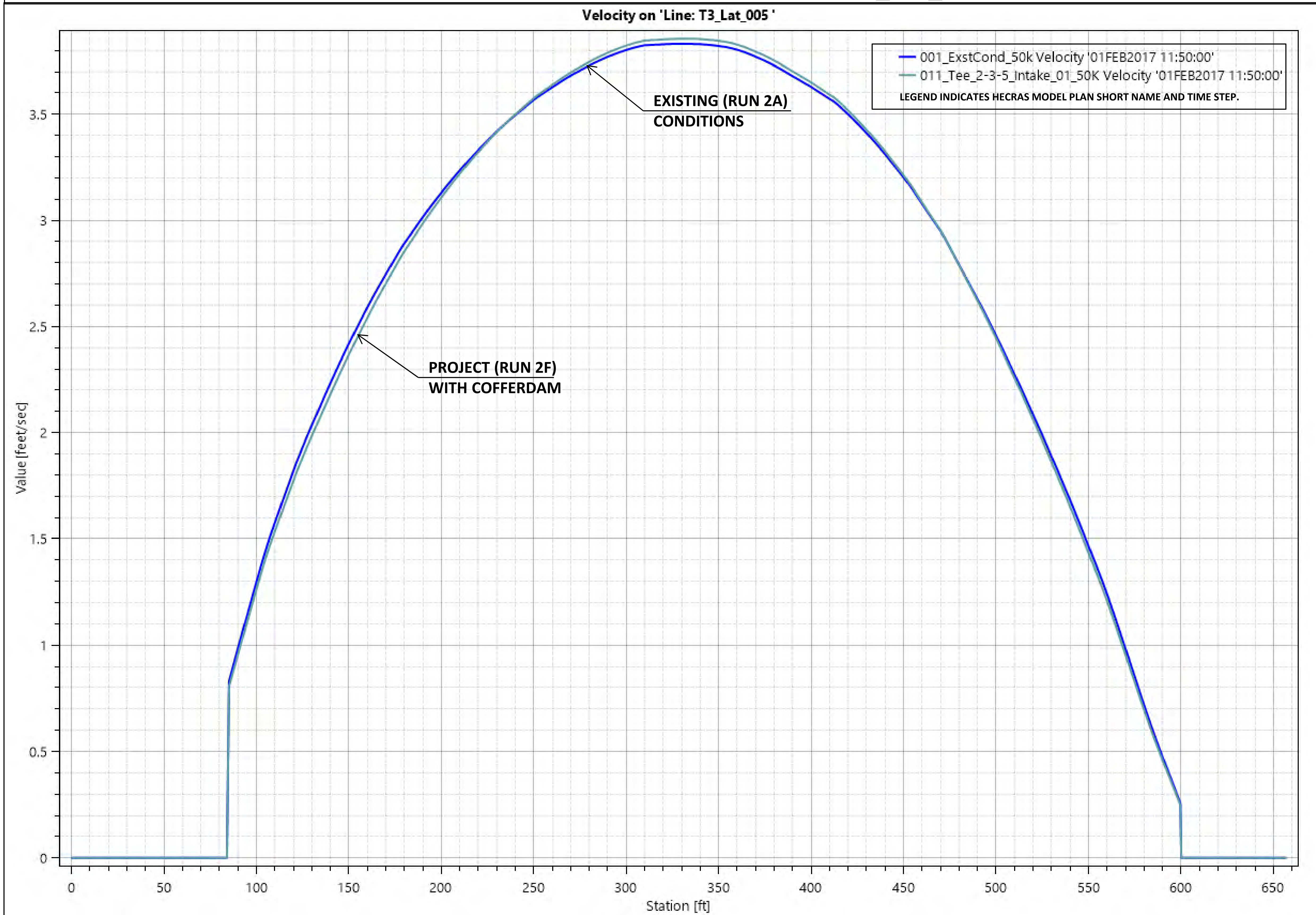
RUN 2A vs 2F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 2A vs 2F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

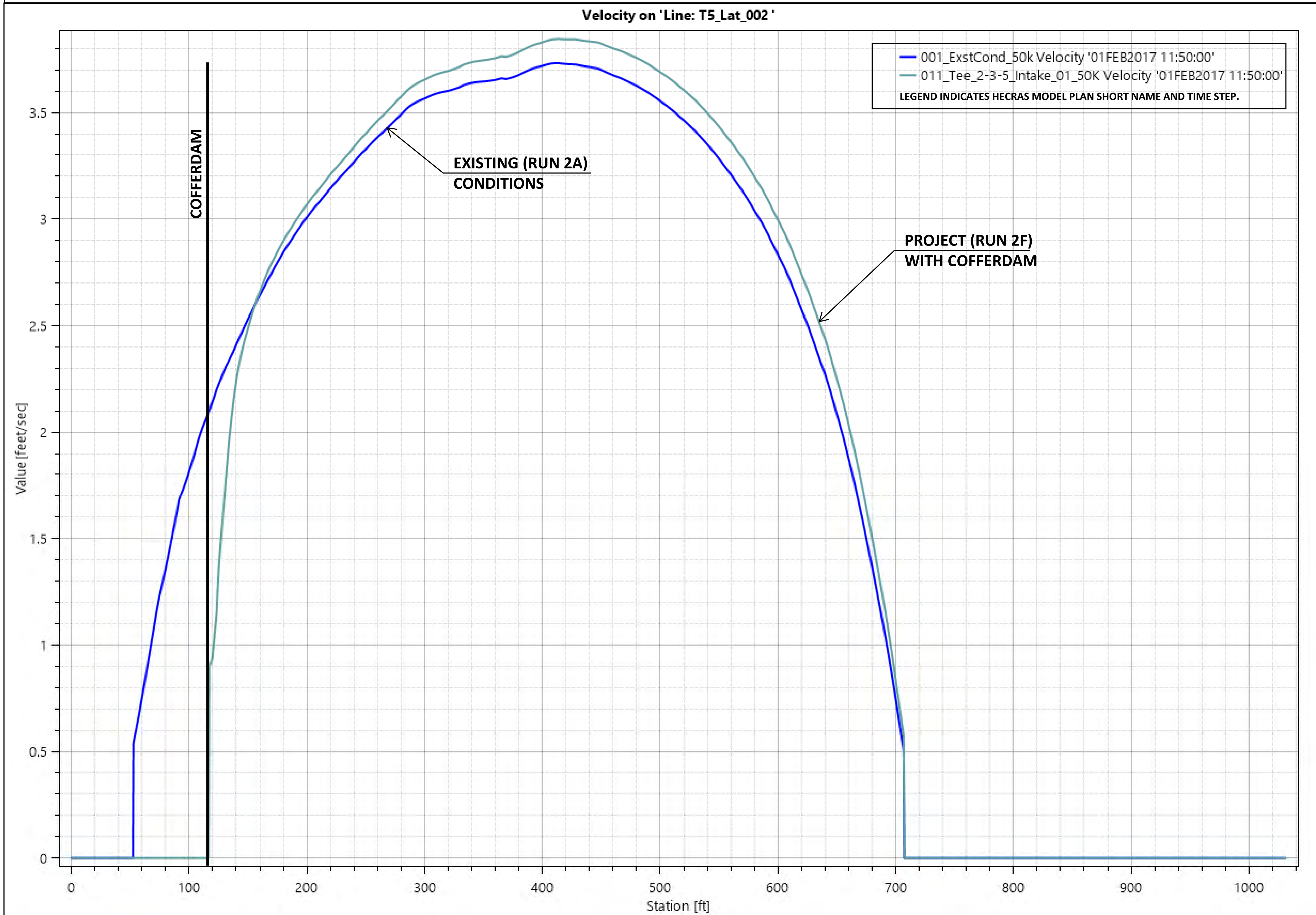
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 2A vs 2F
INTAKE C-E-5 (C)

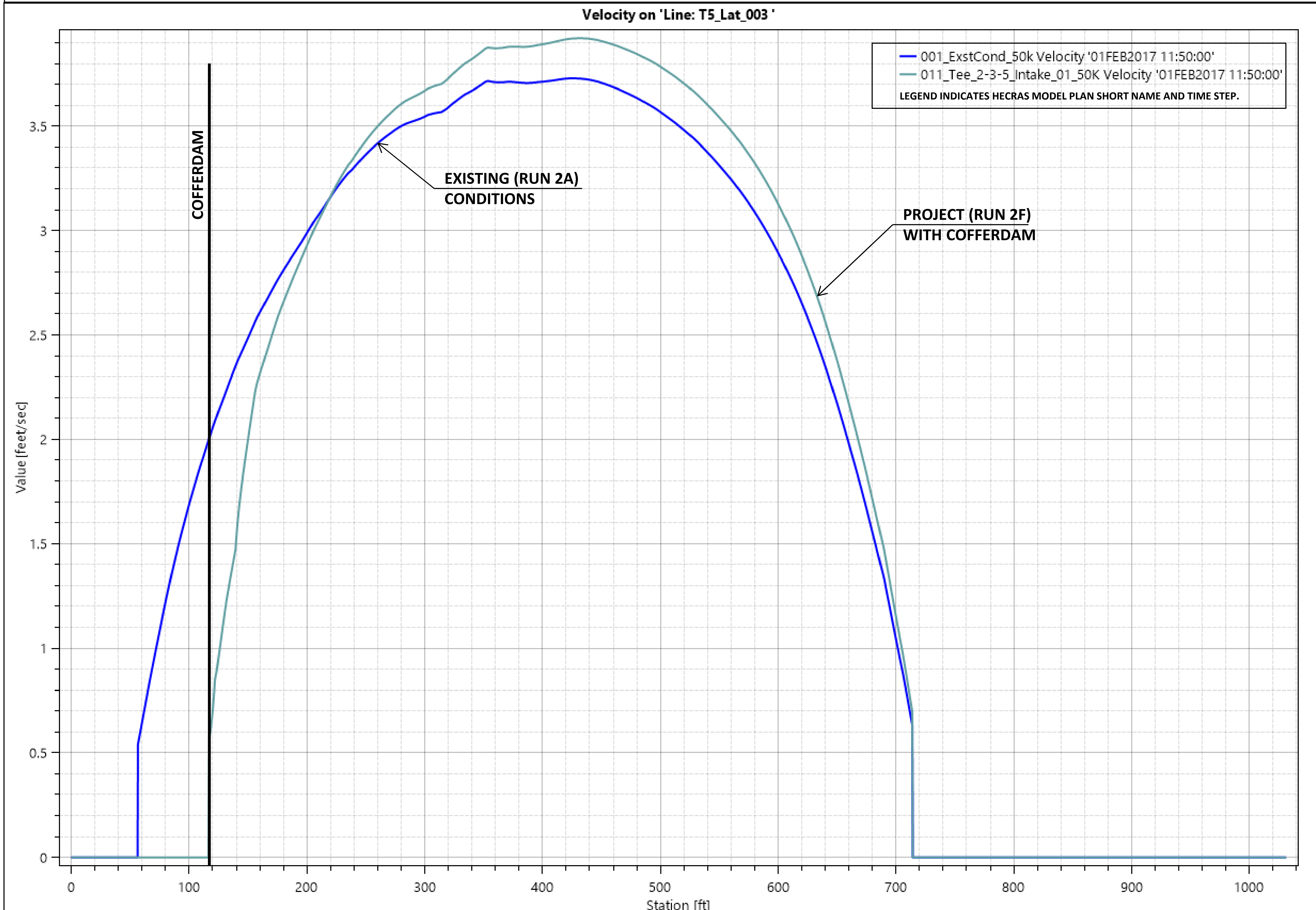
RUN 2A vs 2F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



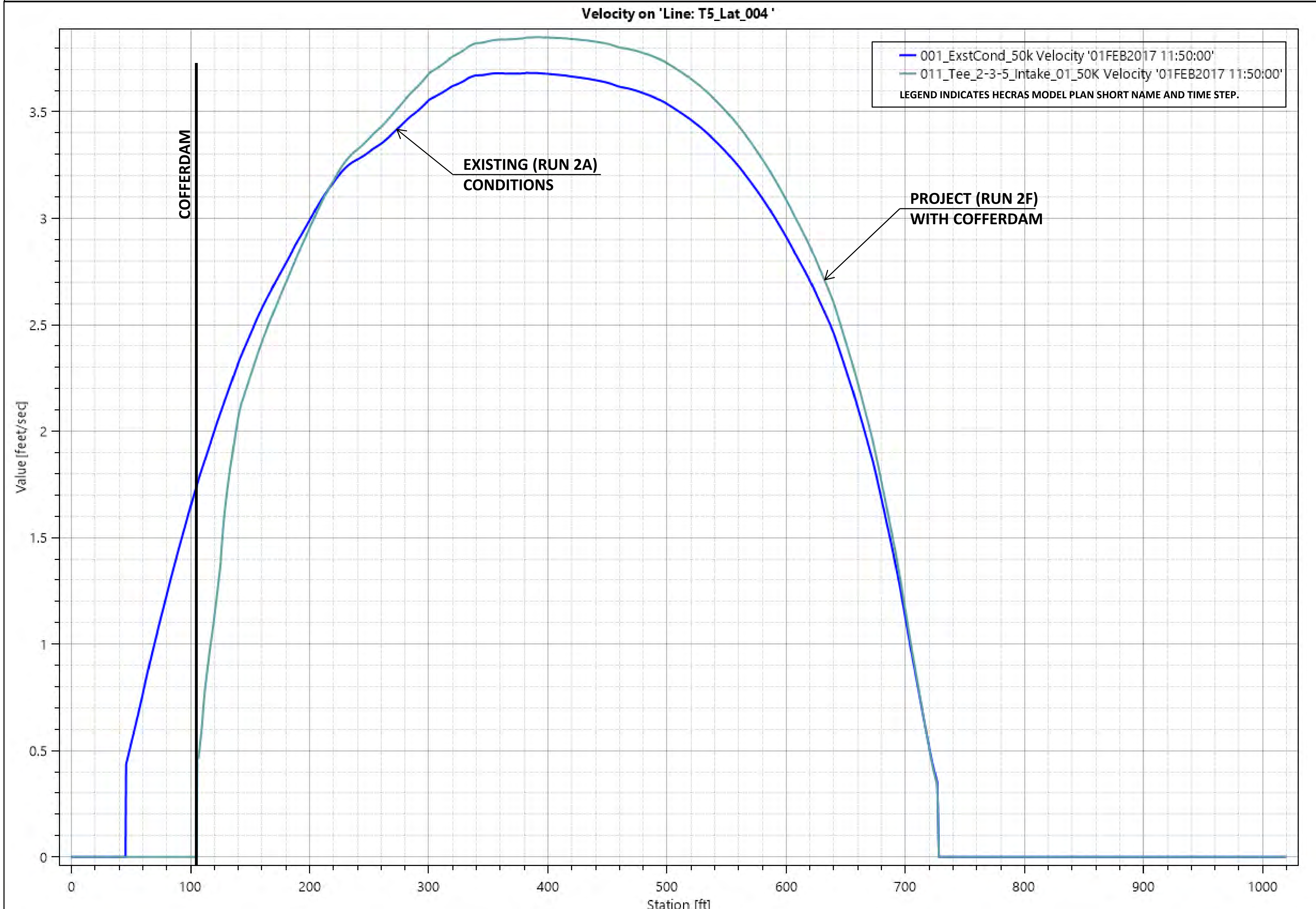
RUN 2A vs 2F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003

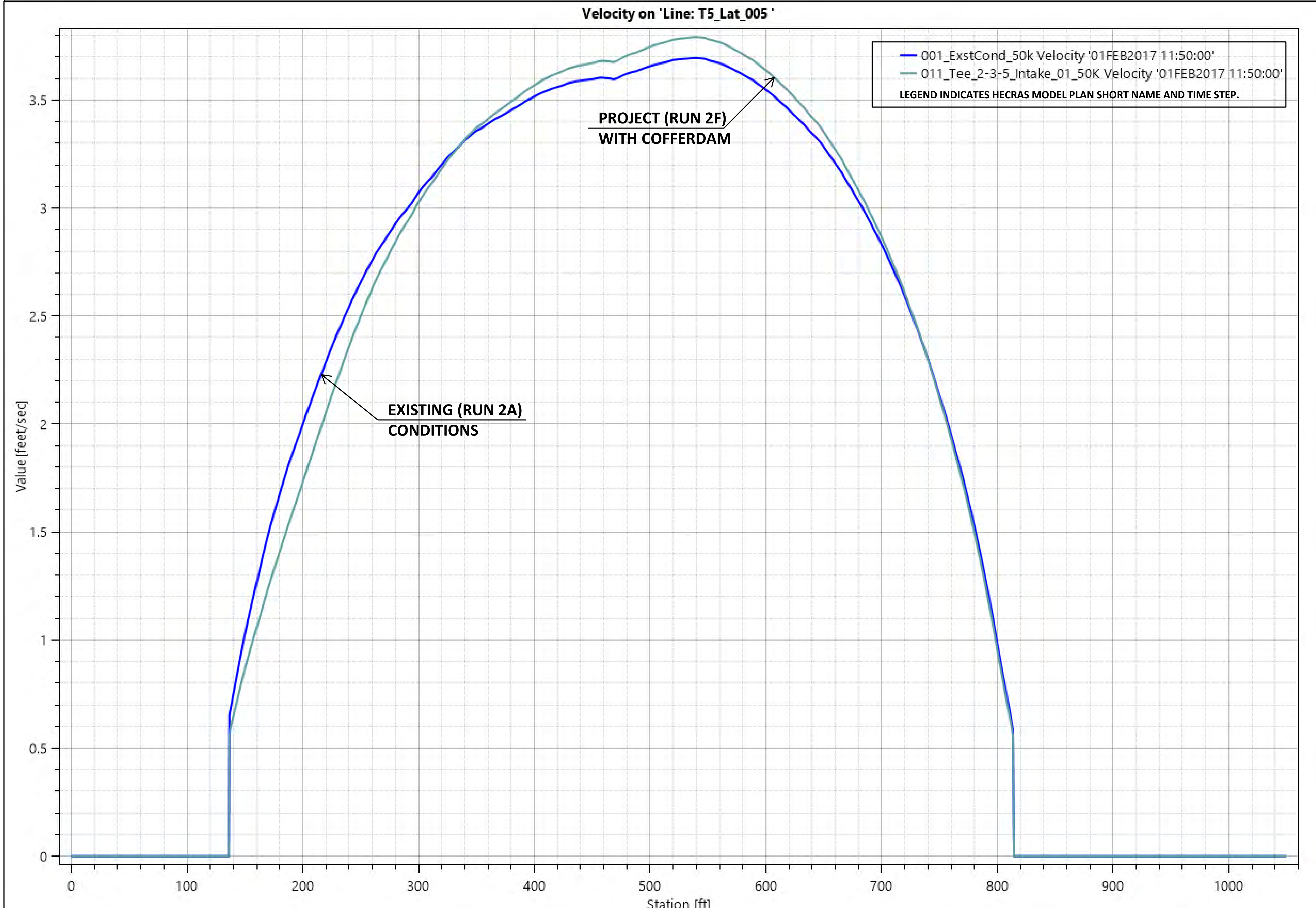


RUN 2A vs 2F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



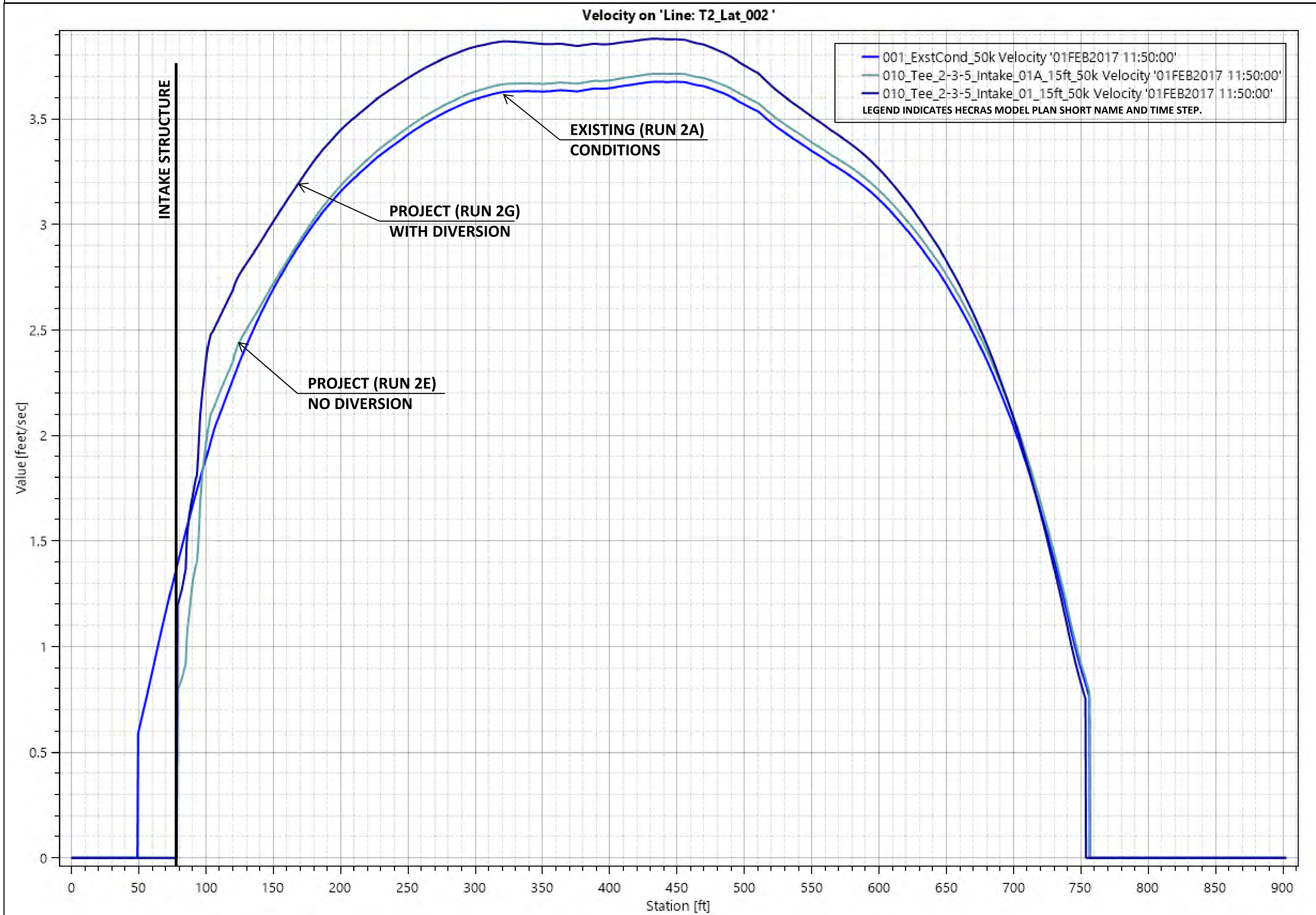
RUN 2A vs 2F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



RUN 2A vs 2E vs 2G
INTAKE C-E-2 (A)

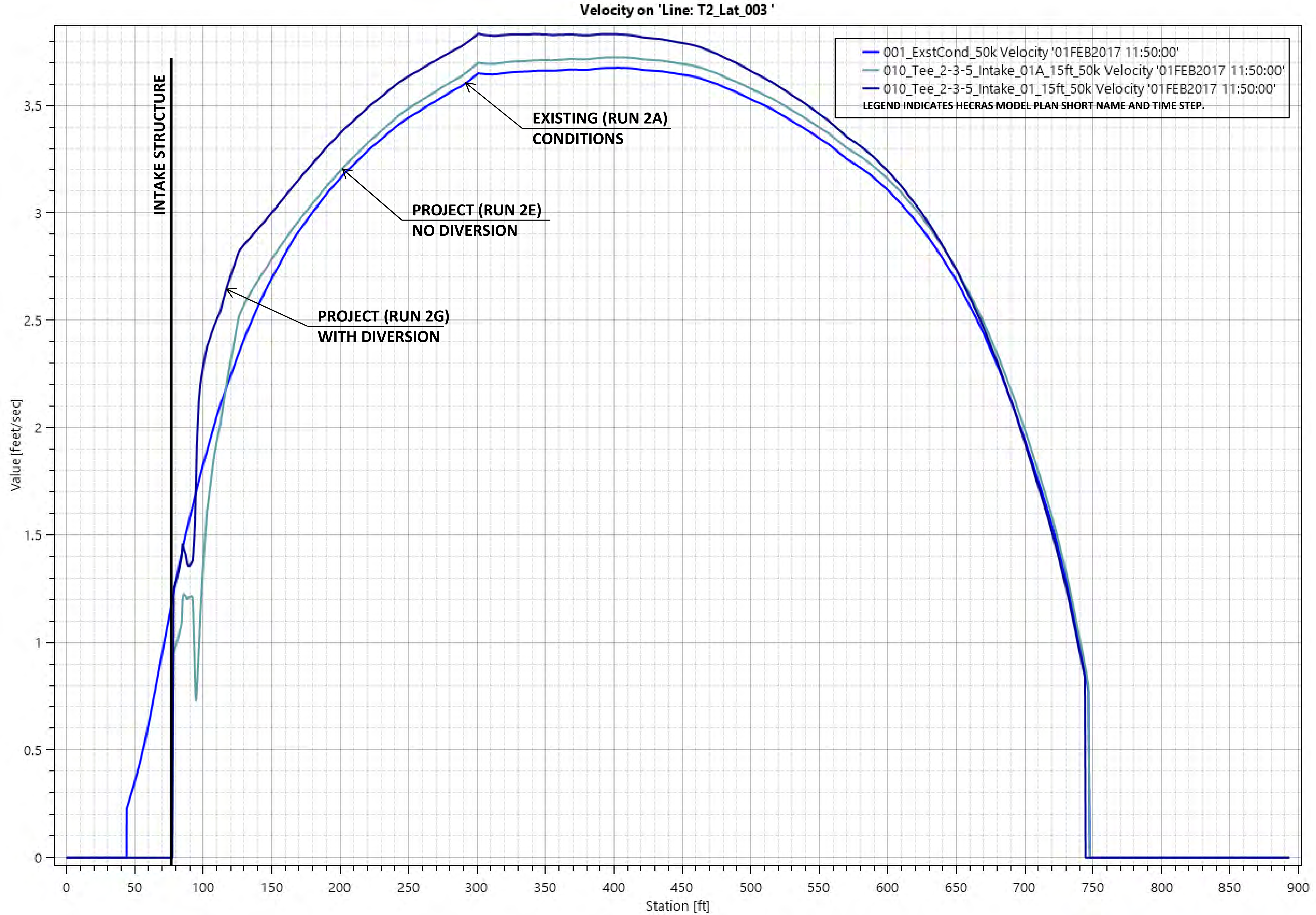
RUN 2A vs 2E vs 2G – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T2_LAT_002



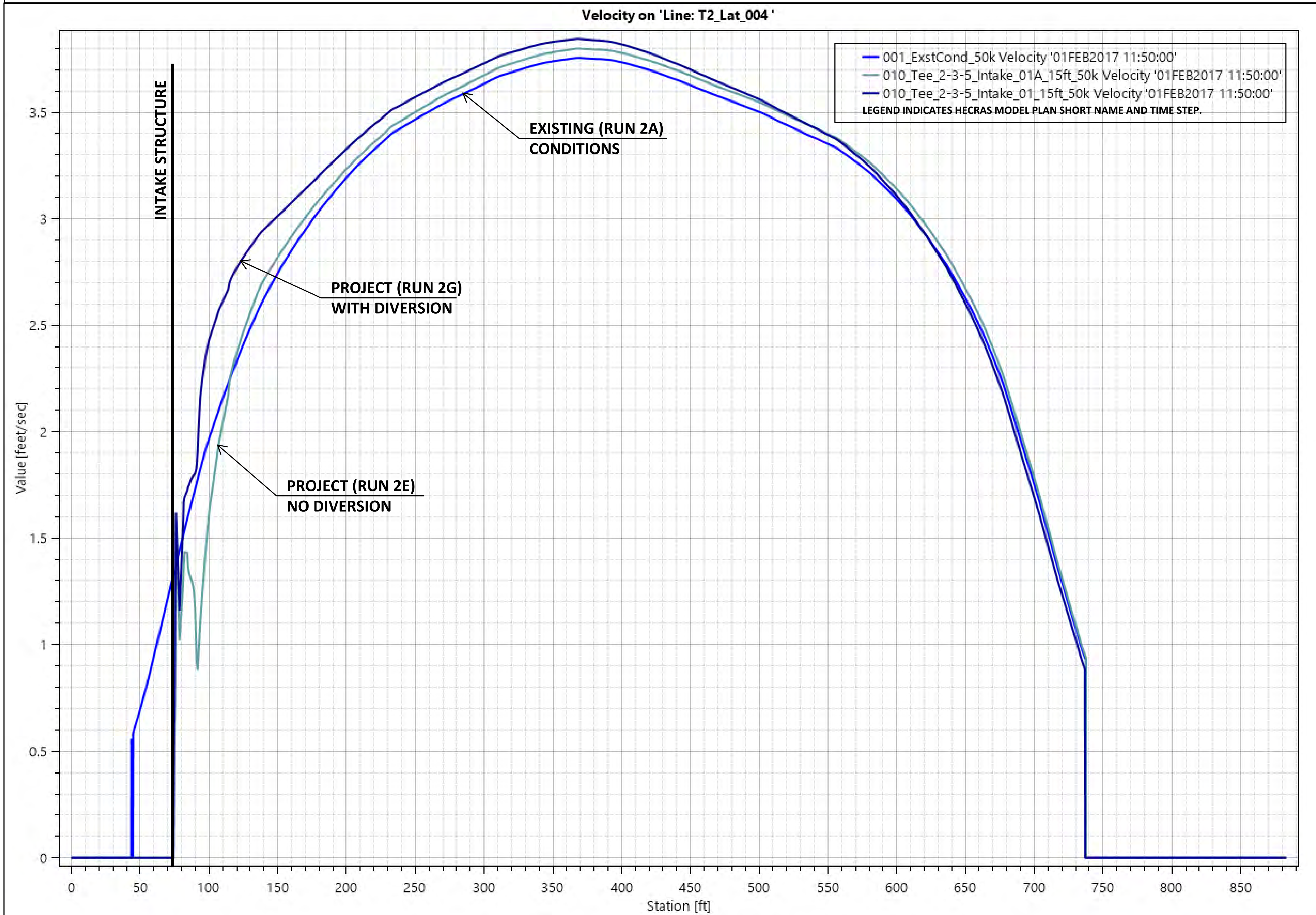
RUN 2A vs 2E vs 2G – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T2_LAT_003



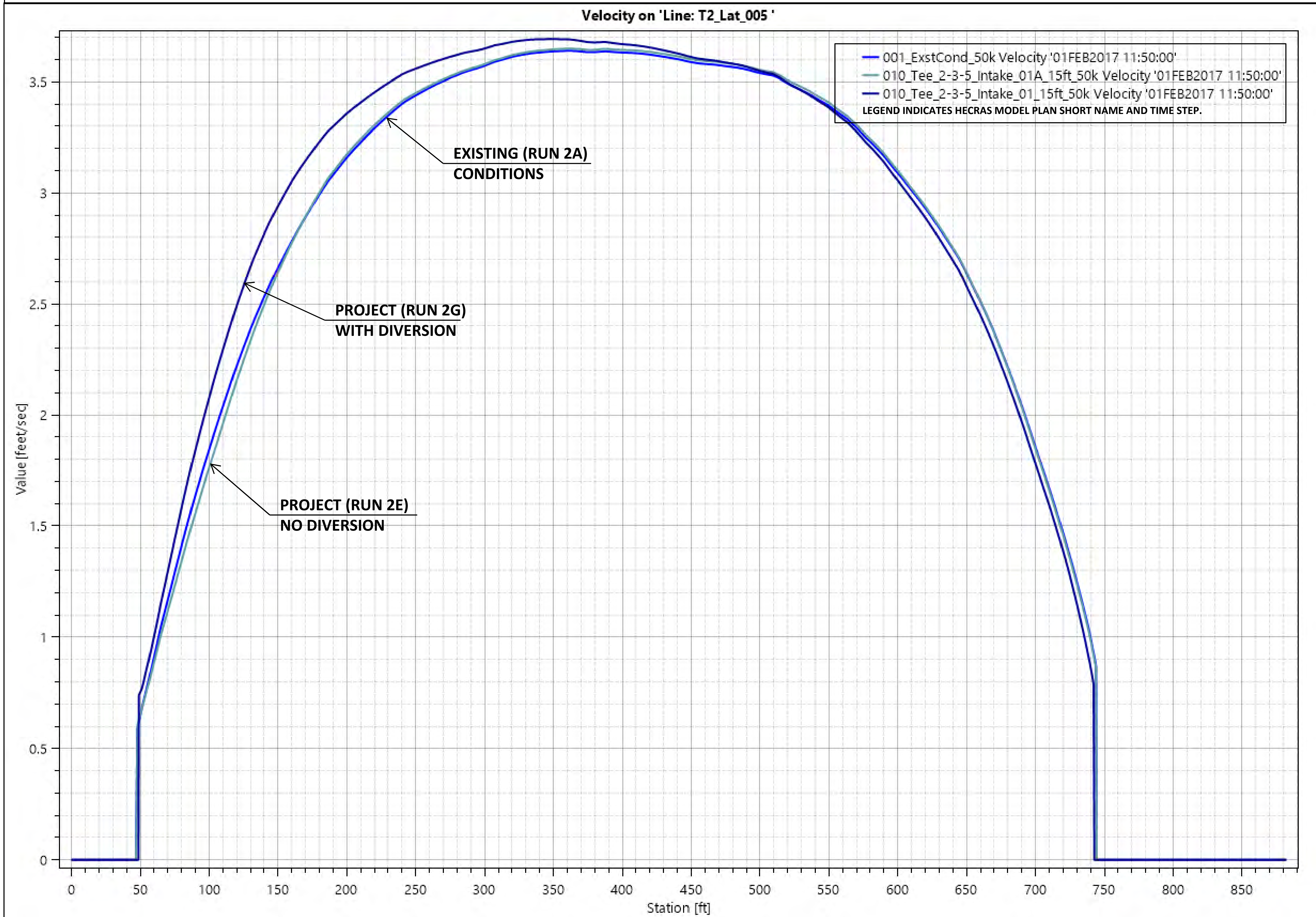
RUN 2A vs 2E vs 2G – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T2_LAT_004



RUN 2A vs 2E vs 2G – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

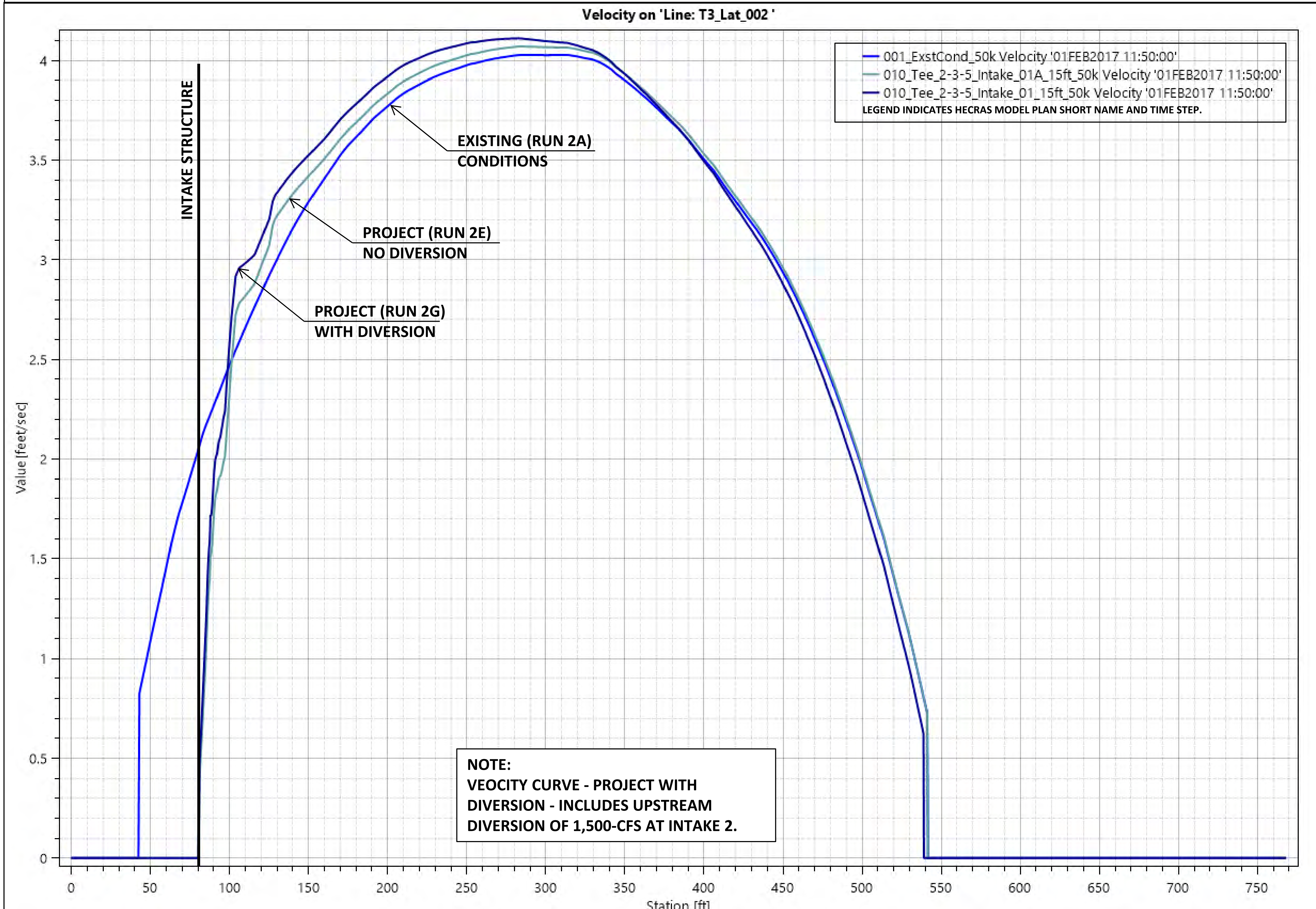
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T2_LAT_005



RUN 2A vs 2E vs 2G
INTAKE C-E-3 (B)

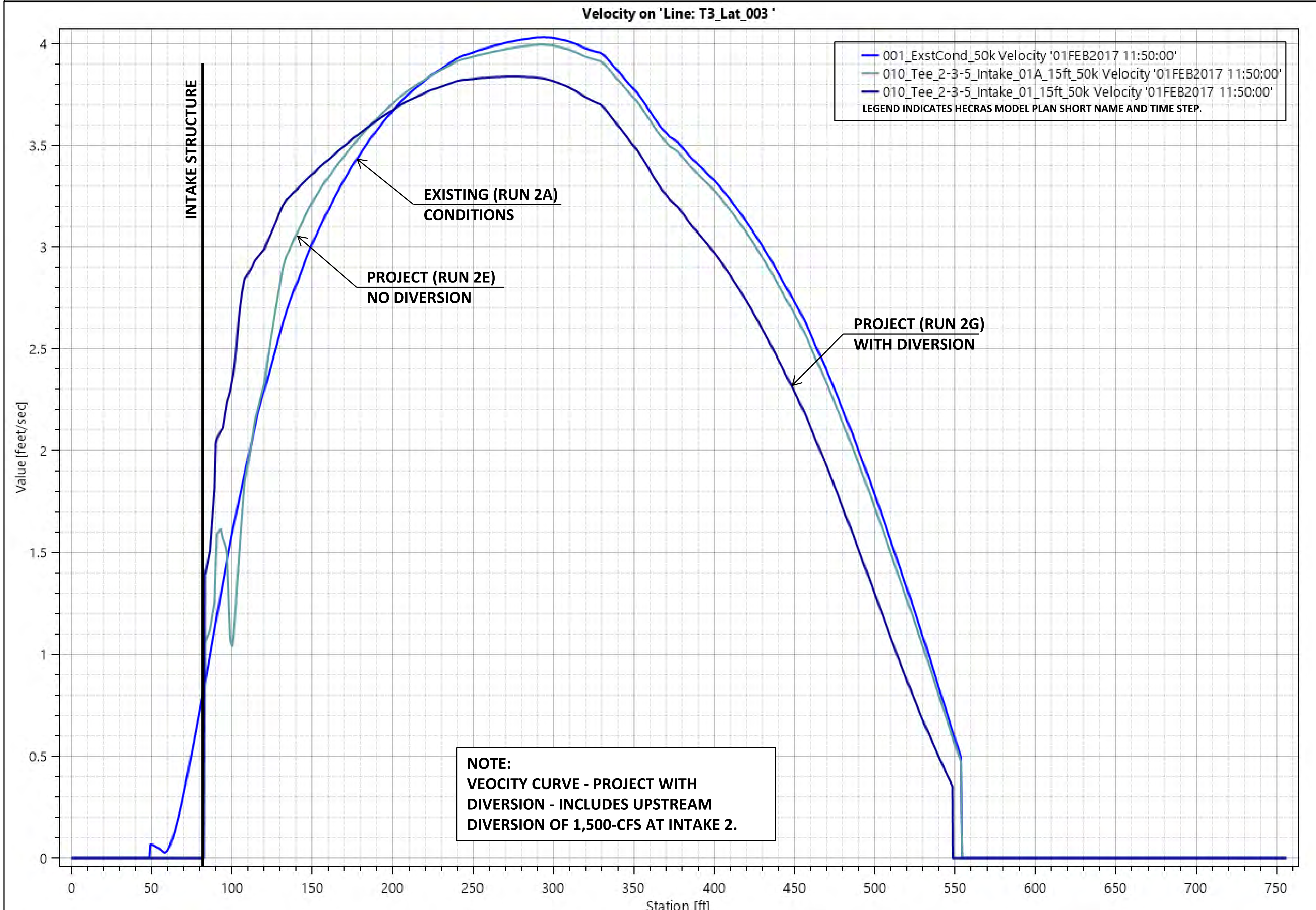
RUN 2A vs 2E vs 2G – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



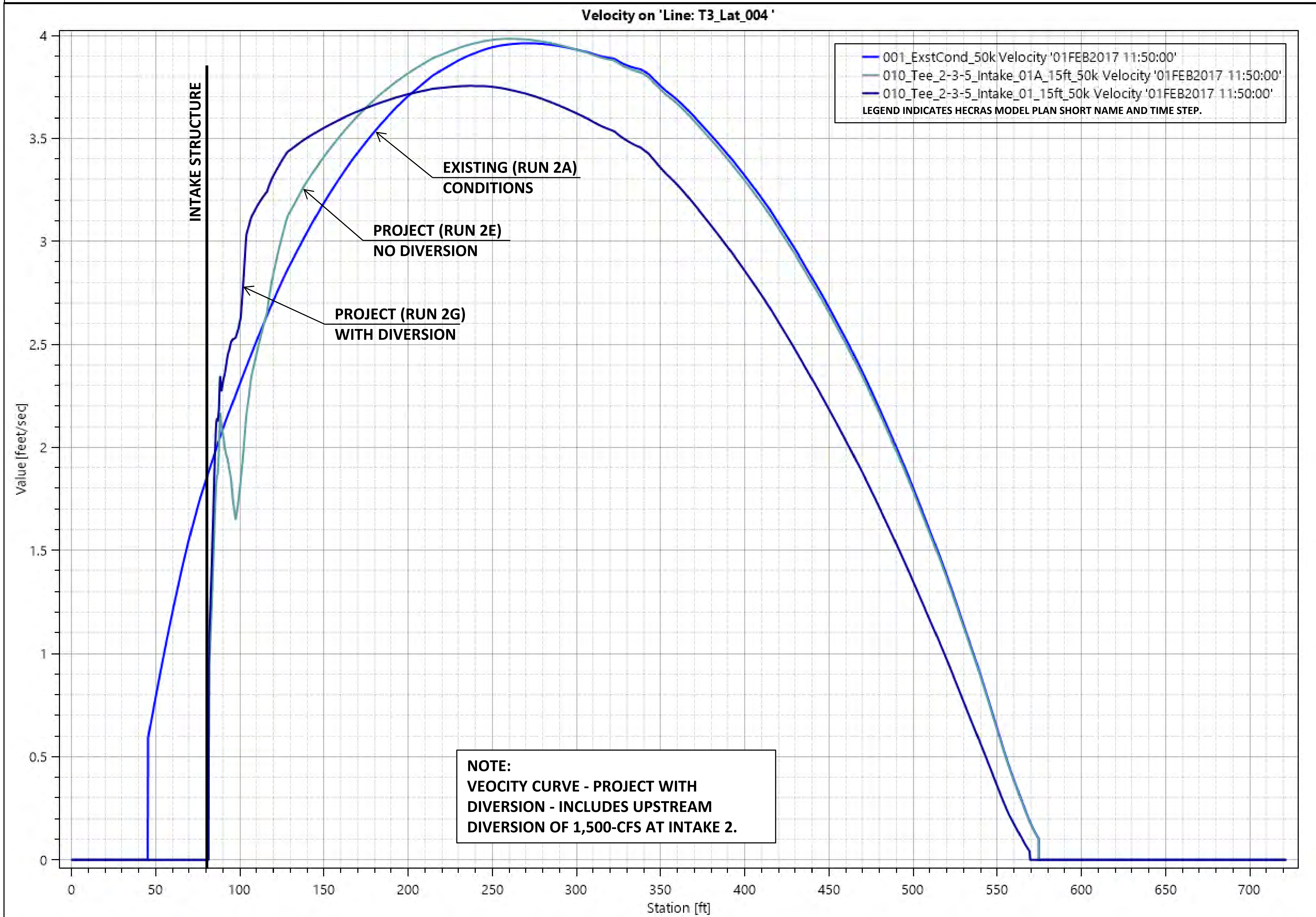
RUN 2A vs 2E vs 2G – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



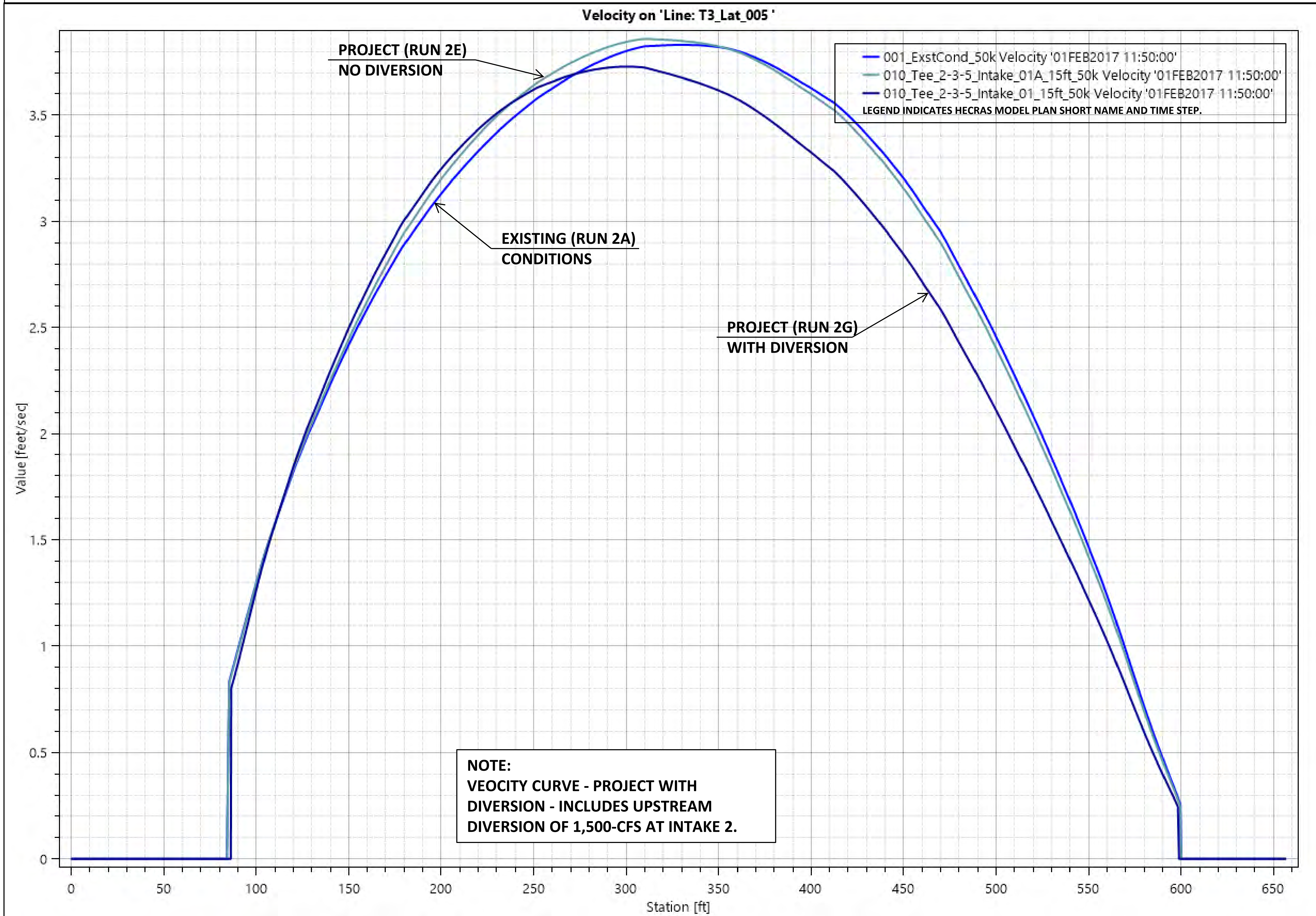
RUN 2A vs 2E vs 2G – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 2A vs 2E vs 2G – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

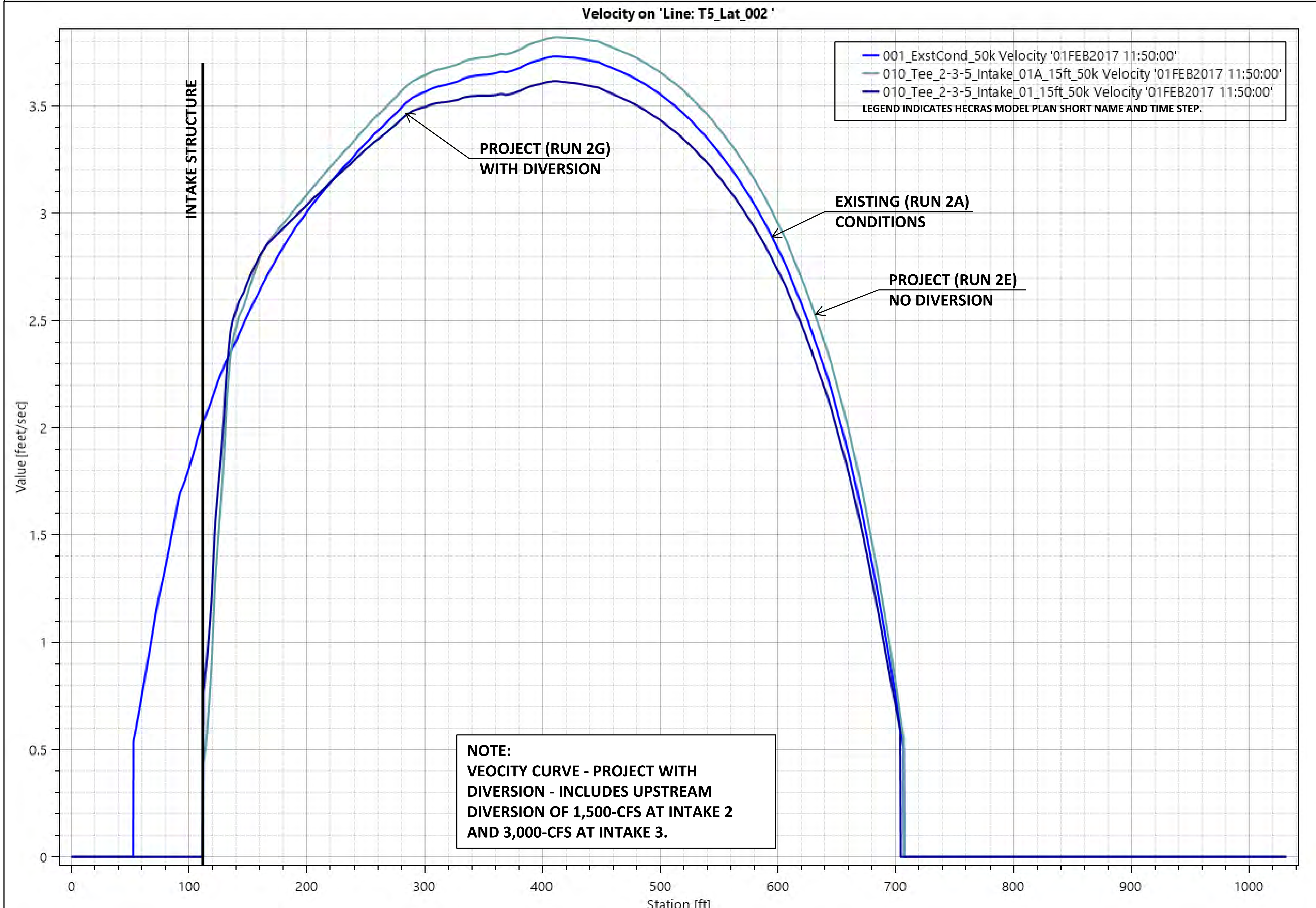
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 2A vs 2E vs 2G
INTAKE C-E-5 (C)

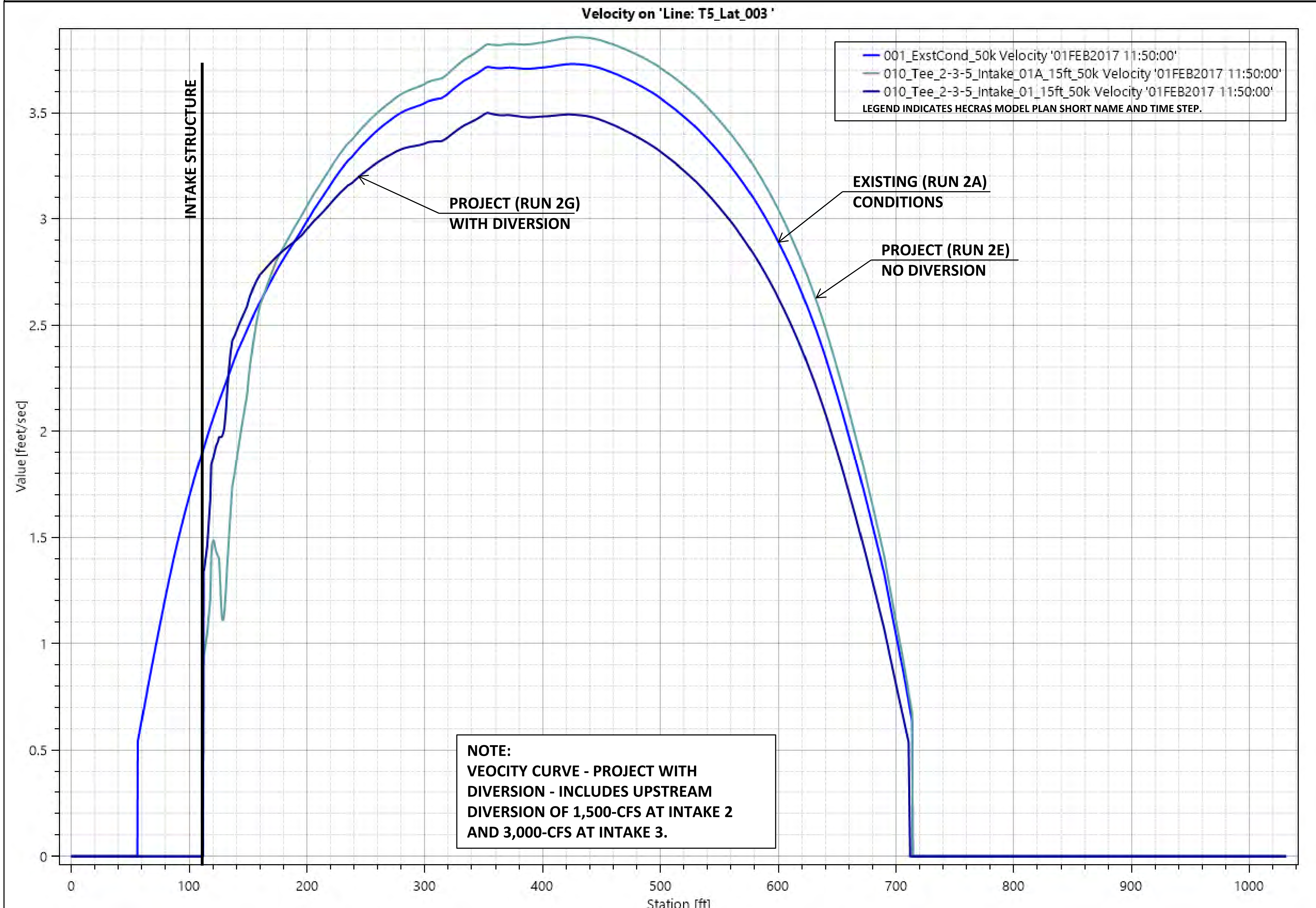
RUN 2A vs 2E vs 2G – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



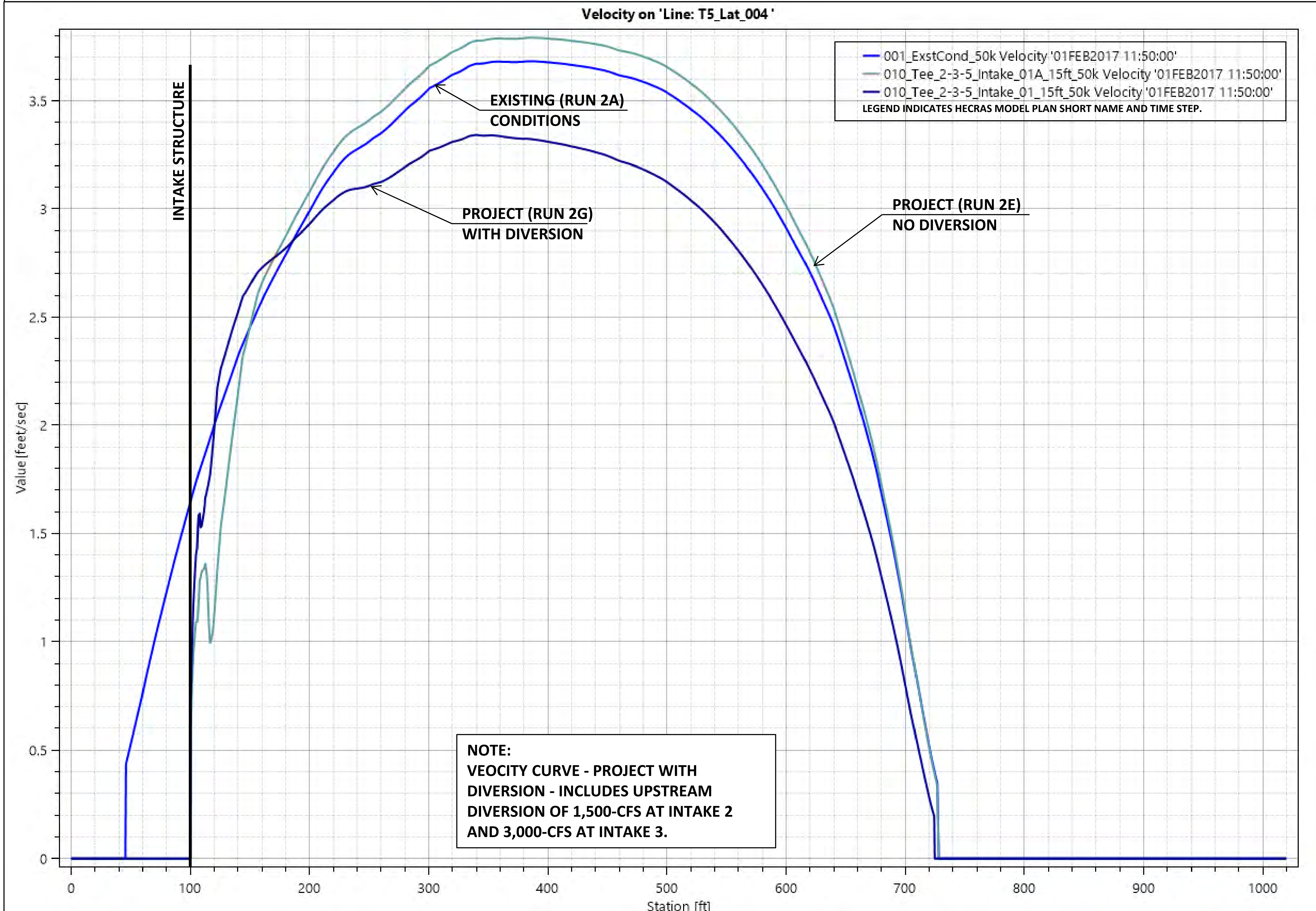
RUN 2A vs 2E vs 2G – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



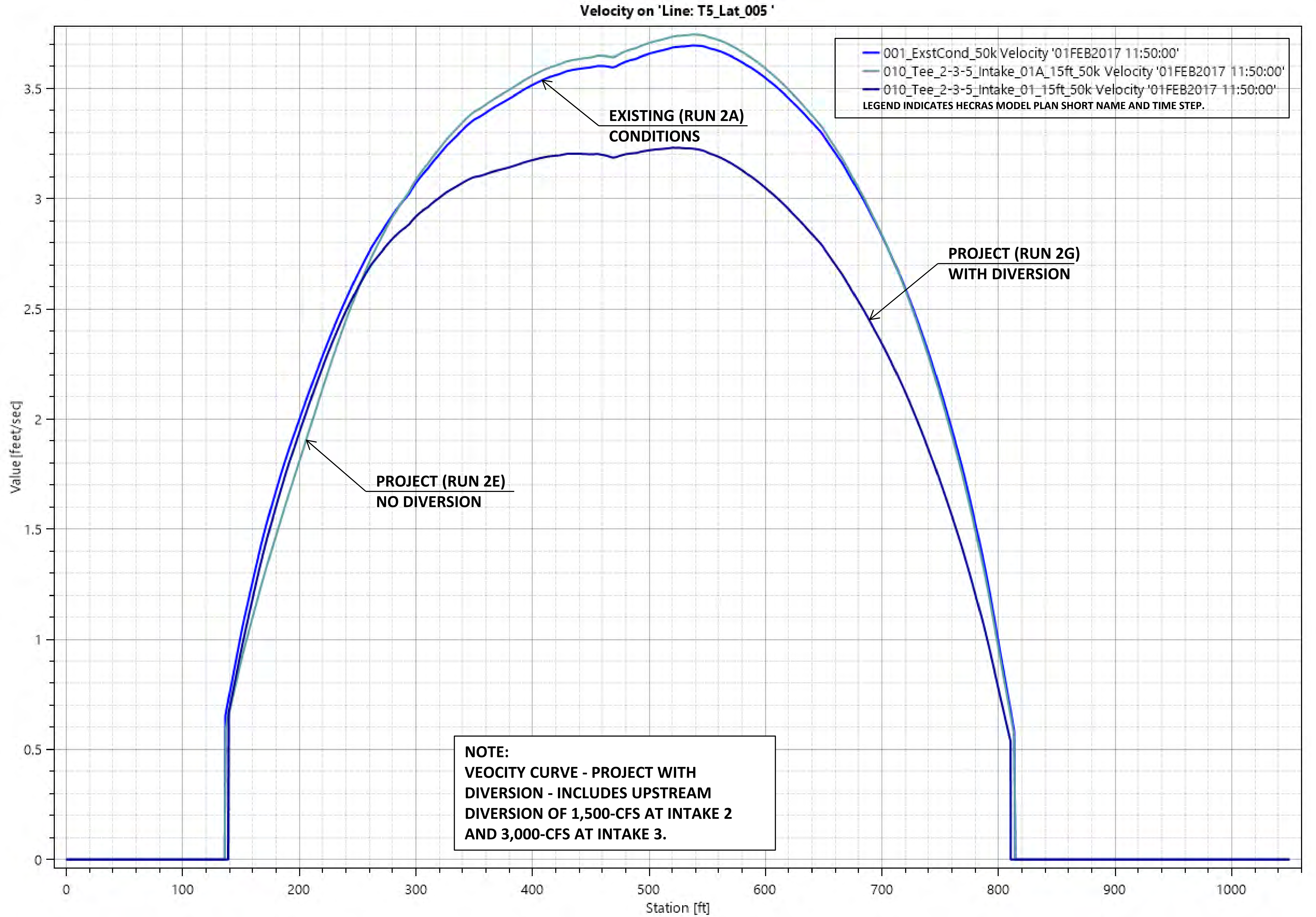
RUN 2A vs 2E vs 2G – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 2A vs 2E vs 2G – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

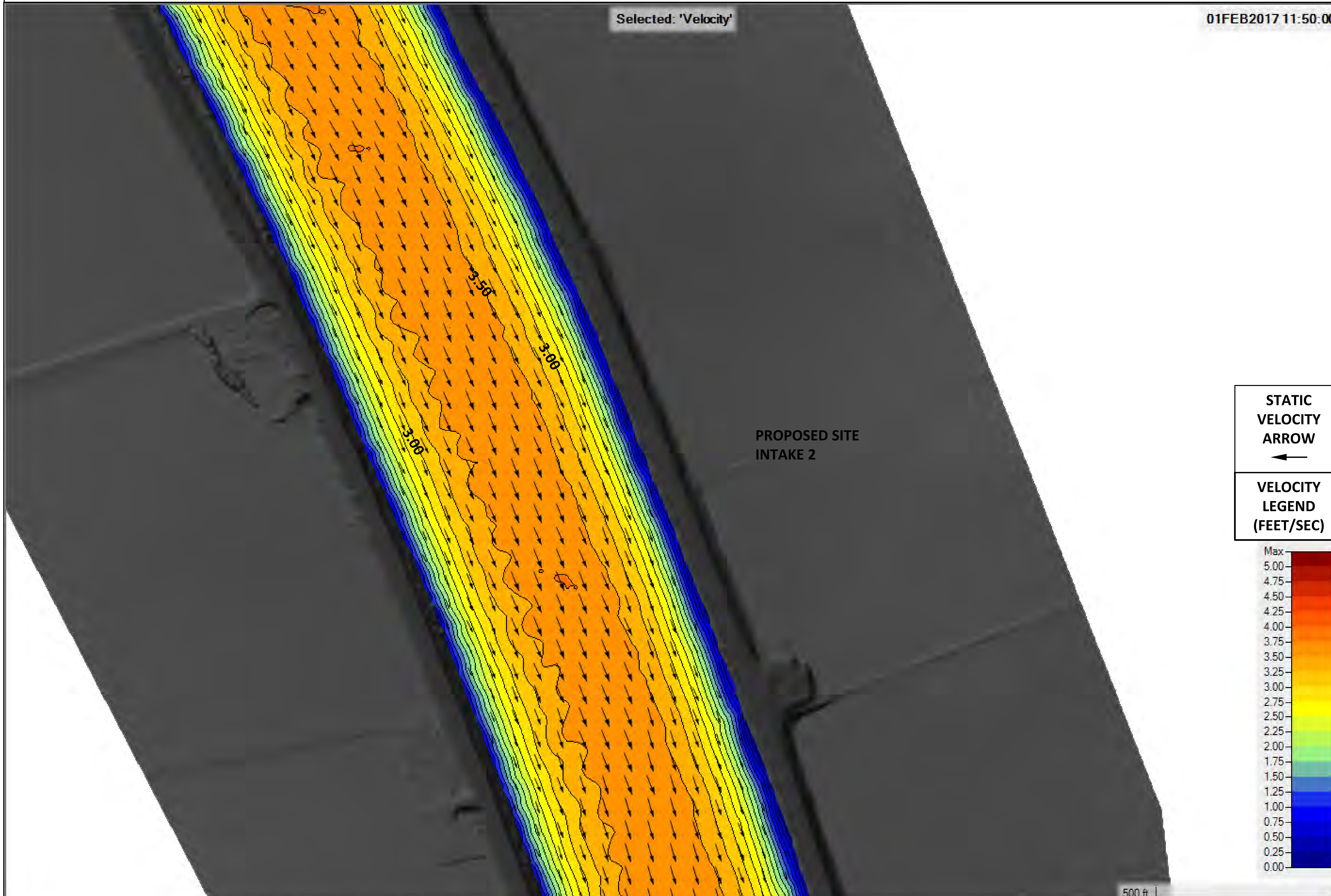
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



Velocity Contour Plots at Intake Structures

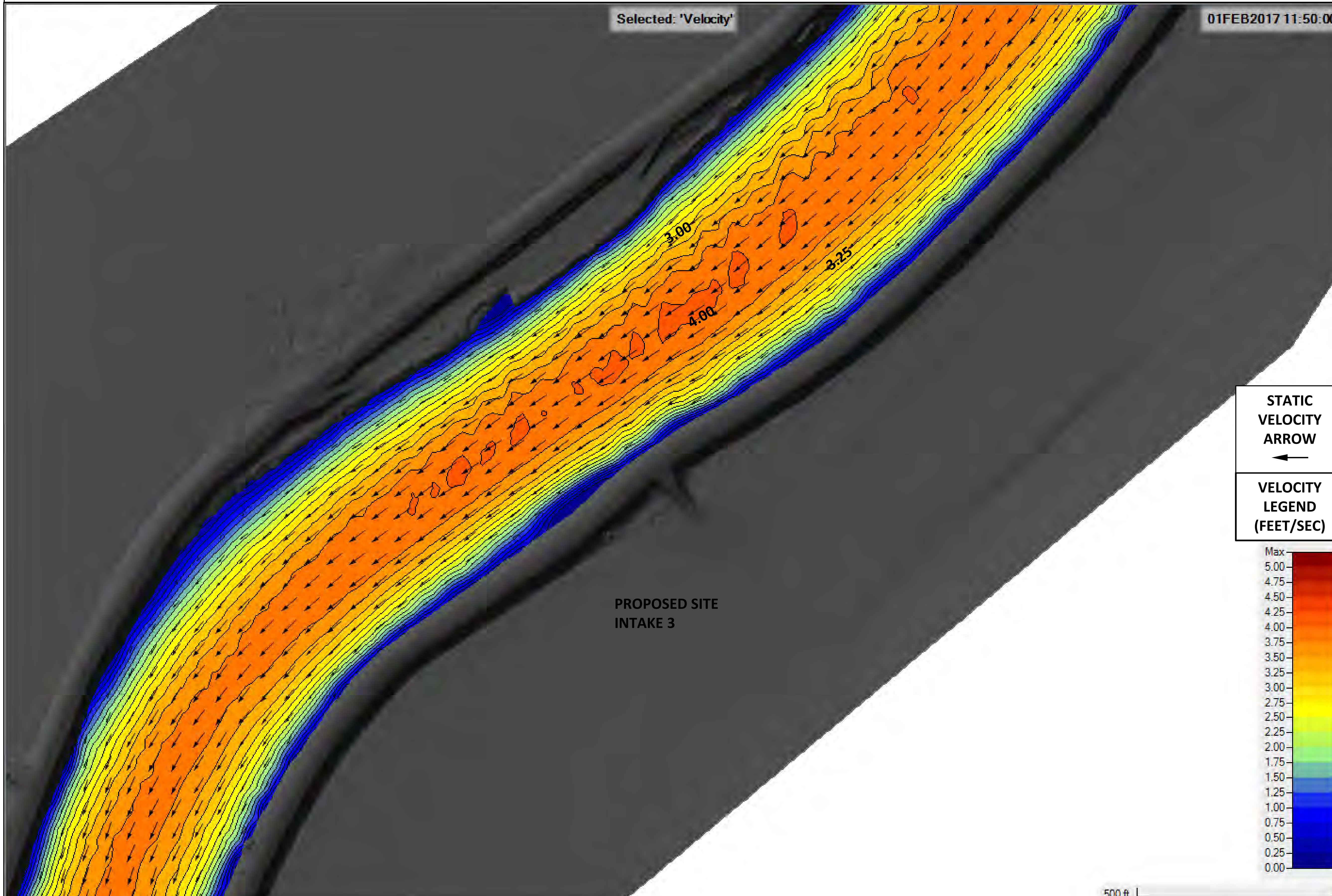
RUN 2A - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 50,000-CFS AT FREEPORT



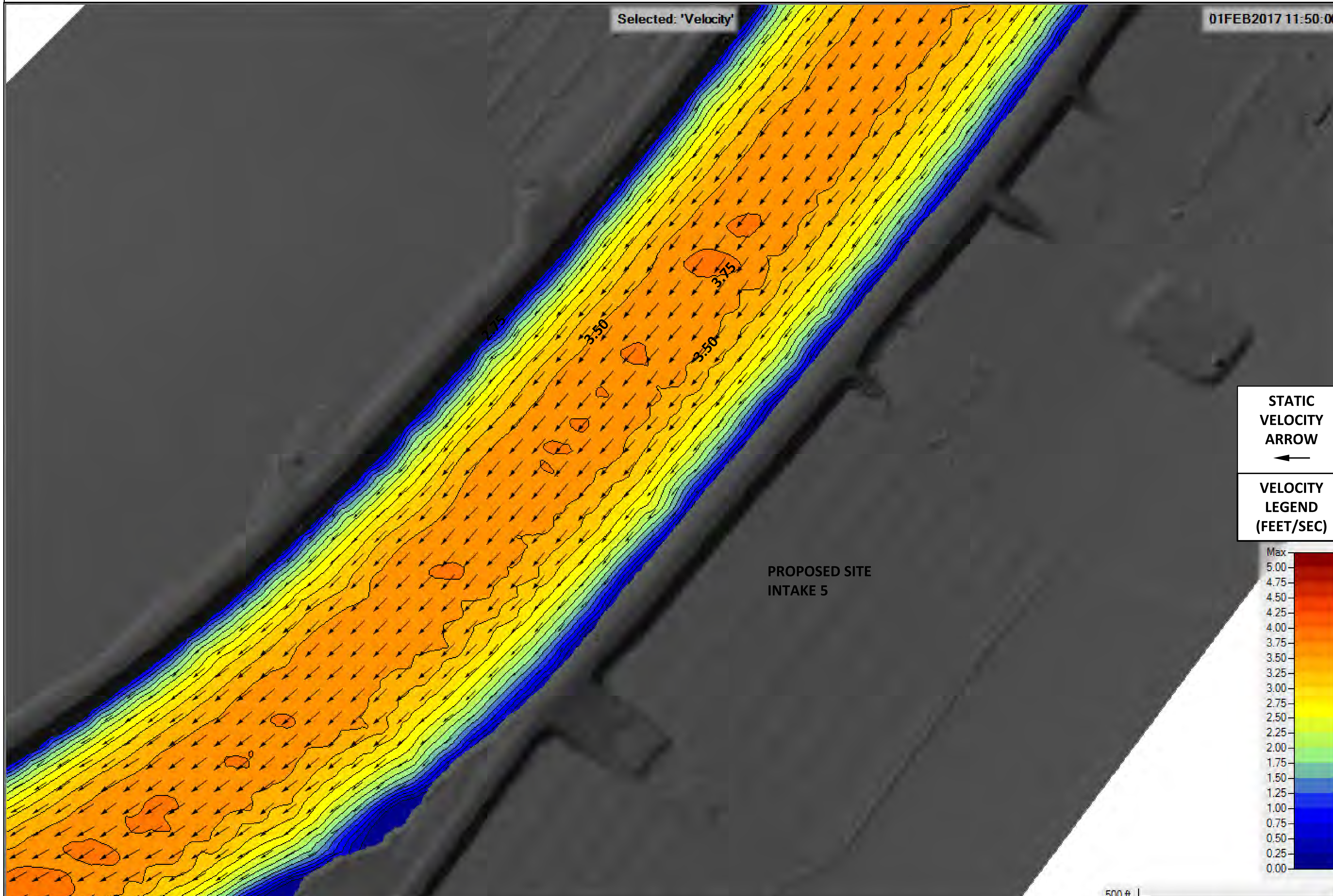
RUN 2A - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 50,000-CFS AT FREEPORT



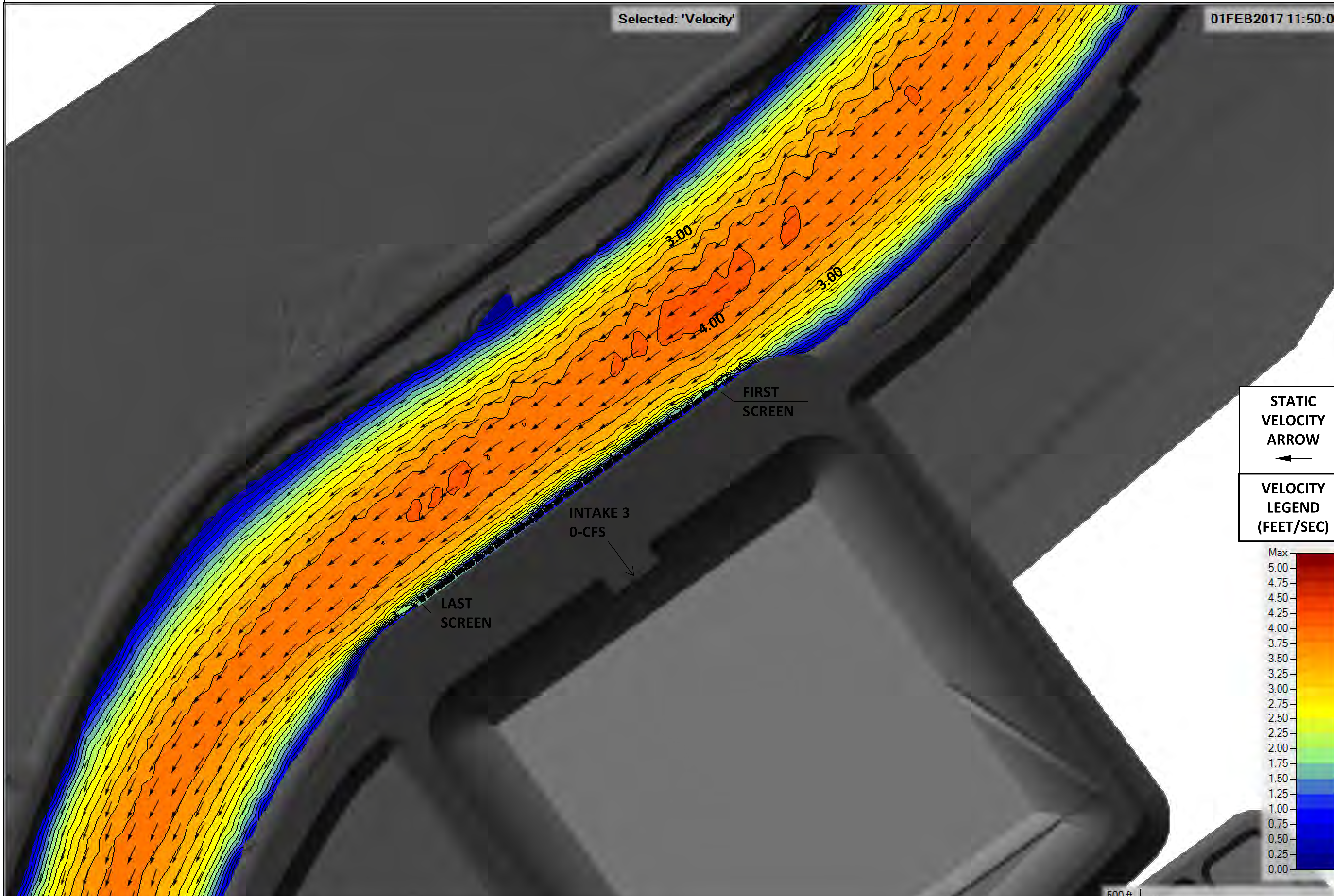
RUN 2A - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 50,000-CFS AT FREEPORT



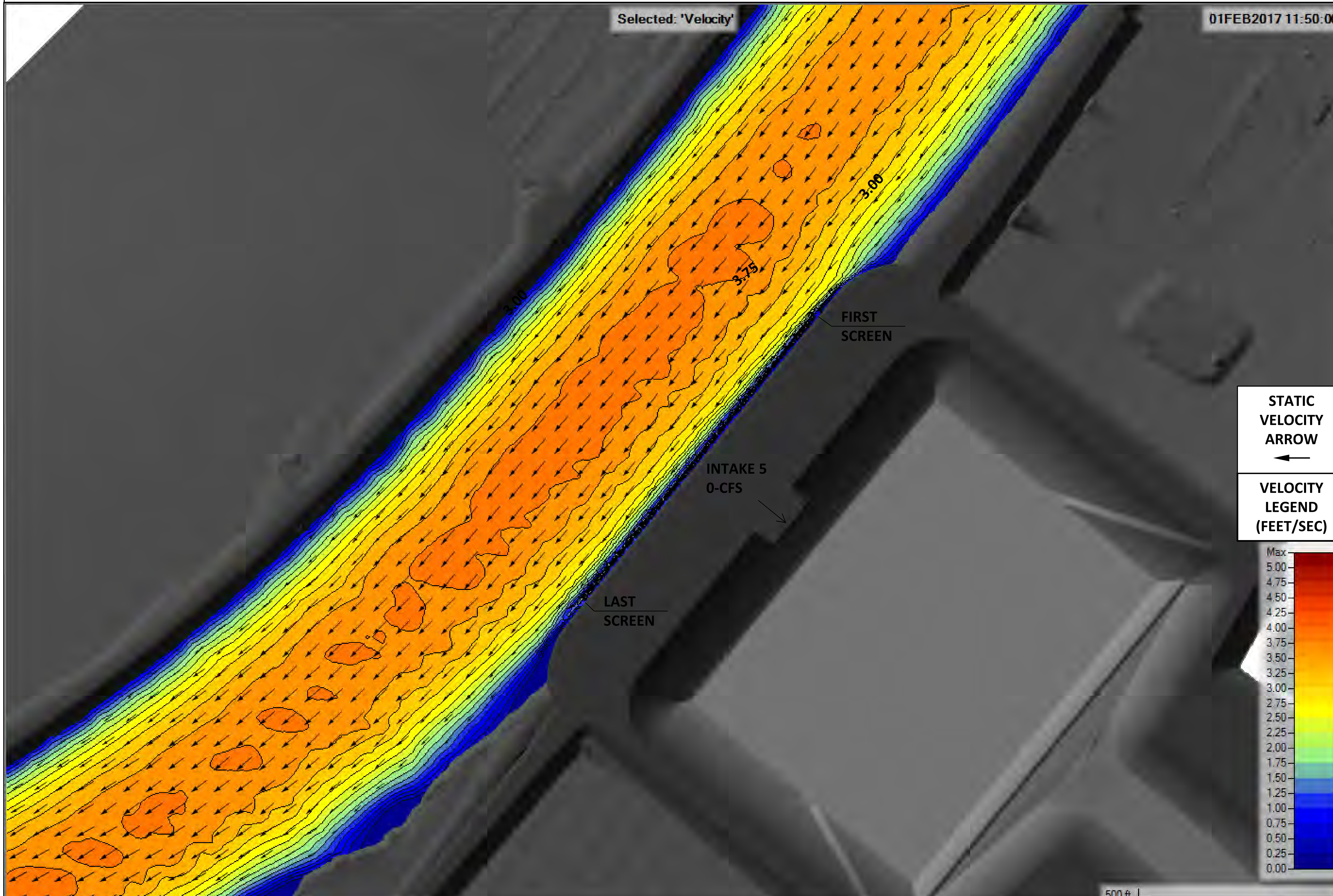
RUN 2B - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



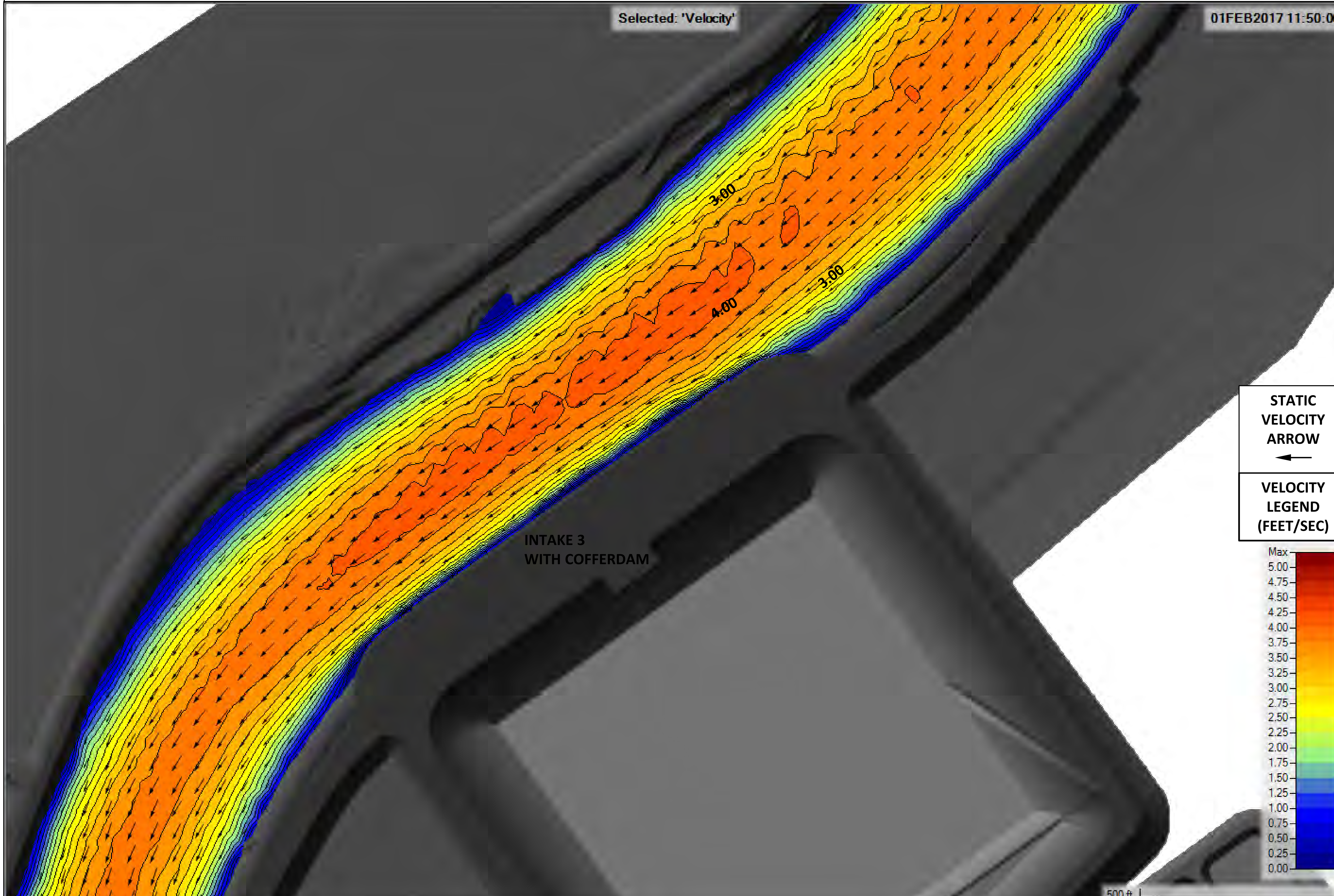
RUN 2B - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



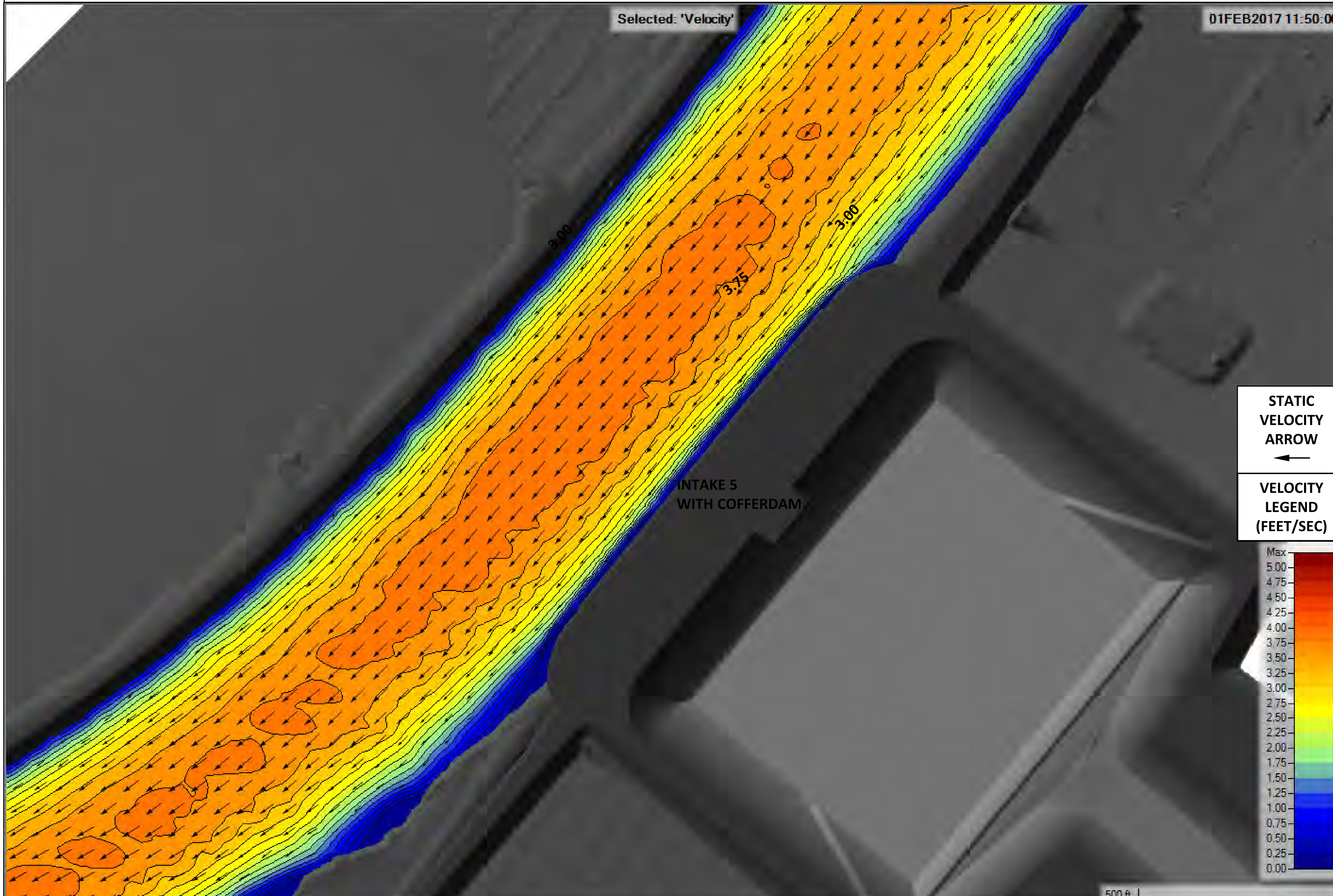
RUN 2C - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



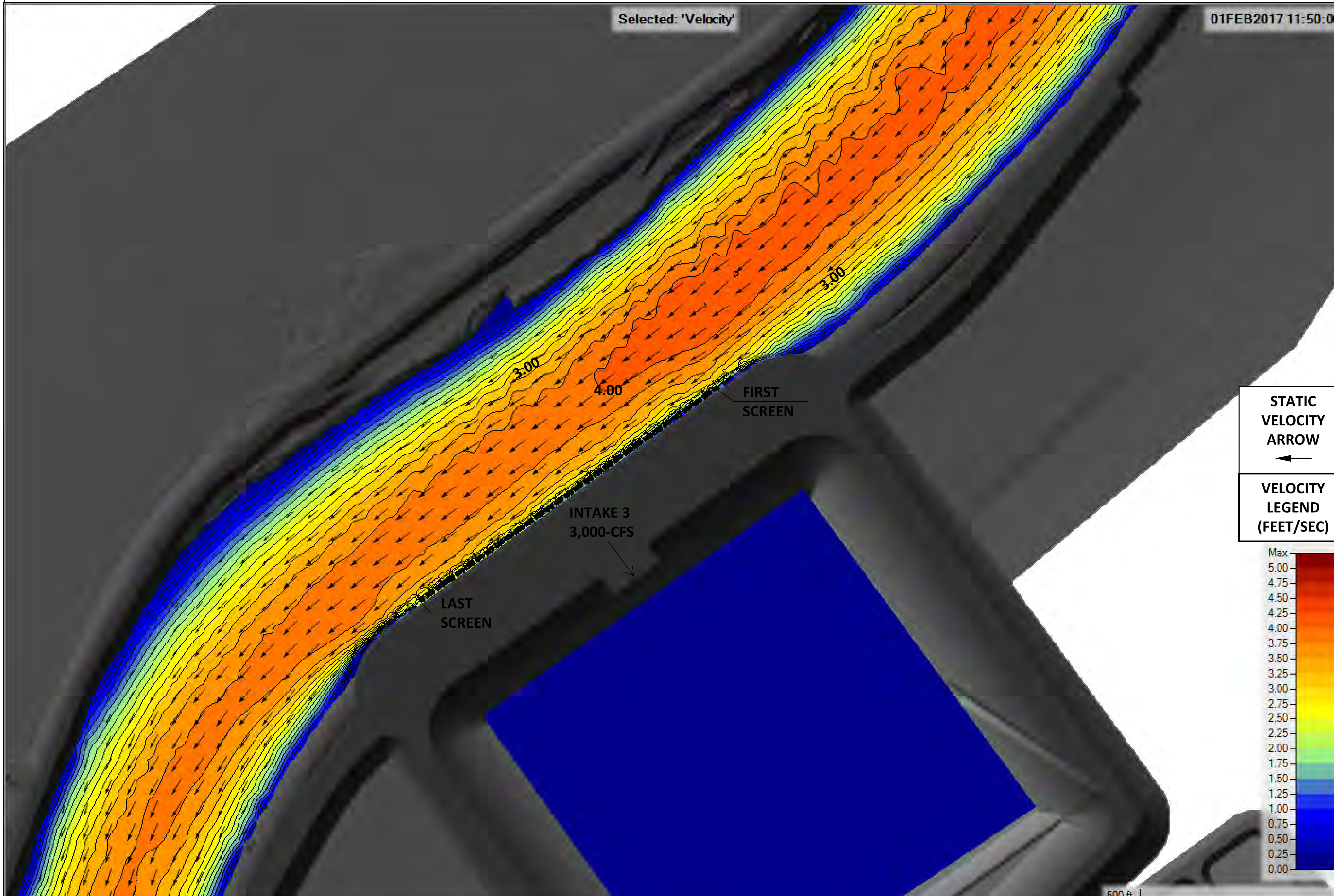
RUN 2C - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



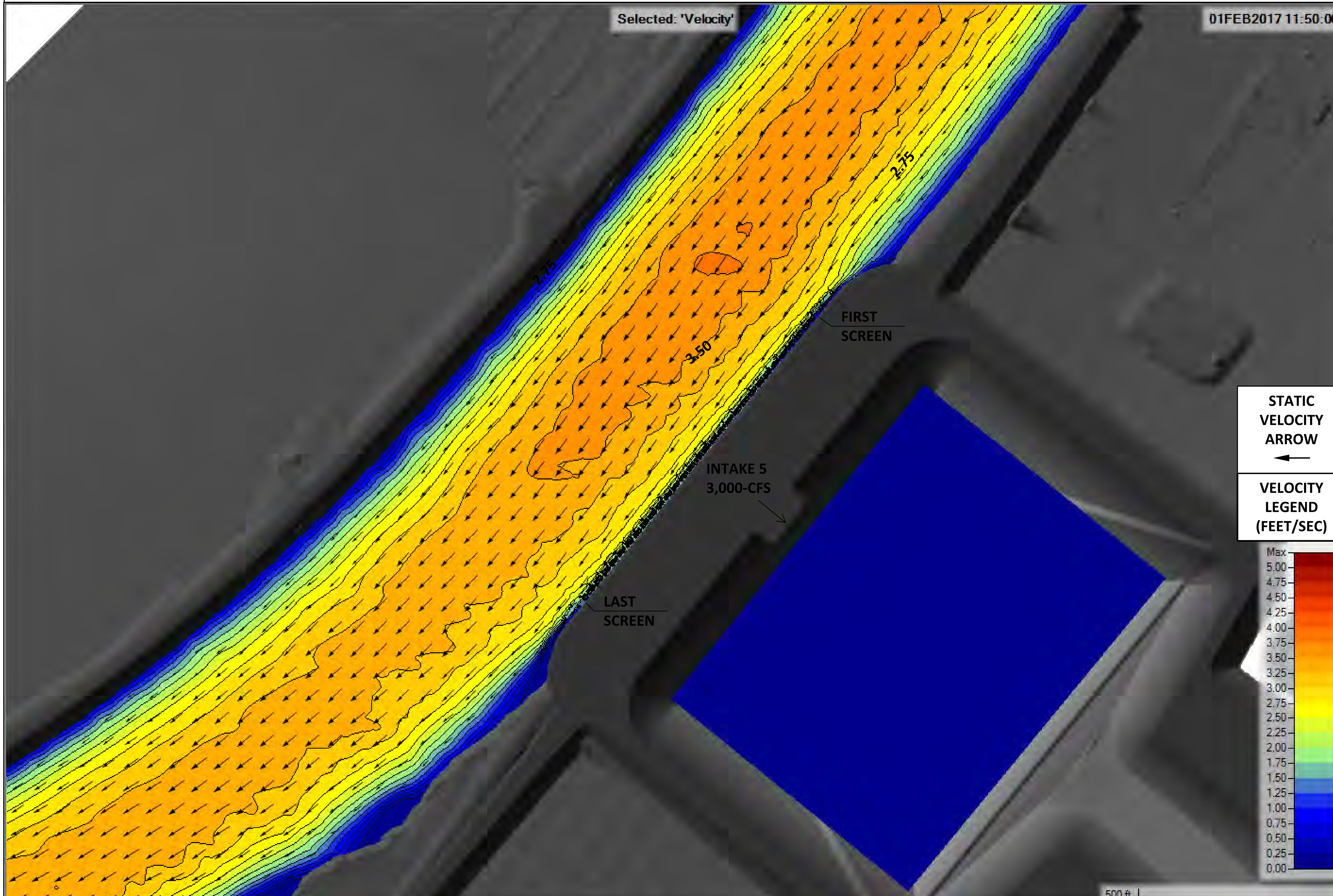
RUN 2D - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 50,000-CFS AT FREEPORT – TEE SCREENS



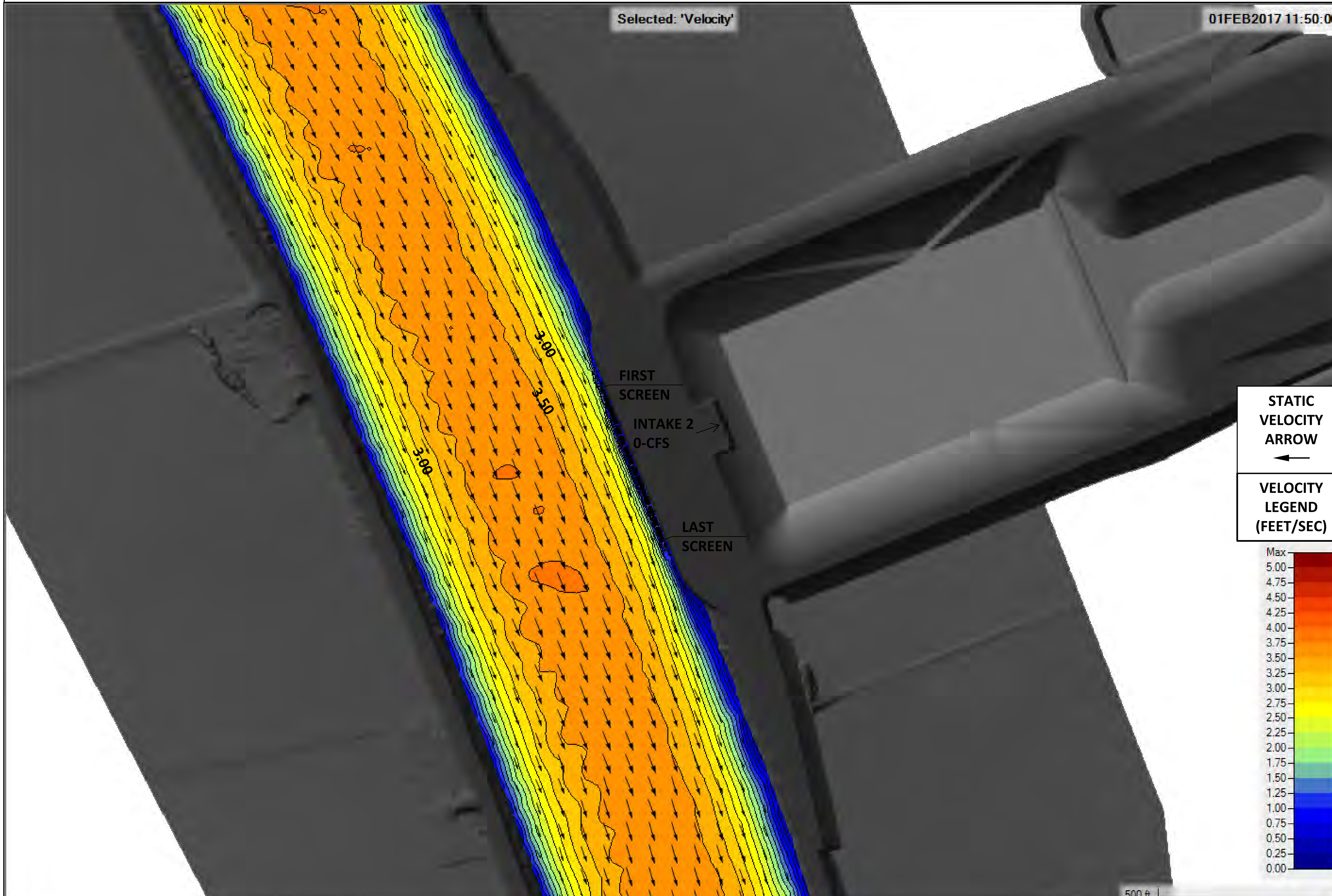
RUN 2D - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 50,000-CFS AT FREEPORT – TEE SCREENS



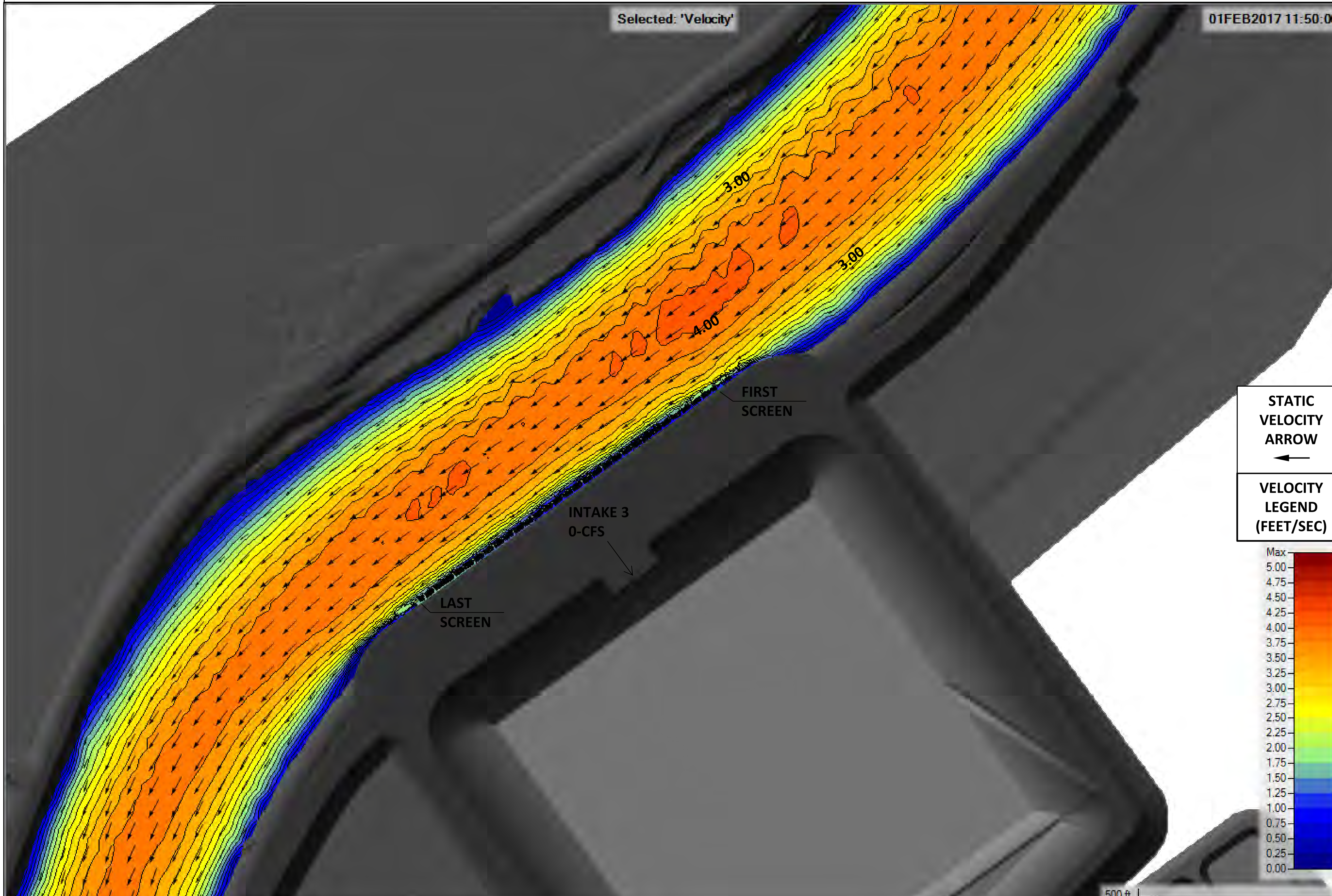
RUN 2E - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



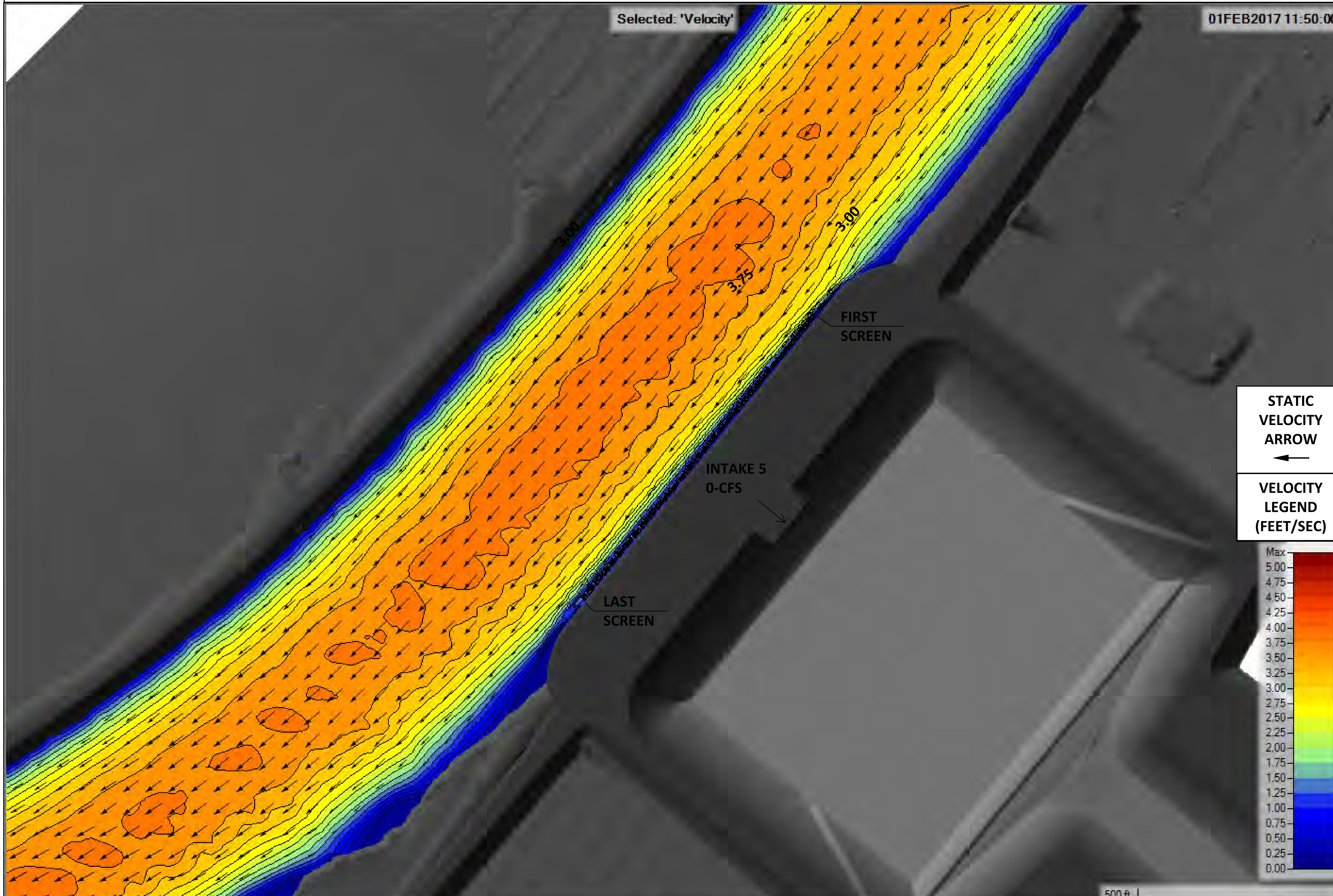
RUN 2E - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



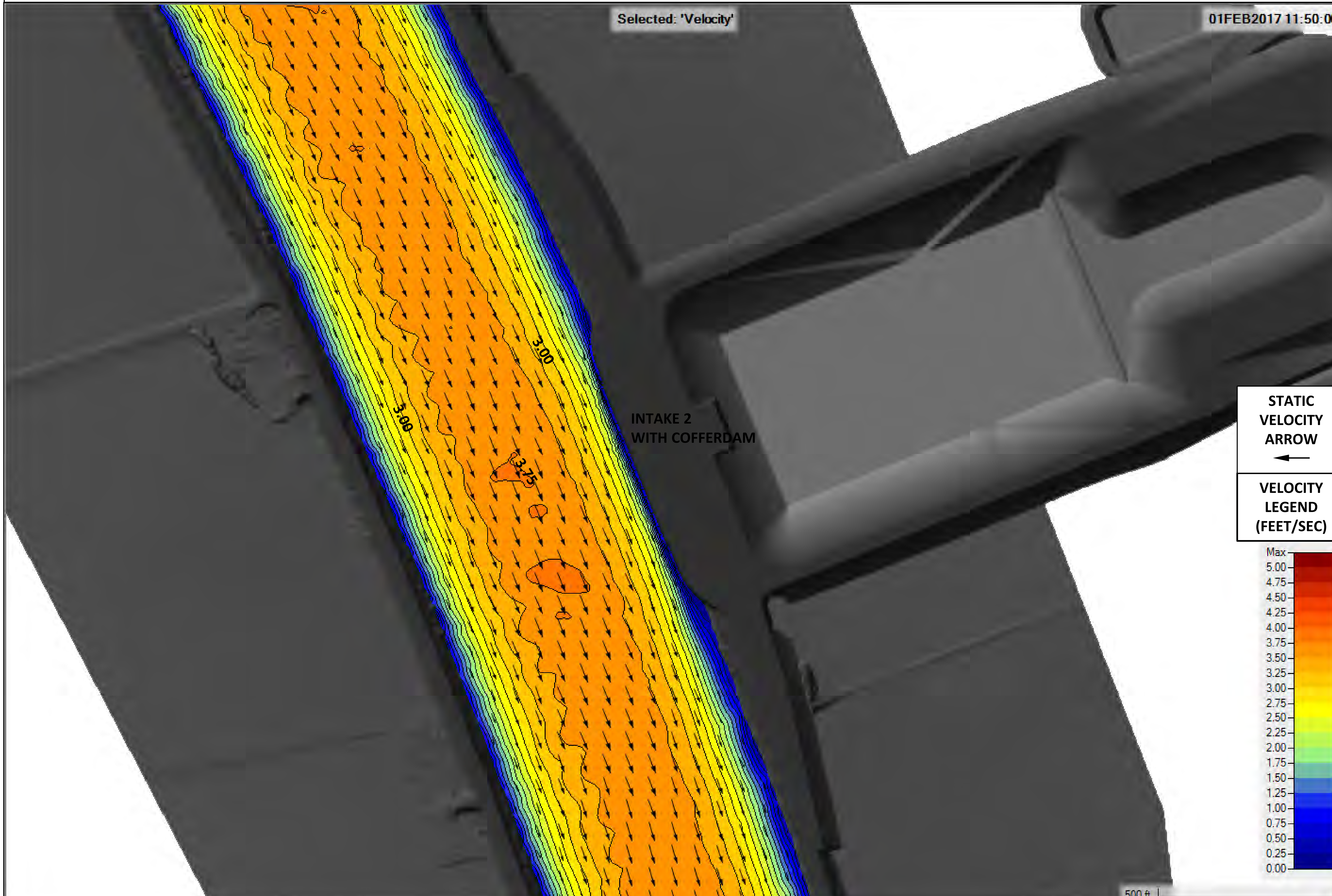
RUN 2E - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



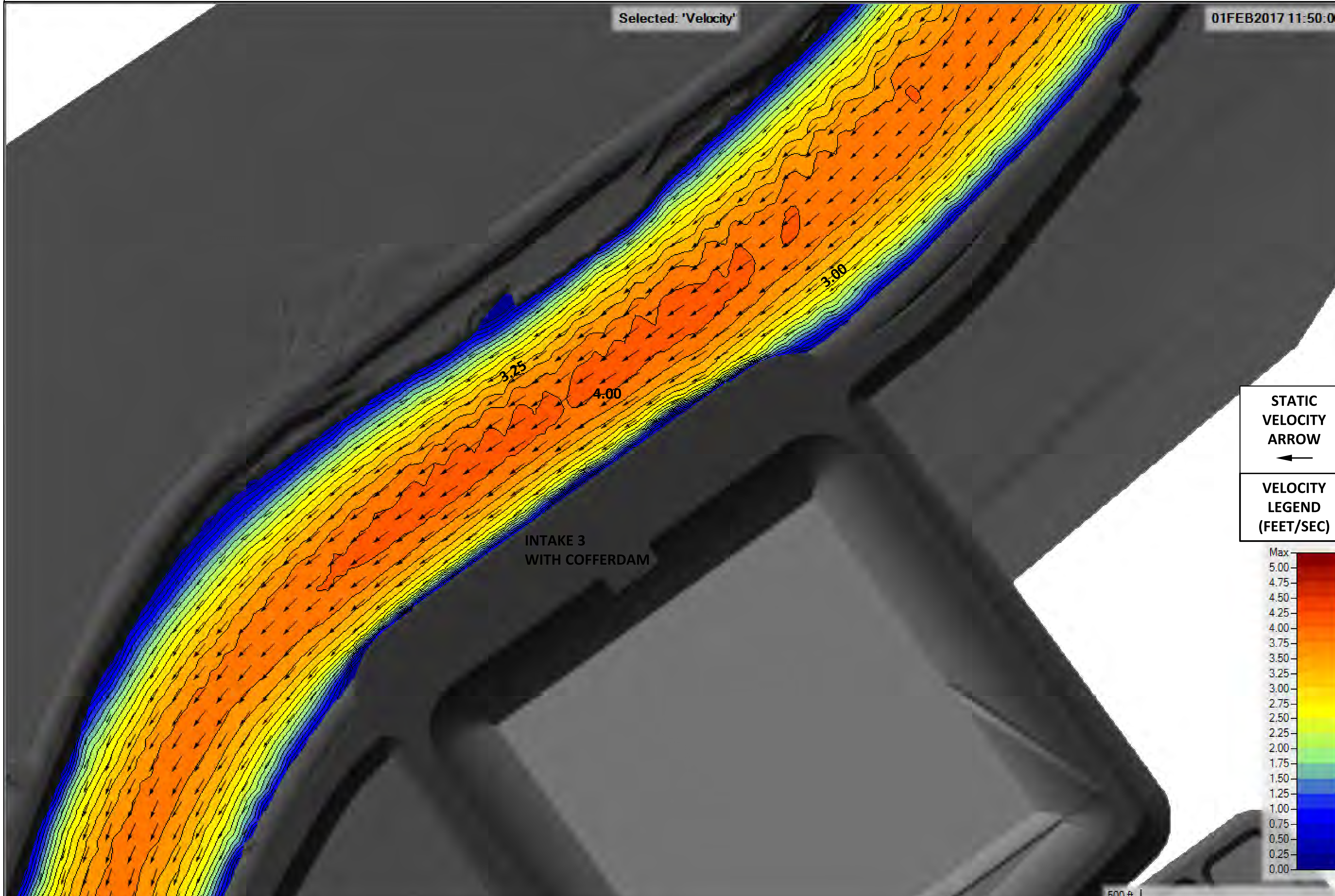
RUN 2F - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



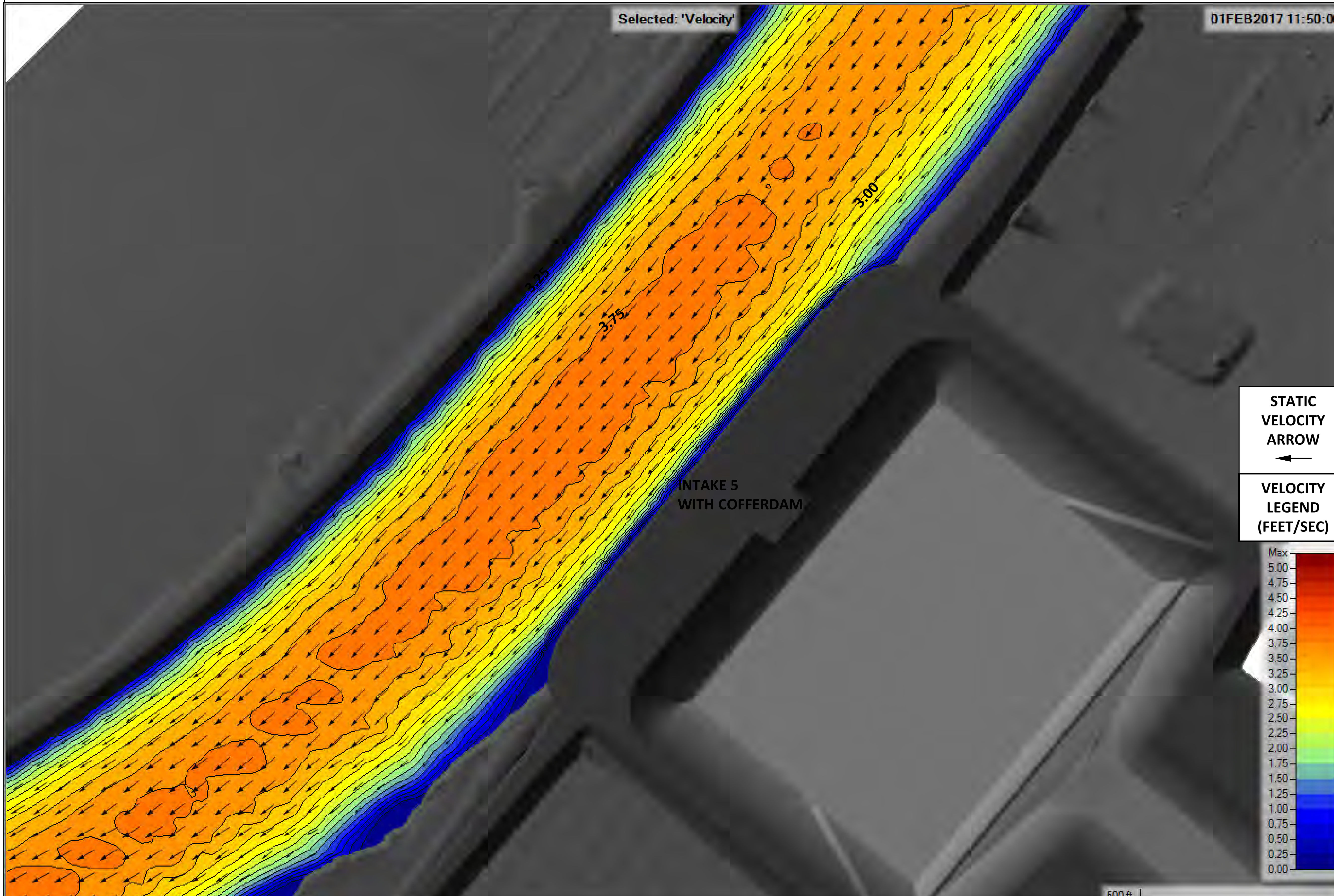
RUN 2F - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



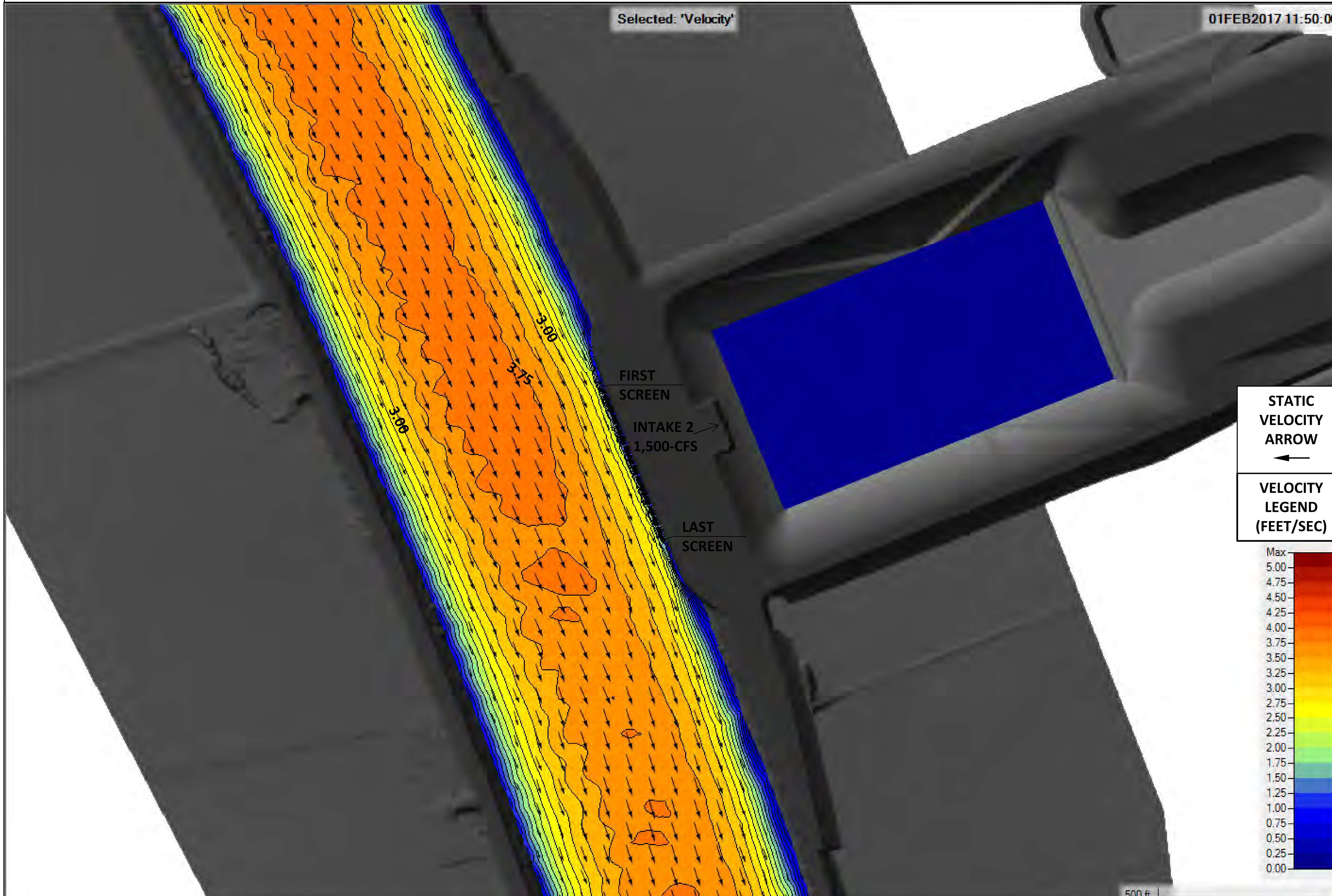
RUN 2F - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



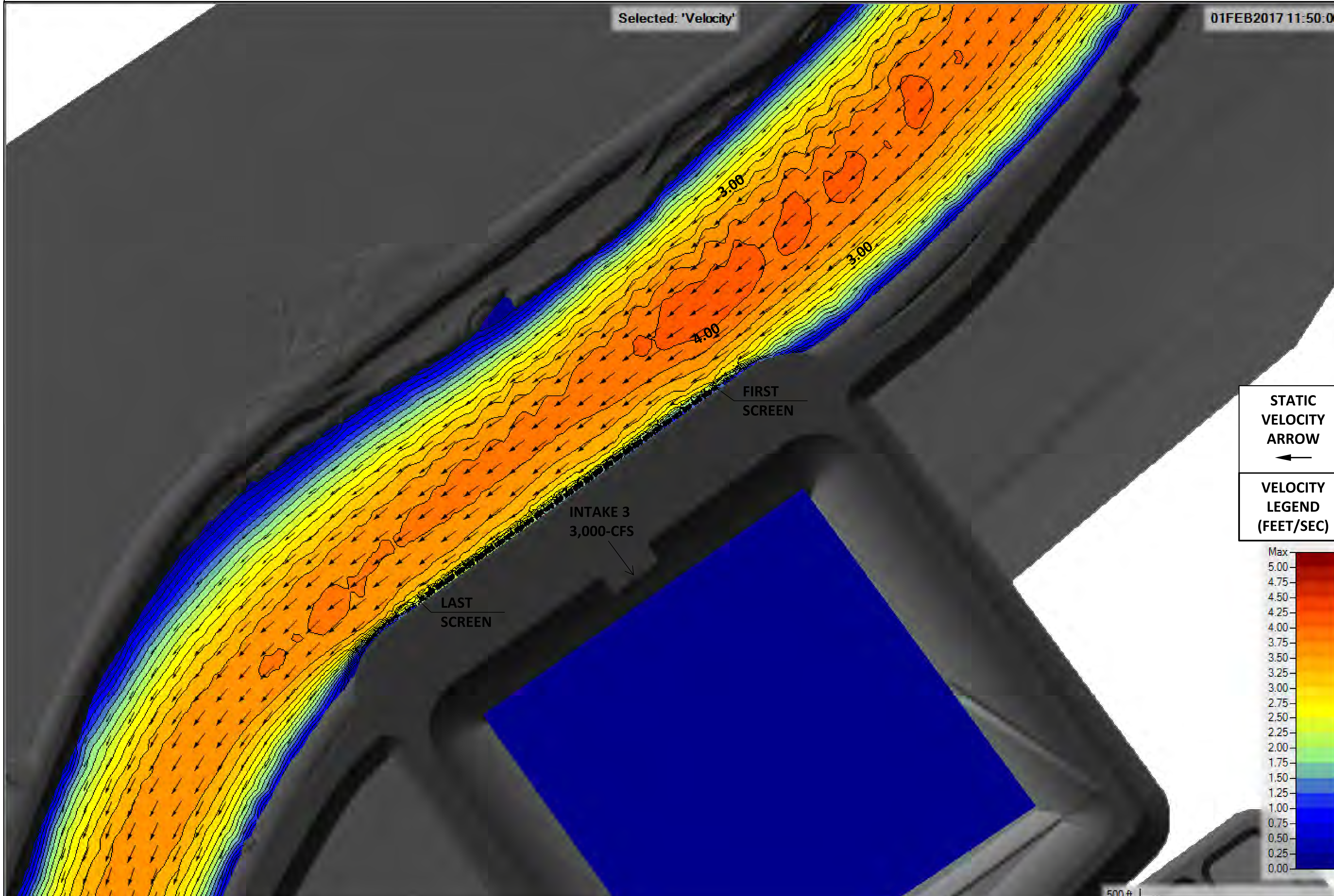
RUN 2G - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



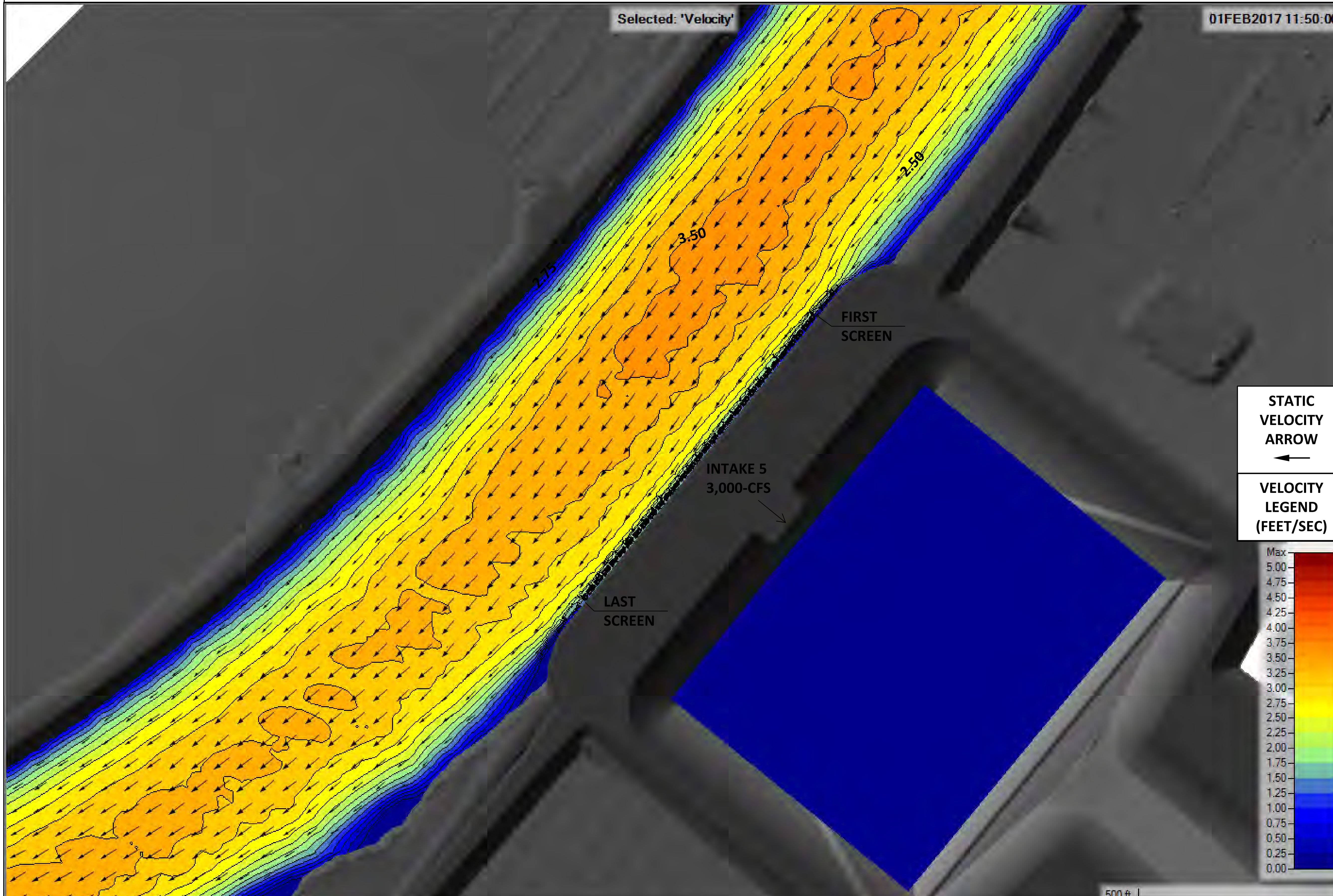
RUN 2G - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2G - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

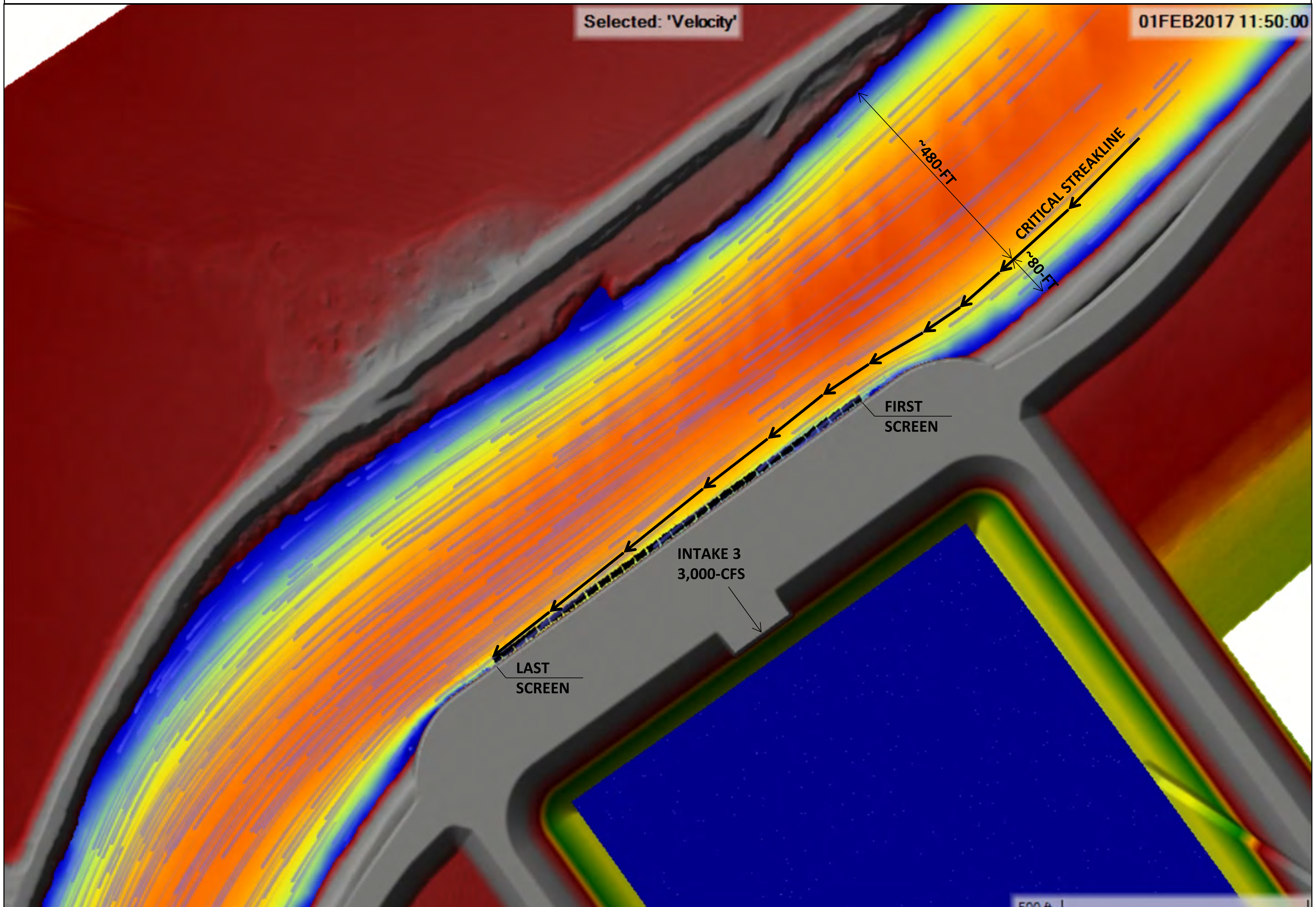
MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



Critical Streakline at Intake Structures

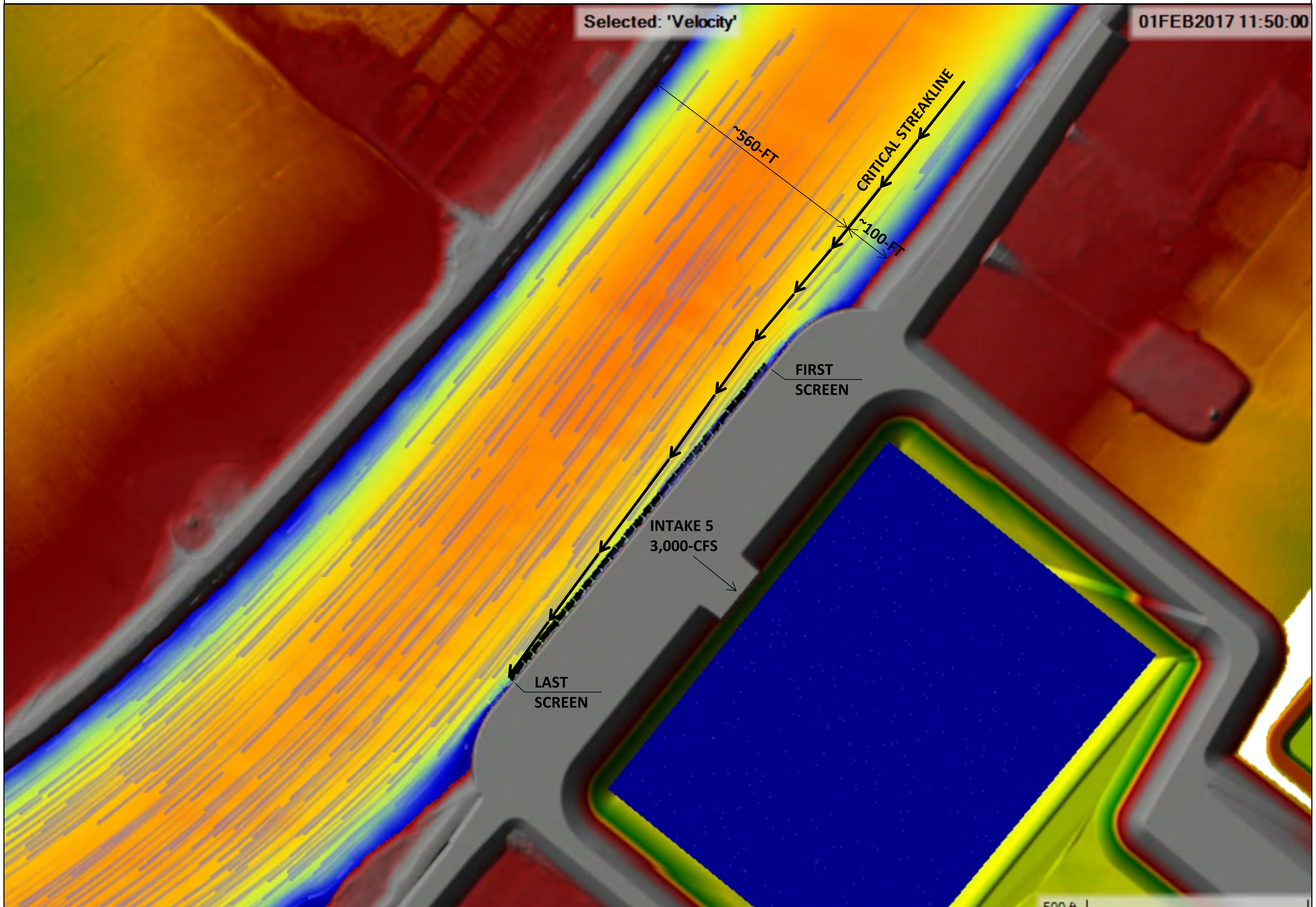
RUN 2D - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 50,000-CFS AT FREEPORT – TEE SCREENS



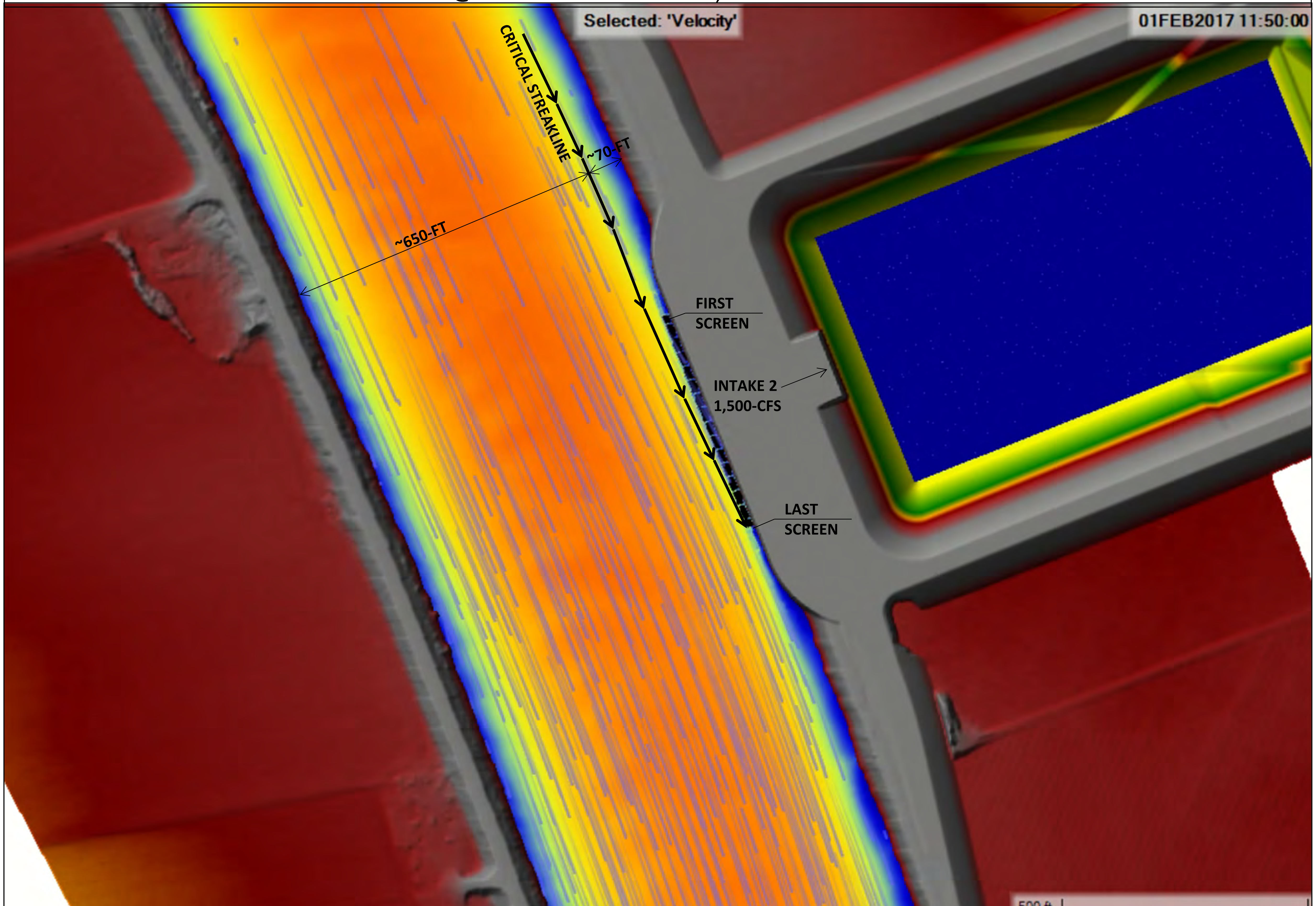
RUN 2D - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 50,000-CFS AT FREEPORT – TEE SCREENS



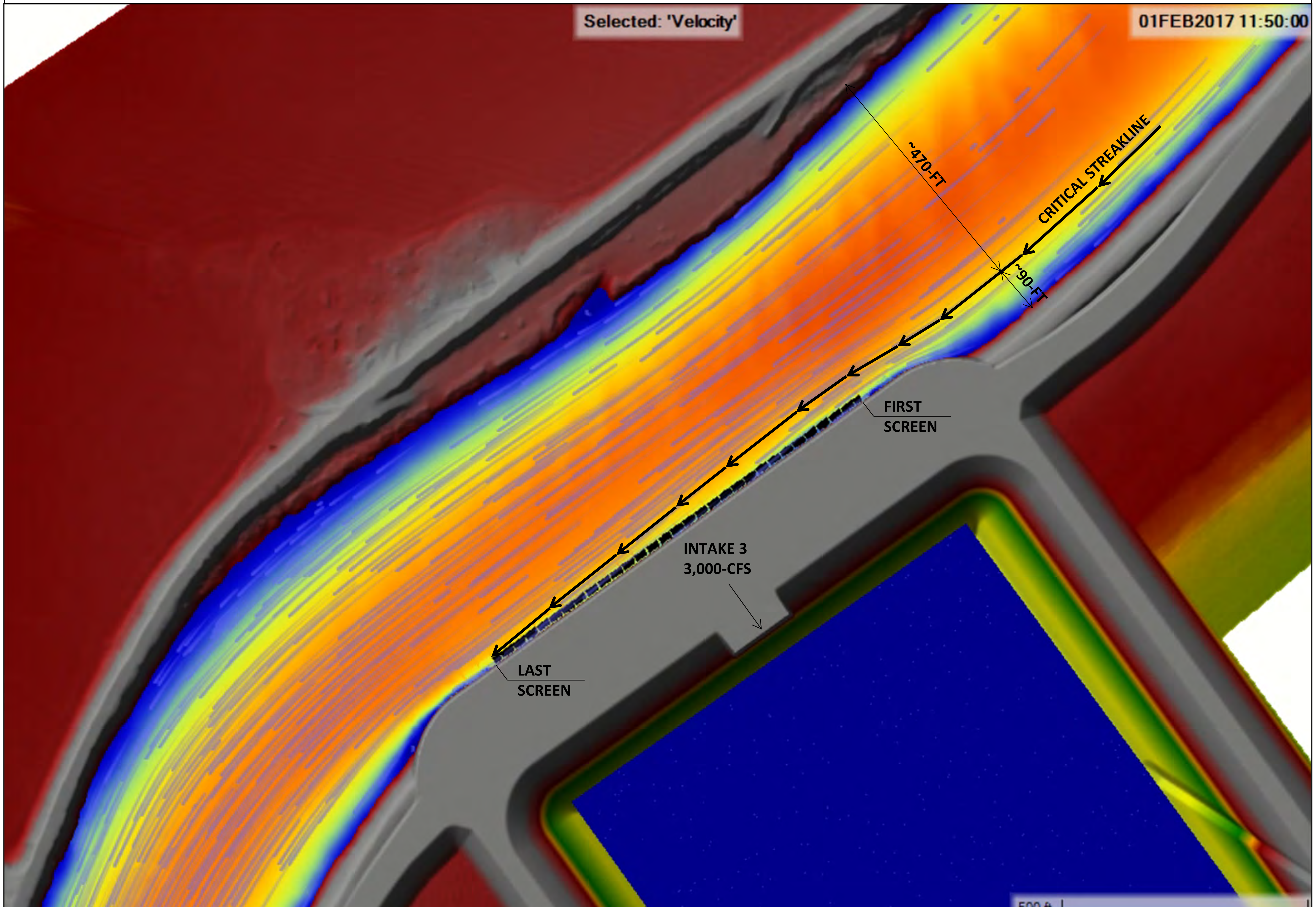
RUN 2G - INTAKE C-E-2 (A) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



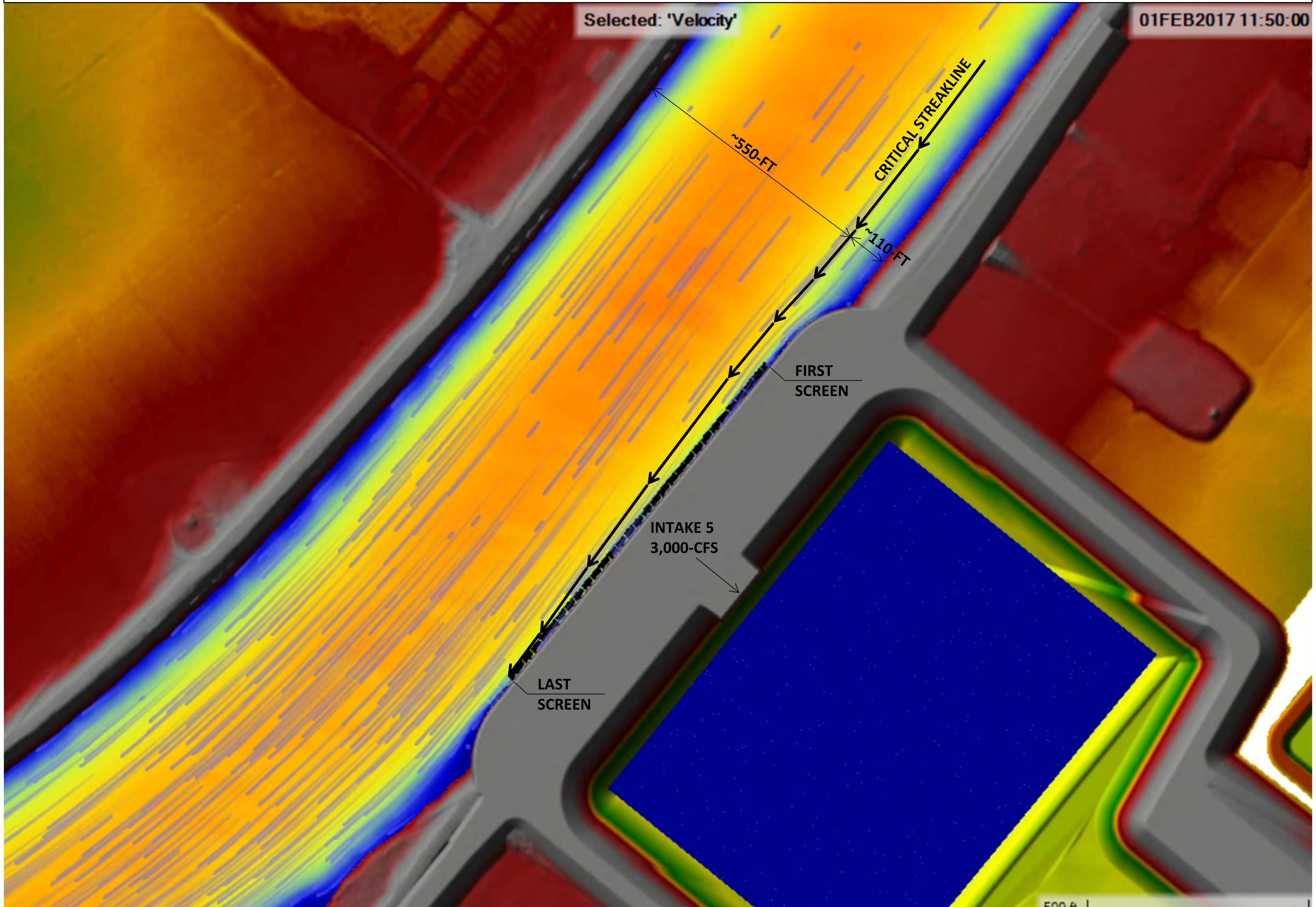
RUN 2G - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



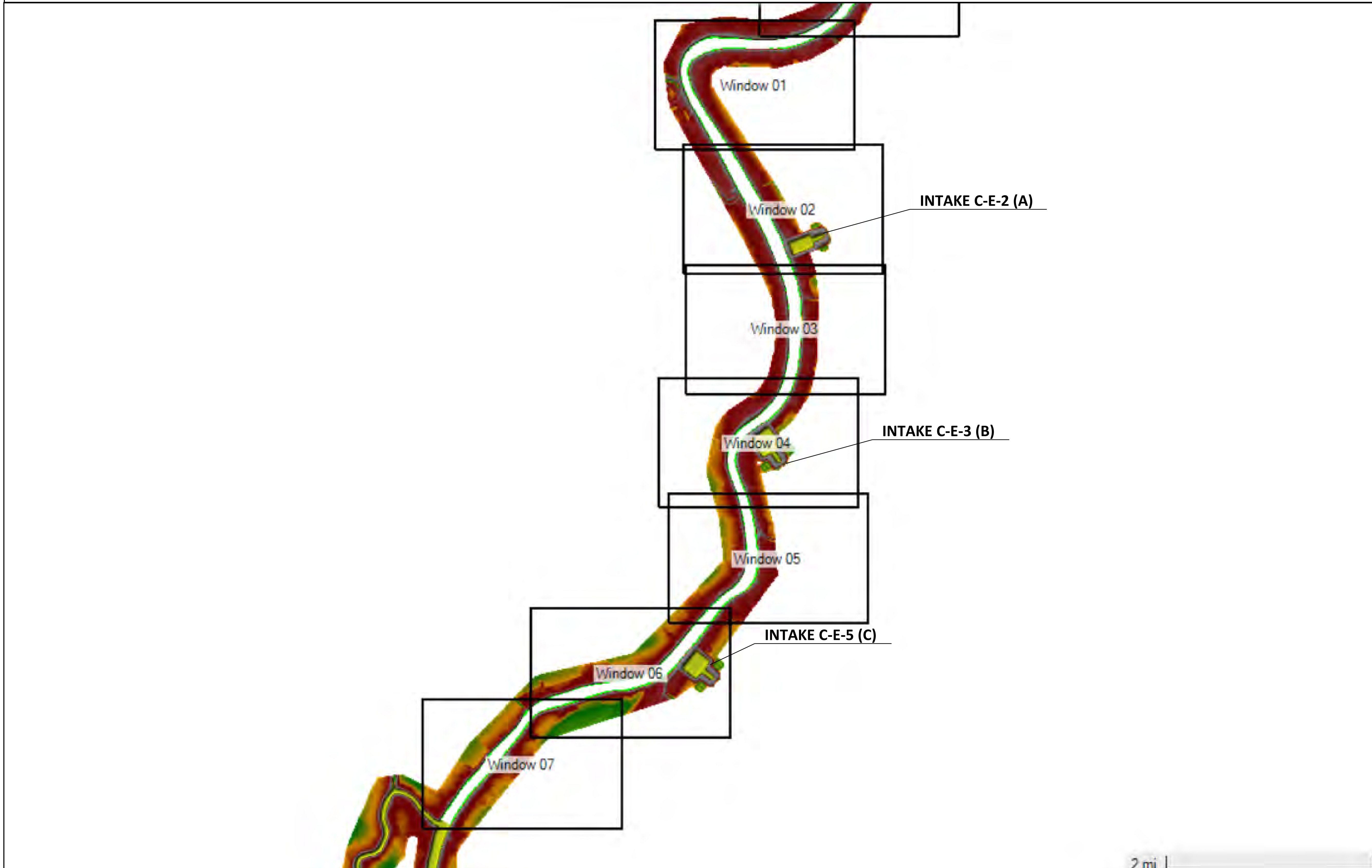
RUN 2G - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



0.91 fps Velocity Exceedance Plots

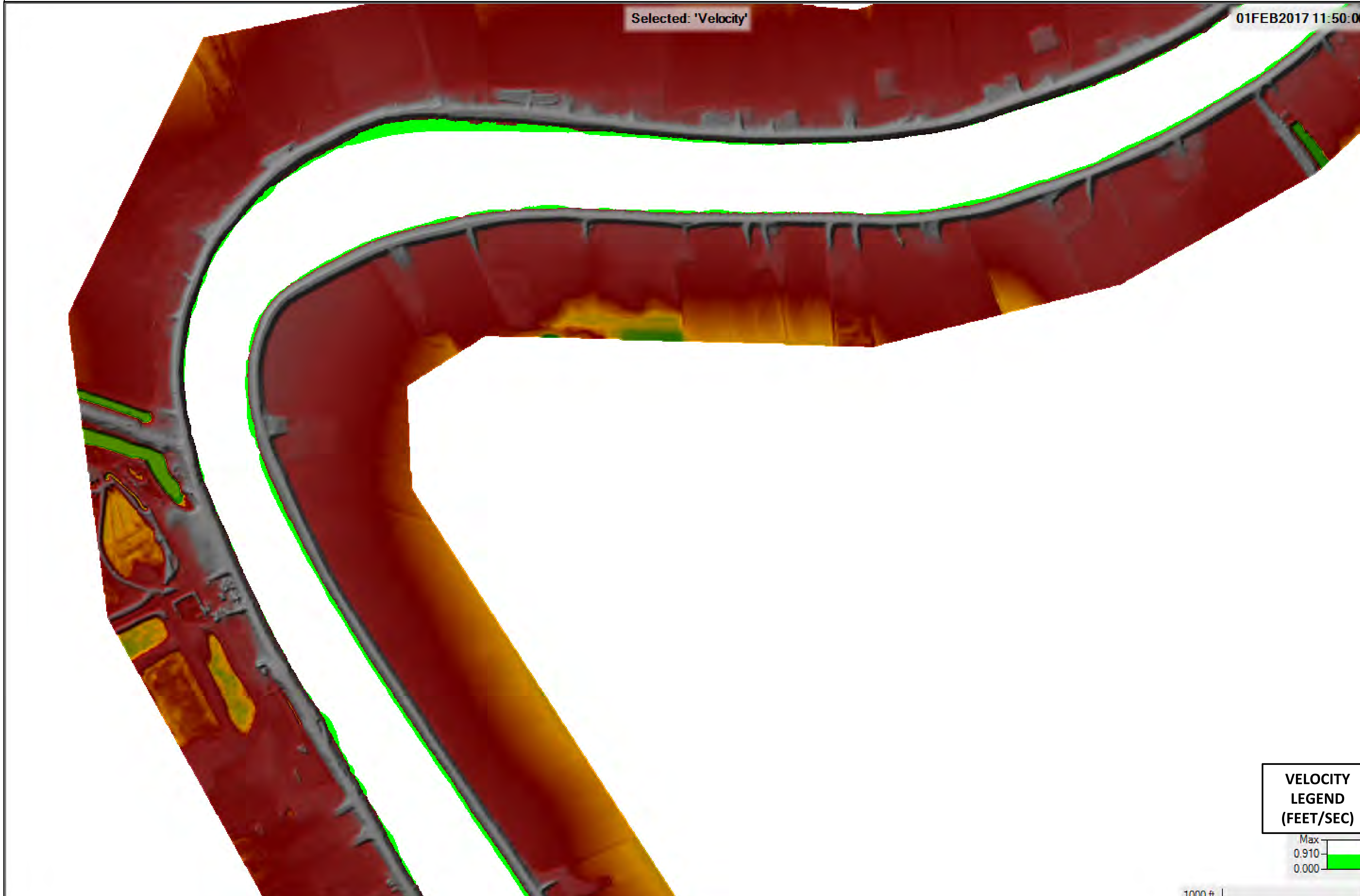
WINDOW LOCATIONS KEY



RUN 2A

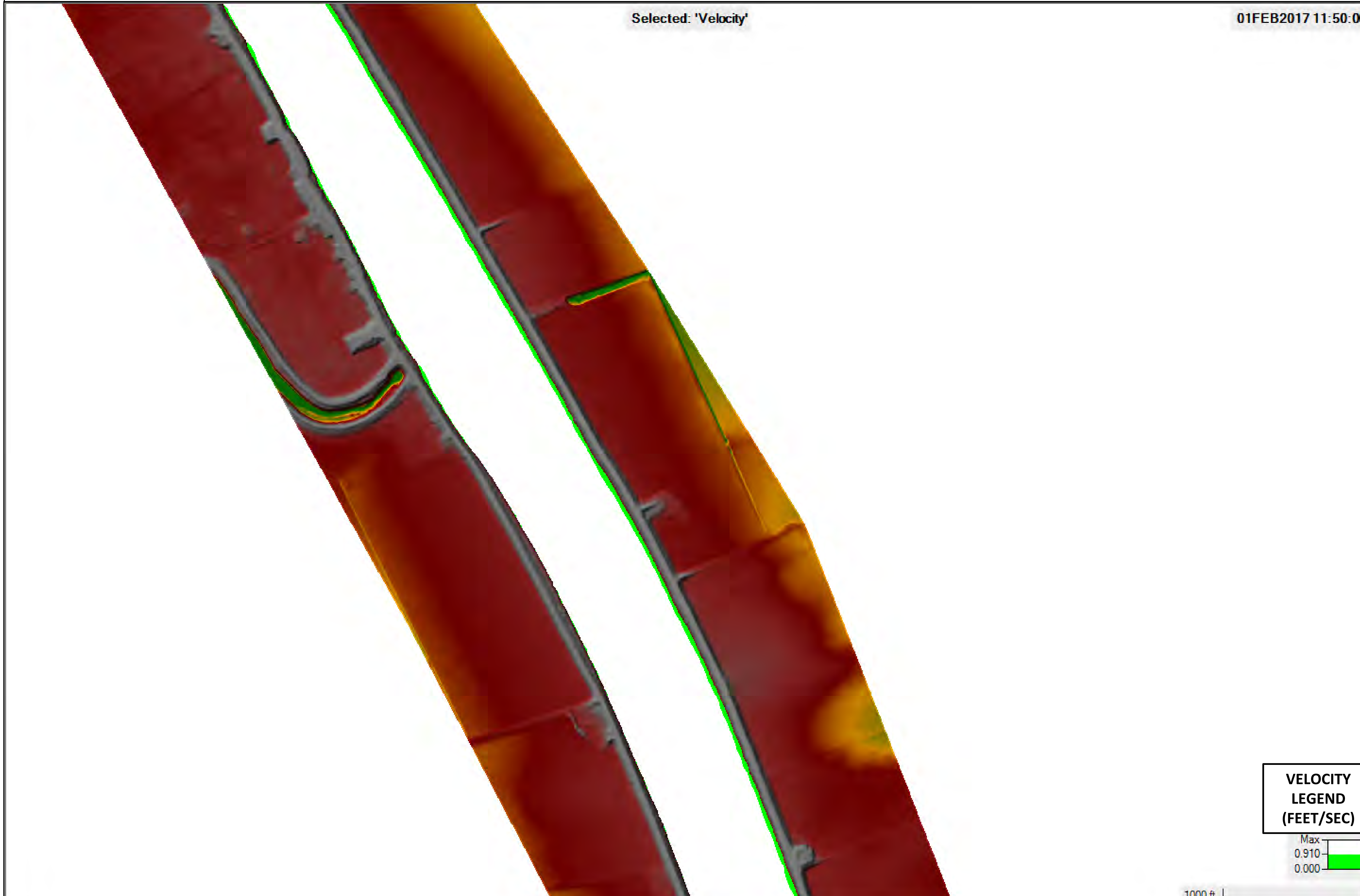
RUN 2A – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 50,000-CFS AT FREEPORT



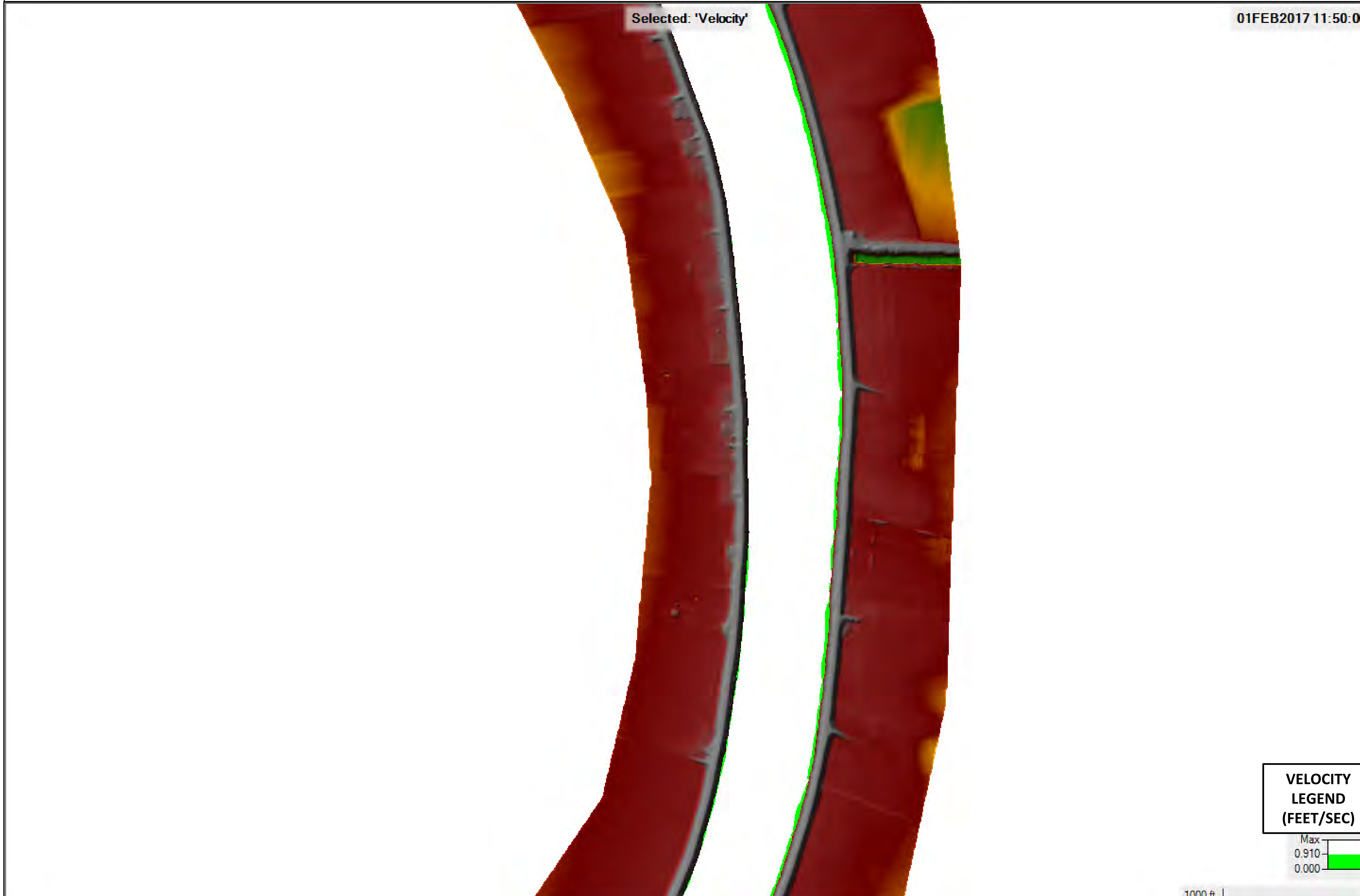
RUN 2A – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 50,000-CFS AT FREEPORT



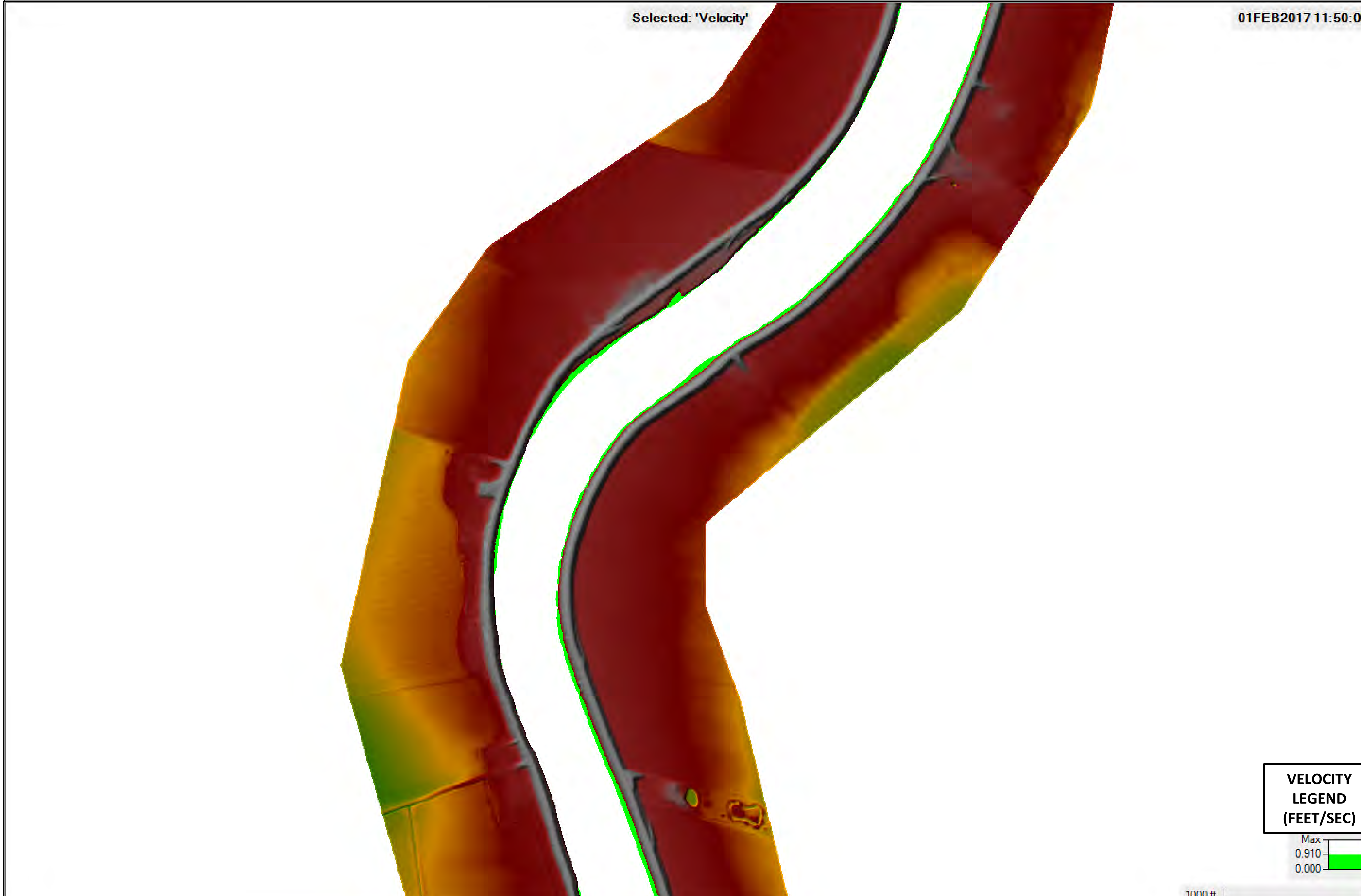
RUN 2A – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 50,000-CFS AT FREEPORT



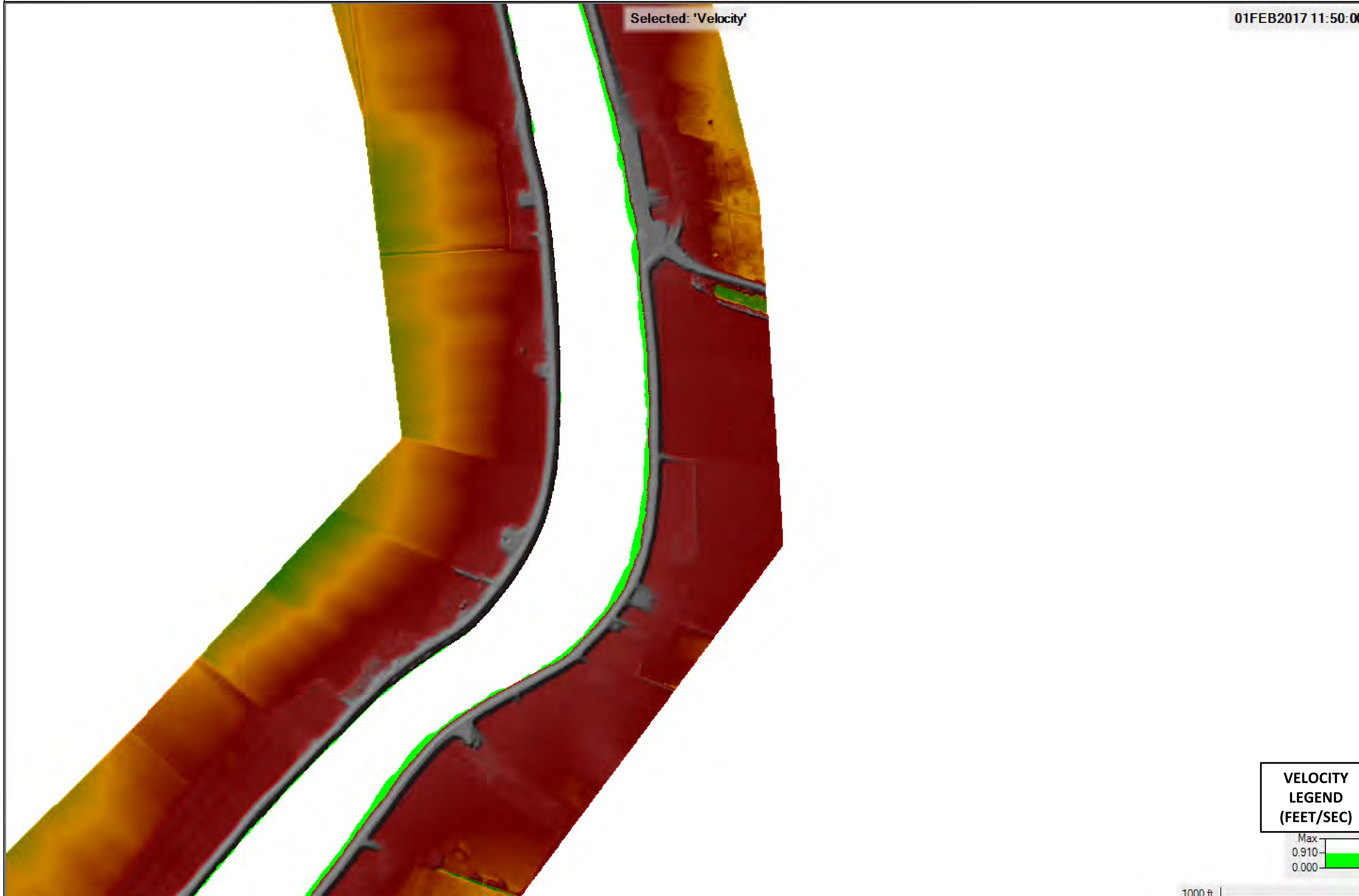
RUN 2A – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 50,000-CFS AT FREEPORT



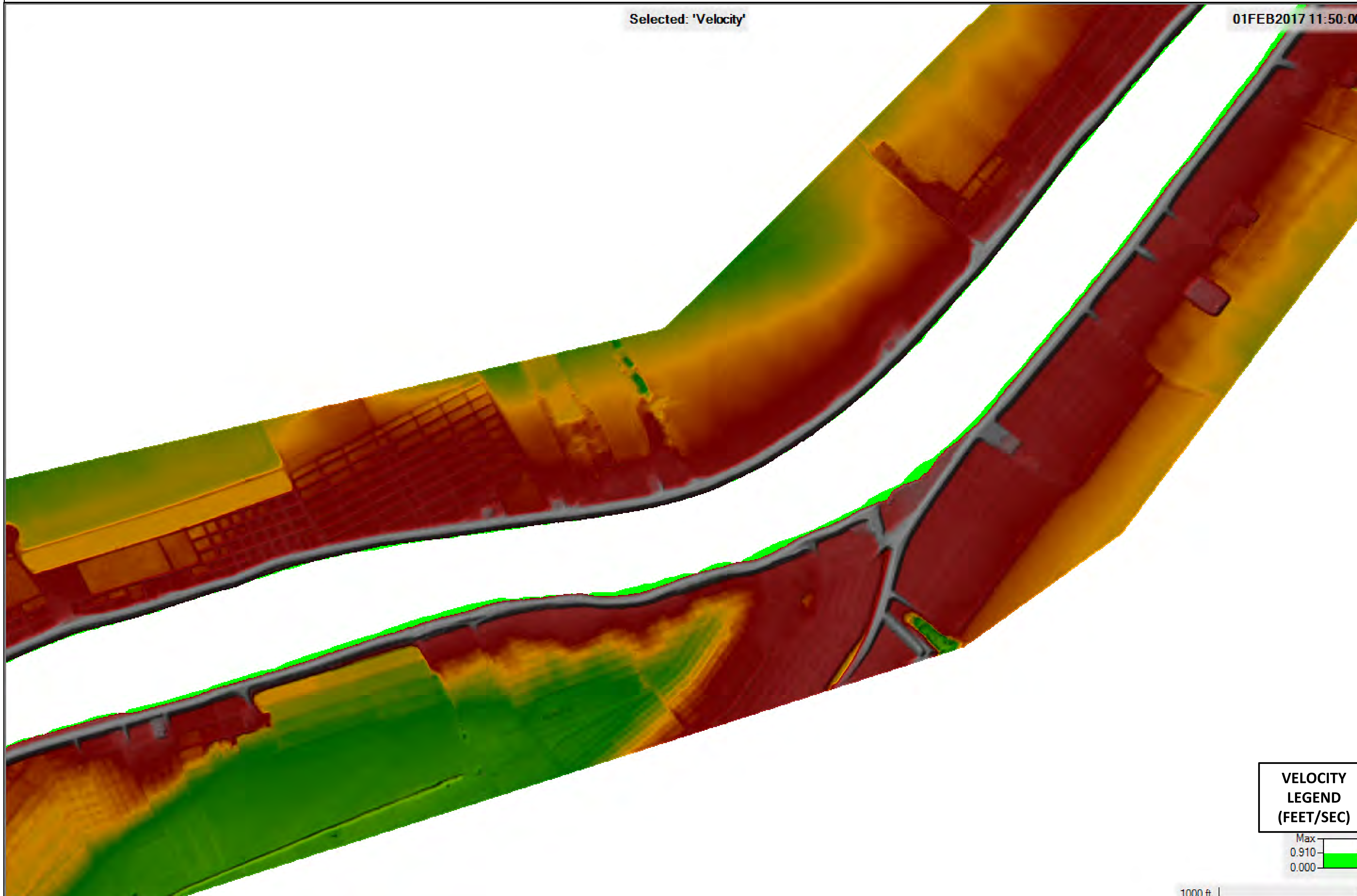
RUN 2A – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 50,000-CFS AT FREEPORT



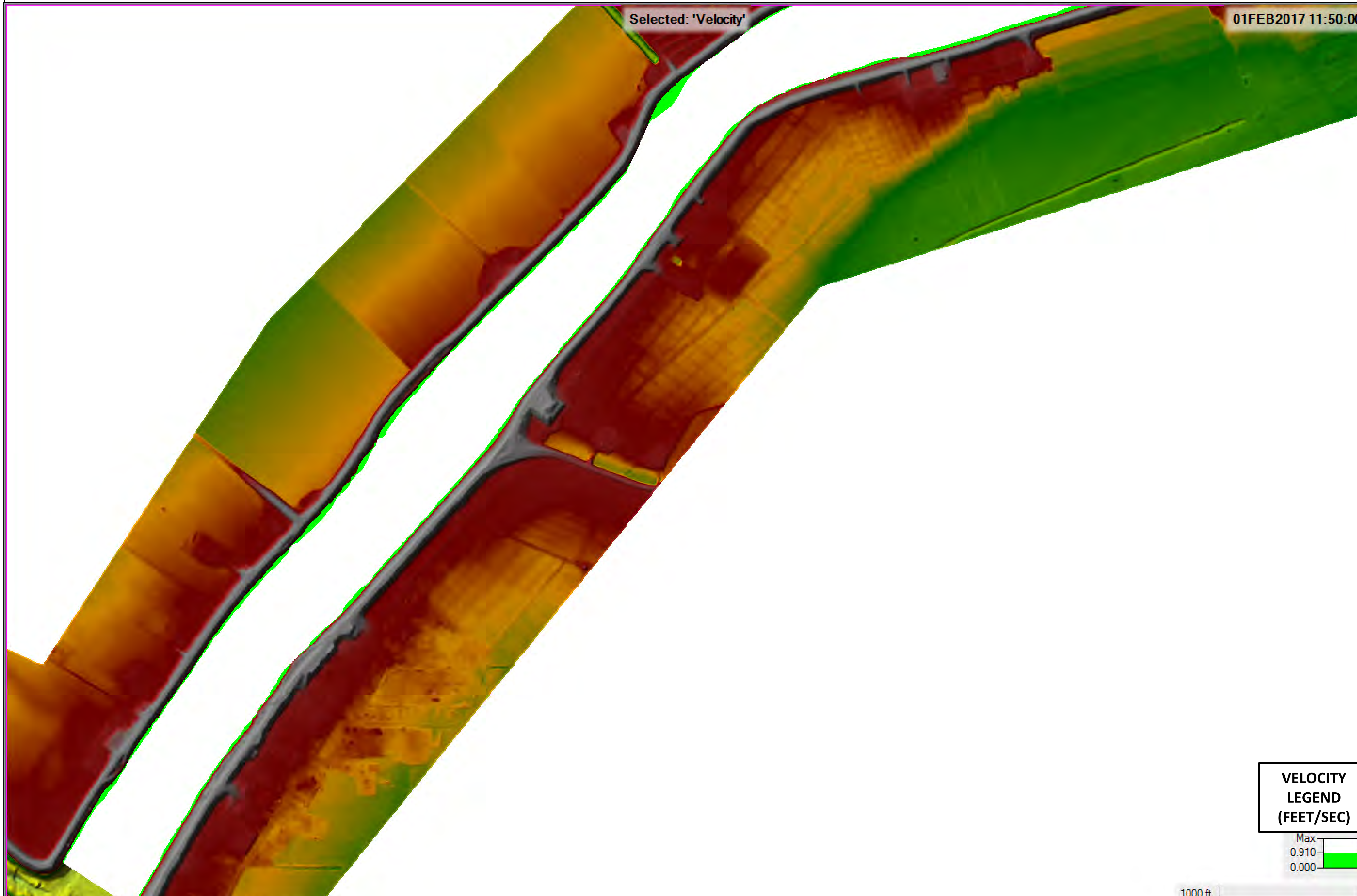
RUN 2A – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 50,000-CFS AT FREEPORT



RUN 2A – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

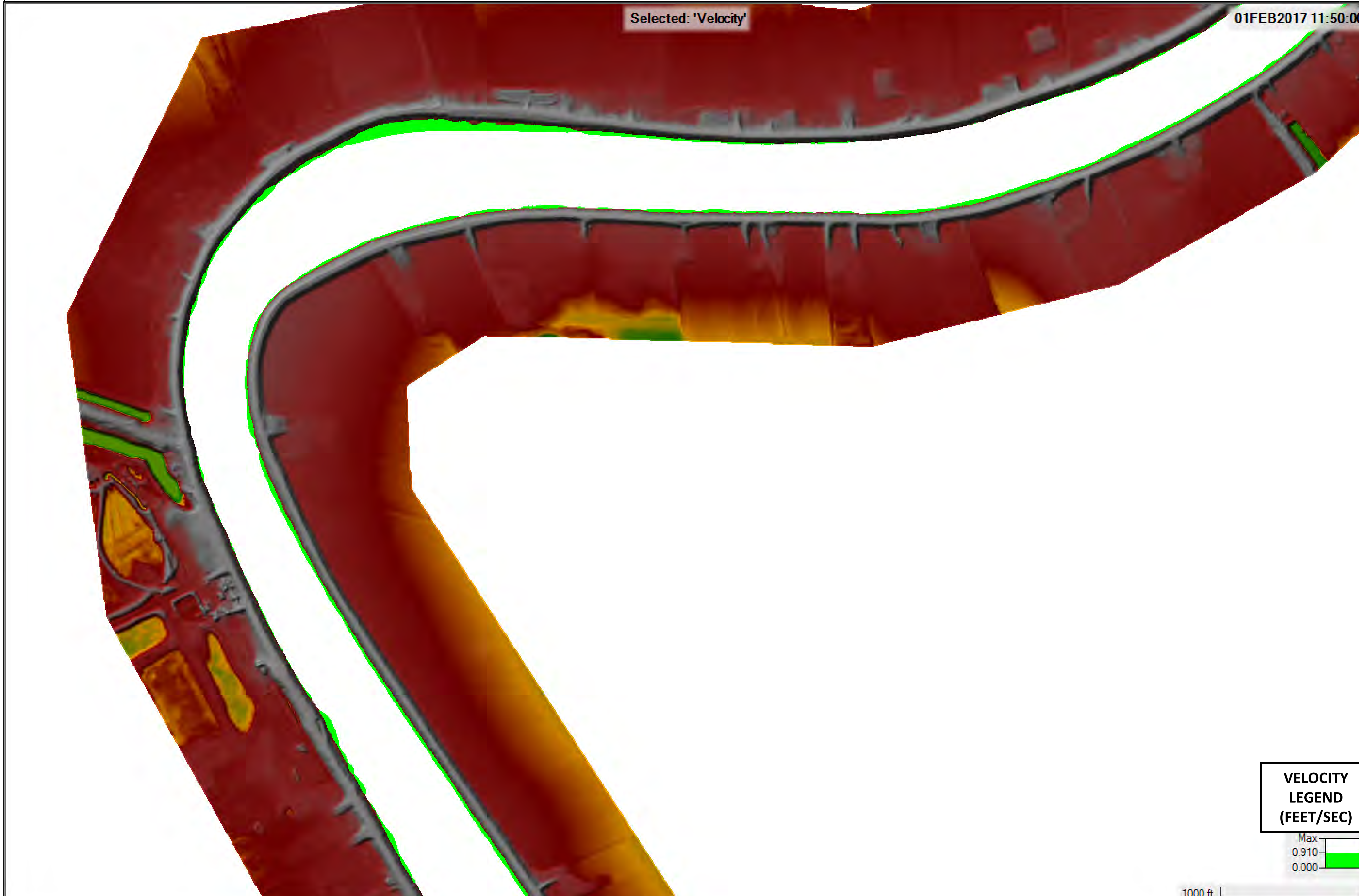
MODEL SCENARIO EXISTING CONDITIONS – 50,000-CFS AT FREEPORT



RUN 2B

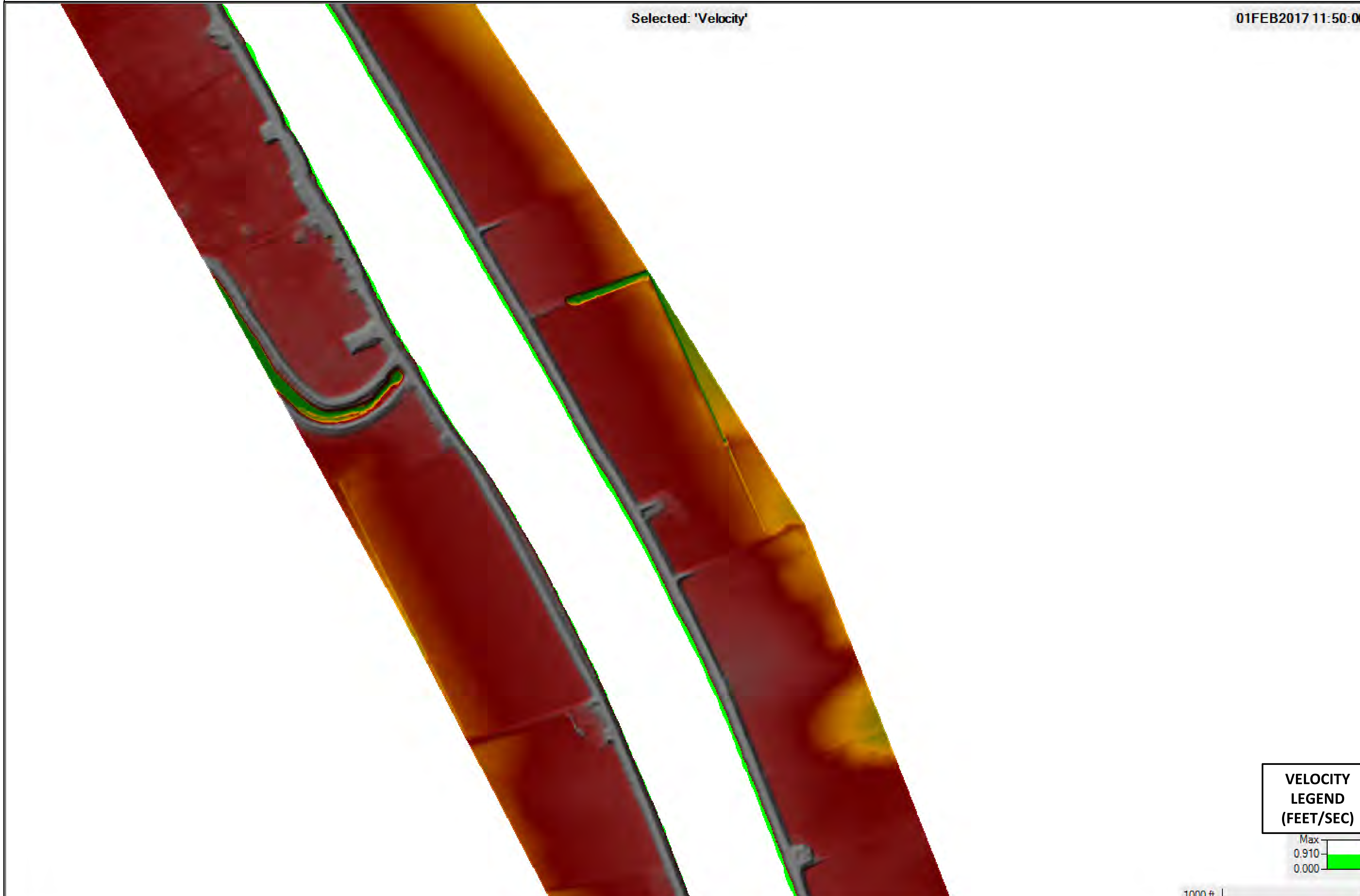
RUN 2B – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



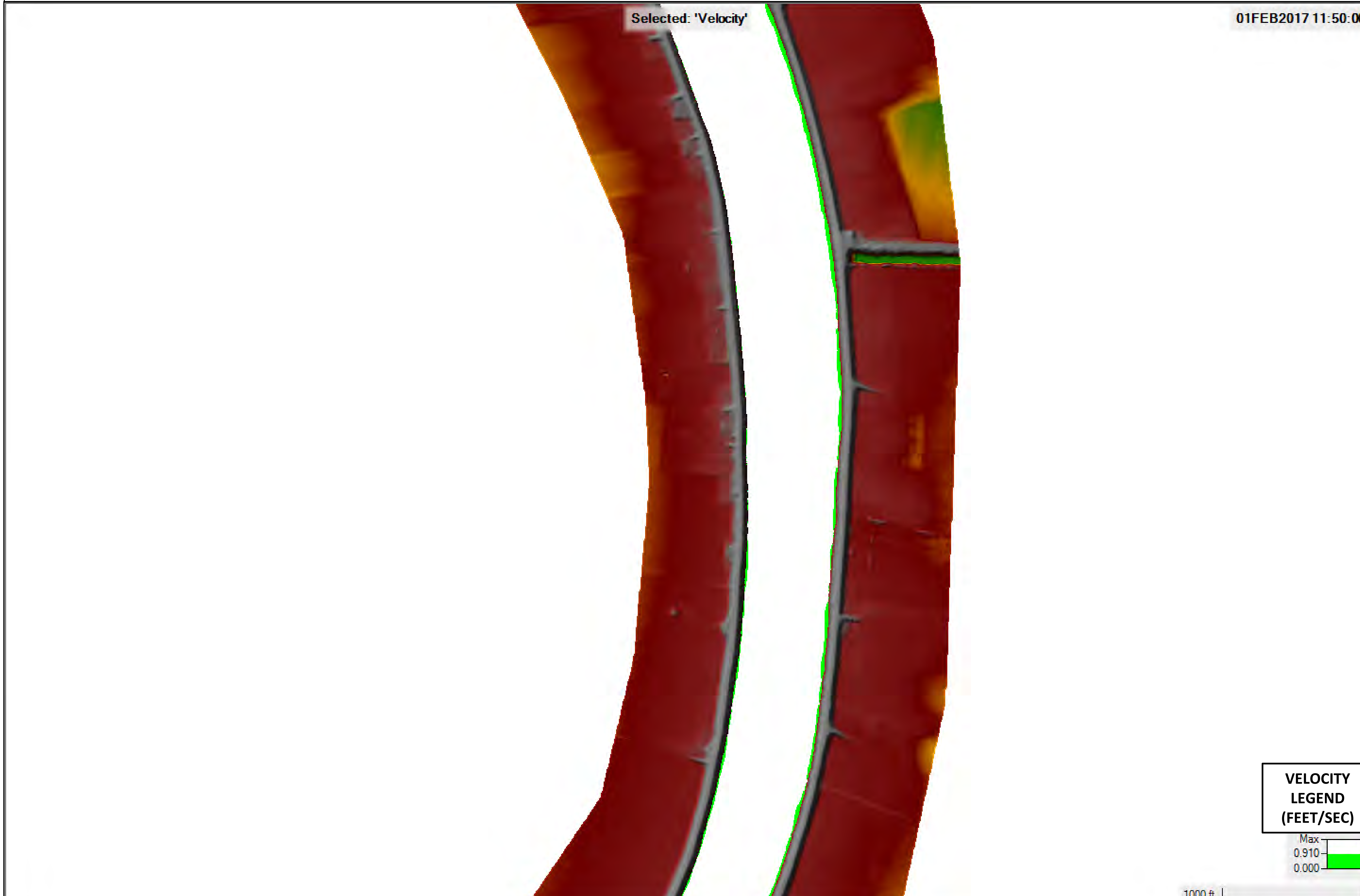
RUN 2B – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



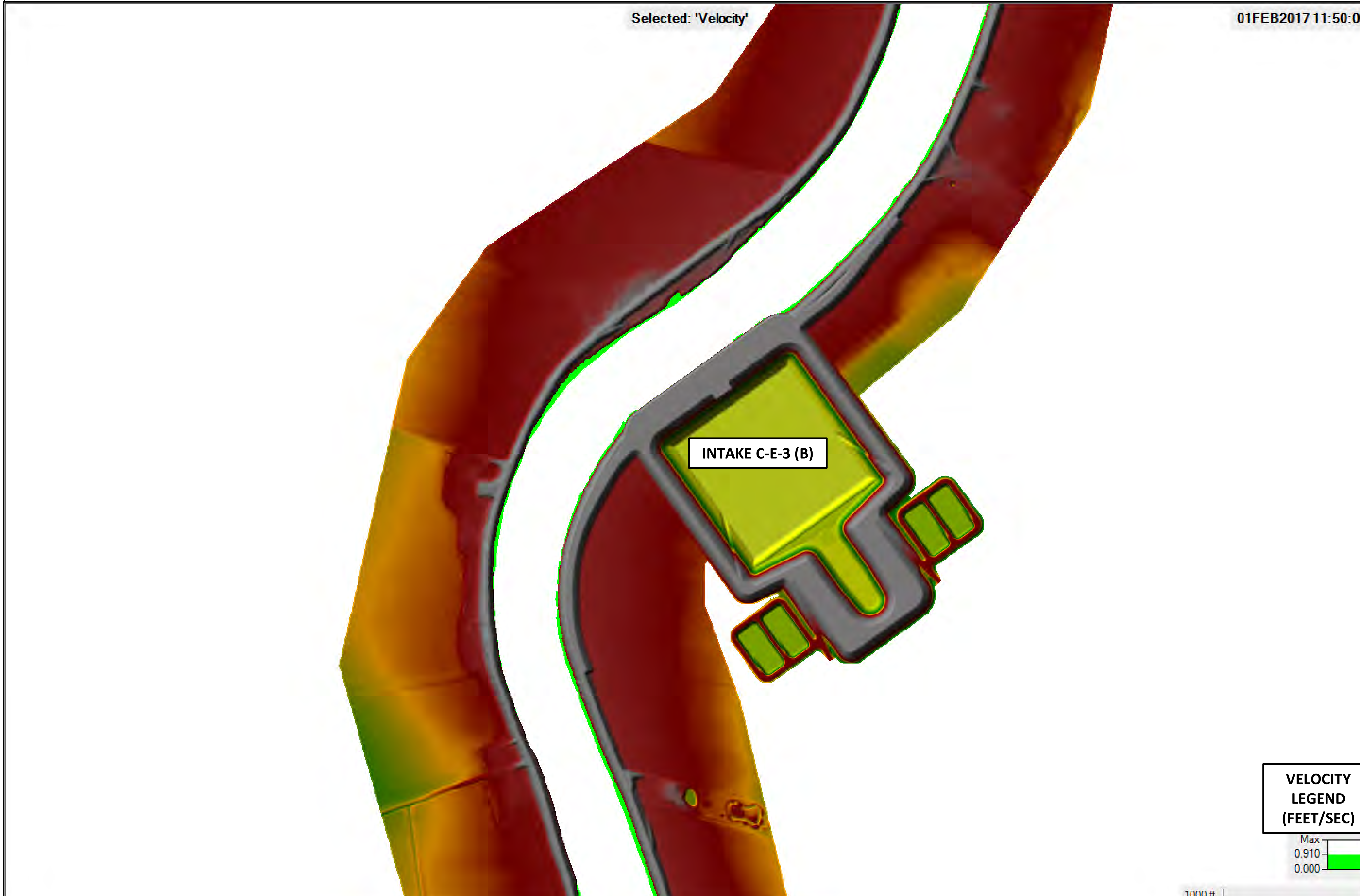
RUN 2B – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



