Briar Branch Stormwater Detention Basin (Units W140-01-00)

Impact Analysis Report

Prepared for:
Memorial City Redevelopment Authority





Texas Registered Engineering Firm F-2614

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EXECUTIVE SUMMARY

Lockwood, Andrews & Newnam, Inc. (LAN) was authorized by the Tax Increment Reinvestment Zone No. 17 (TIRZ 17) to prepare an Impact Analysis for a proposed detention basin located adjacent to W140-01-00 (Briar Branch), between Bunker Hill Road and Blalock Road.

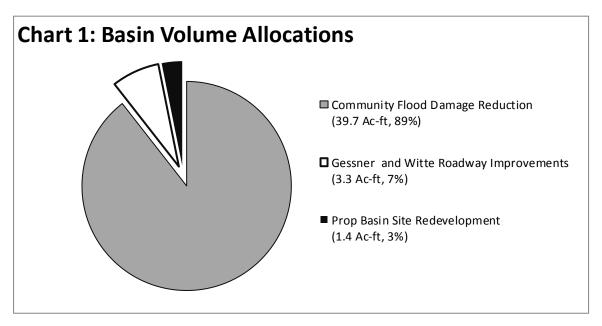
The Briar Branch drainage area covers a relatively flat region just north of IH-10 and south of Neuens Road. The region has been documented through City of Houston flooding complaints as well as evidence from the April 2009 storm event as being susceptible to flooding, with an emphasis on the areas located immediately north of Briar Branch and south of the Long Point Fault line that traverses this area.

TIRZ 17 recently completed a Regional Drainage Study (RDS) for the purpose of identifying regional solutions to existing storm water problems. The upstream most subbasin of Briar Branch (W140C) was analyzed as part of the regional drainage study along with W151-00-00 and W153-00-00. The recommended solution for the Briar Branch Watershed included channel improvements to Briar Branch between the proposed basin site and Gessner Road to lower the water surface elevation in the channel, storm sewer improvements also between the proposed basin and Gessner Road to improve the interior drainage to Briar Branch, and a regional detention basin to mitigate for the channel and storm sewer improvements. This impact analysis is for the regional detention basin recommended from the RDS that is part of the regional solution for the Briar Branch watershed.

The improvements for the Briar Branch watershed are planned in three phases. The first phase is the proposed detention basin which, as described above, serves as mitigation for channel improvements (Phase 2) and storm sewer conveyance improvements (Phase 3). This impact analysis demonstrates no adverse impact for the basin only phase (Phase 1) and the complete regional solution (Phases 1, 2 & 3). Preliminary engineering is currently underway for the channel improvement phase (Phase 2). The Phase 2 and Phase 3 improvements will submit a separate impact analyses as part of their preliminary engineering or detailed design efforts that will build on this report and further document the final regional solution.

The proposed basin is intended to mitigate for the areas draining to Briar Branch upstream of the basin only. Specifically, benefits from the proposed basin are intended to mitigate for the Phase 2 and 3 improvements including necessary roadway improvements and increases in impervious cover associated with the recommended storm sewer improvements. Additionally, the proposed basin will serve as mitigation for the future development of the adjacent tract of land located between the basin and IH-10. **Chart 1** summarizes the allocation of basin storage:





Multiple alternative designs for the basin were originally prepared and through the design review process with HCFCD a preferred alternative was selected which features a dry bottom, tapered side slopes, a maintenance access ramp, and concrete pilot channels. This design meets all maintenance criteria outlined by HCFCD and does not require a variance.

The preferred basin alternative was analyzed for potential impacts both as an isolated improvement (without the future regional solution) as well as together with a future regional solution. Analysis was performed using an updated version of the InfoWorks 2 dimensional (2D) dynamic model developed as part of the RDS. To demonstrate no downstream impacts beyond the limits of the 2D model for both the detention basin only scenario as well as the future regional solution, a HEC-HMS and HEC-RAS analysis was performed utilizing information from the InfoWorks improvement models and the effective models.

The analysis of the basin as a standalone project demonstrates that the proposed basin lowers water surface elevations in the Briar Branch channel by up to 0.8 feet for the 100-year event. The standalone basin project project will have no adverse impacts up to and including the 100-year event. Zero rise in water surface elevation is demonstrated on Exhibits 7 and 8.

The future regional solution will lower water surface elevations in Briar Branch channel by up to 1.5 feet for the 100-year event. The combined regional solution will have no adverse impacts up to and including the 100-year event. Zero rise in water surface elevation is demonstrated on Exhibits 11 and 12.



1.0 INTRODUCTION

1.1 Project Description

In March 2011, Lockwood, Andrews & Newnam, Inc. (LAN) was authorized by the Tax Increment Reinvestment Zone No. 17 (TIRZ 17) to prepare a drainage impact analysis for a regional detention basin that was originally identified as an improvement in the TIRZ 17 Regional Drainage Study (RDS). The RDS included W151, W153, and portions of the W140-01-00 subwatershed. The focus of the RDS was on the identification and or confirmation of drainage problems in the RDS study area, and the identification of efficient and effective solutions. The regional detention basin that is the focus of this report is in the W140-01-00 (Briar Branch) subwatershed and is part of a regional solution identified in the RDS that includes channel improvements to Briar Branch as well as storm sewer improvements for systems draining to Briar Branch.

1.2 Project Limits

The proposed regional detention site is located 1300 feet east of Bunker Hill Road and on the south side of Briar Branch. The basin site is immediately adjacent to and east of a major shopping center located at the northeast corner of Bunker Hill Road and IH-10. The primary study area limits used to evaluate the basin are along Briar Branch, beginning at Gessner Road and extending approximately 4000 feet east of the proposed basin site. The study area is shown on **Exhibit 1**, Project Location Map. The study limit extents are largely consistent with the FEMA effective contributing area for subbasin W140C.

1.3 Project Objectives

The objective of this project is to reduce flooding and flood damages for the area contributing to Briar Branch between Gessner Rd and the proposed basin site with a focus on the area south of the Long Point Fault and north of IH-10. This area is shown on **Exhibit 2**, Effective Floodplain and W140C Drainage Area Map. The proposed detention basin is the first phase of a regional solution that will benefit the target area. The objective of the basin is to serve as mitigation for future channel improvements to Briar Branch between the proposed basin and Gessner Road and storm sewer improvements for key systems that drain to the channel improvements. Collectively, the storm sewer and channel improvements together meet the project objectives and are mitigated for through the proposed regional detention basin.

1.4 Report Objectives

This report serves to demonstrate no adverse impact for the preferred basin alternative as a standalone project. Additionally, this report serves to define the potential benefits of the future regional solution as a means to justify the basin construction and to demonstrate no adverse impact for the future regional solution. Because this detention basin is intended to benefit upstream properties, this report serves to reserve the capacity of the proposed detention basin for the future regional solution. While the subject will be discussed here, this report is not intended for regulatory approval of the future regional solution. It is anticipated that separate impact analysis will be submitted for future regional solution improvements.



1.5 Assumptions and Constraints

1.5.1 Modeling Approach

The hydrologic and hydraulic analysis for this project primarily utilizes the Infoworks ICM model platform to evaluate improvements and to demonstrate no adverse impact within the limits of the model. Beyond the limits of the Infoworks model, the use of conventional HEC-HMS and HEC-RAS models was employed to evaluate and demonstrate no adverse impacts. The use of a dynamic and two-dimensional (2D) overland flow model such as Infoworks ICM was implemented to help understand the interaction of the full drainage system including the many interconnected drainage systems, how and when water accesses the channel, what benefit the various improvement alternatives result in, and understanding the potential for impacts as a result of the proposed improvements.

The Infoworks ICM 2D model that was used to evaluate both the proposed regional detention basin and the full regional improvements builds on the dynamic model developed for the TIRZ 17 RDS. To meet the goals and objectives of this analysis the RDS model was extended downstream 4000 feet to Campbell Road. This model extension allowed for 2700 feet of overlap with the FEMA effective HEC-RAS model and terminates the project specific dynamic model with the termination point for the FEMA effective subbasin W140C.

For the purpose of evaluating project impacts resulting from hydraulic changes to the channel, the dynamic model was used to compare existing water surface elevations to proposed water surface elevations to insure no increases occur. As a method for further evaluating the dynamic model, the existing water surface elevations were also compared to the corresponding FEMA effective water surface elevations for the 2700 feet of Briar Branch that overlap between the two models. The results demonstrate a close relationship between the FEMA effective water surface elevation and those of the dynamic model for the 100-year event, and demonstrate no increase in water surface elevation. Modeling results are further discussed and documented in subsequent report sections.

To evaluate the effects of the proposed basin on the Buffalo Bayou watershed, the preand post-basin conditions and the future regional solution model were evaluated in the FEMA effective HEC-HMS model. As discussed above, the dynamic model extents match the extents for the HMS subbasin W140C. In order to accurately compare the effects of the proposed basin on the full watershed, a proposed conditions HEC-HMS model was developed that modified TC and R values from the effective model for subbasin W140C such that the resulting difference in the timing and peak flow rate from the existing to the proposed analysis closely resemble the change in peak flow rate and time to peak produced by the existing and proposed dynamic models. This modeling procedure was performed for the both the proposed basin-only model and the future regional solution model. Peak flows at junctions downstream were compared between the existing conditions (effective) HEC-HMS model, the proposed conditions (pond-



only) HEC-HMS model, and the future regional solutions HEC-HMS model. The resulting flows were inserted into the FEMA-effective HEC-RAS models for W140-01-00, W140-00-00, and W100-00-00. The results demonstrate no increase in water surface elevation. Modeling results are further discussed and documented in subsequent report sections.

1.5.2 Design Criteria

The proposed detention basin was analyzed and preliminarily designed to meet the requirements and technical guidance provided in the December 2010 HCFCD Policy, Criteria & Procedure Manual and the HCFCD Hydrology and Hydraulics Guidance Manual. The design event established for determining benefit for the basin and for the associated regional improvements is the 10-year event. This is consistent with the TIRZ 17 RDS and other related reports including the 2009 HCFCD W151 report.

1.6 Project Survey and Datum

All project data sources, engineering and analysis results reference the TSARP Benchmark Network and the NAV Datum 1988 with 2001 Adjustment. The following sources were used for topographic information:

- The proposed design and existing survey data for the HCFCD Briar Branch Sediment Removal project, constructed in late 2010 and early 2011, was used as a basis for the existing channel conditions.
- A survey done in 2007 by Martinez, Guy, and Maybik Inc. for the area along Briar Branch within the limits of this study. This survey detailed data collection and channel cross-sections at the existing culverts and bridge crossings.
- For overbank cross section information where survey data was unavailable, the HCFCD 2008 LiDAR data was utilized.

1.7 Prior Studies

The following studies have been completed in this area and were utilized in the development of the RDS and/or specifically for this analysis effort:

- Katy Freeway Program 2002 TxDOT An XP-SWMM model was developed for the drainage system that connects to W151 and drains N. Gessner and Witte Roads. A series of oversized box culverts were used under the IH-10 frontage roads to mitigate the impacts of the IH-10 highway expansion.
- Tropical Storm Allison Recovery Project (TSARP) HCFCD/FEMA Completed effective models for the entire Harris County area, with effective maps updated June 18, 2007. This study included Briar Branch up to Adkins Road and did not include Blalock Road just upstream of this bridge structure.
- Drainage Study of Briar Branch August 2007 Memorial City Redevelopment Authority (TIRZ 17) – This study extended Briar Branch effective models to Gessner Road, and looked at the level of service for this channel, and investigated potential improvements in the area.
- W151 Implementation Study 2009 HCFCD This study focused on areas in the W151-00-00 watershed downstream of IH-10; however it included the TxDOT Katy Freeway Program drainage models and improvements to the IH-10



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- corridor. This included the large Briar Branch drainage areas north of IH-10, but did not look at the hydraulics of Briar Branch. The assumptions used in the TxDOT Katy Freeway Program analysis of the IH-10 area were kept in this modeling.
- TIRZ 17 Regional Drainage Study (RDS) 2010 Memorial City Redevelopment Authority (TIRZ 17) studied portions of the W140-01-00, W151-00-00 and W153-00-00 watersheds that drain the TIRZ 17 area that were heavily impacted by the April 2009 storm event. This model is an inlet-level, 2D analysis of more than 3,000 acres, using InfoWorks.



2.0 EXISTING CONDITIONS

The Briar Branch watershed covers a relatively flat area north of IH-10, south of Neuens Road, east Conrad Sauer Road, and west of Campbell Road. Portions of the area have been documented as being susceptible to flooding, especially the areas located immediately north of Briar Branch and south of the Long Point Fault line that traverses this area. This report section reviews the existing conditions of the area.

2.1 Location and Topography

This study reviews the portion of Briar Branch within the W140C subbasin as defined for the FEMA Effective Model for the Buffalo Bayou watershed. Subbasin W140C has an area of 2.75 sq. miles at a slope of approximately 0.14% from the northwest corner of the subbasin down to the southeast corner. Redevelopment has occurred on much of the land between Briar Branch and IH-10, and areas along N. Gessner are currently under development. The most distinguishing characteristic of the area is the Long Point Fault that runs from the southwest corner to the northeast corner of W140C, just north of Briar Branch. There is approximately 3-5 feet of drop across the fault in this area.

Many of the roadways north of Briar Branch within the Spring Branch Woods and Long Point Woods subdivisions are at elevations lower than the top of bank at Briar Branch, which limits conveyance into Briar Branch. Storm sewer systems drain these areas to Briar Branch, but there are not many effective overland pathways and elevation to effectively drain the surface water overflows into Briar Branch.

2.2 Land Use

The northern portion of the study area is mostly residential, while the portion along IH-10 is mostly commercial. The FEMA Effective model determined that this area is 58.8% impervious cover and is considered fully developed. The existing conditions dynamic model uses data from the Harris County Appraisal District (HCAD and aerial imagery to determine that the area draining to Briar Branch is approximately 61.3% impervious. The current land use is shown on **Exhibit 3**, Land Use Map.

2.3 HCFCD Facilities and Unit Numbers

Briar Branch is HCFCD Unit #W140-01-00 and is the focus of this analysis and the proposed improvements. Briar Branch drains to Spring Branch (HCFCD Unit #W140-00-00) near Wirt Road, and eventually Buffalo Bayou (HCFCD Unit #W100-00-00) near Chimney Rock Road. Other channels that drain to Briar Branch within the vicinity of the proposed improvements include an existing drainage channel between Springrock Lane and Confederate Road named W140-01-05 connects to Briar Branch via a 72" CMP.

2.4 Right-of-Way

The purchase of the proposed regional detention facility by the Memorial City Redevelopment Authority is final. The proposed basin is adjacent to Briar Branch, which at this location has two drainage easements, owned by HCFCD, which total 50' wide.



2.5 Pipelines and Utilities

The proposed detention site is crossed by an 8-inch AC water line and an 8-inch sanitary sewer line, which are currently being relocated to a 20' City of Houston utility easement in order to accommodate construction of the detention basin.



3.0 HYDROLOGY & HYDRAULICS

3.1 Analysis Objectives

The primary analysis objective was to evaluate the benefit of improvement alternatives for Briar Branch and to demonstrate the lack of adverse impacts. Two separate models were created to achieve these objectives: A dynamic model consisting of detailed calculations of inlet-level areas for the purpose of evaluating improvement benefit and reviewing potential impacts, and a watershed-level model to assist with evaluating the potential for downstream adverse impacts. The dynamic and watershed-level models are further described below.

For the dynamic model, the Infoworks 2D model from the TIRZ 17 Regional Drainage Study (RDS) was extended east by approximately 4000 feet, from the proposed detention basin site to Campbell Road, to match the limits of the FEMA Effective Model subbasin W140C. Infoworks was also used to calculate flow rates and water surface elevations within Briar Branch channel, using an inlet-level analysis. The dynamic model gives an analysis of the effective model's subbasin W140C in greater detail than is possible with a watershed level model. The FEMA Effective Model and the existing conditions dynamic model have approximately equivalent total drainage area sizes, and their outflow is measured at the same location, just downstream of Campbell Road.

The existing conditions watershed hydrologic model is identical to the FEMA effective model. The overall analysis objective for this model is to analyze the regional benefit of improvements and provide a means to evaluate and demonstrate no adverse impacts.

3.2 Hydrologic Modeling Methodology

3.2.1 Dynamic Model Hydrology

Hydrology for the dynamic model was developed using an inlet level analysis between Conrad Sauer Rd and Campbell Rd. See **Table 1** for a summary of contributing drainage areas for Subbasin W140C.

Drainage area boundaries were delineated utilizing 2008 LiDAR data in combination with field visit verification. Boundaries from previous studies, as-built drawings, or models were confirmed prior to inclusion in the study. Percent impervious values were calculated for each drainage area based on the most recent land use data available from Harris County Appraisal District (HCAD), and reviewed with aerial imagery and updated as necessary. For the proposed conditions, planned storm sewer improvements that are part of the regional solution were considered. These roadways include both Gessner and Witte from IH-10 to Long Point Road. The slope for each drainage area was calculated using GIS and the 2008 LiDAR data. A drainage width parameter for each drainage area was assigned based on its physical dimensions. Drainage area boundaries are shown on **Exhibit 4**, Dynamic Model Drainage System Map.



Losses were computed using the Green & Ampt method with loss rates set according to the values in the TSARP white paper titled "Recommendation for: Replacing HEC-1 Exponential Loss Function in HEC-HMS." Note that this is different from the FEMA effective model for Buffalo Bayou, which used calibrated values outside the ranges recommended in the TSARP white paper; the differences between these values is shown in **Table 2**.

Total subcatchment runoff volume was determined using initial abstractions for impervious surfaces and Green & Ampt infiltration for pervious surfaces. Subcatchment runoff routing was determined using Storm Water Management Model (SWMM) routing utilizing two of the three normally used surfaces; impervious area with initial abstraction, and pervious area with initial abstraction. To be consistent with the HCFCD W151-00-00 implementation study methods, impervious area without initial abstraction was not determined.

A comparison of FEMA effective and existing conditions dynamic model peak flows for subbasin W140C can be found in **Table 3** below. The differences between the FEMA effective flows and the dynamic model flows can be attributed to several factors including the Green & Ampt values differences, contributing drainage area differences, average drainage area size, and fundamental modeling methodology differences. A summary of modeling methods including a comparison of methods between the FEMA effective model and the dynamic model can be found in **Appendix A**.

3.2.2 HEC-HMS Model Hydrology

The FEMA effective hydrologic model was utilized to analyze the downstream effects of the proposed regional detention basin. The dynamic model extents match the extents of the W140C subbasin to allow comparisons between the dynamic model and the FEMA effective model. The revised existing conditions model is entirely identical to the effective model.

Table 3 compares the peak flow differences for key junctions along Buffalo Bayou, Spring Branch, and Briar Branch. The comparison is between the FEMA effective model and the revised existing conditions model.

3.3 Hydraulic Modeling Methodology

Hydraulic models were developed at an inlet-level for the dynamic model of the W140C subbasin and at a watershed-level using HEC-RAS for the purpose of evaluating the potential for impacts.

3.3.1 Dynamic Model Hydraulics

Hydraulics calculations for the W140C subbasin are performed with the Infoworks ICM model. The model consists of an inlet-level analysis between Conrad Sauer Road and Campbell Road. The study area between the proposed basin location and Campbell Road was added to the dynamic model study area to better match the



extents of the W140C subbasin of the FEMA effective model. Hydraulic parameters for storm sewers and box culverts were assigned according to the Manning's roughness "n" values set forth in the City of Houston Infrastructure Design Manual. Harris County Flood Control drainage channels are modeled with roughness values according to those outlined in the HCFCD *Hydrology & Hydraulics Guidance Manual* and the HCFCD *Policy Criteria & Procedure Manual*. Briar Branch is modeled using one dimensional (1D) river reaches that are similar to HEC-RAS sections, in order to more accurately define channel cross sections. Overbank flows are handled with the Infoworks ICM 2D computation engine, as are inlet ponding and overland flow computations.

Pipe and channel hydraulic calculations are handled using dynamic pipe flow calculations and a 2D mesh surface for storage and surface flow routing. The InfoWorks ICM software utilizes a combination of numeric methods for solving the Saint Venant equations to determine hydraulic states within the model. Once subsurface storm sewer capacity is exceeded, water will overflow onto the 2D mesh surface (ground surface) of the model.

The 2D surface was developed using the 2008 Harris County LiDAR supplemented with survey data in areas where topographic changes were known to have occurred. Vertical structures within the study area are modeled as void spaces to prevent flow through or storage within structures. Overland roughness values for the 2D surface were developed from land use data, Harris County Appraisal District information, aerial imagery, and field visits. The river sections for Briar Branch are linked to the 2D surface along the banks of the channel in order to represent over bank flow entering and leaving Briar Branch.

The dynamic model has several discharge or outflow locations. Dynamic tailwater conditions were developed where these systems are backwater-controlled. The system outfalls include:

- W140-01-00 at Campbell Road. For the Briar Branch outfall, a tailwater condition was developed by adjusting the timing of a stage-time rate table developed with the FEMA effective model to match the timing of the dynamic model.
- W151-00-00 underneath IH-10 near Witte Road. For the W151-00-00 system, the entire storm sewer and overland flow drainage system was modeled as part of the RDS. This model was utilized to create a dynamic water surface elevation at the outfall.
- W156-00-00 via multiple small storm sewers east of Conrad Sauer Road.
 These systems do not appear to be backwater controlled so a dynamic tailwater was not used.
- W140-00-00 via a 96" RCP under Nuens Road. This system also did not use a dynamic tailwater.

3.3.2 HEC-RAS Model Hydraulics



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There is an overlap between the dynamic model and the watershed-level models which is approximately 2700 feet in length, between Blalock Road and Campbell Road. While these two models vary greatly in their methods and calculations, there is a high degree of correlation between their computed water surface elevations, as shown in **Table 4**.

A set of Revised Existing Conditions HEC-RAS Models were created for Briar Branch, Spring Branch, and Buffalo Bayou by updating the flow distributions in the FEMA effective models per the Effective HEC-HMS model. Flow tables from the effective HEC-RAS model did not match the peak flow values from the FEMA effective HEC-HMS model. No changes to the SVSQ tables, channel geometry, or computational parameters were made.

3.4 Existing Conditions

The results of the existing conditions dynamic model are shown in **Exhibit 5**, Existing Conditions 10-Year Inundation Map. This model indicates several limitations of the existing drainage system.



4.0 PROPOSED DRAINAGE PLAN

4.1 Description

Improvements to the Briar Branch watershed are proposed to be constructed in three phases. First, a detention basin is proposed to provide a mitigation bank for a future regional solution. The second phase would include channel conveyance improvements upstream of the proposed detention basin to increase conveyance into the basin and lower water surface elevations in Briar Branch. A third phase would include storm sewer conveyance improvements to increase conveyance to the channel and lower the water surface elevations in the neighborhoods adjacent to Briar Branch between Gessner Road and Bunker Hill Road.