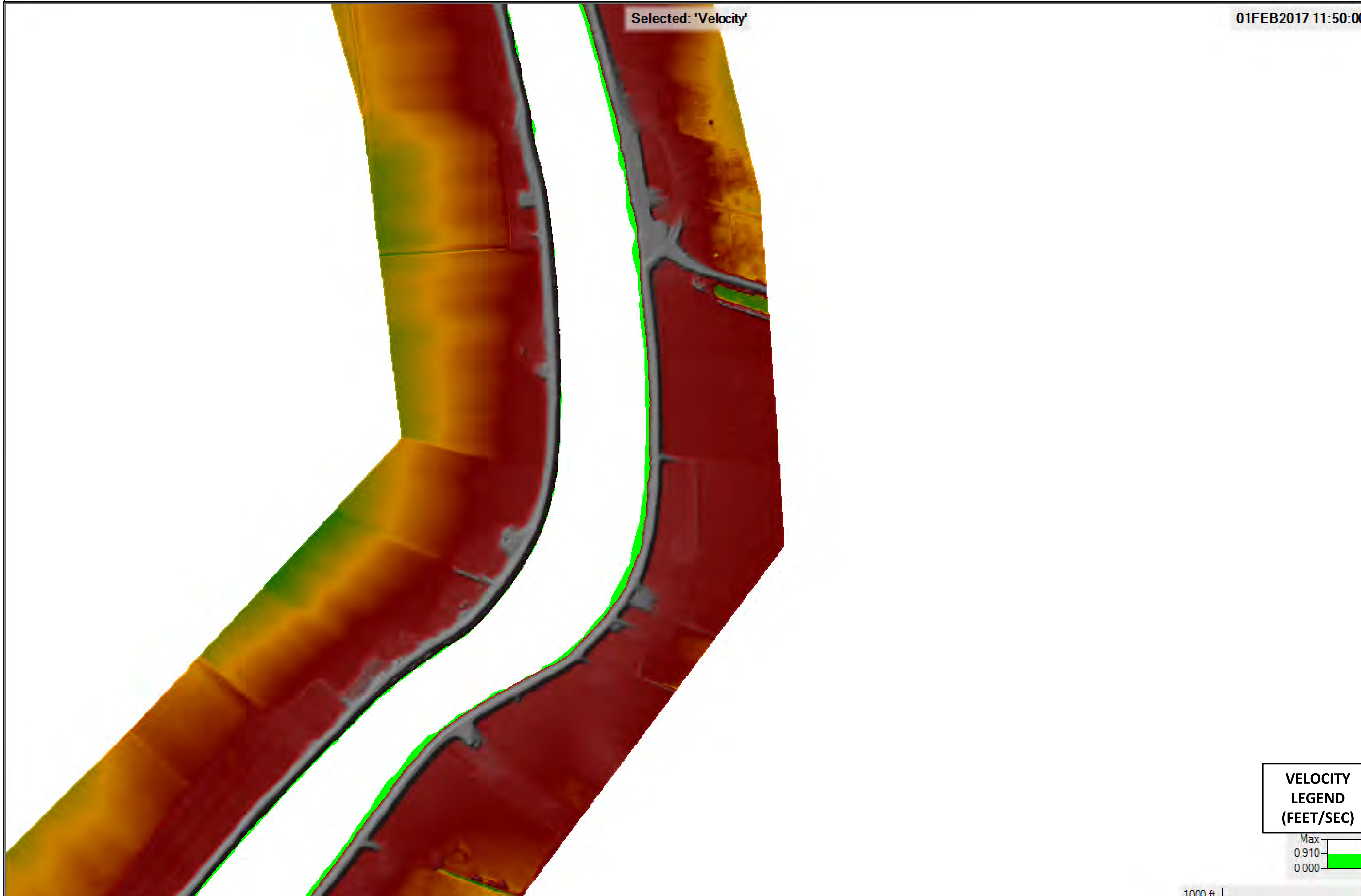
RUN 2B – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2B – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS

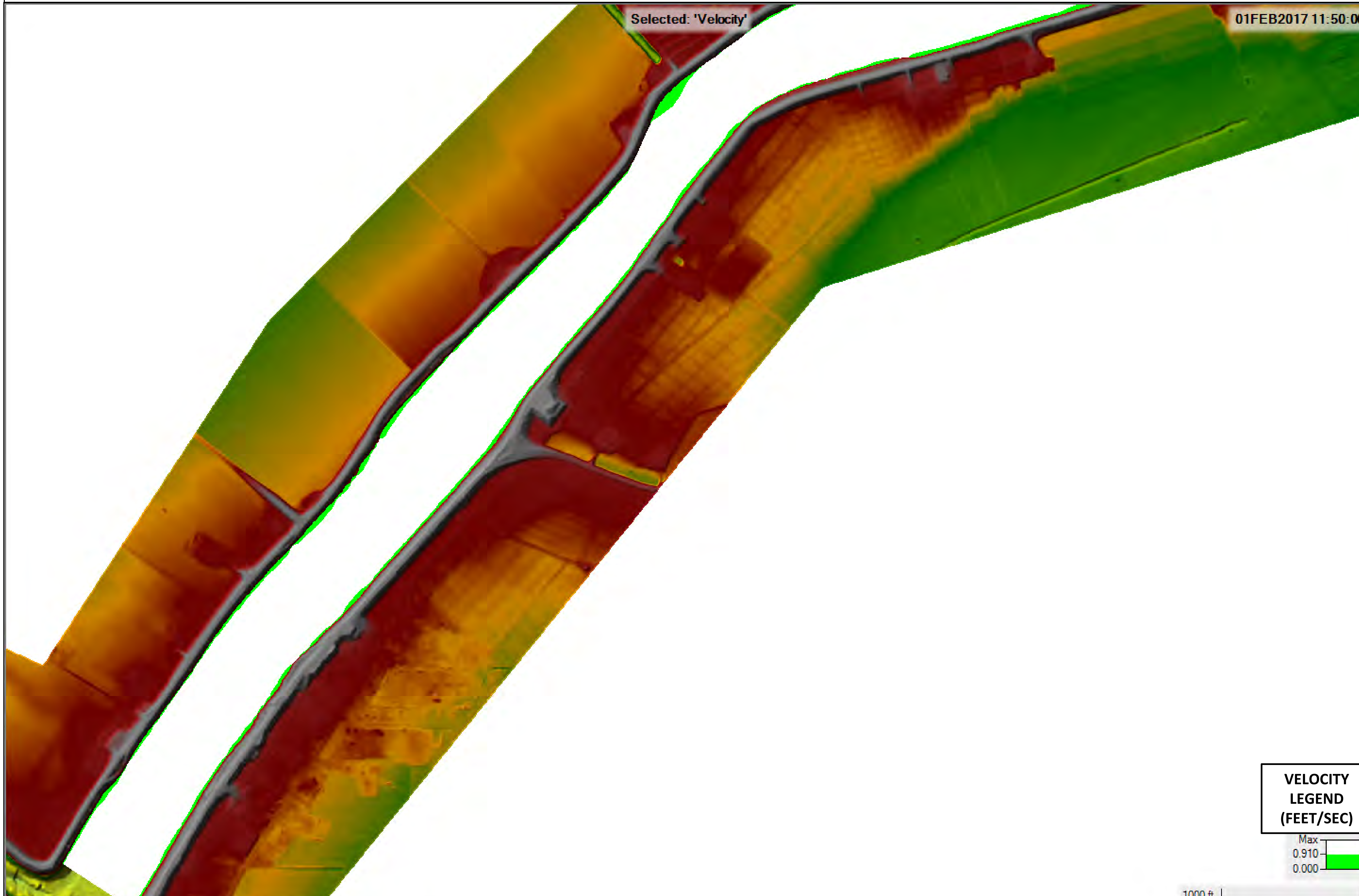


RUN 2B – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS

RUN 2B – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

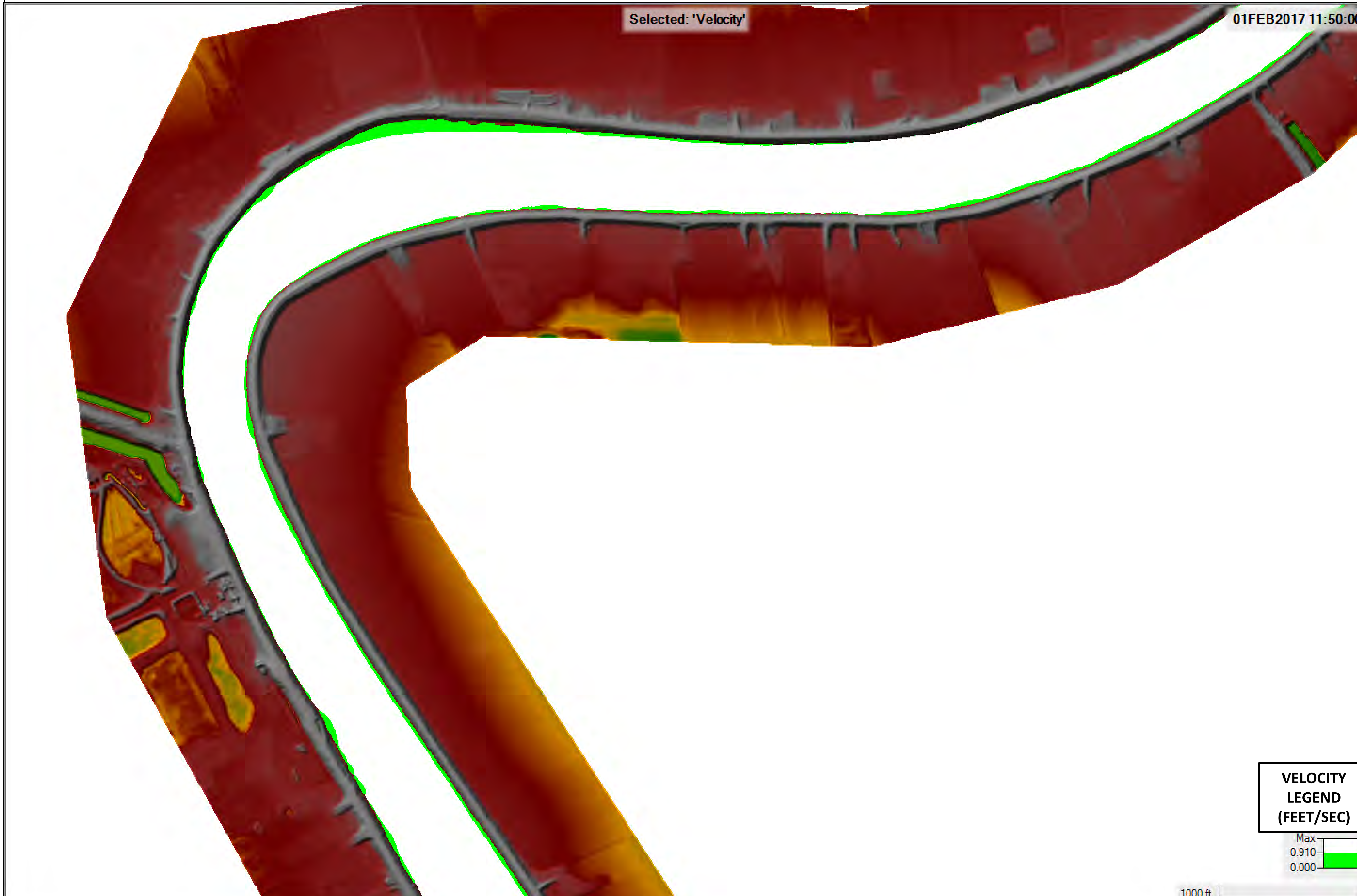
MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2C

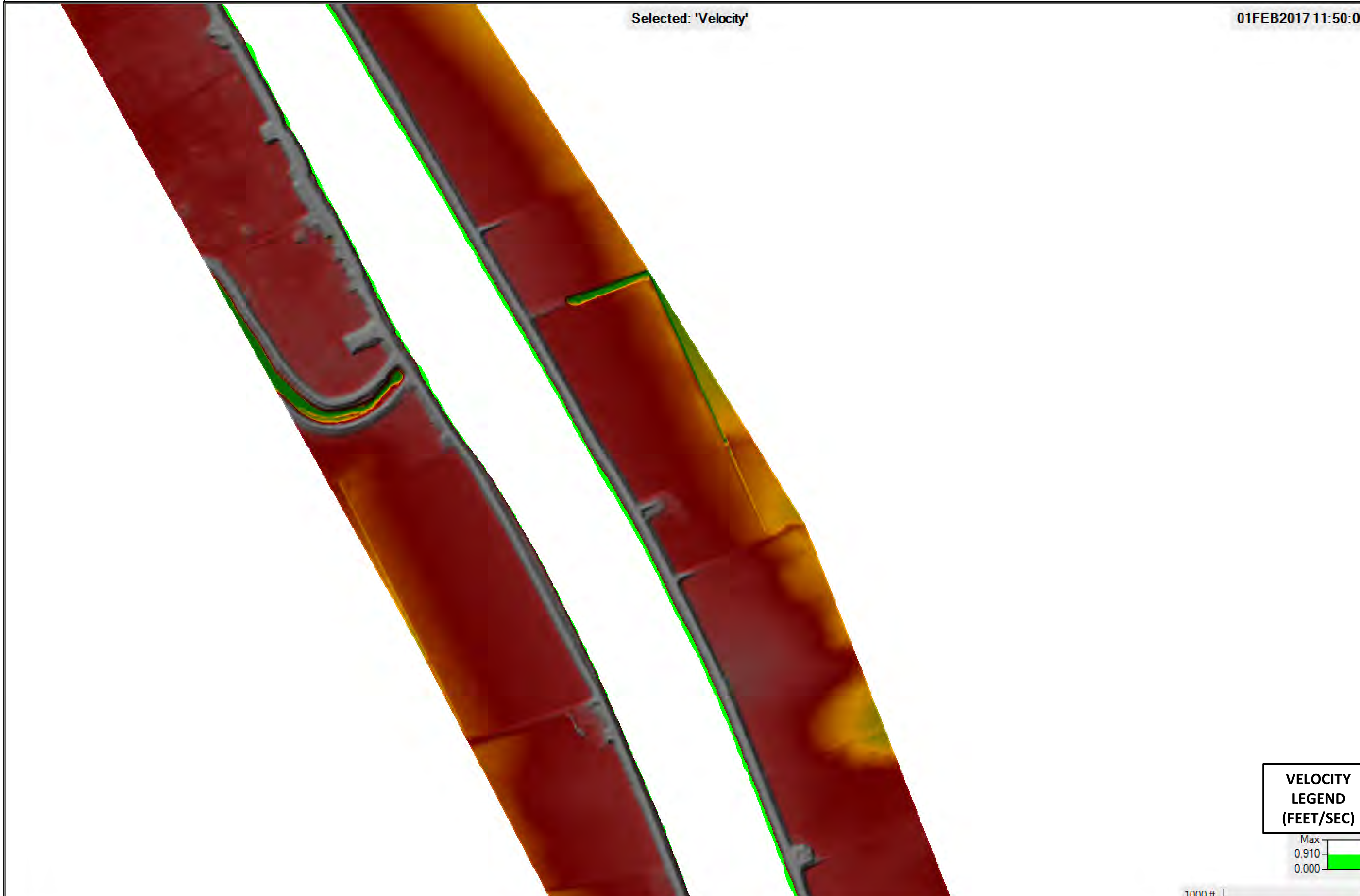
RUN 2C – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



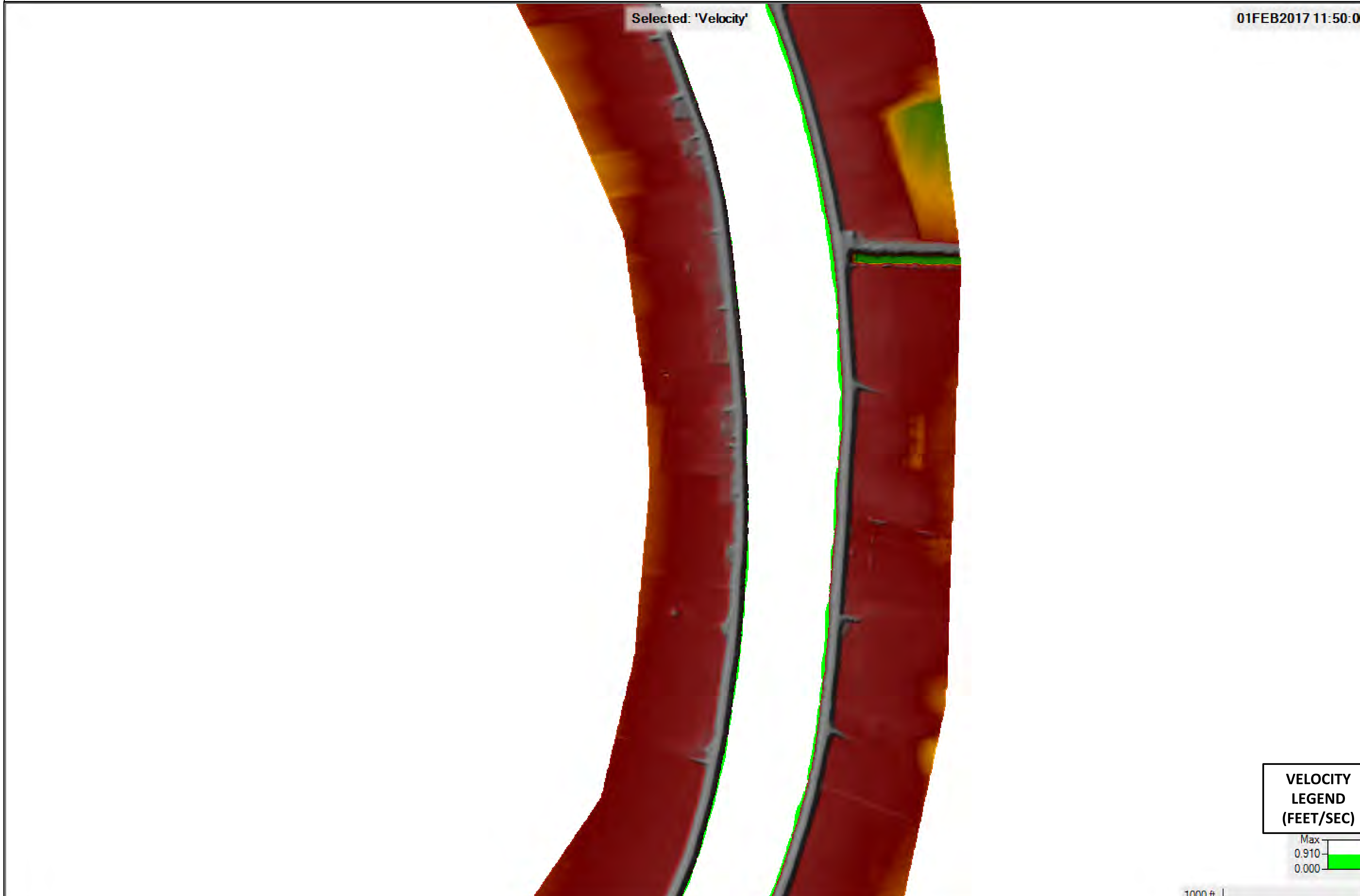
RUN 2C – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



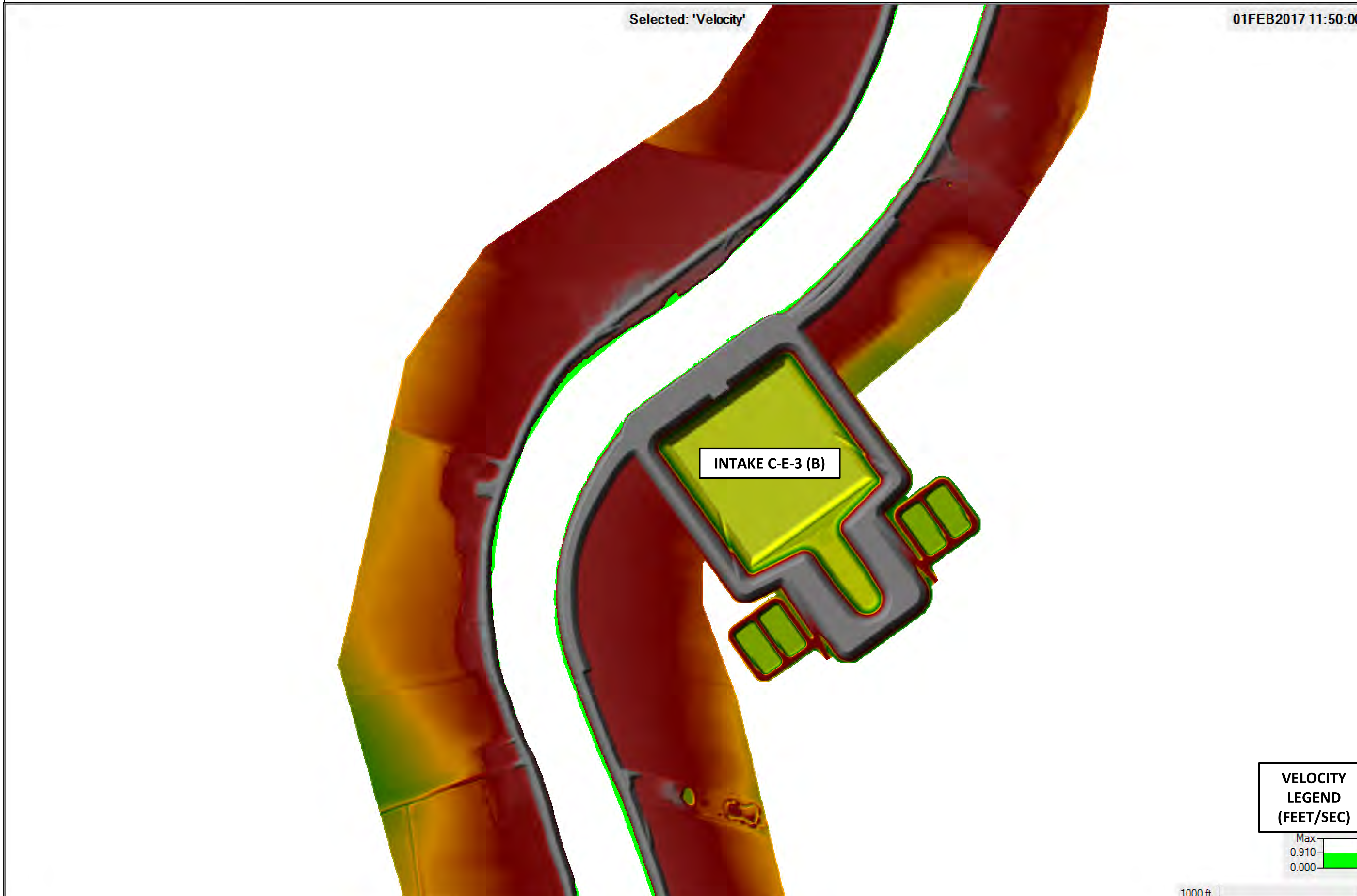
RUN 2C – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



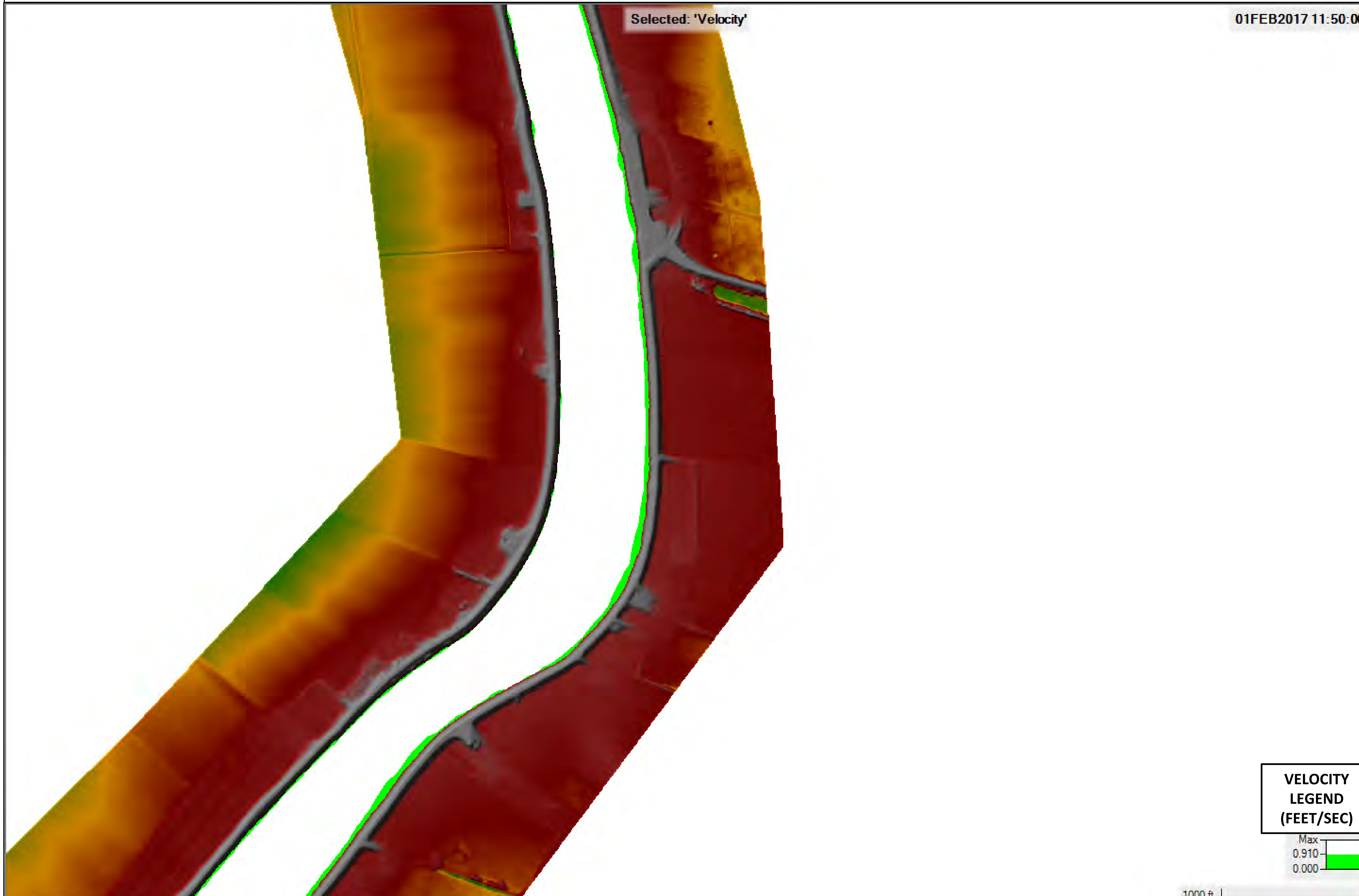
RUN 2C – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2C – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS

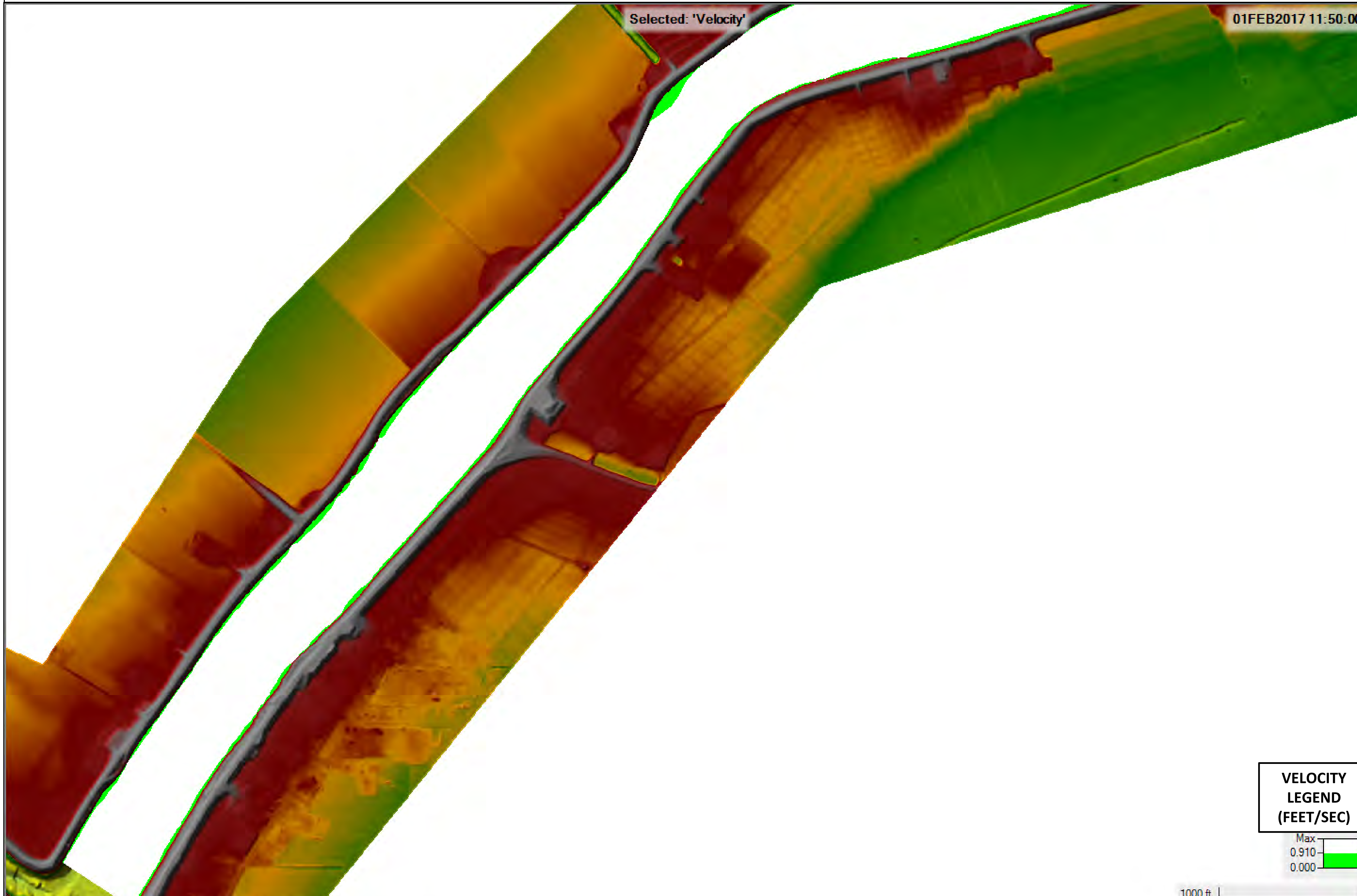


RUN 2C – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS

RUN 2C – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

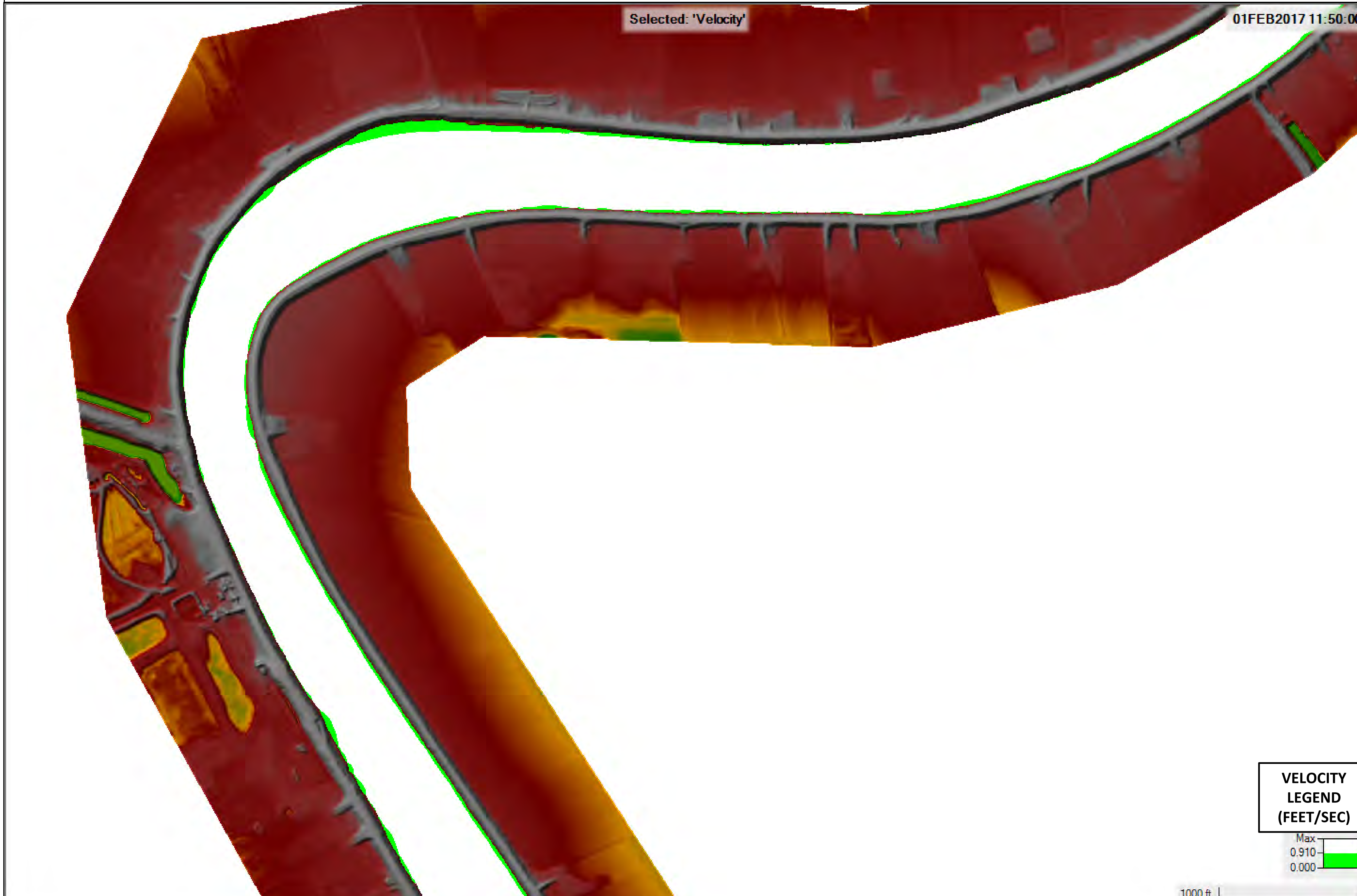
MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2D

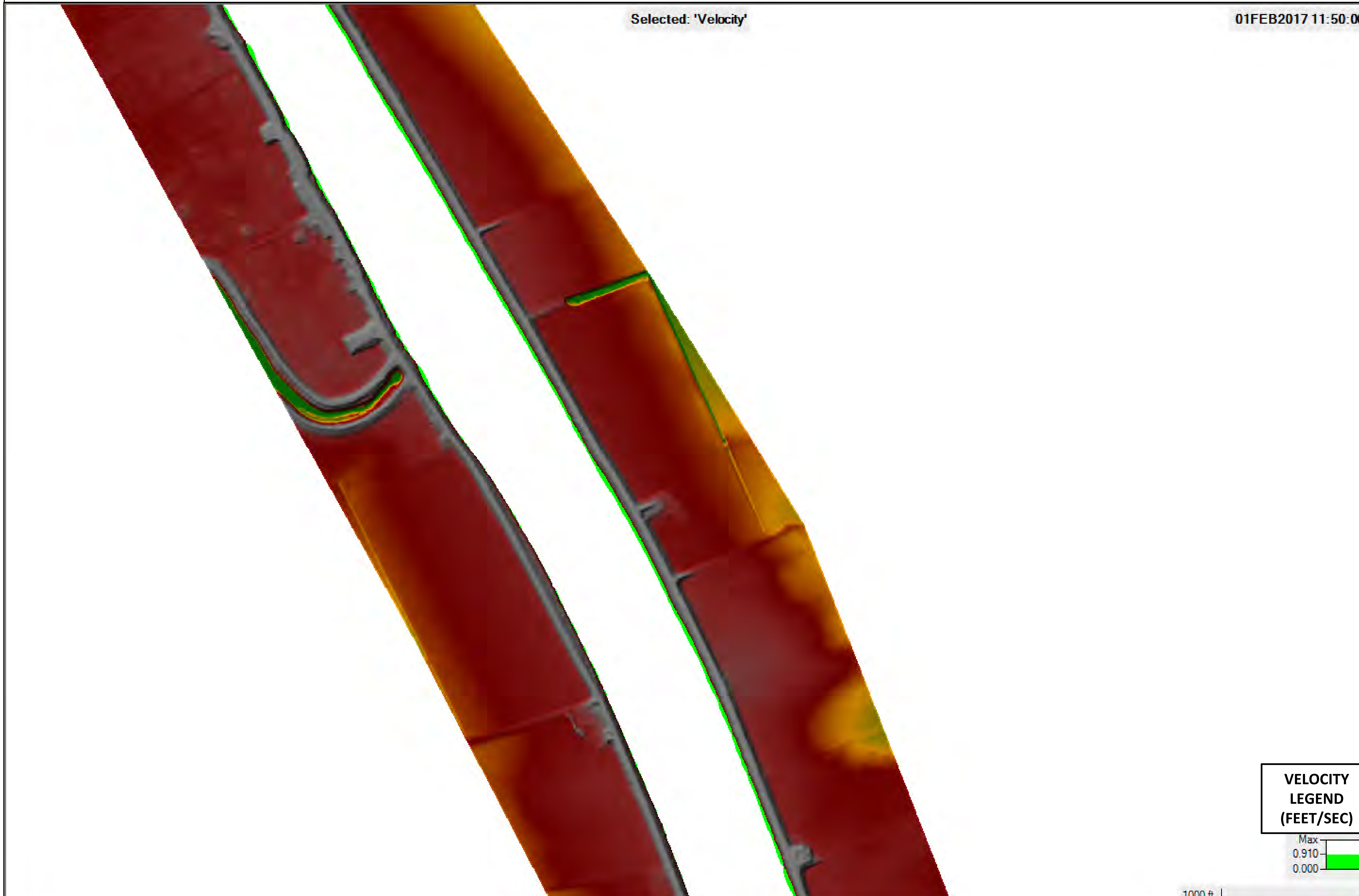
RUN 2D – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 50,000-CFS AT FREEPORT – TEE SCREENS



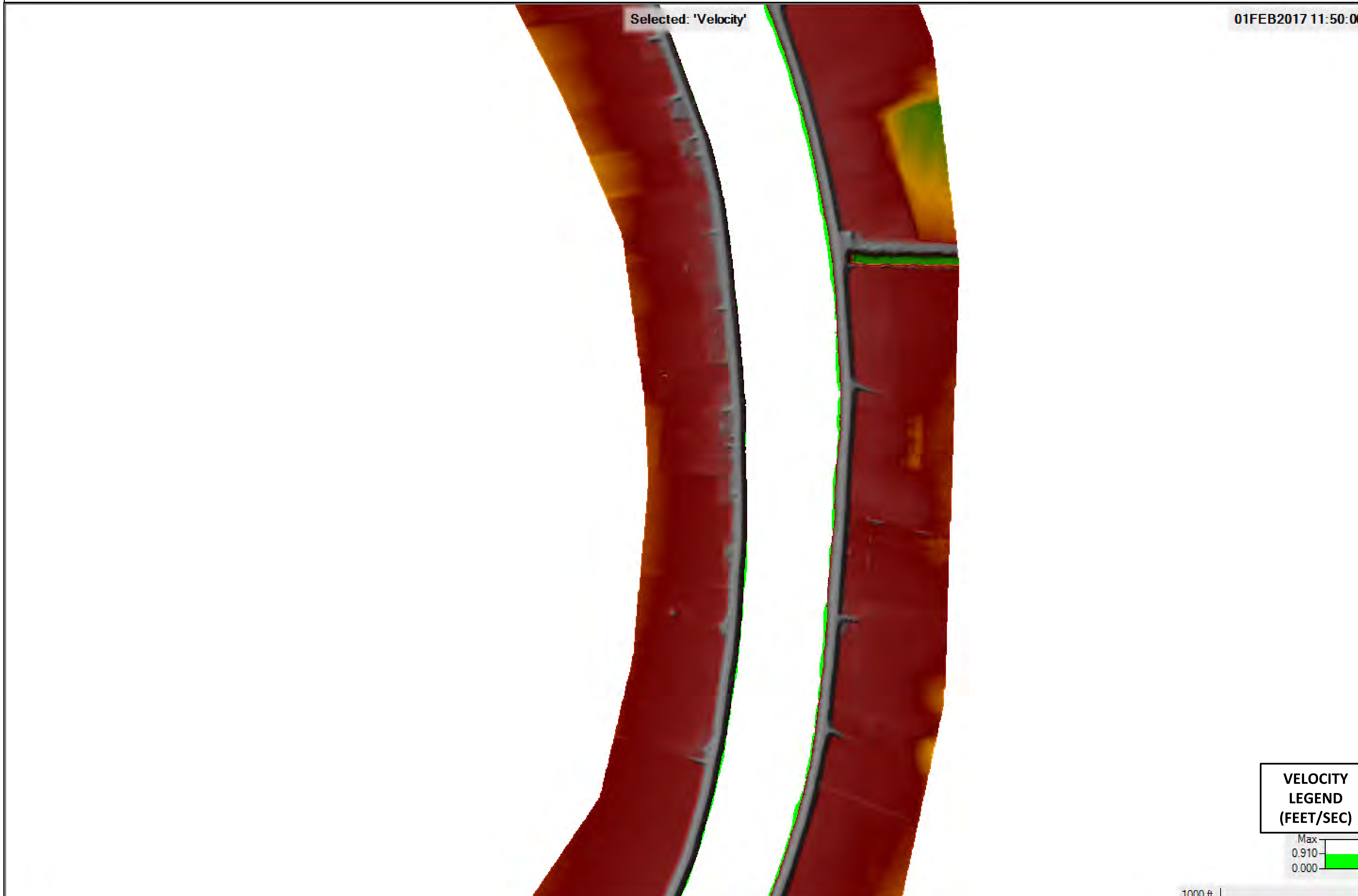
RUN 2D – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 50,000-CFS AT FREEPORT – TEE SCREENS



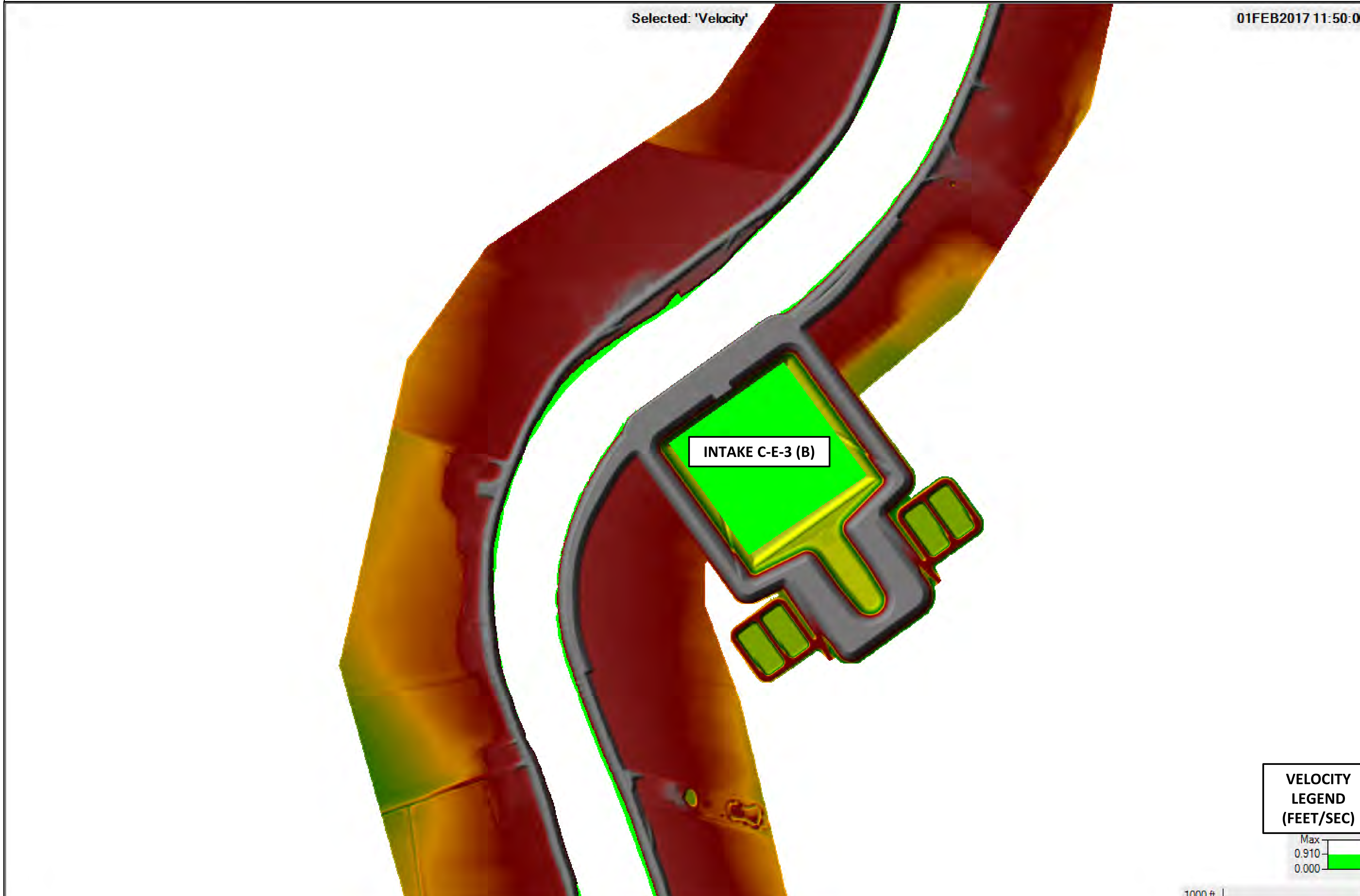
RUN 2D – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 50,000-CFS AT FREEPORT – TEE SCREENS



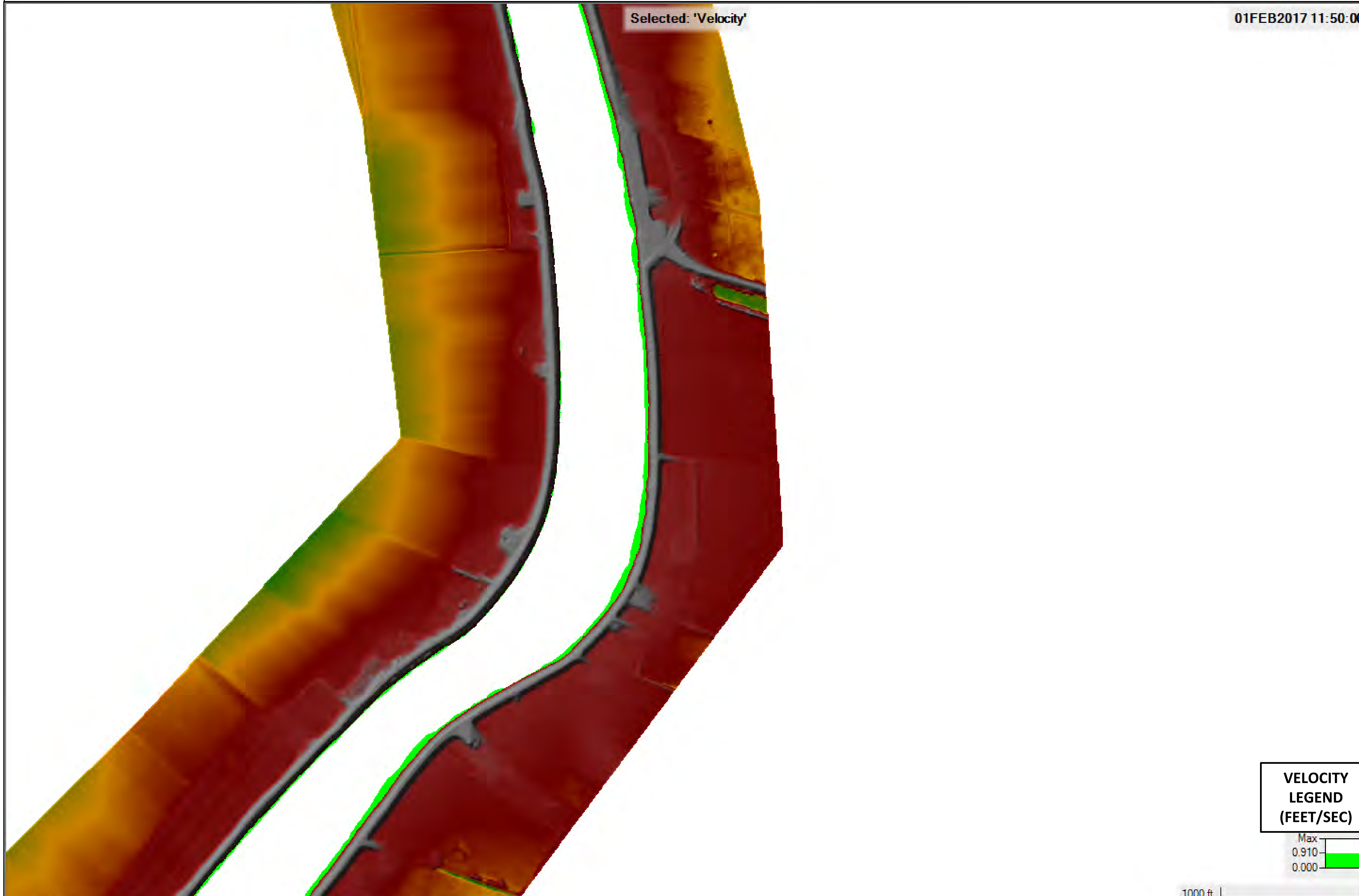
RUN 2D – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 50,000-CFS AT FREEPORT – TEE SCREENS



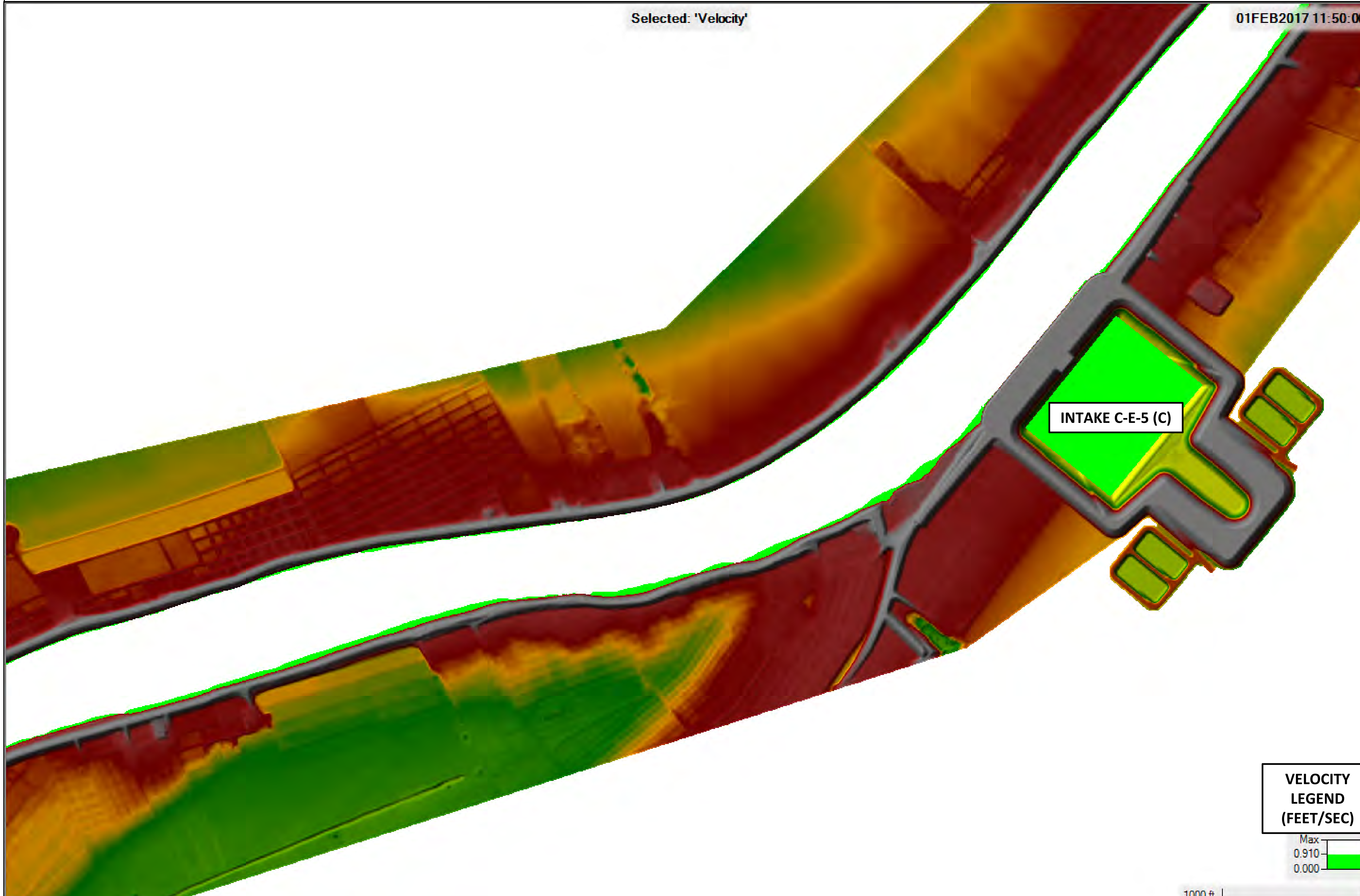
RUN 2D – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 50,000-CFS AT FREEPORT – TEE SCREENS



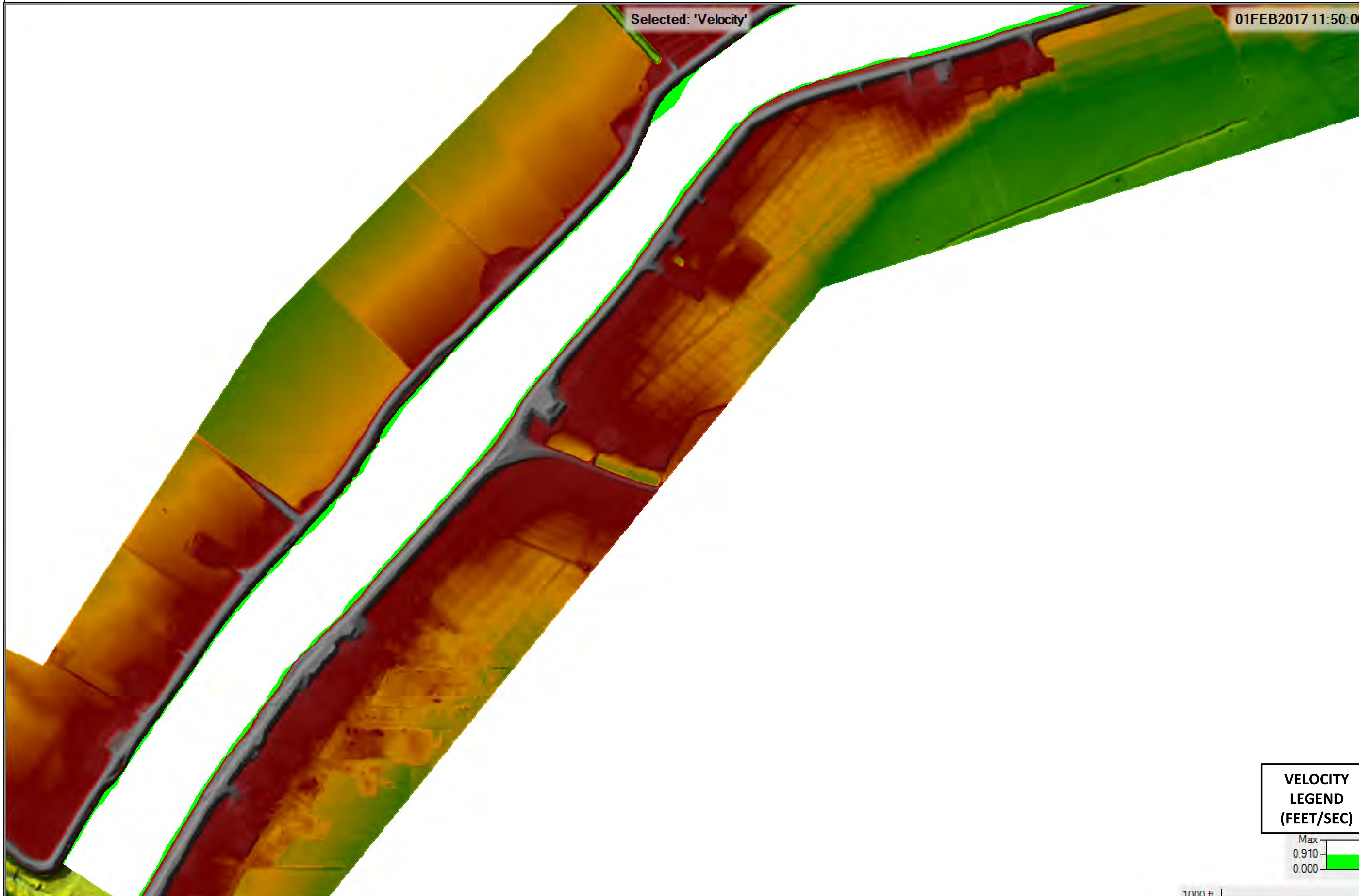
RUN 2D – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2D – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

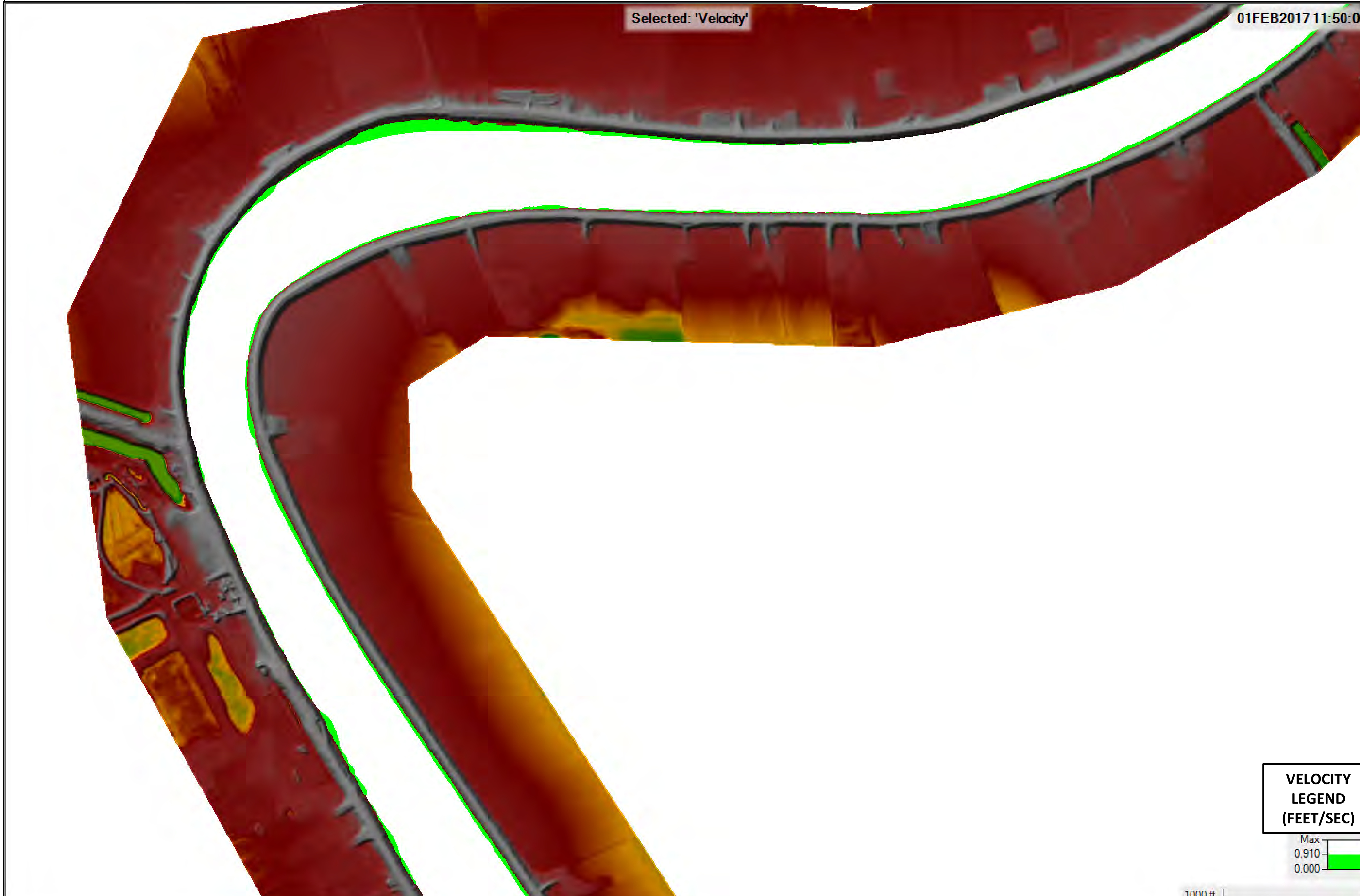
MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2E

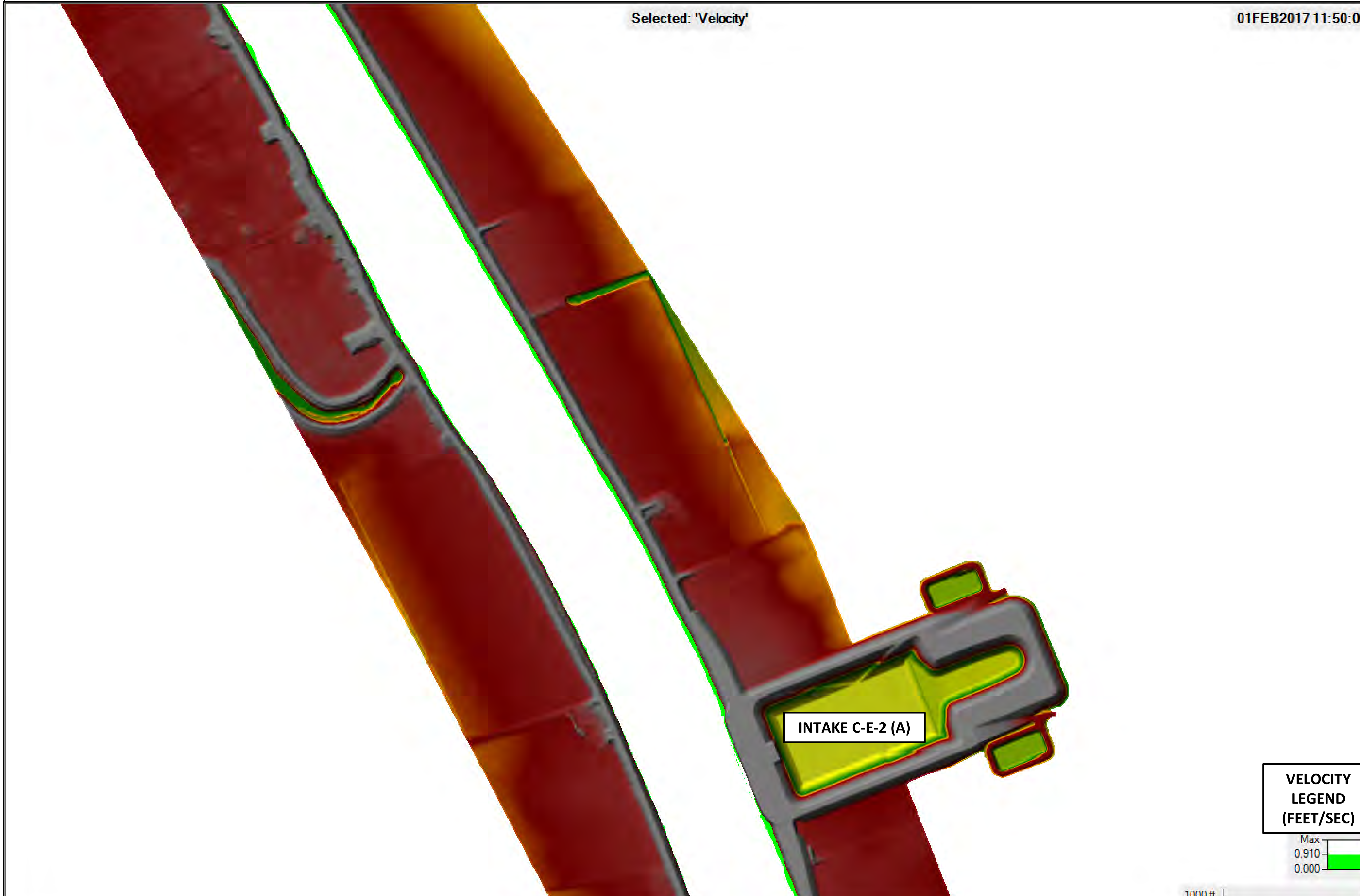
RUN 2E – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



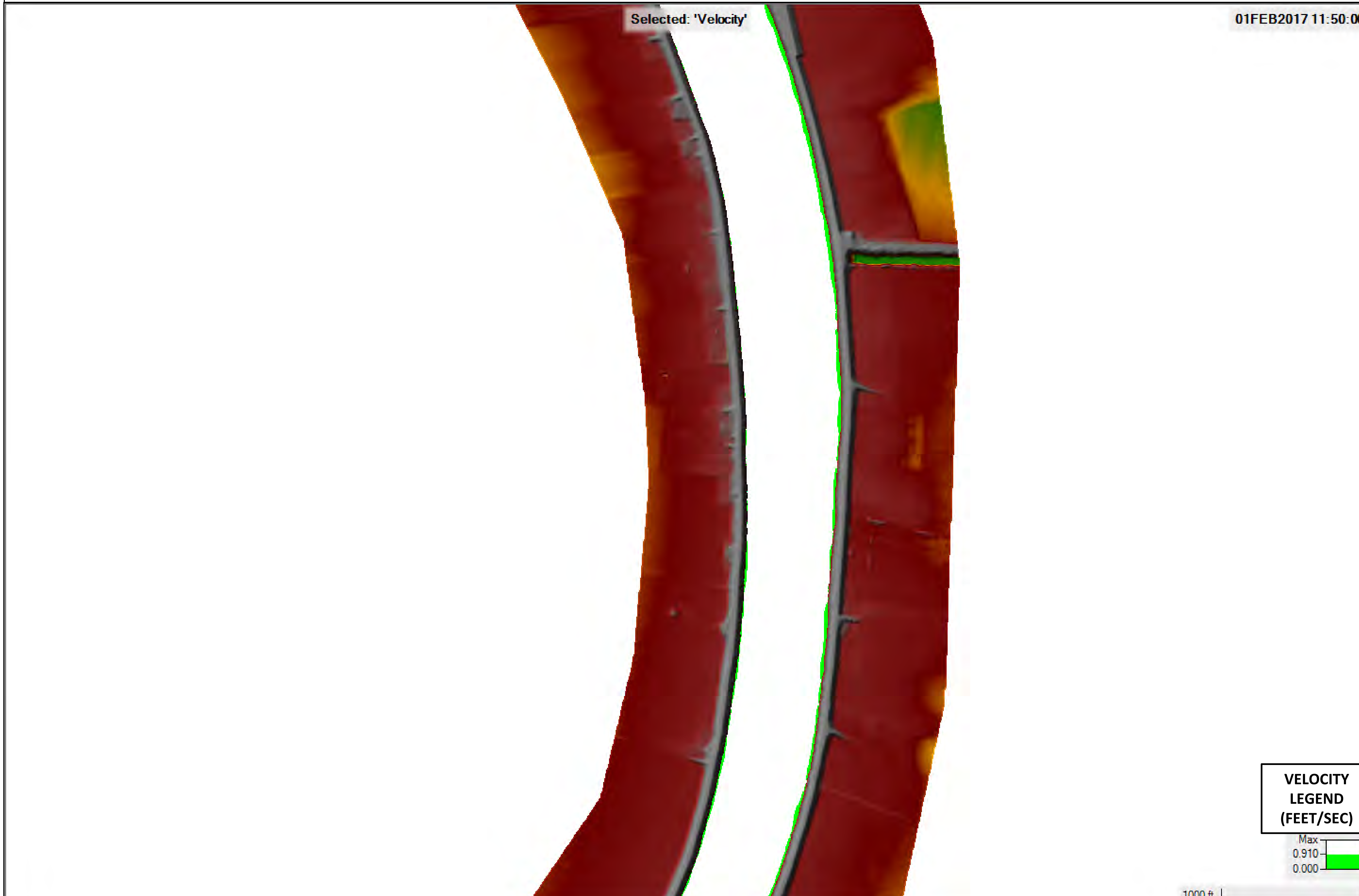
RUN 2E – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



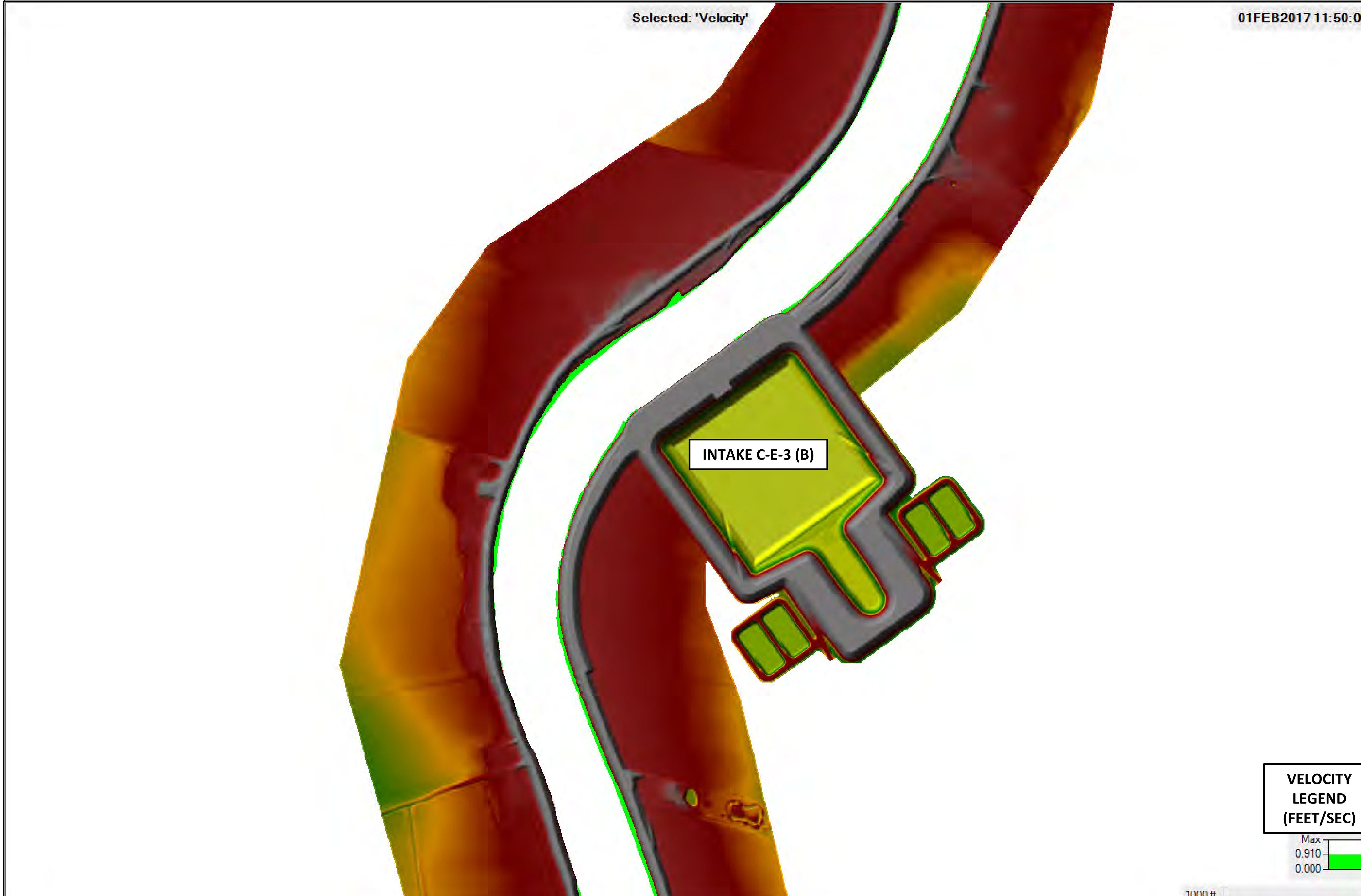
RUN 2E – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



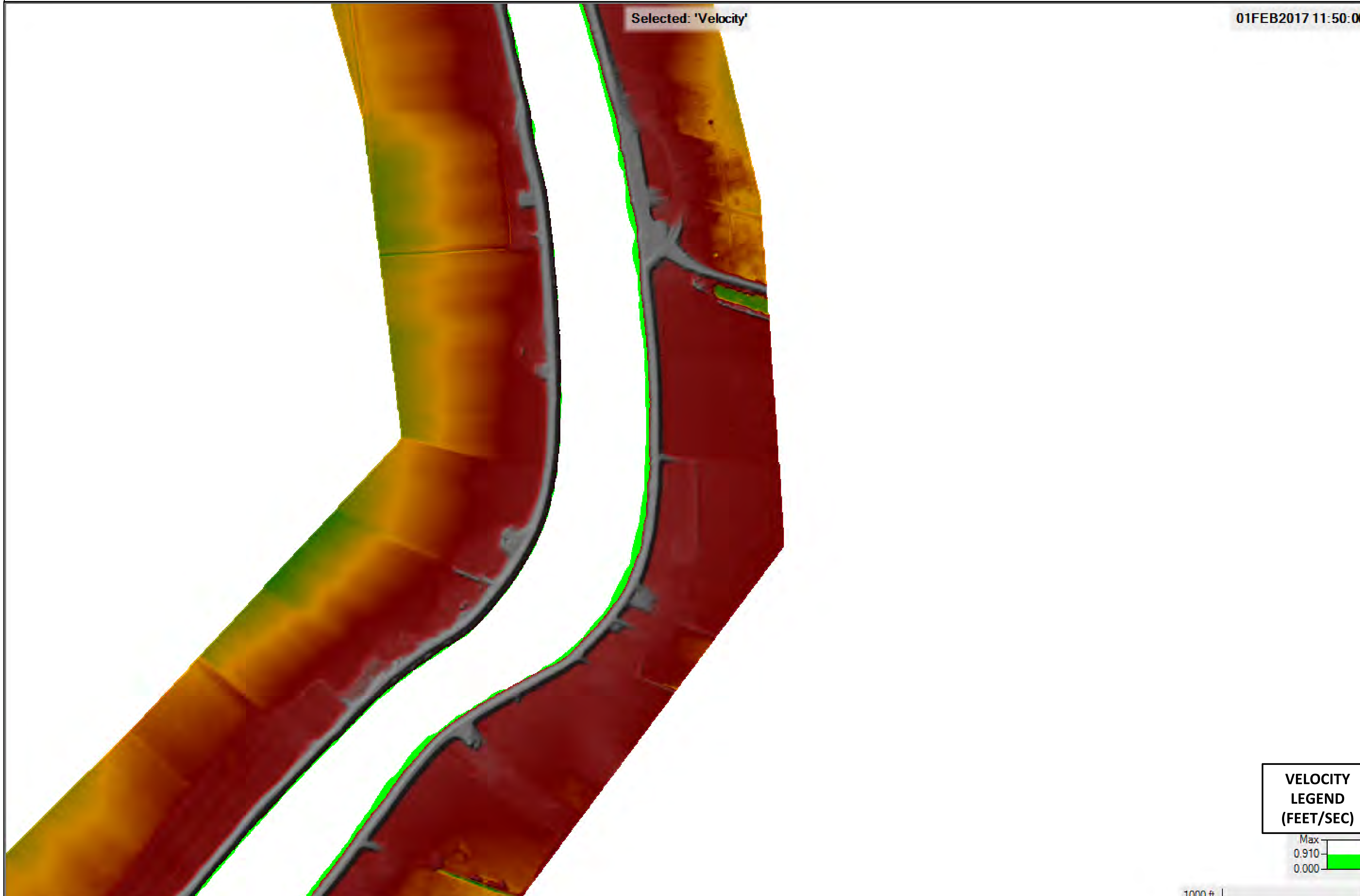
RUN 2E – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2E – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS

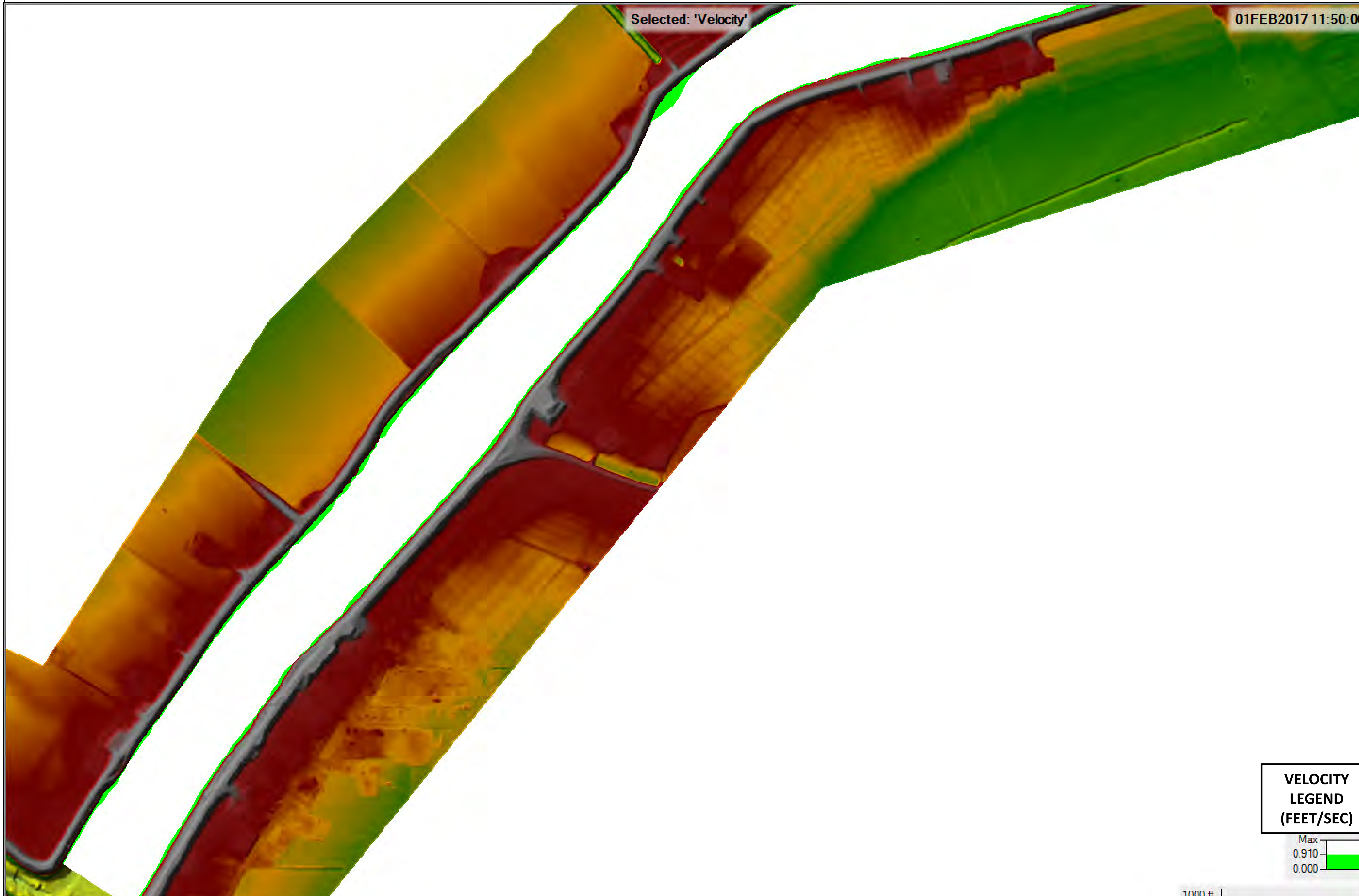


RUN 2E – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS

RUN 2E – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

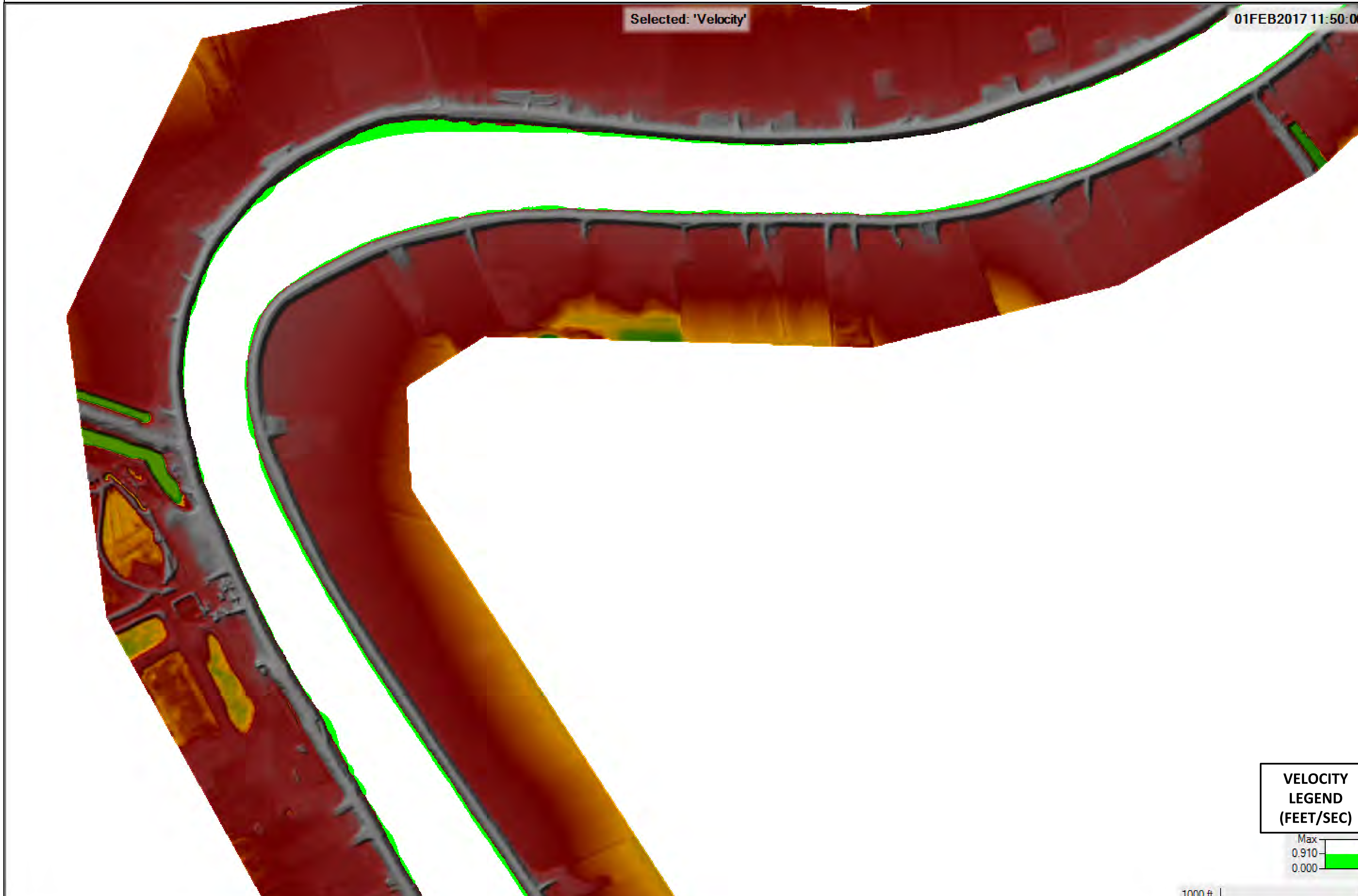
MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2F

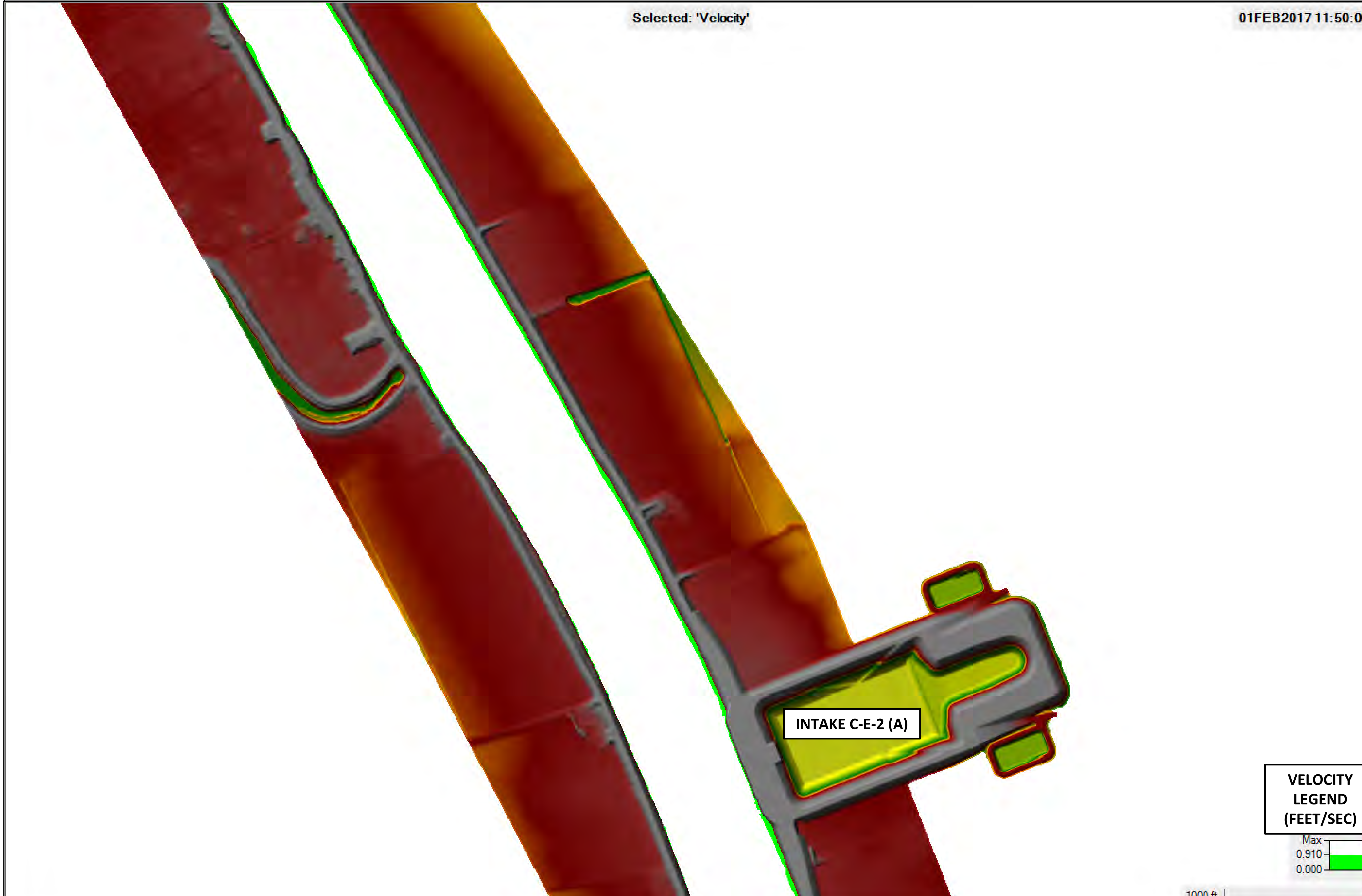
RUN 2F – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



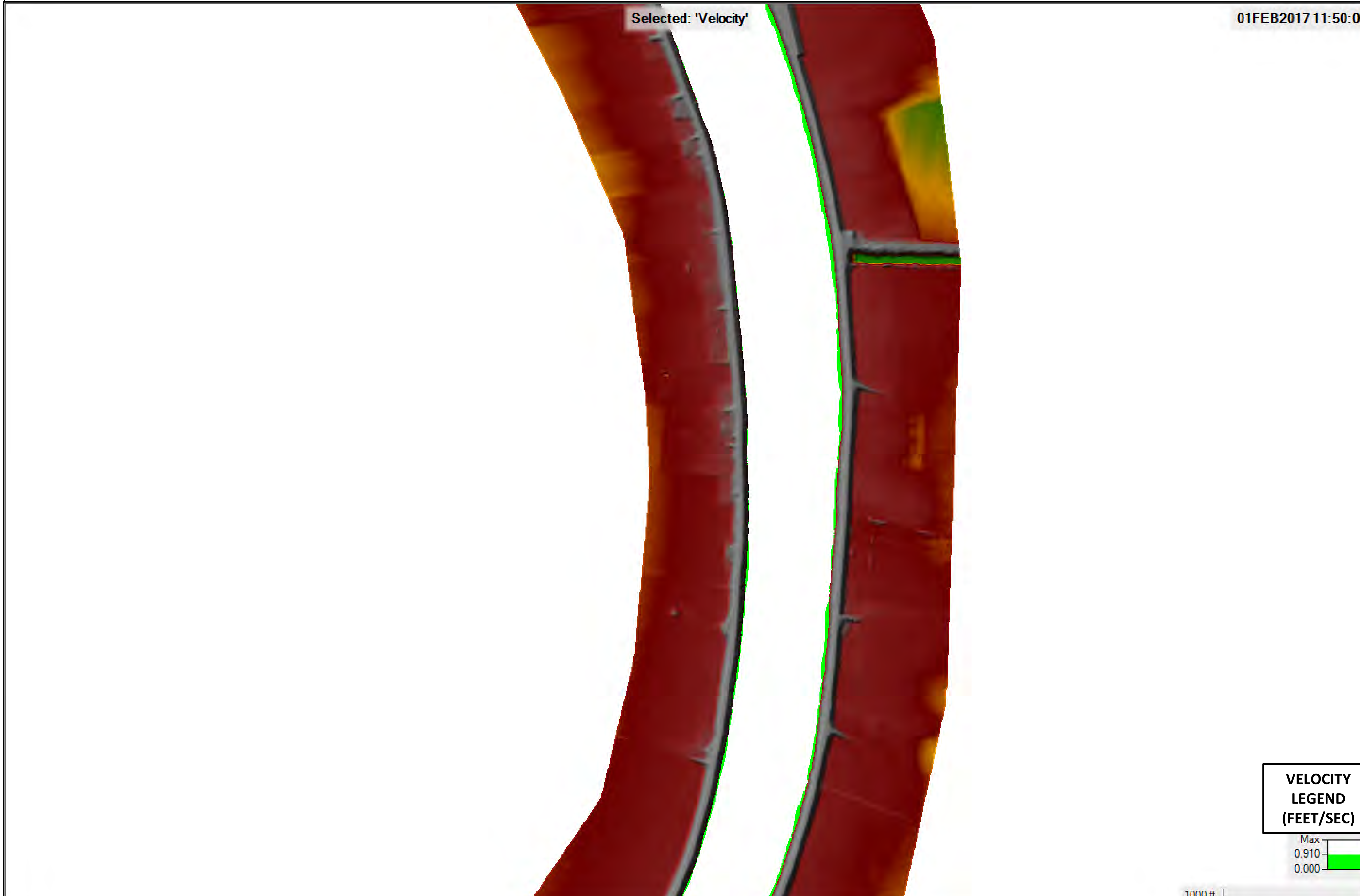
RUN 2F – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



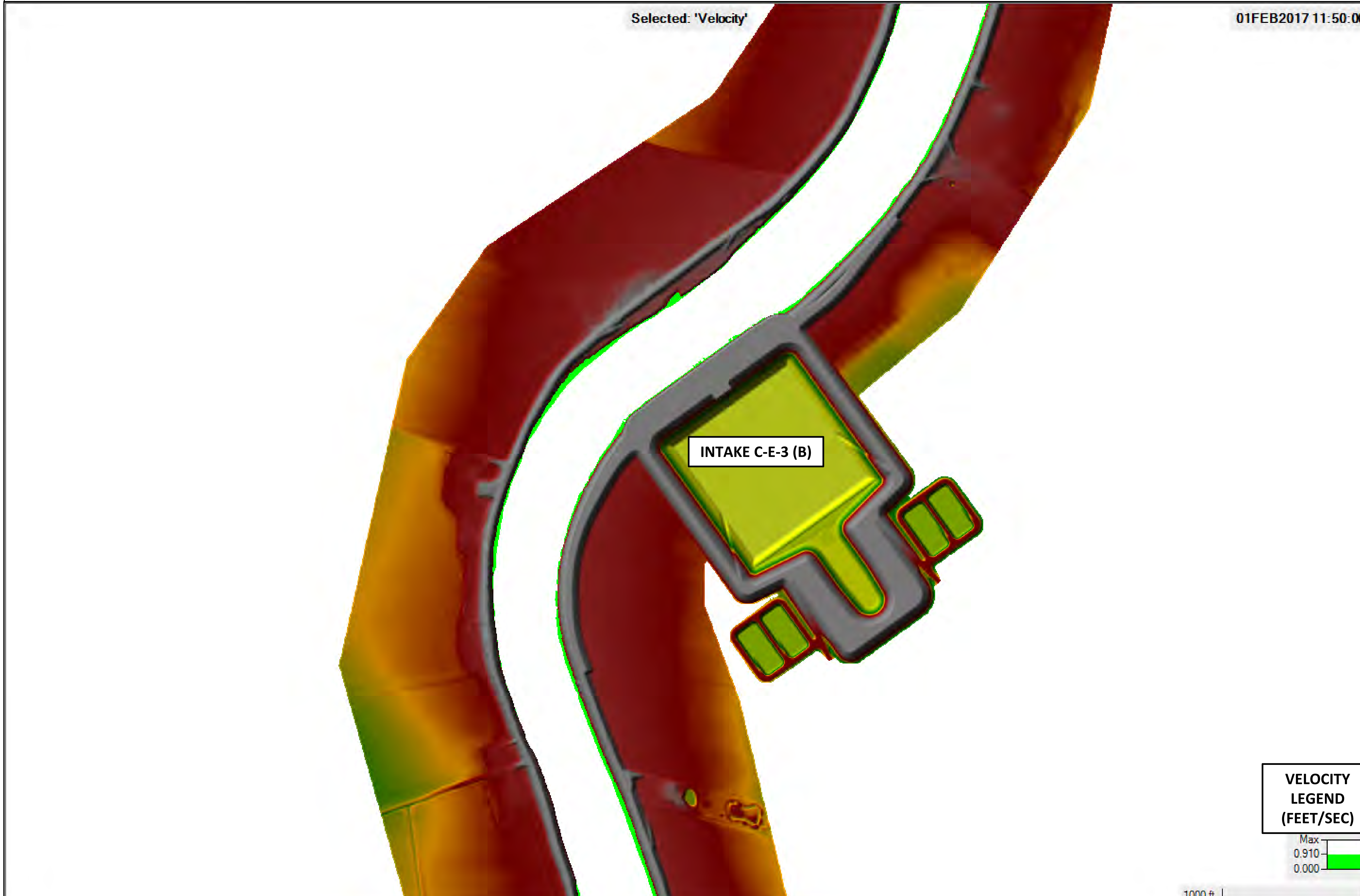
RUN 2F – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



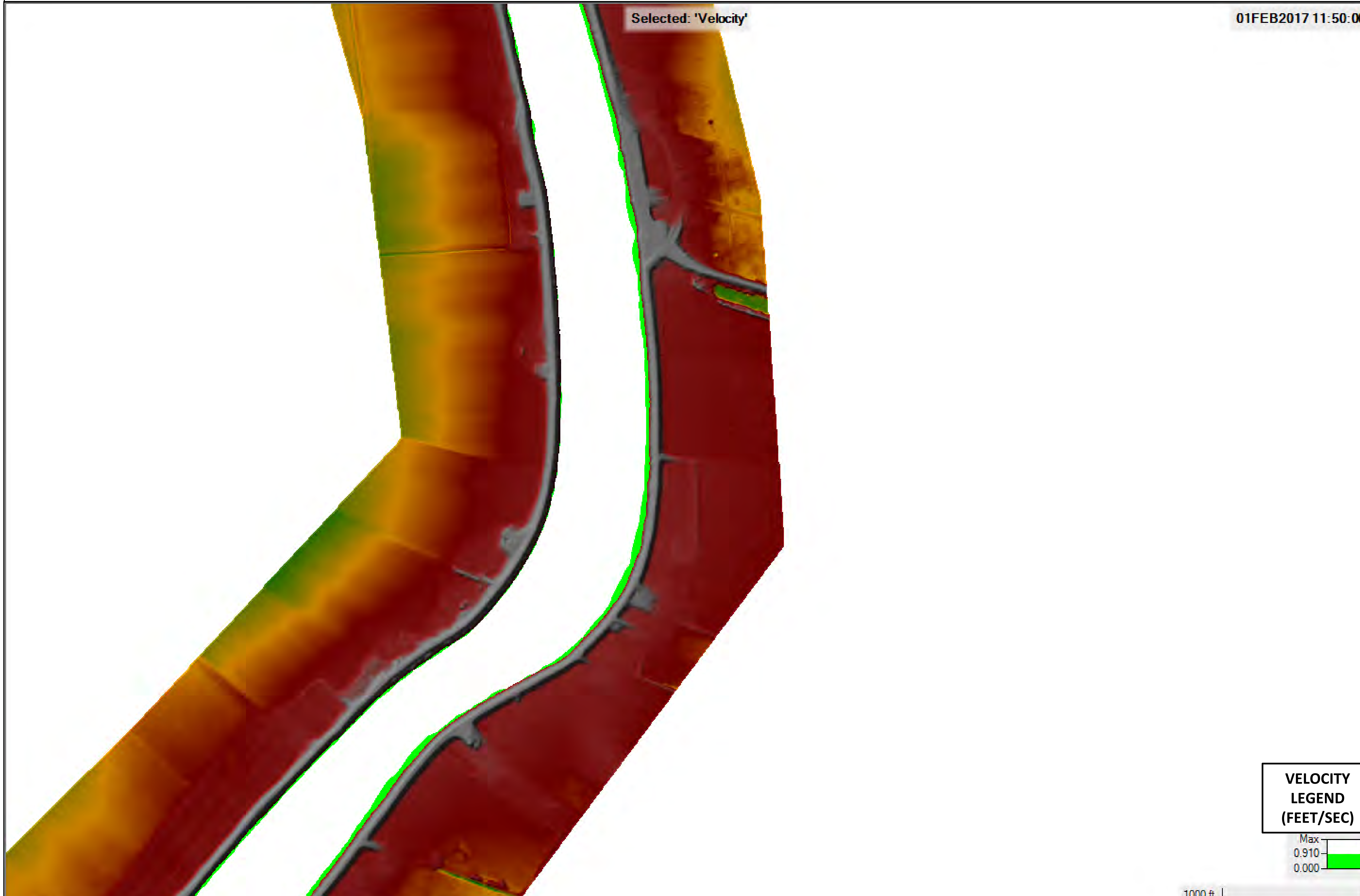
RUN 2F – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



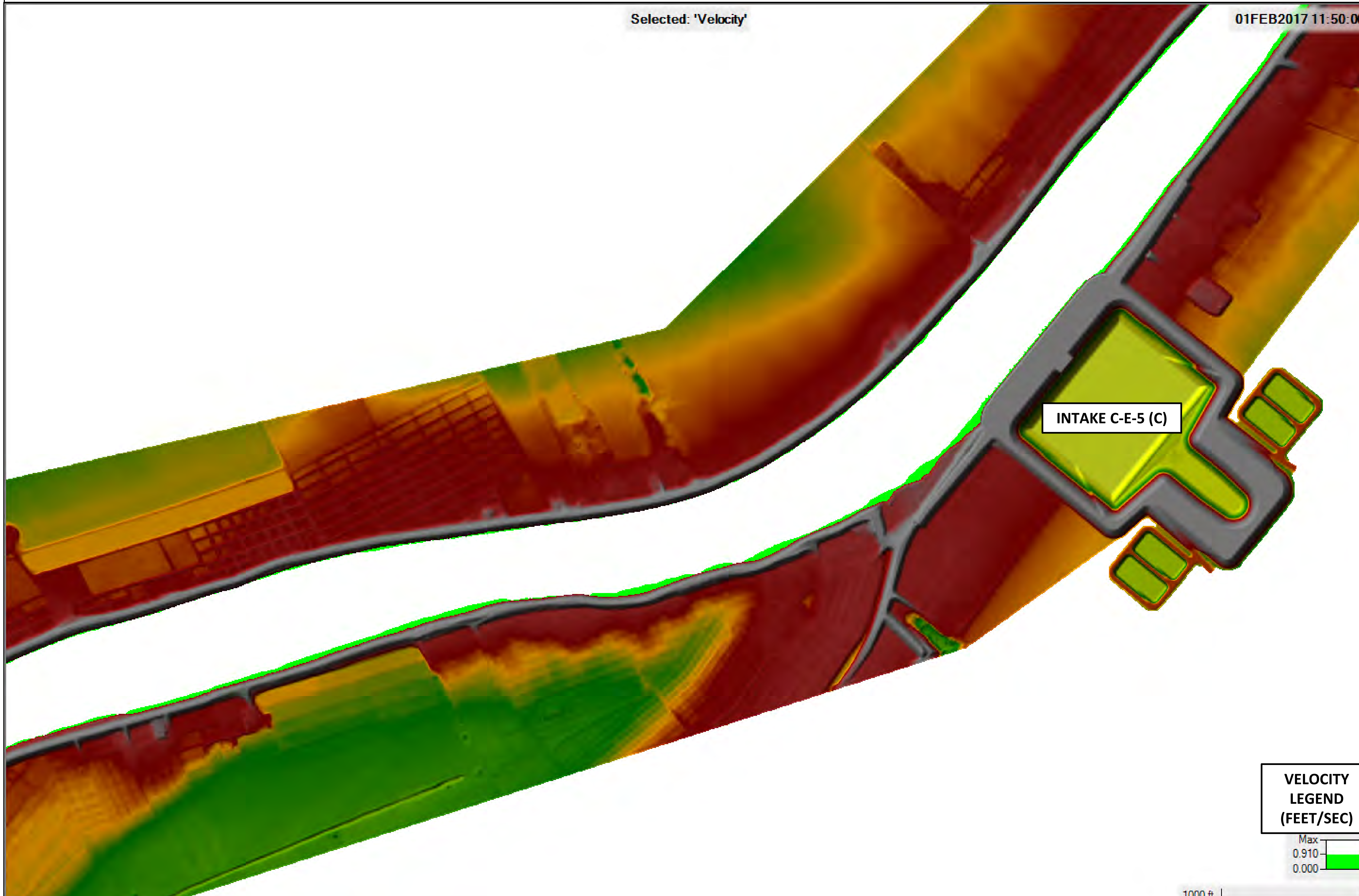
RUN 2F – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



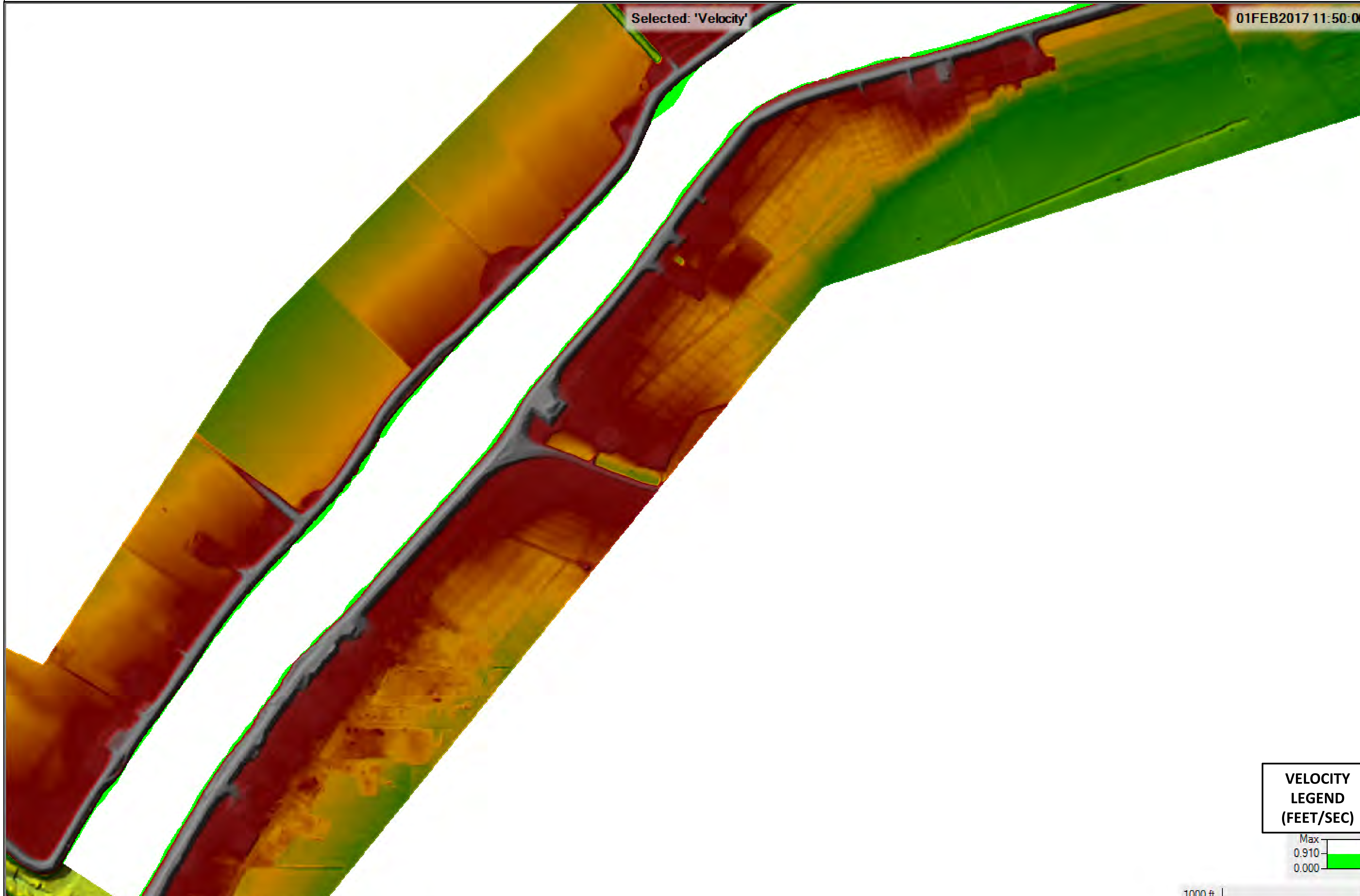
RUN 2F – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2F – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

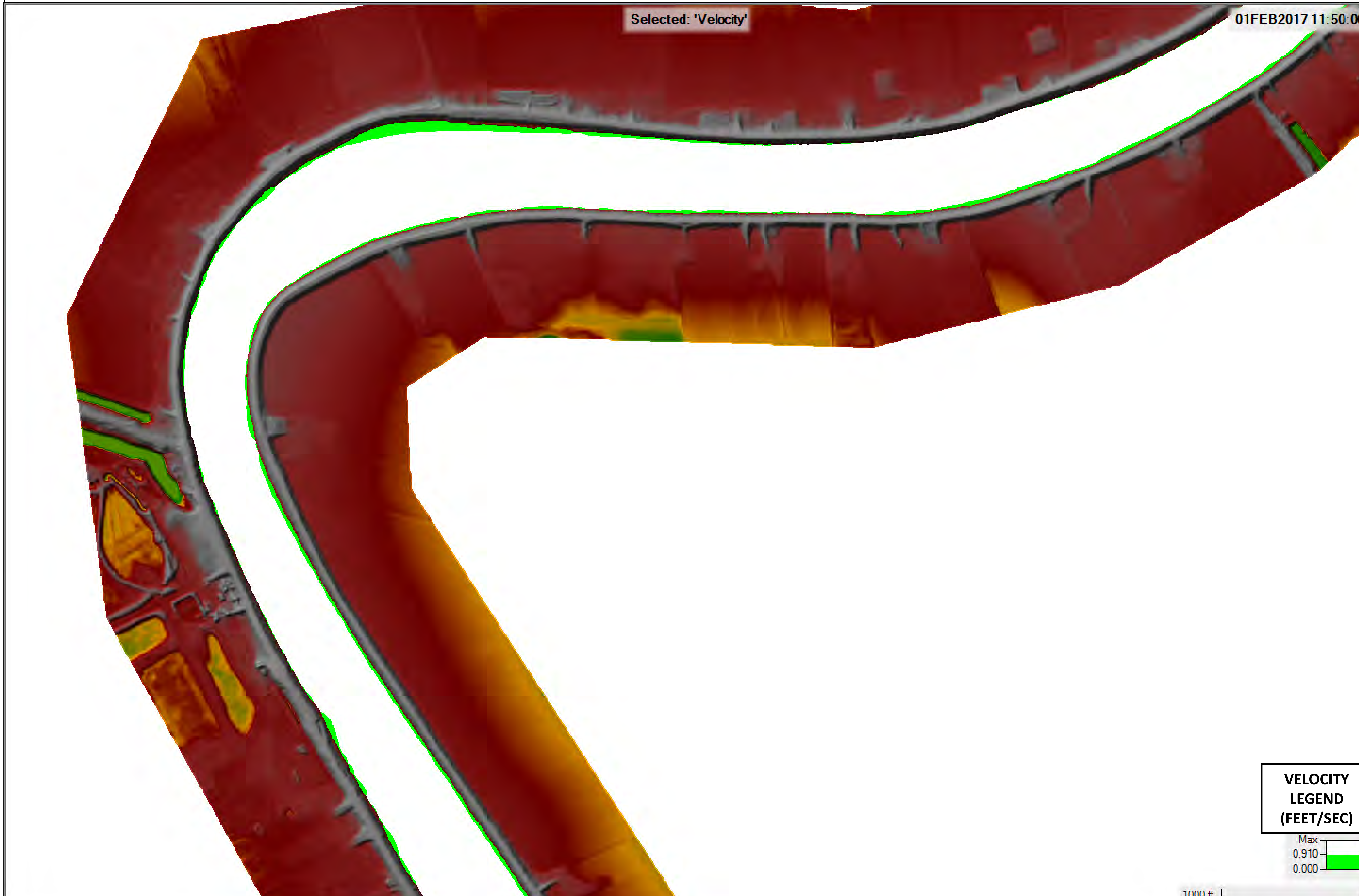
MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2G

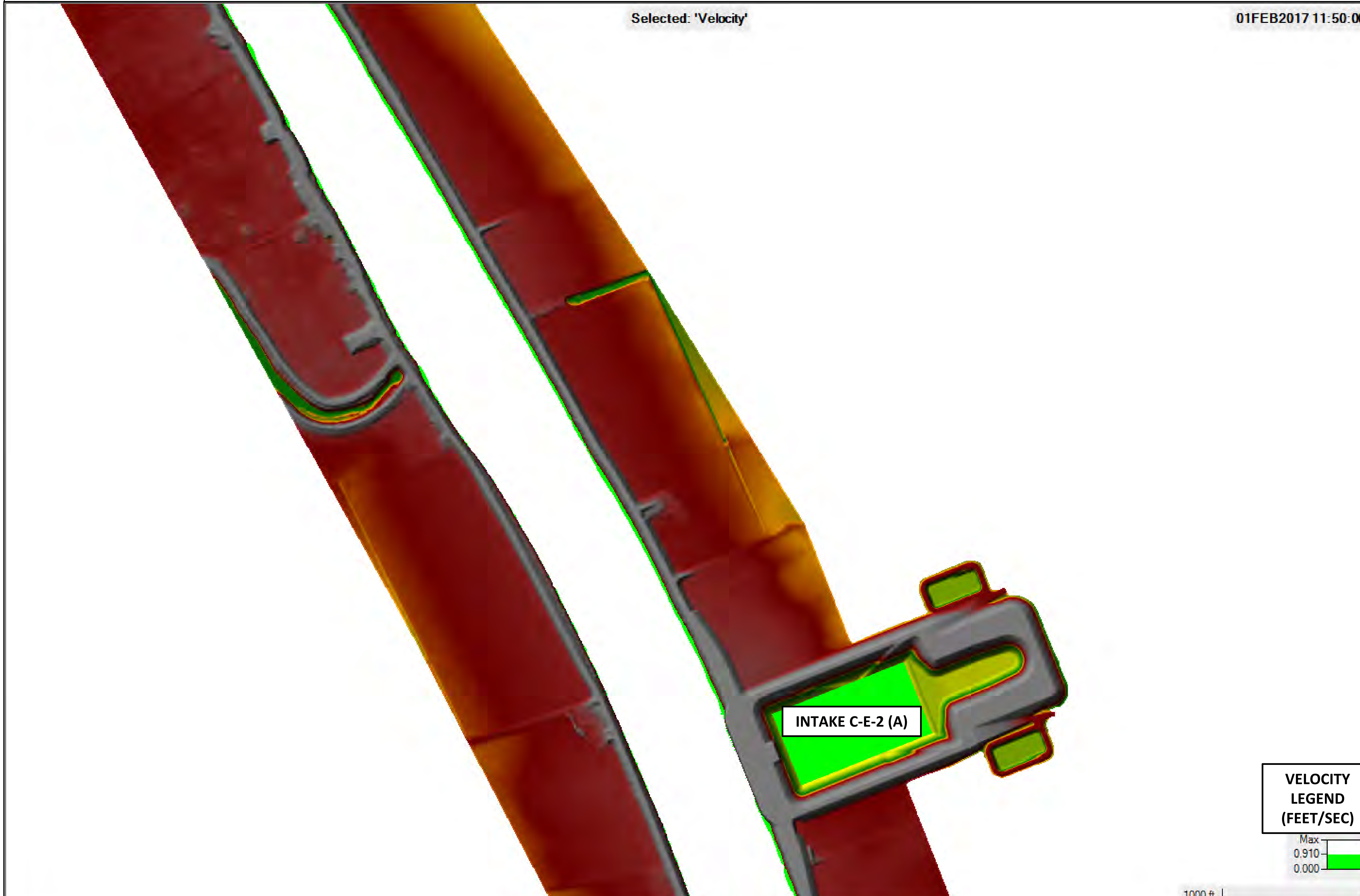
RUN 2G – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



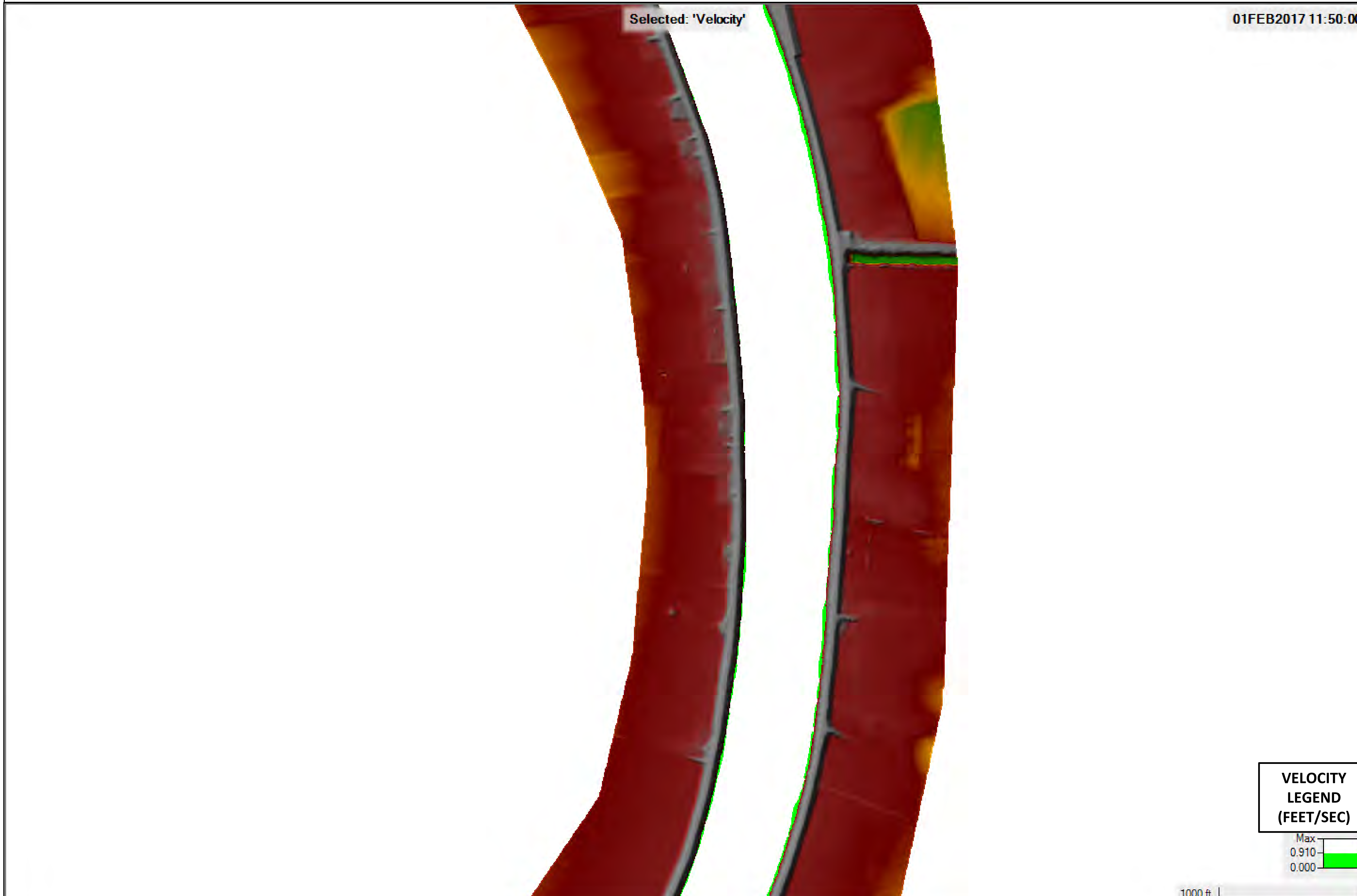
RUN 2G – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



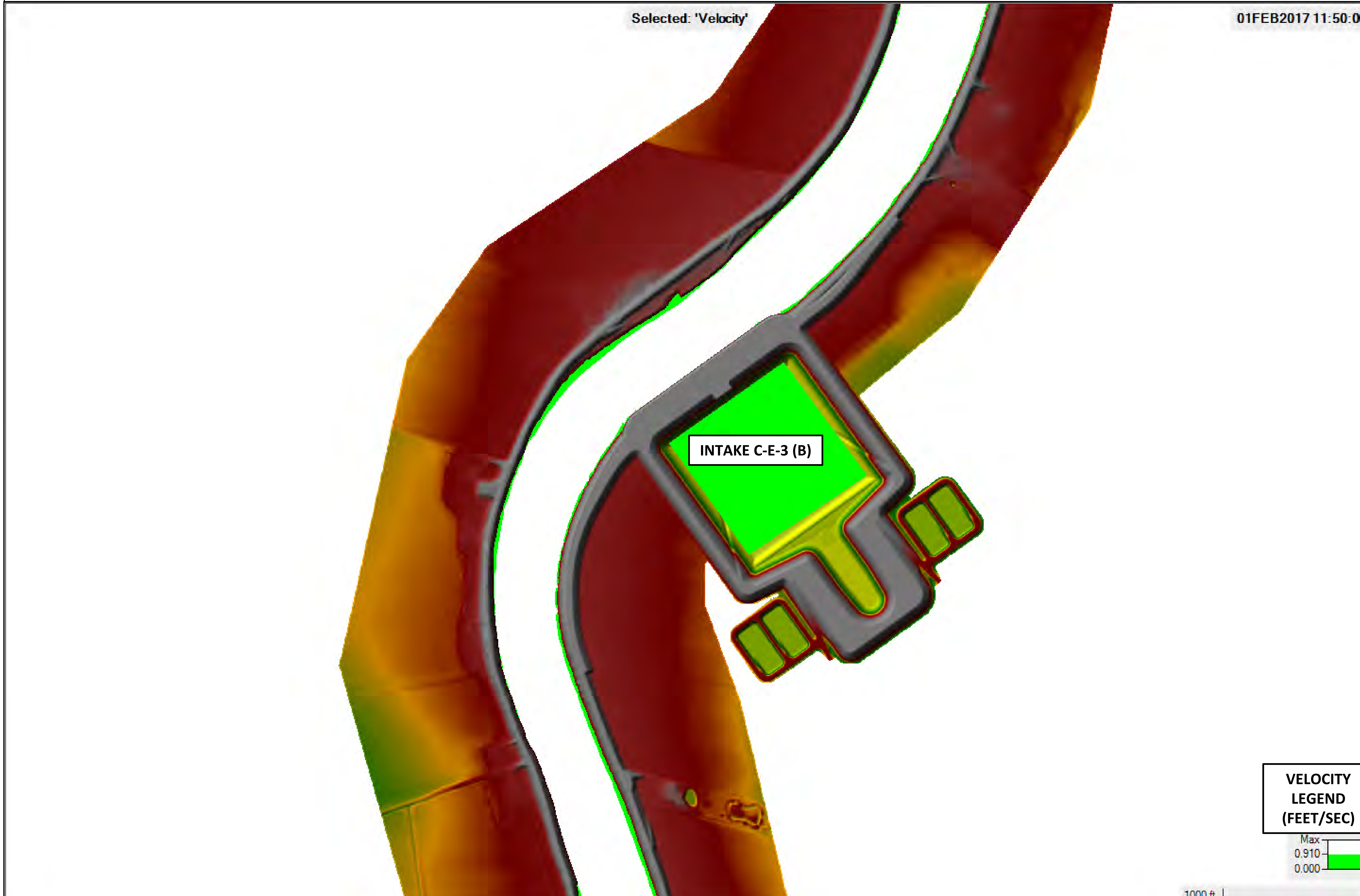
RUN 2G – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



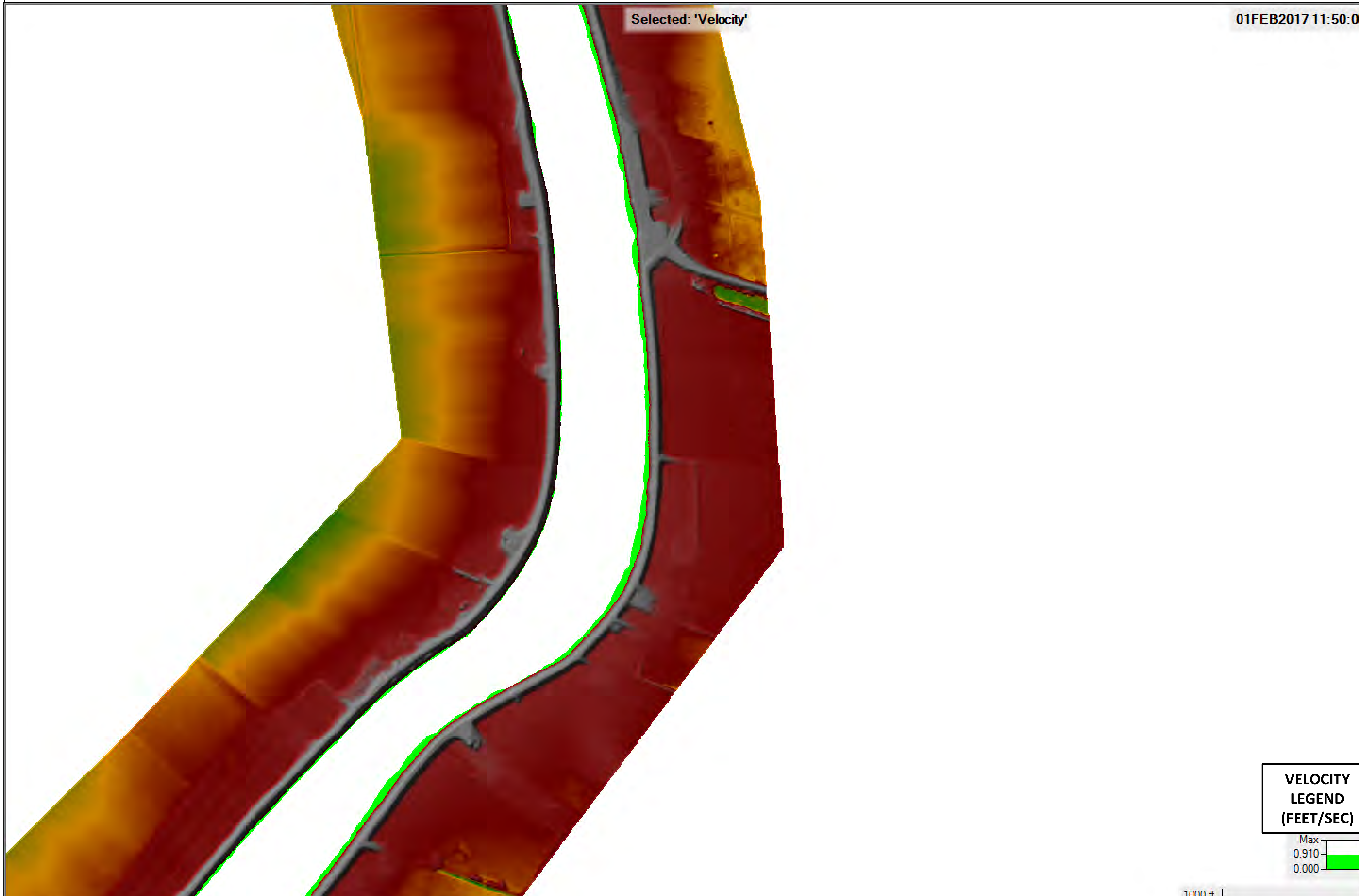
RUN 2G – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



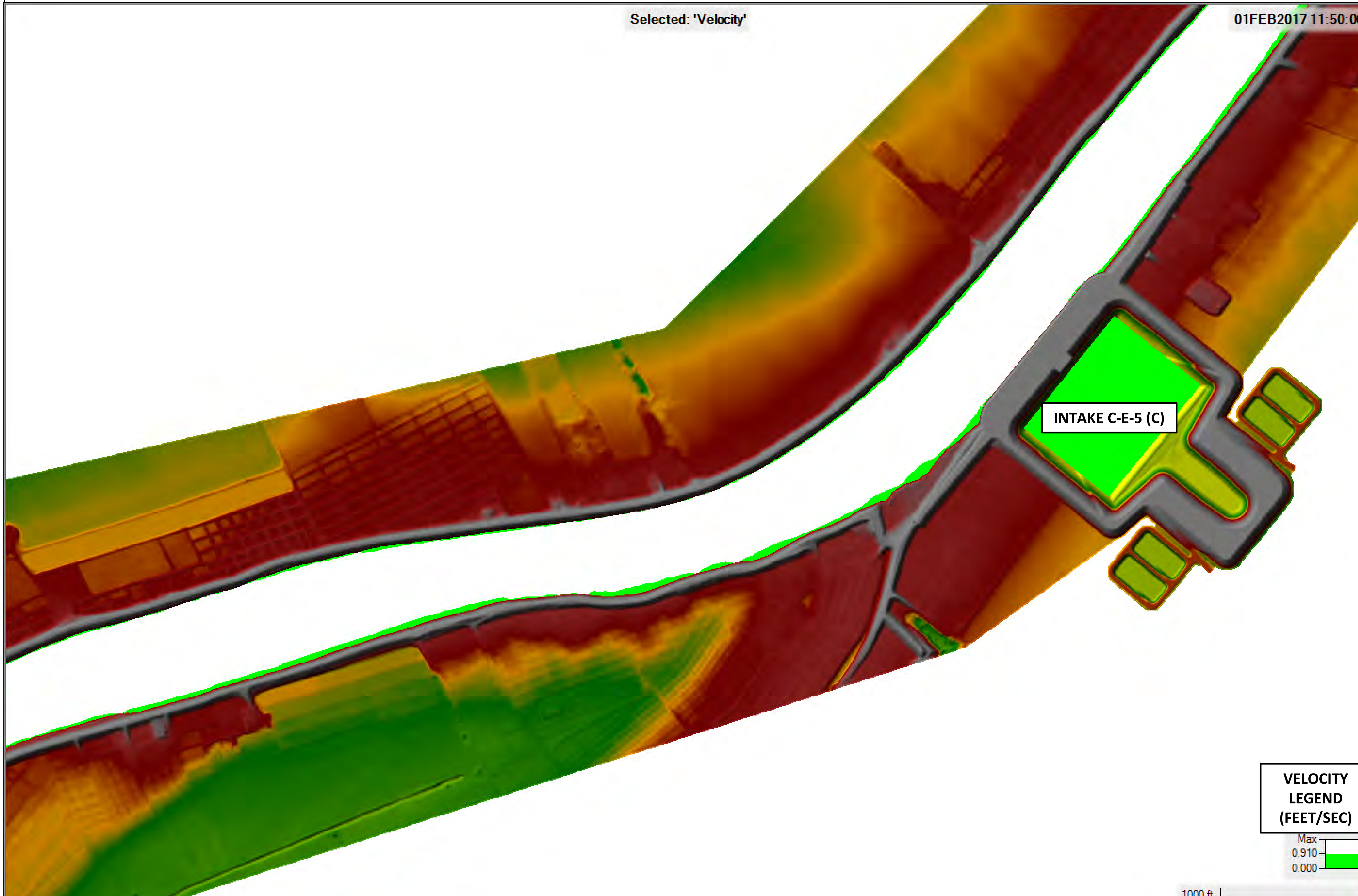
RUN 2G – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES @ FULL DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



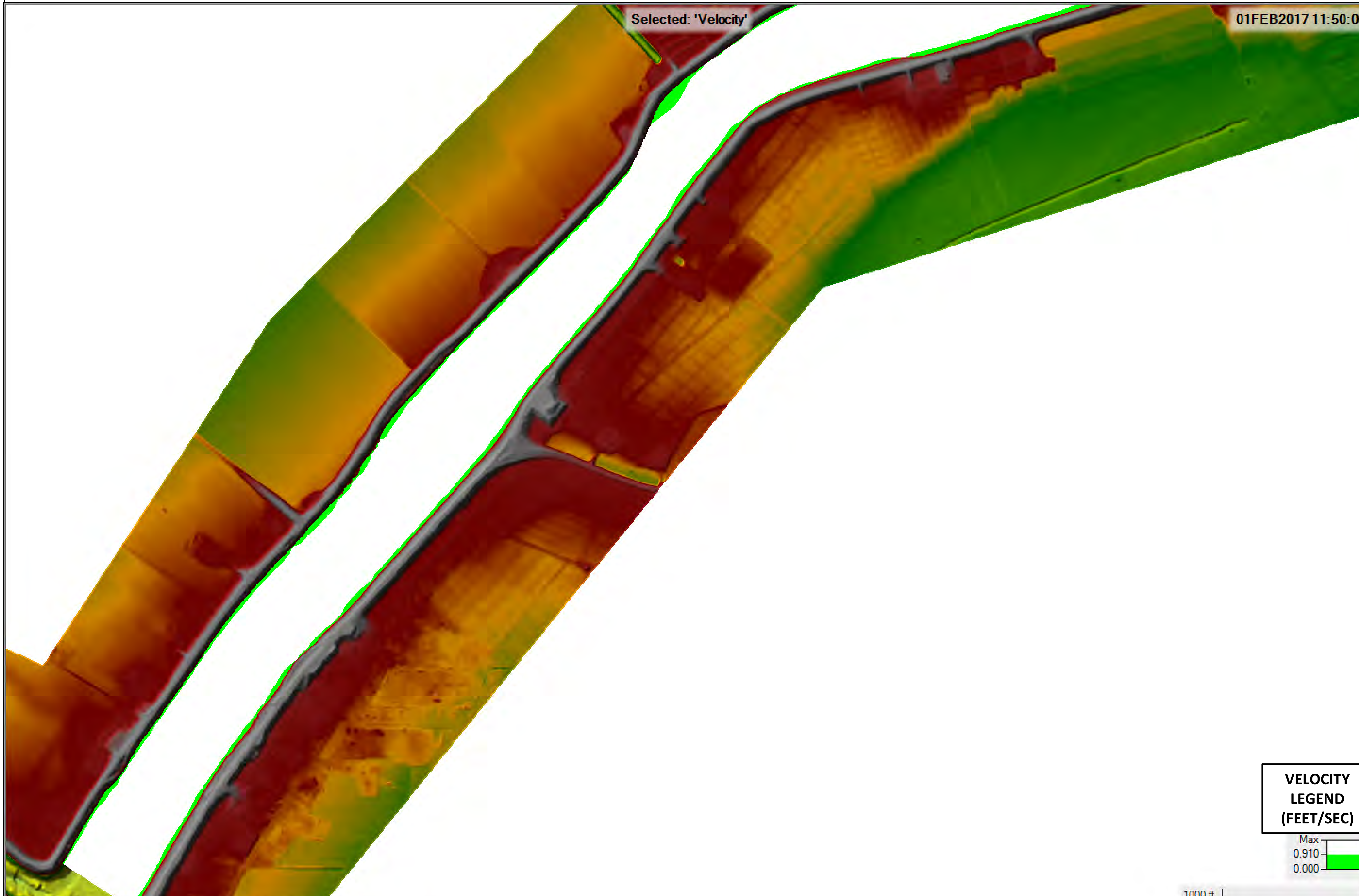
RUN 2G – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



RUN 2G – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES @ FULL DIVERSION – 50,000-CFS AT FREEPORT – TEE SCREENS



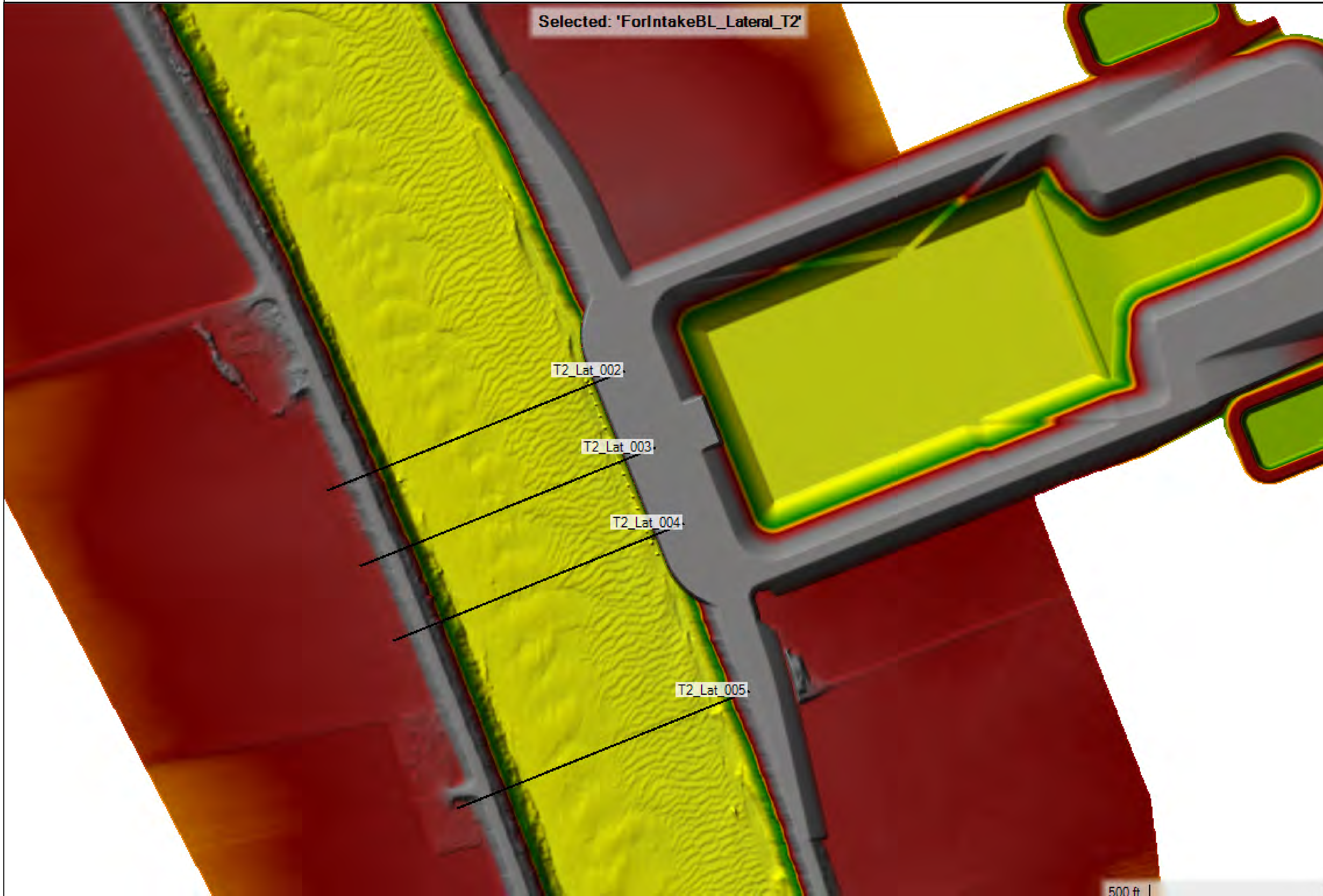
Group 3
Moderate Flow Steady State Runs

INDEX

Cross Section Velocity Plots near Intake Structures

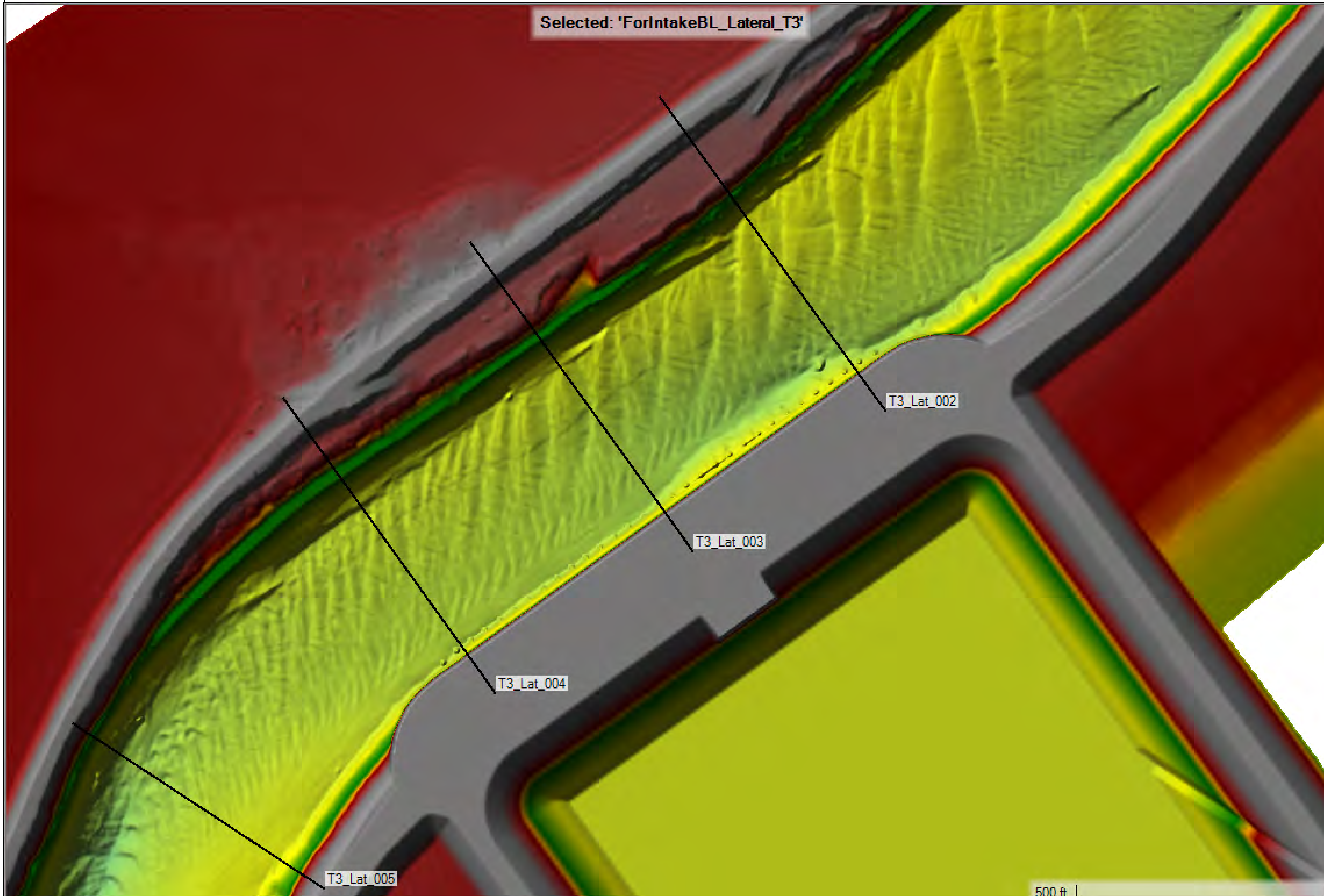
CROSS-SECTION LOCATIONS – INTAKE C-E-2 (A)

TEE SCREENS

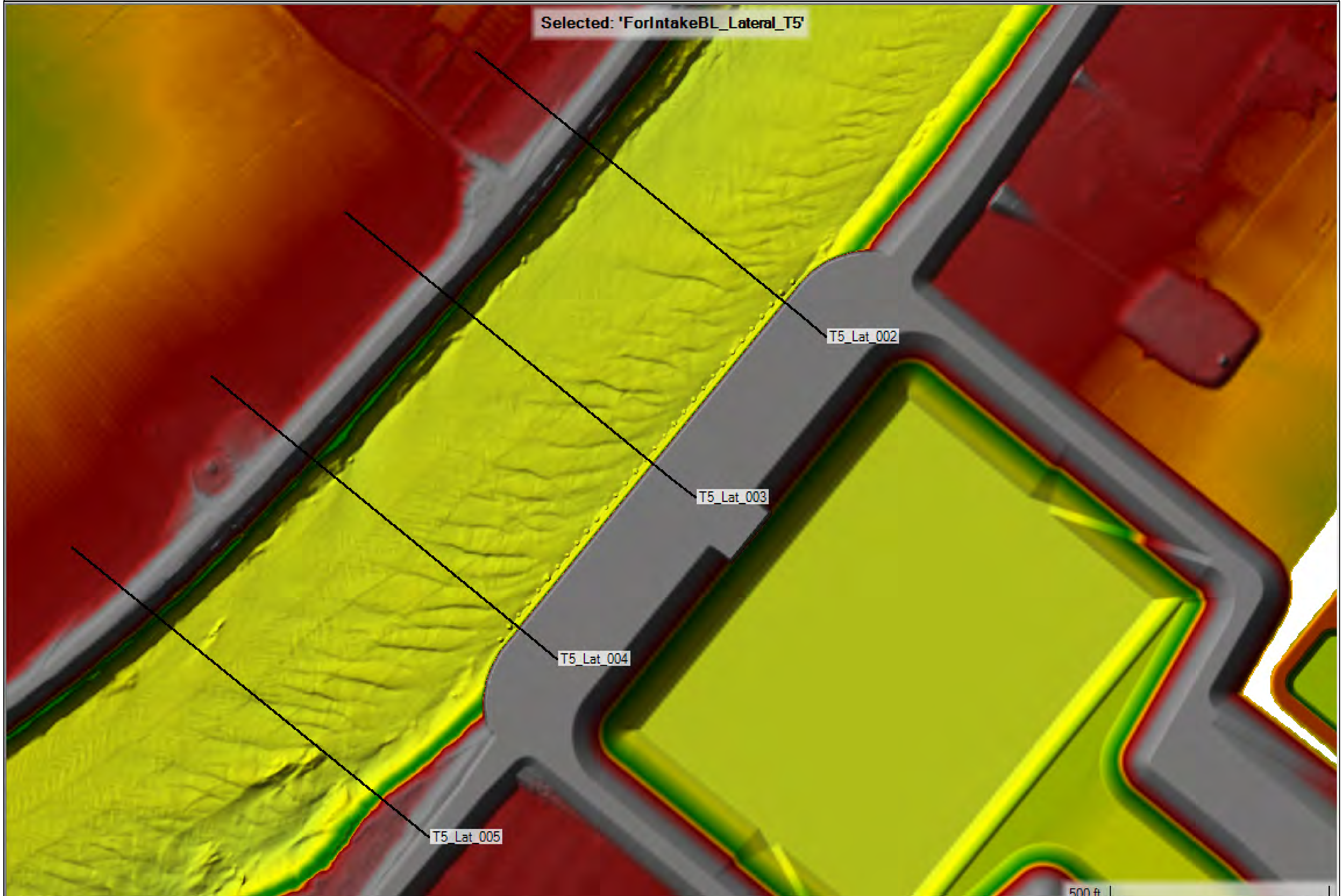


CROSS-SECTION LOCATIONS – INTAKE C-E-3 (B)

TEE SCREENS



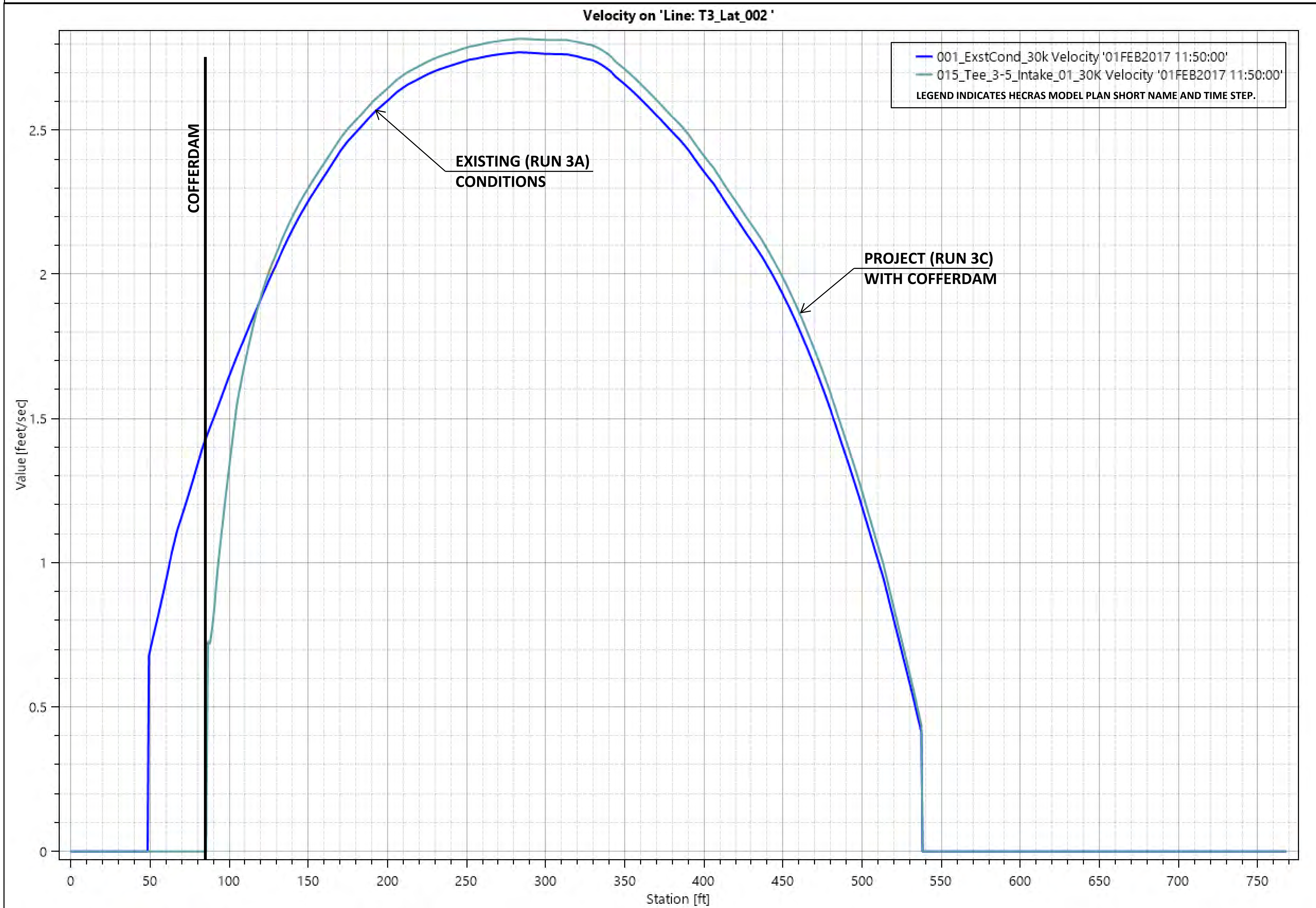
CROSS-SECTION LOCATIONS – INTAKE C-E-5 (C)
TEE SCREENS



RUN 3A vs 3C
INTAKE C-E-3 (B)

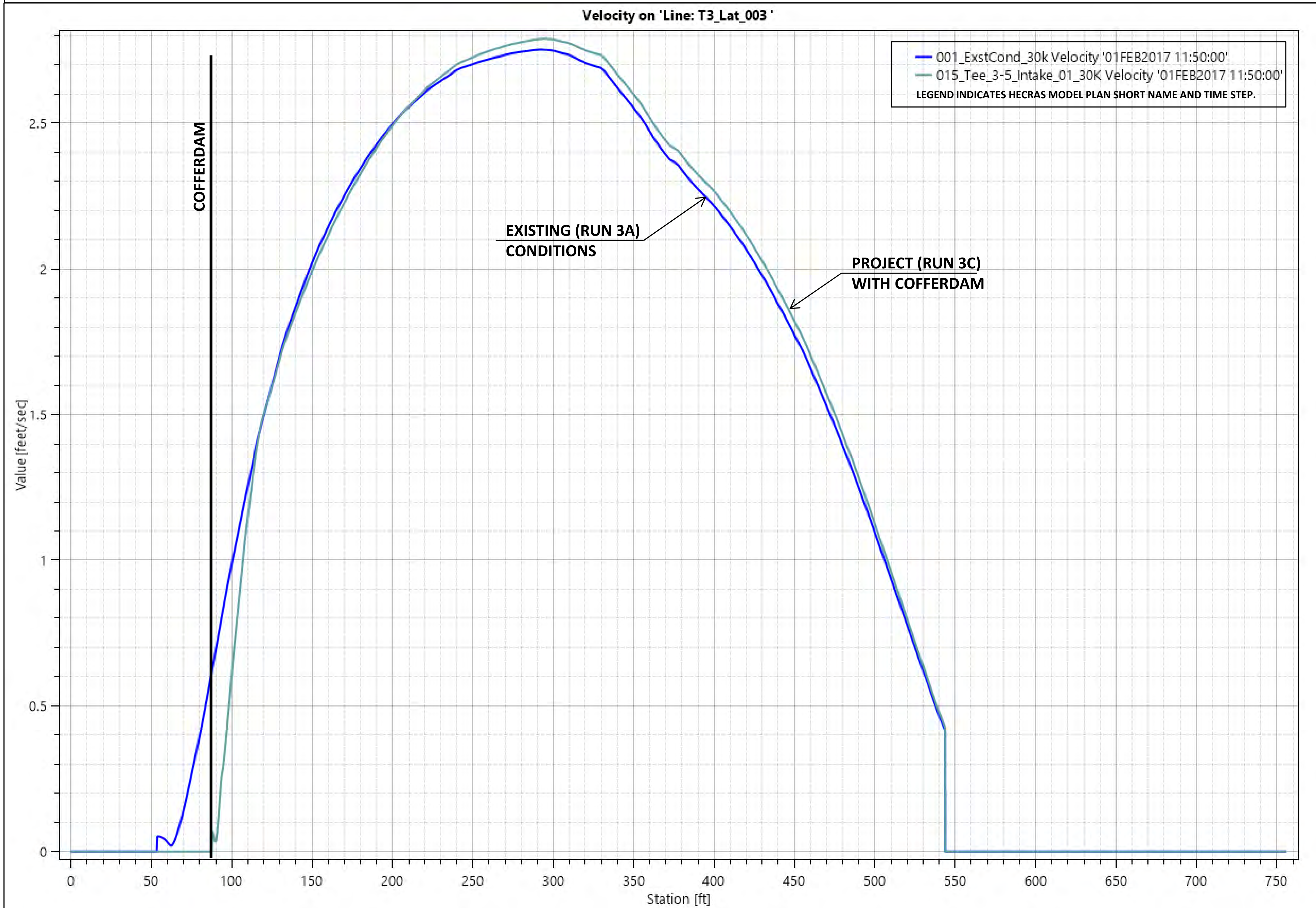
RUN 3A vs 3C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



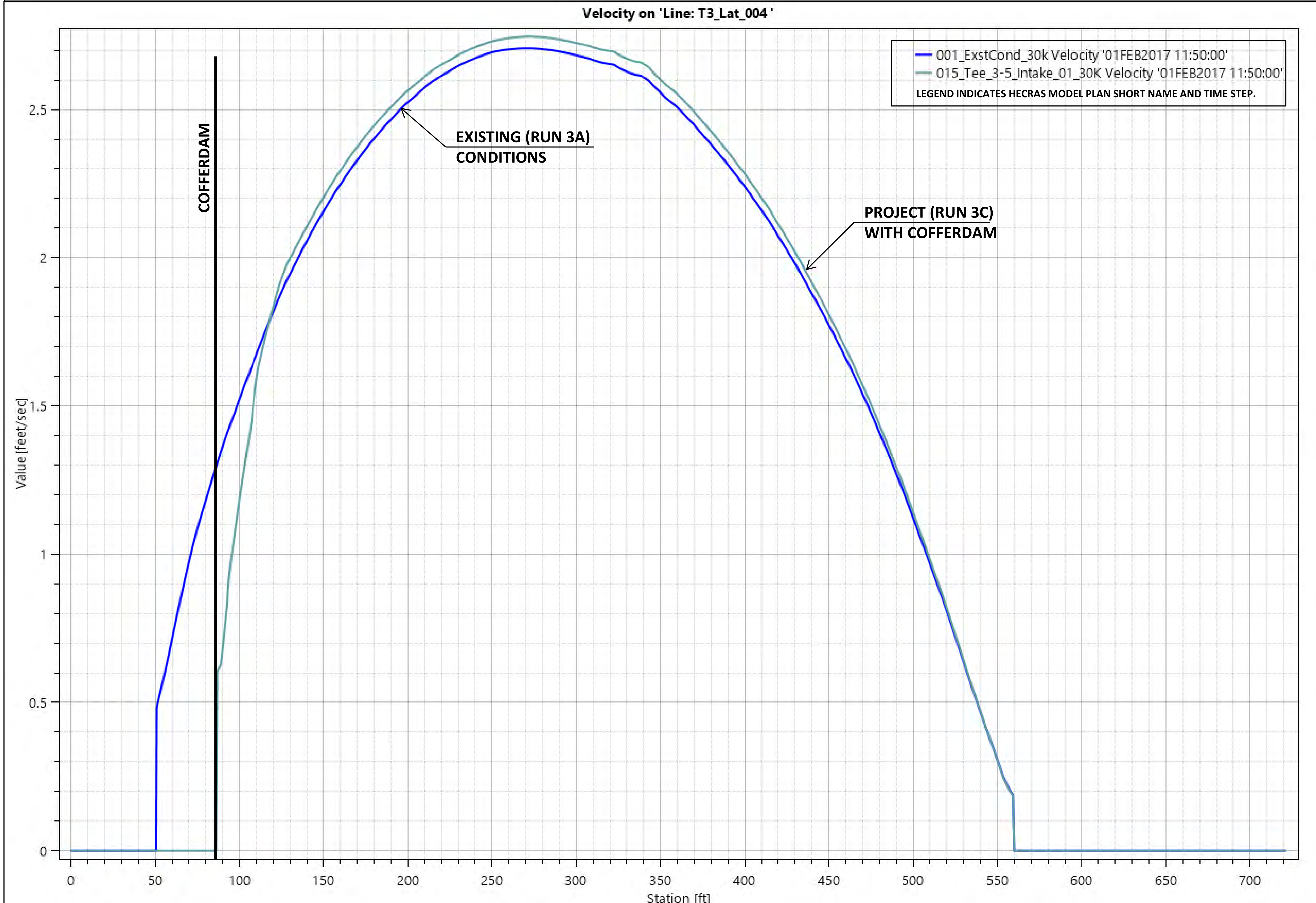
RUN 3A vs 3C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



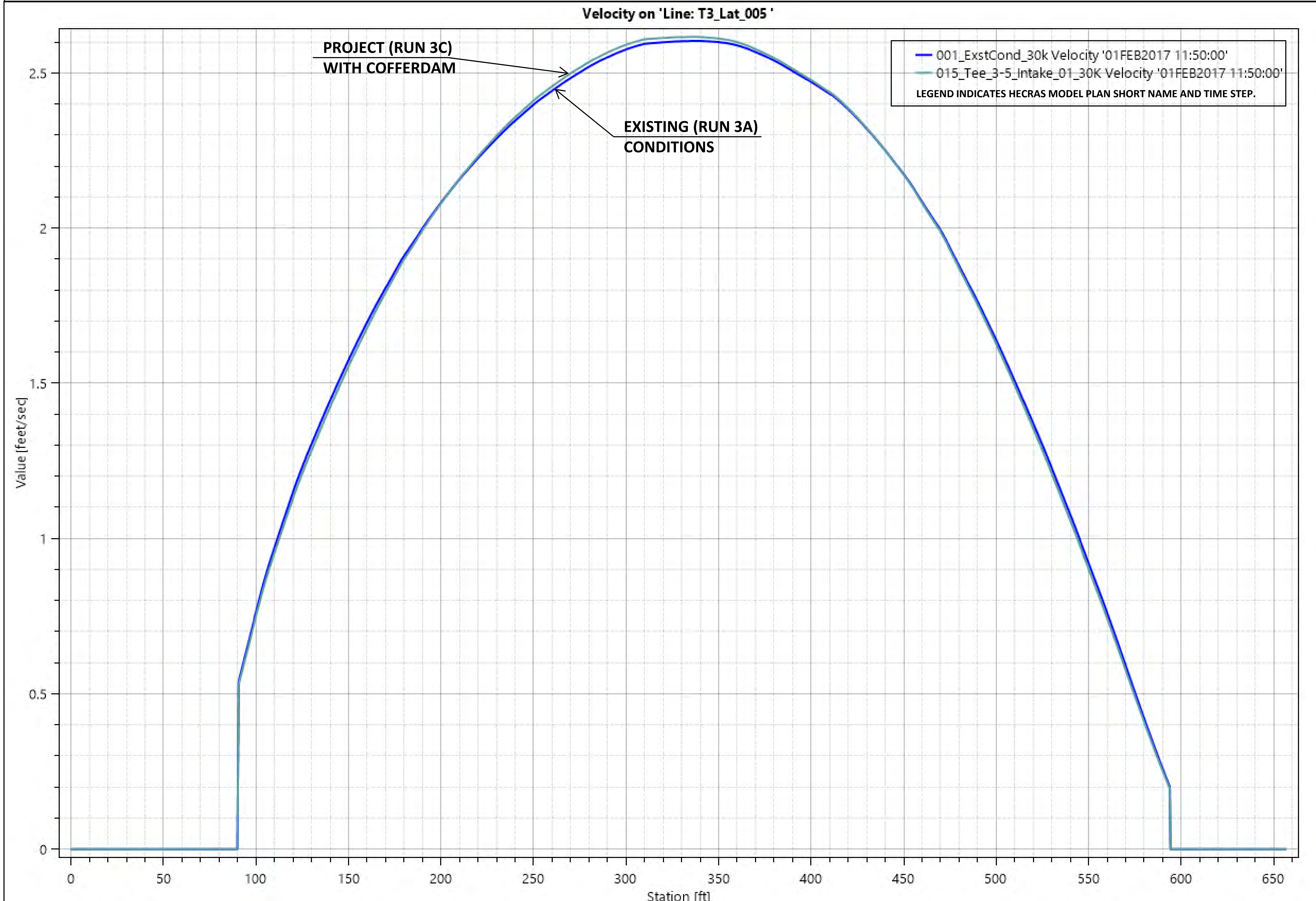
RUN 3A vs 3C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 3A vs 3C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

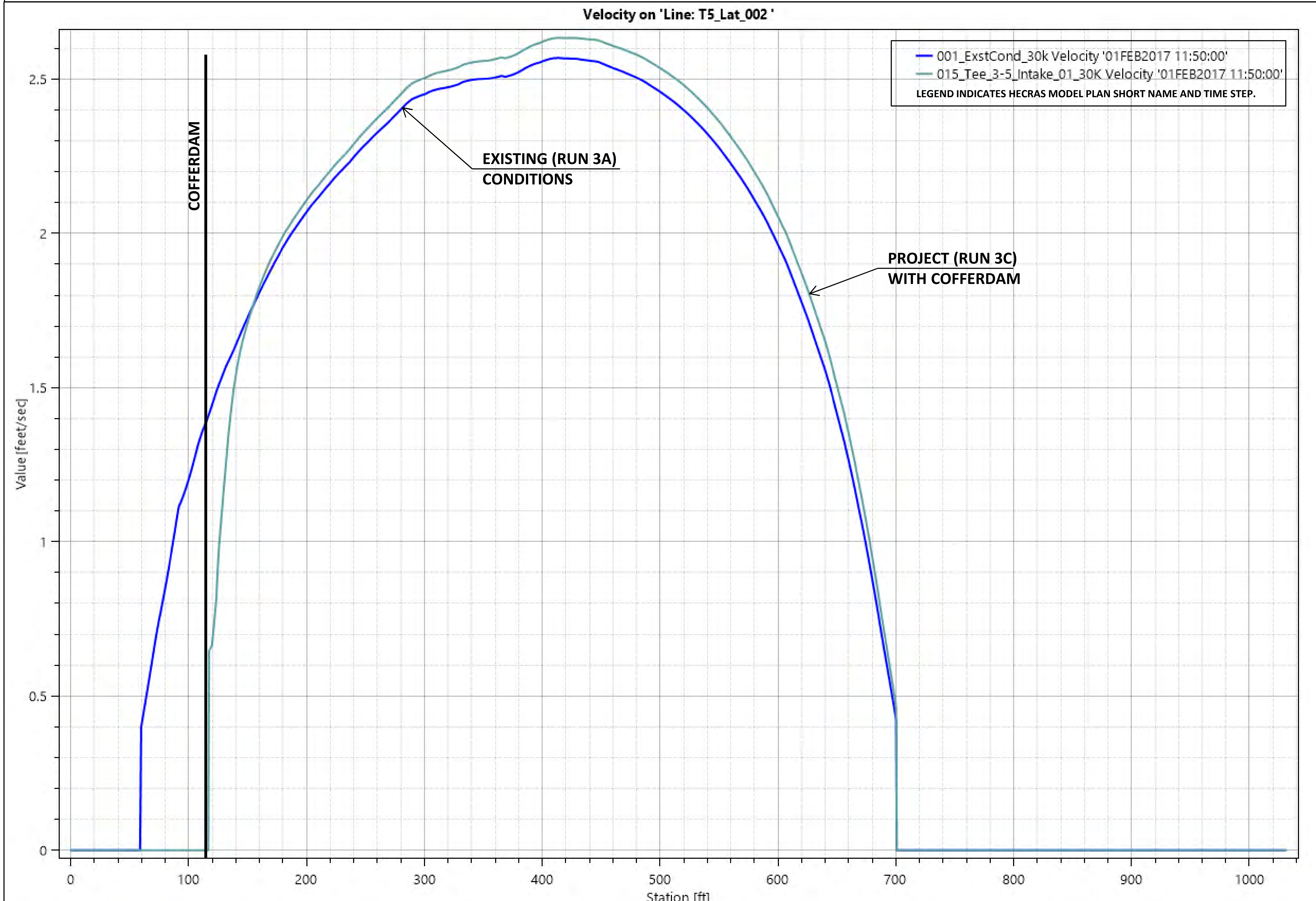
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T3_LAT_005



RUN 3A vs 3C
INTAKE C-E-5 (C)

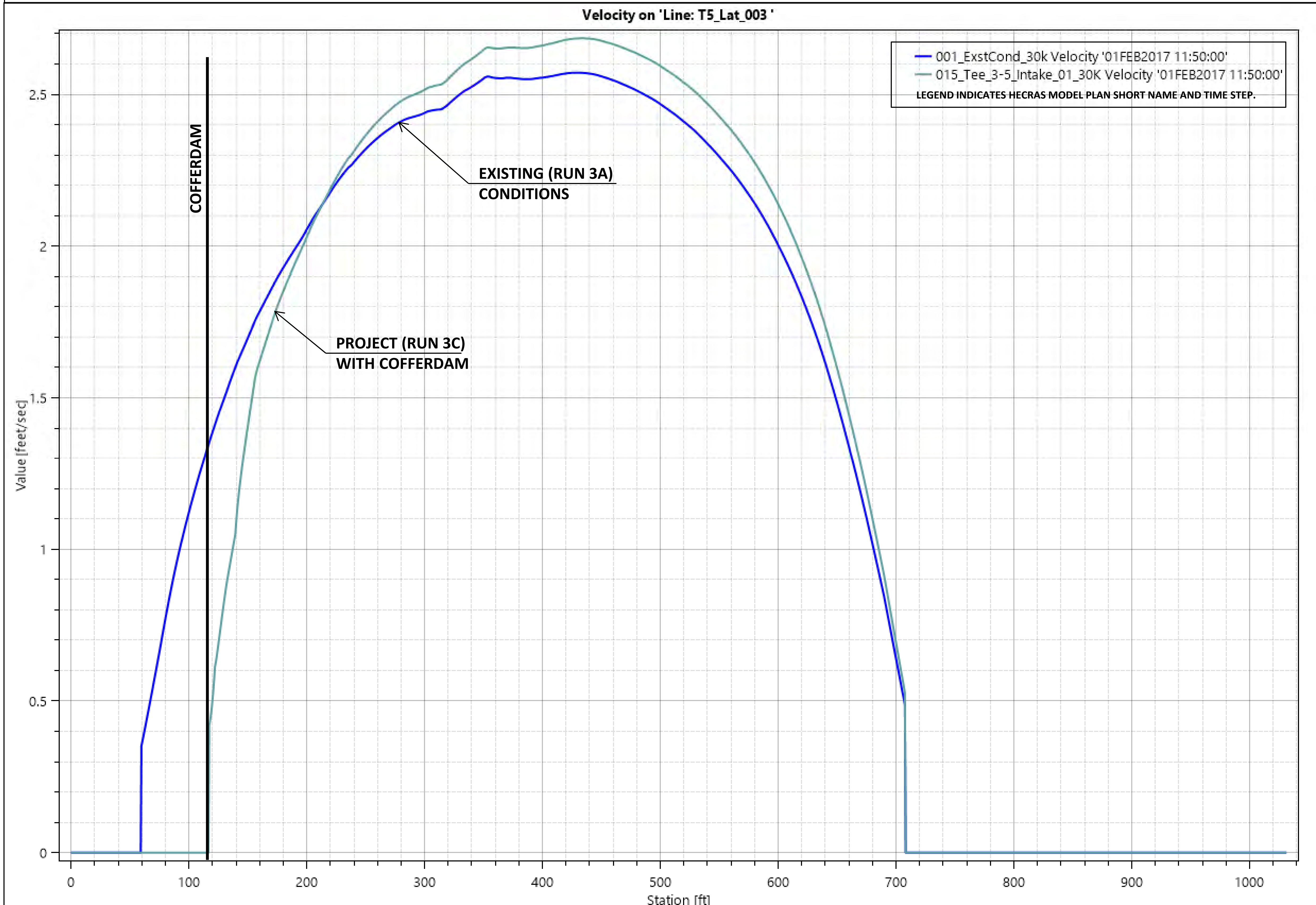
RUN 3A vs 3C – INTAKE C-E-5 (C)– LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



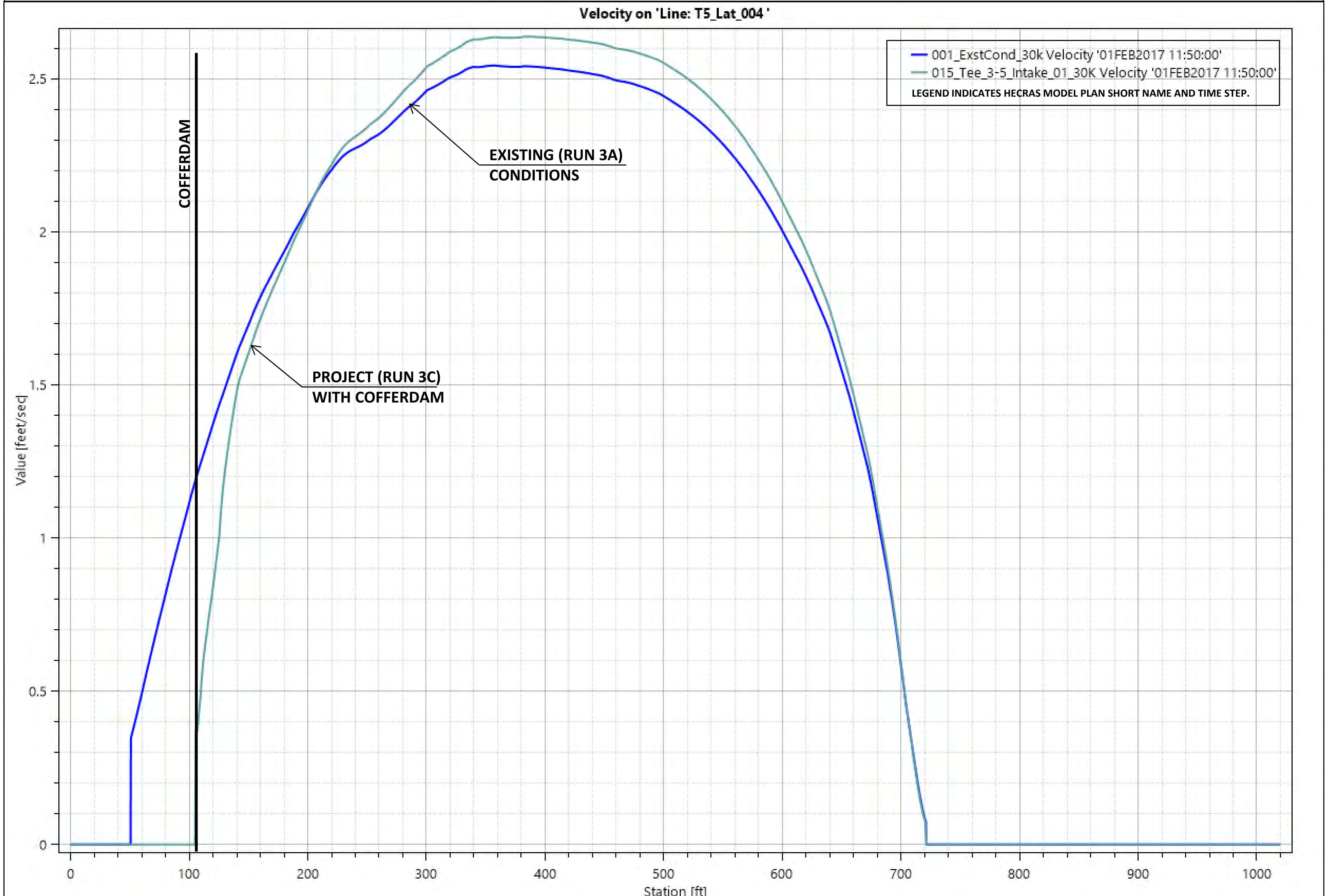
RUN 3A vs 3C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



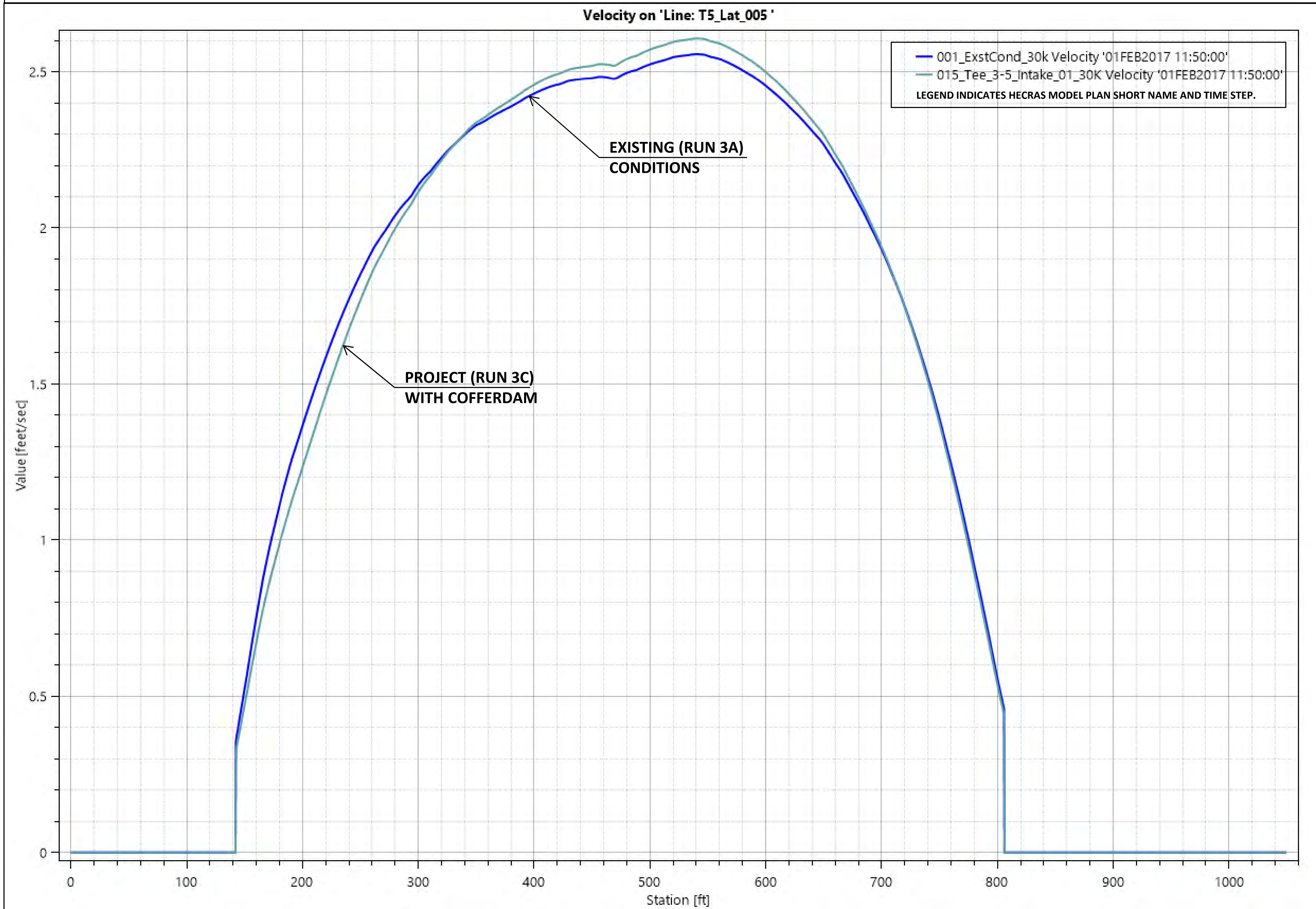
RUN 3A vs 3C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 3A vs 3C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

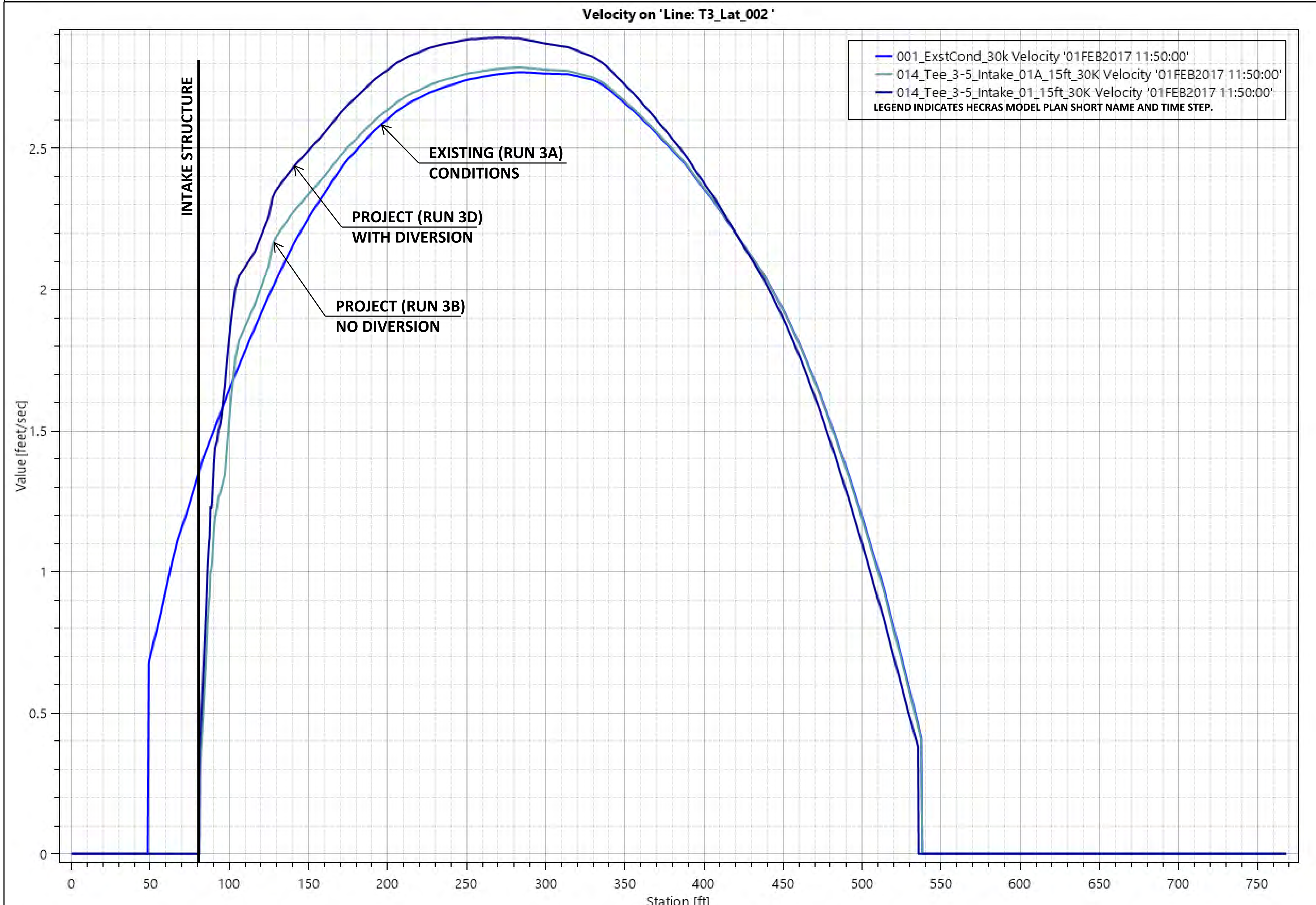
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T5_LAT_005



RUN 3A vs 3B vs 3D
INTAKE C-E-3 (B)

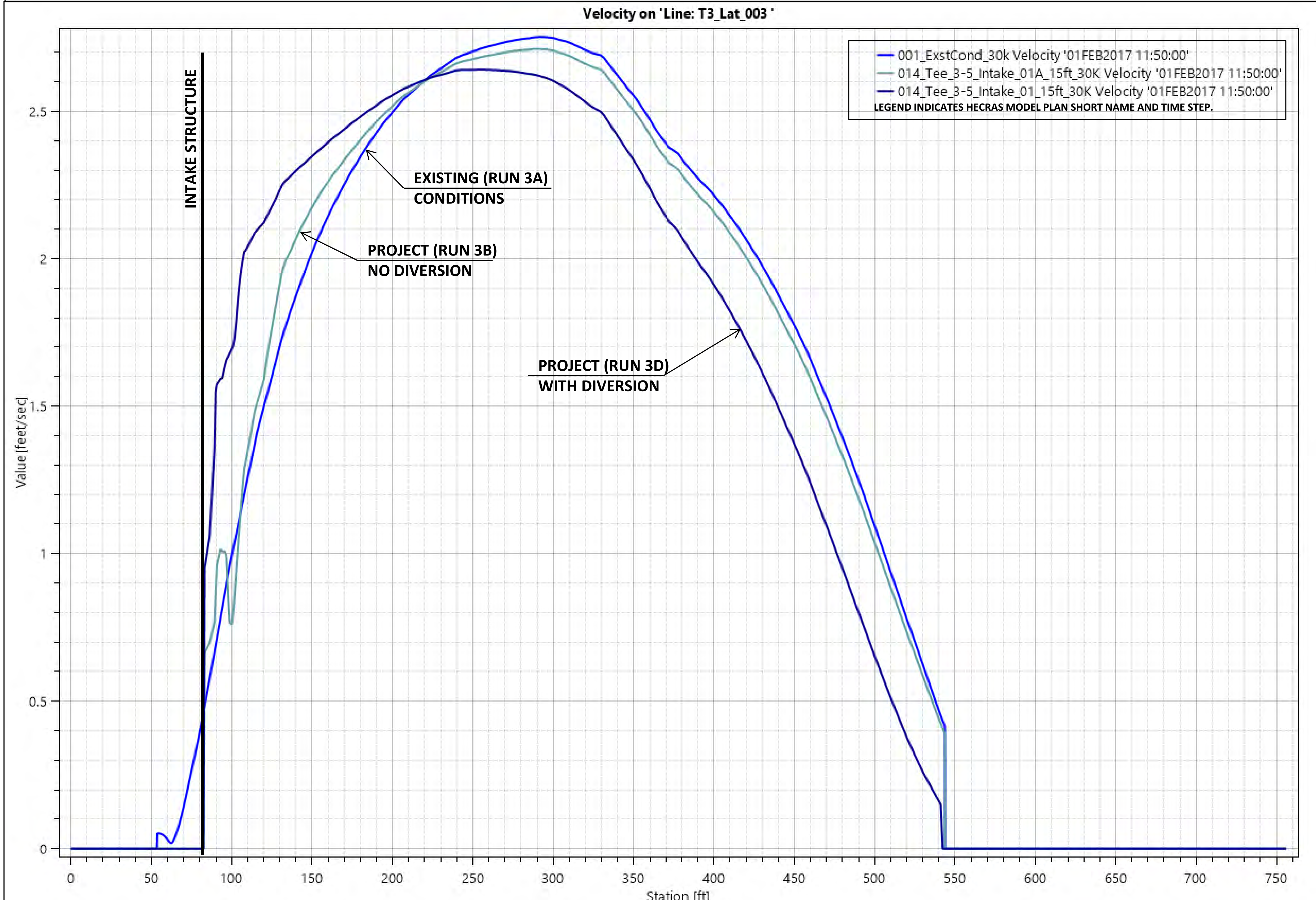
RUN 3A vs 3B vs 3D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



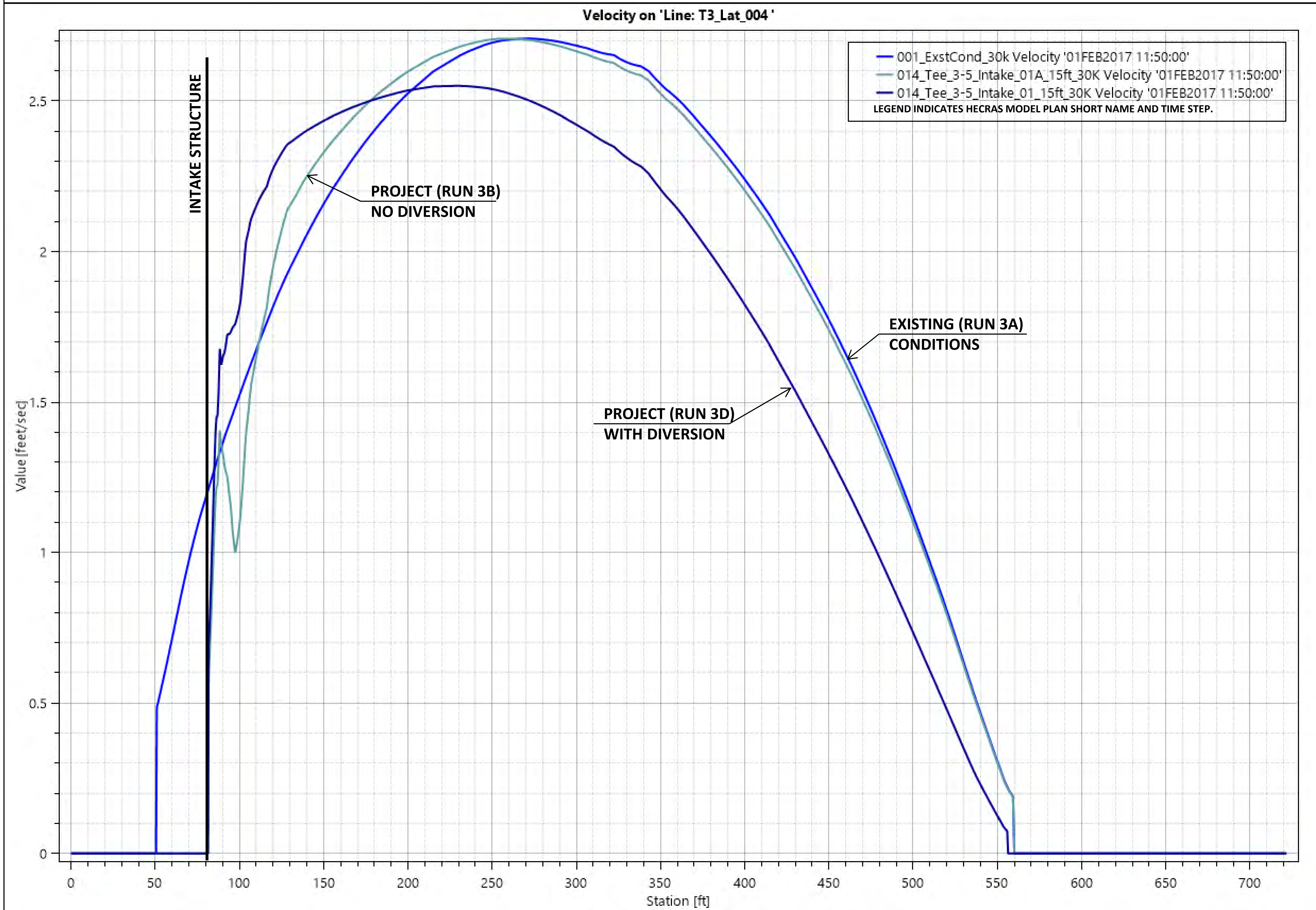
RUN 3A vs 3B vs 3D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



RUN 3A vs 3B vs 3D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



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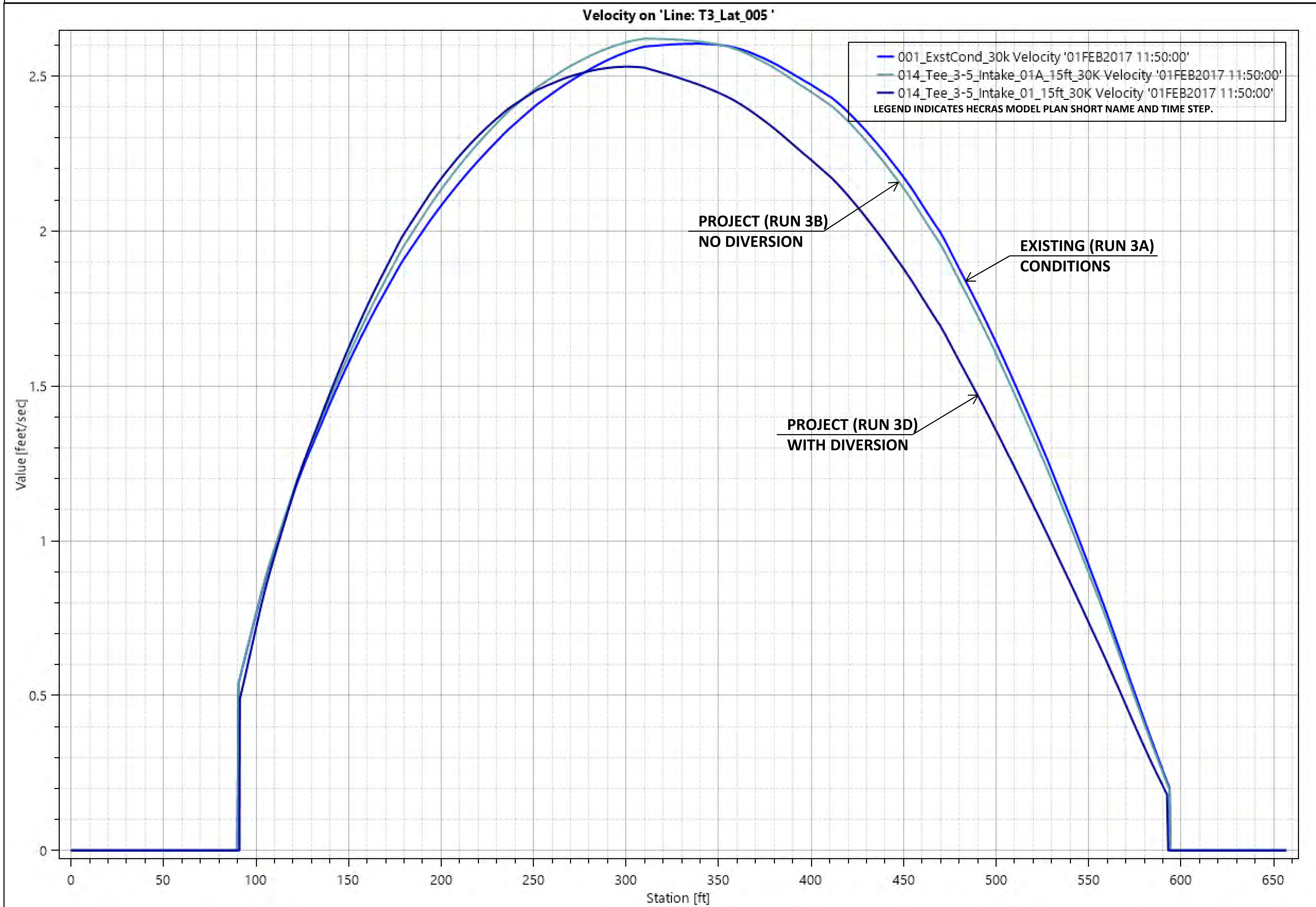
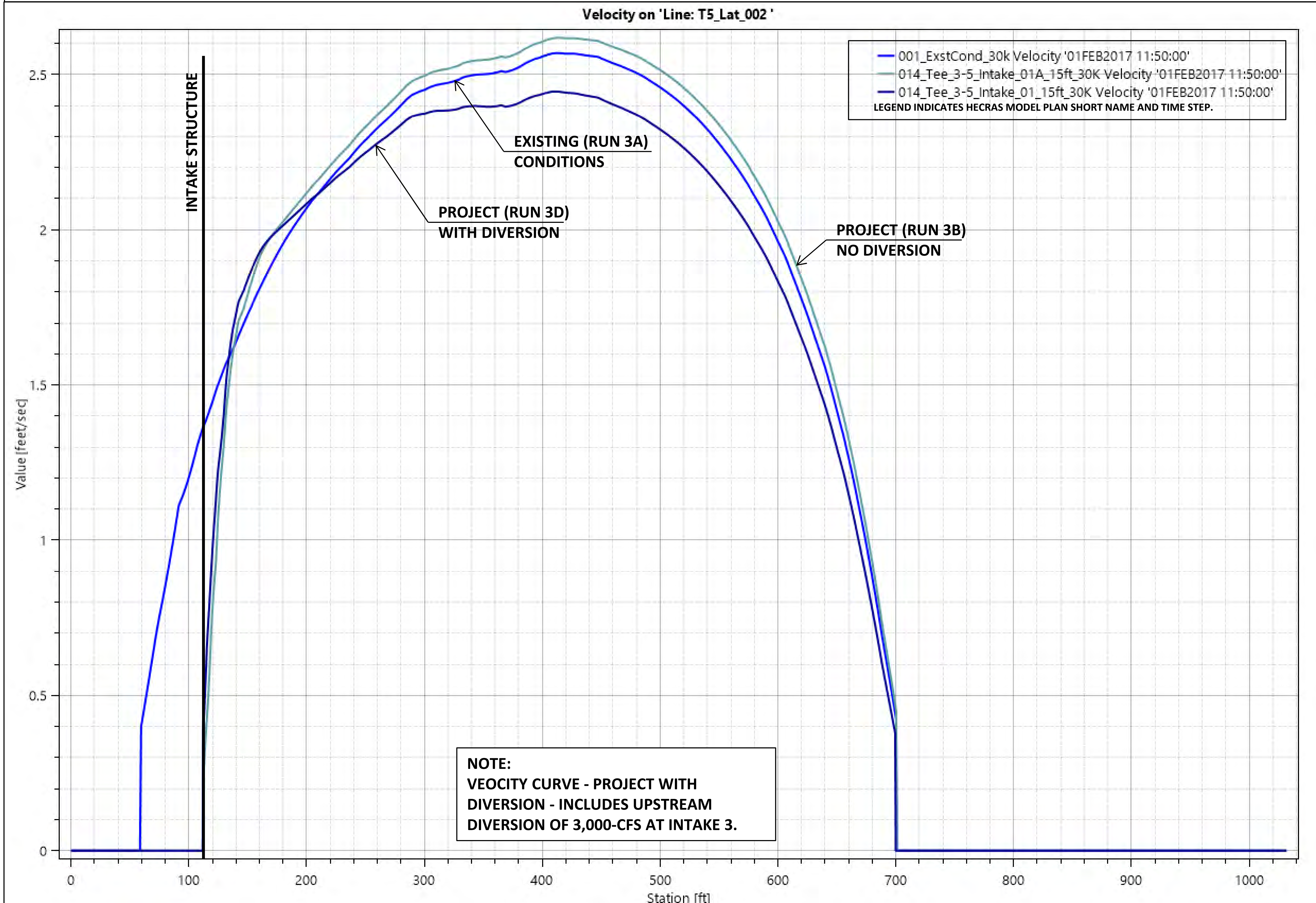
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T3_LAT_005



RUN 3A vs 3B vs 3D
INTAKE C-E-5 (C)

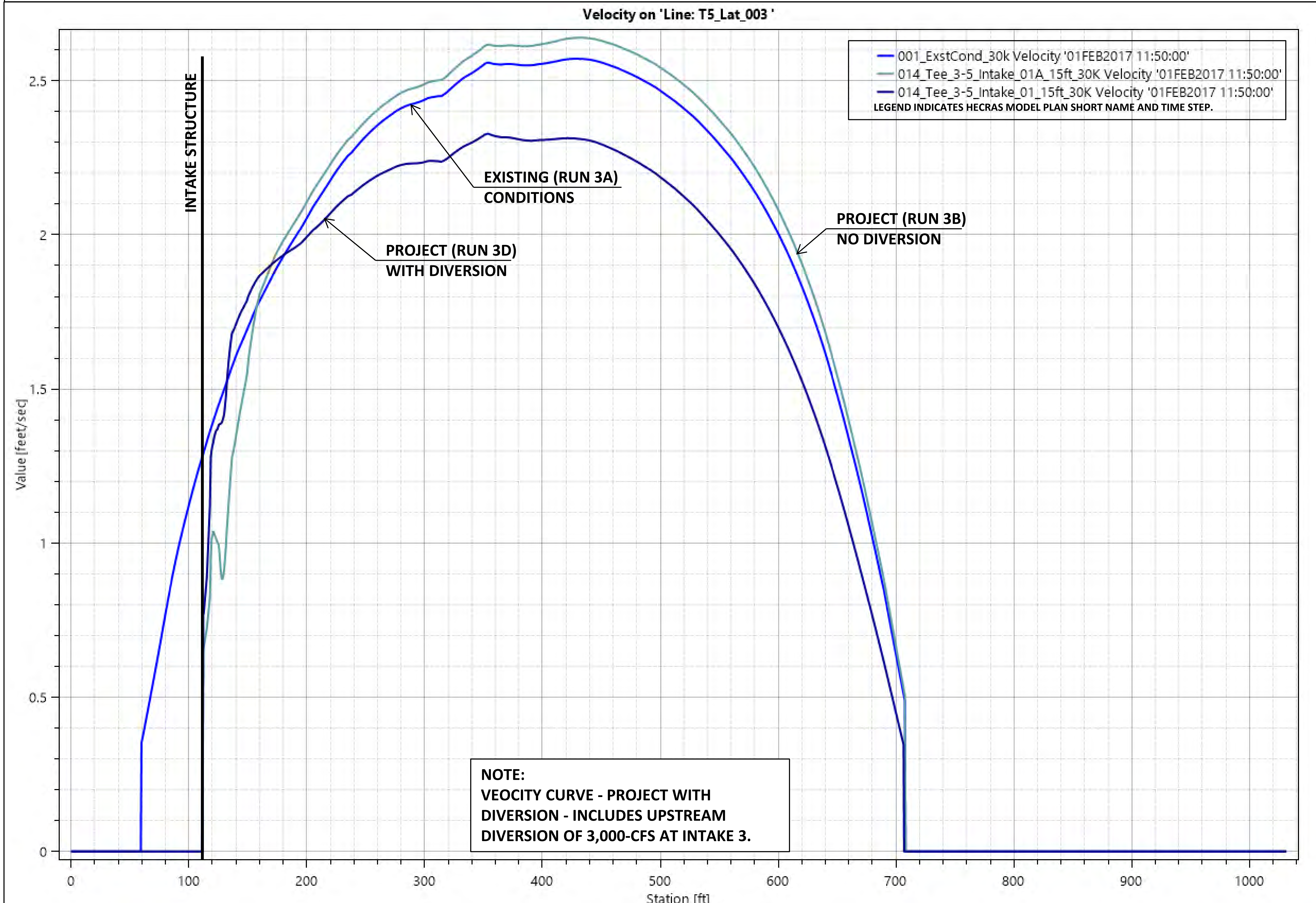
RUN 3A vs 3B vs 3D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