Only the first of these three phases, the proposed detention basin, is planned for construction at this time. This impact analysis refers to the first phase as the "proposed conditions" and to all subsequent phases as the "future regional solution". Only the proposed detention basin is discussed in this section; the future regional solution is discussed in chapter 5, below.

4.2 Hydrologic Analysis

A storage node representing the proposed basin was added to the existing conditions dynamic model, as were links representing the inflow and outflow structures. The node was given a stage-storage curve, which was calculated using the areas bounded by the contours generated with AutoCAD Civil3D.

The proposed conditions dynamic model outflow results were then modeled in HEC-HMS to by modifying the TC & R values for subbasin W140C such that the resulting difference peak flow rate from the existing to the proposed analysis closely resemble the change in peak flow rate produced by the existing and proposed dynamic models. No other changes were made to the HEC-HMS models. **Table 5** shows the hydrologic results; the comparison is between the revised existing conditions model and the proposed conditions (Basin-Only) model.

Exhibit 6, Proposed Basin-Only 10-Year Inundation Reduction Map shows the flood-reduction benefits of the proposed basin for the target area.

4.3 Hydraulic Analysis

The proposed basin was analyzed for upstream and downstream impact. **Exhibit 7**, Proposed Basin-Only Dynamic Model Impact Analysis Results shows the changes in water surface elevation in the channel for the area nearest the pond, as calculated by the proposed conditions dynamic model.

A proposed conditions HEC-RAS model was developed using the geometry of the FEMA effective model and the flow rates of the proposed conditions HEC-HMS model. This model was used to evaluate hydraulic impacts downstream of the basin, which are shown in **Exhibit 8**, Proposed Basin-Only Watershed Level Impact Analysis Results. **Table 6** shows the calculated hydraulic impacts at corresponding HEC-HMS junctions



downstream of the proposed detention basin. It demonstrates that the basin has no adverse hydraulic impact on Briar Branch, Spring Branch, or Buffalo Bayou for the 100-year event.

4.4 Detention Basin Layout

4.4.1 Detention Layout

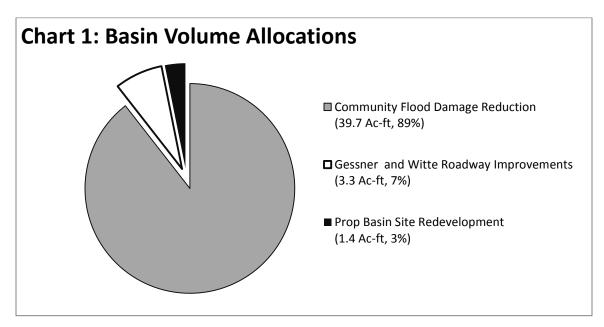
Due to the highly developed characteristic of the watershed, minimal undeveloped land is available for detention. An 8.23-acre tract was identified and obtained by TIRZ 17 for use in providing drainage improvements to areas neighboring TIRZ 17 north of IH-10. A regional detention basin on this tract is the focus of this report.

Multiple alternatives for the basin were designed, evaluated, and considered. Through the design review process with the Harris County Flood Control District, a preferred alternative was selected which features a dry bottom, tapered side slopes, a maintenance access ramp, and concrete pilot channels. This design meets all maintenance criteria outlined in the District's Policy, Criteria & Procedure Manual. The proposed basin stage-storage curve is shown in **Appendix E**, Preferred Basin Layout Volume Analysis.

4.4.2 Basin Volume Allocation

The proposed basin is designed to function as a component of a regional flood damage reduction project that includes channel improvements to lower the water surface elevation in the channel and storm sewer improvements to efficiently convey runoff from the adjacent neighborhood to the channel. The approximate volume of the basin is 44.4 ac-ft during the 100-yr event. Additionally, the basin will serve as mitigation for the future development of the adjacent tract of land located between the basin and IH-10 (Identified as Future Detention Tract on **Exhibit 6**). This report documents that the proposed basin provides mitigation for the entire 6.78 acre tract being improved from 64% impervious to 100% impervious. Using the most recent City of Houston criteria for detention volumes, the basin volume allocated for the tract of land is approximately 1.4 acre-feet, as shown in Appendix E. 3.3 acre-feet is dedicated for the TIRZ 17 Capital Improvement Projects Gessner and Witte. The remaining 39.7 Ac-ft, or approximately 89% of the 100-year basin volume, is dedicated for flood damage reduction. This information is summarized in Chart 1: Basin Volume Allocation.





4.5 Right-of-Way Requirements

The proposed detention basin site has already been purchased by TIRZ 17. No additional right-of-way is required for this phase of the project.

4.6 Special Erosion Control Features

The proposed detention basin will utilize concrete low-flow channels in the basin bottom, as well as armored slope protection at the inflow weir.

4.7 Stormwater Quality Enhancements

Stormwater quality enhancements were considered for the basin. Per direction by HCFCD, off-line detention basin water quality features are not considered effective and have not been added.

Stormwater quality enhancements will be considered for future regional drainage improvements during the preliminary engineering phase.

4.8 Potential Pipeline and Utility Conflicts

An existing 8" waterline and an existing 8" sanitary sewer line cross the proposed detention basin site. These will be relocated to run along the south and east property edges within a dedicated 20' utility easement. Utility relocation efforts are currently under way.

4.9 Geotechnical Requirements

A geotechnical investigation was commissioned by LAN on behalf of the Memorial City Redevelopment Authority on June 13, 2011, and performed by Geotest Engineering, Inc. The report of findings, titled "Geotechnical Investigation" and dated August 19, 2011, is attached as **Appendix G.** This investigation included drilling and sampling six soil borings to depths from 20 to 30 feet and performing appropriate laboratory tests on



recovered soil samples. The geotechnical report was reviewed and approved by HCFCD on August 2nd, 2012. The principal findings include:

- Soils include Addicks-Urban land complex and Gessner-Urban land complex, based on USDA NRCS database information.
- The subsurface soils consist predominately of cohesive soils to the termination depths, with intermittent cohesionless soils encountered in three borings.
- Groundwater was encountered during drilling at depths ranging between 15.3 feet and 24 feet.
- Recommended stable slope, based on the results of slope stability analysis and HCFCD requirements, is 3:1 along the north and west banks and 4:1 along the east and south banks.
- Based on the presence of cohesionless soils, it is recommended that at the toe and bottom of the eastern and southern banks of the detention basin be covered with a low permeability clay liner or geotextile fabric to prevent erosion.
- Dewatering may be required to lower and maintain the groundwater level at least five feet below the level of excavation prior to and during the excavation.

4.10 Environmental Issues

A Phase I Environmental Site Assessment (ESA) for the W140 Detention Basin was conducted as part of the feasibility study prior to the TIRZ 17 RDA's purchase of the property (LAN, August 2011). This ESA is included as **Appendix H** to this report. The ESA identified three (3) potential Recognized Environmental Conditions and recommended further investigation of only one of these sites to determine soil handling and disposal requirements.

Subsequent soil sampling and analyses indicate that the soil at the site does not require any special protective measures during excavation other than normal dust suppression and is not a waste requiring regulated means of disposal. These analyses further indicate that the soils at the site pose no threat of adverse environmental impact (GSI Environmental, December 2011 and Geotest Engineering, October 2011). These reports are included as **Appendix I** and **Appendix J** to this report.

4.11 Maintenance Access Plan Requirements

Maintenance access to the proposed detention basin is via a 20' wide permanent joint access easement on the east side of the property, which connects the site to the west-bound IH-10 frontage road. Maintenance access paths within the site include:

- A 50' maintenance access berm between the western property line and the detention basin top bank
- A 30' maintenance access berm between the northern property line and the detention basin top bank
- A 45' maintenance access berm, including 20' of which are concrete-paved, between the eastern property line and the detention basin top bank
- A 30' maintenance access berm between the southern property line and the detention basin top bank



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• A 20' maintenance access ramp in the southeast corner of the site to allow access from the paved access drive into the basin bottom.

4.12 Operation Plan for Pumped Detention basins

This facility will not be pumped, so no operation plan is required. Pumped detention was considered as an option for the proposed basin, but was not pursued given a lifecycle cost that was unacceptably higher than a traditional basin and a volume increase of only 27%.



5.0 FUTURE REGIONAL DRAINAGE SOLUTION

5.1 Description

Improvements to the Briar Branch watershed are proposed to be constructed in three phases. The first phase includes the detention basin discussed in Chapter 4, above. The next phase will include channel conveyance improvements upstream of the proposed detention basin to lower water surface elevations in Briar Branch. A third phase would include storm sewer conveyance improvements to increase conveyance to the channel and lower the water surface elevations in the neighborhoods adjacent to Briar Branch between Gessner Road and Bunker Hill Road. This section details the last two phases, which are referred to here as the "Future Regional Solution".

5.2 Hydrologic Analysis

Just as the proposed conditions dynamic model discussed in section 4.2 above was created from the existing conditions dynamic model, the Future Phase 2 (Channel Improvements) and Future Phase 3 (Storm Sewer Improvements) dynamic models build on the Proposed Phase 1 (Pond-Only) dynamic model. All dynamic modeling was performed in Infoworks ICM. The future regional solutions models include changes to the Briar Branch channel sections as well as the storm sewers which convey storm flows into the channel. These components are shown on **Exhibit 9**, Future Regional Solution Components Map.

It is important to note that these improvements are not intended for construction or permitting at this time. All sizes are subject to change as part of the Briar Branch Channel Improvements Preliminary Engineering Report, which is currently under production. The sizes and sections shown represent a potential scenario but are intended only for general information. All future projects must prove no-impact status independently from this report. The flood damage reduction benefits that the future projects offer is shown on **Exhibit 10**, Future Regional Solution 10-Year Inundation Reduction Map. The future regional solution will offer substantial flood damage reduction benefit for the areas upstream of Bunker Hill Drive. Although the results are preliminary and not intended for construction or permitting at this time, the water surface elevations for the nodes which are shown on **Exhibit 10** are quantified in **Table 7**, Future Regional Solutions Node Results.

The future phase 2 and future phase 3 dynamic model outflow results were then modeled in HEC-HMS in a similar fashion as the basin only analysis by modifying the TC & R values for subbasin W140C such that the resulting difference peak flow rate from the existing to the future analysis closely resemble the change in peak flow rate produced by the existing and future dynamic models. No other changes were made to the HEC-HMS models. **Table 8** shows the hydrologic results; the comparison is between the Revised Existing Conditions model, the Future Phase 2 (Channel Improvements) model, and the Future Phase 3 (Storm Sewer Improvements) model.



5.3 Hydraulic Analysis

As discussed in section 4.3, above, the future regional solutions hydraulic models were developed from the FEMA effective geometry and the future regional solutions HEC-HMS flows. The results of this model are also displayed in **Table 9**; the comparison is between the Revised Existing Conditions model, the Future Phase 2 (Channel Improvements) model, and the Future Phase 3 (Storm Sewer Improvements) model.

Results of the future regional solution impact analysis efforts are shown on **Exhibit 11**, Future Regional Solution Dynamic Model Impact Analysis Results and **Exhibit 12**, Future Regional Solution Watershed Level Impact Analysis Results.

5.4 Detention & Channel Layout

5.4.1 Detention Layout

Detention will be required to mitigate the impacts of any future regional solution. Detention is the first phase of the regional plan, and is discussed in detail in chapter 4, above.

Modifications to the basin inflow weir will be necessary as part of construction of channel conveyance improvements. The basin inflow weir has been designed so that steel sheet piling can be cut off or welded onto the basin inflow weir in such a way that the major concrete structures need not be modified.

5.4.2 Channel Layout

Future channel improvements will be necessary to meet the project objectives discussed in Section 1.3 and fully utilize the detention basin discussed in this study. The channel improvements which were modeled include a rectangular concrete low flow channel (8' wide x 4' high) and trapezoidal concrete channel similar to the existing channel downstream of Bunker Hill. Storm sewer improvements are also planned to increase conveyance into the channel; preliminary information on these improvements, including outfall size, location, and flowrate, are shown on **Exhibit 9**, Future Regional Solution Components Map. The future regional solution was modeled with InfoWorks ICM in order to quantify potential future water surface elevation (WSEL) decreases and ensure that future projects can feasibly achieve no-impact. Results are shown on **Exhibit 13**, Proposed and Future Briar Branch Channel Profile Results.

5.5 Right of Way

The future regional solution construction will be designed to fit in the existing ROW and easements where possible. No significant ROW acquisitions are planned.

5.6 Other Requirements

5.6.1 USACE Jurisdictional Determination

LAN, on behalf of TIRZ 17, requested a U.S. Army Corps of Engineers (ASACE) jurisdictional determination on February 3rd, 2012. USACE responded on February 20th, 2013 that Briar Branch between Gessner Road and 1730 LF downstream of



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Bunker Hill Rd "does not contain waters of the United States. Therefore, any work, structures, or the discharge of fill material on the project site is not subject to Section 10 of the Rivers and Harbors Act or Section 404 of the Clean Water Act (CWA) and does not require a Department of the Army permit." The letter of jurisdictional determination has been attached as Appendix J.

5.6.2 W151-00-00 Interaction

The intent of this impact analysis report is to demonstrate no adverse impact to the contributing drainage area to the basin, the area downstream of the basin, and to the W151-00-00 watershed. W151-00-00 experiences ancillary benefits from the W140-01-00 regional solution in the form of reduced flows contributing to W151. Benefits to W151-00-00 as a result of the W140-01-00 regional solution are dependent on the chosen channel configuration. There are no intentions of utilizing flow reductions to W151-00-00 to mitigate for any flow increases to W151-00-00. The ancillary benefits to W151-00-00 are to remain as benefits to W151-00-00.



6.0 CONCLUSION

The proposed regional detention basin located 1300 feet east of Bunker Hill Road and south of Briar Branch is the first phase of a planned regional solution that includes future channel improvement and storm sewer improvement phases. The future improvement phases are located upstream of the proposed basin between the basin and Gessner Road.

The proposed basin meets all maintenance criteria outlined by HCFCD. TIRZ 17 will maintain the proposed basin for up to three years. Upon completion of the standard 1-year establishment period, TIRZ 17 will file for maintenance responsibility transfer to HCFCD. The proposed basin includes 44.4 acre feet of total volume, of which 39.7 acre feet will be used for flood damage reduction.

The proposed basin as a standalone project was reviewed for impacts to the immediate and adjacent areas, and to the region downstream of the basin. The basin was analyzed using a dynamic 2D model. Results from this analysis were reviewed at an inlet level and at a watershed level for potential impacts. The preferred basin alternative has no adverse hydraulic impact up to and including the 100-year event.

In addition to the basin as a standalone project, the future regional solution was also analyzed. The future regional solution will lower water surface elevations in Briar Branch channel up to 2.0 feet for the 10-yr event and up to 1.5 feet for the 100-year event. The analysis demonstrates that the future regional solution will have no adverse hydraulic impact up to and including the 100-yr event. The channel and storm sewer improvements are not intended for construction at this time. The basin as a standalone project is recommended for approval, permitting, and construction.



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TABLES

Table 1: Drainage Area Information for Subbasin W140C

Table 2: Loss Rate Information for Subbasin W140C

Table 3: Existing Peak Flow Comparisons

Table 4: Existing Water Surface Elevation Comparisons

Table 5: Proposed Peak Flow Comparisons

Table 6: Proposed Conditions Water Surface Elevation Comparisons

Table 7: Future Regional Solution Node Results

Table 8: Future Regional Solution Peak Flow Comparisons

Table 9: Future Regional Solution Water Surface Elevation Comparisons



Table 1: Drainage Area Information for Subbasin W140C									
	Drainage	Impervious							
Model	Area (Ac)	(%)							
FEMA Effective	1760	58.2%							
Dynamic Model	61.3%								

Table 2: Loss Rate Information for Subbasin W140C												
		Impervious				100-Year	100-Year					
Model	Method	(%)	TC (hrs)	R (hrs)	Parameters	Q (CFS)	Runoff					
							13.2" - 3.61"					
FEMA Effective	Green & Ampt	58.2	0.55	9.93	Calibrated	1088	= 9.59"					
Revised Existing							13.2" - 3.61"					
(HMS)	Green & Ampt	58.2	0.55	9.93	Calibrated	1088	= 9.59"					
Revised Existing					TSARP		13.2" - 1.11"					
(Infoworks)	Green & Ampt	61.3	n/a	n/a	Whitepaper	1989	= 12.09"					

Table 3: Existing Peak Flow Compari	isons					
	10-yr	10-yr		100-yr	100-yr	
	FEMA	Existing		FEMA	Existing	
	Effective	Conditions	Difference	Effective	Conditons	Difference
Location	Flow (CFS)	Flow (CFS)	(%)	Flow (CFS)	Flow (CFS)	(%)
Briar Branch @ Campbell Rd	589	589	0.00%	1088	1088	0.00%
Briar Branch @ Spring Branch	1158	1158	0.00%	2142	2142	0.00%
Spring Branch @ Buffalo Bayou	3853	3853	0.00%	7104	7104	0.00%
Buffalo Bayou @ W138-00-00	8093	7953	-1.73%	15757	15423	-2.12%
Buffalo Bayou @ W137-00-00	8390	8152	-2.84%	16564	15903	-3.99%
Buffalo Bayou @ Woodway Dr	8437	8431	-0.07%	16690	16676	-0.08%
Buffalo Bayou @ W129-00-00	8840	8840	0.00%	17497	17497	0.00%
Buffalo Bayou @ Montrose Blvd.	8535	8535	0.00%	17393	17393	0.00%
Buffalo Bayou @ White Oak Bayou	38563	38563	0.00%	59499	59499	0.00%
Buffalo Bayou @ End	39606	39606	0.00%	61636	61636	0.00%

	<u> </u>											
Table 4: Existin	Table 4: Existing Water Surface Elevation Comparisons											
		Existing	Existing	Existing	Existing							
	RAS	HEC-RAS	Infoworks	HEC-RAS	Infoworks							
Location	Station	WSEL* (10-yr)	WSEL* (10-yr)	WSEL* (100-yr)	WSEL* (100-yr)							
Adkins Rd.	13075.6	72.69	73.18	72.50	74.07							
	13030.8	72.52	73.03	72.33	73.87							
	12896.2	72.31	72.91	72.12	73.74							
	12527.9	72.00	72.64	71.81	73.44							
Anne St.	12065.3	71.48	72.15	71.30	72.92							
	11519.3	70.75	71.09	70.57	71.88							
	11029.3	70.13	70.14	69.95	70.94							
Campbell Rd.	11002.1	70.11	70.01	69.93	70.77							
	10923.3	69.87	69.62	69.71	70.27							
End of W140C	10764.8	69.80	69.27	69.63	69.83							

^{*}WSEL = Water Surface Elevation



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Table 5: Proposed Peak Flow Comparisons										
. auto di l'imporda i		10-Year		100-Year						
	Existing Conditons	Prop Phase 1 (Pond-Only)	Difference	Existing Conditons	Prop Phase 1 (Pond-Only)	Difference				
Location Briar Branch @	Flow (CFS)	Flow (CFS)	(%)	Flow (CFS)	Flow (CFS)	(%)				
Campbell Rd	589	557	-5.35%	1088	999	-8.20%				
Briar Branch @ Spring Branch	1158	1124	-2.93%	2142	2047	-4.42%				
Spring Branch @ Buffalo Bayou	3853	3814	-1.00%	7104	7008	-1.35%				
Buffalo Bayou @ W138-00-00	7953	7951	-0.03%	15423	15405	-0.11%				
Buffalo Bayou @ W137-00-00	8152	8150	-0.03%	15903	15884	-0.12%				
Buffalo Bayou @ Woodway Dr	8431	8428	-0.04%	16676	16656	-0.12%				
Buffalo Bayou @ W129-00-00	8840	8813	-0.31%	17497	17475	-0.12%				
Buffalo Bayou @ Montrose Blvd.	8535	8527	-0.09%	17393	17361	-0.19%				
Buffalo Bayou @ White Oak Bayou	38442	38427	-0.04%	59250	59189	-0.10%				
Buffalo Bayou @ End	39606	39592	-0.04%	61636	61576	-0.10%				



Table 6: Proposed Water Surface Elevation Comparisons											
		10-Year			100-Year						
		Prop Phase 1			Prop Phase 1						
	Exist	(Pond-Only)		Exist	(Pond-Only)						
Location	WSEL*	WSEL*	Diff. (ft)	WSEL*	WSEL*	Diff. (ft)					
Briar Branch @											
Campbell Rd	69.80	69.71	-0.09	72.25	72.15	-0.10					
Briar Branch @											
Spring Branch	32.76	32.63	-0.13	72.25	72.15	-0.10					
Spring Branch @											
Buffalo Bayou	26.11	26.07	-0.04	29.35	29.26	-0.09					
Buffalo Bayou @											
W138-00-00	39.16	39.15	-0.01	47.14	47.12	-0.02					
Buffalo Bayou @											
W137-00-00	36.73	36.72	-0.01	44.52	44.50	-0.02					
Buffalo Bayou @											
Woodway Dr	35.96	35.94	-0.02	43.68	43.66	-0.02					
Buffalo Bayou @											
W129-00-00	33.03	33.02	-0.01	40.68	40.66	-0.02					
Buffalo Bayou @											
Montrose Blvd.	30.59	30.59	0.00	37.66	37.64	-0.02					
Buffalo Bayou @											
White Oak Bayou	22.33	22.32	-0.01	30.44	30.42	-0.02					
Buffalo Bayou @					_						
End	0.08	0.08	0.00	7.09	7.07	-0.02					