RUN 3A vs 3B vs 3D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



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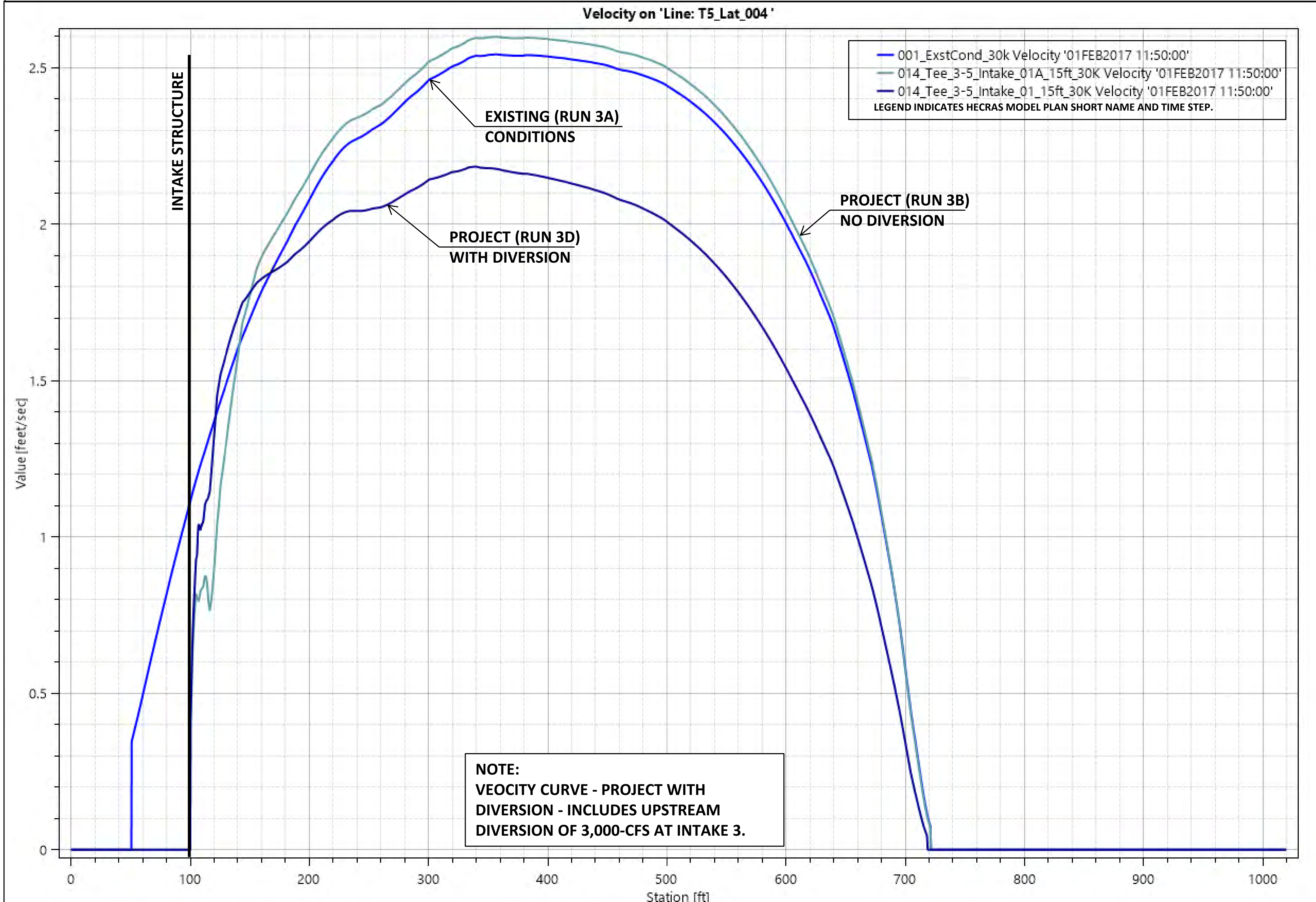

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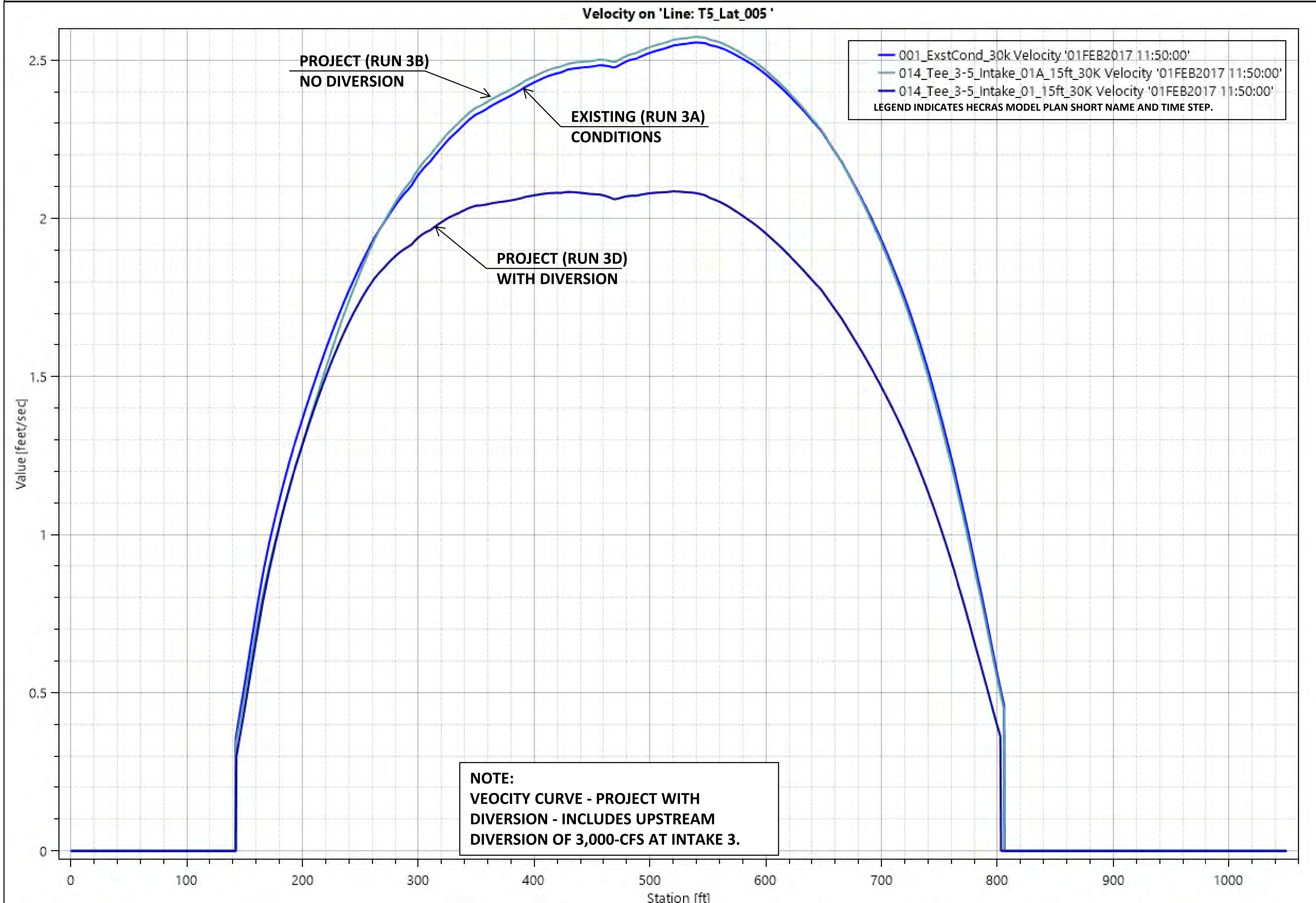
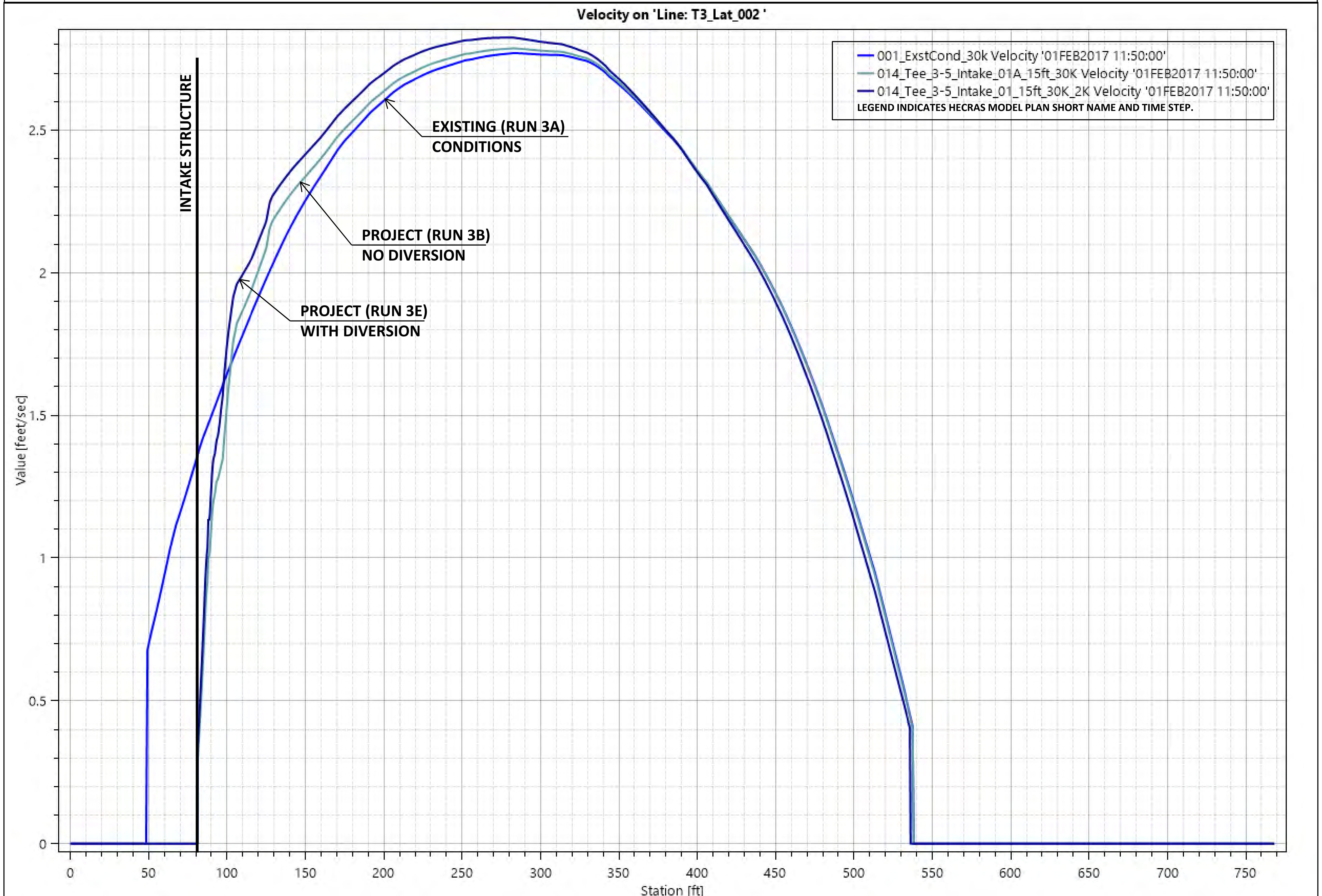
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T5_LAT_005



RUN 3A vs 3B vs 3E
INTAKE C-E-3 (B)

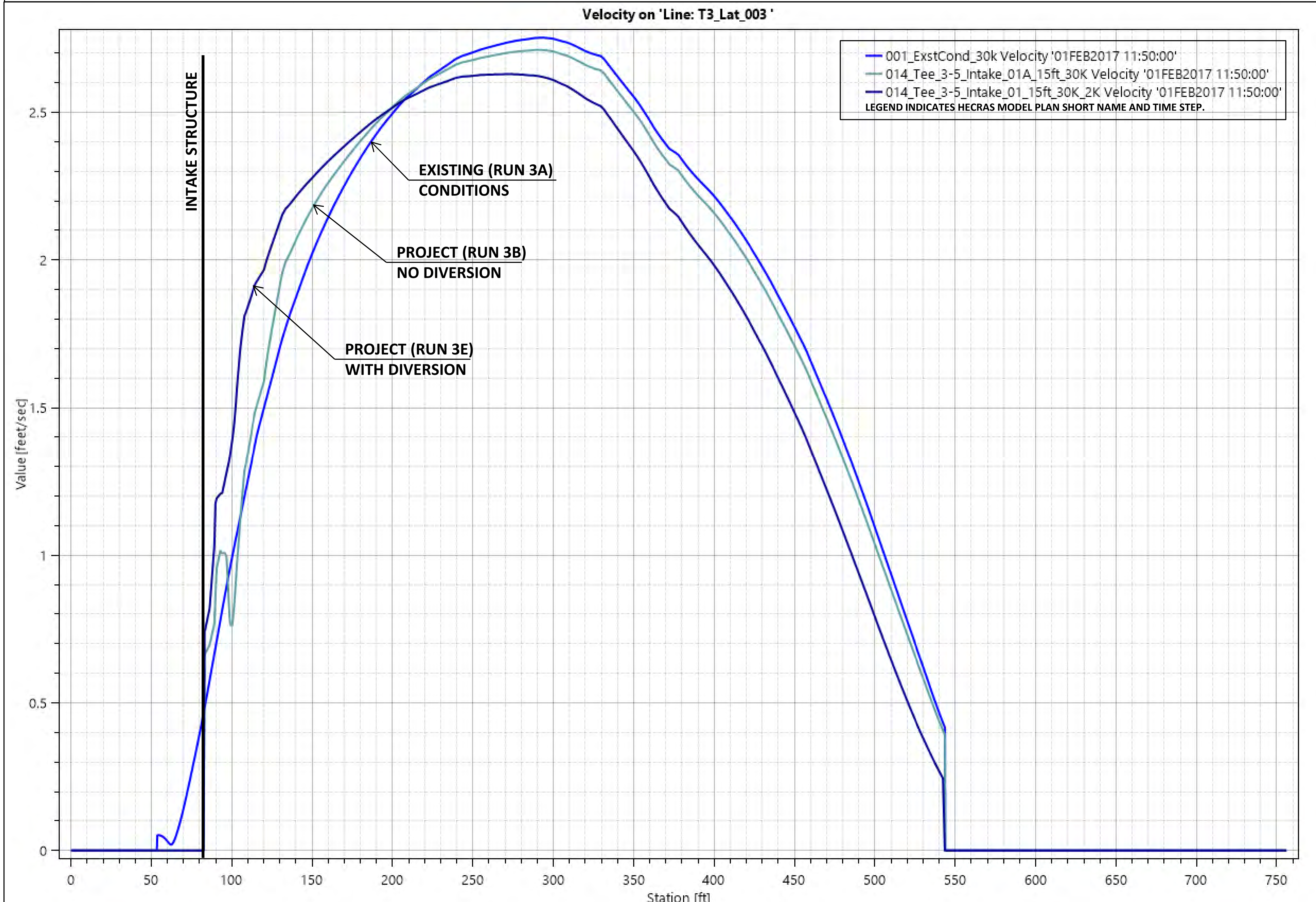
RUN 3A vs 3B vs 3E – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



RUN 3A vs 3B vs 3E – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



RUN 3A vs 3B vs 3E – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

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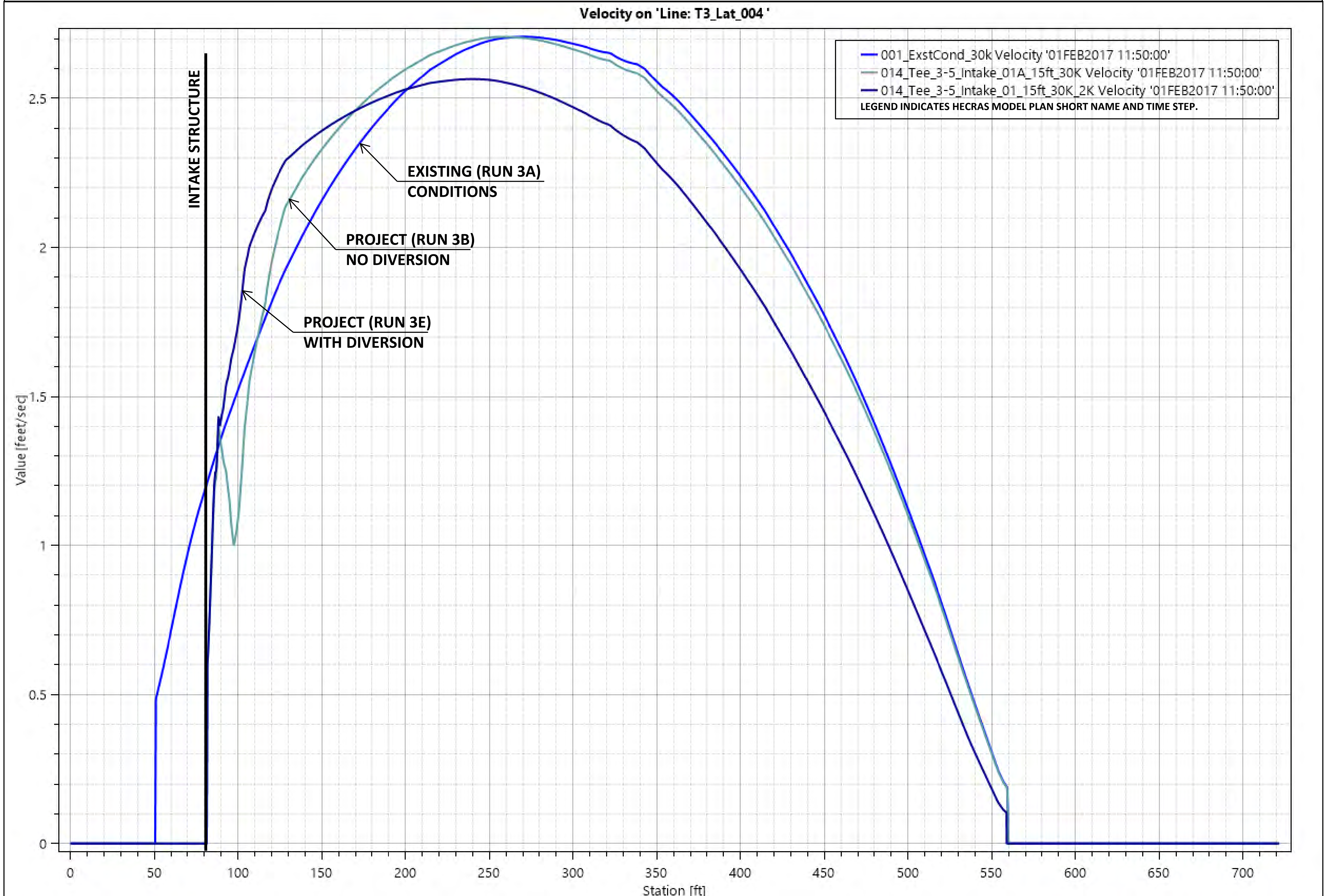
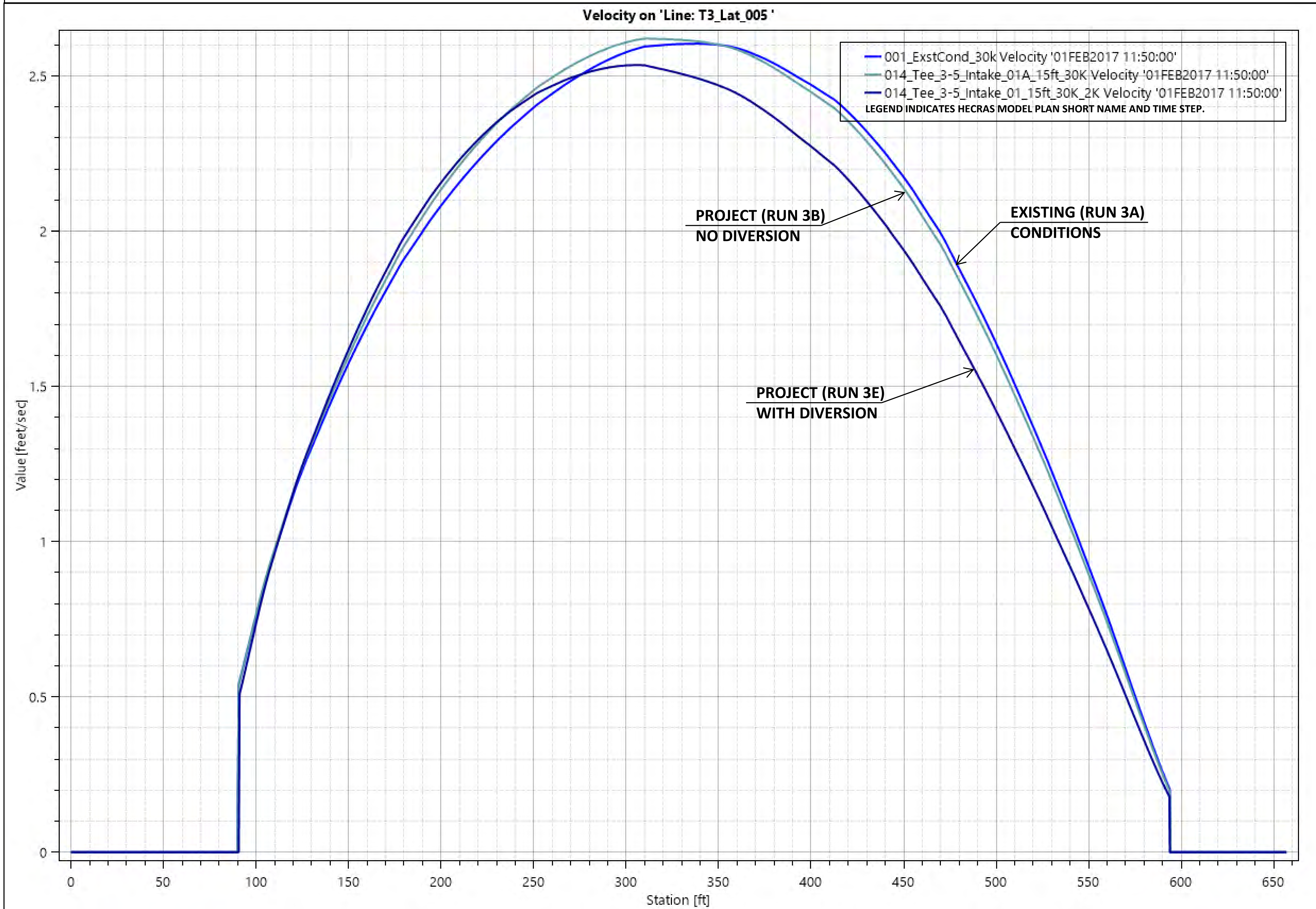


RUN 3A vs 3B vs 3E – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

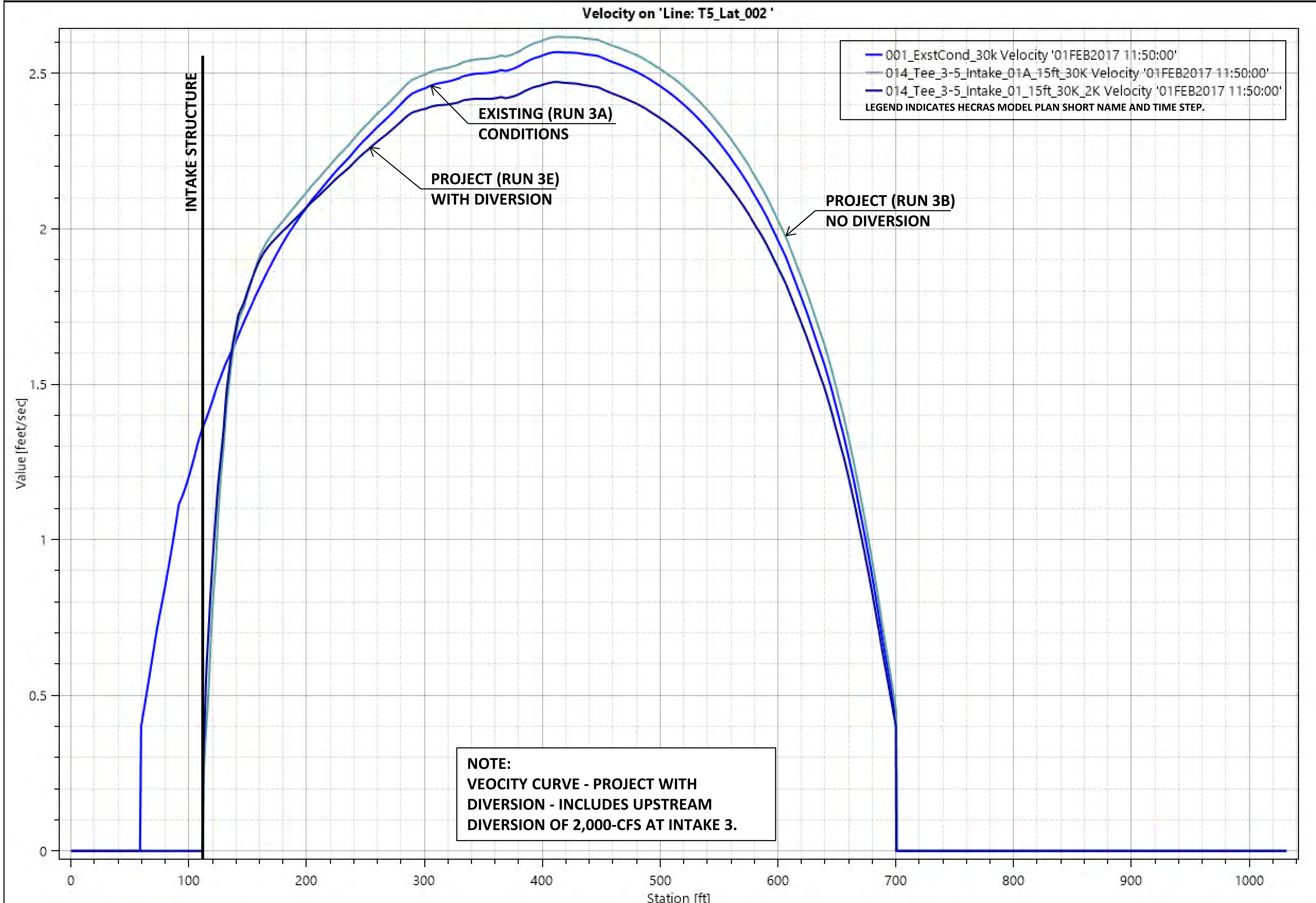
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T3_LAT_005



RUN 3A vs 3B vs 3E
INTAKE C-E-5 (C)

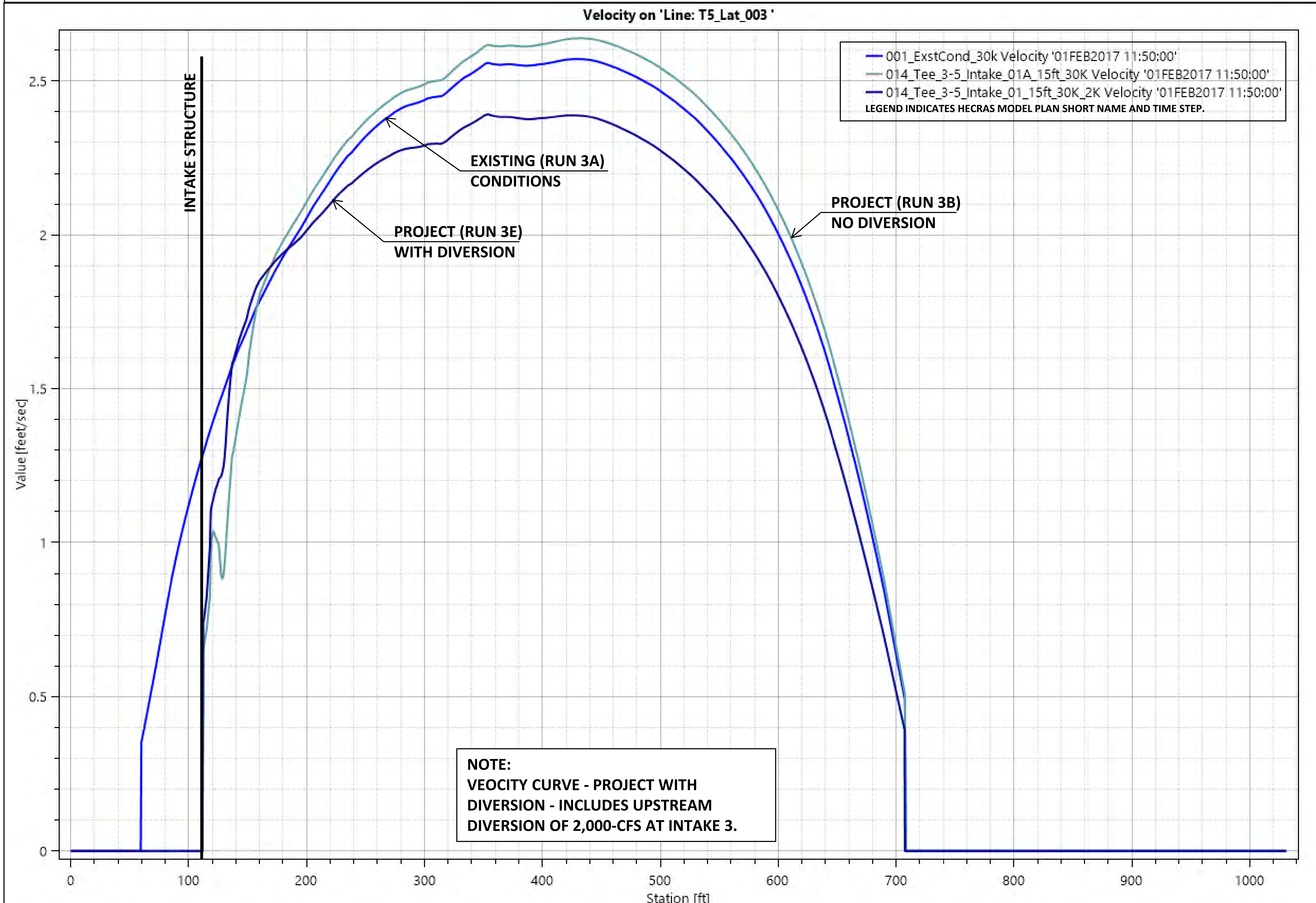
RUN 3A vs 3B vs 3E – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



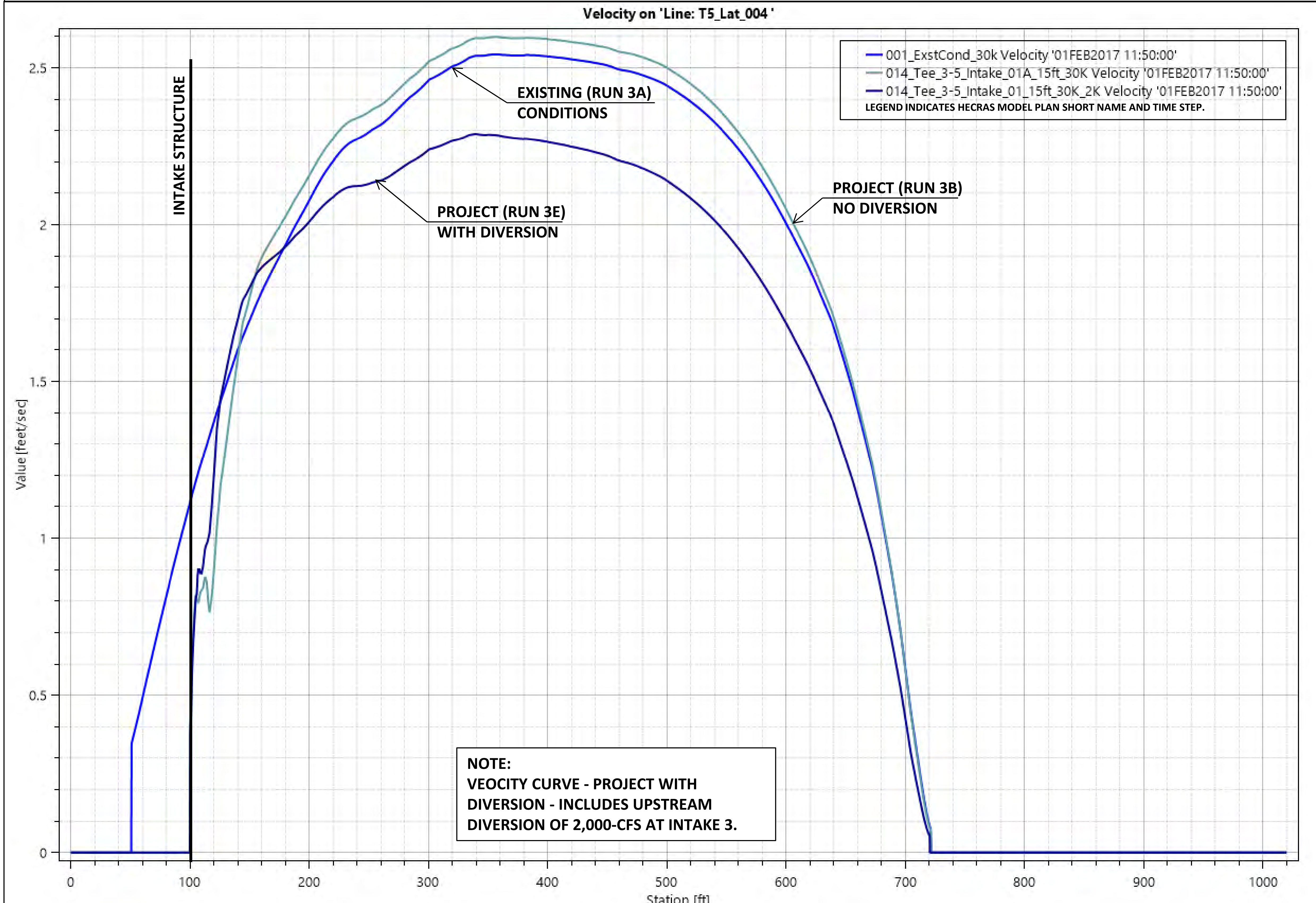
RUN 3A vs 3B vs 3E – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



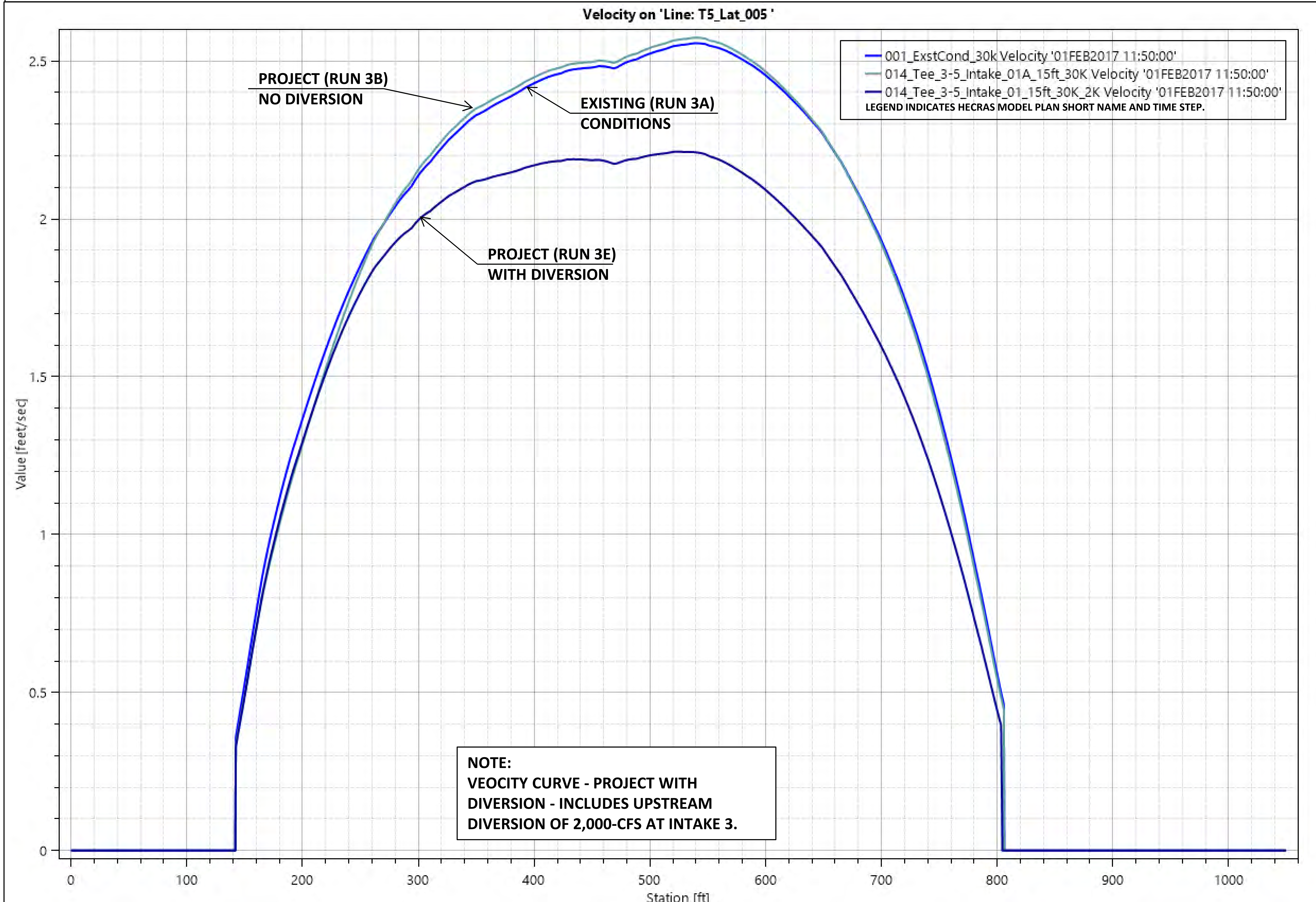
RUN 3A vs 3B vs 3E – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 3A vs 3B vs 3E – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

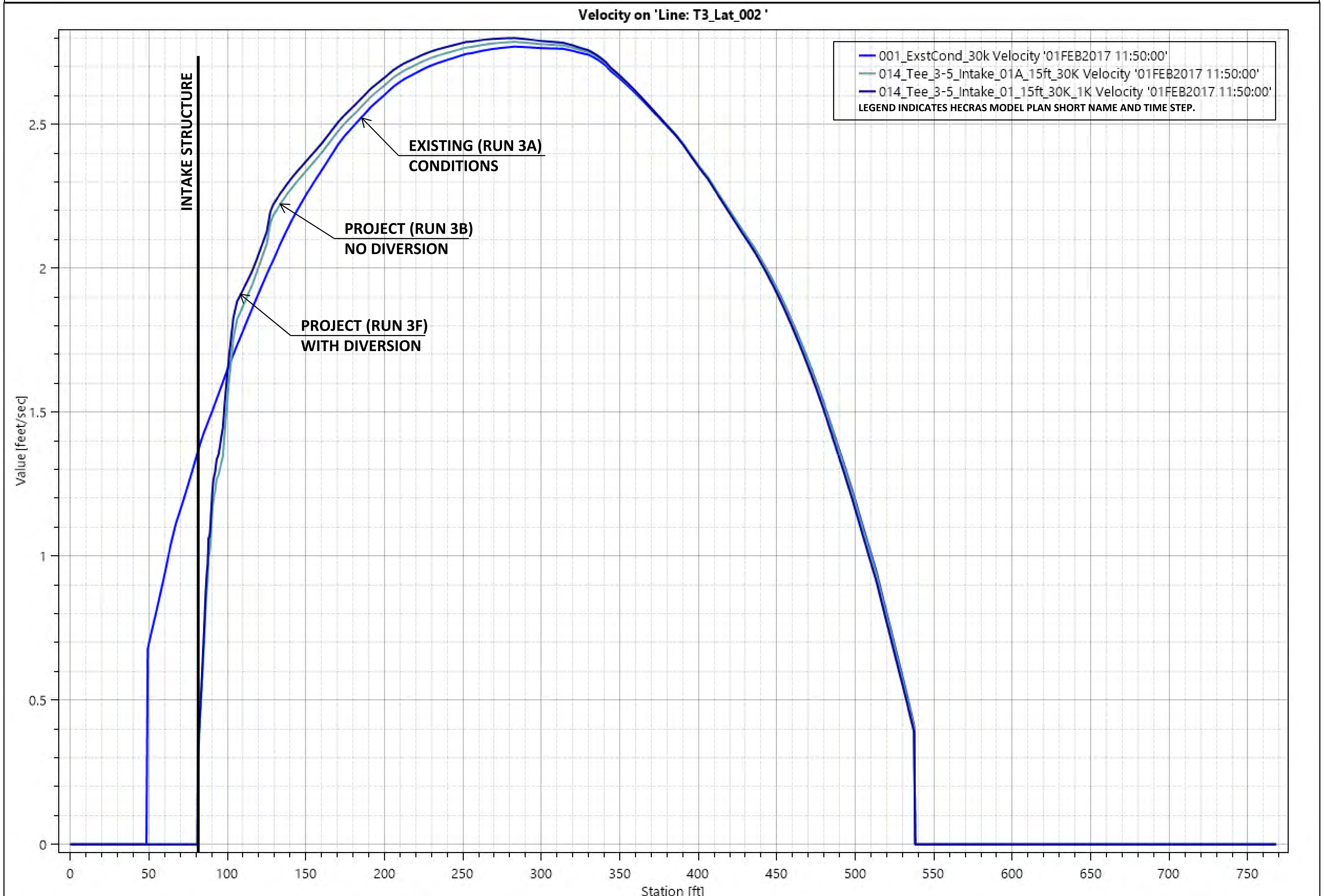
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T5_LAT_005



RUN 3A vs 3B vs 3F
INTAKE C-E-3 (B)

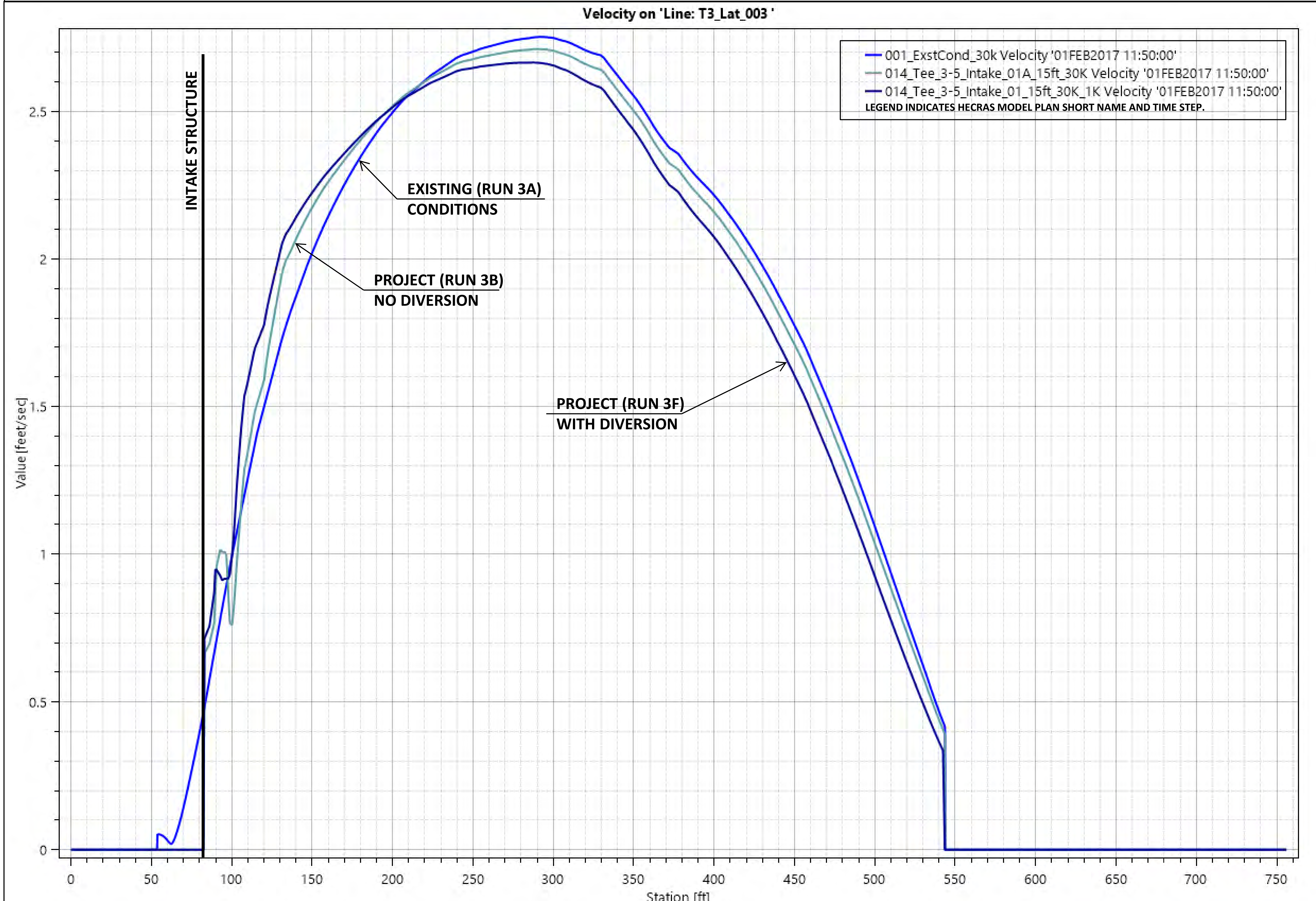
RUN 3A vs 3B vs 3F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



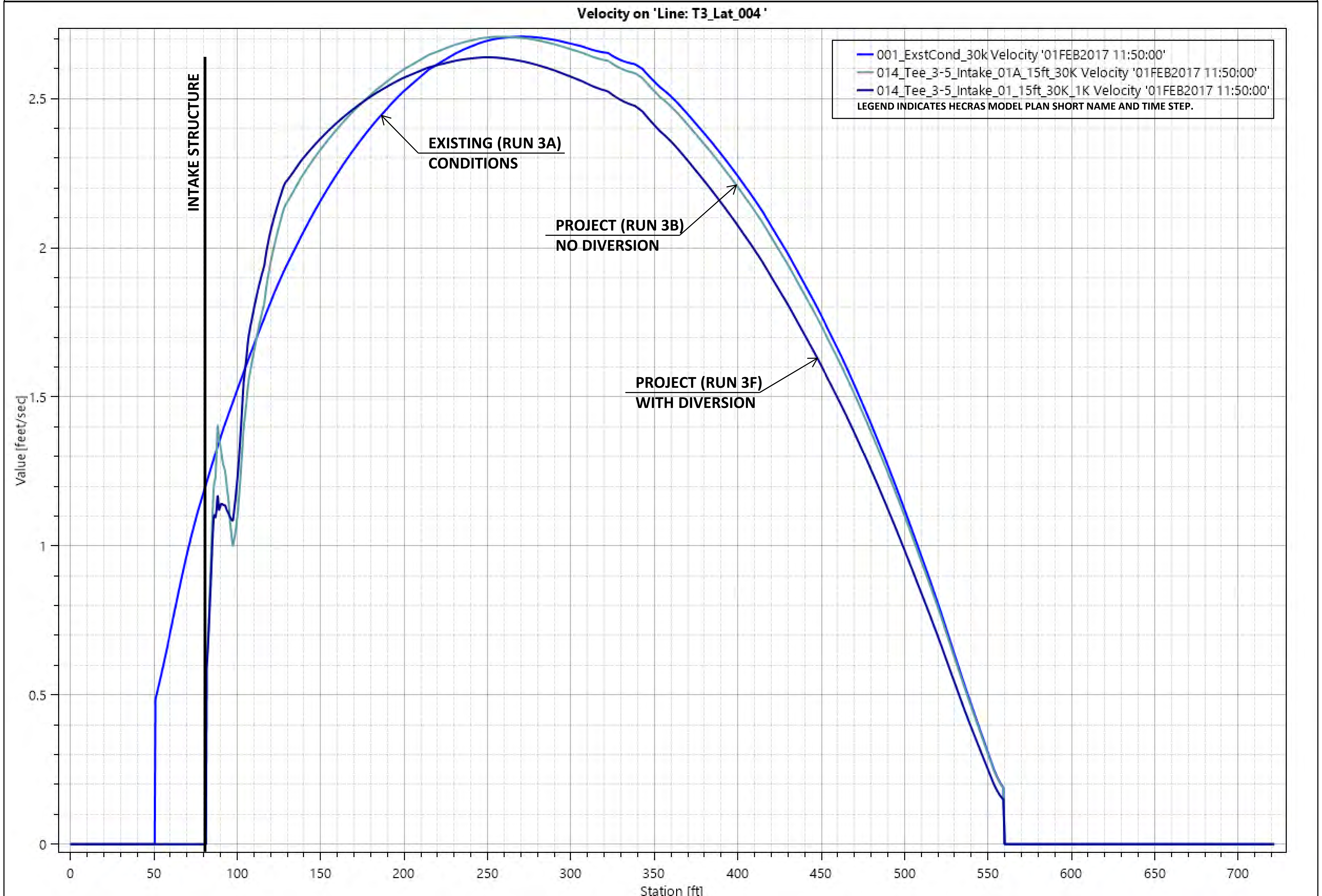
RUN 3A vs 3B vs 3F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



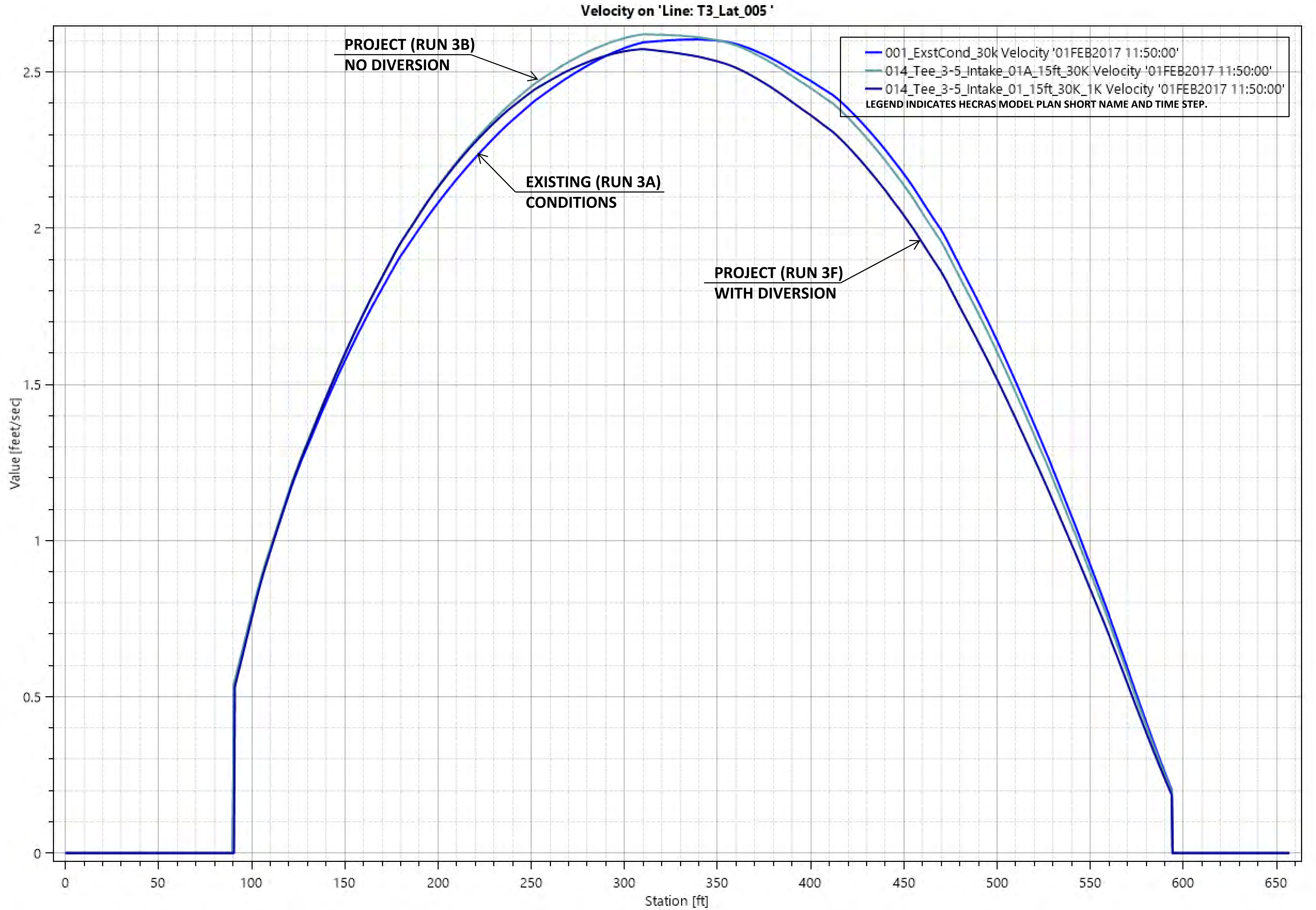
RUN 3A vs 3B vs 3F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 3A vs 3B vs 3F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T3_LAT_005



RUN 3A vs 3B vs 3F
INTAKE C-E-5 (C)

RUN 3A vs 3B vs 3F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

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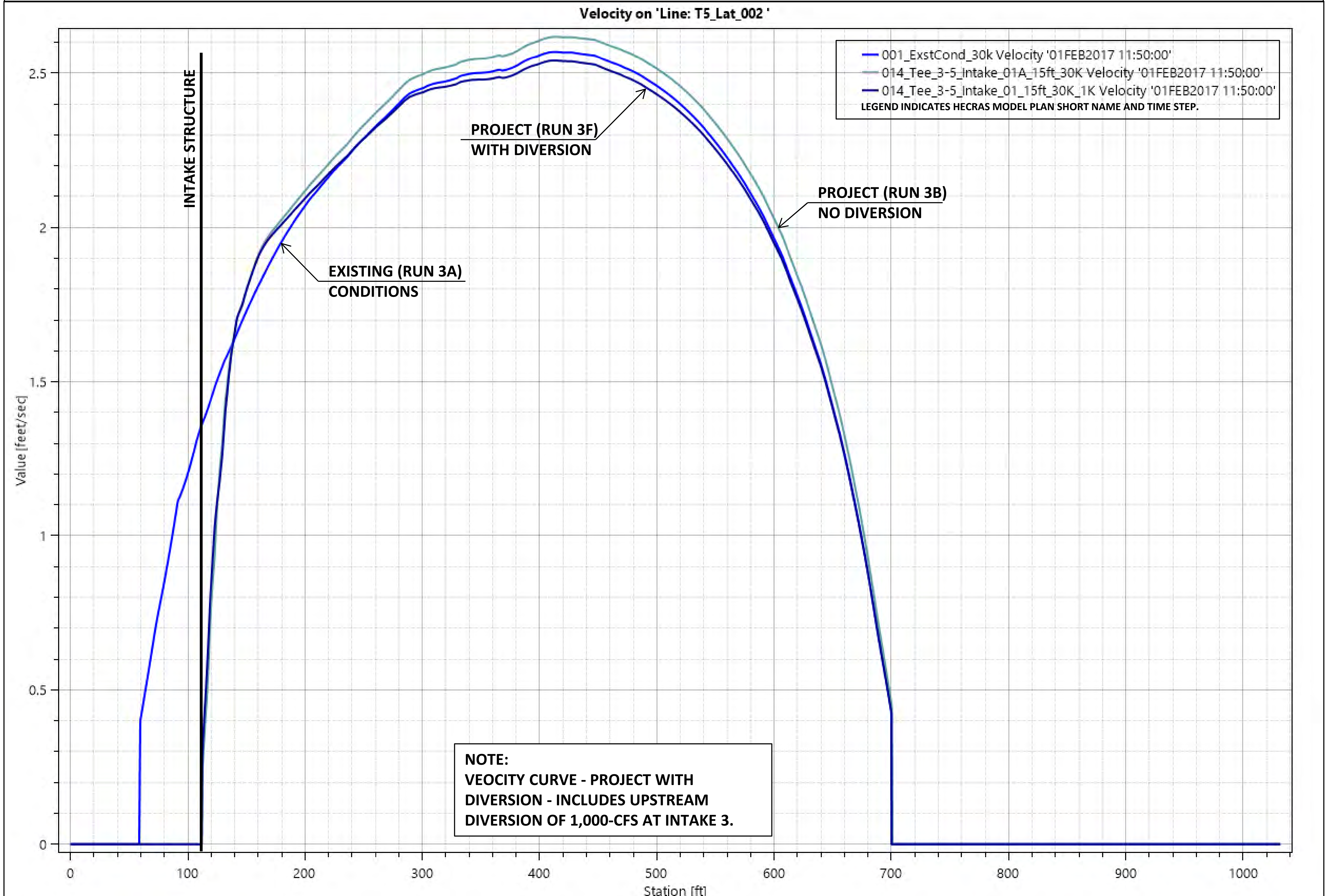
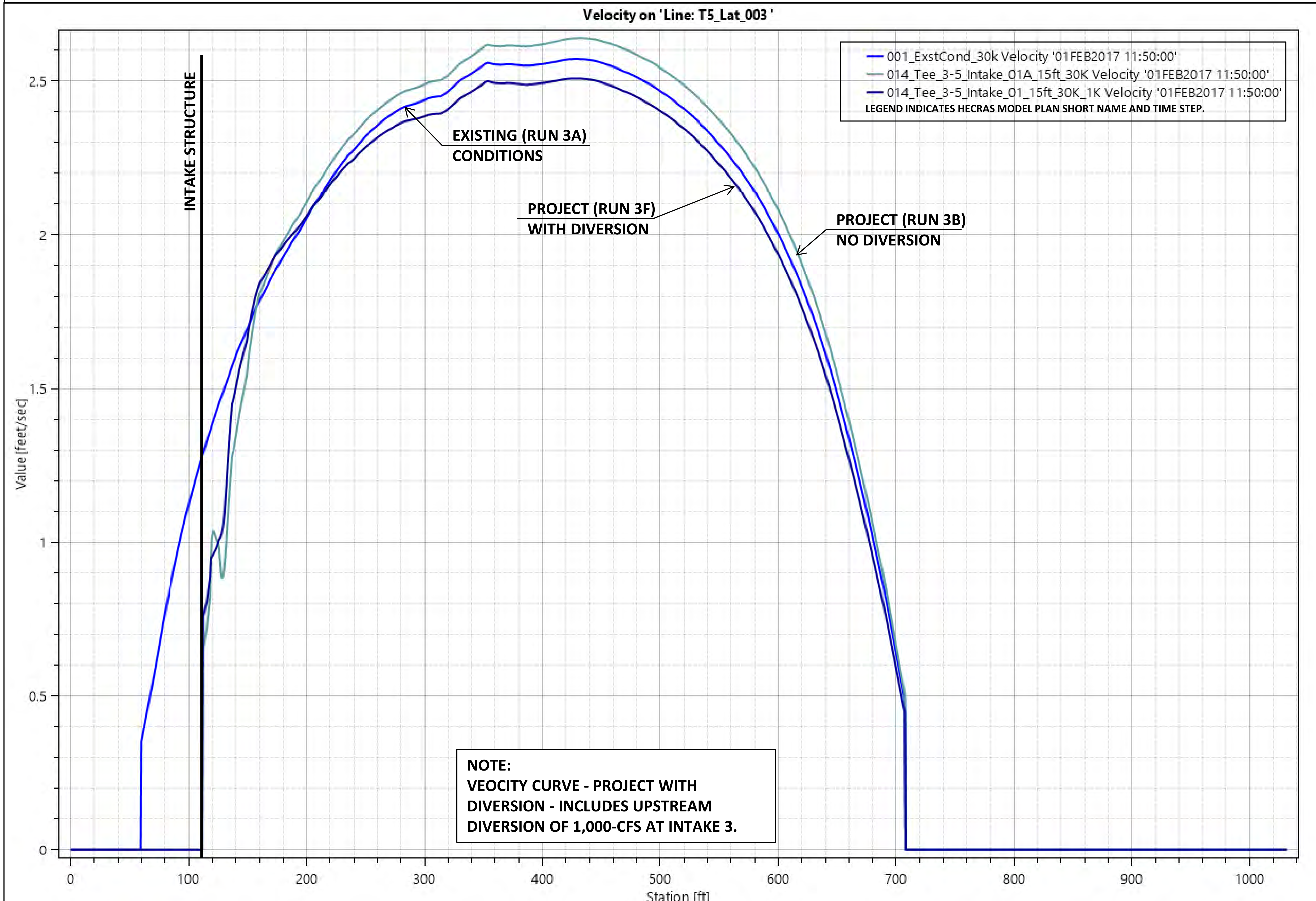


RUN 3A vs 3B vs 3F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



RUN 3A vs 3B vs 3F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

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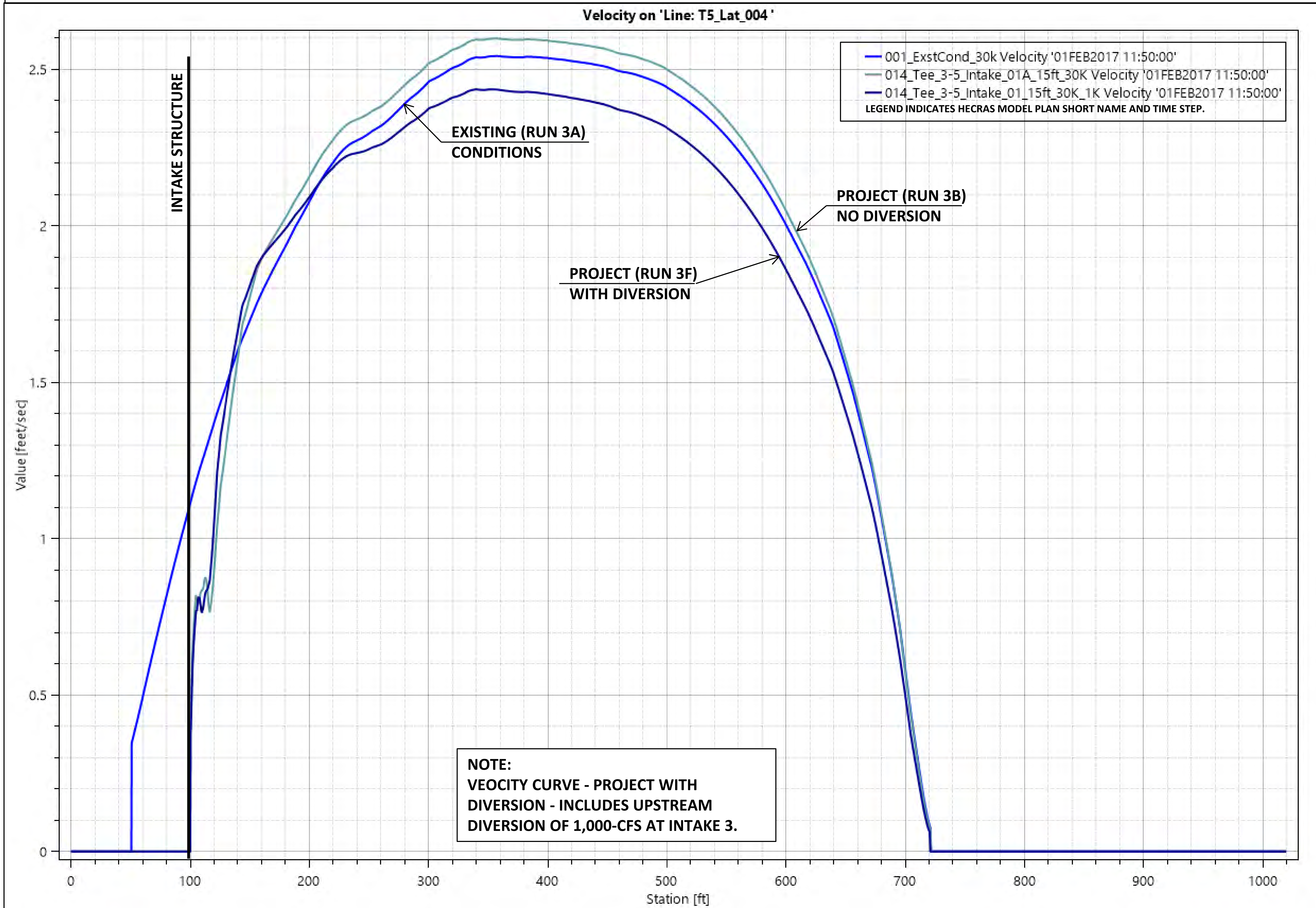
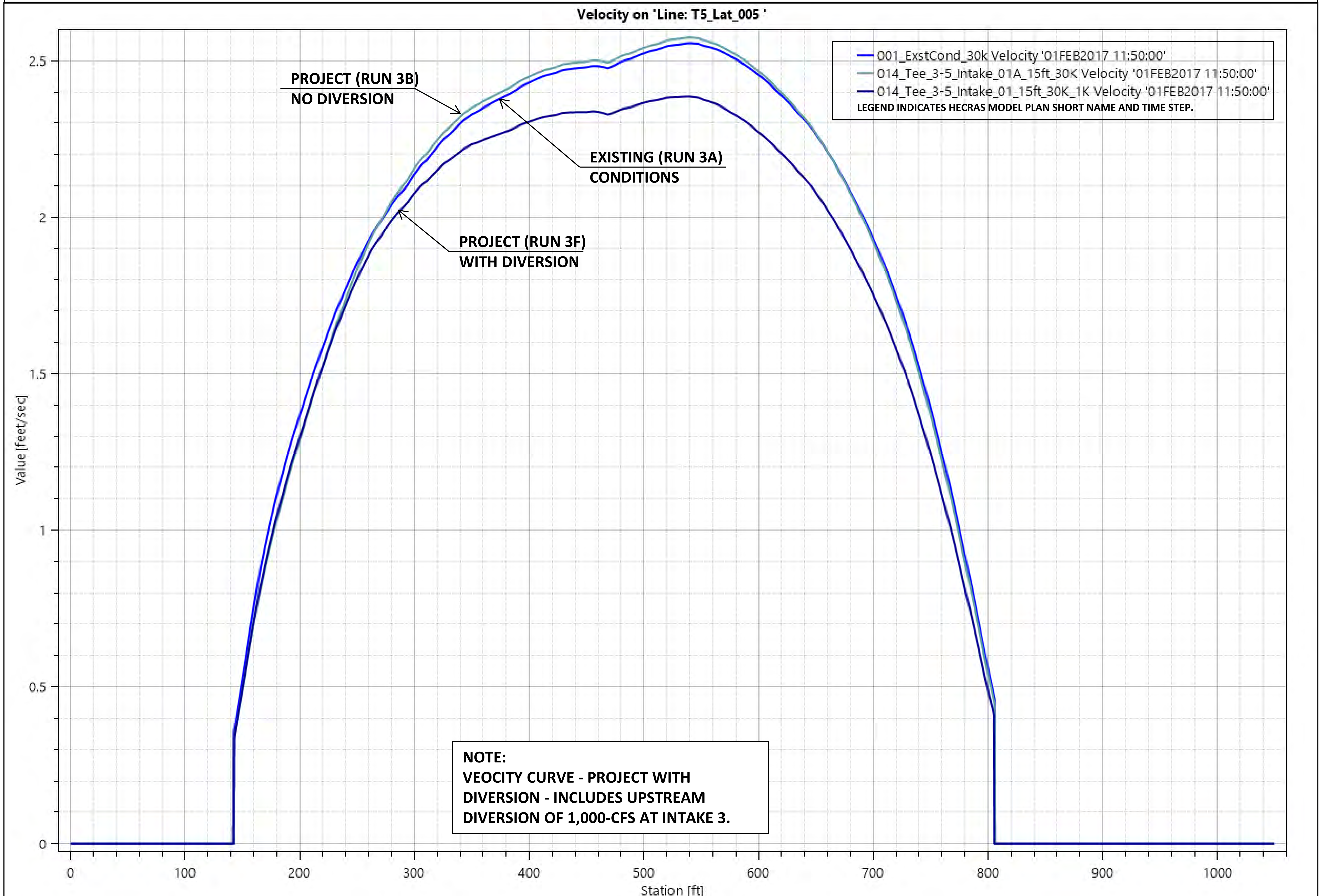


RUN 3A vs 3B vs 3F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

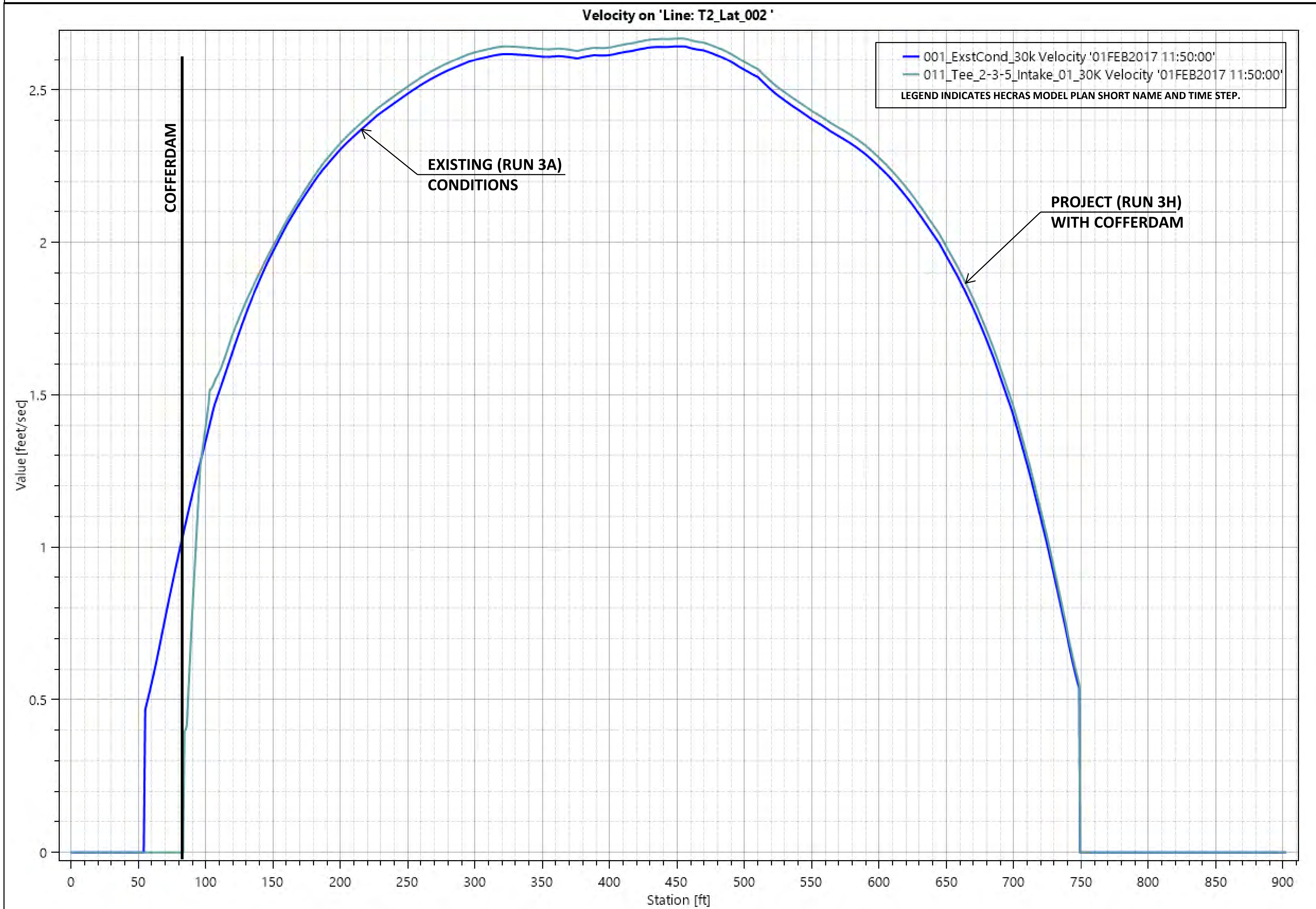
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



RUN 3A vs 3H
INTAKE C-E-2 (A)

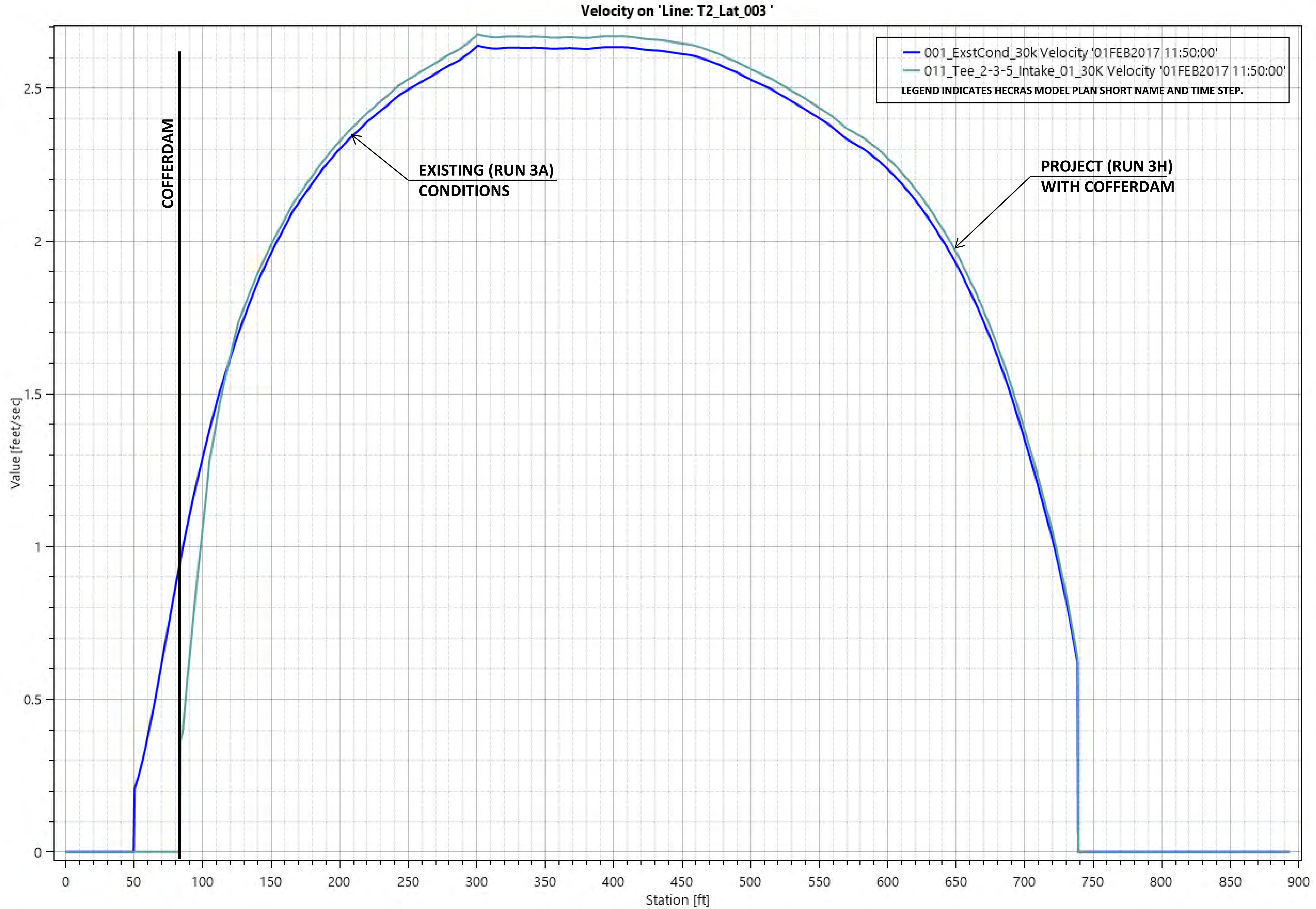
RUN 3A vs 3H – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T2_LAT_002



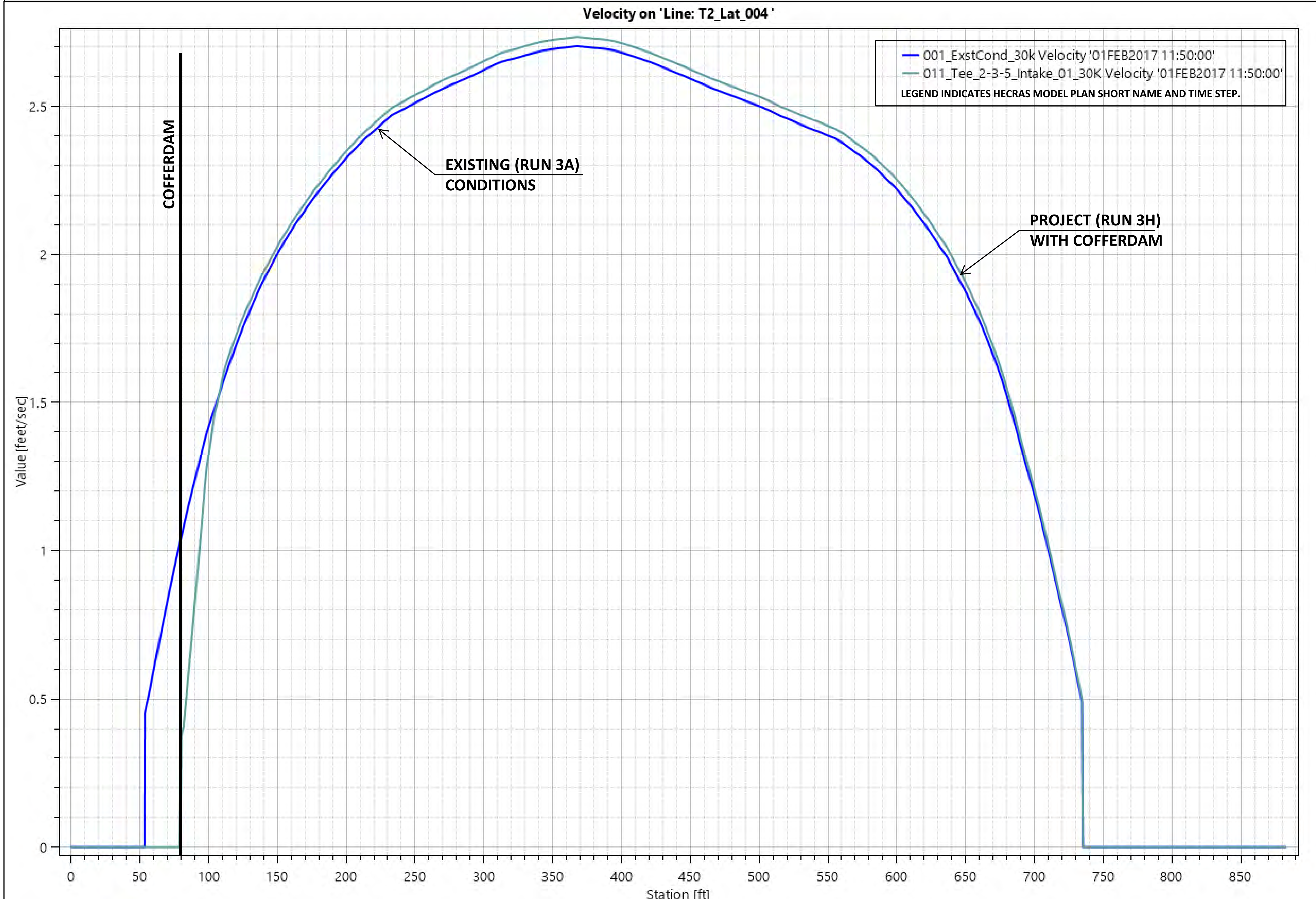
RUN 3A vs 3H – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T2_LAT_003



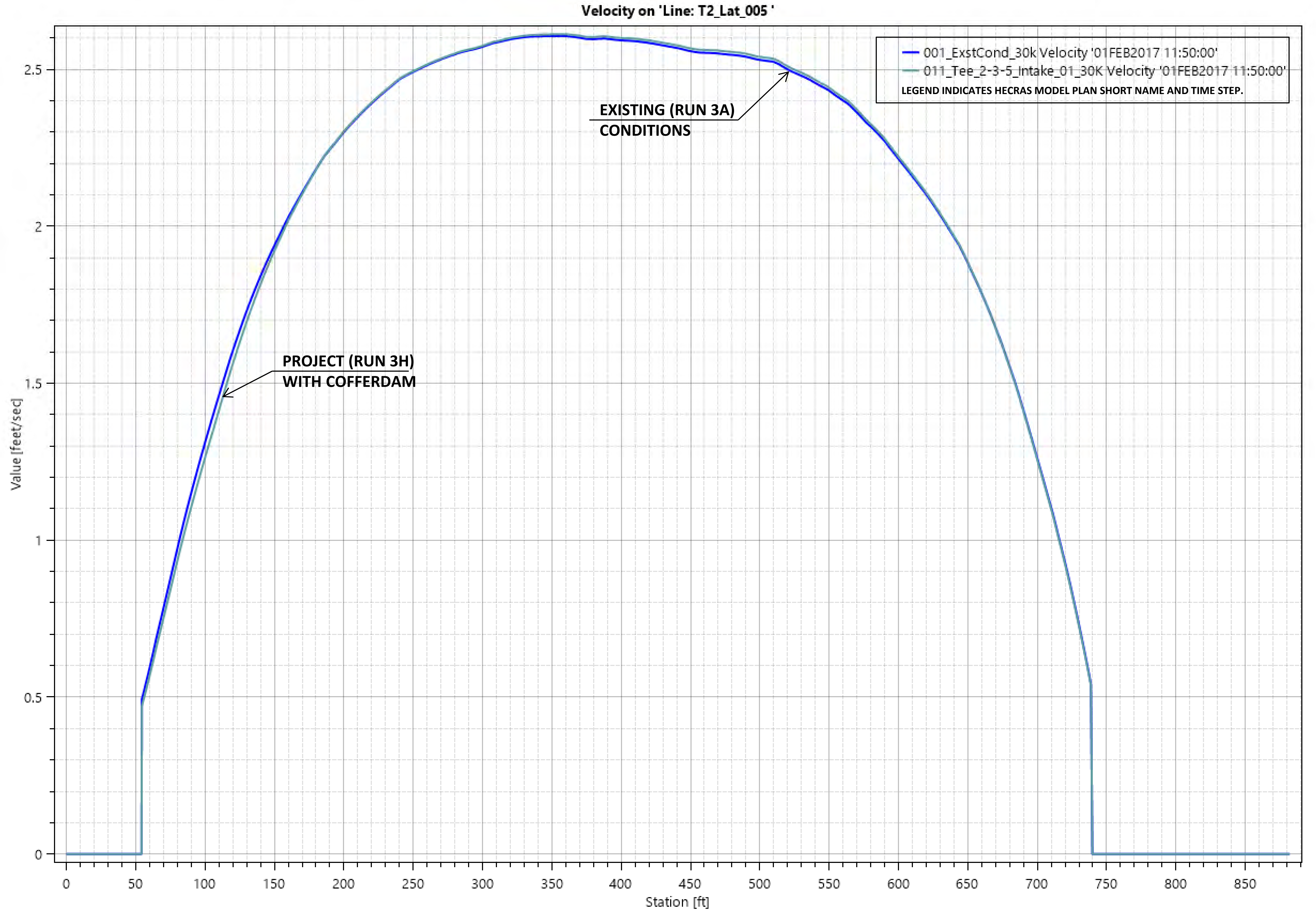
RUN 3A vs 3H – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T2_LAT_004



RUN 3A vs 3H – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

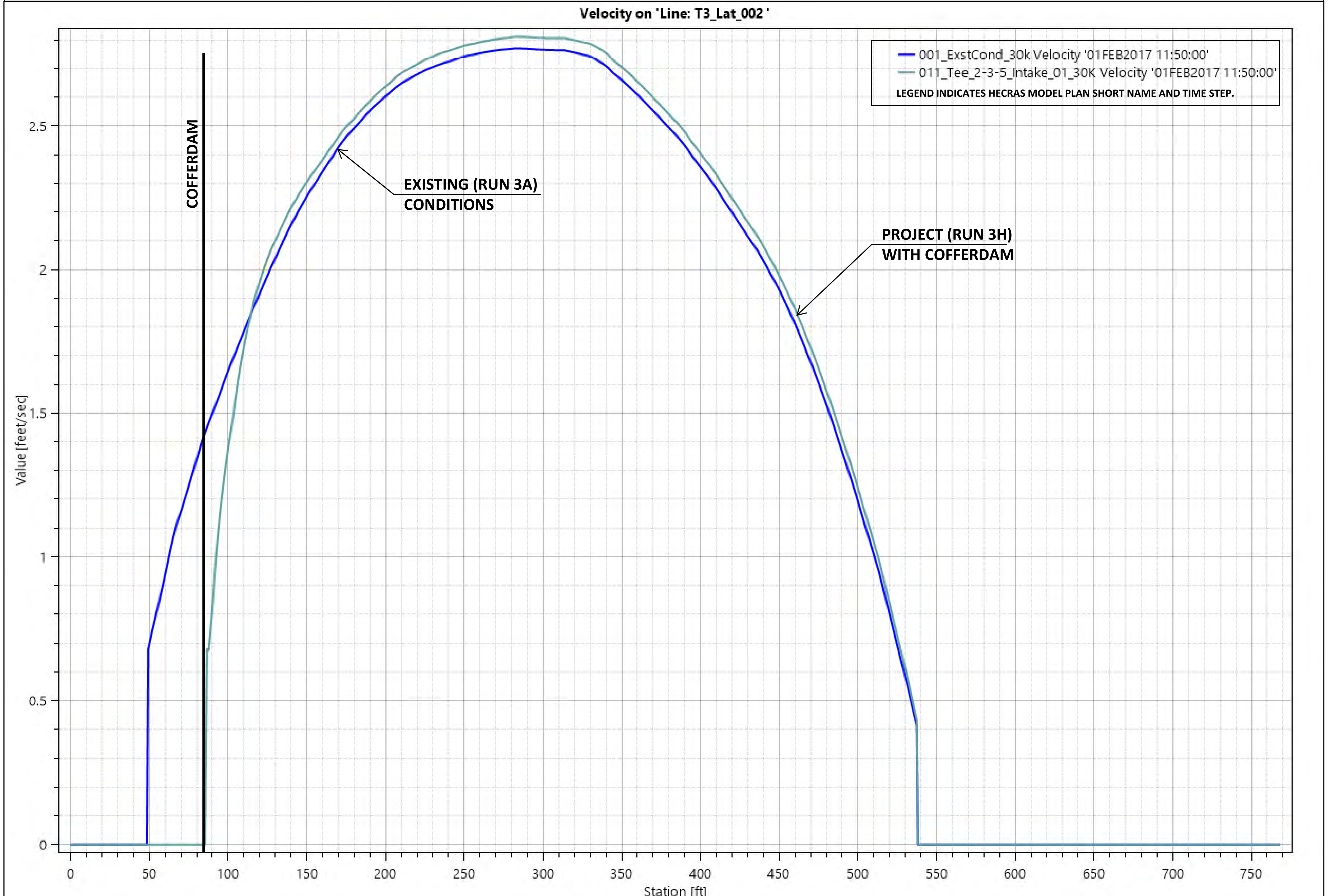
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T2_LAT_005



RUN 3A vs 3H
INTAKE C-E-3 (B)

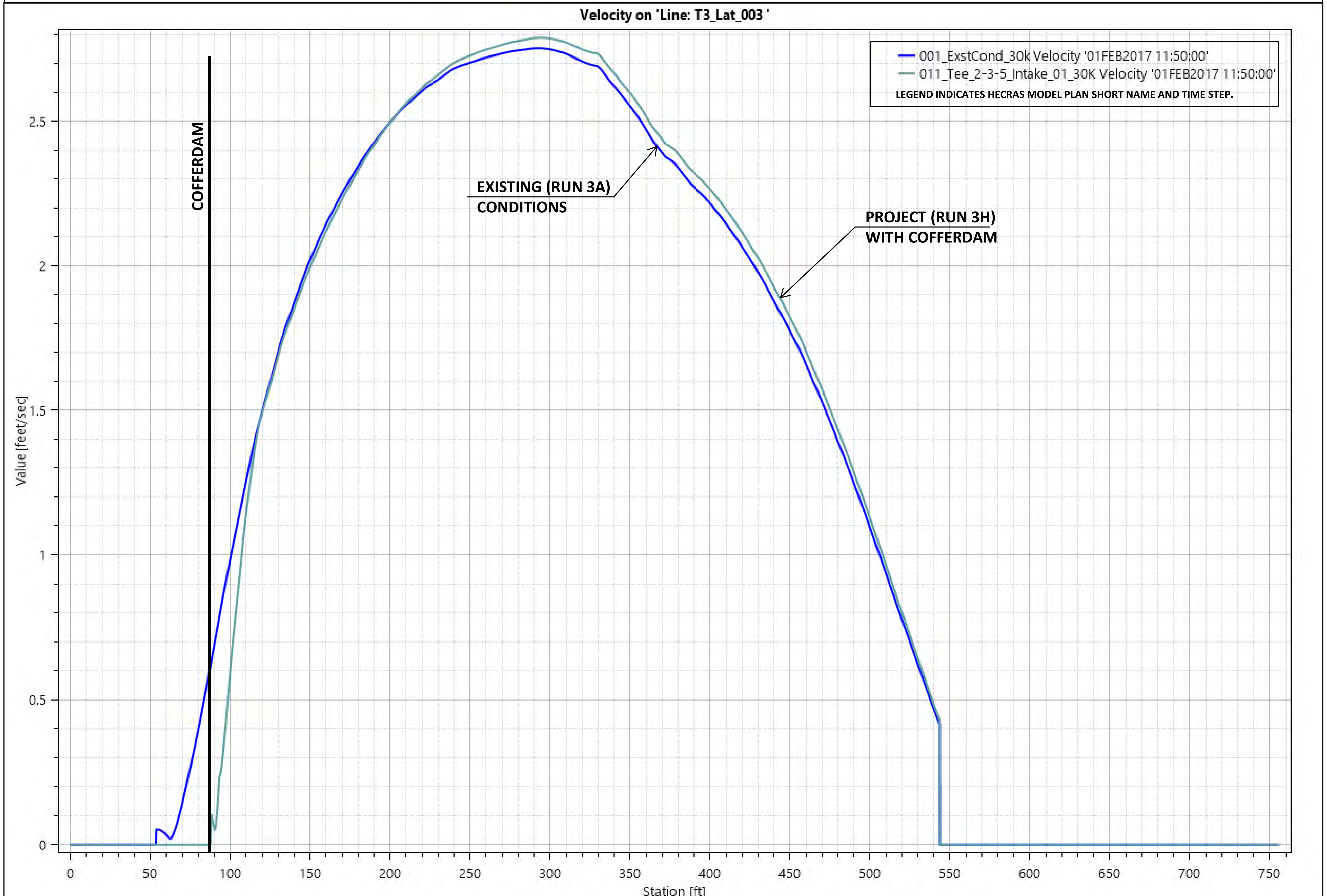
RUN 3A vs 3H – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



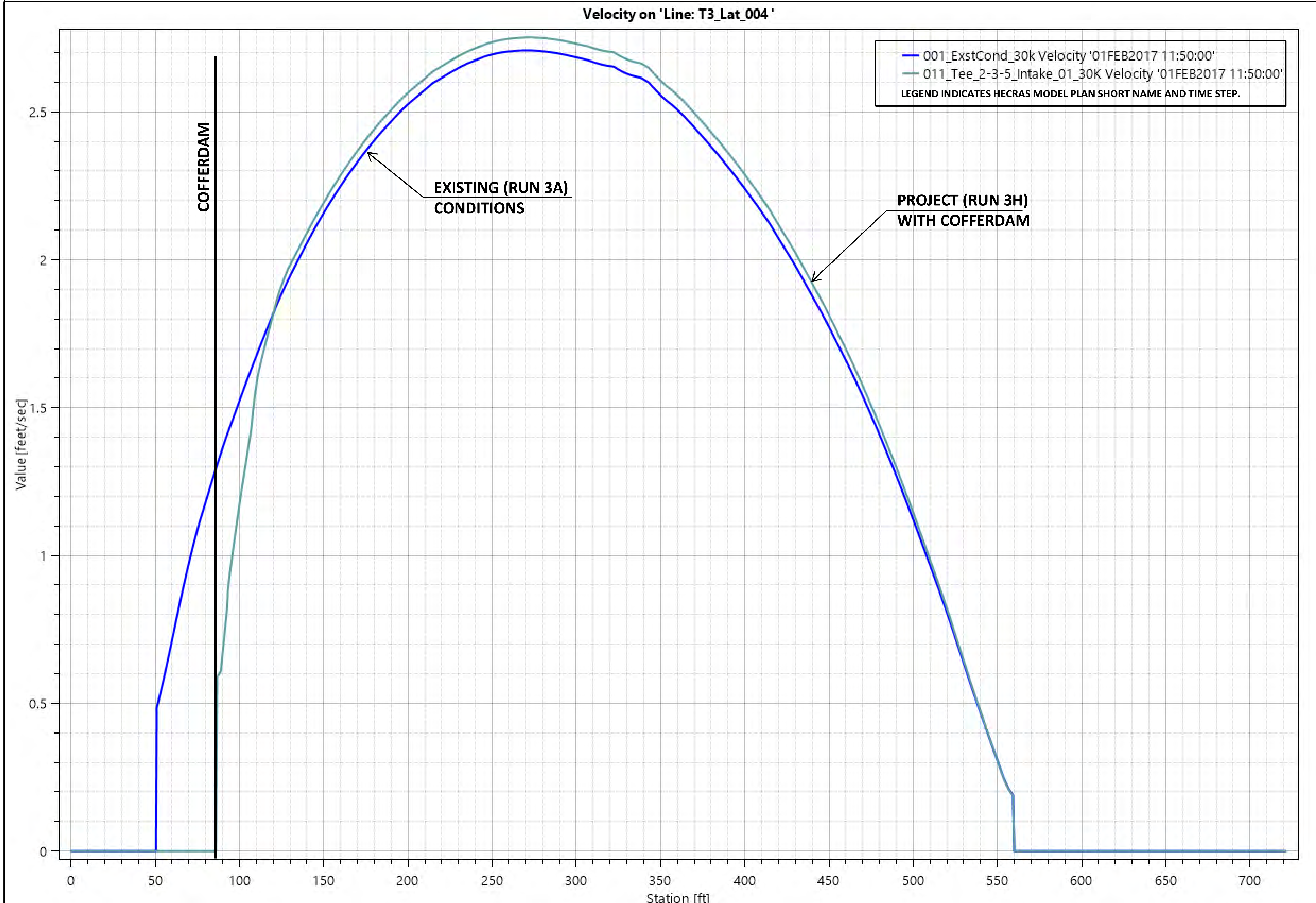
RUN 3A vs 3H – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



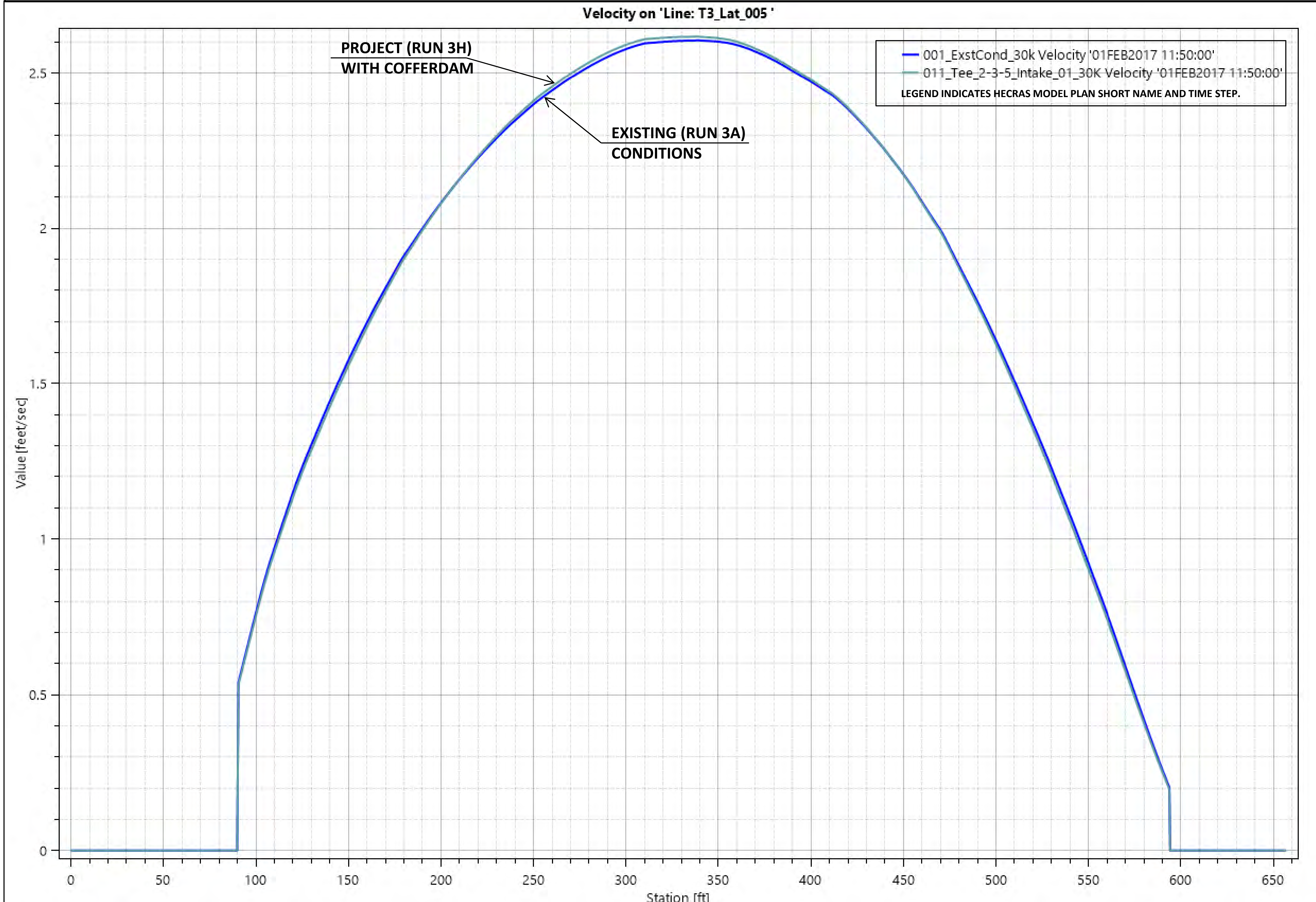
RUN 3A vs 3H – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 3A vs 3H – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

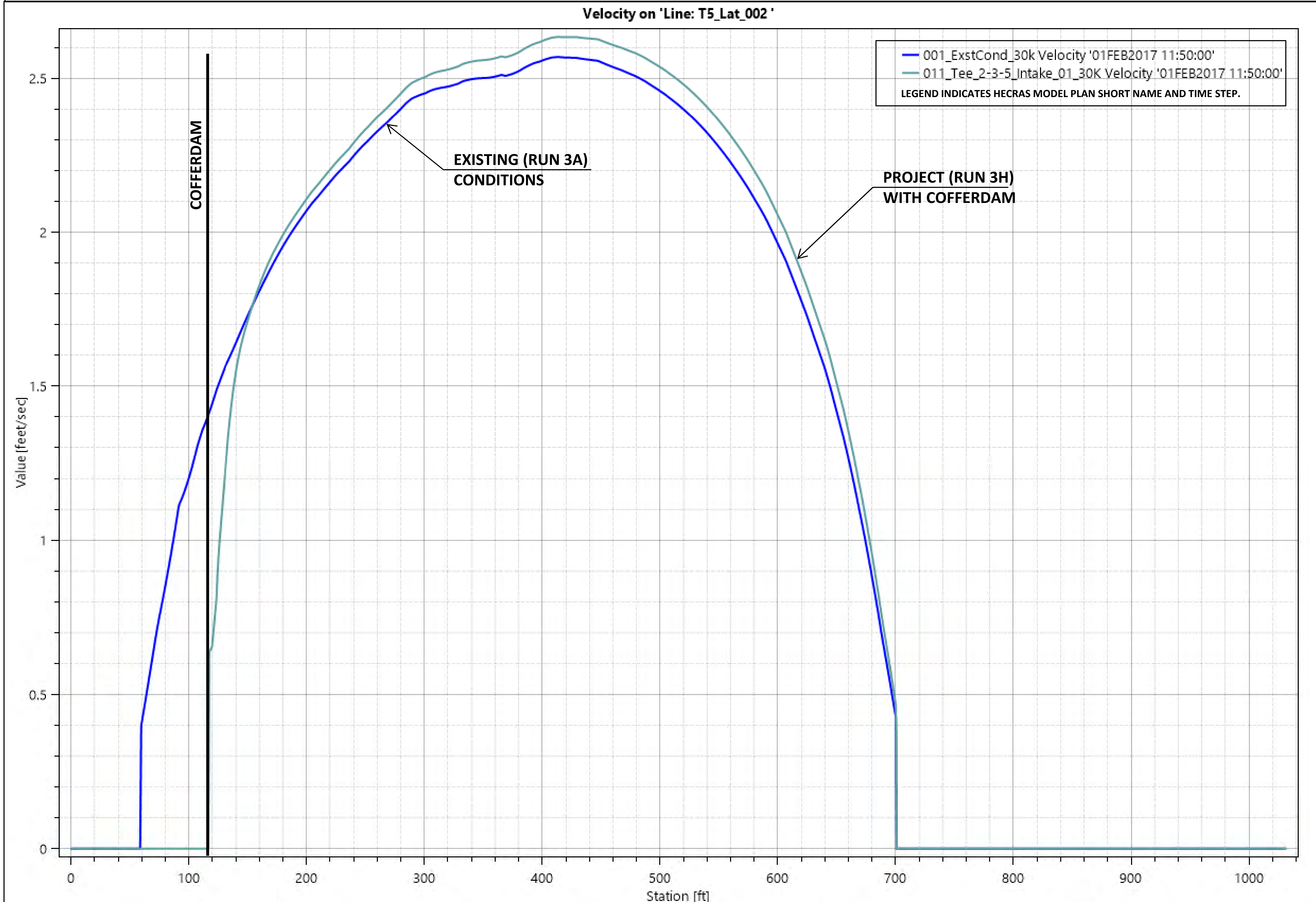
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 3A vs 3H
INTAKE C-E-5 (C)

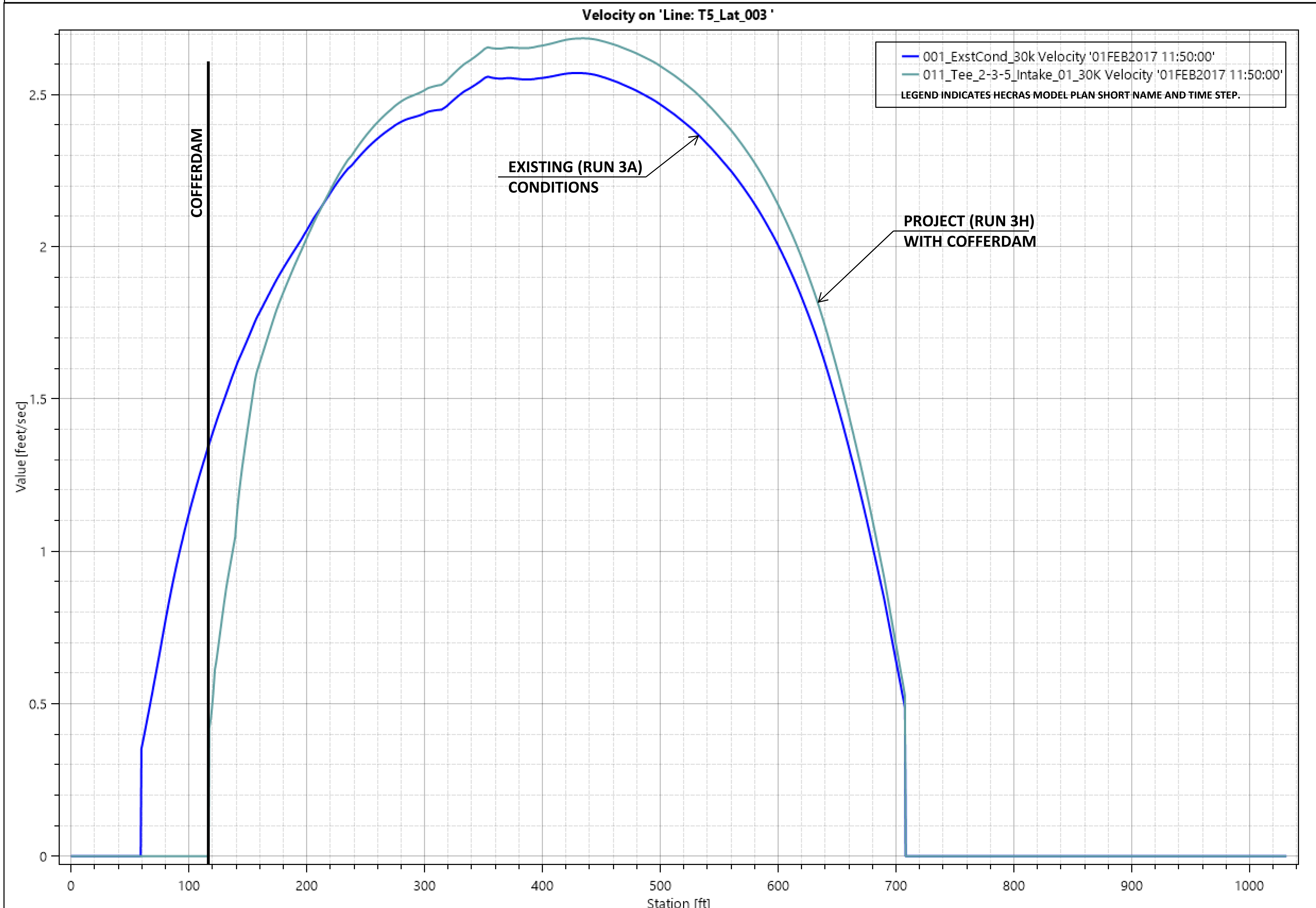
RUN 3A vs 3H – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



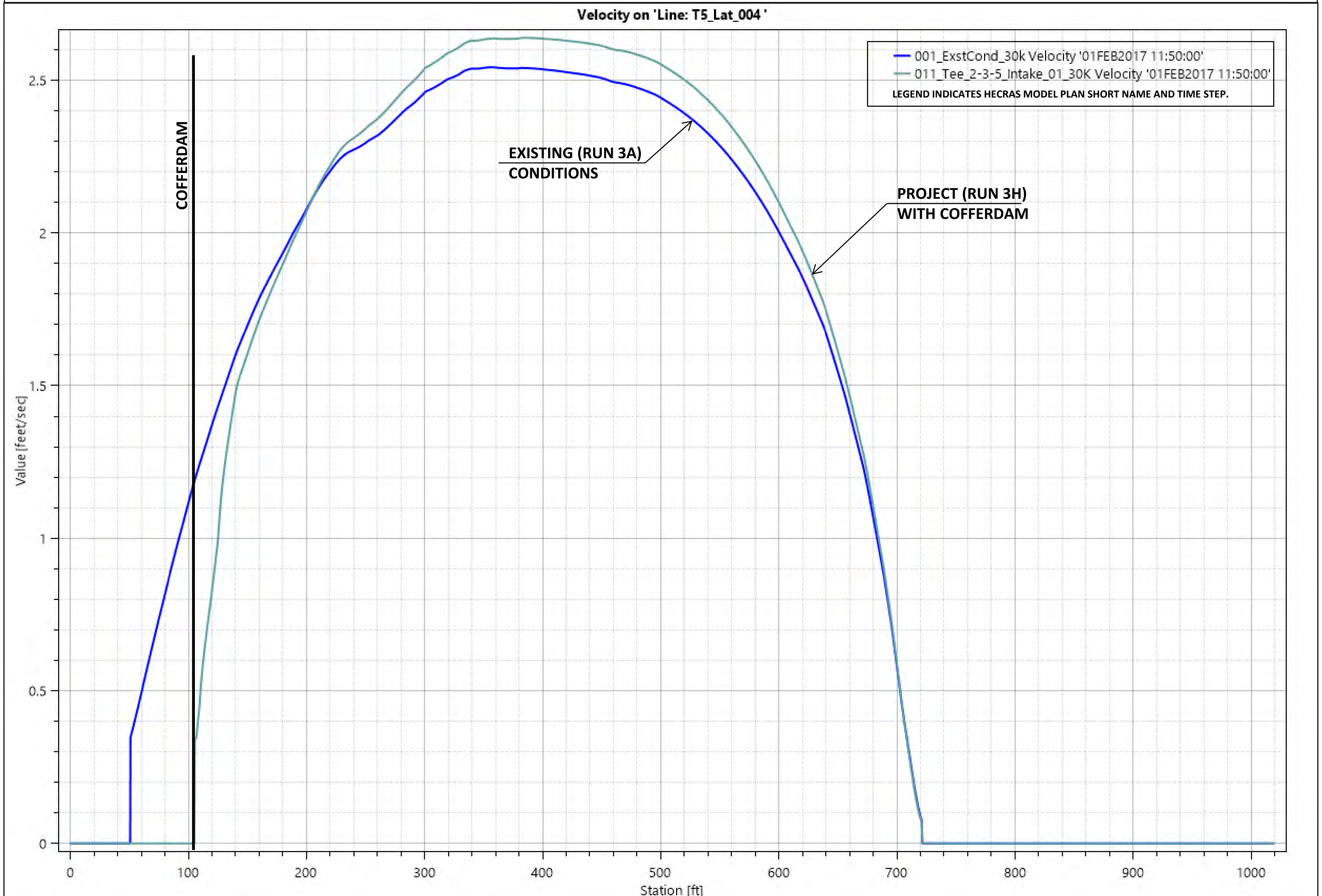
RUN 3A vs 3H – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



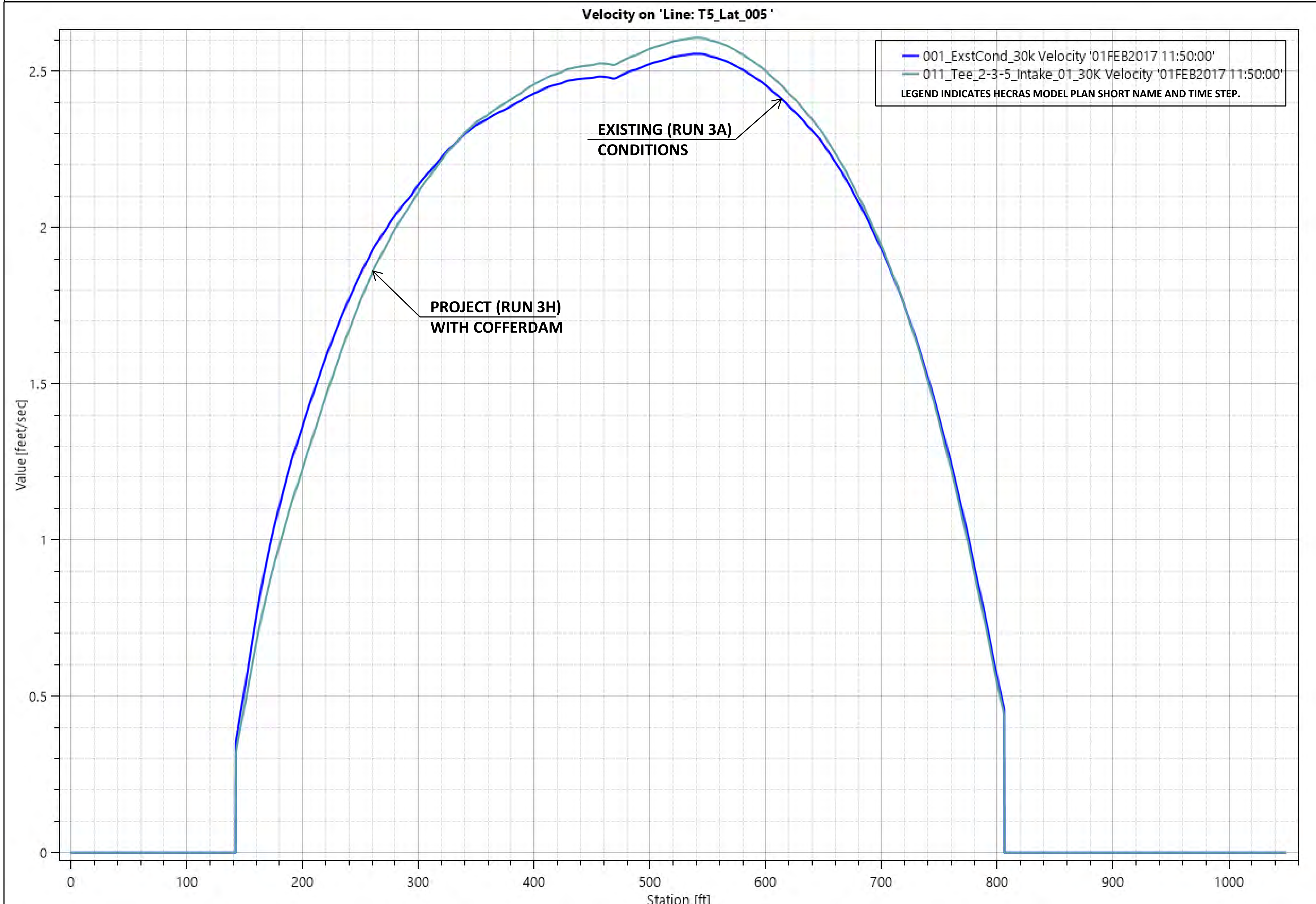
RUN 3A vs 3H – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 3A vs 3H – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

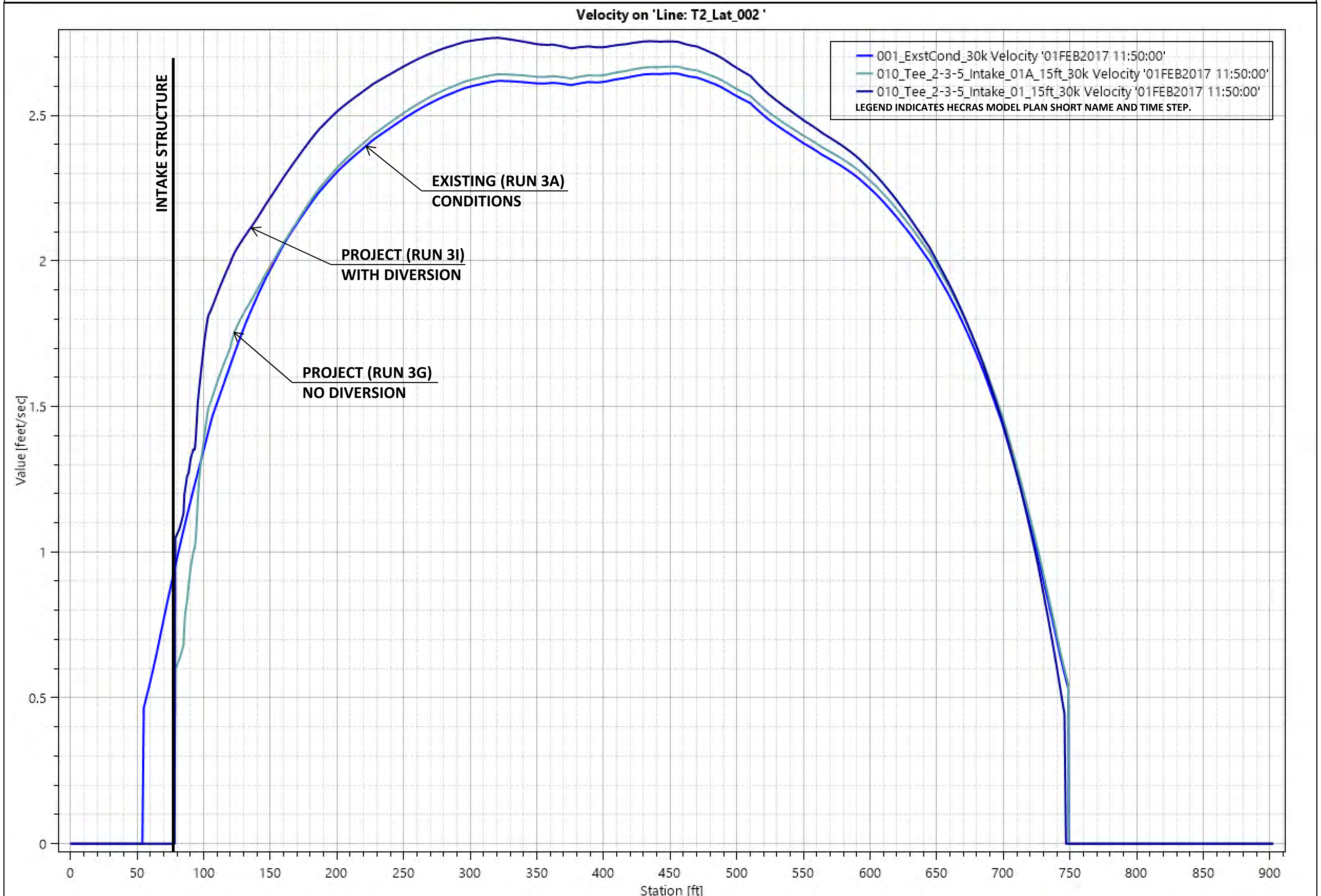
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



RUN 3A vs 3G vs 3I
INTAKE C-E-2 (A)

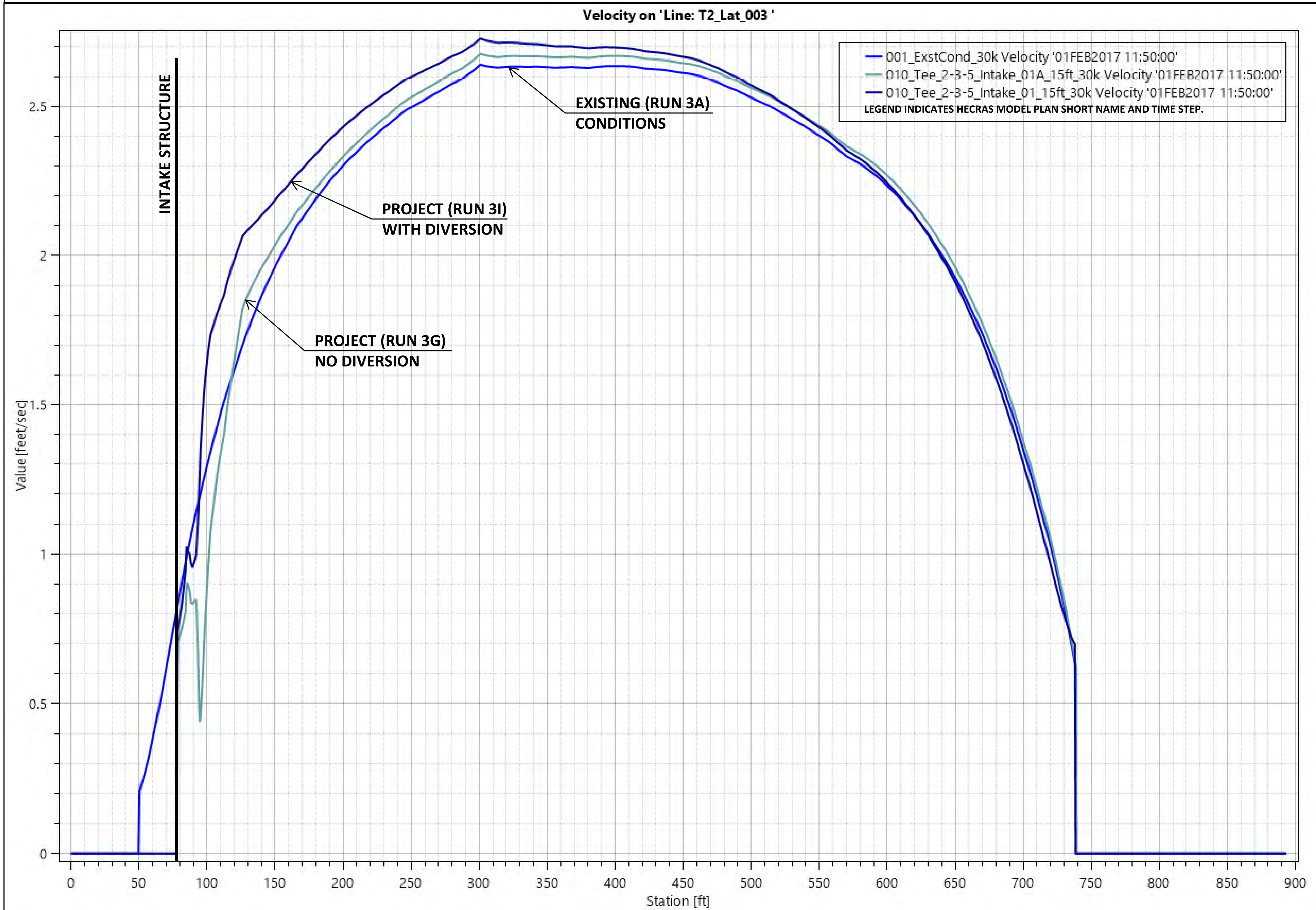
RUN 3A vs 3G vs 3I – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T2_LAT_002



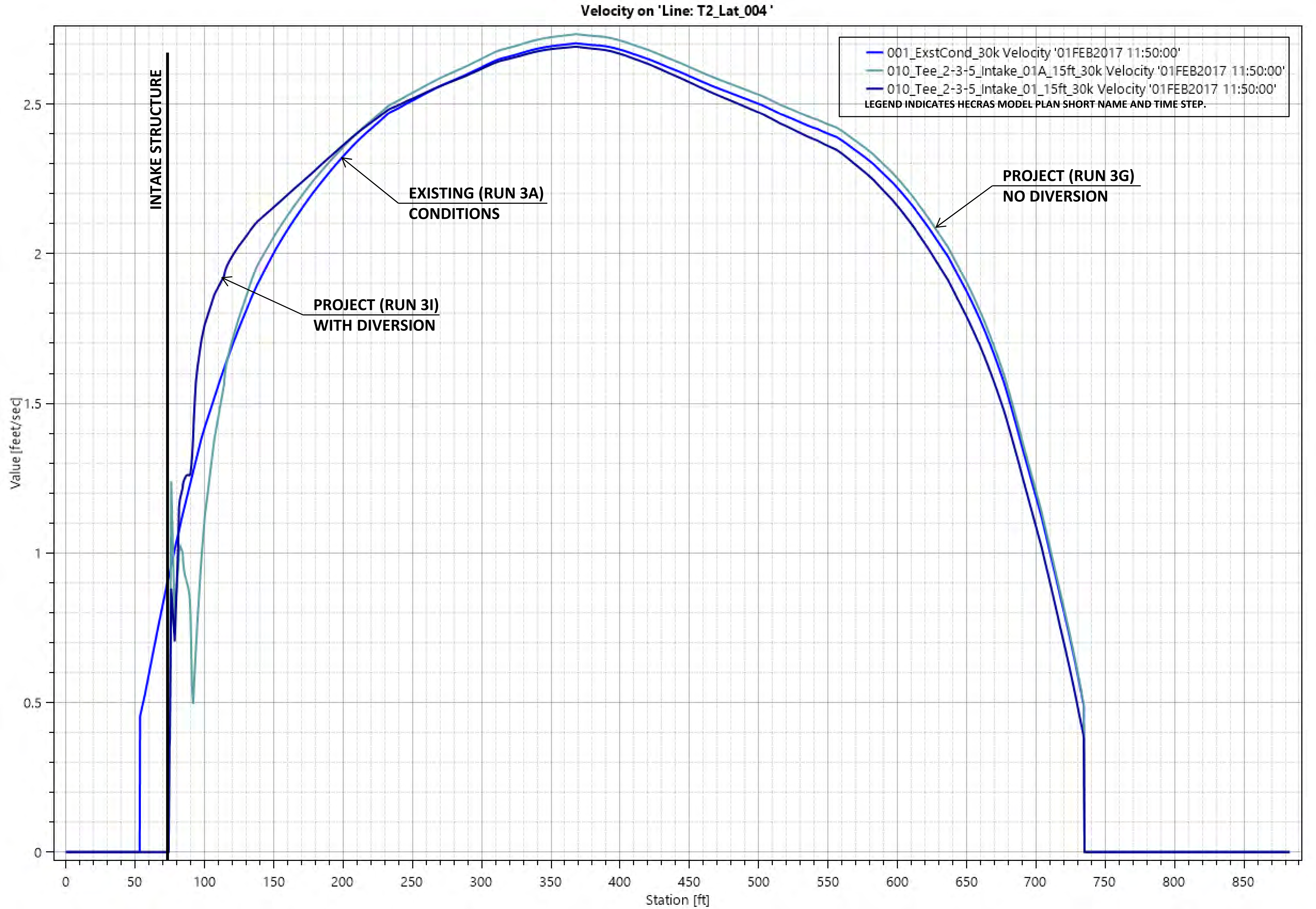
RUN 3A vs 3G vs 3I – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T2_LAT_003



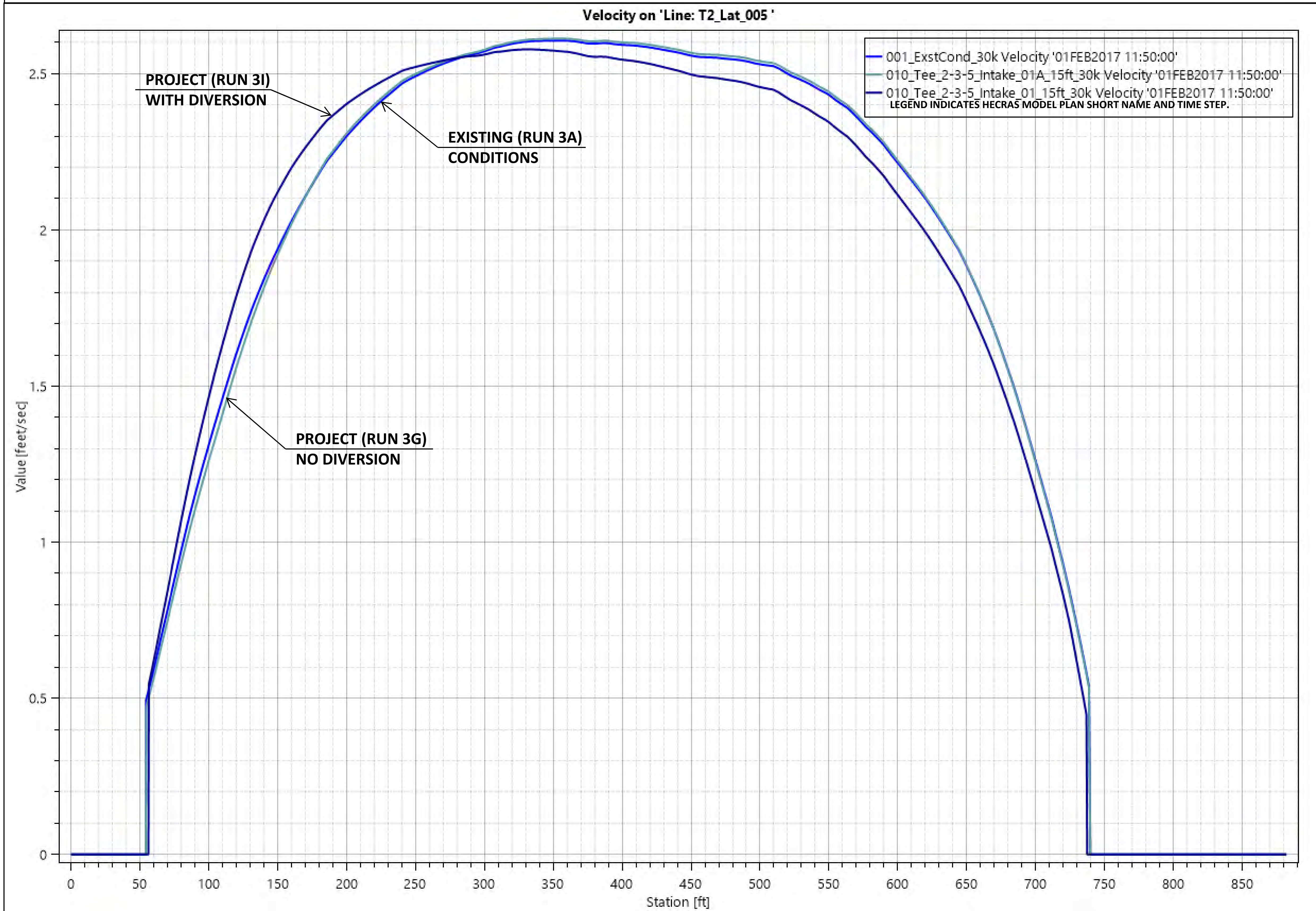
RUN 3A vs 3G vs 3I – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T2_LAT_004



RUN 3A vs 3G vs 3I – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

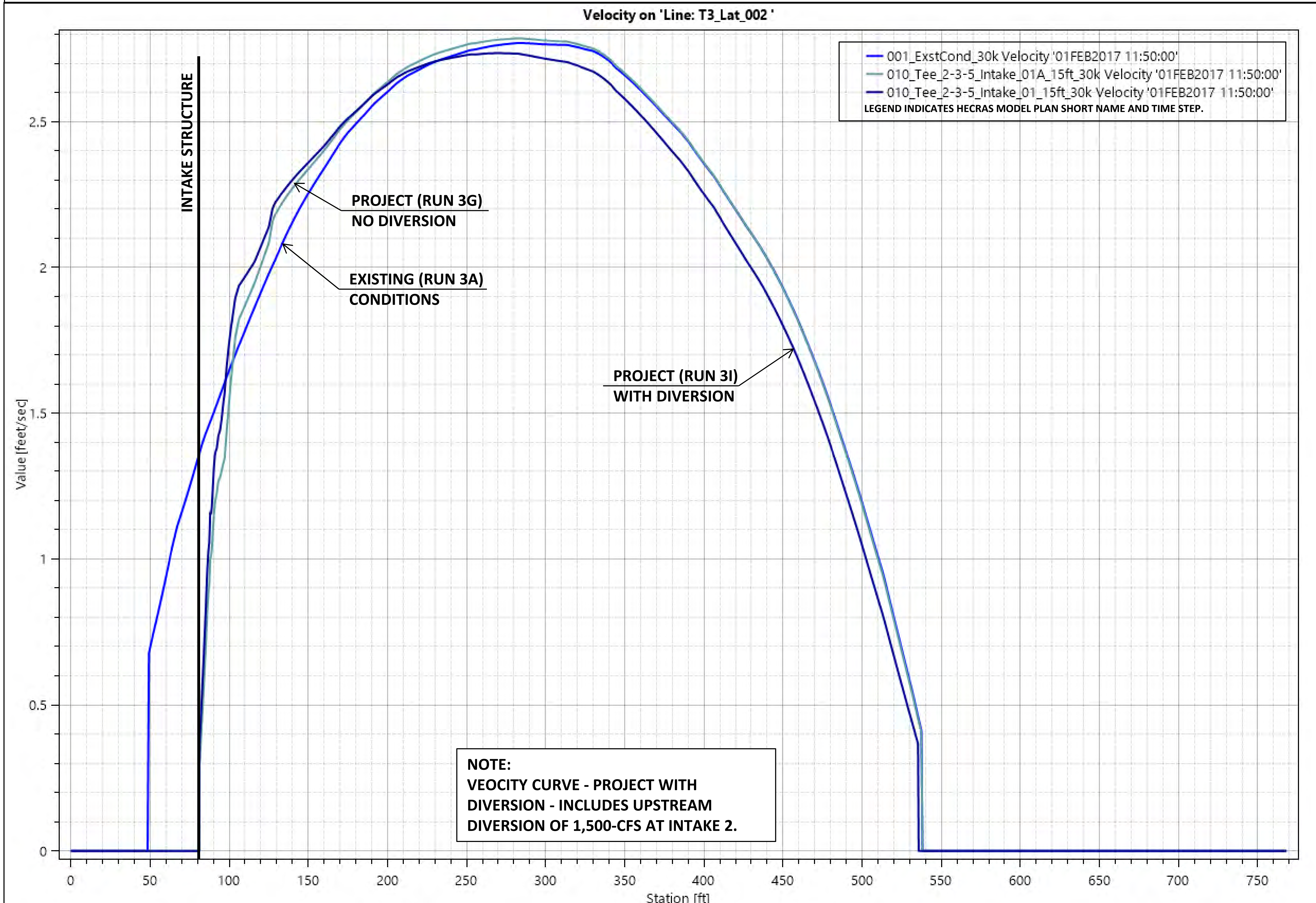
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T2_LAT_005



RUN 3A vs 3G vs 3I
INTAKE C-E-3 (B)

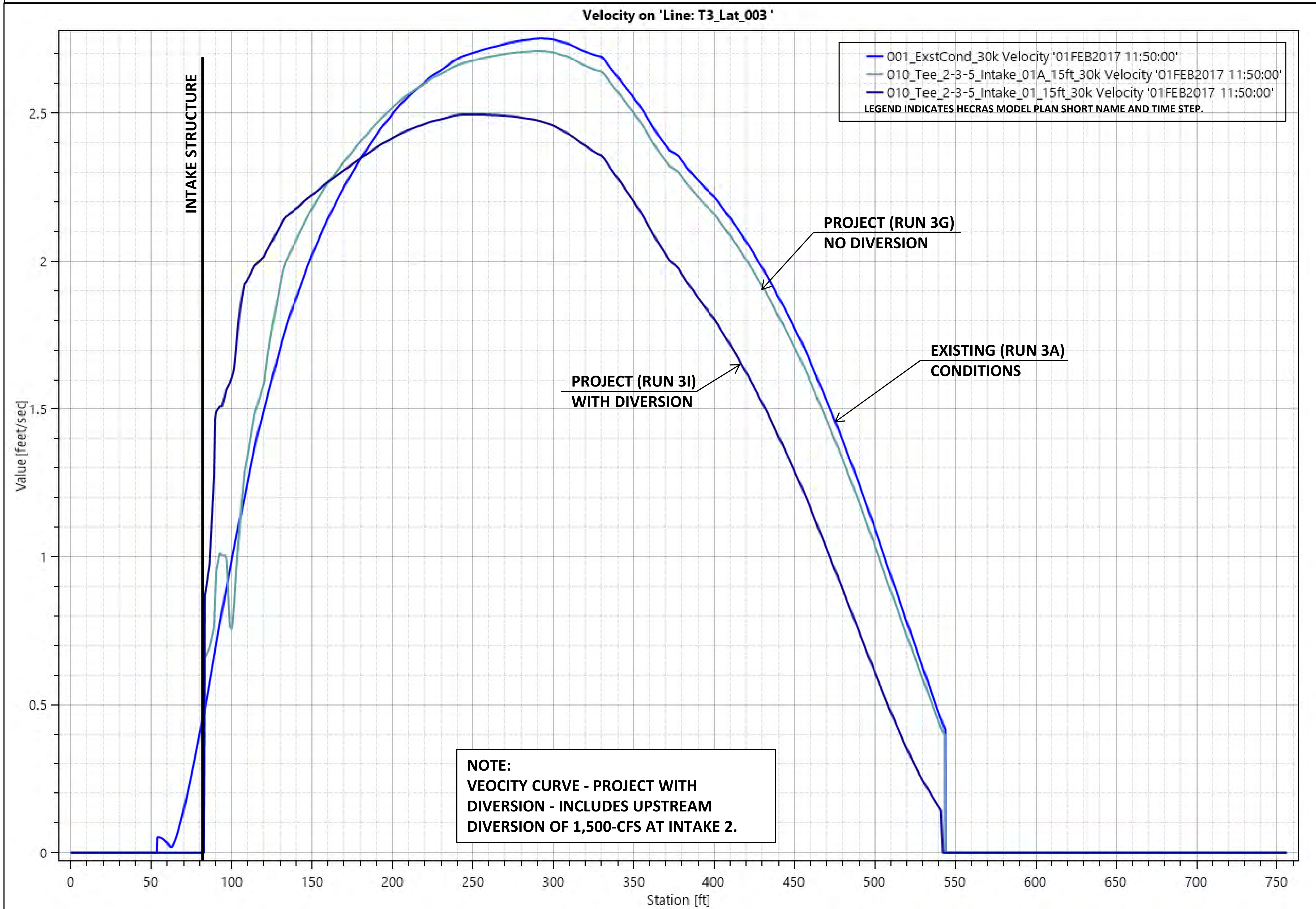
RUN 3A vs 3G vs 3I – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



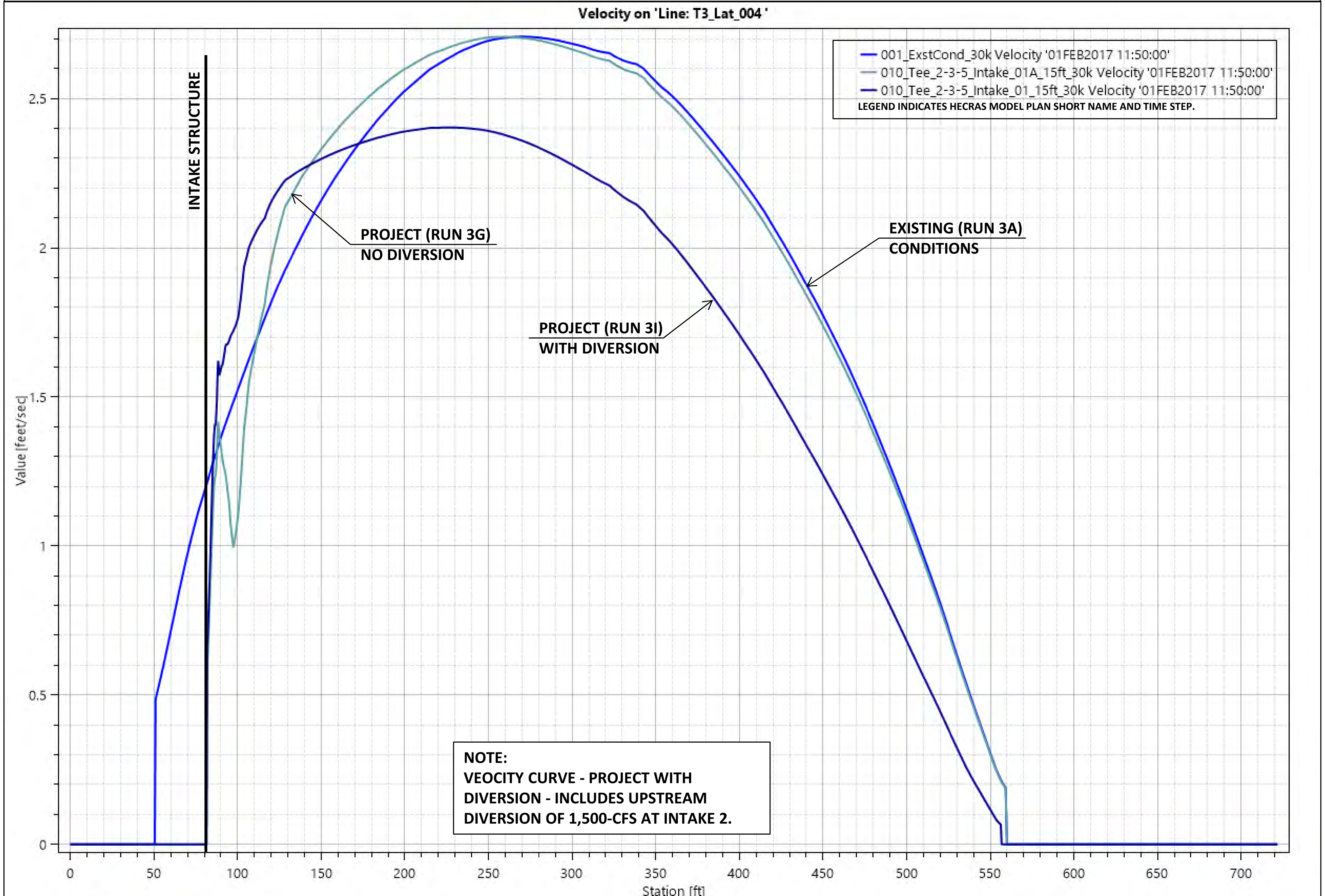
RUN 3A vs 3G vs 3I – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



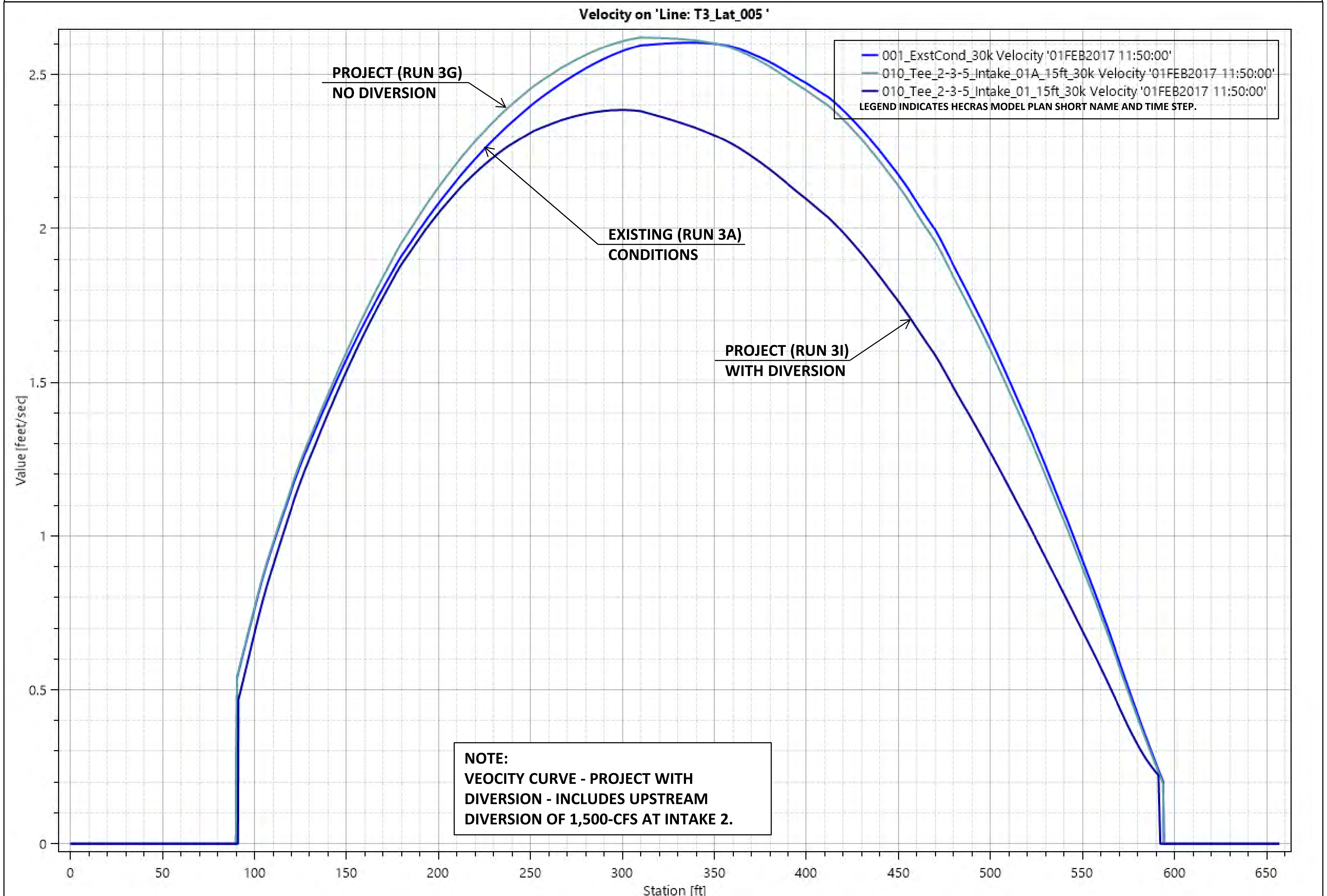
RUN 3A vs 3G vs 3I – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 3A vs 3G vs 3I – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

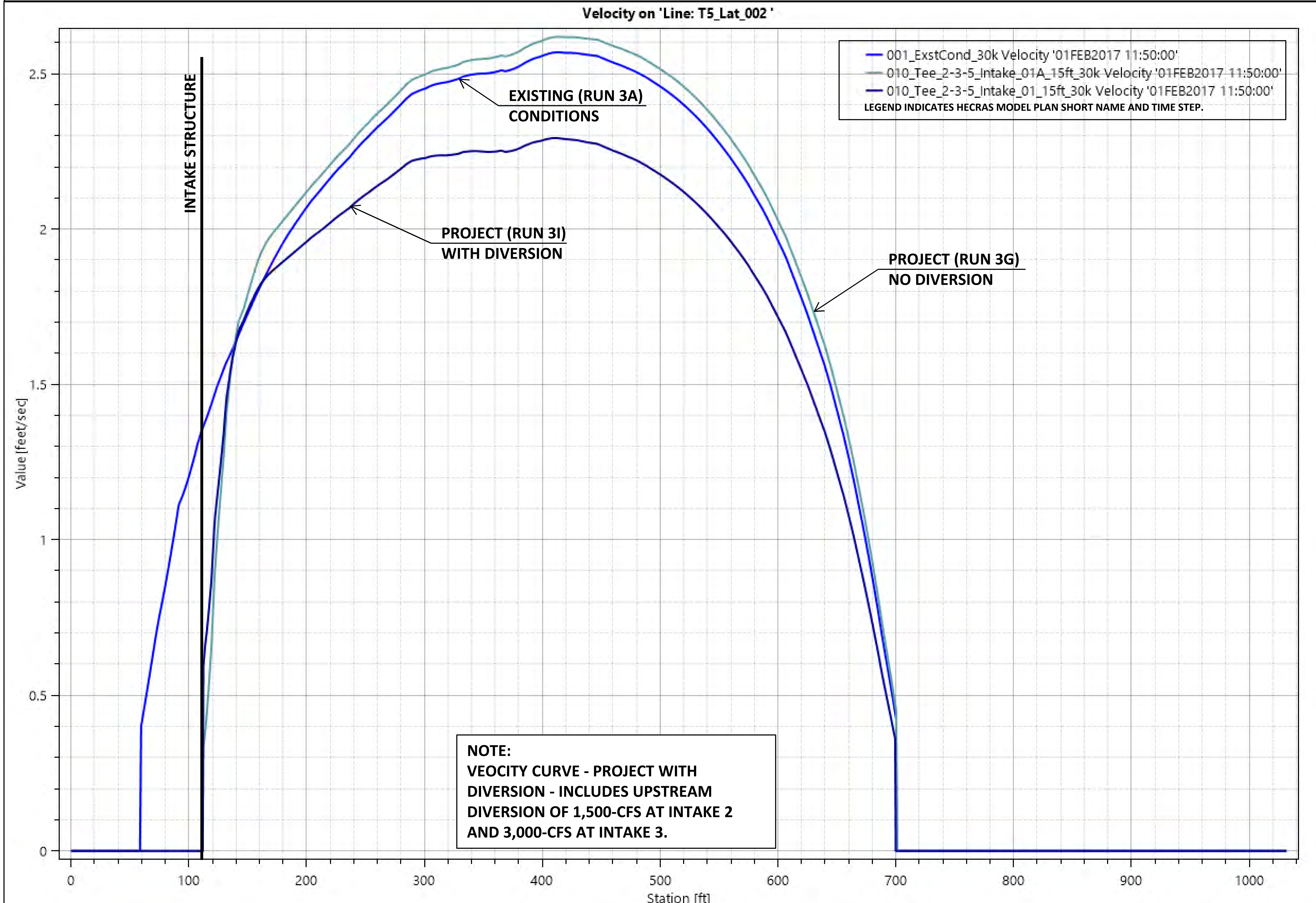
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 3A vs 3G vs 3I
INTAKE C-E-5 (C)

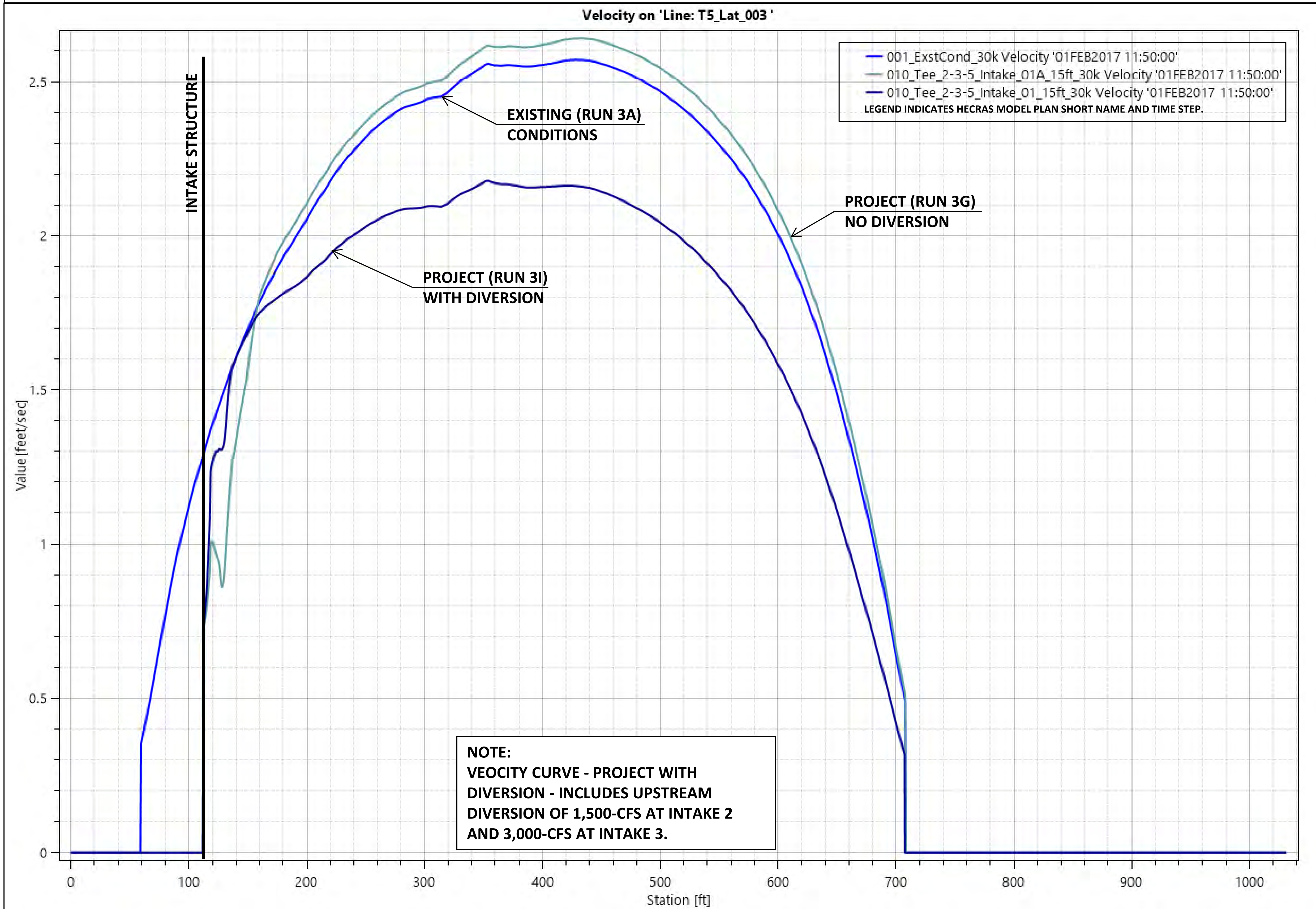
RUN 3A vs 3G vs 3I – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



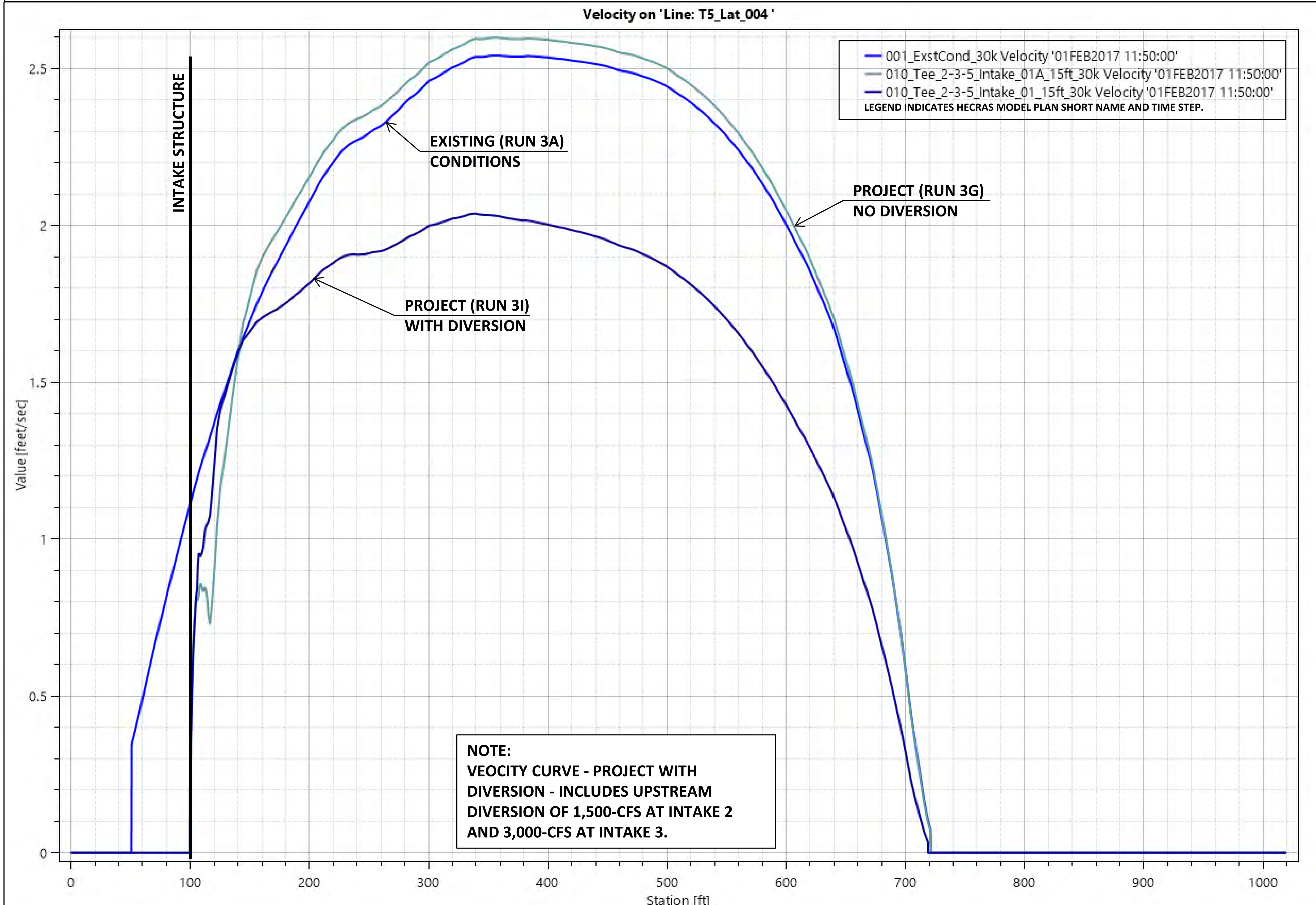
RUN 3A vs 3G vs 3I – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



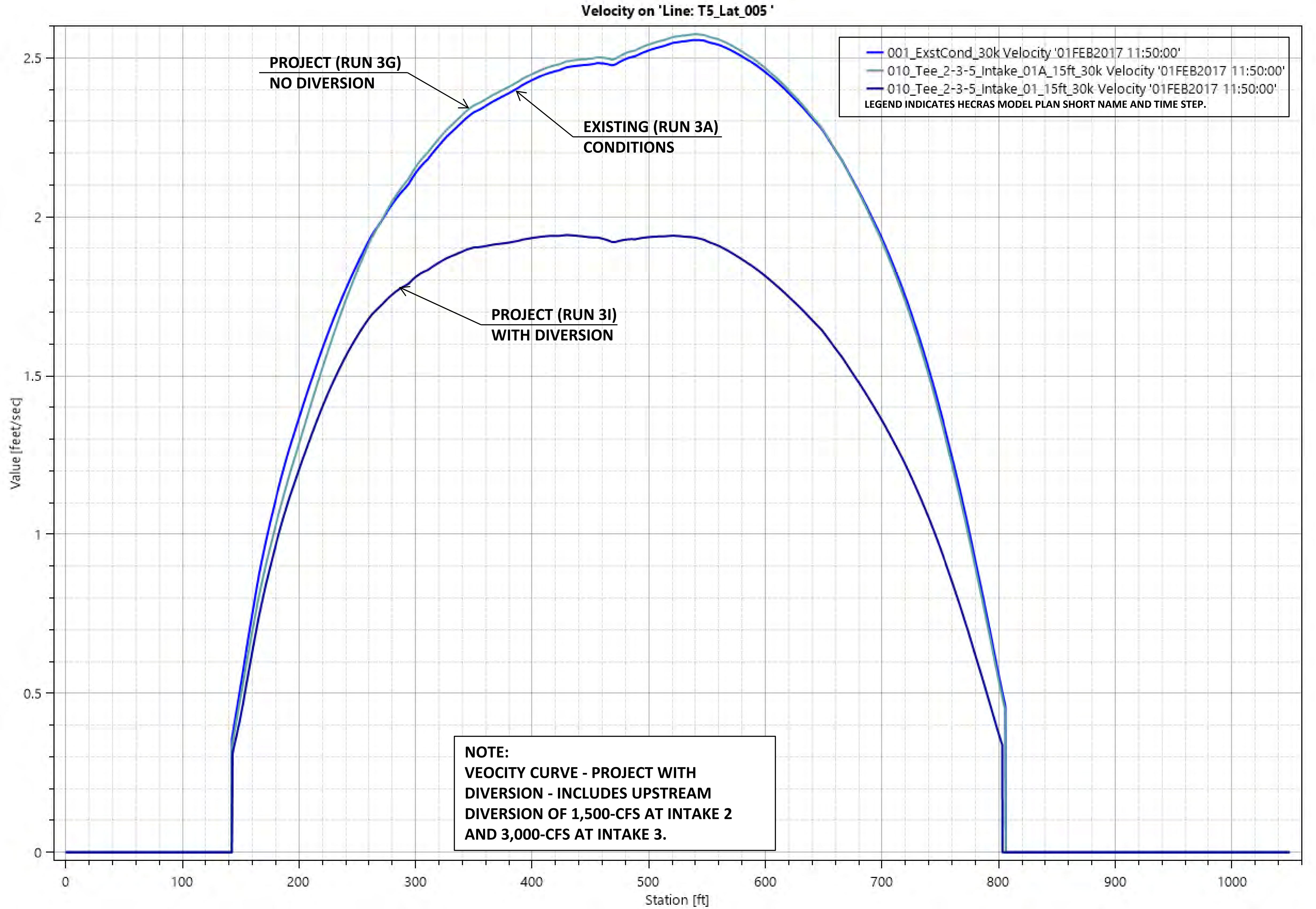
RUN 3A vs 3G vs 3I – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 3A vs 3G vs 3I – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

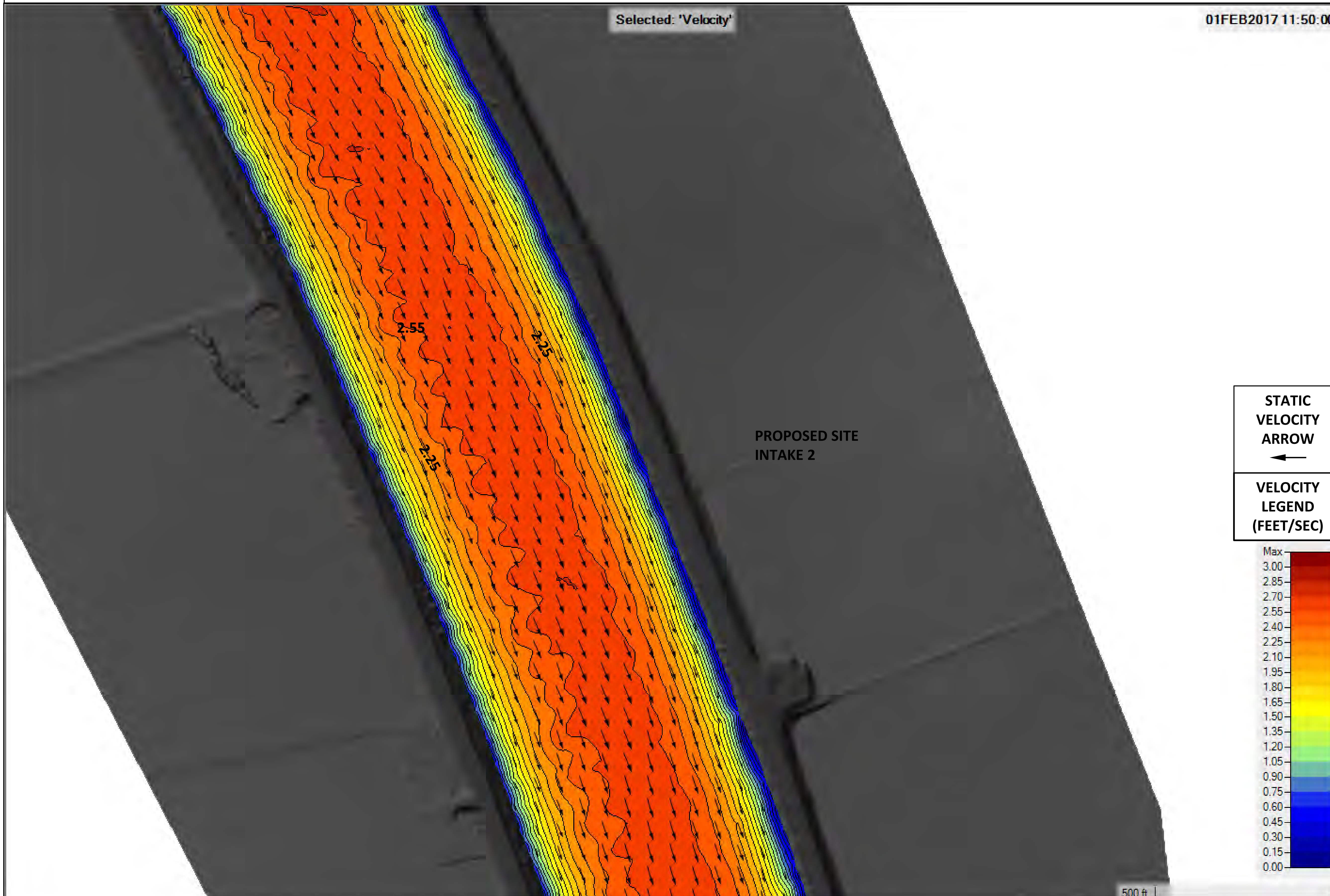
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



NOTE:
VEOCITY CURVE - PROJECT WITH DIVERSION - INCLUDES UPSTREAM DIVERSION OF 1,500-CFS AT INTAKE 2 AND 3,000-CFS AT INTAKE 3.

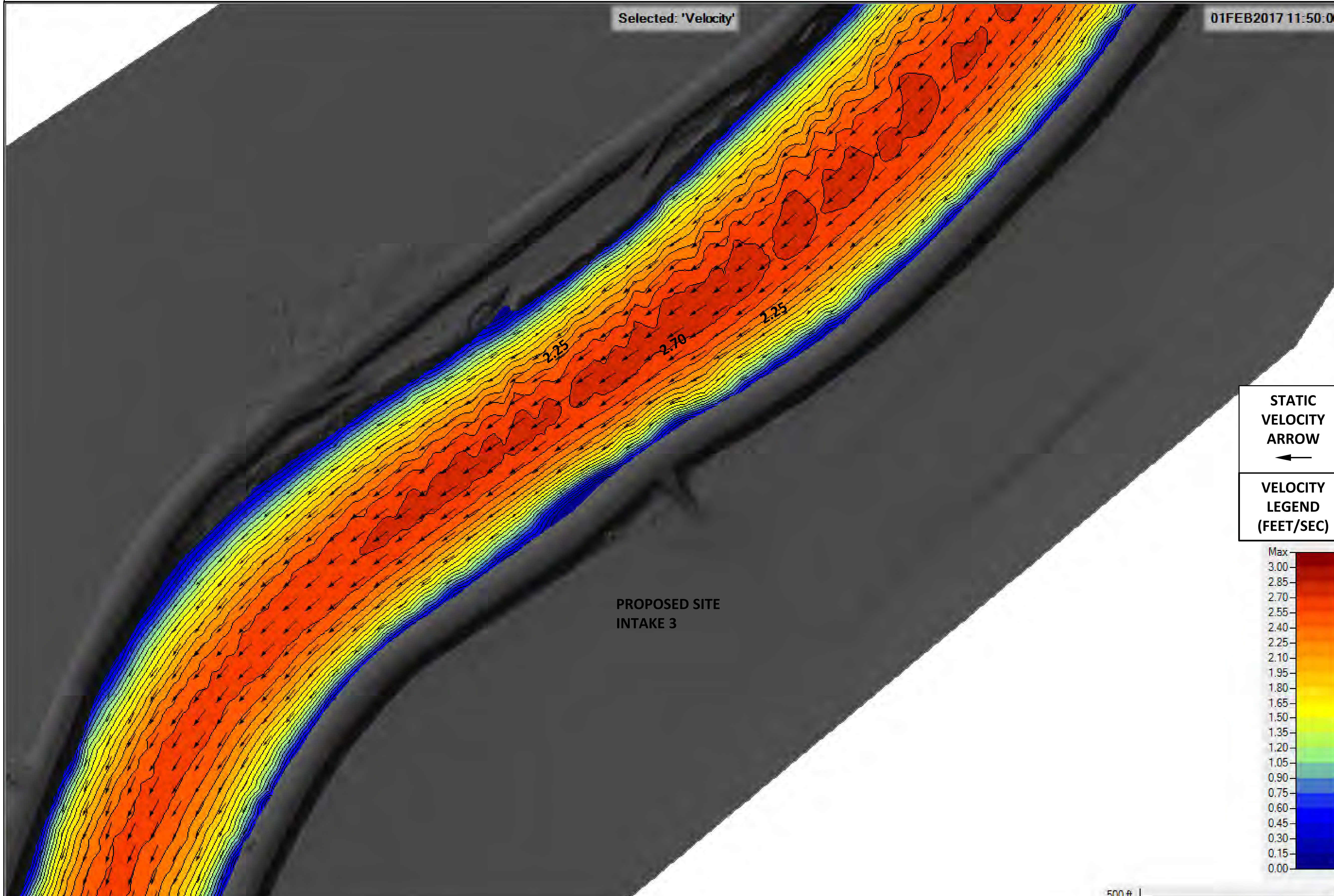
Velocity Contour Plots at Intake Structures

RUN 3A - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT
MODEL SCENARIO EXISTING CONDITIONS – 30,000-CFS AT FREEPORT



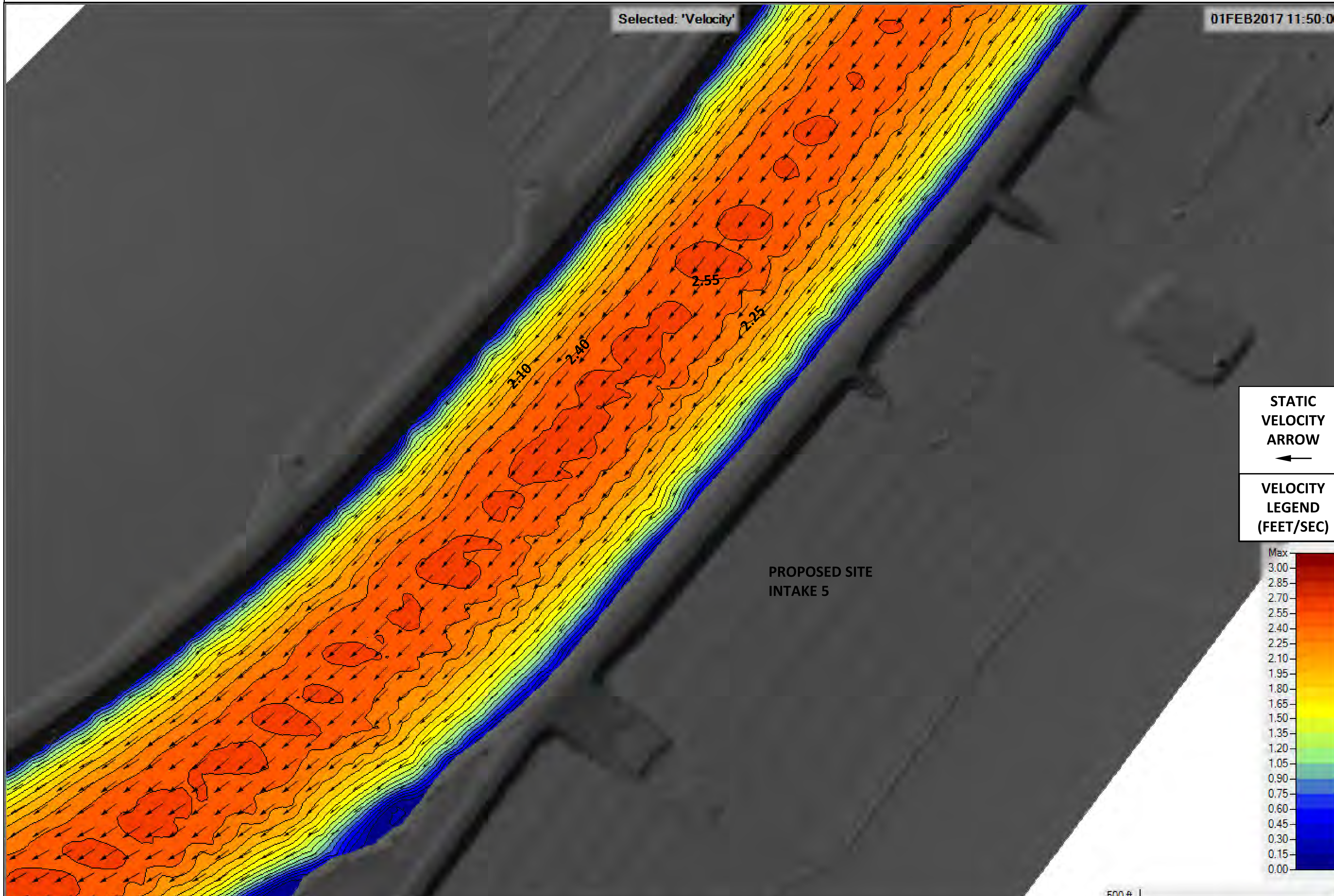
RUN 3A - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 30,000-CFS AT FREEPORT



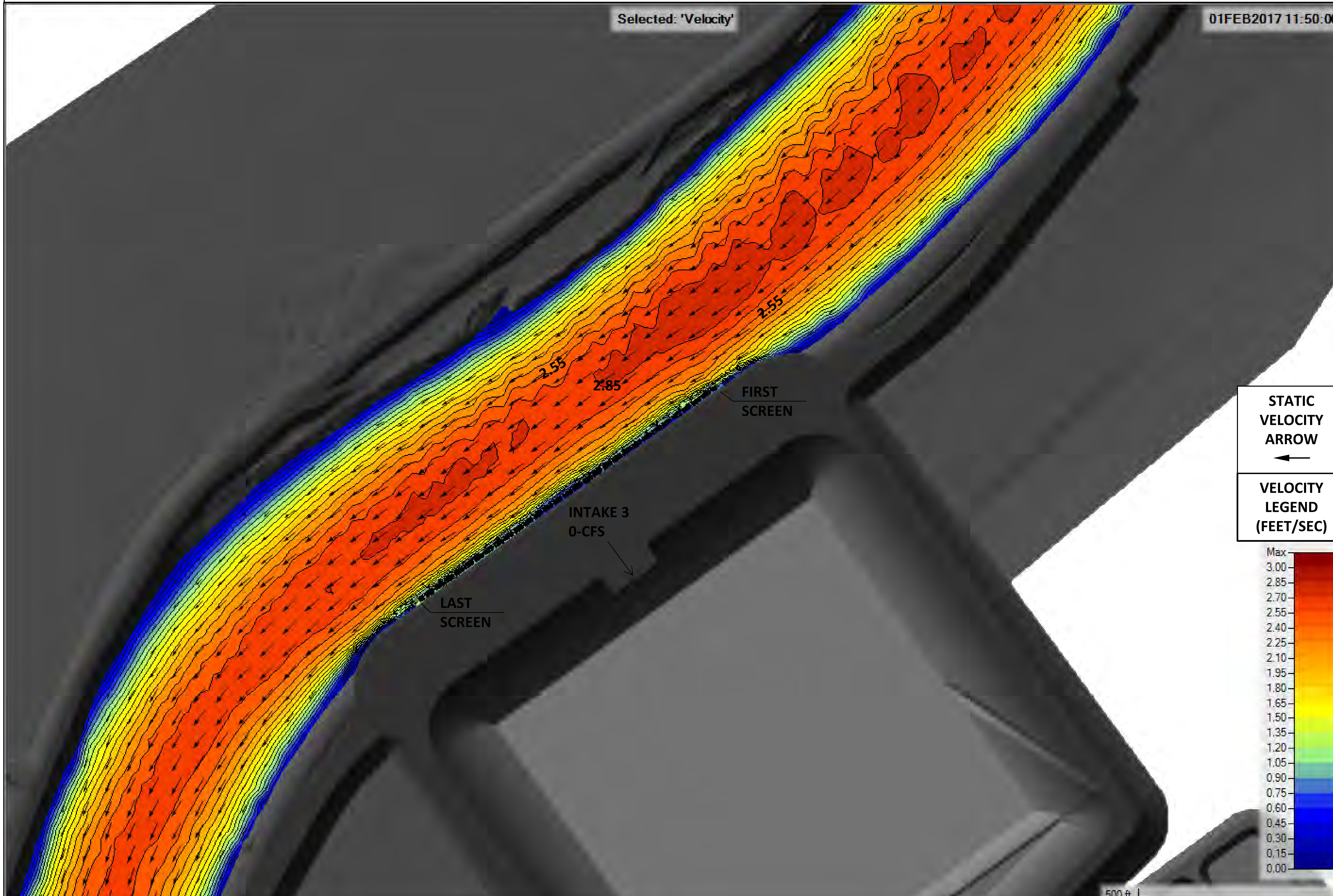
RUN 3A - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 30,000-CFS AT FREEPORT



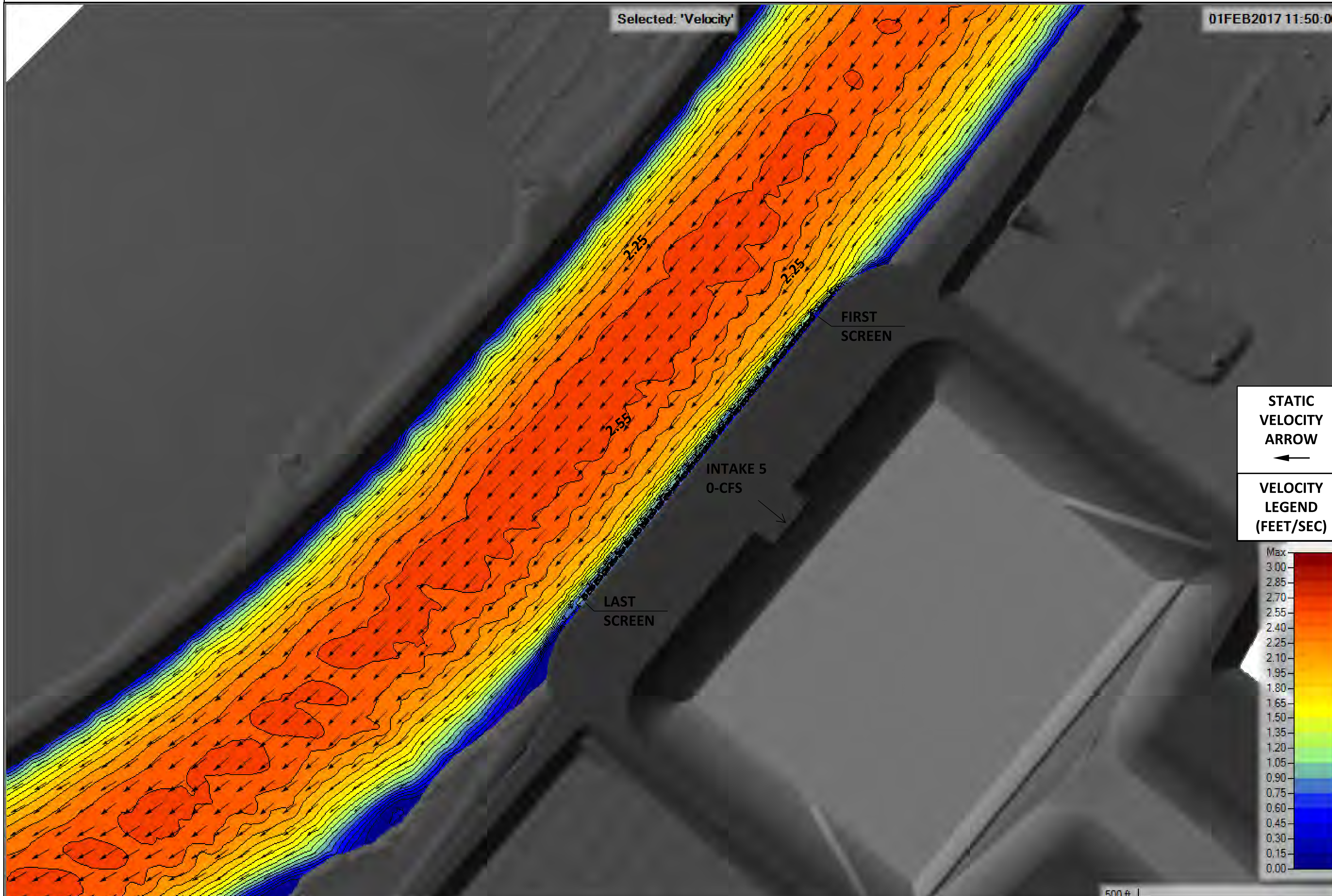
RUN 3B - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



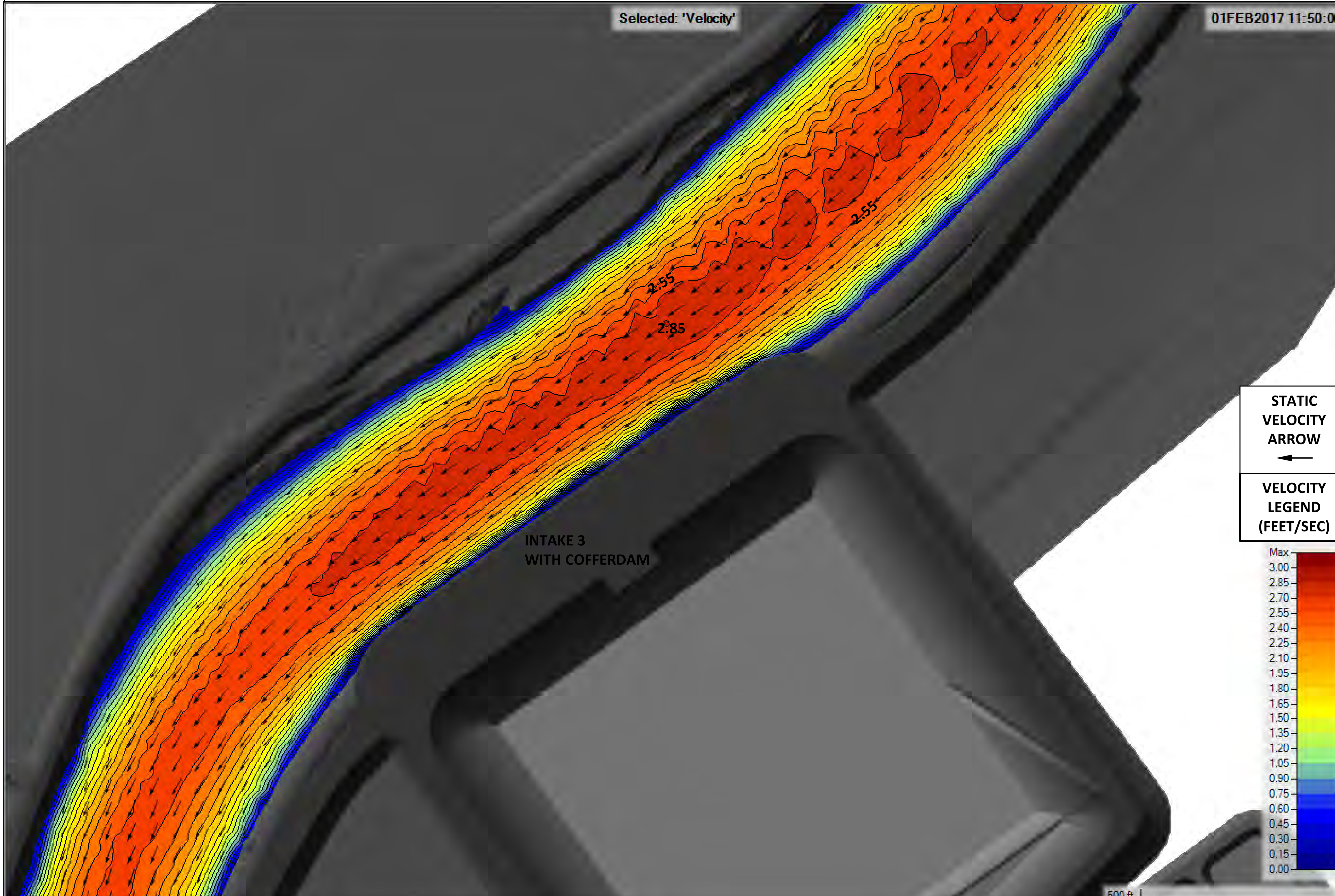
RUN 3B - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



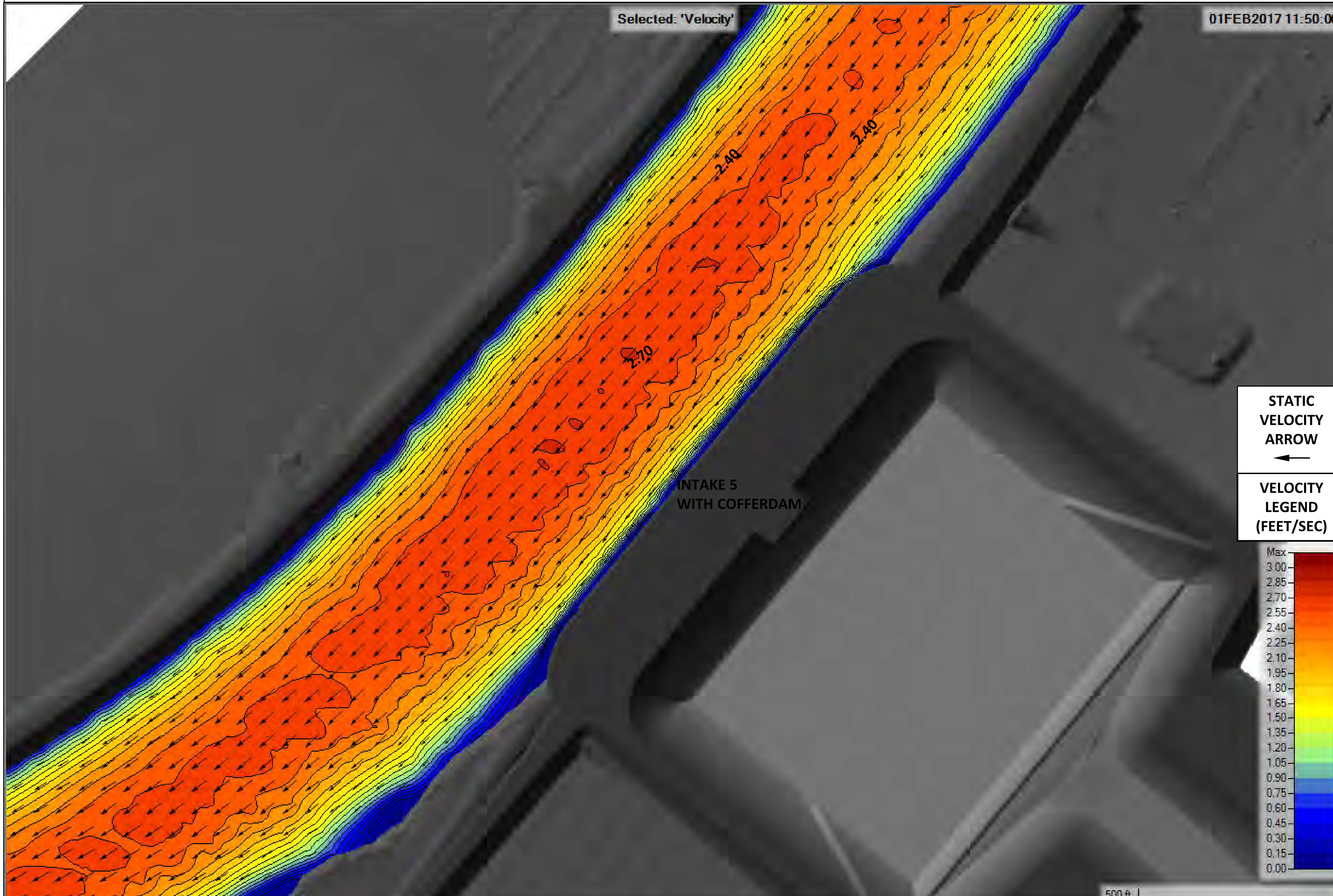
RUN 3C - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



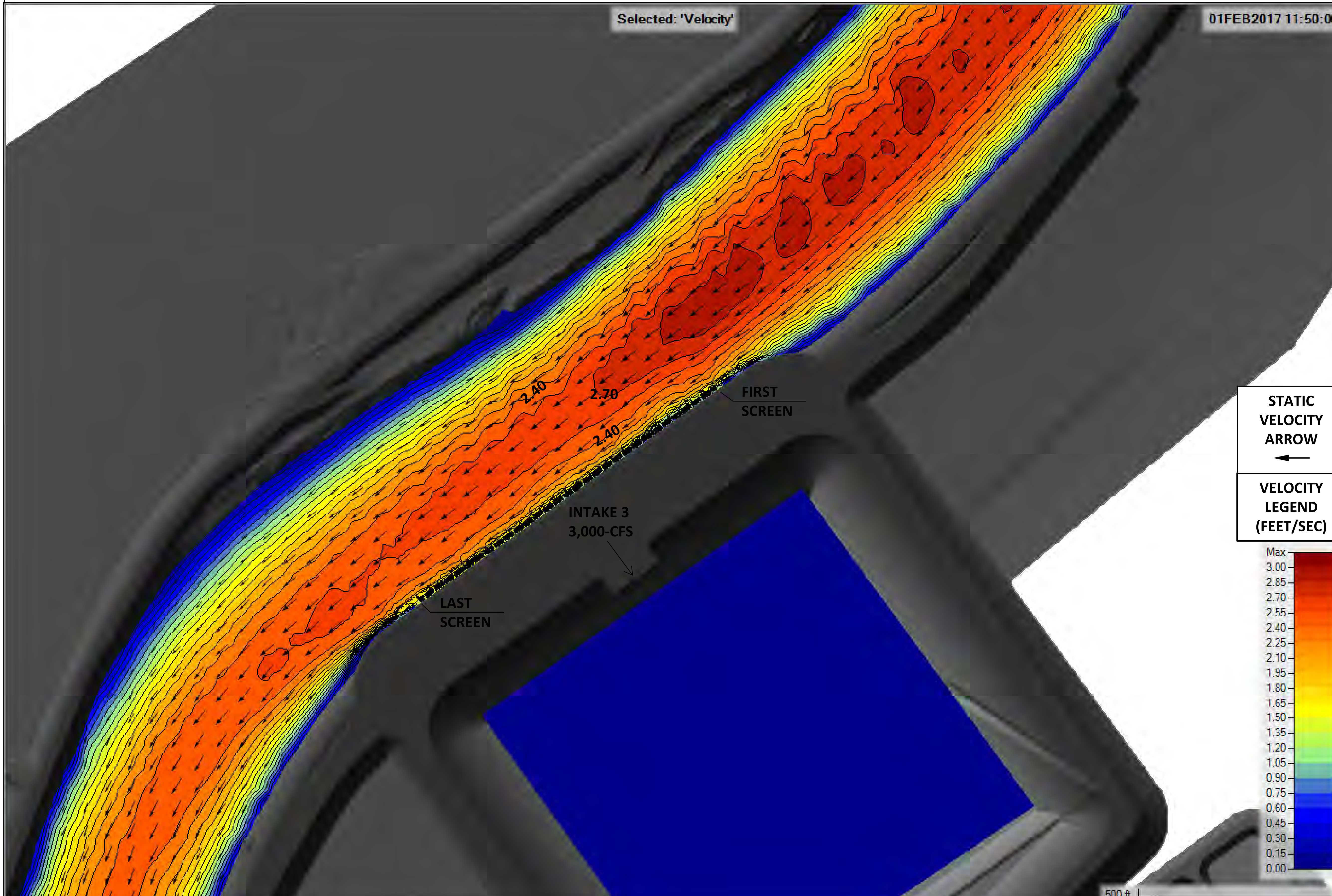
RUN 3C - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



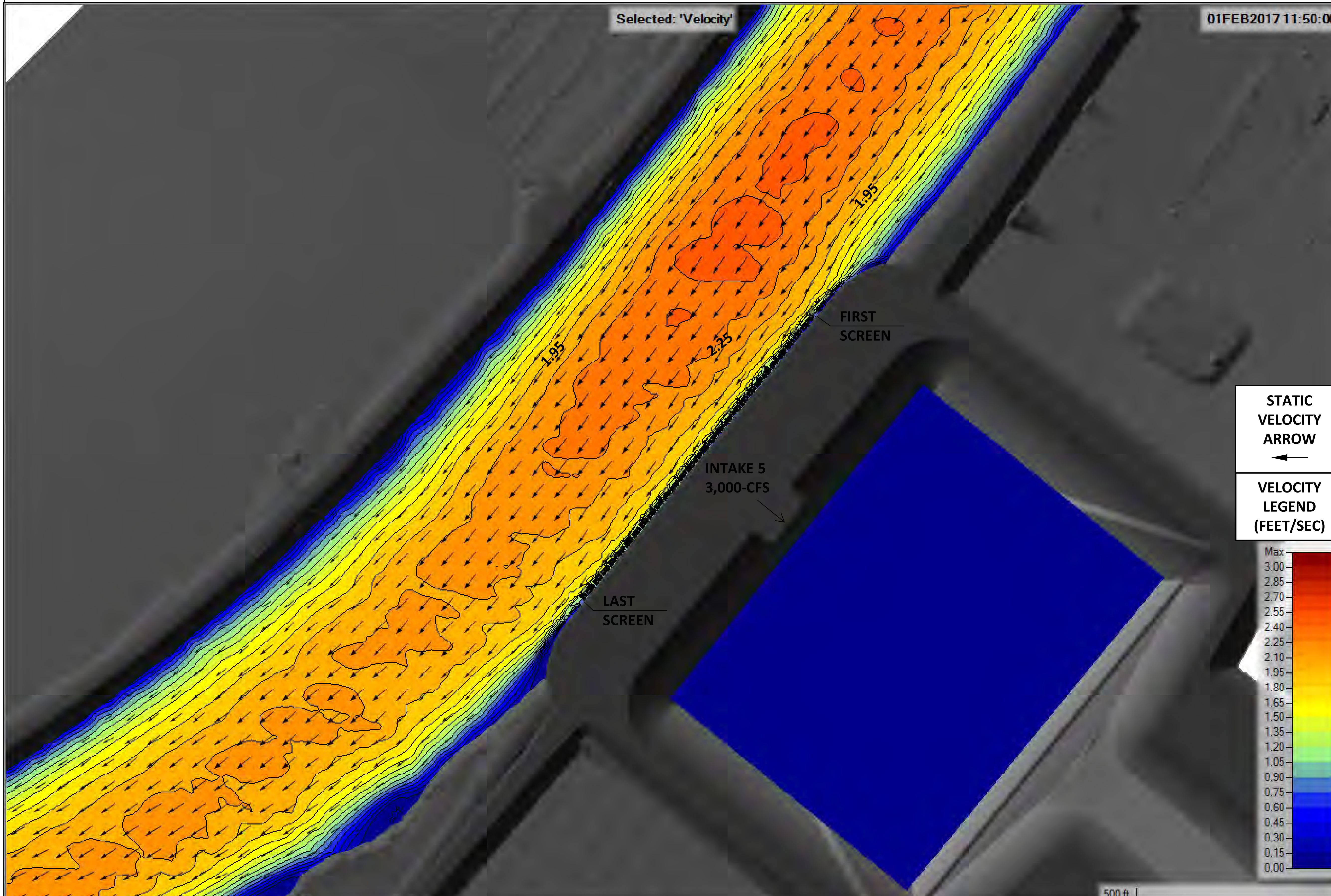
RUN 3D - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 30,000-CFS AT FREEPORT – TEE SCREENS



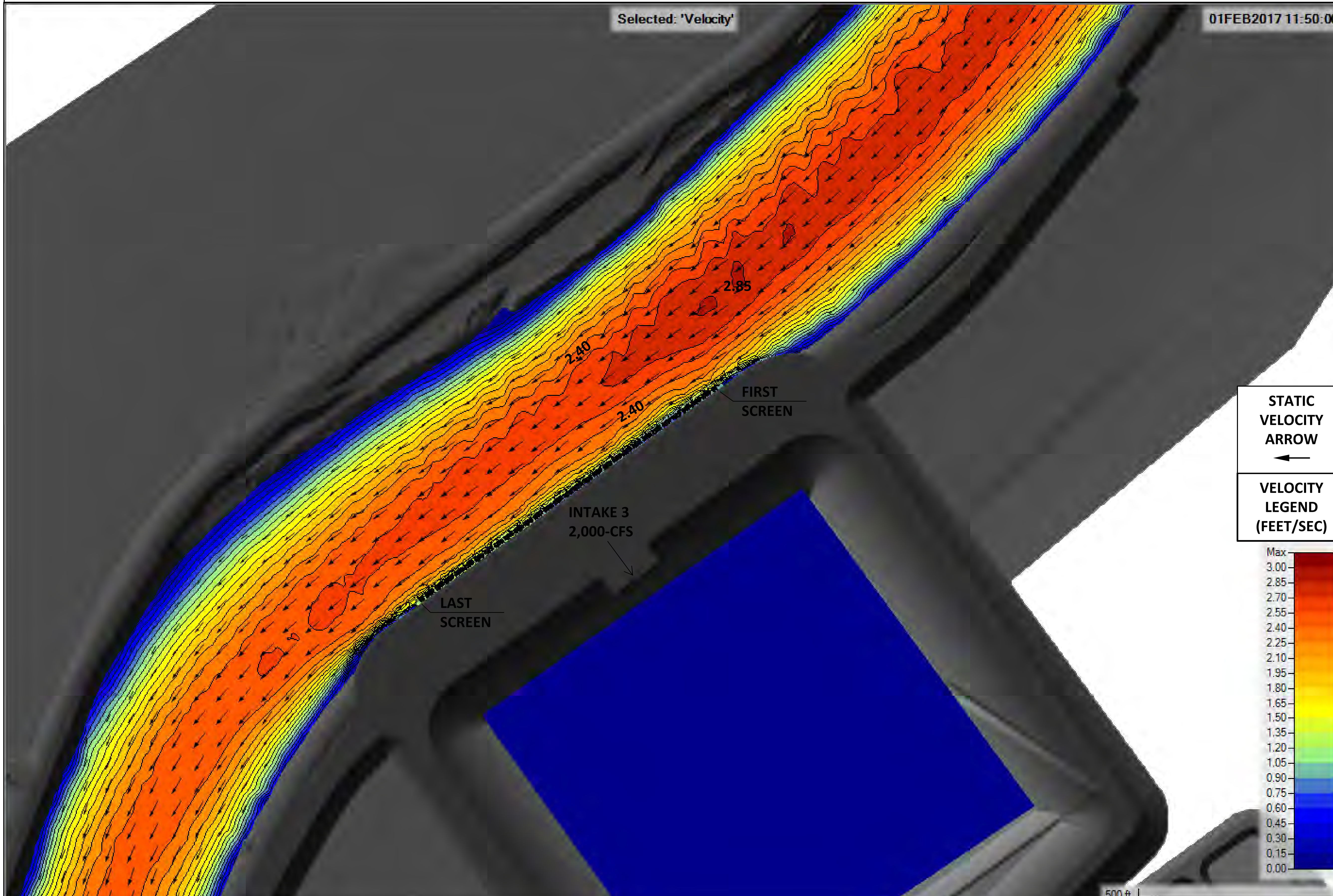
RUN 3D - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 30,000-CFS AT FREEPORT – TEE SCREENS



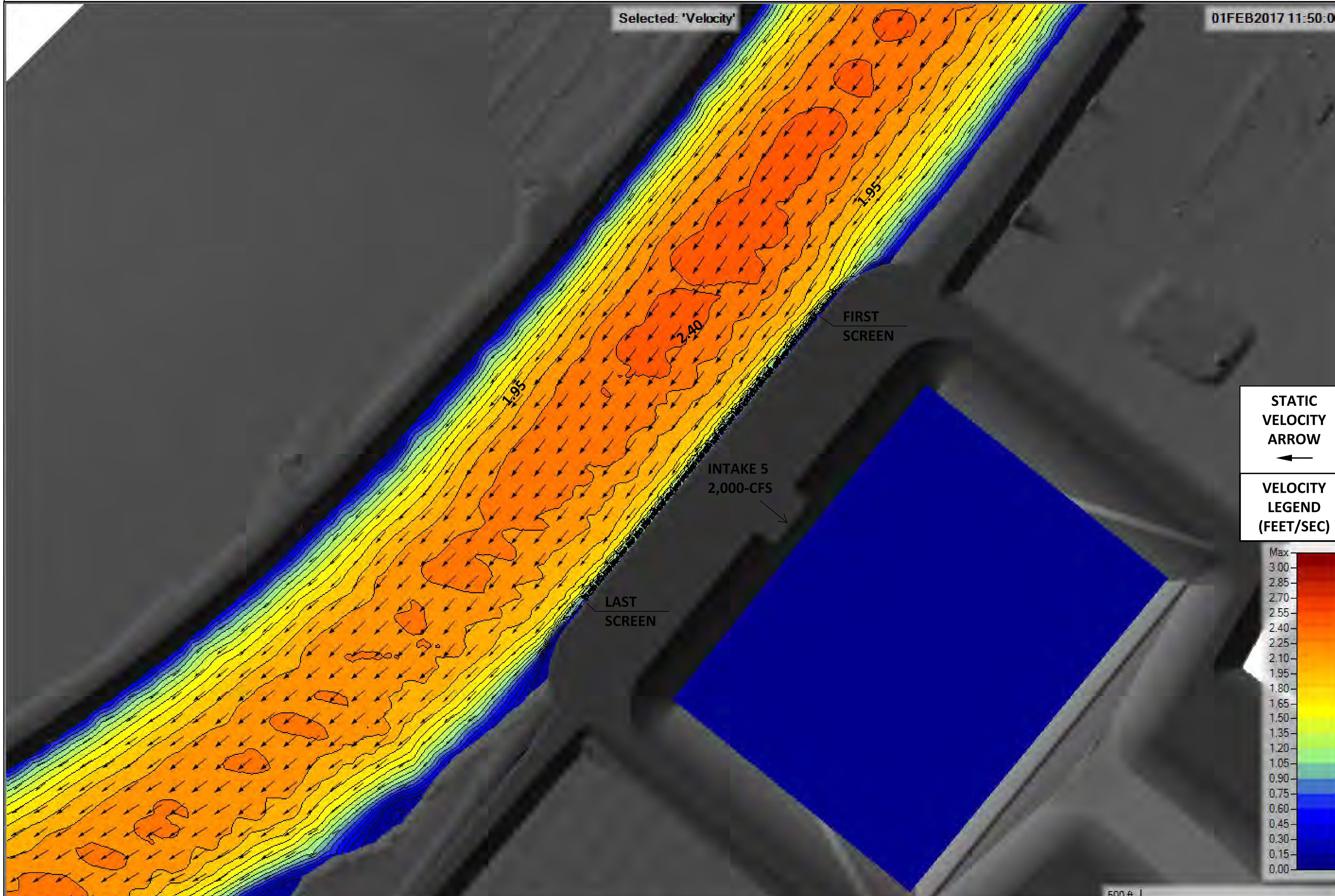
RUN 3E - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