^{*}WSEL = Water Surface Elevation



Table 7: Future Region	Table 7: Future Regional Solution Node Results														
				10-	Year WSEL	. (ft)					100	-Year WSE	L (ft)		
								Future							Future
	l		D		Future	Proposed		Phase 3		D		Future	Proposed		Phase 3
	Label		Proposed		Phase 3		Phase 2	(Storm		Proposed		Phase 3		Phase 2	(Storm
	(See		Phase 1		(Storm	•	Ι`	Sew		Phase 1		(Storm	(Pond-	1	Sew
	Exhibit	Fordation a	(Pond-	l` .	Sew		Impvs)	Impvs)	Fraintin a	(Pond-		Sew	Only)	Impvs)	Impvs)
Node	<u> </u>	Existing	Only)	· · ·	Impvs)		Diff.	Diff.	Existing	Only)	Impvs)	Impvs)	Diff.	Diff.	Diff.
C092	Α	85.28	85.28	85.27	84.82	0.00	-0.01	-0.46	86.27	86.27	86.27	85.96	0.00	0.00	-0.31
C065	В	82.38	82.38	82.34	81.13	0.00	-0.04	-1.24	83.01	83.01	82.98	81.91	0.00	-0.03	-1.10
C055	С	81.59	81.59	81.53	80.83	0.00	-0.06	-0.76	82.19	82.19	82.14	81.57	0.00	-0.05	-0.63
C047	D	81.01	81.01	80.93	80.60	0.00	-0.07	-0.41	81.62	81.62	81.55	81.32	0.00	-0.07	-0.30
C035	Е	80.77	80.77	80.71	80.45	0.00	-0.06	-0.32	81.38	81.38	81.32	81.17	0.00	-0.06	-0.21
C004	F	80.35	80.35	80.32	80.23	0.00	-0.03	-0.12	80.91	80.87	80.84	80.91	-0.04	-0.07	0.00
3146769	G	80.25	80.24	80.12	79.94	-0.01	-0.13	-0.30	80.83	80.79	80.71	80.58	-0.04	-0.12	-0.25
D12	Н	80.45	80.45	80.26	79.84	0.00	-0.19	-0.62	81.04	81.04	80.95	80.73	0.00	-0.09	-0.31
3146601	l	80.37	80.37	80.24	80.04	0.00	-0.13	-0.33	80.92	80.91	80.84	80.65	-0.01	-0.08	-0.26
B48	J	83.54	83.52	83.38	82.99	-0.02	-0.16	-0.55	84.95	84.94	84.80	84.54	-0.01	-0.15	-0.41
B36	K	81.43	81.43	81.05	80.02	0.00	-0.39	-1.41	83.00	82.93	82.85	82.52	-0.07	-0.15	-0.48
B29	L	80.64	80.64	80.28	79.30	0.00	-0.36	-1.34	81.70	81.67	81.52	80.96	-0.04	-0.19	-0.74
B18	М	79.89	79.86	79.35	78.89	-0.03	-0.54	-1.00	80.67	80.56	80.23	80.23	-0.11	-0.44	-0.44
IH-10_JUNCTION_E01	N	79.52	79.51	79.48	78.44	-0.01	-0.04	-1.08	80.27	80.27	80.25	80.08	0.00	-0.02	-0.18
20116	0	79.58	79.55	79.58	79.12	-0.03	-0.01	-0.46	80.14	80.10	80.13	80.10	-0.03	-0.01	-0.03
6029708	Р	80.06	80.06	80.02	79.91	0.00	-0.04	-0.15	80.51	80.51	80.44	80.34	0.00	-0.07	-0.18
20132	Q	79.44	79.44	79.31	79.05	-0.01	-0.13	-0.39	79.97	79.97	79.86	79.79	0.00	-0.11	-0.18
20142	R	79.48	79.48	79.33	78.96	-0.01	-0.15	-0.52	79.95	79.95	79.82	79.74	0.00	-0.13	-0.21
5005	S	78.53	78.48	78.53	78.51	-0.05	0.00	-0.02	78.84	78.81	78.82	78.81	-0.02	-0.02	-0.03
W14001_sta16681	Т	75.25	74.92	75.10	75.00	-0.33	-0.15	-0.25	76.63	76.06	76.24	76.27	-0.57	-0.38	-0.35
4165583	U	77.21	76.96	77.03	76.98	-0.25	-0.18	-0.23	78.78	78.76	78.71	78.60	-0.02	-0.07	-0.18
6029809	V	77.03	76.87	76.93	76.91	-0.16	-0.10	-0.12	77.67	77.55	77.63	77.61	-0.12	-0.04	-0.05
5816	W	75.40	75.06	75.40	75.39	-0.34	0.00	-0.01	77.21	76.93	77.22	77.19	-0.28	0.00	-0.02
W1400105_sta0213	Х	74.99	74.54	75.00	74.99	-0.45	0.00	-0.01	76.92	76.32	76.87	76.92	-0.60	-0.06	0.00
5861	Υ	75.64	75.62	75.63	75.61	-0.01	-0.01	-0.03	76.31	76.15	76.31	76.25	-0.16	0.00	-0.07
5826	Z	75.12	74.81	75.12	75.10	-0.31	0.00	-0.02	76.19	75.97	76.18	76.17	-0.22	-0.01	-0.03



Table 8: Future Regional Solution Peak Flow Comparisons												
14510 011 44410 1409	Jional Colati	on rount in	10-Year	41100110				100-Year				
		Future		Future			Future					
		Phase 2		Phase 3			Phase 2		Future			
	Existing	(Channel		(Storm		Existing	(Channel		Phase 3			
	Conditons	Impvs)		Sew Impvs)		Conditions	Impvs)		(Storm Sew			
	Flow	Flow		Flow		Flow	Flow		Impvs)			
Location	(CFS)	(CFS)	Diff. (%)	(CFS)	Diff. (%)	(CFS)	(CFS)	Diff. (%)	Flow (CFS)	Diff. (%)		
Briar Branch @												
Campbell Rd	589	557	-5.35%	577	-1.94%	1088	1038	-4.59%	1037	-4.72%		
Briar Branch @												
Spring Branch	1158	1124	-2.93%	1144	-1.16%	2142	2089	-2.44%	2088	-2.51%		
Spring Branch @												
Buffalo Bayou	3853	3814	-1.00%	3836	-0.44%	7104	7050	-0.77%	7048	-0.79%		
Buffalo Bayou @												
W138-00-00	7953	7951	-0.03%	7953	0.00%	15423	15414	-0.06%	15414	-0.06%		
Buffalo Bayou @												
W137-00-00	8152	8150	-0.03%	8152	0.00%	15903	15893	-0.06%	15893	-0.06%		
Buffalo Bayou @												
Woodway Dr	8431	8428	-0.04%	8431	-0.01%	16676	16666	-0.06%	16666	-0.06%		
Buffalo Bayou @												
W129-00-00	8840	8813	-0.31%	8830	-0.12%	17497	17485	-0.07%	17485	-0.07%		
Buffalo Bayou @												
Montrose Blvd.	8535	8527	-0.09%	8533	-0.03%	17393	17376	-0.10%	17375	-0.10%		
Buffalo Bayou @												
White Oak Bayou	38442	38427	-0.04%	38436	-0.02%	59250	59216	-0.06%	59215	-0.06%		
Buffalo Bayou @	00000	00500	0.0404	00000	0.040/	04600	0.4.000	0.070/	04000	0.000/		
End	39606	39592	-0.04%	39600	-0.01%	61636	61603	-0.05%	61602	-0.06%		



	Table 9: Future Regional Solution Water Surface Elevation Comparisons												
			10-Yea	ar				100-Ye	ar				
		Future Phase 2		Future Phase 3			Future Phase 2		Future Phase 3				
	Exist	(Channel Impvs)		(Storm Sew Impvs)		Exist	(Channel Impvs)		(Storm Sew Impvs)				
Location	WSEL*	WSEL (ft)	Diff. (ft)	WSEL (ft)	Diff. (ft)	WSEL*	WSEL (ft)	Diff. (ft)	WSEL (ft)	Diff. (ft)			
Briar Branch @													
Campbell Rd	69.80	69.73	-0.07	69.69	-0.11	72.25	72.17	-0.08	72.16	-0.09			
Briar Branch @													
Spring Branch	32.76	32.71	-0.05	32.68	-0.08	35.82	35.68	-0.14	35.67	-0.15			
Spring Branch @													
Buffalo Bayou	26.11	26.09	-0.02	26.09	-0.02	29.35	29.30	-0.05	29.30	-0.05			
Buffalo Bayou @													
W138-00-00	39.16	39.15	-0.01	39.15	-0.01	47.14	47.13	-0.01	47.13	-0.01			
Buffalo Bayou @								.					
W137-00-00	36.73	36.72	-0.01	36.72	-0.01	44.52	44.51	-0.01	44.51	-0.01			
Buffalo Bayou @	o= oo					40.00	40.0=		40.0=	0.04			
Woodway Dr	35.96	35.95	-0.01	35.95	-0.01	43.68	43.67	-0.01	43.67	-0.01			
Buffalo Bayou @	22.02	22.02	0.00	22.00	0.04	40.00	40.07	0.04	40.07	0.04			
W129-00-00	33.03	33.03	0.00	33.02	-0.01	40.68	40.67	-0.01	40.67	-0.01			
Buffalo Bayou @	30.59	20.50	0.00	30 FO	0.00	37.66	27.65	0.01	27.65	0.01			
Montrose Blvd.	30.59	30.59	0.00	30.59	0.00	37.00	37.65	-0.01	37.65	-0.01			
Puffalo Payou @													
Buffalo Bayou @ White Oak Bayou	22.33	22.33	0.00	22.33	0.00	30.44	30.43	-0.01	30.43	-0.01			
Buffalo Bayou @	22.00	22.00	0.00	22.00	0.00	30.44	30.43	-0.01	30.43	-0.01			
End	0.08	0.08	0.00	0.08	0.00	7.09	7.08	-0.01	7.08	-0.01			
		0.00	0.00	0.00	0.00					0.0.			

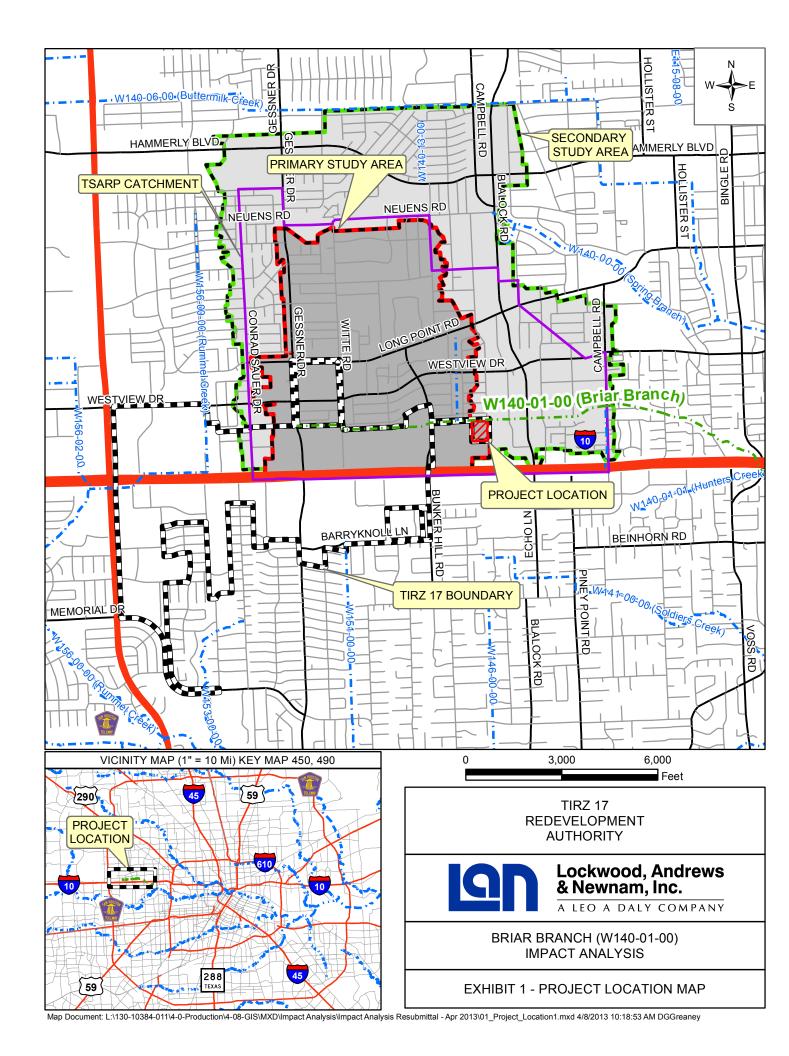
^{*}WSEL = Water Surface Elevation

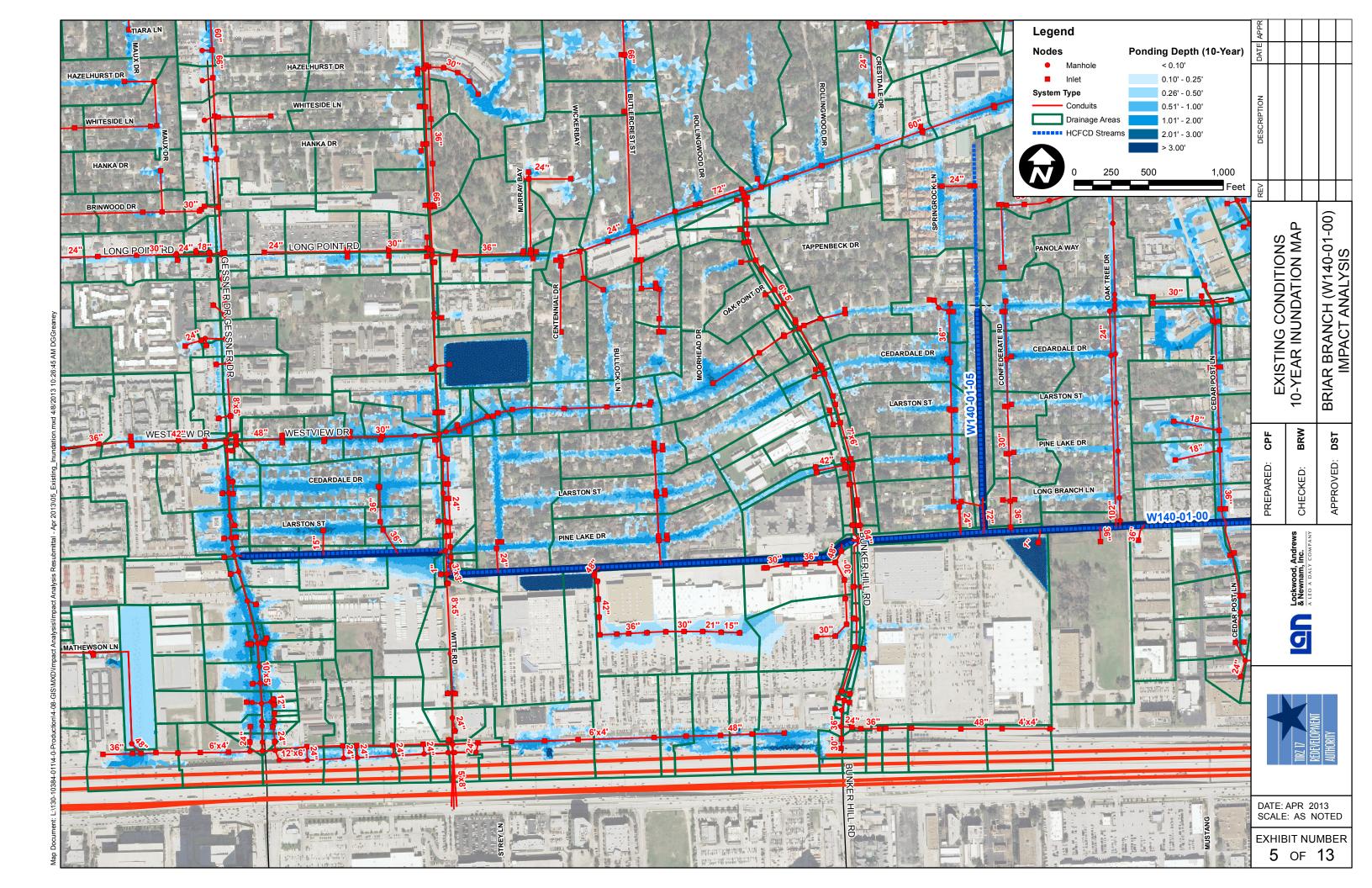


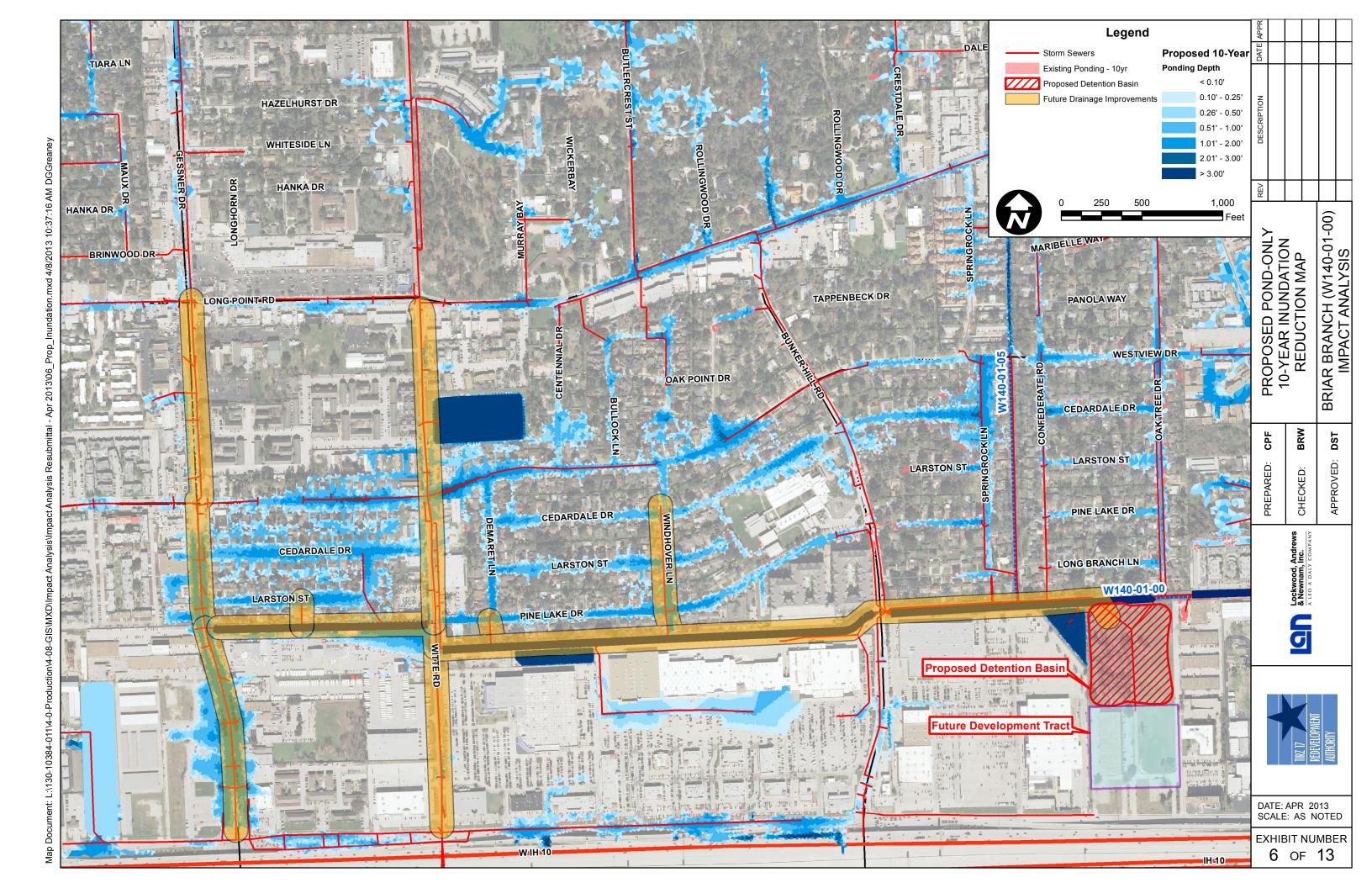
EXHIBITS

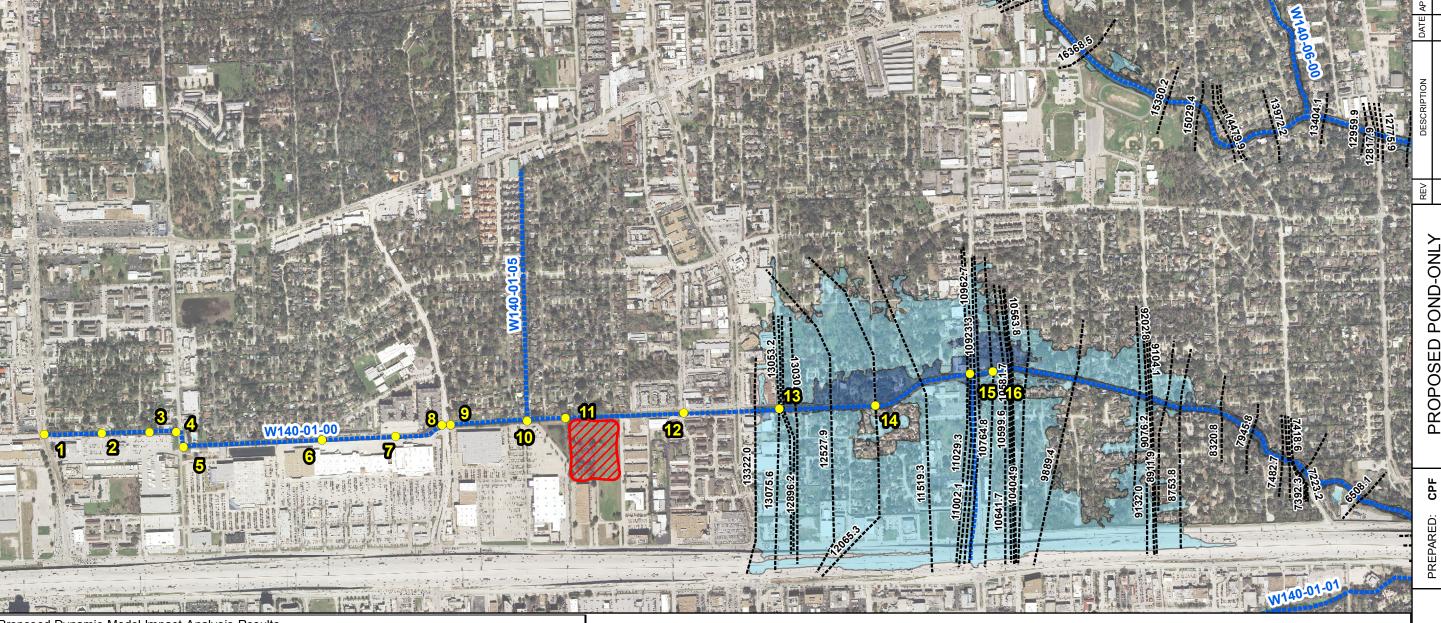
Exhibit 1: **Project Location Map** Exhibit 2: Effective Floodplain and W140C Drainage Area Map Exhibit 3: Land Use Map Exhibit 4: Dynamic Model Drainage System Map Existing Conditions 10-Year Inundation Map Exhibit 5: Exhibit 6: Proposed Basin-Only 10-Year Inundation Reduction Map Proposed Basin-Only Dynamic Model Impact Analysis Results Exhibit 7: Exhibit 8: Proposed Basin-Only Watershed Level Impact Analysis Results Exhibit 9: Future Regional Solution Components Map Exhibit 10: Future Regional Solution 10-Year Inundation Reduction Map Exhibit 11: Future Regional Solution Dynamic Model Impact Analysis Results Exhibit 12A: Future Regional Solution Watershed Level 10-Year Impact Analysis Results Exhibit 12B: Future Regional Solution Watershed Level 100-Year Impact Analysis Results Exhibit 13A: Briar Branch (W140-01-00) 10-Year Results Profile Exhibit 13B: Briar Branch (W140-01-00) 100-Year Results Profile











Proposed Dynamic Model Impact Analysis Results

		10-Y	'ear Water S	Surface Elev	ations	100-`	Year Water :	Surface Ele	vations
		FEMA		Prop	Difference	FEMA		Prop	Difference
Node	Station	Effective	Existing	Phase 1	(ft)	Effective	Existing	Phase 1	(ft)
1	21026	-	80.25	80.25	0.00	-	80.87	80.81	-0.06
2	20481	-	80.09	80.06	-0.03	-	80.99	80.74	-0.25
3	19981	-	80.07	80.07	0.00	-	80.92	80.73	-0.19
4	19701	-	80.12	80.10	-0.02	-	80.97	80.78	-0.19
5	19481	-	79.42	79.38	-0.04	-	80.02	79.97	-0.05
6	18066	-	77.48	77.45	-0.04	-	78.47	78.28	-0.19
7	16821	-	75.27	74.93	-0.34	-	76.65	76.10	-0.55
8	16756	-	75.26	74.93	-0.33	-	76.64	76.10	-0.54
9	16681	-	75.25	74.92	-0.33	-	76.63	76.06	-0.57
10	15863	-	74.86	74.32	-0.54	-	76.42	75.64	-0.78
11	15381	-	74.73	74.08	-0.65	-	75.93	75.37	-0.56
12	14232	-	73.96	73.47	-0.49	-	75.03	74.55	-0.48
13	13031	72.52	73.03	72.65	-0.38	72.33	73.87	73.50	-0.37
14	12065	71.48	72.15	71.85	-0.31	71.30	72.92	72.59	-0.33
15	11029	70.13	69.62	69.44	-0.18	69.95	70.27	69.96	-0.30
16	10765	69.80	69.27	69.11	-0.17	69.63	69.83	69.57	-0.26

PROPOSED CONDITIONS INCLUDE ONLY THE PROPOSED DETENTION BASIN WITHOUT CHANNEL OR STORM SEWER IMPROVEMENTS.