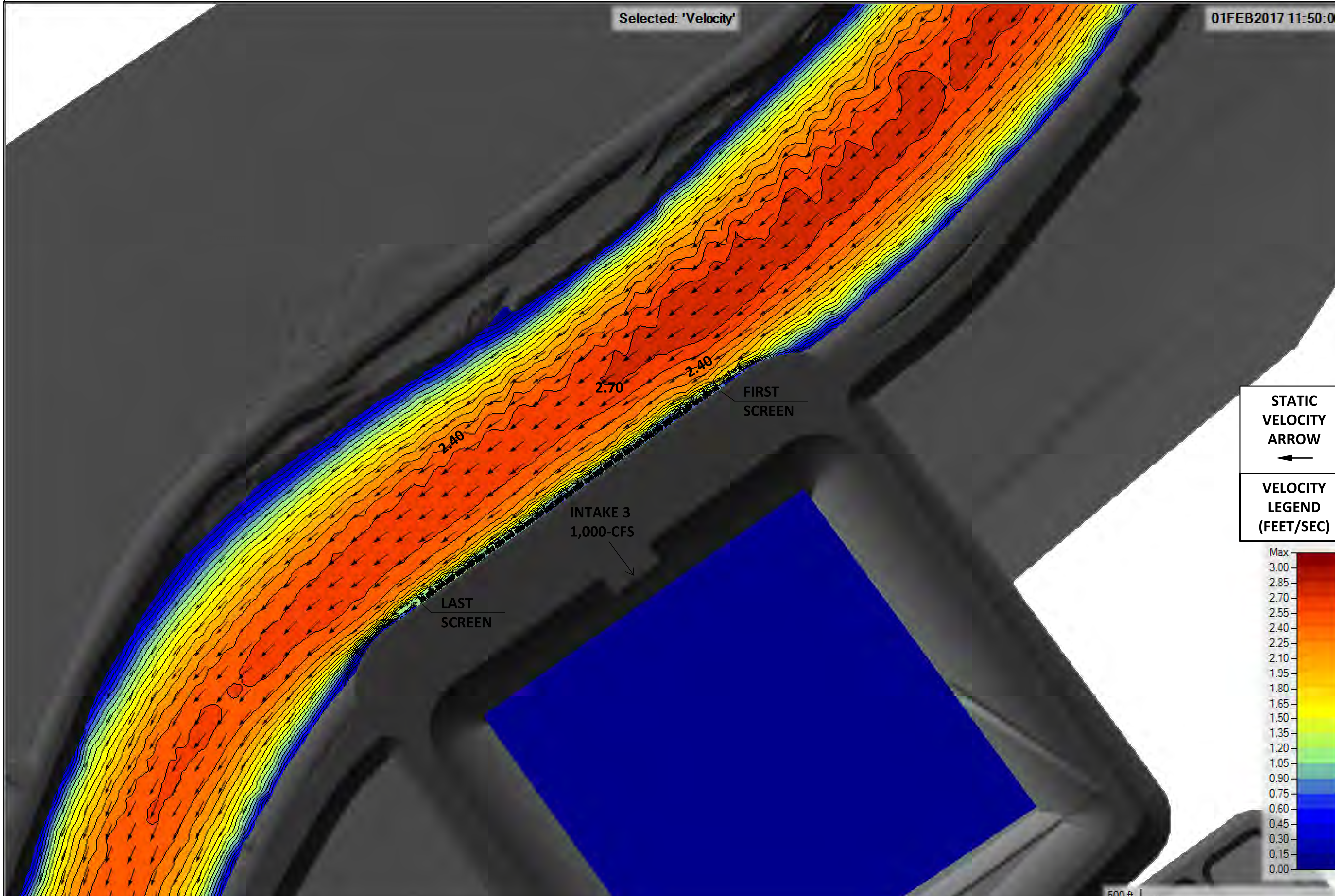
RUN 3E - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



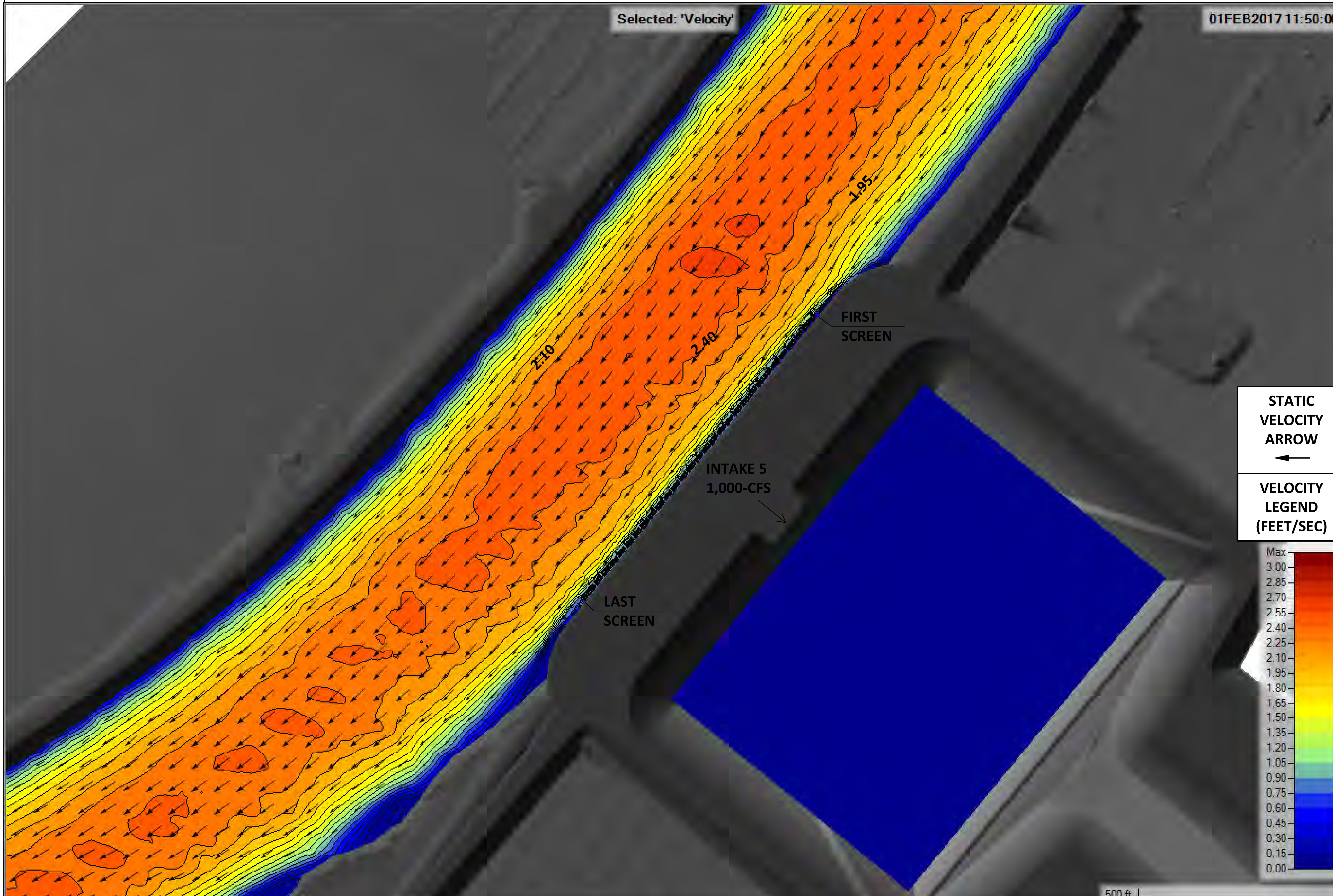
RUN 3F - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



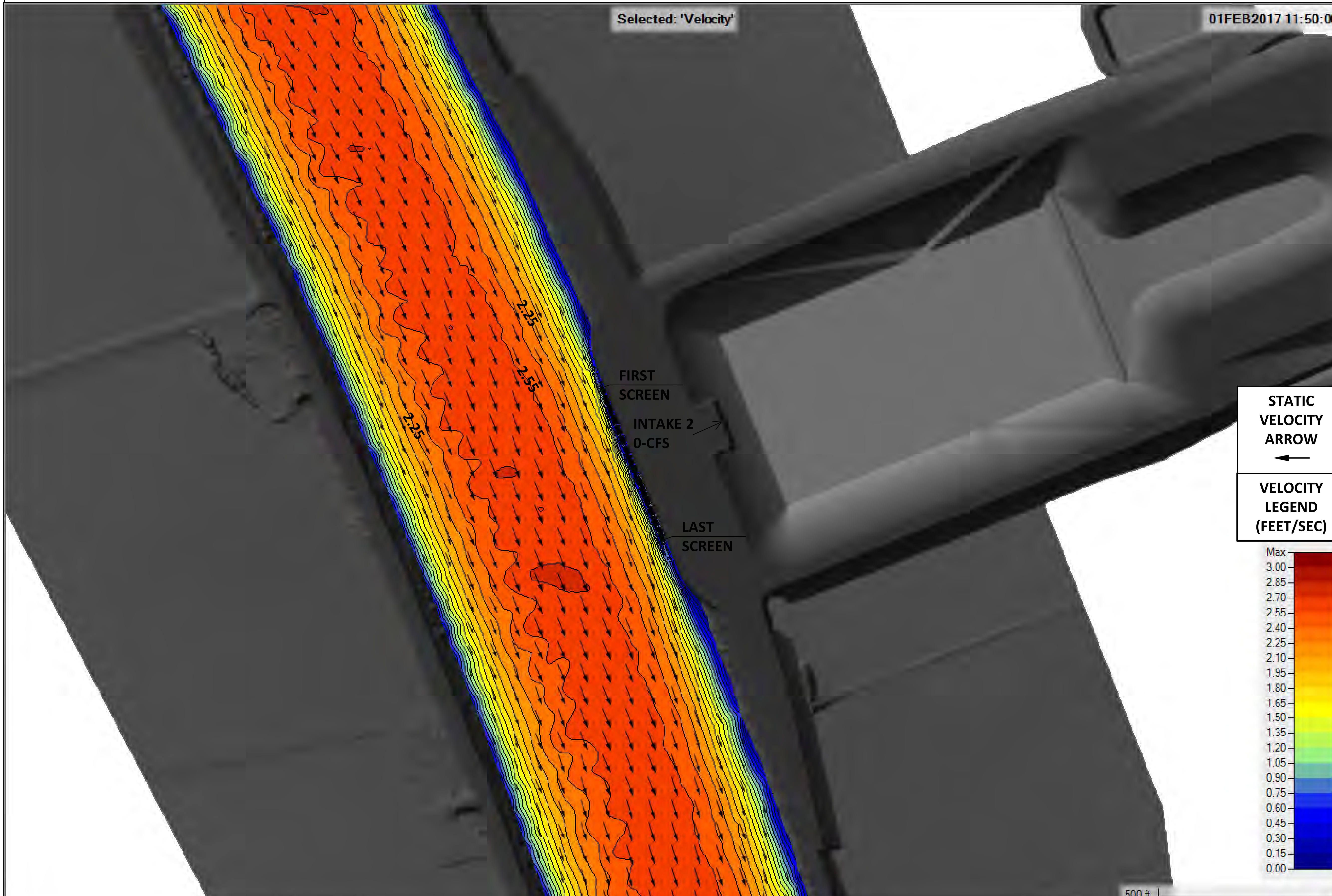
RUN 3F - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



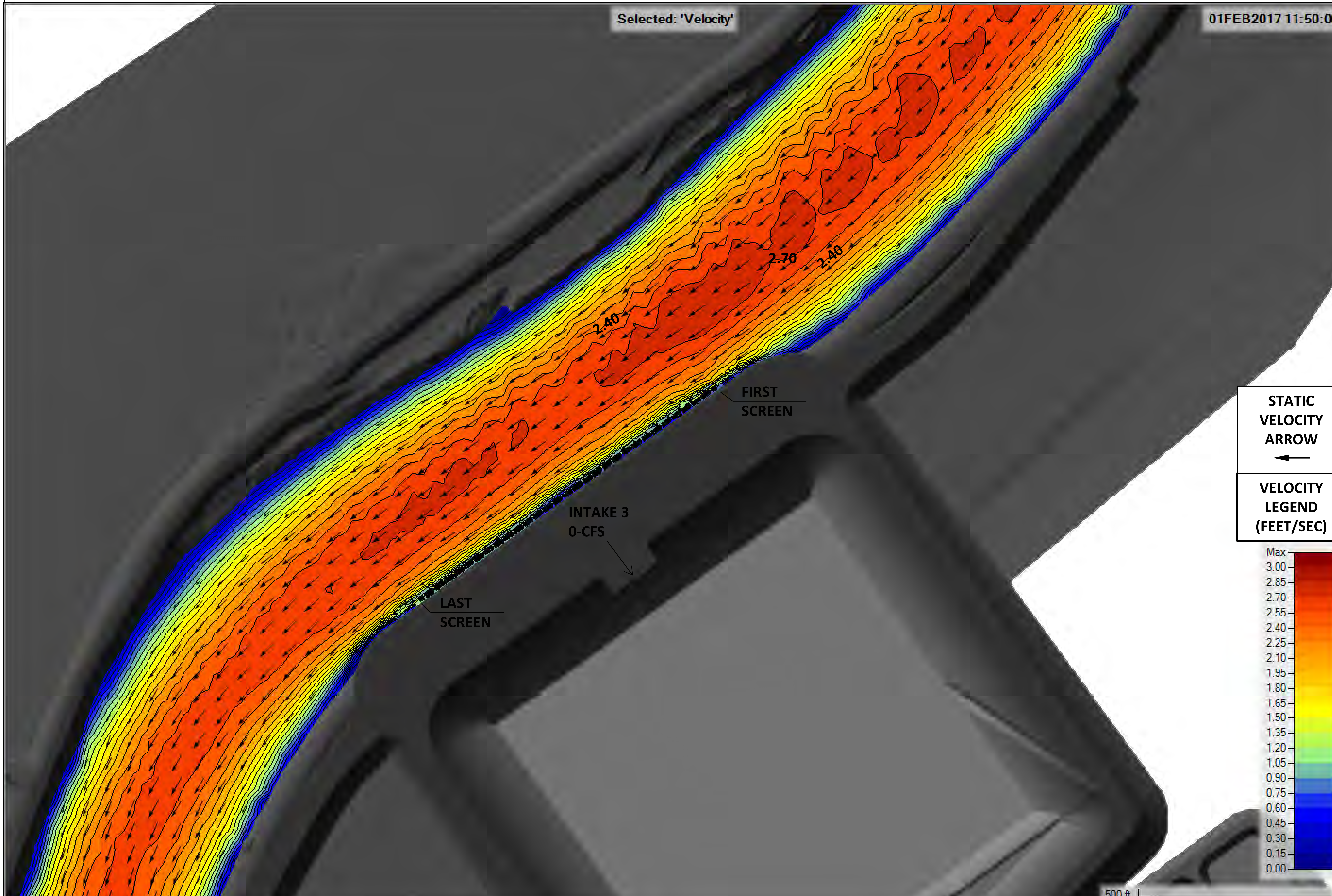
RUN 3G - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



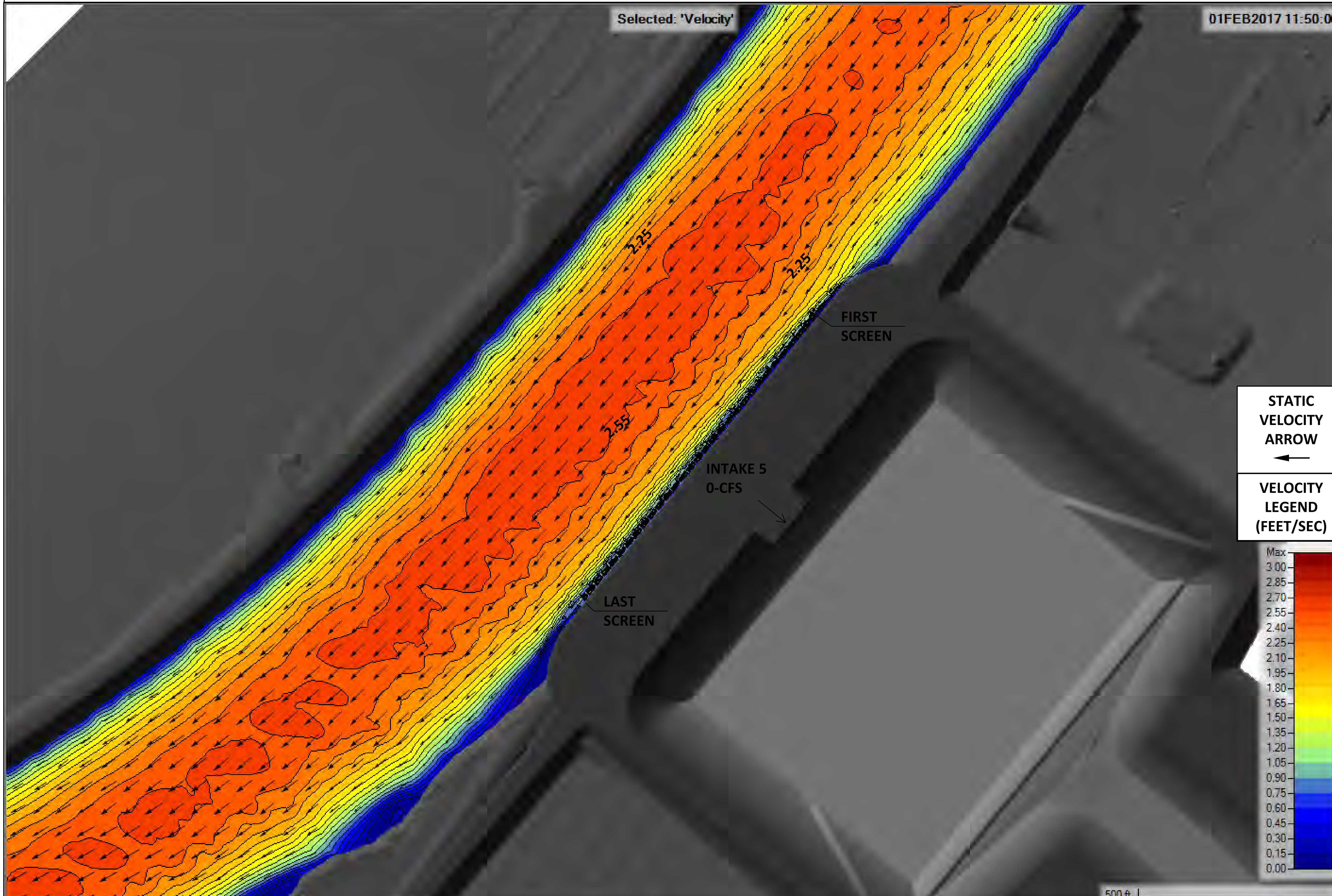
RUN 3G - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



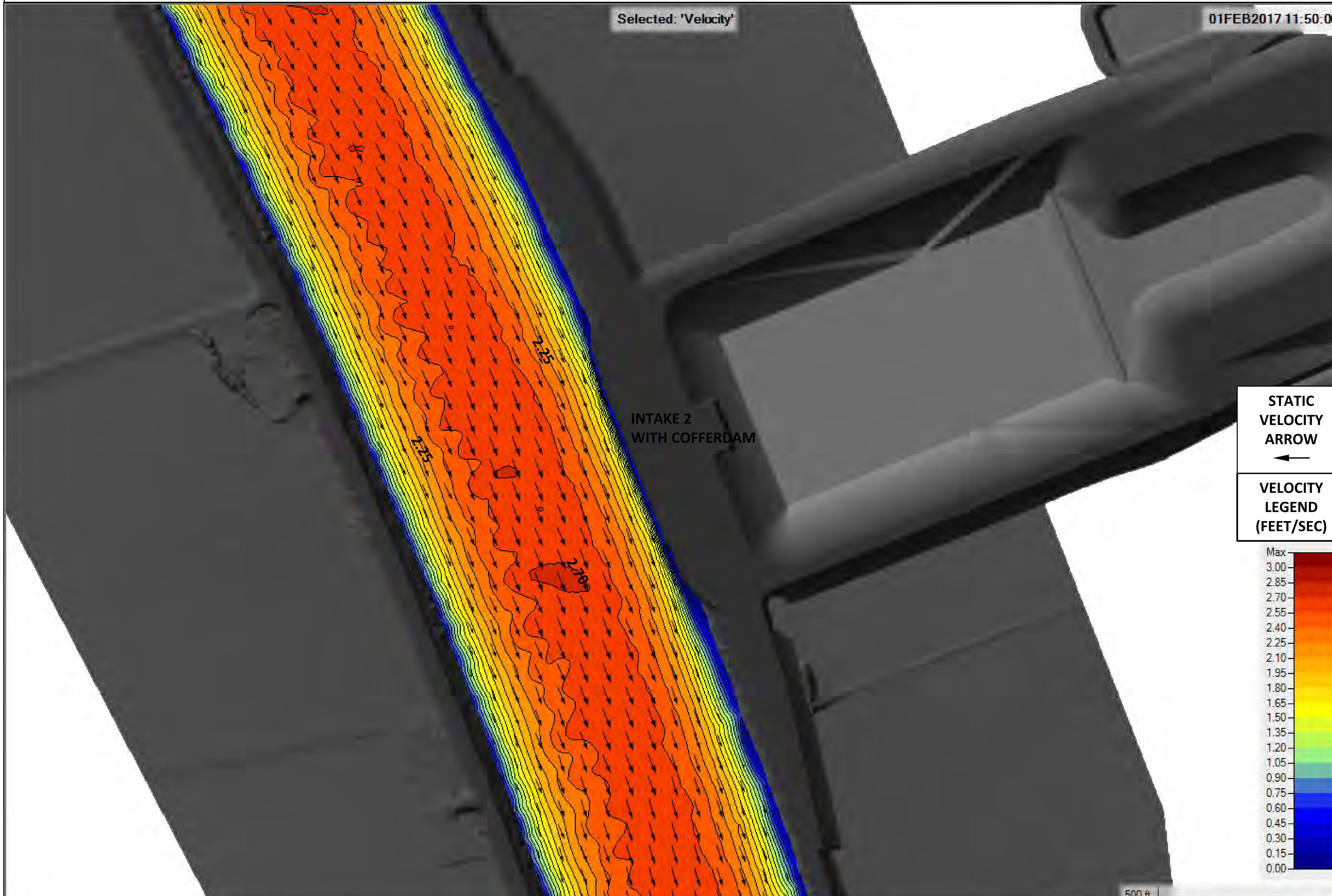
RUN 3G - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



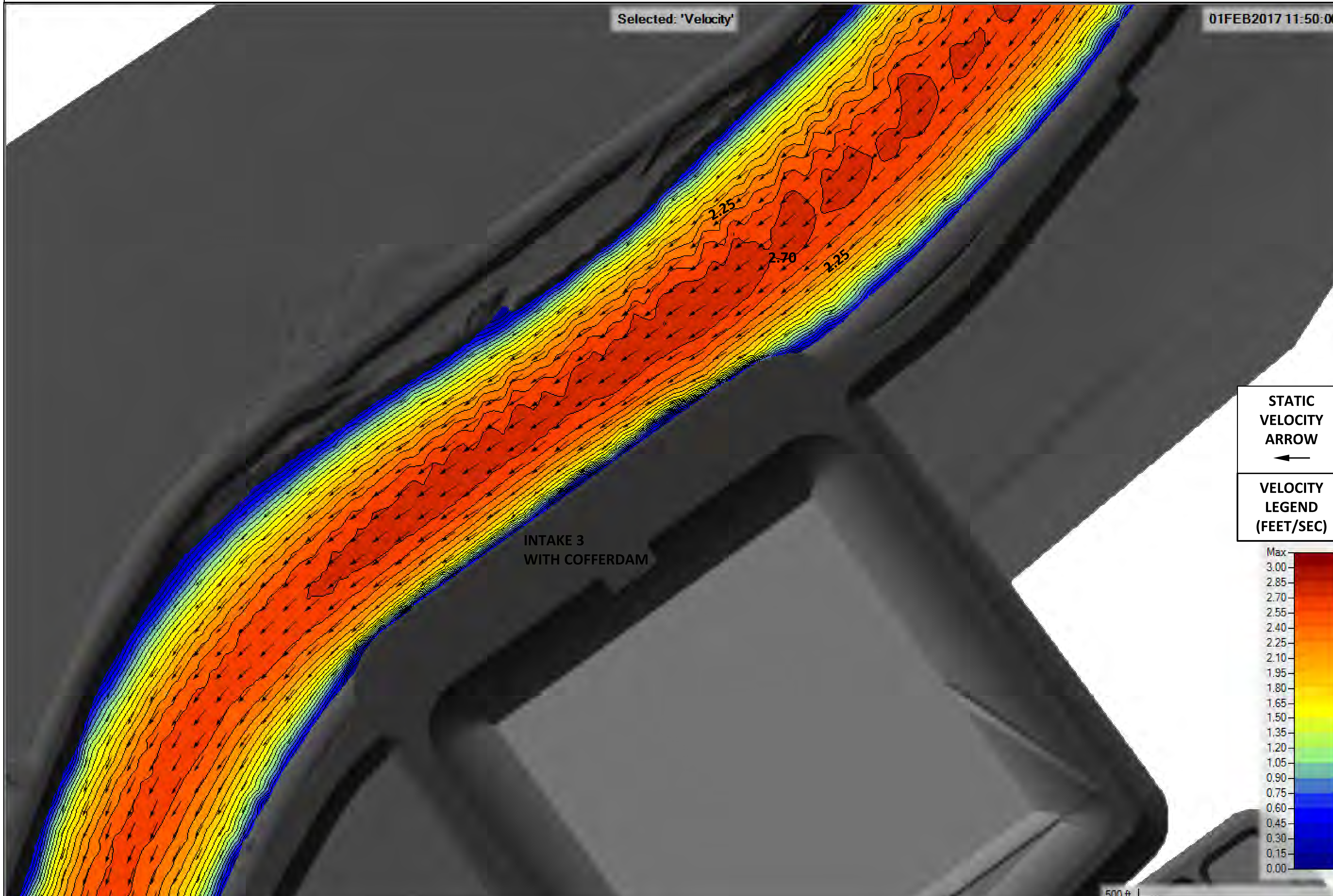
RUN 3H - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



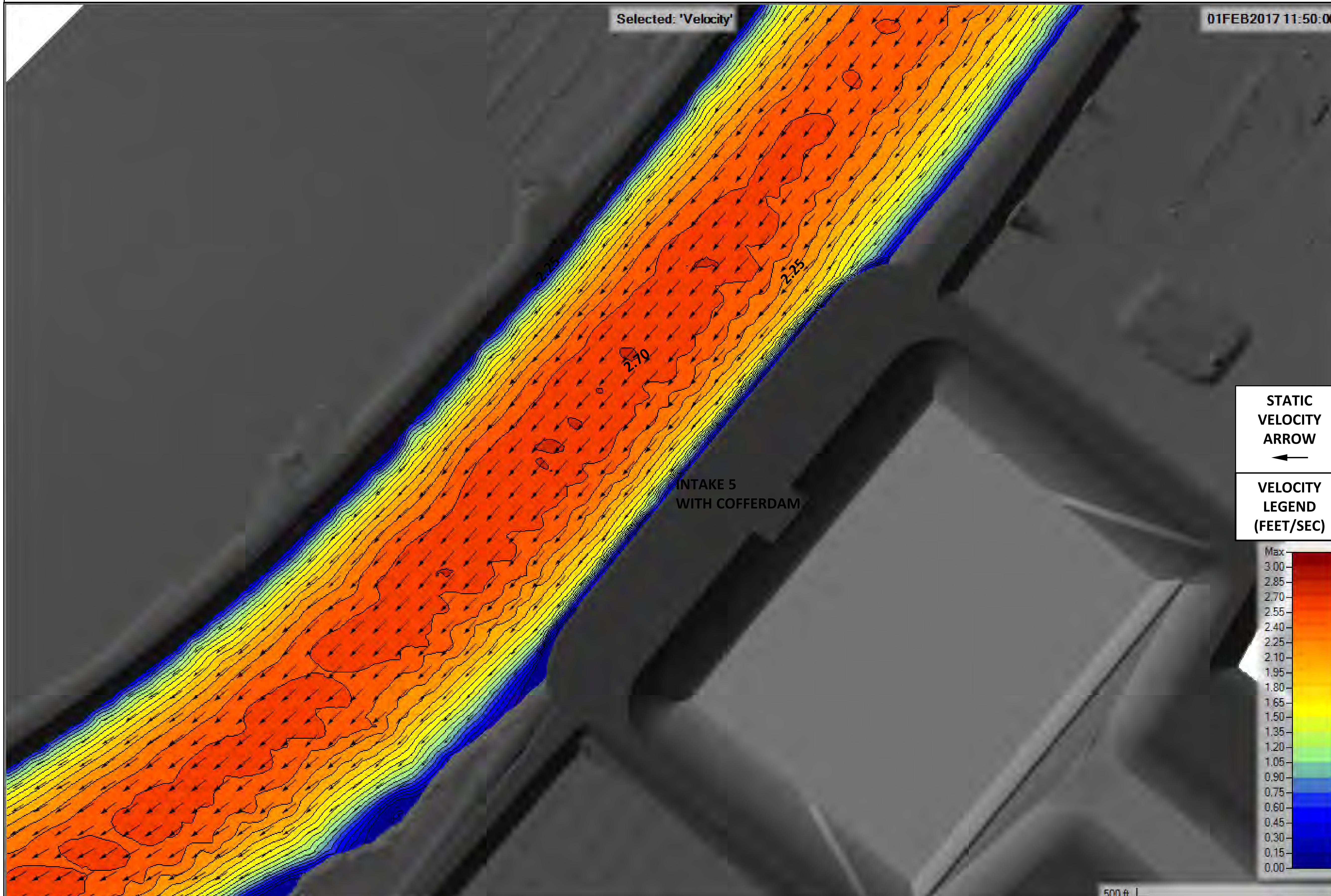
RUN 3H - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



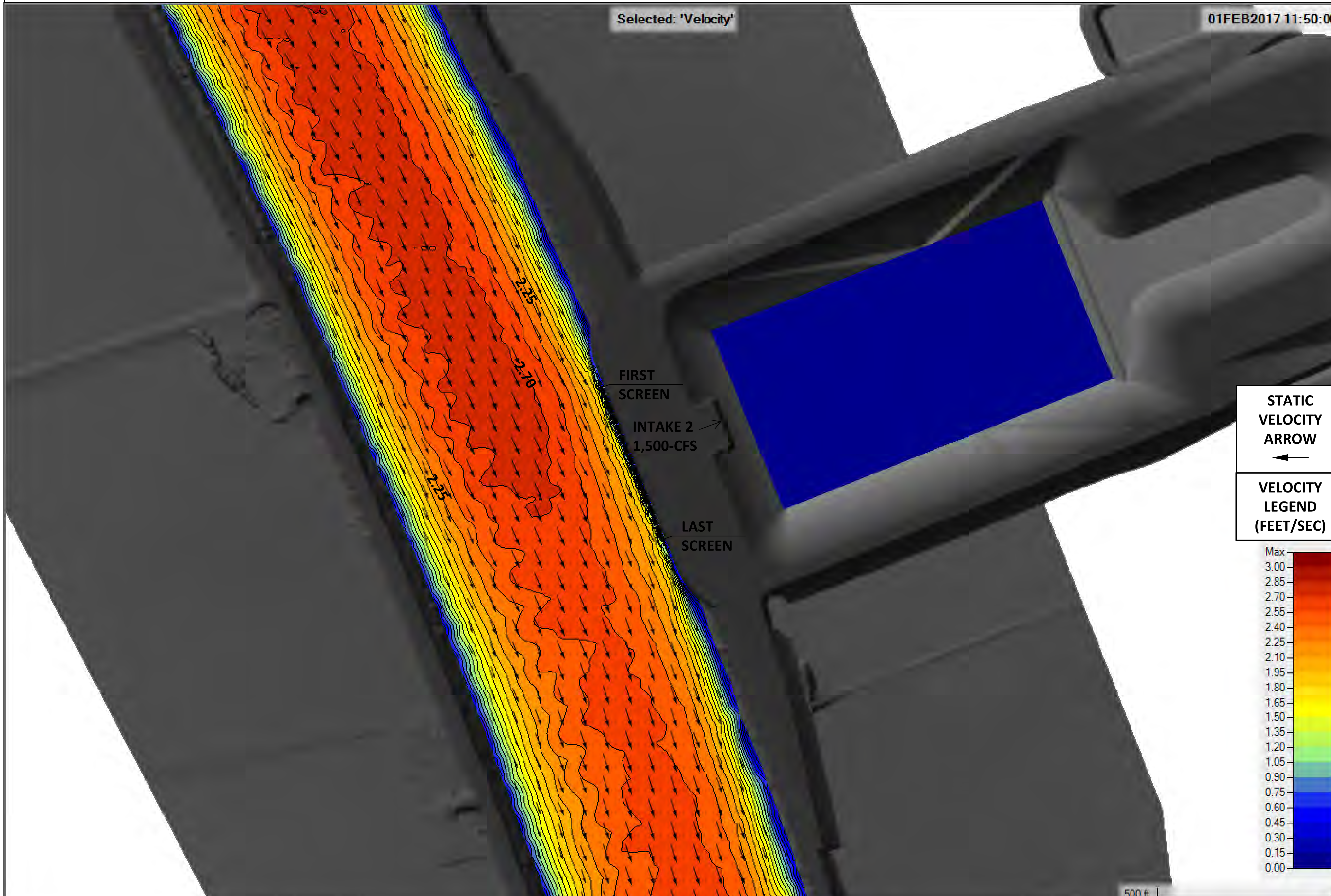
RUN 3H - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



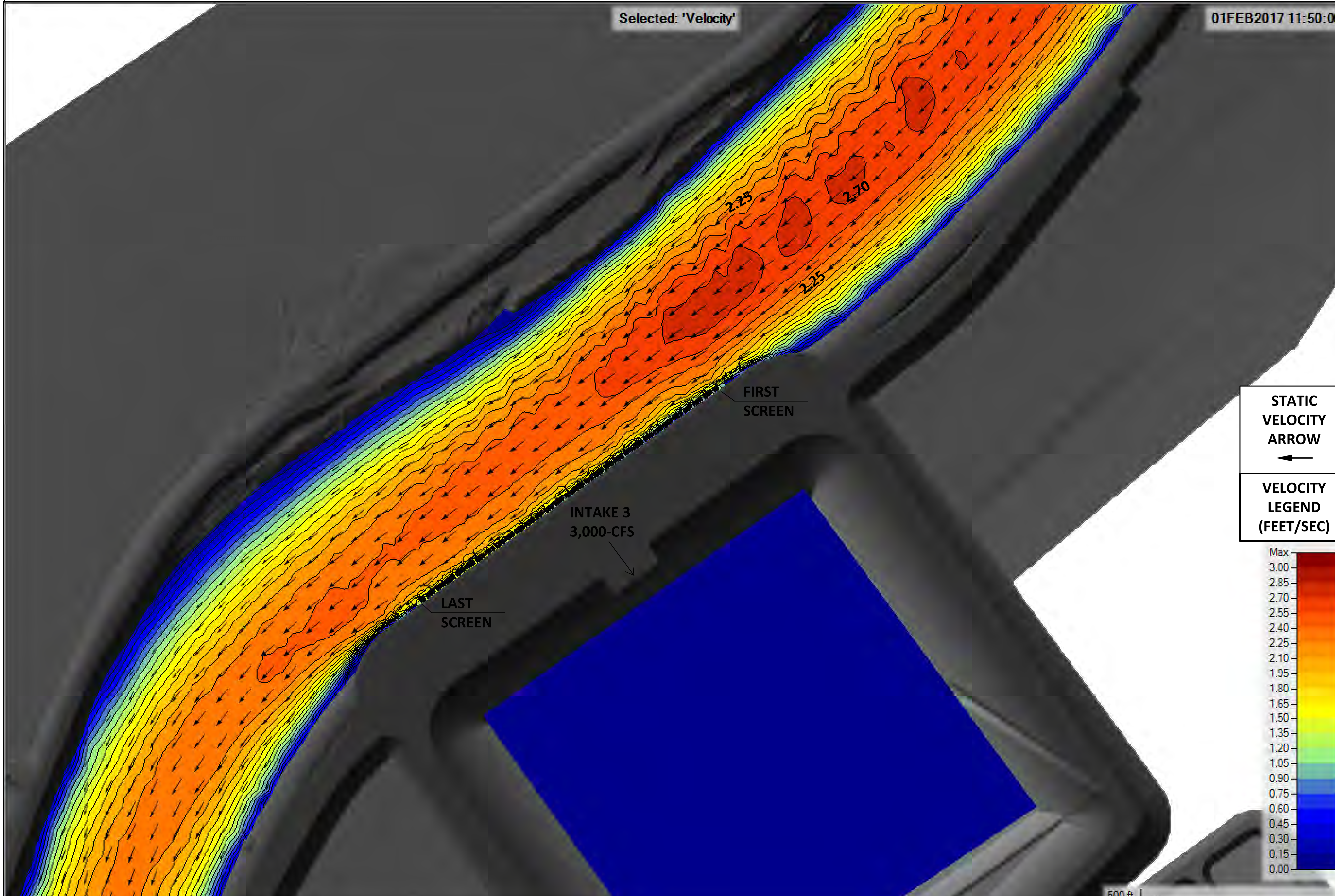
RUN 3I - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



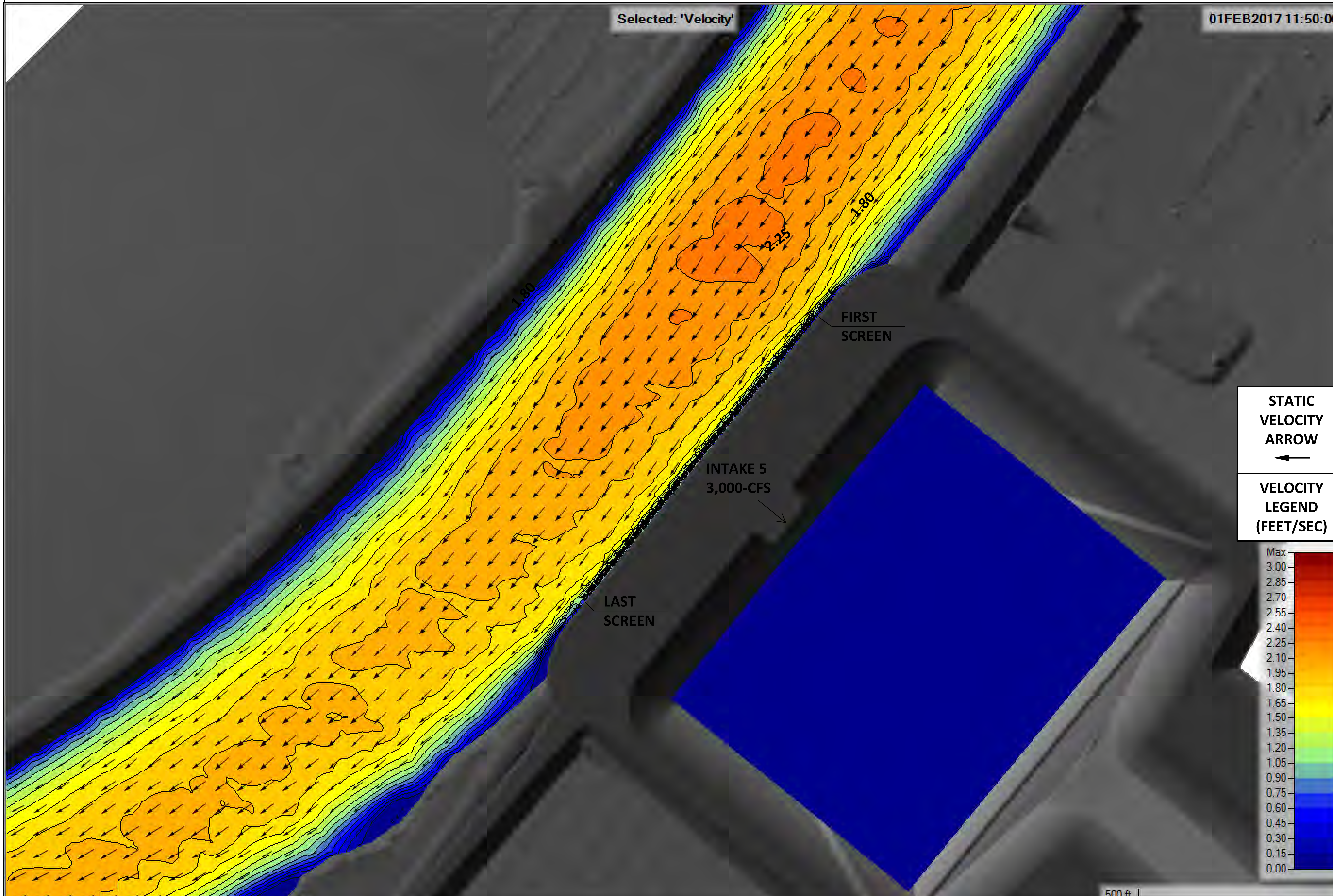
RUN 3I - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3I - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

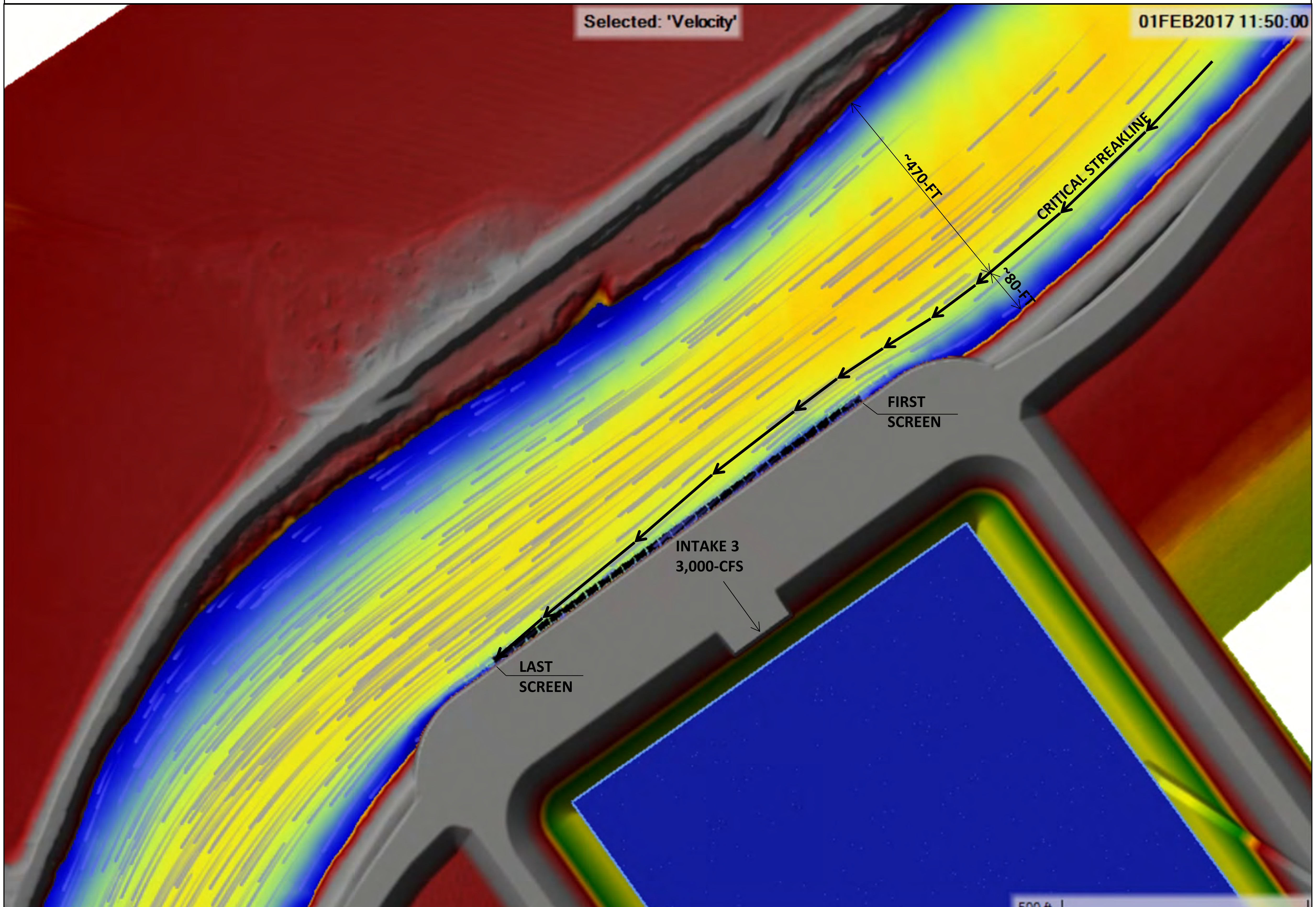
MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



Critical Streakline at Intake Structures

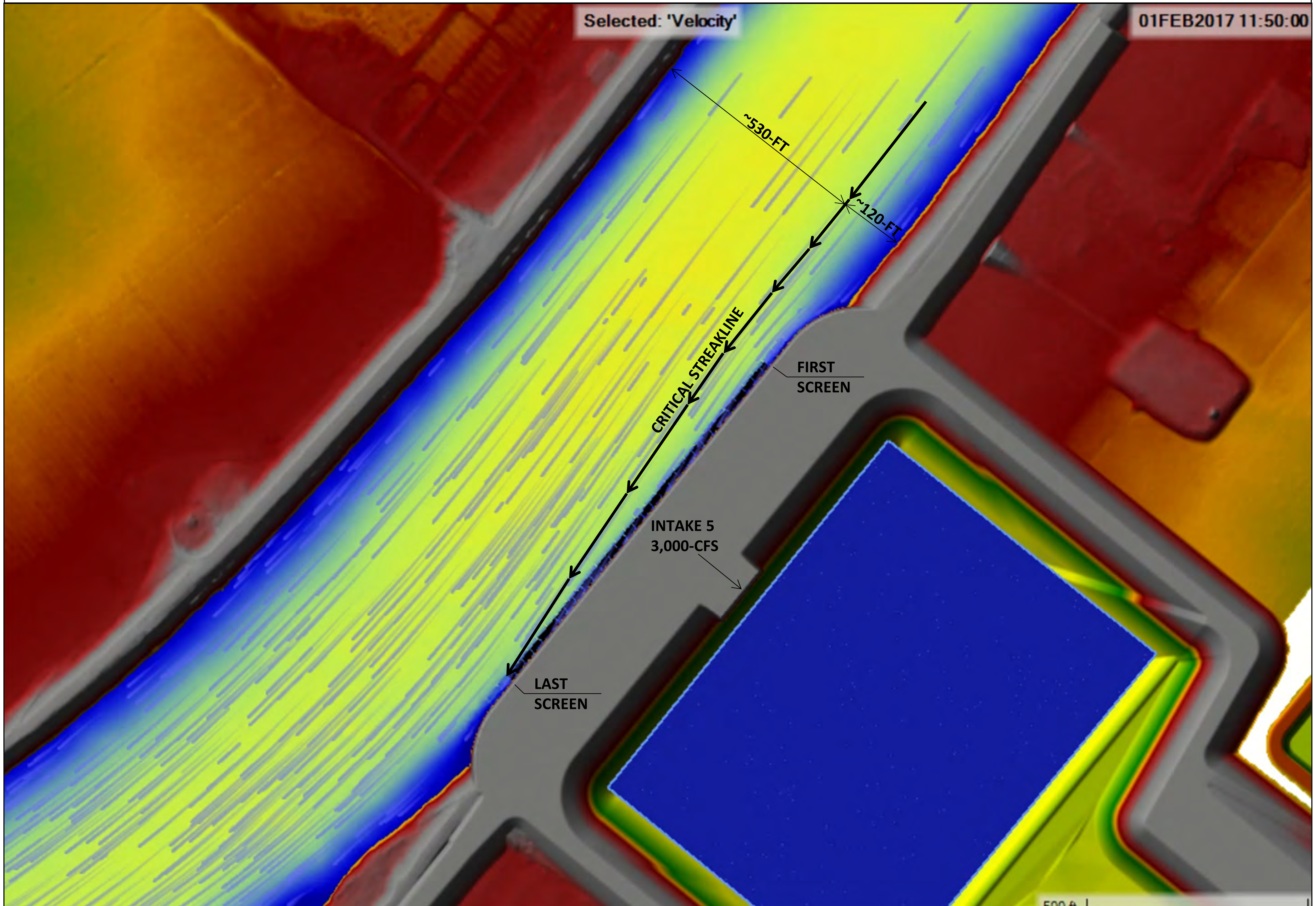
RUN 3D - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 3,000-CFS AT FREEPORT – TEE SCREENS



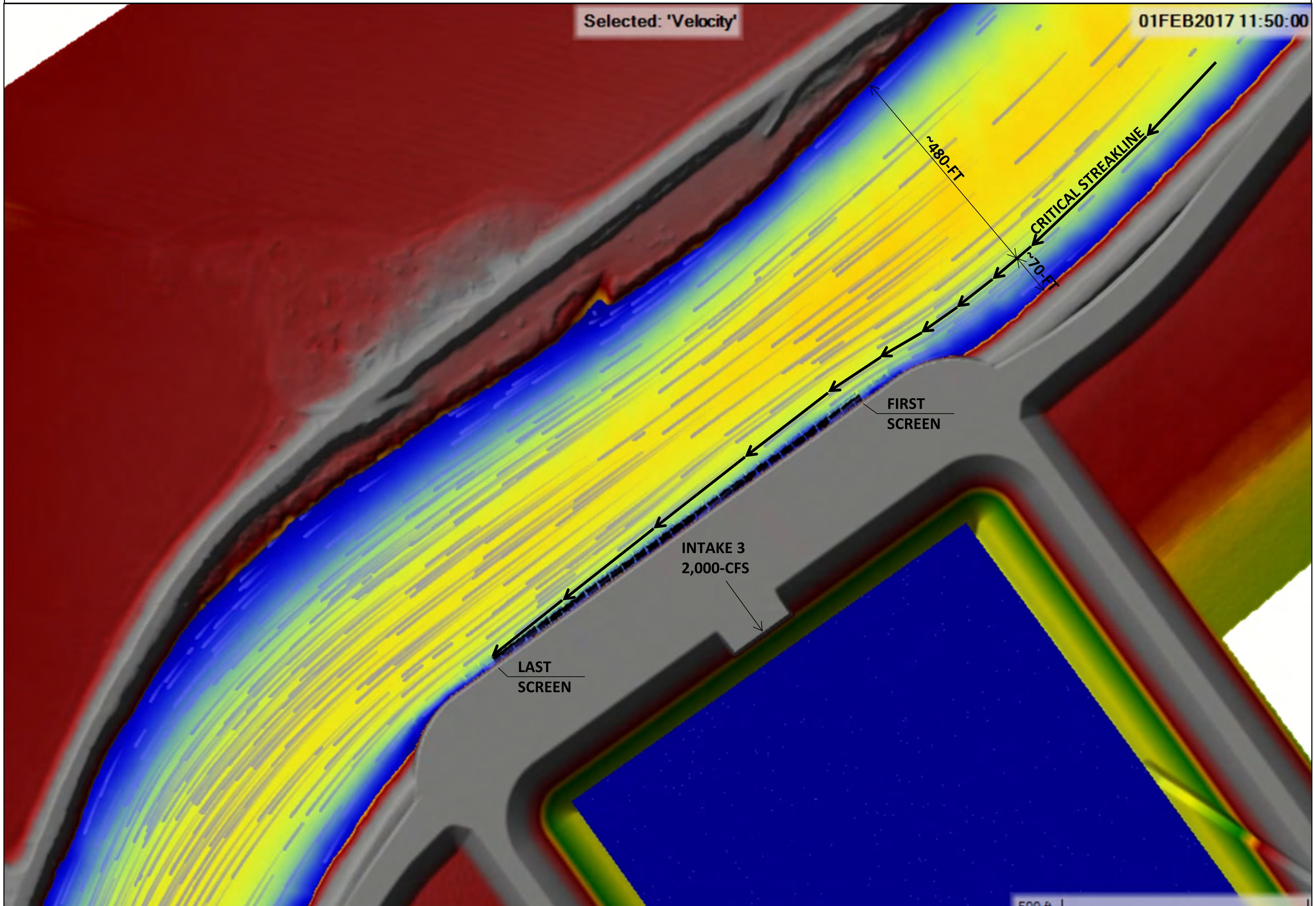
RUN 3D - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 30,000-CFS AT FREEPORT – TEE SCREENS



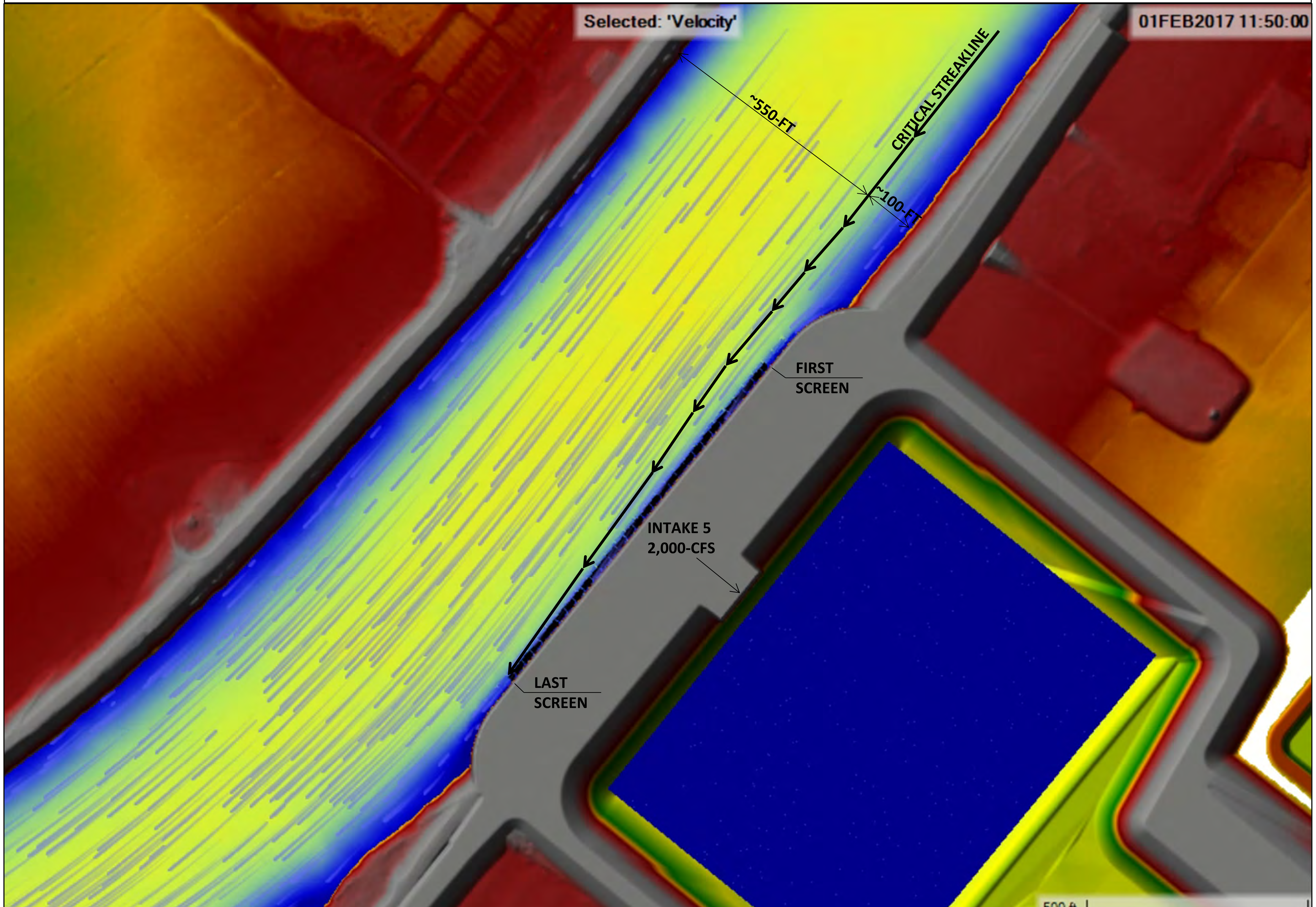
RUN 3E - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



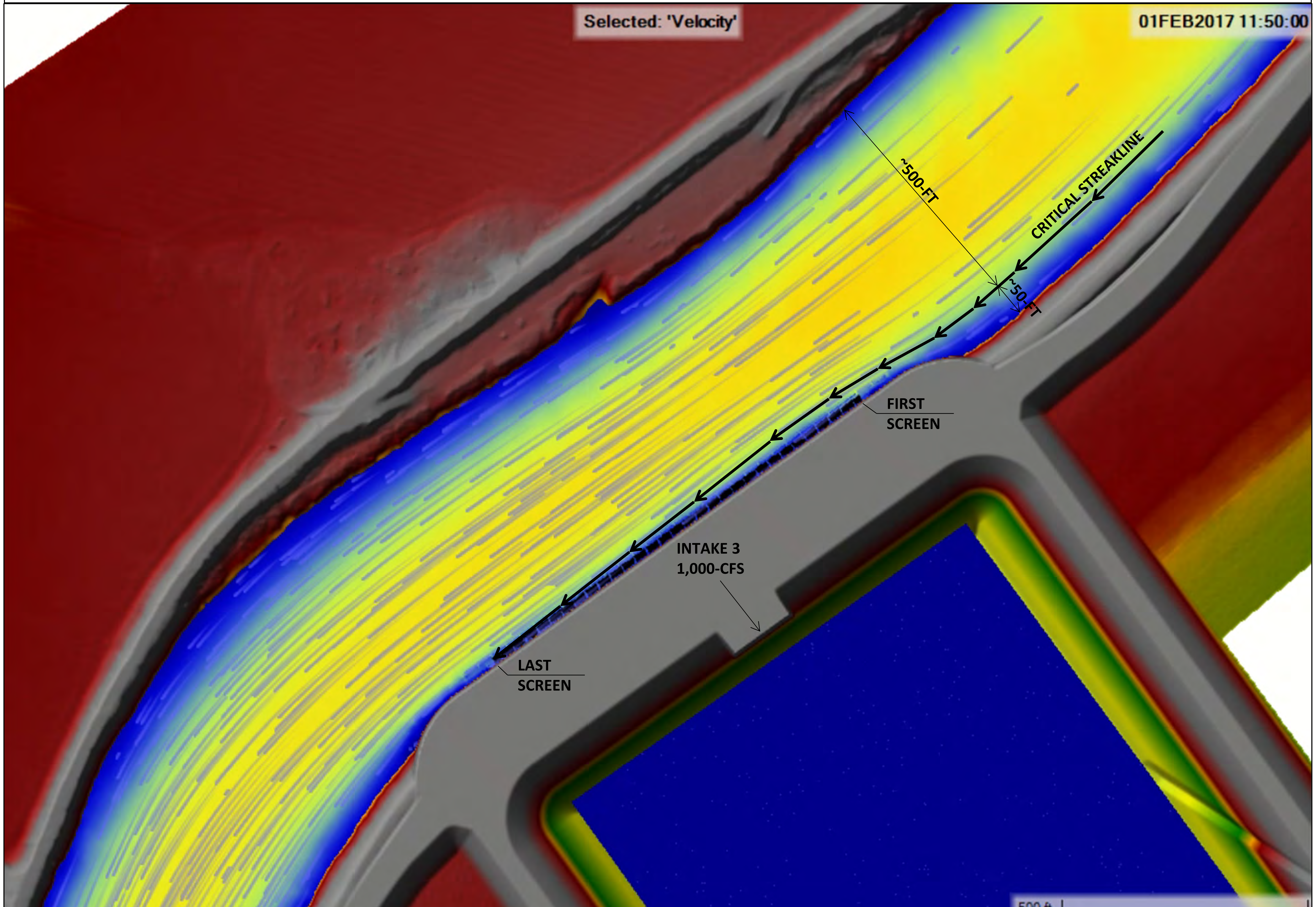
RUN 3E - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



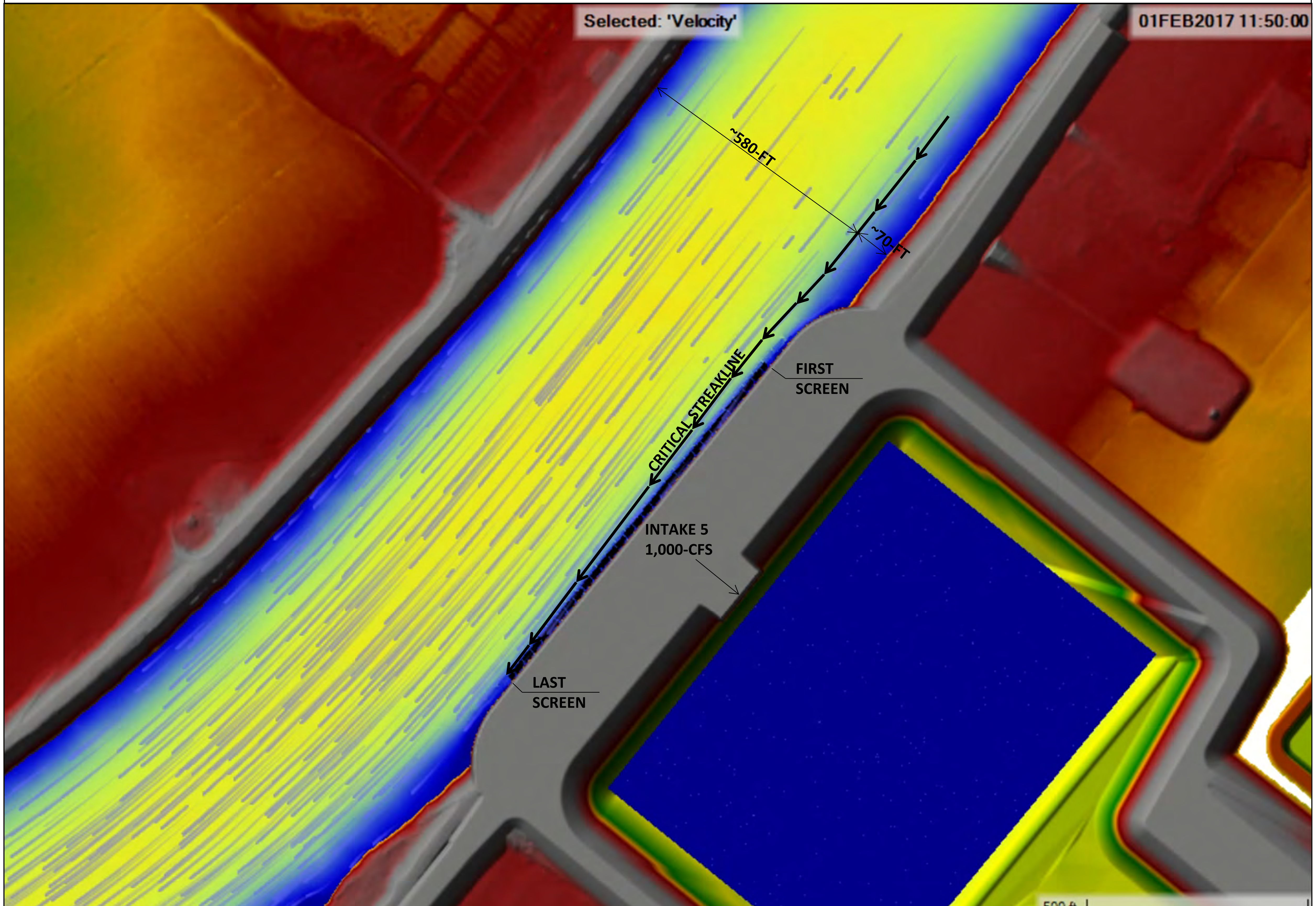
RUN 3F - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



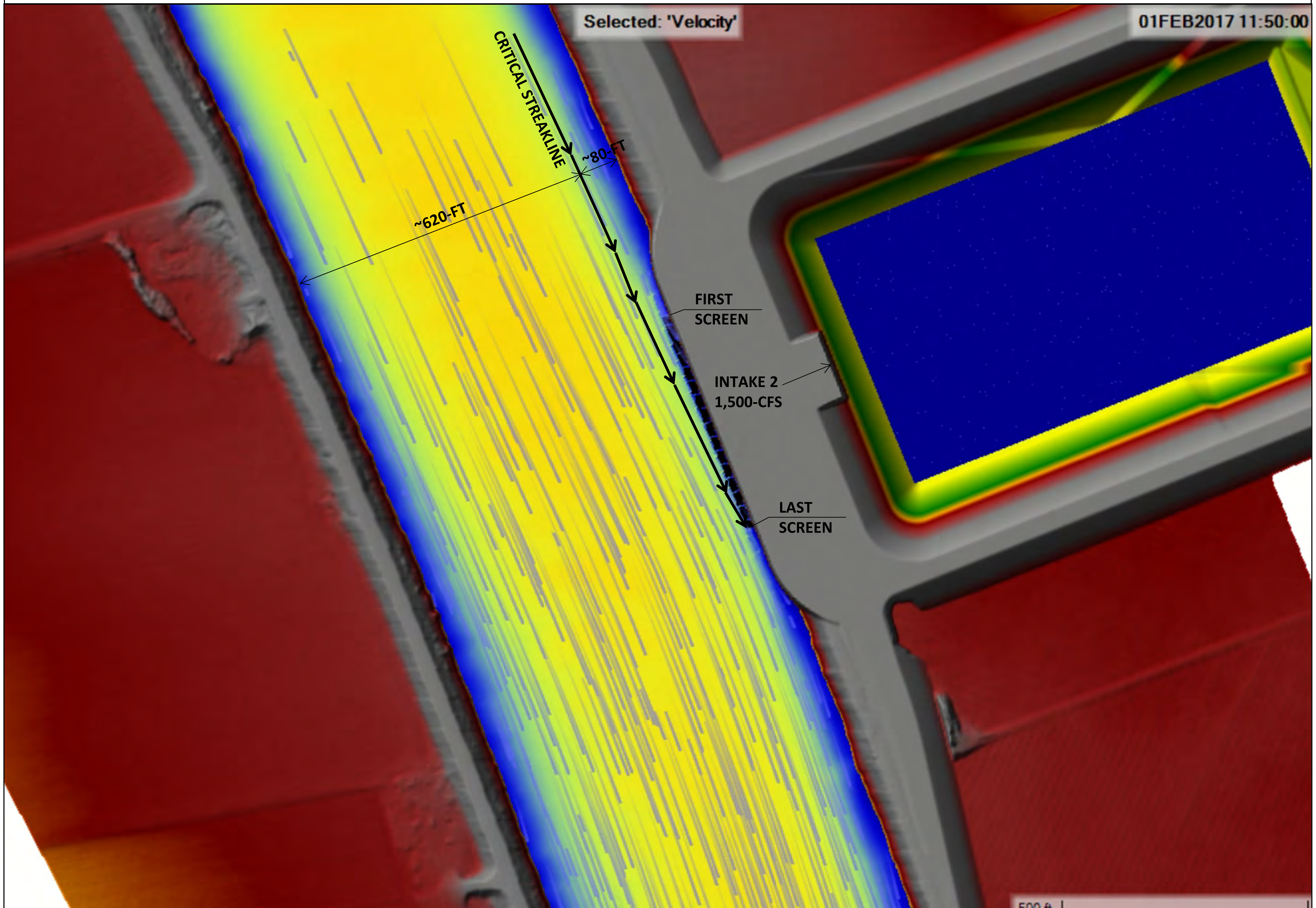
RUN 3F - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



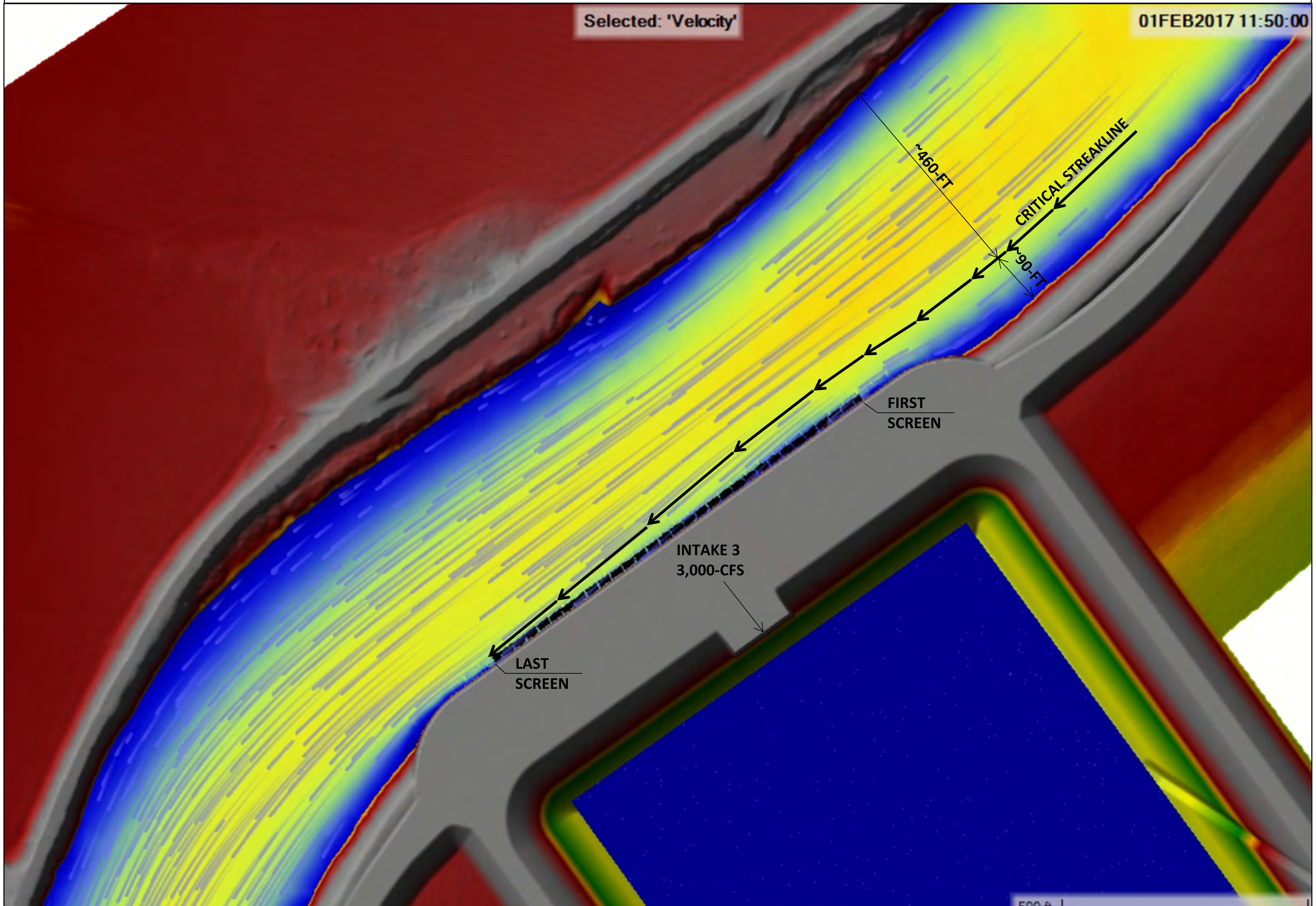
RUN 3I - INTAKE C-E-2 (A) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



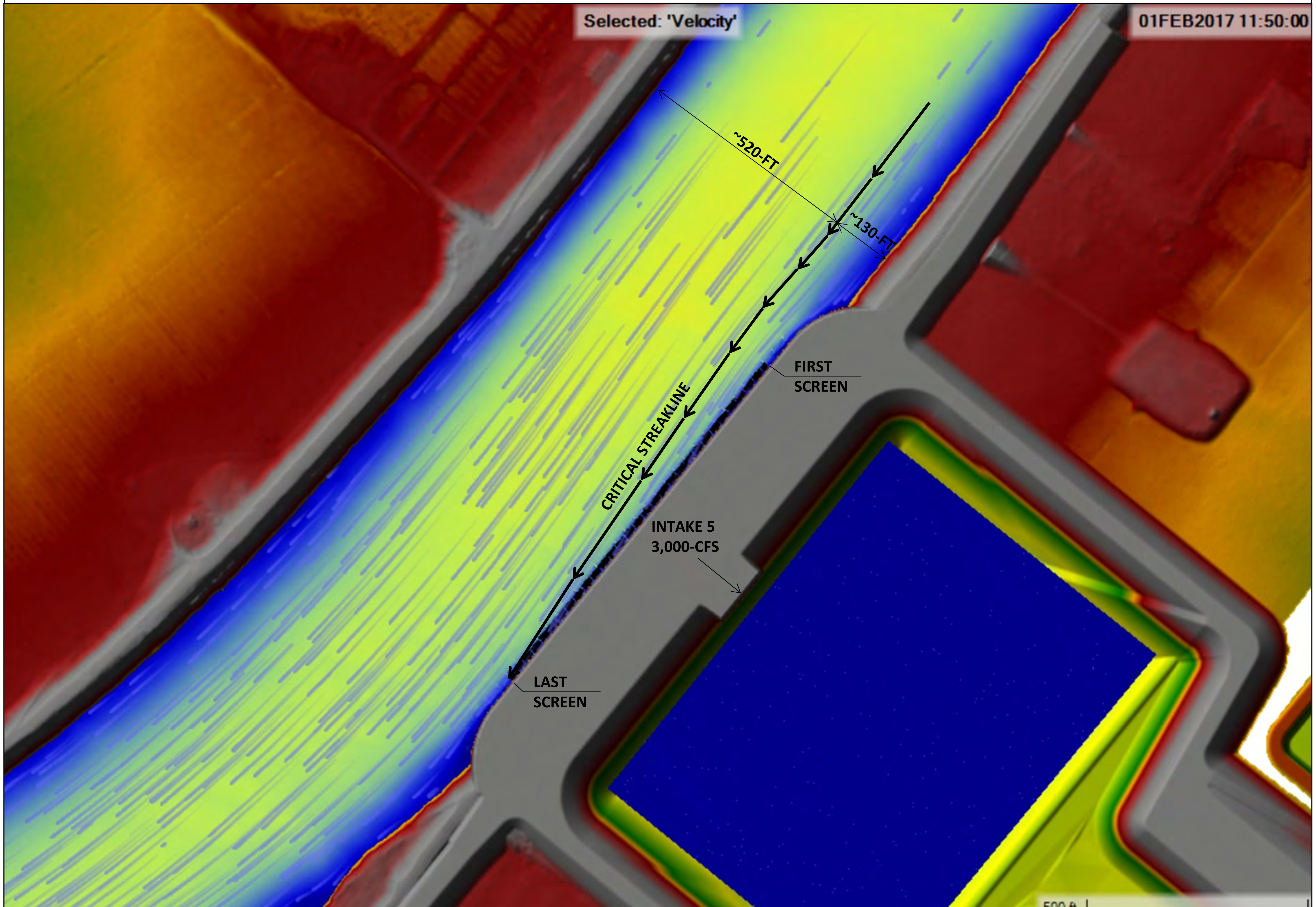
RUN 3I - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



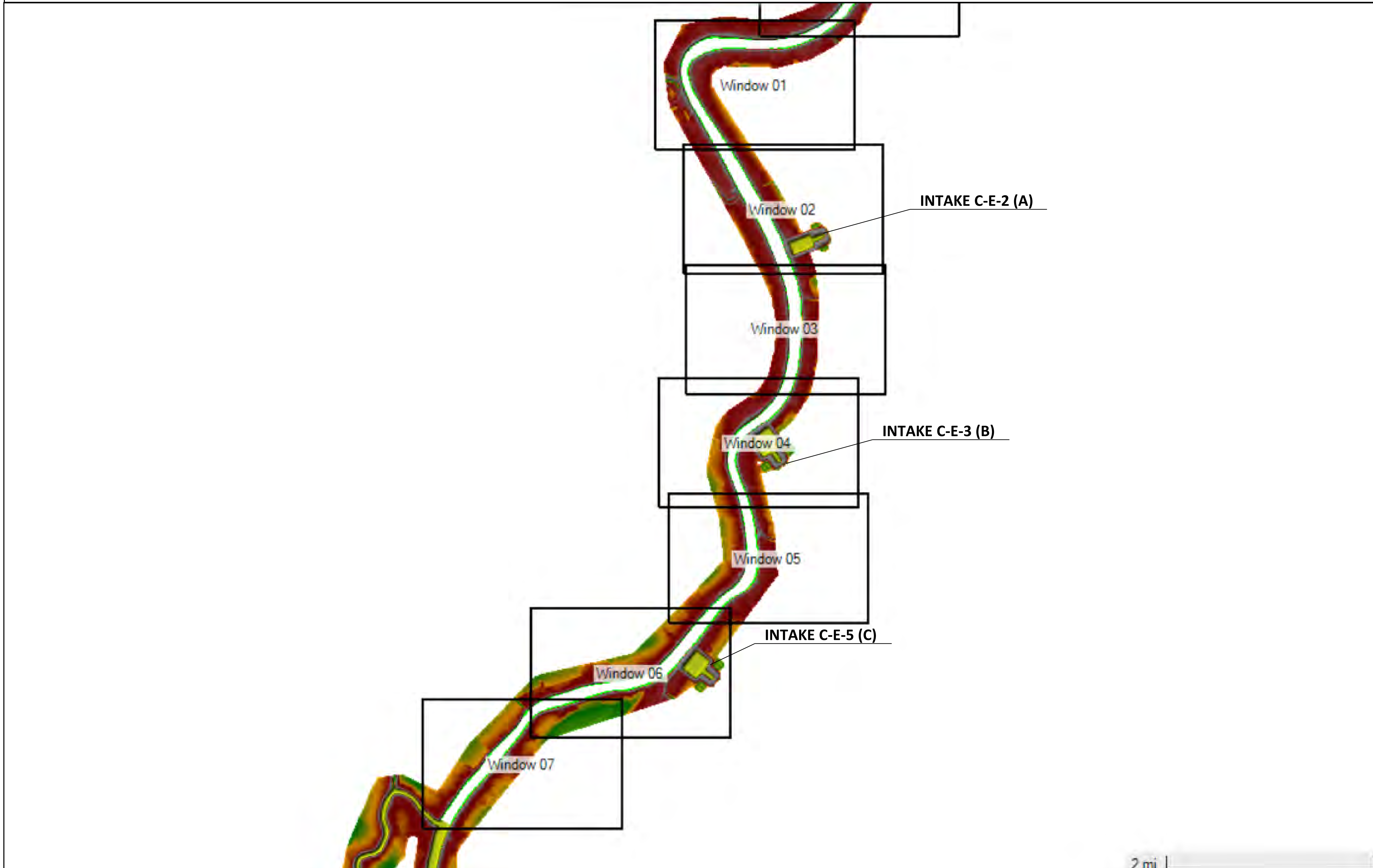
RUN 3I - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



0.91 fps Velocity Exceedance Plots

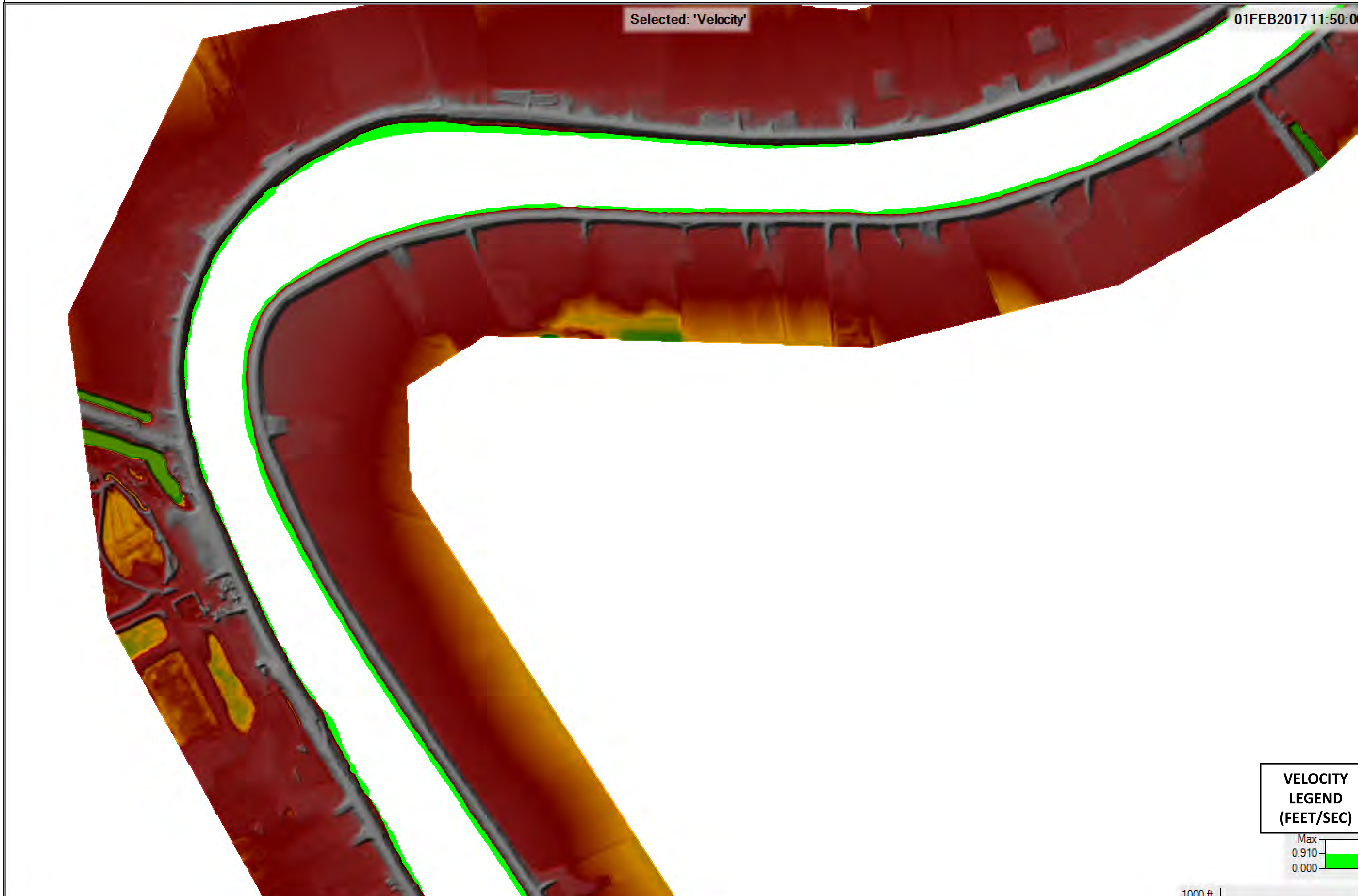
WINDOW LOCATIONS KEY



RUN 3A

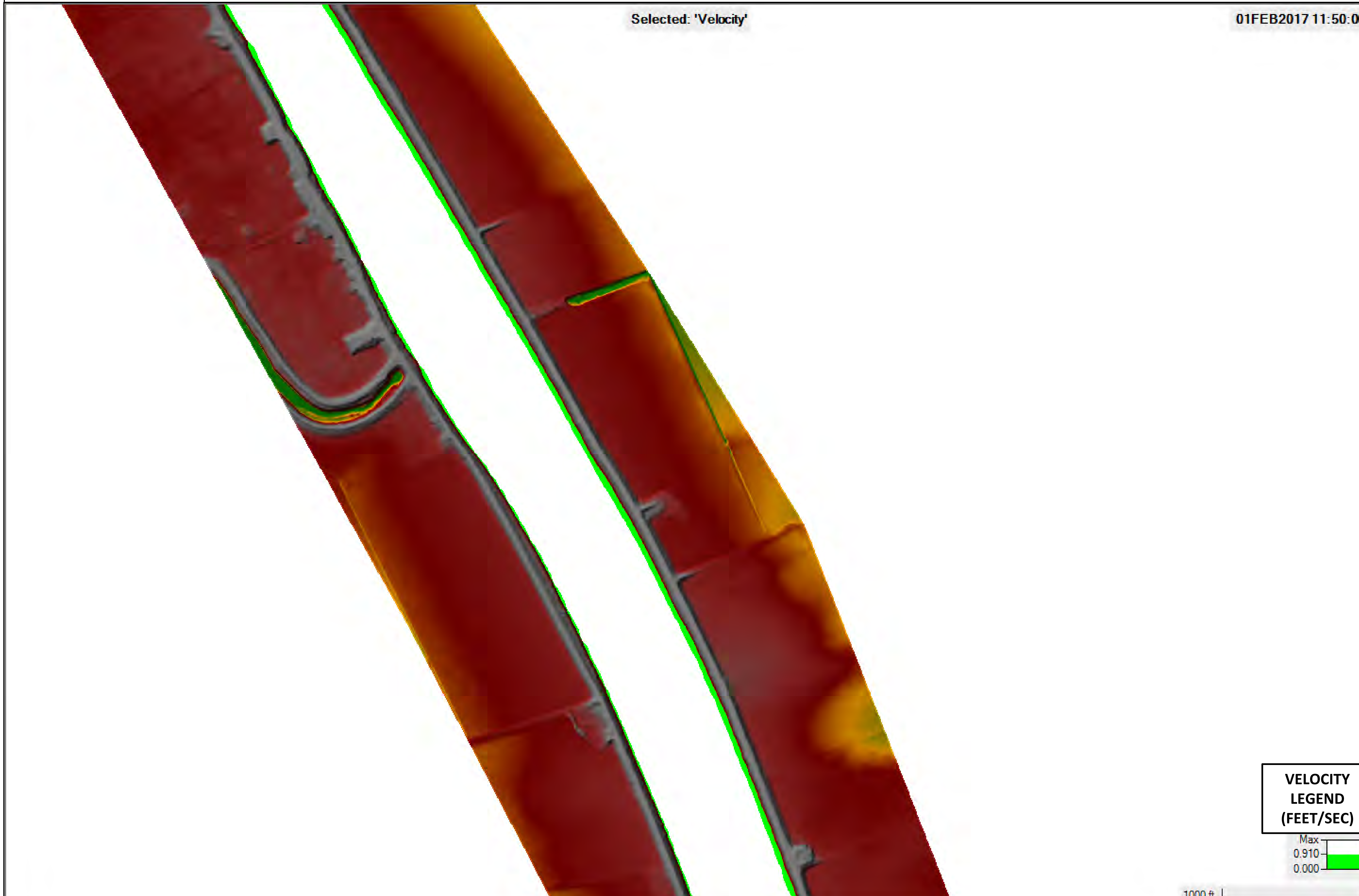
RUN 3A – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 30,000-CFS AT FREEPORT



RUN 3A – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 30,000-CFS AT FREEPORT

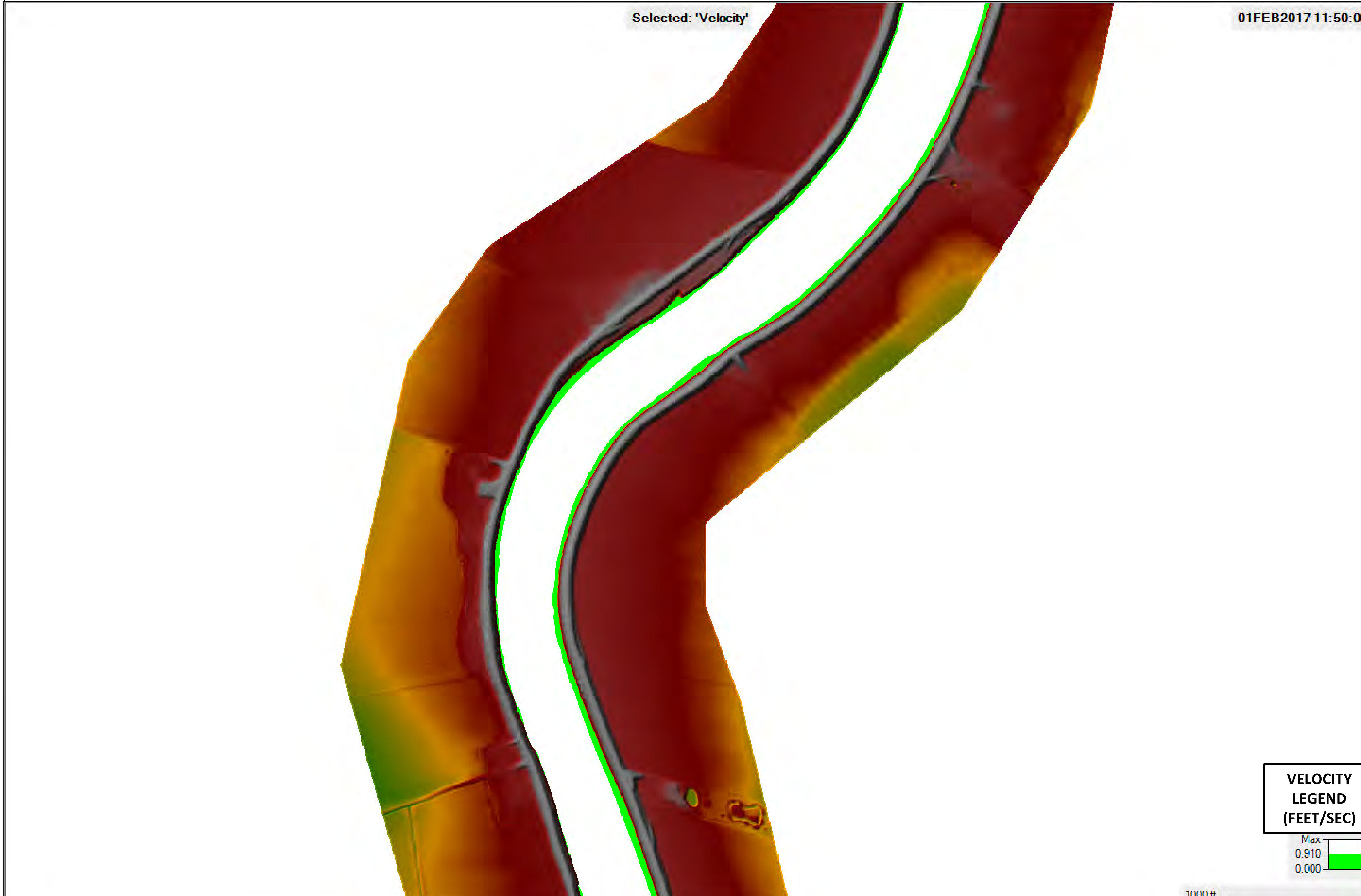


RUN 3A – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 30,000-CFS AT FREEPORT

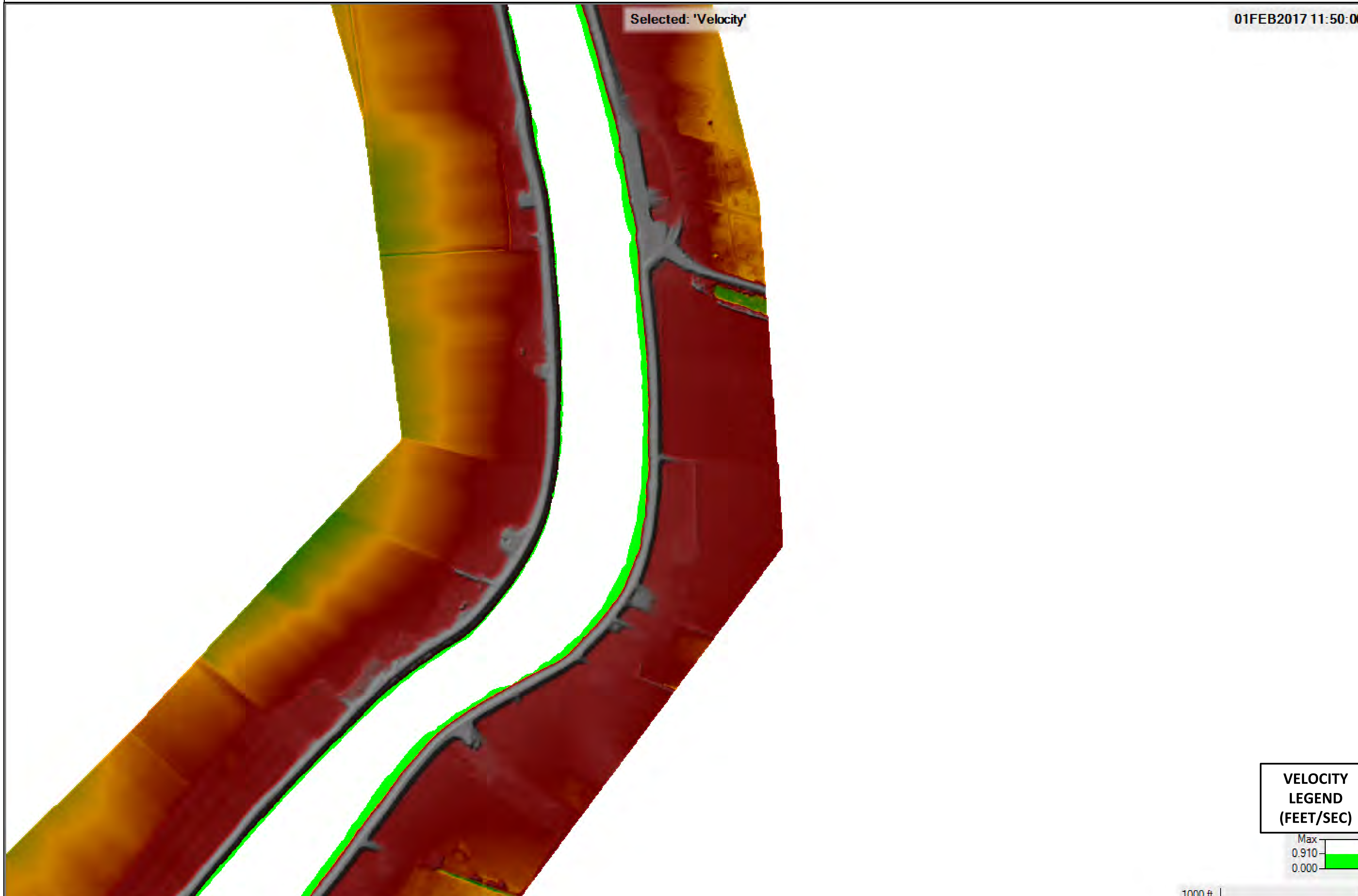
RUN 3A – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 30,000-CFS AT FREEPORT



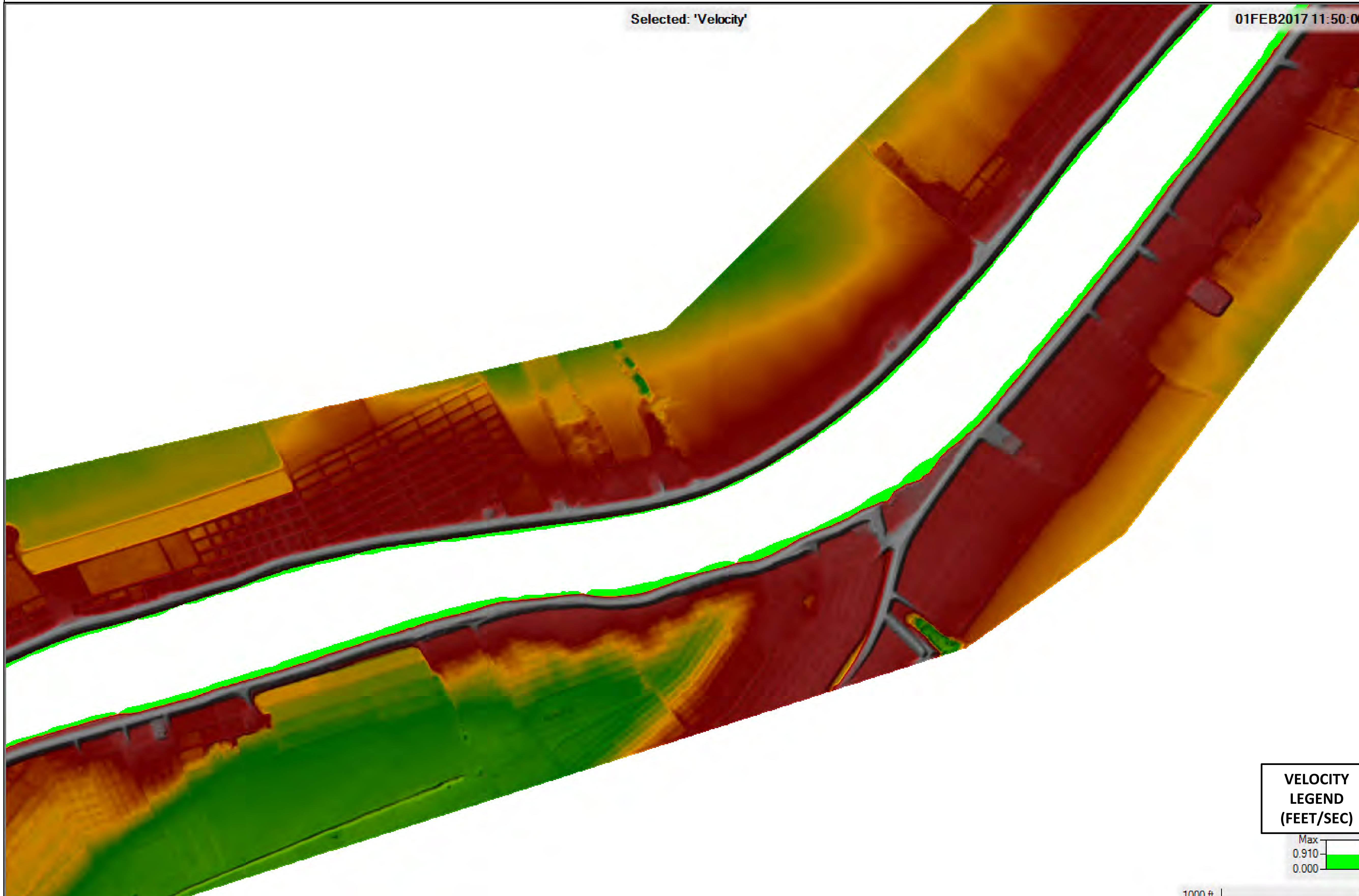
RUN 3A – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 30,000-CFS AT FREEPORT



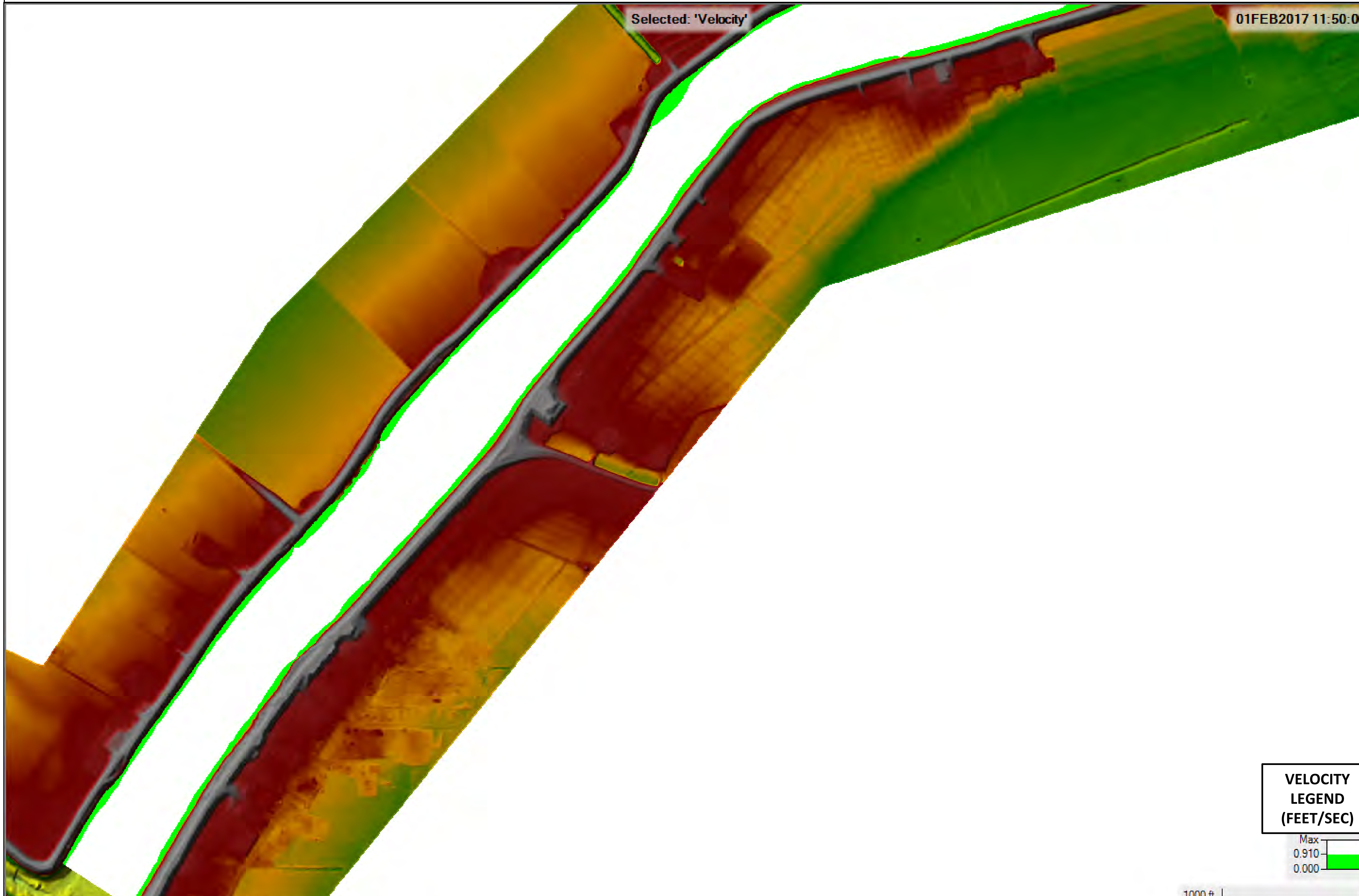
RUN 3A – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 30,000-CFS AT FREEPORT



RUN 3A – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

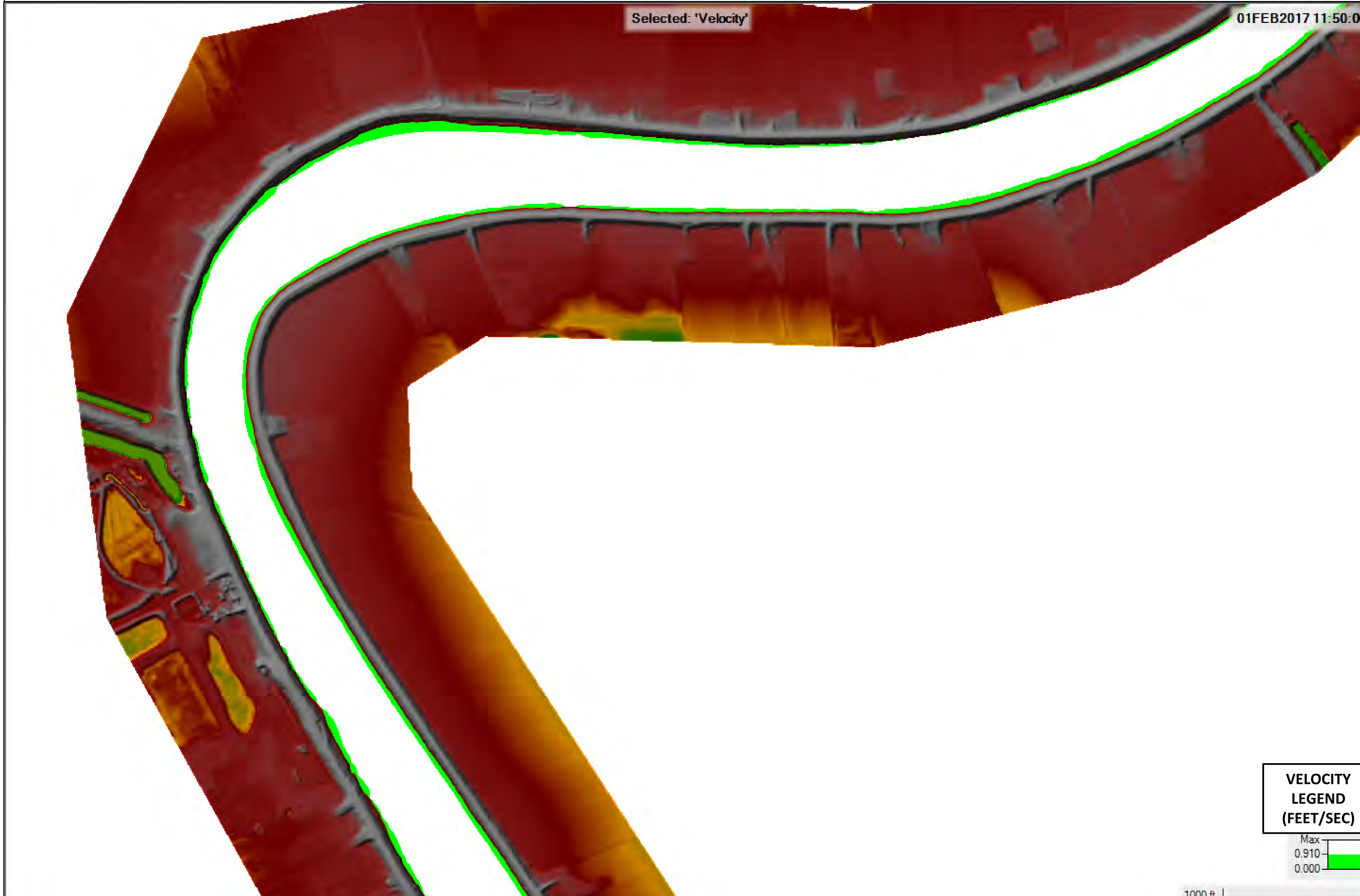
MODEL SCENARIO EXISTING CONDITIONS – 30,000-CFS AT FREEPORT



RUN 3B

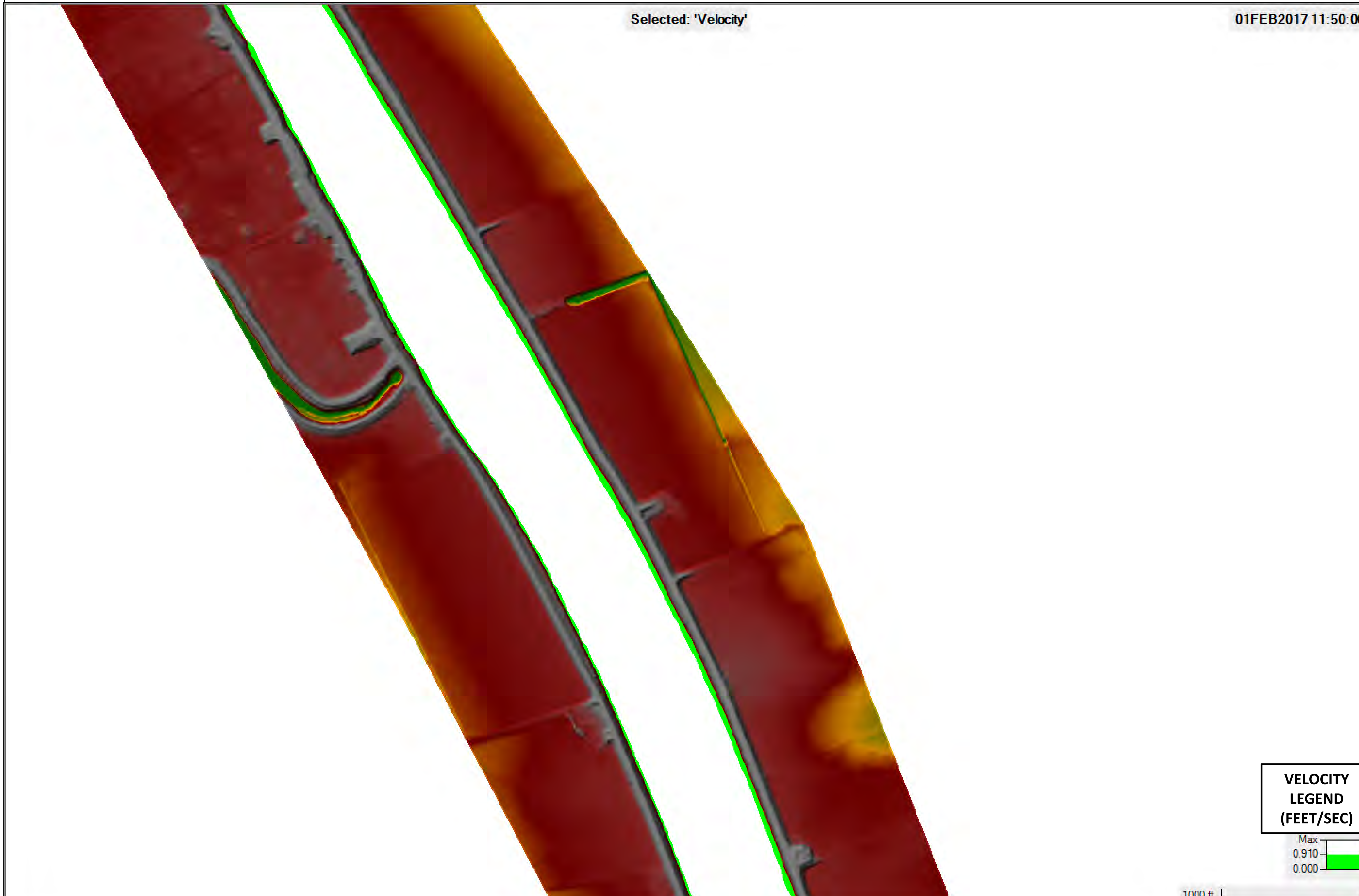
RUN 3B – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3B – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS

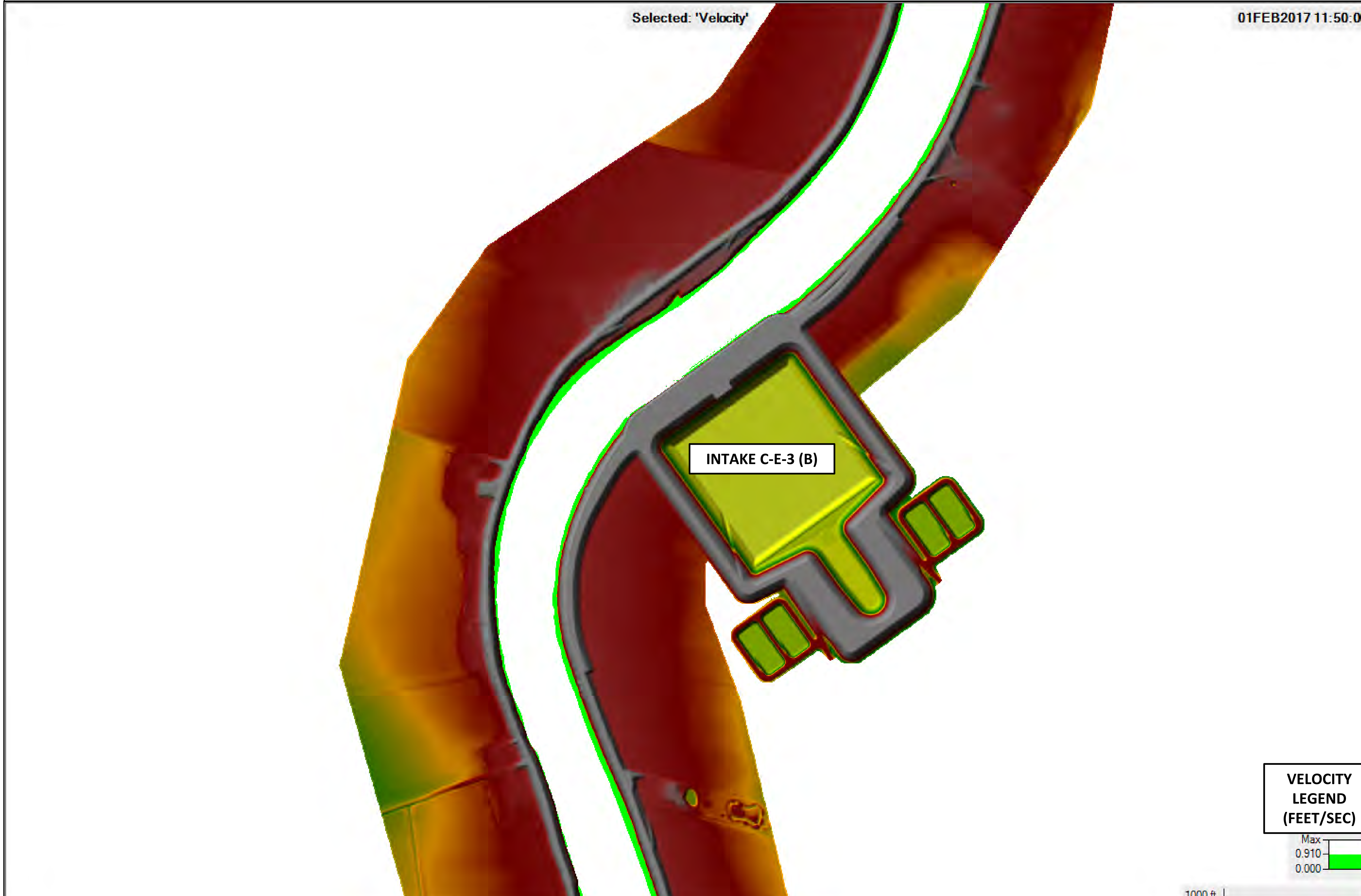


RUN 3B – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS

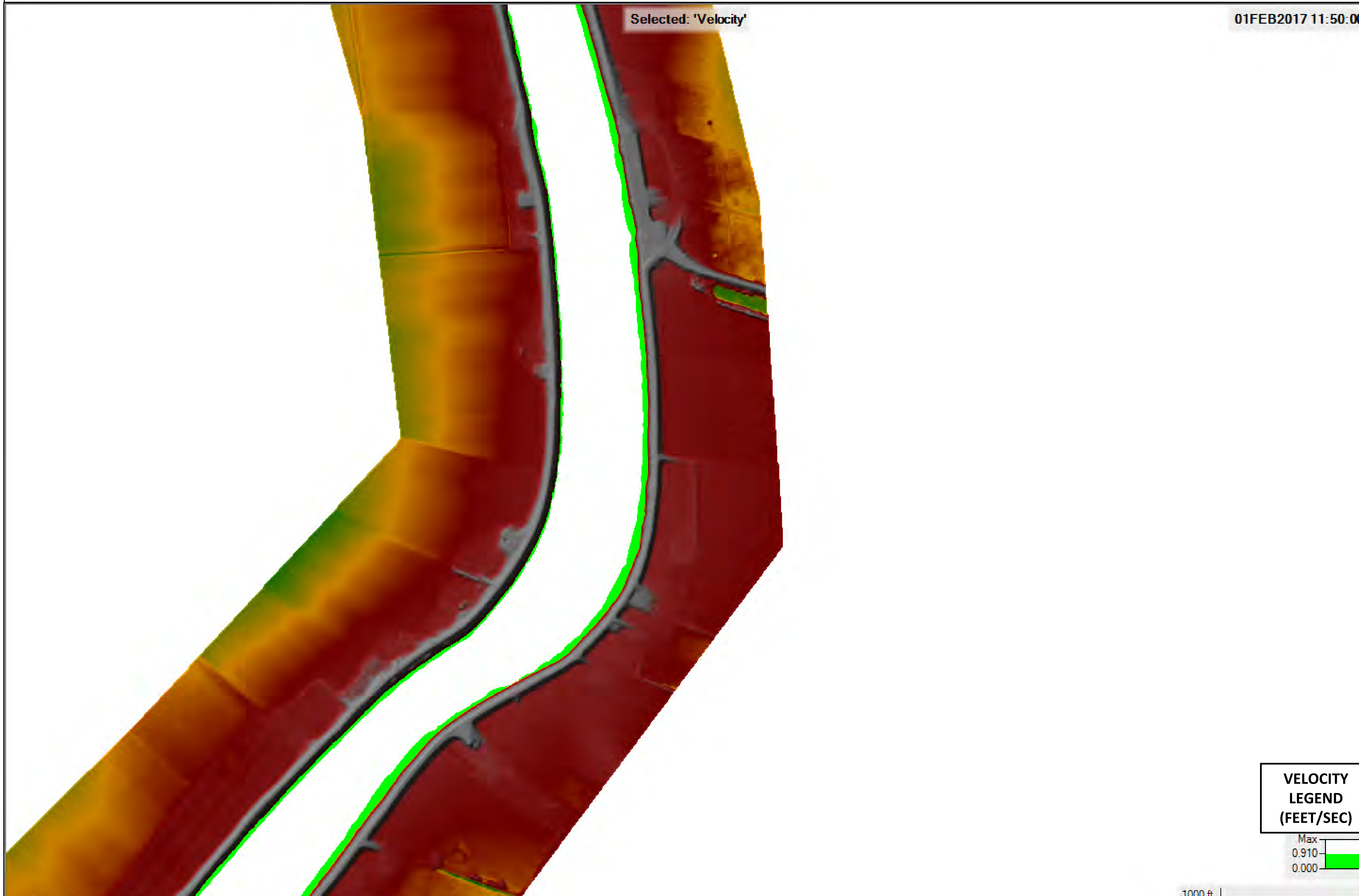
RUN 3B – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



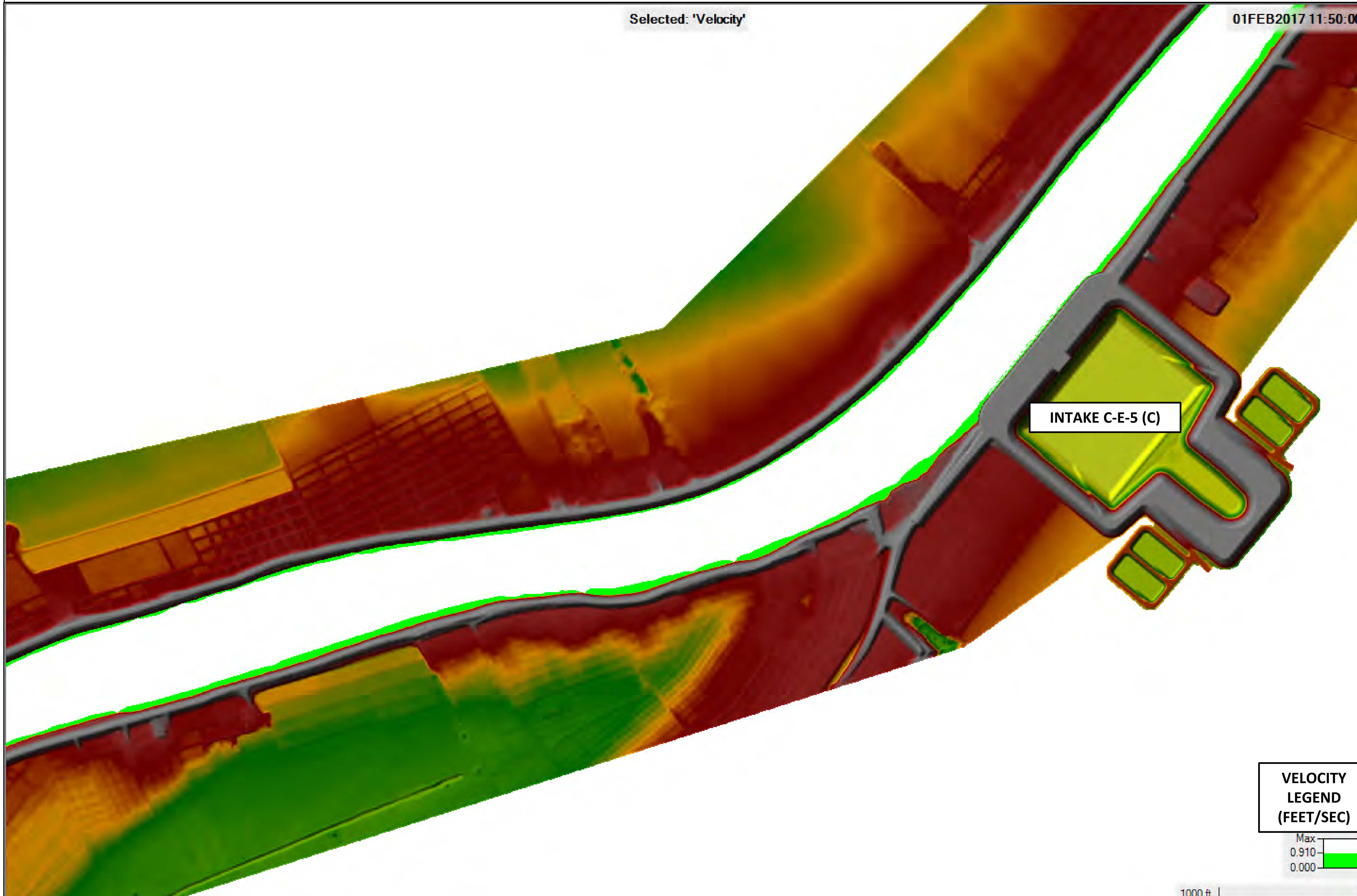
RUN 3B – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



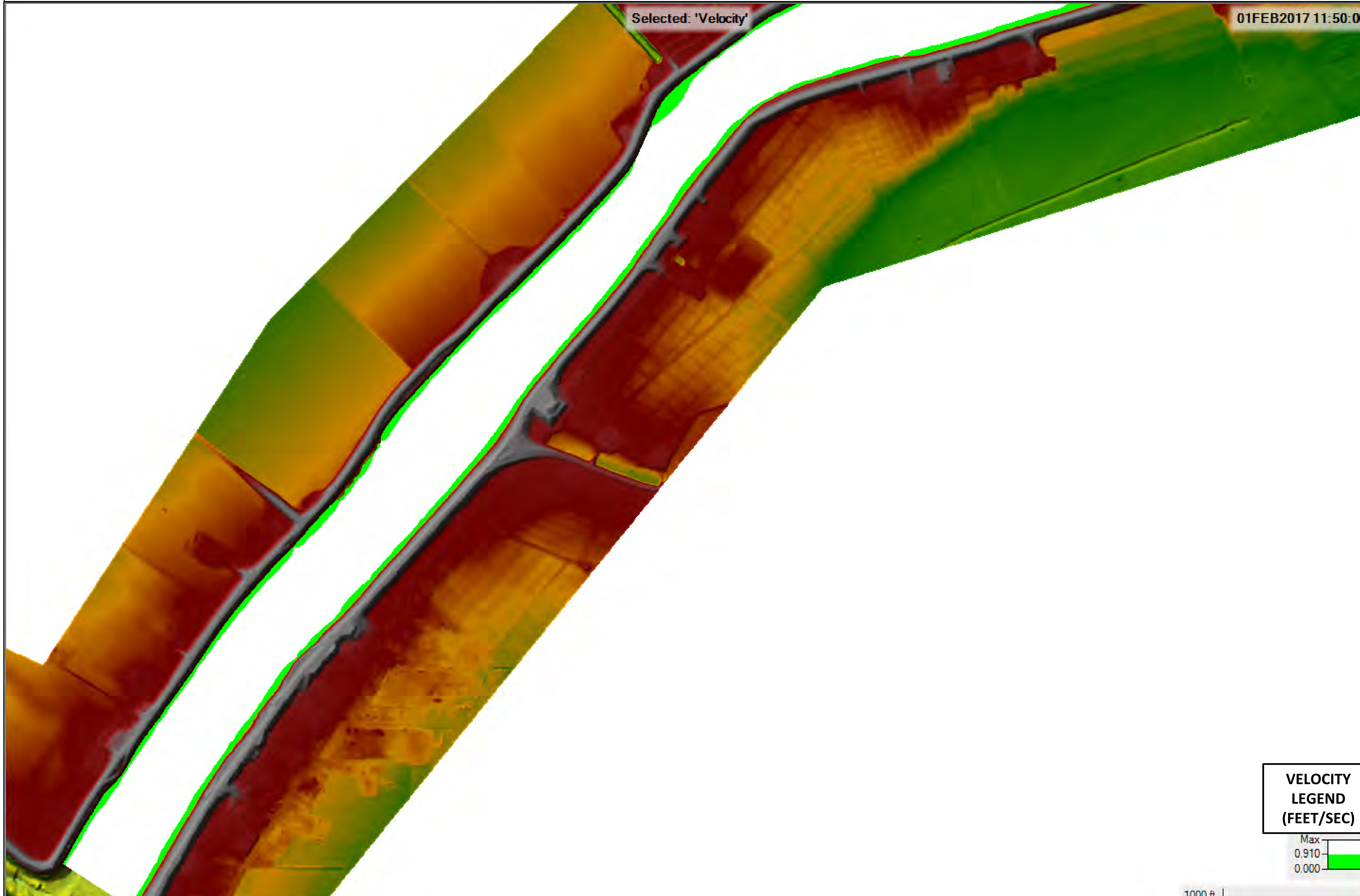
RUN 3B – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3B – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

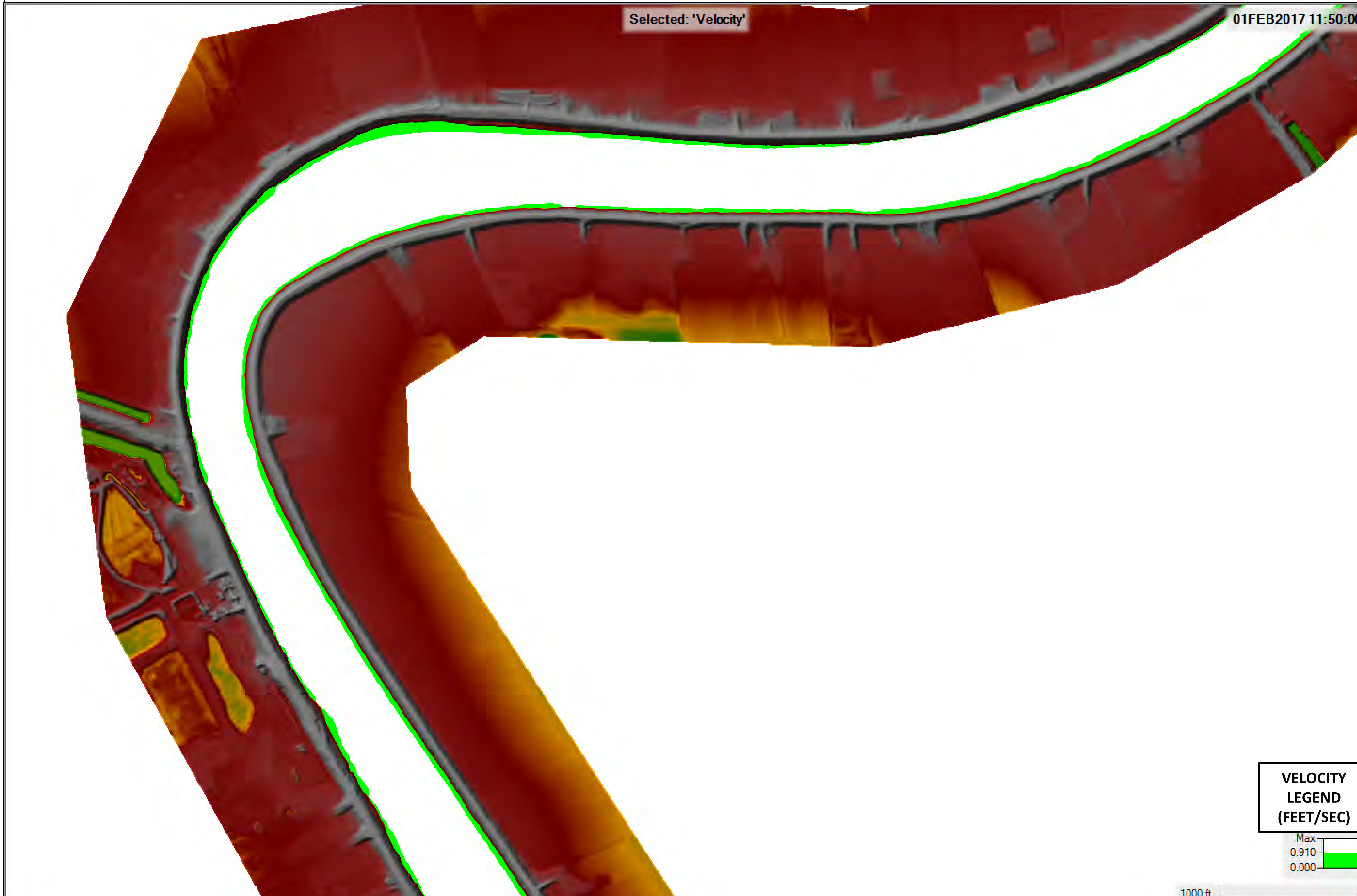
MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3C

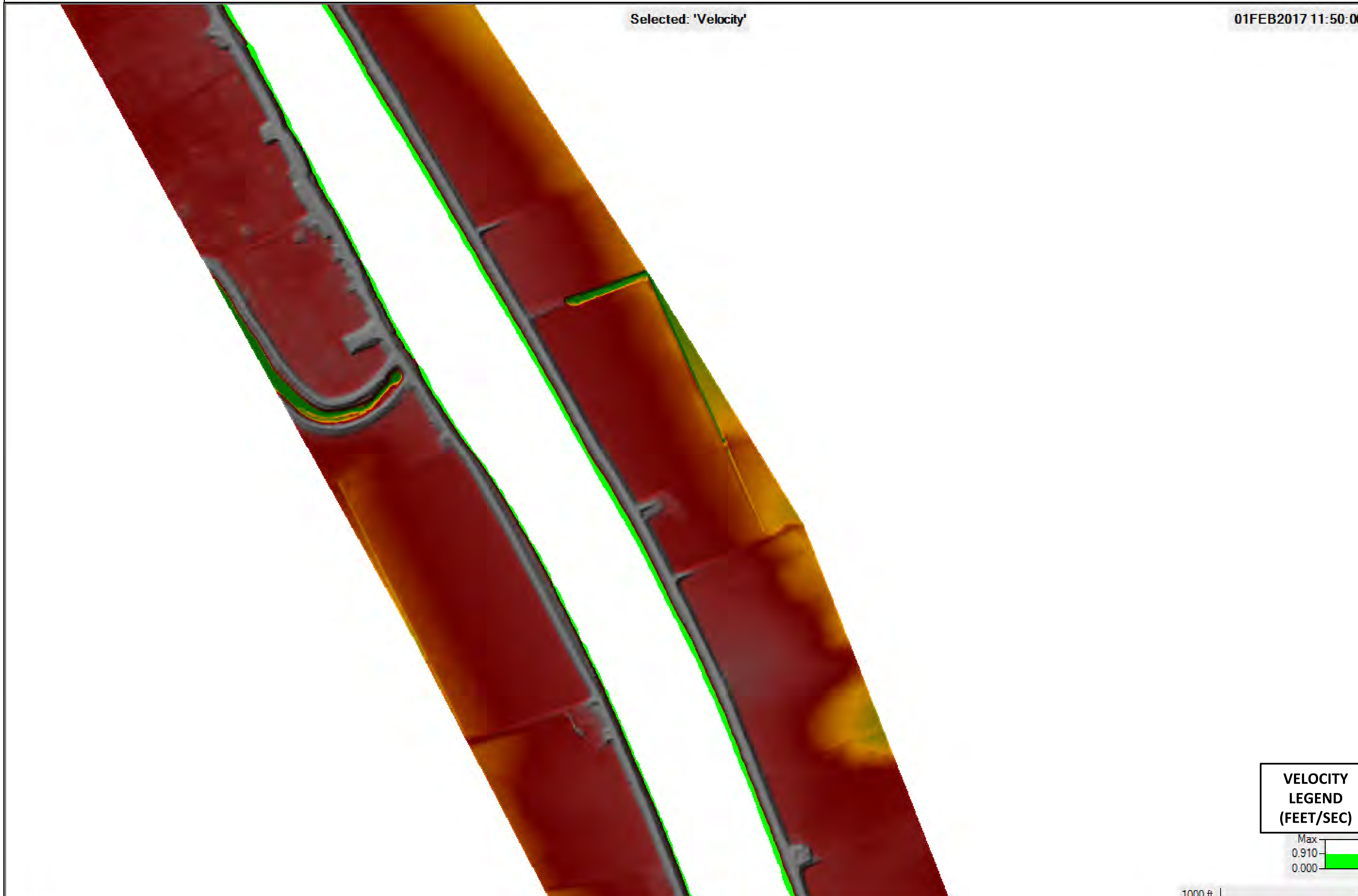
RUN 3C – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3C – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS

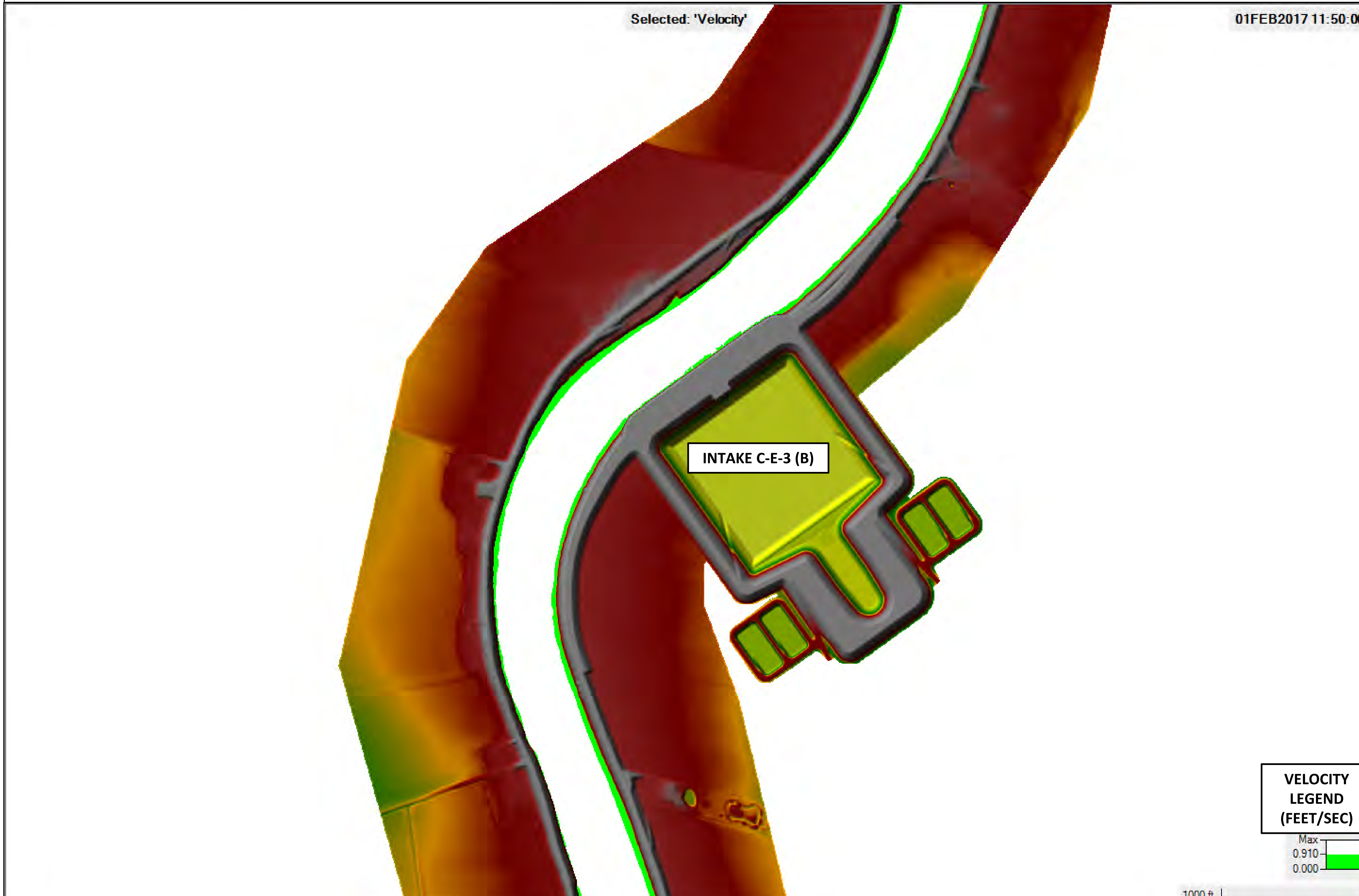


RUN 3C – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS

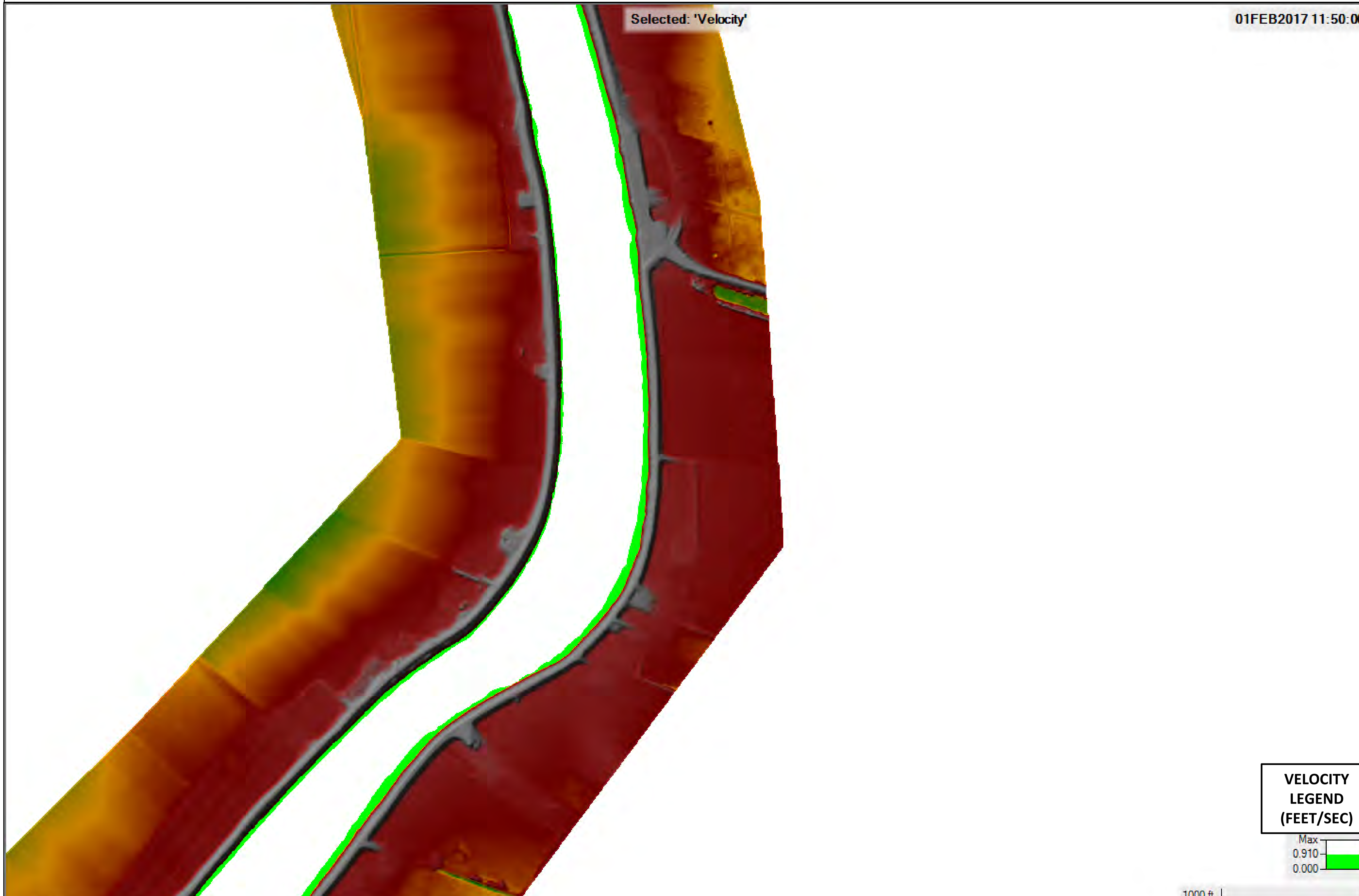
RUN 3C – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



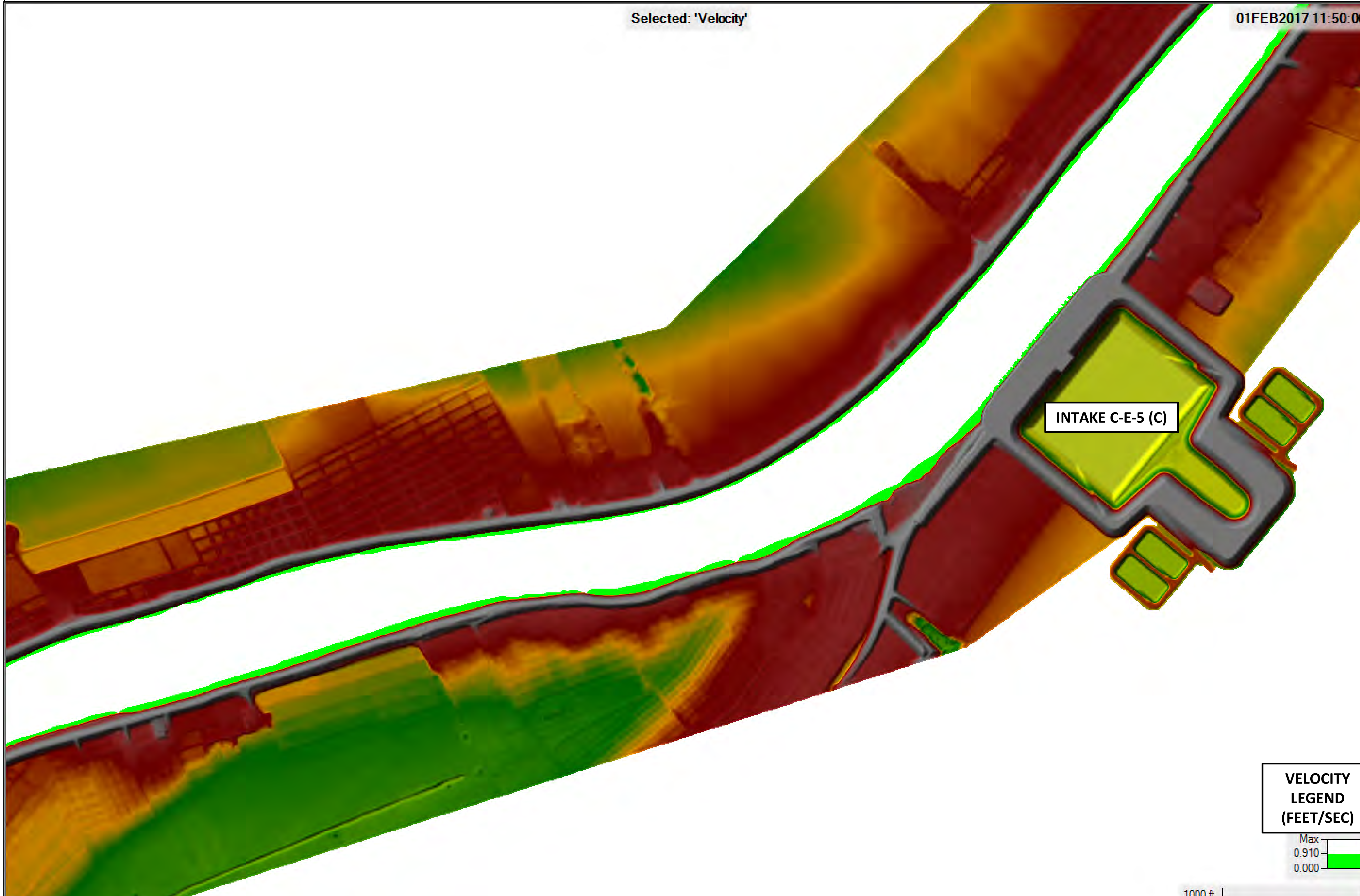
RUN 3C – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



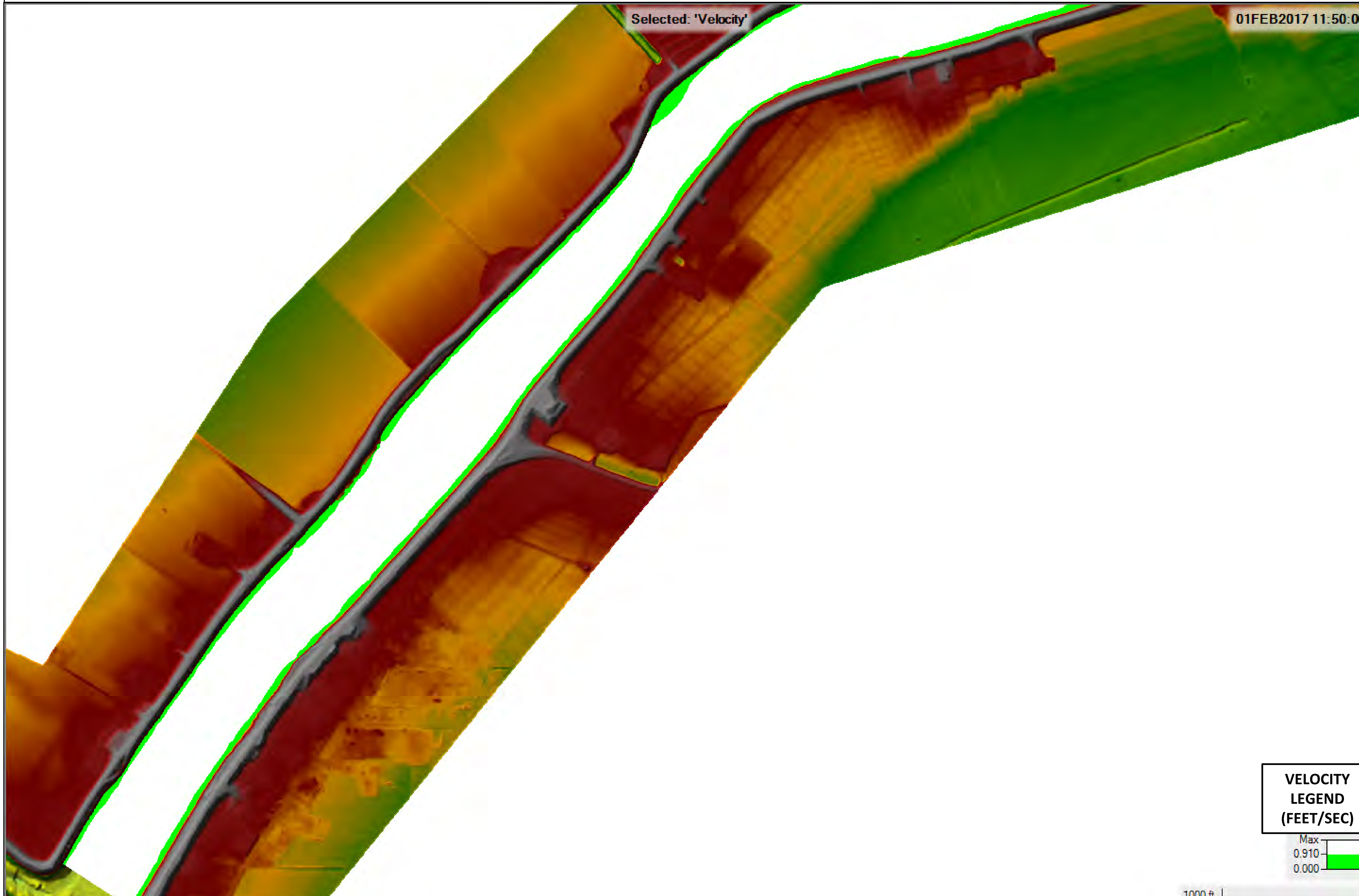
RUN 3C – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3C – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

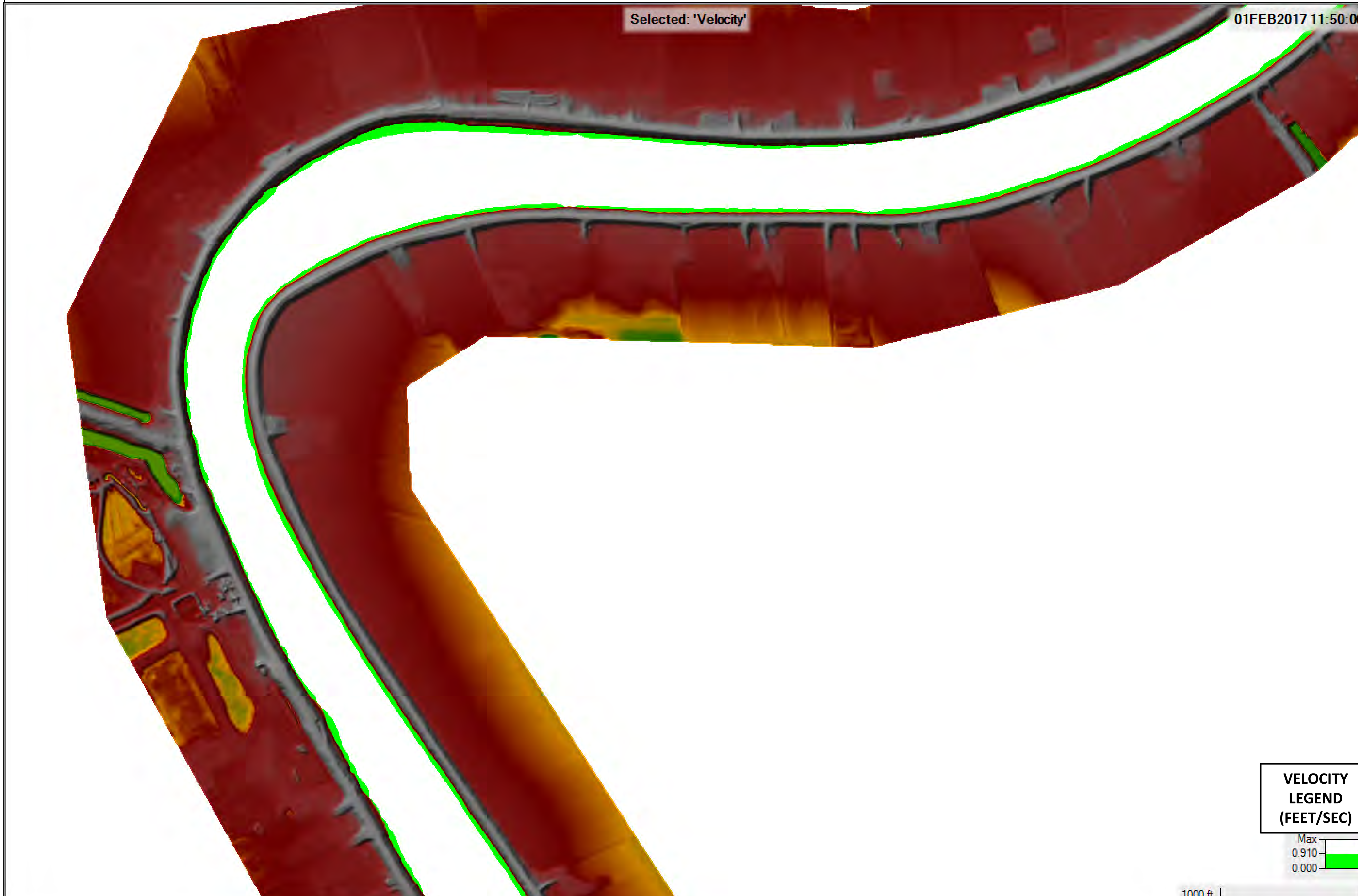
MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3D

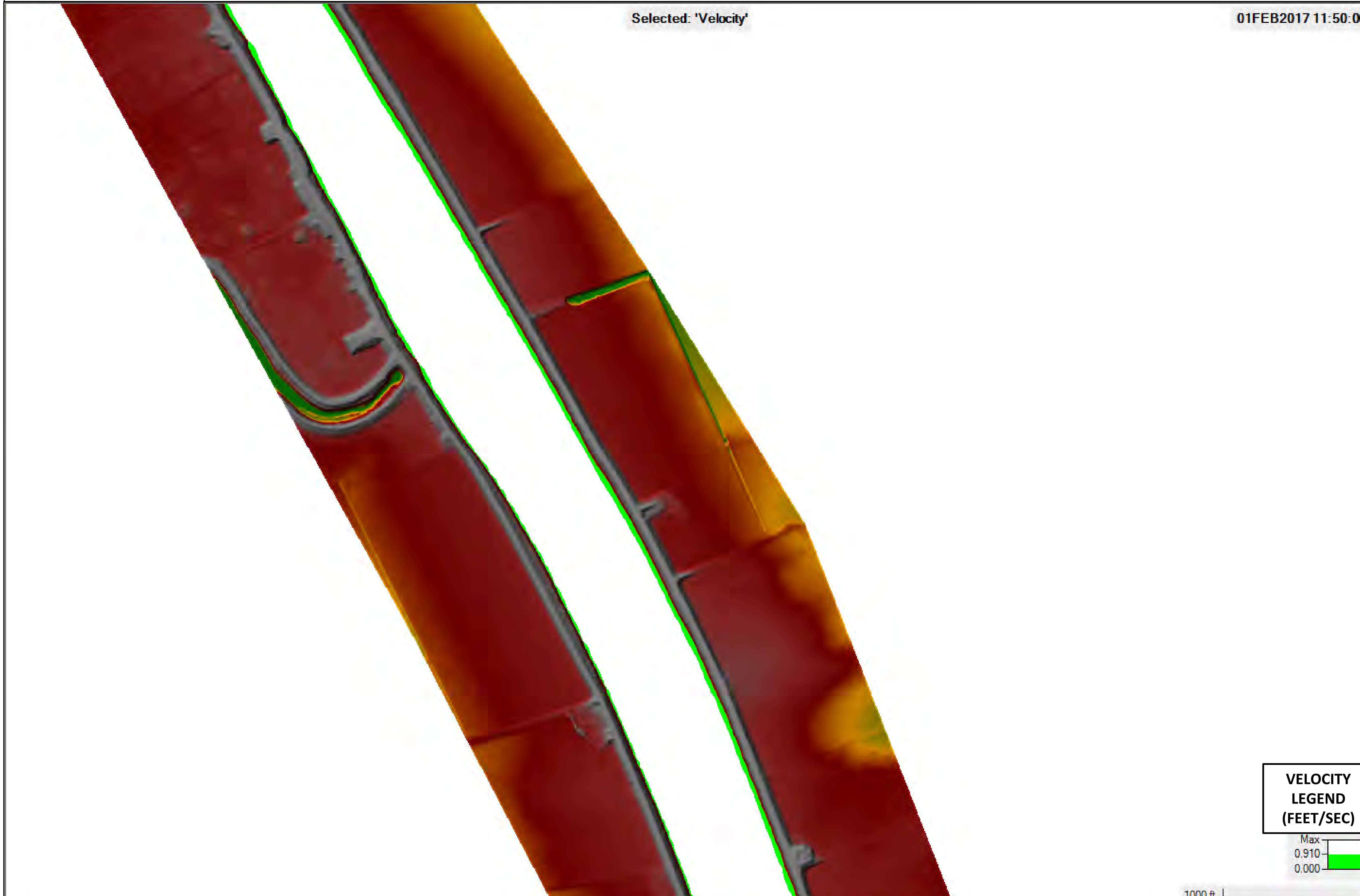
RUN 3D – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3D – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 30,000-CFS AT FREEPORT – TEE SCREENS



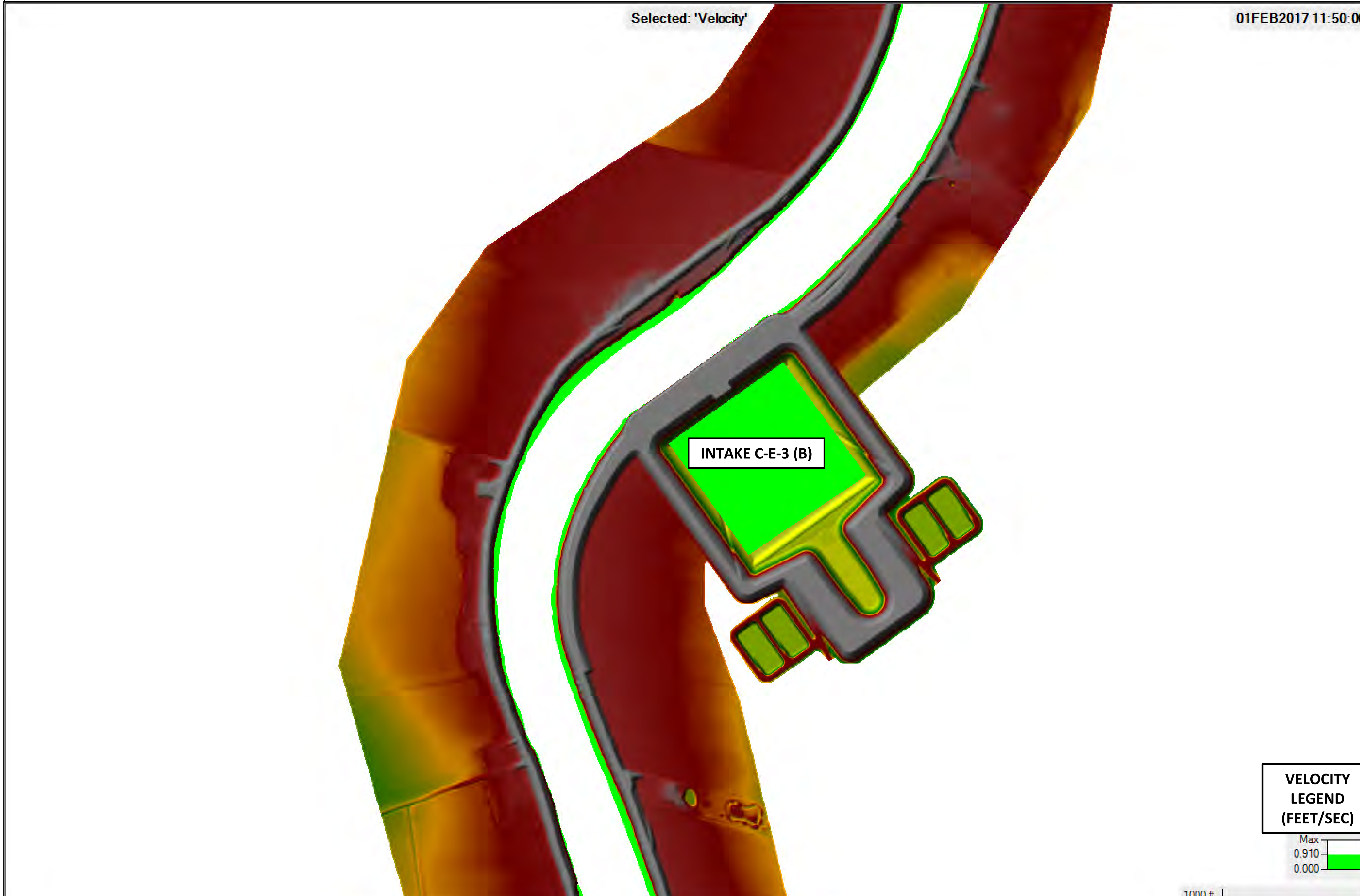
VELOCITY LEGEND (FEET/SEC)

RUN 3D – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 30,000-CFS AT FREEPORT – TEE SCREENS

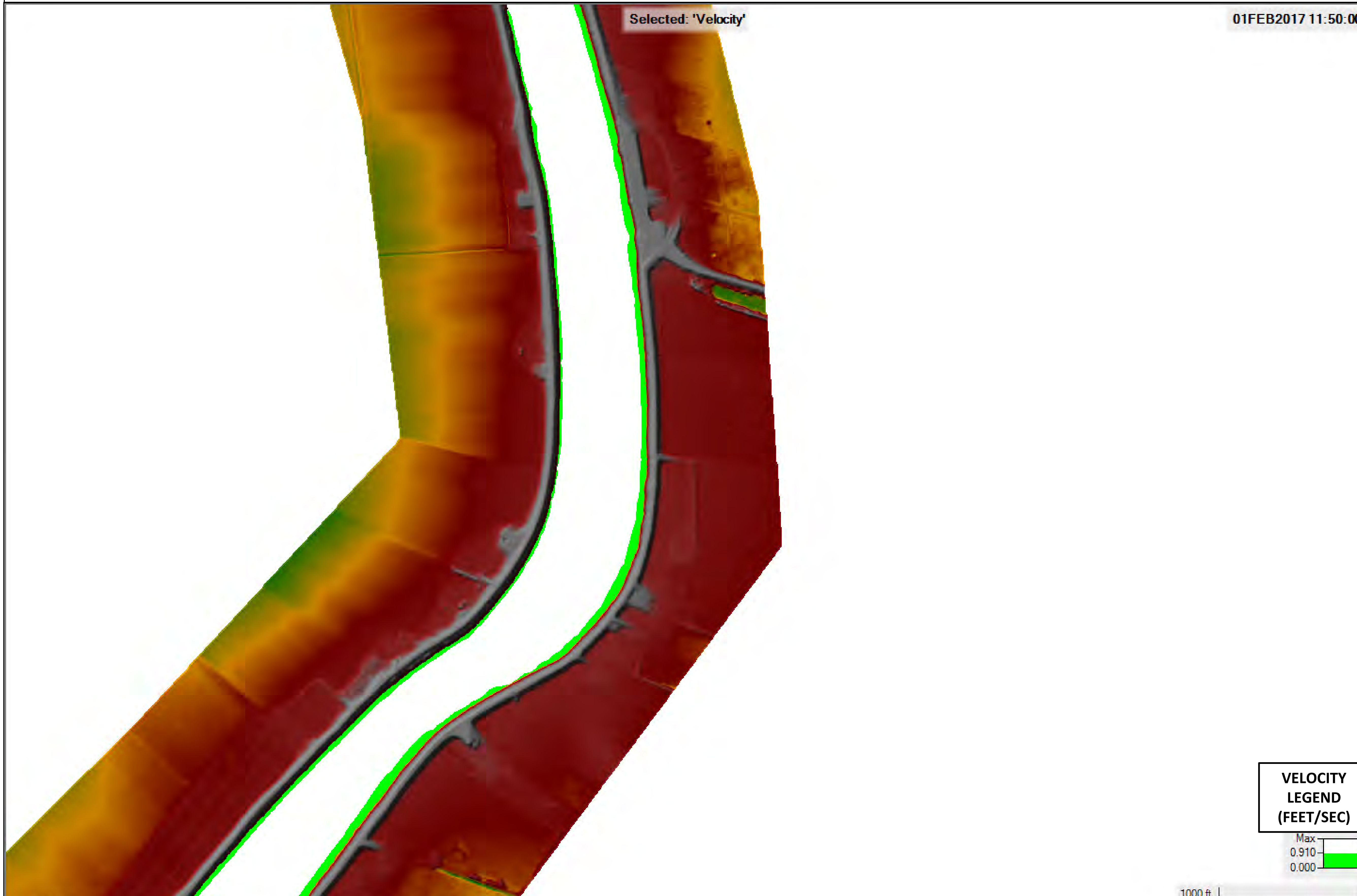
RUN 3D – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 30,000-CFS AT FREEPORT – TEE SCREENS



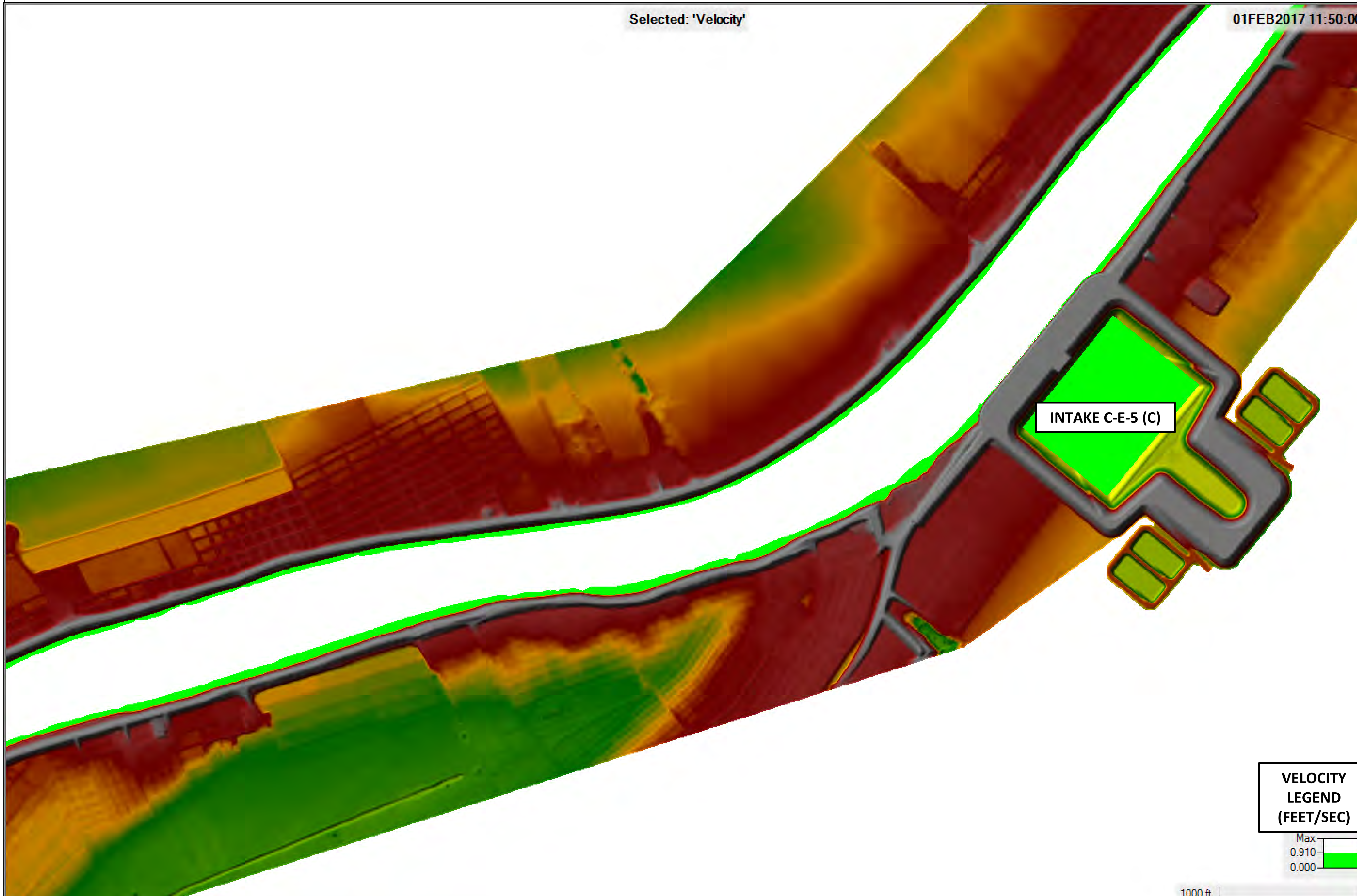
RUN 3D – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 30,000-CFS AT FREEPORT – TEE SCREENS



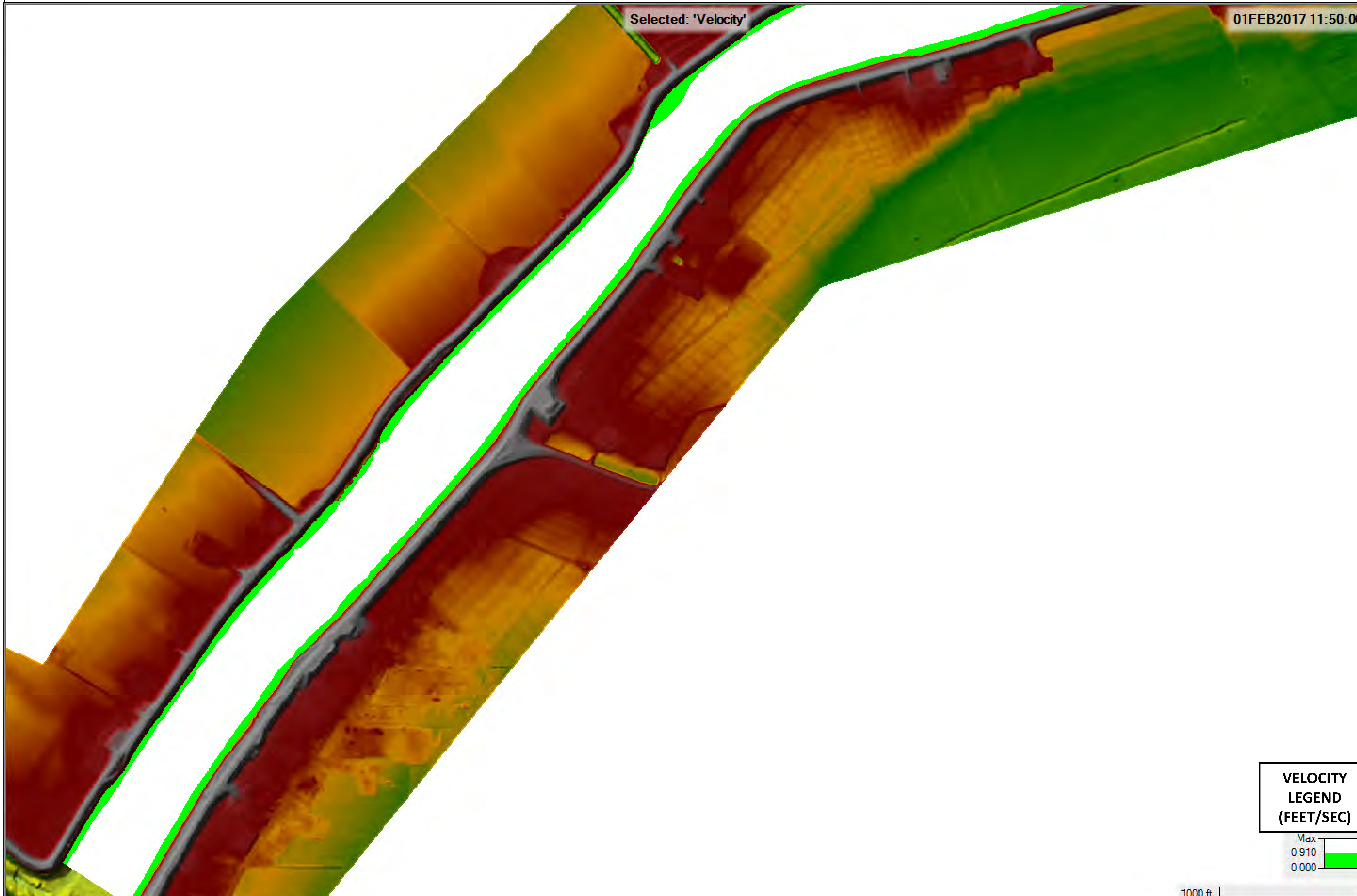
RUN 3D – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3D – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

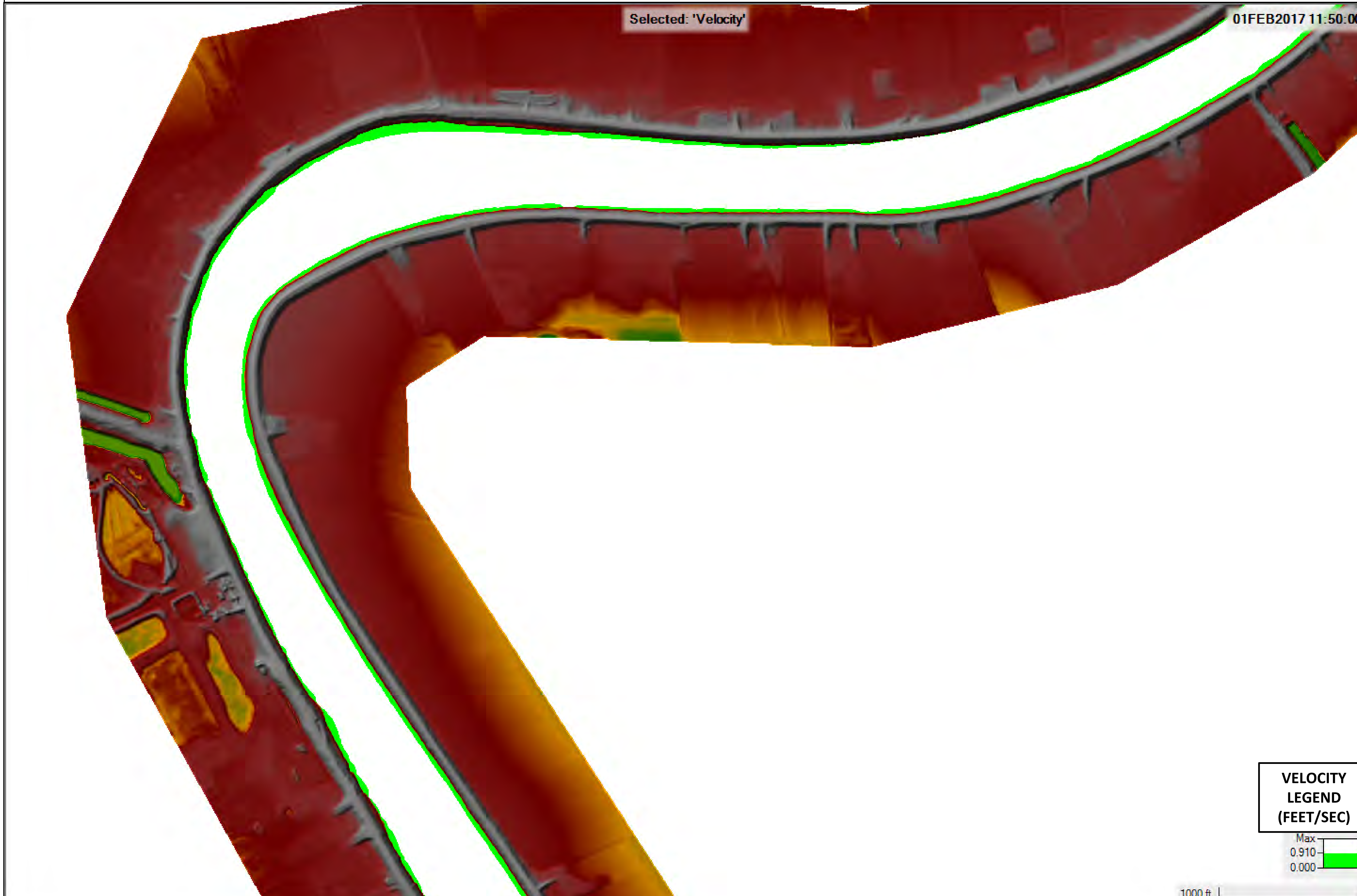
MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3E

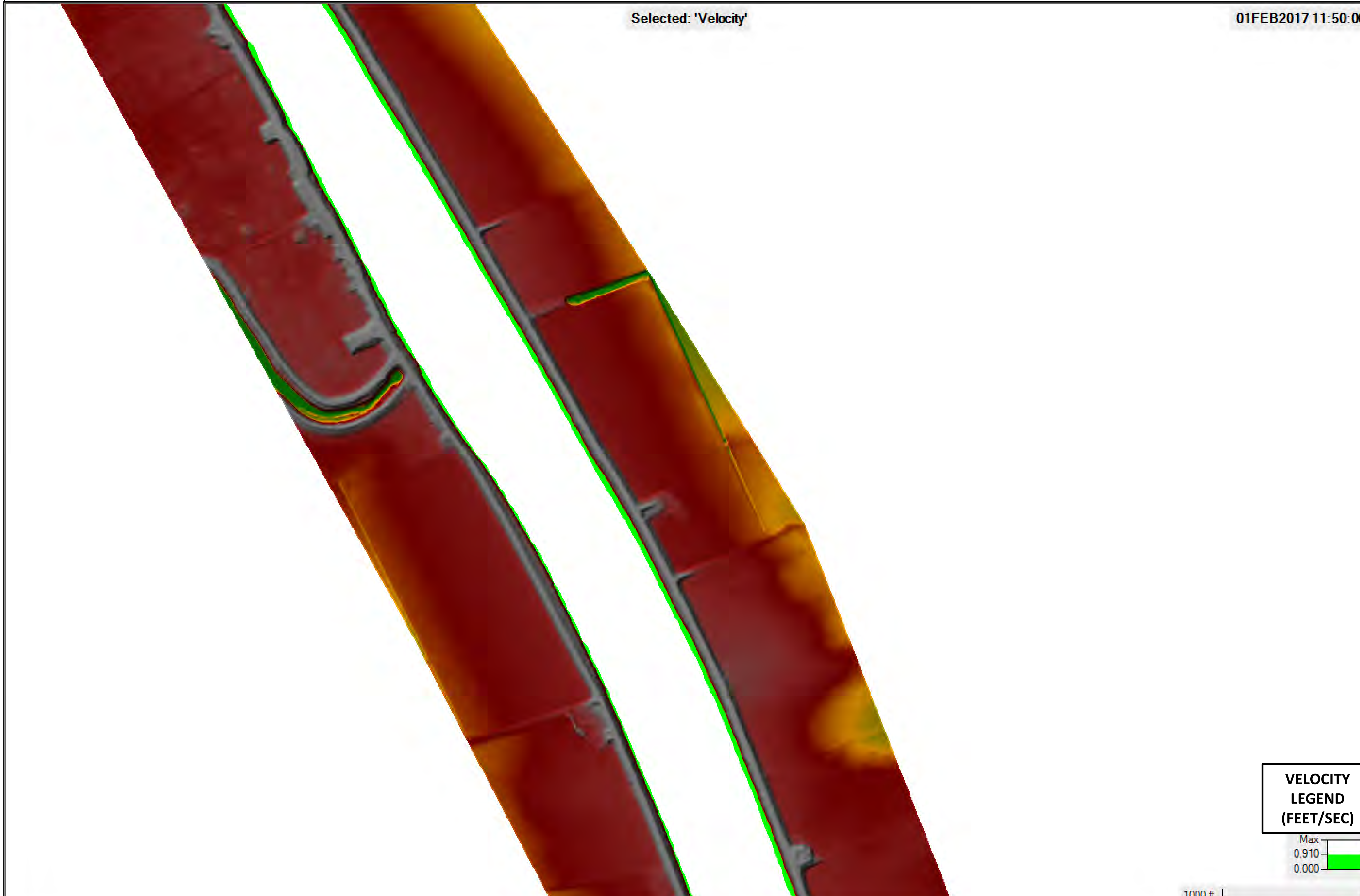
RUN 3E – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3E – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS

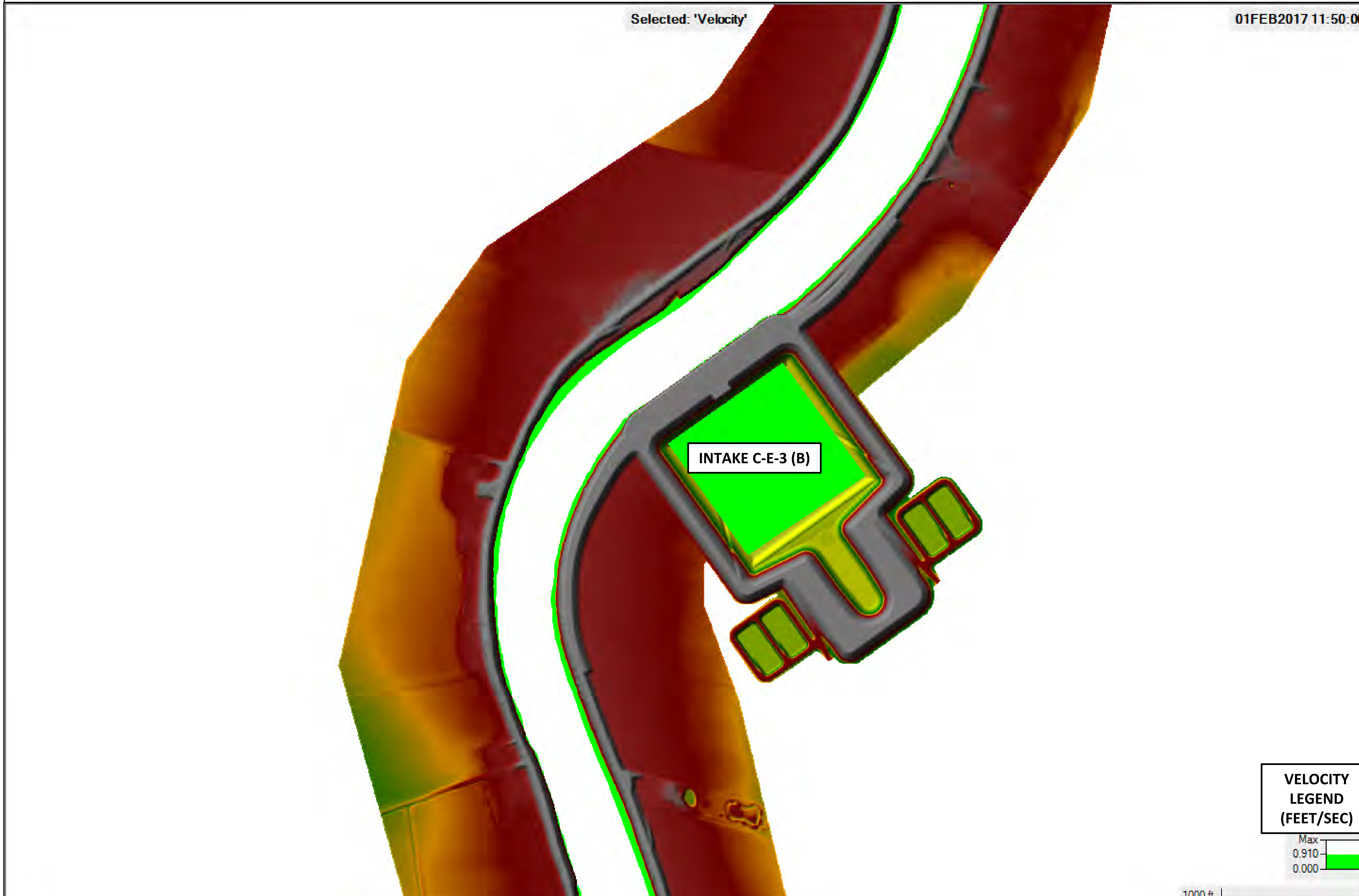


RUN 3E – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS

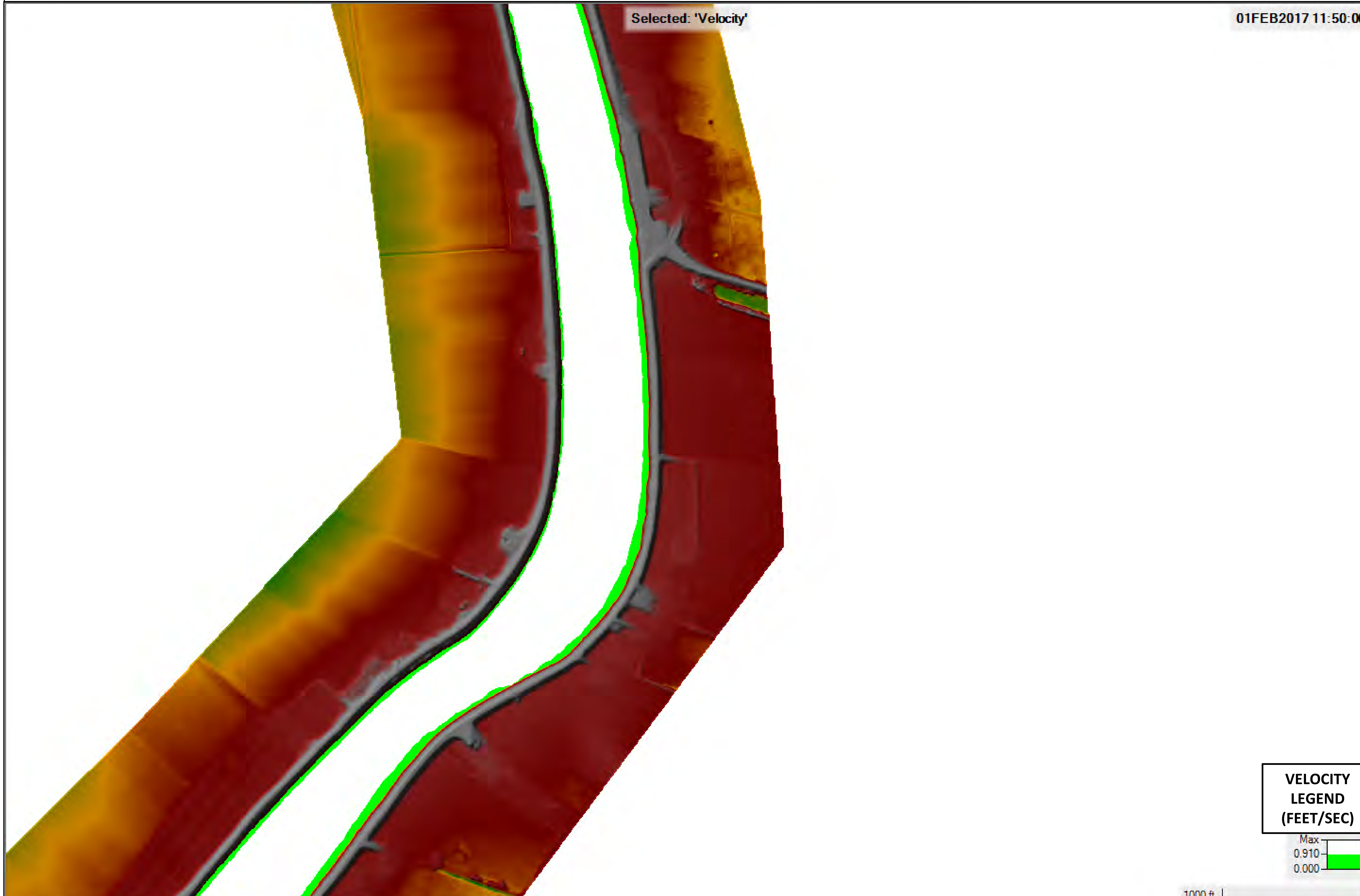
RUN 3E – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



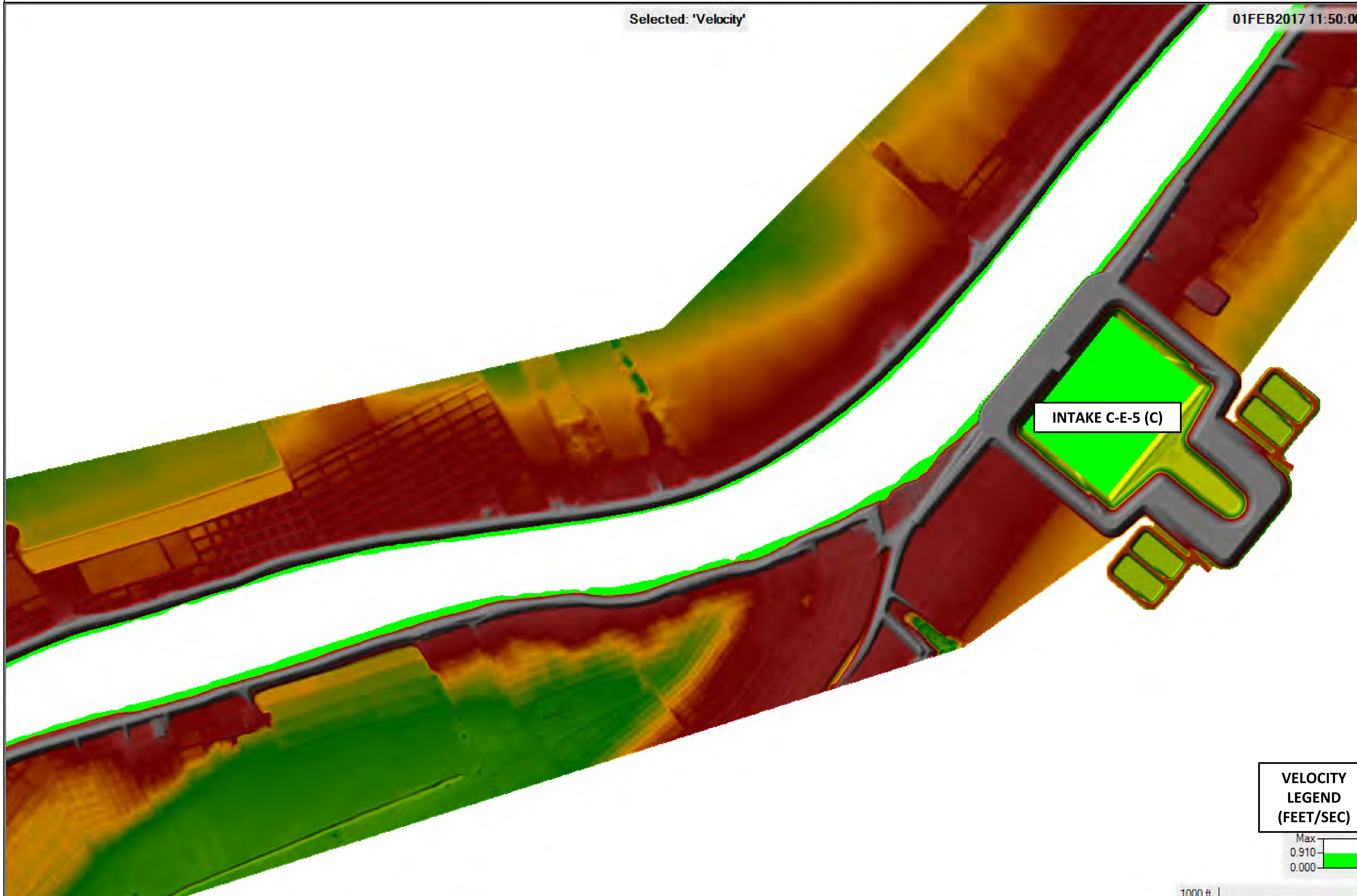
RUN 3E – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



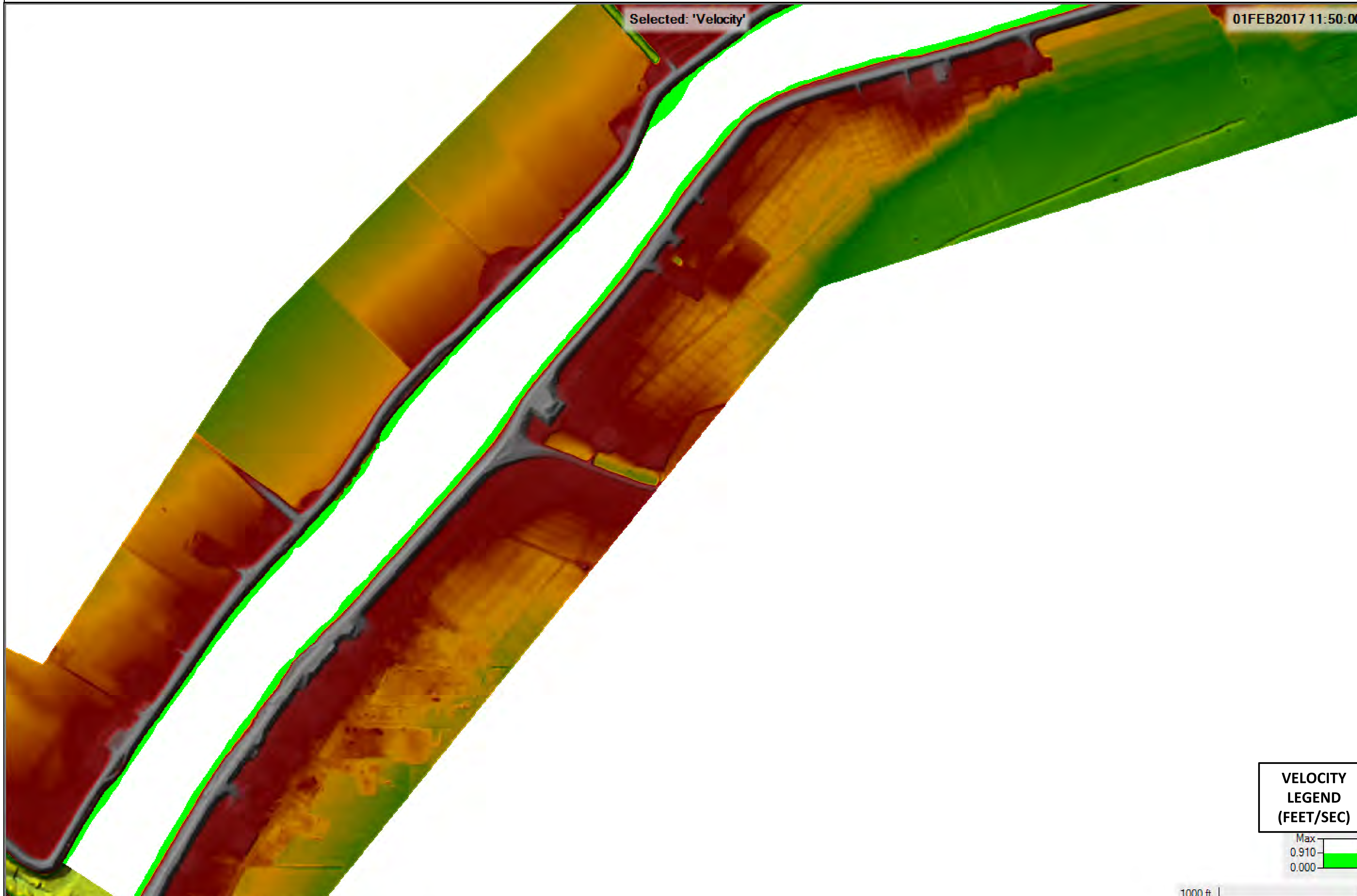
RUN 3E – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3E – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

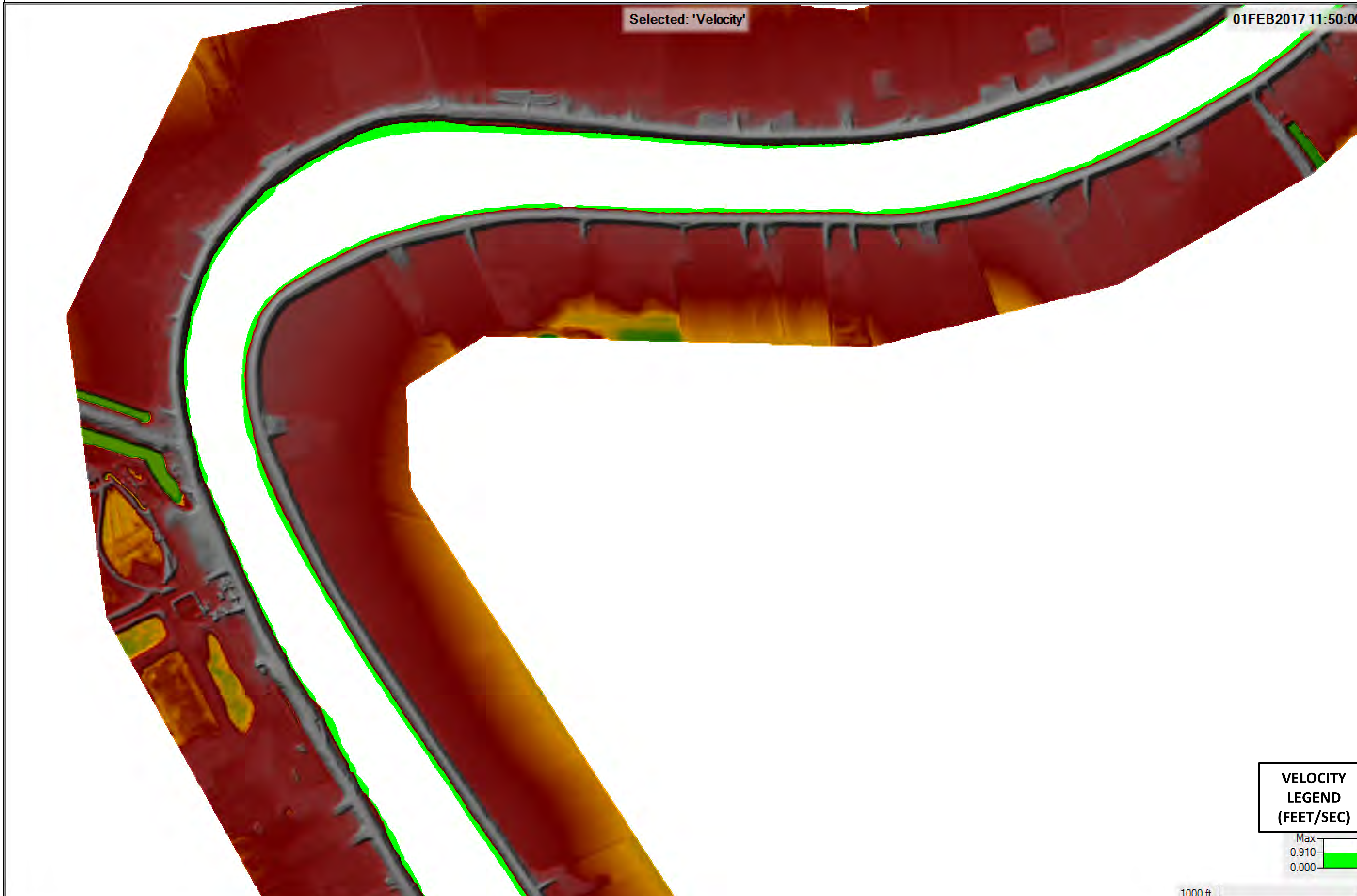
MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3F

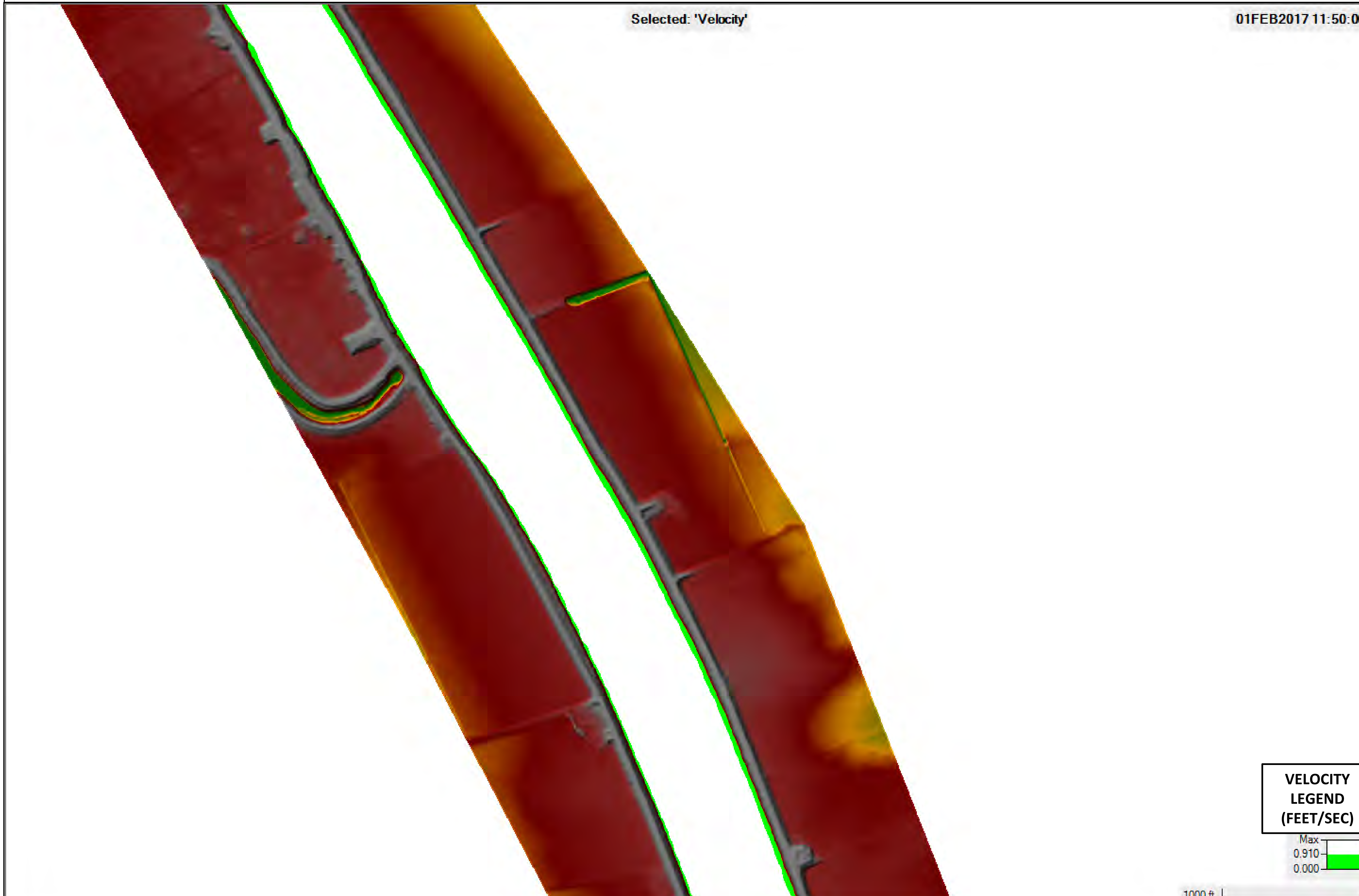
RUN 3F – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3F – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



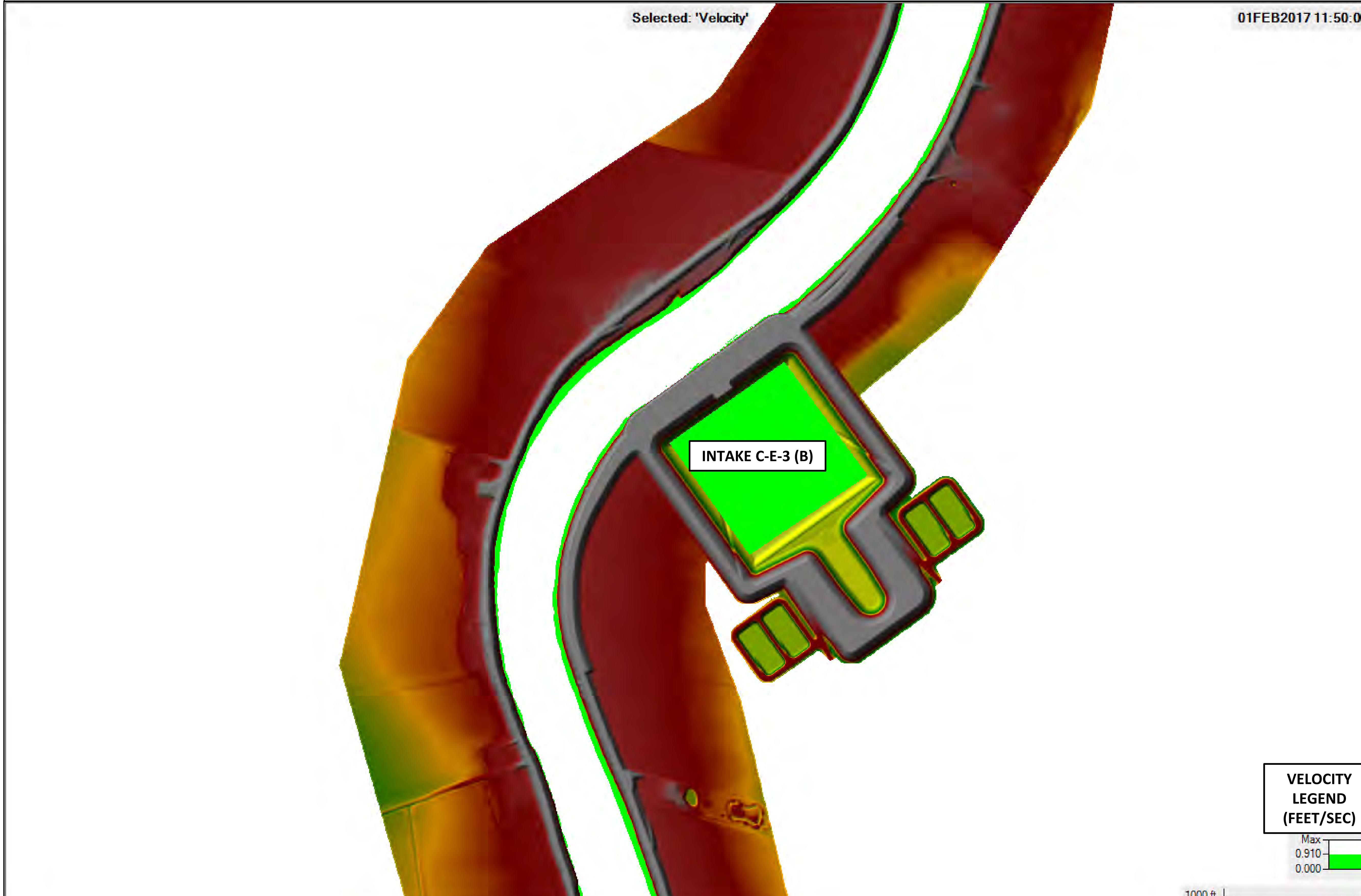
VELOCITY LEGEND (FEET/SEC)

RUN 3F – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS

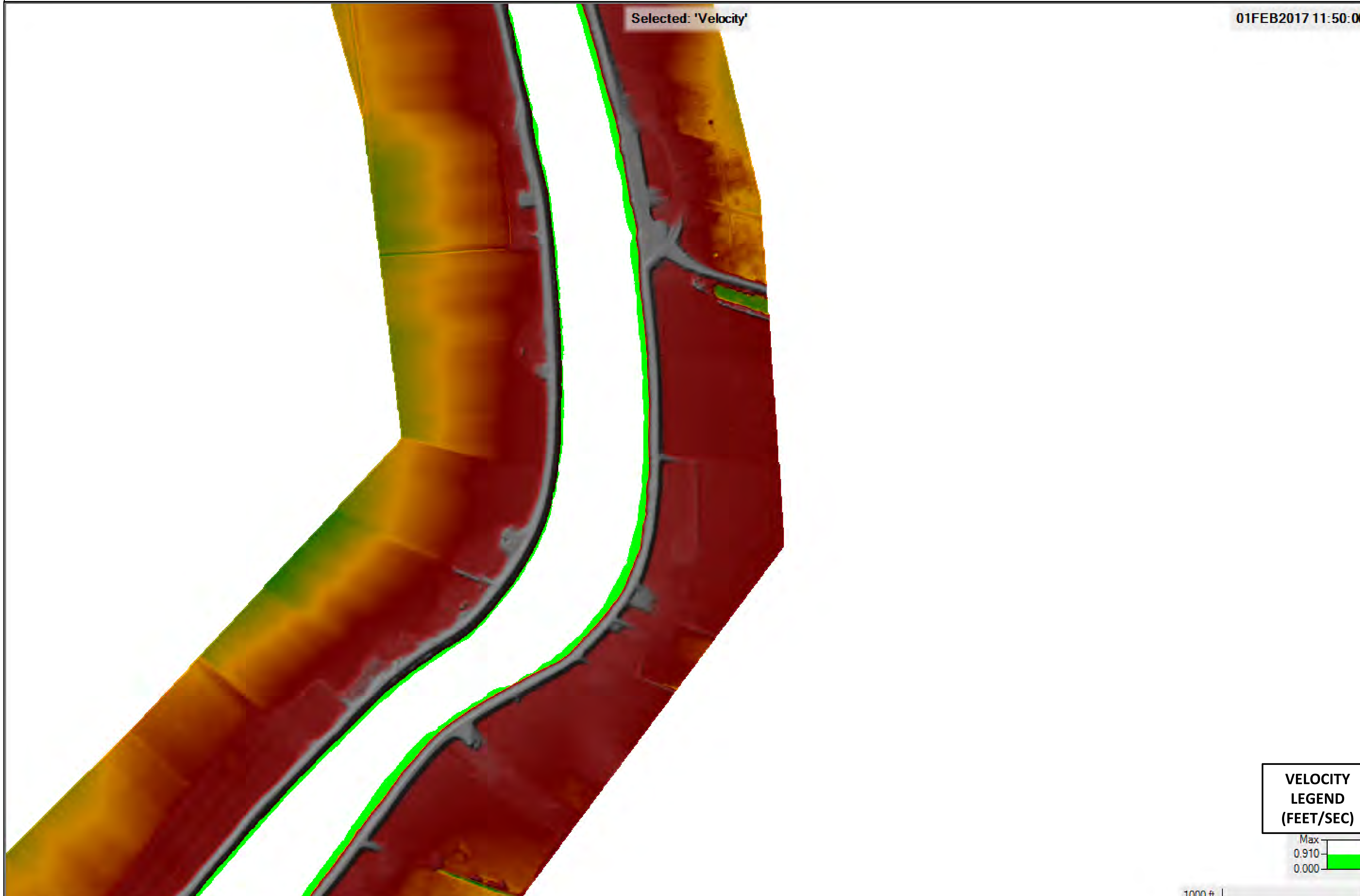
RUN 3F – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



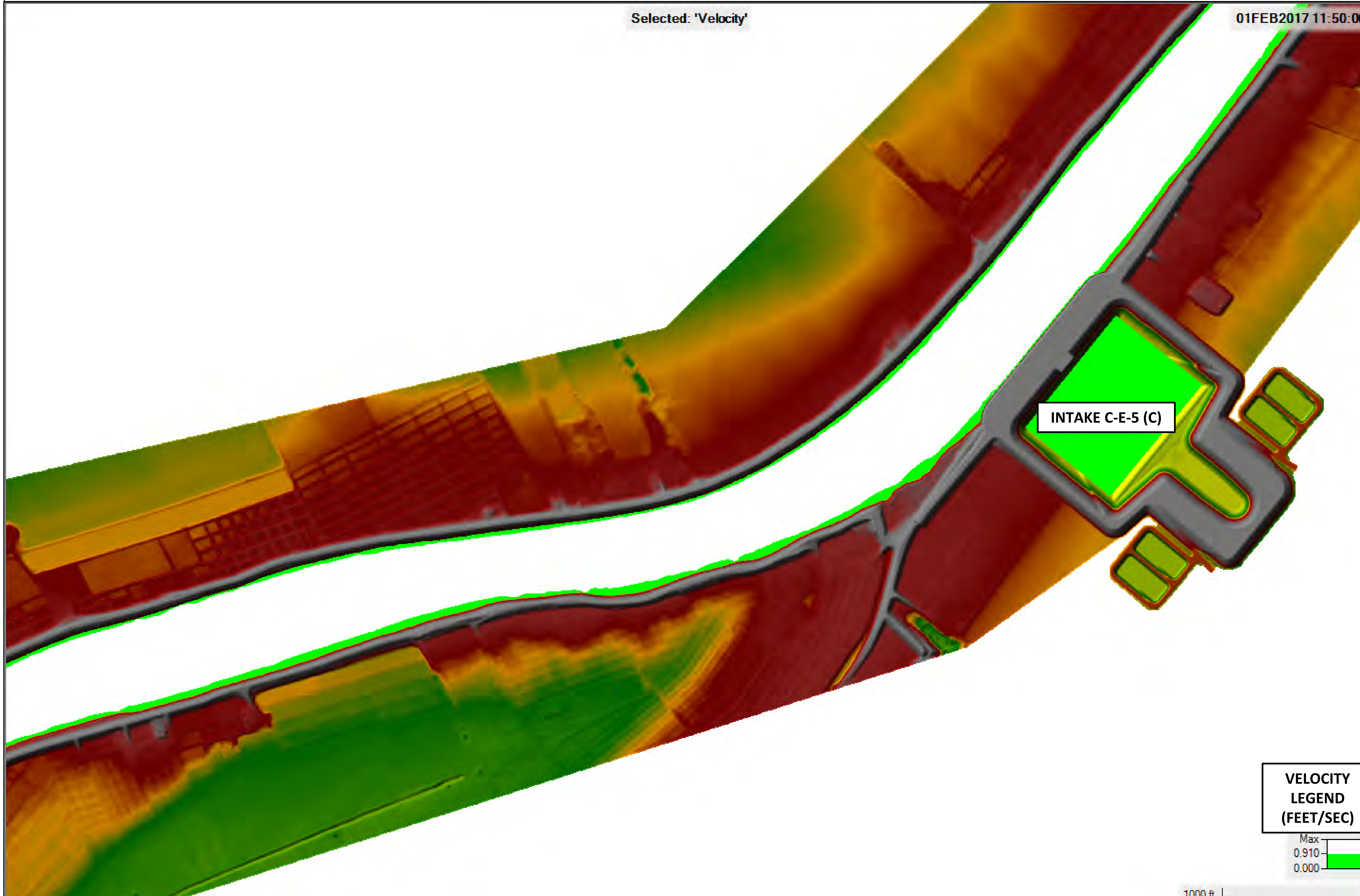
RUN 3F – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



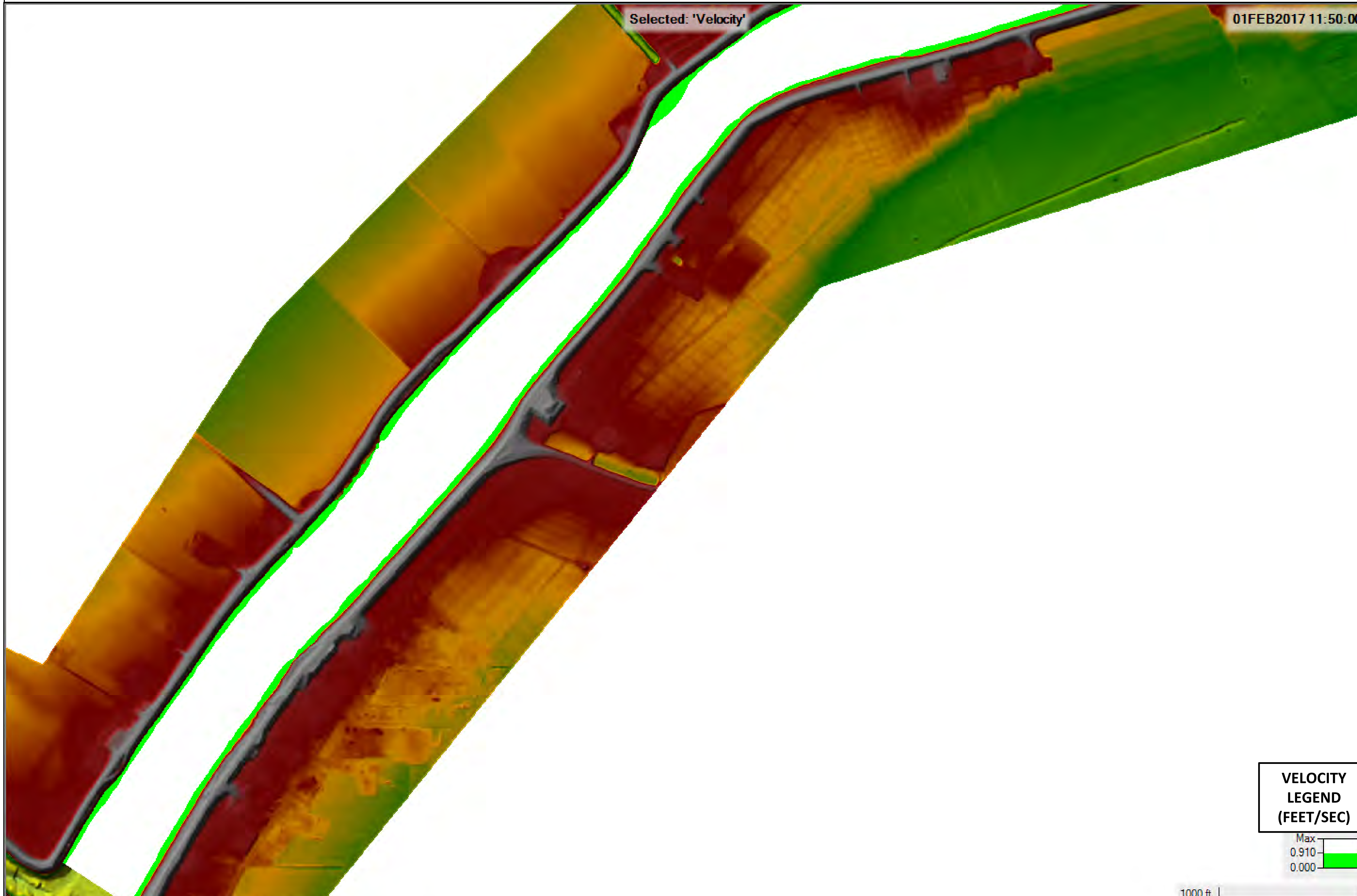
RUN 3F – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3F – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

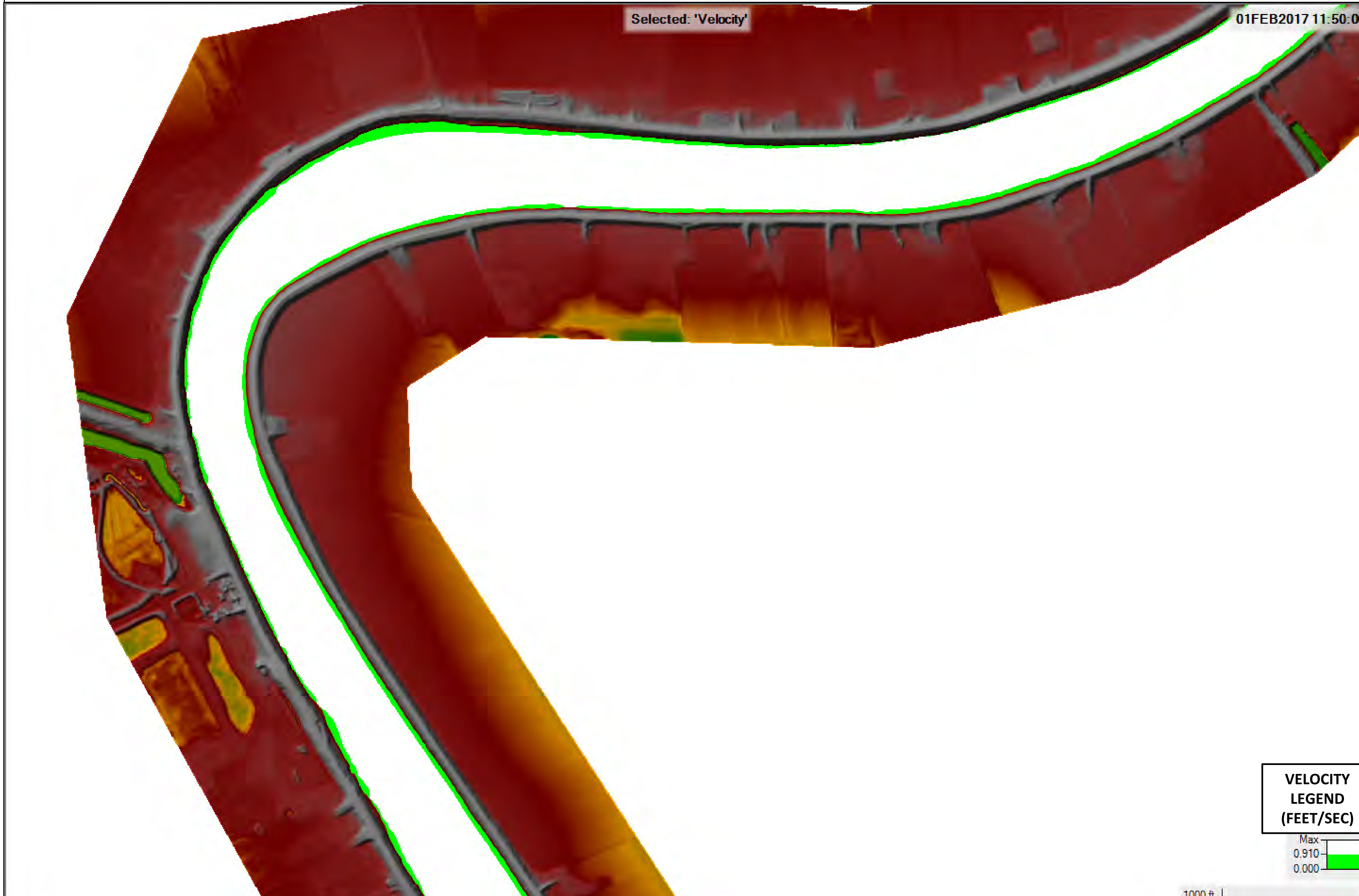
MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3G

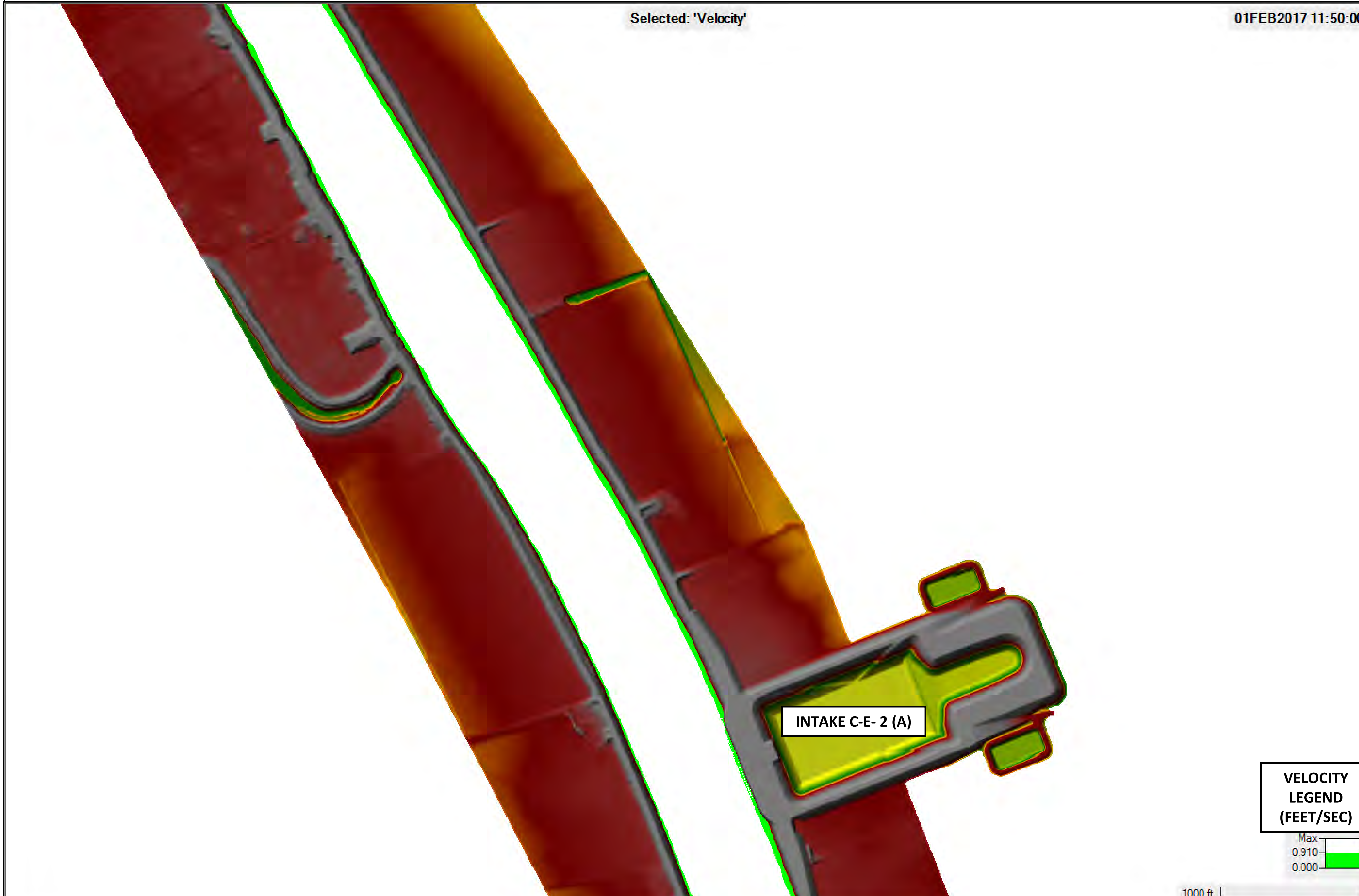
RUN 3G – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3G – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS

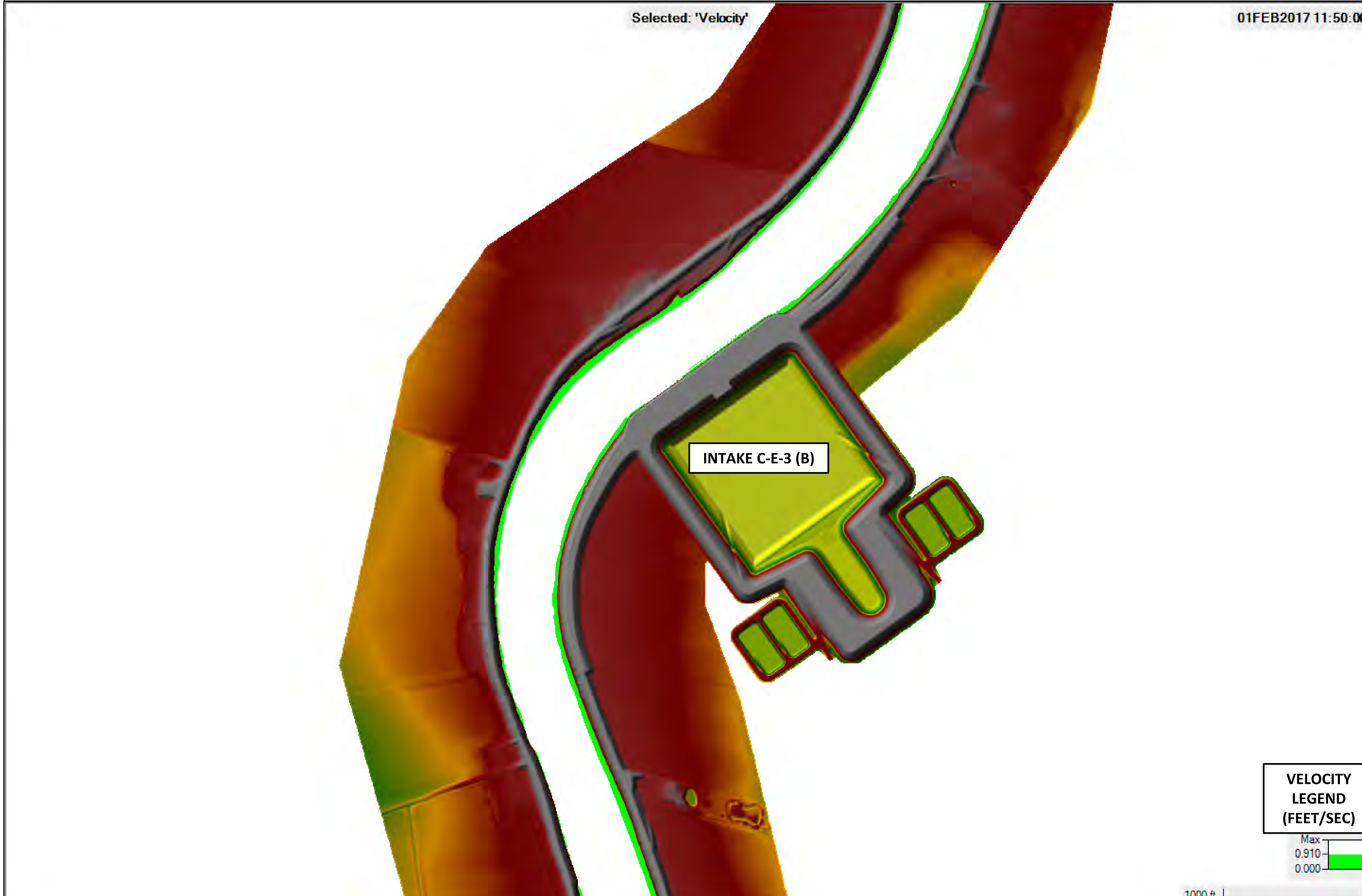


RUN 3G – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS

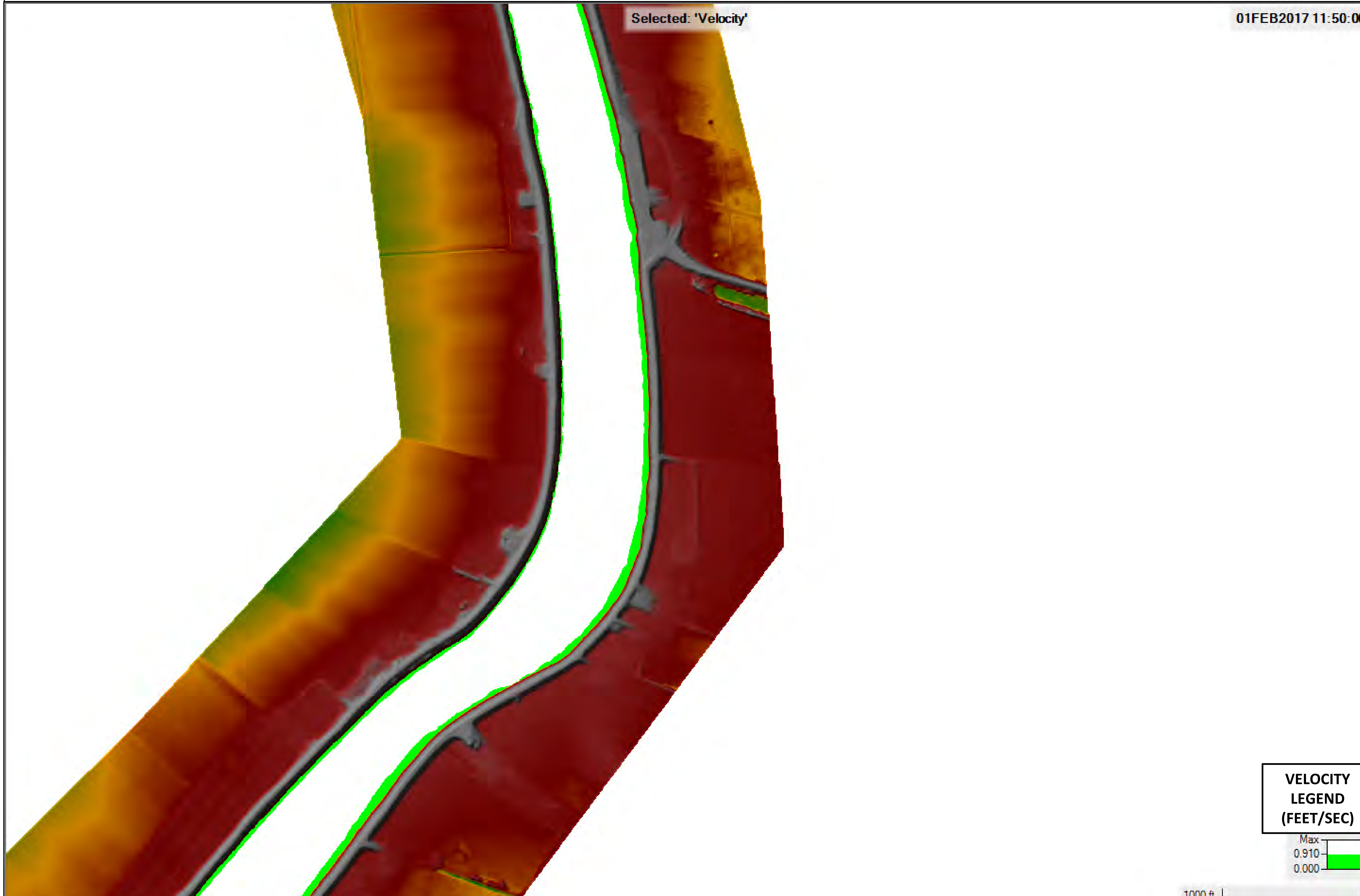
RUN 3G – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



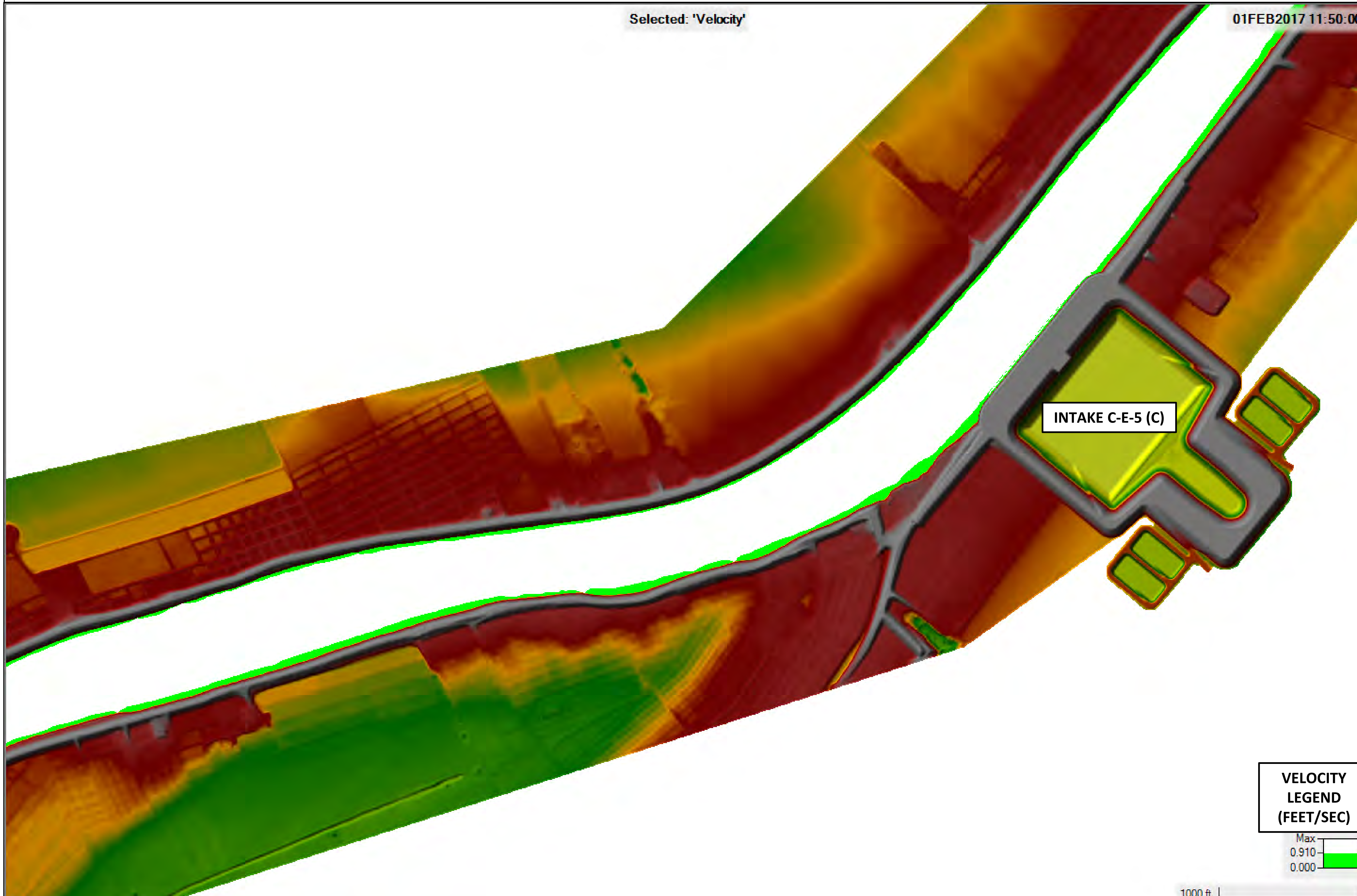
RUN 3G – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



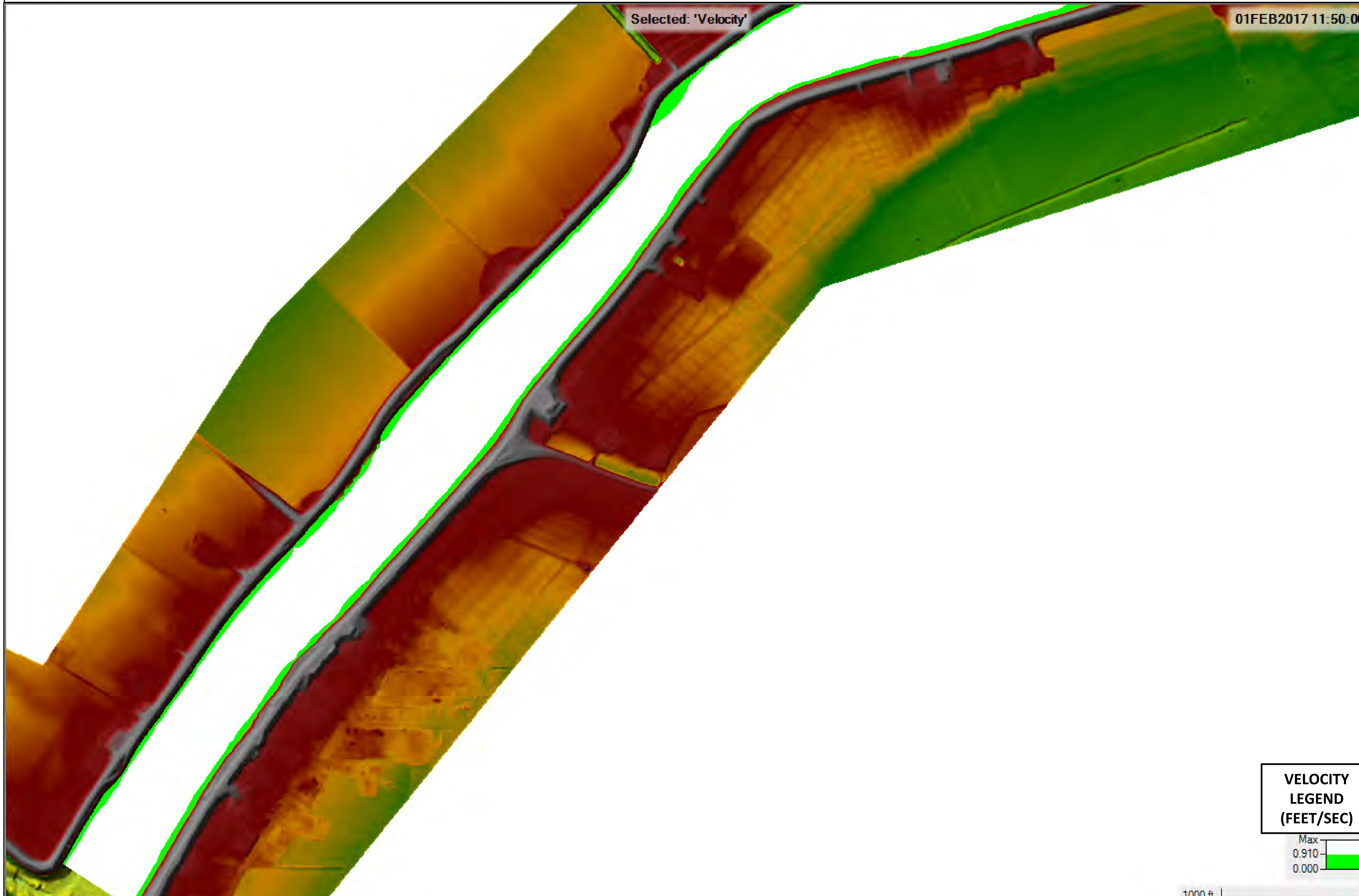
RUN 3G – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3G – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

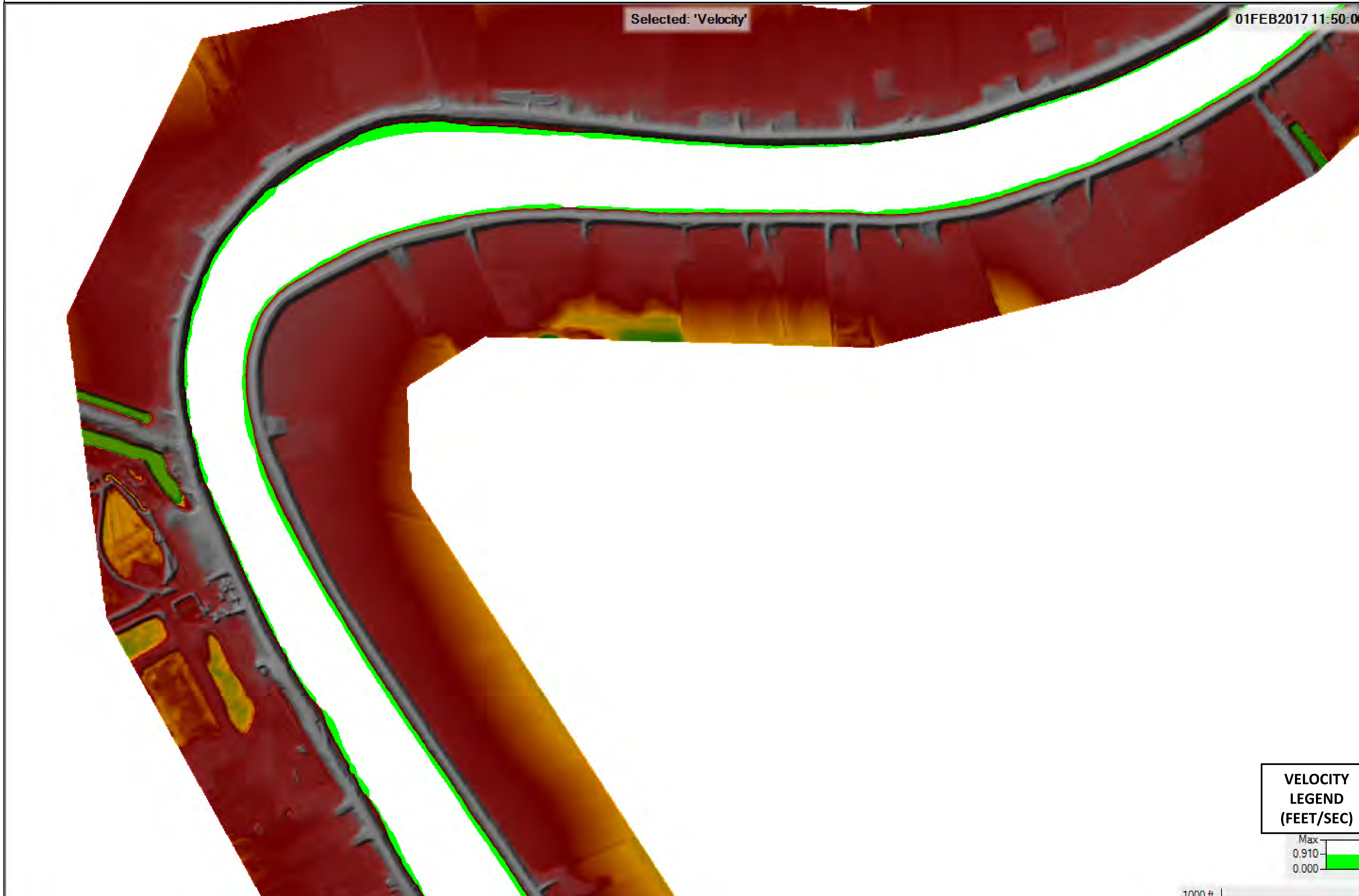
MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3H

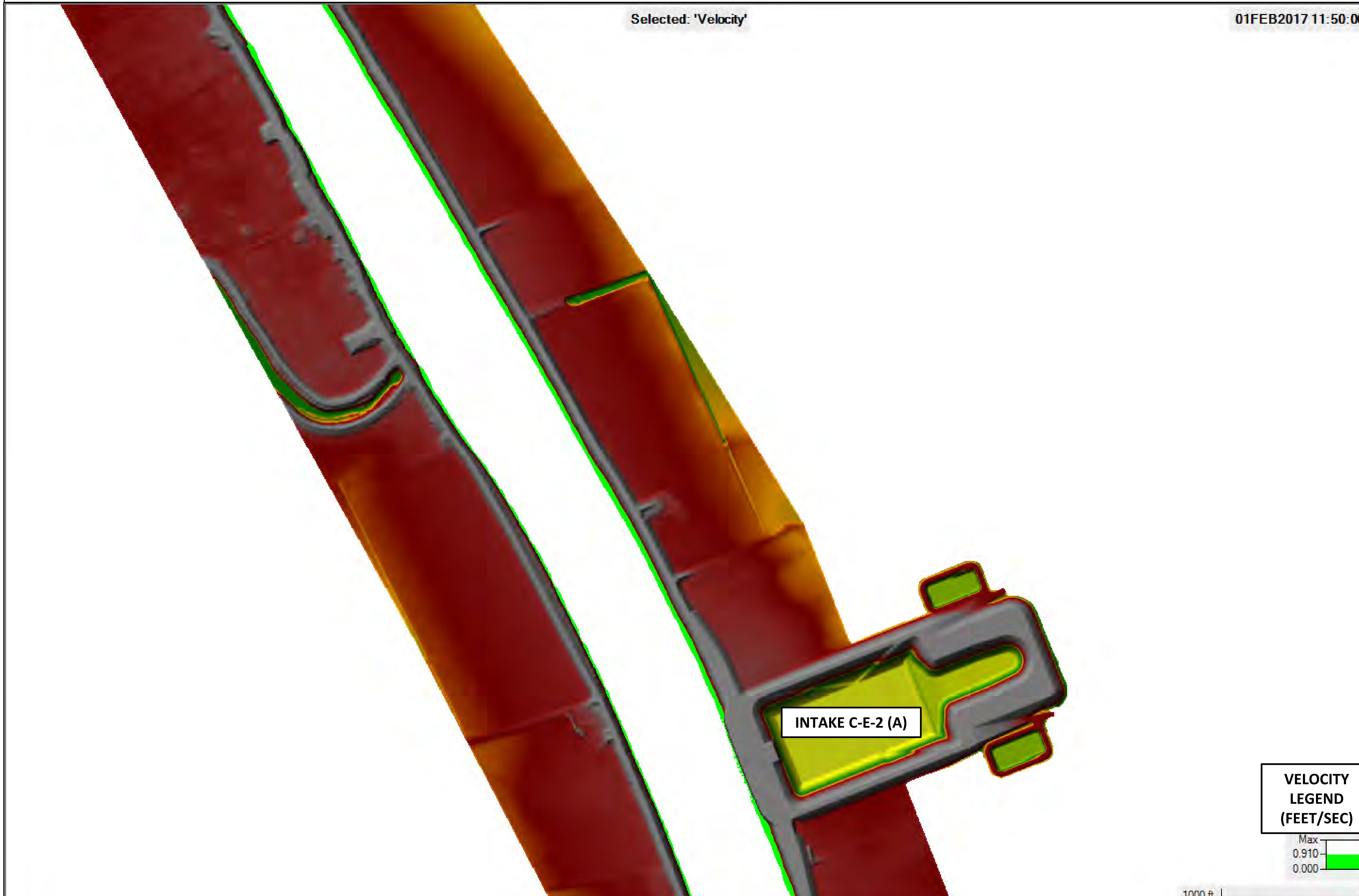
RUN 3H – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3H – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS

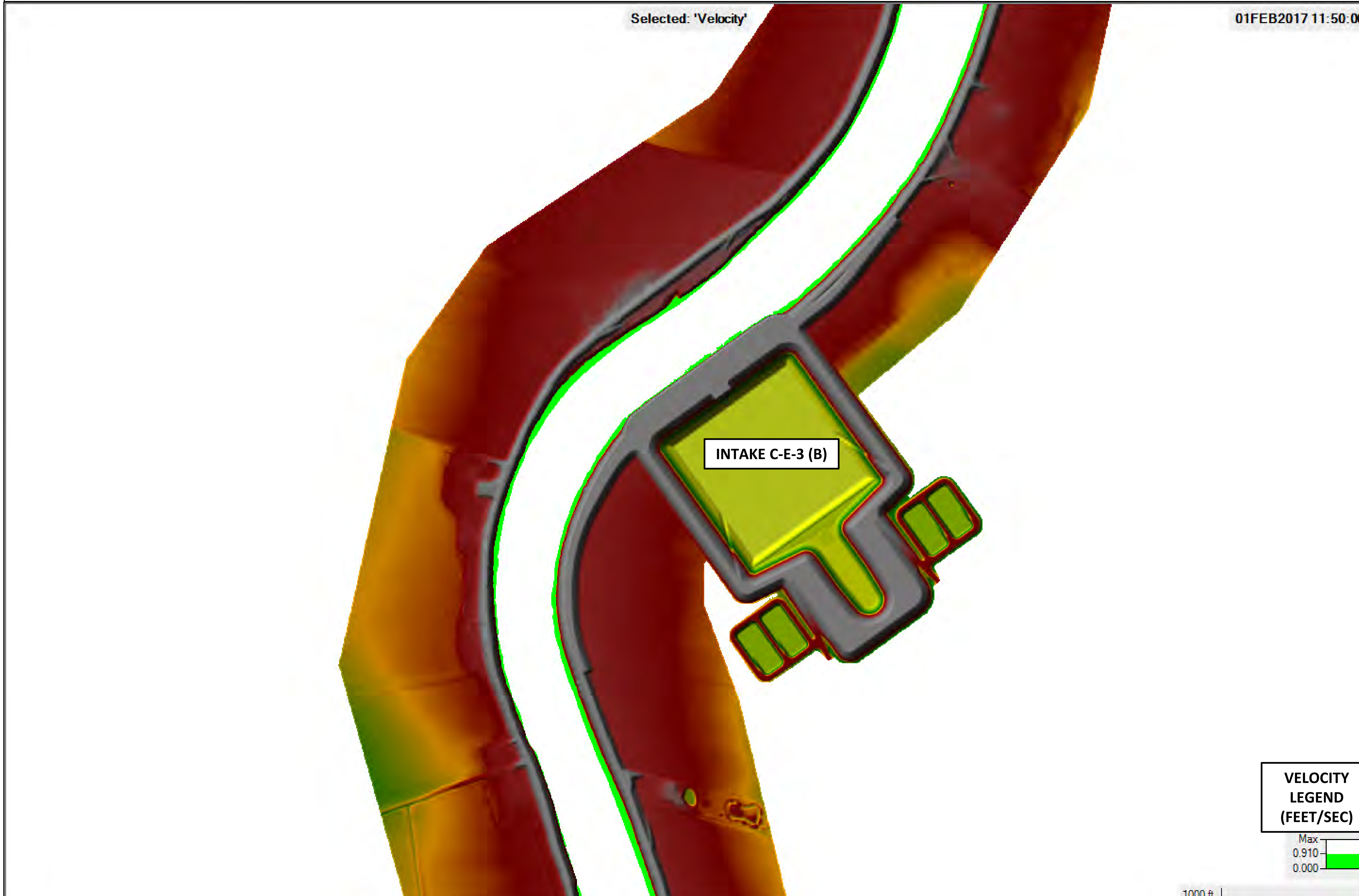


RUN 3H – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS

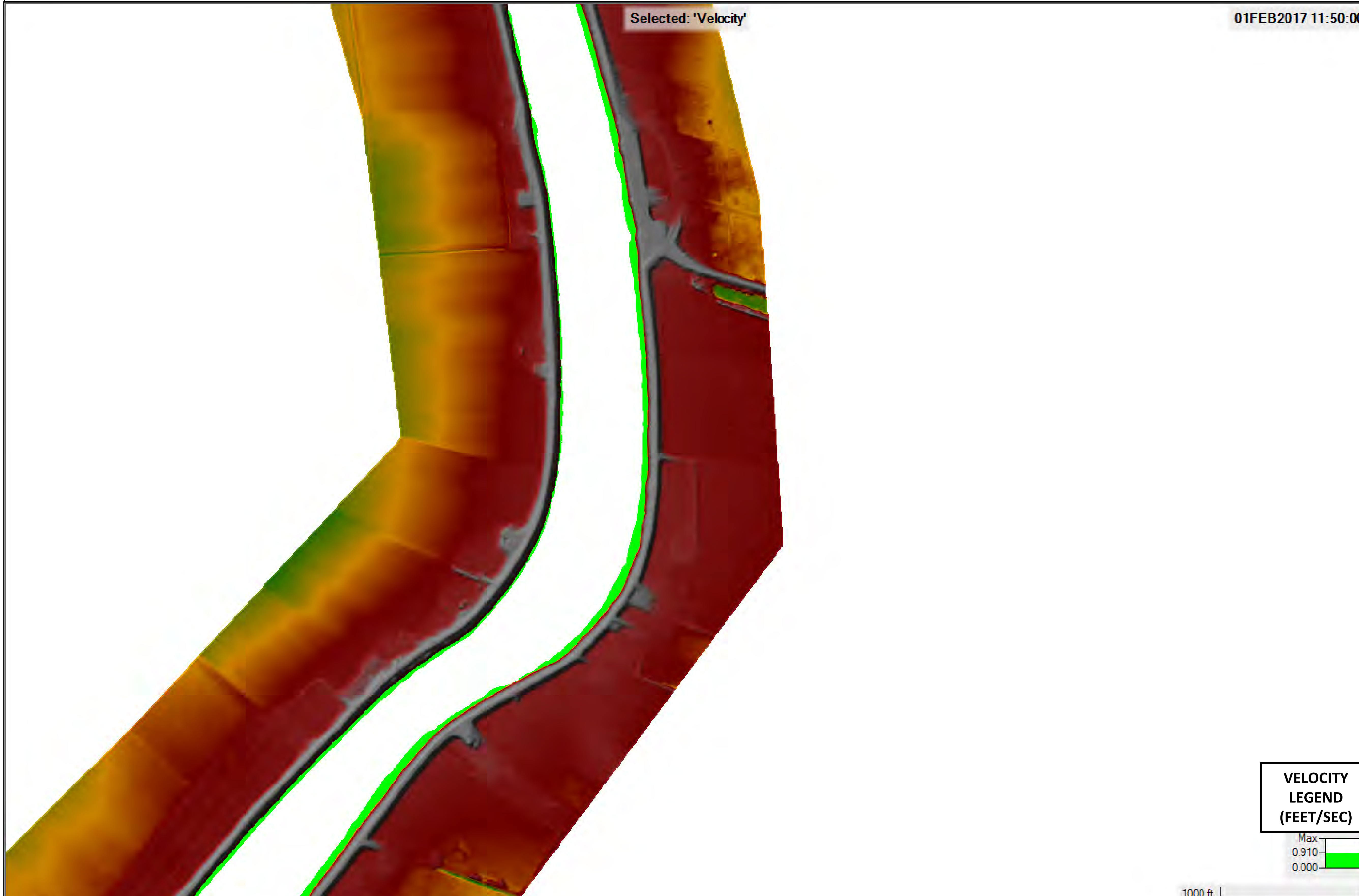
RUN 3H – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



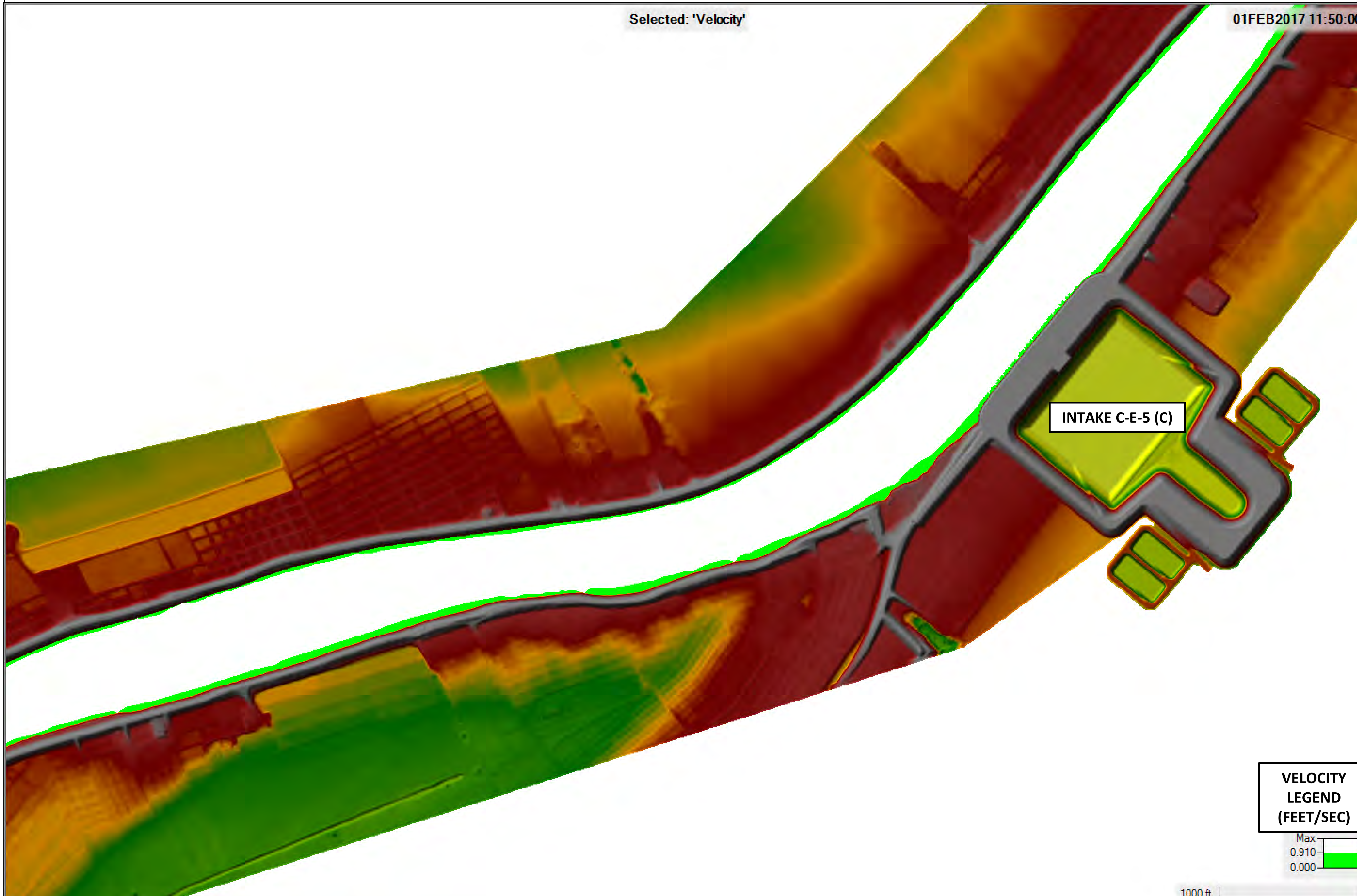
RUN 3H – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



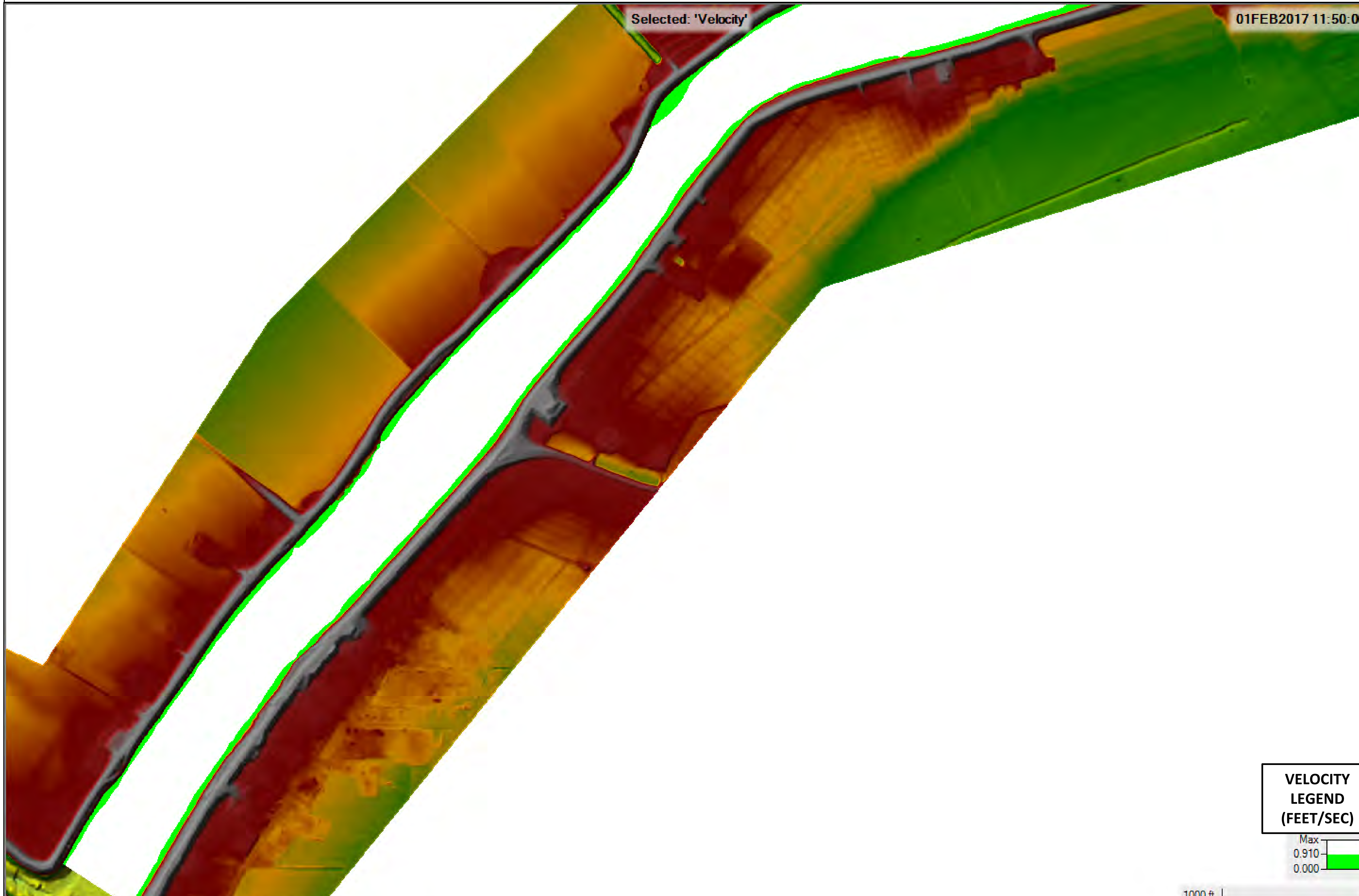
RUN 3H – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3H – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

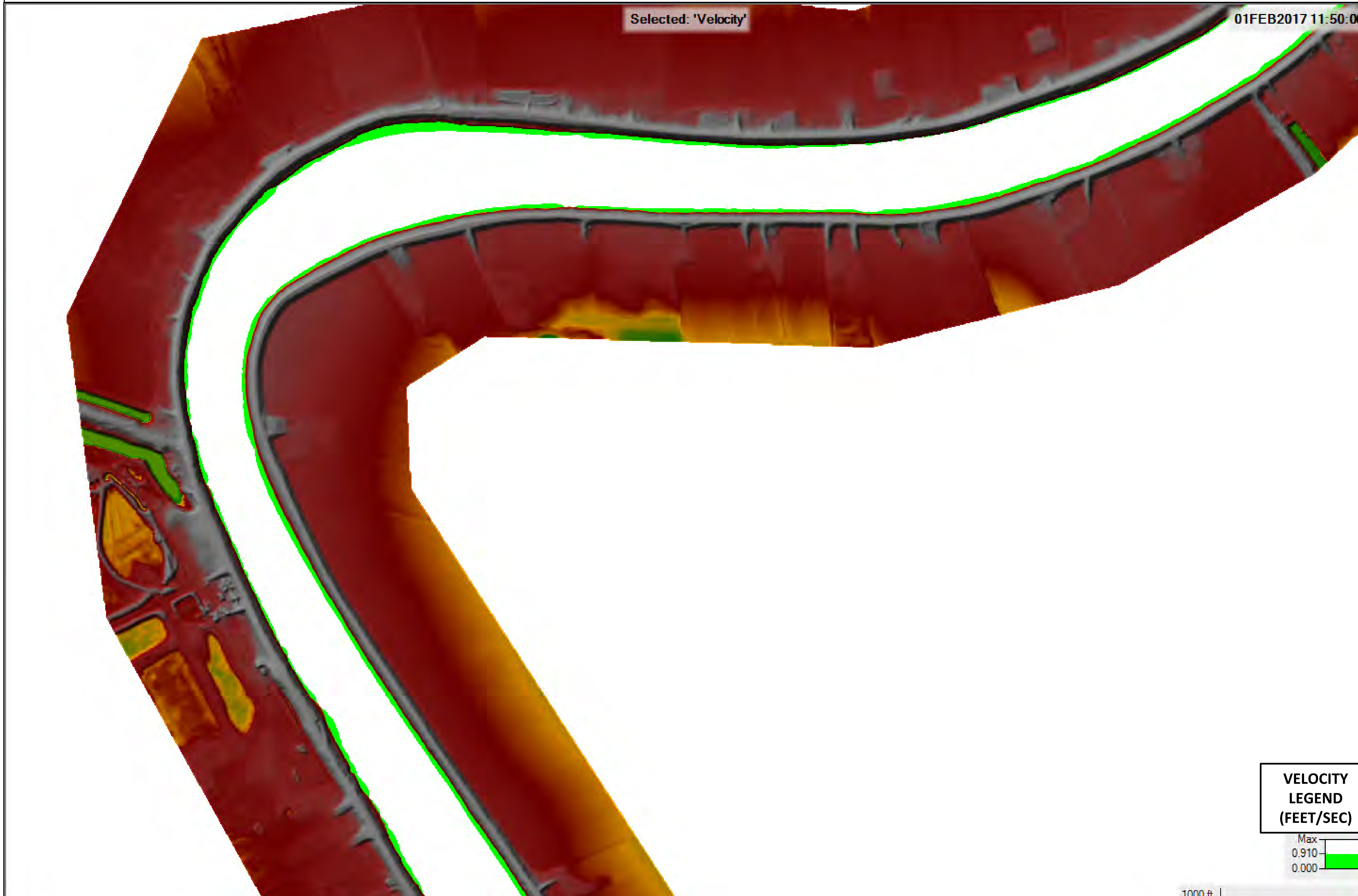
MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3I

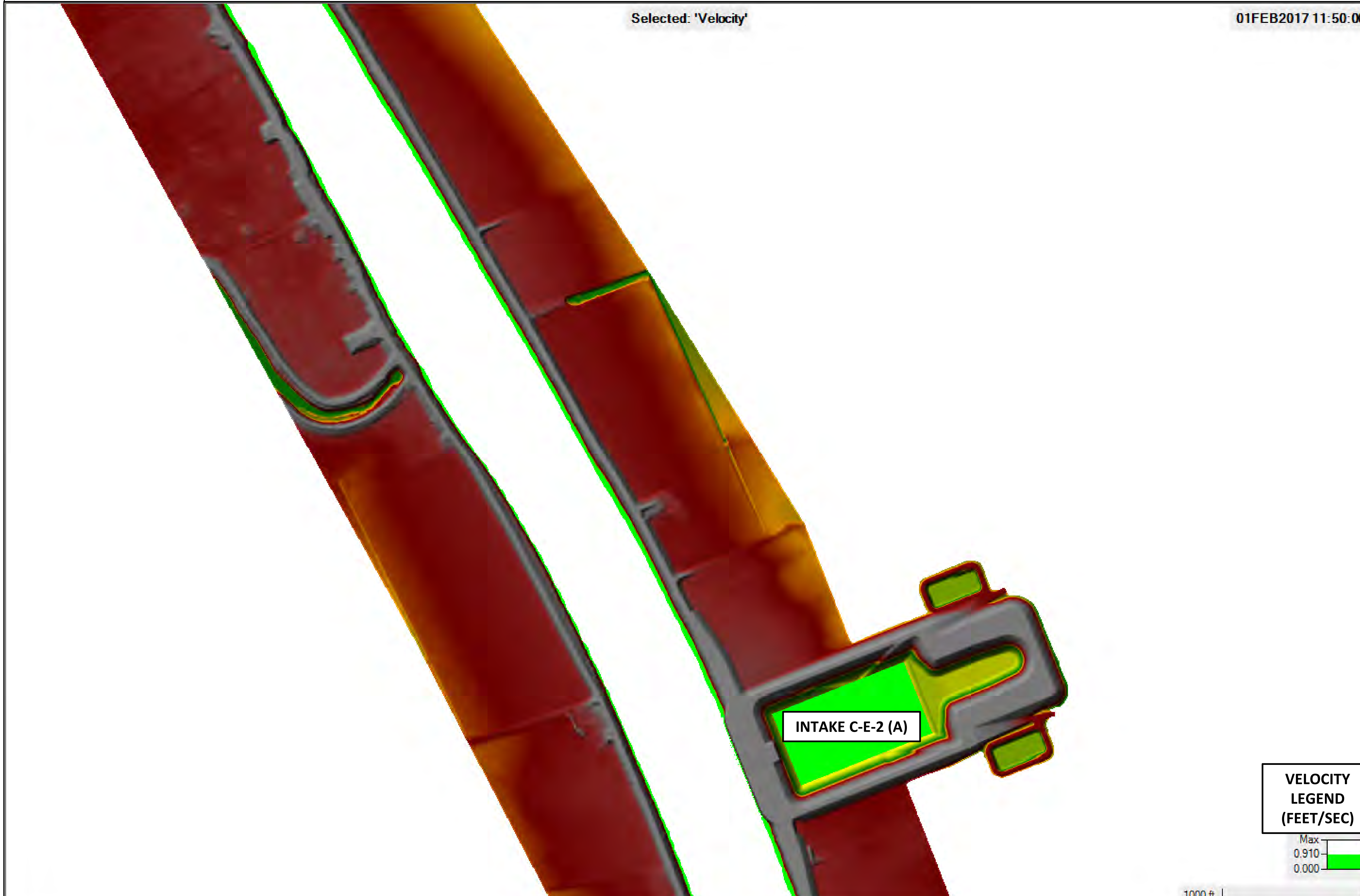
RUN 3I – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3I – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS

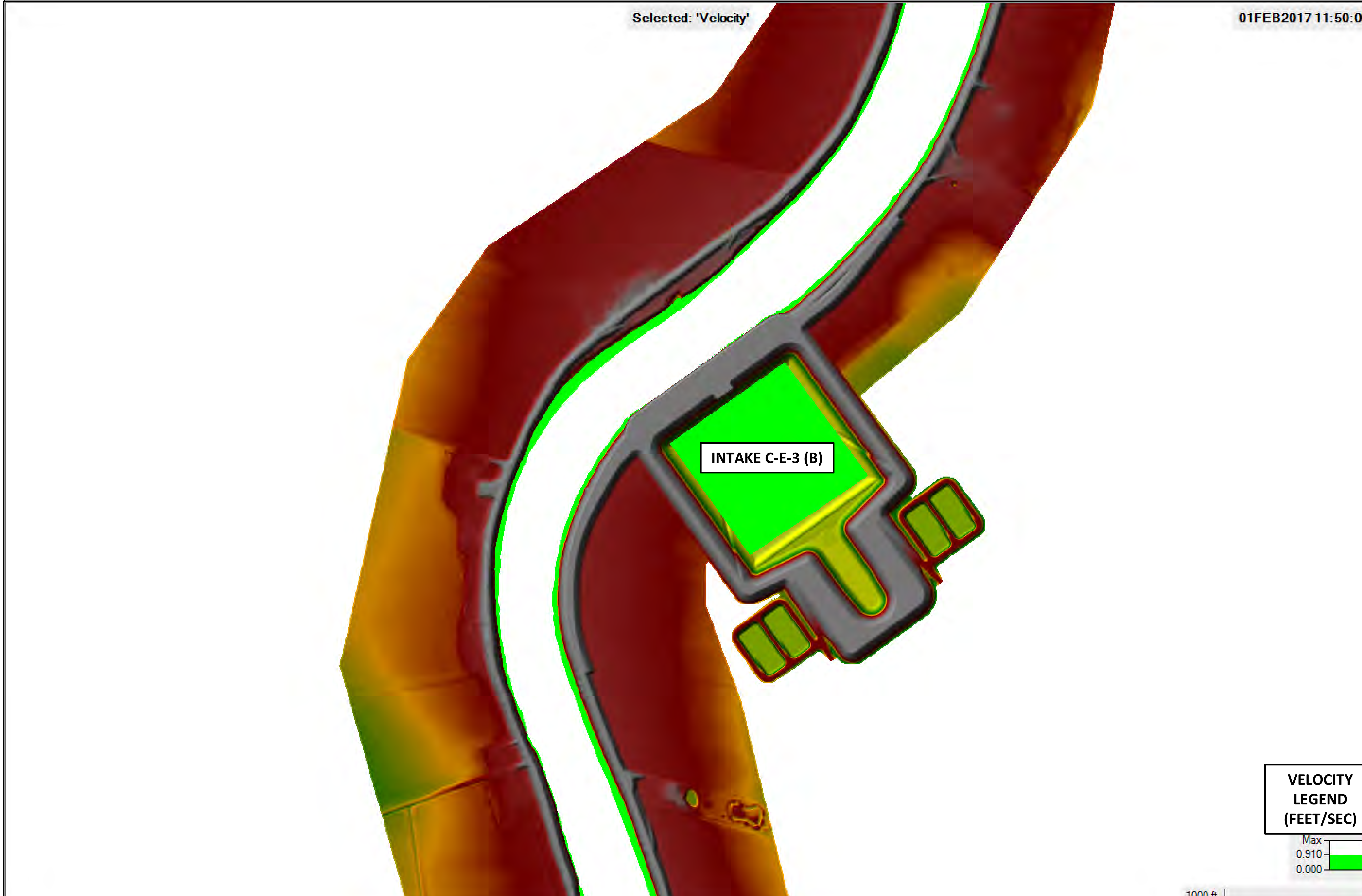


RUN 3I – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS

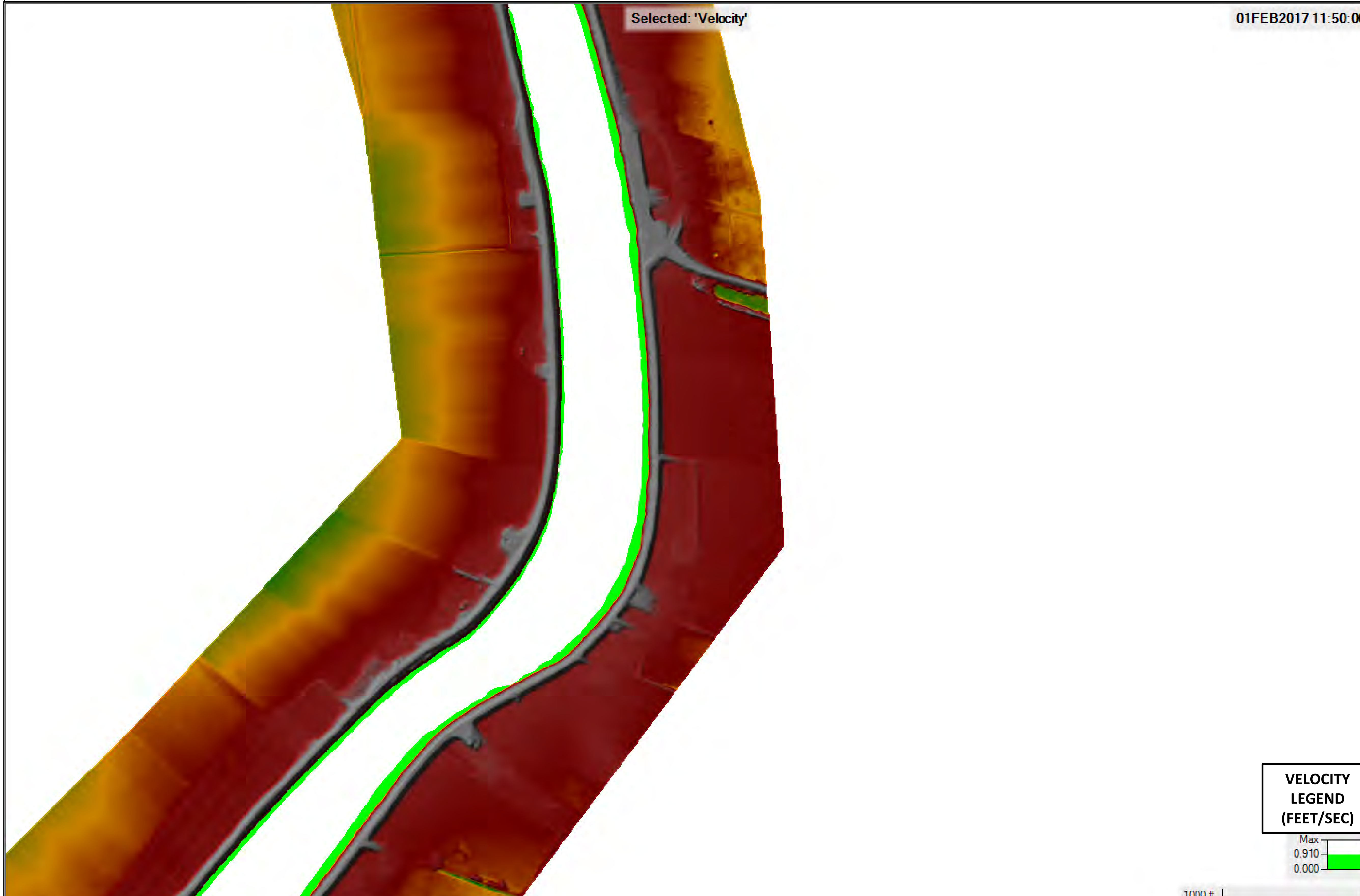
RUN 3I – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



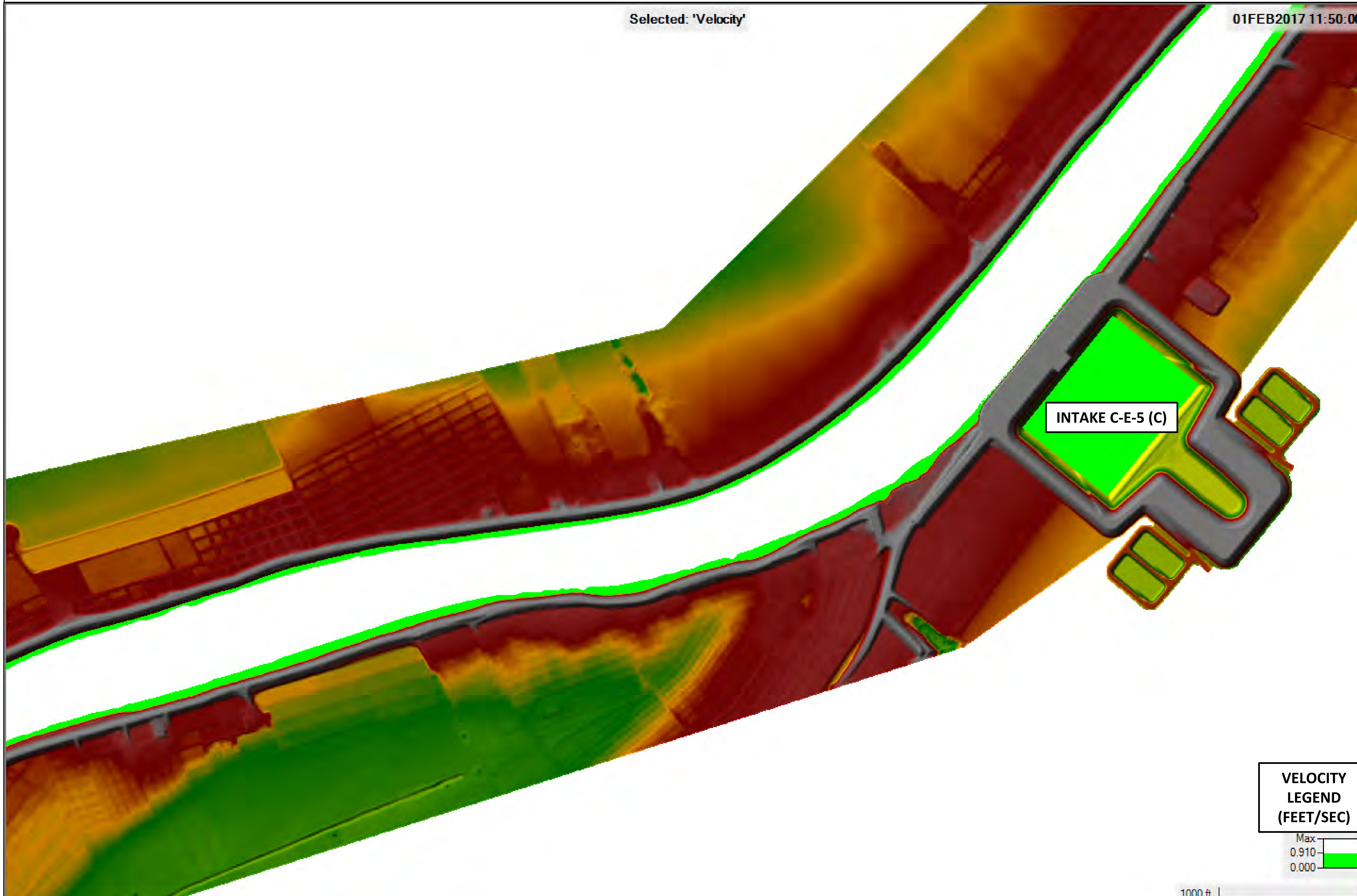
RUN 3I – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



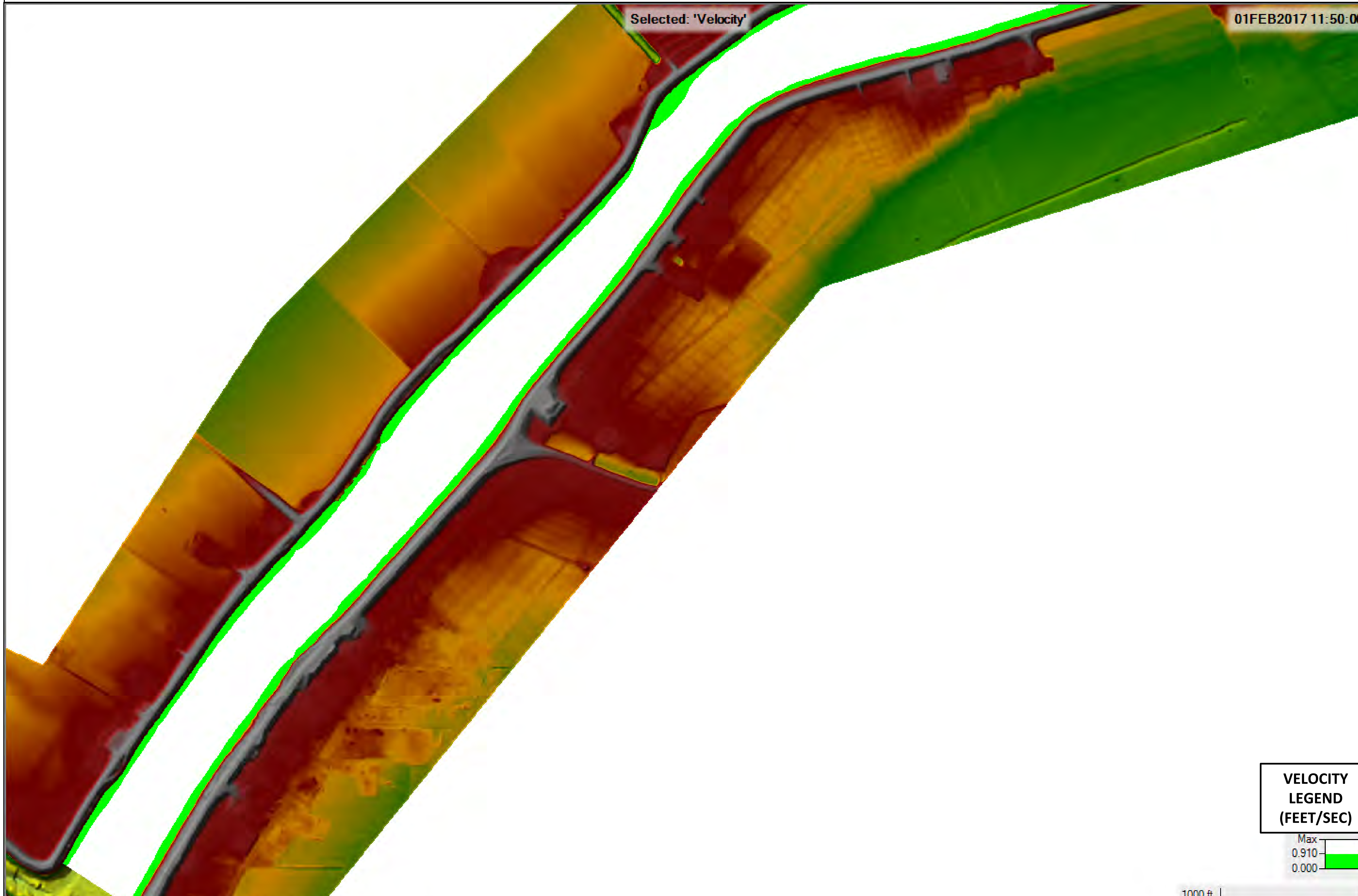
RUN 3I – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



RUN 3I – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 30,000-CFS AT FREEPORT – TEE SCREENS



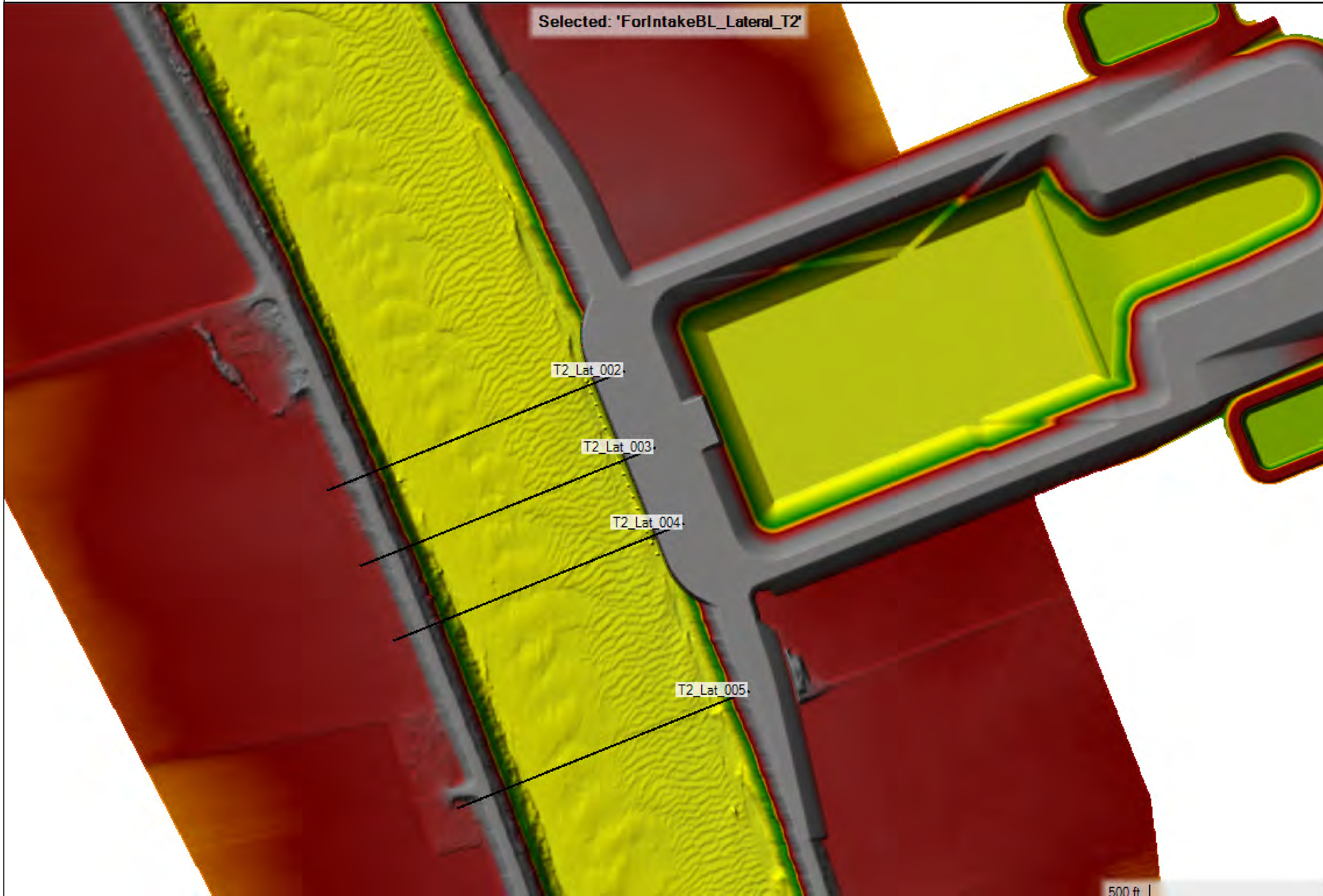
Group 4
Low Flow Steady State Runs

INDEX

Cross Section Velocity Plots near Intake Structures

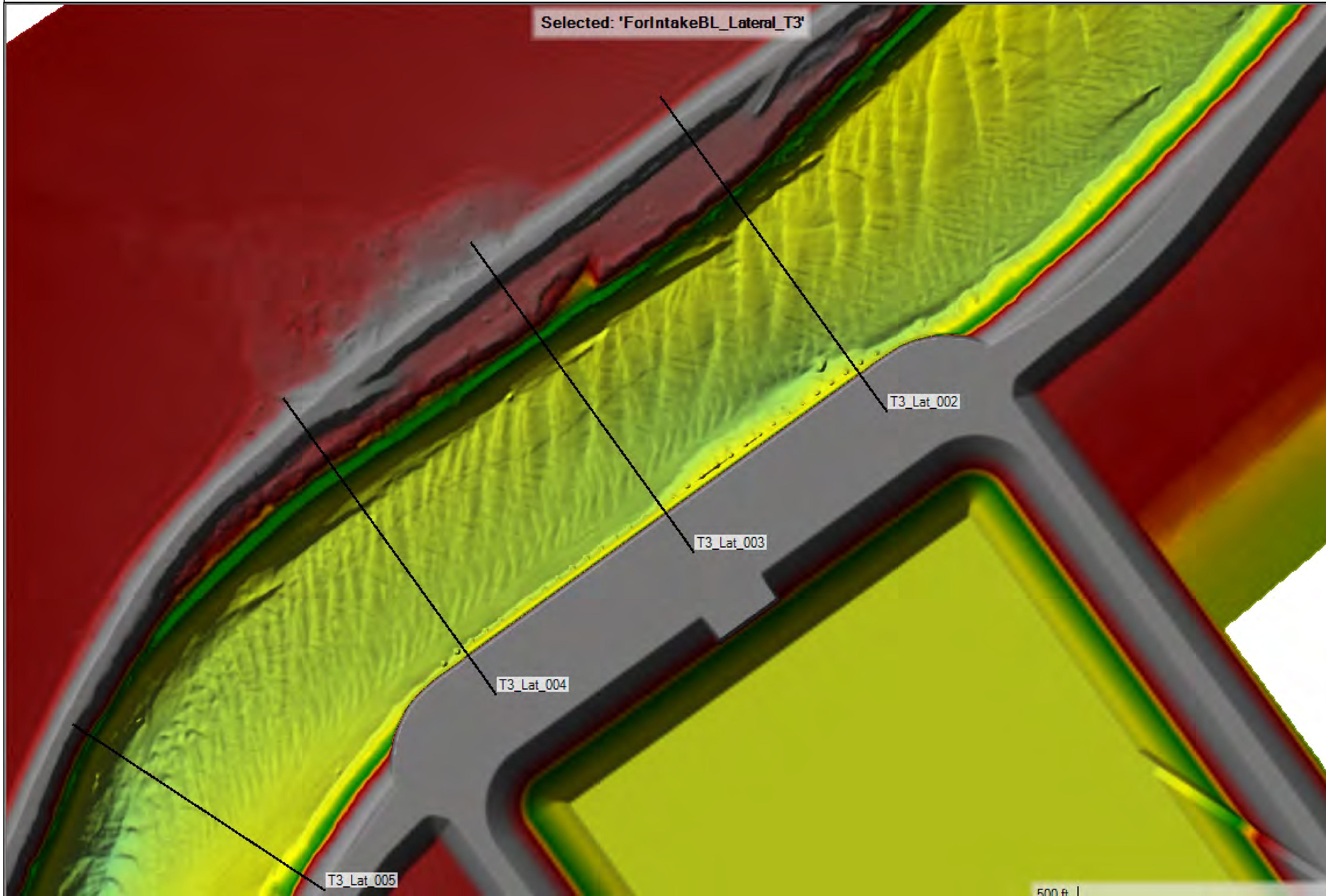
CROSS-SECTION LOCATIONS – INTAKE C-E-2 (A)

TEE SCREENS



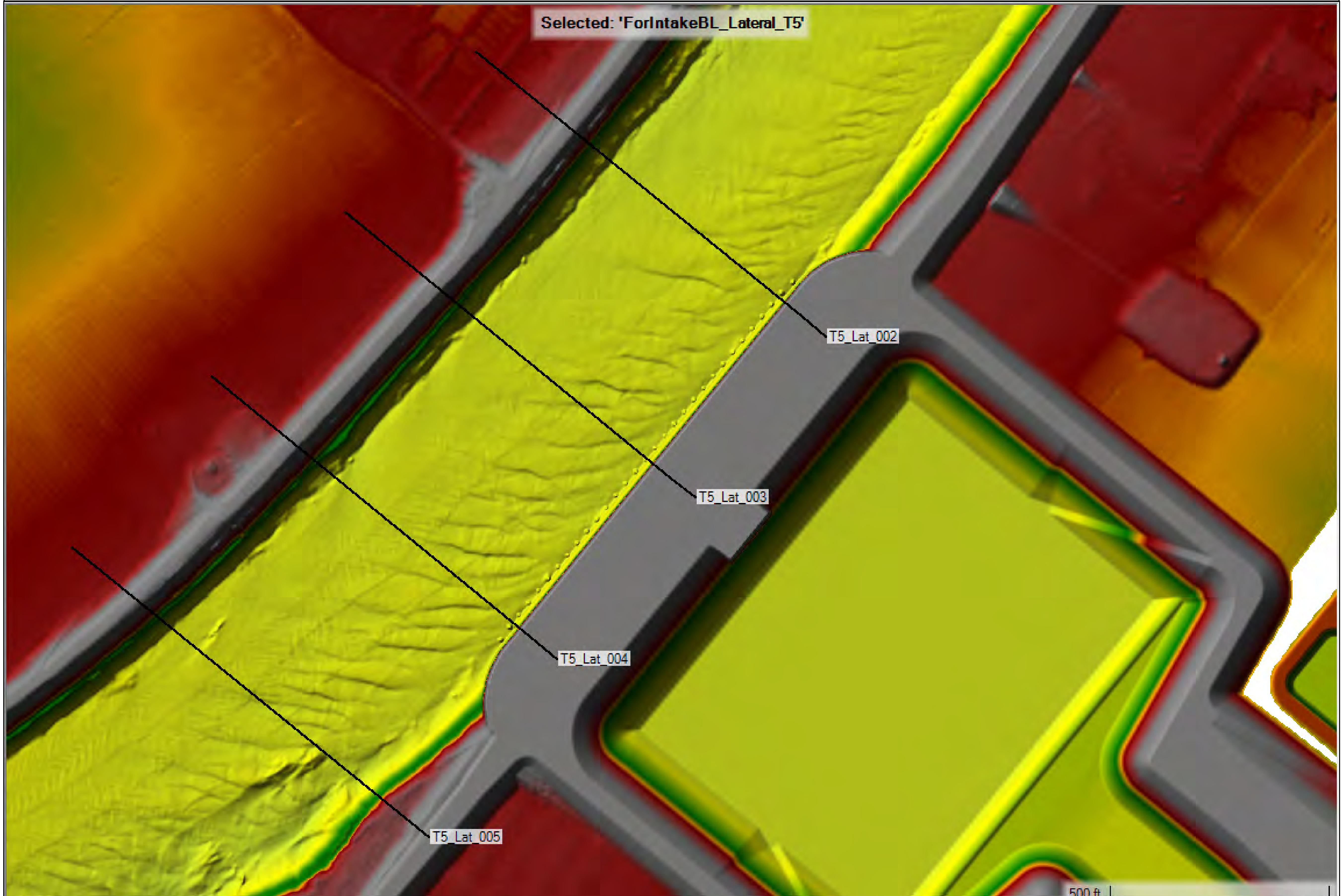
CROSS-SECTION LOCATIONS – INTAKE C-E-3 (B)

TEE SCREENS



CROSS-SECTION LOCATIONS – INTAKE C-E-5 (C)

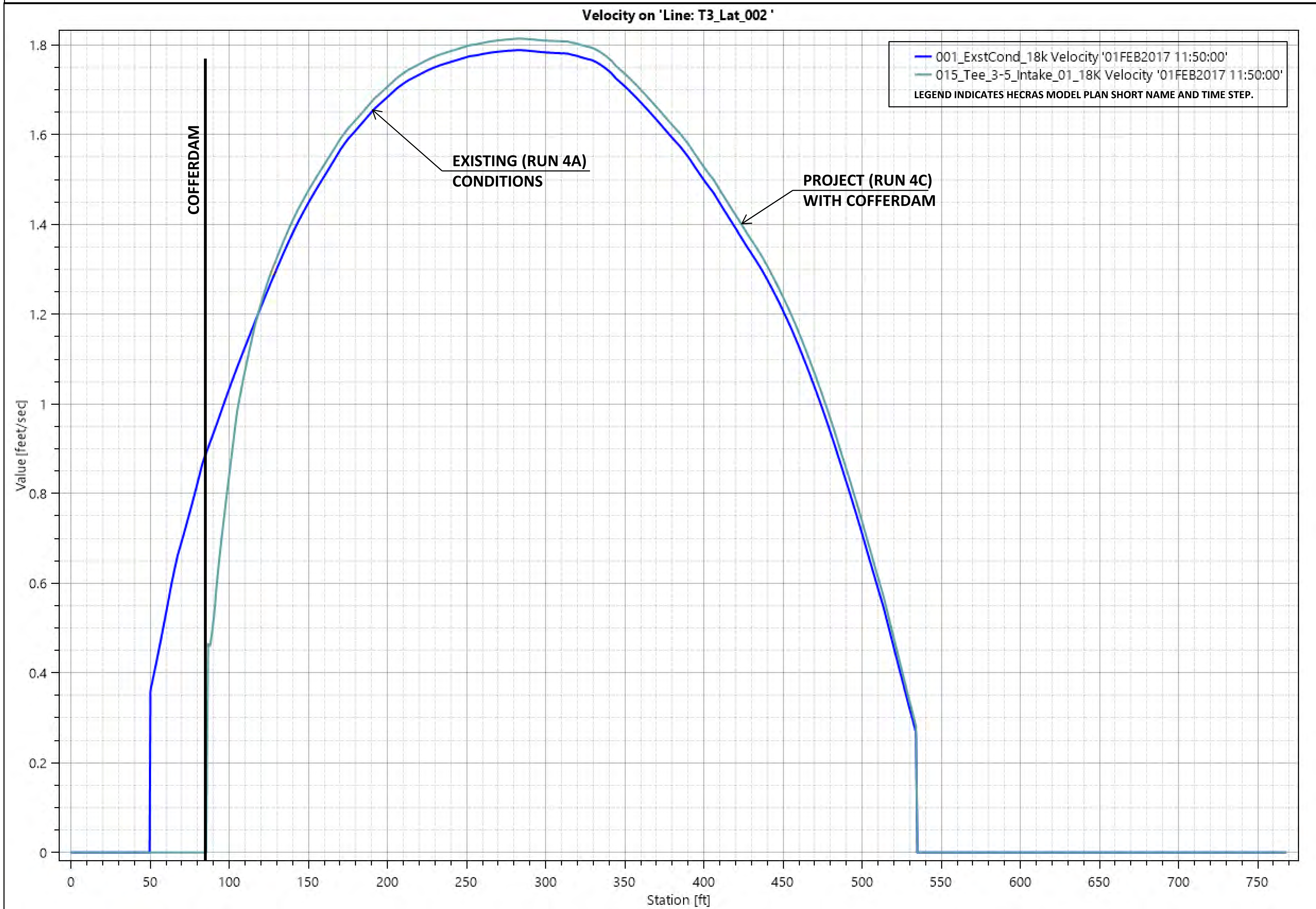
TEE SCREENS



RUN 4A vs 4C
INTAKE C-E-3 (B)

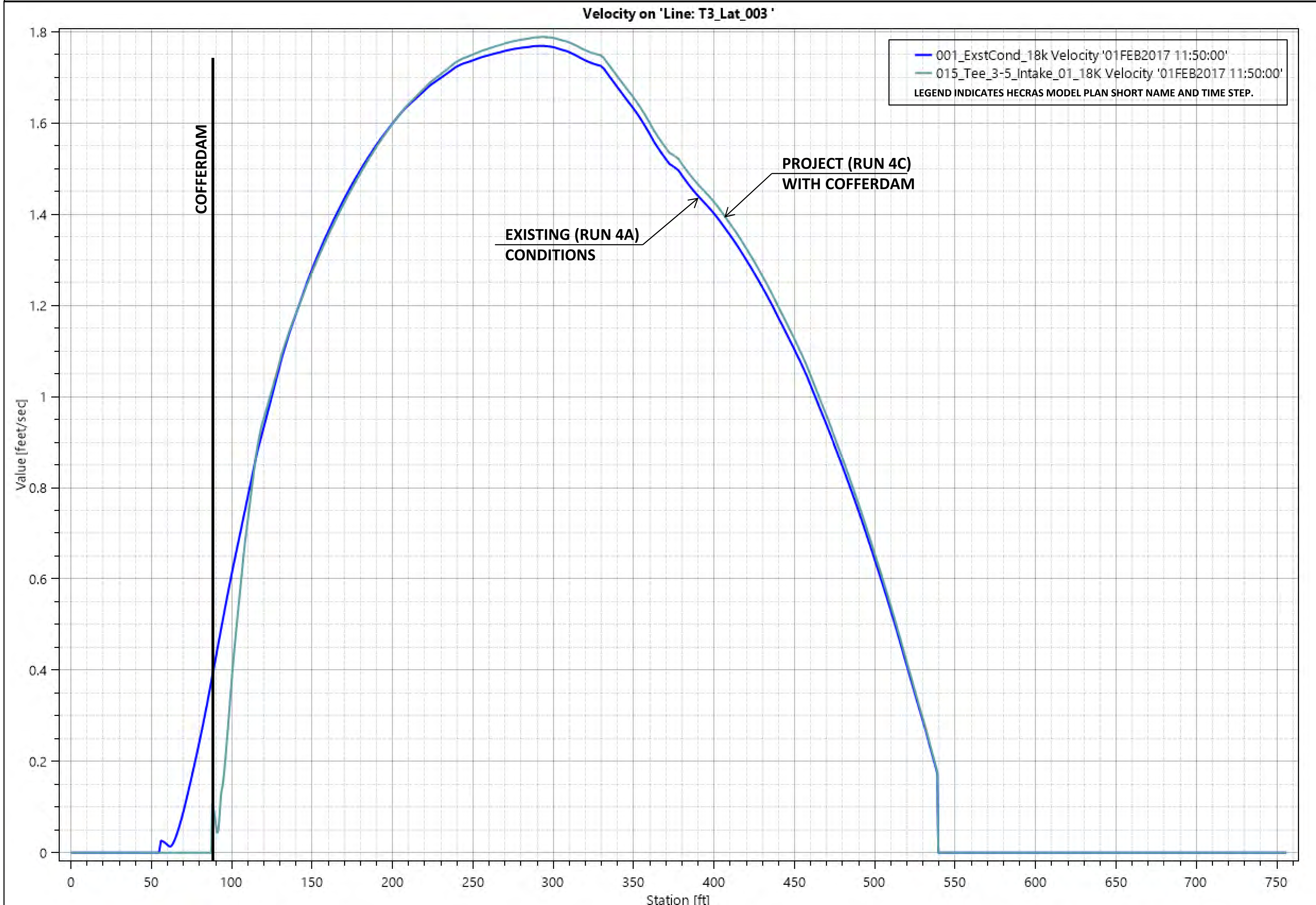
RUN 4A vs 4C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



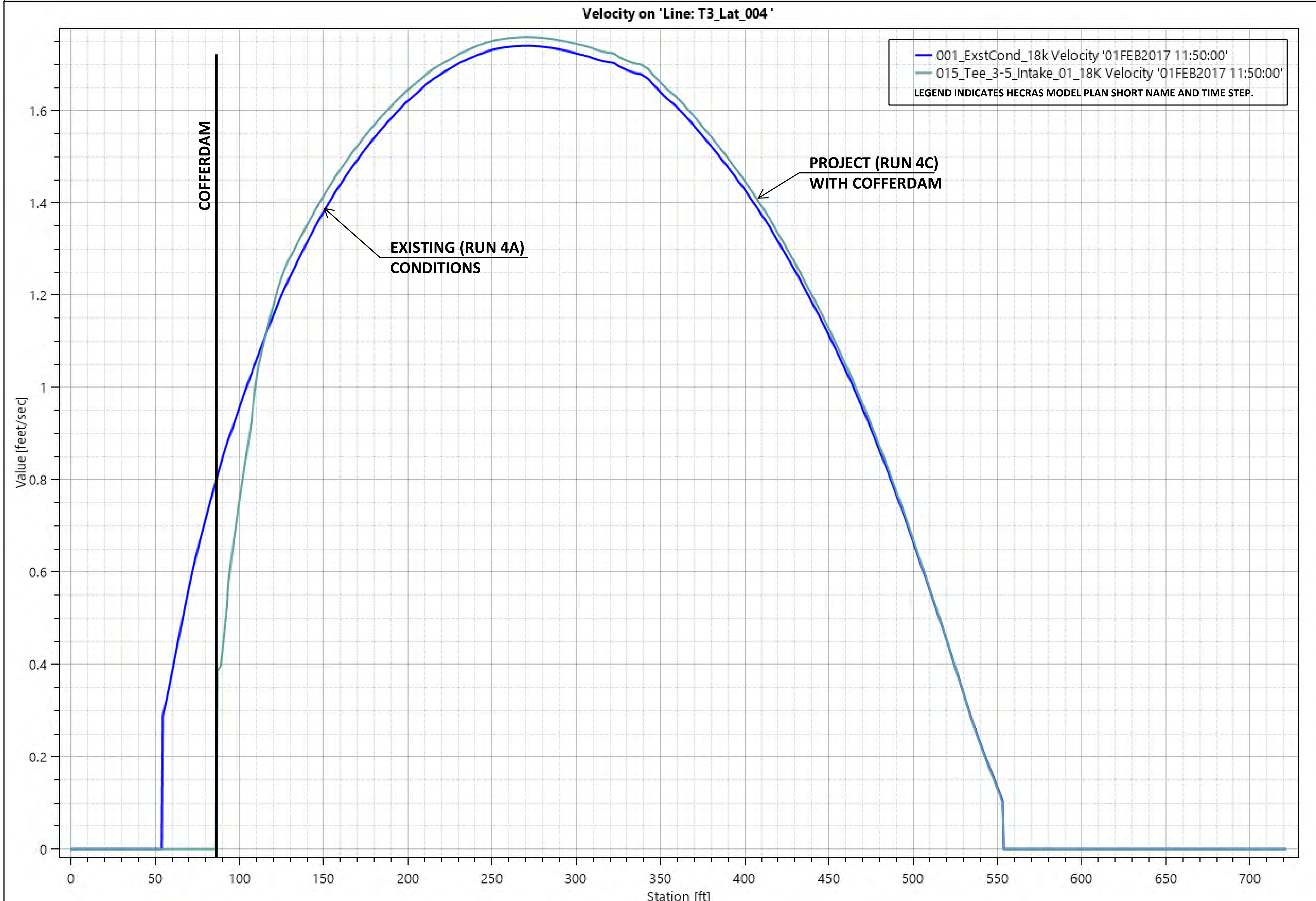
RUN 4A vs 4C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



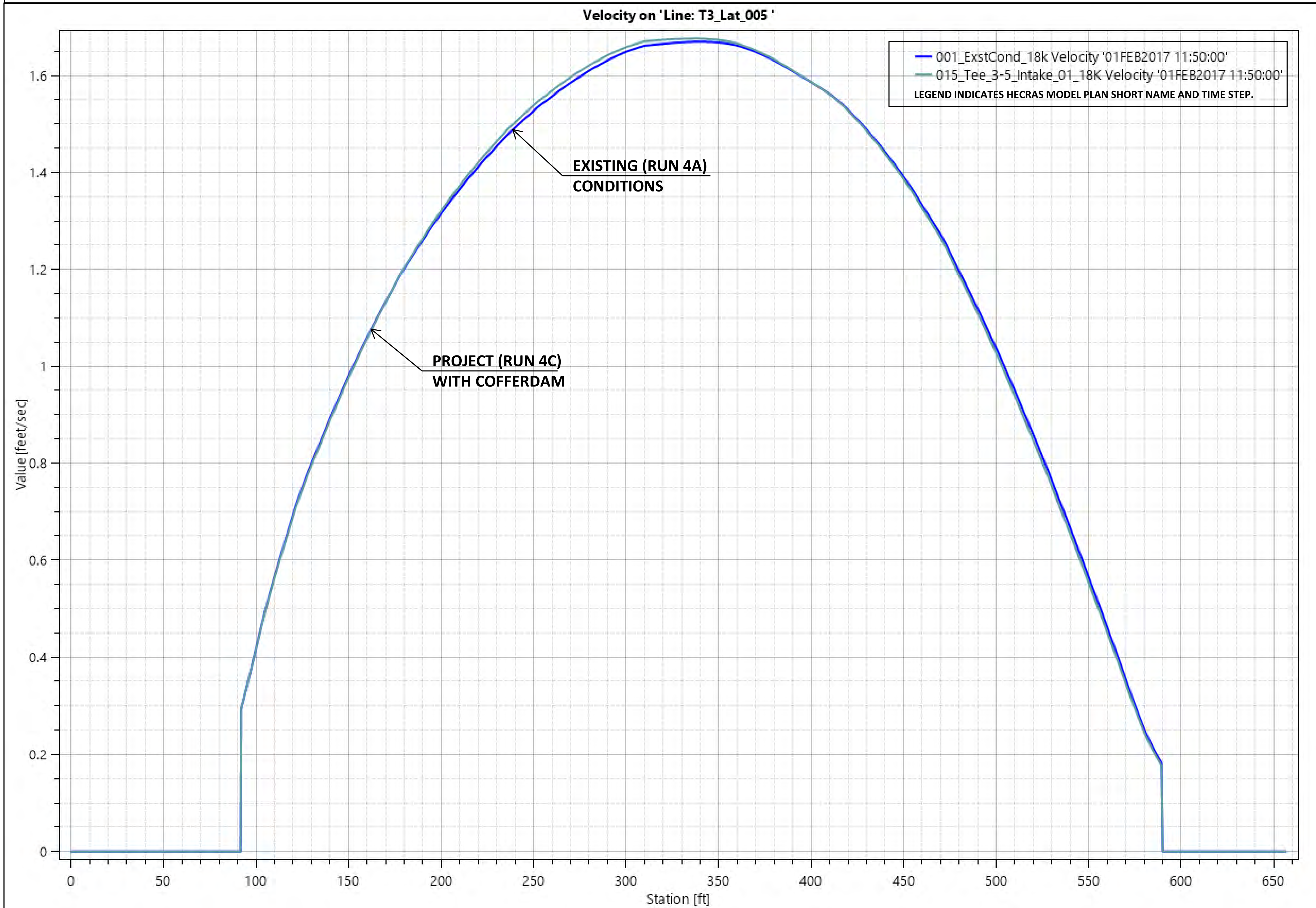
RUN 4A vs 4C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 4A vs 4C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

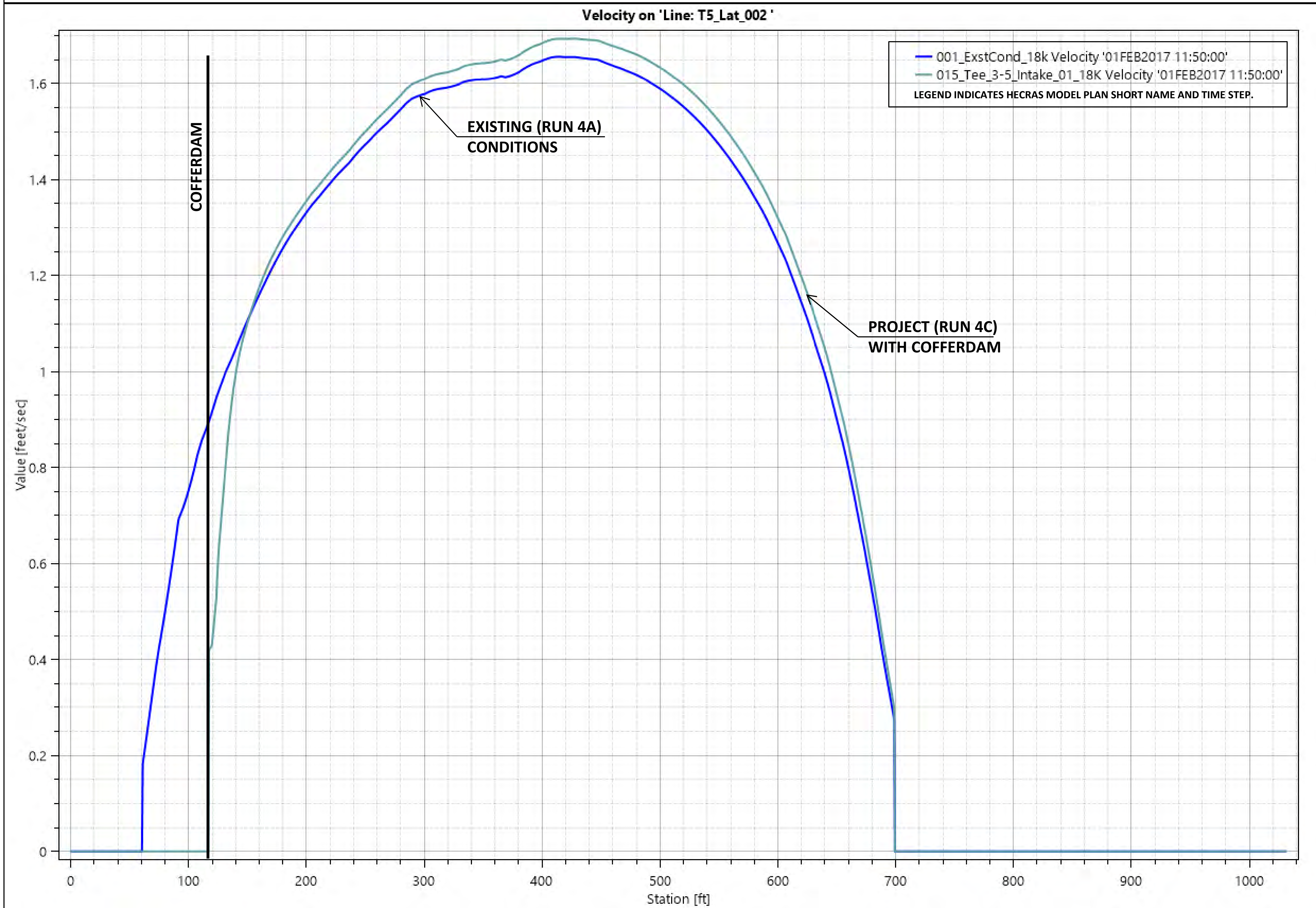
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T3_LAT_005



RUN 4A vs 4C
INTAKE C-E-5 (C)

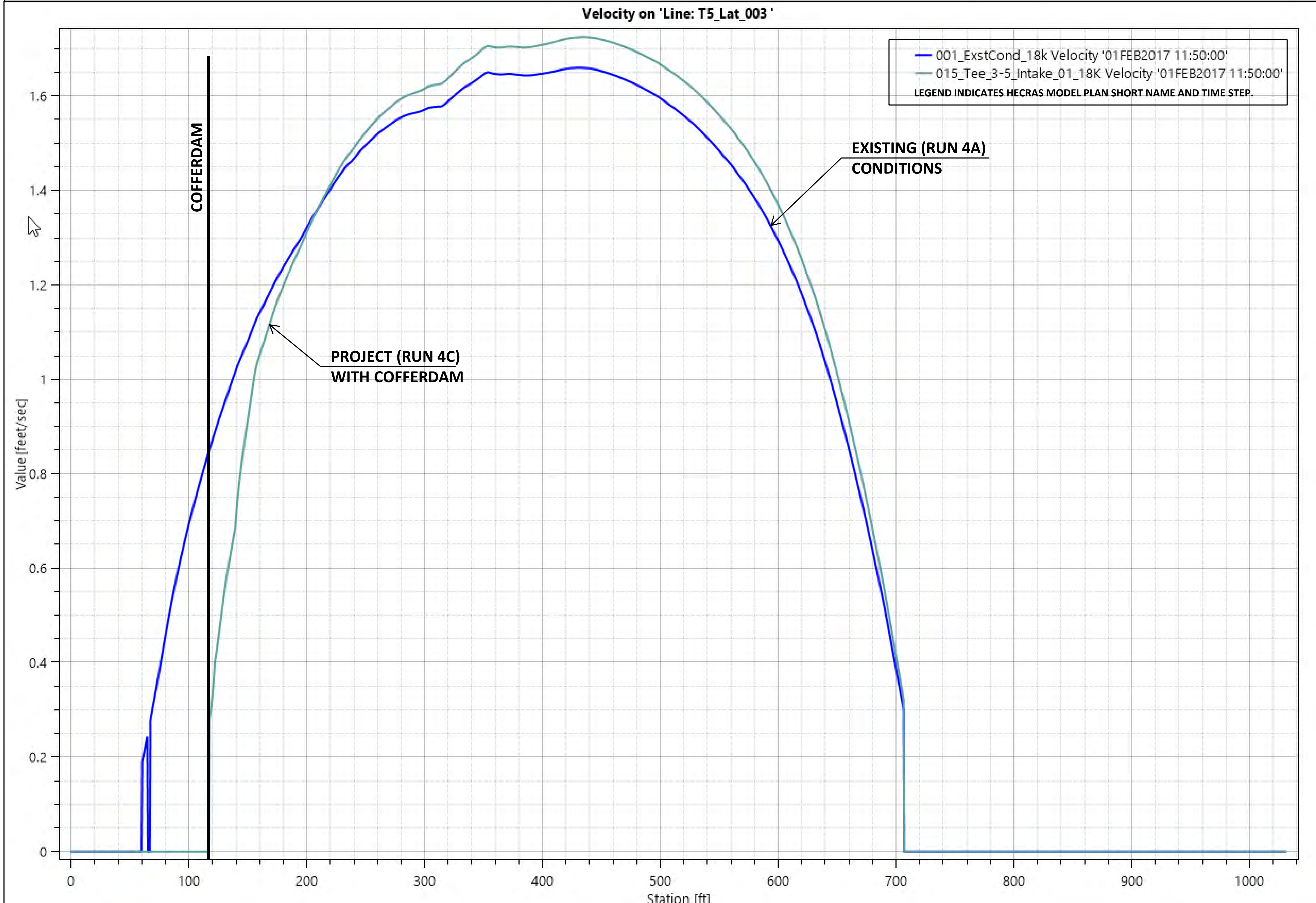
RUN 4A vs 4C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



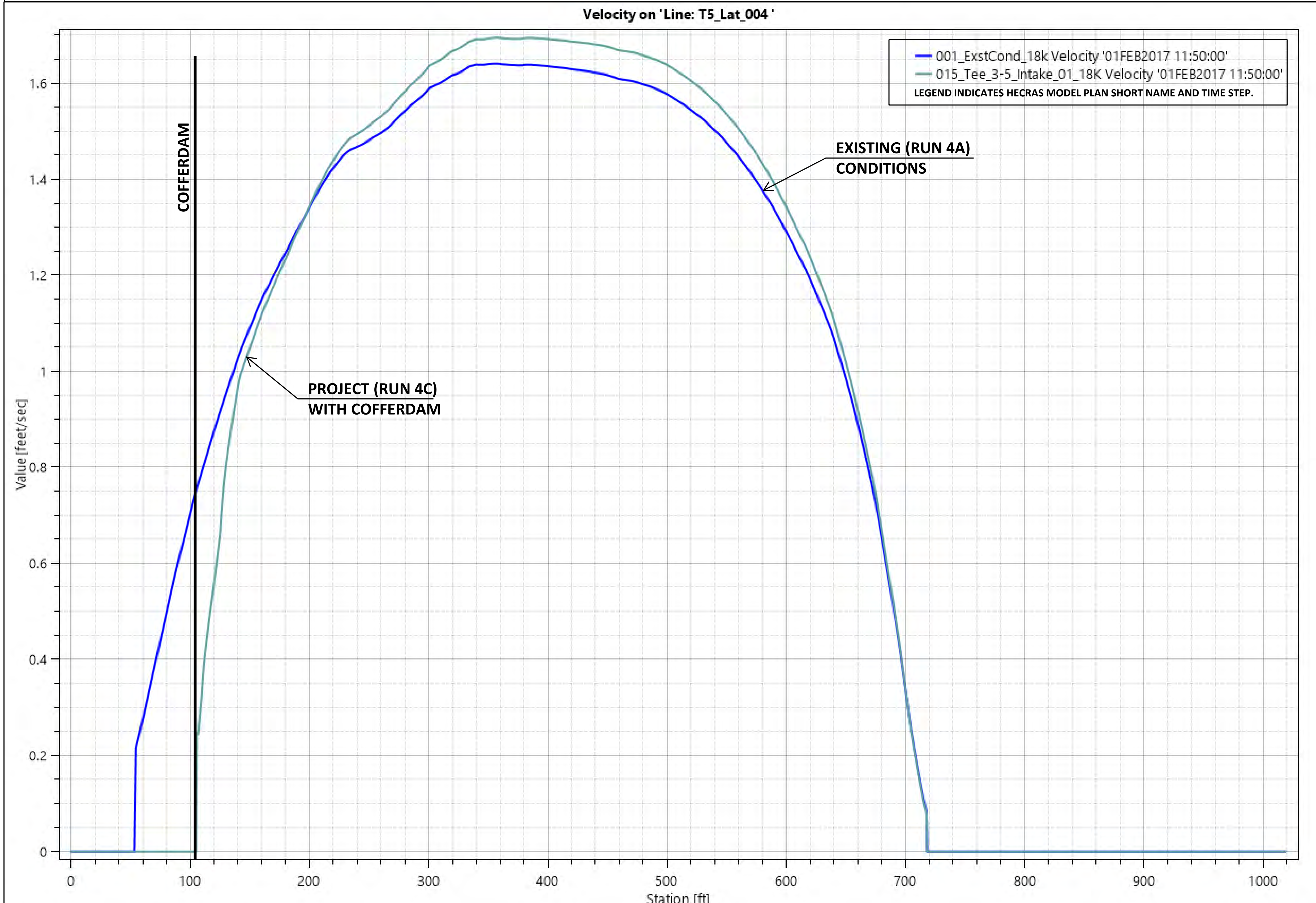
RUN 4A vs 4C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



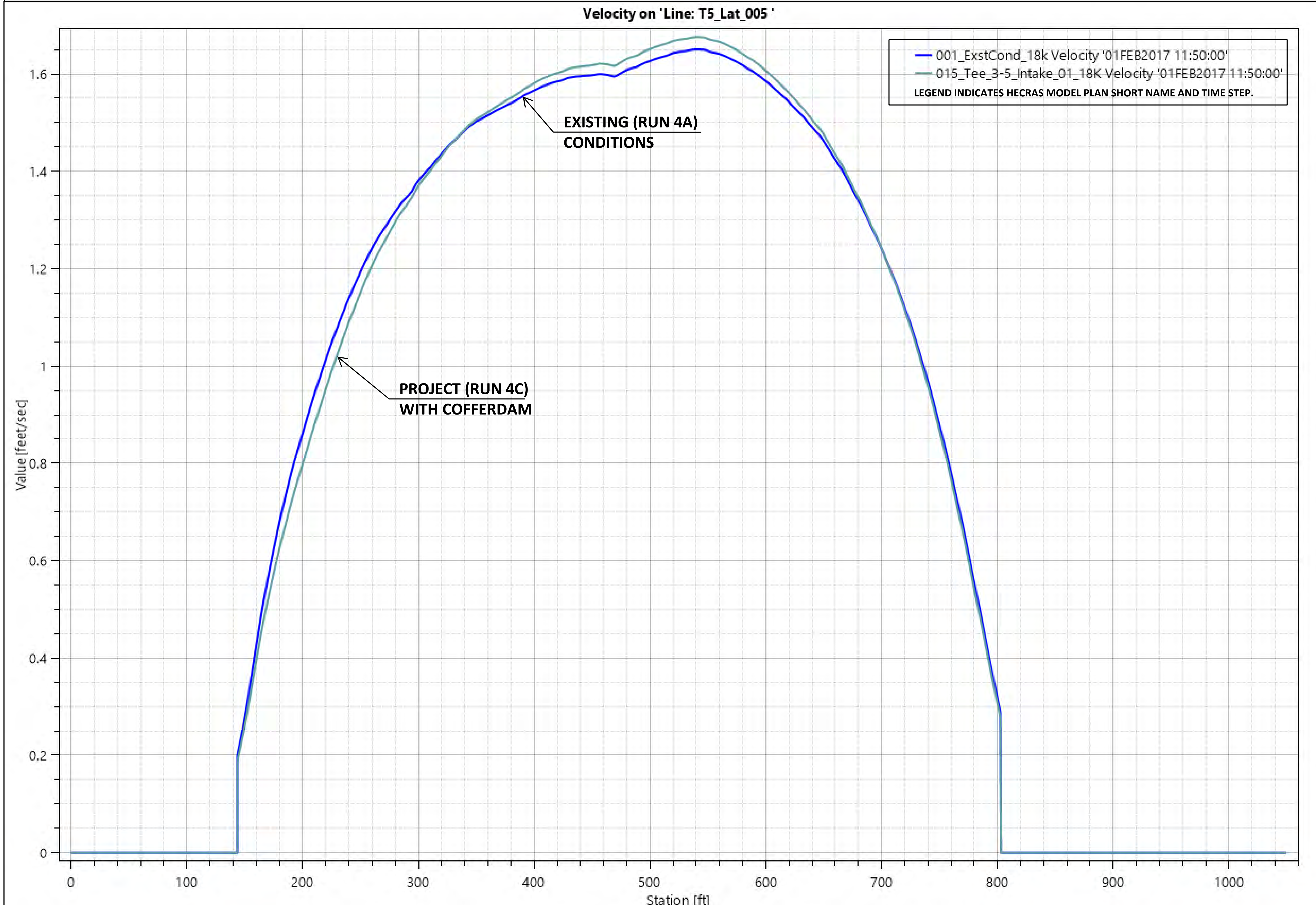
RUN 4A vs 4C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 4A vs 4C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

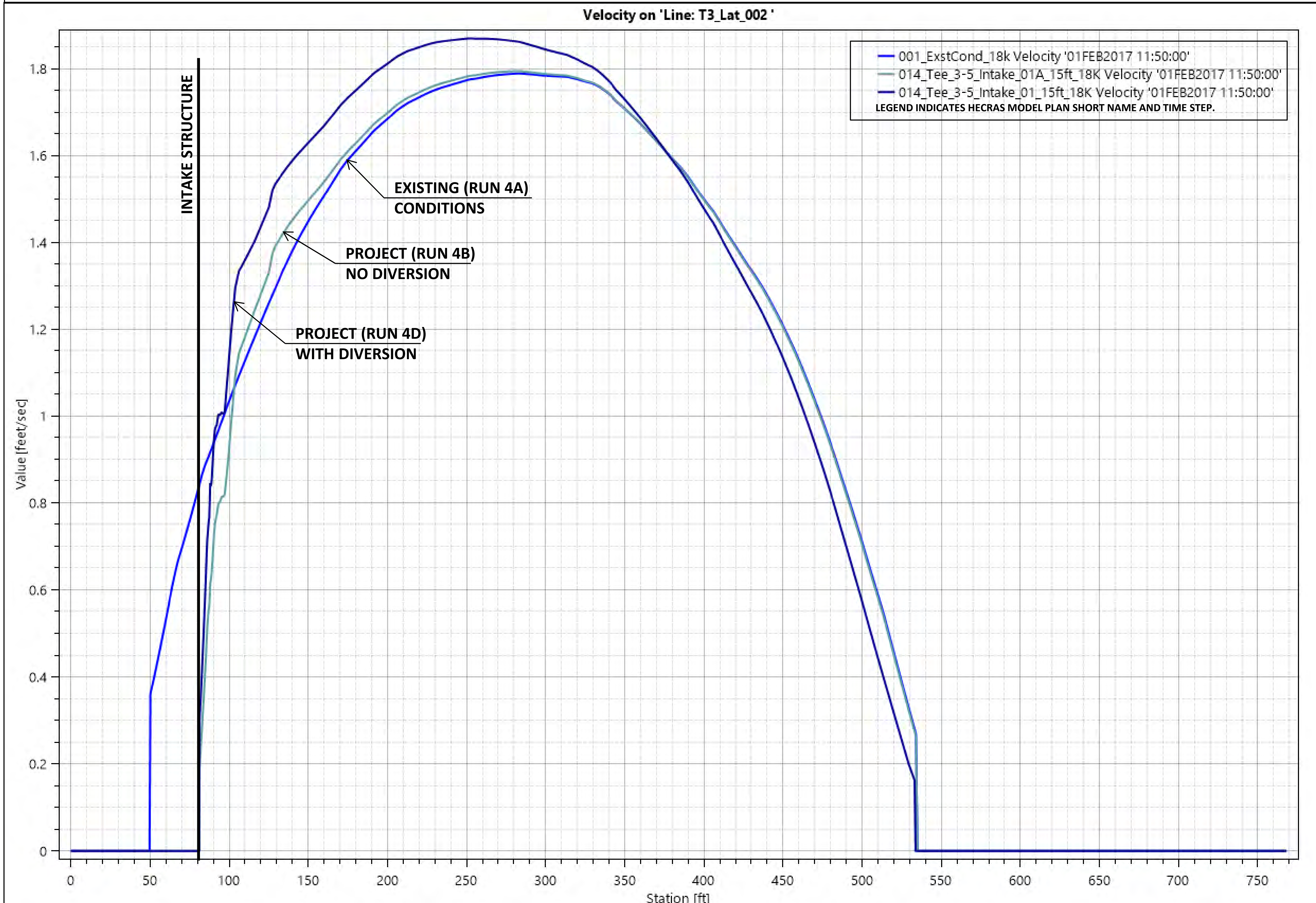
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T5_LAT_005



RUN 4A vs 4B vs 4D
INTAKE 3 (B)

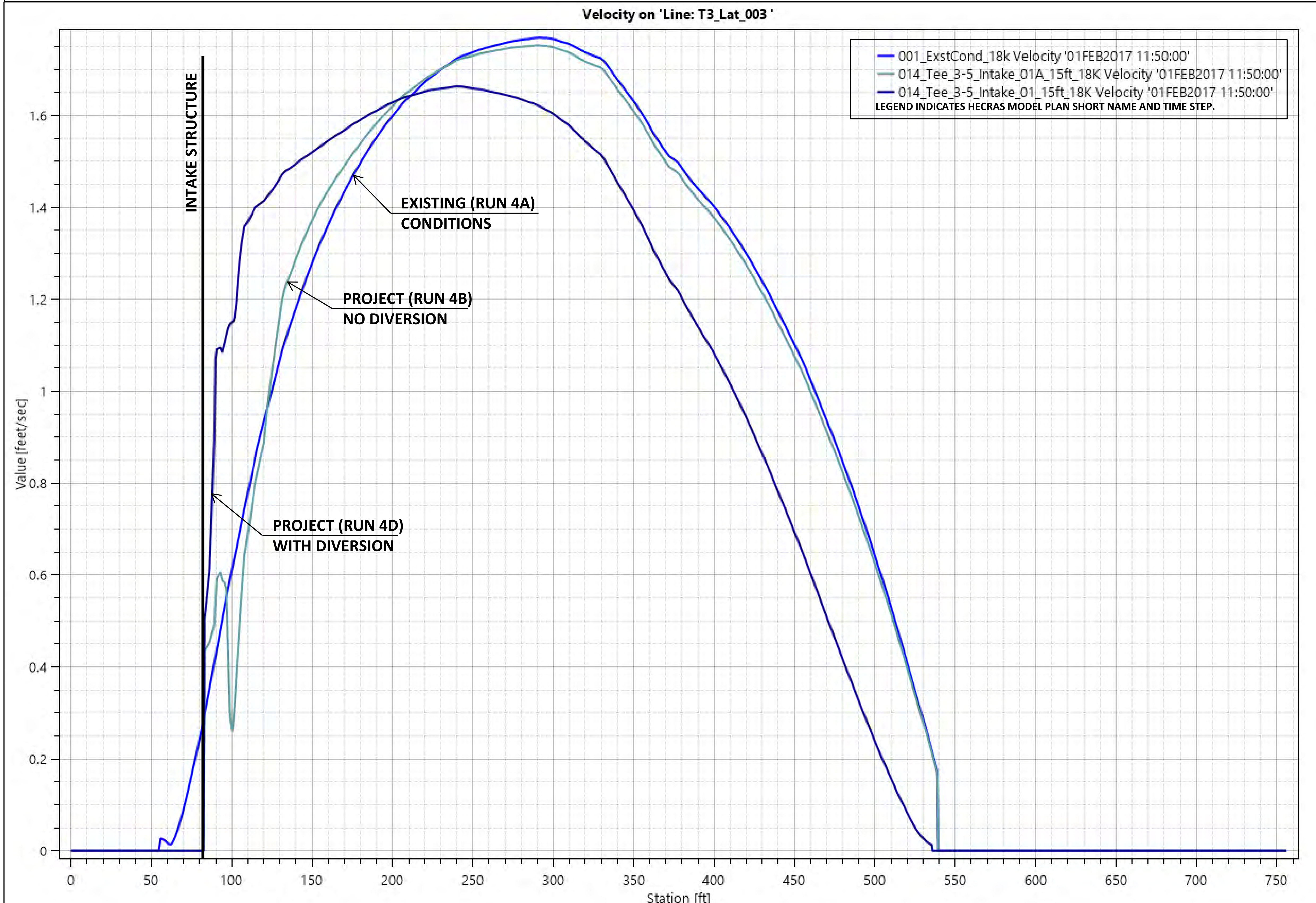
RUN 4A vs 4B vs 4D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



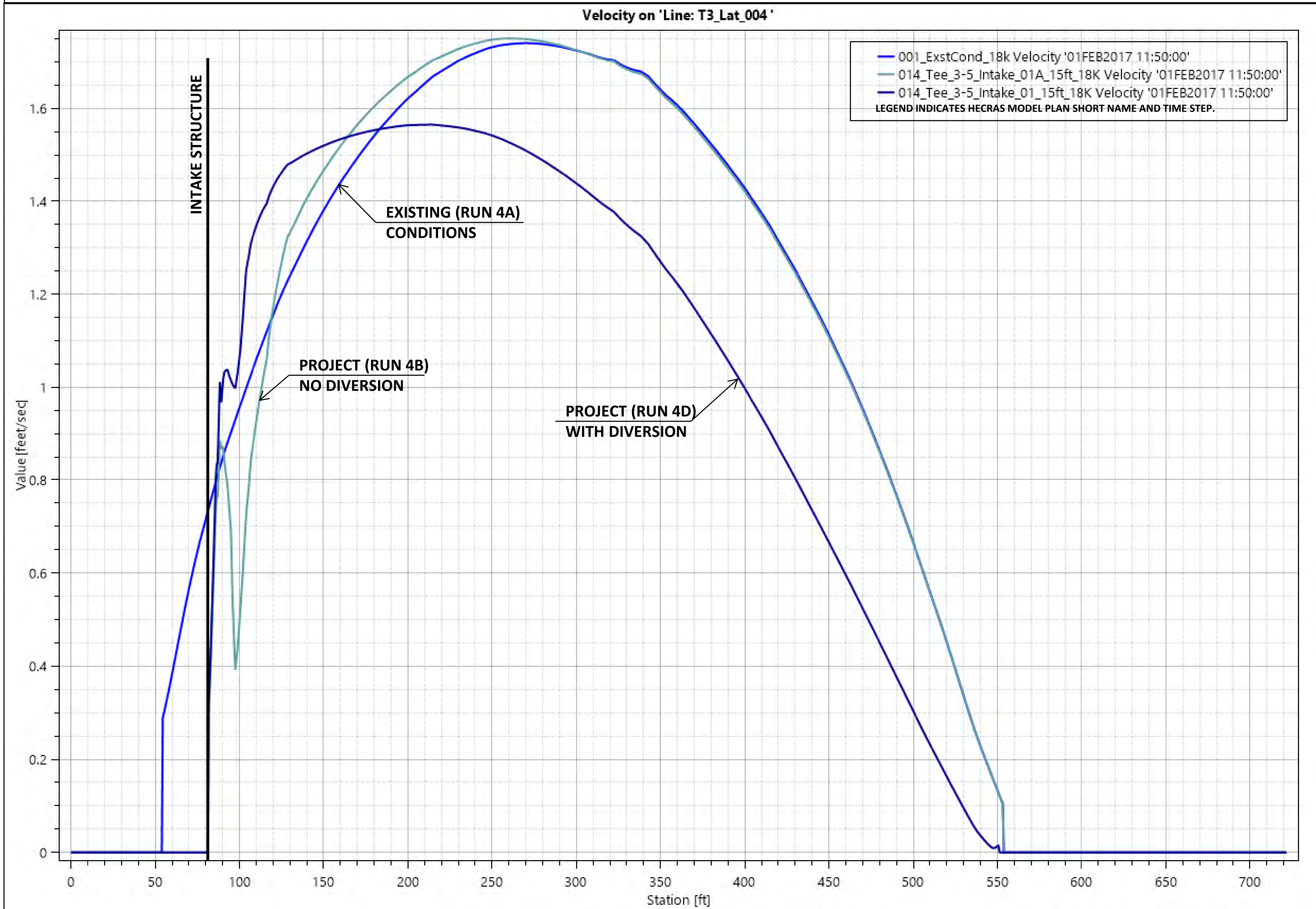
RUN 4A vs 4B vs 4D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



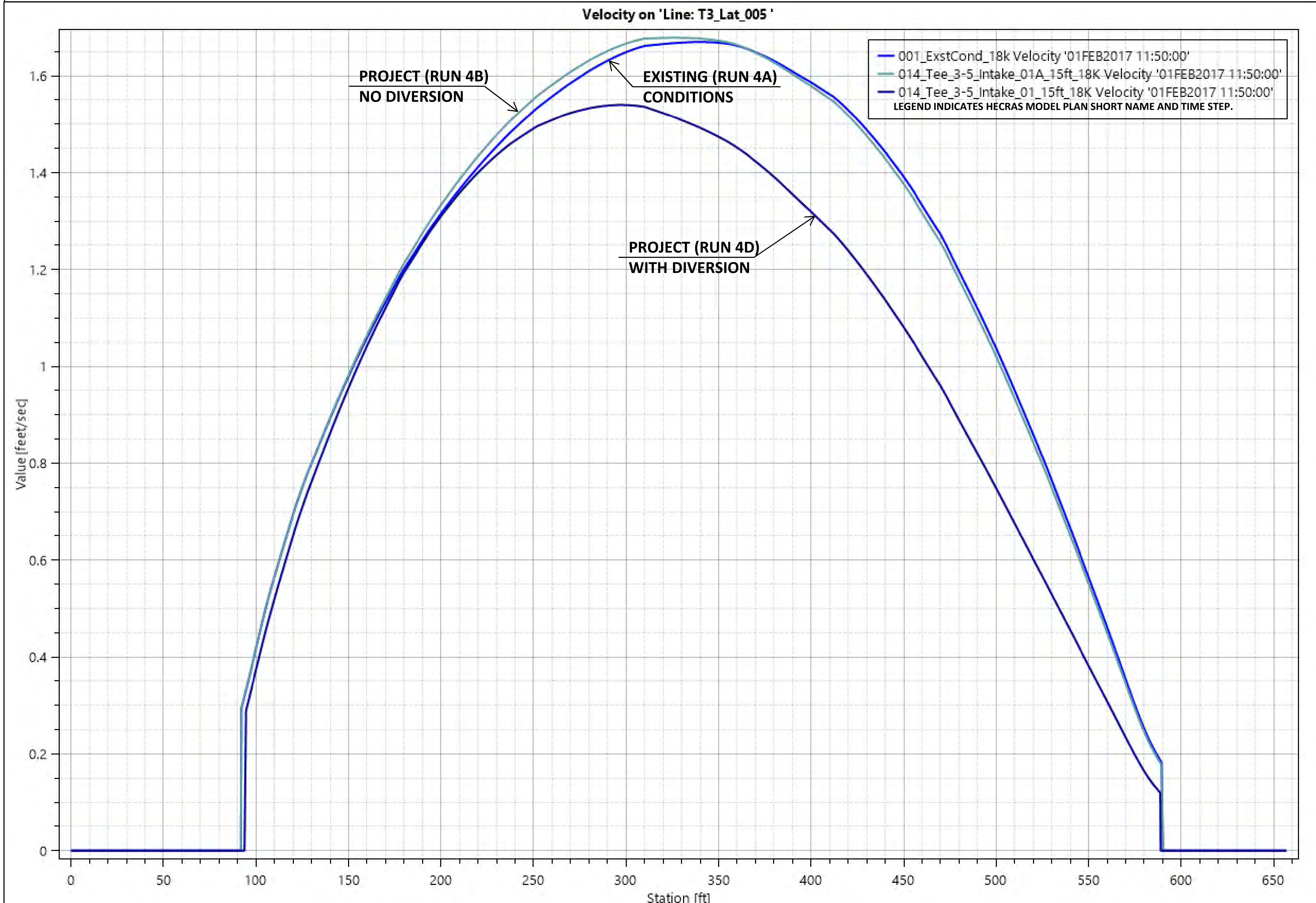
RUN 4A vs 4B vs 4D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 4A vs 4B vs 4D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

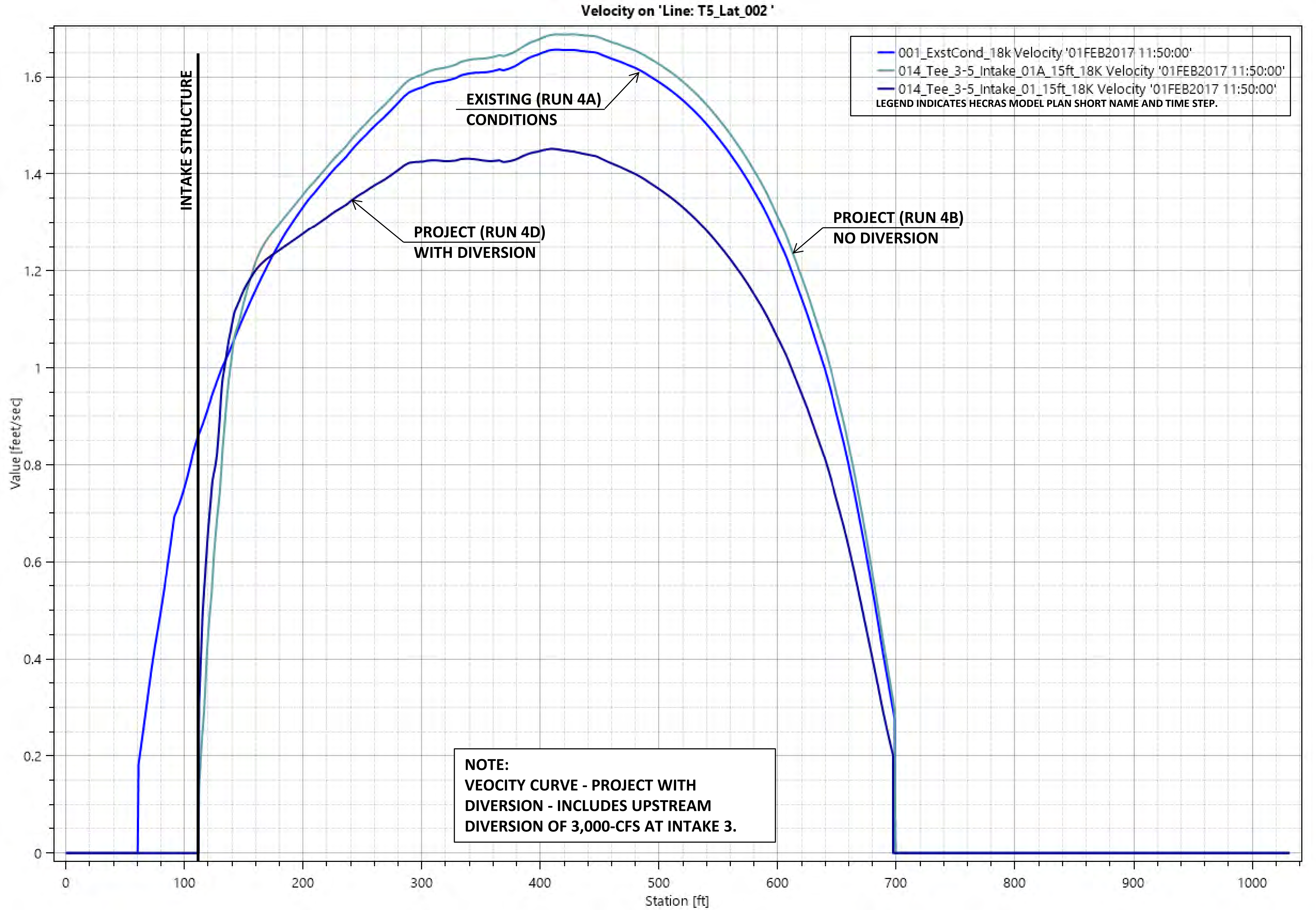
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T3_LAT_005



RUN 4A vs 4B vs 4D
INTAKE C-E-5 (C)

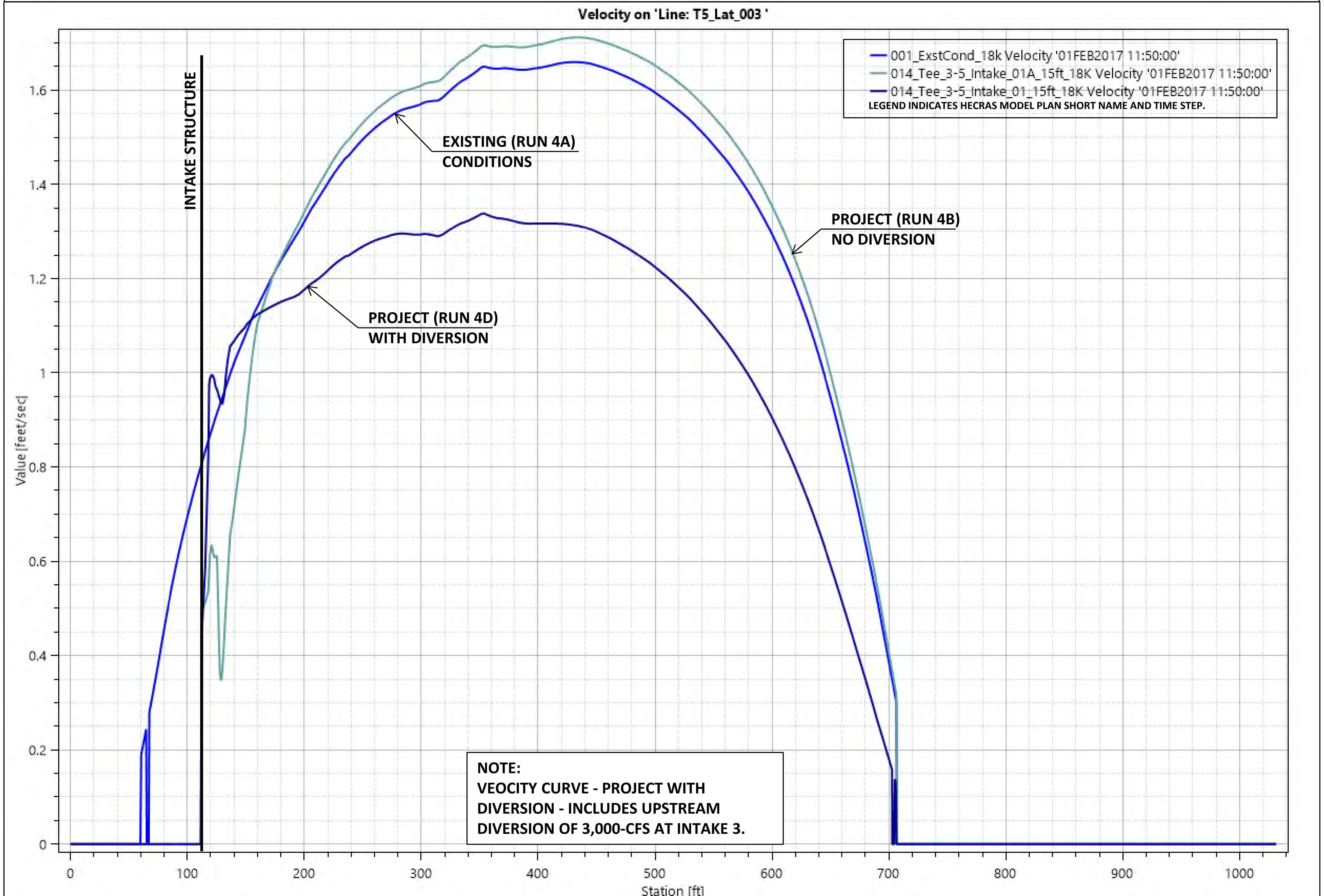
RUN 4A vs 4B vs 4D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



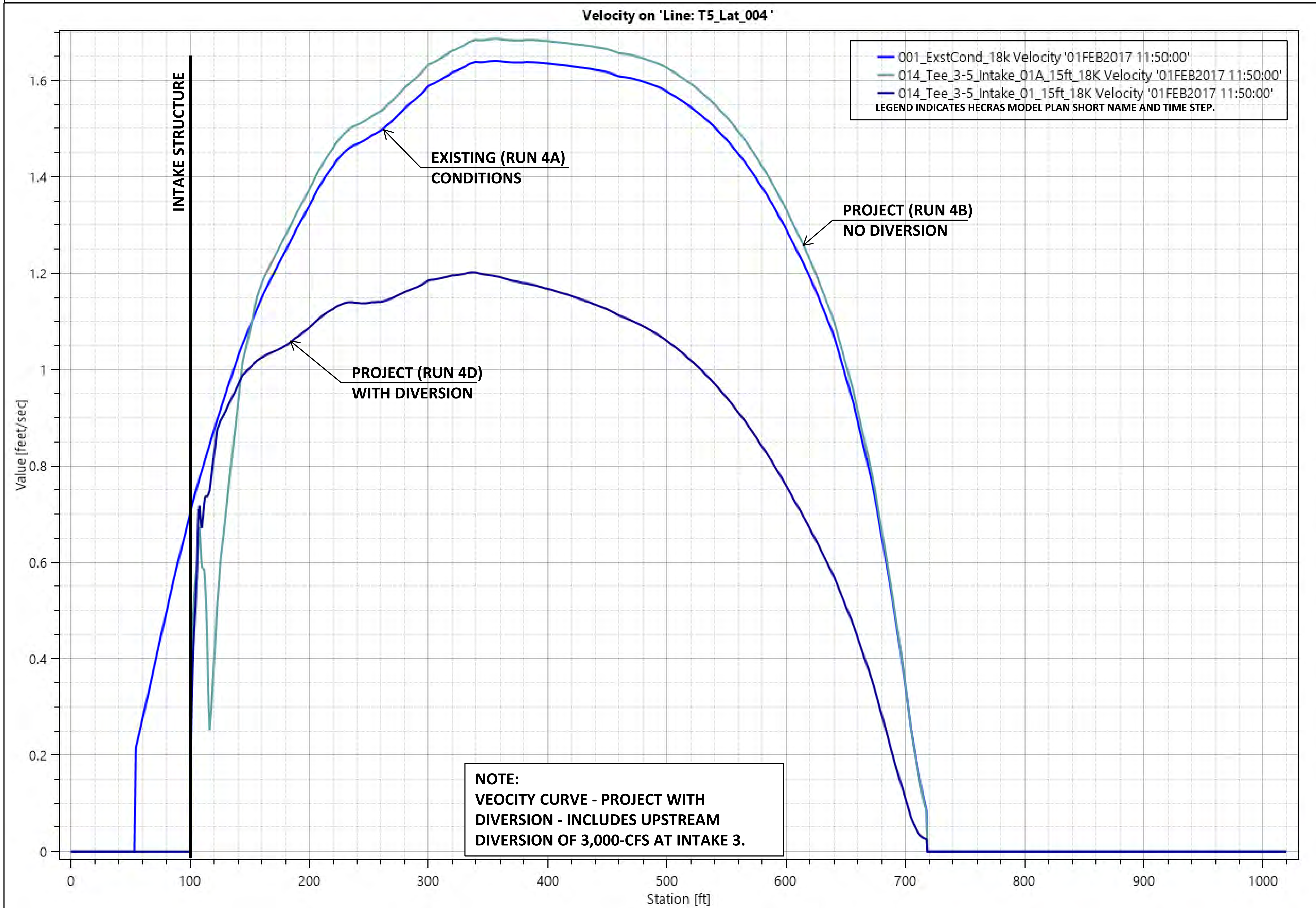
RUN 4A vs 4B vs 4D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



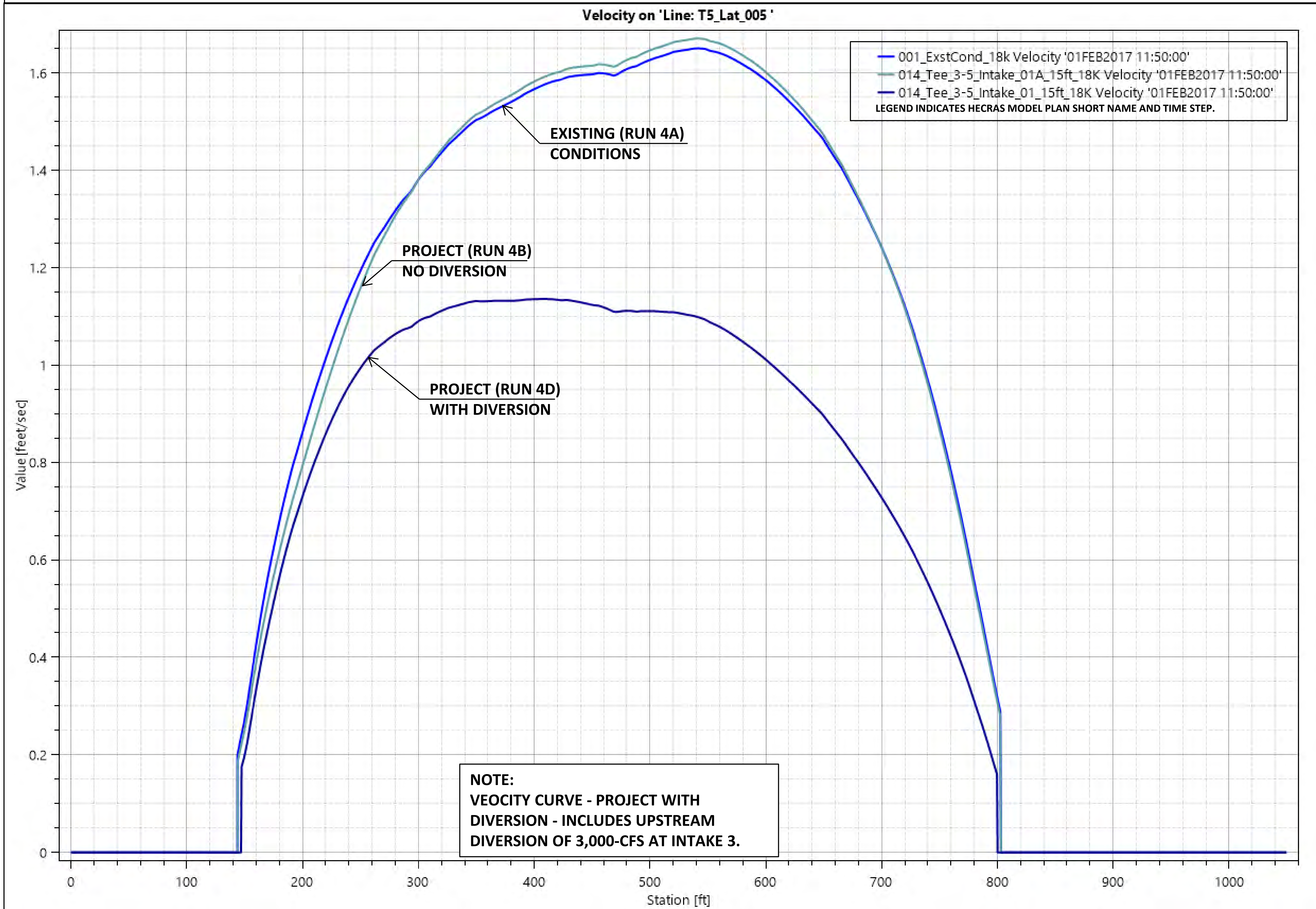
RUN 4A vs 4B vs 4D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 4A vs 4B vs 4D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

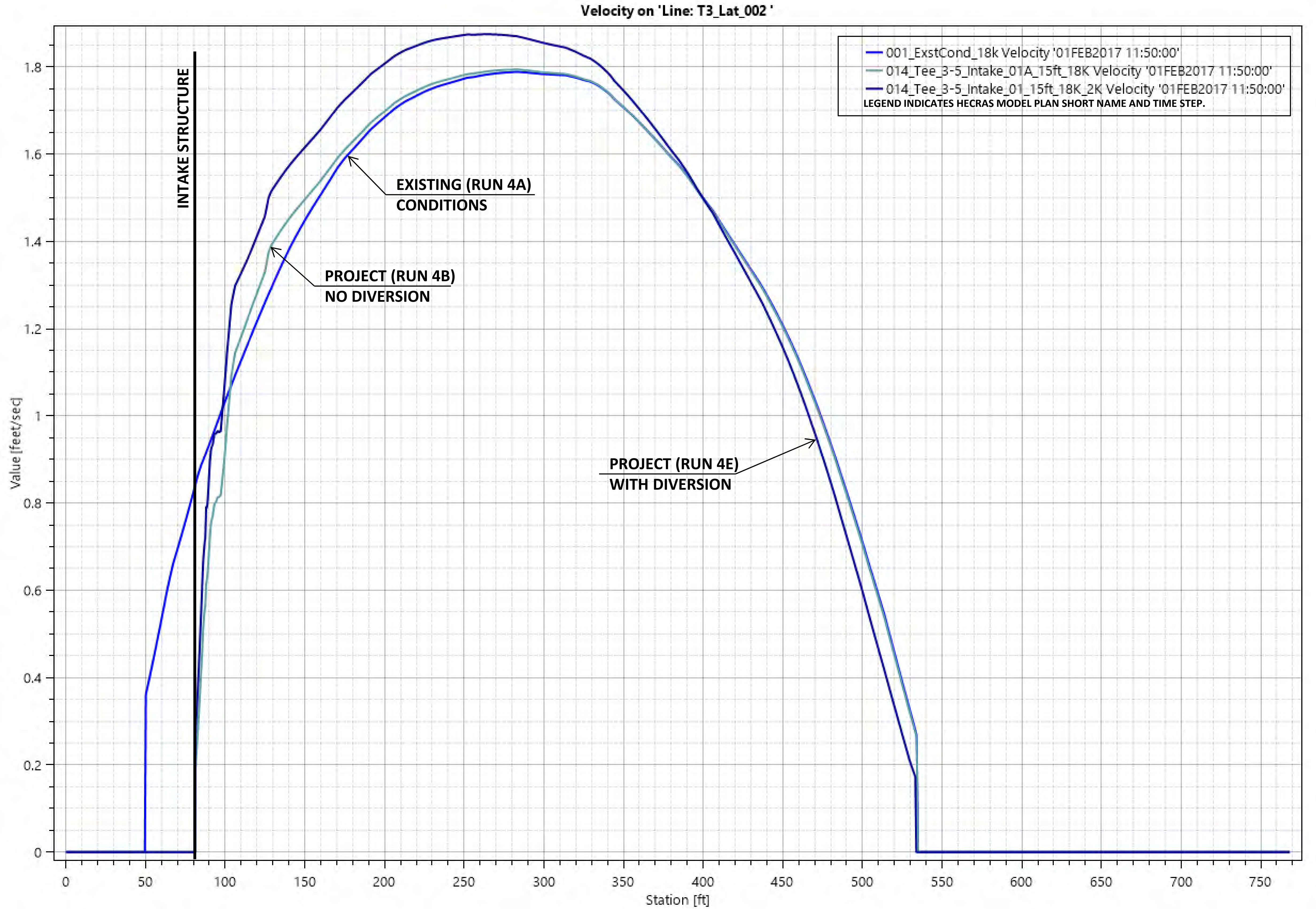
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T5_LAT_005



RUN 4A vs 4B vs 4E
INTAKE C-E-3 (B)

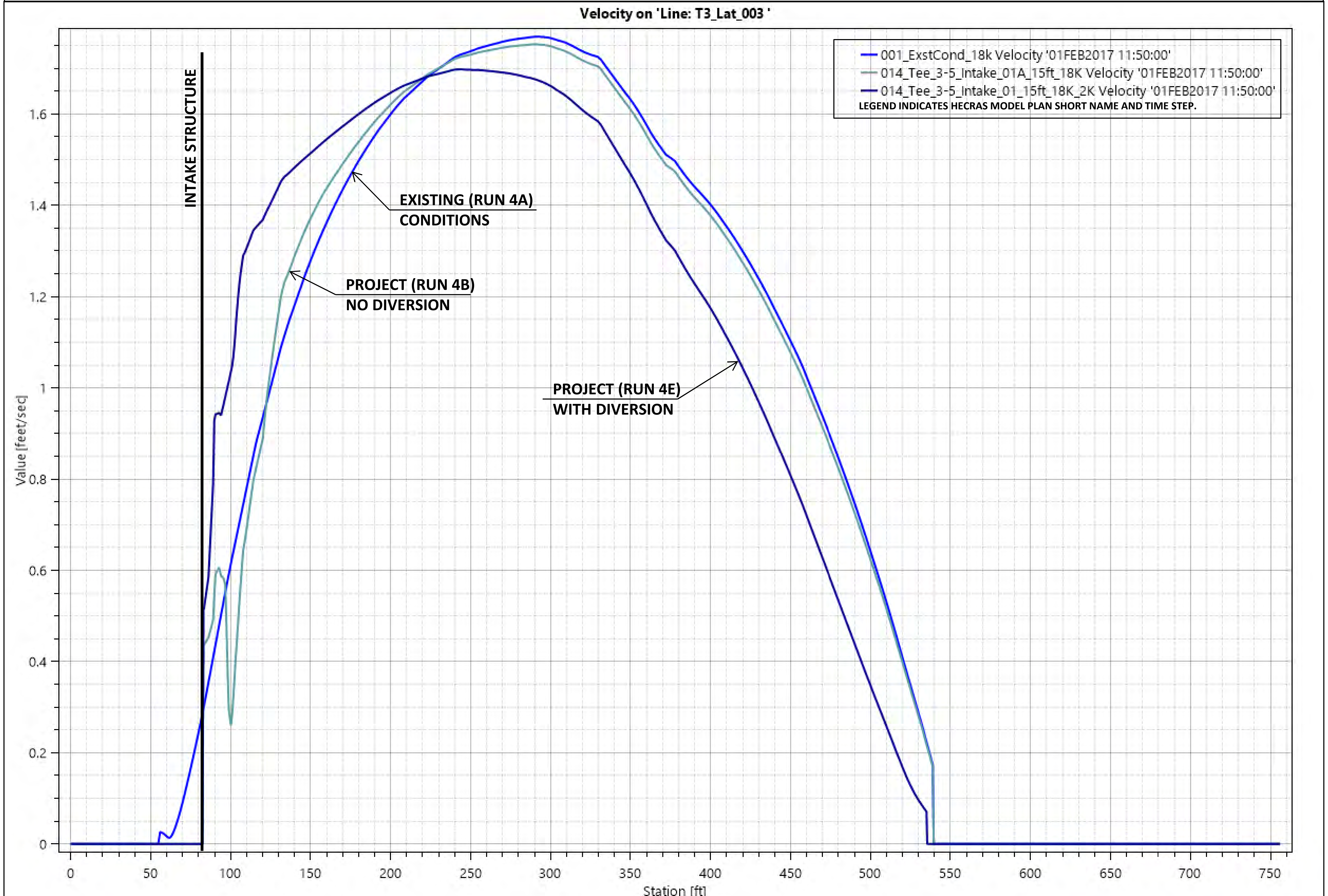
RUN 4A vs 4B vs 4E – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



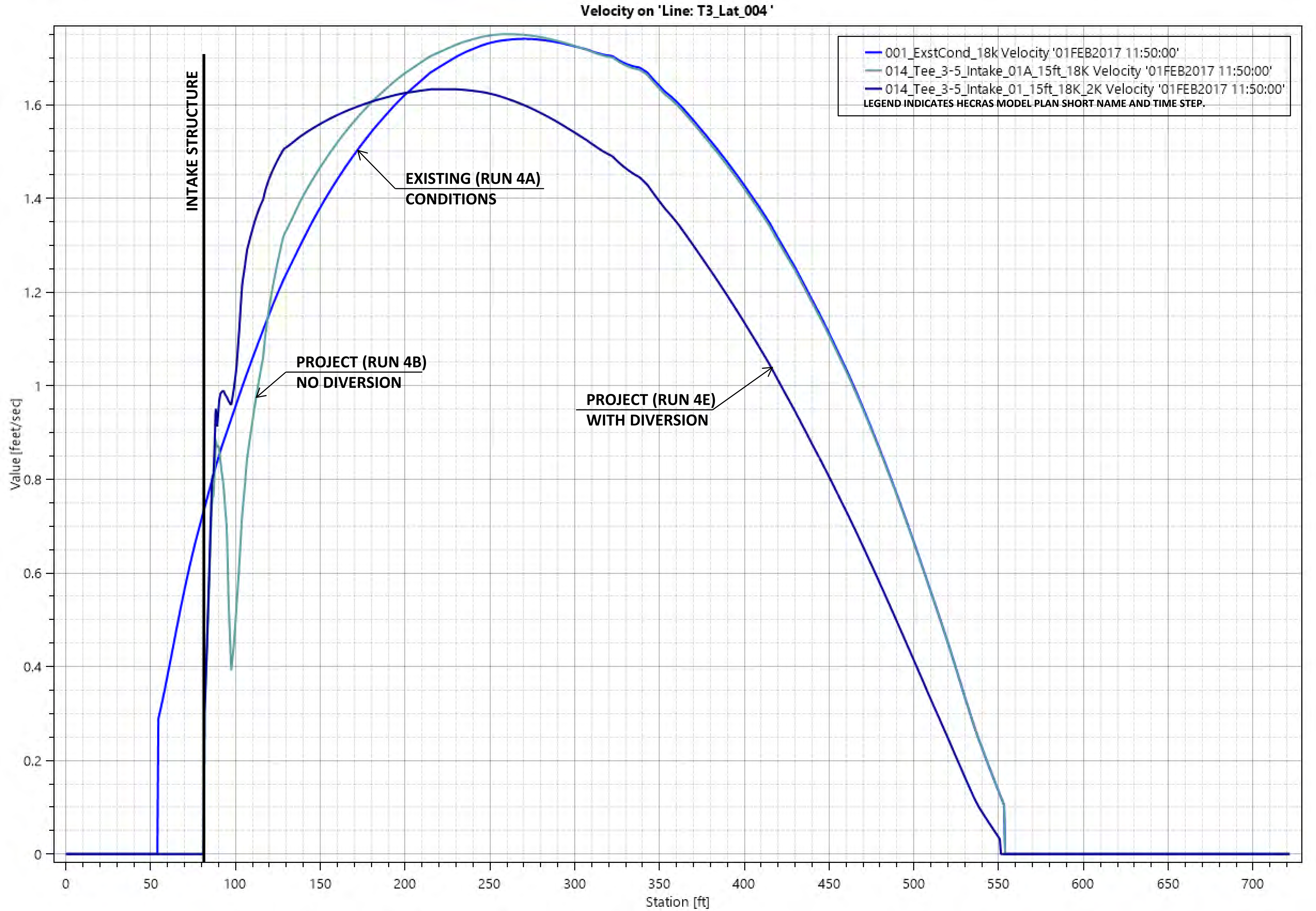
RUN 4A vs 4B vs 4E – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



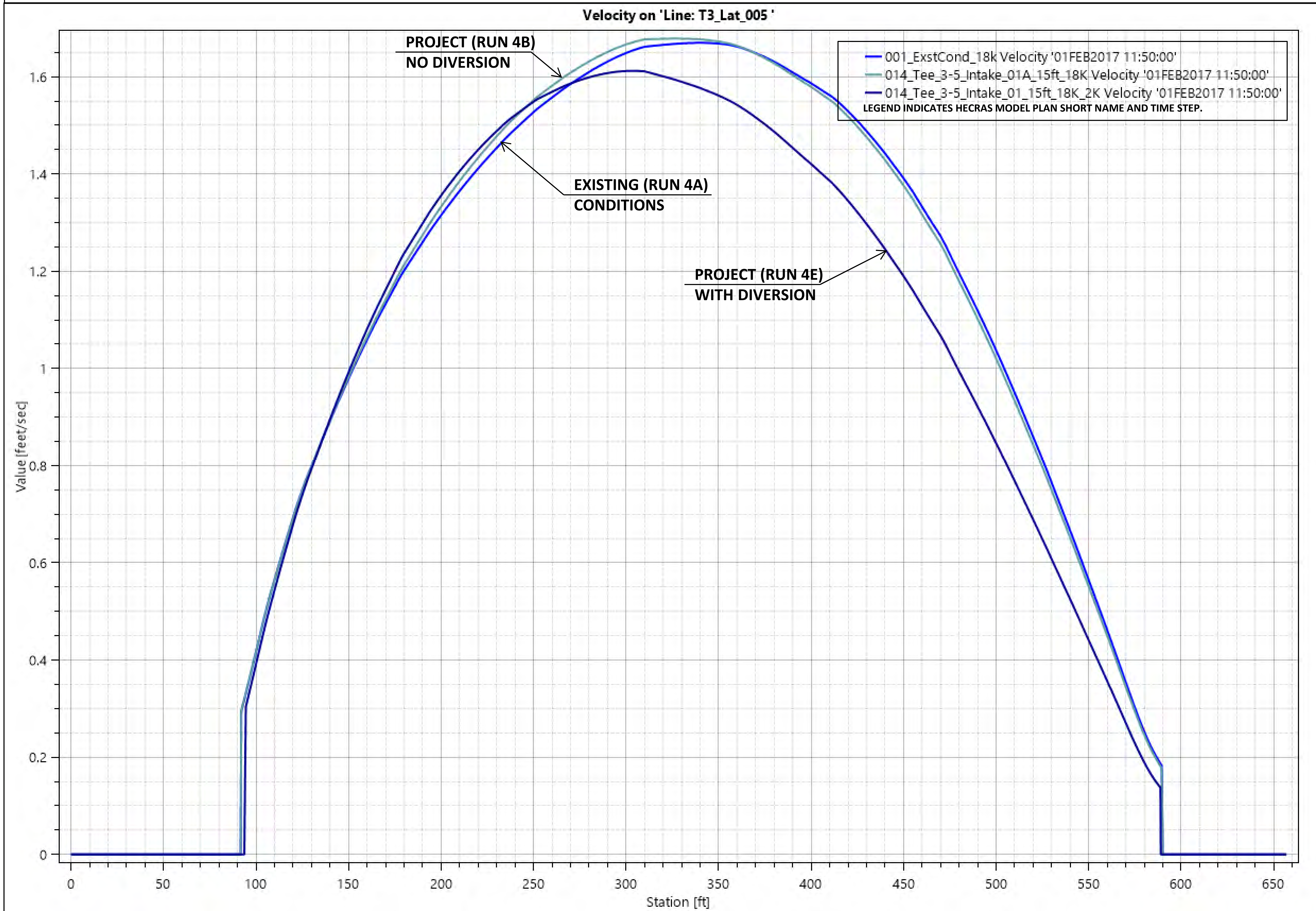
RUN 4A vs 4B vs 4E – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 4A vs 4B vs 4E – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

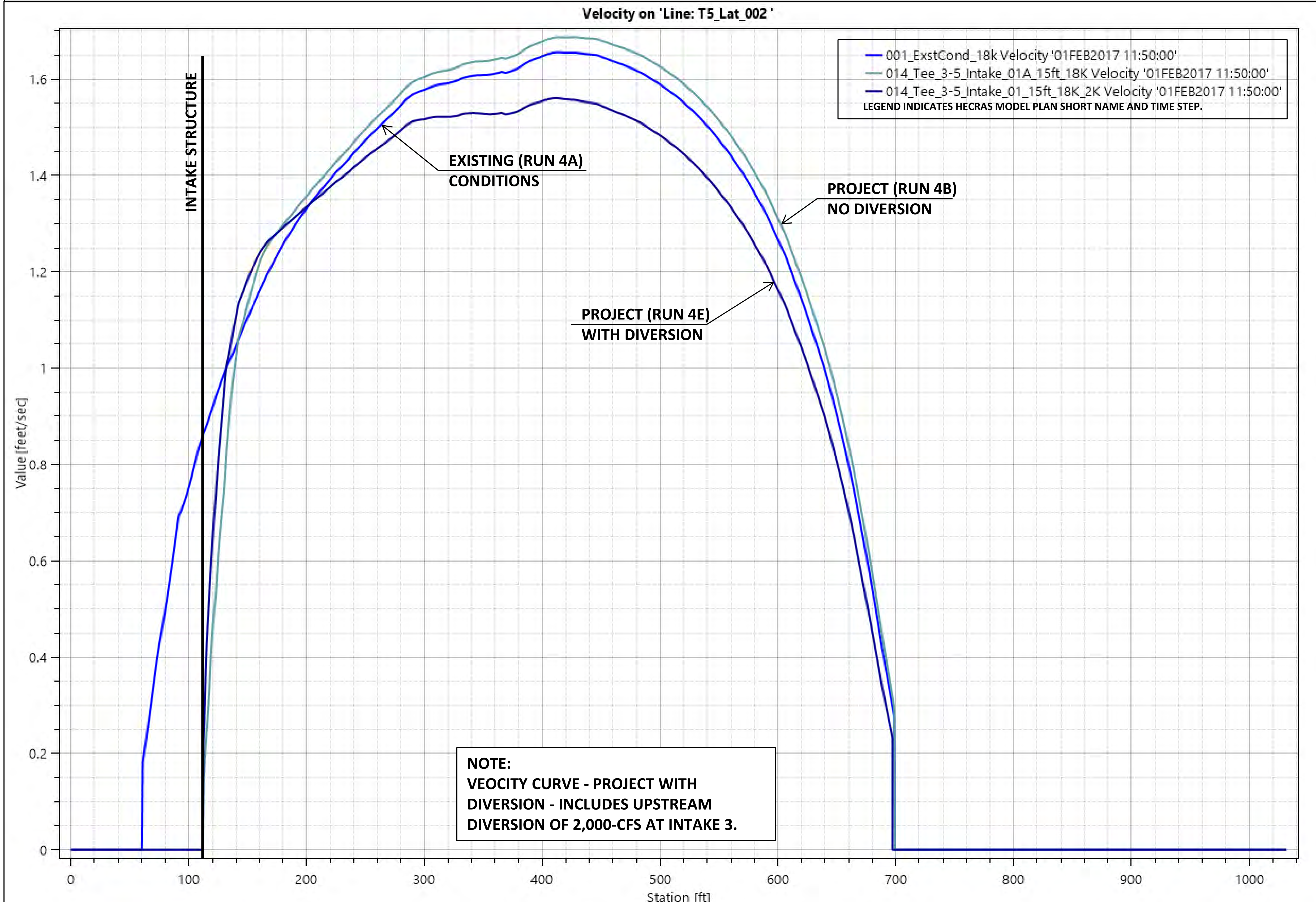
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T3_LAT_005



RUN 4A vs 4B vs 4E
INTAKE C-E-5 (C)

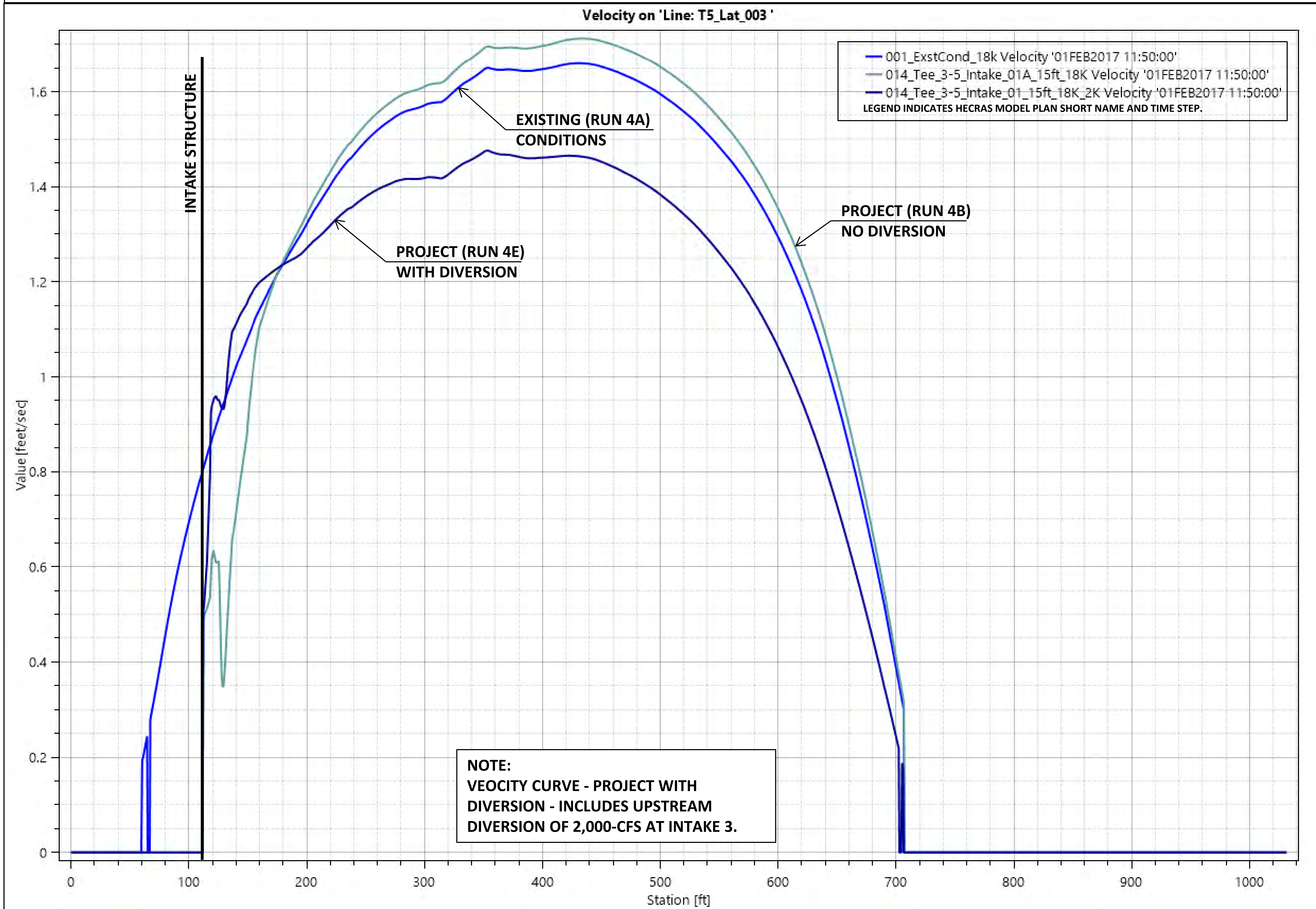
RUN 4A vs 4B vs 4E – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



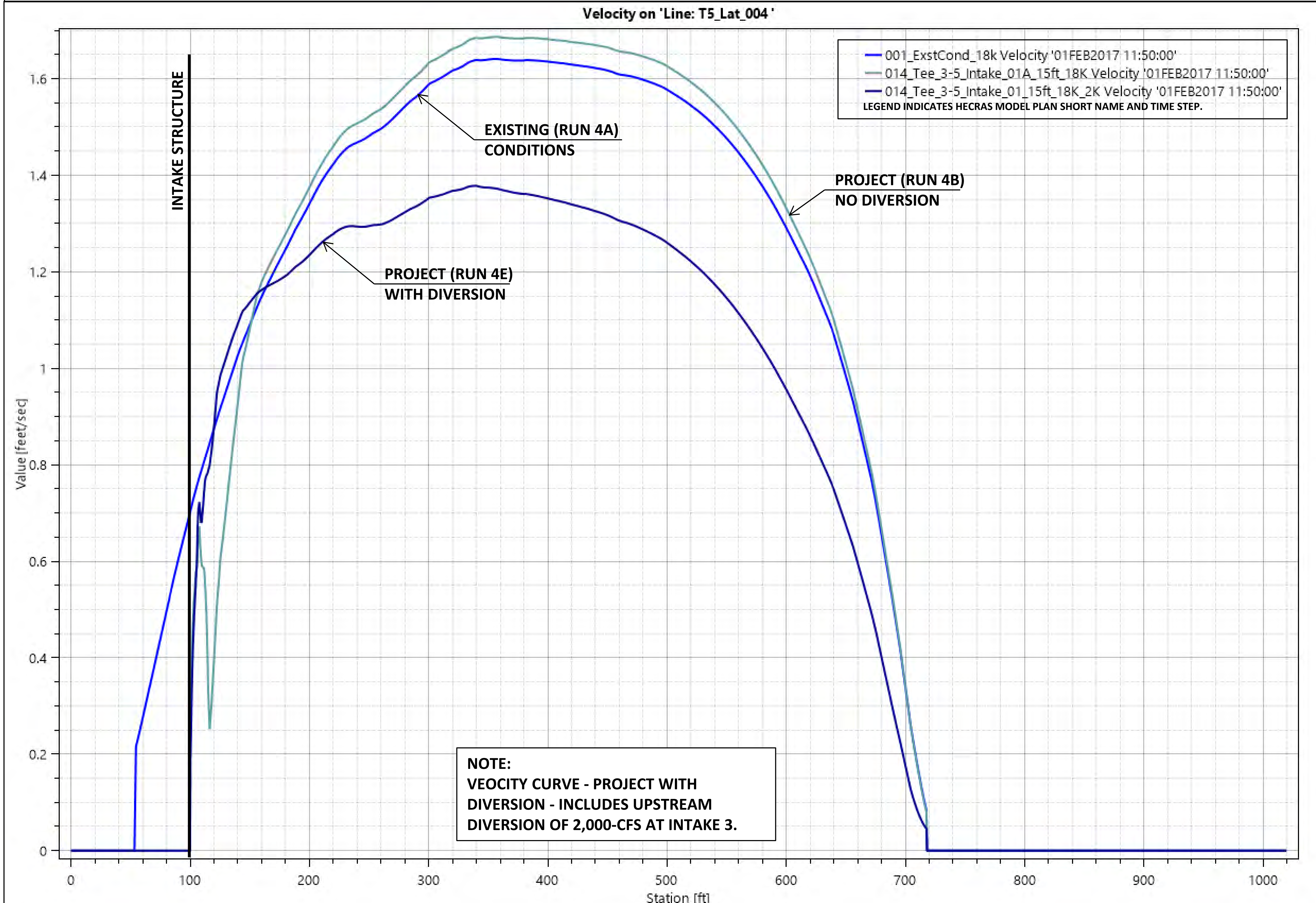
RUN 4A vs 4B vs 4E – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



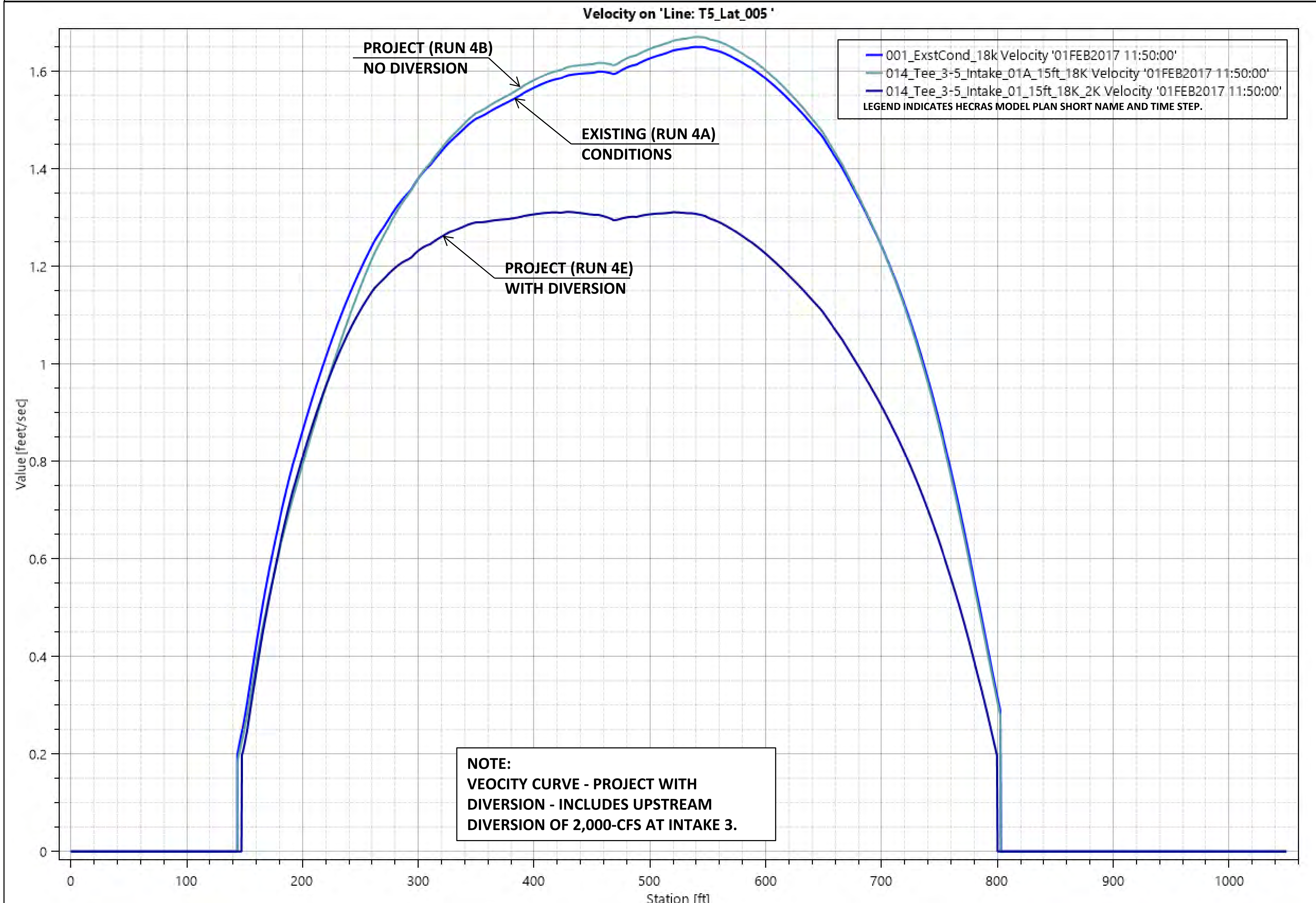
RUN 4A vs 4B vs 4E – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 4A vs 4B vs 4E – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

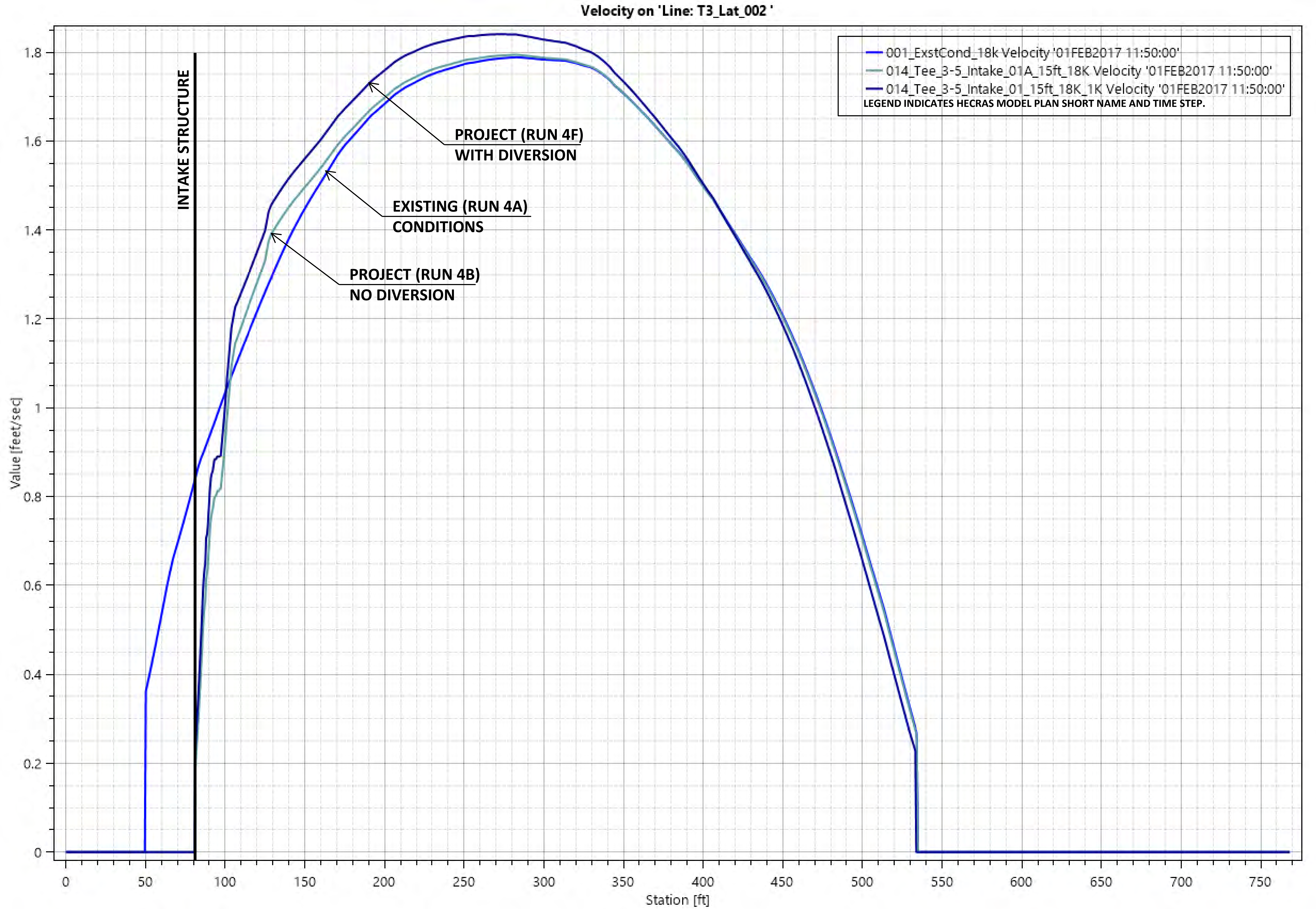
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T5_LAT_005



RUN 4A vs 4B vs 4F
INTAKE C-E-3 (B)

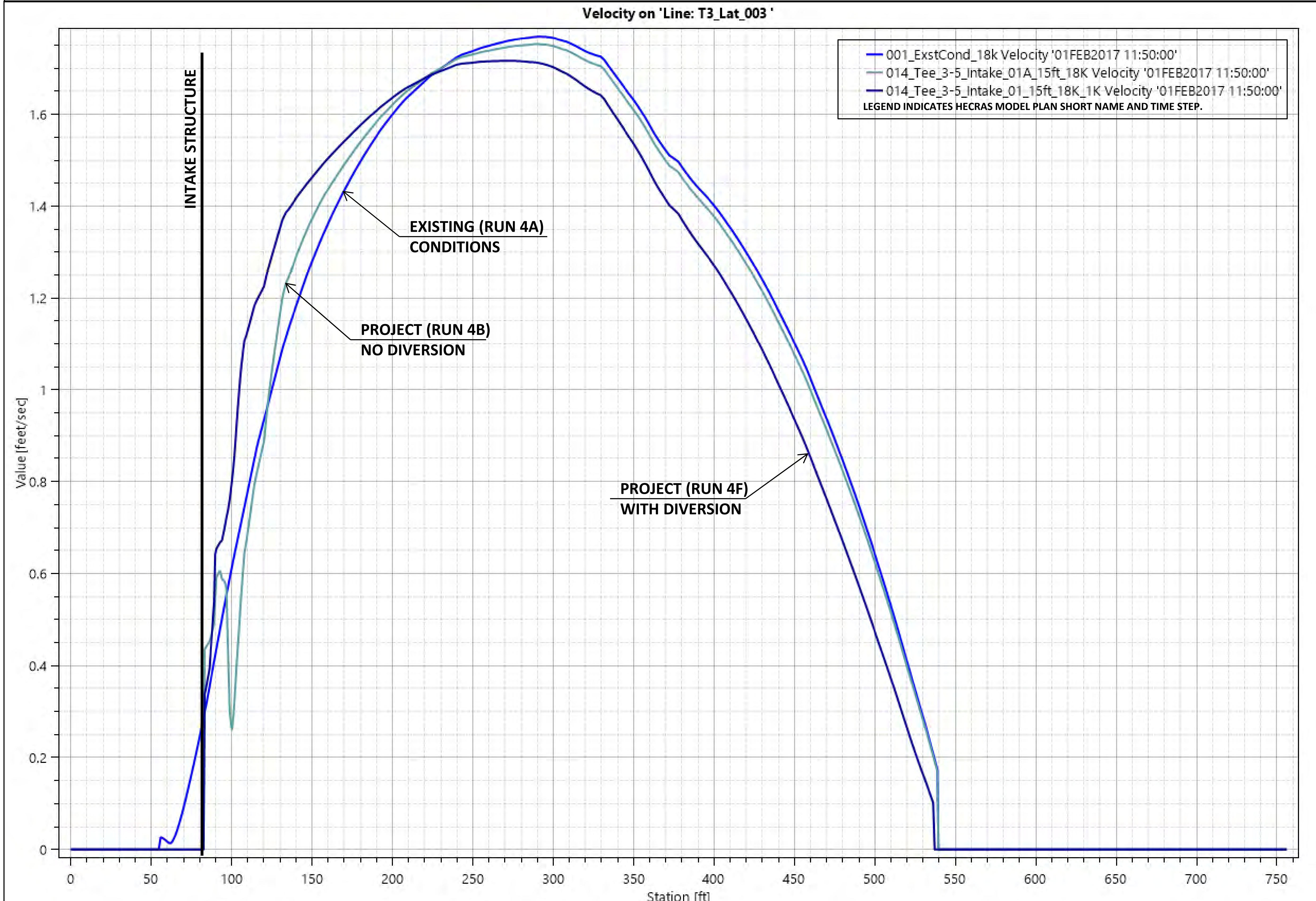
RUN 4A vs 4B vs 4F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