Legend

Analysis Nodes

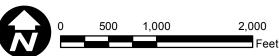
Proposed Detention Pond

----- Effective Model Cross Sections

FEMA Effective Floodplains

100-Year

500-Year





BRIAR BRANCH (W140-01-00) IMPACT ANALYSIS

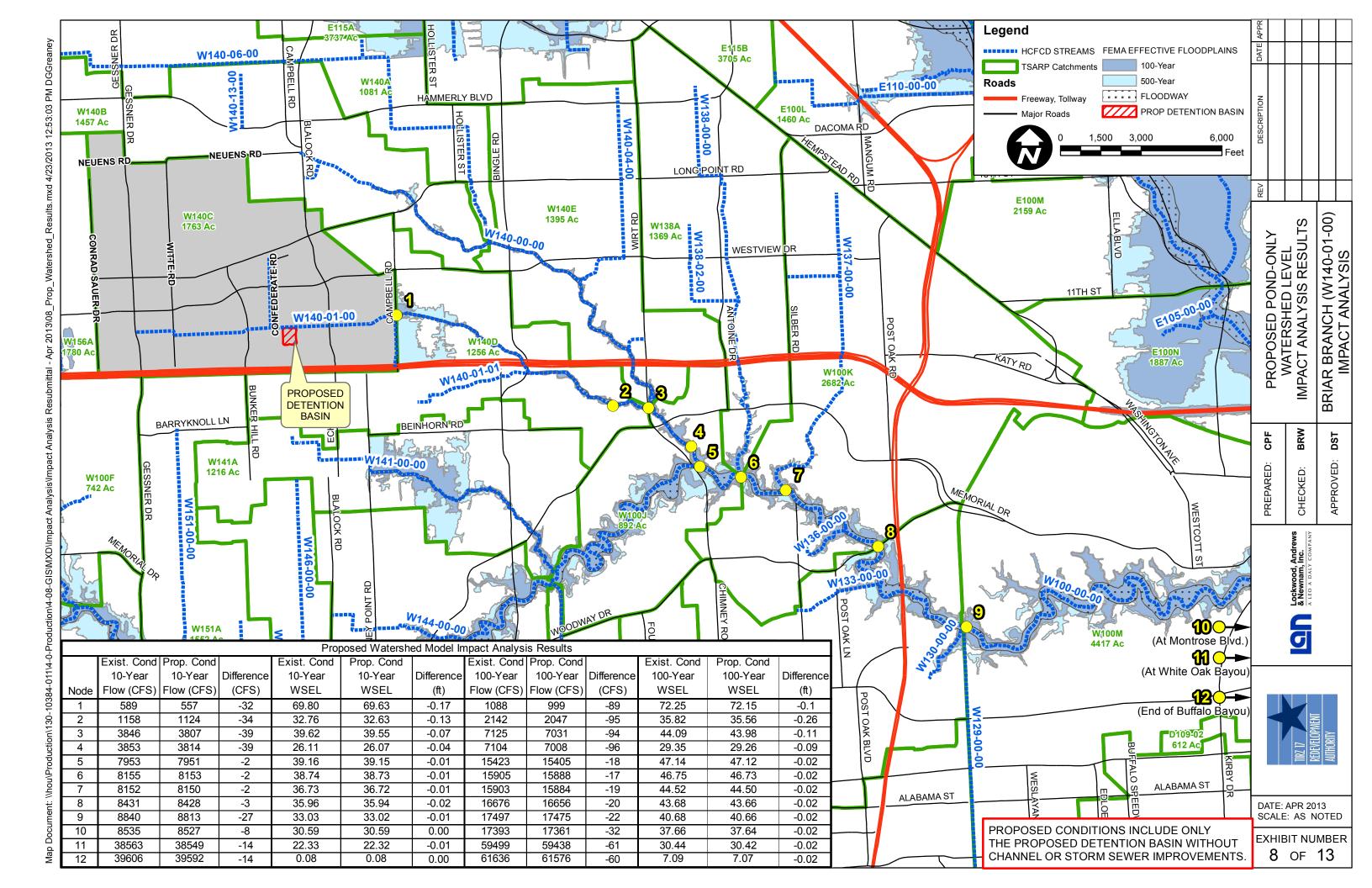
DYNAMIC MODEL IMPACT ANALYSIS RESULTS

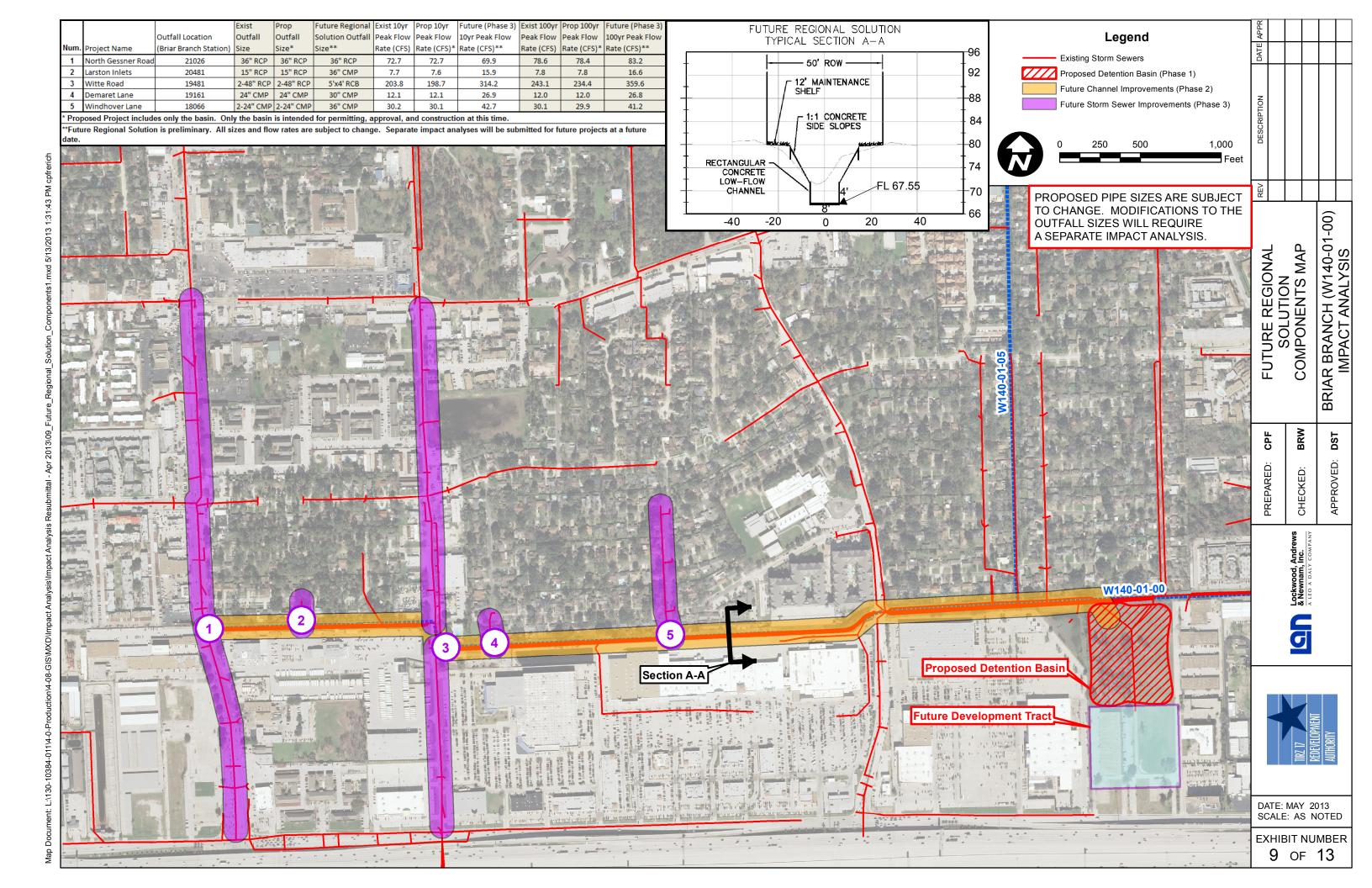
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CHECKED:

DATE: APR 2013 SCALE: AS NOTED

EXHIBIT NUMBER 7 OF 13





13

15

16

12065

11029

10765

72.15

69.62

69.27

72.02

69.54

69.21

-0.13

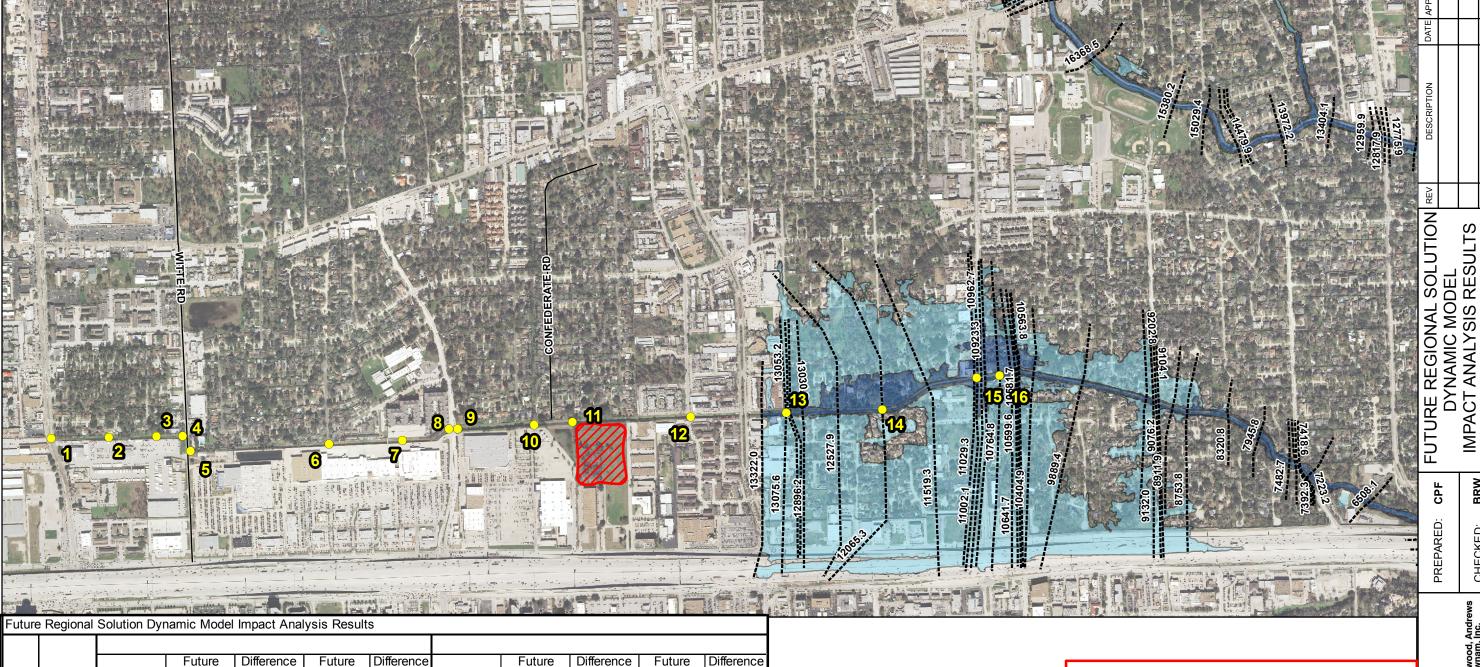
-0.07

-0.06

71.99

69.51

69.18



Future Difference Existing Phase 2 Phase 3 Phase 3 Node Station (ft) (ft) Existing Phase 2 (ft) (ft) 79.95 -0.29 79.81 -0.43 80.87 80.68 -0.19 -0.49 21026 80.25 80.38 79.27 -0.82 -0.34 -0.70 20481 80.09 79.84 -0.25 80.99 80.65 80.29 80.07 79.84 -0.23 79.26 -0.81 80.92 80.64 -0.28 80.30 -0.62 19981

-0.25 79.29 -0.83 -0.30 -0.59 19701 80.12 79.87 80.97 80.67 80.38 19481 79.42 77.94 -1.48 77.40 -2.02 80.02 78.62 -1.40 78.54 -1.48 18066 77.48 77.11 -0.37 77.32 -0.16 78.47 78.13 -0.34 78.45 -0.03 75.27 75.05 -0.22 75.04 -0.23 76.65 76.25 -0.39 76.34 -0.31 16821 16756 75.26 75.17 -0.09 75.16 -0.10 76.64 76.33 -0.31 76.44 -0.20 75.25 75.01 75.00 -0.25 -0.44 76.29 -0.33 16681 -0.24 76.63 76.19 15863 74.86 74.74 -0.12 74.72 -0.14 76.42 76.05 -0.37 -0.30 10 76.11 74.73 74.63 74.60 75.93 75.93 0.00 75.98 15381 -0.10 -0.120.04 -0.22 -0.17 14232 73.96 73.72 -0.24 73.69 -0.27 75.03 74.81 74.87 13031 73.03 72.86 -0.17 72.83 -0.20 73.87 73.69 -0.17 73.74 -0.13

-0.16

-0.10

-0.09

72.92

70.27

69.83

72.77

70.10

69.69

-0.15

-0.17

-0.14

72.80

70.12

69.71

-0.12

-0.15

-0.13

PROPOSED CONDITIONS INCLUDE ONLY THE PROPOSED DETENTION BASIN WITHOUT CHANNEL OR STORM SEWER IMPROVEMENTS.

FUTURE REGIONAL SOLUTION INCLUDES CHANNEL AND STORM SEWER IMPROVEMENTS THAT ARE NOT PROPOSED AT THIS TIME.

Legend

Analysis Nodes

Proposed Detention Pond

----- Effective Model Cross Sections

FEMA Effective Floodplains

100-Year 500-Year



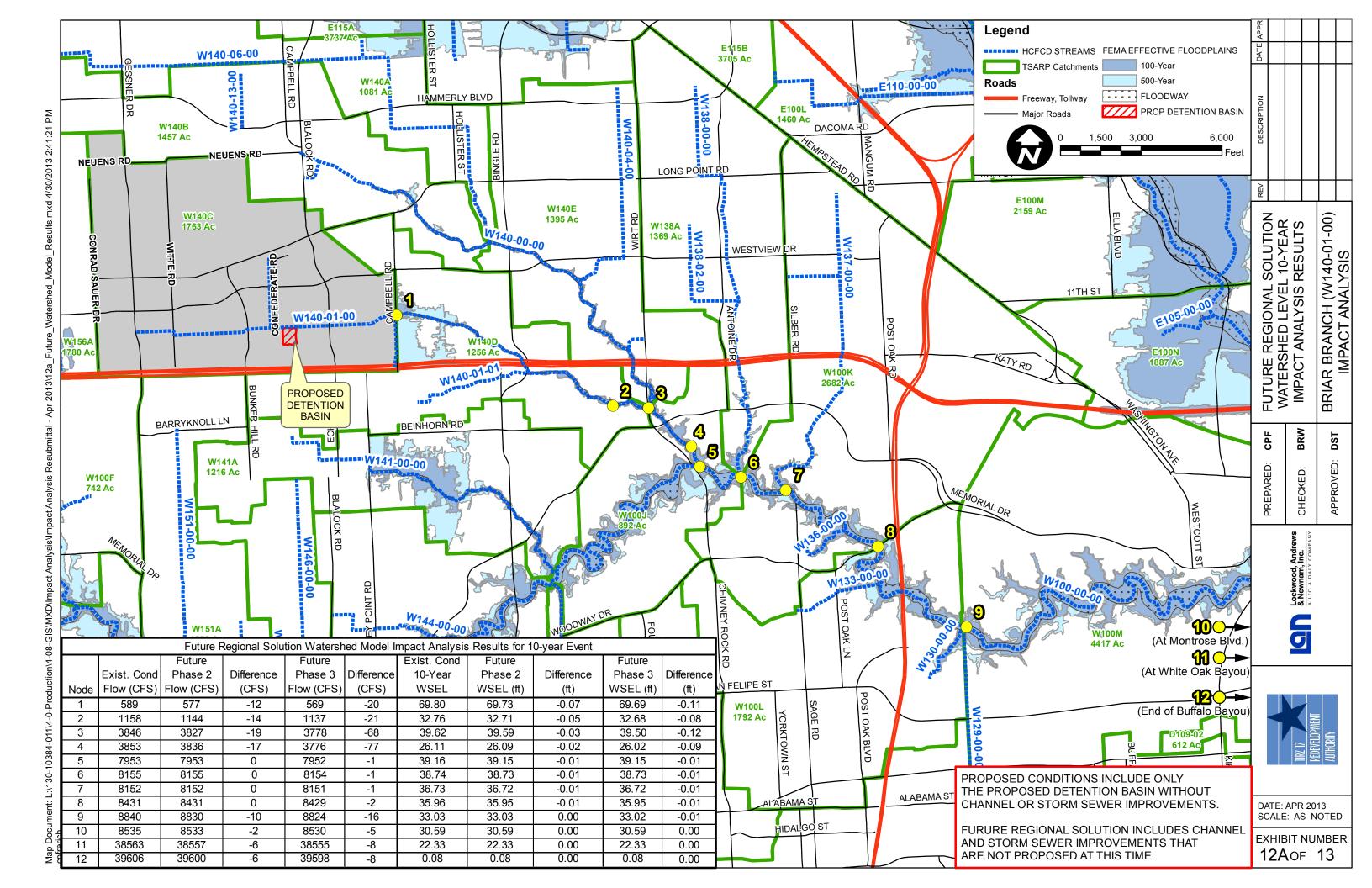


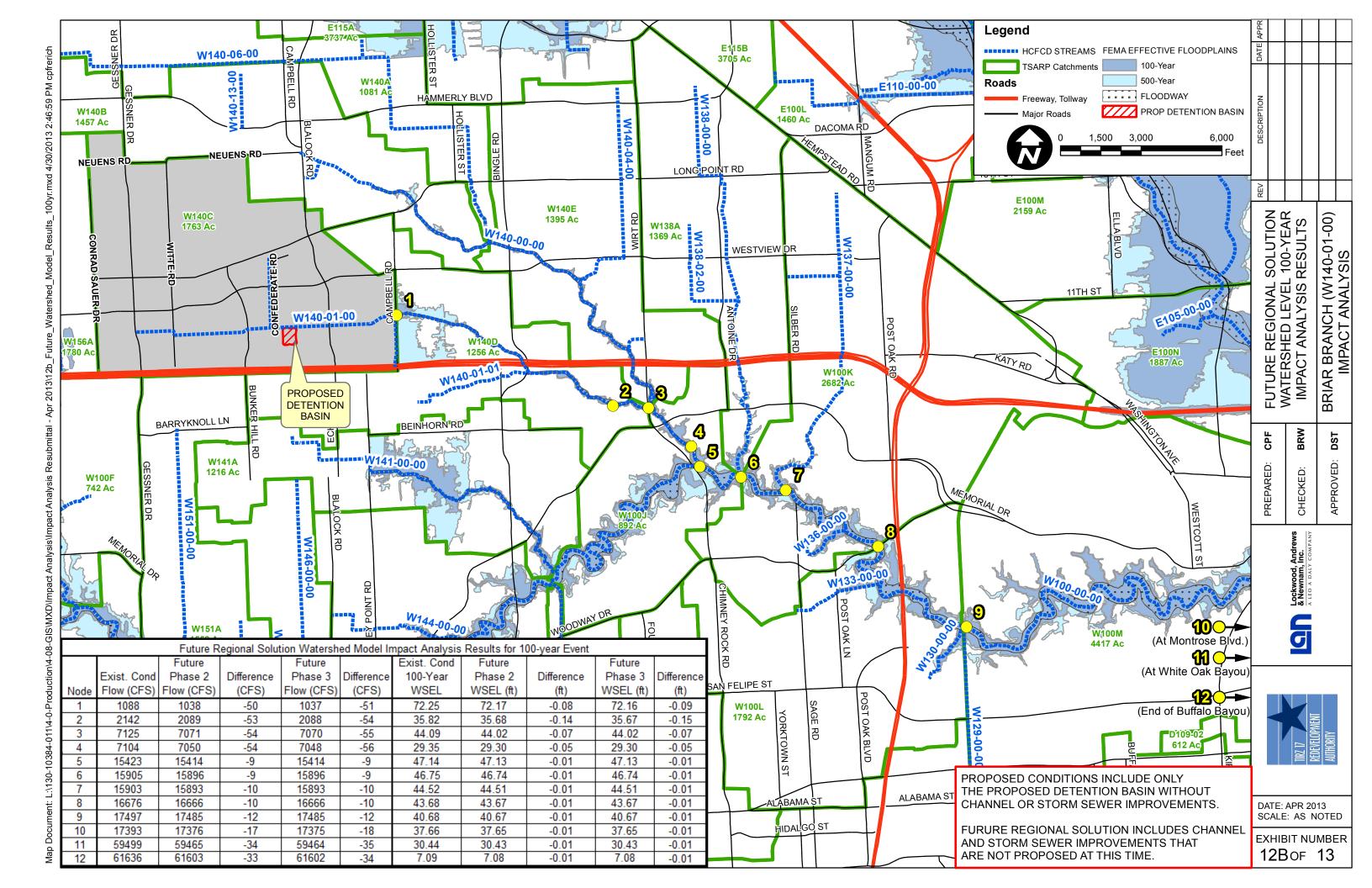
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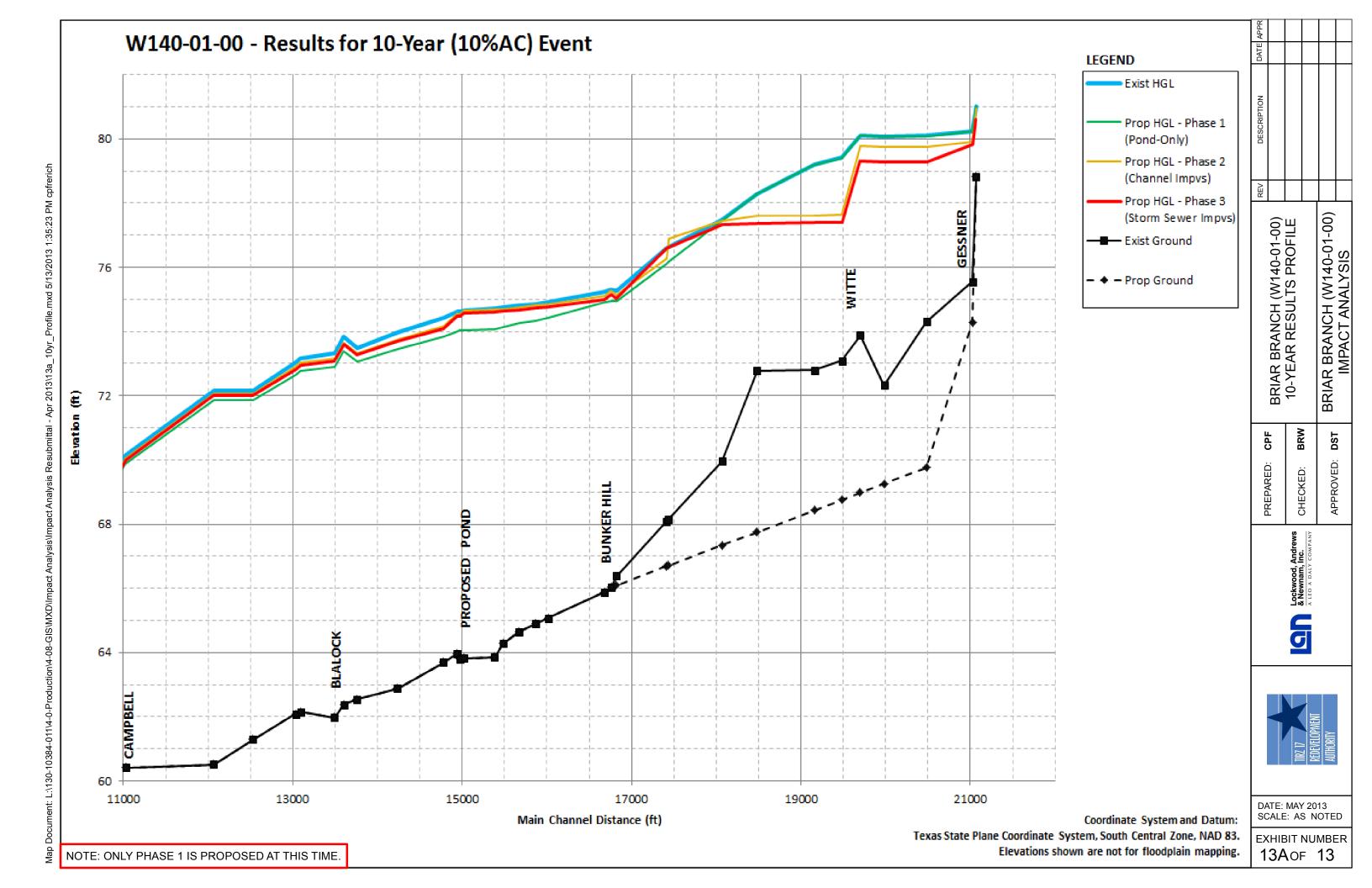
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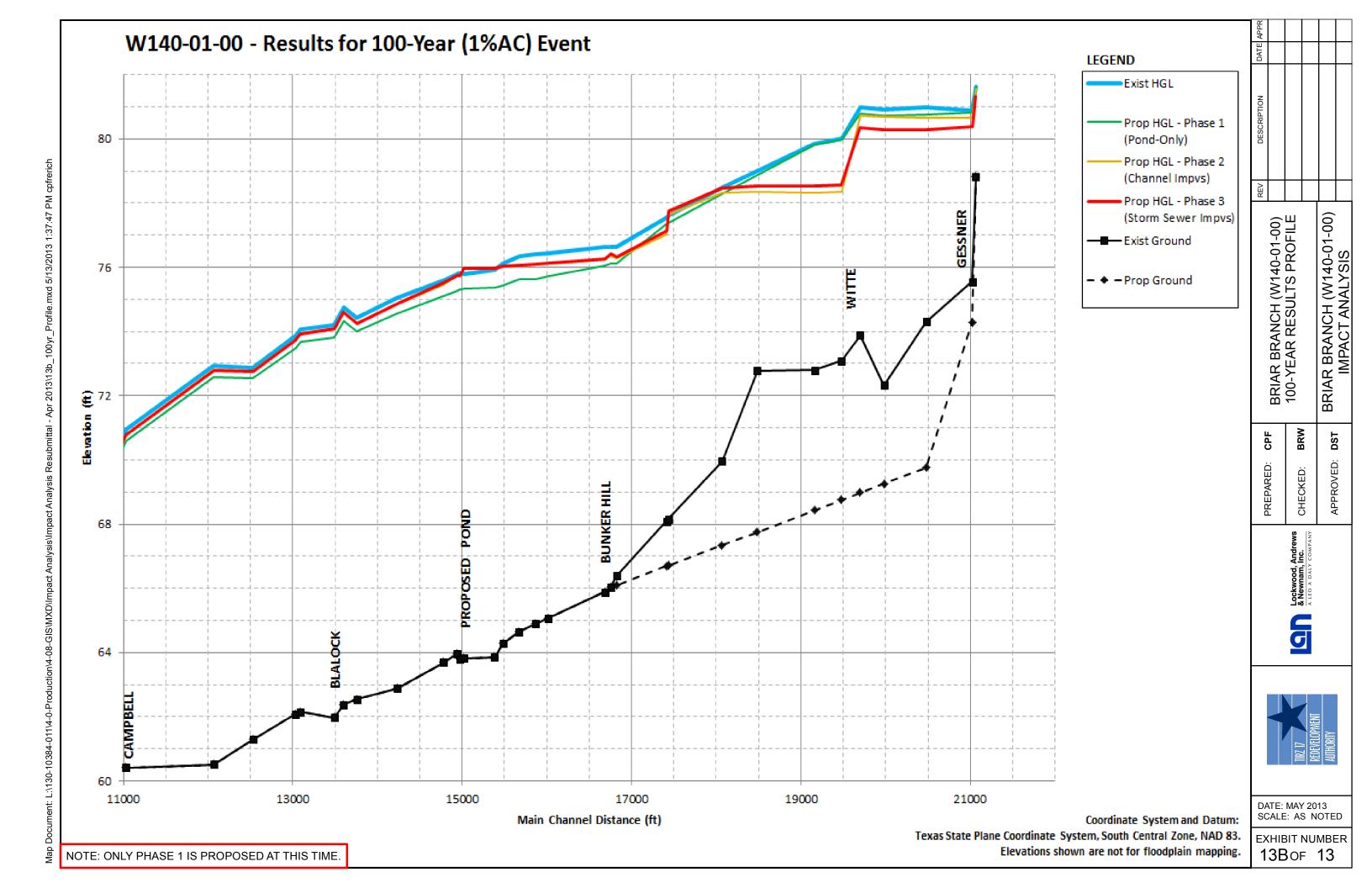
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EXHIBIT NUMBER 11 of 13









APPENDICES

Appendix A: Summary of Hydrology and Hydraulic Methodology

Appendix B: Dynamic Model Results – Available on Data CD

B-1: Dynamic Model Drainage Area, Node, and Link Information – Available on Data CD

B-2: Dynamic Model Drainage Area Results – Available on Data CD

B-3: Dynamic Model Node Results – Available on Data CD

B-4: Dynamic Model Link Results – Available on Data CD

Appendix C: HEC-HMS Model Results

Appendix D: HEC-RAS Model Results – Available on Data CD

D-1: HEC-RAS Model Results for Briar Branch

D-2: HEC-RAS Model Results for Spring Branch

D-3: HEC-RAS Model Results for Buffalo Bayou

Appendix E: Preferred Basin Layout Volume Analysis

E-1: Basin Volume Table

E-2: Basin Volume Allocations

Appendix F: Geotechnical Report by Geotest Engineers, Inc. – Available on Data CD

Appendix G: Phase I ESA by Lockwood, Andrews & Newnam, Inc. - Available on

Data CD

Appendix H: Phase II ESA by Geotest Engineers, Inc. – Available on Data CD

Appendix I: Phase II ESA by GSI Environmental, Inc. – Available on Data CD

Appendix J: U.S. Army Corps of Engineers Jurisdictional Determination Letter



APPENDIX A SUMMARY OF HYDROLOGY AND HYDRAULICS METHODOLOGY

- A. Rainfall
 - 1. Effective model: TSARP Whitepaper 10-yr & 100-yr rainfall values.
 - 2. Dynamic model: TSARP Whitepaper 10-yr & 100-yr rainfall values.
- B. Losses
 - 1. Effective model: G&A, Calibrated parameters
 - a) Results for W140C:
 - 1. 100-yr Q = 1088 CFS
 - 2. Total Runoff = 13.2"-3.61"=9.59"
 - 2. Dynamic model: G&A, Values from TSARP whitepaper
 - a) Results for W140C:
 - 1. 100-yr Q = 1984 CFS
 - 2. Total Runoff = 13.2"-1.11"=12.09"
- C. Land Use:
 - 1. Effective model: 58.8% impervious
 - 2. Dynamic model: 61.3% impervious
 - a) Uses subdivided areas with values derived from aerial imagery and land use data from HCAD.
- D. Contributing Drainage Area:
 - 1. Effective model: 1763 acres
 - 2. Dynamic model
 - a) Total: 1832 acres
 - b) Primary: 1360 acres
 - c) Secondary: 472 acres
- E. Hydrograph Translation:
 - 1. Effective model: Clark unit hydrograph
 - 2. Dynamic model: SWMM Routing consistent with 2004 and 2009 HCFCD W151 report
- F. Tail Water for Dynamic Model:
 - Used normal depth at end of dynamic model (Edge of W140C subcatchment)





Drainage Area Size (Ac) (%) Slope (%) Width (ft) Runoff (CFS) Runoff (CFS) 1018 36.943 83.73 3.2 715.7 154.2 280.9 10008 0.241 89.89 3 58 1.1 2.0 10009 6.84 41.19 3.2 425.2 31.5 55.6 10011 0.897 60.62 3.4 133 4.3 7.4 10034 0.41 86.16 3.9 75.4 2.0 3.4 10034 0.41 86.16 3.9 75.4 2.0 3.4 10035 1.181 85.52 1.8 128 5.6 9.8 10044 0.97 58.98 3.4 118 4.6 8.0 10049 0.504 73.65 3.4 70 2.4 4.2 10049 0.504 73.65 3.4 70 2.4 4.2 10051 0.66 59.06 3.2 <t< th=""><th></th><th></th><th>Impervious</th><th></th><th></th><th>Peak 10-yr</th><th>Peak 100-yr</th></t<>			Impervious			Peak 10-yr	Peak 100-yr
1018	Drainage Area	Size (Ac)	•		Width (ft)	•	
10008			` '				
10009							
10010							
10011							
10033		_					
10034							
10035							
10036							
10044							
10048							
10049 0.504 73.65 3.4 70 2.4 4.2 10051 0.66 59.06 3.2 168 3.1 5.5 10052 0.58 77.28 3.2 70 2.8 4.8 10053 0.539 63.17 3.2 160 2.6 4.4 10054 1.023 63.59 3.2 289 4.9 8.4 10055 0.177 72.76 3.2 85 0.8 1.5 10056 0.644 55.95 3.2 85 0.8 1.5 10056 0.644 55.95 3.2 85 0.8 1.5 10056 0.644 55.95 3.2 85 0.5 0.9 10058 0.114 55.70.1 3.2 85 0.5 0.9 10058 0.114 89.26 3 60 1.4 2.3 10159 46.246 45.48 5.6 800.8 196.0 355.							
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20141 10.46 79.61 0.2 384.6 38.6 72.5 30016 16.245 51.52 1 540 67.6 123.3 30021 10.346 53.81 1 550 45.8 82.1 30023 7.33 60.64 1 300 31.7 57.3 30029 129.378 64.77 1 1265 411.8 794.1 30032 1.072 85.67 3.3 120 5.1 8.8 30033 0.933 69.53 8.6 75 4.4 7.7 30034 0.779 86.59 8.6 175 3.7 6.4 30035 0.698 87.91 8.6 70 3.3 5.8		_					
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30021 10.346 53.81 1 550 45.8 82.1 30023 7.33 60.64 1 300 31.7 57.3 30029 129.378 64.77 1 1265 411.8 794.1 30032 1.072 85.67 3.3 120 5.1 8.8 30033 0.933 69.53 8.6 75 4.4 7.7 30034 0.779 86.59 8.6 175 3.7 6.4 30035 0.698 87.91 8.6 70 3.3 5.8	30016	16.245	51.52	1	540	67.6	123.3
30029 129.378 64.77 1 1265 411.8 794.1 30032 1.072 85.67 3.3 120 5.1 8.8 30033 0.933 69.53 8.6 75 4.4 7.7 30034 0.779 86.59 8.6 175 3.7 6.4 30035 0.698 87.91 8.6 70 3.3 5.8	30021	10.346	53.81	1	550	45.8	82.1
30029 129.378 64.77 1 1265 411.8 794.1 30032 1.072 85.67 3.3 120 5.1 8.8 30033 0.933 69.53 8.6 75 4.4 7.7 30034 0.779 86.59 8.6 175 3.7 6.4 30035 0.698 87.91 8.6 70 3.3 5.8	30023	7.33	60.64	1	300	31.7	57.3
30033 0.933 69.53 8.6 75 4.4 7.7 30034 0.779 86.59 8.6 175 3.7 6.4 30035 0.698 87.91 8.6 70 3.3 5.8	30029	129.378	64.77	1	1265	411.8	794.1
30033 0.933 69.53 8.6 75 4.4 7.7 30034 0.779 86.59 8.6 175 3.7 6.4 30035 0.698 87.91 8.6 70 3.3 5.8	30032	1.072	85.67	3.3	120	5.1	8.8
30034 0.779 86.59 8.6 175 3.7 6.4 30035 0.698 87.91 8.6 70 3.3 5.8	30033	_				4.4	
	30034	0.779	86.59	8.6	175	3.7	6.4
30036 0.435 89.35 3.4 25 2.0 3.5	30035	0.698	87.91	8.6	70	3.3	5.8
	30036	0.435	89.35	3.4	25	2.0	3.5



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30037	2.67	52.05	3.3	290	12.6	22.0
3143189	4.903	61.15	4.1	260.7	23.1	40.5
3143195	2.676	51.29	5.5	192.6	12.7	22.2
3143196	1.856	86.59	4.5	160.4	8.8	15.4
3143206	2.722	85.65	1.8	194.3	12.7	22.3
3143209	2.607	85.71	2	190.1	12.2	21.4
3143214	3.67	77.92	2.5	257.5	17.3	30.3
3143216	3.02	76.17	1.9	204.6	14.1	24.9
3143228	9.848	67.43	0.2	602.8	40.6	74.4
3144582	18.055	53.27	3.5	500.3	79.7	142.9
3144583	1.039	66.42	8.3	120	5.0	8.6
3144584	5.205	53.73	6.3	268.6	24.6	43.0
3144586	3.887	49.64	5.3	232.2	18.2	31.9
3144598	5.986	55.76	5.7	288.1	28.2	49.4
3144600	7.527	60.53	5	323.1	35.0	61.5
3144603	14.526	49.65	8.6	482.2	67.1	118.3
3144610	3.856	63.55	9.4	231.2	18.4	32.0
3144613	12.702	68.07	8.8	419.7	59.2	104.0
3144627	1.369	68.35	3.7	137.8	6.5	11.3
3144628	5.076	64.27	3	265.3	23.7	41.8
3144631	2.382	50.52	3.2	181.7	11.2	19.6
3144642	3.46	53.87	4.2	219	16.2	28.4
3144643	5.212	50.34	3.6	268.8	24.1	42.5
3144647	2.407	48.42	6.7	182.7	11.4	19.8
3144648	5.732	40.48	3.3	281.9	26.3	46.6
3144912	3.462	77.68	3.2	219.1	16.3	28.6
3144913	3.285	85.42	4.9	213.4	15.6	27.2
3144914	1.754	86.18	3.6	155.9	8.3	14.6
3144915	1.287	85.51	4.4	133.6	6.1	10.7
3144916	0.716	86.06	3.6	99.6	3.4	6.0
3144917	1.613	86.11	4.4	149.6	7.7	13.4
3144931	1.682	64.55	5.9	152.7	8.0	14.0
3144932	2.385	67.2	4.2	182	11.4	19.8
3144962	19.501	42.81	11	520	88.9	157.4
3146012	1.736	73.48	2.5	219.2	8.3	14.4
3146014	1.573	80.06	2.4	227.1	7.5	13.1
3146601	2.18	57.46	0.4	273.4	10.1	17.8
3146604	1.132	60.67	0.5	138.7	5.3	9.3
3146605	1.077	55.28	0.6	131.7	5.0	8.9
3146608	0.432	84.28	3.1	116.2	2.1	3.6
3146737	0.184	71.83	3.2	57.2	0.9	1.5
3146738	0.216	65.43	2.6	60.2	1.0	1.8
3146767	5.593	49.86	0.1	300	22.1	40.9
3146769	4.58	51.96	0.4	256	19.5	35.5
3175098	1.193	87.21	4.7	128.6	5.7	9.8
3175100	0.847	87.63	2.9	108.4	4.0	7.0
3175104	2.689	86.79	4.2	193.1	12.6	22.1
3175109	0.958	83.05	5.3	115.3	4.6	7.9
3175112	3.449	86.45	7.6	218.7	16.4	28.6
3175113	3.792	85.97	2.7	229.3	17.7	31.1
3175115	3.909	67.75	2.6	232.8	18.3	32.2
3175121	2.822	58.07	2.9	197.8	13.3	23.3
3176094	51.98	59.8	1	1600	215.8	394.3
3176100	6.846	36.26	1	590	30.8	54.8



9176104 12.237 54.28 7.2 411.9 56.5 99.7 3176110 10.38 50.37 5.9 379.4 47.7 84.3 3176112 12.409 58.44 5.4 414.8 57.0 100.7 3176247 14.621 51.23 2.5 450.3 64.0 115.1 3176275 4.237 48.83 8.8 242.4 20.0 34.9 3177638 7.902 54.51 5.9 331 37.0 65.0 3177642 5.184 63.47 4.6 268.1 24.4 42.8 3177646 3.153 58.67 5.1 209.1 15.0 26.1 3177663 6.757 68.98 6 306.1 31.9 55.9 3177664 8.32 70.46 3.4 339.6 38.5 68.0 3177675 5.031 53.23 7 264.1 23.8 41.6 3177675 5.031 53.2 <	3176102	5.3	63.74	7.1	271.1	25.0	43.6
3176110 10.38 50.37 5.9 379.4 47.7 84.3 3176112 12.409 58.44 5.4 414.8 57.0 100.7 3176247 14.621 51.23 2.5 450.3 64.0 115.1 3176247 44.83 8.8 242.4 20.0 34.9 3177638 7.902 54.51 5.9 331 37.0 65.0 3177642 5.184 63.47 4.6 268.1 24.4 42.8 3177646 3.153 58.67 5.1 209.1 15.0 26.1 3177653 6.757 68.98 6 306.1 31.9 55.9 3177664 8.32 70.46 3.4 339.6 38.5 68.0 3177675 5.031 53.23 7 264.1 23.8 41.6 3177677 2.754 87.37 3.4 195.4 13.0 22.8 31778761 6.568 52.37 6.7 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
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3234001 249.358 54.29 1 3000 834.1 1594.2 3234049 6.922 51.91 10.4 309.8 32.5 56.9 3234051 5.126 55.27 7 266.6 24.1 42.1 3234054 3.436 51.84 5.3 218.3 16.2 28.2 3234059 4.681 52.16 10.5 254.8 22.1 38.6 3234315 4.114 78.43 12 238.8 19.5 34.0 3236559 2.862 52.22 9.1 199.2 13.6 23.6 3236585 9.72 50.01 11.1 367.1 45.4 79.7 3236593 2.47 56.83 9.1 185.1 11.7 20.4							
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3234051 5.126 55.27 7 266.6 24.1 42.1 3234054 3.436 51.84 5.3 218.3 16.2 28.2 3234059 4.681 52.16 10.5 254.8 22.1 38.6 3234315 4.114 78.43 12 238.8 19.5 34.0 3236559 2.862 52.22 9.1 199.2 13.6 23.6 3236585 9.72 50.01 11.1 367.1 45.4 79.7 3236593 2.47 56.83 9.1 185.1 11.7 20.4							
3234054 3.436 51.84 5.3 218.3 16.2 28.2 3234059 4.681 52.16 10.5 254.8 22.1 38.6 3234315 4.114 78.43 12 238.8 19.5 34.0 3236559 2.862 52.22 9.1 199.2 13.6 23.6 3236585 9.72 50.01 11.1 367.1 45.4 79.7 3236593 2.47 56.83 9.1 185.1 11.7 20.4							
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3234315 4.114 78.43 12 238.8 19.5 34.0 3236559 2.862 52.22 9.1 199.2 13.6 23.6 3236585 9.72 50.01 11.1 367.1 45.4 79.7 3236593 2.47 56.83 9.1 185.1 11.7 20.4							
3236559 2.862 52.22 9.1 199.2 13.6 23.6 3236585 9.72 50.01 11.1 367.1 45.4 79.7 3236593 2.47 56.83 9.1 185.1 11.7 20.4							
3236585 9.72 50.01 11.1 367.1 45.4 79.7 3236593 2.47 56.83 9.1 185.1 11.7 20.4							
3236593 2.47 56.83 9.1 185.1 11.7 20.4							
■ 3236615 ■ 14 995 47 88 6 2 456 68 0 120 8							
	3236615	14.995	47.88	6.2	456	68.0	120.8
<u>3236632</u> 8.429 82.5 3.8 341.9 38.6 68.3							
<u>35021</u> <u>2.463</u> <u>63.79</u> <u>3.4</u> <u>135</u> <u>11.5</u> <u>20.2</u>							
<u>35029</u> 0.145 60.62 3.4 176.5 0.7 1.2	35029	0.145	60.62	3.4	176.5	0.7	1.2
<u>4161810</u>							
<u>4161812</u> 0.251 68.82 4.5 59 1.2 2.1							
4165583 0.148 88.96 3 55 0.7 1.2							
4165604 0.324 89.88 3 52 1.5 2.7	4165604	0.324	89.88	3	52	1.5	2.7