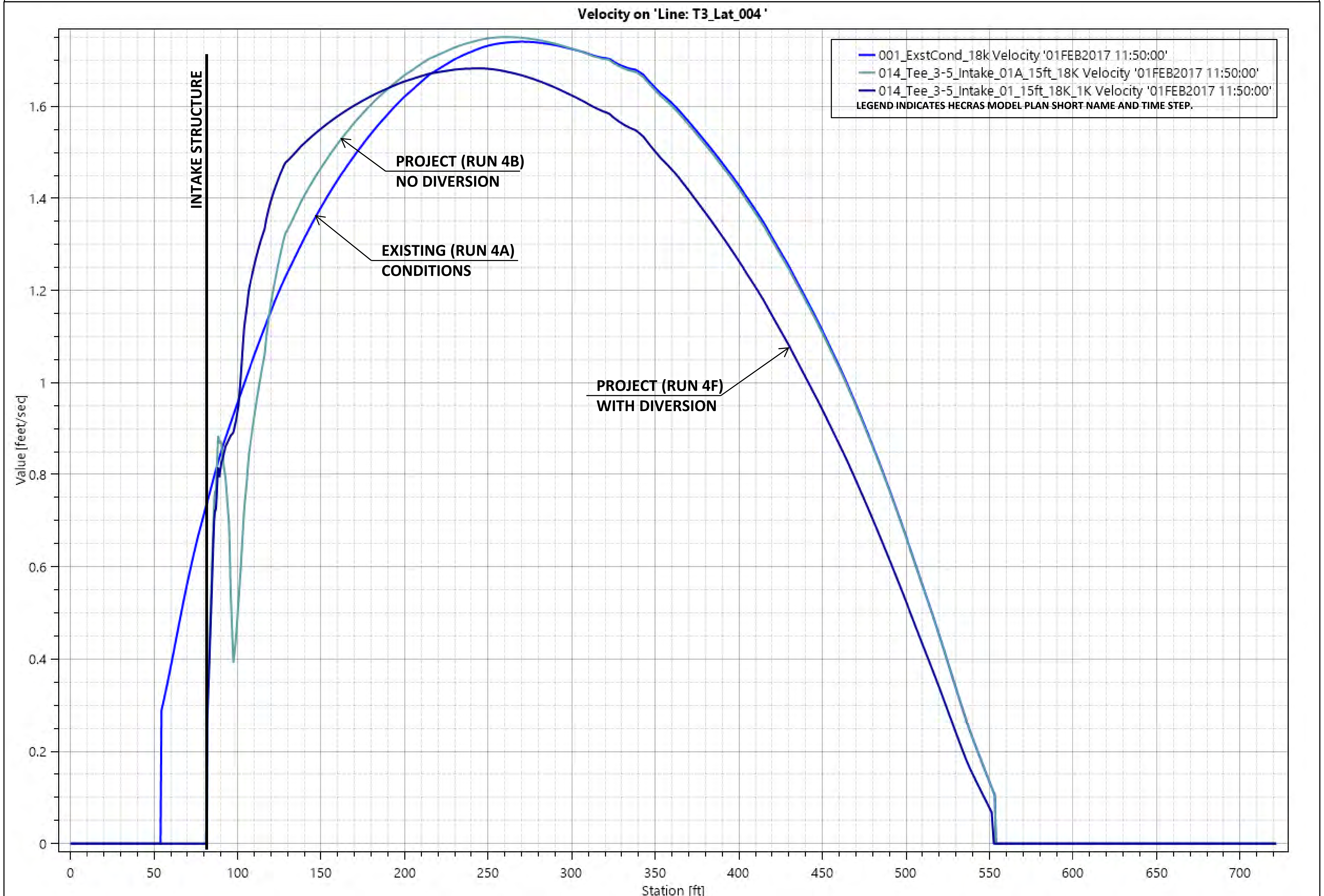
RUN 4A vs 4B vs 4F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



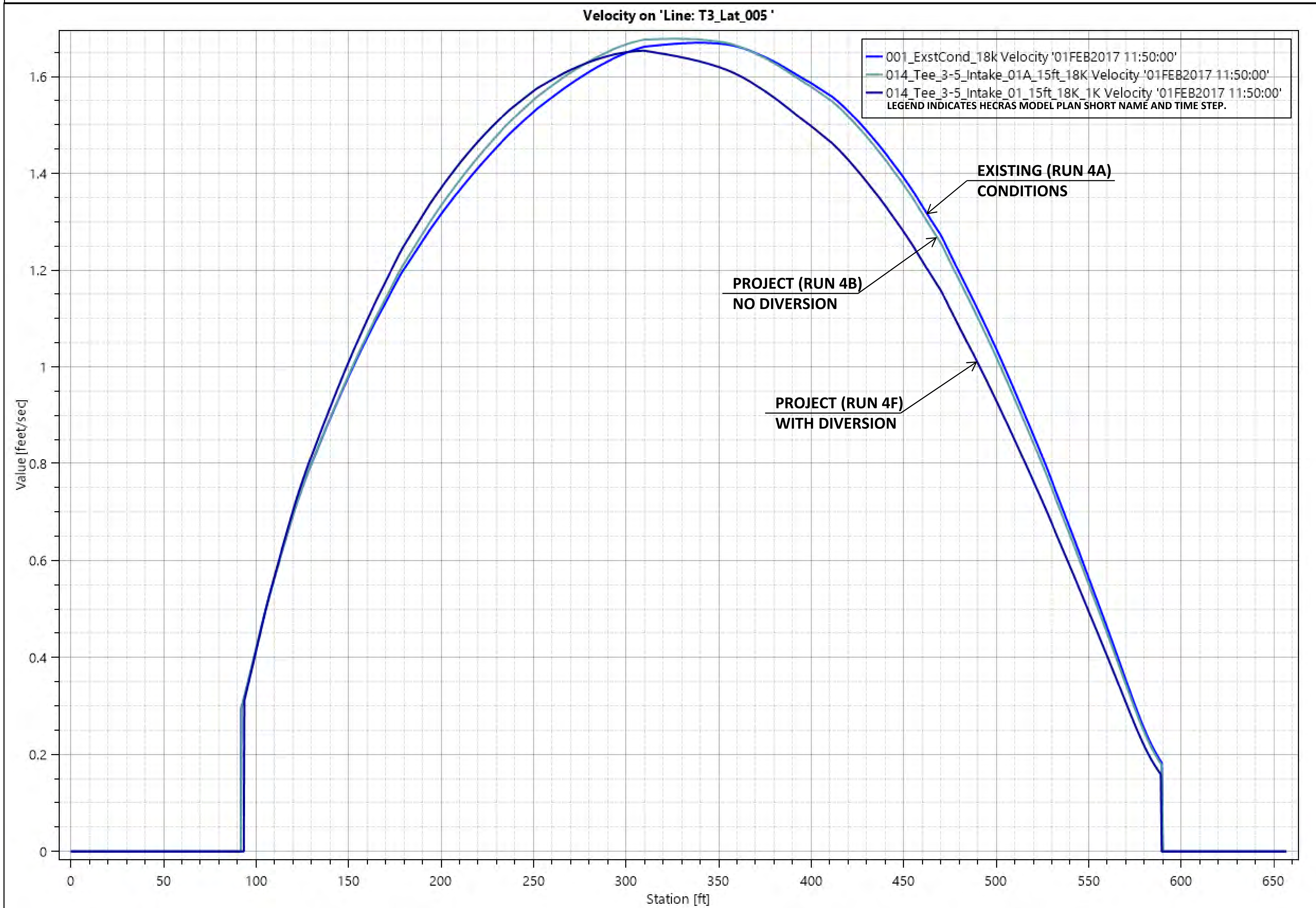
RUN 4A vs 4B vs 4F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 4A vs 4B vs 4F – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

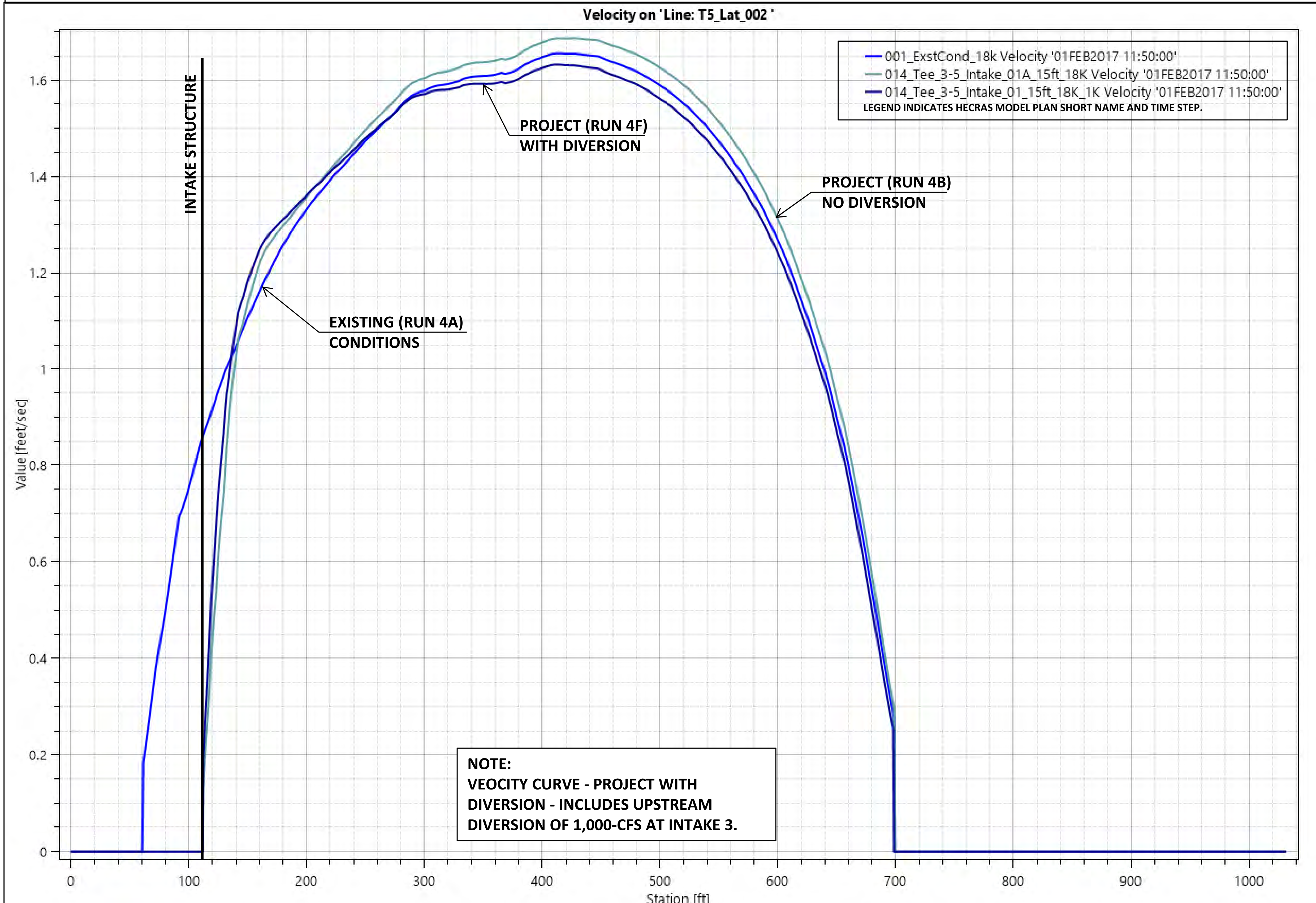
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM INTAKE STRUCTURE – T3_LAT_005



RUN 4A vs 4B vs 4F
INTAKE C-E-5 (C)

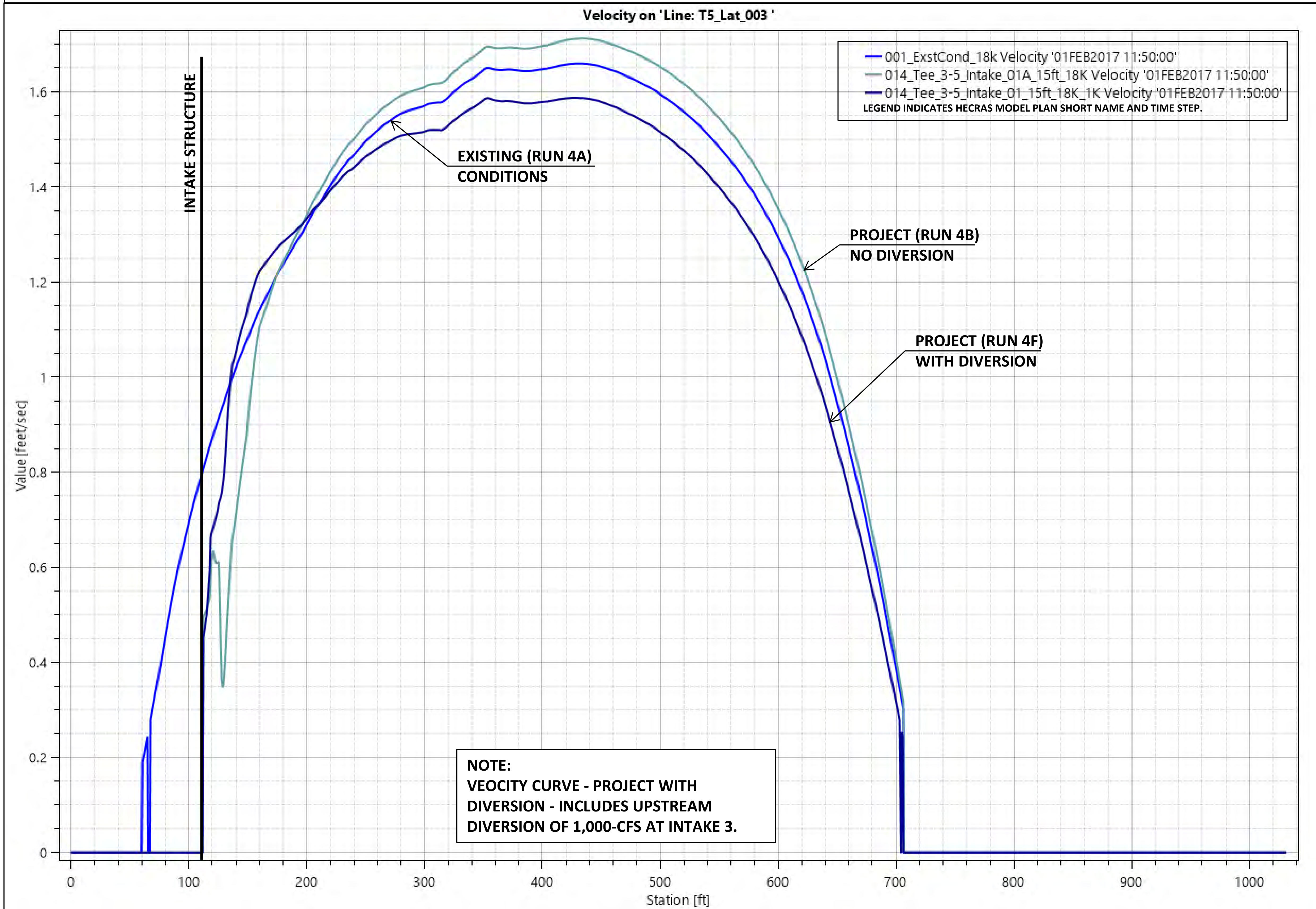
RUN 4A vs 4B vs 4F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



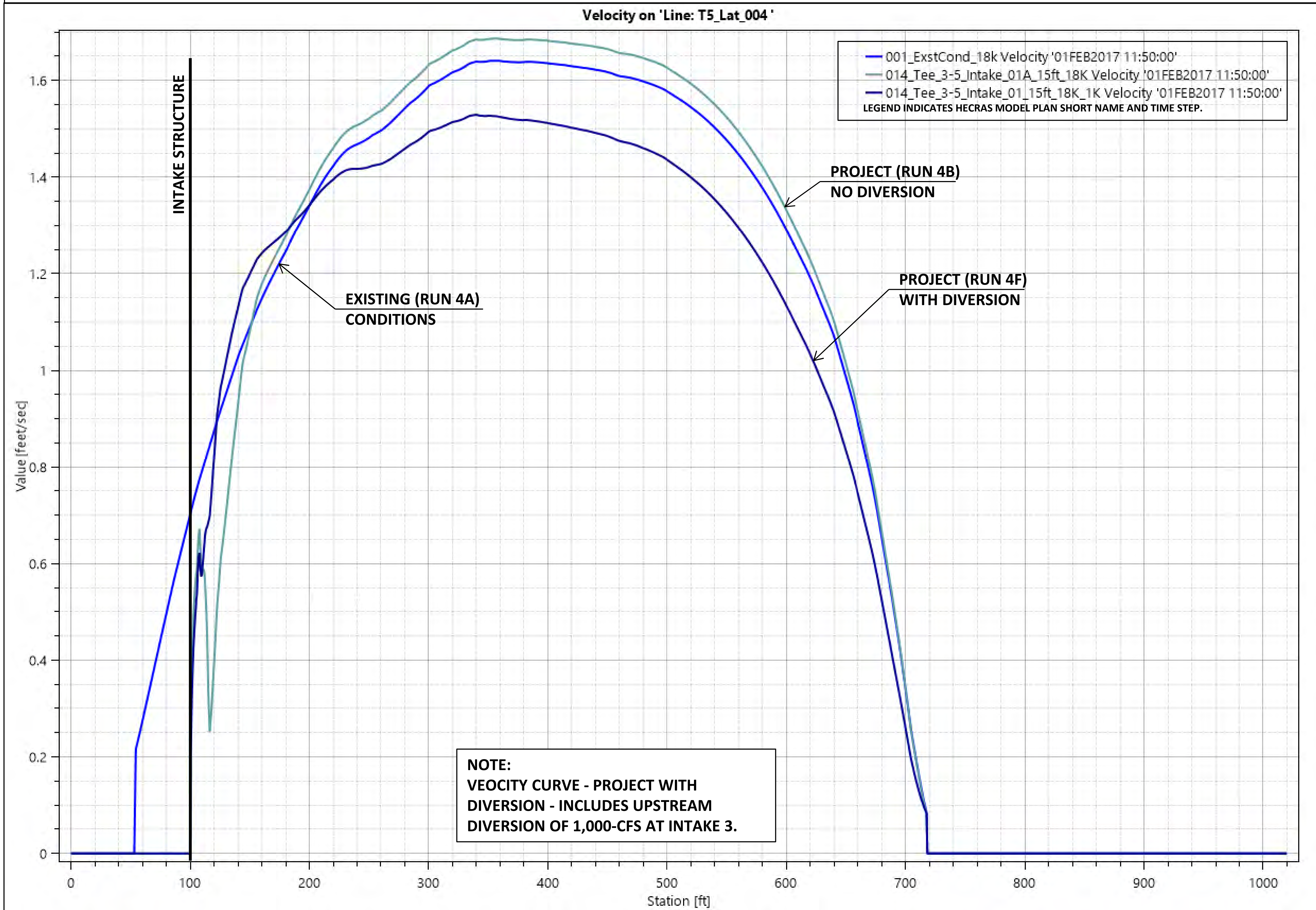
RUN 4A vs 4B vs 4F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



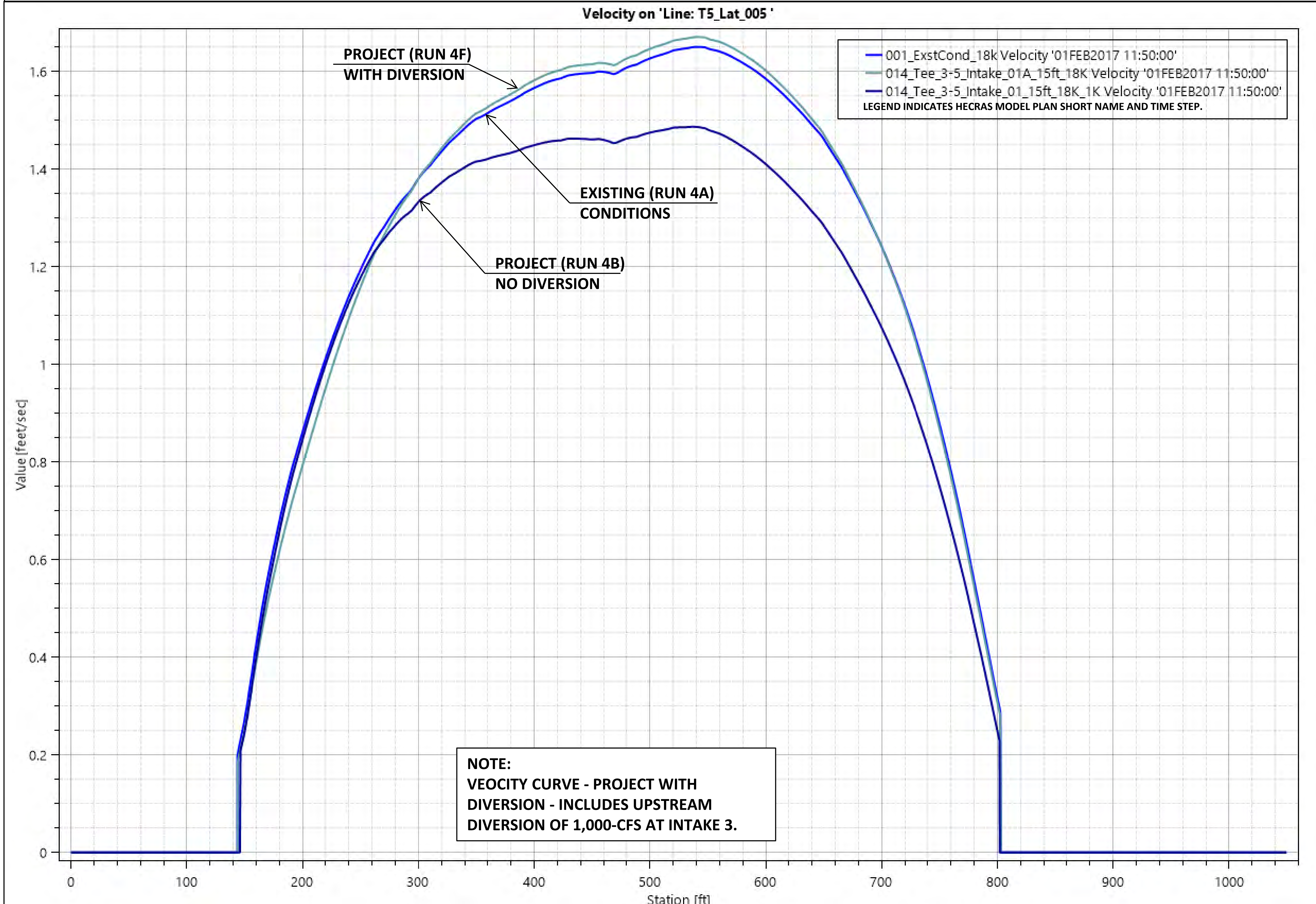
RUN 4A vs 4B vs 4F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 4A vs 4B vs 4F – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

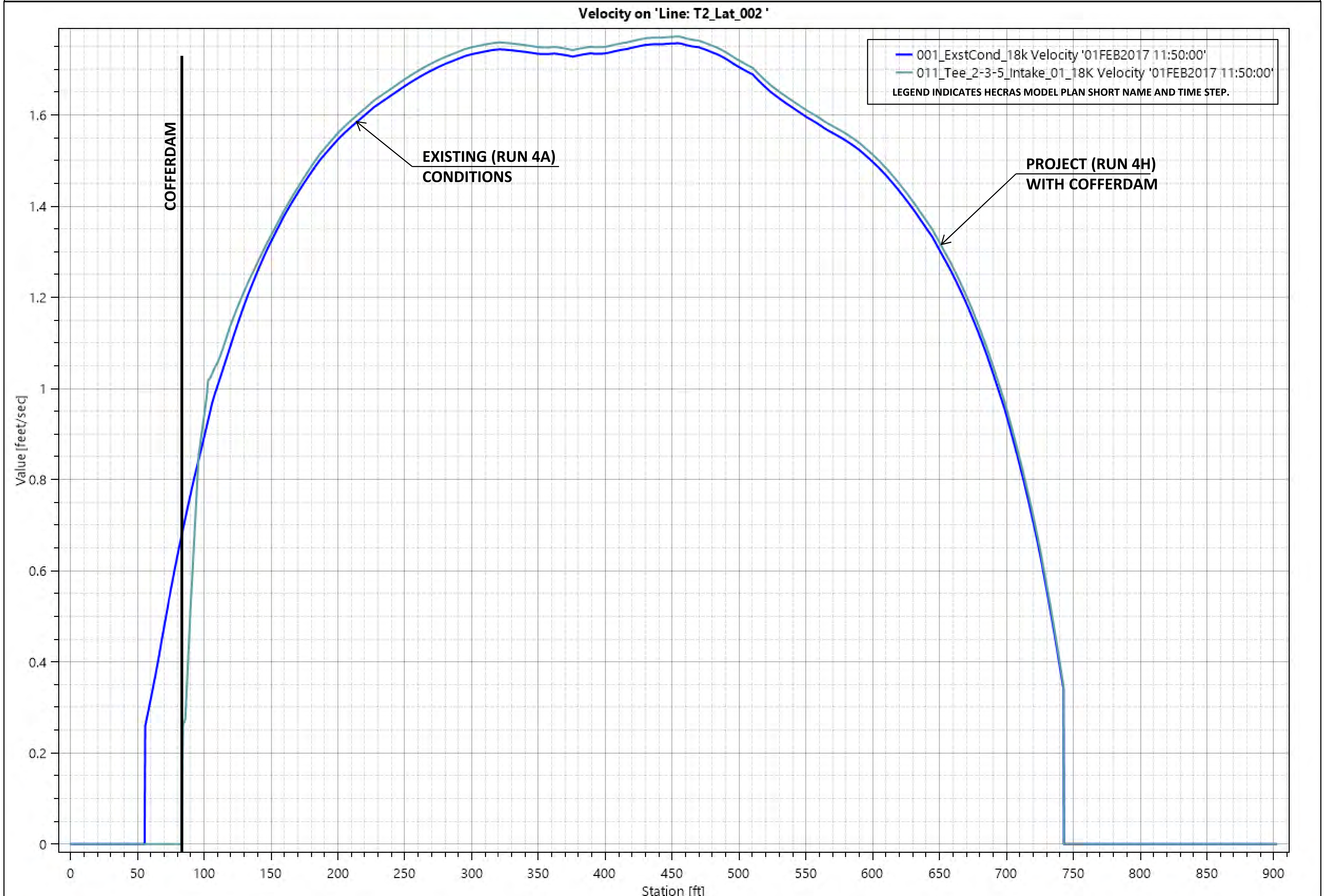
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



RUN 4A vs 4H
INTAKE C-E-2 (A)

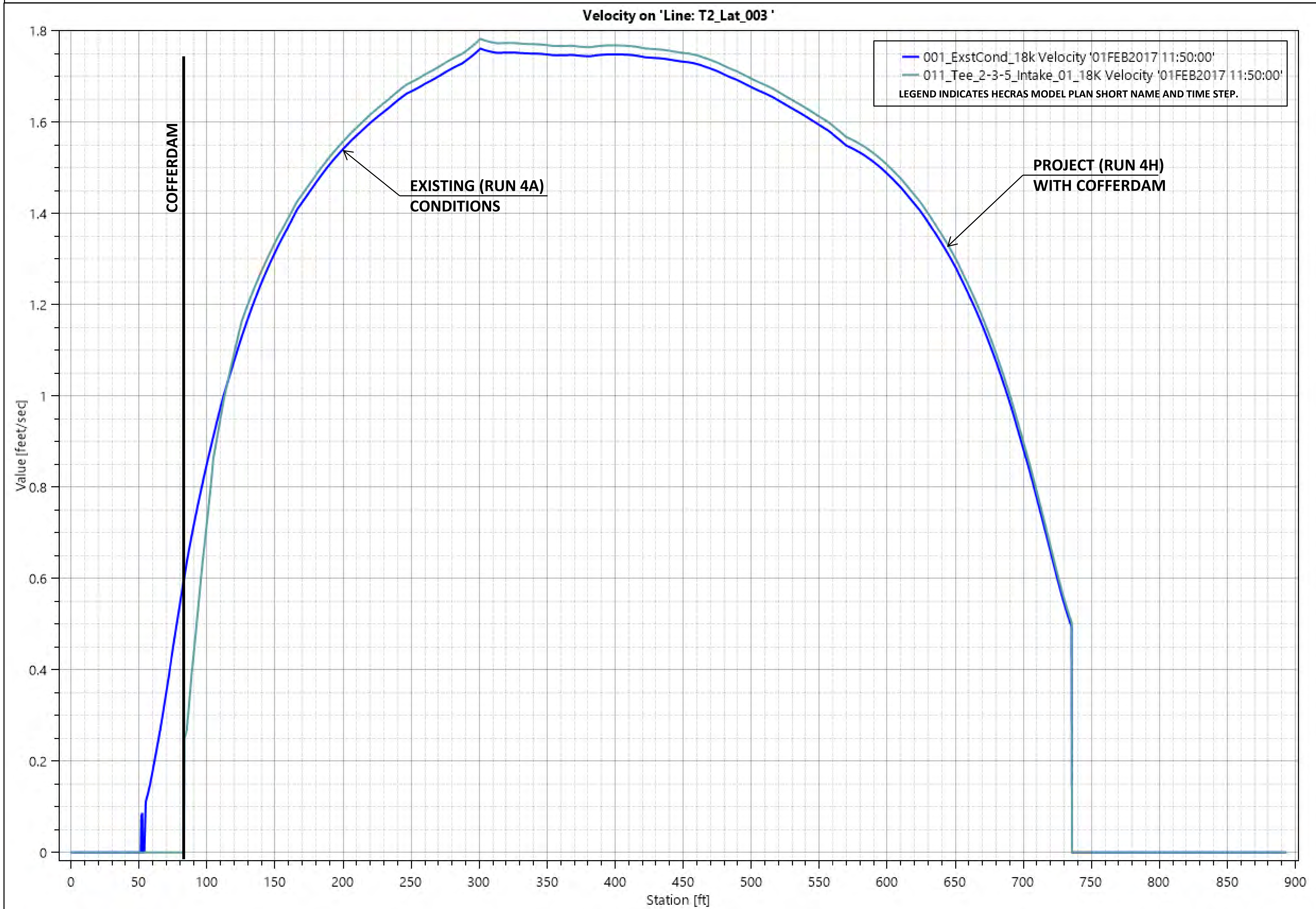
RUN 4A vs 4H – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T2_LAT_002



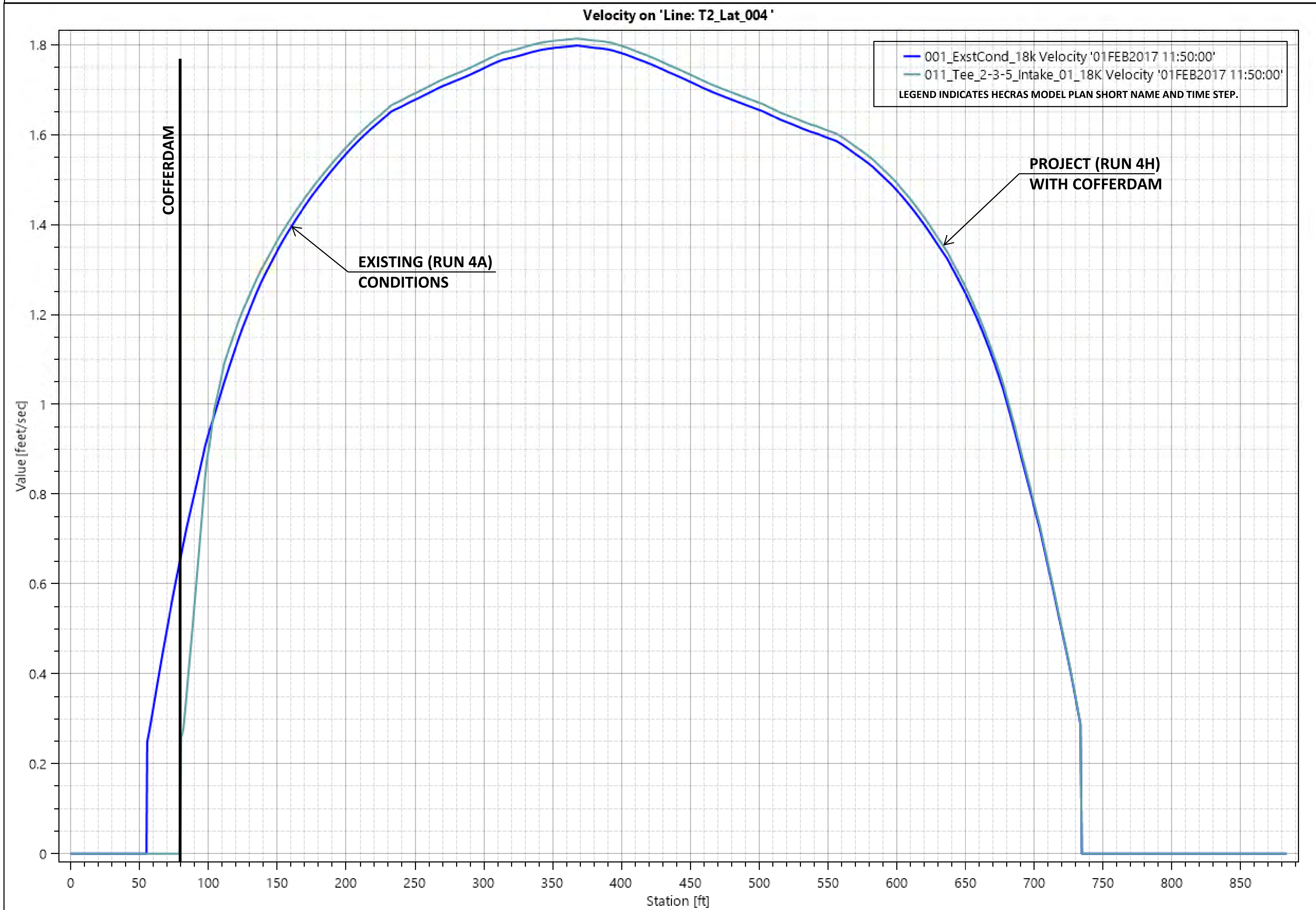
RUN 4A vs 4H – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T2_LAT_003



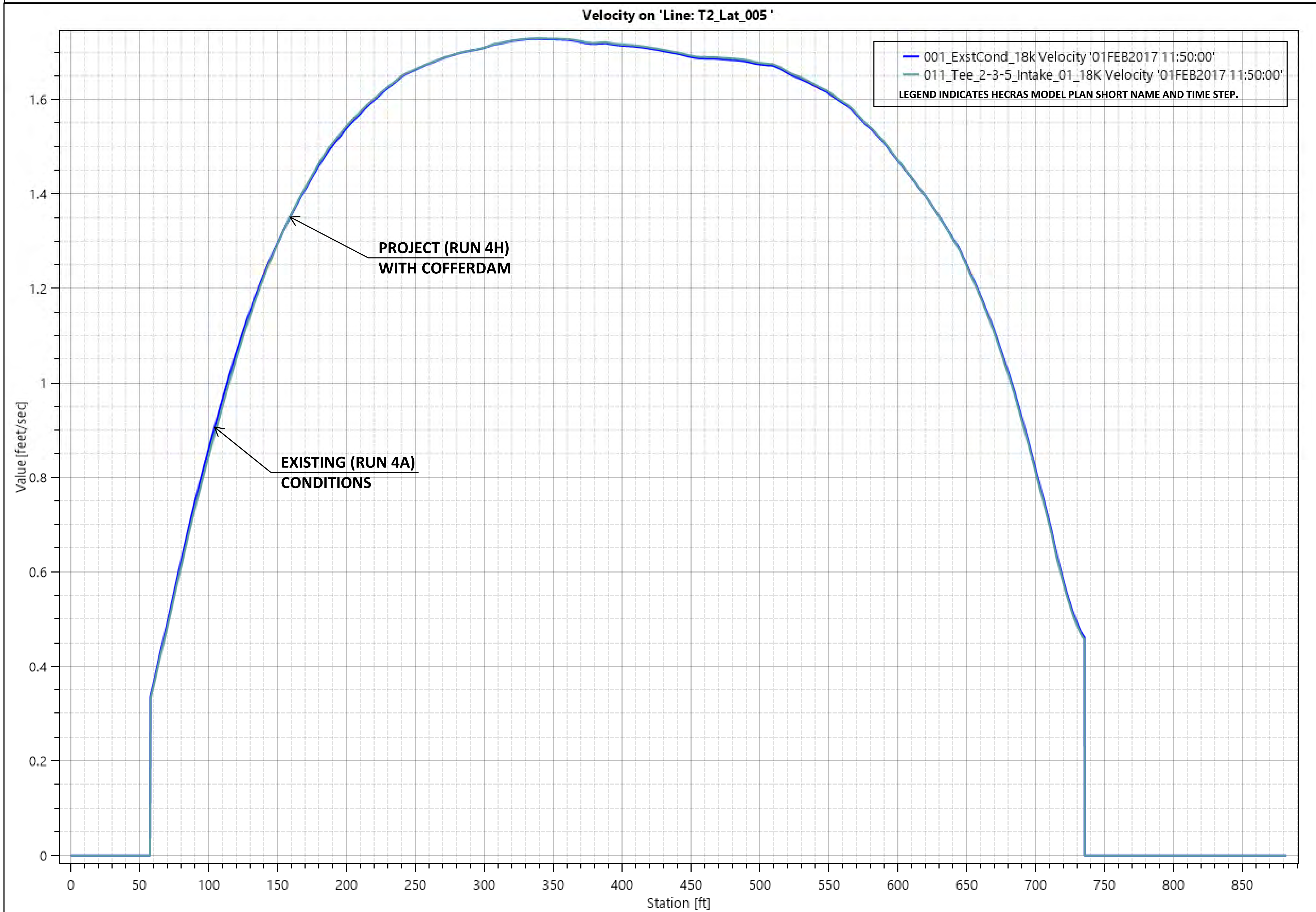
RUN 4A vs 4H – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 4A vs 4H – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

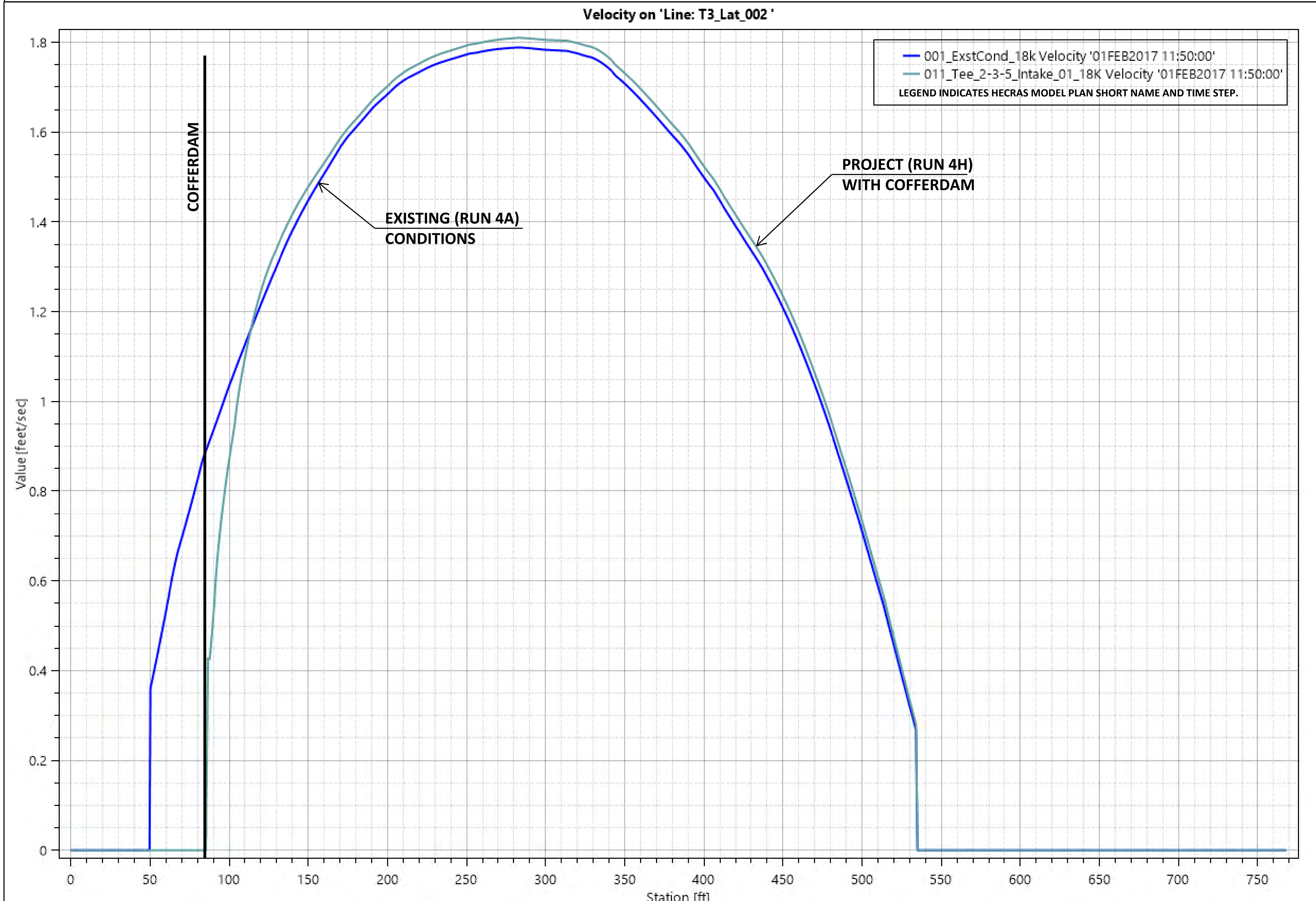
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



RUN 4A vs 4H
INTAKE C-E-3 (B)

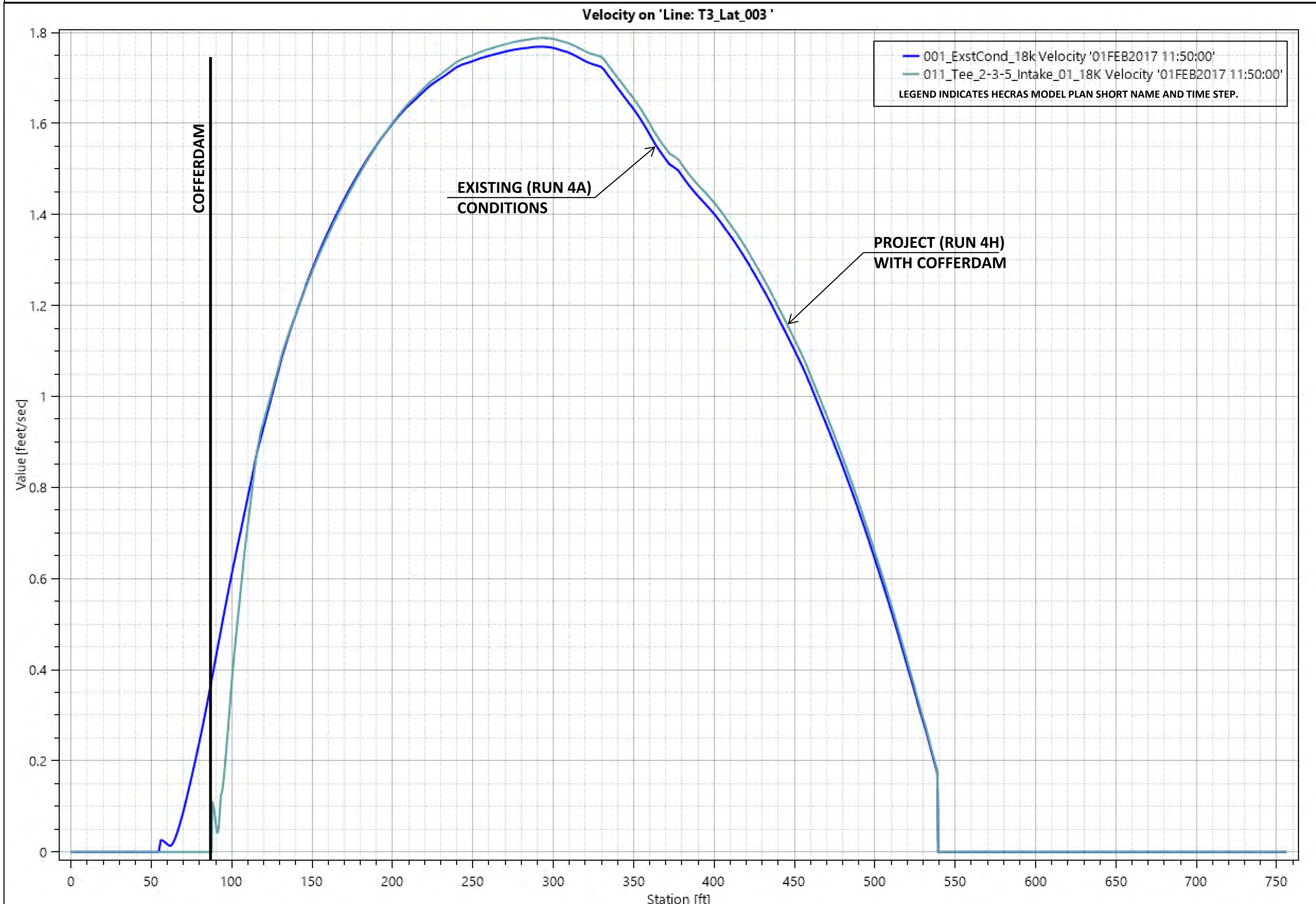
RUN 4A vs 4H – INTAKE C-E-3 (B)– LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



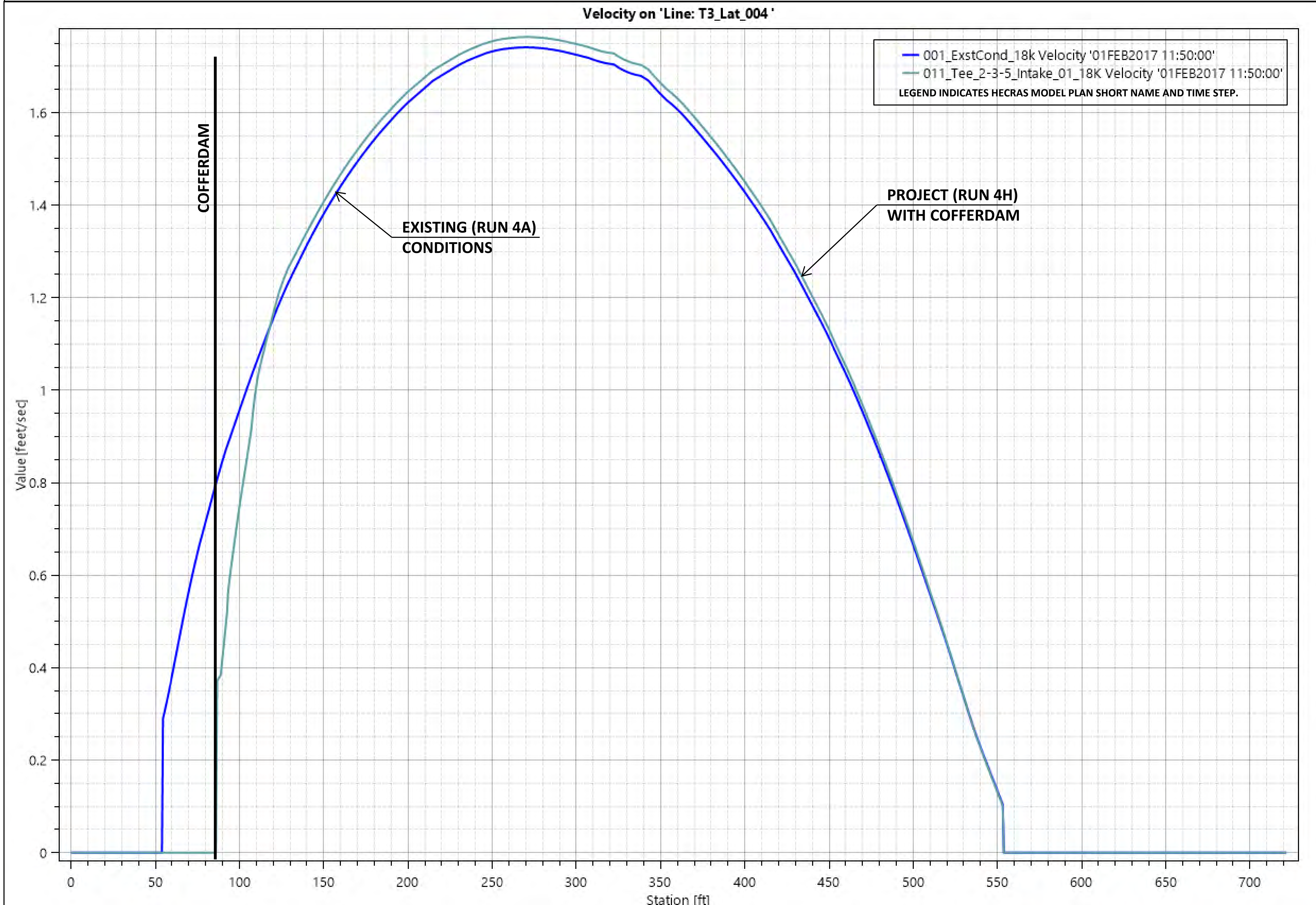
RUN 4A vs 4H – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



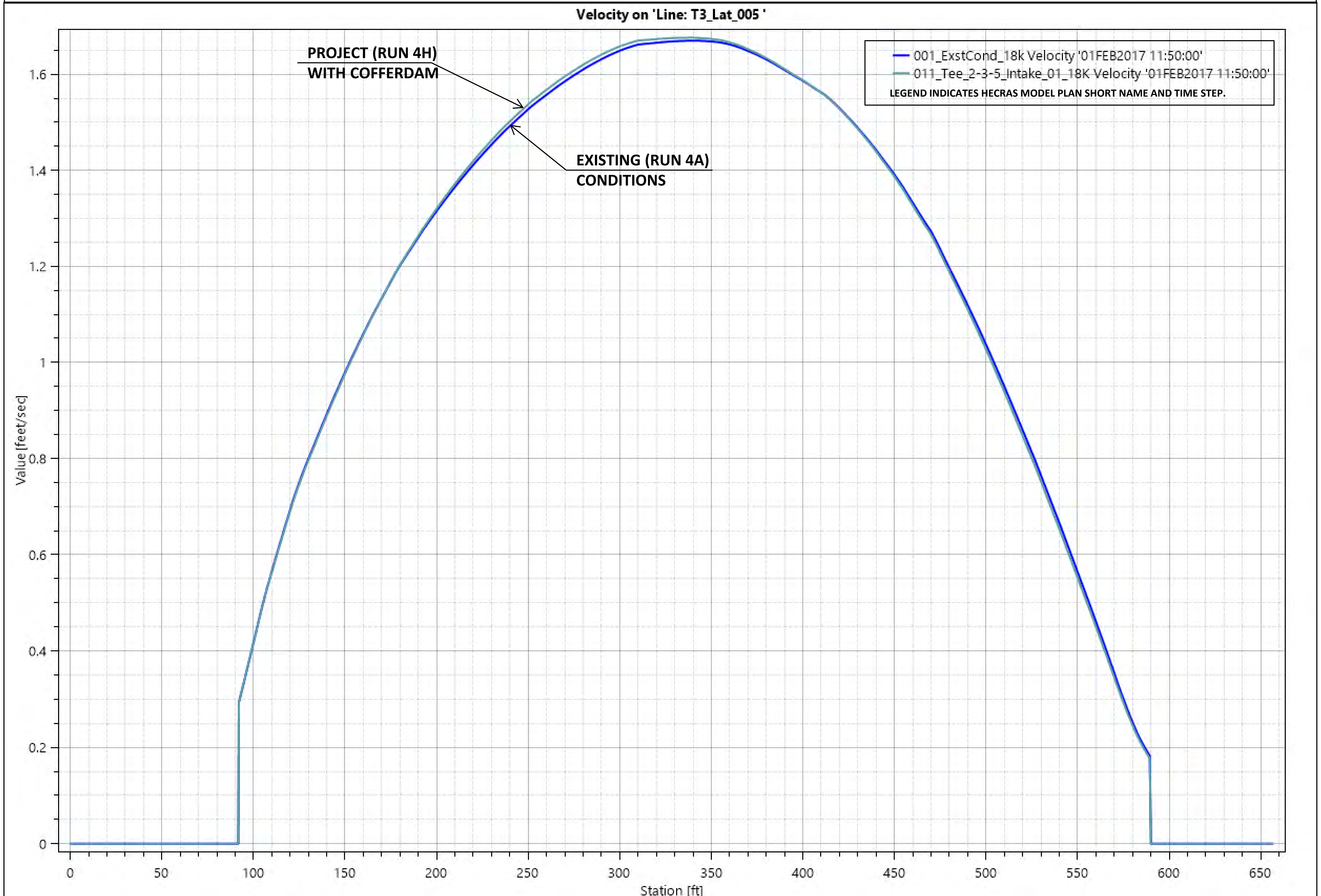
RUN 4A vs 4H – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 4A vs 4H – INTAKE C-E-3 (B)– LATERAL VELOCITY PROFILE PLOT

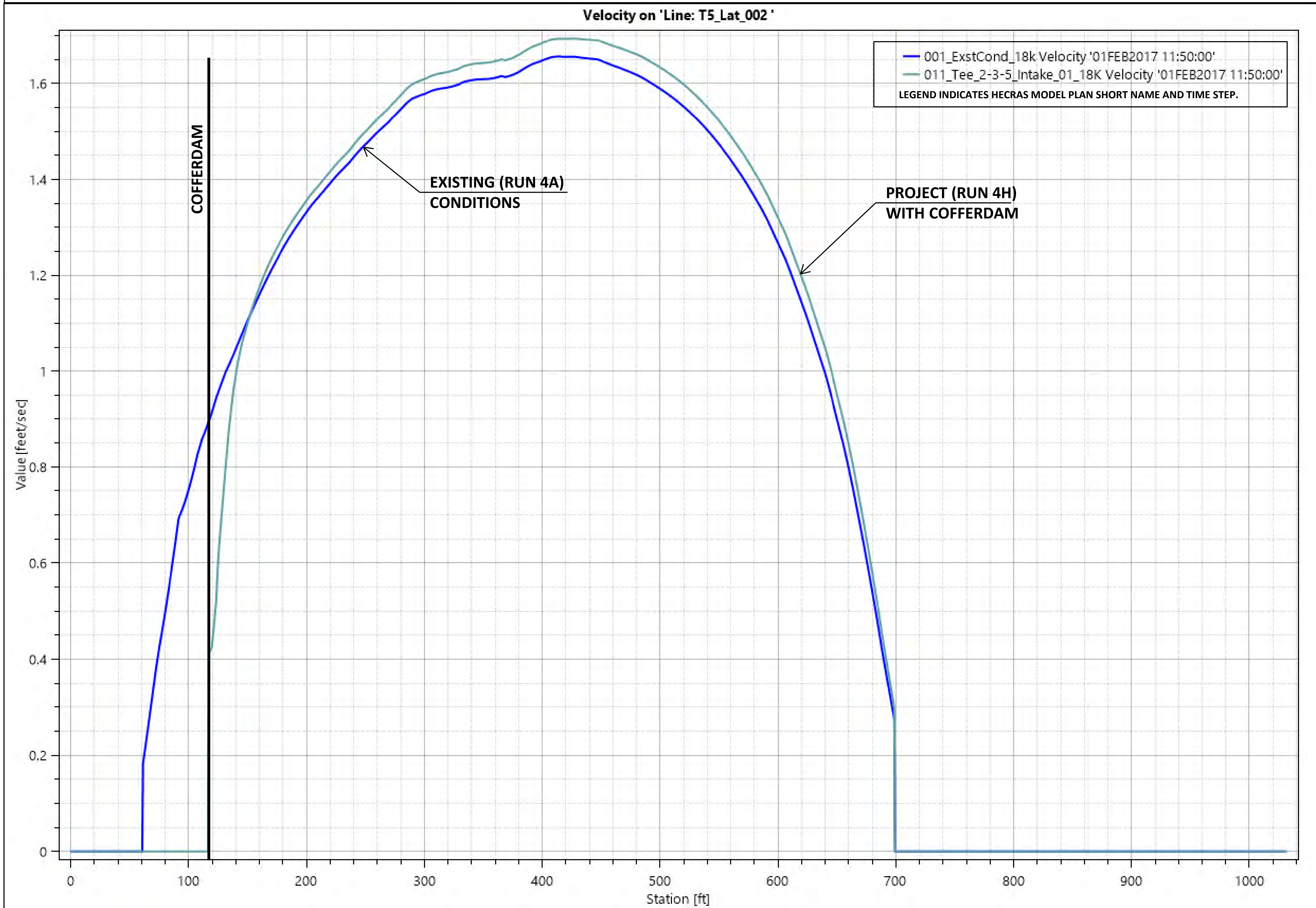
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 4A vs 4H
INTAKE C-E-5 (C)

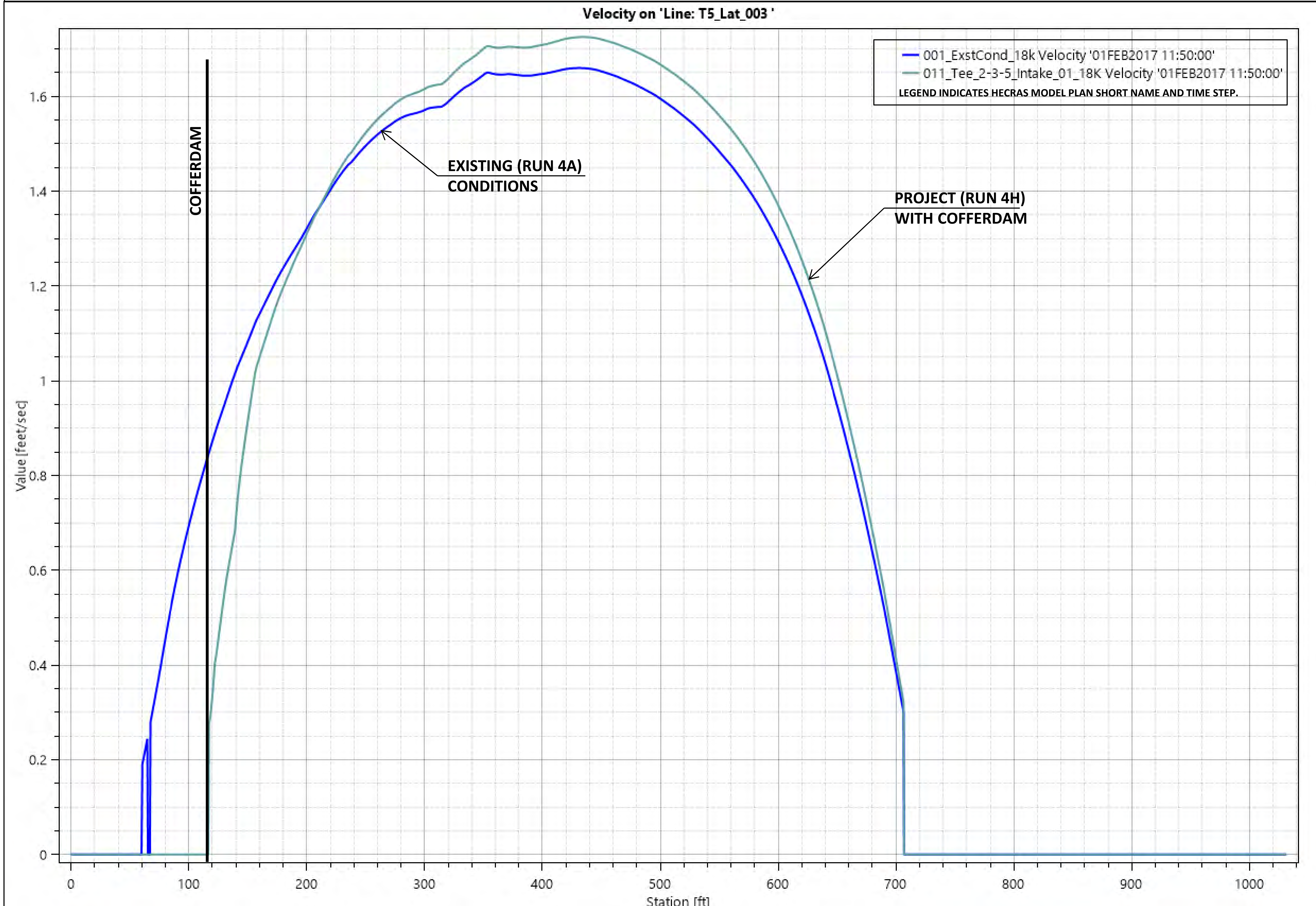
RUN 4A vs 4H – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



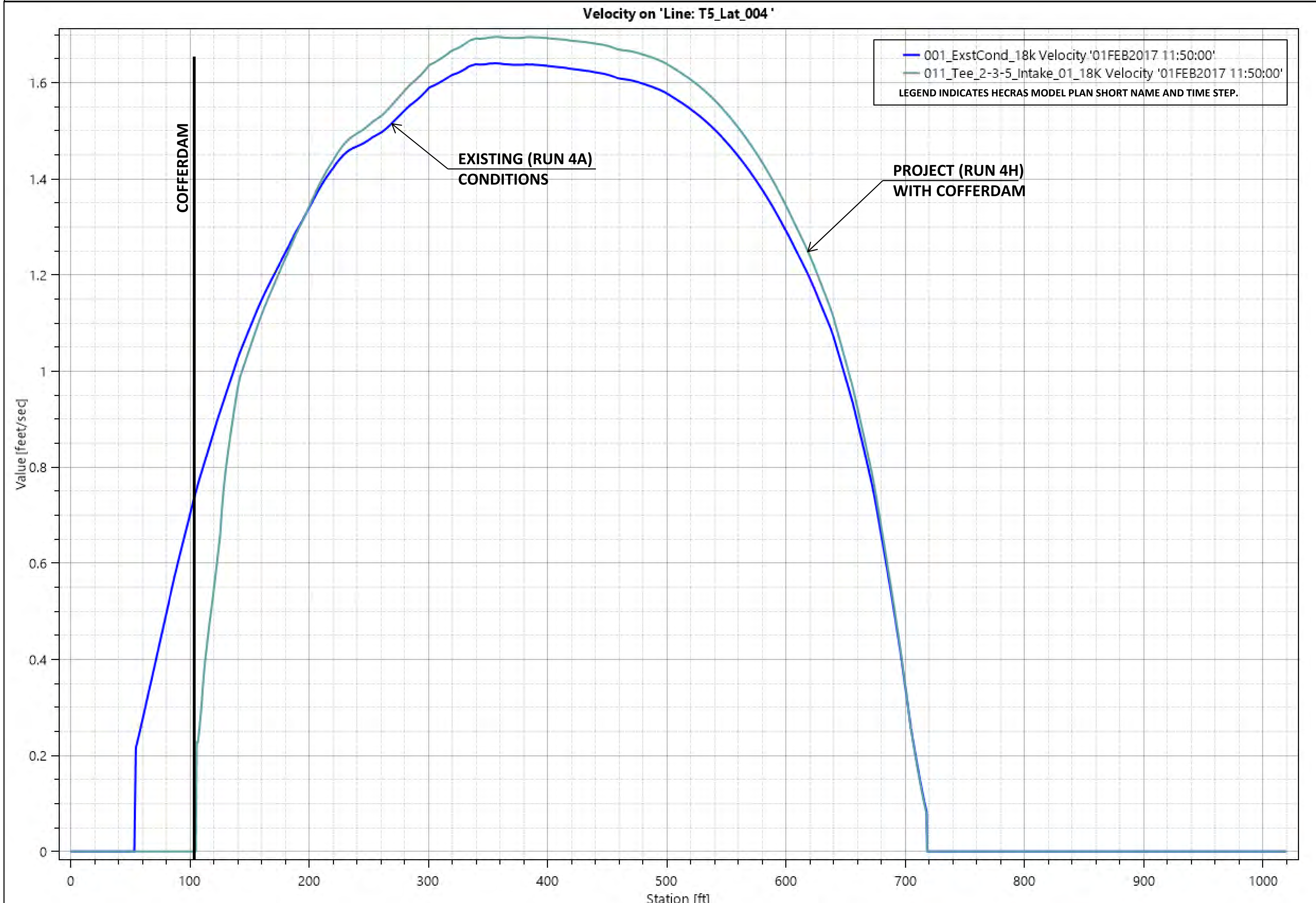
RUN 4A vs 4H – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



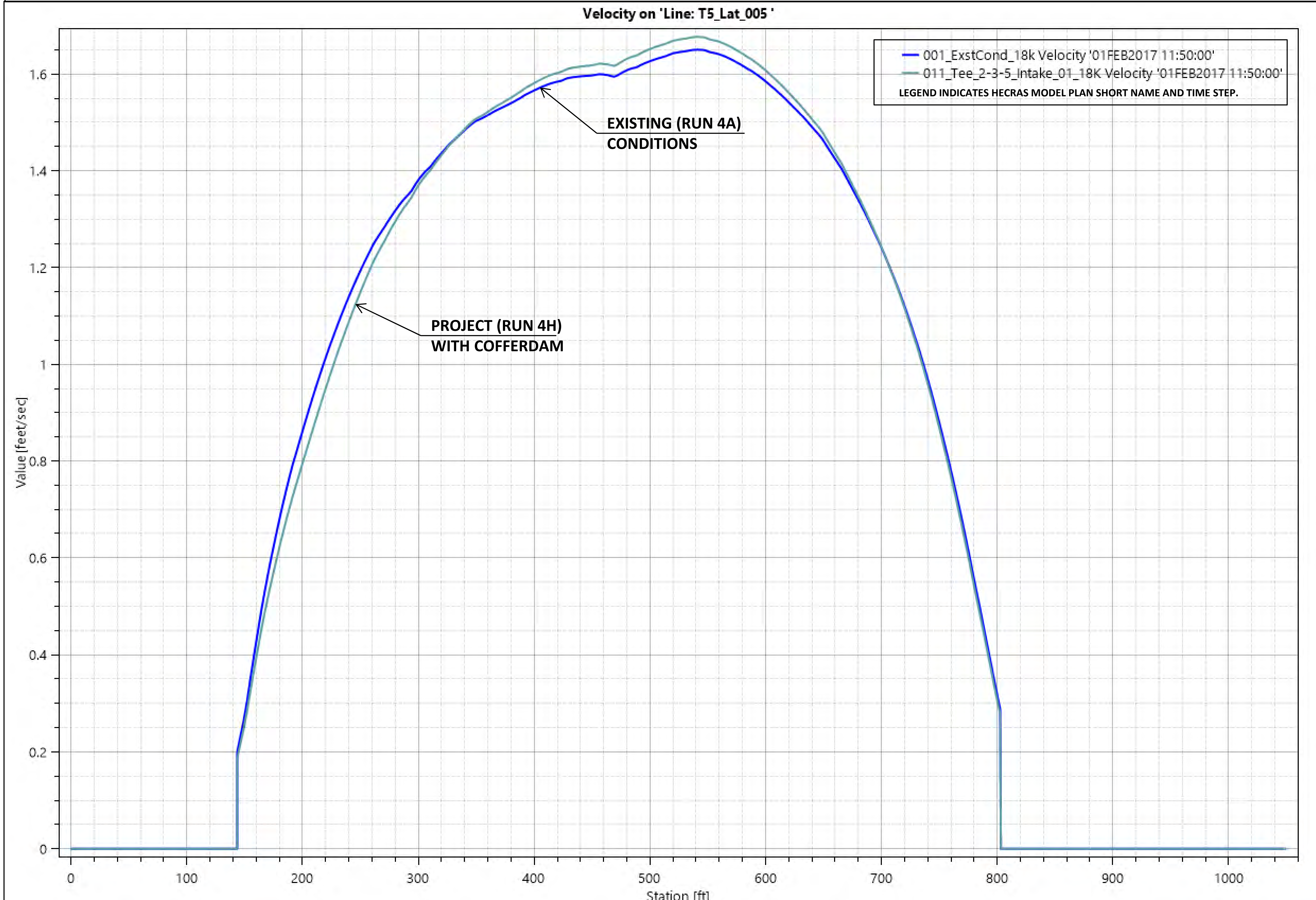
RUN 4A vs 4H – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 4A vs 4H – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

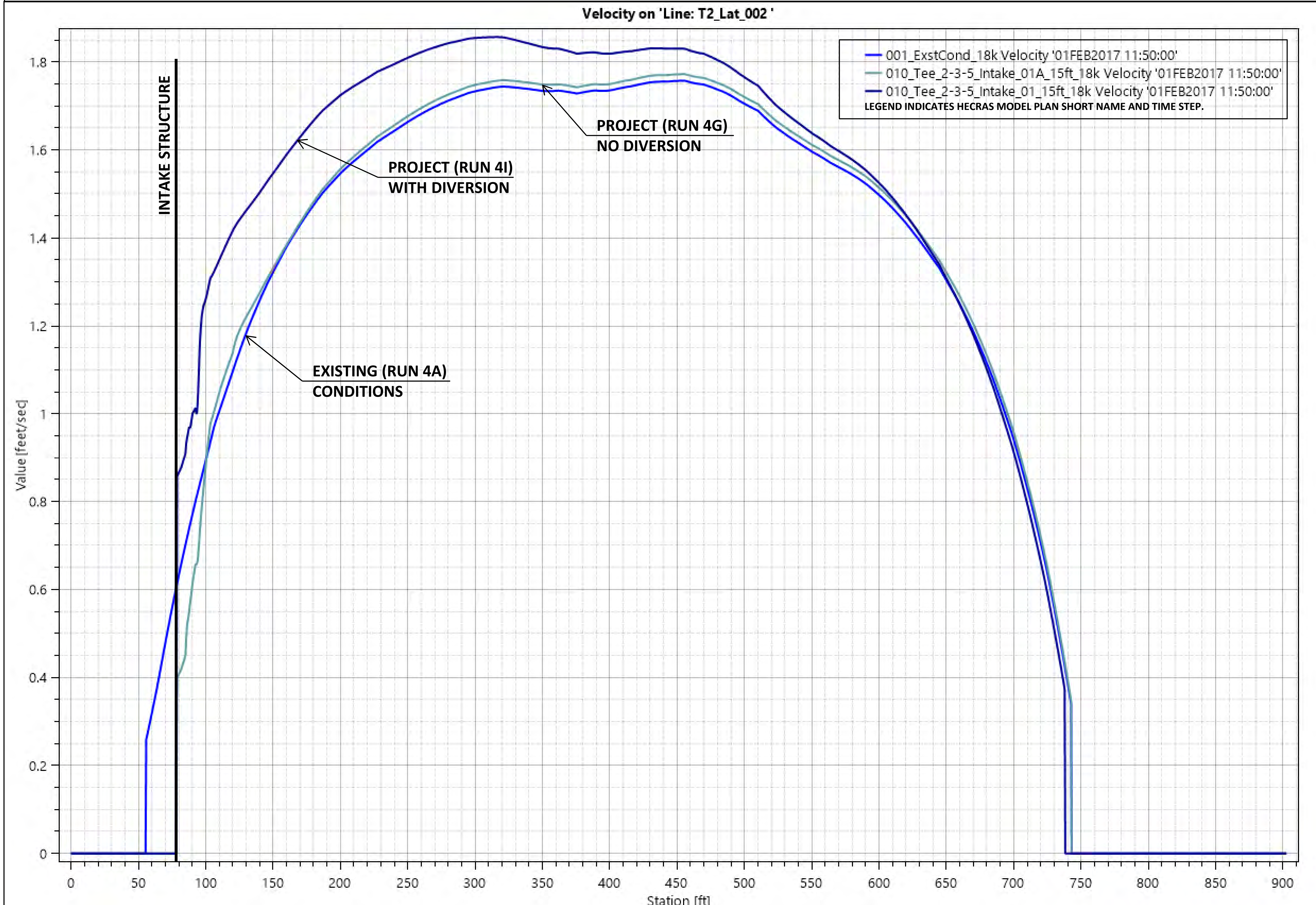
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



RUN 4A vs 4G vs 4I
INTAKE C-E-2 (A)

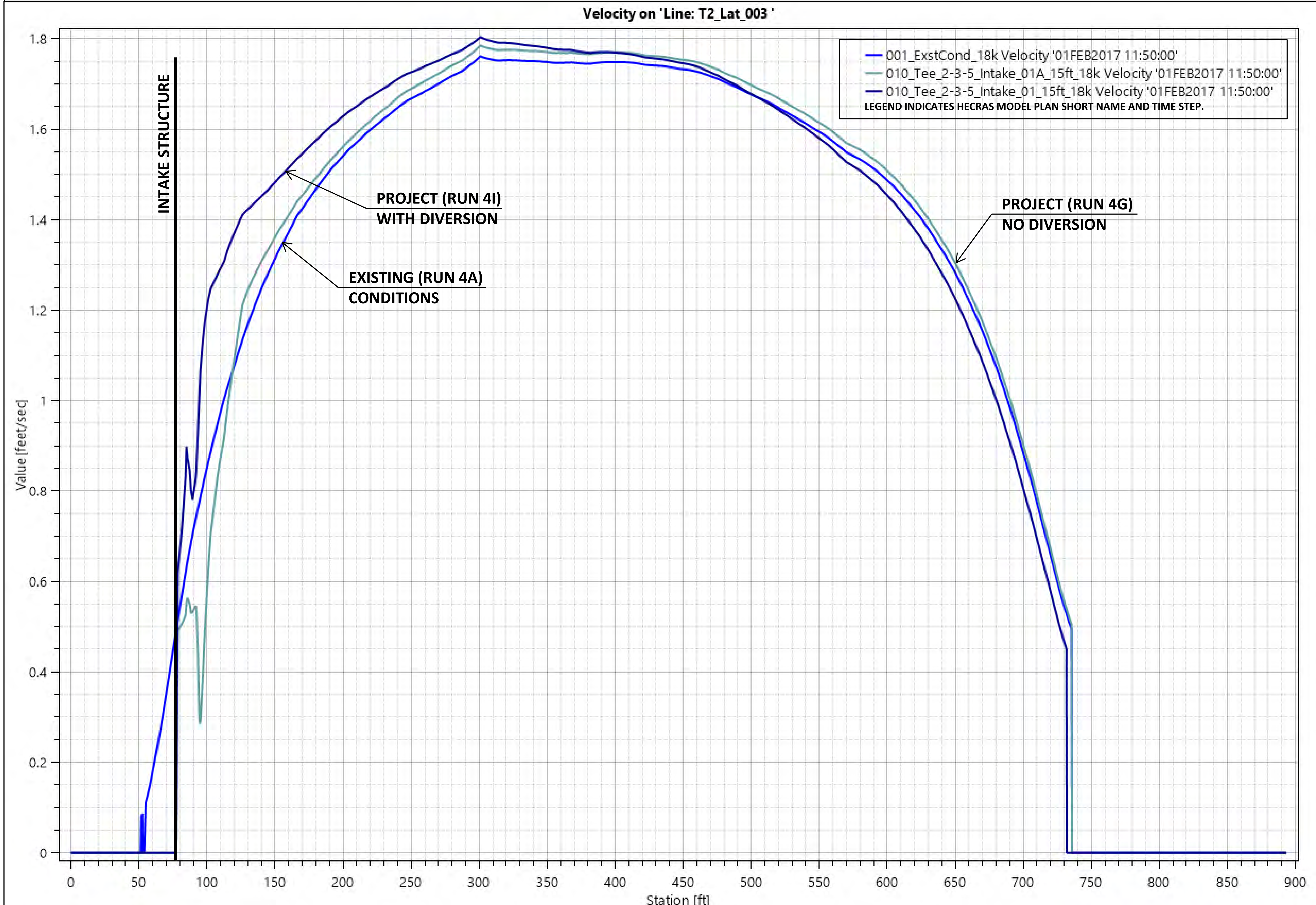
RUN 4A vs 4G vs 4I – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T2_LAT_002



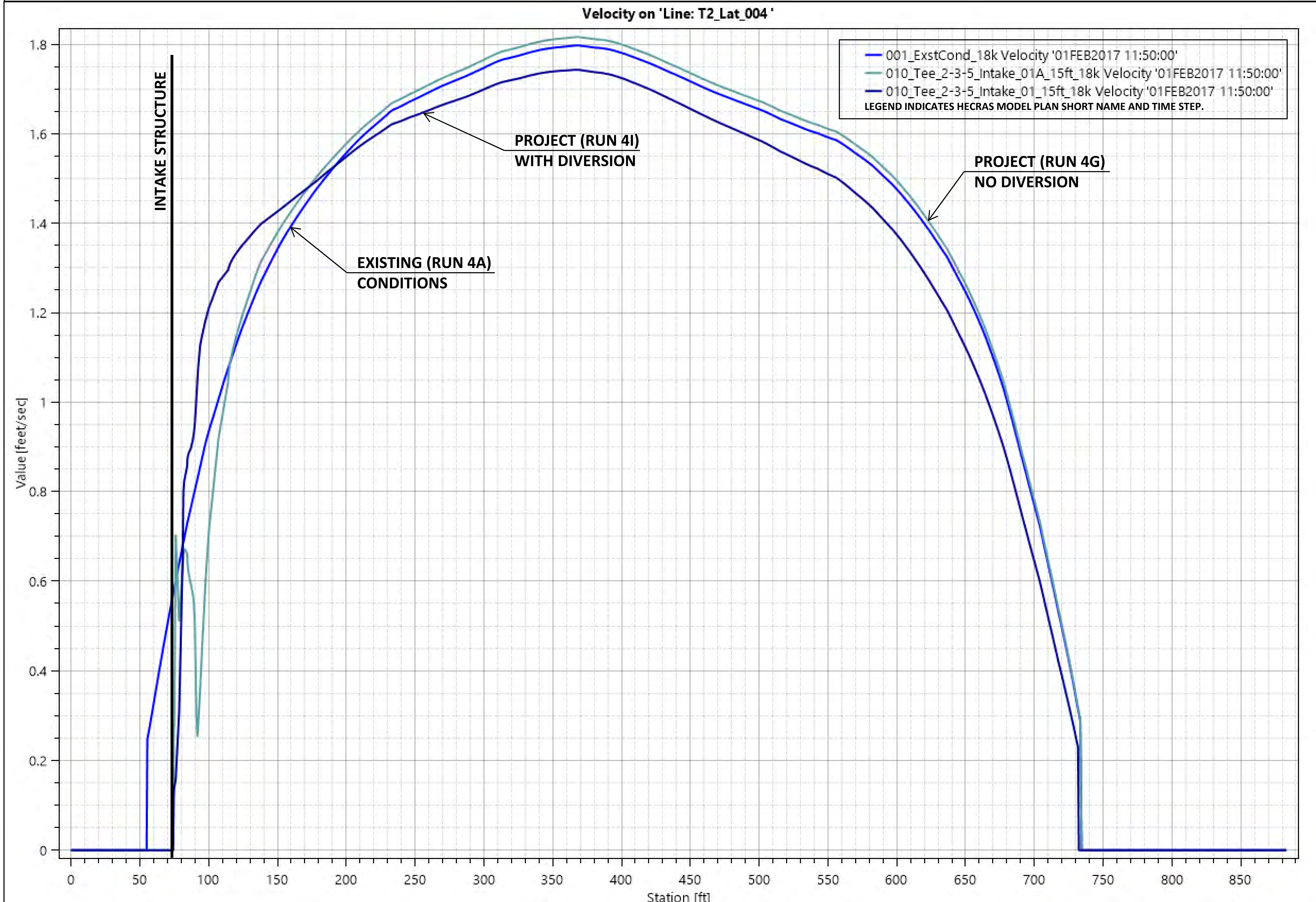
RUN 4A vs 4G vs 4I – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T2_LAT_003



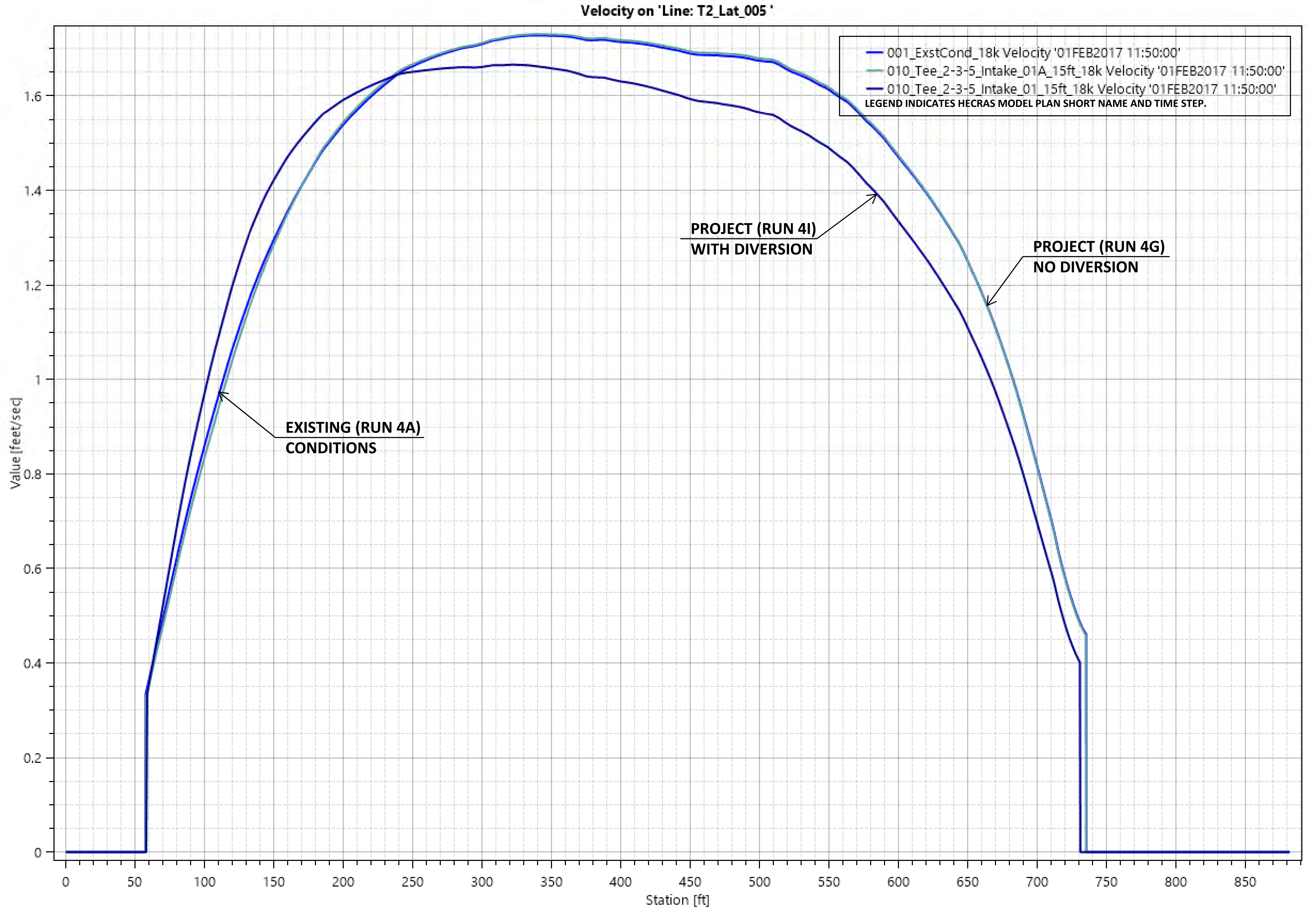
RUN 4A vs 4G vs 4I – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T2_LAT_004



RUN 4A vs 4G vs 4I – INTAKE C-E-2 (A) – LATERAL VELOCITY PROFILE PLOT

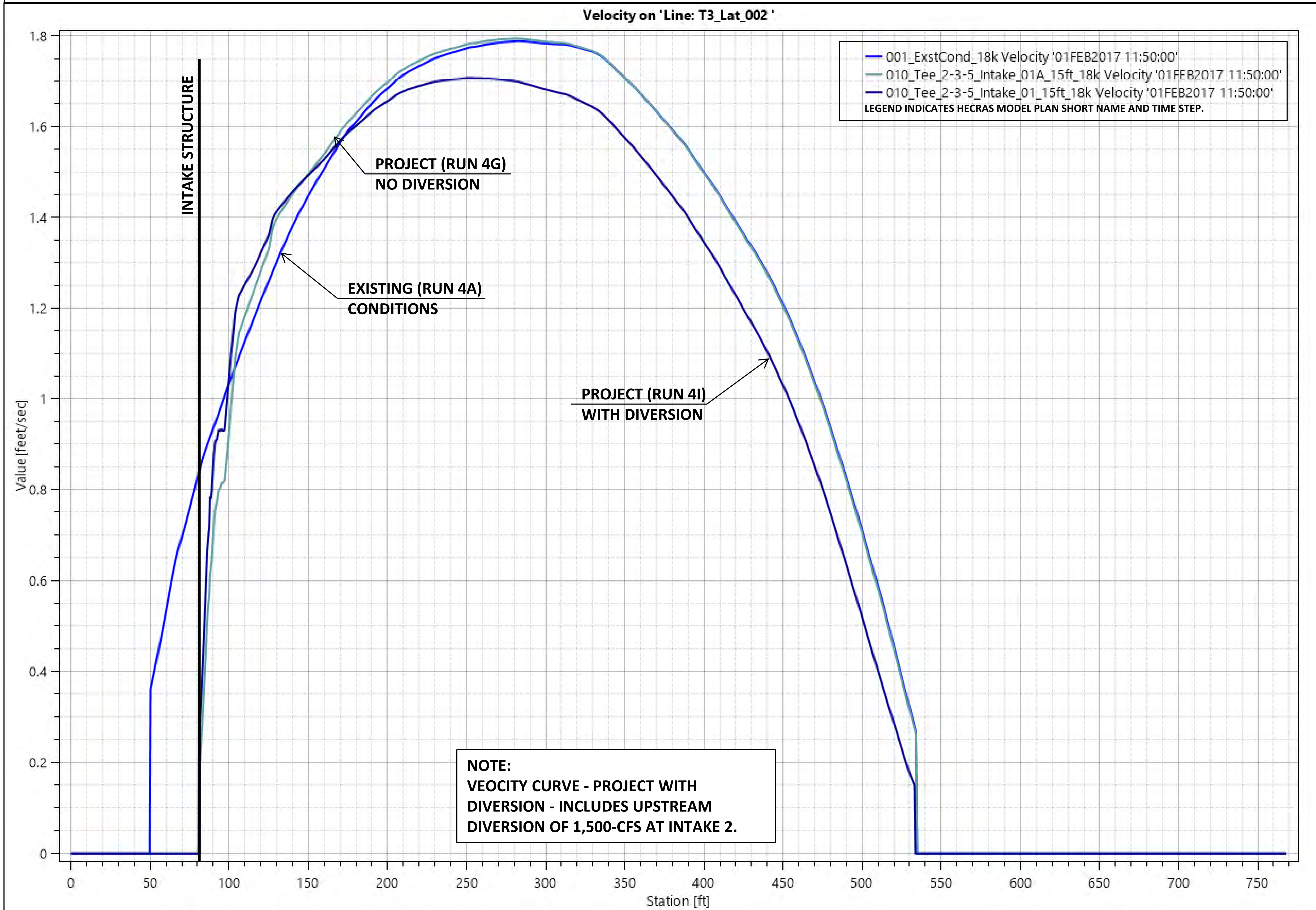
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T2_LAT_005



RUN 4A vs 4G vs 4I
INTAKE C-E-3 (B)

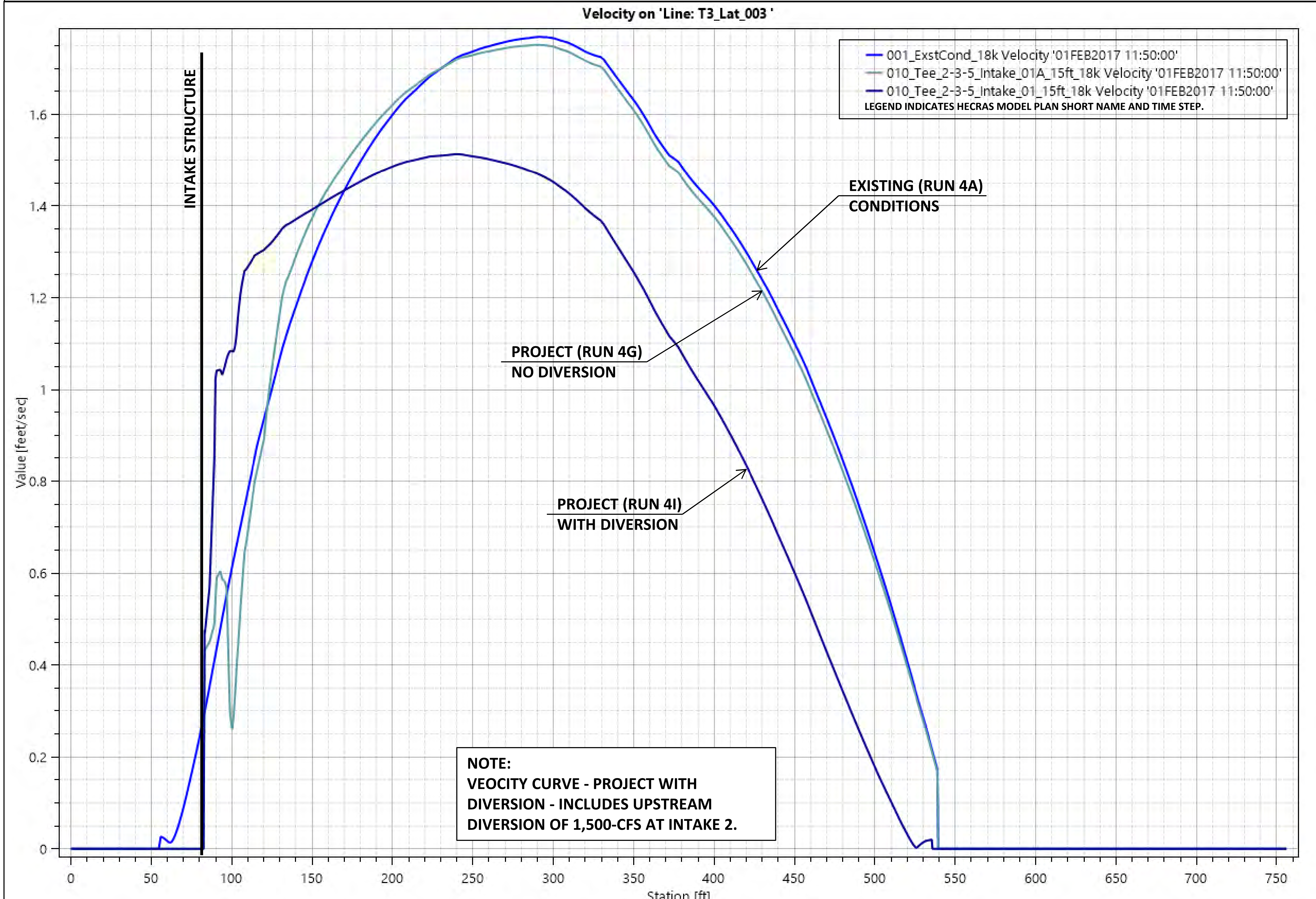
RUN 4A vs 4G vs 4I – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



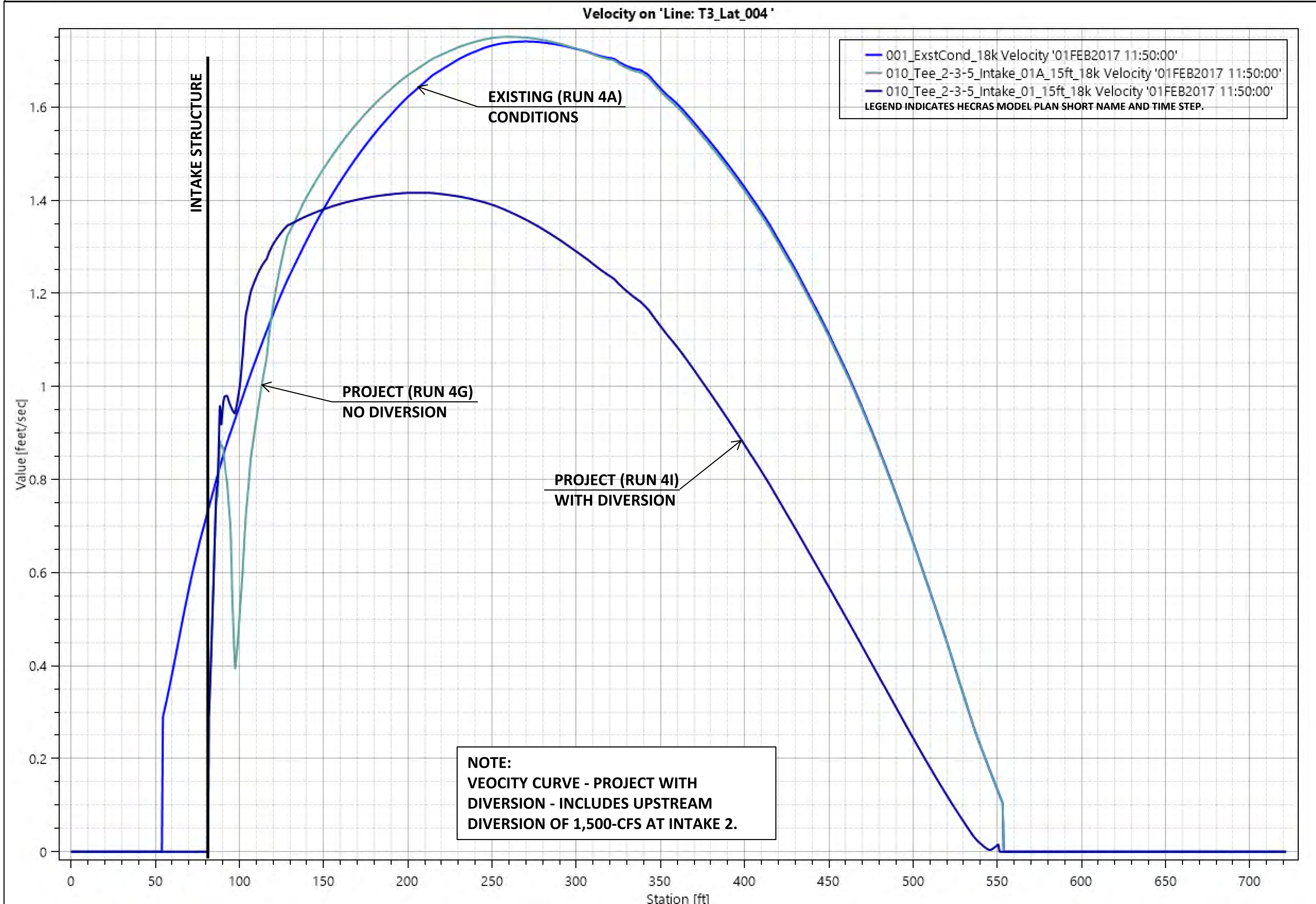
RUN 4A vs 4G vs 4I – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



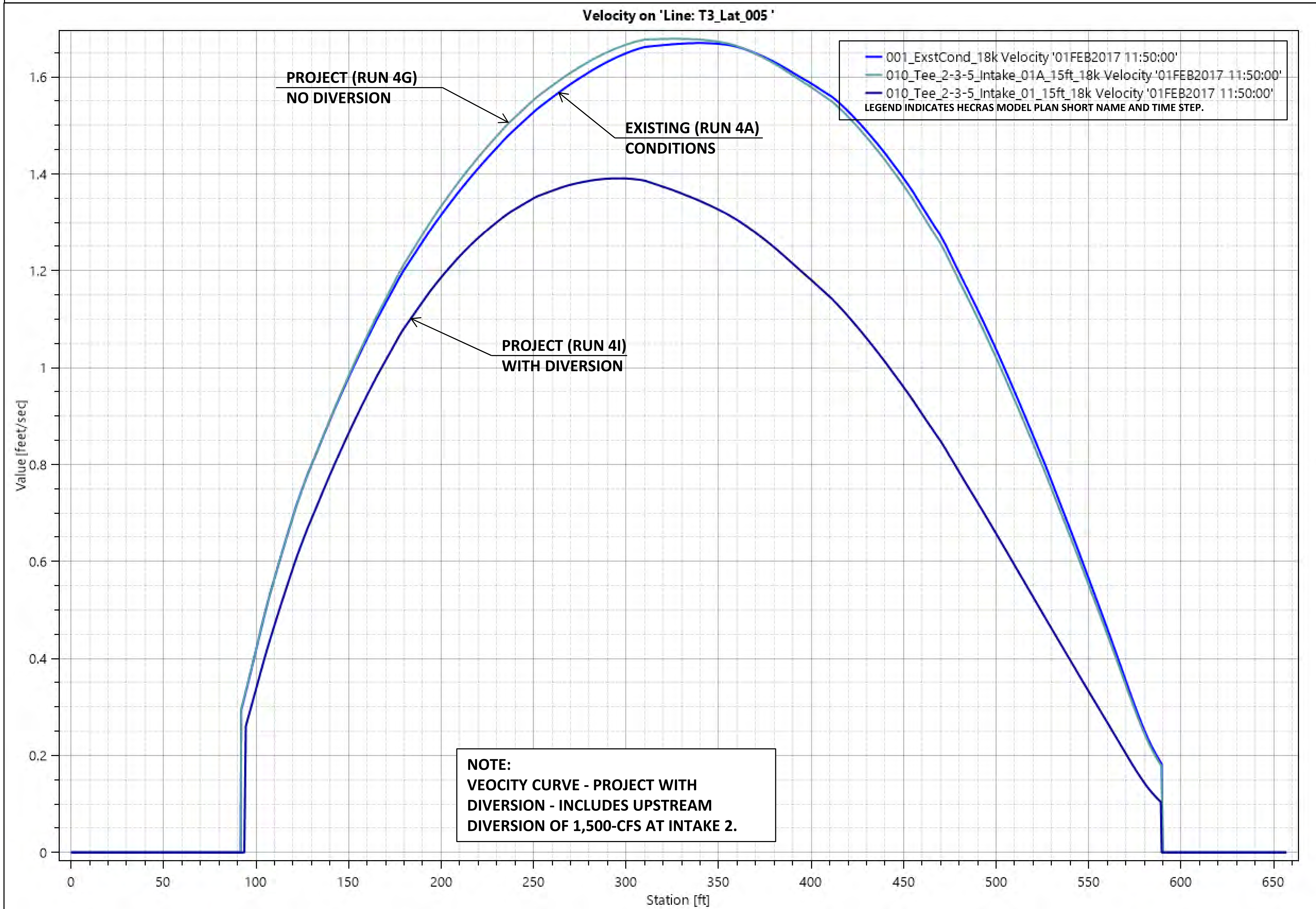
RUN 4A vs 4G vs 4I – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 4A vs 4G vs 4I – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

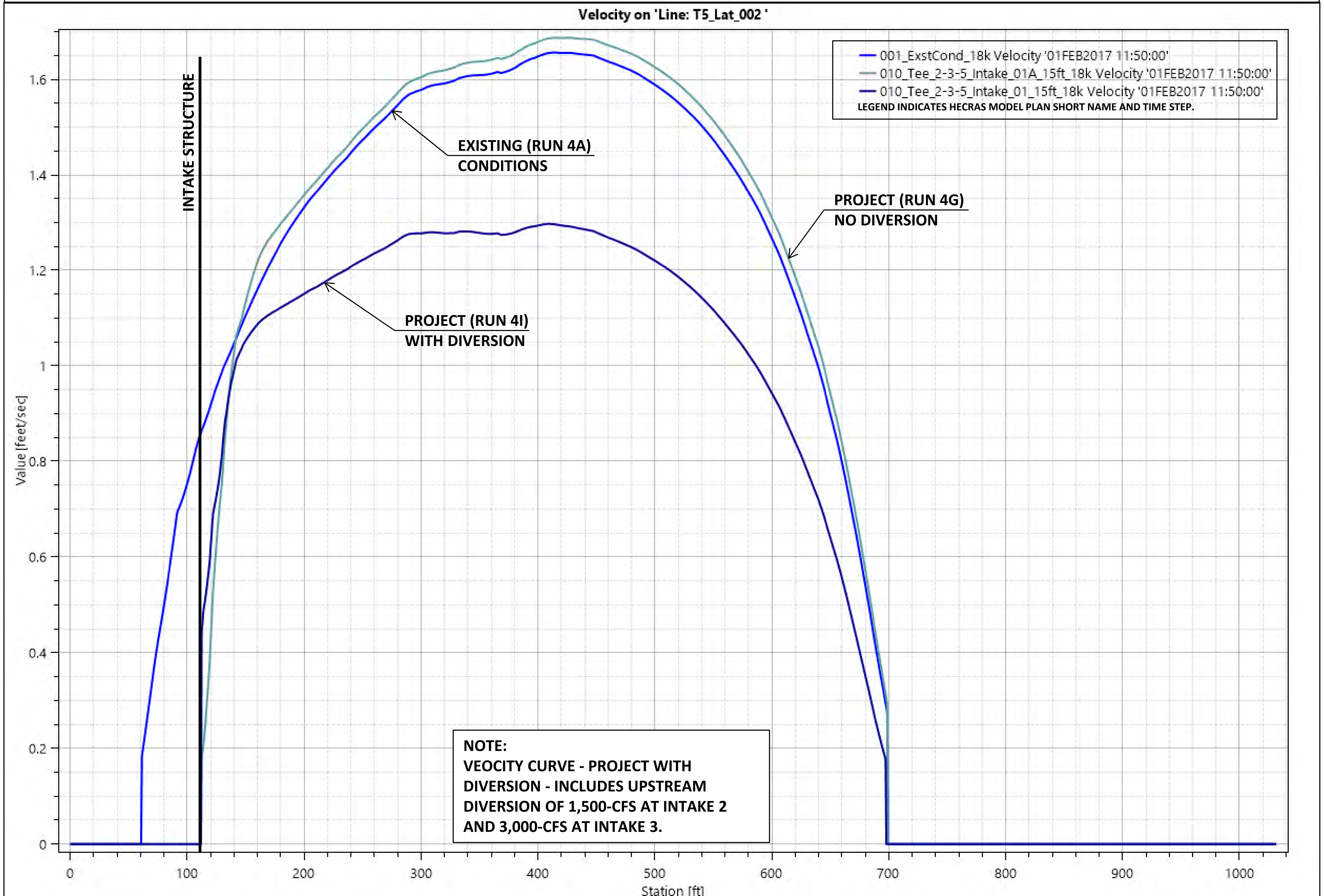
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 4A vs 4G vs 4I
INTAKE C-E-5 (C)

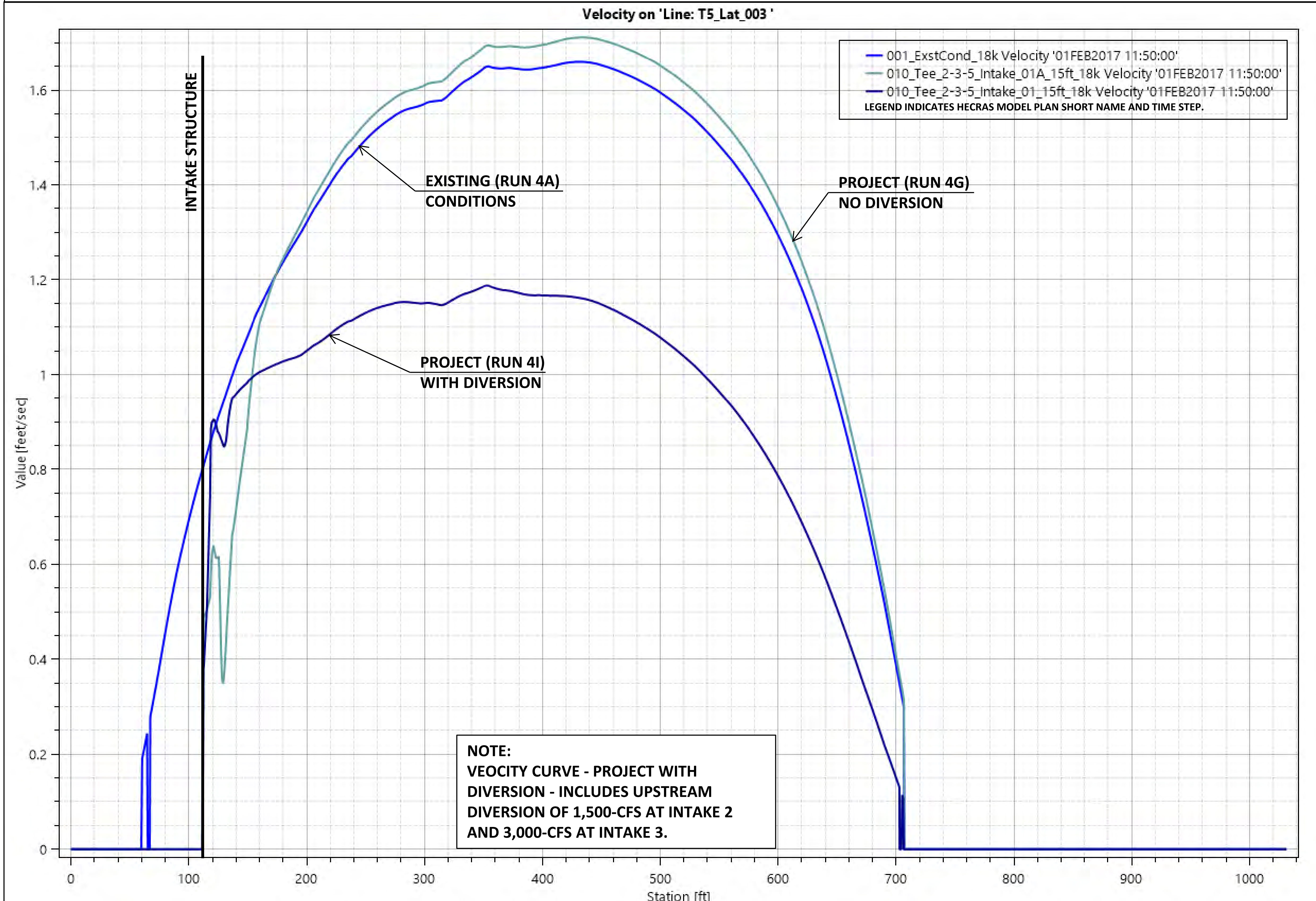
RUN 4A vs 4G vs 4I – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



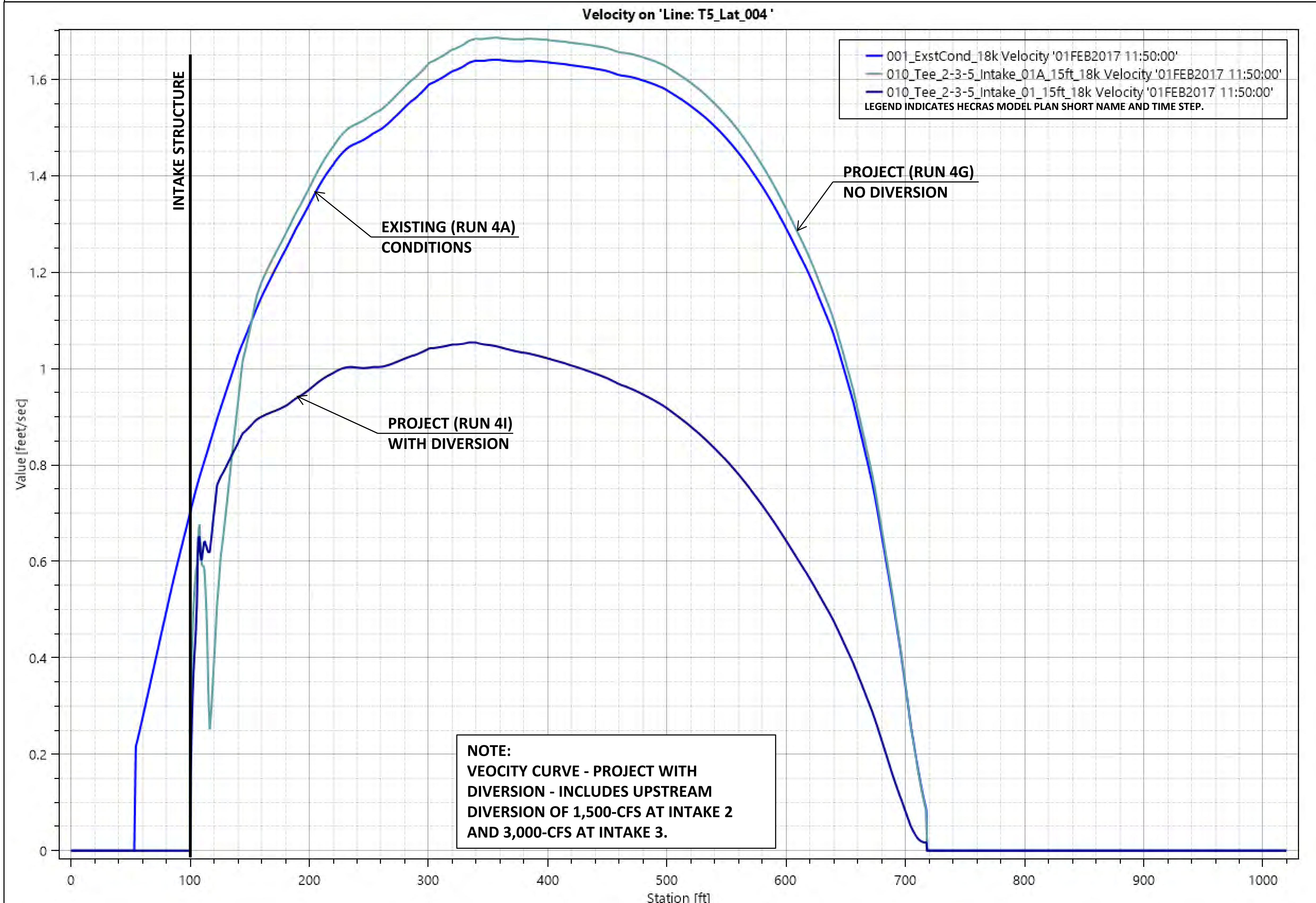
RUN 4A vs 4G vs 4I – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



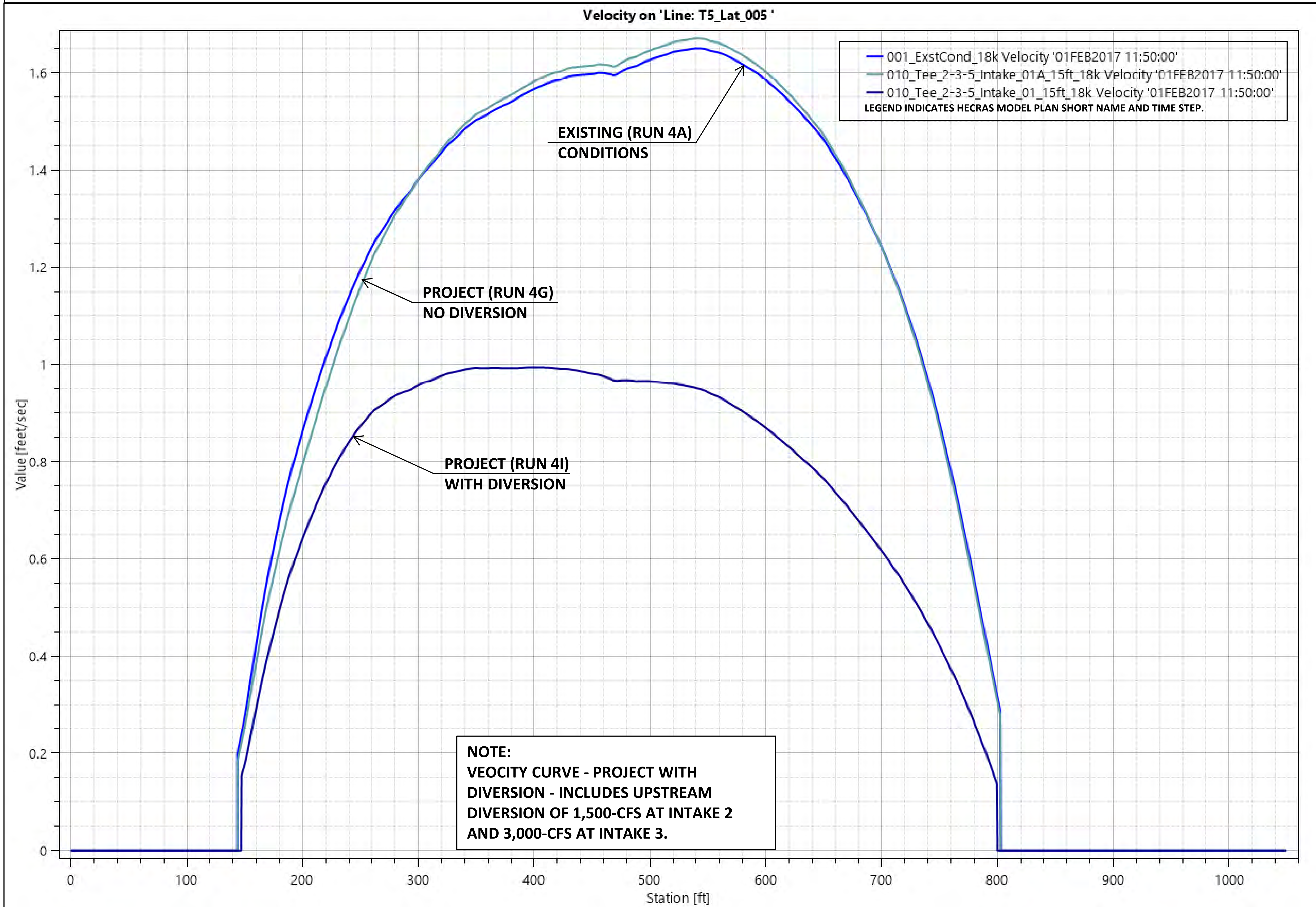
RUN 4A vs 4G vs 4I – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 4A vs 4G vs 4I – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

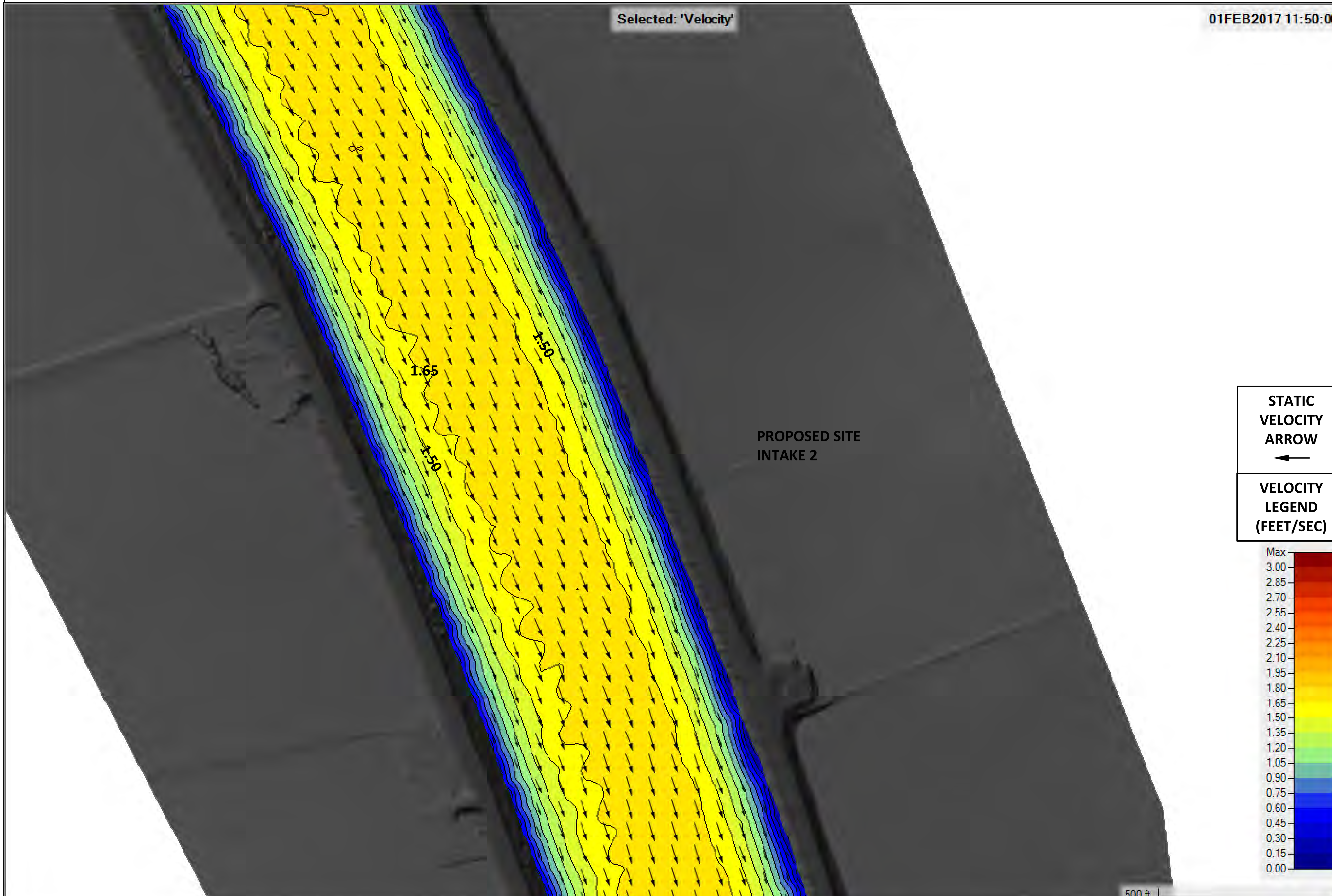
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



Velocity Contour Plots at Intake Structures

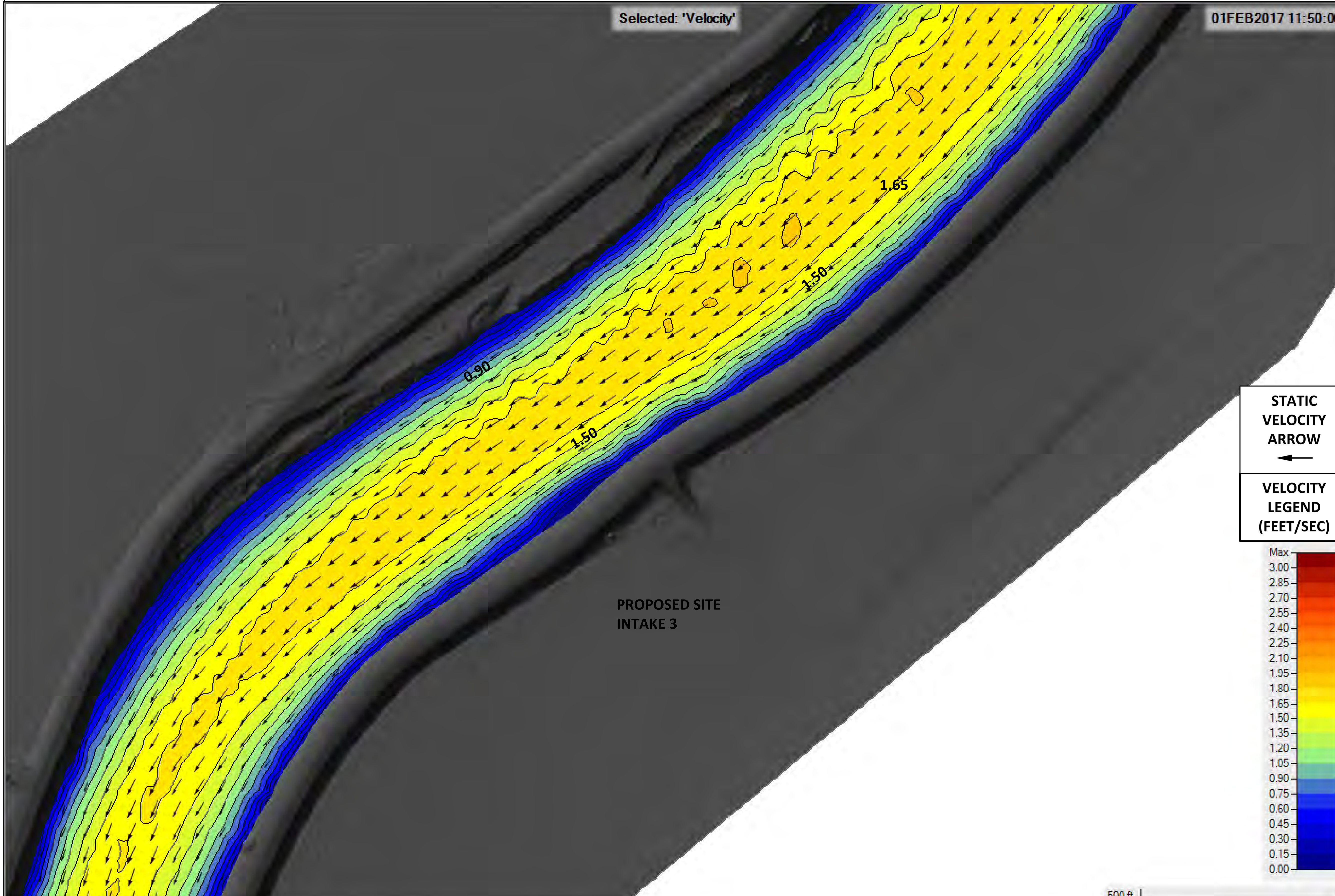
RUN 4A - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 18,000-CFS AT FREEPORT

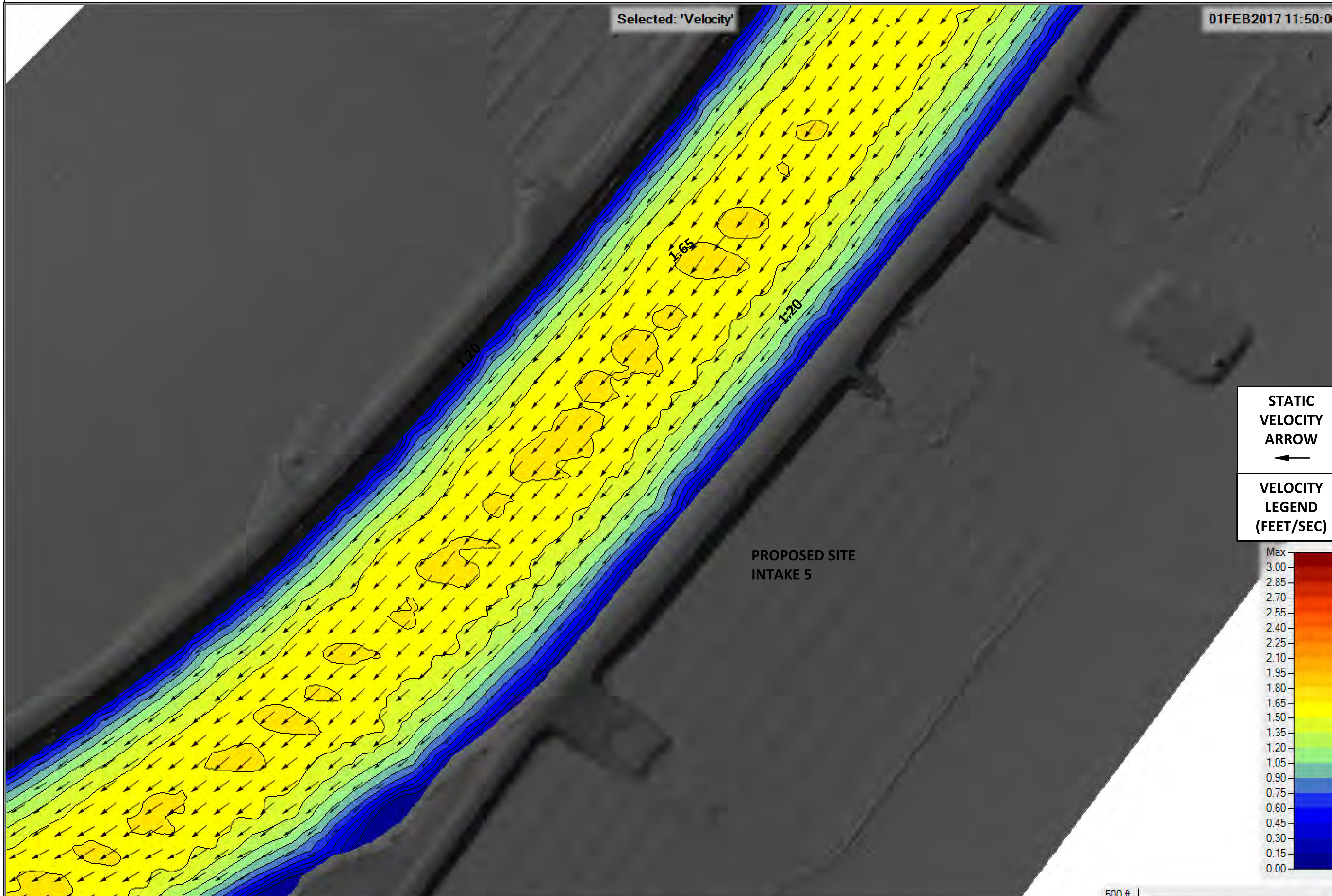


RUN 4A - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 18,000-CFS AT FREEPORT

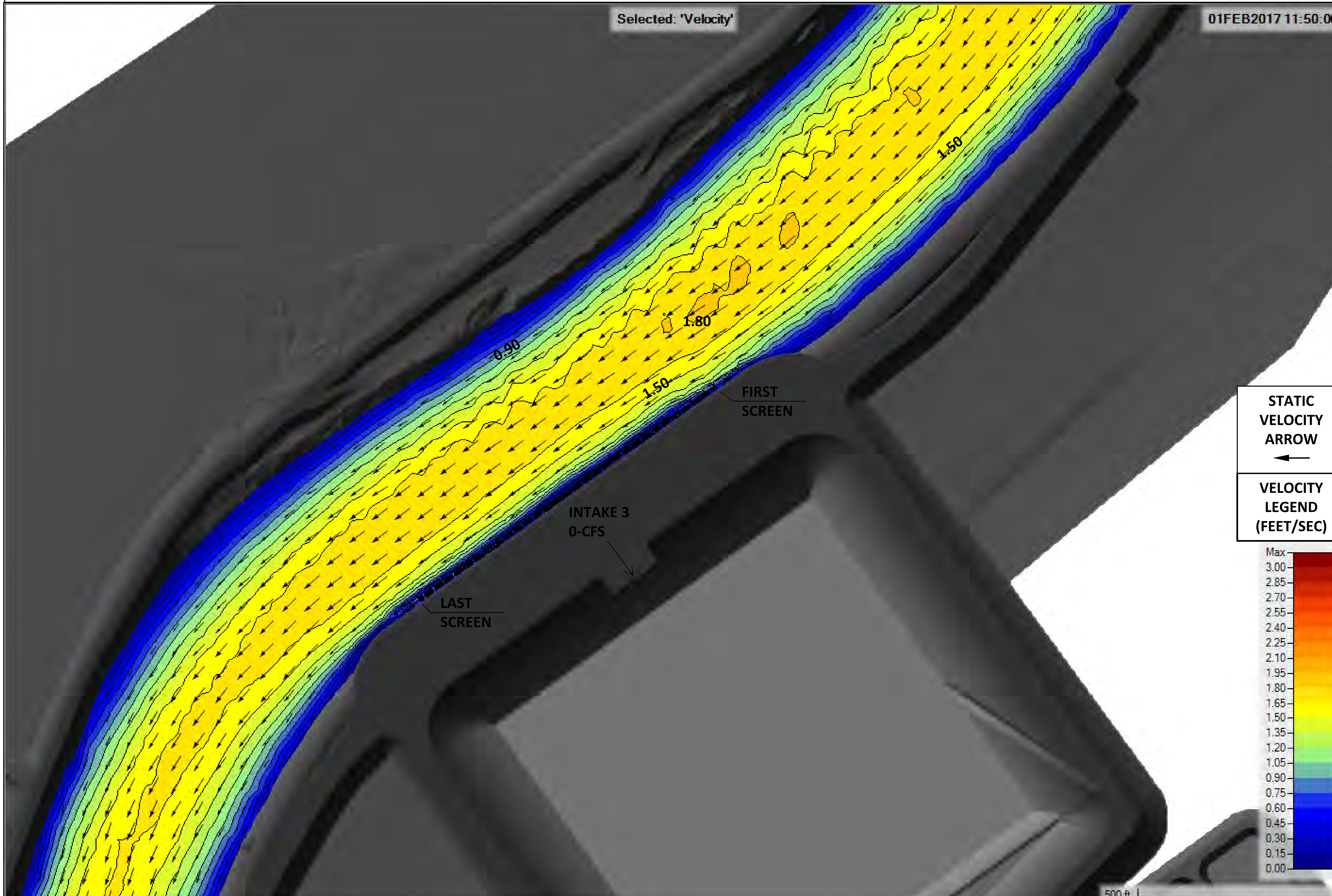


RUN 4A - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT
MODEL SCENARIO EXISTING CONDITIONS – 18,000-CFS AT FREEPORT



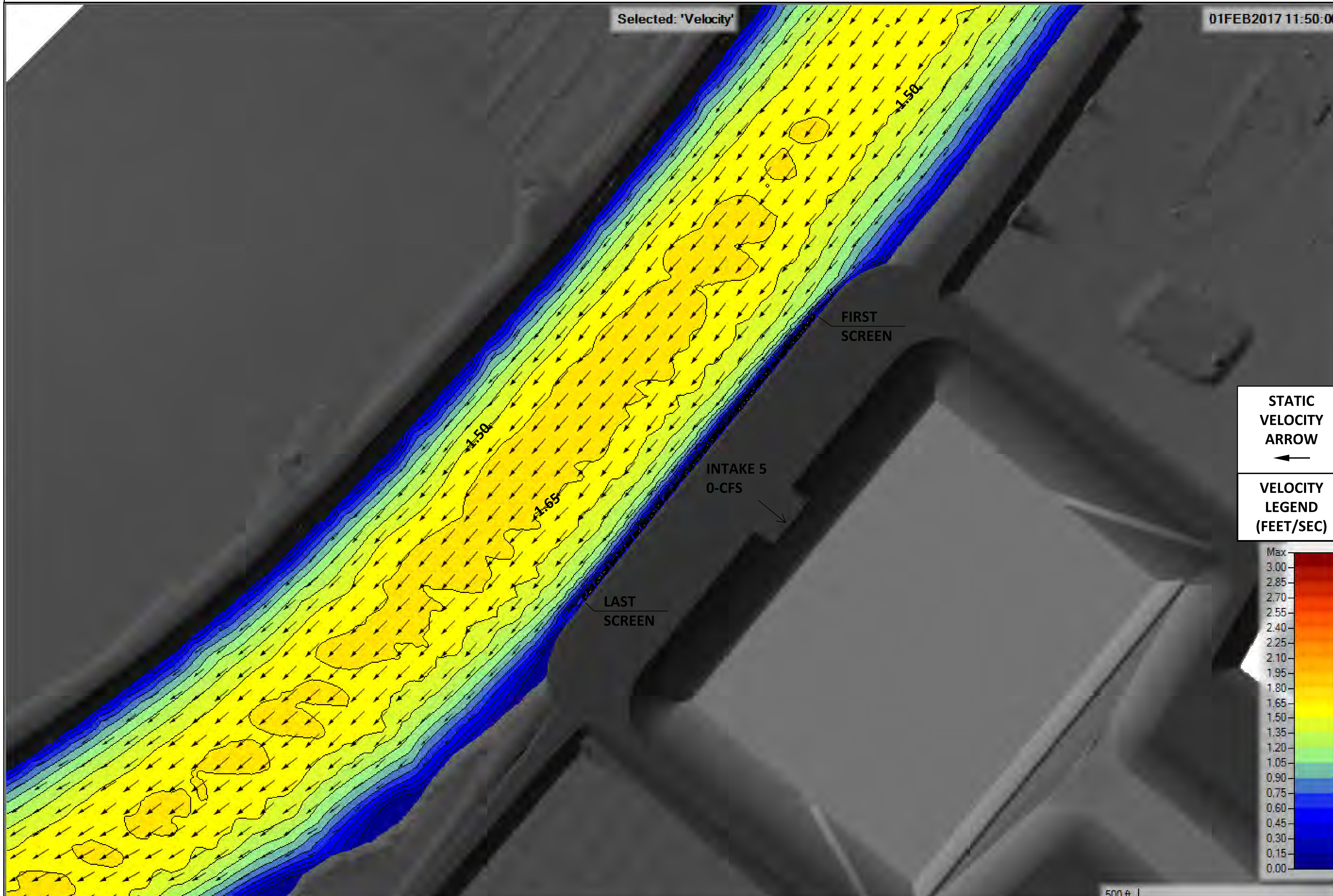
RUN 4B - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



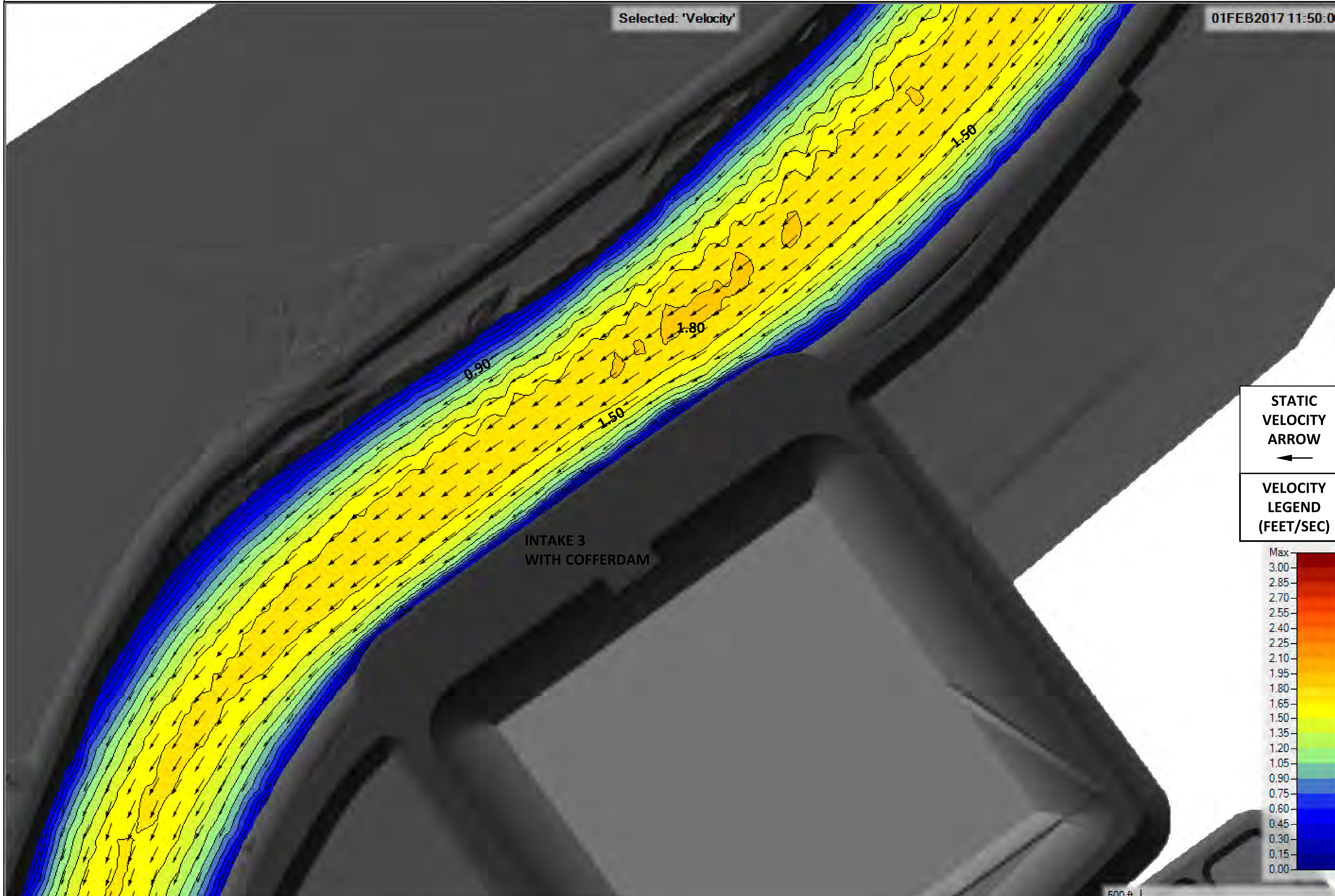
RUN 4B - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



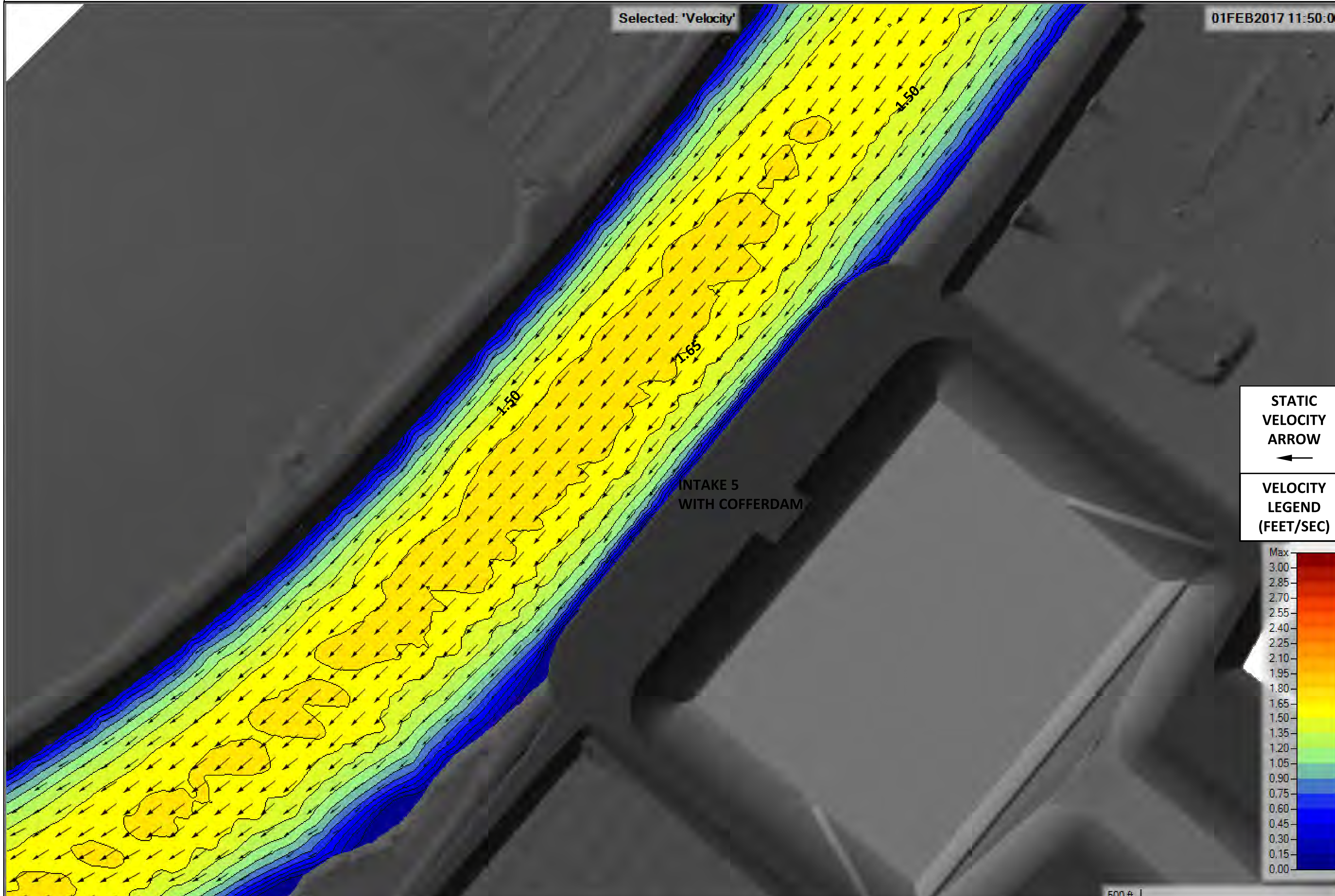
RUN 4C - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



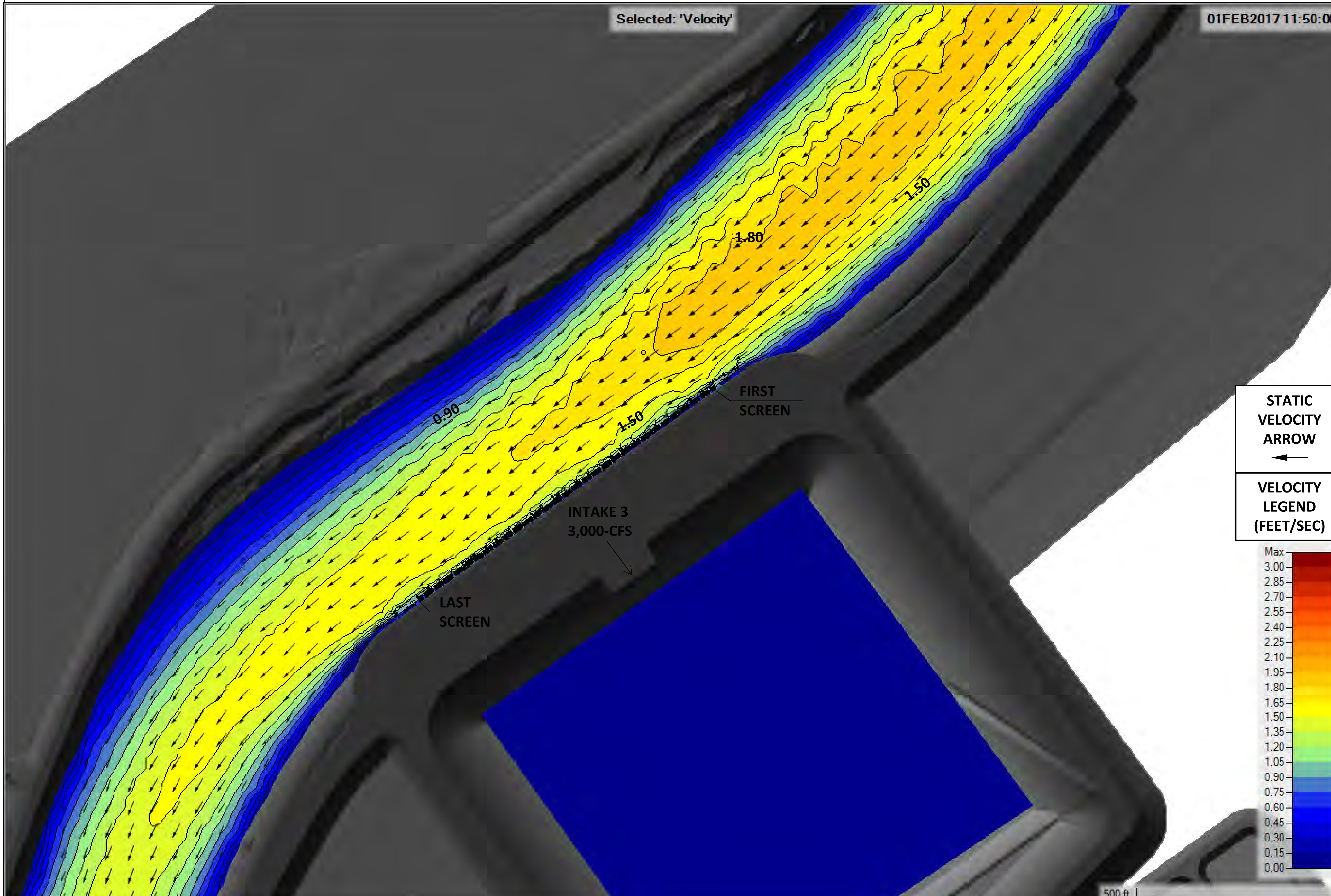
RUN 4C - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



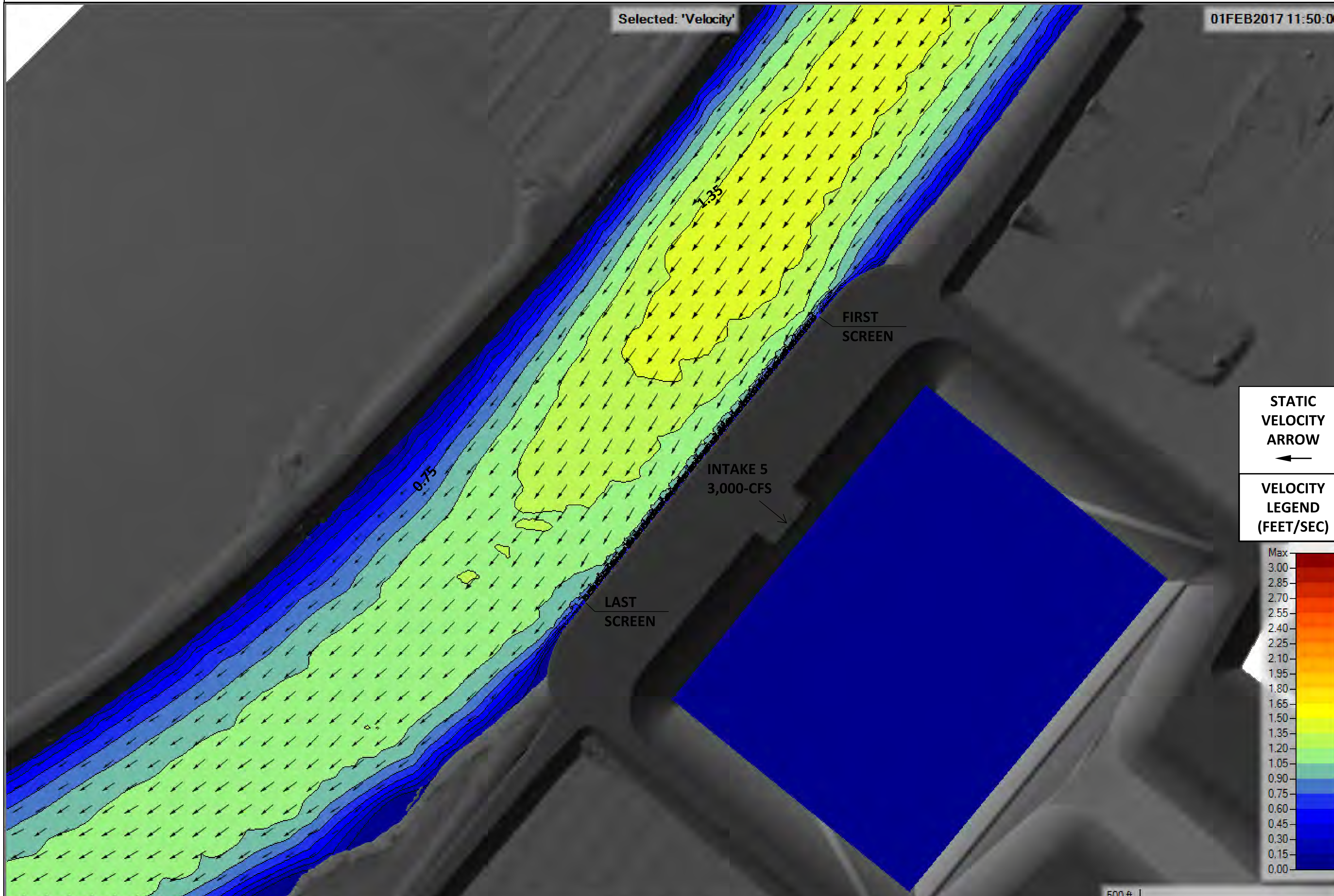
RUN 4D - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 18,000-CFS AT FREEPORT – TEE SCREENS



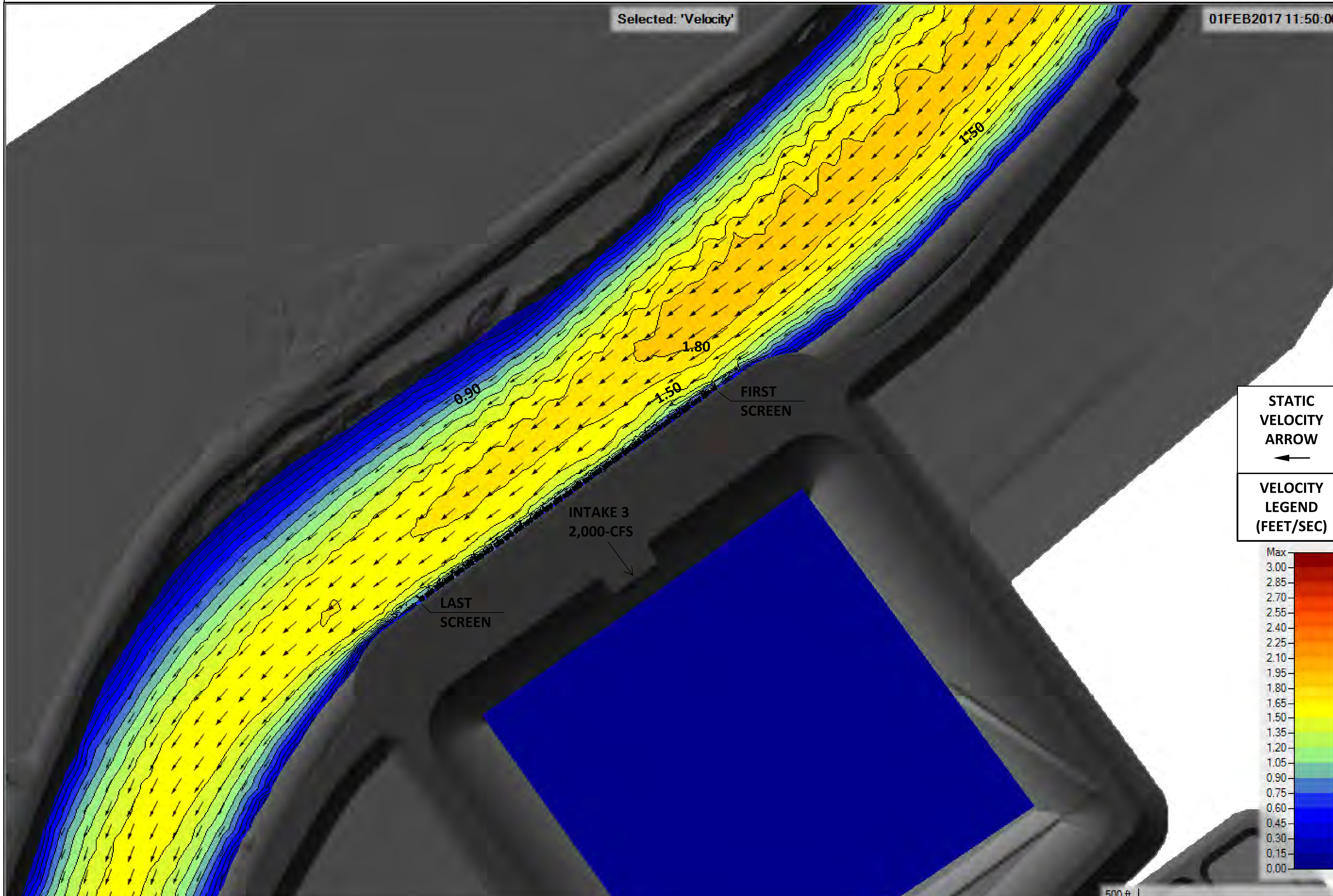
RUN 4D - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 18,000-CFS AT FREEPORT – TEE SCREENS



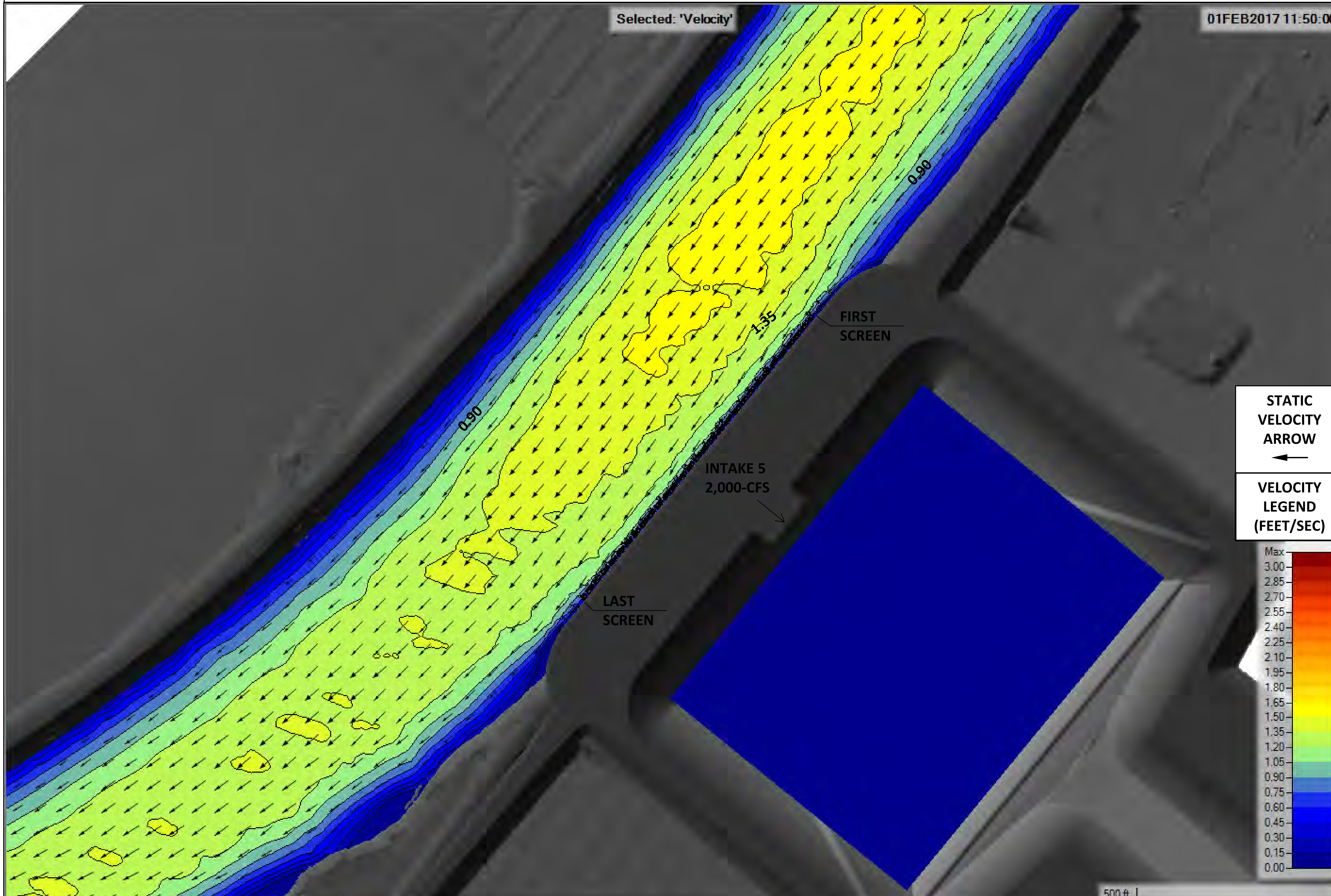
RUN 4E - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



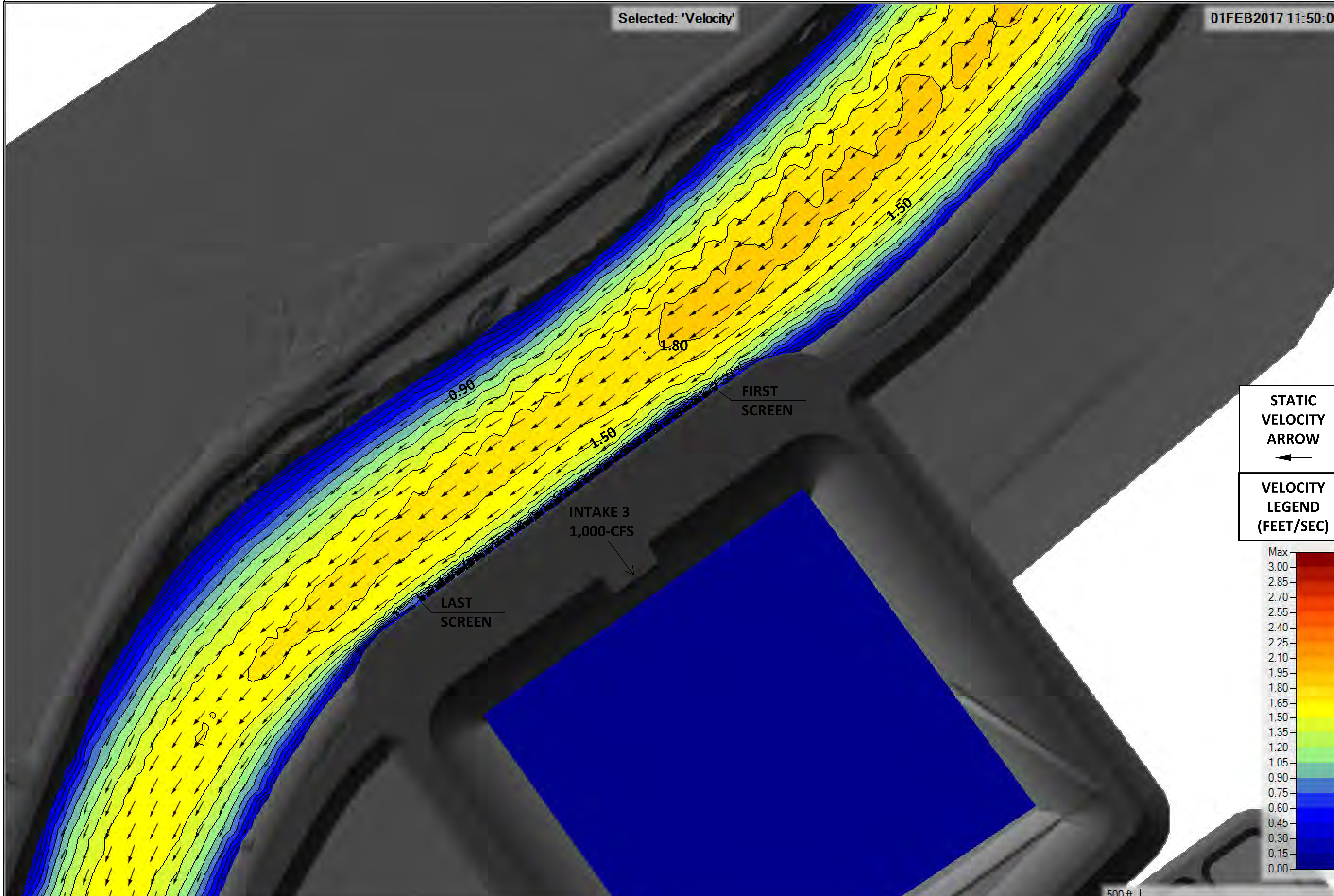
RUN 4E - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



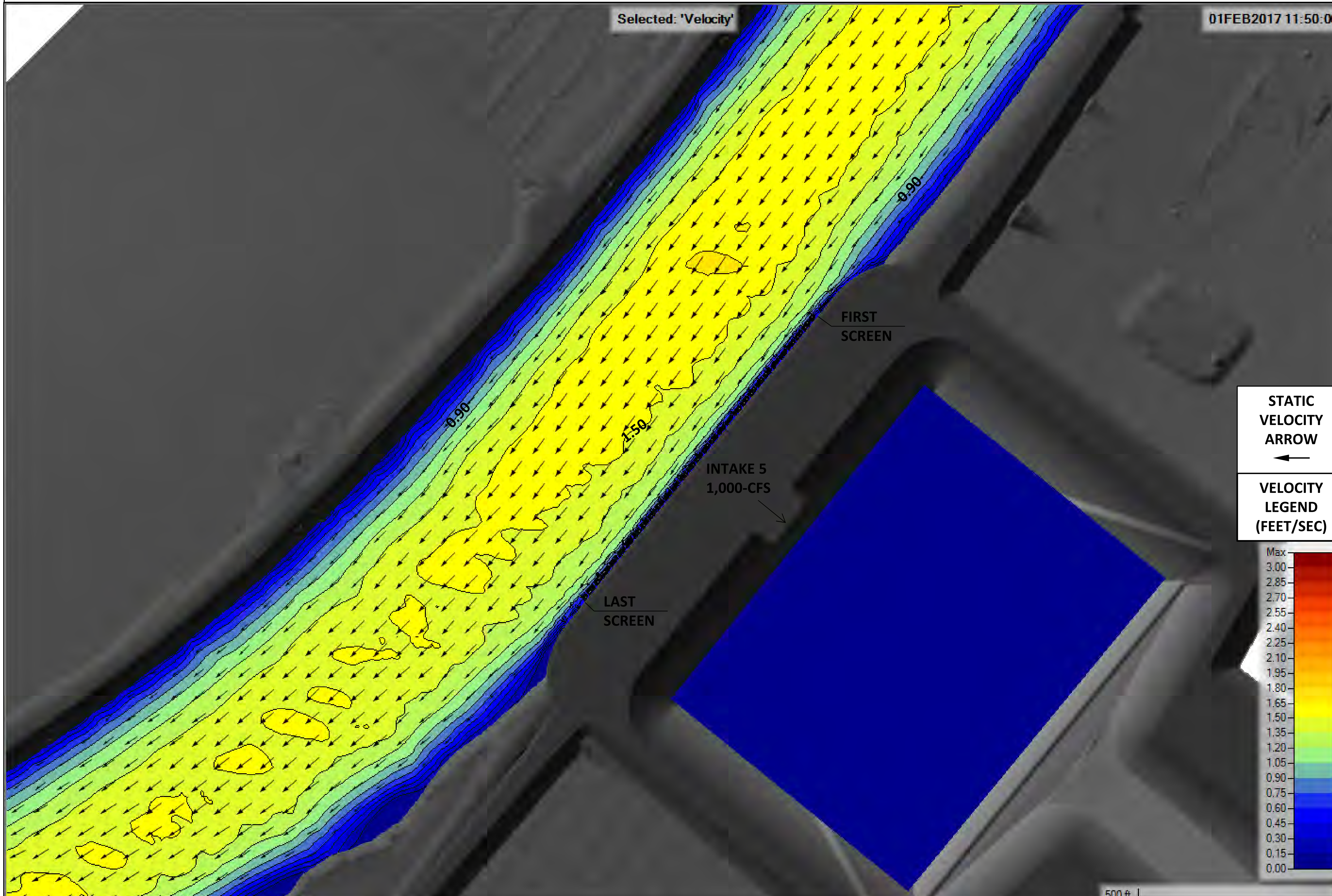
RUN 4F - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



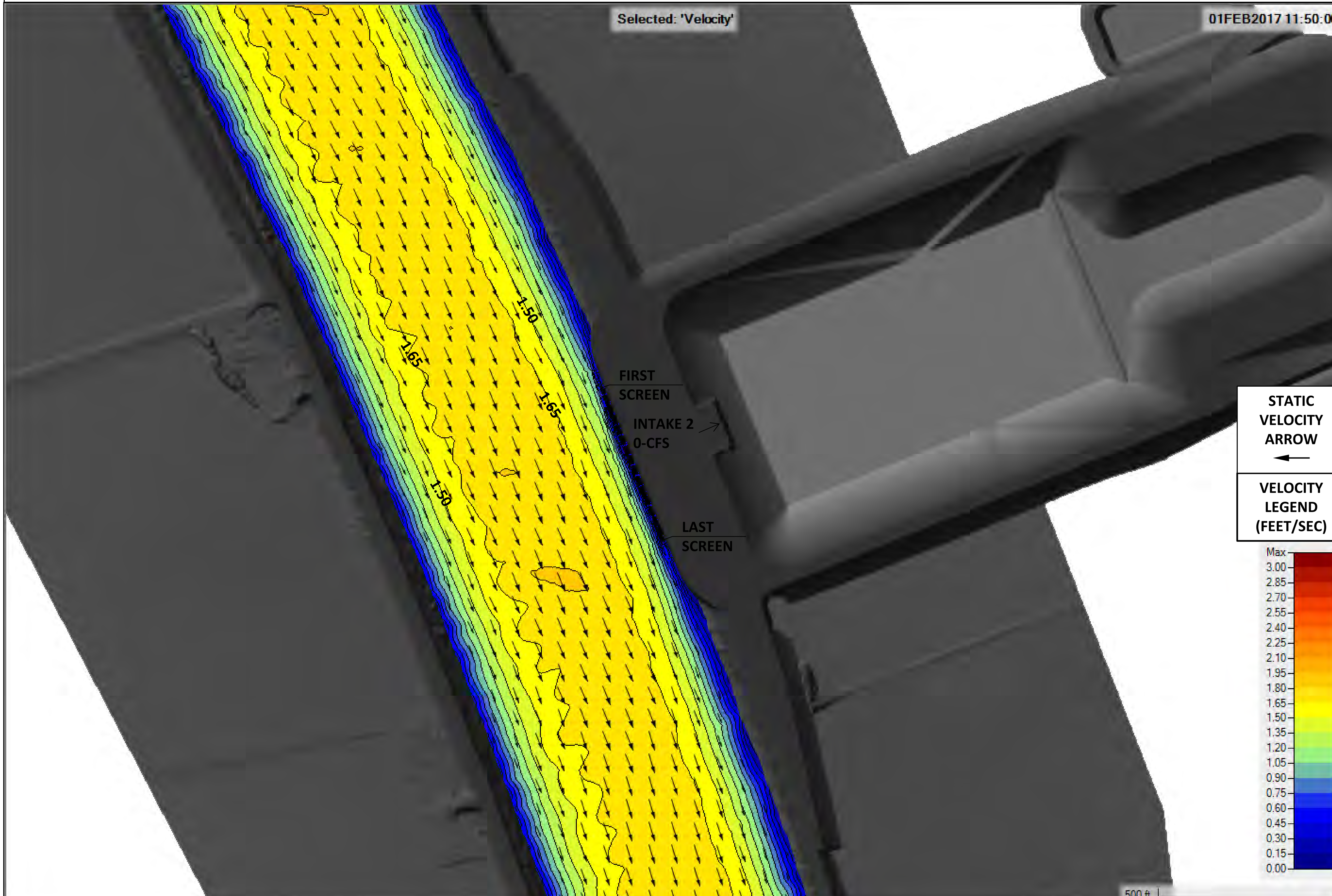
RUN 4F - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



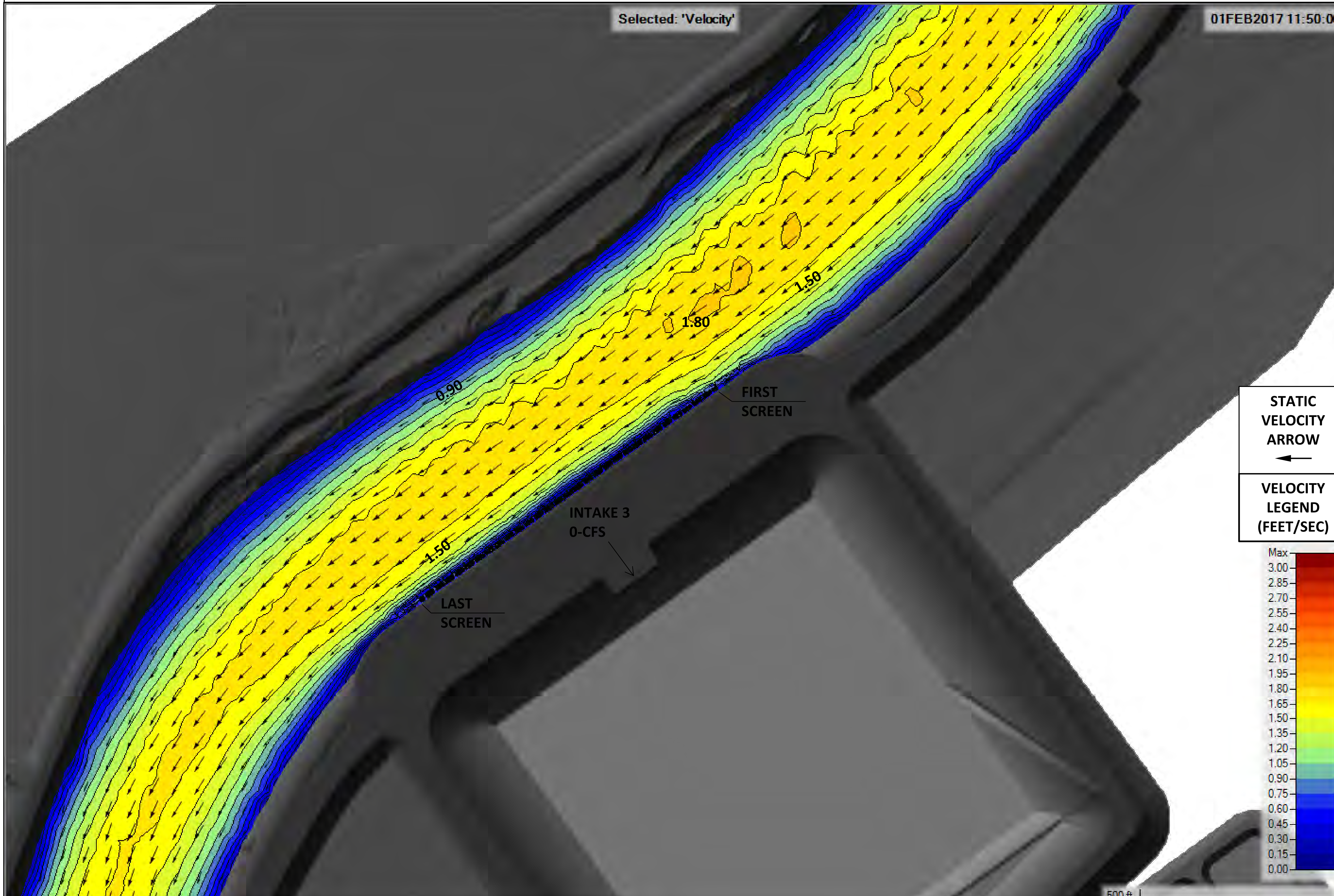
RUN 4G - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



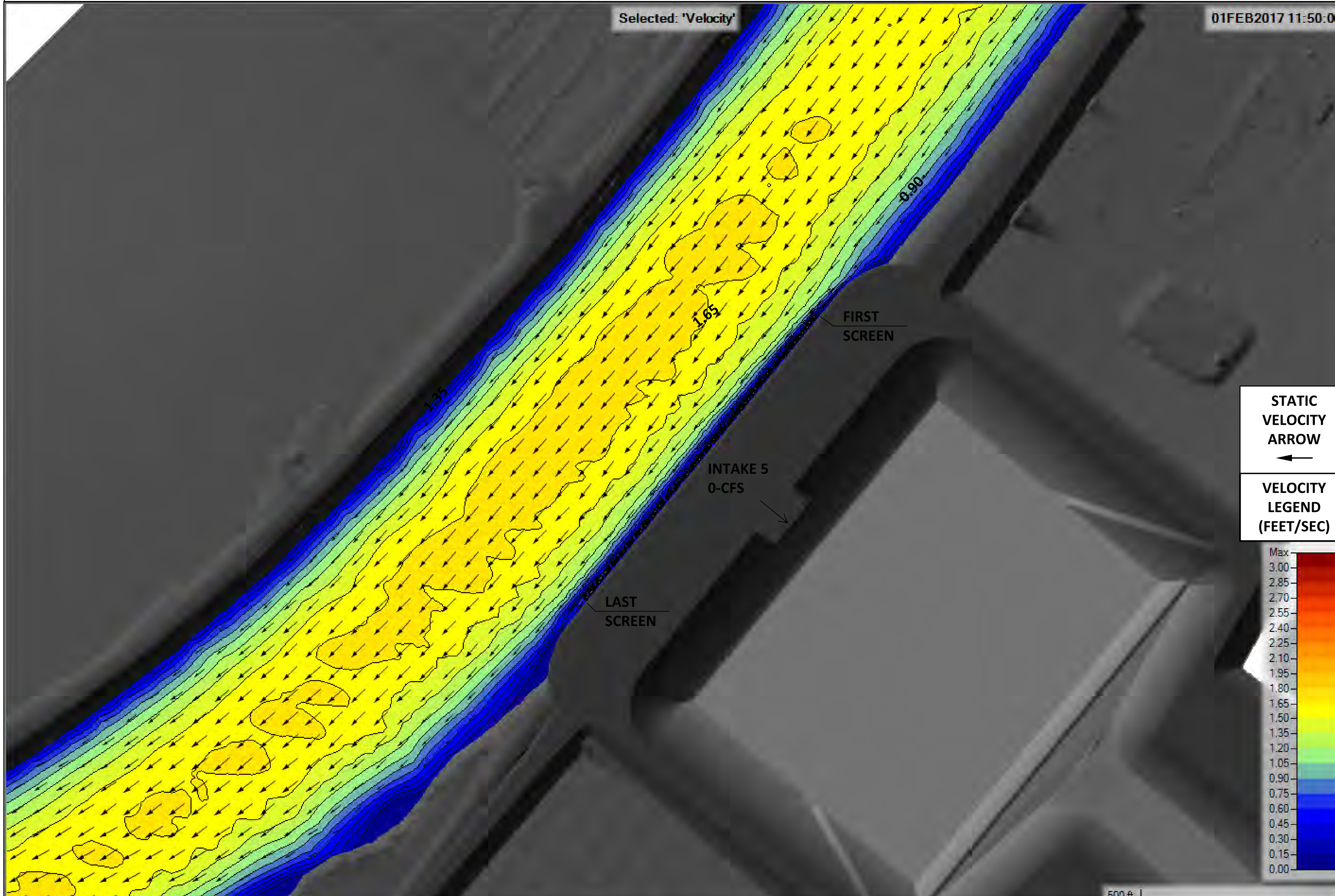
RUN 4G - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



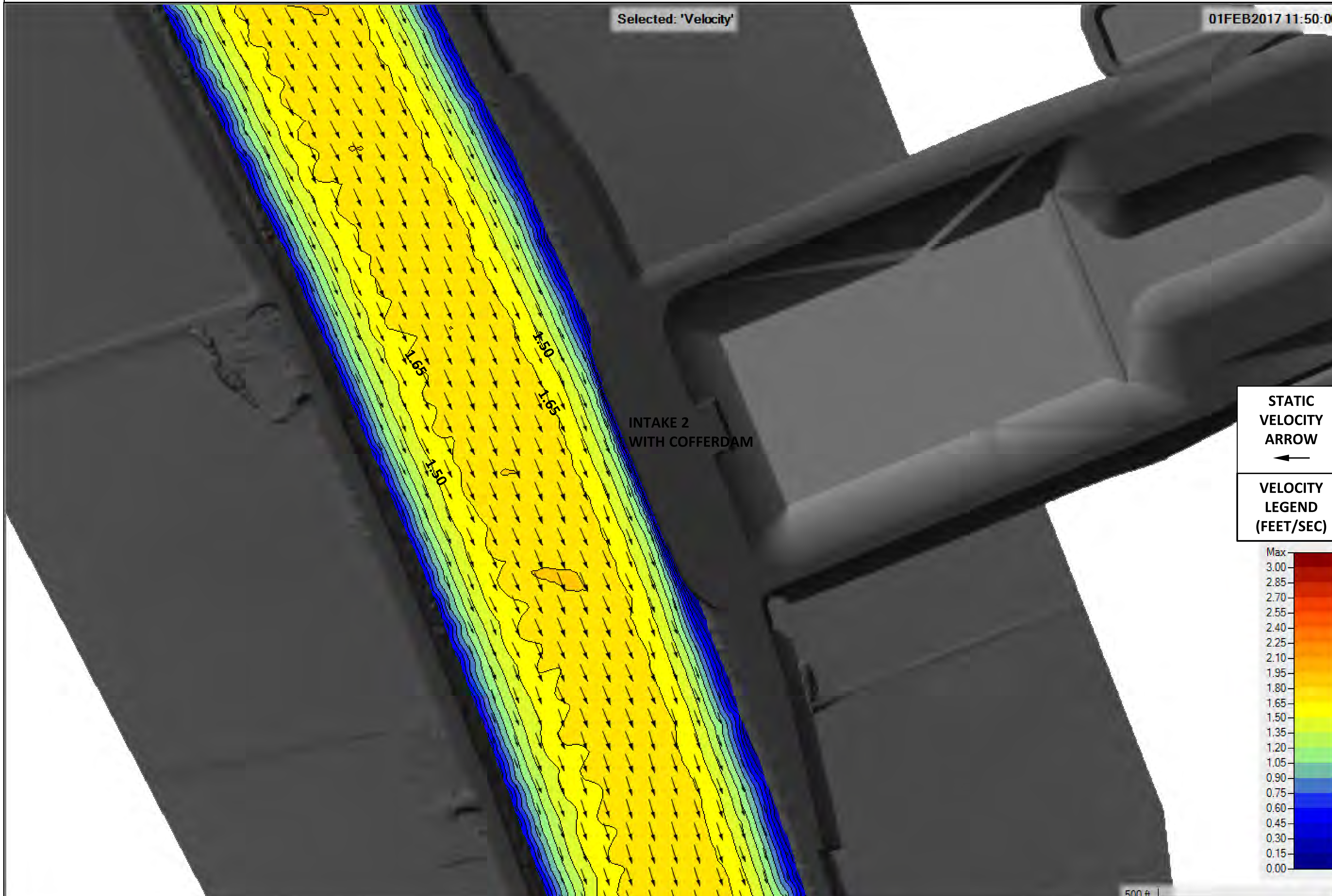
RUN 4G - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



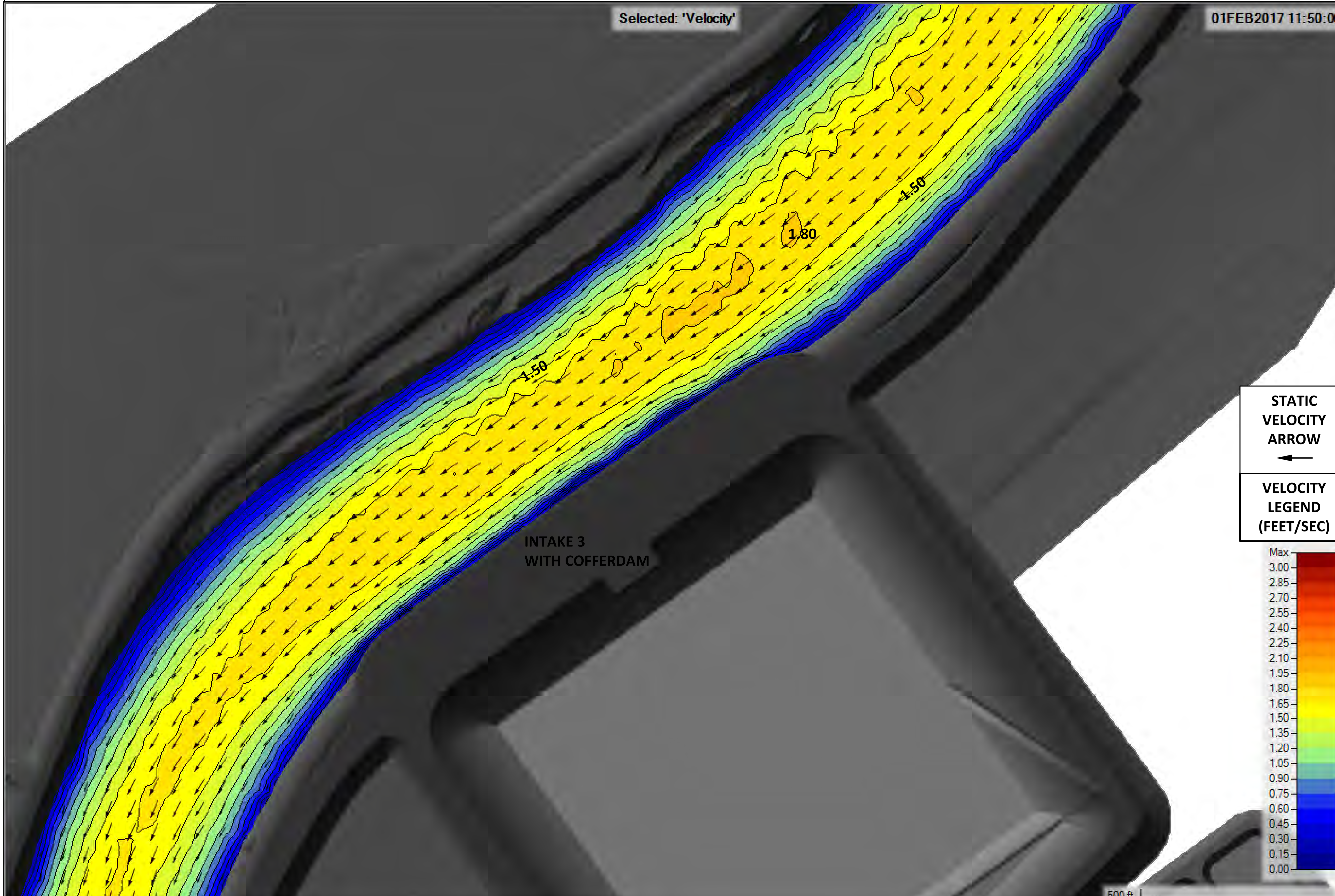
RUN 4H - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



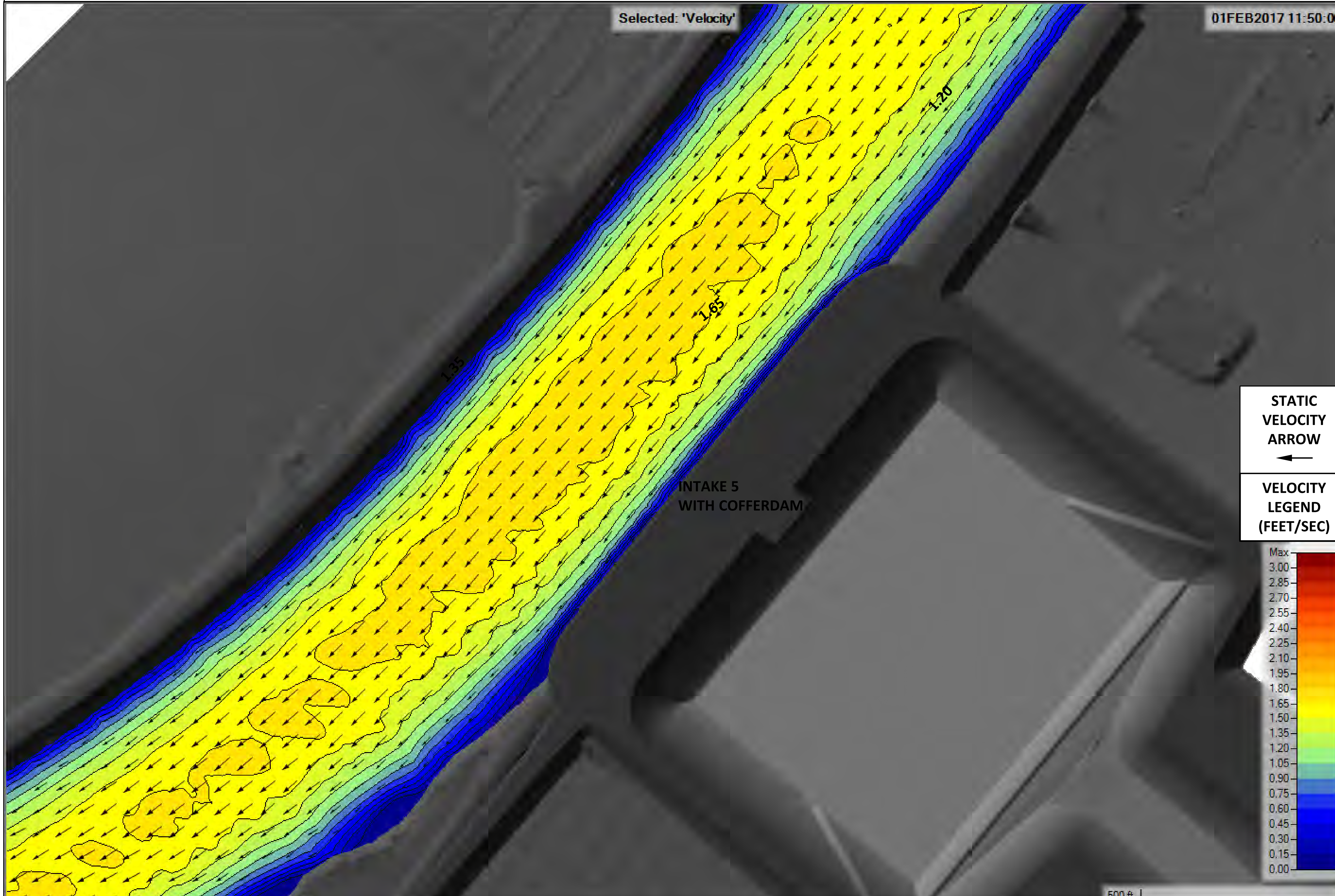
RUN 4H - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



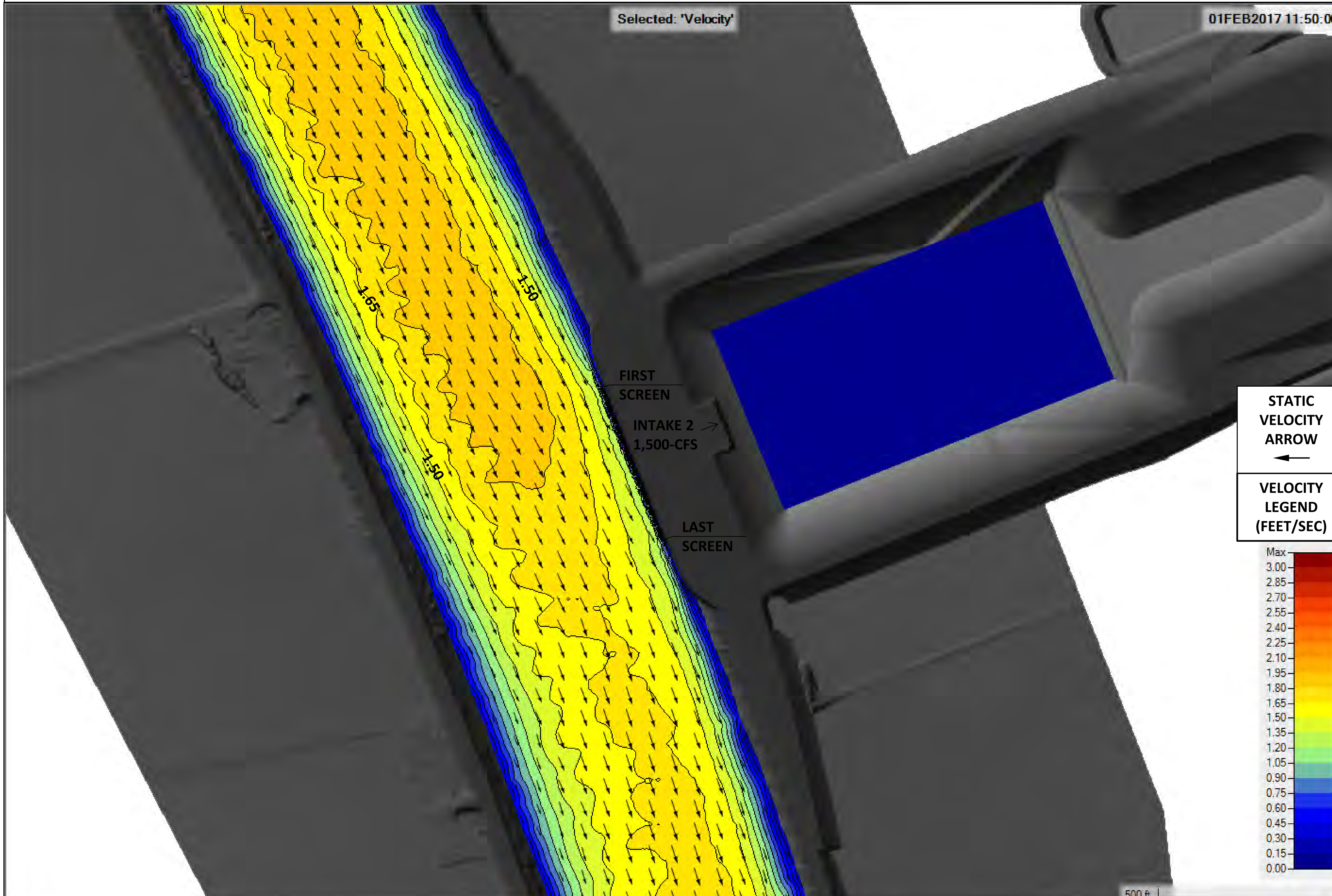
RUN 4H - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



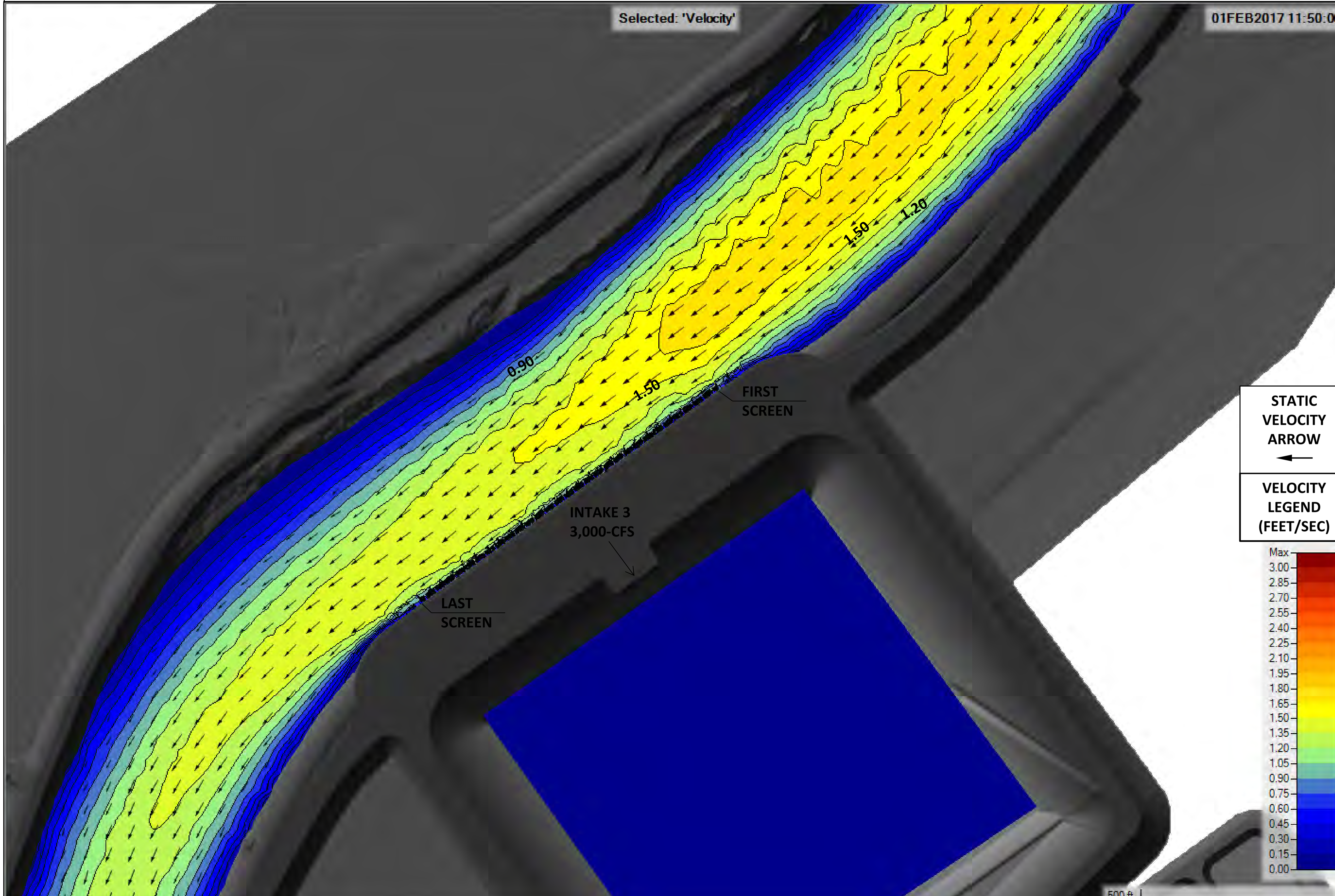
RUN 4I - INTAKE C-E-2 (A) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



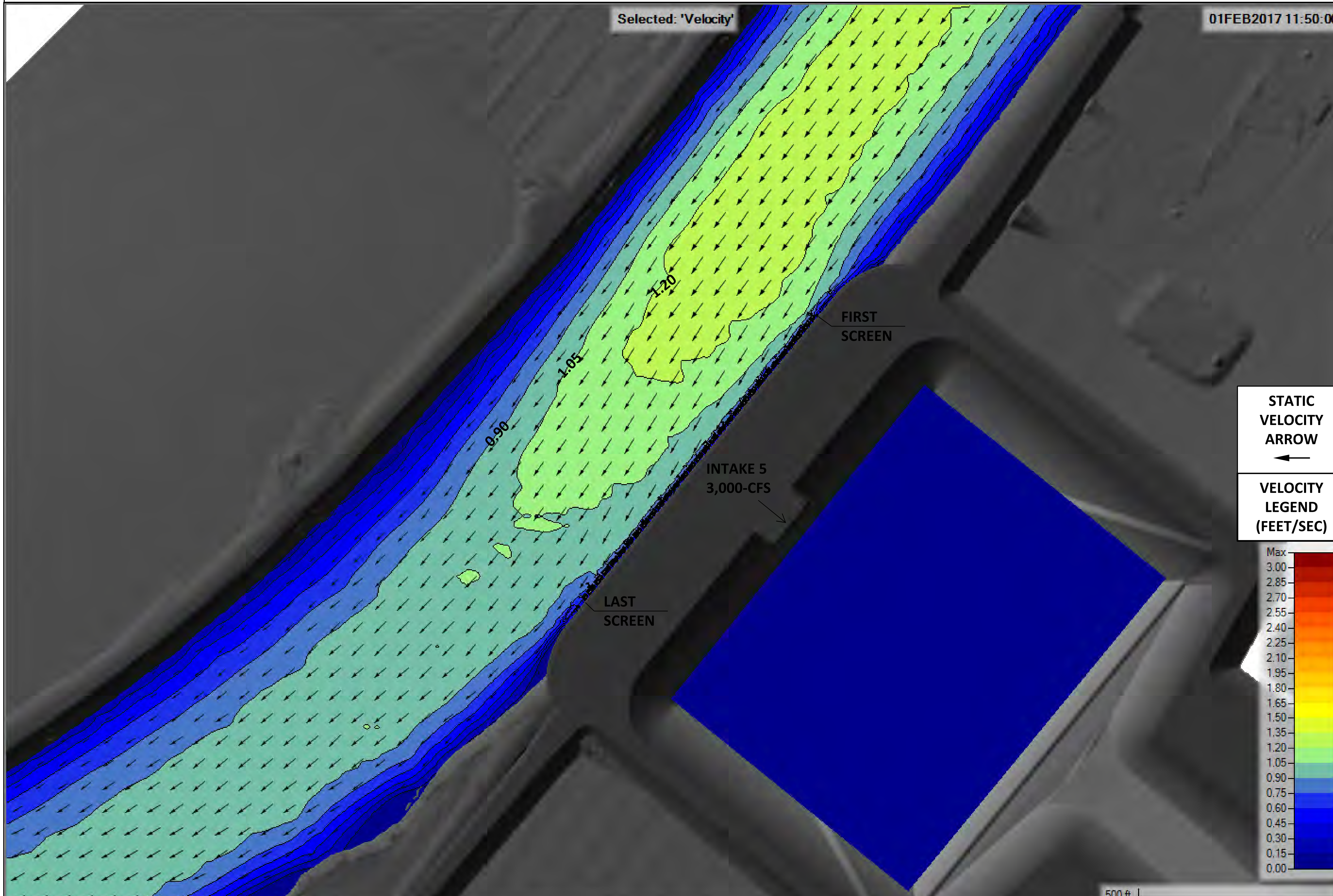
RUN 4I - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4I - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