4165605	0.307	90	2.2	65.2	1.5	2.5
4165607	0.258	90	1.7	59.8	1.2	2.1
4165610	0.045	90	1.4	25	0.2	0.4
4165616	1.272	90	1.7	132.8	6.0	10.4
4165616-2	0.352	90	1.1	98.9	1.7	2.9
4165616-3	0.364	90	12	100.6	1.7	3.0
5009	1.127	80.39	5.8	276.4	5.4	9.4
5013	8.281	66.19	5	338.9	38.8	68.2
5023	0.405	85.3	3.4	60	1.9	3.3
5027	0.541	73.91	3.4	25	2.5	4.4
5029	1.106	63.79	3.4	434.7	5.3	9.1
5030	1.887	60	3.4	176	8.9	15.6
5057	0.756	90	3.2	50	3.5	6.2
5058	4.816	57.47	3.4	265	22.4	39.4
5225	4.345	52.96	3.1	245.5	20.1	35.5
5665	6.029	87	3.3	289.2	27.9	49.3
5671	4.576	81.27	2.3	251.9	21.2	37.4
5708686	6.47	48.87	2.8	299.5	29.5	52.2
5708689	6.847	48.68	3	308.1	31.2	55.3
5763	6.802	83.41	2.9	460	32.0	56.1
5765	2.9	82.01	2.9	224	13.7	24.0
5770	4.521	83.43	5.5	240	21.3	37.4
5771	2.911	82.87	4	188	13.8	24.1
5784	4.694	60.17	5.3	255.1	11.6	12.2
5788-1	0.488	83.35	0.4	100	2.3	4.0
5805	6.139	58.66	2	291.8	27.9	49.5
5817	5.199	50.61	3.9	290	24.2	42.5
5825	3.204	52.42	2.8	210.8	14.9	26.2
5826	2.488	57.28	3.9	185.7	11.7	20.5
5839	0.812	87.23	0.6	86.5	3.7	6.6
5854	1.795	57.68	2.9	157.8	8.5	14.8
5860	5.483	50.96	4.4	275.7	25.5	44.8
5861	4.212	56.09	4.6	241.7	19.7	34.6
5874	4.29	50.71	9.2	243.9	20.2	35.3
5876	8.121	51.01	5.3	335.6	37.5	66.1
5879	4.732	50.12	3.3	350	22.2	38.8
5906134	1.937	72.14	2.2	163.9	9.2	16.0
5906136	1.767	54.2	3.2	156.5	8.4	14.6
5906138	4.434	52.44	2.3	248	20.5	36.3
5906139	5.035	51.25	1.6	264.2	22.9	40.7
5906141	1.772	54.94	2	156.7	8.4	14.7
5906143	4.238	49.5	2	242.4	19.5	34.5
5906183	3.075	51.16	2.5	206.5	14.4	25.3
5906232	5.562	51.32	1.8	277.7	25.3	45.0
5906234	5.765	51.92	1.7	282.7	26.2	46.6
5906250	4.665	51.78	2.6	254.3	21.6	38.2
5906258	3.687	53.25	2.8	226.1	17.3	30.3
5906313	3.534	52.95	2	221.4	16.4	28.9
5906318	5.001	53.65	2	263.3	23.0	40.7
5906321	3.647	52.09	2	224.9	16.9	29.8
5906330	3.265	52.47	4.6	212.8	15.4	27.0
5906331	3.474	56.39	3.3	219.5	16.4	28.7
5906359	3.451	54.21	3.5	218.7	16.3	28.5
5906361	3.825	53.21	3	230.3	17.9	31.5



5906410	4.924	53.72	2.9	261.3	22.9	40.4
5906481	3.304	58.96	2.3	214	15.5	27.2
6013	1.645	61.71	1.4	151	7.7	13.5
6016	72.411	54.88	1	1000	251.8	478.1
6029677	0.645	63.98	0.5	117.5	3.1	5.3
6029685	1.109	53.08	3.6	124	5.3	9.2
6029695	1.242	52.21	4.7	131.2	5.9	10.3
6029697	2.976	55.22	2.1	203.1	13.9	24.5
6029708	2.259	55.53	2.2	177	10.6	18.7
6029724	6.374	53.21	3.8	297.3	29.4	51.9
6029730	1.356	51.43	3.4	137.1	6.4	11.2
6029738	1.37	57.59	2.2	137.8	6.5	11.3
6029751	1.025	52.76	3.4	176.5	4.9	8.5
6029762	1.655	53.5	3.4	165	7.8	13.6
6029772	14.369	49.86	3.4	481.2	64.3	114.8
6029809	4.971	60.42	3.9	262.5	23.2	40.7
6052590	4.585	45.35	2.5	252.1	21.1	37.4
6052591	1.022	62.83	8.5	140.7	4.9	8.5
6052608	5.858	47.21	2.3	285	26.7	47.4
6052609	1.147	72.12	4.9	155.2	5.5	9.5
6052620	7.106	70.6	3.5	308.5	33.0	58.3
6061230	2.537	50.41	2.1	187.6	11.9	20.9
6061276	5.129	49.37	2.6	266.7	23.7	41.8
6061295	4.628	52.75	3.2	253.3	21.6	38.0
				1		
6061308	3.016 1.33	53.66	2.5	204.5	14.1 6.3	24.8
6061320 6061322		59.91 45.35	2.6 3.1	135.8 250	20.9	11.0 36.9
	4.506 1.811	54.01	2.6	158.5	8.6	15.0
6061338	2.192	48.74	2.0	174.3	10.3	18.1
6061347 6061355		54.38	2.2	174.3	9.9	17.3
6061365	2.092 1.223	54.95	3.4	130.2	5.8	10.2
6061377		51.03	2.6	193.3	12.7	22.2
6061387	2.695 2.902	49.19	2.0	200.6	13.5	23.8
6061405	1.319	55.26	3.3	135.2	6.3	11.0
6061415	4.181	59	3.6	240.8	19.7	34.5
6061431	2.38			181.7	11.2	19.7
6061441	4.012	56.4 53.14	2.3	235.9	18.6	32.8
6061468	0.271	89.85	1.8	61.3	1.3	2.3
6061471	1.017	53.4	2.1	118.7	4.8	8.4
6061479	3.12	51.93	2.1	208	14.5	25.6
6061497	5.792	51.93	1.5	283.4	26.1	46.6
6062507	1.603	55.34	2.3	149.1	7.6	13.3
6062507	2.108	49.56	2.3	171	9.9	17.4
6062528	2.108	49.56	2.4	182.2	9.9	17.4
6062528 6062544	2.394	52.61	3.7	175.7	10.6	18.5
6062544	0.234	89.95	2.9	57	1.1	1.9
6062554	1.865	49.04	3.9	160.8	8.9	15.5
6062570	1.224	58.34	3.4	130.3	5.8	10.2
6062580	2.022	50.34	2.2	167.4	9.5	16.7
		81.22		1		23.4
6062588 6062598	2.829		2.7	198.1	13.3	
6073349	0.889 1.483	84.3 57.28	3.4 2.2	111 143.4	4.3 7.0	7.4 12.3
6073352		57.28 54.85			7.0	
	1.518	54.85	2.1	145.1		12.6
6073420	3.401	50.72	2.3	217.2	15.8	27.9



6073424	1.11	57.9	3.9	124.1	5.3	9.2
6073433	4.404	52.45	1.8	247.1	20.2	35.9
6073436	7.094	60.32	1.0	450	32.4	57.5
6073447	4.207	61.75	4.2	241.5	19.9	34.8
6073447-2	9.682	61.75	1	586	44.0	78.4
6073451	3.097	60.49	5.9	207.2	14.7	25.7
6073459	2.255	64.41	3.9	176.8	10.7	18.7
6073463	2.693	54.54	1.1	193.2	12.4	22.0
6073491	1.367	61.94	3.6	137.7	6.5	11.4
6075003	2.995	55.28	2.9	203.8	14.1	24.7
6075006	1.204	63.25	1.5	129.2	5.7	10.0
6075008	2.746	52.51	1.6	195.1	12.8	22.5
6075011	2.497	54.19	2.3	186.1	11.7	20.6
6075013	2.504	56.61	1.8	186.3	11.7	20.6
6075019	4.644	52.8	2.9	253.8	21.6	38.1
6075024	2.206	53.25	2.4	174.9	10.4	18.2
6075027	1.738	83.1	1.7	155.2	8.1	14.2
6075045	3.925	49.87	2.2	233.3	18.2	32.1
6075097	1.174	84.4	2.8	127.6	5.6	9.7
6075103	1.534	55.25	2.5	145.8	7.3	12.7
6075121	1.764	53.14	2.4	156.4	8.3	14.6
6075451	2.234	62.8	1.9	176	10.5	18.3
6075463	97.362	69.63	1	3100	407.6	743.0
6075465	2.019	76.43	2.2	167.3	9.5	16.6
6076632	2.887	52.73	2.2	200.1	13.5	23.8
6198711	10.318	69.34	3.7	378.2	47.5	84.2
6198730	4.267	52.09	2.1	243.2	19.7	34.9
6198788	2.563	51.42	2.5	175.2	12.0	21.1
6198792	6.705	47.02	3.3	304.9	30.8	54.6
6198793	1.973	78.12	3.8	165.4	9.4	16.4
6198800	7.27	85.03	3.9	317.5	33.6	59.4
6198813	1.109	86.23	4.1	124	5.3	9.2
6198814	1.28	86.15	10.2	133.2	6.1	10.7
6198825	0.4	85.56	2.5	74.5	1.9	3.3
6198826	0.34	85.46	2.4	68.7	1.6	2.8
6198837	1.093	85.47	2.8	123.1	5.2	9.1
6198838	0.253	87.36	3.6	59.2	1.2	2.1
6198839	0.287	87.31	3.3	63.1	1.4	2.4
6198853	2.564	85.74	2	188.6	12.0	21.1
6198854	0.29	85	3	63.4	1.4	2.4
6198859	2.235	85.29	2.2	176	10.5	18.4
6198860	2.163	74.22	2.3	173.2	10.2	17.9
6198873	0.361	86.29	3.3	70.7	1.7	3.0
6198874	1.017	85.46	2.2	118.7	4.8	8.4
6198885	1.169	77.31	2.2	127.3	5.6	9.7
6198886	0.669	85.53	2.3	96.3	3.2	5.6
7204174	8.677	65.28	12	346.9	40.9	71.4
A10	3.272	52.26	0.2	413.7	14.6	26.0
A11	2.283	55.34	0.1	289.4	10.2	18.2
A13	4.632	45.57	0	404.5	19.5	35.4
A15	4.659	45.52	0	378.4	19.4	35.4
A17	4.583	50	0.3	388.8	19.8	35.7
A18	3.568	45.18	0.3	402	15.9	28.4
A2	10.817	47.14	0	656.9	43.1	79.4



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A20	0.436	58.09	1.4	142.4	2.1	3.6
A21	2.269	54.05	0.2	160.9	9.5	17.3
A22	1.937	50.08	0.3	160.3	8.5	15.2
A25	1.619	50.83	0.3	183.4	7.3	13.0
A26	1.624	51.12	2.3	160.4	7.6	13.4
A28	1.631	50.78	0.4	171.3	7.4	13.1
A29	1.657	50.65	0.4	166.3	7.4	13.2
A3	3.953	48.42	0.3	311.9	17.1	30.8
A31	1.682	50.76	0.2	189.5	7.4	13.3
A32	4.562	50.35	0.2	477.8	20.0	35.9
A34	0.445	68.95	0.1	39	1.9	3.5
A35	2.716	44.86	0.3	332.4	12.1	21.6
A41	1.87	50.66	0.8	163.3	8.5	15.1
A42	1.869	45.32	0.3	159.7	8.1	14.6
A43	1.85	50.34	0.7	168.3	8.4	14.9
A46	4.974	75.58	0.7	387.2	22.5	40.1
A47	1.869	51.06	0.4	178.4	8.4	14.9
A48	1.204	86.77	0.4	188.2	5.6	9.8
A5	2.14	50.51	0.1	224.8	9.3	16.8
A6	3.509	48.81	0.2	292.6	15.0	27.1
A8	12.573	43.61	0	473.9	44.8	84.4
A9	5.62	39.86	0.3	362.4	22.8	41.8
AM19	0.865	51.3	0.4	201.1	4.1	7.1
AM23	2.156	54.1	0	160.8	9.0	16.4
AM24	1.095	49.48	1.2	166.5	5.2	9.0
AM27	1.041	55.85	0.1	179.8	4.8	8.4
AM30	1.696	52.81	0.1	185.3	7.4	13.4
AM37	1.044	50.53	0.7	144.6	4.9	8.5
AM38	1.536	72.23	0	191.8	6.9	12.3
AM39	0.981	58.26	0.6	171.1	4.6	8.1
AM40	1.871	49.66	0.4	160.7	8.3	14.9
AM44	1.149	55.66	0	169.5	5.2	9.2
AM45	0.482	63.28	0.1	129.8	2.3	4.0
AM49	5.206	83.95	0.1	345.9	21.2	38.8
B01	1.111	80.72	2.2	129.1	5.3	9.2
B03	0.72	86.23	0.5	191	3.4	6.0
B05	0.985	85.74	0.3	218.3	4.6	8.1
B06	1.772	75.55	0.3	182.6	8.0	14.3
B08	3.116	85.28	0.3	340.5	14.1	25.1
B12	0.3	82.13	1.7	65.6	1.4	2.5
B13	0.174	83.28	0.1	42.3	0.8	1.4
B15	4.893	80.59	0	343.2	20.4	37.2
B19	1.275	83.33	0.7	150.1	6.0	10.5
B20	3.52	85.71	0	219.4	14.2	26.2
B26	0.994	86.66	0.1	144.9	4.5	8.0
B30	3.697	59.18	0.6	220.8	16.4	29.4
B31	0.97	86.7	0.2	159.5	4.5	7.9
B35	18.037	51.33	0.3	673.5	68.5	127.9
B36	5.24	62.33	0.4	351.7	23.1	41.6
B38	0.253	88.18	0.2	30.8	1.1	2.0
B39	5.055	44.01	0.2	347.5	20.6	37.8
B46	0.286	88.23	0.5	58.5	1.4	2.4
B50	0.916	86.42	0.6	145.7	4.3	7.6
BM29	1.649	87.3	0.5	248.1	7.6	13.5



BM40	2.057	87.44	0.1	242.6	9.0	16.2
BM7	2.102	79.05	0.1	167.4	8.9	16.1
C006	0.428	77.86	0.1	153.5	2.0	3.6
C008	0.276	89.17	0.1	122.4	1.3	2.3
C009	0.657	70.42	0.1	75.2	3.1	5.4
C011	0.357	87.13	1	77.4	1.7	3.0
C013	0.16	85.07	0.9	39.5	0.8	1.3
C013	0.135	85.03	0.9	35.2	0.6	1.1
C019	1.642	64.57	0.2	224.1	7.7	13.5
C022	0.333	89.89	0.6	69.6	1.6	2.8
C023	0.245	85	0.7	59.2	1.2	2.0
C024	0.281	85	0.8	73.1	1.3	2.3
C028	1.595	64.55	0.3	190.7	7.3	12.9
C030	1.085	86.14	0.7	196.1	5.1	9.0
C036	0.306	90	0.9	53.6	1.5	2.5
C036A	1.846	60.32	0.5	262.1	8.7	15.2
C038	0.3	89.62	0.5	52	1.4	2.5
C038A	1.529	85	0.6	143.3	7.0	12.4
C038B	1.357	83.63	0.4	123.9	6.1	10.9
C040	6.154	81.52	0.1	310.7	24.1	44.7
C041	3.038	68.9	0.1	242.1	13.0	23.6
C044	0.302	89.93	0.5	63.8	1.4	2.5
C045	1.746	63.47	0.5	161.9	8.0	14.2
C046	6.961	42.5	0.5	236.9	26.8	49.8
C048	1.739	85.88	0.4	247.3	8.1	14.3
C051B	0.304	68.56	1.1	117.2	1.5	2.5
C054	0.425	64.61	1	129.1	2.0	3.5
C057	0.755	61.05	0.6	150.7	3.6	6.3
C060	4.308	64.61	0.8	398.1	20.0	35.3
C062	0.897	64.46	0.4	224	4.3	7.4
C064	0.141	90	1	58.8	0.7	1.2
C067	0.081	90	0.1	31.4	0.4	0.7
C068	0.203	85.84	1.2	78.9	1.0	1.7
C070	0.135	82.73	1.9	53.3	0.6	1.1
C072	2.714	46.64	0.1	153.5	10.7	19.9
C073	1.175	86.16	0.9	207.4	5.6	9.7
C080	1.21	86.02	0.5	211.5	5.7	10.0
C082	2.578	46.03	0.1	256	11.1	20.1
C083	2.155	59.4	0.5	246.4	10.0	17.7
C084	0.296	88.07	0.7	125	1.4	2.5
C086	0.519	87.13	0.5	168.1	2.5	4.3
C088	1.044	83.53	1.2	163.4	5.0	8.7
C090 C092B	0.994 0.553	67.78 76.3	0.8 0.4	212.5 115.3	4.7 2.6	8.3
C092B C093	1.471	86.36	0.4	262.7	6.9	4.6 12.2
C095	0.499	87.43	0.5	102	2.3	4.1
C095	0.499	89.86	0.1	51.2	2.0	3.5
C098	0.423	86.81	0.7	157.6	3.2	5.6
C103	0.711	84.76	0.7	165	3.3	5.8
CP00	1.199	55.34	0.4	462.3	5.7	9.9
CP03	3.315	41.79	1.5	354.9	15.4	27.1
CP04	3.322	64.48	0.6	376.6	15.4	27.1
CP06	2.608	59.57	0.2	294.6	11.6	20.7
CP07	2.716	40	0	327.2	11.8	21.2
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CP10	0.831	40	0.3	120.1	3.8	6.7
CP114	2.656	65.77	0.6	393.4	12.4	21.8
CP16	1.847	40.02	0.9	212.1	8.5	15.0
CP17	3.163	41.1	0.3	310.1	13.8	24.8
CP18	1.849	66.68	0.5	340.9	8.7	15.2
CP20	3.81	51.82	0.3	330.9	16.7	30.0
CP22	3.805	82.95	0.7	325.1	17.3	30.7
CP24	3.125	47.47	0.1	262.2	13.1	23.9
CP25	1.48	52.74	0.5	298.1	7.0	12.2
CP27	3.81	41.12	0.6	449.4	17.3	30.7
CP28	0.555	89.99	0.6	61.7	2.5	4.5
CP33	0.424	86.75	0.6	125.2	2.0	3.5
CP35	1.233	85.24	0.1	172.8	5.5	9.8
CPM12	1.388	58.02	0.1	249.5	6.4	11.3
CPM19	2.166	51.42	0.4	368.8	10.1	17.7
CPM21	2.222	65.16	0.4	362.7	10.4	18.2
CPM30	0.434	89.99	0.1	105.8	2.0	3.5
CPM31	14.602	61.54	0.6	486.4	58.6	108.0
CPM32	0.395	90	0.2	41.2	1.7	3.1
CPM9	2.78	61	0.1	297.2	12.3	22.0
D02	1.488	56.46	0.5	91.5	6.5	11.8
D04	0.514	85.42	0.6	79.7	2.4	4.2
D05	1.443	57.53	1.1	148.9	6.8	11.9
D07	1.621	57.44	0	173.3	7.2	12.9
D08	0.974	53.92	1.6	157.1	4.6	8.1
D10	0.822	52.35	0.2	157.3	3.8	6.7
D11	1.002	59.03	2	119.2	4.8	8.3
D13	1.583	57.83	0.8	271.9	7.5	13.1
D15	1.645	60.23	0.2	140.5	7.1	12.9
E04	0.736	81.69	0.7	172.9	3.5	6.1
E06	0.783	86.32	0.9	218.1	3.7	6.5
E13	5.142	73.56	0.4	506.8	23.2	41.2
E14	3.56	51.45	0.2	291.2	15.2	27.5
E16	3.376	59.82	0.2	360.4	14.9	26.8
E17	2.714	63.2	0.3	332.9	12.4	22.0
E21	3.674	85.21	0.6	442.3	17.0	29.9
E22	3.586	47.15	0.4	444.9	16.2	28.8
E25	2.215	50.88	0.5	298.3	10.2	18.0
E26	4.293	85.56	0.7	387.9	19.5	34.6
E4	2.468	81.17	0.3	178.7	10.6	19.2
E5	2.686	63.84	0.5	305	12.3	21.8
E8	7.497	61.27	0.1	530.2	31.3	57.1
E9	5.037	83.68	0.1	454.5	21.5	38.9
F1	5.032	66.09	2.7	554.5	23.8	41.5
F2	2.328	85.83	0.2	350.8	10.5	18.7
F3	3.328	65.64	0.2	381	14.8	26.5
G2	2.846	50.68	0.2	173.6	11.4	21.0
GM1	6.765	85	0	288.7	25.1	47.0
GM3	3.996	48.2	0.4	516.8	18.2	32.3
GM4	3.495	51.26	0.1	226.5	14.2	26.1
GM5	4.203	50.07	0.2	490.2	18.7	33.4
GM6	1.276	52.14	0.4	200.2	5.9	10.4
GM7	3.201	51.52	0.2	231.3	13.5	24.5
H1	2.641	46.77	0.7	353.4	12.3	21.6



H3	1.517	63.01	0	167.8	6.7	12.0
IH-10 JUNCTION E116	1.89	80.62	1.6	188.9	8.9	15.6
IH-10 MH C1	2.376	84.97	0.1	186	10.0	18.2
IH-10 MH C105A	1.519	53.68	0.5	128.2	6.9	12.2
IH-10 MH C107	2.968	57.72	0.4	177.9	12.8	23.2
IH-10 MH C121	1.578	63.51	0.1	146.5	6.9	12.5
IH-10 MH C2A	1.237	90	4.3	247.2	5.9	10.3
IH-10 MH C7	3.03	48.67	0.5	196.4	13.2	23.8
IH-10 MH WD13	0.728	90	3.4	246.6	3.5	6.1
IH-10 MH WD3	2.269	90	5.7	244.7	10.9	18.9
IH-10 MH WD4	1.292	90	9	250	6.2	10.8
IH-10 MH WD7	1.57	90	5.5	249.9	7.5	13.1
J1	2.109	49.87	1	305.6	9.9	17.3
J3	3.585	53.3	0.2	332	15.4	27.9
L01	1.464	80.72	0.3	228.4	6.8	11.9
L03	1.419	87.8	0.2	207.9	6.4	11.3
L06	2.218	72.06	0.3	153.8	9.6	17.3
L08	2.913	83.91	0.3	264	12.7	22.8
L09	0.997	66.91	0.8	96.5	4.6	8.1
L11	0.382	68.04	5.8	101.9	1.8	3.2
L12	1.107	86.67	4	218.4	5.3	9.1
L15	5.362	86.1	0.3	303.5	22.0	40.3
L16	5.827	66.48	0.3	312.2	23.9	43.9
L19	1.613	85.92	0.2	296.2	7.4	13.1
L21	1.781	85.72	0.4	256.4	8.2	14.5
L22	2.844	60.59	0.4	287	12.8	22.9
L23	1.916	85.82	0.8	308	9.0	15.7
L26	2.184	85.63	0	299.4	9.8	17.4
L27	2.052	68.6	0.3	226.2	9.3	16.5
L35	1.106	86.16	0.4	234.2	5.2	9.1
L36	9.888	62.33	0.2	377.7	36.6	68.7
L37	1.014	86.23	0.2	198.7	4.7	8.2
L39	8.826	53.28	0.3	313.5	33.4	62.3
M03	1.345	55.54	2.4	239.7	6.4	11.1
M04	5.658	60.61	0.2	321.7	22.7	41.9
M06	4.739	62.79	0.3	424	21.0	37.6
M07	1.949	54.95	0.3	209	8.7	15.6
M09	3.39	67.13	0.2	280.7	14.5	26.3
M10	1.365	64.83	0.1	237.7	6.3	11.1
M12	4.465	60.84	0	346	18.9	34.3
M13	1.579	86.55	0	184.7	6.9	12.4
M16	0.165	90	0.2	33.4	0.8	1.3
M18	0.347	89.9	0.1	32	1.5	2.7
M20 M21	0.493 0.654	63.26	0.6 0.2	143.2 97.5	2.3	4.1 5.3
M23	0.654	69.45 68.7	0.2	97.5 218	3.0 4.4	5.3 7.6
M24	0.926	72.42	0.3	109	2.2	3.9
MM15	0.474	90	0.1	32.6	0.7	1.2
MM17	0.147	90	0.1	32.3	1.2	2.1
N02	5.326	68.79	0.1	406.7	22.7	41.2
N03	1.677	53.2	0.2	191.9	7.8	13.7
N06	9.098	58.84	0.7	435.3	36.6	67.4
N07	1.466	51.48	0.7	205.2	6.8	12.0
N09	2.876	84.97	0.7	378	13.3	23.4
1100	2.010	UT.31	0.0	310	10.0	∠∪.+



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N10	3.095	52.68	0.2	226.6	13.0	23.7
N13	1.53	43.34	0.1	122.2	6.3	11.5
N14	1.187	42.23	0.2	154.2	5.2	9.4
N16	0.601	81.26	0.1	78.7	2.7	4.8
N17	0.628	60.08	0	96.6	2.9	5.1
N19	0.708	86.88	0.3	116.6	3.2	5.7
N20	2.474	65.34	0.1	225.6	10.7	19.4
N21	0.471	88.58	0.2	83.6	2.2	3.8
N22	0.626	87.11	0	138.7	2.9	5.1
N24	3.194	85.54	0.1	279.9	13.5	24.5
N25	8.199	47.77	0.6	527.9	35.8	64.3
N26	0.646	85.83	0.4	122.2	3.0	5.3
N27	6.04	77.46	0.5	244.7	24.5	45.0
OM0	12.828	58.96	0	639.7	50.2	93.1
OM1	10.385	70.46	0.1	769.2	43.7	79.6
OM10	8.094	70.35	0	664.8	34.6	62.7
OM11	6.53	66.78	0.2	677.8	28.8	51.6
OM2	6.774	72.64	0.3	568.5	29.7	53.4
OM3	6.096	80.38	0	455.8	25.5	46.4
OM4	3.366	64.1	0.4	412.6	15.4	27.3
OM5	6.188	71.99	0.1	504.3	26.4	47.9
OM6	10.104	78.36	0	478.1	39.0	72.4
OM7	5.377	68.6	0.1	376.5	22.5	41.0
OM8	4.706	73.7	0	403.6	20.2	36.6
OM9	3.426	56.48	0.1	269.9	14.5	26.3
P04	3.153	85.93	0.4	199.5	13.3	24.1
P05	2.478	40.64	0.1	162.1	9.8	18.1
P06	3.037	85.81	0.5	191.1	13.1	23.7
P08	1.534	86.31	0.5	195.7	7.1	12.5
P09	2.167	37.58	0	267.9	9.4	16.9
P12	3.764	66.46	0.7	205.1	16.5	29.7
P13	3.605	53.42	0.1	270.8	15.1	27.5
P17	2.647	43.83	0.8	273.5	12.1	21.4
P18	1.902	50.21	0.8	167.6	8.7	15.4
P23	4.15	49.89	0.7	490.8	19.2	33.8
P24	2.242	76.12	0.4	231	10.2	18.1
P27	0.796	84.7	1.2	173.3	3.8	6.6
P28	2.709	42.76	0.6	262	12.2	21.7
P30	4.748	64.3	0.6	320.8	21.1	37.8
P31	1.873	78.54	0.9	249.2	8.8	15.4
P33	1.595	79.09	0.4	215.3	7.3	13.0
P34	0.409	90	0	55.7	1.8	3.2
P36	3.347	61.02	0.3	388.1	15.1	26.8
P38	1.524	86.06	0	145.7	6.5	11.8
P40	0.697	77.8	0.5	91.5	3.2	5.7
P41	1.714	85.36	0.2	274.3	7.8	13.8
P43	2.992	85.74	0.2	252.2	12.6	22.9
P44	1.702	87.07	0.1	181.2	7.4	13.3
P46	1.379	86.34	0.3	193.1	6.3	11.1
P47	1.422	86.22	0.8	215	6.7	11.7
P49	1.705	64.53	1.7	219.3	8.1	14.1
P50	1.131	86.4	0.9	160.2	5.3	9.3
PM2	4.555	50.28	0.2	287.9	18.4	33.8
PM20	4.787	50.57	0.4	320.5	20.4	37.0



Appendix B-2 Dynamic Model Drainage Area Results

PM21	1.559	49.94	0	160.7	6.8	12.2
PM26	1.506	41.54	0.3	236.8	6.9	12.2
W14001_sta15863	0.51	83.89	12	84.1	2.4	4.2
W14001_sta16671	1.49	88.29	5	70	6.9	12.2
W14001_sta16821	1.633	54.84	5	45	7.4	13.2
W14001_sta18481	4.324	55	0.5	208.9	18.2	33.2
W14001_sta19161	9.556	55	0.5	440.6	39.9	72.9
W14001_sta19981	9.478	62.38	0.4	315.7	37.3	69.2
W14001_sta20481	3.995	60.33	2	294.2	18.8	33.0
W14001_sta20781	0.825	58.33	1.6	112.7	3.9	6.9
W54001	14.962	56.31	0	548.8	54.5	102.6



						Prop	Future	Future		Prop	Future	Future
					Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Node ID	Nodo Tupo	Flood Type	Flowline	Ground Elevation	10-Year WSEL	10-Year WSEL	10-Year WSEL	10-Year WSEL	100-Year WSEL	100-Year WSEL	100-Year WSEL	100-Year WSEL
-1018	Manhole	2D	67.03	67.04	75.25	74.97	75.77	75.72	77.31	77.23	77.40	77.45
-1018_Outfall	Outfall	Stored	66.99	67.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-1027	Manhole	2D	78.09	78.19	79.95	79.93	79.25	78.42	80.76	80.56	80.12	79.46
-1027_Outfall 10002	Outfall Manhole	Stored 2D	80.99 80.43	81.09 81.41	0.00 83.06	0.00 83.06	0.00 83.07	0.00 83.01	0.00 83.44	0.00 83.44	0.00 83.45	0.00 83.38
10003	Manhole	2D	80.43	81.57	82.73	82.72	82.73	82.68	83.05	83.05	83.06	83.01
10008	Manhole	Sealed	72.54	79.00	76.94	76.68	76.79	76.69	78.54	78.41	78.31	78.15
10008!_2D 10009	Manhole Manhole	2D Sealed	78.14 73.23	78.17 77.80	78.59 77.70	78.59 77.67	78.60 77.66	78.57 77.61	78.87 78.57	78.83 78.55	78.76 78.39	78.71 78.28
10009 2D	Manhole	2D	76.94	76.97	77.87	77.85	77.87	77.86	78.66	78.65	78.53	78.45
10010	Manhole	Sealed	73.23	77.87	77.55	77.50	77.31	77.15	78.50	78.49	78.11	77.90
10010!_2D	Manhole	2D	77.00	77.04	77.75	77.74	77.49	77.34	78.54	78.53	78.12	77.88
10011 10032	Manhole Manhole	2D Sealed	71.50 76.24	78.19 80.65	78.62 81.01	78.61 81.01	78.63 81.01	78.62 81.00	78.85 81.53	78.85 81.53	78.84 81.52	78.84 81.46
10032!_2D	Manhole	2D	80.62	80.65	80.83	80.83	80.83	80.81	81.52	81.51	81.51	81.44
10033	Manhole	2D	75.88	81.44	81.35	81.35	81.35	81.35	81.83	81.83	81.84	81.85
10034 10035	Manhole Manhole	2D 2D	75.76 75.64	80.60 80.83	80.82 80.85	80.82 80.85	80.83 80.85	80.83 80.85	81.90 81.87	81.90 81.87	81.91 81.89	81.92 81.88
10036	Manhole	2D 2D	76.32	81.82	78.88	78.88	78.80	78.22	82.11	82.12	82.14	82.17
10037	Manhole	2D	75.41	81.10	78.89	78.89	78.82	78.23	81.84	81.84	81.85	81.85
10044	Manhole	2D	69.72	82.30	82.16	82.18	82.16	82.13	83.14	83.15	83.12	83.10
10046 10048	Manhole Manhole	2D 2D	68.98 68.09	82.18 78.12	80.71 78.81	80.72 78.80	80.71 78.81	80.70 78.81	81.59 79.09	81.60 79.09	81.57 79.08	81.56 79.08
10049	Manhole	2D	67.65	78.60	78.17	78.10	78.21	78.18	78.65	78.60	78.62	78.60
10051	Manhole	2D	67.20	77.24	77.30	77.18	77.39	77.36	78.14	78.02	78.04	77.95
10052	Manhole	2D	70.00	77.29	77.31	77.19	77.39	77.36	78.06	77.96	77.97	77.87
10053 10054	Manhole Manhole	Sealed 2D	66.95 66.72	76.84 78.00	76.87 76.41	76.72 76.20	76.99 76.54	76.95 76.49	77.91 77.66	77.71 77.35	77.81 77.54	77.72 77.45
10055	Manhole	Sealed	72.70	78.01	76.39	76.22	76.33	76.18	77.96	77.85	77.73	77.67
10055!_2D	Manhole	2D	77.15	77.18	77.25	77.25	77.22	77.22	77.88	77.77	77.39	77.37
10056 10056! 2D	Manhole Manhole	Sealed 2D	72.67 77.10	77.96 77.13	76.03 77.27	75.82 77.27	75.96 77.27	75.82 77.27	77.86 77.94	77.68 77.82	77.65 77.80	77.55 77.72
10050:_2D	Manhole	2D	73.84	78.39	75.87	75.61	76.03	75.96	77.21	76.80	77.13	77.07
10058	Manhole	Sealed	73.84	77.99	75.46	75.19	75.36	75.24	76.91	76.53	76.63	76.63
10059 10059! 2D	Manhole	Sealed	73.10	78.72	77.18	76.93	77.00	76.95	78.59	78.54	78.48	78.36
10059!_2D 10095	Manhole Manhole	2D 2D	77.86 80.43	77.89 82.75	78.22 83.66	78.22 83.66	78.21 83.66	78.22 83.69	78.65 84.01	78.62 84.01	78.57 84.02	78.50 84.04
10096	Manhole	2D	80.23	82.08	82.97	82.97	82.98	83.02	83.25	83.25	83.26	83.31
10097	Manhole	2D	78.40	82.54	78.46	78.46	78.55	78.55	78.46	78.46	78.55	78.55
10098 10099	Manhole Manhole	2D 2D	75.08 81.58	82.52 83.82	83.27 83.72	83.27 83.71	83.28 83.74	83.26 83.74	83.70 84.19	83.70 84.19	83.71 84.29	83.69 84.28
10100	Manhole	2D	74.68	83.24	83.33	83.32	83.33	83.29	84.00	83.99	84.00	83.96
10101	Manhole	2D	79.43	81.96	82.99	82.99	82.99	82.85	83.42	83.42	83.43	83.28
10102	Manhole	2D	75.48	83.20	83.63	83.62	83.64	83.63	84.04	84.04	84.04	84.06
10103 10106	Manhole Manhole	2D 2D	79.83 80.43	83.30 82.13	83.68 83.57	83.68 83.56	83.71 83.57	83.68 83.57	84.34 83.88	84.34 83.87	84.35 83.88	84.33 83.88
10107	Manhole	2D	80.43	81.95	82.89	82.89	82.90	82.90	83.19	83.19	83.19	83.19
10108	Manhole	2D	75.58	83.35	84.17	84.17	84.18	84.14	84.49	84.49	84.50	84.46
10109 10110	Manhole Manhole	2D 2D	75.58 79.10	82.70 86.10	83.11 84.20	83.11 84.20	83.12 84.21	83.12 84.24	83.40 84.86	83.40 84.86	83.41 84.91	83.41 84.92
10111	Manhole	2D 2D	79.10	85.69	84.20	84.20	84.21	84.42	85.14	85.14	85.16	85.18
10112	Manhole	2D	77.70	83.72	84.28	84.28	84.29	84.29	84.40	84.40	84.40	84.40
10113	Manhole	2D	78.30	81.99	82.85	82.85	82.85	82.83	83.28	83.28	83.28	83.27
10114 10115	Manhole Manhole	2D 2D	78.30 82.21	82.98 82.21	83.38 84.49	83.38 84.49	83.38 84.49	83.37 84.42	83.70 85.12	83.70 85.12	83.71 85.12	83.67 85.06
10118	Manhole	2D	79.20	82.82	83.60	83.60	83.61	83.67	84.25	84.24	84.25	84.29
10119	Manhole	2D	79.08	82.50	83.15	83.14	83.15	83.19	83.75	83.74	83.75	83.80
10120	Manhole	2D	79.08	81.15	82.37	82.36	82.38	82.36	82.51	82.51	82.52	82.50
10121 10123	Manhole Manhole	2D 2D	78.08 78.26	82.03 81.11	83.26 82.46	83.25 82.44	83.28 82.47	83.29 82.42	83.82 82.78	83.80 82.77	83.82 82.77	83.84 82.72
10124	Manhole	2D	77.08	79.95	80.62	80.61	80.62	80.61	81.22	81.21	81.20	81.18
10128	Manhole	2D	78.88	82.30	82.99	82.99	83.00	83.01	83.32	83.32	83.32	83.34
10135	Manhole	2D	81.48	83.25	84.41	84.40	84.43	84.44	85.09	85.09	85.09	85.10
10136 10138	Manhole Manhole	2D 2D	81.48 84.42	82.19 85.68	83.24 86.30	83.24 86.30	83.26 85.86	83.17 85.86	83.88 86.58	83.88 86.58	83.89 86.01	83.79 86.01
10245	Manhole	2D	71.05	78.21	79.57	79.56	79.53	78.82	80.09	80.07	80.04	79.92



						Prop	Future	Future		Prop	Future	Future
					Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Node ID	Node Type	Flood Type	Flowline	Ground Elevation	10-Year WSEL	10-Year WSEL	10-Year WSEL	10-Year WSEL	100-Year WSEL	100-Year WSEL	100-Year WSEL	100-Year WSEL
10247	Manhole	2D	72.63	78.35	79.99	79.94	79.85	79.36	80.61	80.60	80.53	80.37
10251	Manhole	2D	71.72	80.66	80.42	80.42	80.39	80.30	81.02	81.00	80.95	80.89
10260	Manhole	2D	71.98	78.16	73.54	73.54	73.54	73.54	78.64	78.62	78.57	78.52
10261 10262	Manhole Manhole	2D 2D	72.08 70.33	78.41 77.07	73.54 71.69	73.54 71.69	73.54 71.70	73.54 71.70	78.73 74.08	78.71 74.06	78.66 74.05	78.60 73.96
10263	Manhole	2D	71.80	78.99	72.69	72.69	72.72	72.72	75.92	75.90	75.88	75.75
10264	Manhole	2D	68.15	75.67	70.09	70.09	70.10	70.10	71.16	71.16	71.16	71.14
10265 10266	Manhole Manhole	2D 2D	68.76 69.25	76.52 76.83	71.31 71.55	71.31 71.55	71.32 71.56	71.32 71.56	73.23 73.86	73.23 73.85	73.22 73.84	73.17 73.76
10285	Manhole	2D	71.26	79.35	79.56	79.54	79.51	78.91	80.09	80.03	80.01	79.89
10289	Manhole	2D	72.15	78.81	73.54	73.54	73.54	73.54	79.22	79.20	79.13	78.95
10290	Manhole	2D	72.15	78.11	73.54	73.54	73.54	73.54	78.37	78.37	78.35	78.34
10297 10302	Manhole Manhole	2D 2D	76.52 68.19	81.31 74.36	80.19 75.82	80.20 75.80	80.20 75.86	80.19 75.82	80.93 76.53	80.94 76.36	80.92 76.53	80.91 76.49
10304	Manhole	2D	71.30	74.67	75.56	75.53	75.59	75.56	76.33	76.30	76.33	76.23
10306	Manhole	2D	70.60	74.86	75.15	75.14	75.15	75.15	75.53	75.41	75.53	75.54
10308	Manhole	2D	71.32	74.65	75.07	75.01	75.10	75.13	75.68	75.54	75.70	75.76
10309 10311	Manhole Manhole	2D 2D	70.46 70.47	74.97 75.21	75.31 75.12	75.27 74.81	75.33 75.16	75.31 75.10	75.86 76.29	75.72 76.13	75.87 76.31	75.86 76.27
10313	Manhole	2D	71.03	75.21	75.12	74.81	75.16	75.10	76.02	75.86	76.04	76.02
20053	Manhole	Sealed	72.10	78.48	75.38	75.08	75.31	75.20	77.16	76.40	76.66	76.76
20053!_2D	Manhole	2D	78.45	78.48	78.48	78.48	78.48	78.48	78.48	78.48	78.48	78.48
20102 20103	Manhole Manhole	Sealed Sealed	73.67 73.66	76.48 79.39	78.35 78.40	78.36 78.41	77.72 77.77	77.48 77.53	79.13 79.21	78.99 79.07	78.50 78.58	78.73 78.85
20103 20103!_2D	Manhole	2D	79.36	79.39	79.39	79.39	79.39	79.39	80.19	80.07	79.99	80.21
20104	Manhole	Sealed	73.63	79.36	78.55	78.54	77.96	77.69	79.25	79.13	78.79	78.95
20104!_2D	Manhole	2D	79.33	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36	79.36
20105 20105! 2D	Manhole Manhole	Sealed 2D	73.98 79.59	79.62 79.62	78.69 79.77	78.69 79.77	78.18 79.74	77.89 79.72	79.30 79.94	79.29 79.94	79.02 79.97	79.12 79.97
20106	Manhole	Sealed	74.19	79.23	78.83	78.82	78.38	78.12	79.41	79.41	79.18	79.27
20106!_2D	Manhole	2D	79.19	79.23	79.30	79.30	79.23	79.23	79.48	79.48	79.47	79.48
20107	Manhole	Sealed 2D	74.28	78.84	79.18	79.18	78.92	78.74	79.69	79.68	79.58	79.62
20107!_2D 20108	Manhole Manhole	Sealed	78.81 74.91	78.84 78.94	79.67 79.29	79.67 79.29	79.62 79.11	79.61 78.99	80.08 79.71	80.08 79.71	80.02 79.65	80.02 79.67
20108!_2D	Manhole	2D	78.91	78.94	79.47	79.47	79.42	79.39	79.75	79.75	79.72	79.73
20109	Manhole	Sealed	75.06	79.28	79.33	79.32	79.18	79.08	79.72	79.72	79.67	79.68
20109!_2D 20110	Manhole	2D Sealed	79.25 75.27	79.28 79.19	79.65 79.38	79.65 79.38	79.62 79.29	79.60 79.22	79.90 79.74	79.90 79.74	79.89 79.70	79.89 79.71
20110 20110! 2D	Manhole Manhole	2D	79.16	79.19	79.36	79.36	79.43	79.41	79.74	79.74	79.70	79.71
20111	Manhole	Sealed	74.93	78.72	79.35	79.34	79.23	79.16	79.72	79.72	79.67	79.68
20111!_2D	Manhole	2D	78.69	78.72	79.29	79.29	79.24	79.20	79.58	79.58	79.56	79.57
20112 20112!_2D	Manhole Manhole	Sealed 2D	75.45 79.09	79.13 79.13	79.45 79.41	79.45 79.41	79.39 79.37	79.34 79.34	79.79 79.69	79.79 79.69	79.77 79.68	79.77 79.68
20113	Manhole	Sealed	75.56	78.98	79.55	79.55	79.50	79.46	79.94	79.94	79.92	79.92
20113!_2D	Manhole	2D	78.94	78.98	79.85	79.85	79.83	79.81	80.25	80.24	80.23	80.23
20114	Manhole	Sealed	75.95	79.18	79.55	79.55	79.51	79.46	79.90	79.90	79.88	79.88
20114!_2D 20115	Manhole Manhole	2D Sealed	79.15 76.62	79.18 78.83	79.66 79.38	79.66 79.38	79.63 79.35	79.60 79.32	79.91 79.63	79.91 79.62	79.90 79.62	79.90 79.62
20115 20115!_2D	Manhole	2D	78.80	78.83	79.35	79.35	79.32	79.30	79.60	79.60	79.59	79.59
20116	Manhole	2D	75.20	77.88	79.58	79.55	79.58	79.12	80.14	80.10	80.13	80.10
20117	Manhole	2D	75.35	78.13	78.94	78.93	79.61	79.11	79.49	79.50	80.16	80.10
20118 20119	Manhole Manhole	2D Sealed	75.47 71.85	77.86 77.93	78.62 75.38	78.62 75.08	79.40 75.31	78.88 75.20	79.19 77.16	79.17 76.40	79.94 76.66	79.85 76.76
20119 20119!_2D	Manhole	2D	77.90	77.93	77.93	77.93	77.93	77.93	77.10	77.93	77.93	77.93
20120	Manhole	Sealed	71.77	78.20	75.38	75.08	75.31	75.20	77.15	76.38	76.66	76.76
20120!_2D	Manhole	2D	78.16	78.20	78.20	78.20	78.20	78.20	78.20	78.20	78.20	78.20
20121 20121!_2D	Manhole Manhole	Sealed 2D	71.38 77.93	79.00 77.96	75.38 78.56	75.08 78.56	75.31 78.50	75.20 78.56	77.14 78.79	76.38 78.79	76.66 78.75	76.75 78.81
20121:_2D	Manhole	Sealed	71.33	78.44	75.35	75.05	75.29	75.17	77.08	76.79	76.75	76.67
20122!_2D	Manhole	2D	78.40	78.44	78.44	78.44	78.44	78.44	78.44	78.44	78.44	78.44
20123	Manhole	Sealed	71.13	78.78	75.31	75.02	75.26	75.14	77.00	76.23	76.52	76.58
20123!_2D 20124	Manhole Manhole	2D Sealed	78.75 71.17	78.78 77.09	78.78 75.26	78.78 74.97	78.78 75.20	78.78 75.07	78.78 76.70	78.78 76.09	78.78 76.31	78.78 76.35
20124 20124!_2D	Manhole	2D	77.06	77.09	77.09	77.09	77.09	77.09	77.09	76.09	77.09	77.09
20125	Manhole	Sealed	72.15	79.12	75.44	75.15	75.39	75.26	77.37	76.61	76.88	76.93
20125!_2D	Manhole	2D	79.08	79.12	79.12	79.12	79.12	79.12	79.12	79.12	79.12	79.12