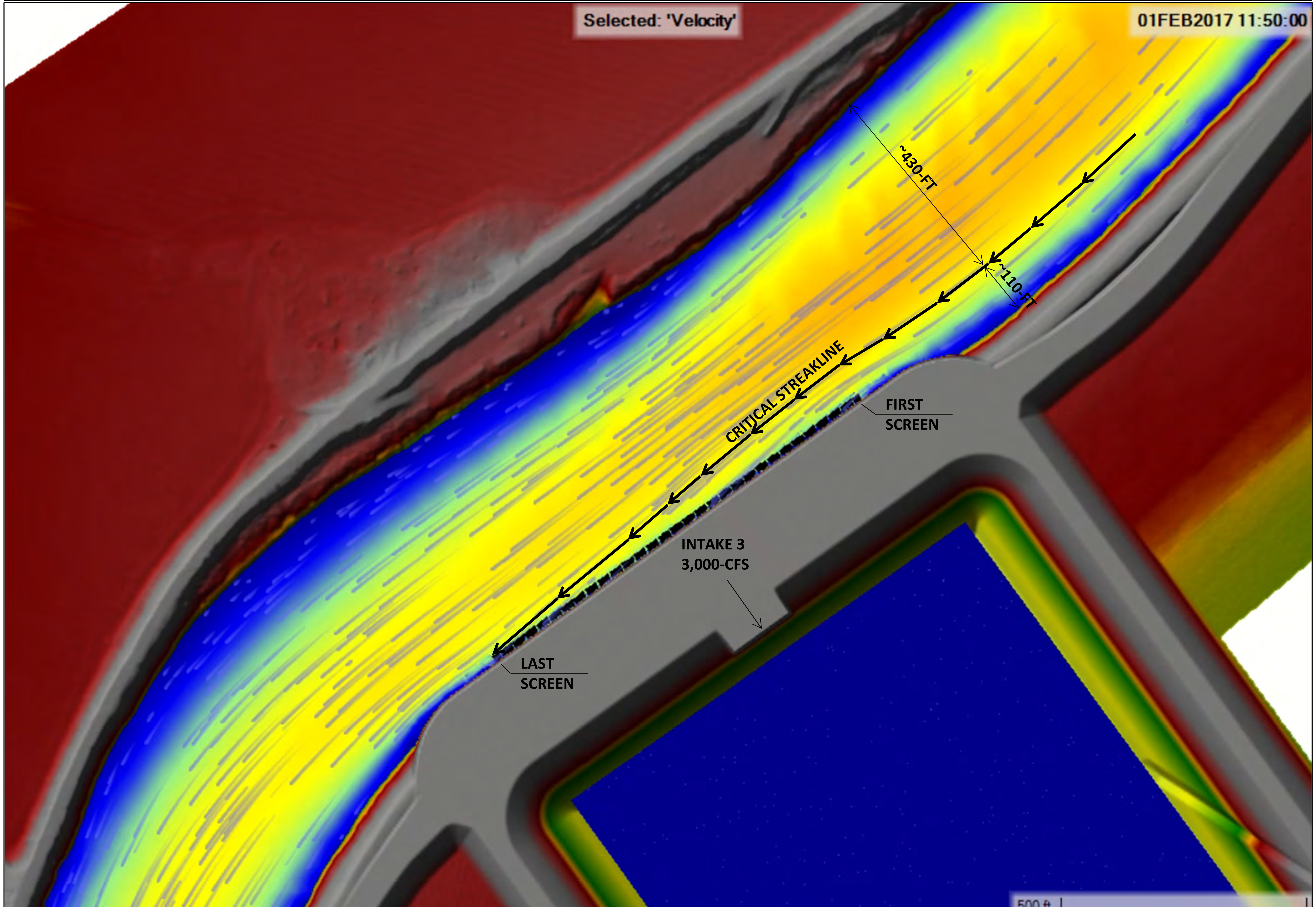
MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



Critical Streakline at Intake Structures

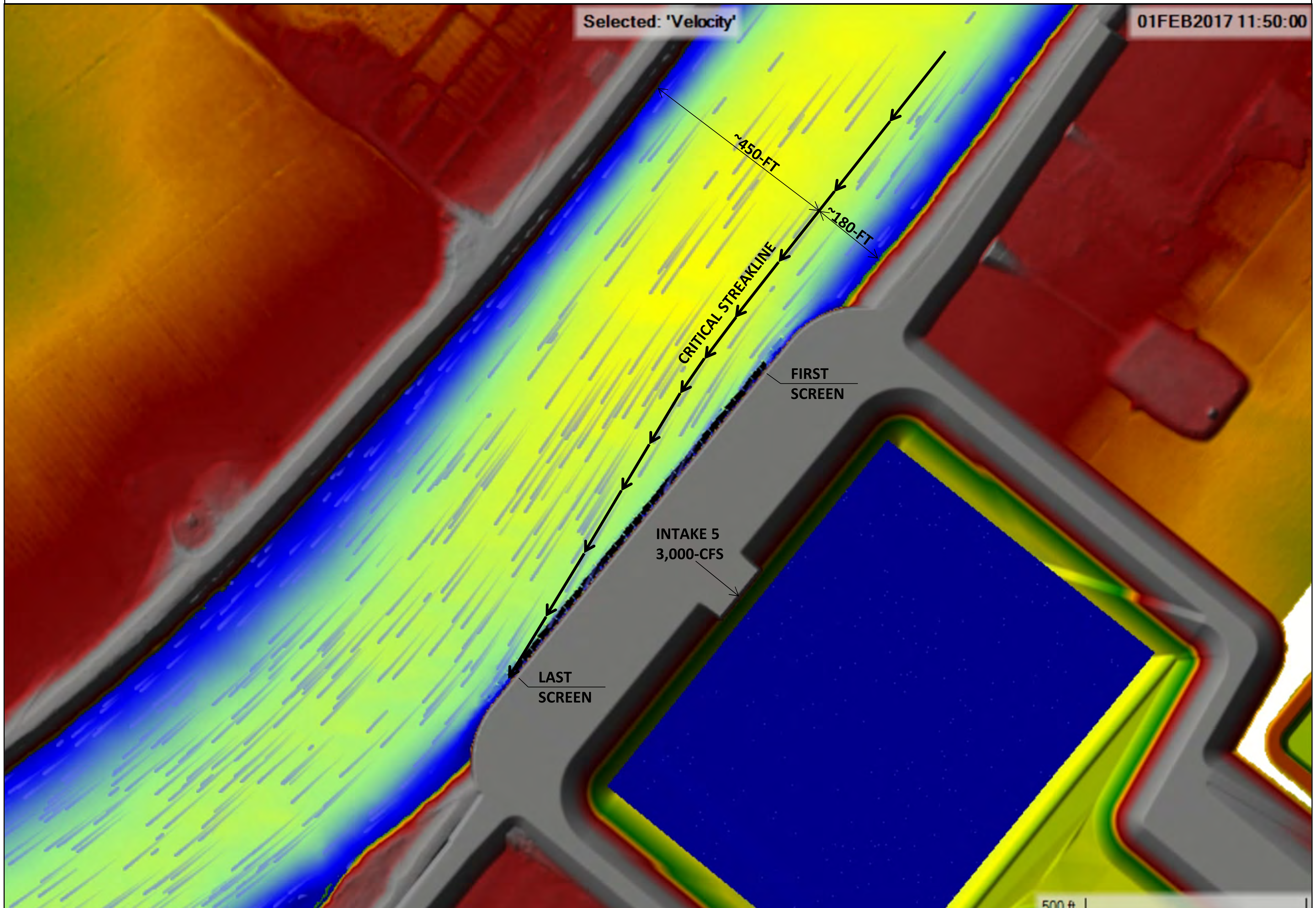
RUN 4D - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 18,000-CFS AT FREEPORT – TEE SCREENS



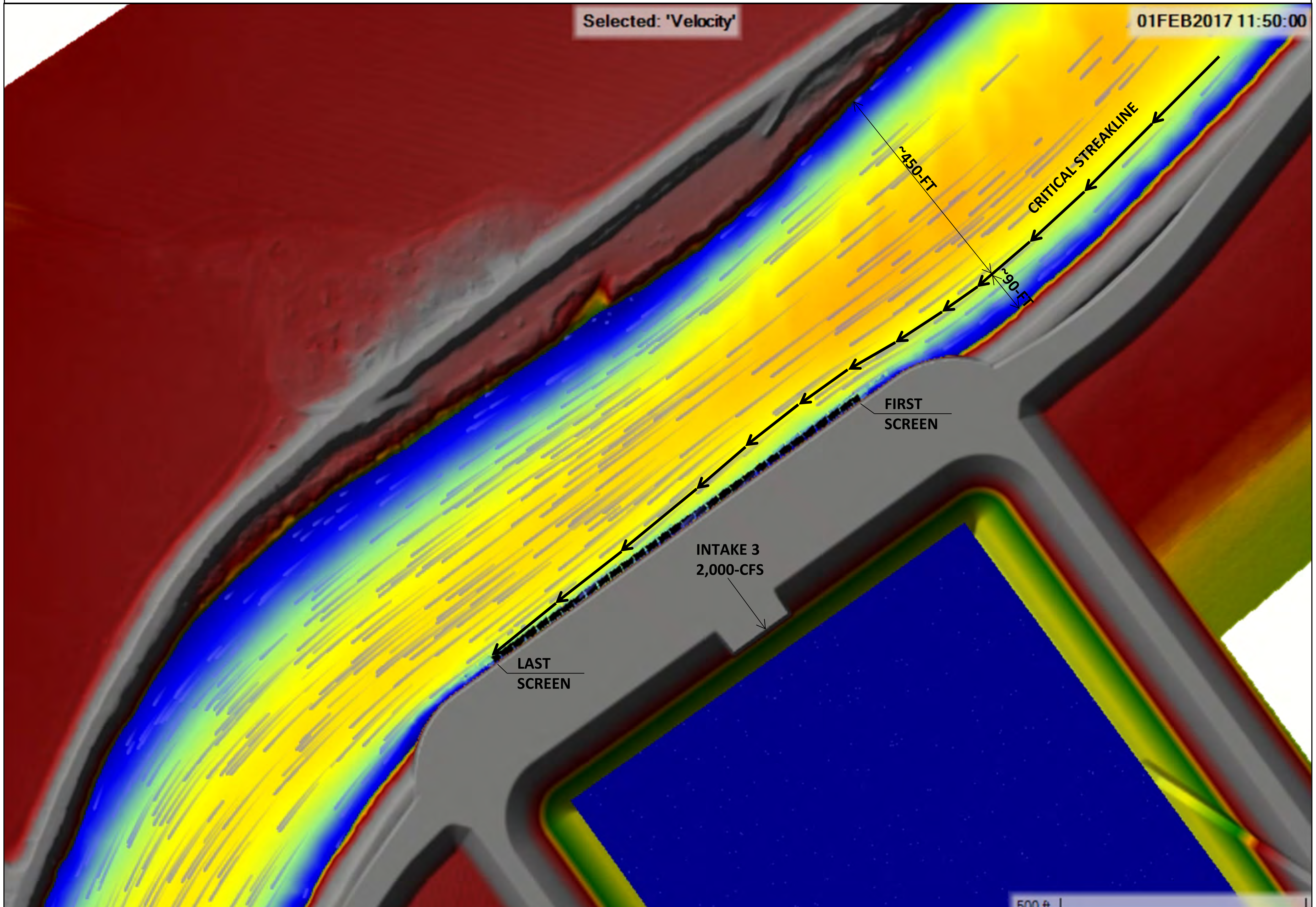
RUN 4D - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 18,000-CFS AT FREEPORT – TEE SCREENS



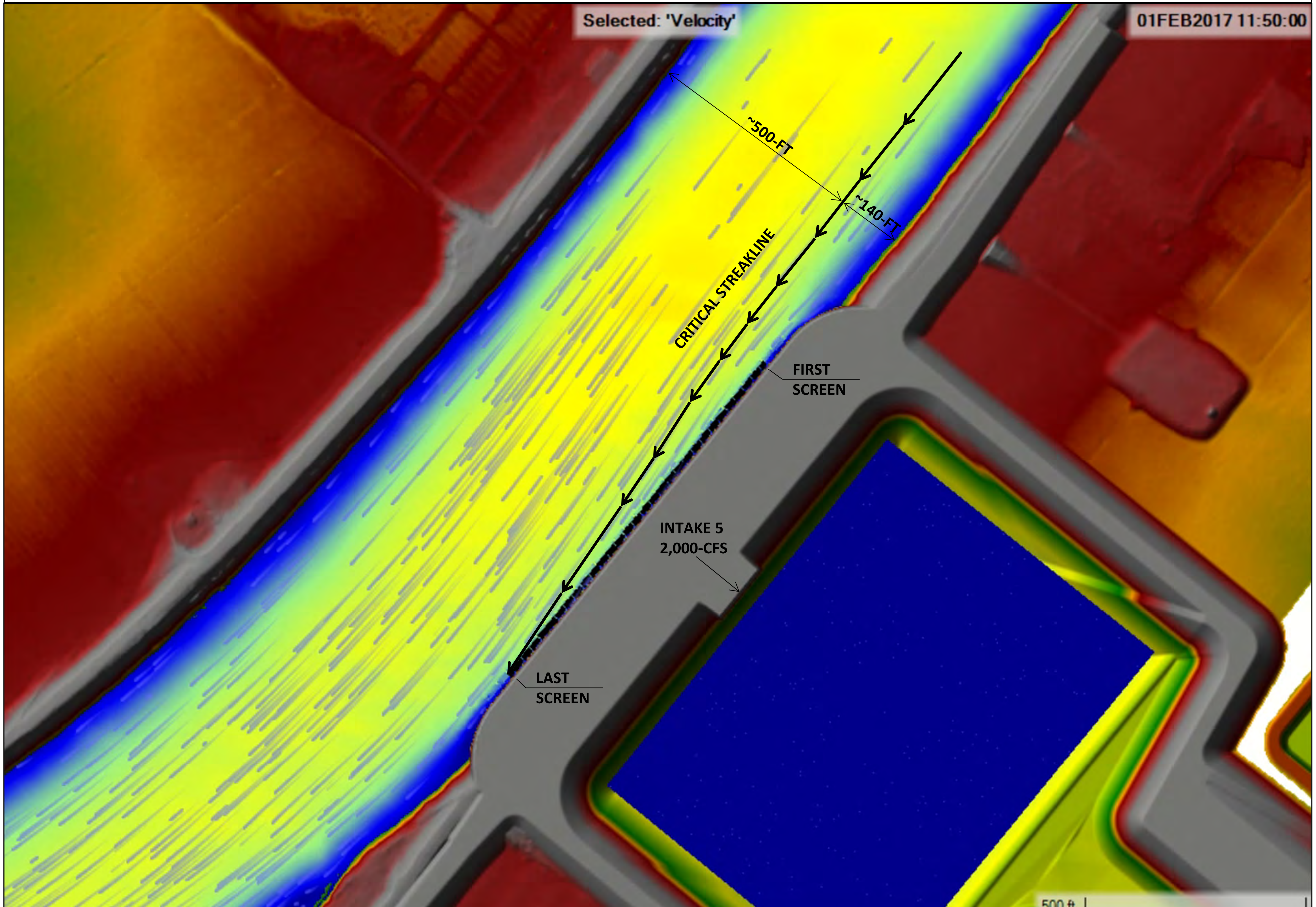
RUN 4E - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



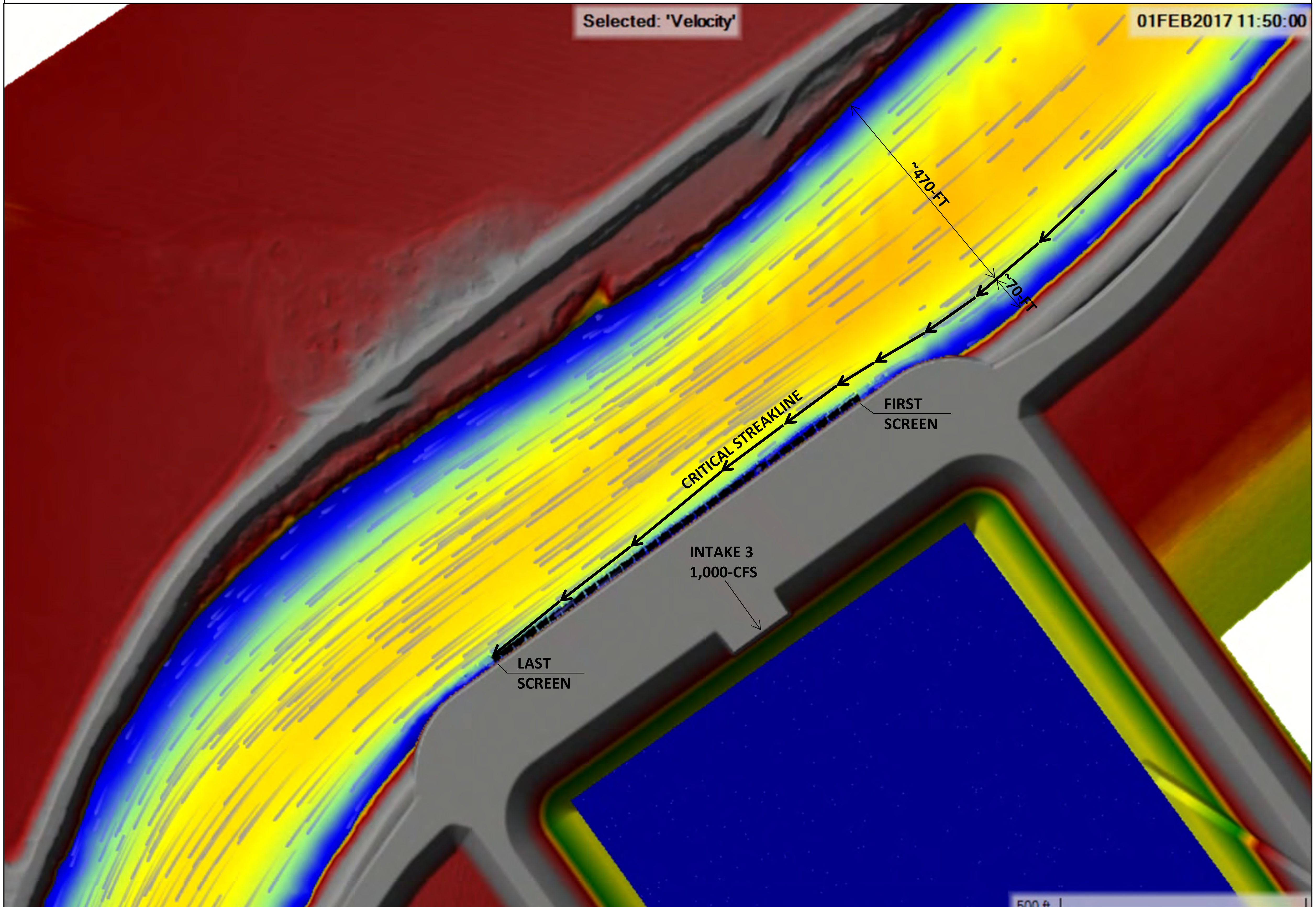
RUN 4E - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



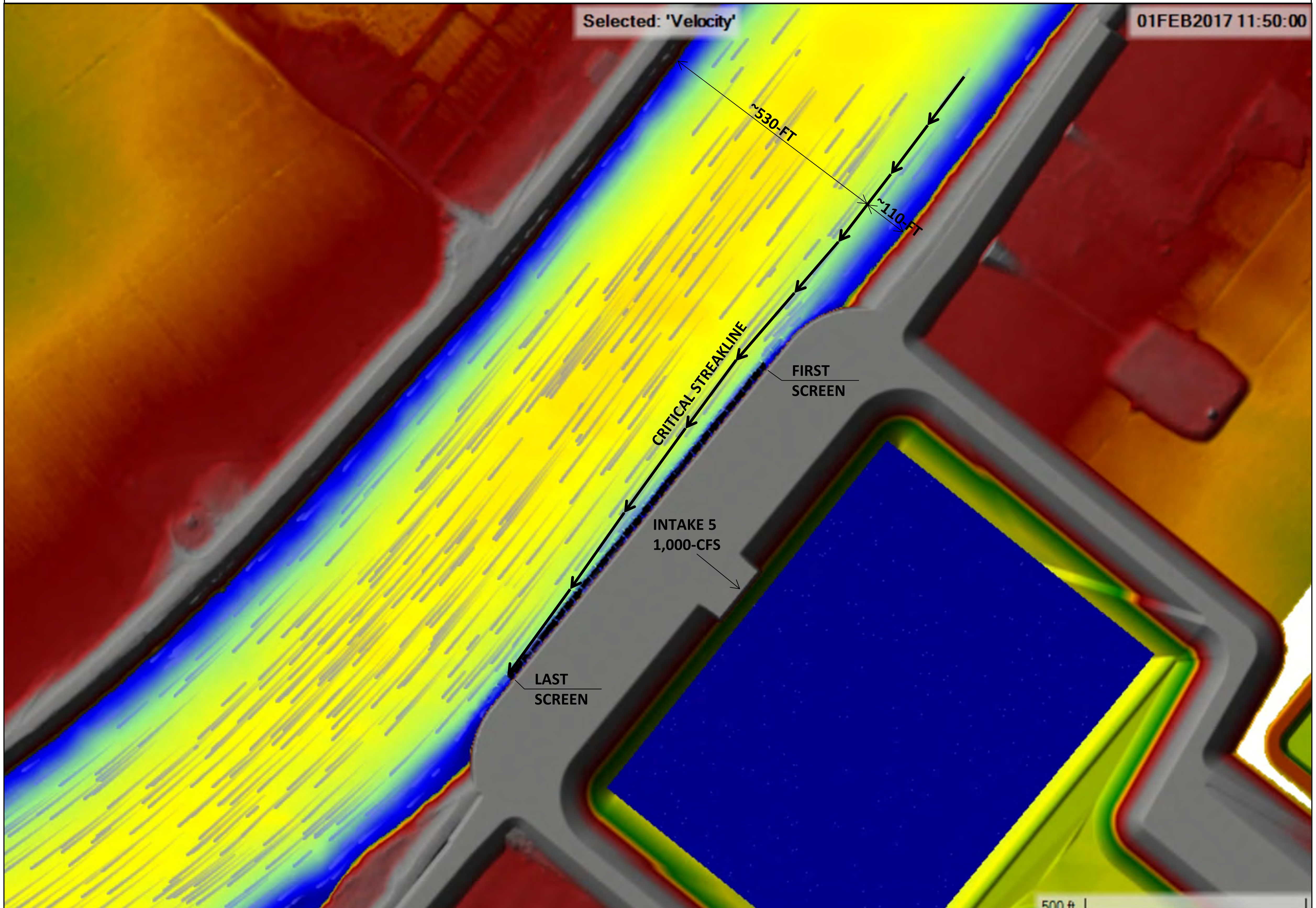
RUN 4F - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



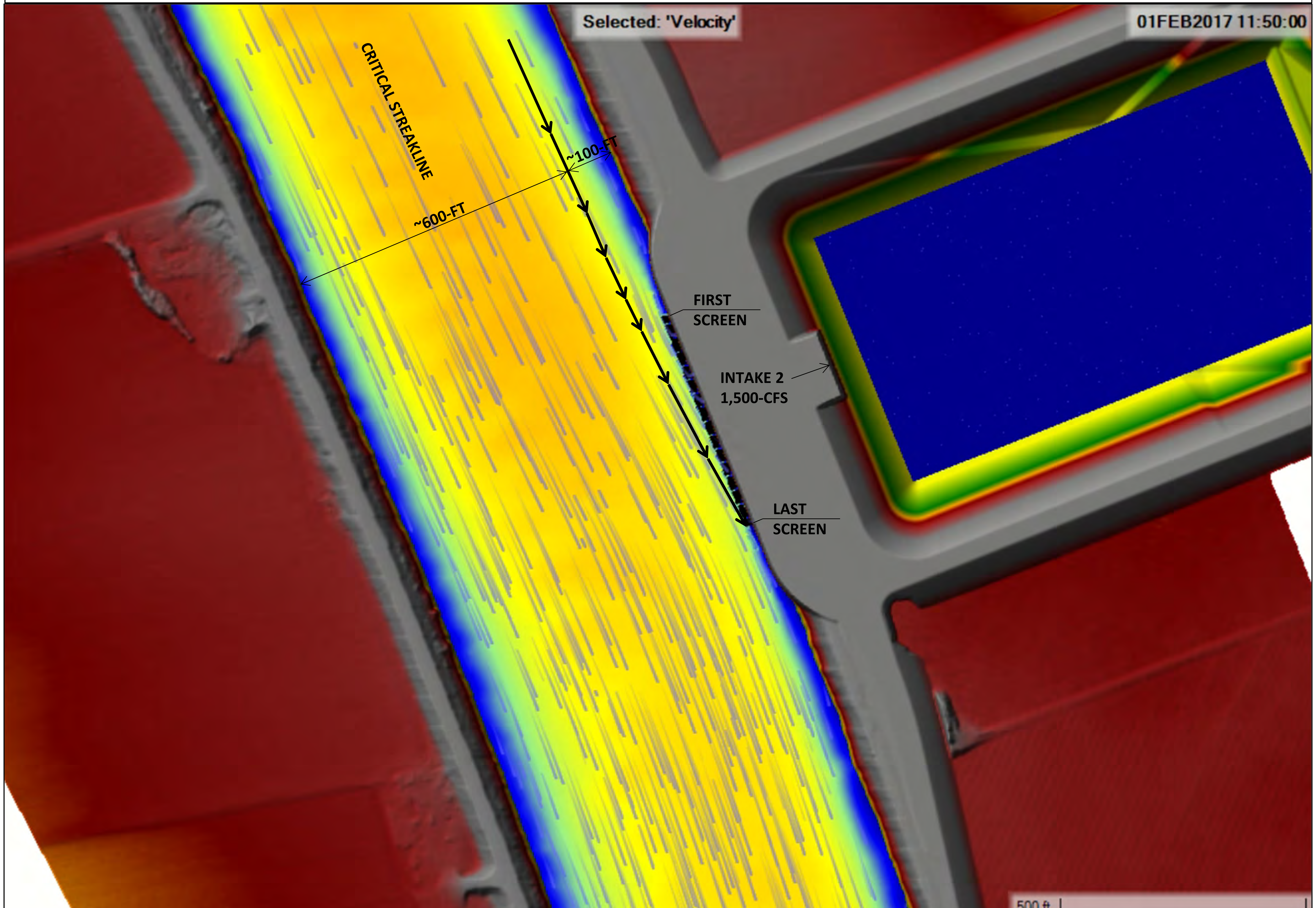
RUN 4F - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



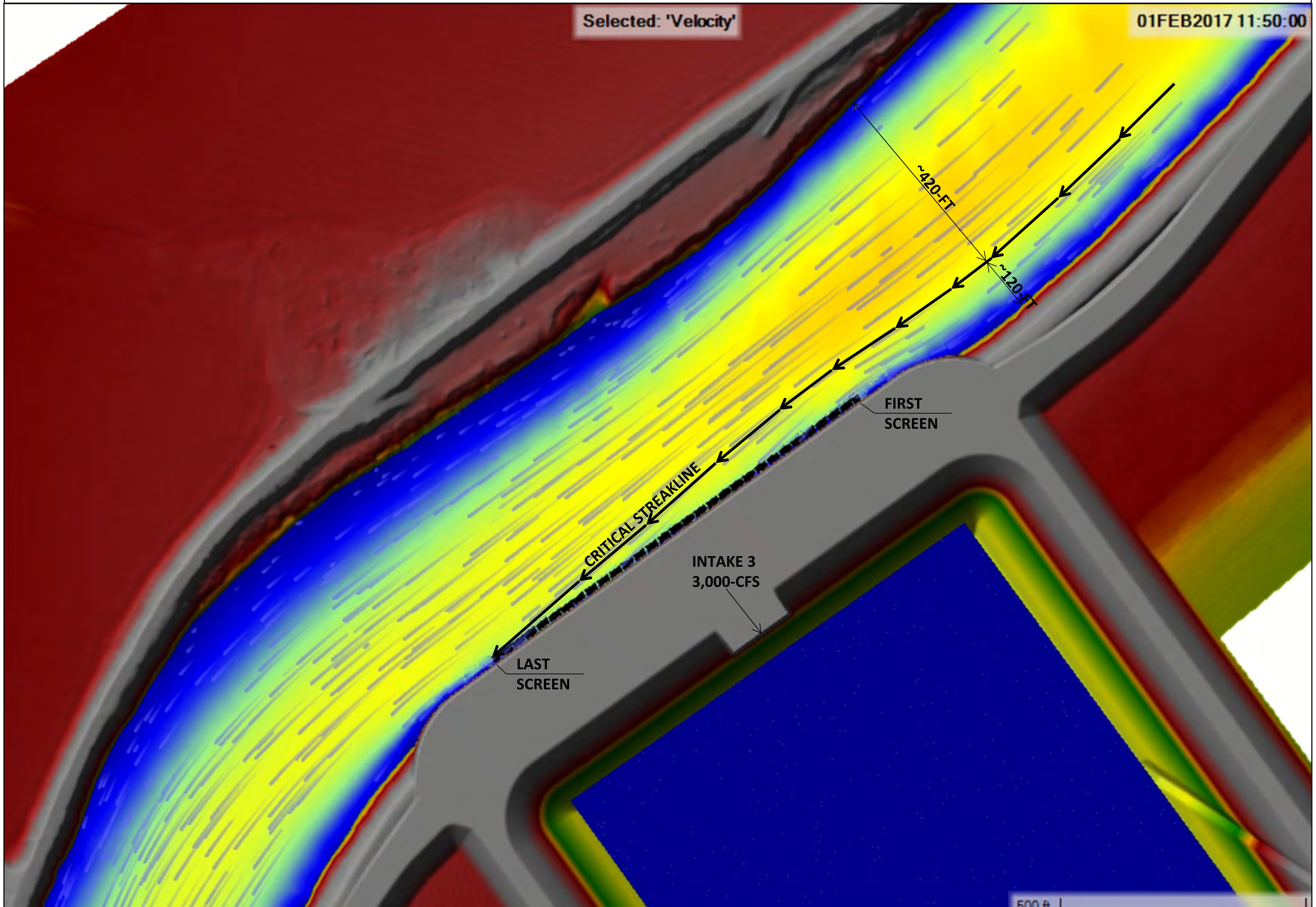
RUN 4I - INTAKE C-E-2 (A) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



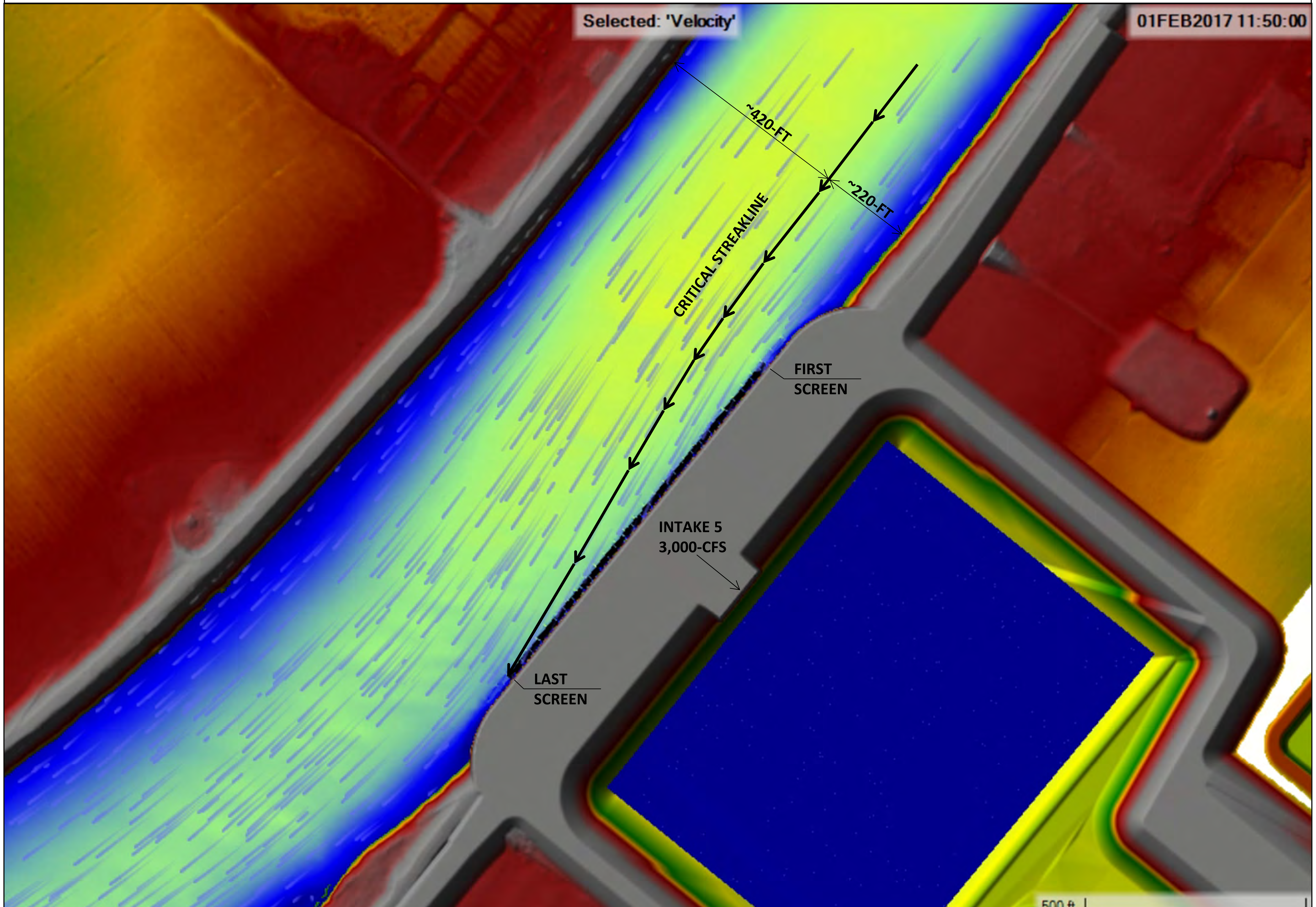
RUN 4I - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



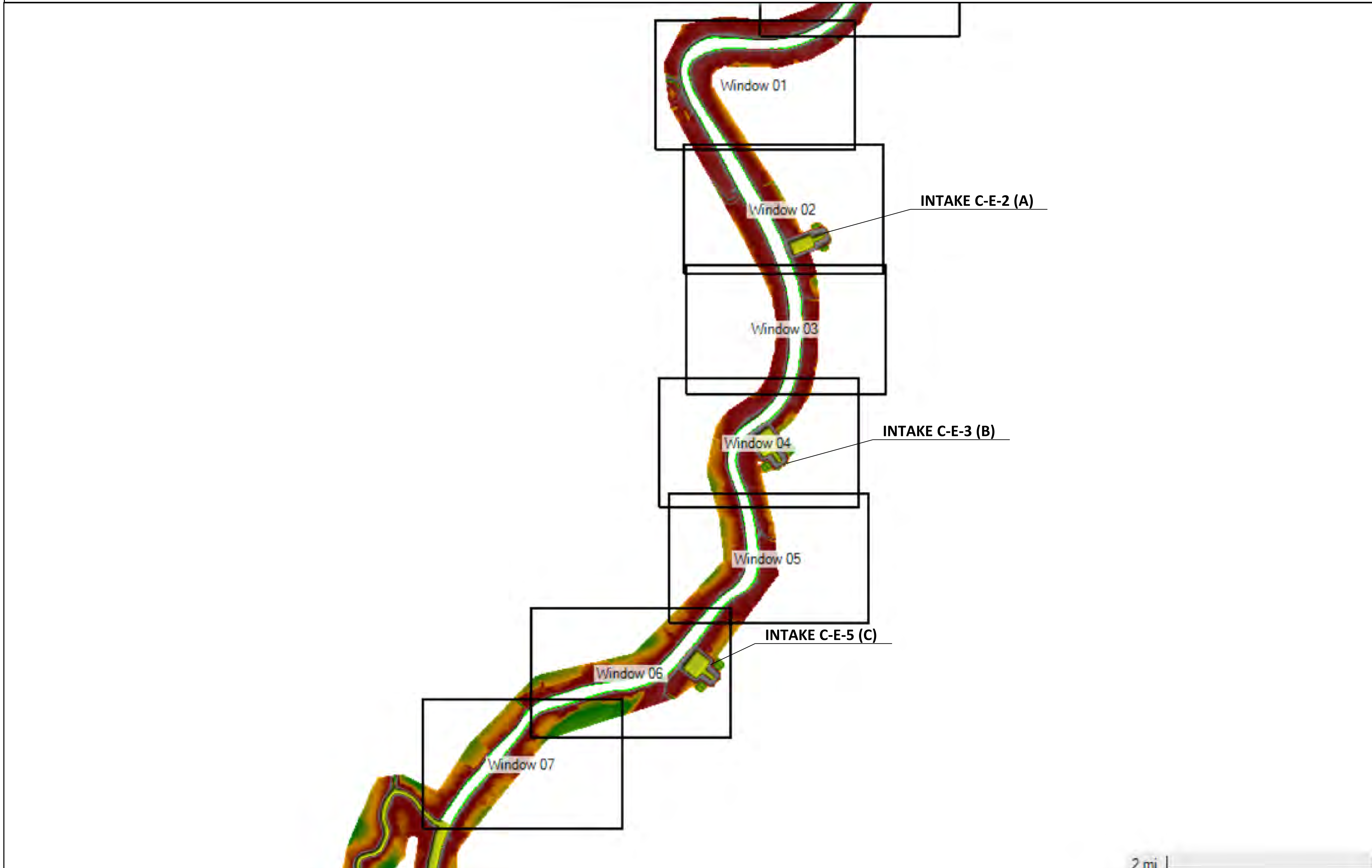
RUN 4I - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



0.91 fps Velocity Exceedance Plots

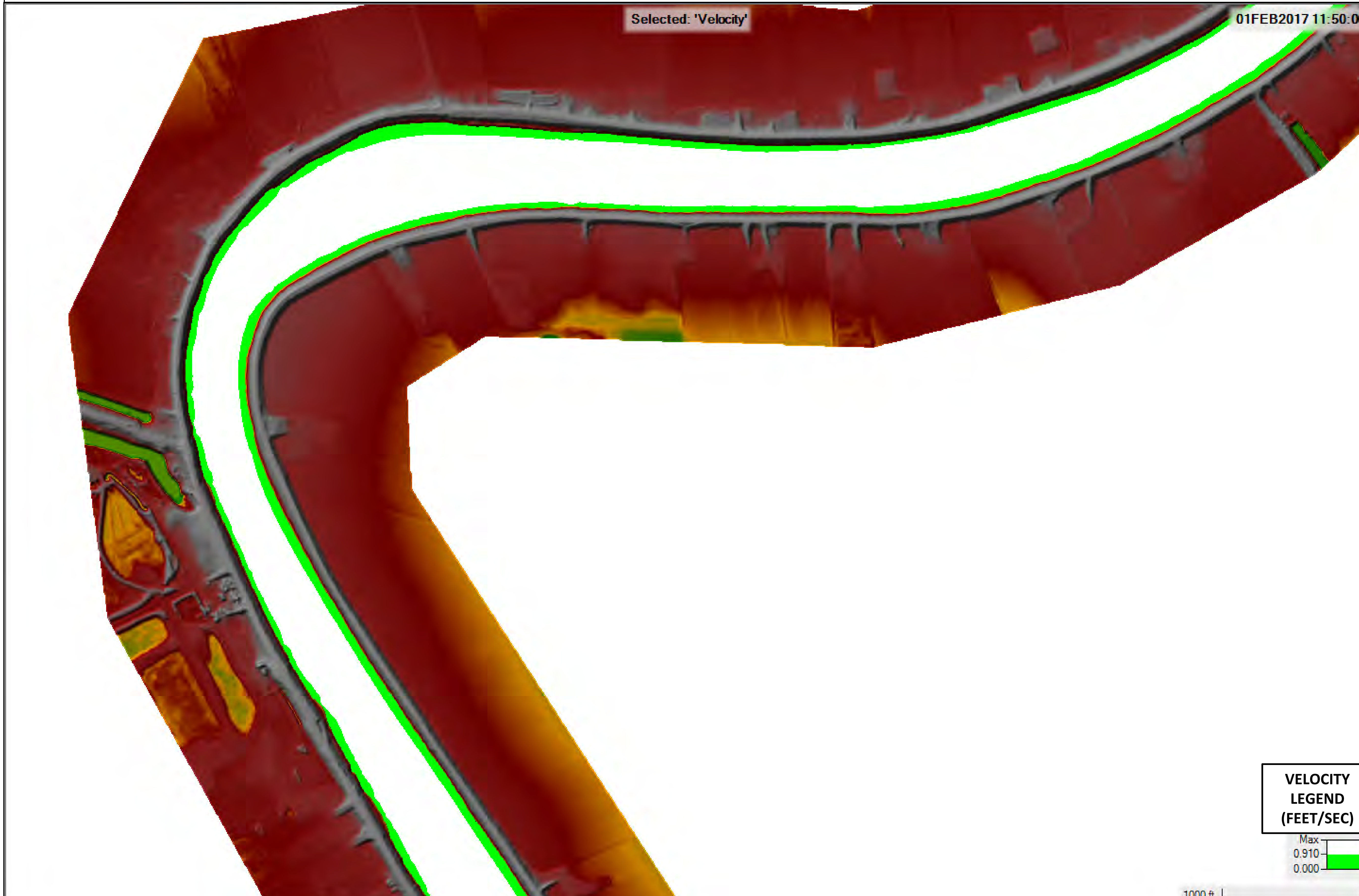
WINDOW LOCATIONS KEY



RUN 4A

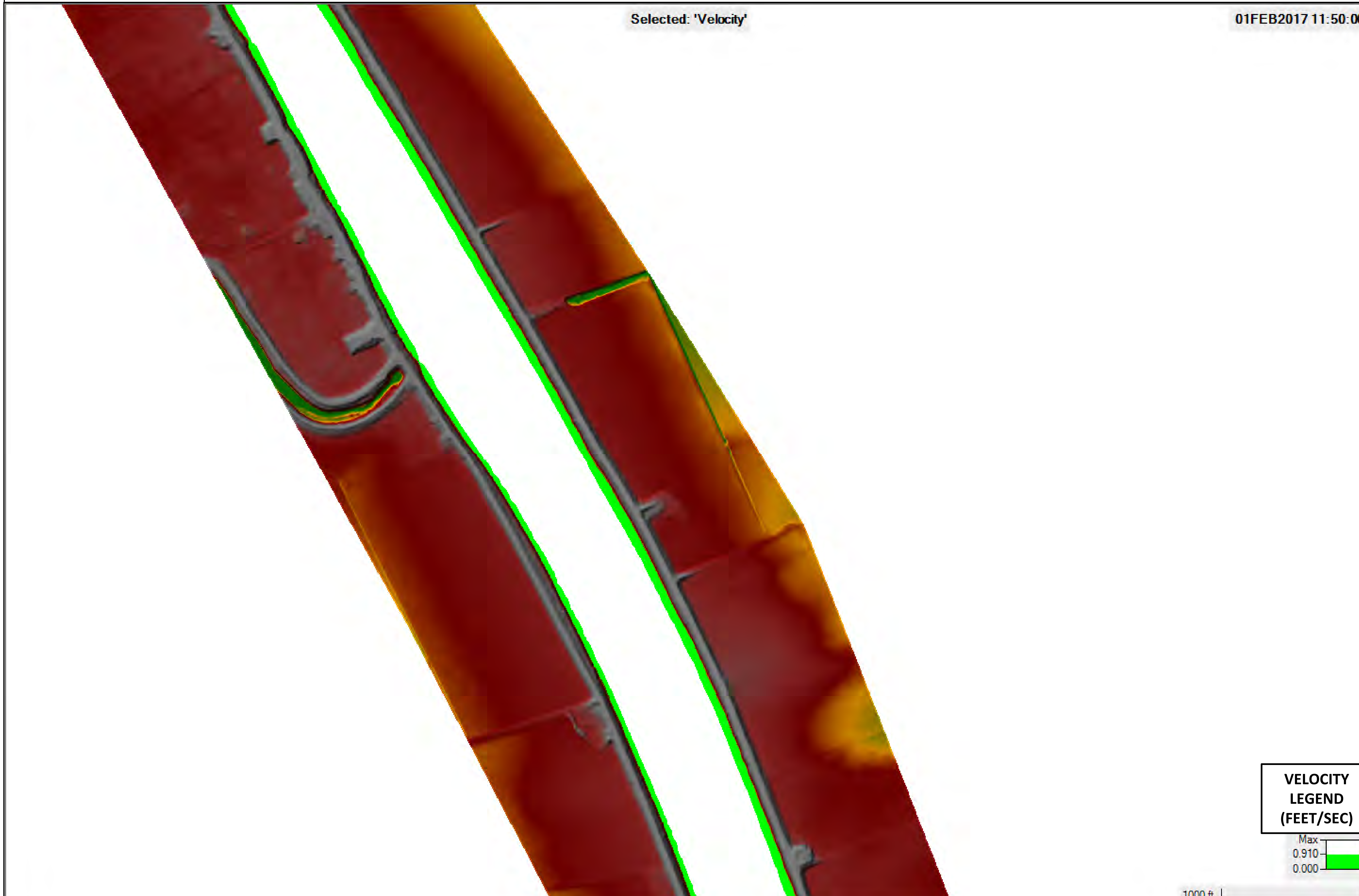
RUN 4A – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 18,000-CFS AT FREEPORT



RUN 4A – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 18,000-CFS AT FREEPORT

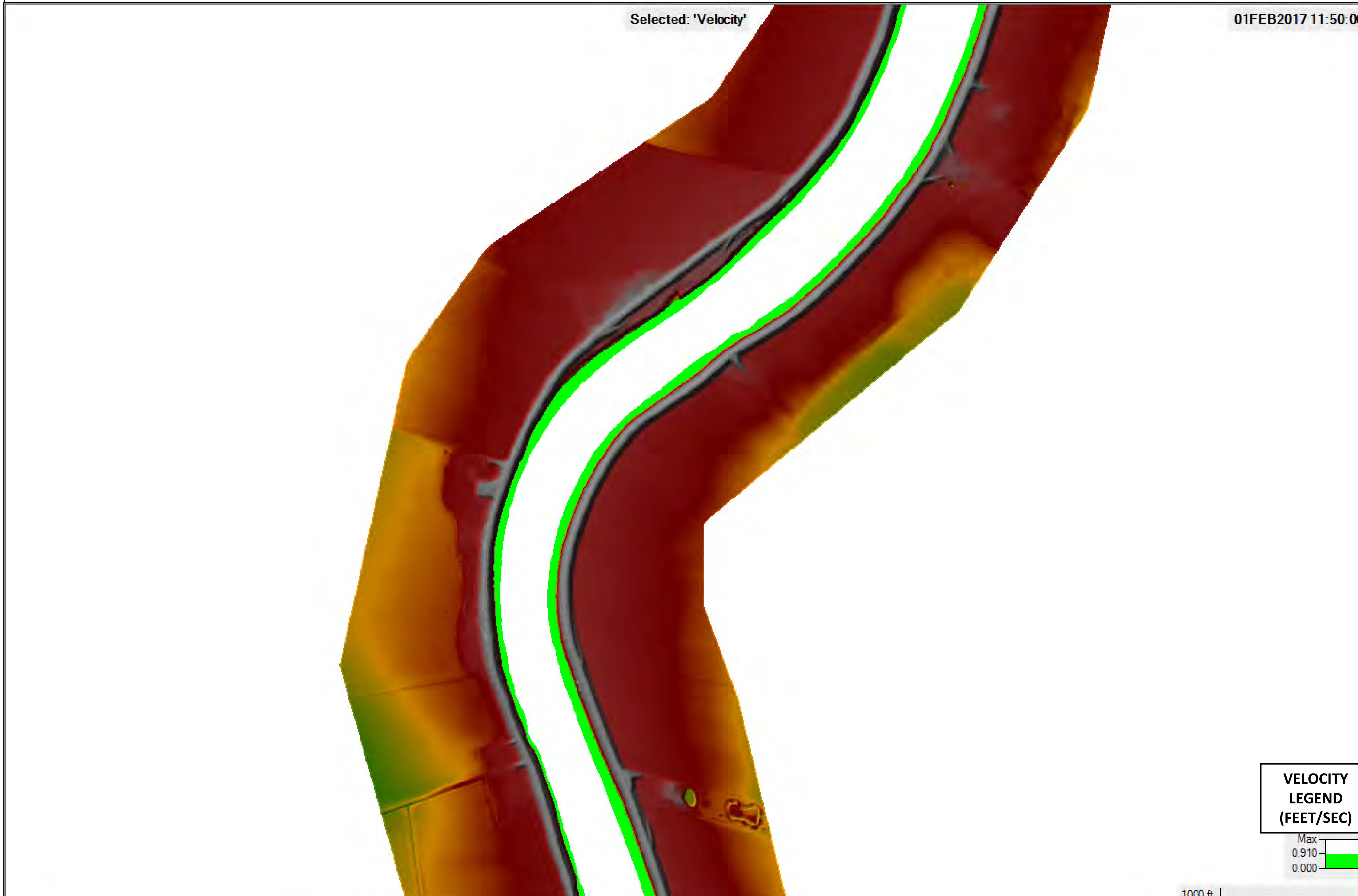


RUN 4A – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 18,000-CFS AT FREEPORT

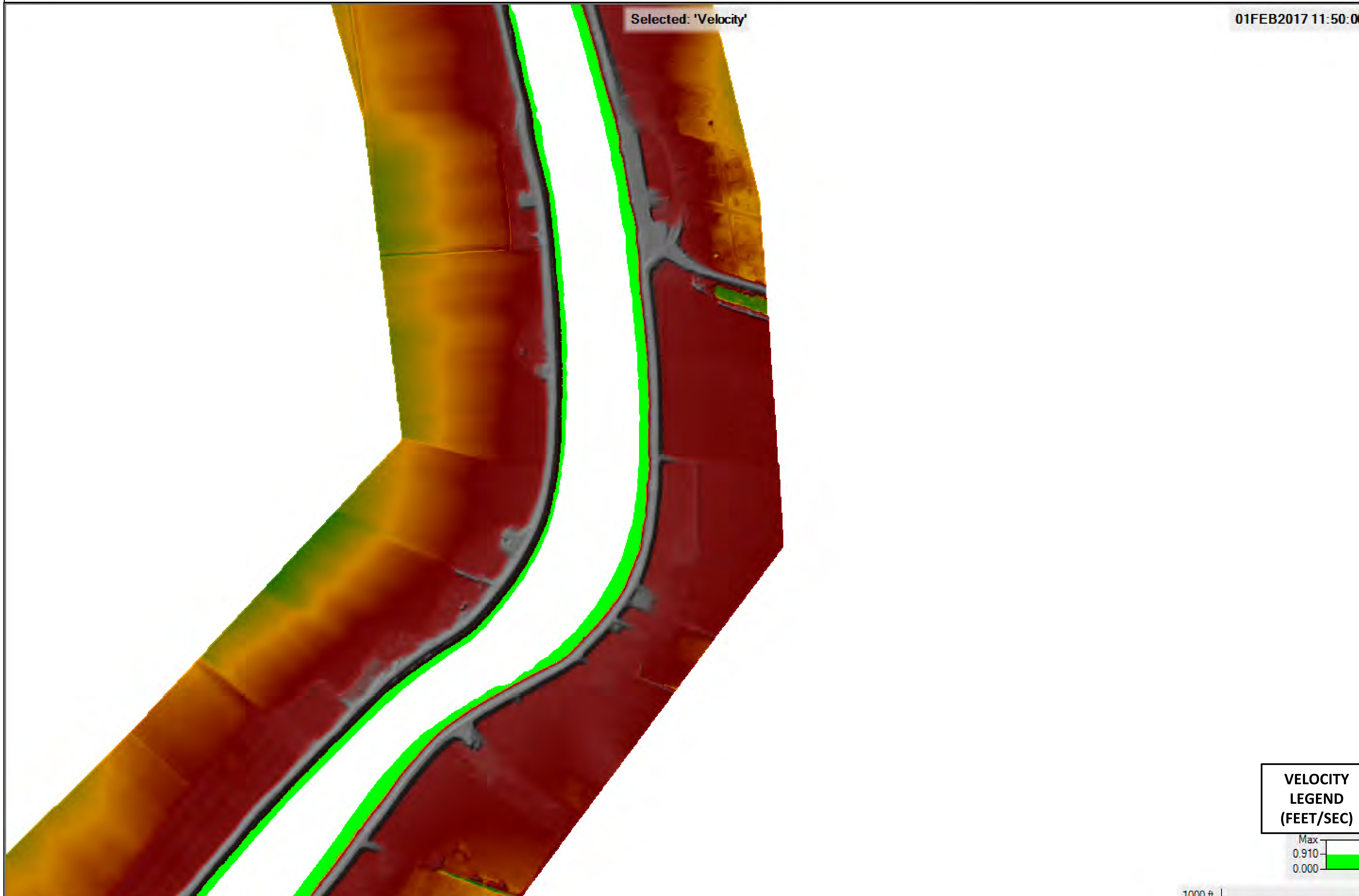
RUN 4A – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 18,000-CFS AT FREEPORT



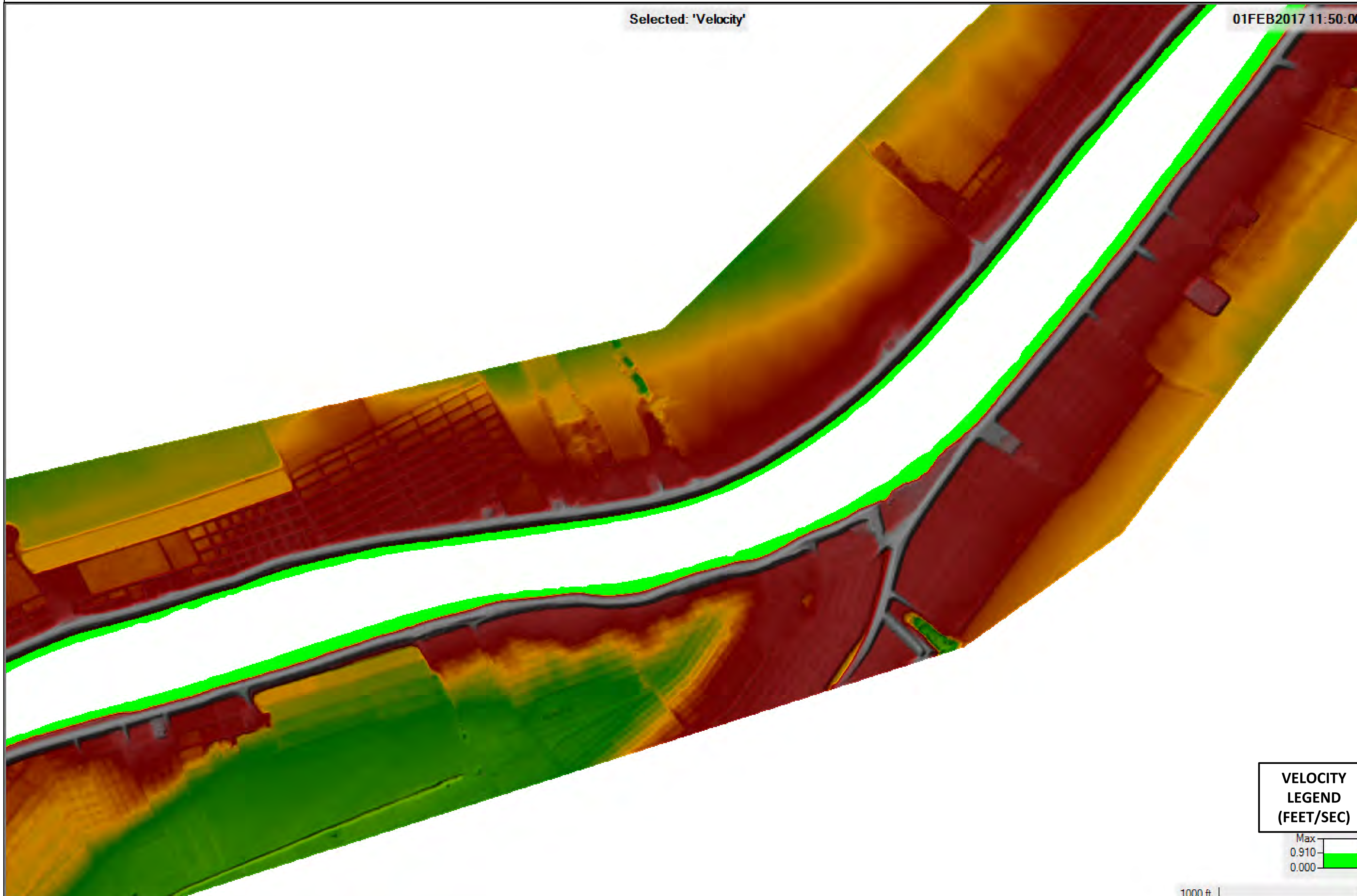
RUN 4A – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 18,000-CFS AT FREEPORT



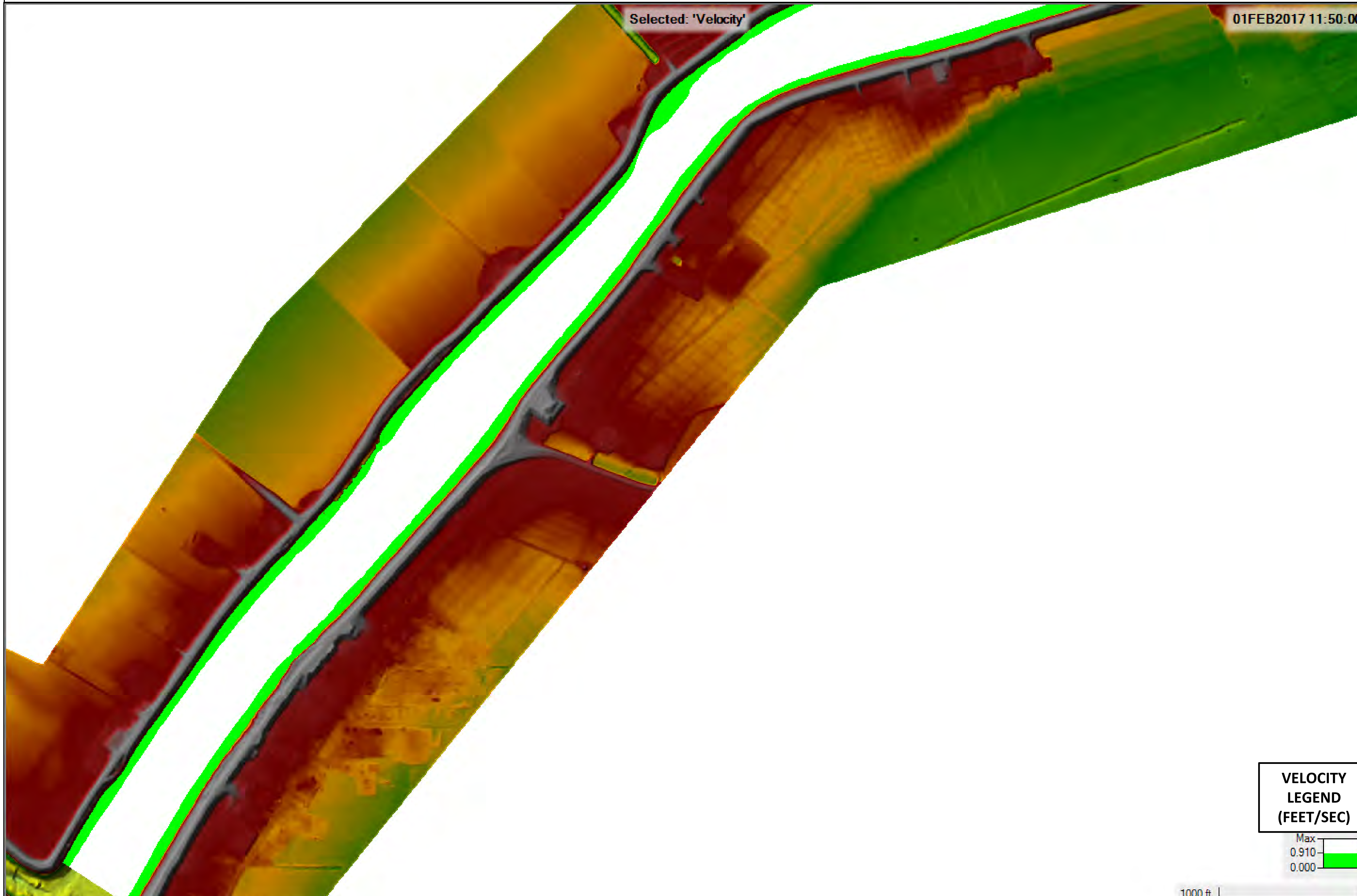
RUN 4A – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO EXISTING CONDITIONS – 18,000-CFS AT FREEPORT



RUN 4A – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

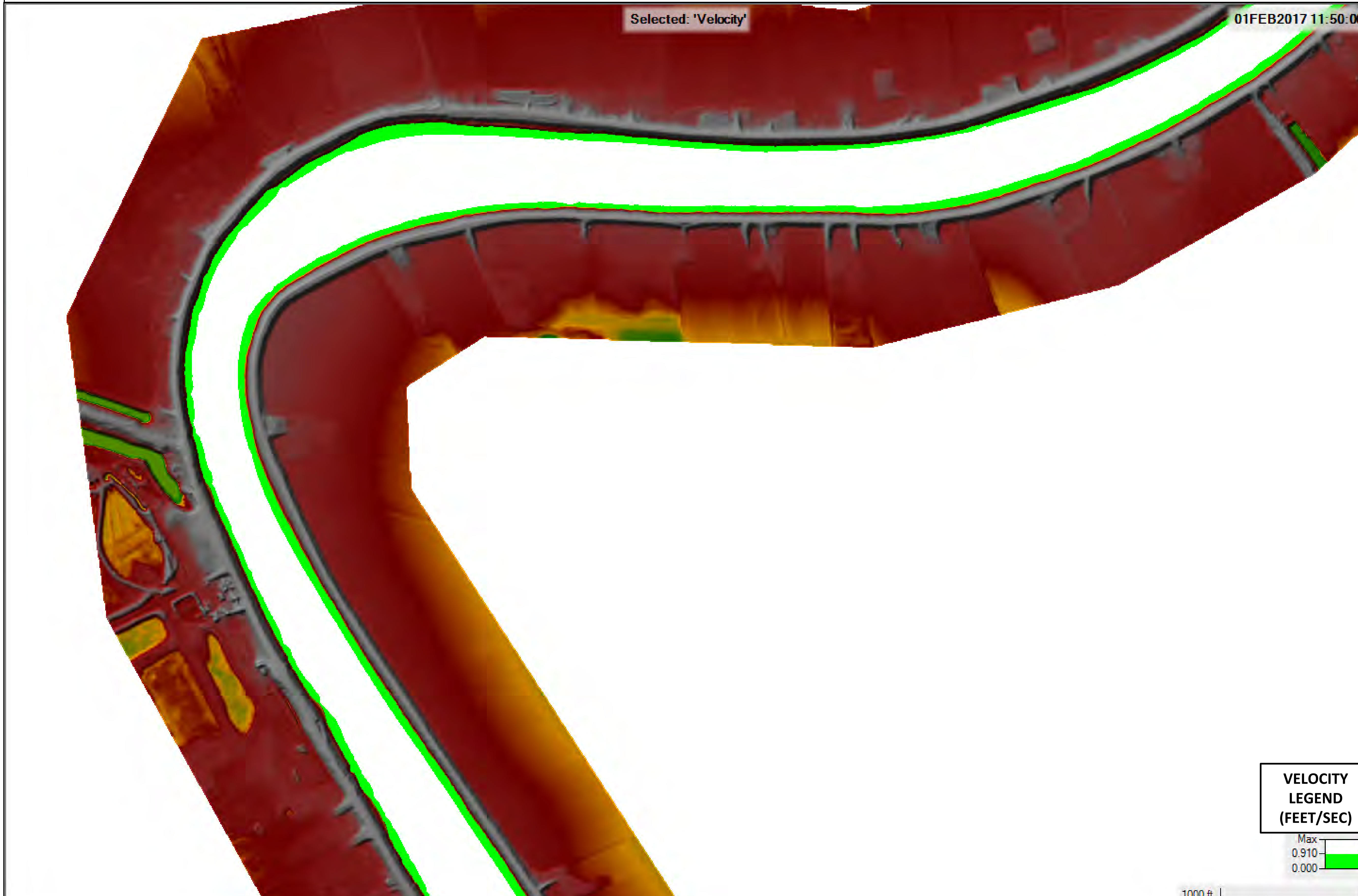
MODEL SCENARIO EXISTING CONDITIONS – 18,000-CFS AT FREEPORT



RUN 4B

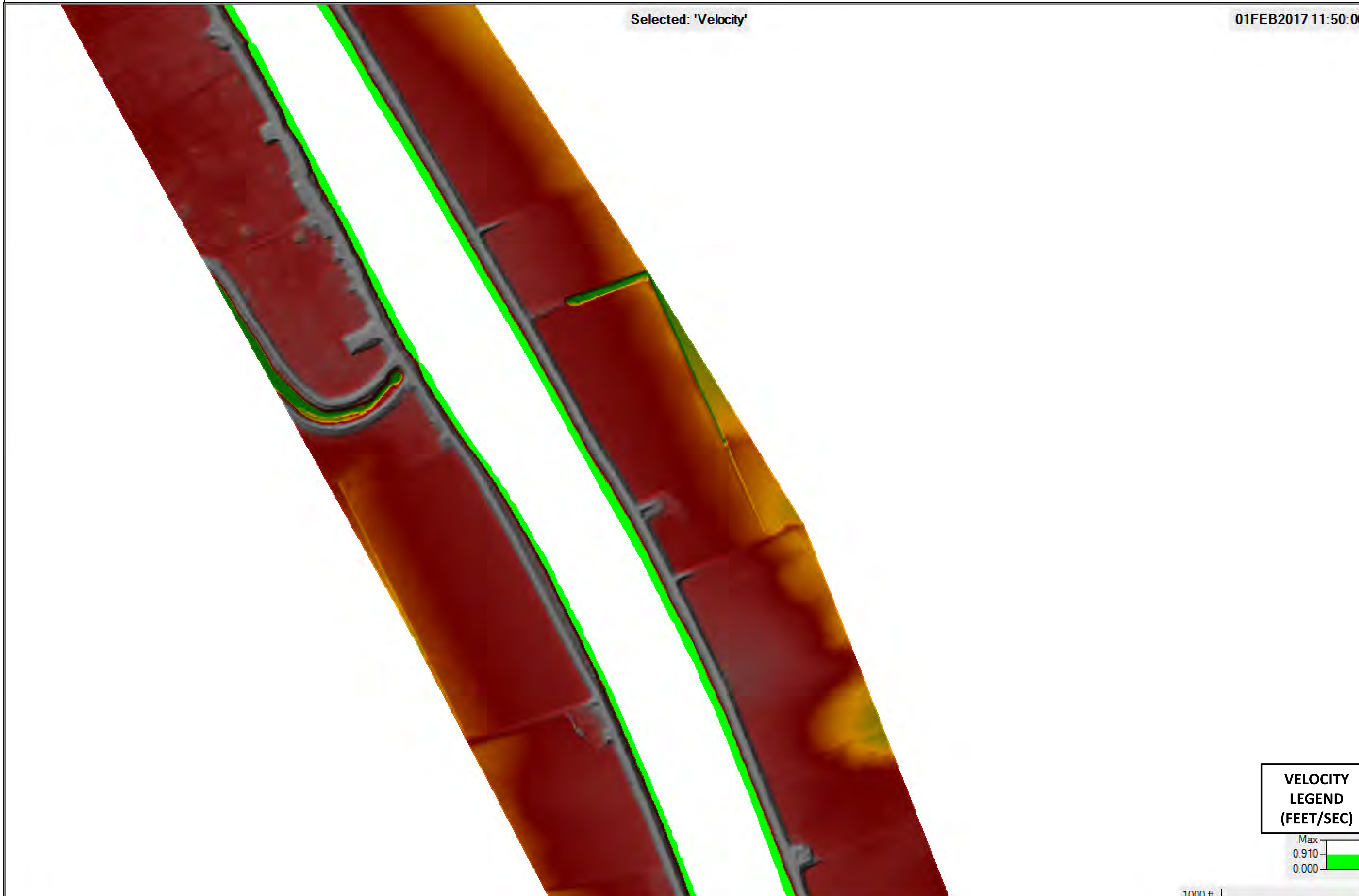
RUN 4B – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4B – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS

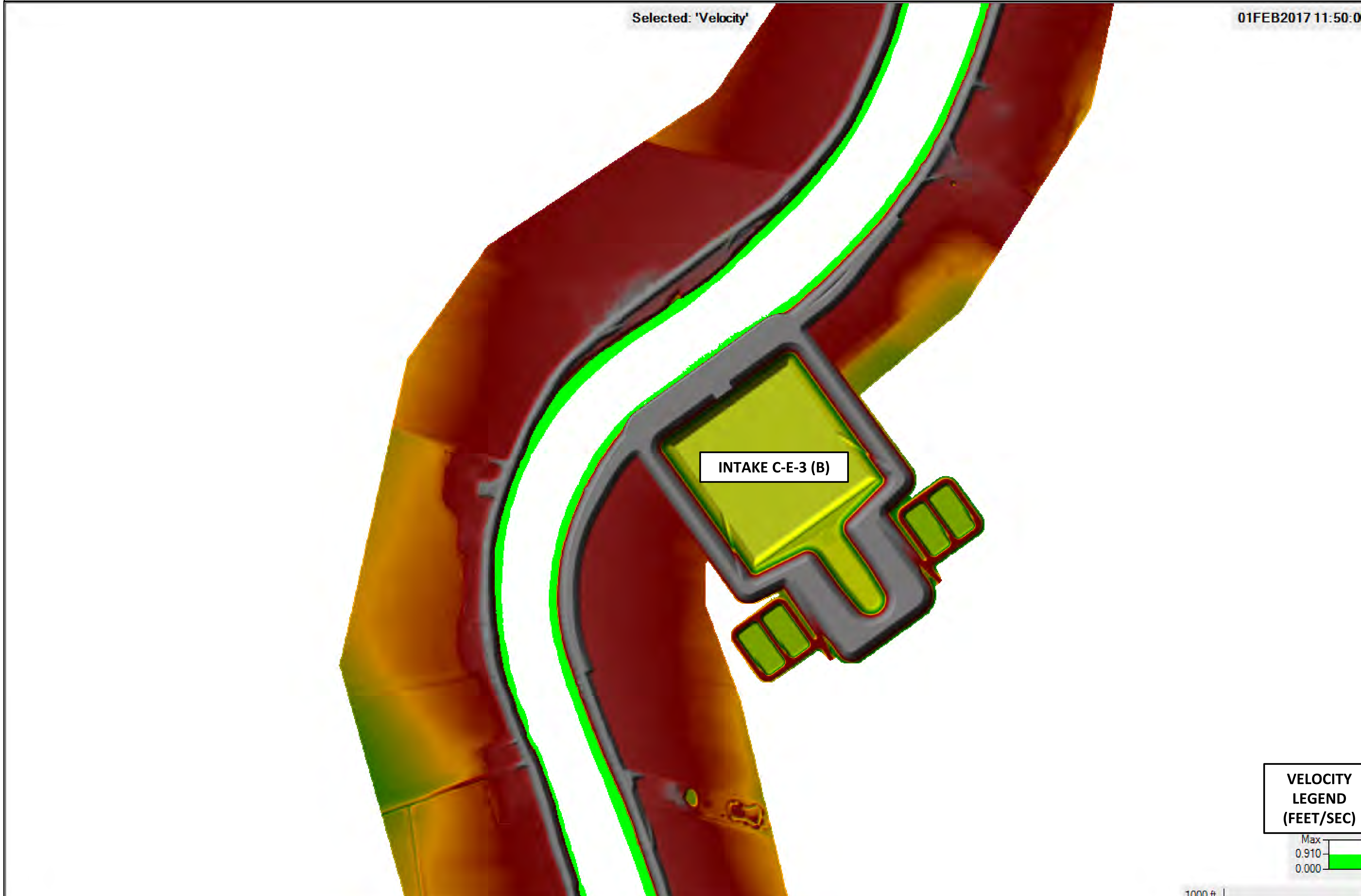


RUN 4B – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS

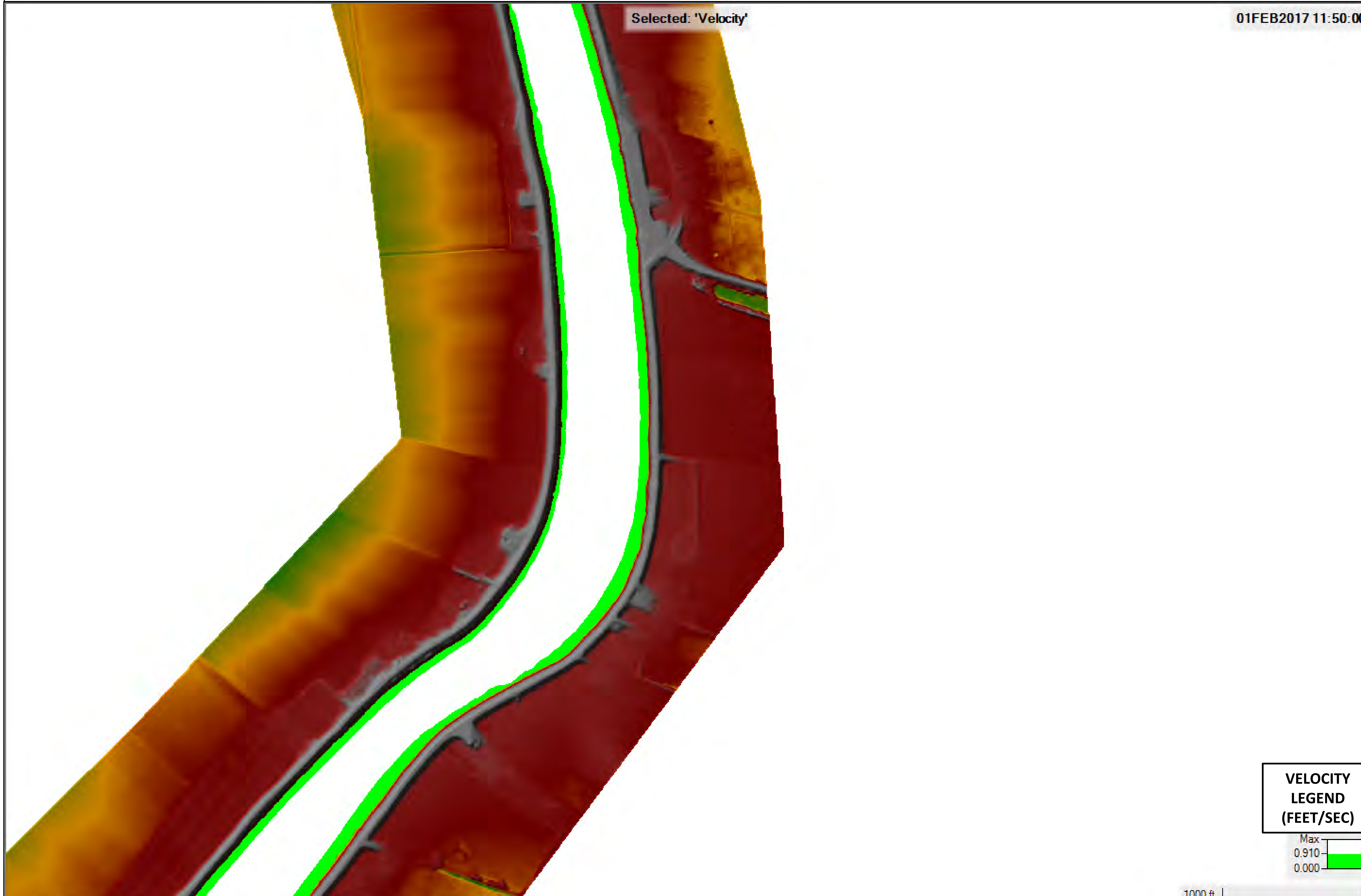
RUN 4B – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



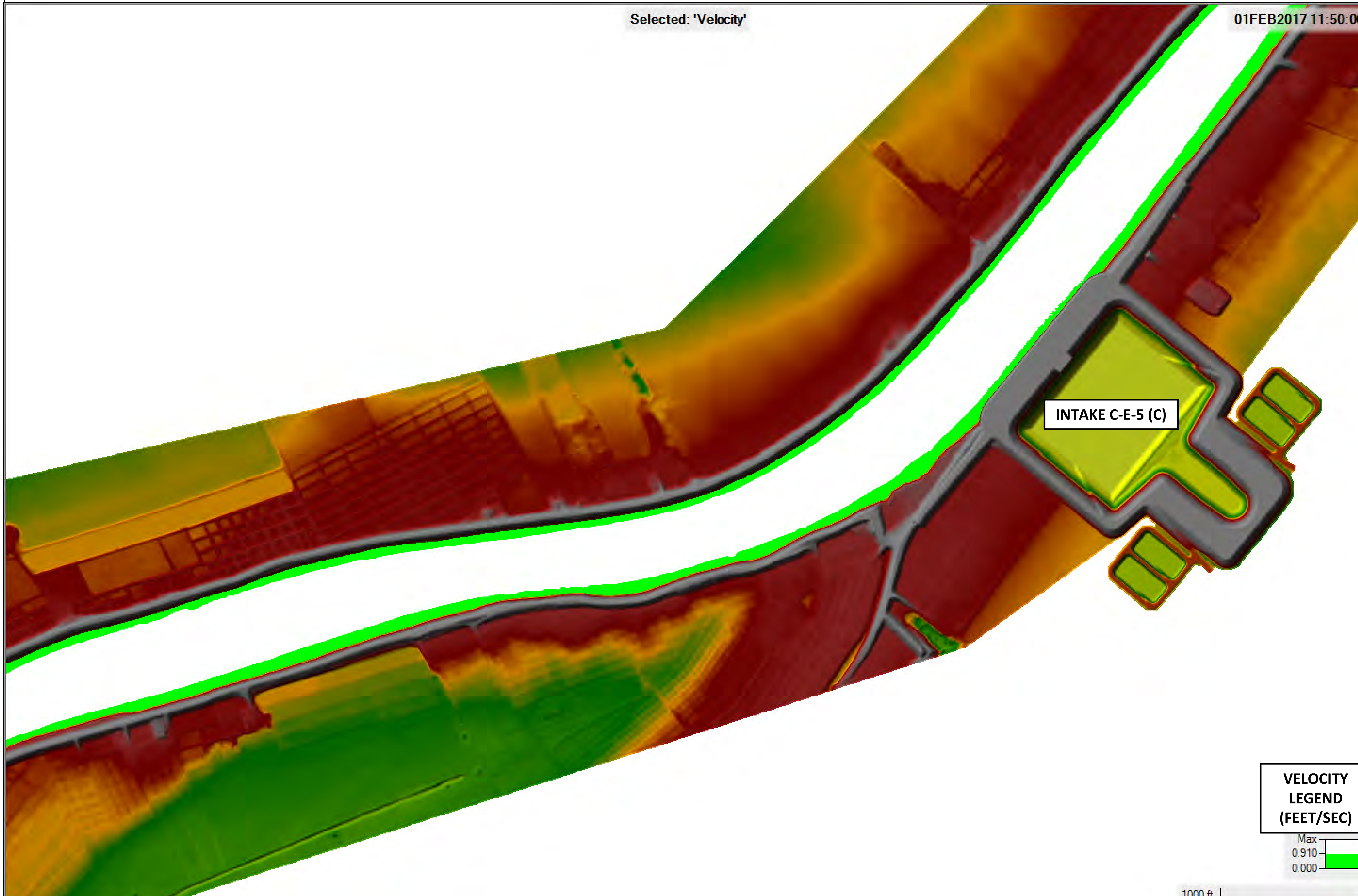
RUN 4B – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



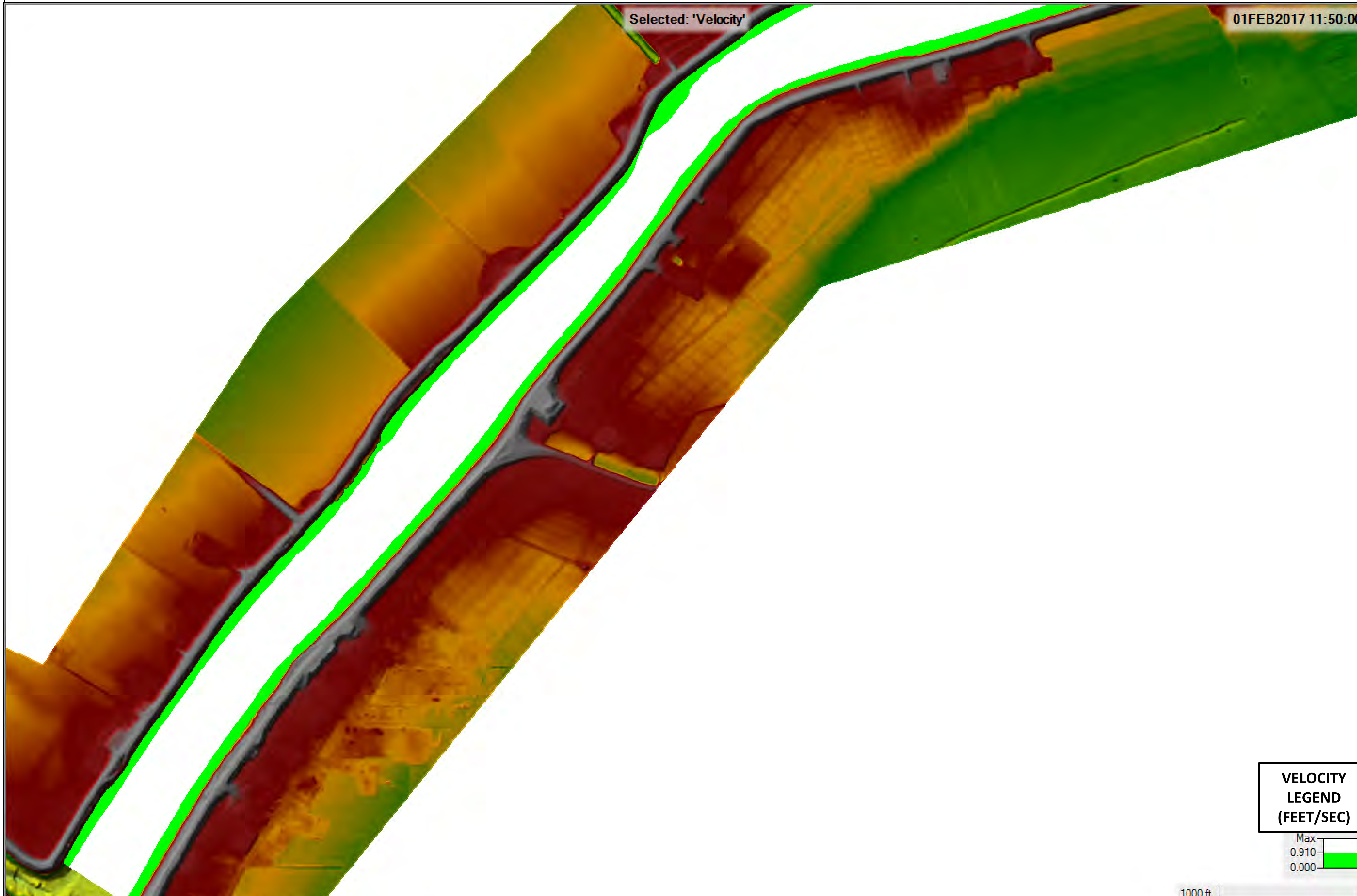
RUN 4B – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4B – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

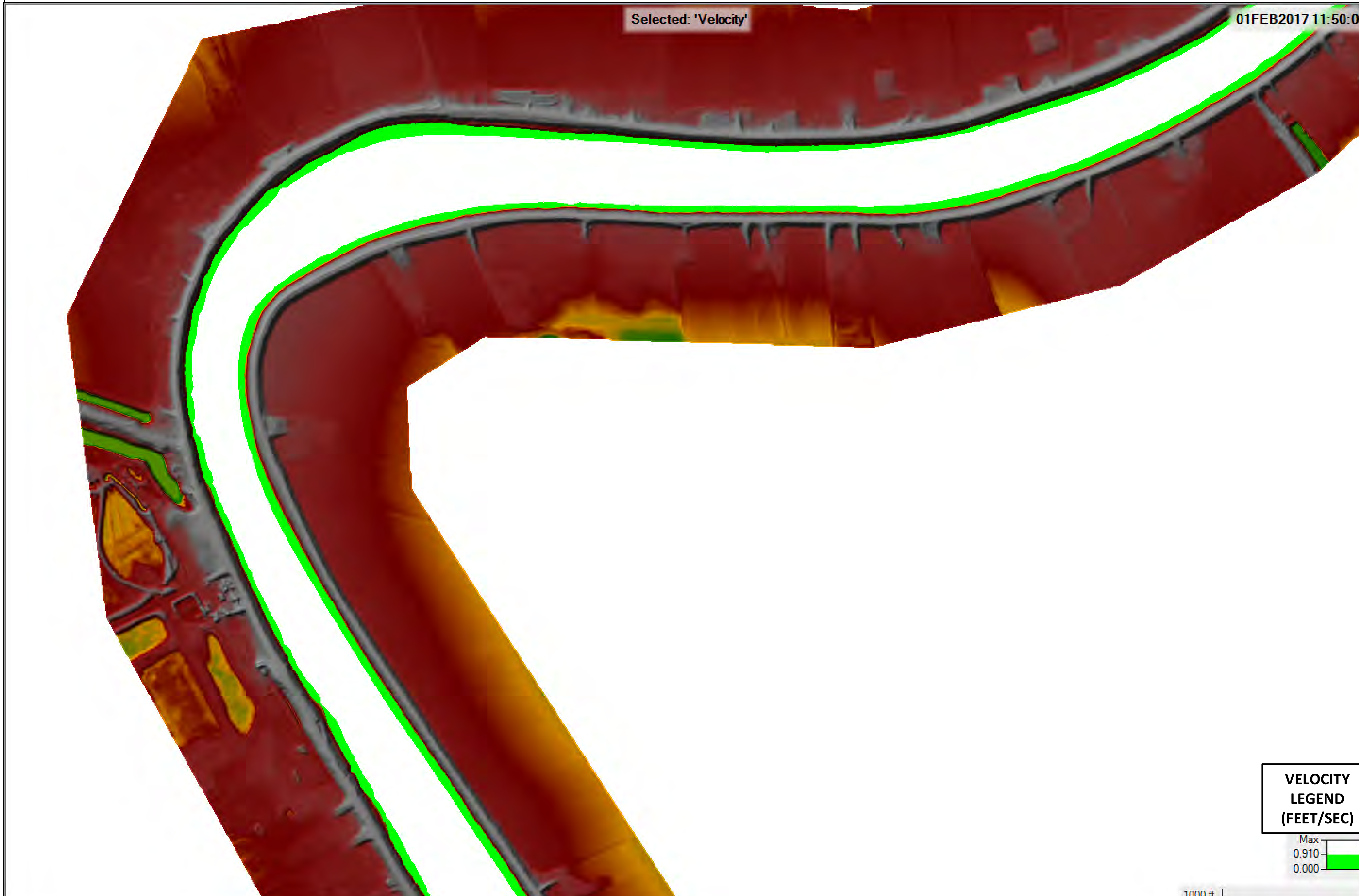
MODEL SCENARIO WITH INTAKES 3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4C

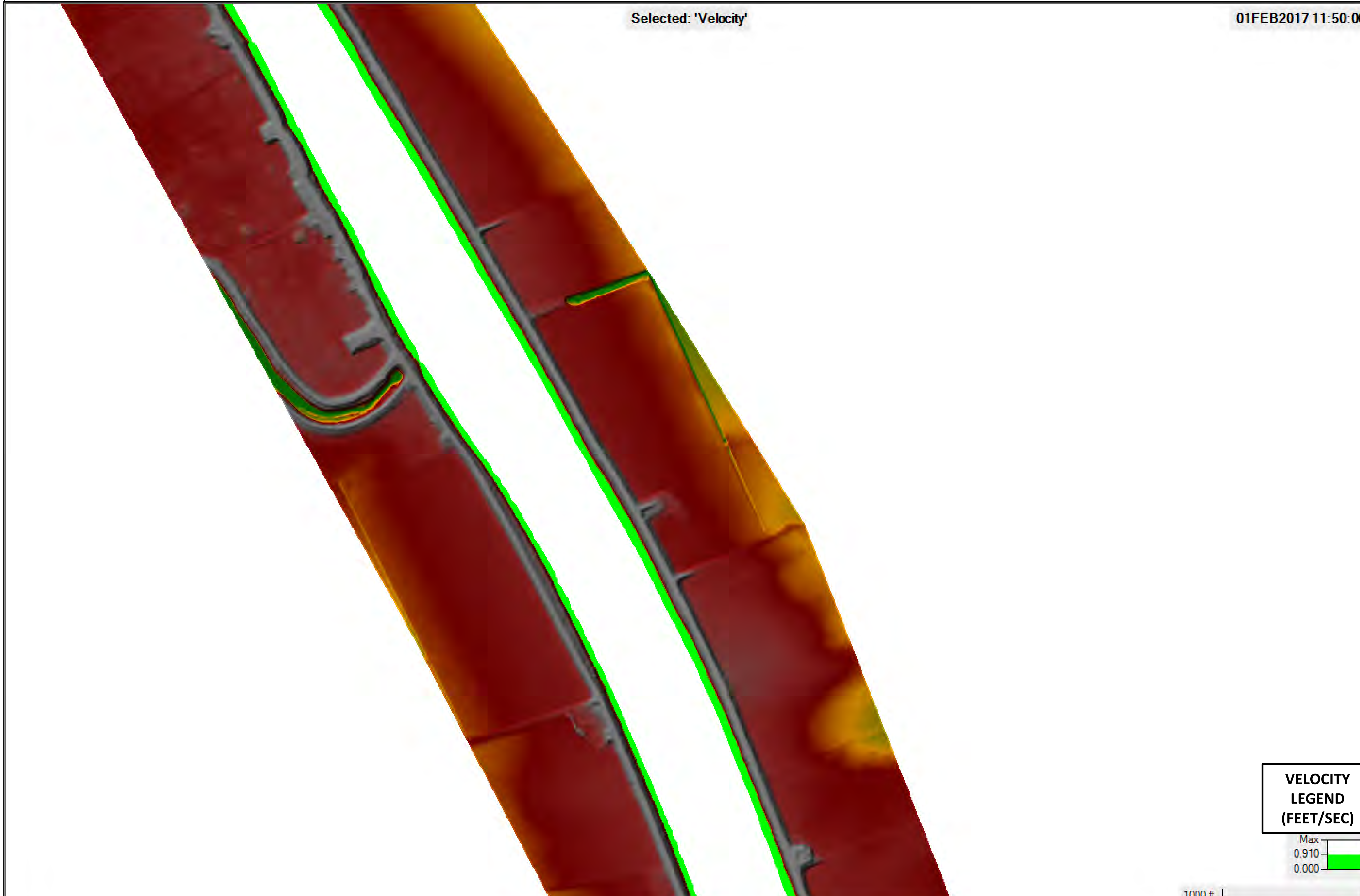
RUN 4C – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4C – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS

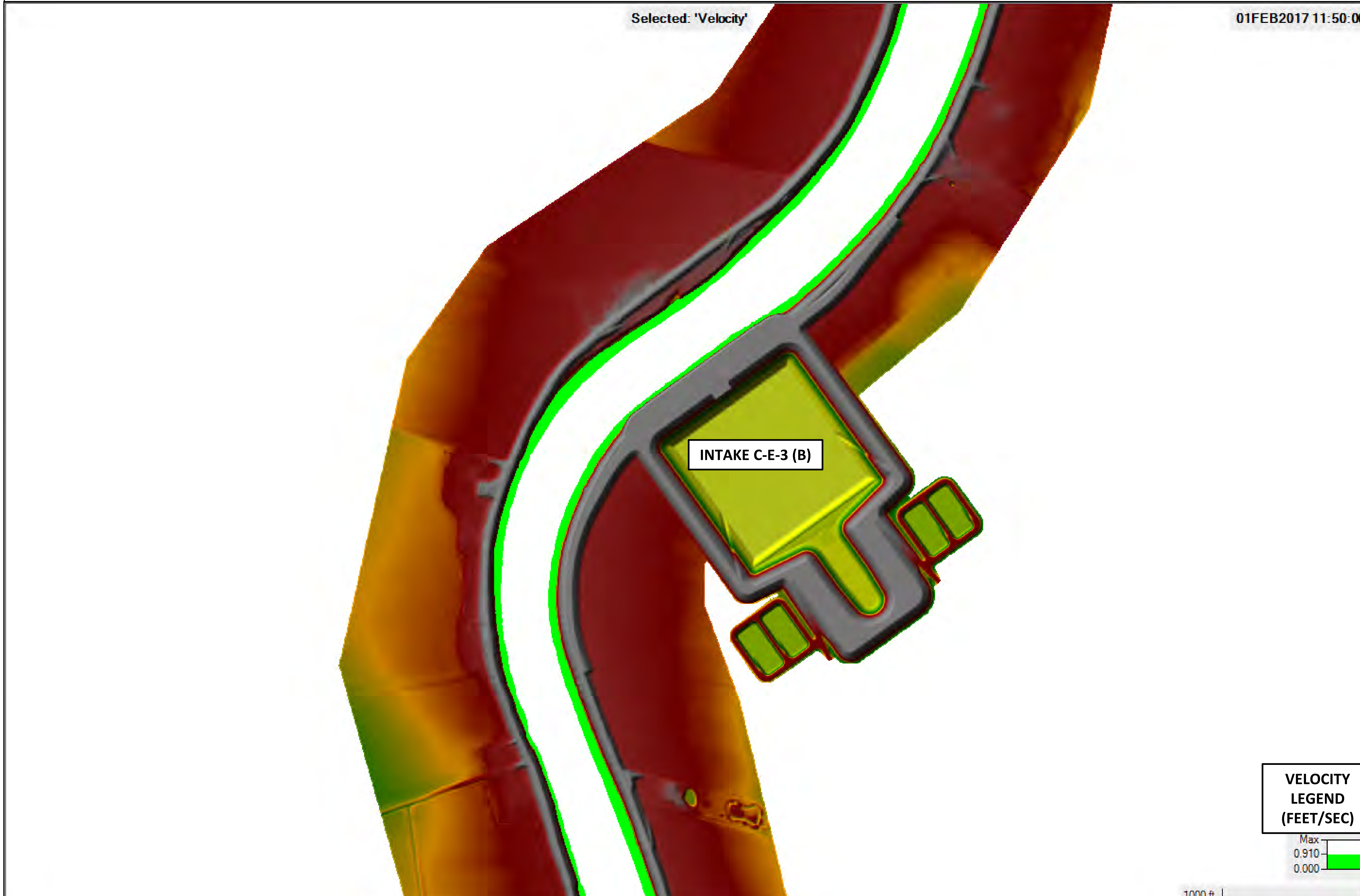


RUN 4C – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS

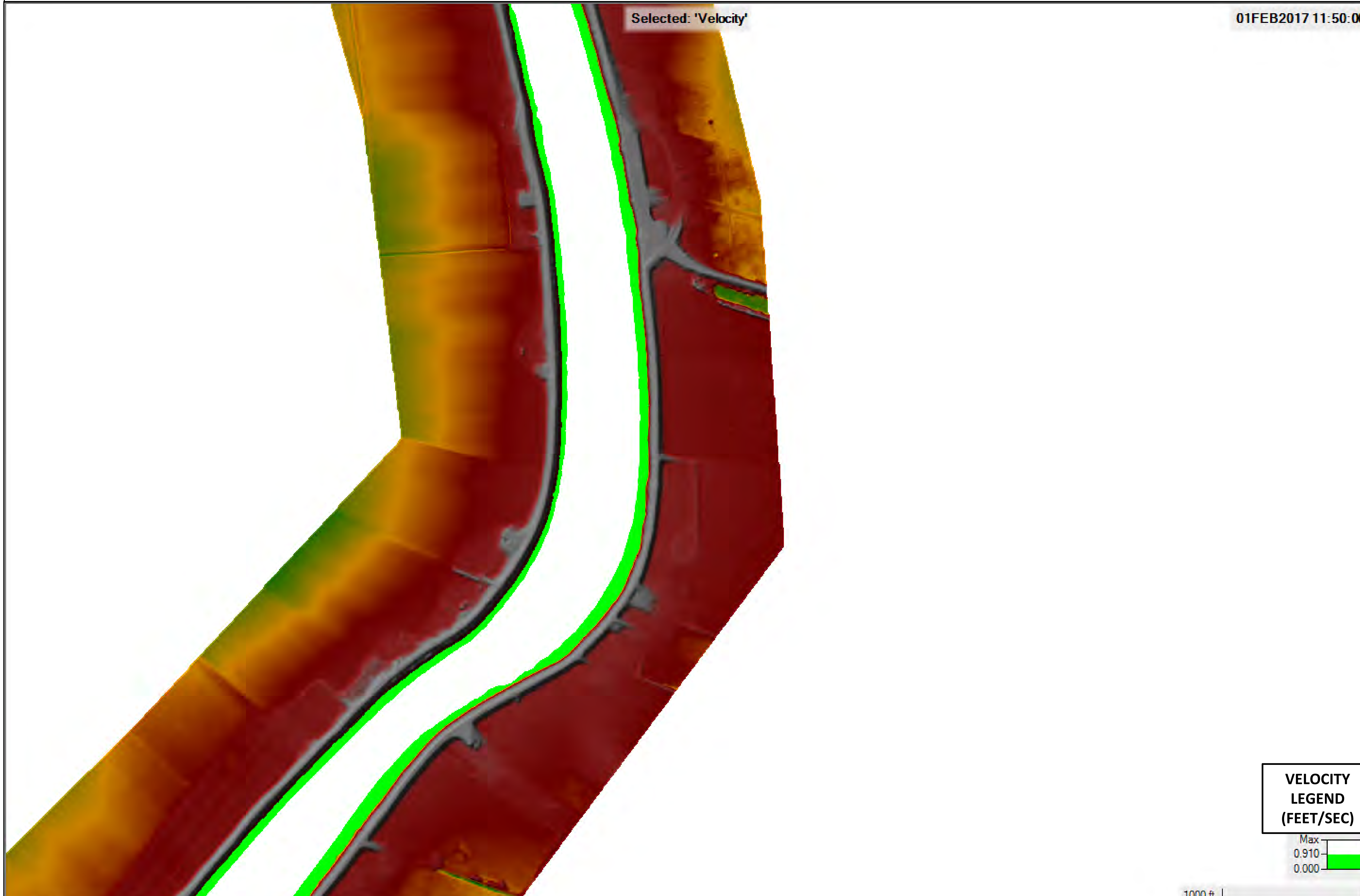
RUN 4C – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



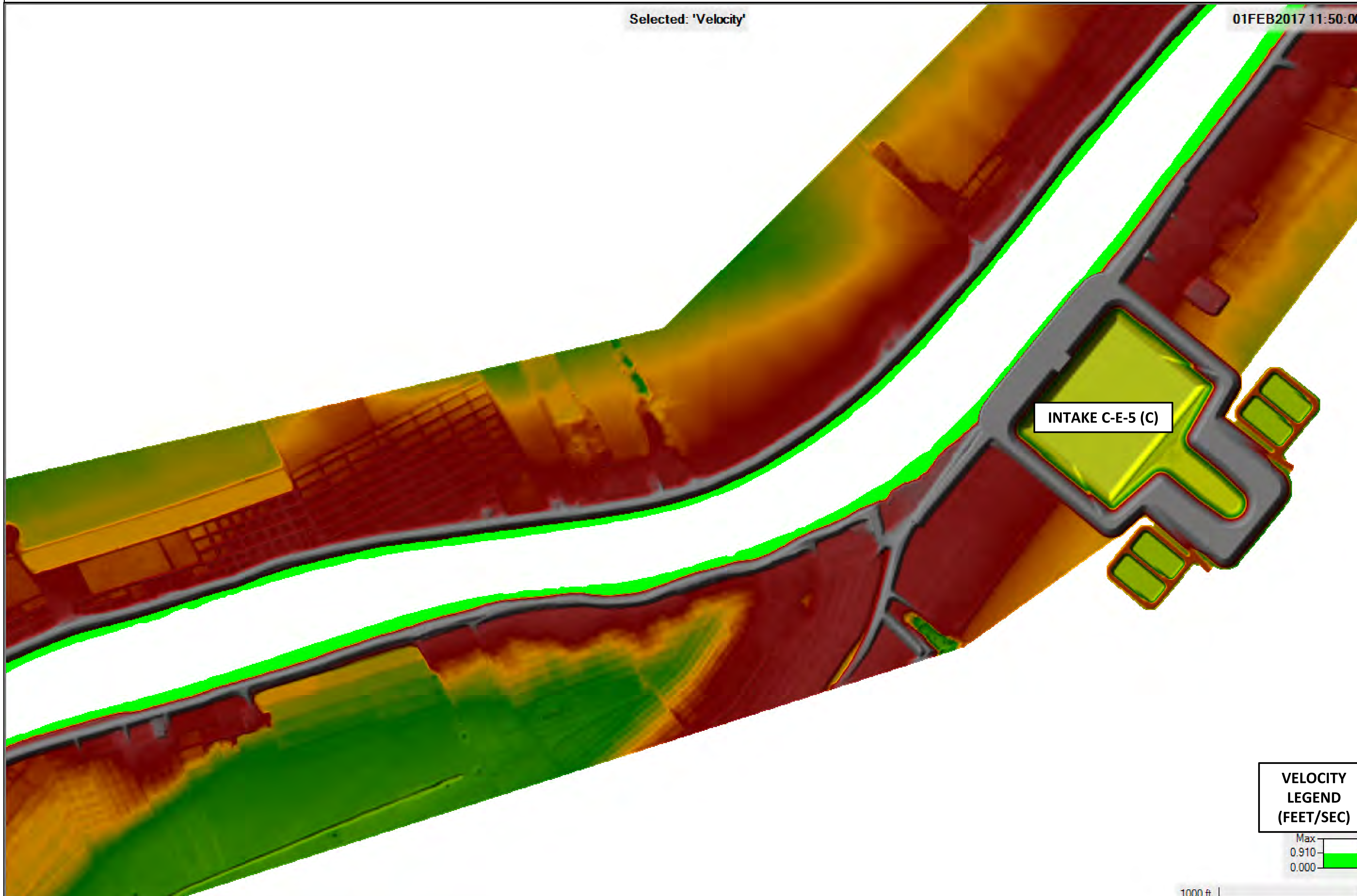
RUN 4C – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



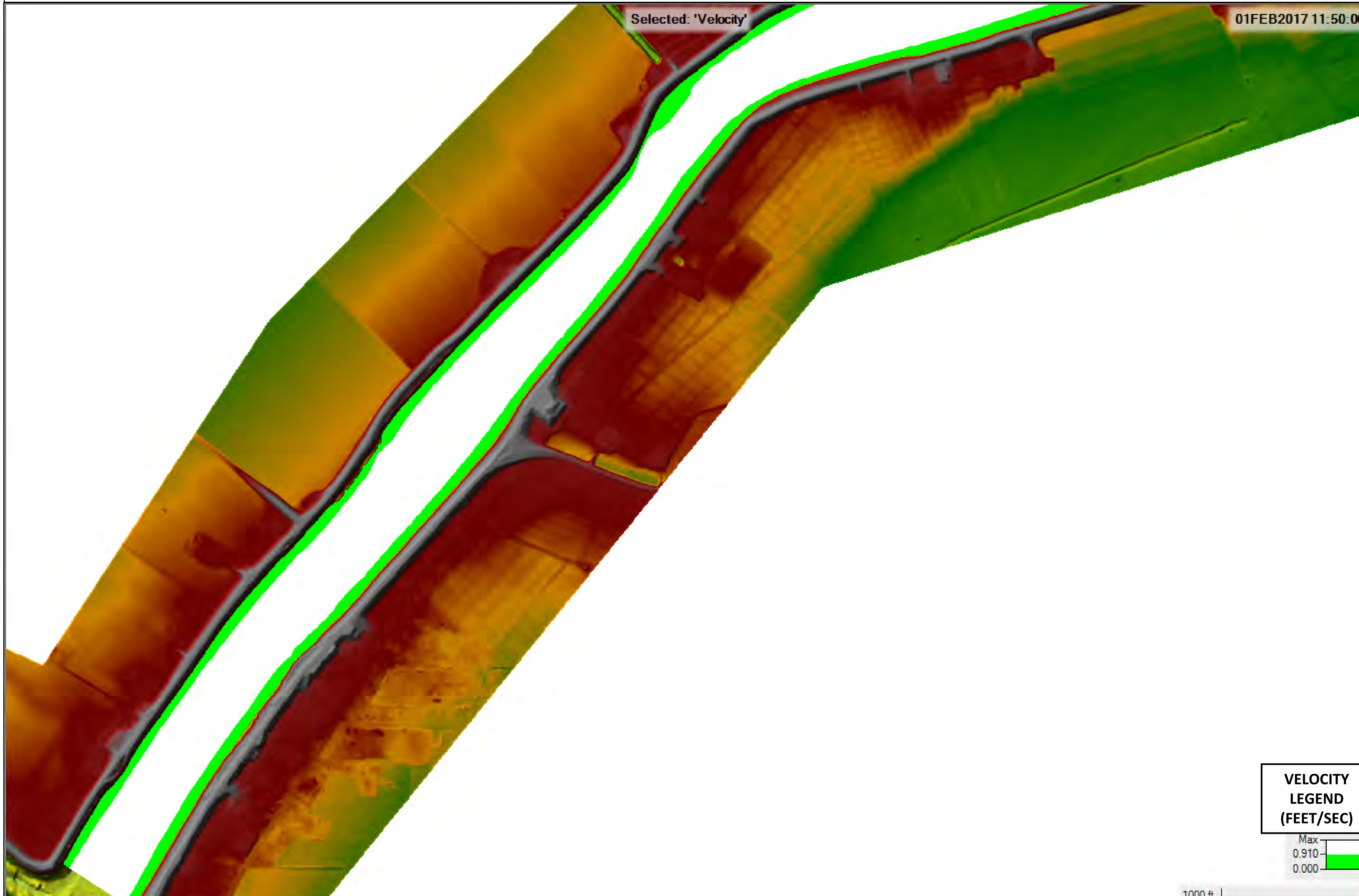
RUN 4C – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4C – WINDOW 0 7– VELOCITY PLOT > 0.91 FEET/SEC

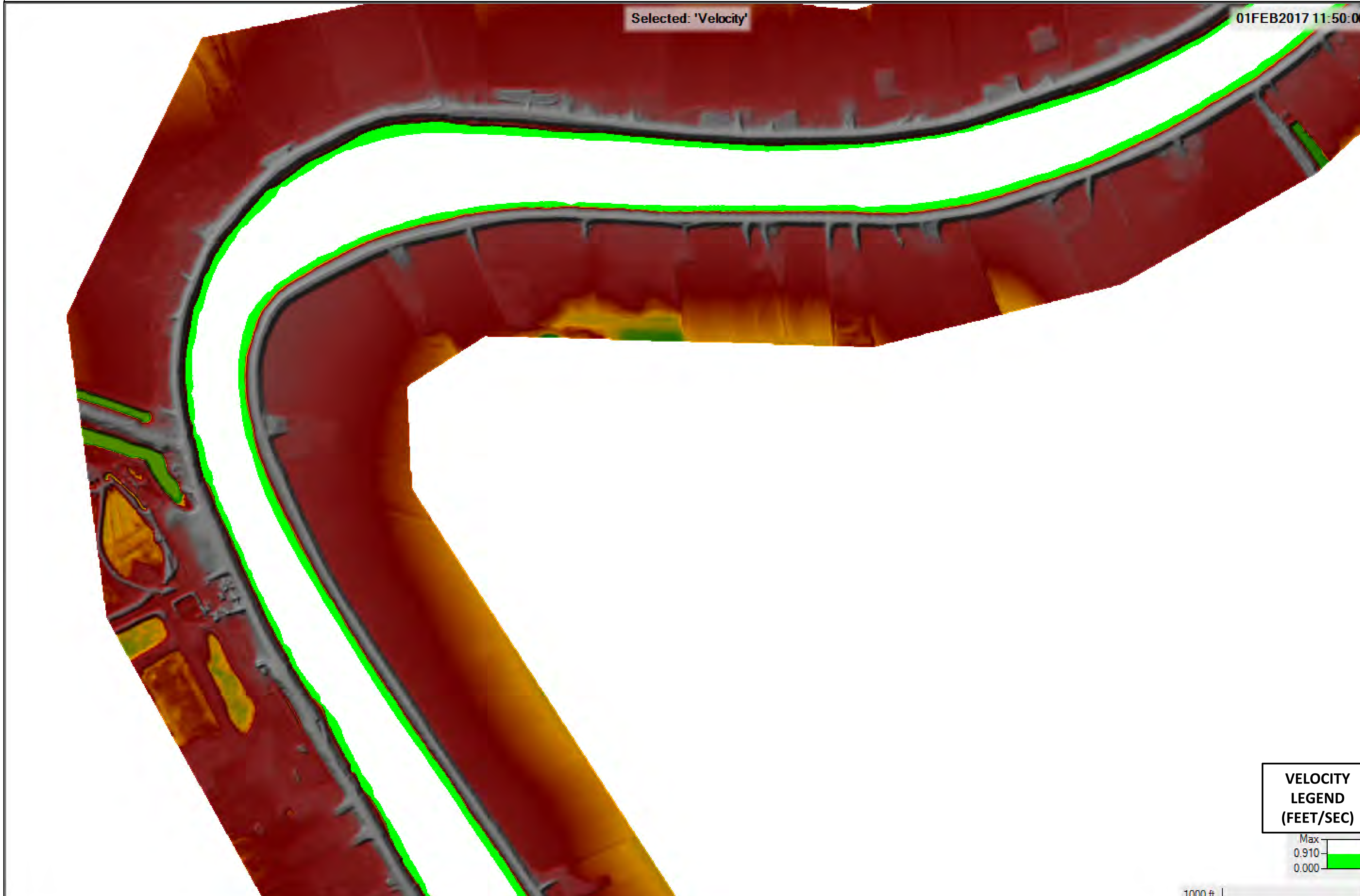
MODEL SCENARIO WITH COFFERDAM AT INTAKES 3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4D

RUN 4D – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

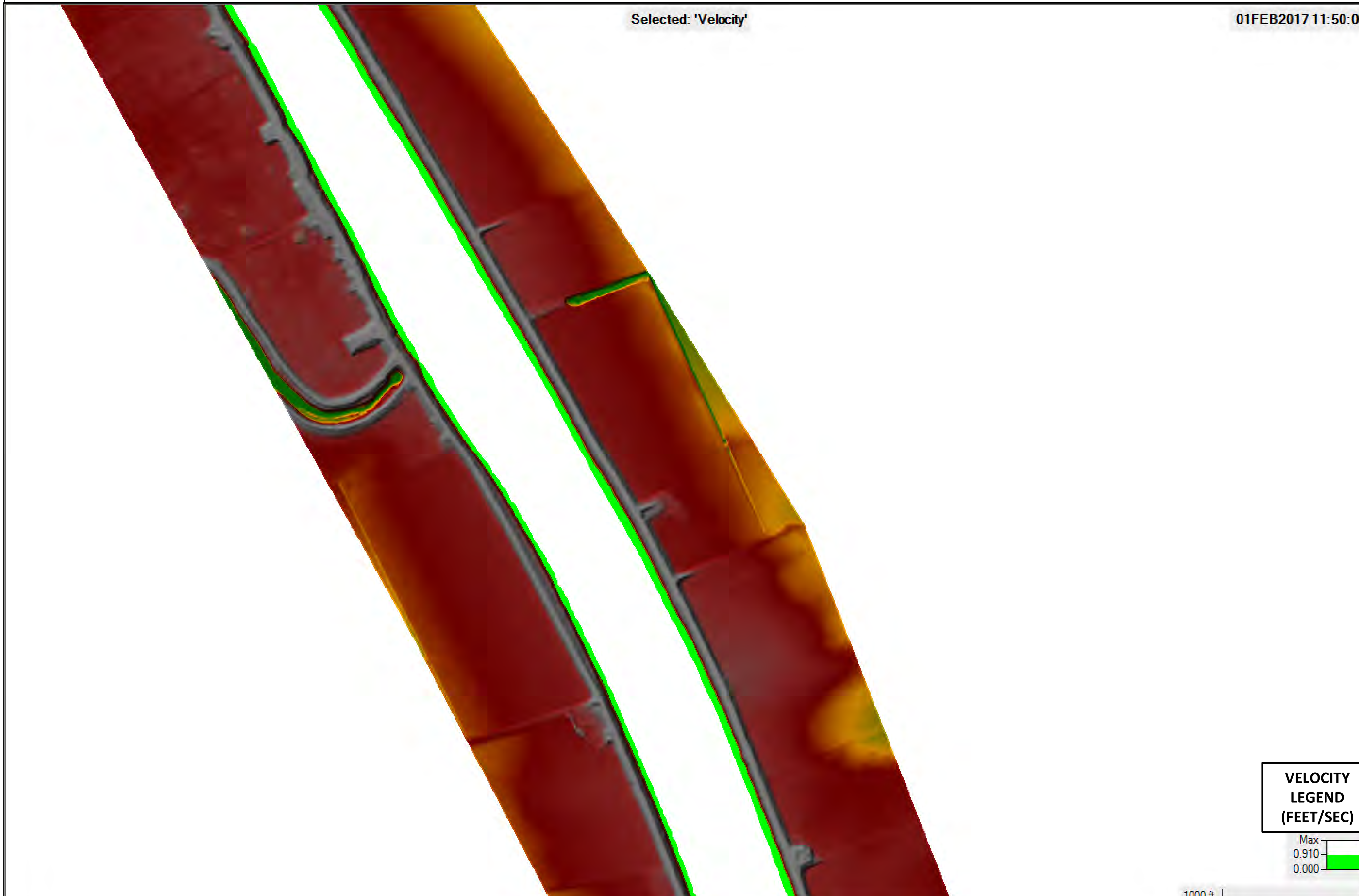
MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 18,000-CFS AT FREEPORT – TEE SCREENS



VELOCITY LEGEND (FEET/SEC)

RUN 4D – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 18,000-CFS AT FREEPORT – TEE SCREENS

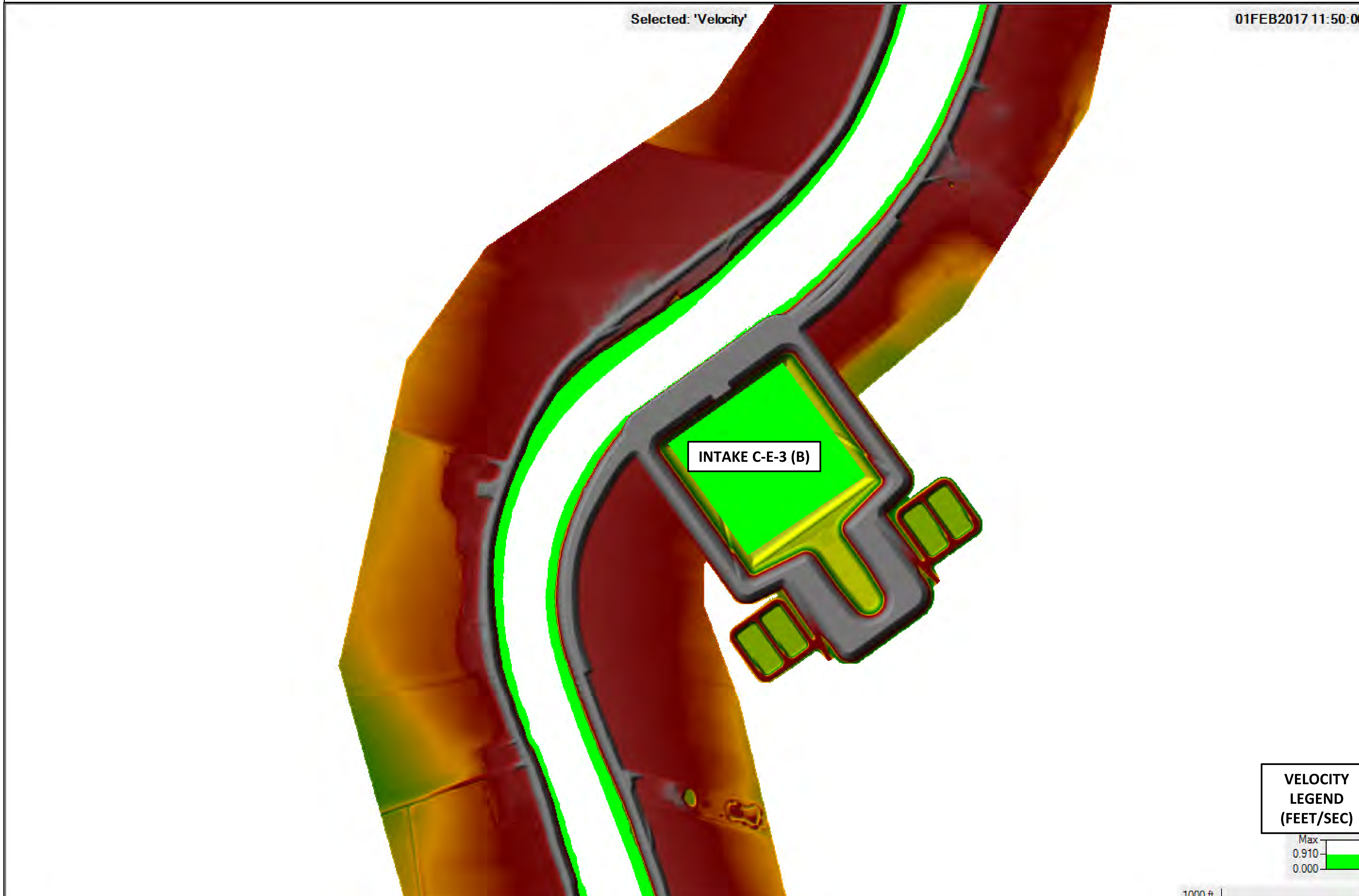


RUN 4D – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 18,000-CFS AT FREEPORT – TEE SCREENS

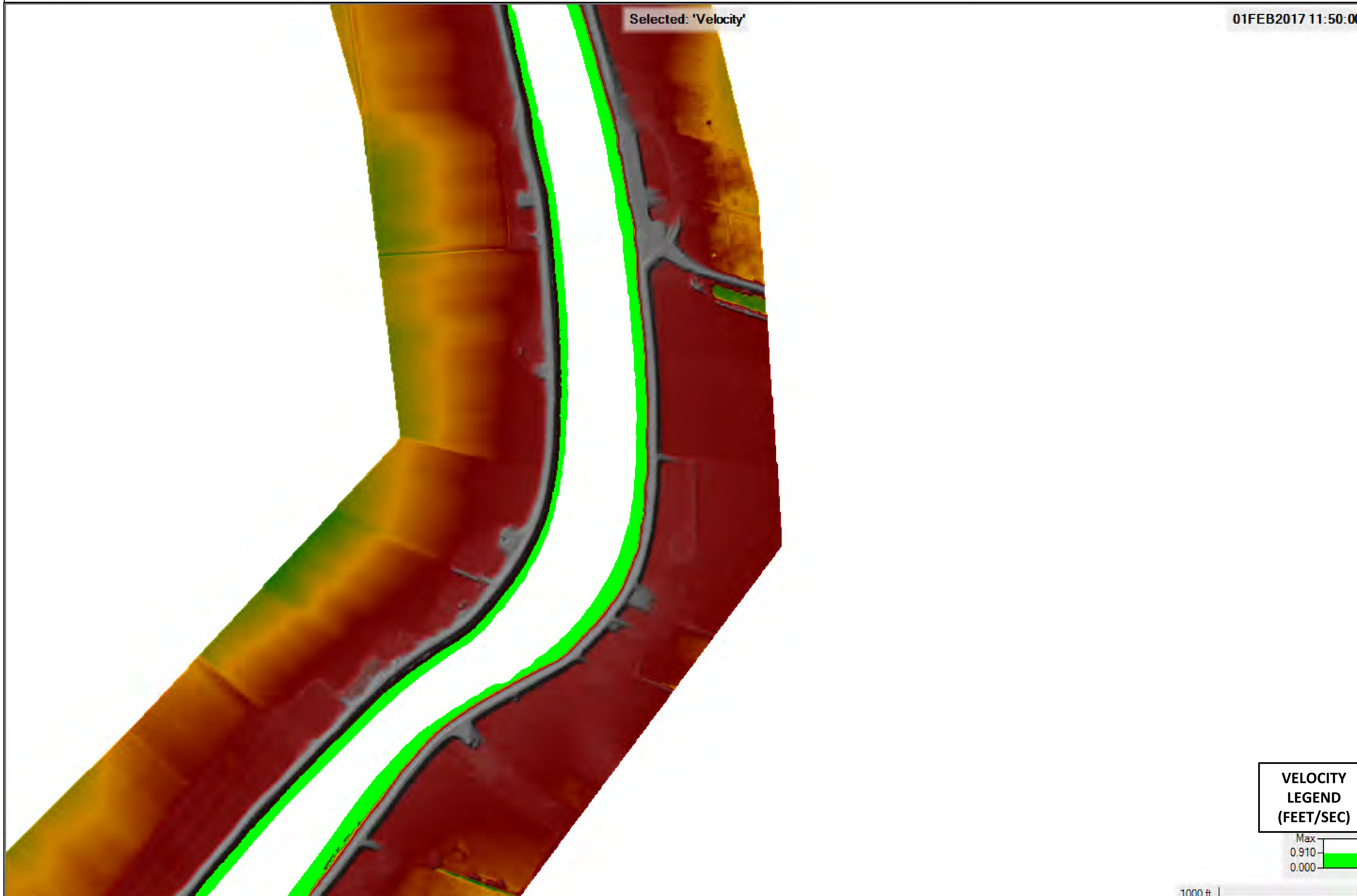
RUN 4D – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 18,000-CFS AT FREEPORT – TEE SCREENS



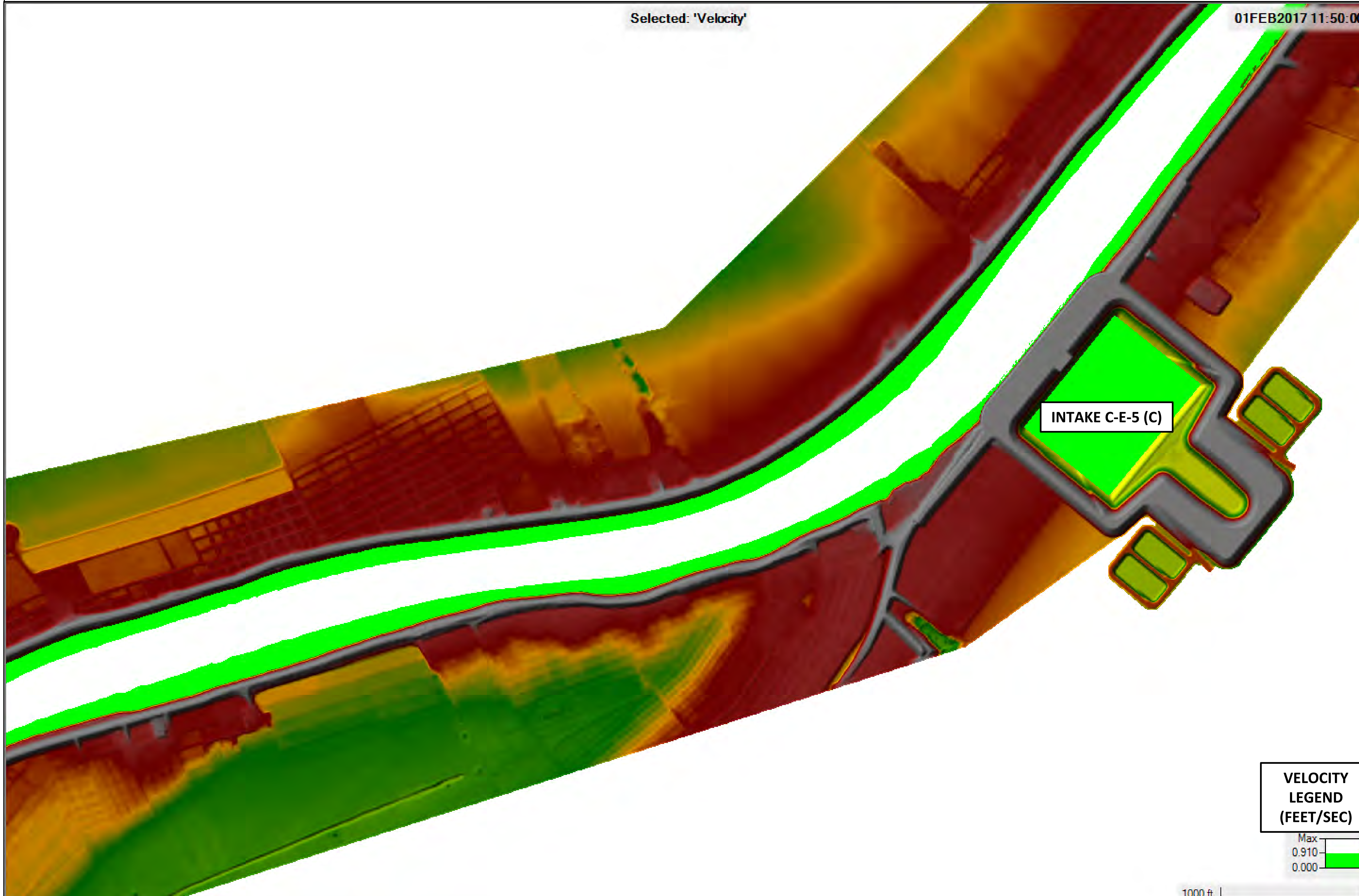
RUN 4D – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 18,000-CFS AT FREEPORT – TEE SCREENS



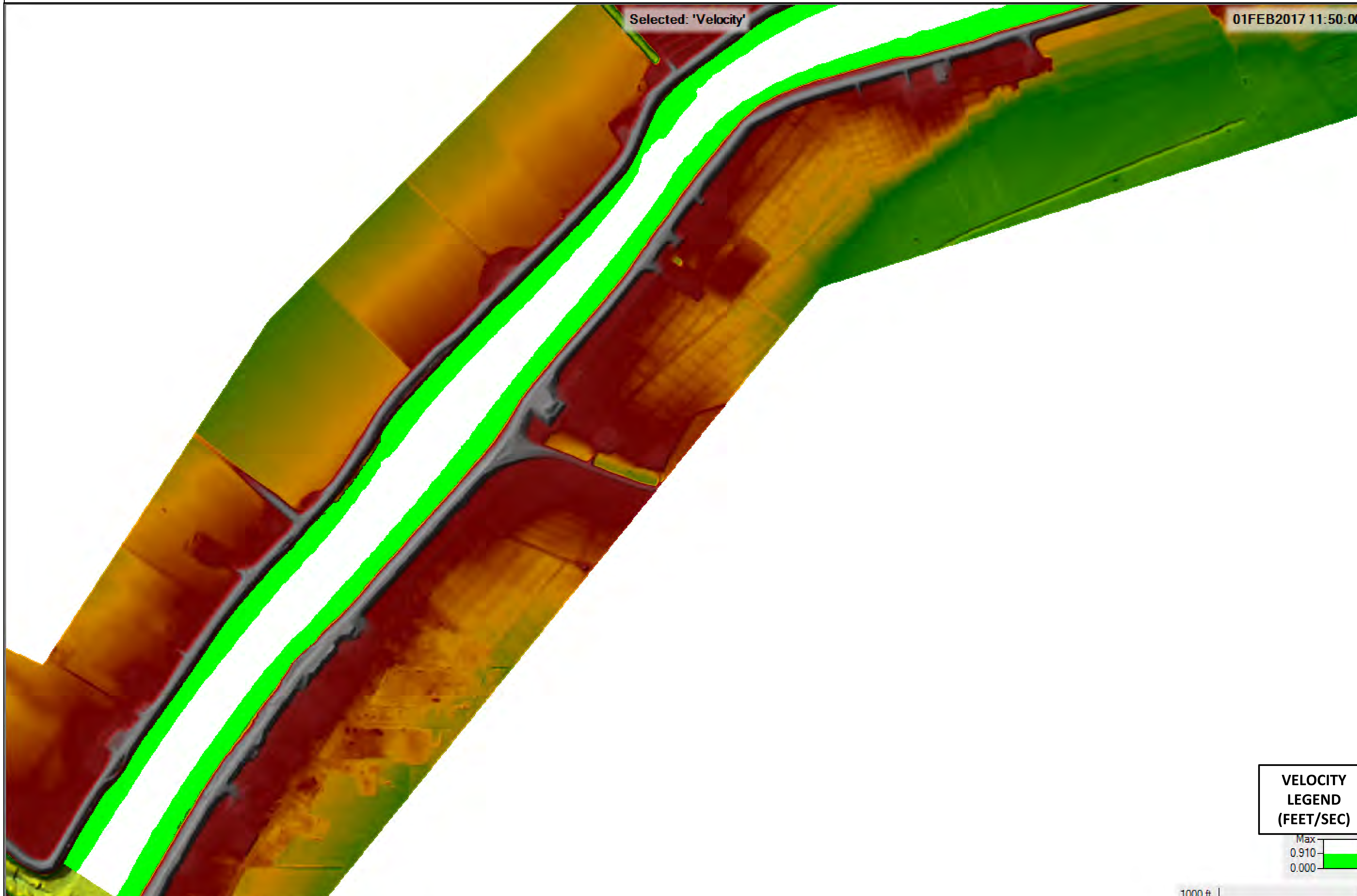
RUN 4D – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4D – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

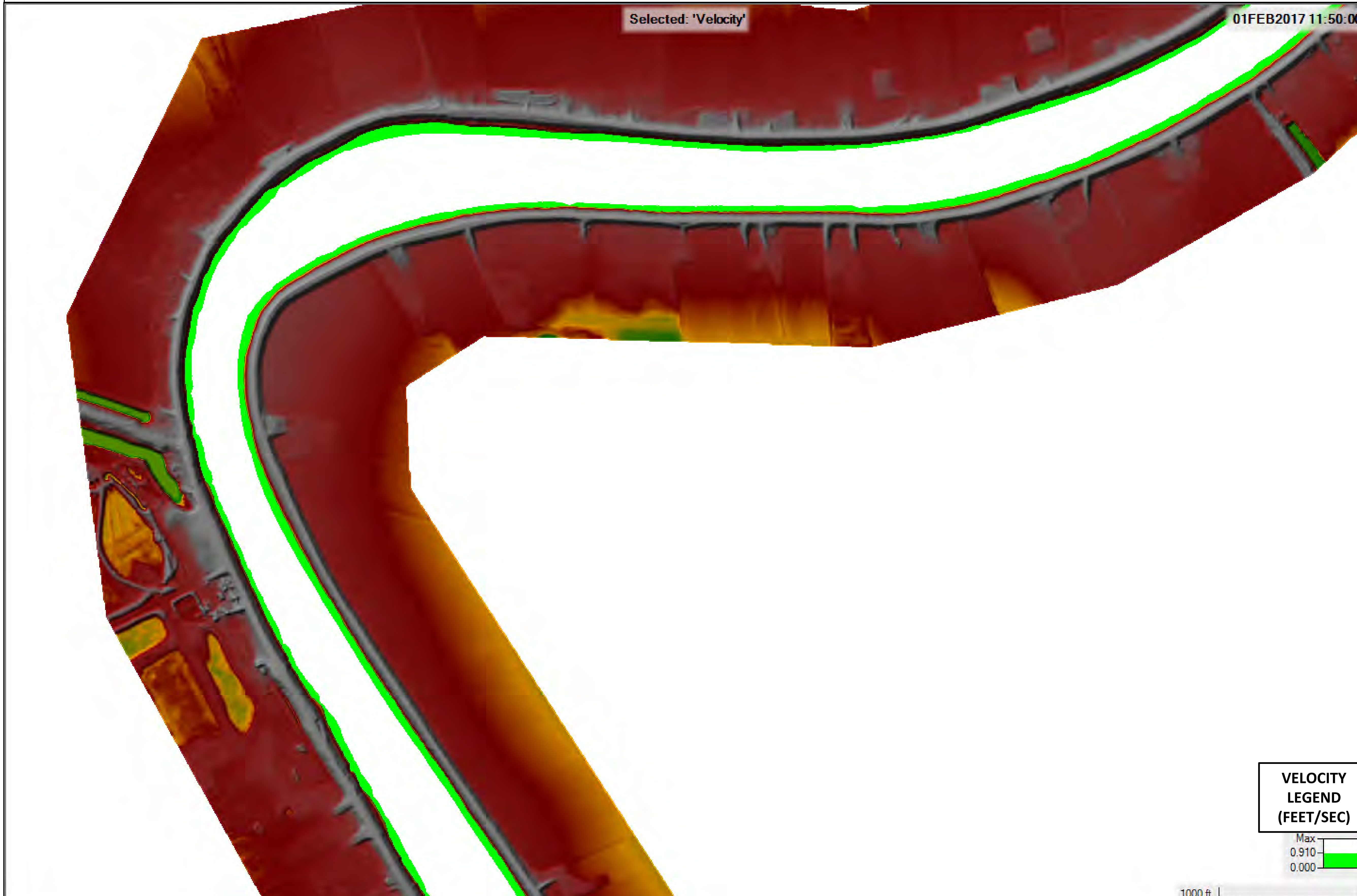
MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4E

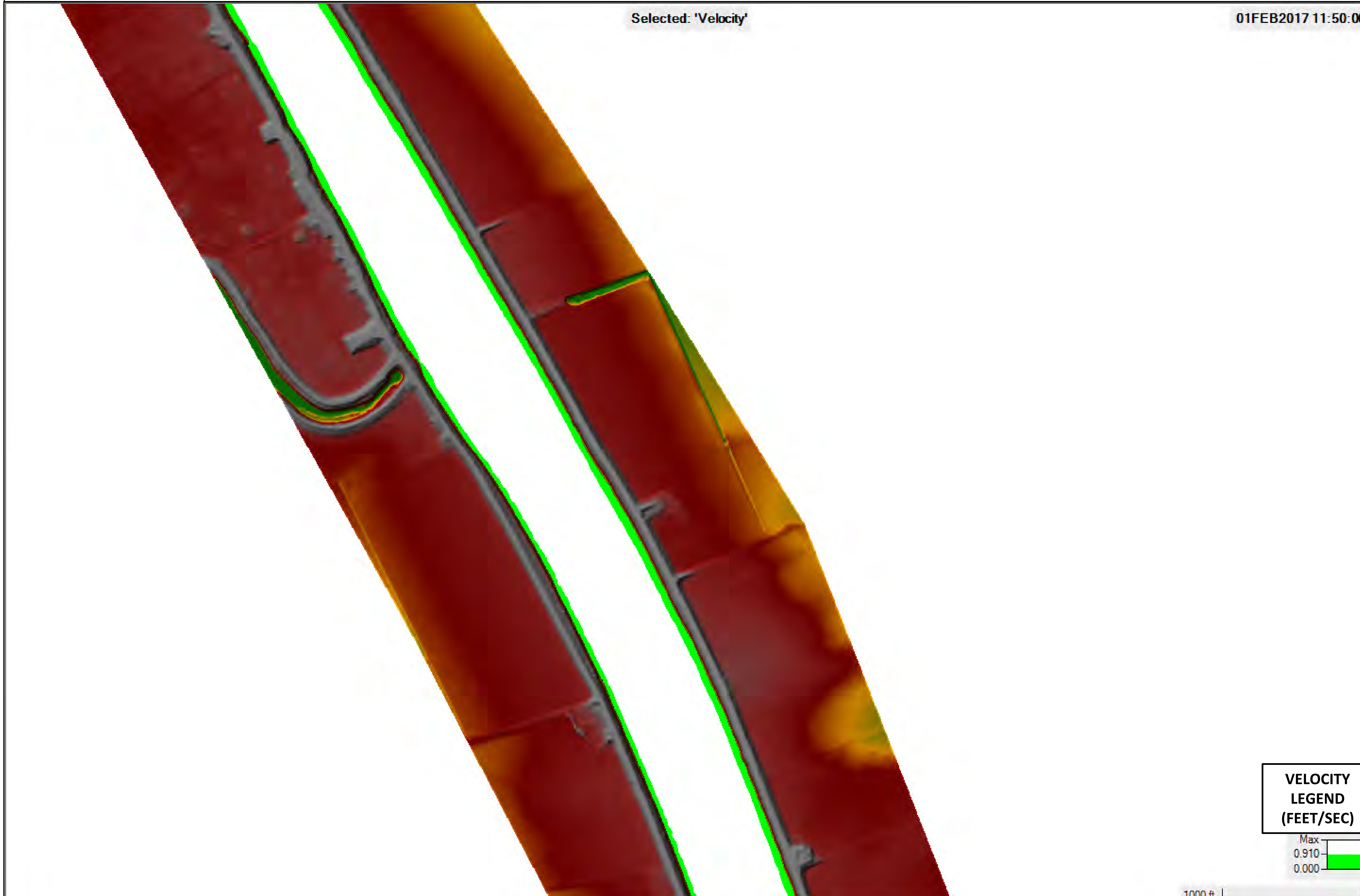
RUN 4E – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4E – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



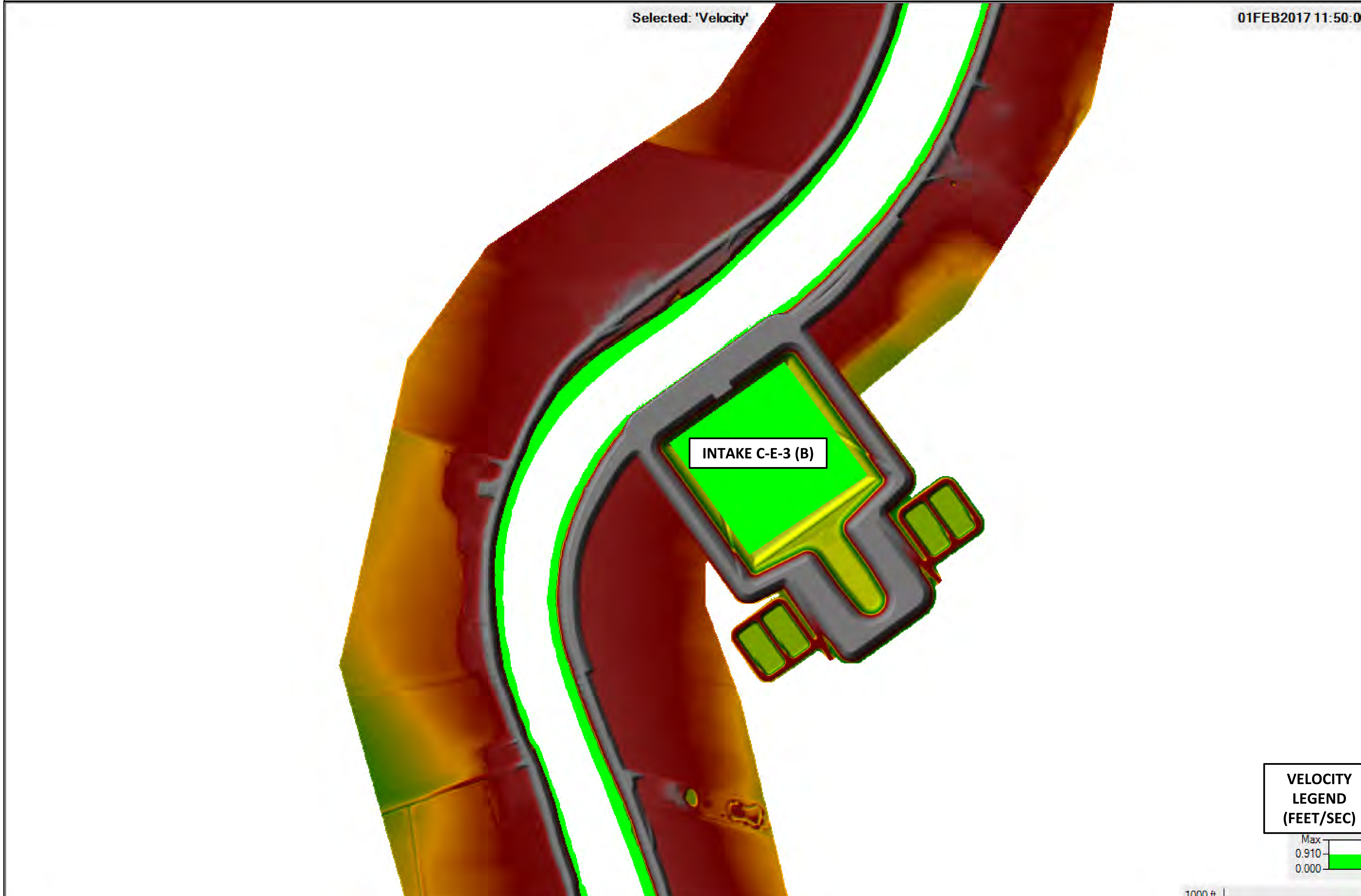
RUN 4E – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS

VELOCITY LEGEND (FEET/SEC)

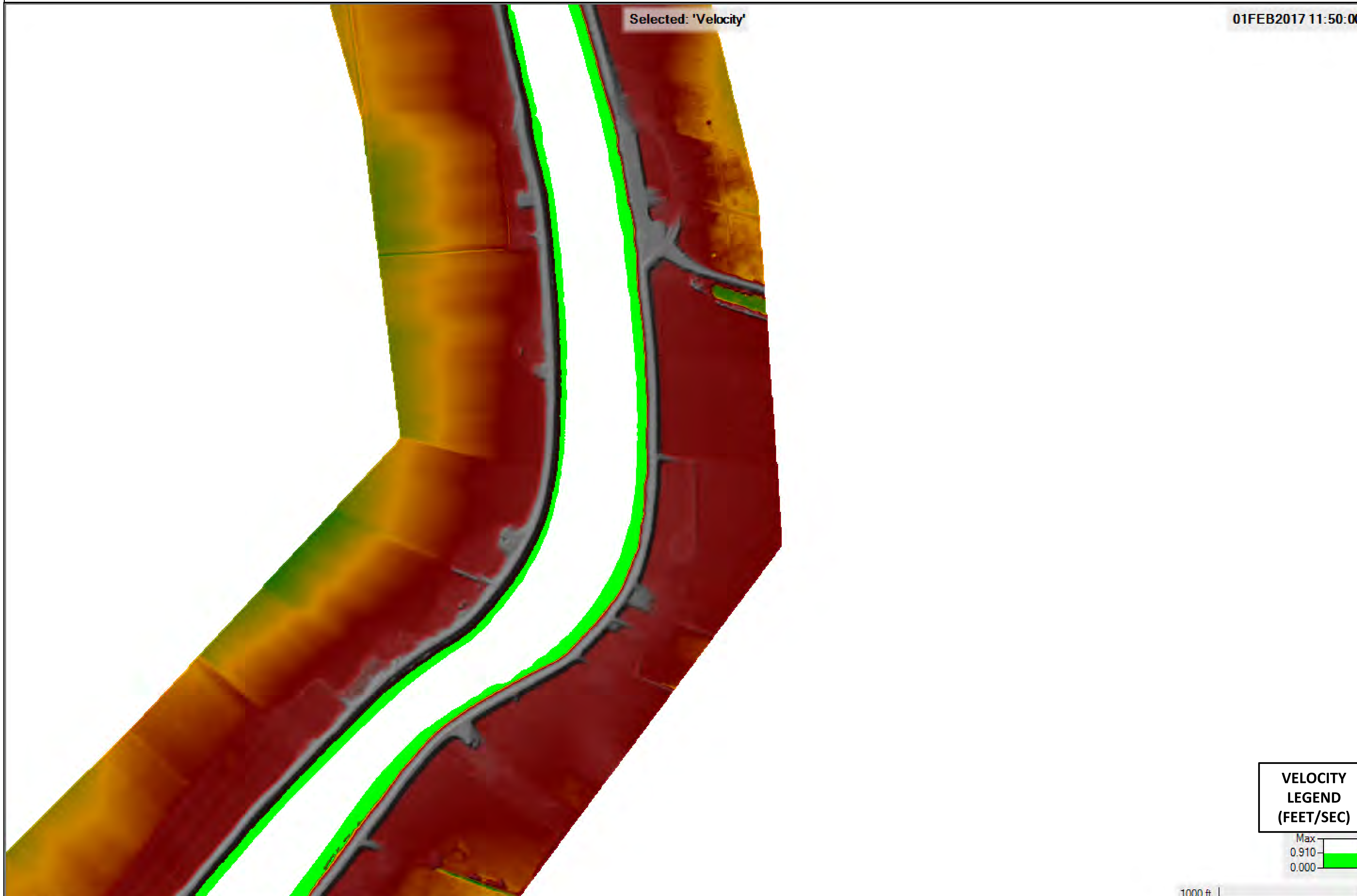
RUN 4E – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



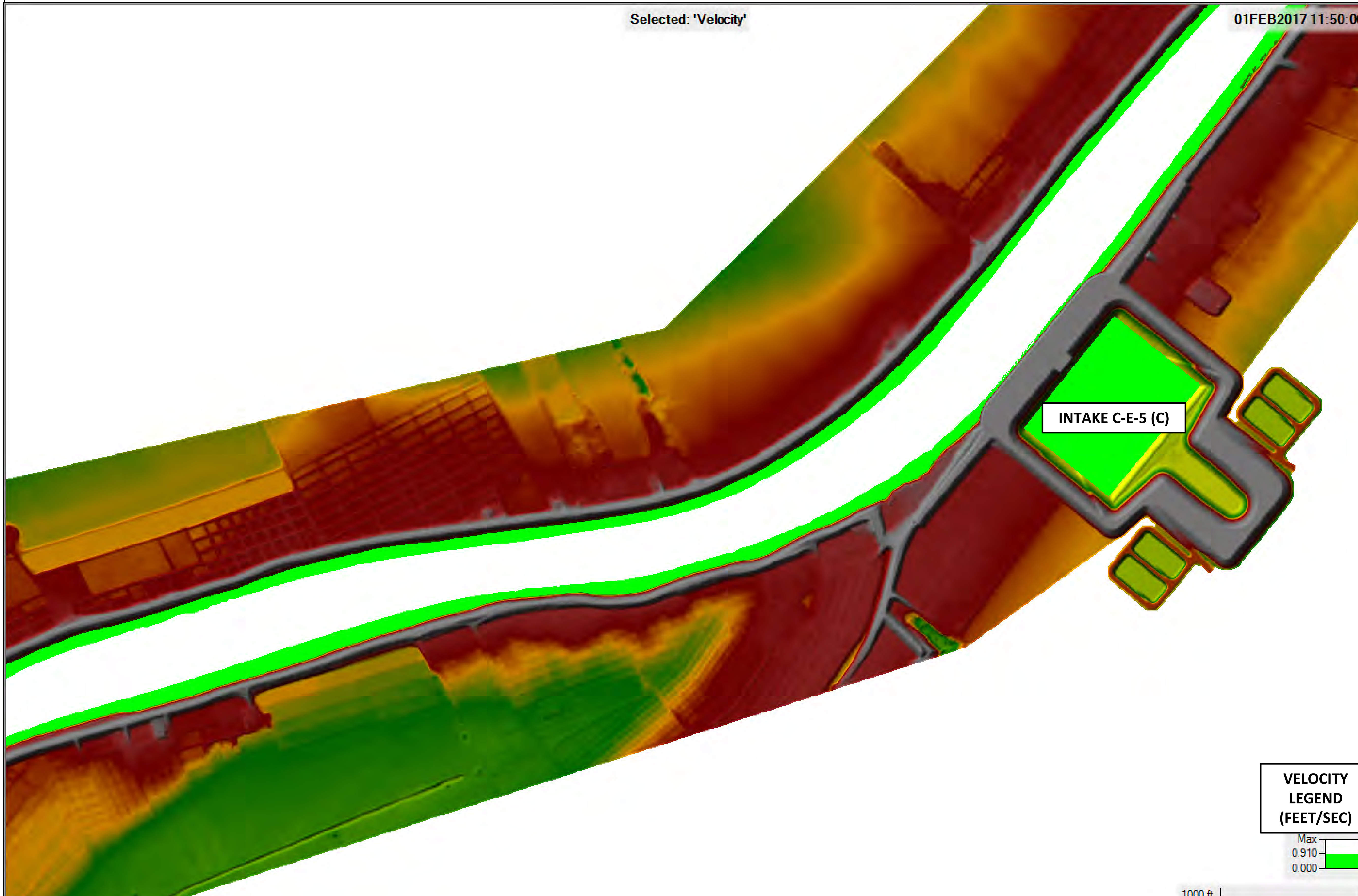
RUN 4E – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



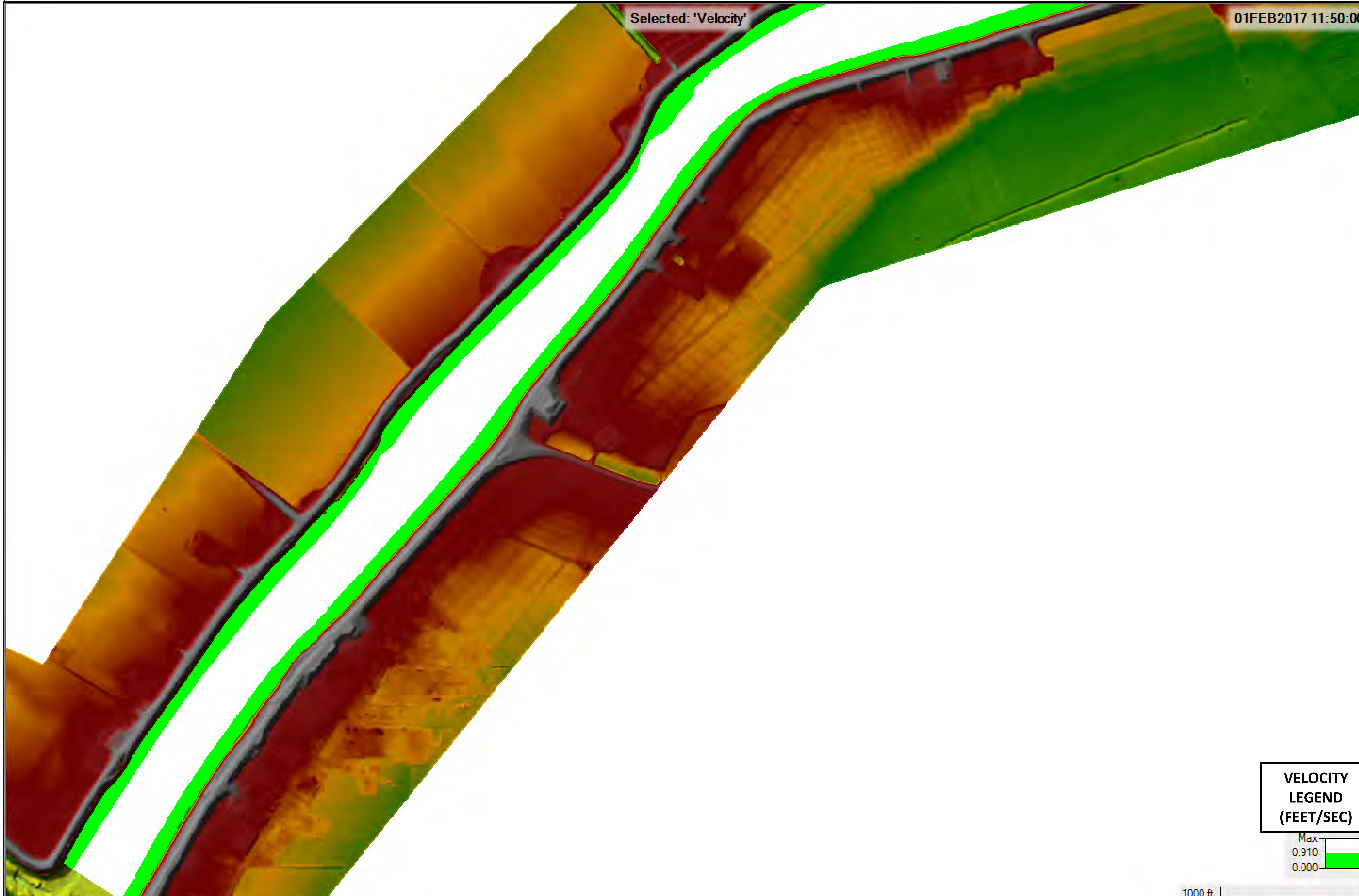
RUN 4E – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4E – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

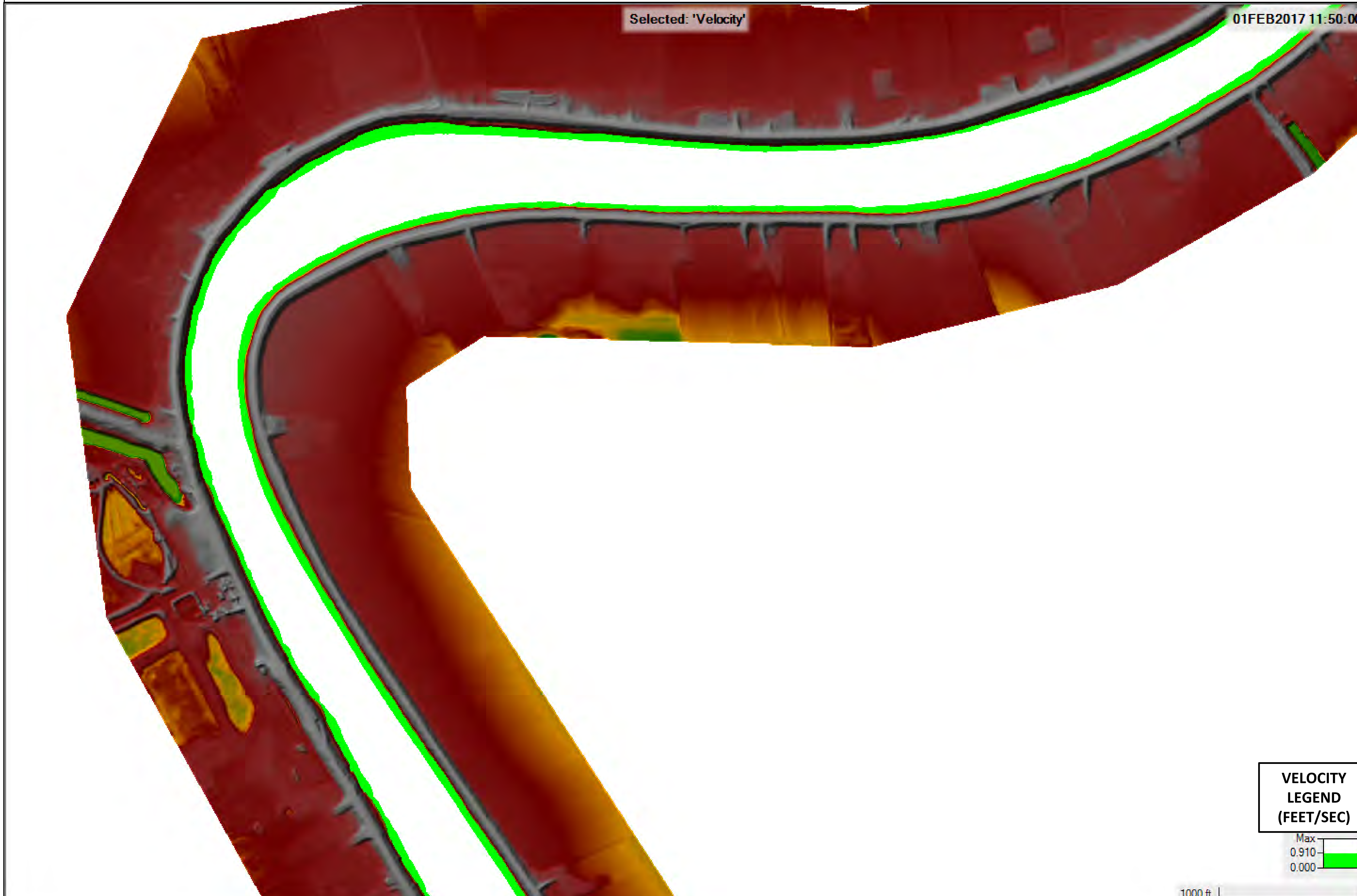
MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 2,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4F

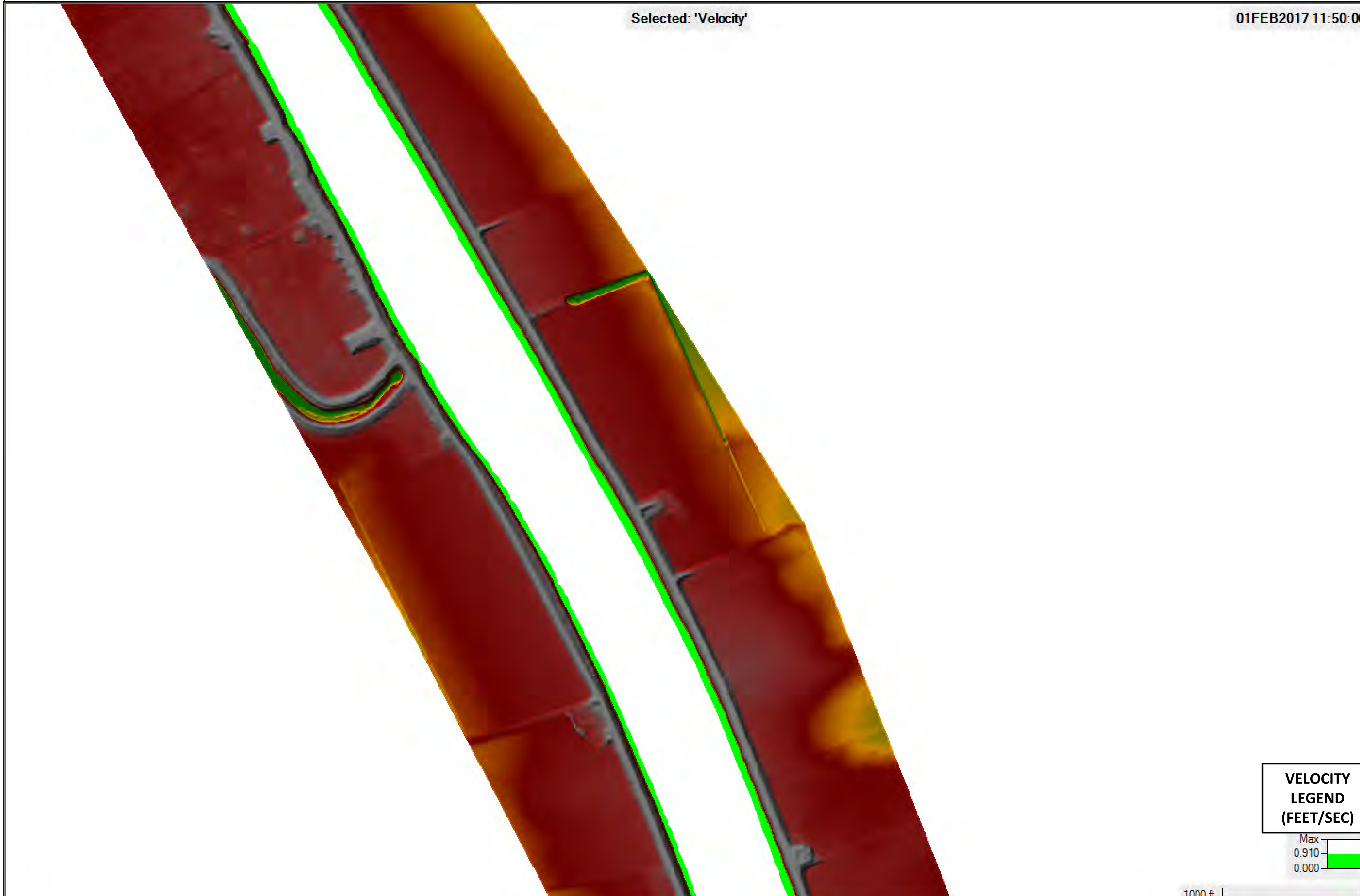
RUN 4F – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4F – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS

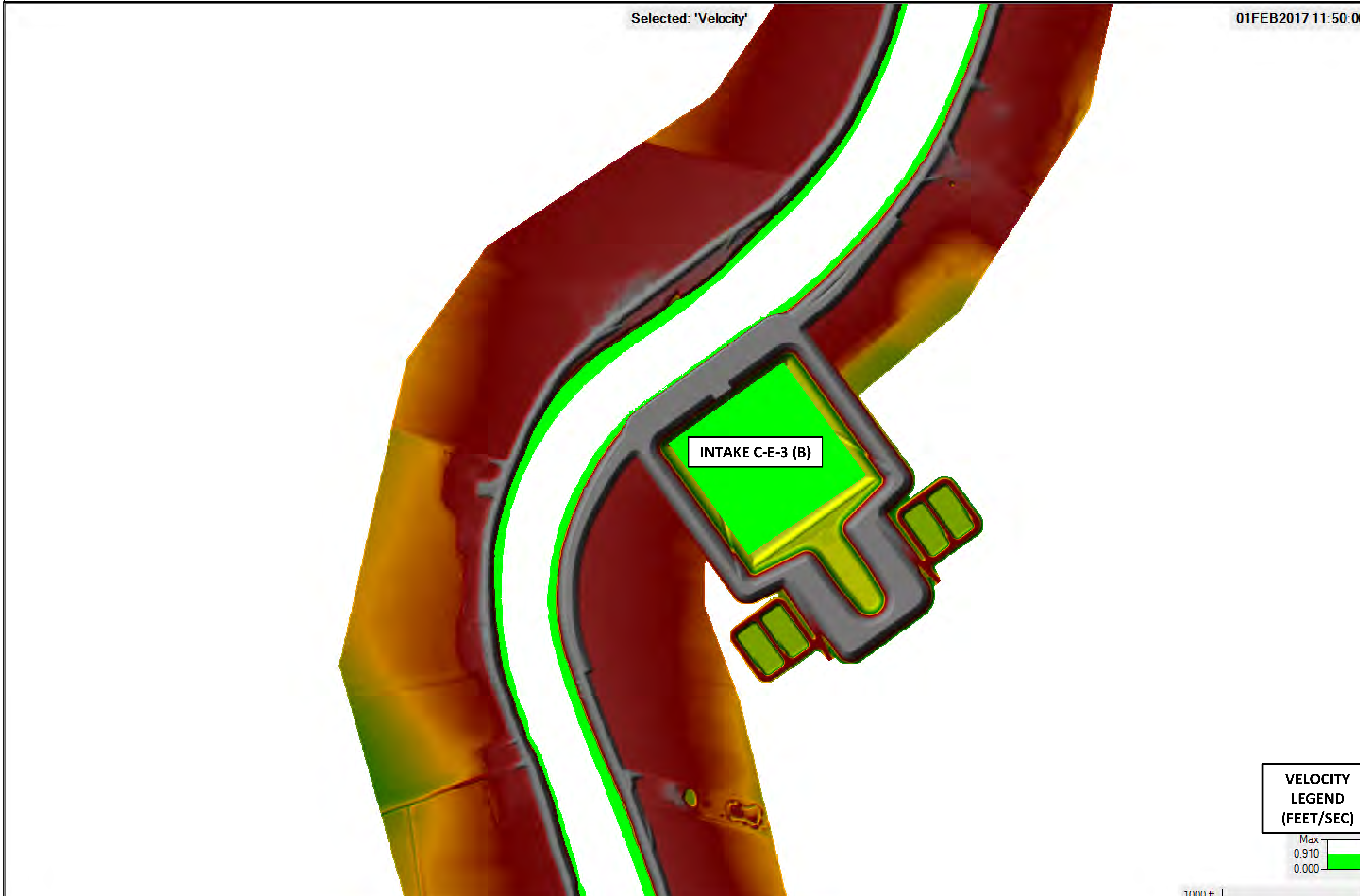


RUN 4F – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS

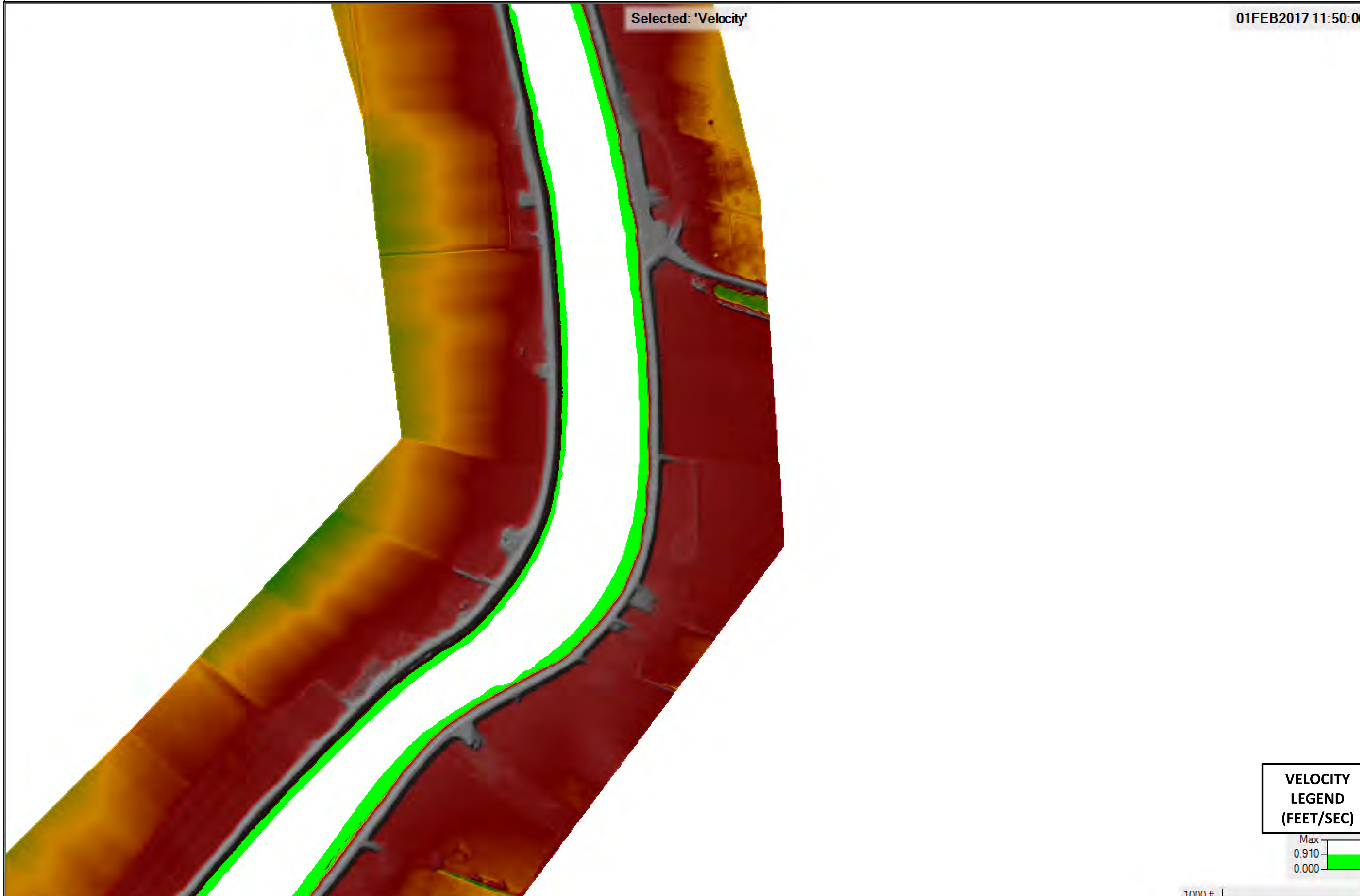
RUN 4F – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



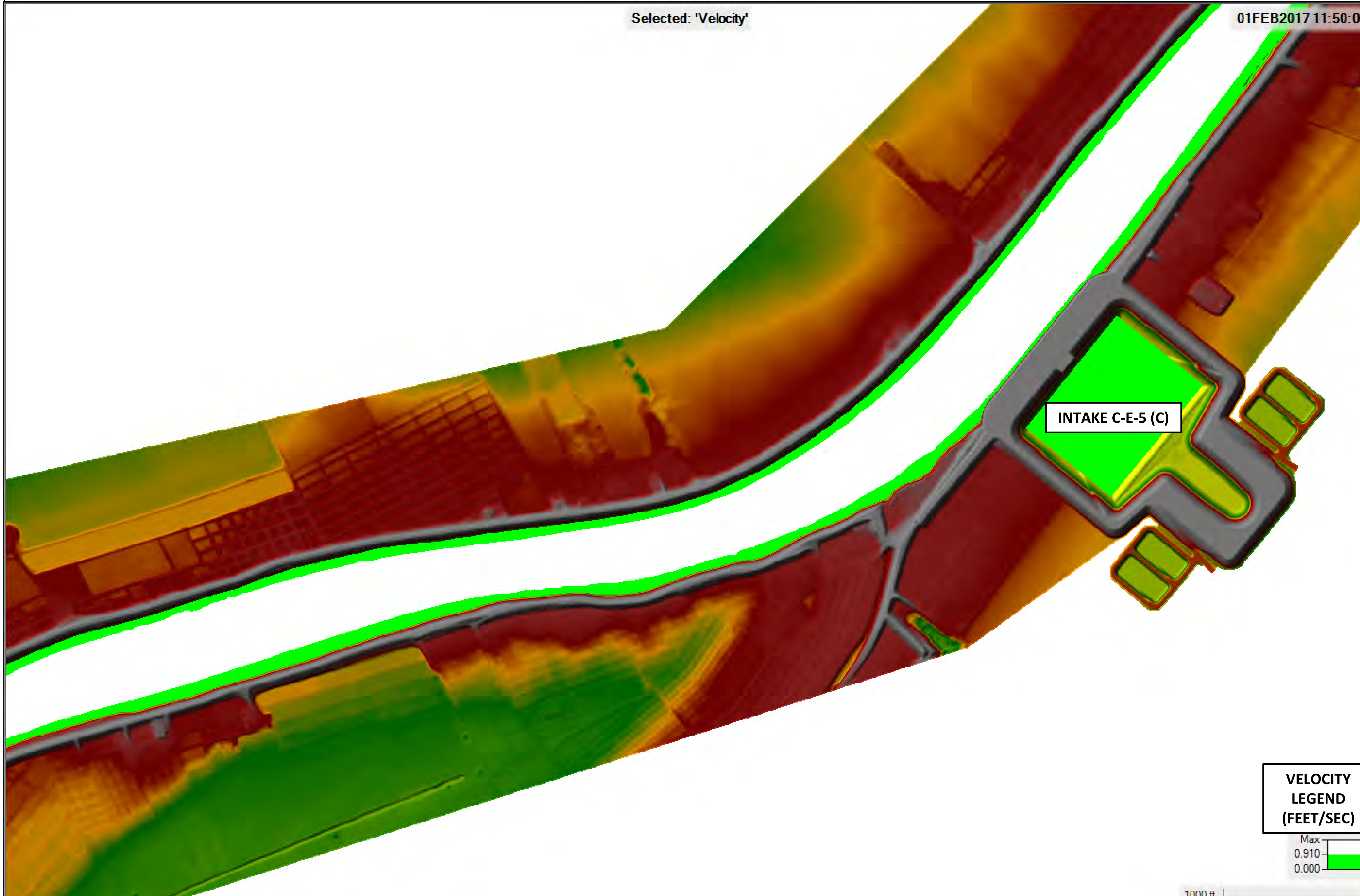
RUN 4F – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



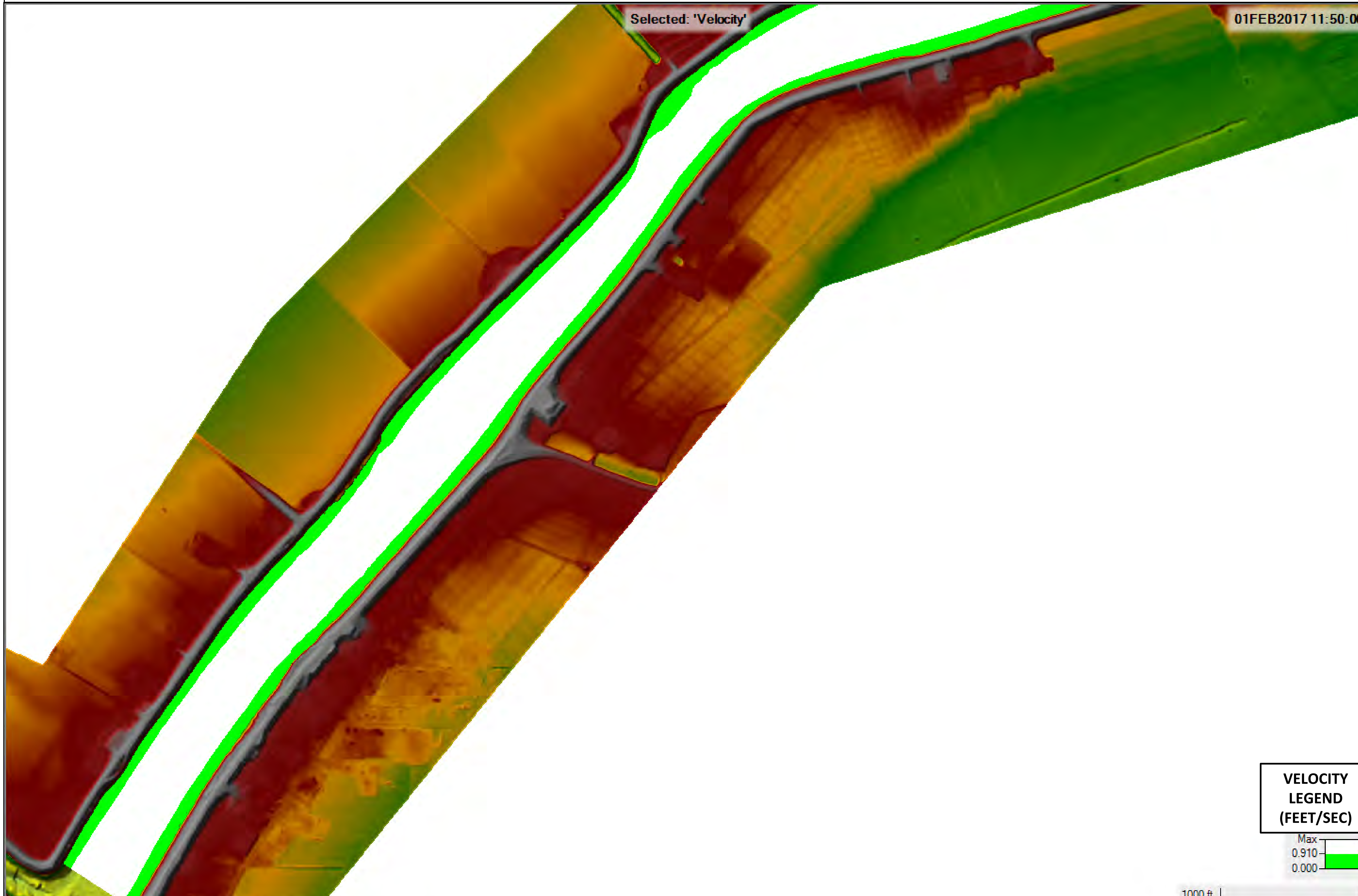
RUN 4F – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4F – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

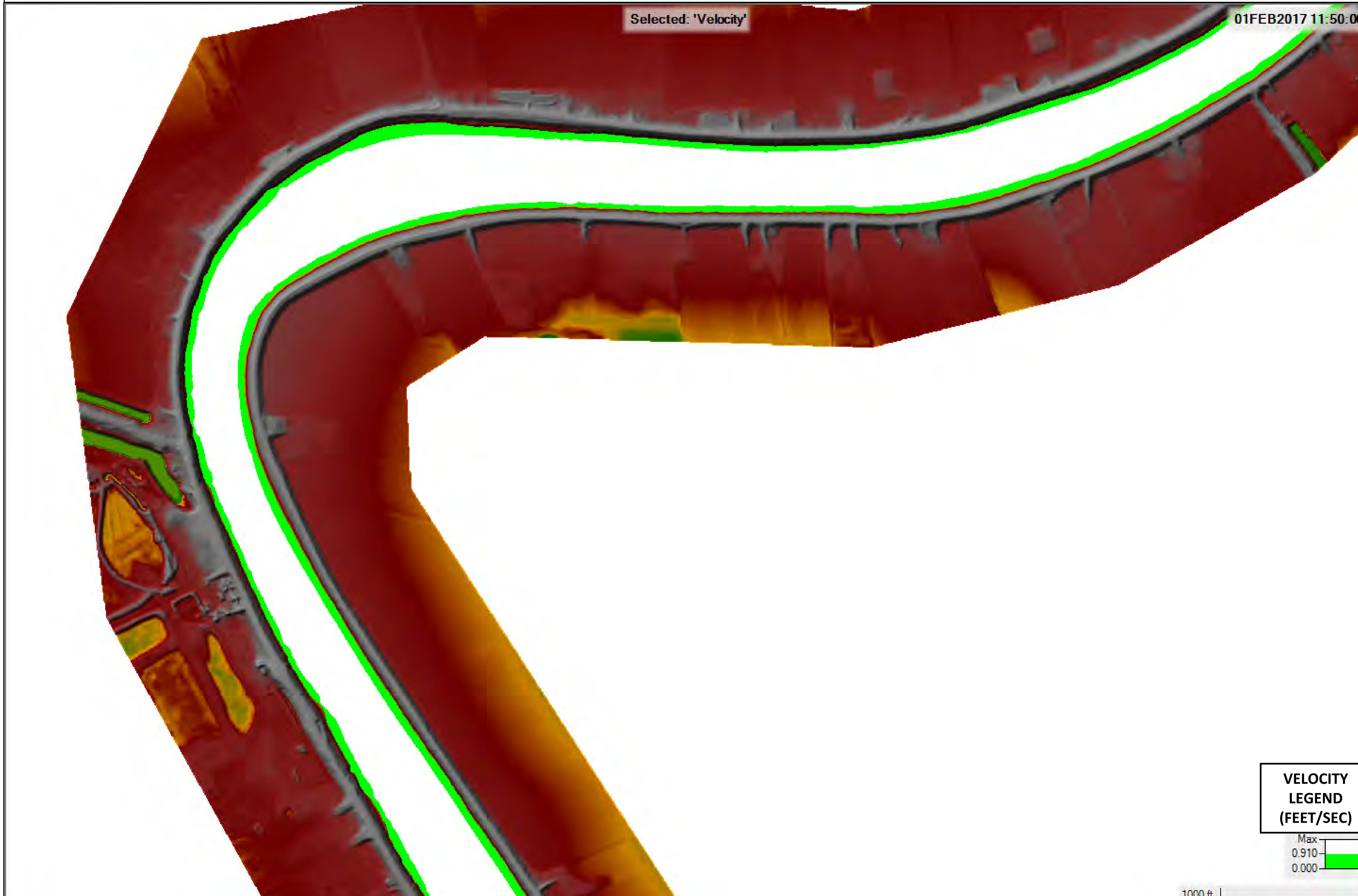
MODEL SCENARIO WITH INTAKES 3-5 DIVERTING – 1,000-CFS EACH – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4G

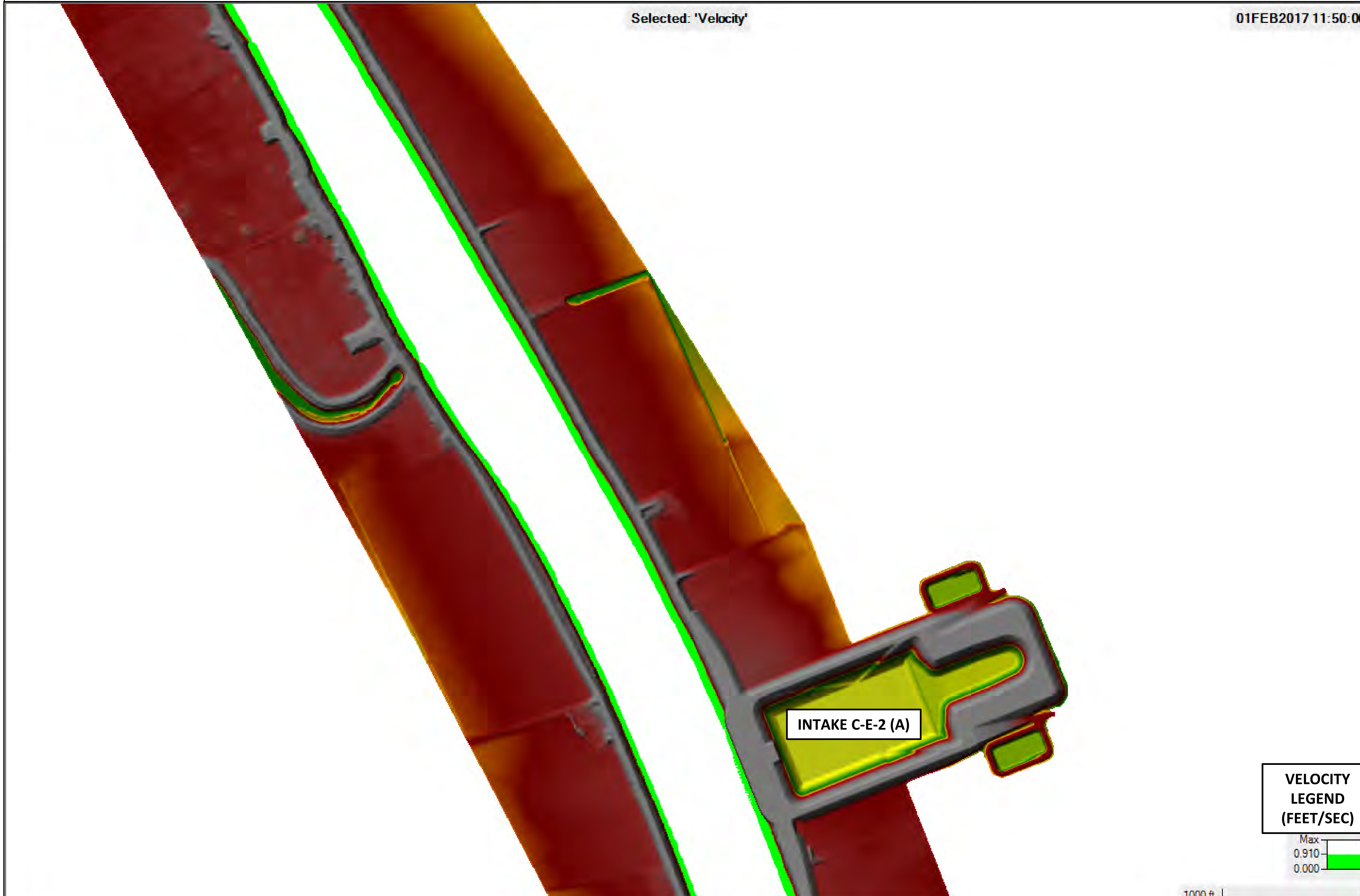
RUN 4G – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4G – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS

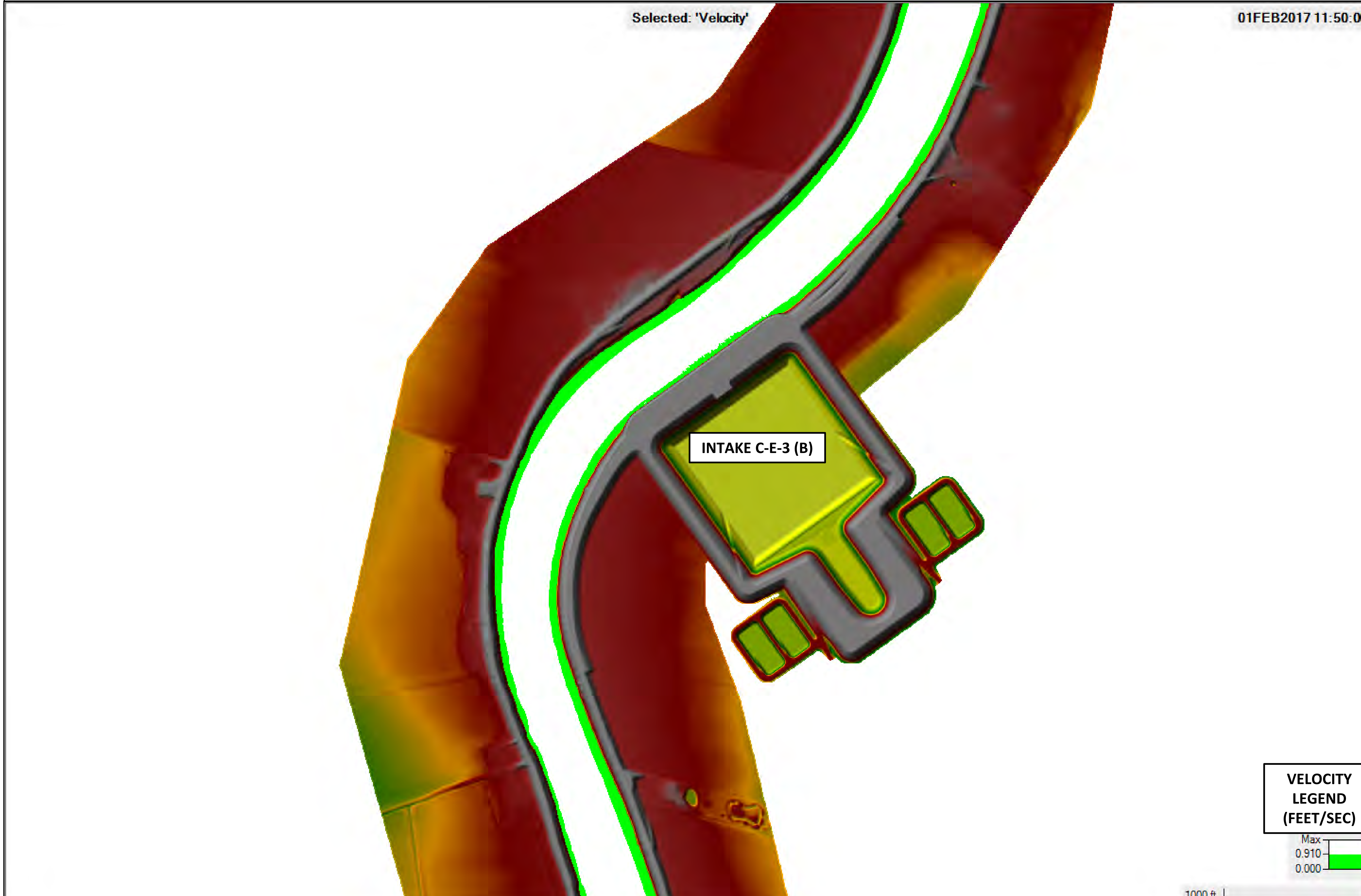


RUN 4G – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS

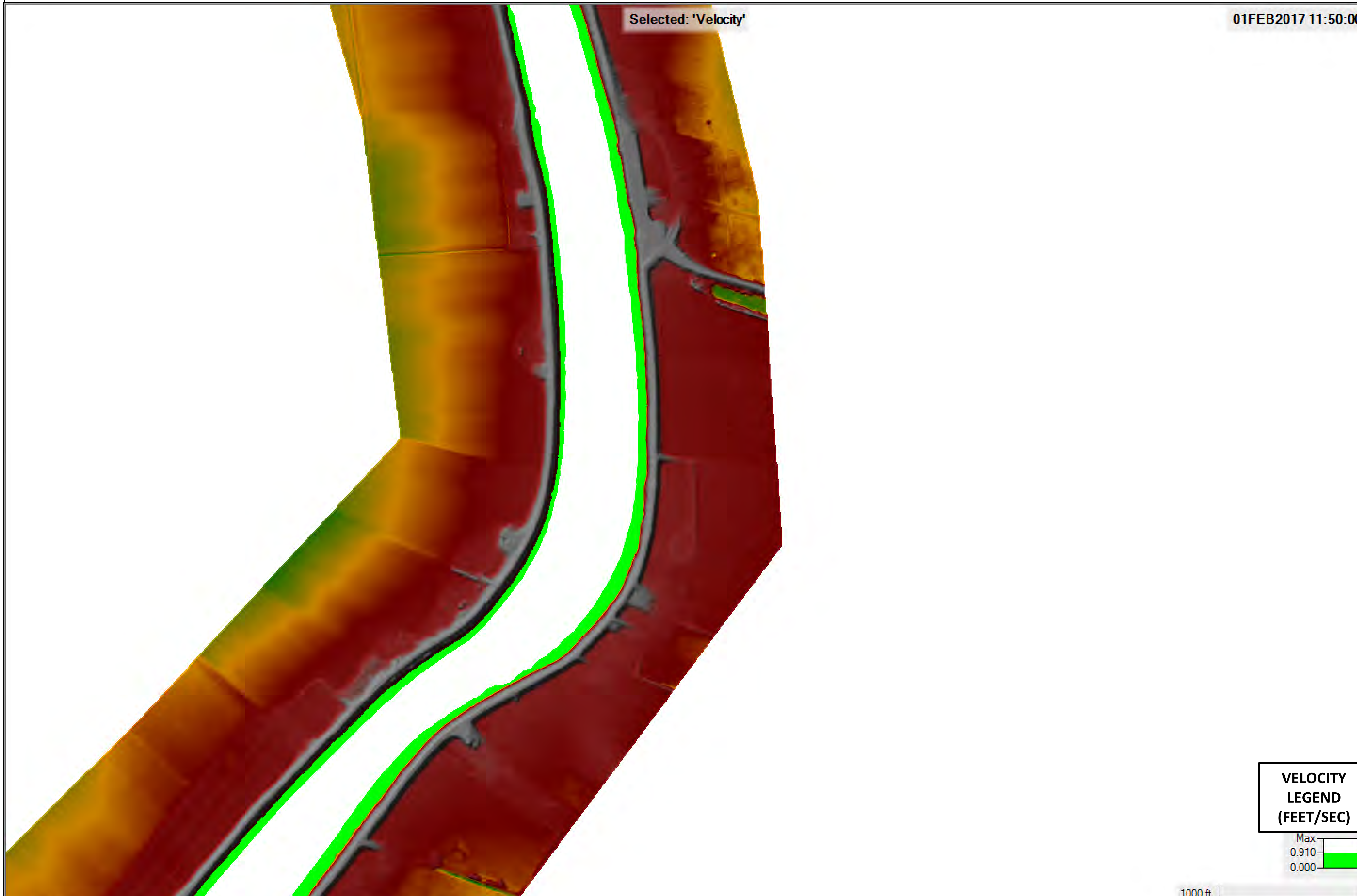
RUN 4G – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



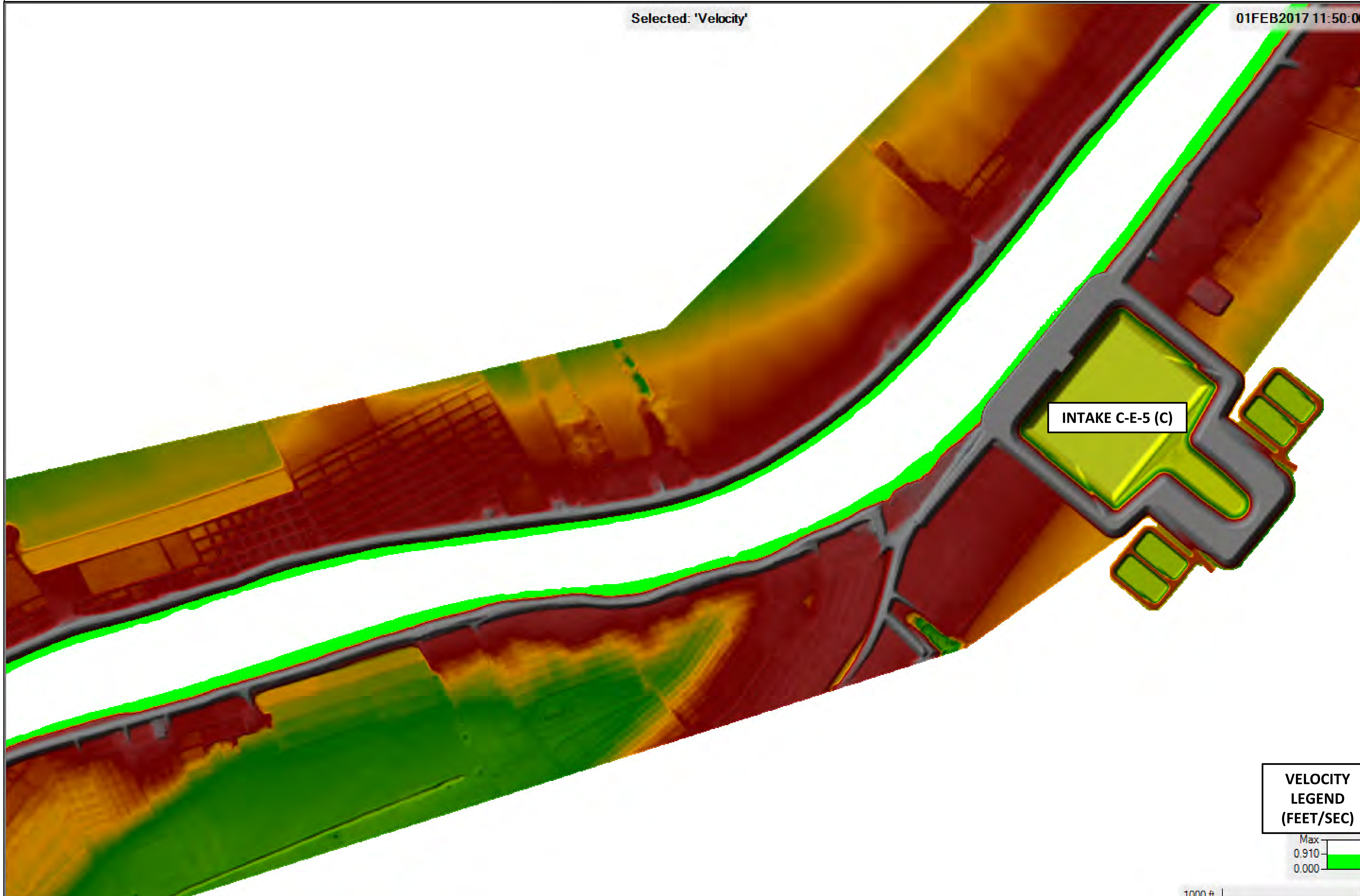
RUN 4G – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



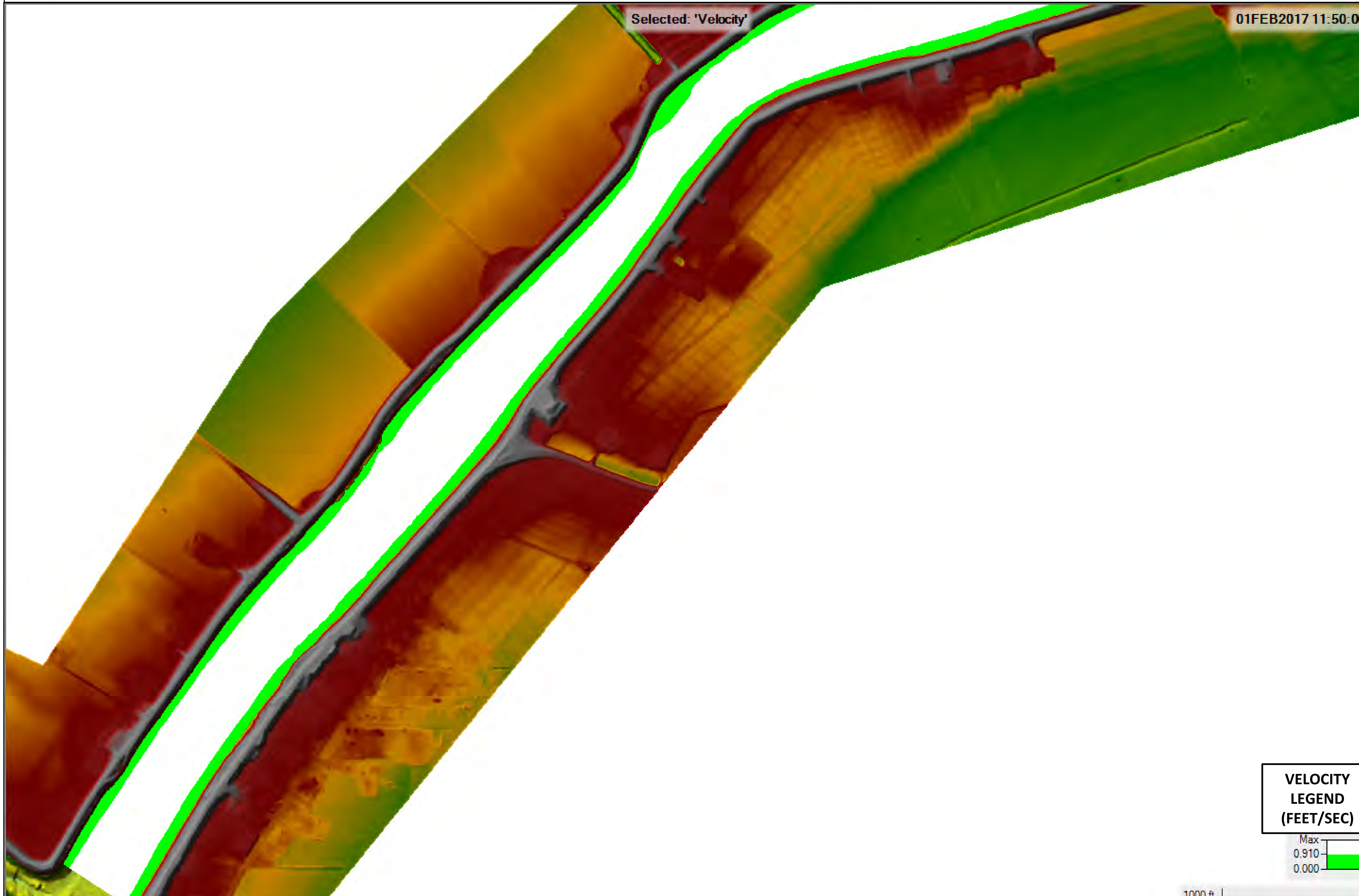
RUN 4G – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4G – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

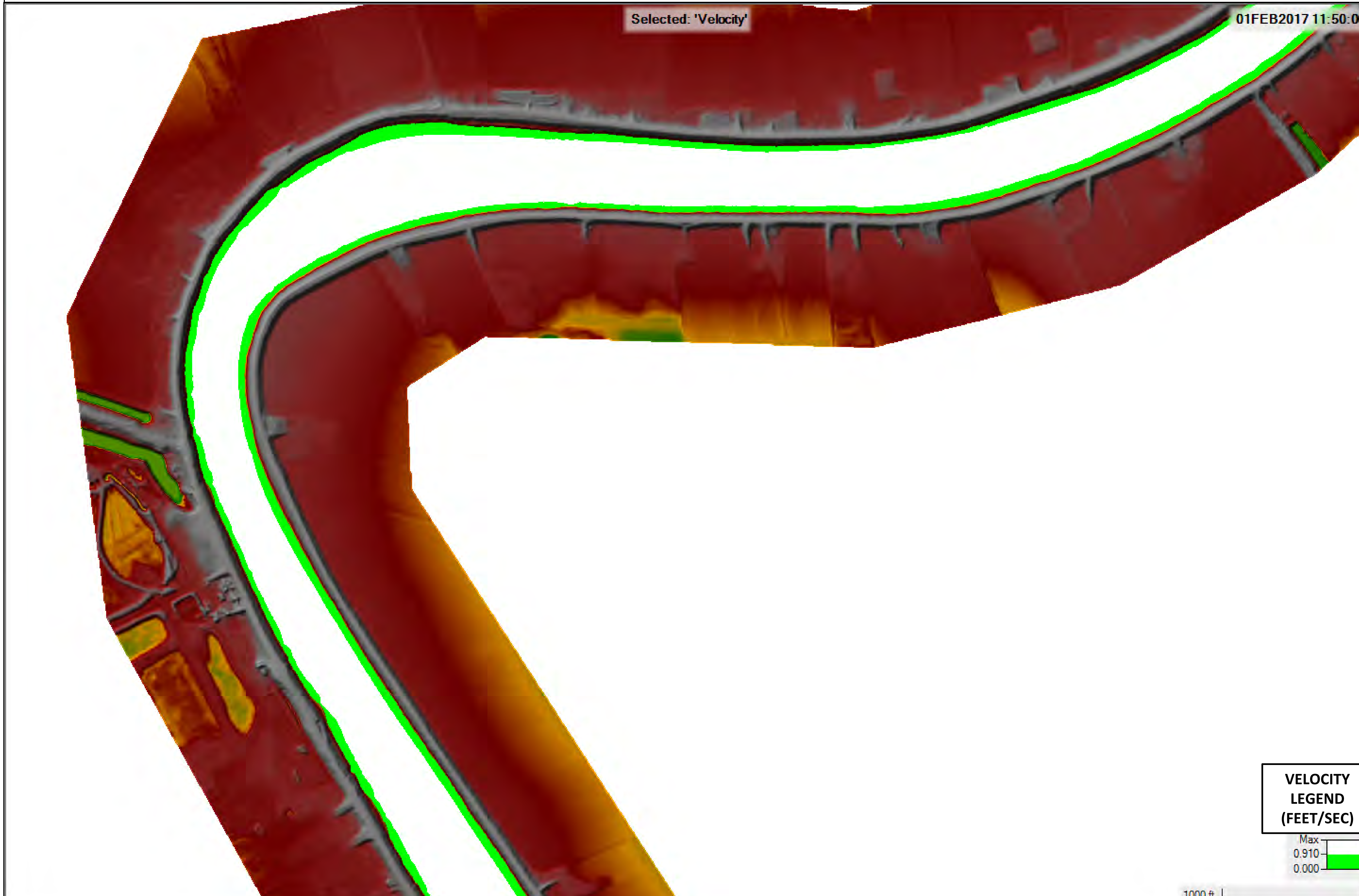
MODEL SCENARIO WITH INTAKES 2-3-5 NO DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4H

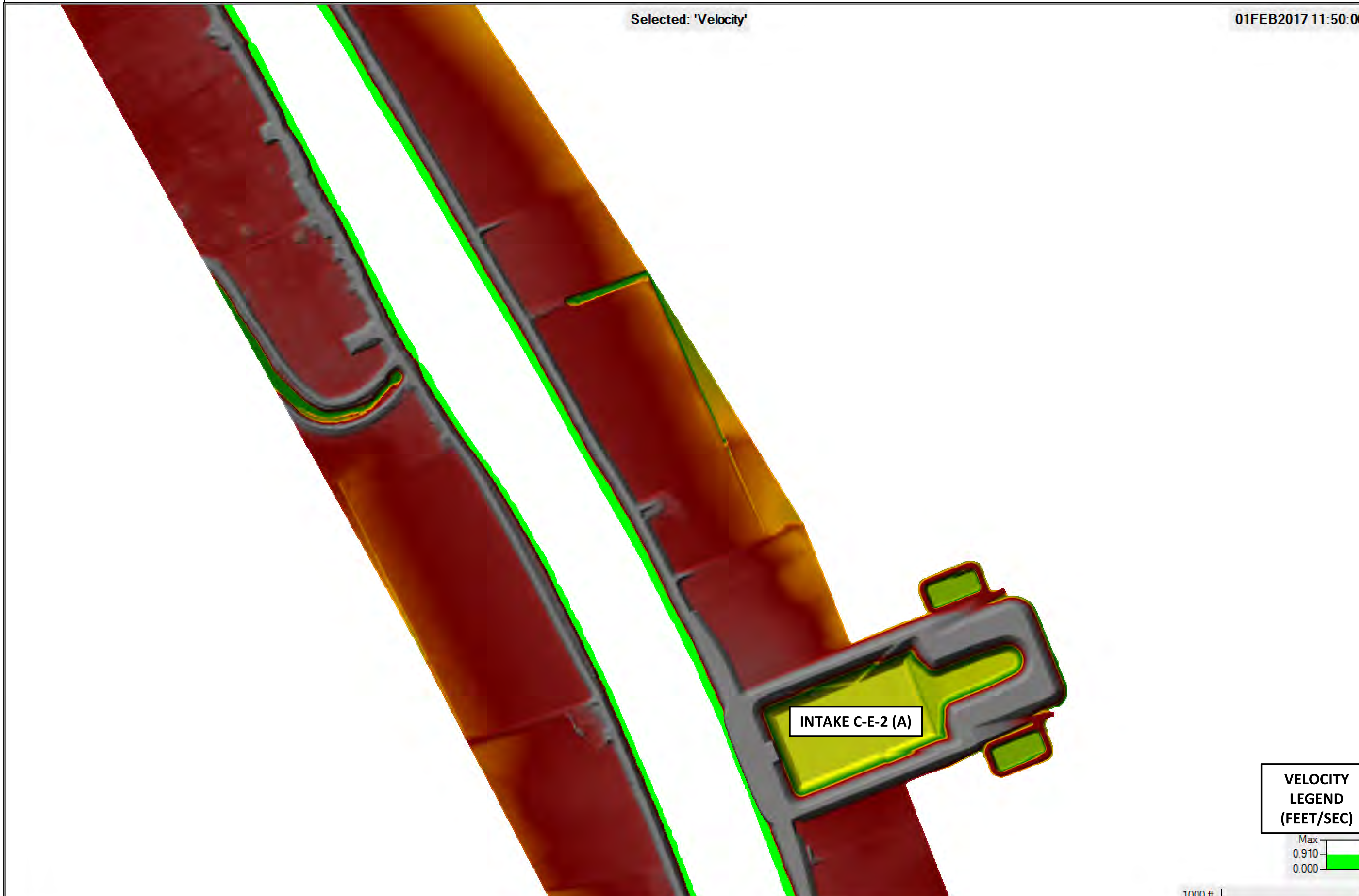
RUN 4H – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4H – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS

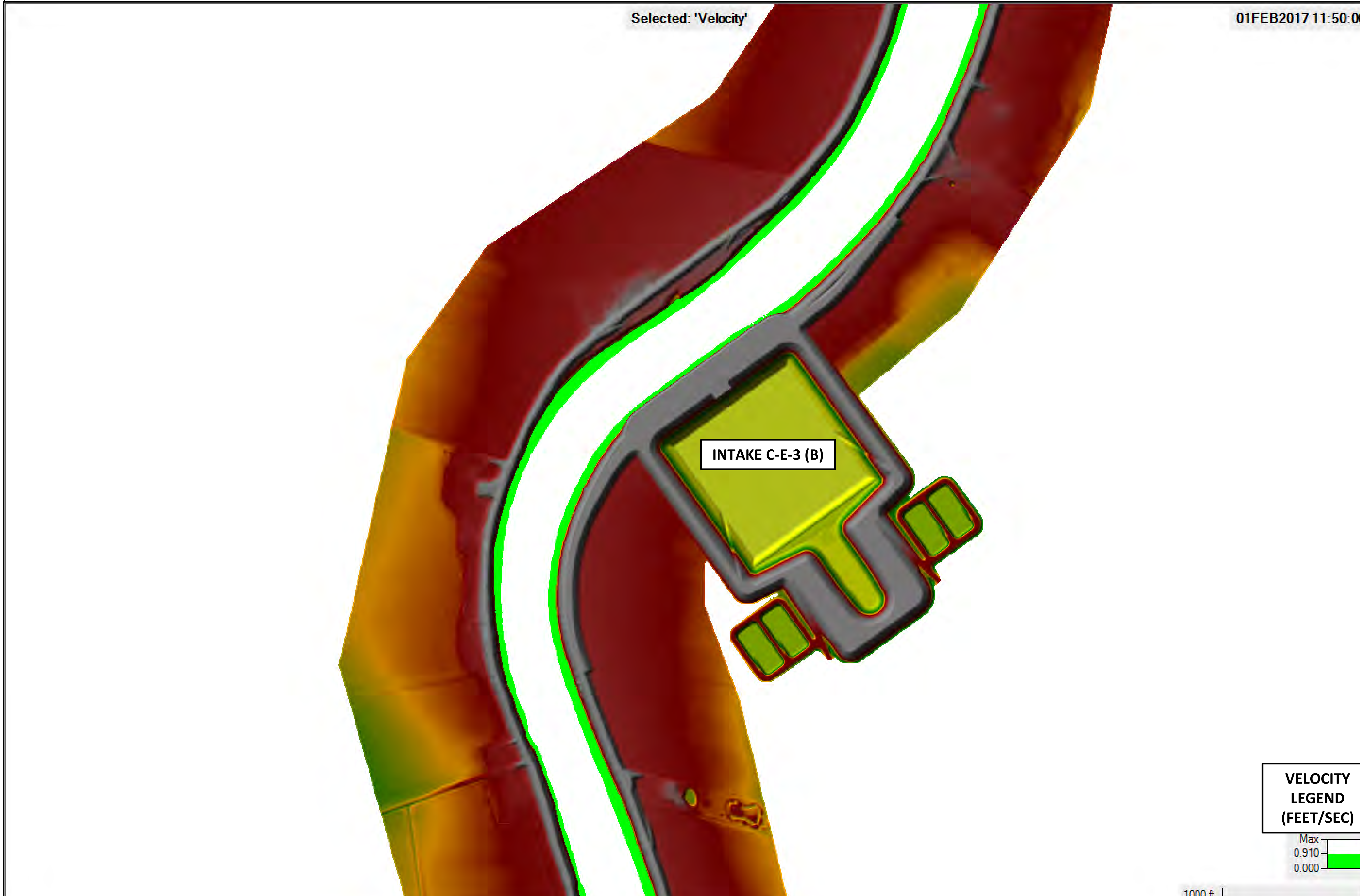


RUN 4H – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS

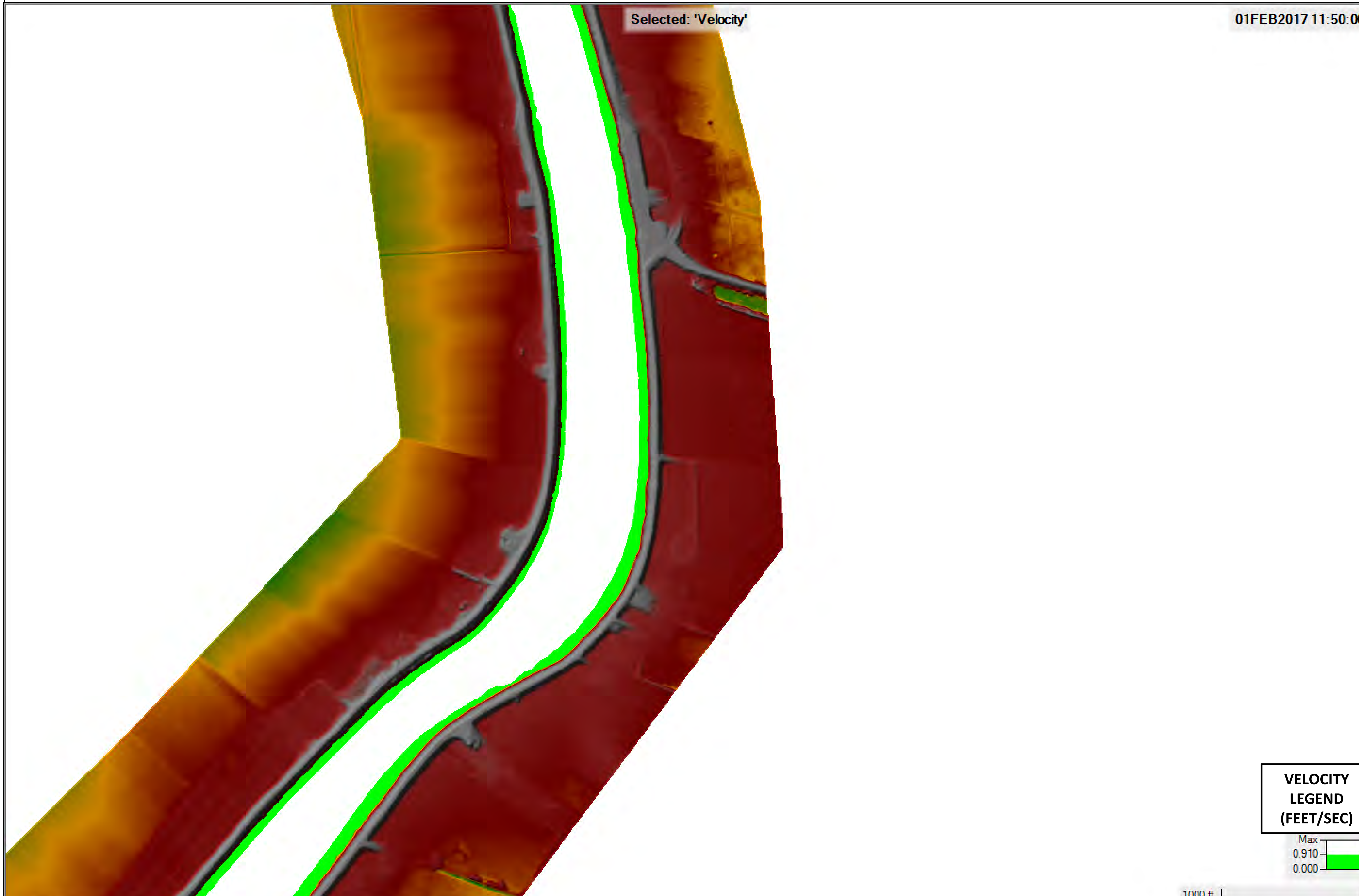
RUN 4H – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



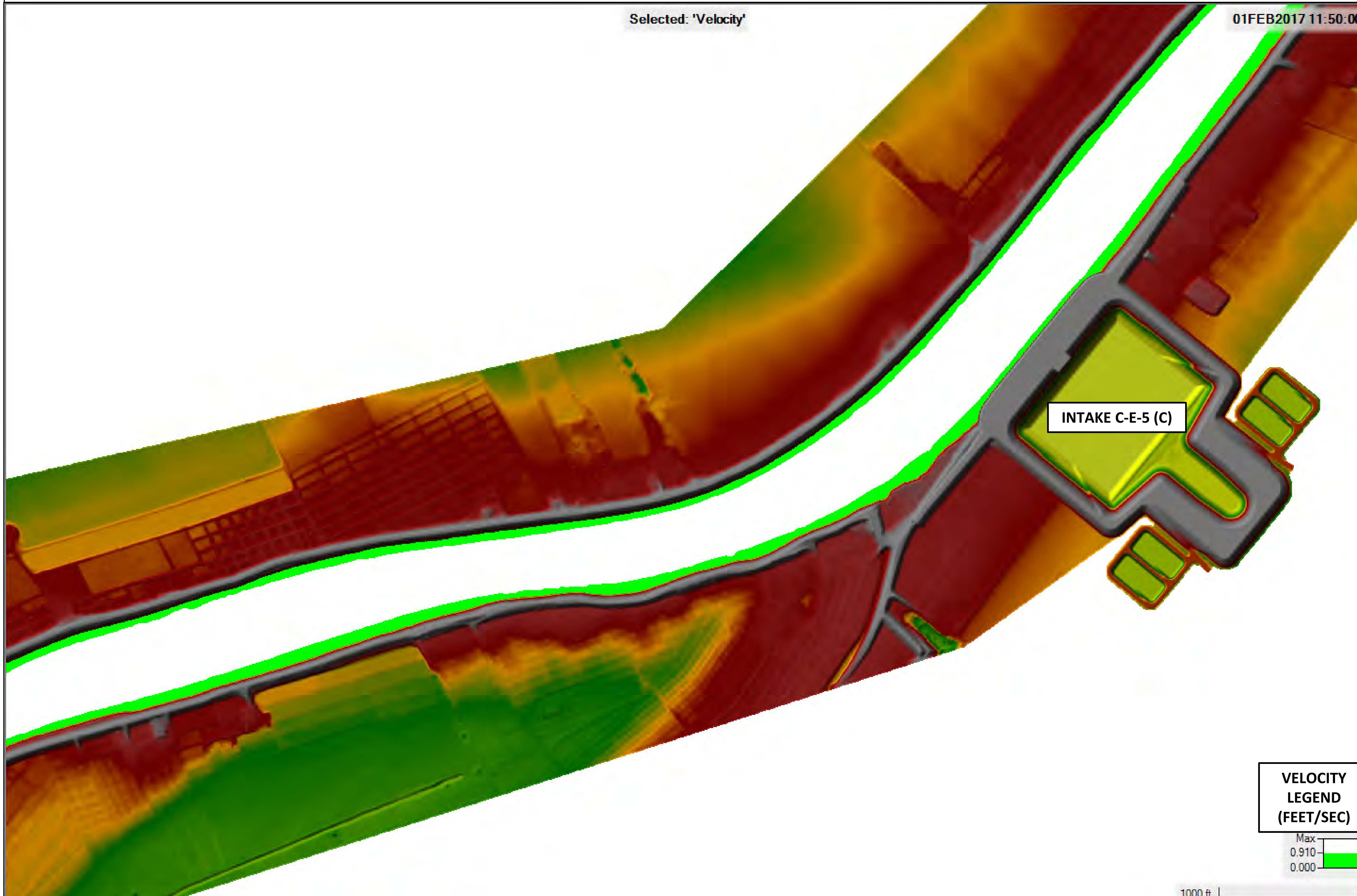
RUN 4H – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



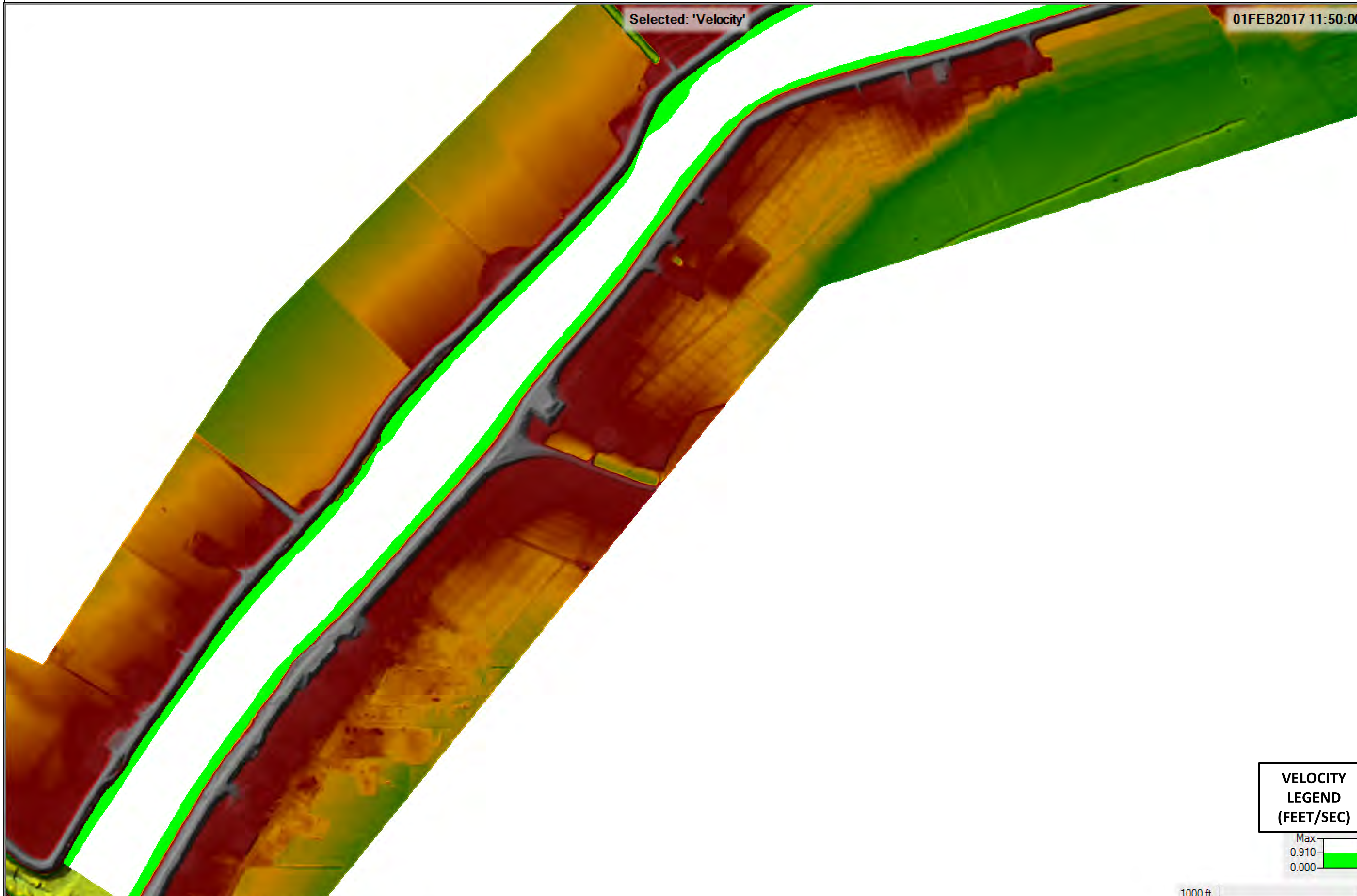
RUN 4H – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4H – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

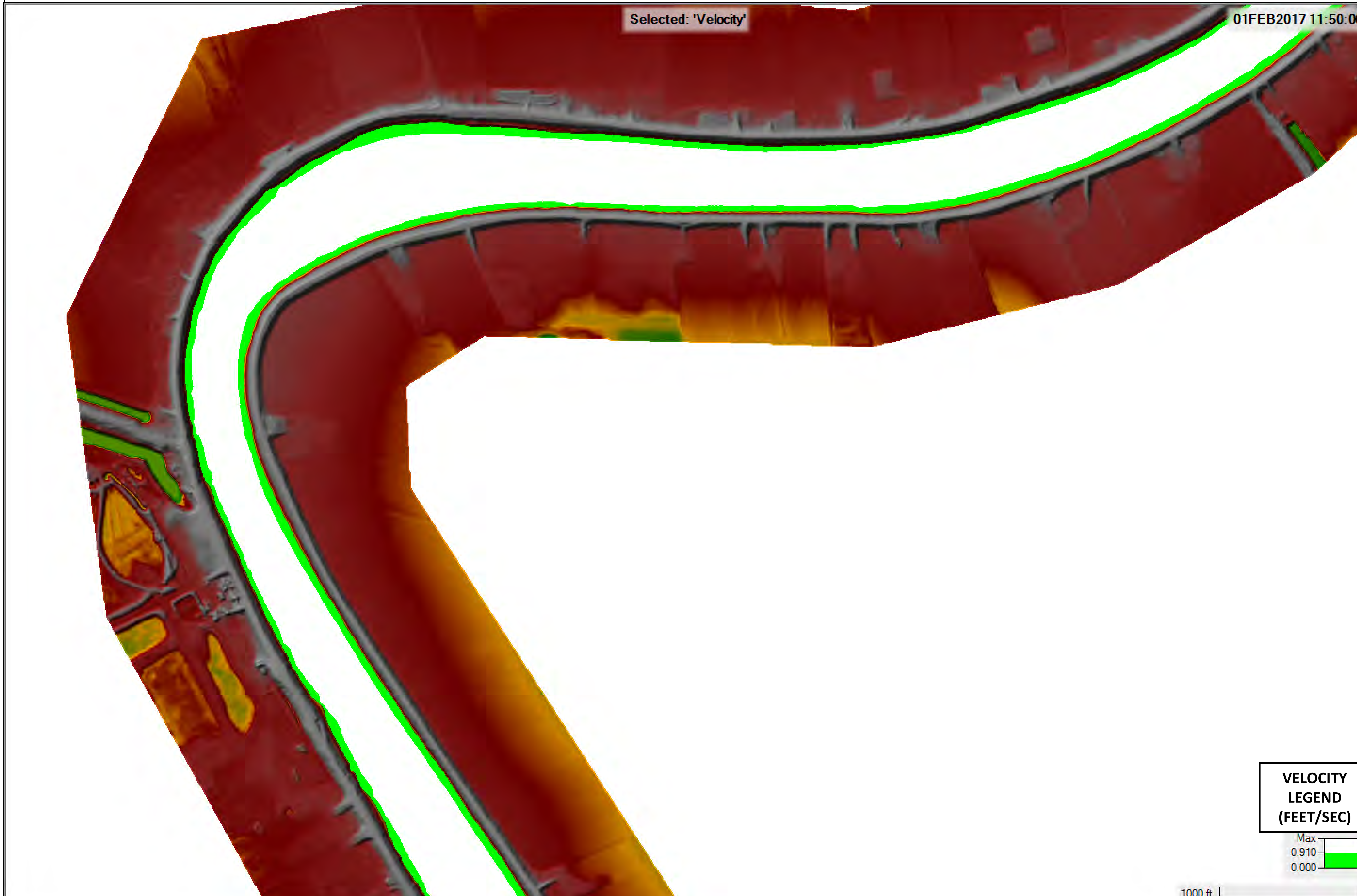
MODEL SCENARIO WITH COFFERDAM AT INTAKES 2-3-5 – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4I

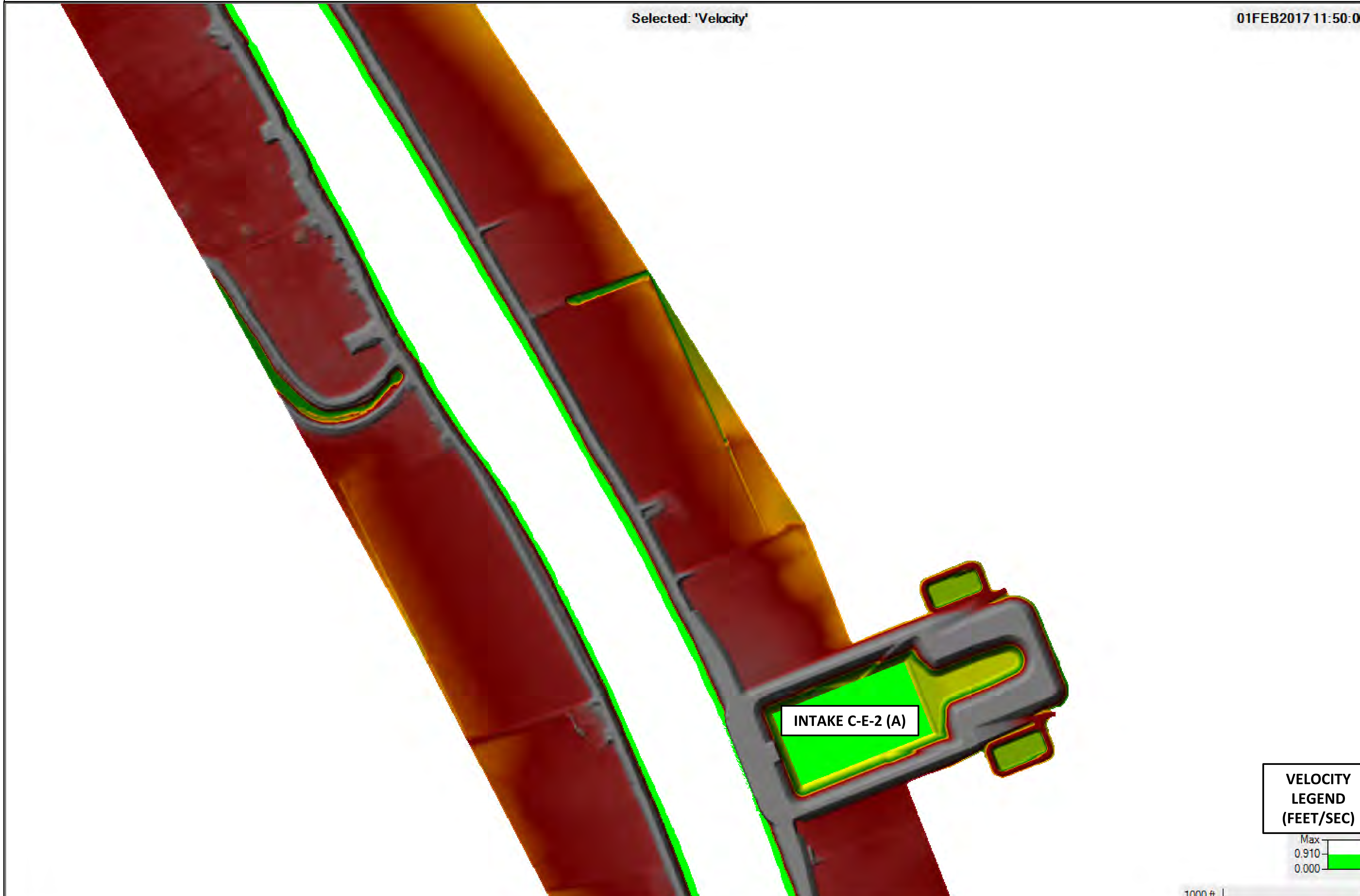
RUN 4I – WINDOW 01 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4I – WINDOW 02 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS

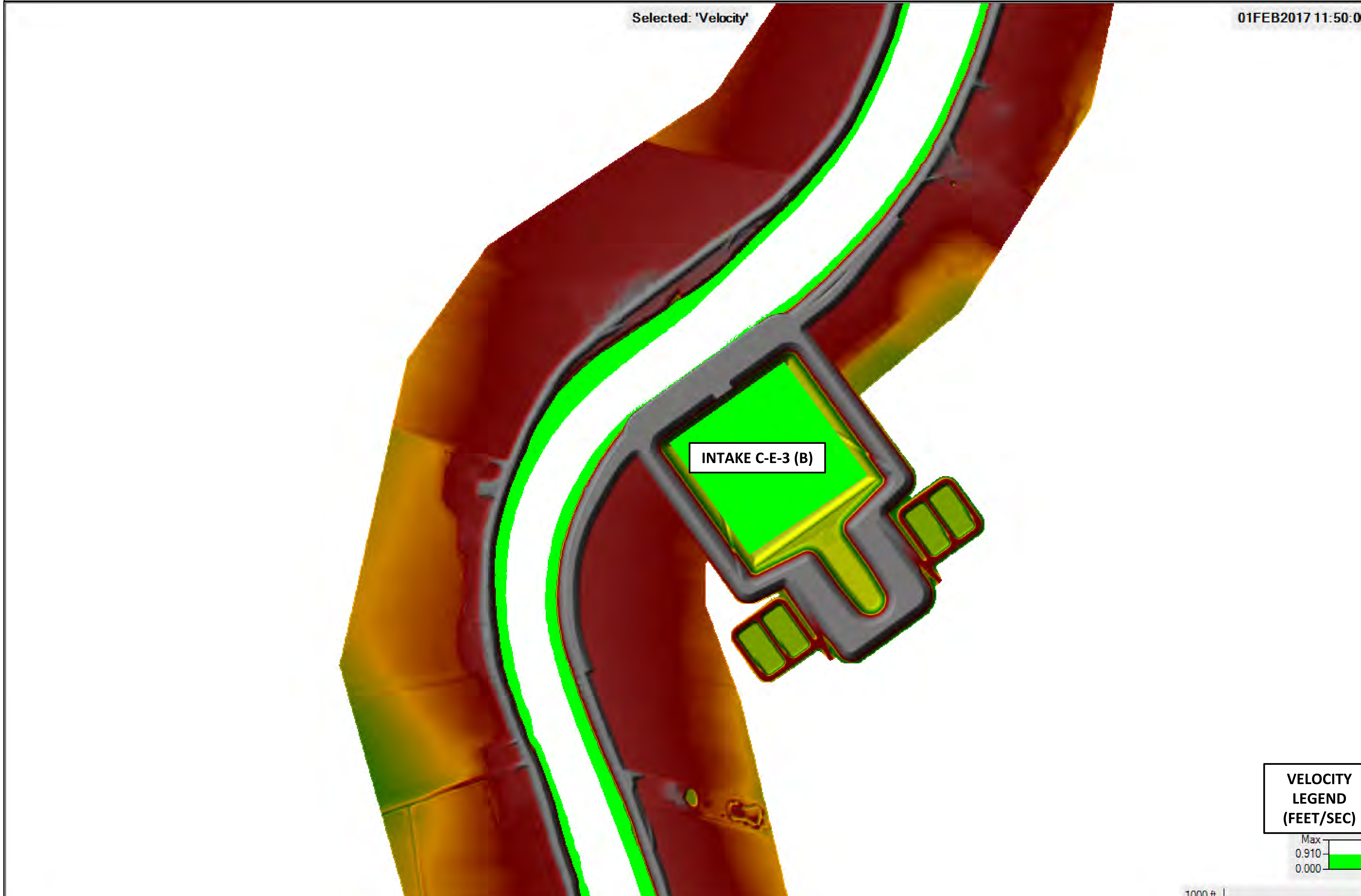


RUN 4I – WINDOW 03 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS

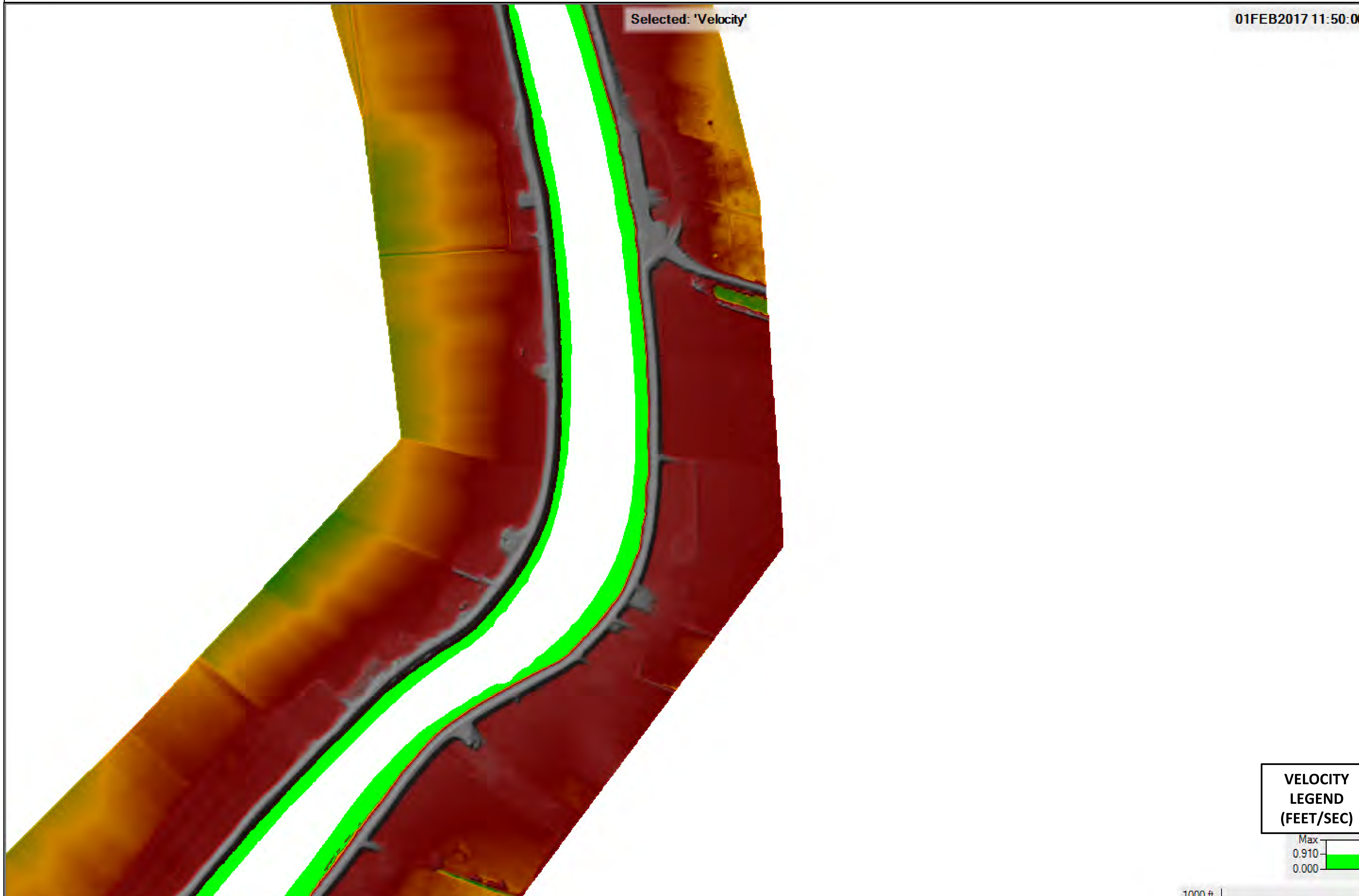
RUN 4I – WINDOW 04 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



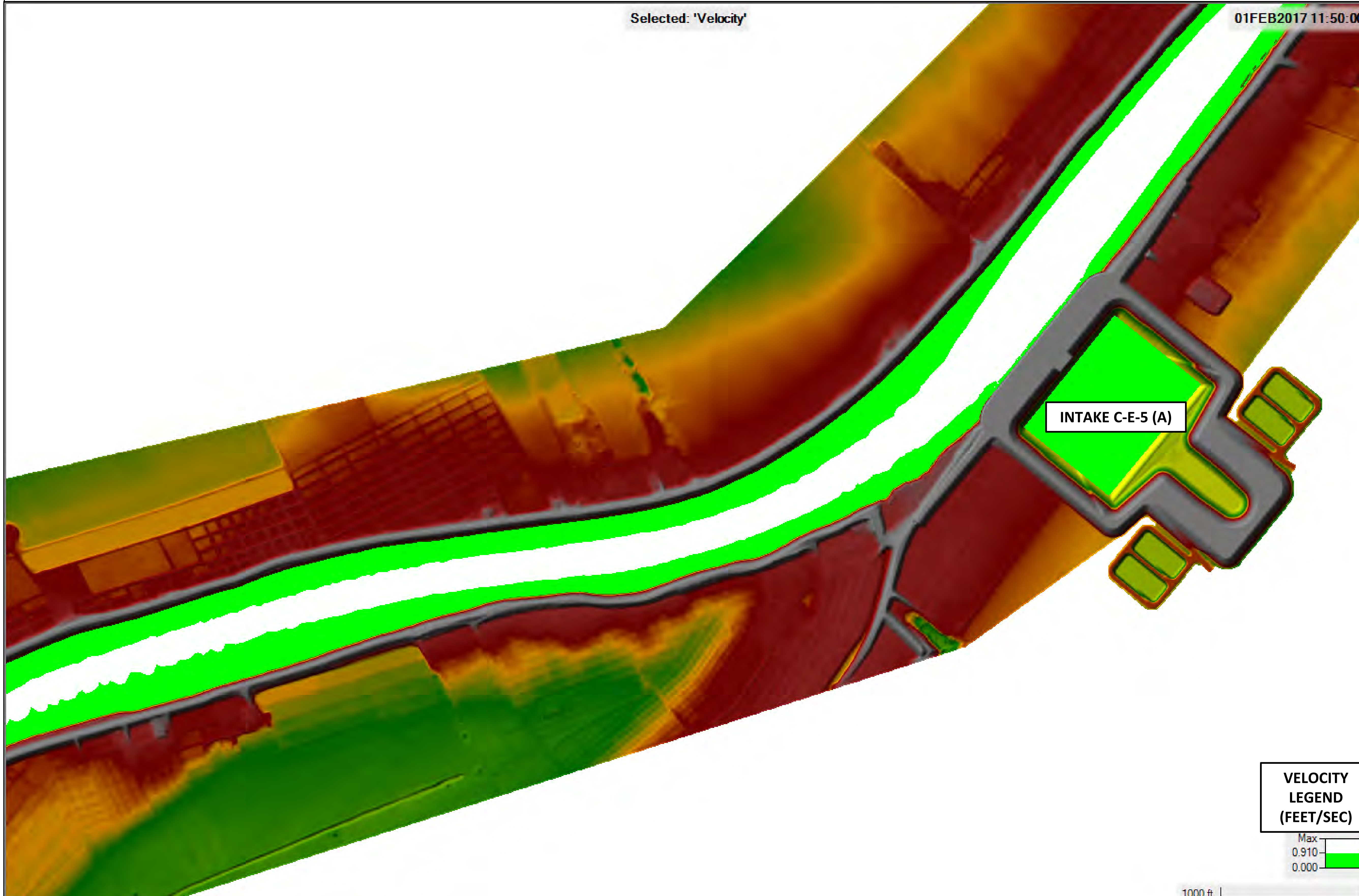
RUN 4I – WINDOW 05 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



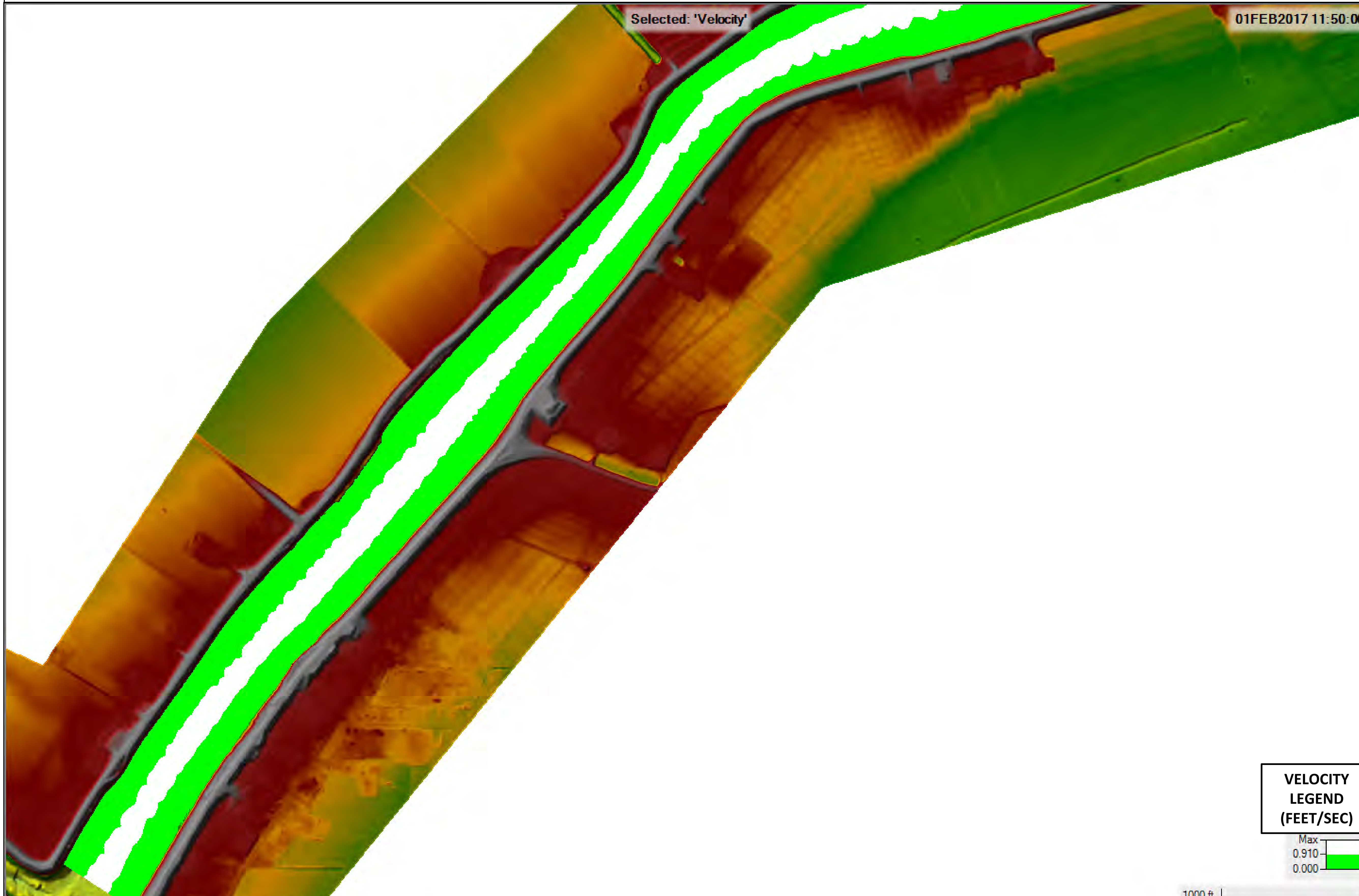
RUN 4I – WINDOW 06 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



RUN 4I – WINDOW 07 – VELOCITY PLOT > 0.91 FEET/SEC

MODEL SCENARIO WITH INTAKES 2-3-5 @ FULL DIVERSION – 18,000-CFS AT FREEPORT – TEE SCREENS



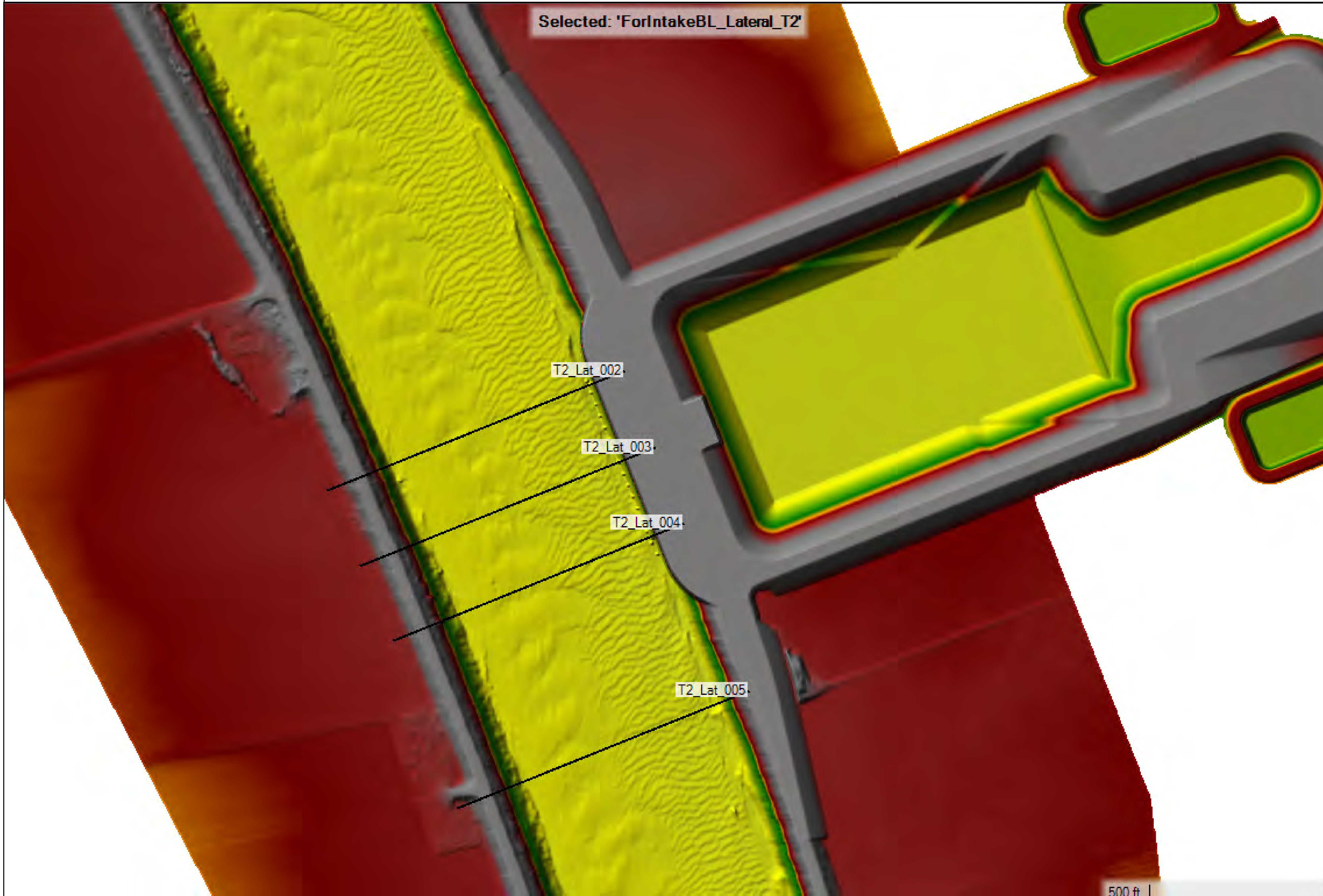
Group 5
Time Series Hydrograph Runs

INDEX

Cross Section Velocity Plots near Intake Structures

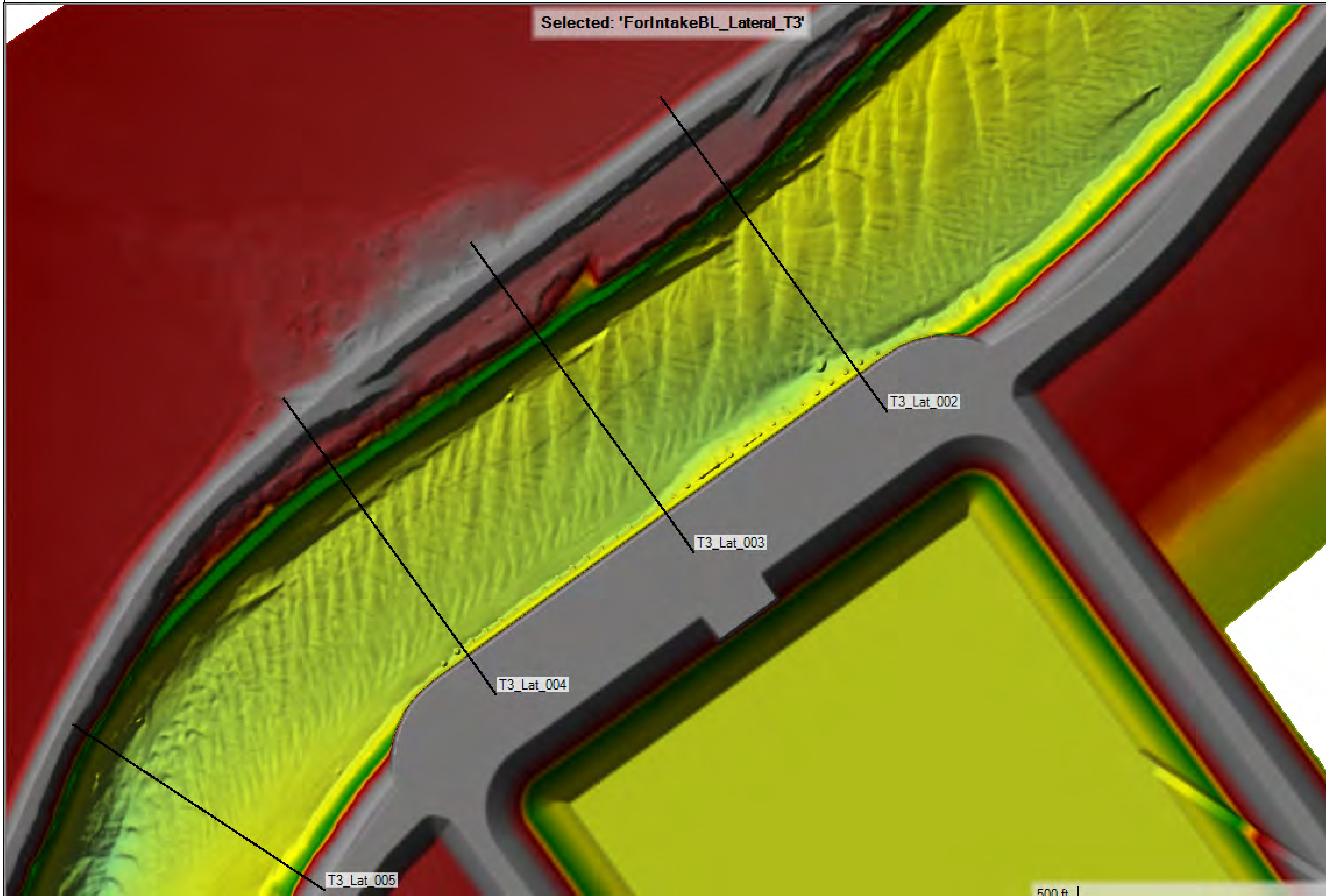
CROSS-SECTION LOCATIONS – INTAKE C-E-2 (A)

TEE SCREENS



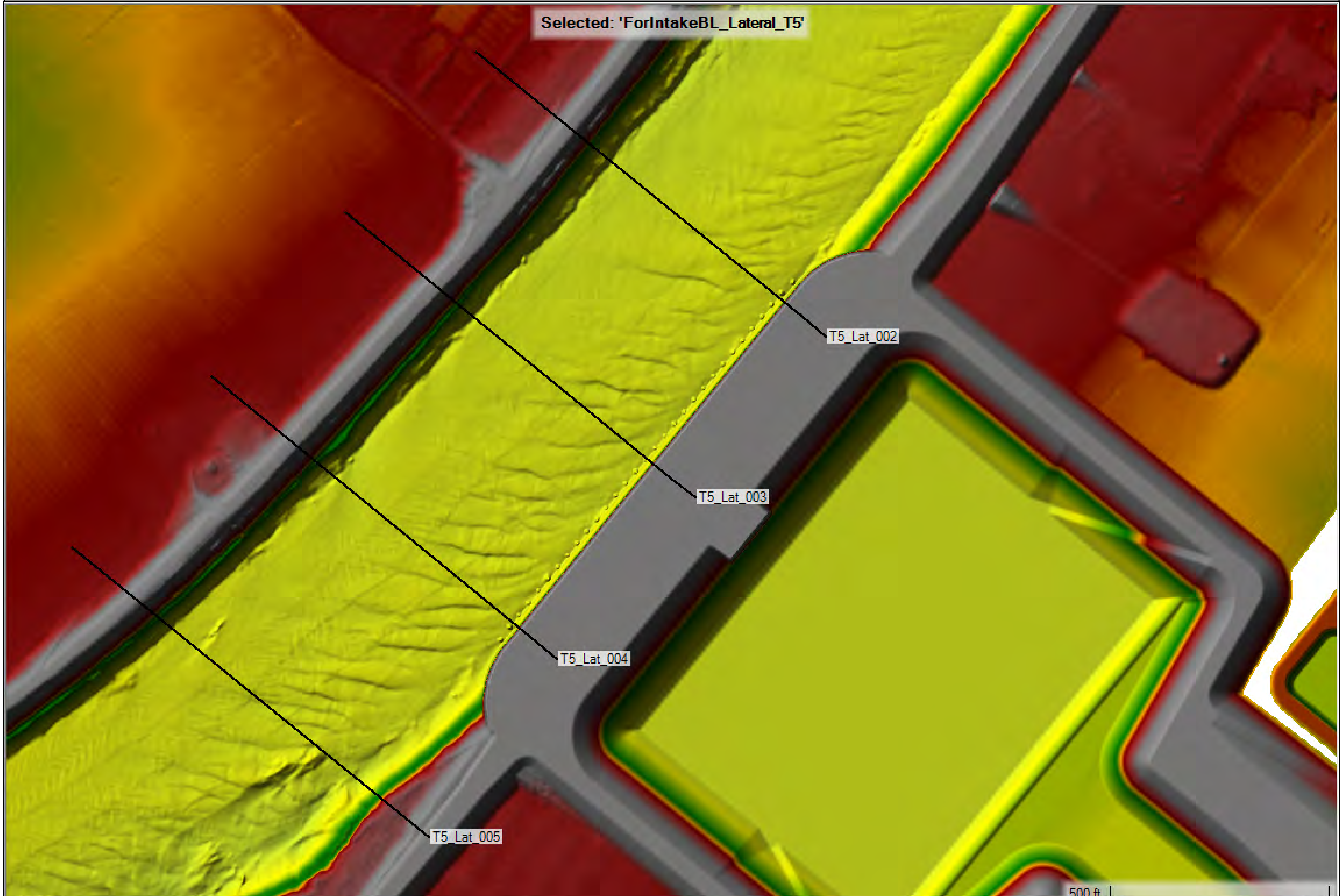
CROSS-SECTION LOCATIONS – INTAKE C-E-3 (B)

TEE SCREENS



CROSS-SECTION LOCATIONS – INTAKE C-E-5 (C)

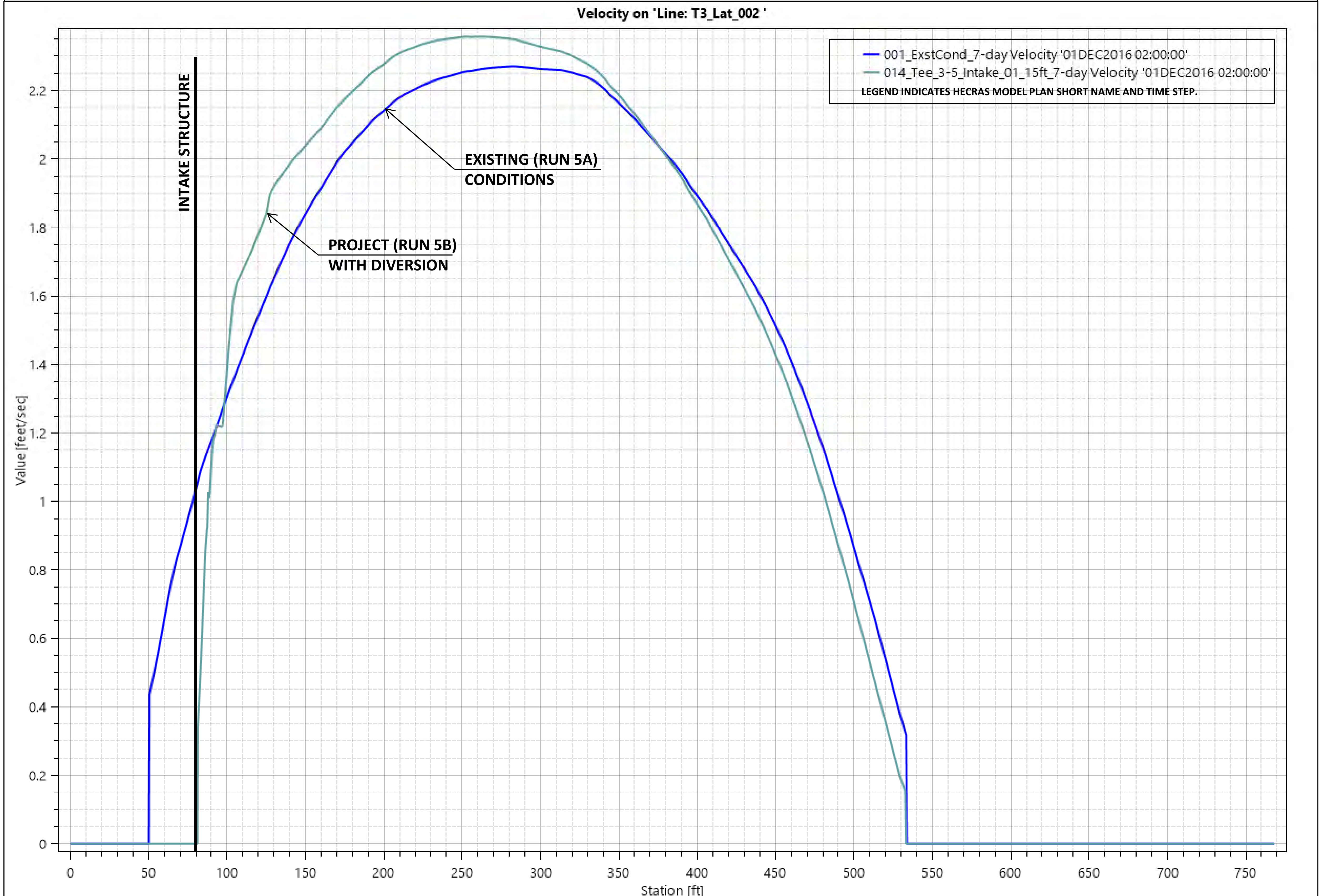
TEE SCREENS



RUN 5A vs 5B
INTAKE C-E-3 (B)

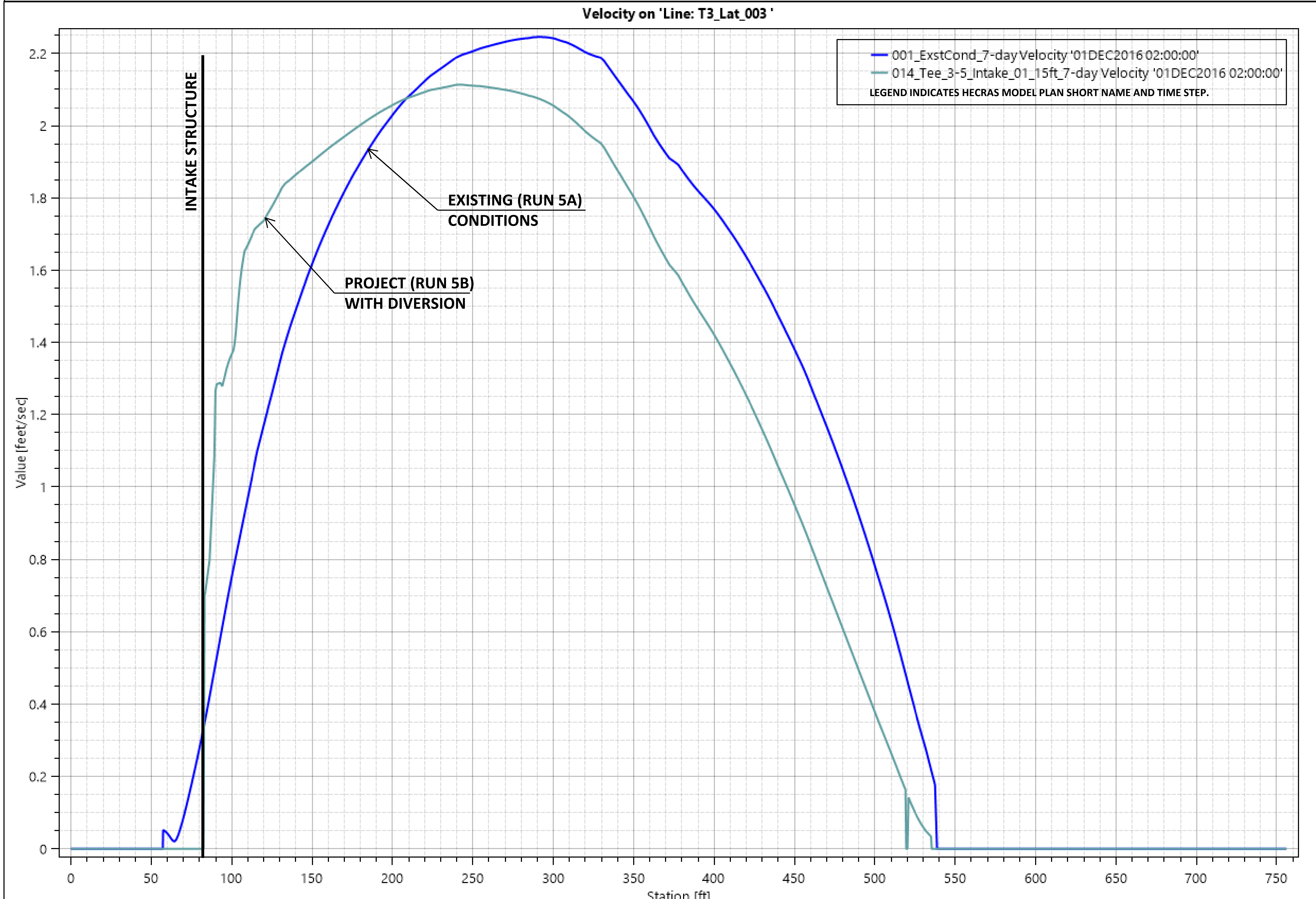
RUN 5A vs 5B – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



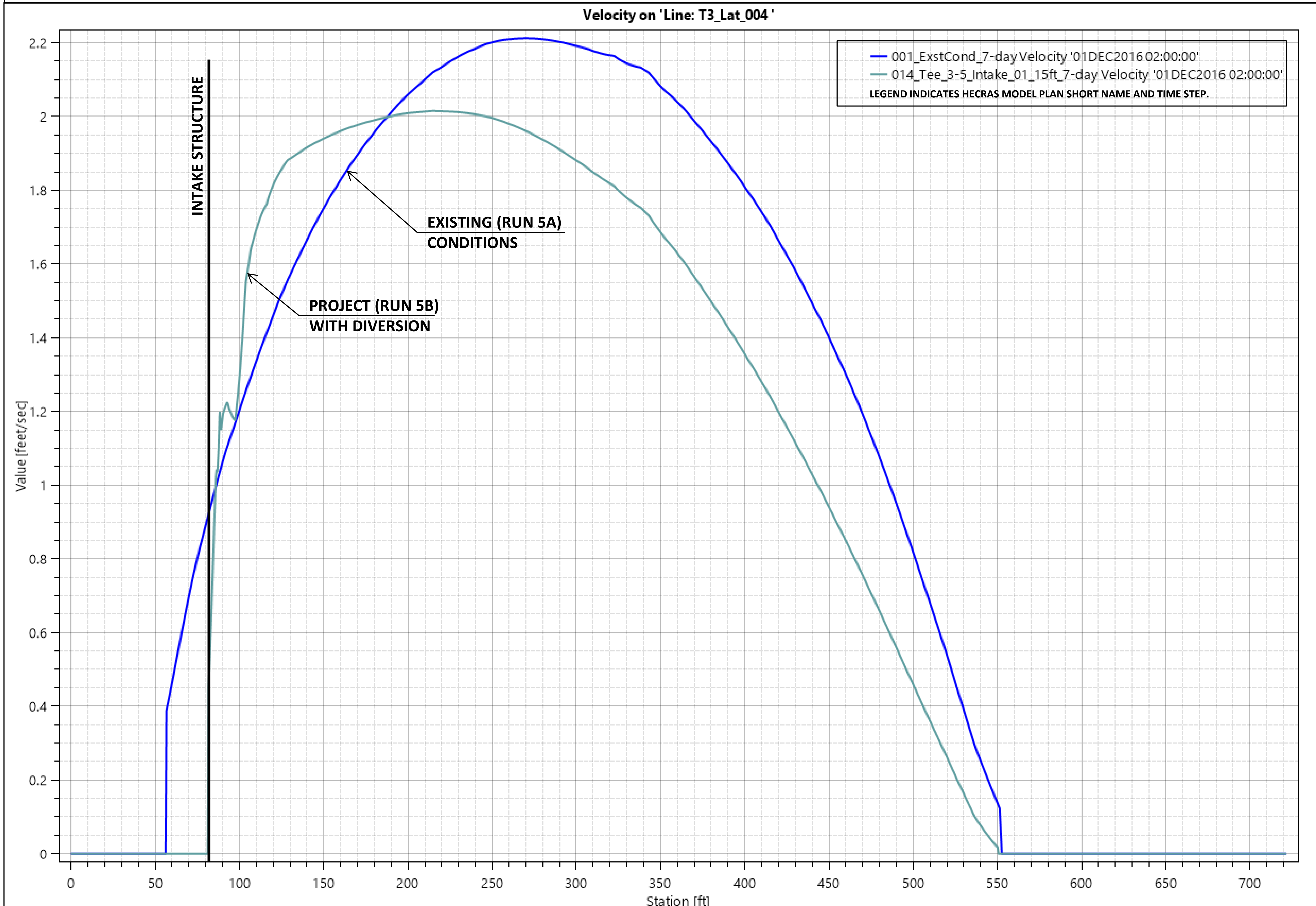
RUN 5A vs 5B – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



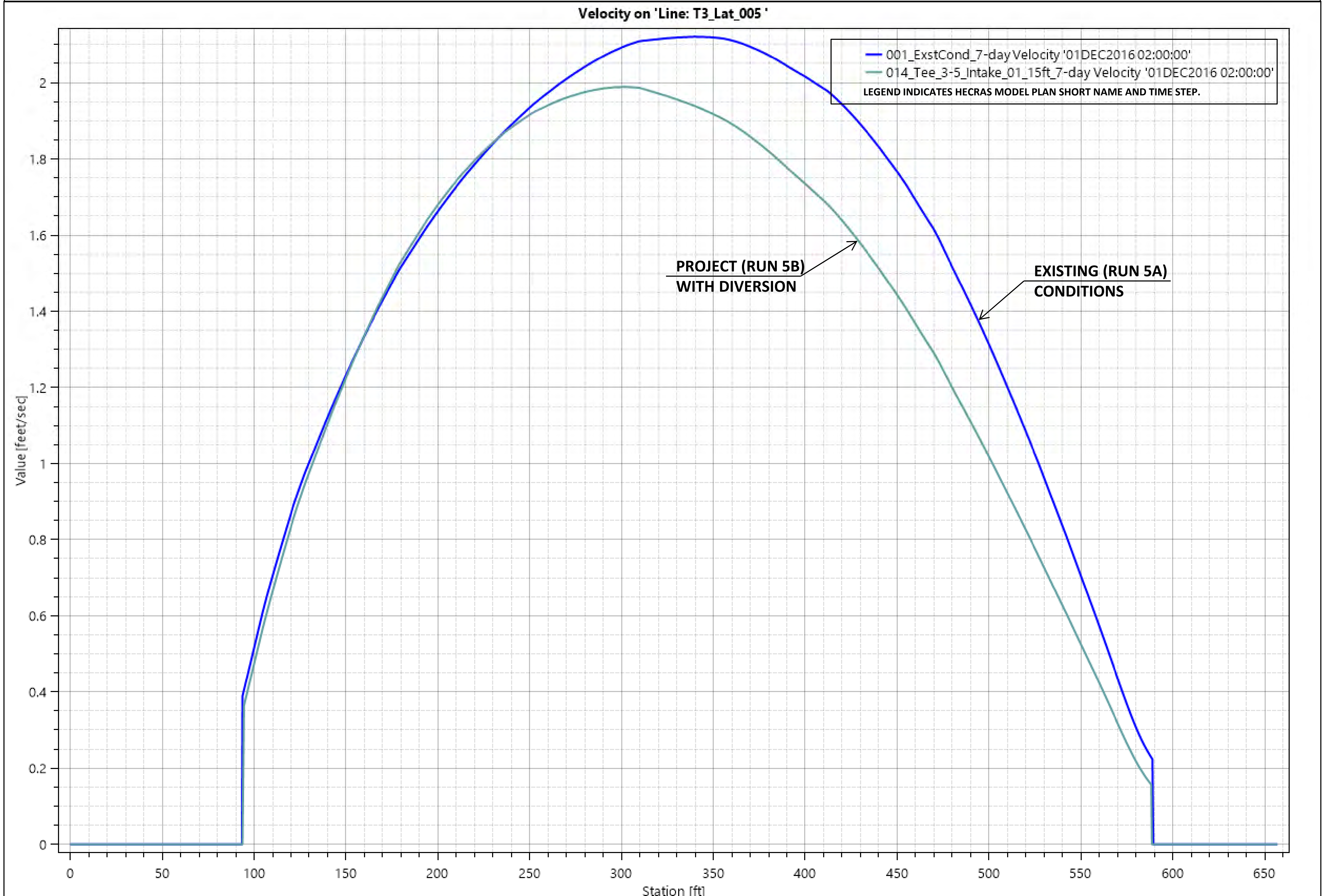
RUN 5A vs 5B – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 5A vs 5B – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

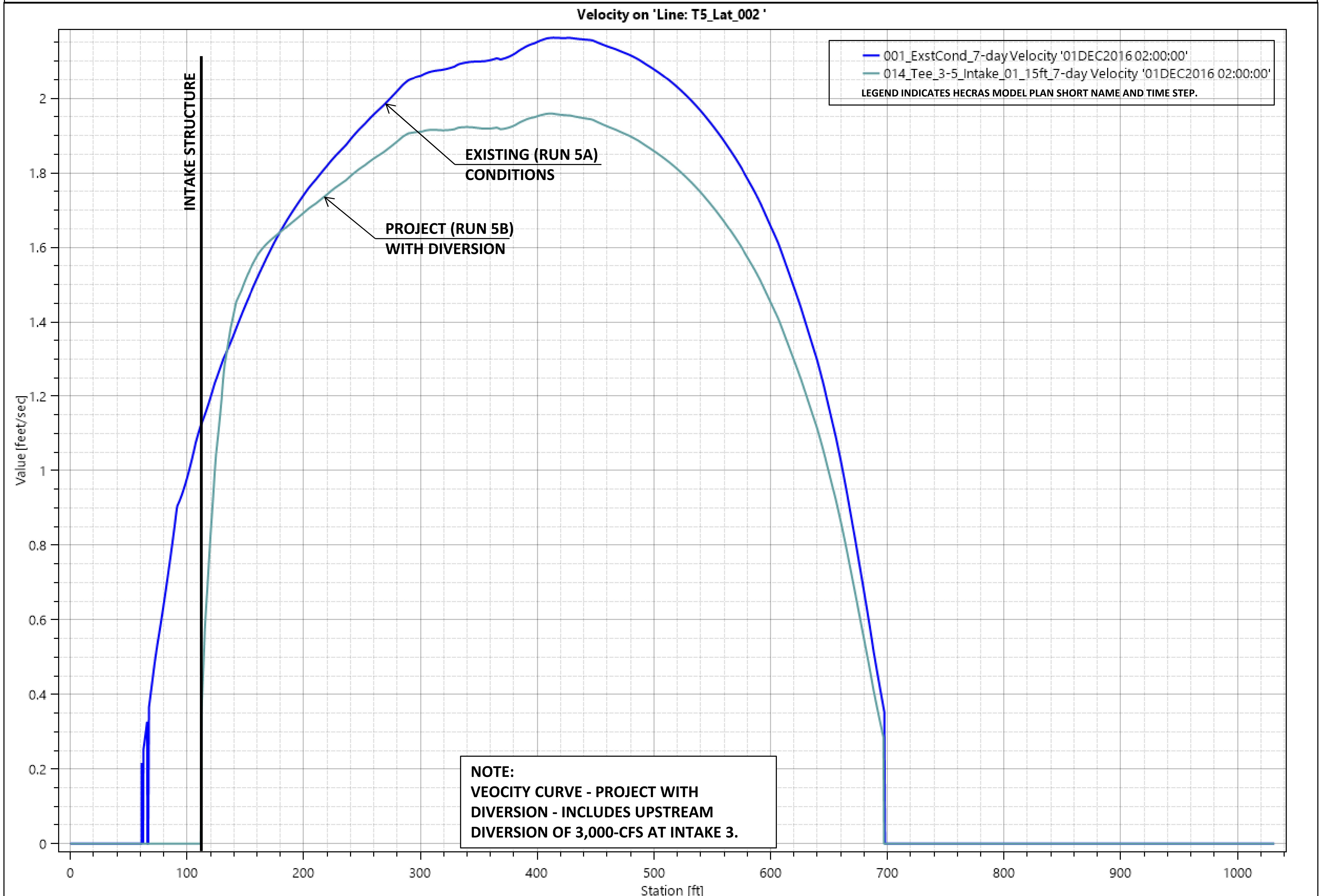
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 5A vs 5B
INTAKE C-E-5 (C)

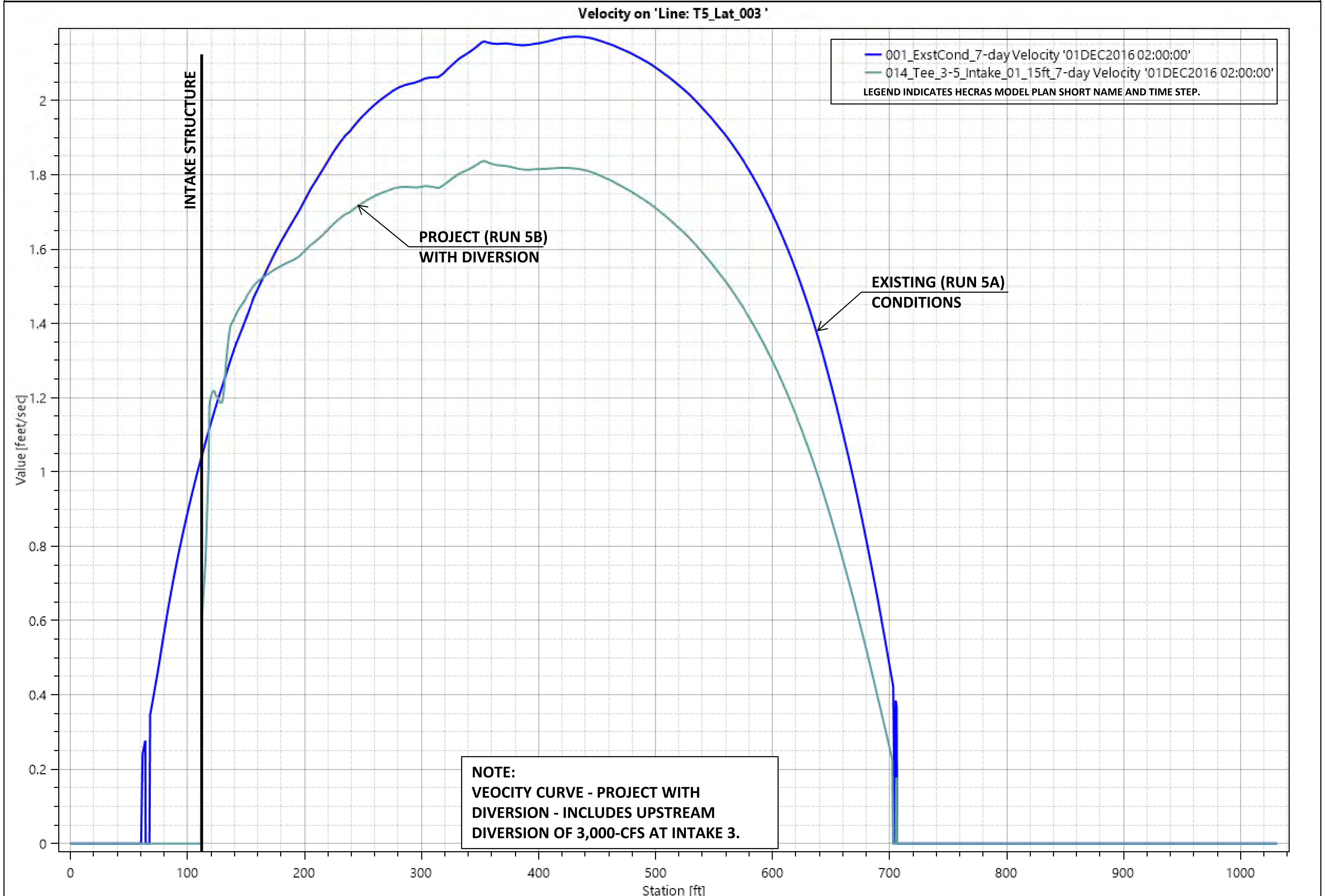
RUN 5A vs 5B – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



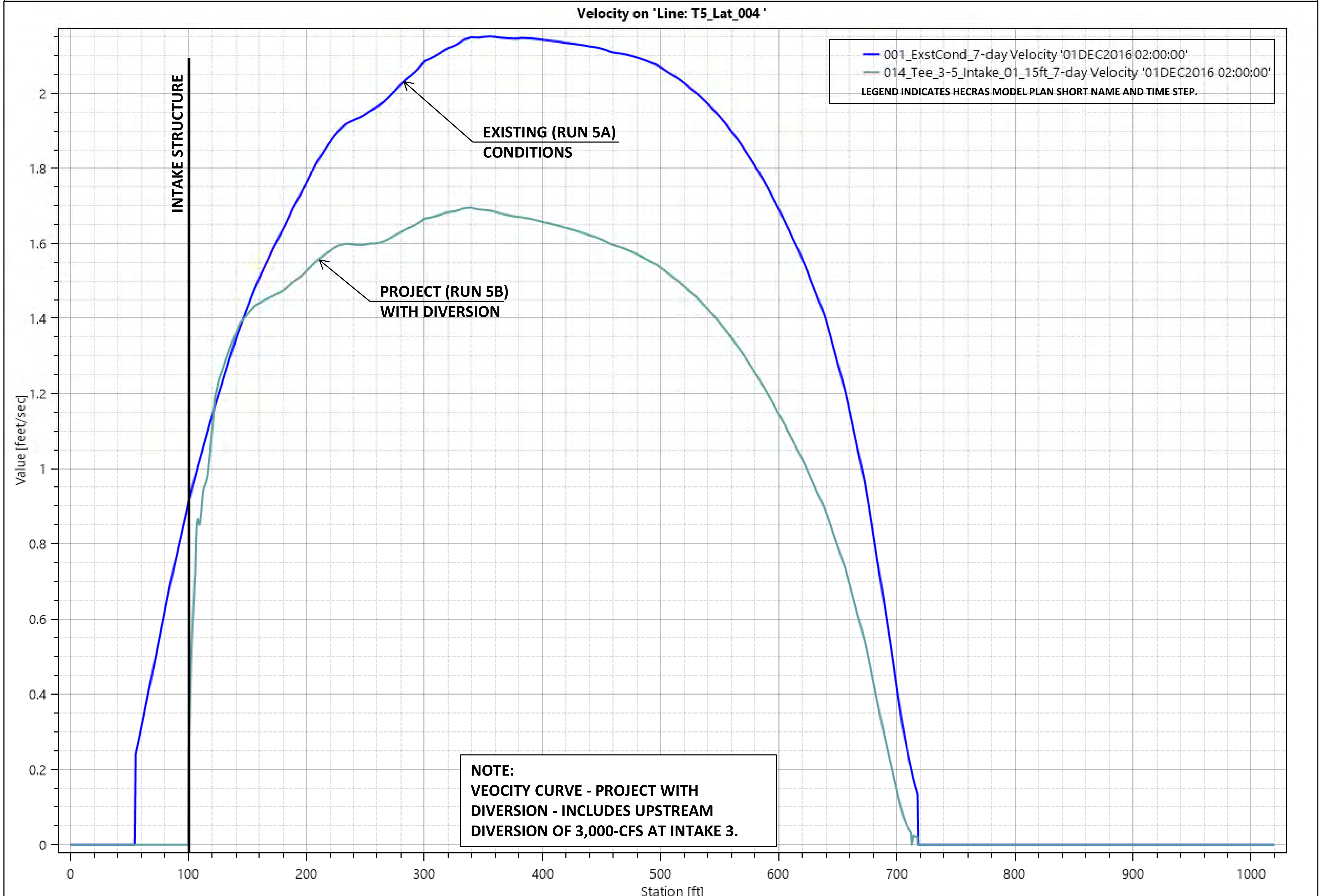
RUN 5A vs 5B – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



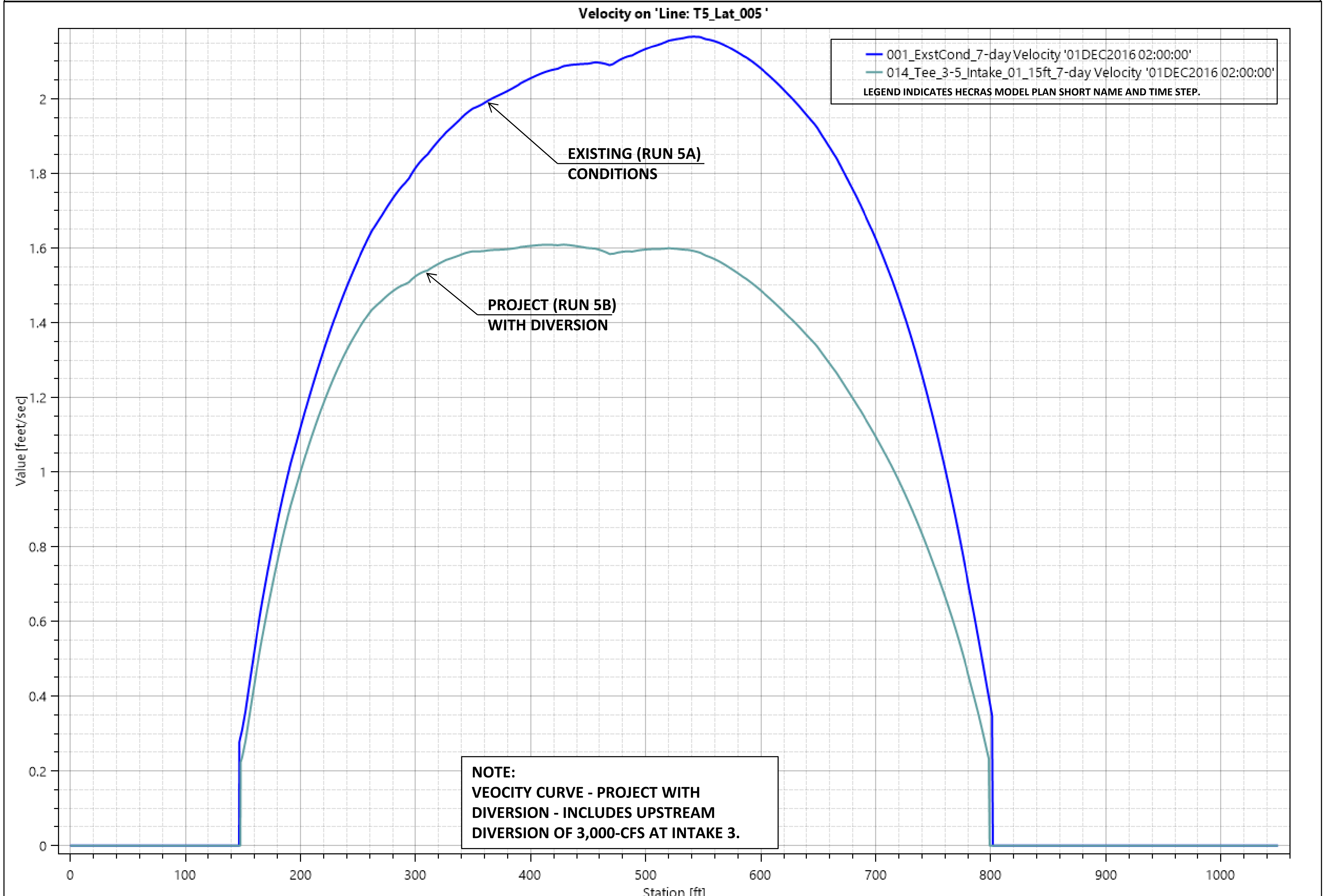
RUN 5A vs 5B – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 5A vs 5B – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

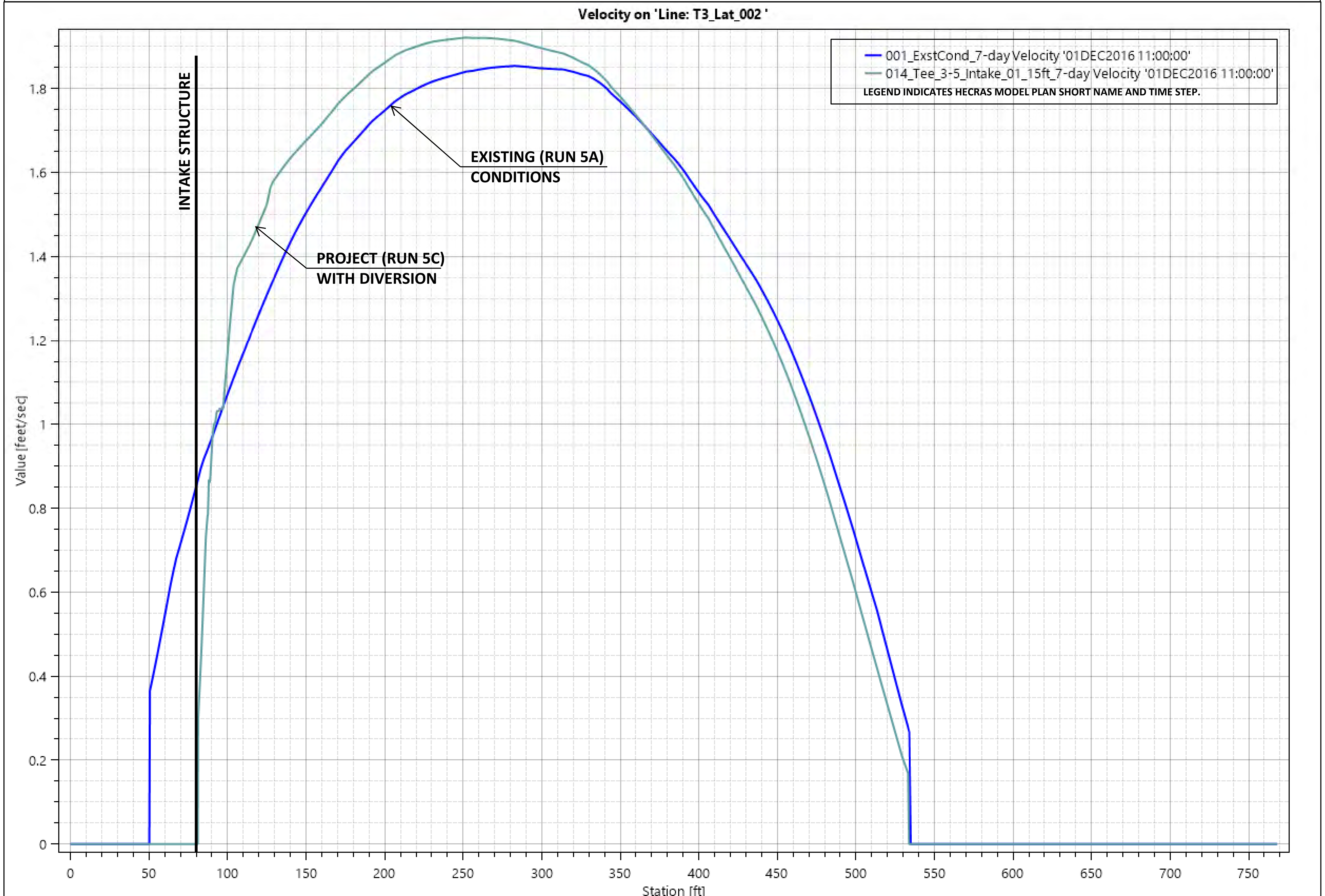
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



RUN 5A vs 5C
INTAKE C-E-3 (B)

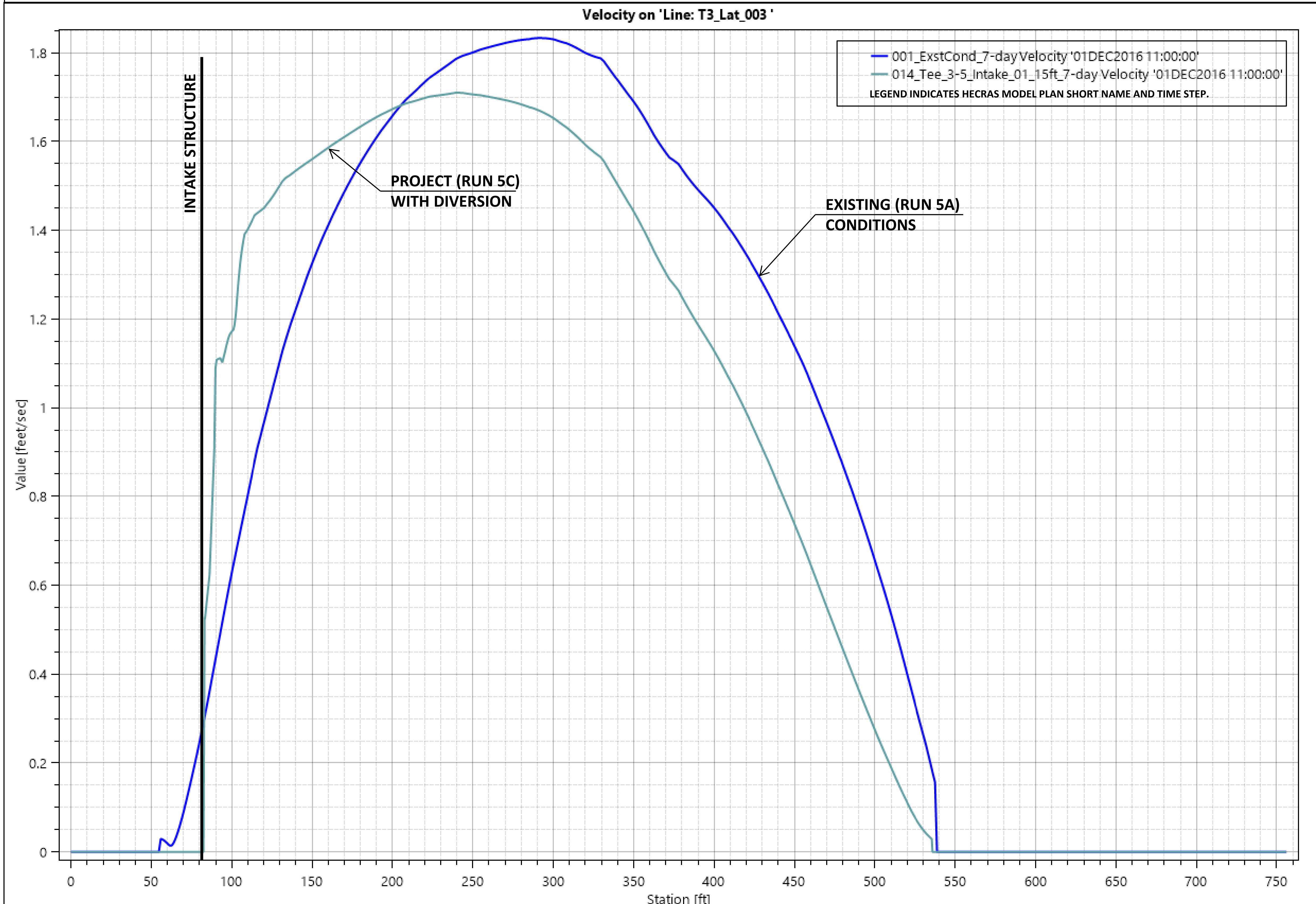
RUN 5A vs 5C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



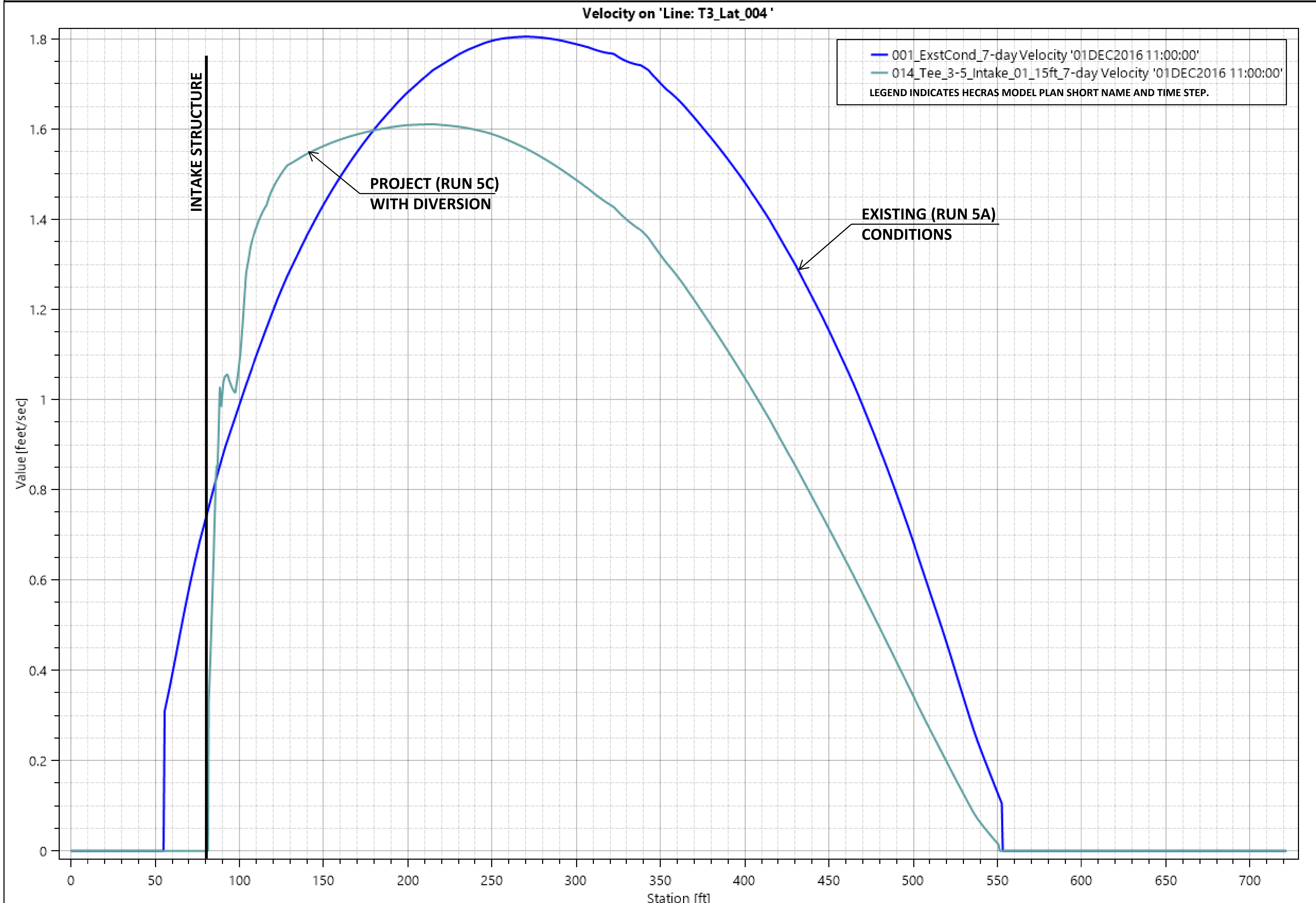
RUN 5A vs 5C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



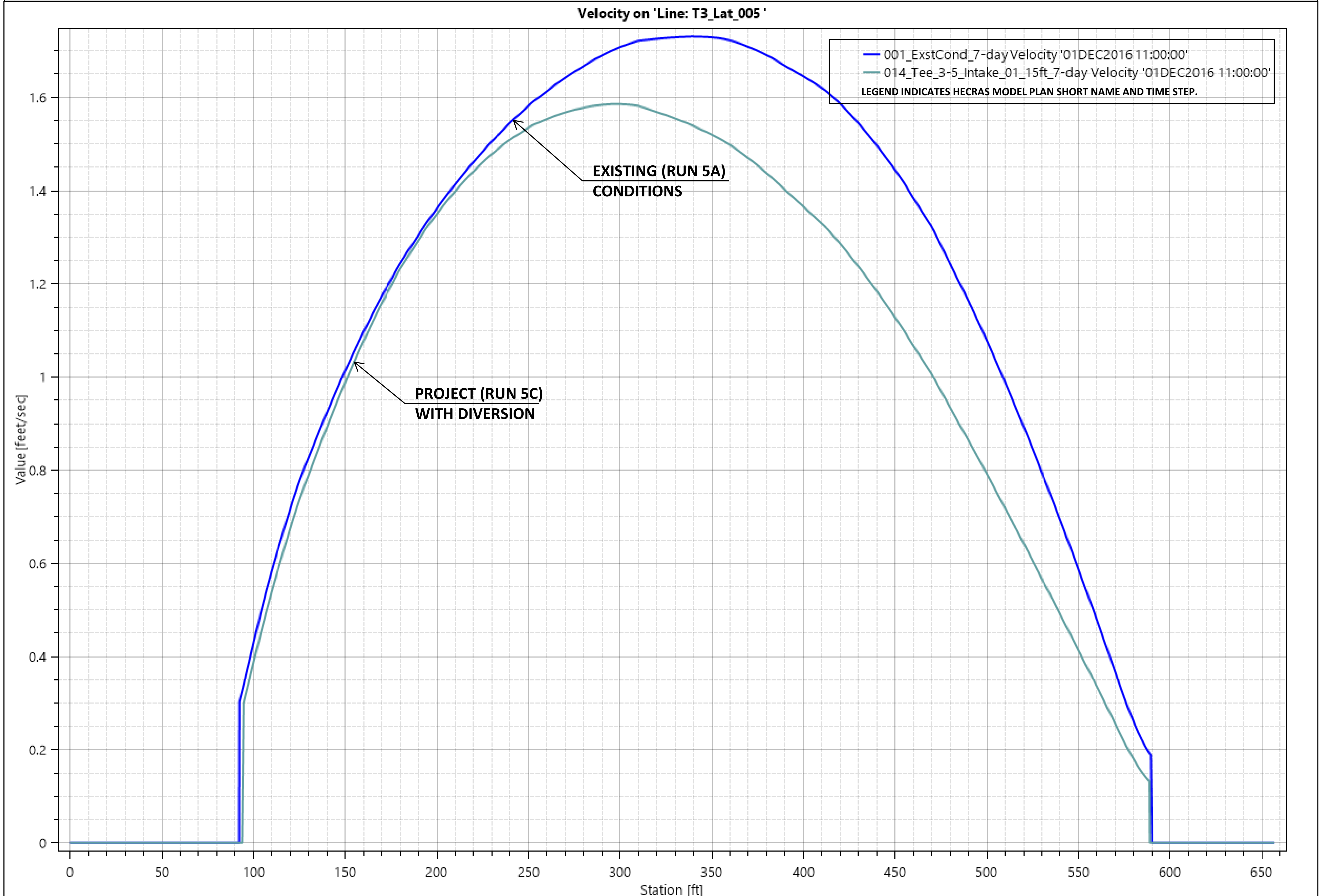
RUN 5A vs 5C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 5A vs 5C – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

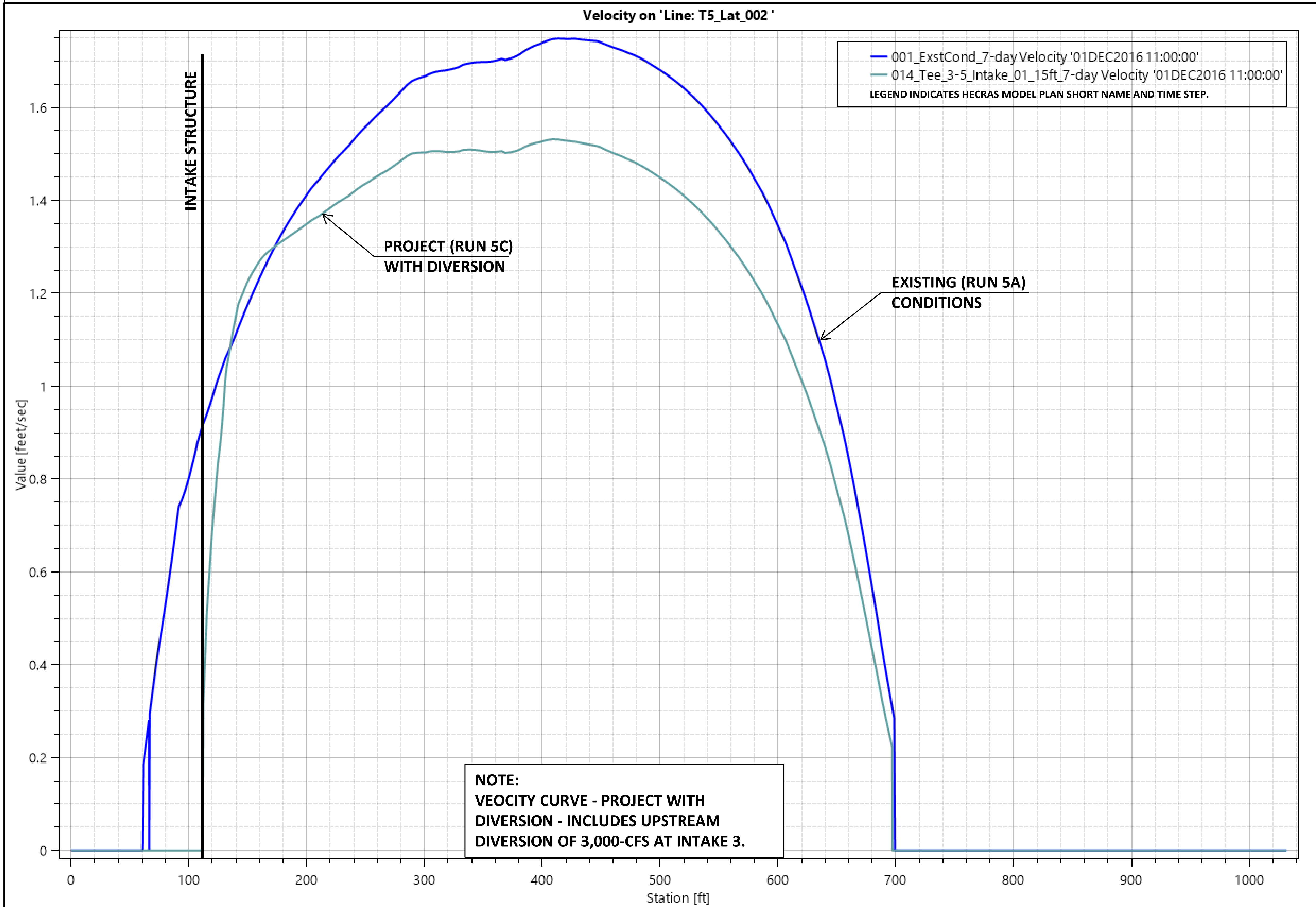
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 5A vs 5C
INTAKE C-E-5 (C)

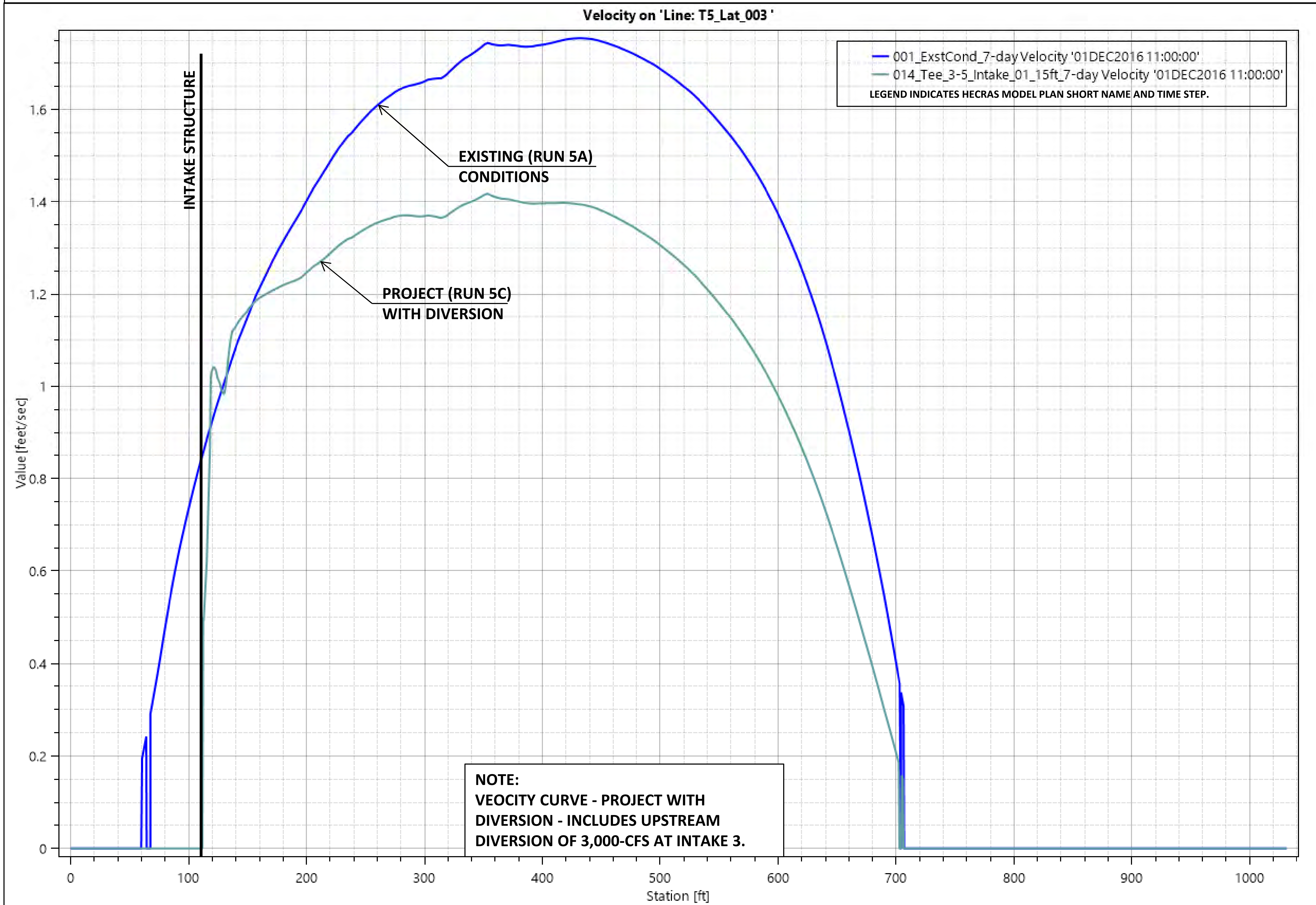
RUN 5A vs 5C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



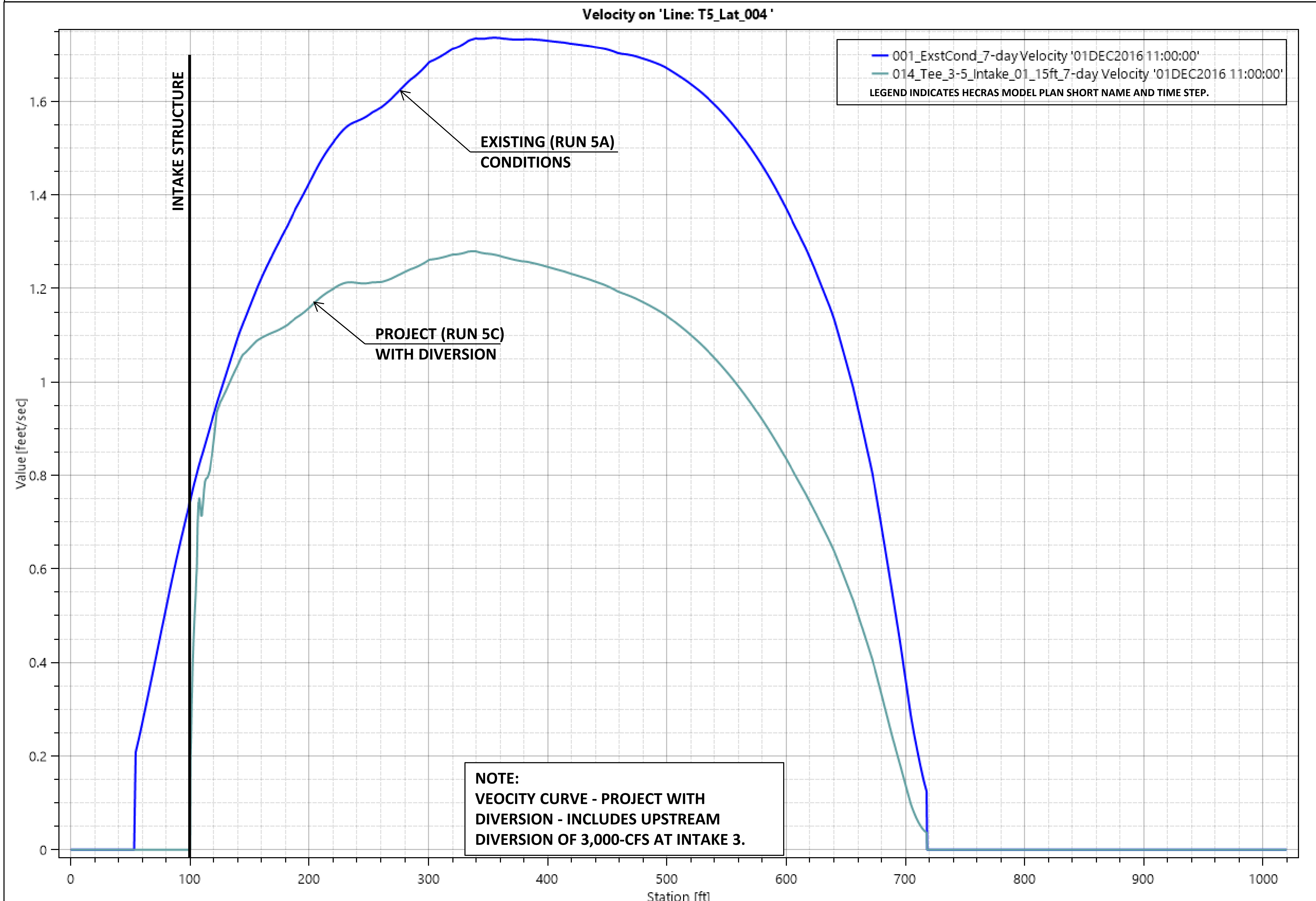
RUN 5A vs 5C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



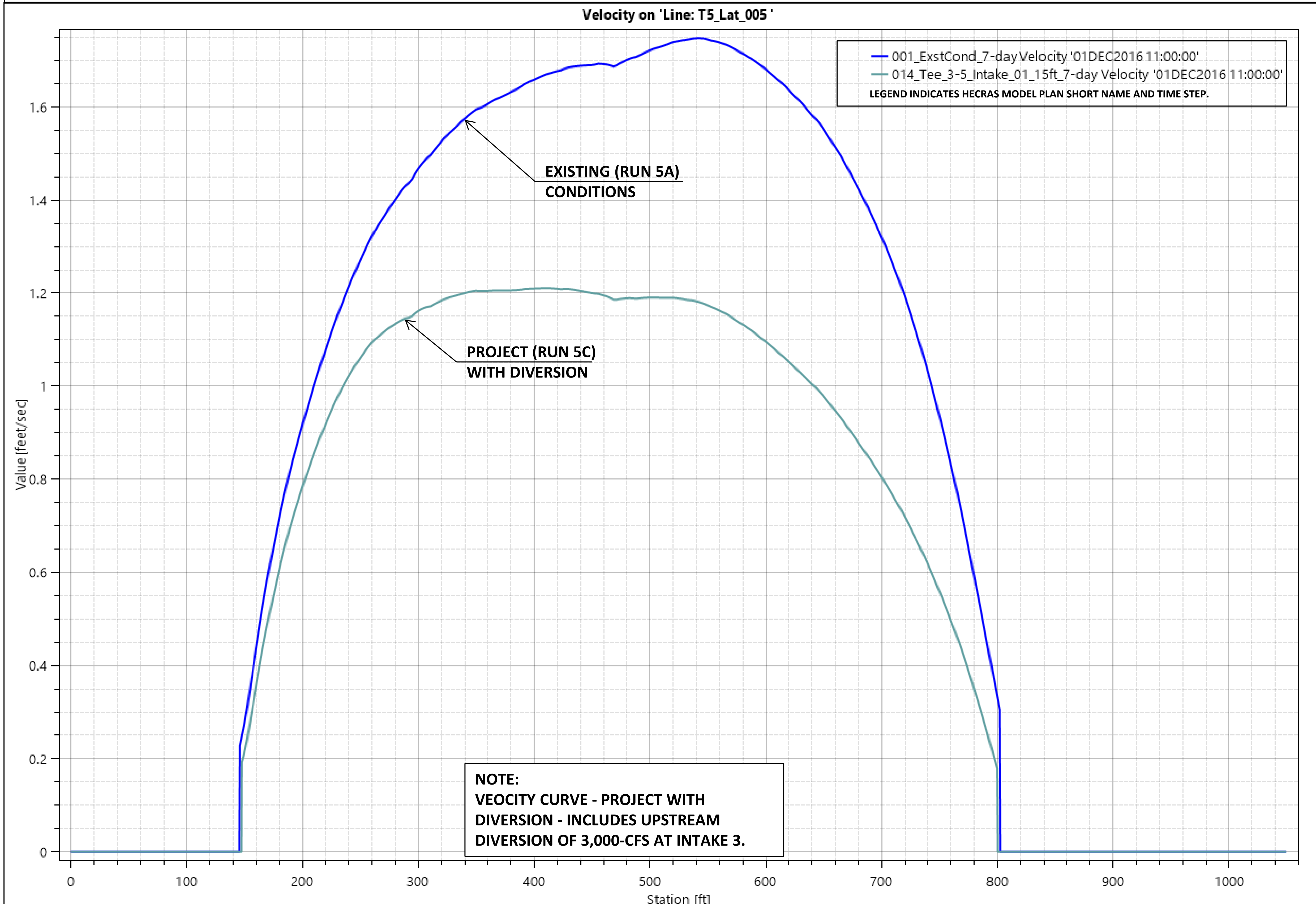
RUN 5A vs 5C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 5A vs 5C – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

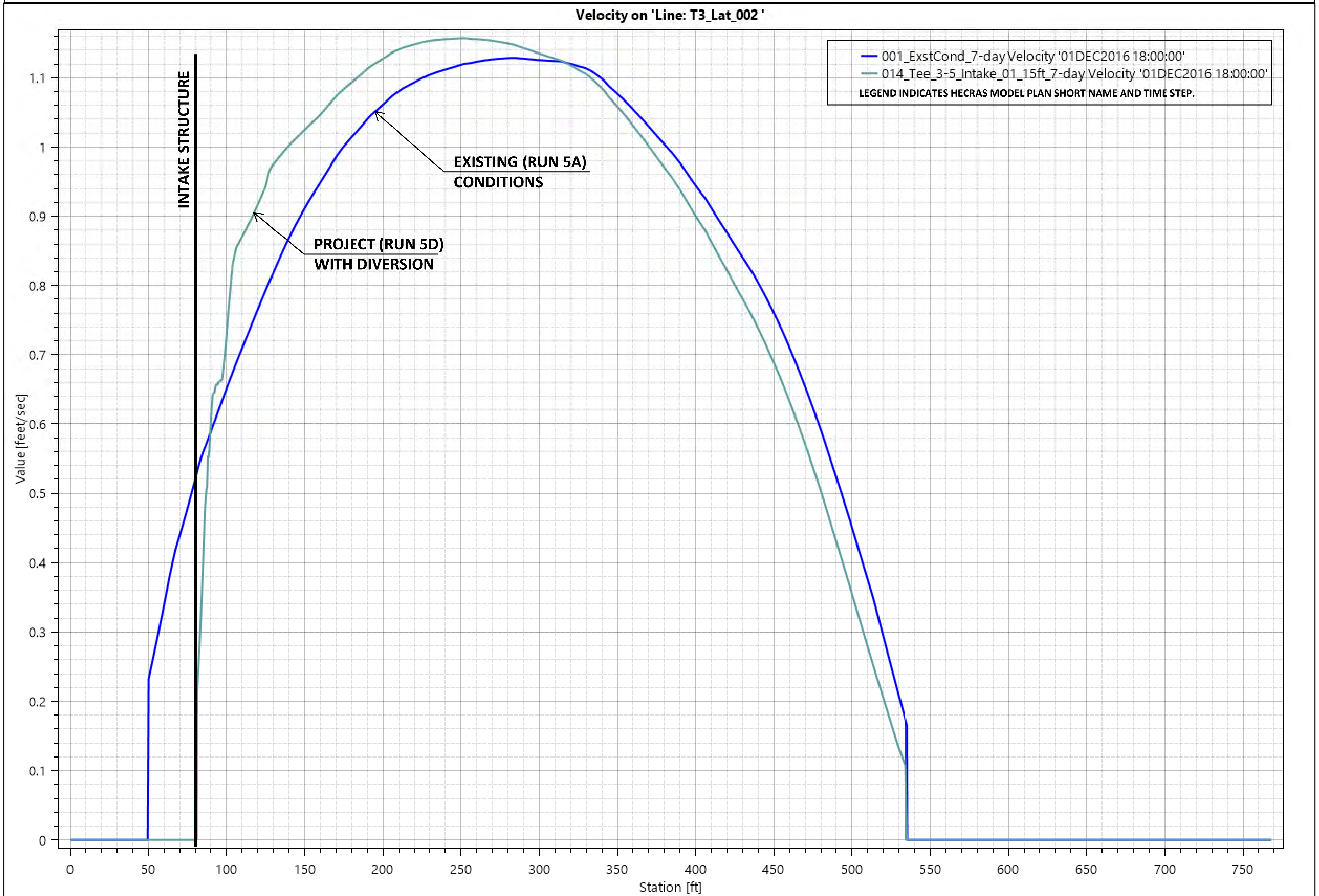
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



RUN 5A vs 5D
INTAKE C-E-3 (B)

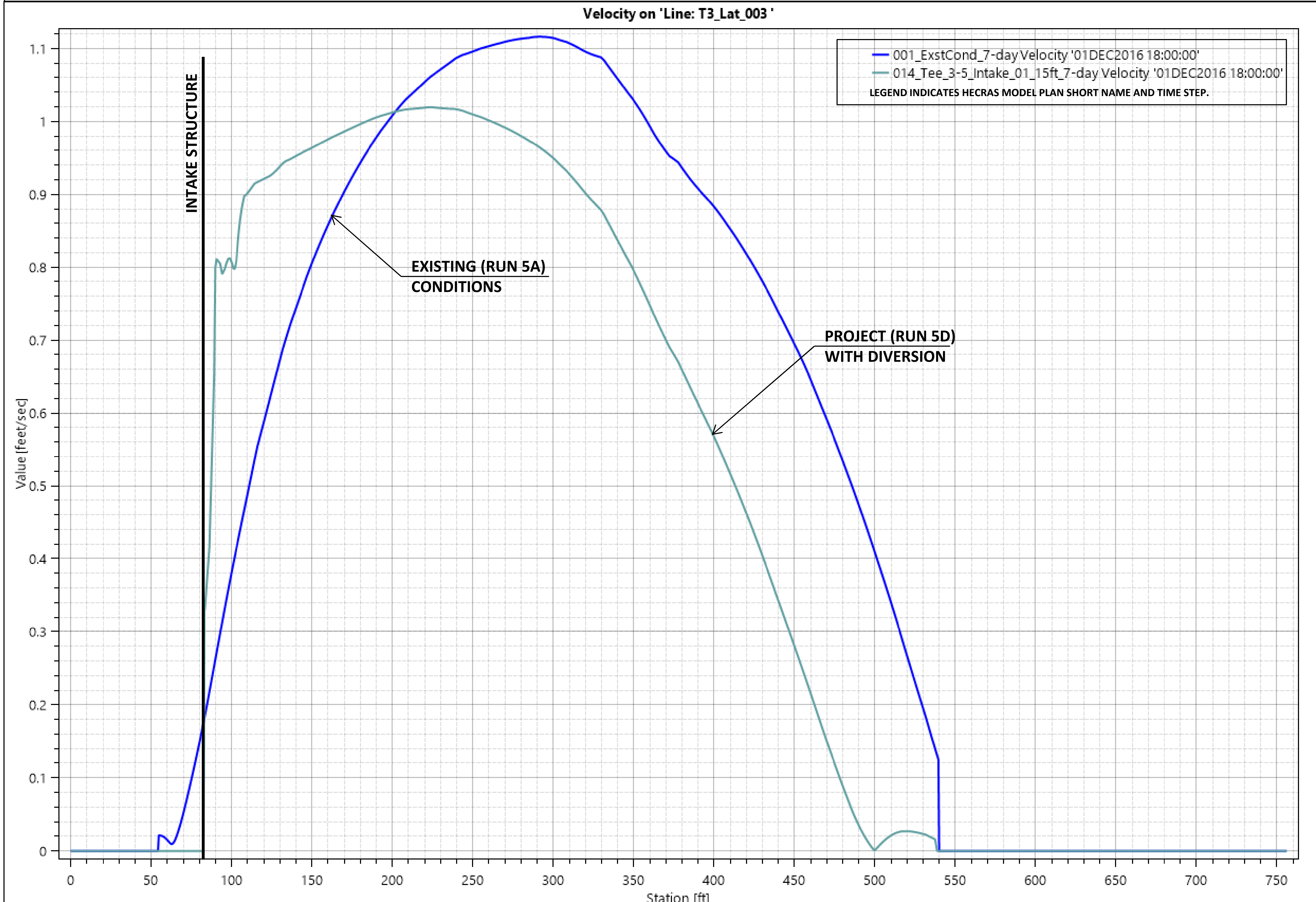
RUN 5A vs 5D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T3_LAT_002



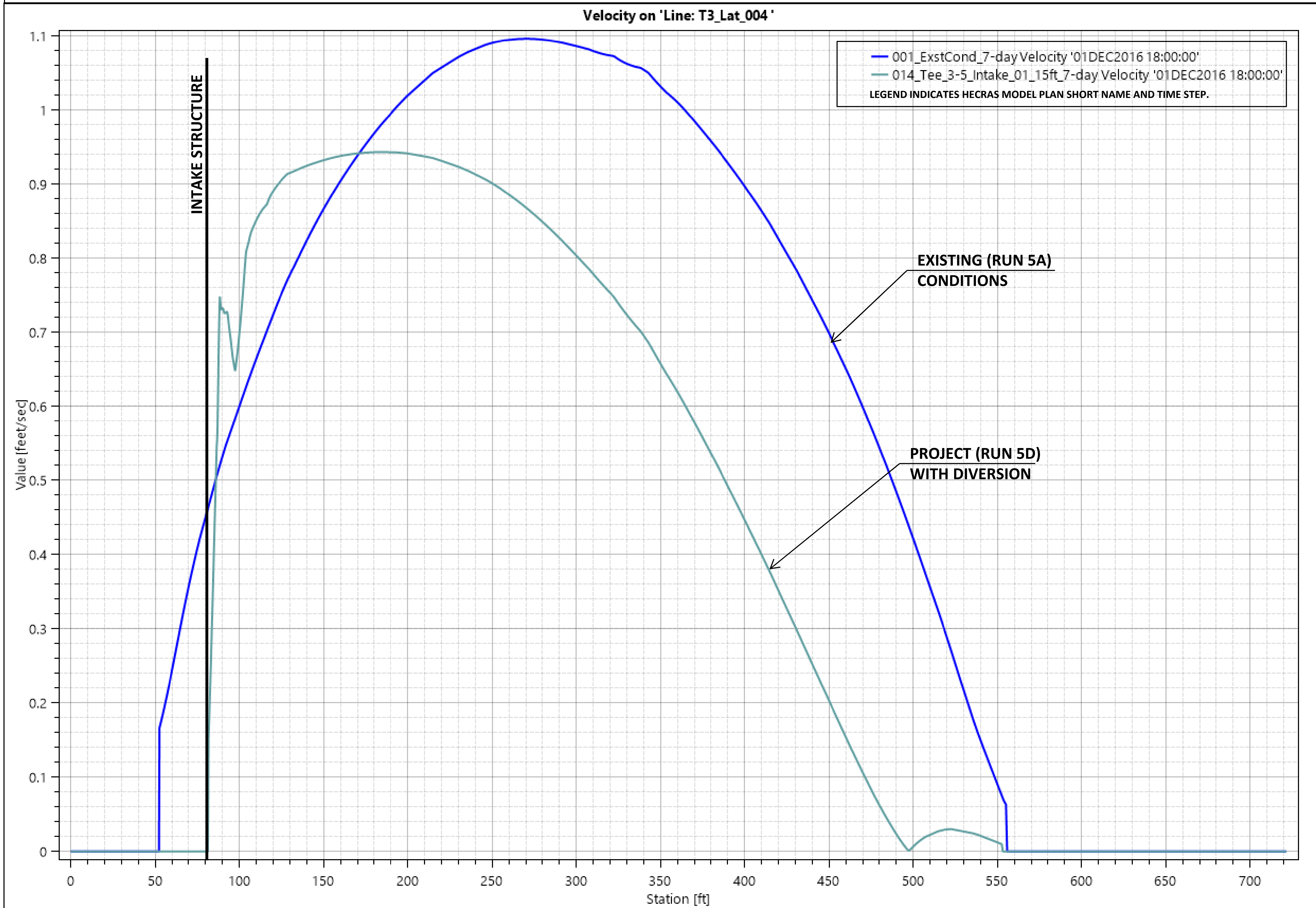
RUN 5A vs 5D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T3_LAT_003



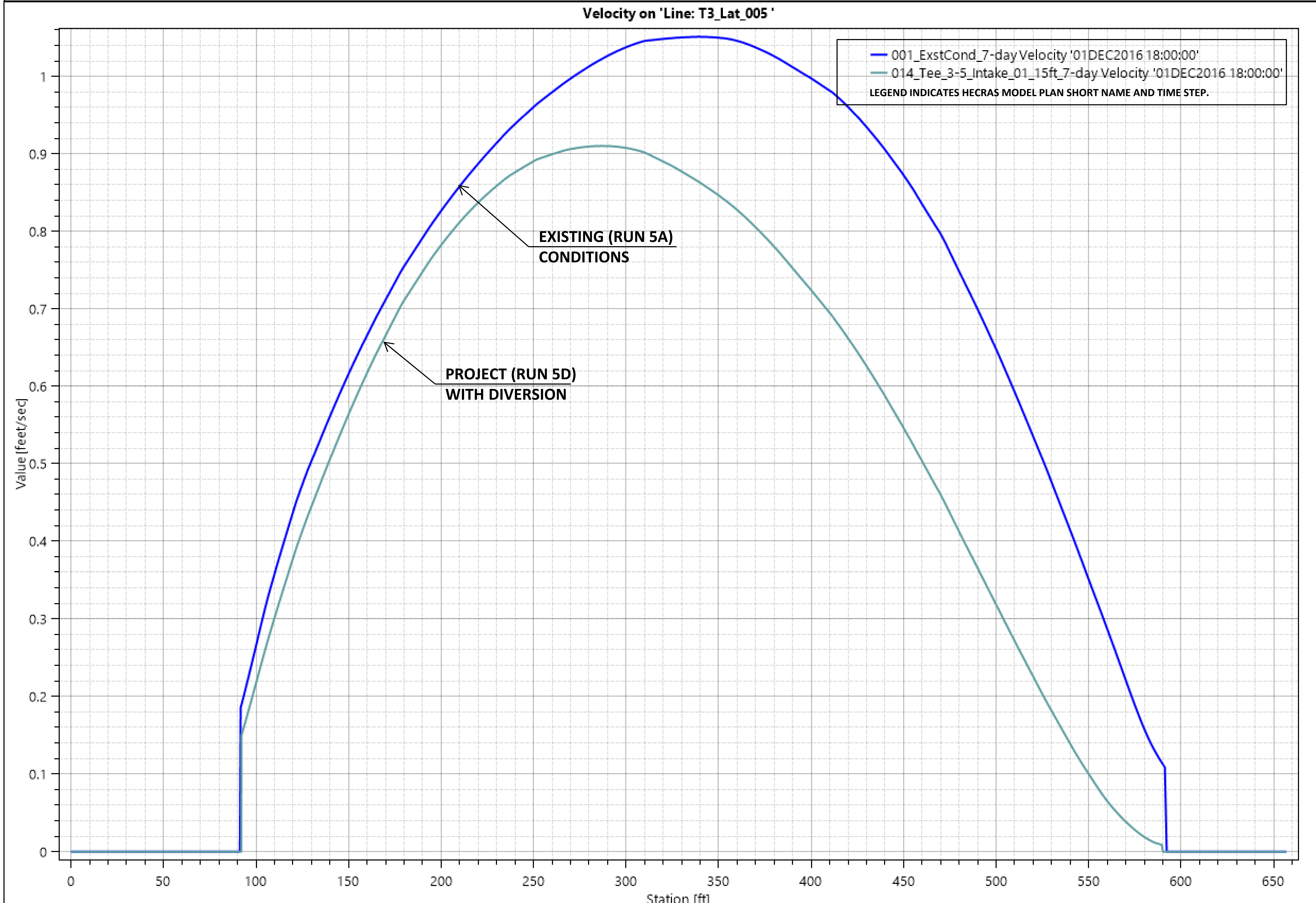
RUN 5A vs 5D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T3_LAT_004



RUN 5A vs 5D – INTAKE C-E-3 (B) – LATERAL VELOCITY PROFILE PLOT

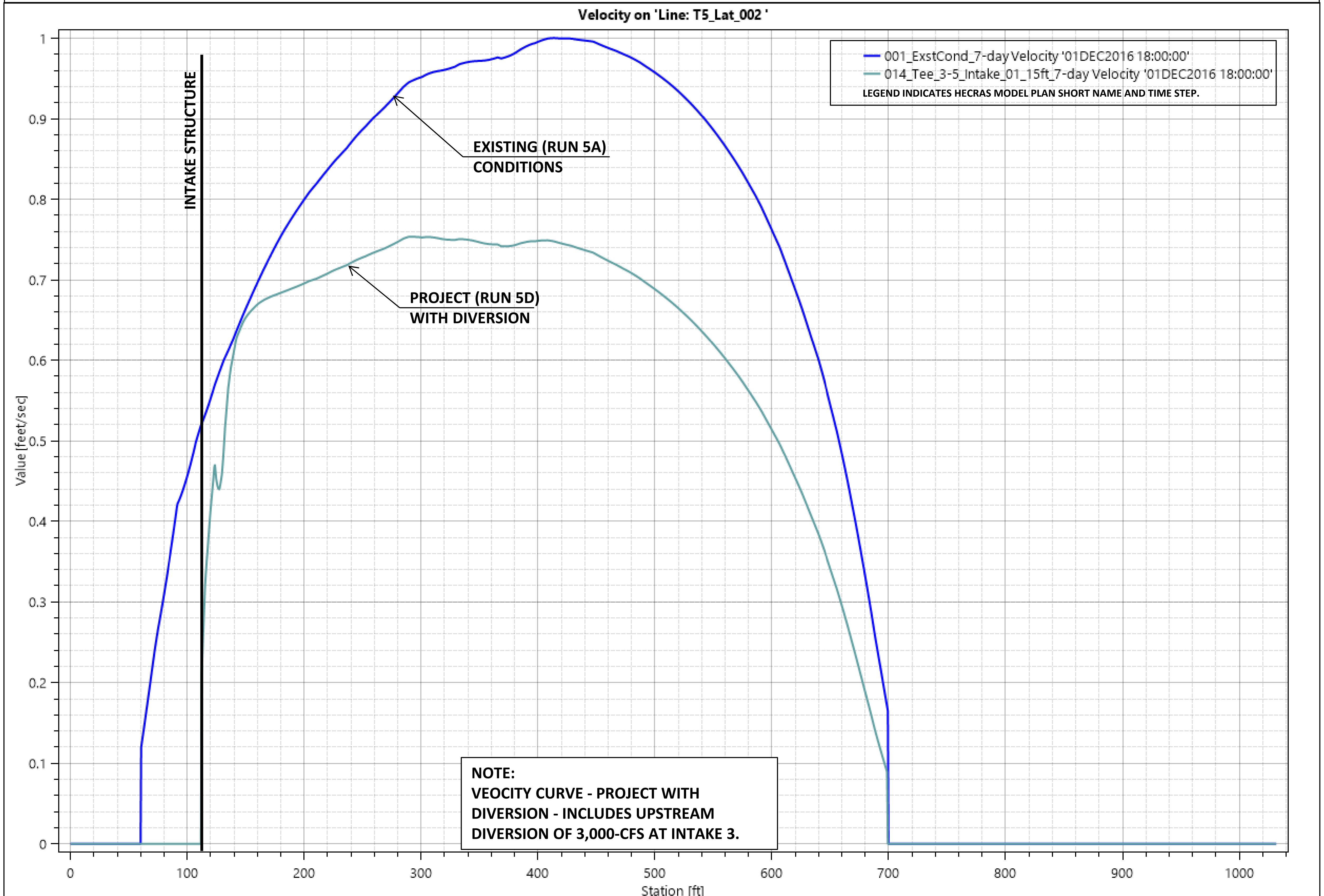
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T3_LAT_005



RUN 5A vs 5D
INTAKE C-E-5 (C)

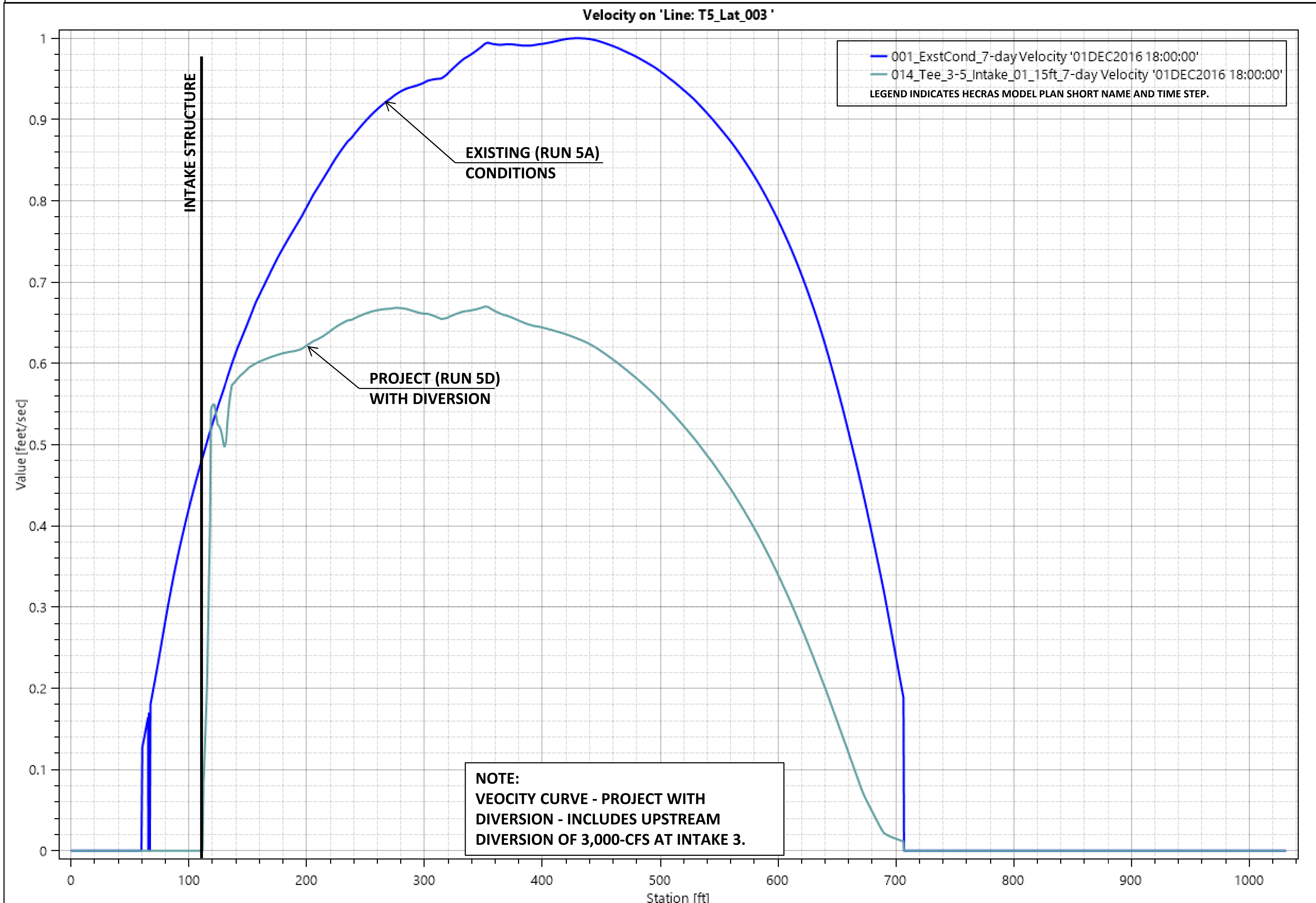
RUN 5A vs 5D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN UPSTREAM END – T5_LAT_002



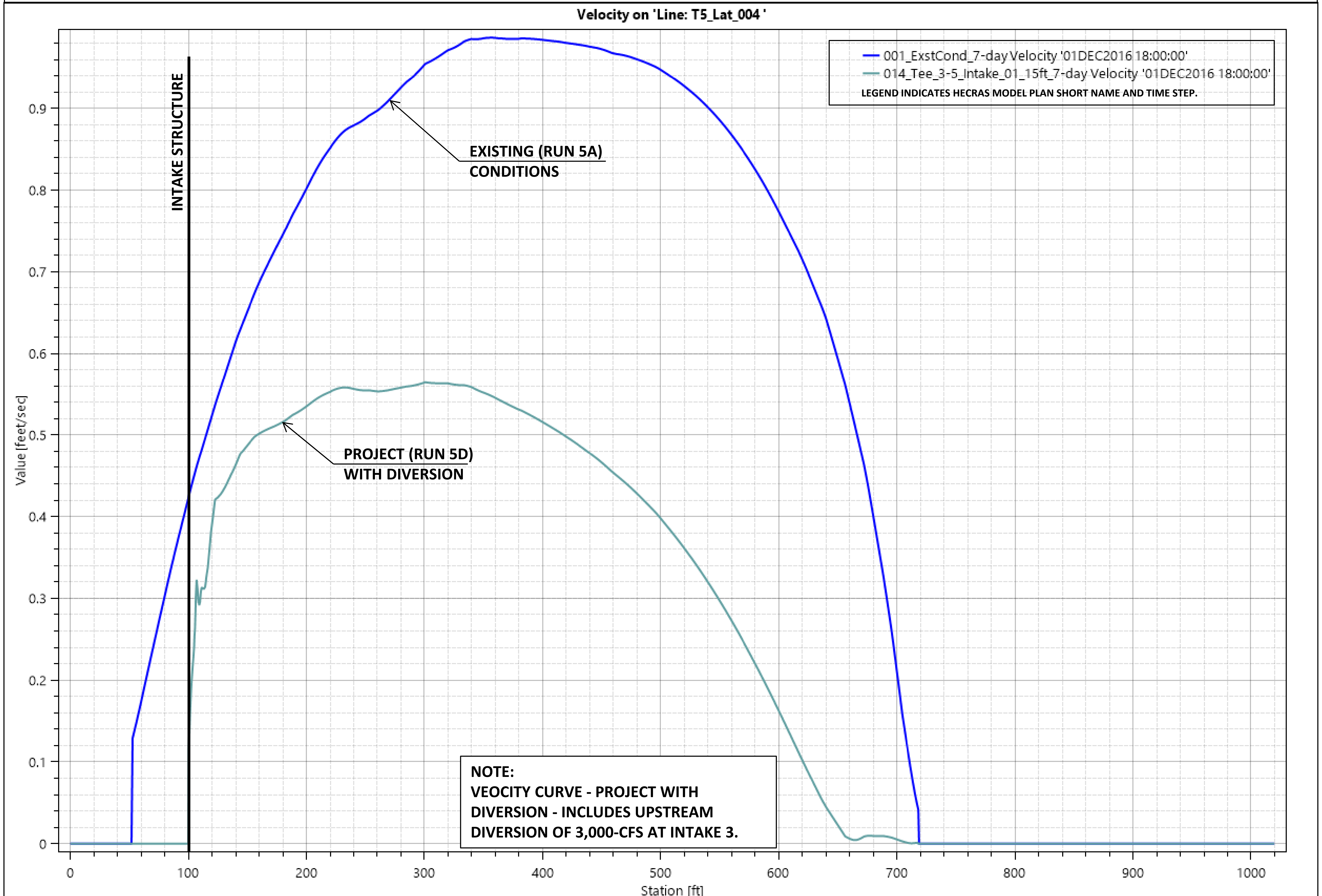
RUN 5A vs 5D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN CENTERLINE – T5_LAT_003



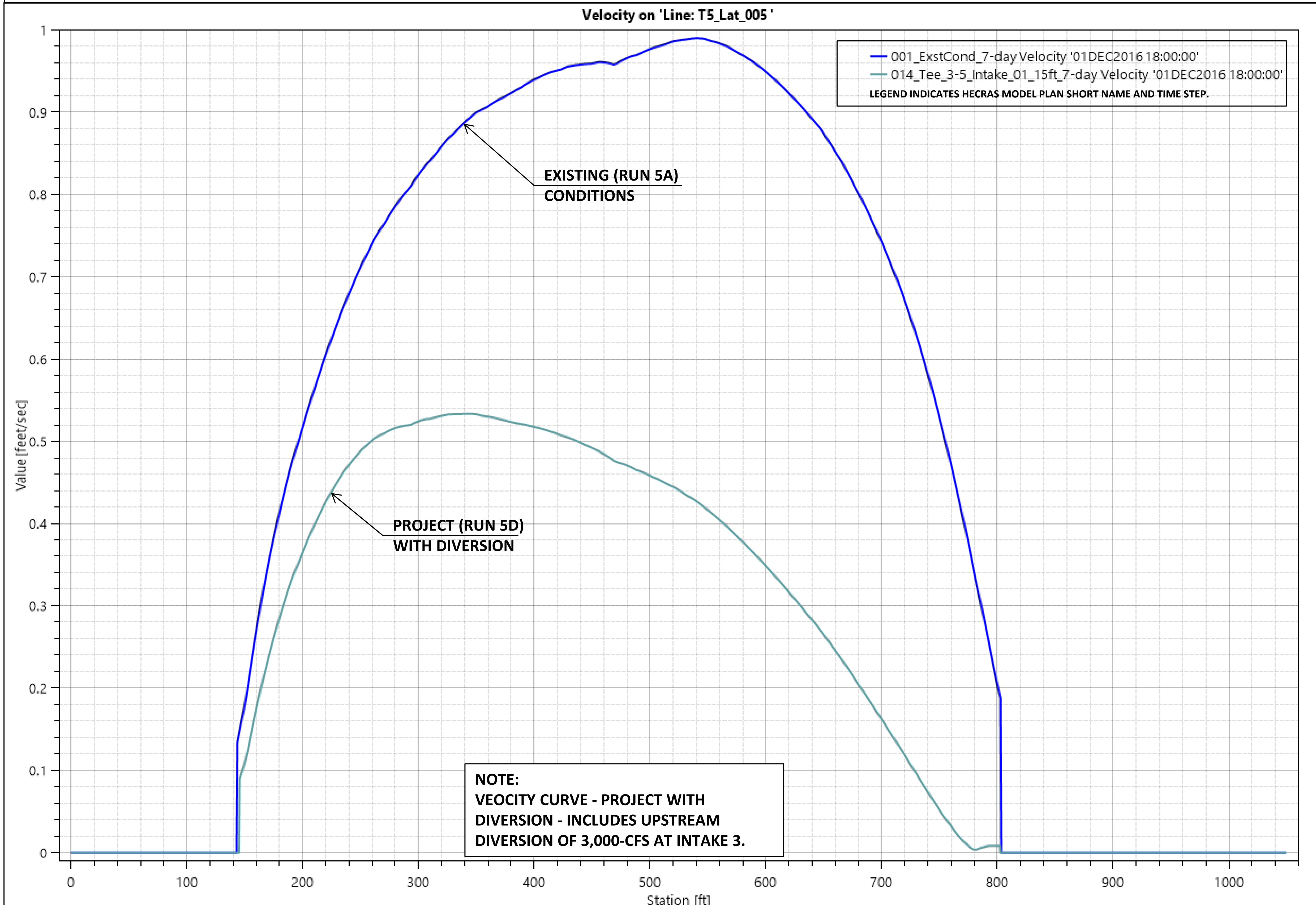
RUN 5A vs 5D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

CROSS-SECTION TAKEN AT SCREEN DOWNSTREAM END – T5_LAT_004



RUN 5A vs 5D – INTAKE C-E-5 (C) – LATERAL VELOCITY PROFILE PLOT

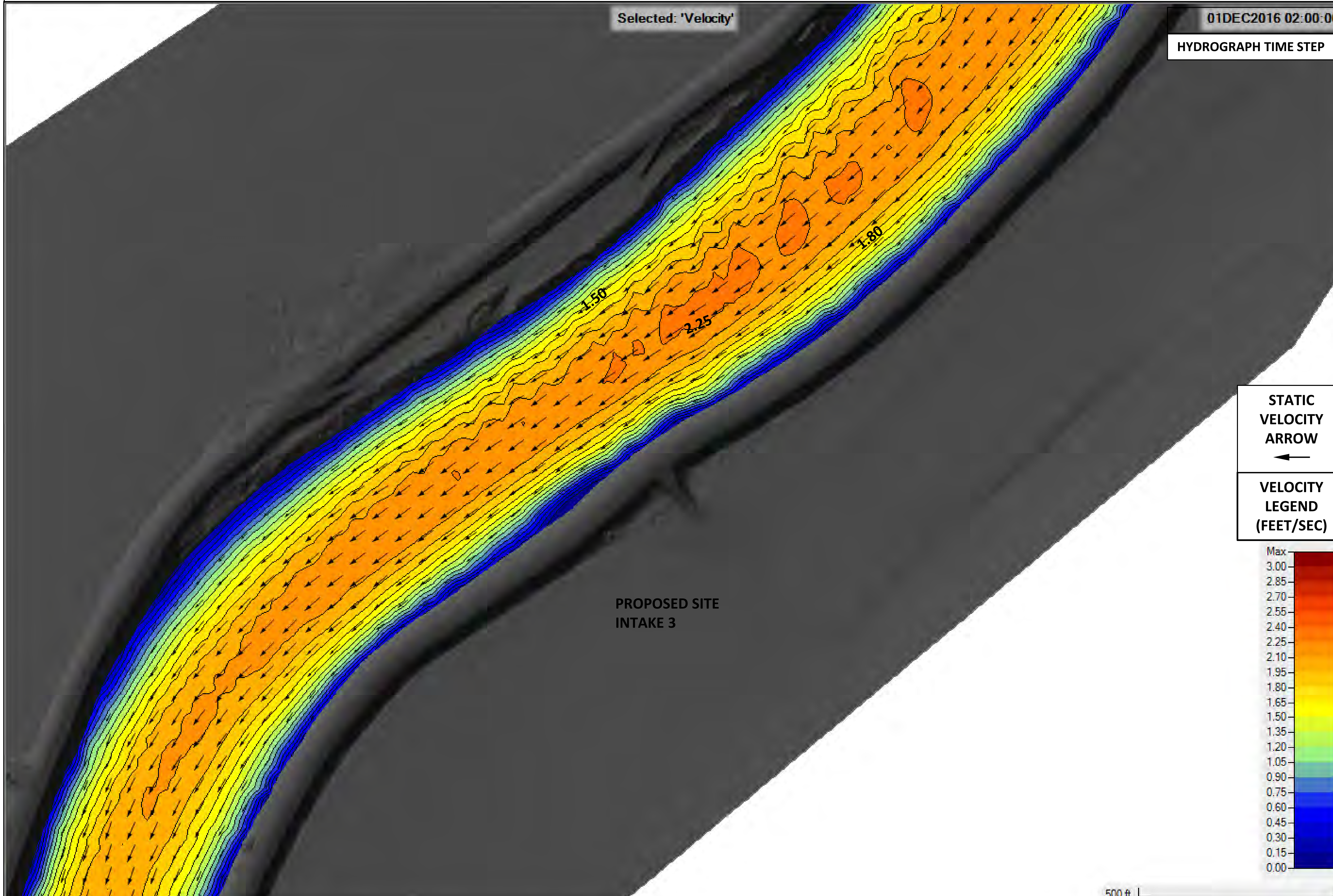
CROSS-SECTION TAKEN AT RIVER DOWNSTREAM OF INTAKE STRUCTURE – T5_LAT_005



Velocity Contour Plots at Intake Structures

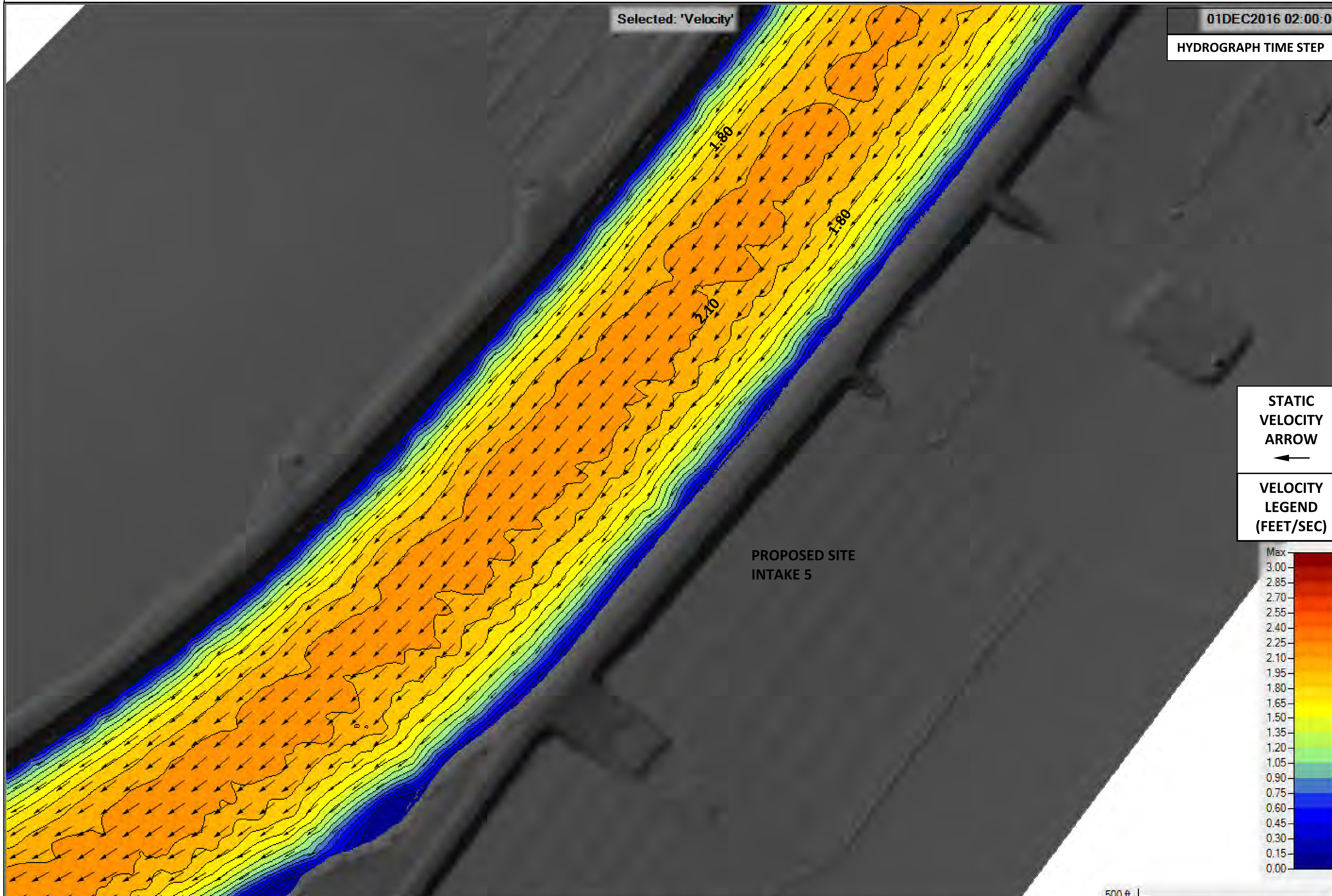
RUN 5A - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 7-DAY HYDROGRAPH AT FREEPORT



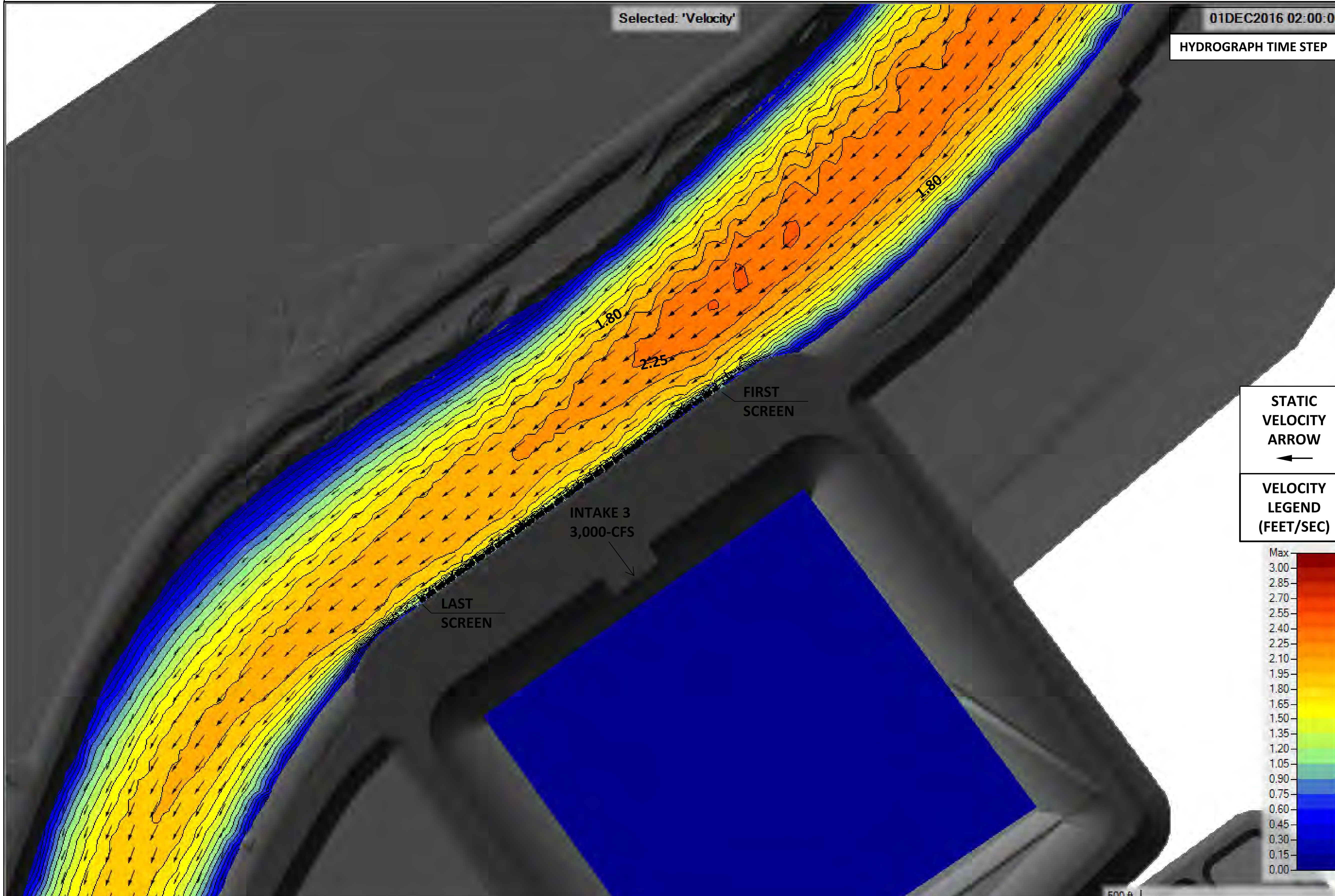
RUN 5A - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO EXISTING CONDITIONS – 7-DAY HYDROGRAPH AT FREEPORT



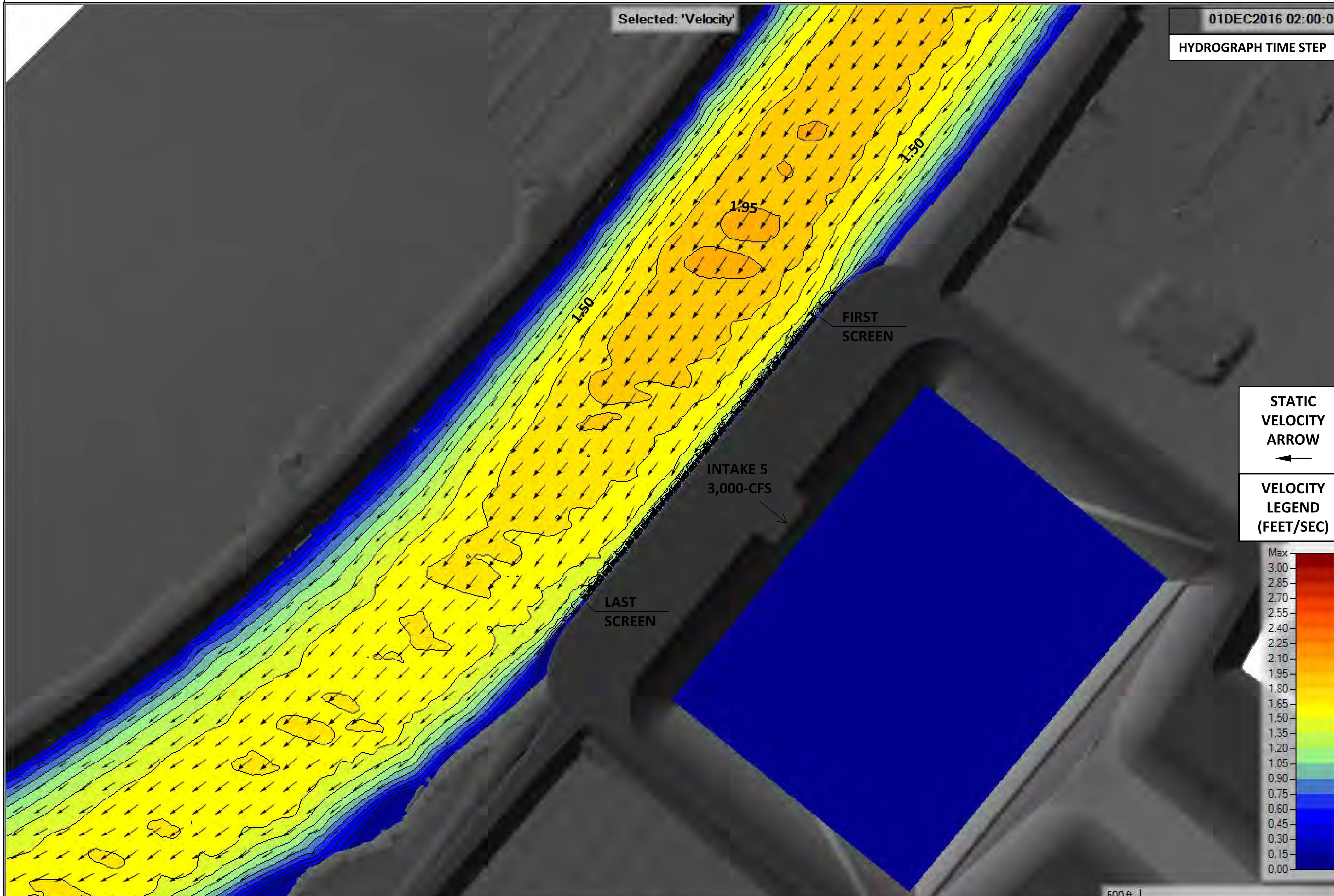
RUN 5B - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS



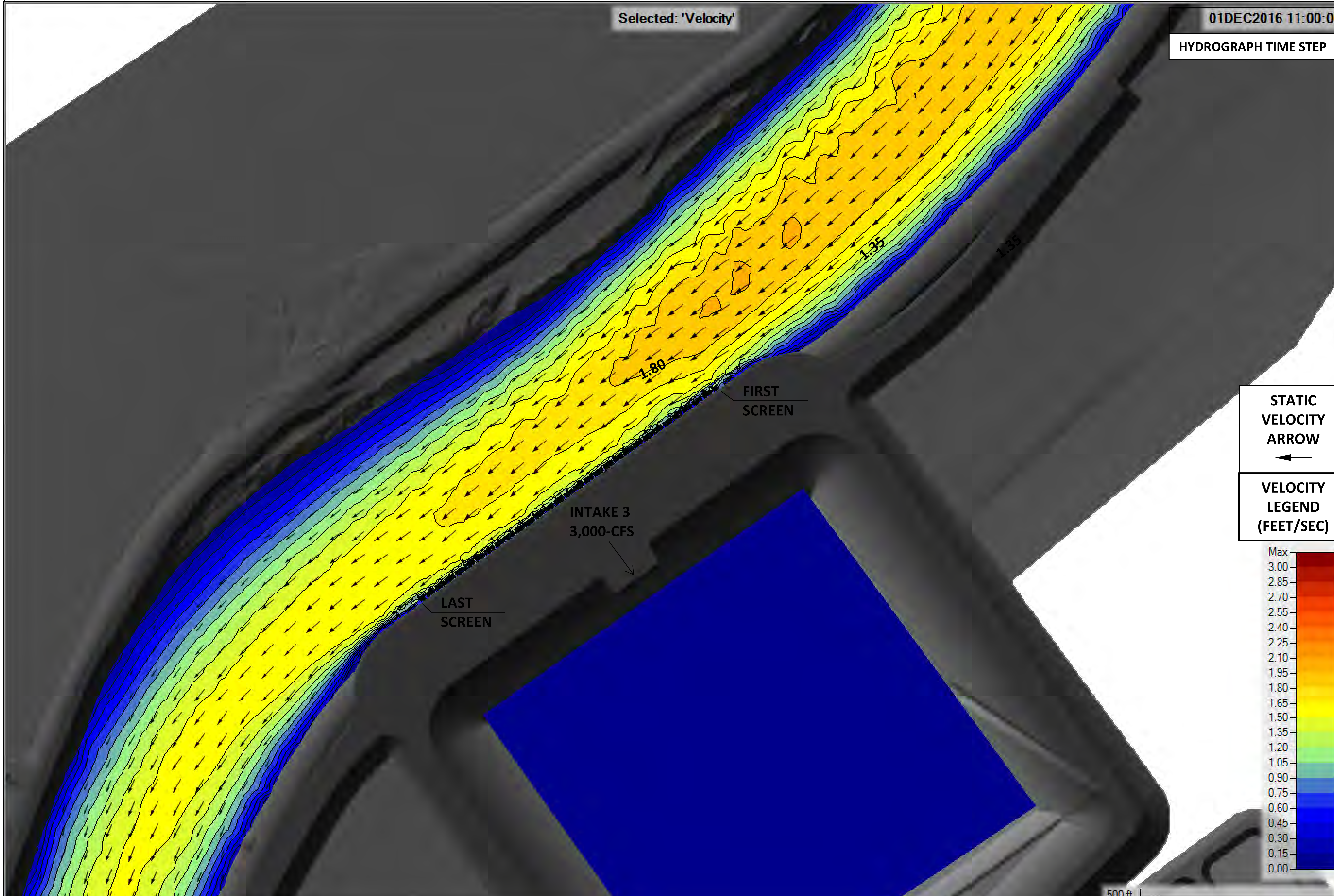
RUN 5B - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS



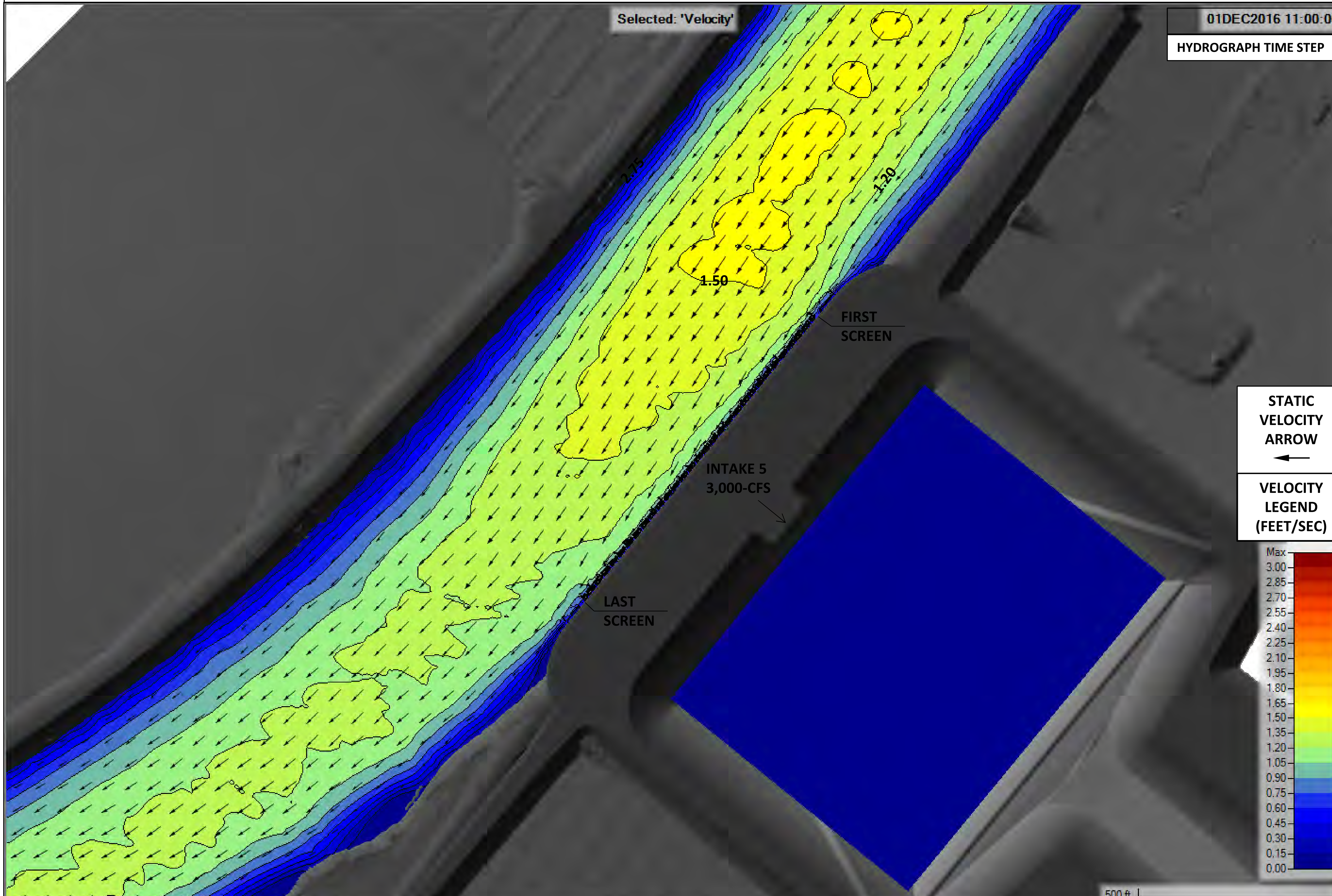
RUN 5C - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS



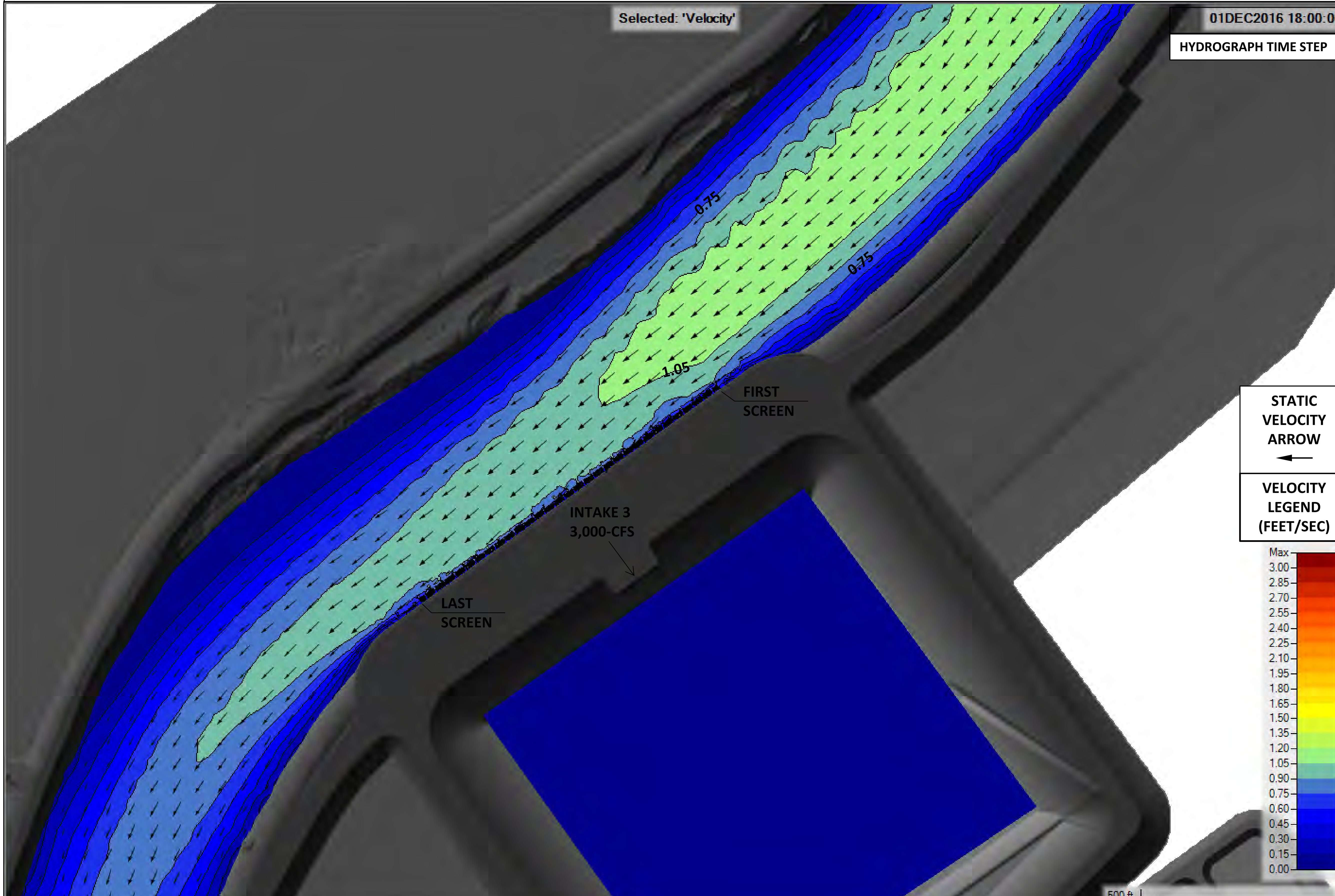
RUN 5C - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS



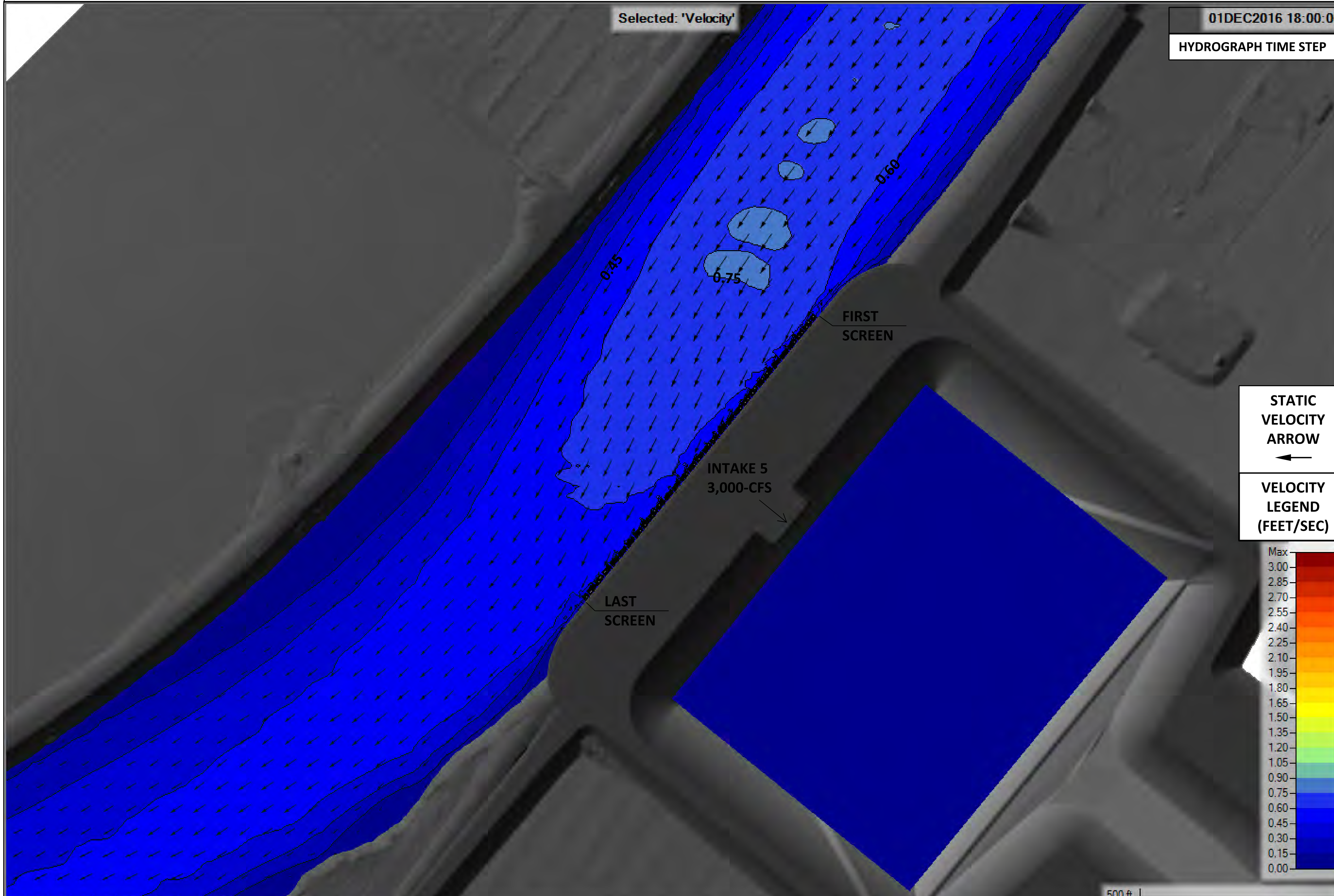
RUN 5D - INTAKE C-E-3 (B) – VELOCITY CONTOUR PLOT

MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS



RUN 5D - INTAKE C-E-5 (C) – VELOCITY CONTOUR PLOT

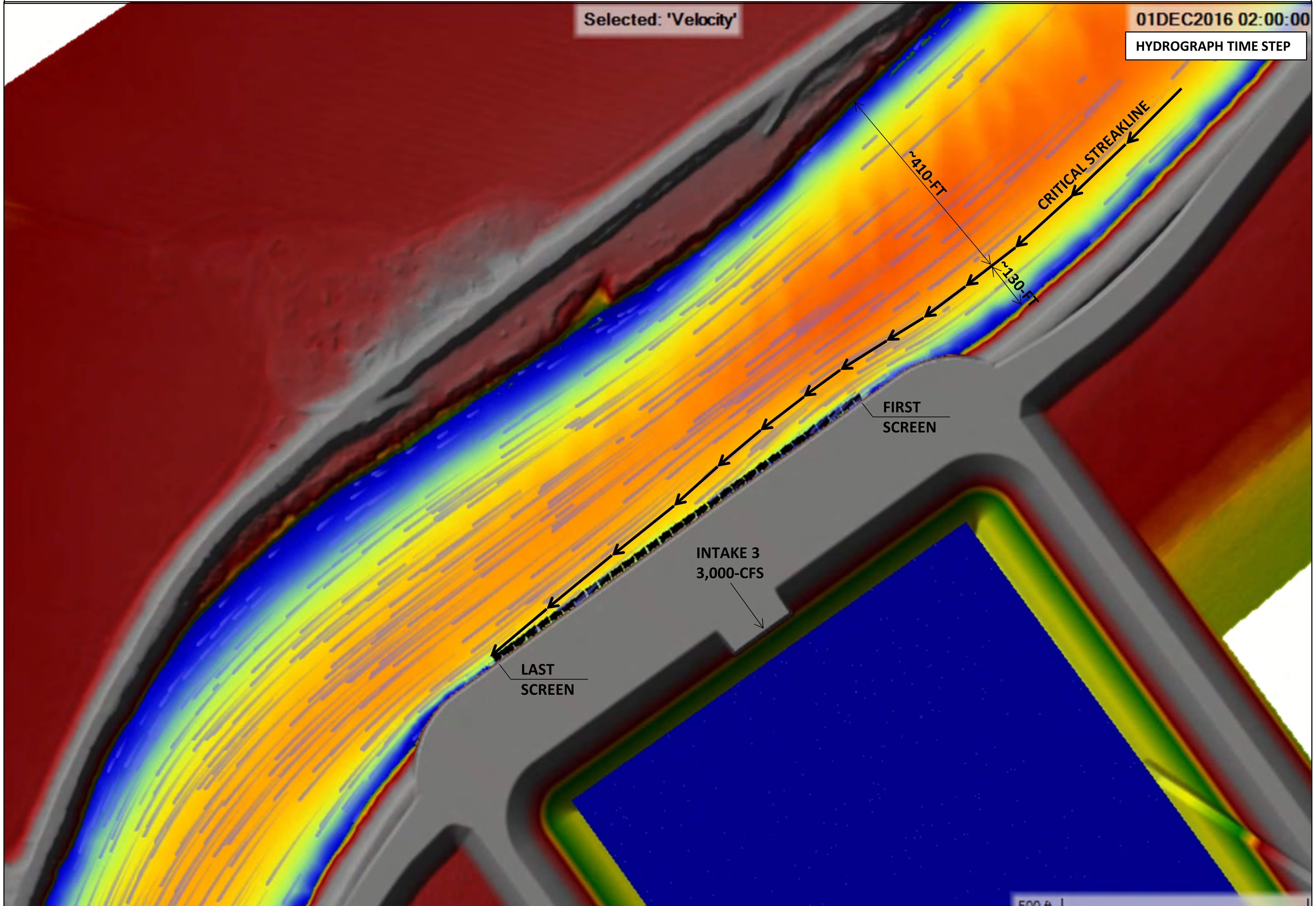
MODEL SCENARIO WITH INTAKES 3-5 @ FULL DIVERSION – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS



Critical Streakline at Intake Structures

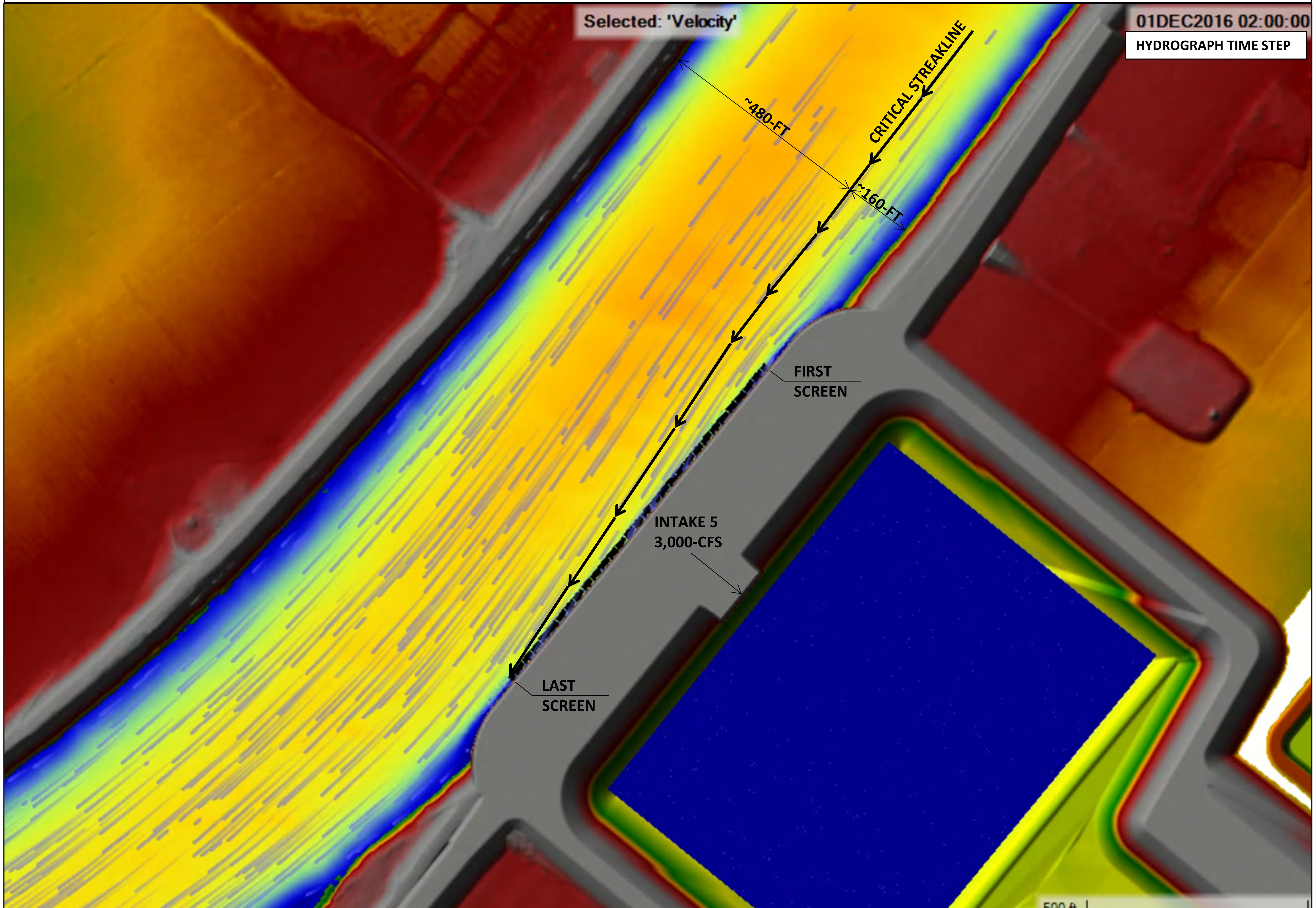
RUN 5B - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS



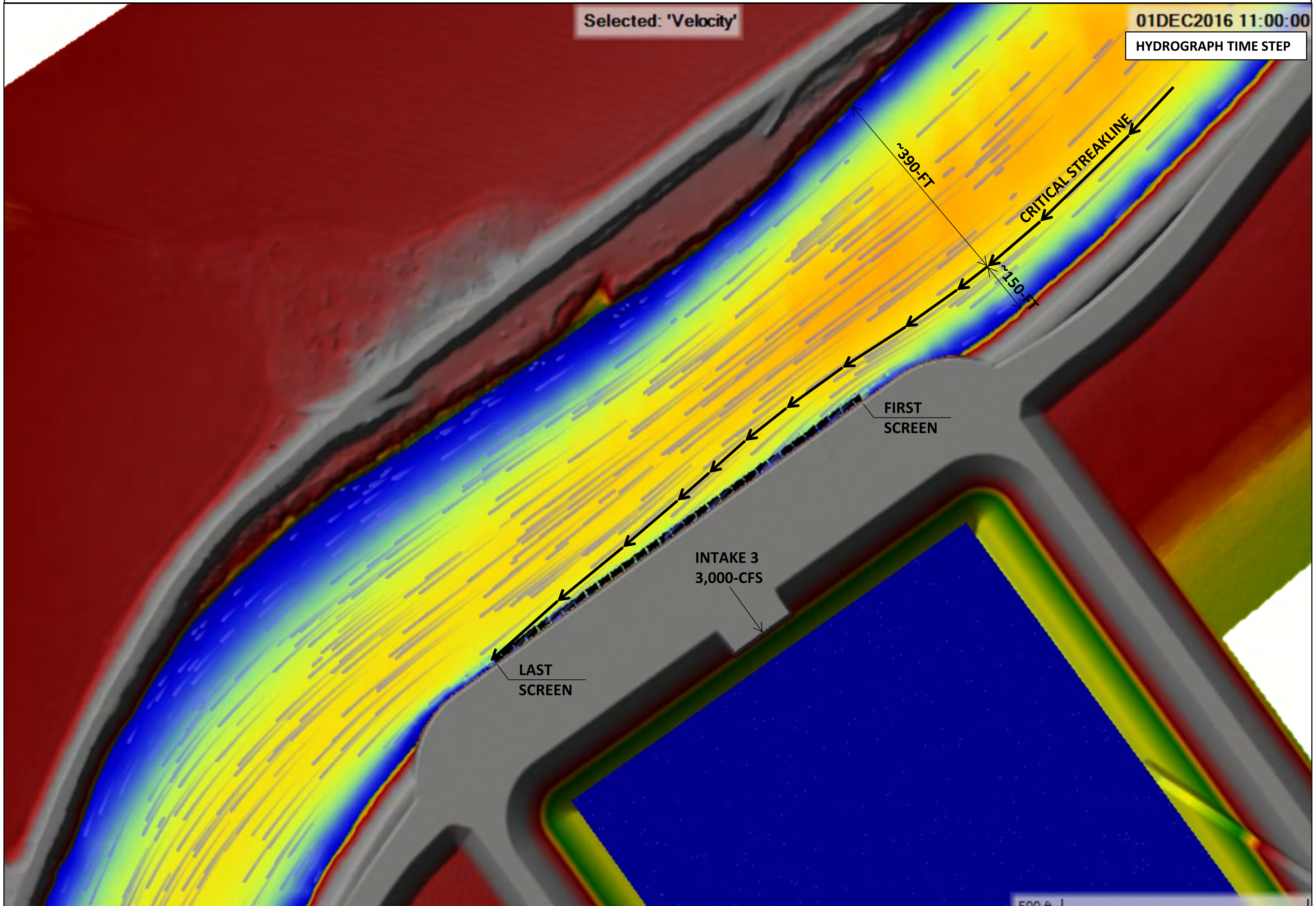
RUN 5B - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS



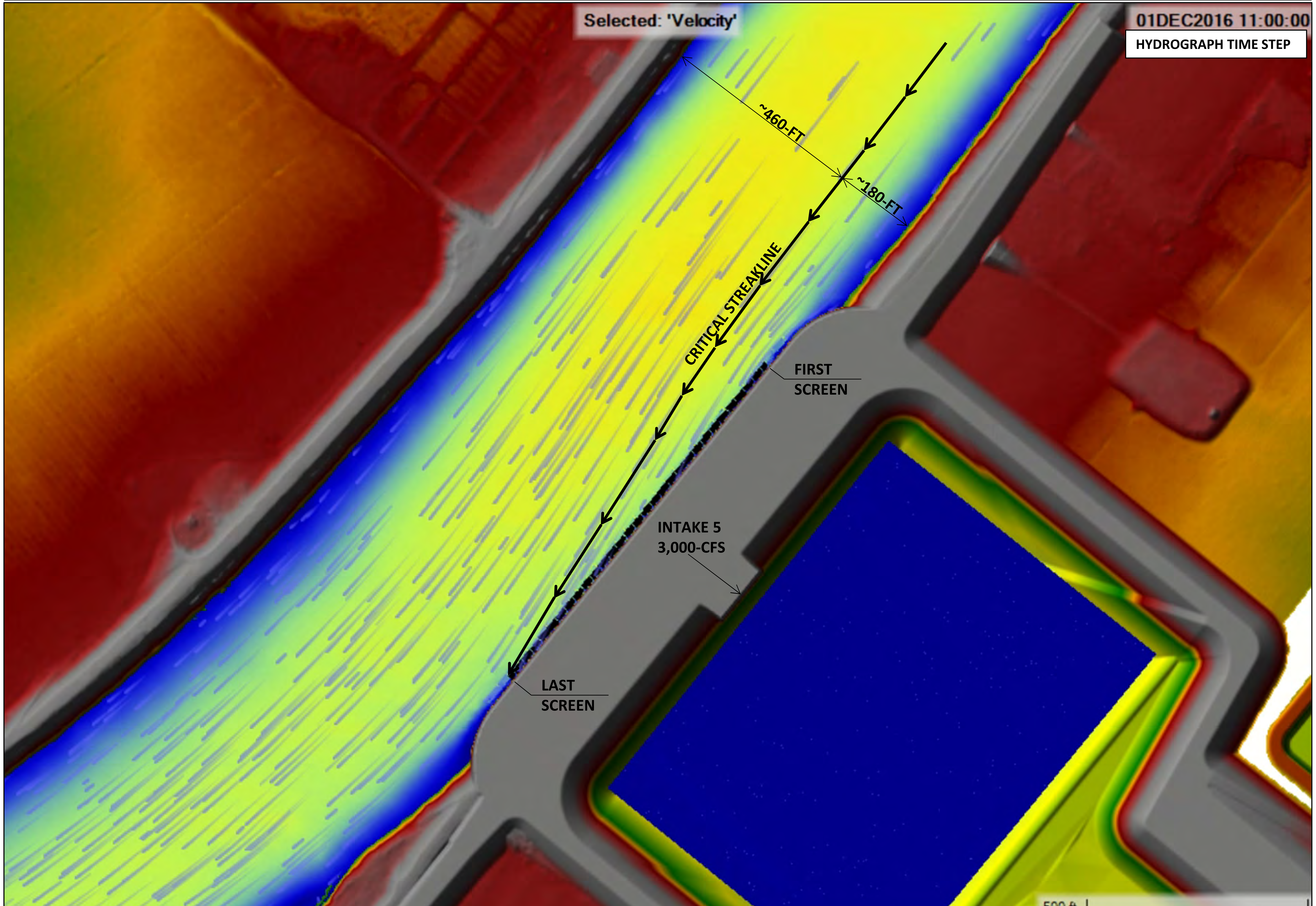
RUN 5C - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS



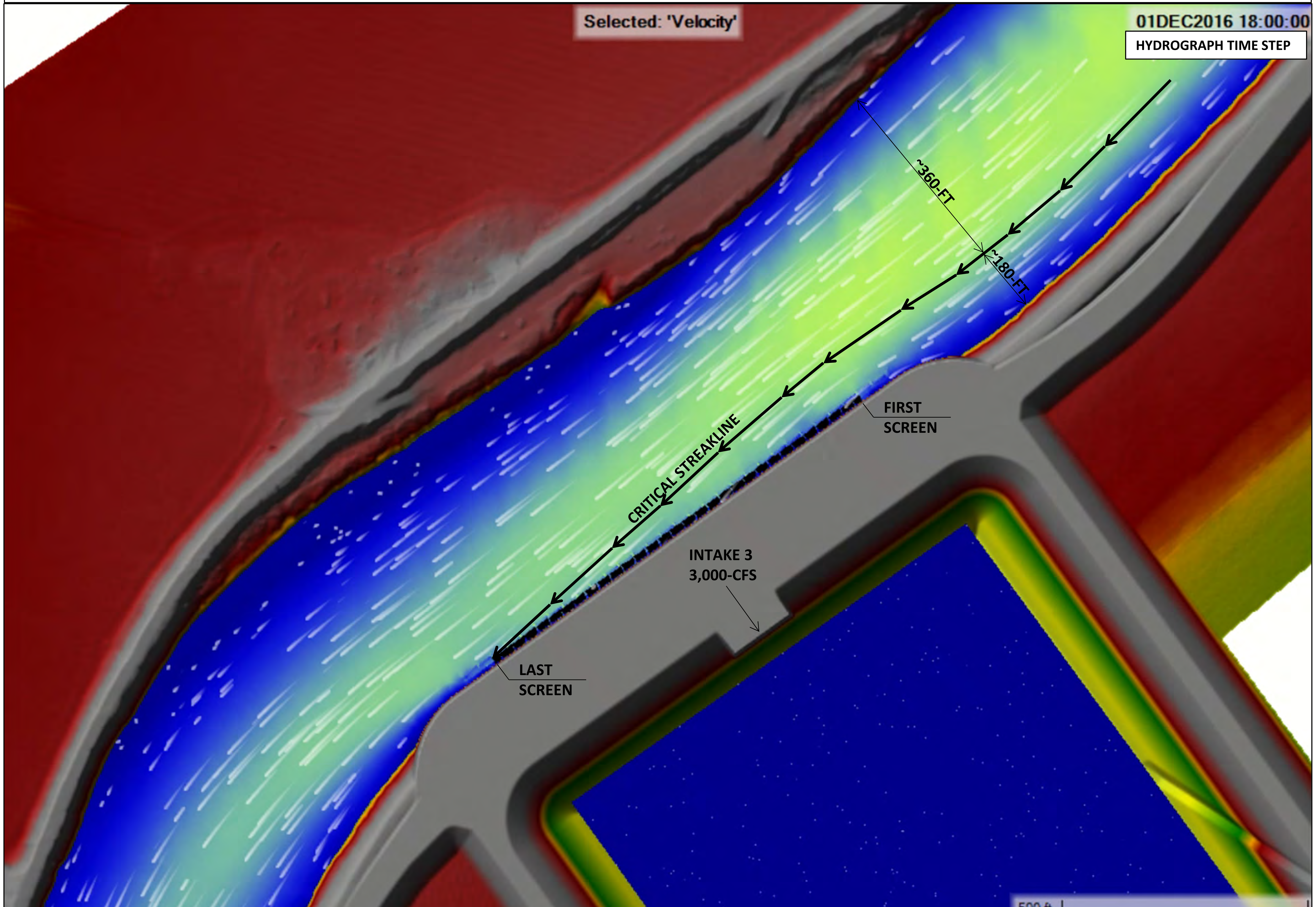
RUN 5C - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS



RUN 5D - INTAKE C-E-3 (B) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS



RUN 5D - INTAKE C-E-5 (C) – CRITICAL STREAKLINE

MODEL SCENARIO WITH INTAKES 3-5 – 3,000-CFS EACH 7-DAY HYDROGRAPH AT FREEPORT – TEE SCREENS