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					Exist	Prop Phase 1	Future Phase 2	Future Phase 3	Exist	Prop Phase 1	Future Phase 2	Future Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year			100-Year	100-Year
Node ID	, ,		Elevation	Elevation	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL
20126	Manhole	Sealed	72.24	79.31	75.52	75.22	75.48	75.34	77.63	76.87	77.13	77.17
20126!_2D 20127	Manhole Manhole	2D Sealed	79.28 72.31	79.31 78.91	79.31 75.67	79.31 75.36	79.31 75.64	79.31 75.48	79.46 78.09	79.45 77.36	79.44 77.59	79.46 77.62
20127! 2D	Manhole	2D	78.88	78.91	79.16	79.16	79.16	79.16	79.22	79.22	79.22	79.22
20128	Manhole	Sealed	72.41	78.63	75.74	75.42	75.72	75.55	78.35	77.65	77.86	77.88
20128!_2D	Manhole	2D	78.60	78.63	79.35	79.35	79.37	79.36	79.55	79.55	79.56	79.55
20129 20129!_2D	Manhole Manhole	Sealed 2D	73.26 78.61	78.64 78.64	75.75 78.64	75.43 78.64	75.72 78.64	75.55 78.64	78.37 79.36	77.67 79.36	77.87 79.33	77.89 79.34
20131	Manhole	2D	75.72	78.69	79.45	79.45	79.32	79.05	79.97	79.98	79.86	79.79
20132	Manhole	2D	75.63	78.40	79.44	79.44	79.31	79.05	79.97	79.97	79.86	79.79
20133	Manhole	2D	75.92	78.85	79.64	79.63	79.51	79.26	80.16	80.17	80.05	79.98
20134	Manhole	2D	75.78	78.93	79.48	79.47	79.35	79.15	79.97	79.97	79.86	79.79
20135 20136	Manhole Manhole	2D 2D	75.77 76.33	79.42 78.03	79.62 78.63	79.62 78.62	79.39 78.50	79.06 78.24	80.20 79.11	80.20 79.11	80.09 78.99	80.03 78.91
20137	Manhole	2D	76.04	78.42	79.78	79.77	79.64	79.37	80.29	80.29	80.17	80.11
20138	Manhole	2D	75.68	77.98	79.27	79.26	79.13	78.86	79.75	79.75	79.63	79.58
20139	Manhole	2D	75.81	78.16	79.14	79.14	79.02	78.77	79.61	79.61	79.49	79.41
20140 20141	Manhole Manhole	2D 2D	75.69 75.42	77.49 77.71	79.19 79.49	79.18 79.48	79.04 79.34	78.68 79.08	79.61 79.95	79.61 79.95	79.48 79.82	79.37 79.81
20142	Manhole	2D 2D	75.42	77.88	79.49	79.48	79.34	78.96	79.95	79.95	79.82	79.74
20142-1	Manhole	2D	75.54	77.70	79.37	79.37	79.23	78.88	79.83	79.83	79.69	79.62
30000	Manhole	Sealed	64.99	82.20	80.72	80.59	80.72	80.70	81.88	81.65	81.77	81.77
30001	Manhole	Sealed	64.82	80.59	79.63 81.49	79.43 81.40	79.63 81.49	79.60 81.48	80.94	80.58 82.48	80.77	80.77 82.57
30002 30003	Manhole Manhole	Sealed Sealed	65.27 64.31	81.75 75.29	77.68	77.30	77.67	77.61	82.64 79.32	78.65	82.57 79.00	79.01
30004	Manhole	Sealed	64.29	74.65	77.49	77.09	77.48	77.42	79.16	78.46	78.83	78.84
30005	Manhole	Sealed	64.14	74.01	76.20	75.72	76.19	76.12	77.83	76.89	77.40	77.39
30006	Manhole	Sealed	64.07	74.01	75.74	75.23	75.73	75.65	77.30	76.28	76.83	76.82
30007 30008	Manhole Manhole	Sealed	64.88 66.80	82.15 79.17	80.54 78.86	80.40 78.61	80.54 78.86	80.52 78.82	81.69 80.25	81.45 79.82	81.58 80.05	81.58 80.05
30008	Manhole	Sealed Sealed	64.27	74.59	77.14	76.72	77.14	77.07	78.84	78.08	78.49	78.49
30010	Manhole	Sealed	66.90	80.91	80.54	80.42	80.55	80.53	81.58	81.38	81.48	81.49
30011	Manhole	Sealed	67.13	79.75	80.87	80.78	80.87	80.86	81.75	81.62	81.69	81.69
30012	Manhole	Sealed	64.92 64.54	80.98 78.41	80.04 78.33	79.86 78.01	80.04 78.32	80.01 78.27	81.25 79.89	80.95 79.32	81.11 79.62	81.11 79.62
30013 30014	Manhole Manhole	Sealed Sealed	65.06	74.80	76.88	76.44	76.87	76.80	78.52	77.71	78.14	78.14
30015	Manhole	Sealed	63.97	76.14	74.88	74.32	74.85	74.77	76.22	75.45	75.91	75.92
30016	Manhole	Sealed	64.00	74.60	75.28	74.75	75.27	75.19	76.79	75.69	76.27	76.27
30017	Manhole	Sealed	65.58	75.04	77.08	76.66	77.08	77.01	78.77	78.00	78.41	78.41
30018 30019	Manhole Manhole	Sealed Sealed	64.96 65.26	81.00 82.78	80.20 81.37	80.04 81.27	80.20 81.37	80.17 81.36	81.37 82.52	81.10 82.35	81.24 82.44	81.25 82.45
30020	Manhole	Sealed	64.70	79.36	79.18	78.94	79.18	79.15	80.59	80.16	80.39	80.39
30021	Manhole	Sealed	64.28	73.92	77.33	76.92	77.32	77.26	79.03	78.30	78.69	78.69
30022	Manhole	Sealed	64.21	74.47	76.68	76.24	76.68	76.61	78.37	77.51	77.97	77.96
30023 30027	Manhole Manhole	Sealed Sealed	64.54 64.82	79.60 80.99	78.84 80.31	78.57 80.16	78.84 80.31	78.80 80.29	80.33 81.46	79.85 81.20	80.11 81.34	80.11 81.34
30028	Outfall	Sealed	65.36	81.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30029	Manhole	Sealed	65.40	81.55	72.06	72.06	72.07	72.07	73.37	73.37	73.37	73.36
30030	Manhole	2D	73.43	73.43	75.41	75.19	75.49	75.38	77.57	77.12	77.38	77.40
30032	Manhole	2D	77.40	82.29	82.18	82.20	82.19	82.15	82.95	82.96	82.95	82.92
30033 30034	Manhole Manhole	2D 2D	74.46 78.00	83.60 82.47	82.34 83.14	82.36 83.12	82.34 83.15	82.31 83.11	83.33 83.78	83.34 83.79	83.37 84.32	83.29 83.74
30035	Manhole	2D	78.00	82.99	83.15	83.10	83.14	83.12	83.80	83.82	84.39	83.88
30036	Manhole	2D	77.75	82.57	80.72	80.72	80.72	80.70	81.60	81.62	81.59	81.58
30037	Manhole	2D	77.33	83.04	81.38	81.40	81.39	81.36	82.89	82.91	82.89	82.87
3143189 3143195	Manhole Manhole	2D 2D	75.37 83.89	86.61 88.04	87.05 88.08	87.05 88.08	87.05 88.08	86.91 88.06	87.79 88.50	87.79 88.50	87.79 88.50	87.75 88.49
3143196	Manhole	2D	75.11	86.38	86.86	86.86	86.85	86.71	87.69	87.69	87.69	87.63
3143197	Manhole	2D	83.59	87.70	87.09	87.09	87.08	86.95	88.52	88.53	88.53	88.59
3143201	Manhole	2D	74.87	86.09	86.60	86.60	86.60	86.44	87.48	87.48	87.48	87.41
3143205	Manhole	2D	74.35	86.88	85.99	85.99	85.98	85.69	87.09	87.09	87.09	86.92
3143206 3143209	Manhole Manhole	2D 2D	74.65 69.55	88.45 86.31	86.36 86.41	86.36 86.41	86.36 86.40	86.11 86.39	87.49 86.64	87.49 86.64	87.49 86.63	87.42 86.62
3143214	Manhole	2D	79.00	86.50	87.27	87.27	87.27	87.20	87.75	87.75	87.75	87.74
3143215	Manhole	2D	80.56	86.67	87.28	87.30	87.30	87.25	87.62	87.64	87.64	87.62
3143216	Manhole	2D	82.26	86.98	87.44	87.45	87.45	87.41	87.71	87.72	87.72	87.69



						Prop	Future	Future		Prop	Future	Future
					Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID 3143228	Node Type Manhole	Flood Type 2D	Elevation 79.87	Elevation 86.65	WSEL 87.20	WSEL 87.20	WSEL 87.20	WSEL 87.22	WSEL 87.60	WSEL 87.60	WSEL 87.60	WSEL 87.60
3143498	Manhole	Sealed	84.59	86.73	87.05	87.05	87.05	86.91	87.79	87.79	87.79	87.75
3143499	Manhole	Sealed	83.58	86.11	86.86	86.86	86.85	86.71	87.69	87.69	87.69	87.63
3143507	Manhole	2D	82.51	86.35	86.66	86.66	86.66	86.32	87.66	87.66	87.66	87.60
3144582	Manhole	2D	79.45	85.47	86.63	86.63	86.62	86.56	87.26	87.26	87.26	87.21
3144583 3144584	Manhole Manhole	2D 2D	73.76 76.68	87.72 87.43	86.02 87.42	86.01 87.41	85.99 87.00	85.87 86.87	87.03 88.04	87.03 88.04	87.08 87.81	86.99 87.81
3144586	Manhole	2D	70.70	83.61	84.20	84.20	84.21	84.24	84.86	84.86	84.91	84.92
3144587	Manhole	2D	77.19	86.76	85.40	85.39	85.34	85.13	86.59	86.59	86.55	86.41
3144591	Manhole	2D	76.54	86.97	86.43	86.42	86.49	86.36	87.14	87.14	87.13	87.10
3144598	Manhole	2D	76.64	85.91	86.97	86.96	87.09	86.99	87.50	87.50	87.60	87.55
3144599 3144600	Manhole Manhole	2D 2D	76.53 78.62	86.76 86.59	85.11 85.57	85.10 85.57	85.04 85.56	84.81 85.56	86.40 86.30	86.40 86.30	86.34 86.28	86.18 86.26
3144602	Manhole	2D	68.83	82.28	83.06	83.04	83.04	83.02	83.68	83.68	86.21	83.62
3144603	Manhole	2D	69.28	81.99	84.45	84.27	84.39	84.15	84.89	85.15	93.31	85.13
3144605	Manhole	2D	69.30	82.42	83.55	83.49	83.59	83.56	84.59	84.65	85.09	84.49
3144606	Manhole	2D	69.96	82.05	83.14	83.17	83.26	83.15	83.91	84.06	86.44	83.99
3144607 3144608	Manhole Manhole	2D 2D	69.54 70.06	82.59 82.11	83.36 82.82	83.32 82.81	83.33 82.80	83.26 82.79	83.93 83.50	83.94 83.53	84.99 83.76	83.88 83.42
3144609	Manhole	2D 2D	75.91	86.27	84.83	84.82	84.75	84.48	86.21	86.21	86.13	85.95
3144610	Manhole	2D	72.83	86.77	84.70	84.68	84.61	84.33	86.07	86.06	85.96	85.79
3144612	Manhole	2D	70.54	82.19	83.59	83.59	83.61	83.63	84.14	84.14	84.20	84.20
3144613	Manhole	2D	70.97	82.60	83.63	83.62	83.64	83.66	84.26	84.26	84.32	84.32
3144614 3144615	Manhole	2D 2D	72.41 71.67	82.47 82.63	83.52 83.74	83.52 83.74	83.58 83.80	83.63 83.81	84.09 84.32	84.09 84.32	84.18 84.42	84.21 84.41
3144616	Manhole Manhole	2D 2D	69.64	82.24	82.31	82.34	82.32	82.28	83.26	83.26	83.24	83.21
3144617	Manhole	2D	82.48	85.77	84.03	84.01	83.93	83.57	85.48	85.48	85.36	85.23
3144618	Manhole	2D	71.98	82.53	83.68	83.67	83.72	83.76	84.25	84.26	84.33	84.35
3144619	Manhole	2D	77.98	82.94	83.87	83.87	83.85	83.80	84.40	84.40	84.38	84.28
3144623 3144624	Manhole Manhole	2D 2D	72.17	83.67 84.90	83.73	83.73 85.35	83.74 85.34	83.79	84.26 85.80	84.26	84.33 85.79	84.41 85.78
3144627	Manhole	2D 2D	77.08 75.85	82.54	85.35 84.10	84.09	84.05	85.31 83.99	84.78	85.80 84.78	84.75	84.68
3144628	Manhole	2D	75.73	82.35	84.04	84.03	83.99	83.92	84.78	84.78	84.75	84.67
3144629	Manhole	2D	74.66	84.46	83.62	83.60	83.48	83.19	84.87	84.87	84.86	84.73
3144631	Manhole	2D	72.69	83.78	84.11	84.11	84.07	83.97	84.75	84.75	84.73	84.69
3144632 3144633	Manhole	2D 2D	75.30 75.23	85.00 85.44	83.53 83.53	83.53 83.53	83.58 83.58	83.61 83.62	83.99 84.02	83.99 84.02	84.05 84.09	84.06 84.11
3144637	Manhole Manhole	2D 2D	69.49	84.00	84.01	83.99	83.93	83.83	84.79	84.02	84.77	84.73
3144638	Manhole	2D	75.53	84.72	83.65	83.65	83.66	83.63	84.02	84.02	84.08	84.07
3144640	Manhole	2D	74.26	82.25	83.37	83.37	83.40	83.46	83.74	83.74	83.75	83.81
3144641	Manhole	2D	75.64	82.92	83.54	83.54	83.57	83.60	83.93	83.93	83.94	83.95
3144642 3144643	Manhole Manhole	2D 2D	75.86 76.08	81.53 82.50	82.99 83.58	82.99 83.57	83.01 83.58	83.04 83.50	83.37 83.84	83.37 83.84	83.38 83.85	83.40 83.78
3144646	Manhole	2D	76.23	82.60	83.14	83.14	83.16	83.21	83.49	83.49	83.50	83.53
3144647	Manhole	2D	76.38	83.21	83.22	83.22	83.24	83.27	83.62	83.62	83.63	83.67
3144648	Manhole	2D	70.28	82.63	83.35	83.35	83.35	83.34	83.66	83.66	83.65	83.64
3144911	Manhole	2D	77.42	84.45	84.86	84.84	84.79	84.53	85.83	85.83	85.80	85.77
3144912 3144913	Manhole Manhole	2D 2D	76.92 82.48	84.56 85.73	85.07 85.54	85.05 85.54	85.06 85.54	84.80 85.51	86.33 86.03	86.33 86.03	86.53 86.03	86.42 86.02
3144914	Manhole	2D	81.48	84.40	85.46	85.45	85.45	85.41	85.97	85.97	85.96	85.93
3144915	Manhole	2D	83.38	85.87	85.09	85.08	85.05	84.87	85.97	85.97	85.97	85.95
3144916	Manhole	2D	82.38	84.70	85.27	85.26	85.20	84.98	85.90	85.90	85.89	85.87
3144917	Manhole	2D	81.28	85.06	84.03	84.01	83.93	83.56	85.39	85.39	85.31	85.16
3144928	Manhole	2D	82.85	85.00	85.54	85.54	85.54	85.55	85.90	85.90	85.91	85.94
3144930 3144931	Manhole Manhole	2D 2D	79.18 78.52	84.01 82.77	85.04 84.11	85.04 84.10	85.04 84.06	85.08 84.02	85.30 84.78	85.30 84.77	85.29 84.75	85.31 84.69
3144932	Manhole	2D	80.85	84.57	84.08	84.07	83.96	83.69	85.04	85.04	84.99	84.92
3144935	Manhole	2D	79.46	83.88	84.27	84.27	84.23	84.07	84.89	84.89	84.88	84.79
3144936	Manhole	2D	79.46	83.42	84.11	84.10	84.06	83.97	84.73	84.73	84.71	84.67
3144937	Manhole	2D	74.53	82.57	83.28	83.28	83.28	83.28	83.59	83.59	83.58	83.56
3144938 3144944	Manhole Manhole	2D 2D	74.53 74.91	82.46 81.43	83.13 82.48	83.13 82.48	83.13 82.49	83.14 82.55	83.35 83.05	83.35 83.05	83.34 83.10	83.33 83.15
3144944	Manhole	2D 2D	78.71	82.44	83.11	83.11	83.13	83.14	83.44	83.44	83.45	83.46
3144952	Manhole	2D	79.01	81.95	82.59	82.59	82.60	82.62	82.87	82.87	82.88	82.89
3144955	Manhole	2D	78.64	81.64	82.96	82.96	82.98	82.99	83.32	83.32	83.33	83.32
3144956	Manhole	2D	78.31	82.03	83.37	83.36	83.39	83.43	83.74	83.74	83.75	83.78



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					Exist	Prop Phase 1	Future Phase 2	Future Phase 3	Exist	Prop Phase 1	Future Phase 2	Future Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year	100-Year		100-Year	100-Year
Node ID	Node Type	Flood Type	Elevation	Elevation	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL
	Manhole	2D	67.36	80.79	82.53	82.53	82.52	82.52	83.12	83.12	83.11	83.11
	Manhole	2D	78.74	84.57	85.56	85.56	85.56	85.56	85.87	85.87	85.87	85.83
	Manhole Manhole	2D 2D	76.17 75.94	78.85 79.56	80.37 80.12	80.37 80.12	80.24 79.97	80.04 79.67	80.92 80.70	80.91 80.65	80.84 80.58	80.65 80.37
	Manhole	2D	75.88	79.80	80.08	80.08	79.83	79.42	80.72	80.65	80.58	80.34
3146608	Manhole	2D	74.50	78.98	79.46	79.46	78.39	77.88	80.15	80.08	79.80	79.67
	Manhole	2D	74.40	80.36	79.36	79.35	78.04	77.58	80.14	80.00	79.18	79.23
	Manhole	2D	74.59	79.66	79.34	79.35	77.76	77.41	80.07	79.92	78.70	78.85
	Manhole Manhole	2D 2D	76.21 75.45	79.26 79.49	79.87 79.90	79.86 79.89	78.86 78.64	79.58 78.62	80.54 80.54	80.55 80.53	80.43 80.37	80.39 80.23
	Manhole	2D	75.69	79.69	79.69	79.68	78.51	78.23	80.55	80.50	80.31	80.24
	Manhole	2D	76.35	79.52	79.81	79.81	79.55	79.36	80.38	80.39	80.27	80.08
	Manhole	2D	74.86	79.48	80.07	80.07	79.15	79.71	80.71	80.72	80.60	80.51
	Manhole	2D	76.18	78.78	80.36	80.35	80.23	80.04	80.90	80.90	80.83	80.65
	Manhole	2D	75.98 77.66	77.92 88.05	80.25 89.03	80.24	80.12	79.94 89.05	80.83	80.79	80.71	80.58
	Manhole Manhole	2D 2D	77.66	88.55	89.03	89.03 89.02	89.03 89.02	89.05	89.35 89.36	89.35 89.36	89.35 89.36	89.37 89.40
	Manhole	2D	75.04	88.17	88.85	88.85	88.85	88.85	89.30	89.30	89.30	89.59
3175104	Manhole	2D	77.18	88.96	88.80	88.80	88.81	88.82	89.38	89.38	89.39	89.41
	Manhole	2D	73.62	87.33	88.31	88.31	88.33	88.36	88.87	88.87	88.87	88.88
	Manhole	2D	82.11	88.49	87.82	87.82	87.84	87.86	88.47	88.47	88.48	88.46
	Manhole Manhole	2D 2D	73.32 73.51	88.70 88.05	87.82 88.08	87.82 88.08	87.84 88.10	87.86 88.14	88.47 88.77	88.47 88.77	88.48 88.77	88.46 88.77
	Manhole	2D 2D	79.36	86.58	88.00	88.00	88.01	88.02	88.49	88.49	88.49	88.48
	Manhole	Sealed	83.99	87.78	88.20	88.20	88.20	89.58	88.69	88.69	88.70	88.70
3175115	Manhole	2D	80.08	87.35	88.20	88.20	88.20	88.22	88.69	88.69	88.70	88.70
	Manhole	2D	79.85	87.28	88.09	88.09	88.10	88.11	88.55	88.55	88.55	88.56
	Manhole	Sealed	84.20	88.05	88.09	88.09	88.10	88.11	88.55	88.55	88.55	88.56
	Manhole Manhole	Sealed 2D	83.33 75.99	87.69 84.81	88.00 86.63	88.00 86.63	88.01 86.63	88.02 87.00	88.49 86.69	88.49 86.69	88.49 86.70	88.48 87.09
	Manhole	2D 2D	77.14	88.40	88.67	88.67	88.67	88.69	89.06	89.06	89.06	89.08
	Manhole	2D	80.95	87.29	86.15	86.15	86.27	86.21	87.24	87.24	87.29	87.23
	Manhole	2D	82.43	87.12	88.29	88.29	88.29	88.31	88.87	88.87	88.87	88.89
	Manhole	2D	75.84	86.35	86.02	86.02	86.14	86.08	86.61	86.61	86.66	86.62
	Manhole	2D Cooled	74.00	87.47	85.88	85.88	86.00	85.94	86.52	86.52	86.58	86.49 86.85
	Manhole Manhole	Sealed Sealed	72.54 72.64	86.58 84.19	86.24 86.79	86.24 86.79	86.33 86.86	86.29 86.83	86.86 87.34	86.86 87.34	86.93 87.37	87.32
	Manhole	2D	72.89	87.64	87.33	87.33	87.37	87.36	87.87	87.87	87.88	87.86
	Manhole	2D	77.26	84.67	86.27	86.27	86.28	86.28	86.49	86.49	86.52	86.59
	Manhole	2D	74.27	83.51	83.57	83.57	83.60	83.62	84.27	84.27	84.28	84.26
	Manhole	2D	76.98	84.09	86.10	86.10	86.11	86.11	86.33	86.33	86.34	86.36
	Manhole Manhole	2D 2D	73.92 71.14	82.14 84.39	83.24 84.21	83.24 84.20	83.25 84.22	83.25 84.23	83.49 85.01	83.49 85.01	83.50 85.01	83.50 85.07
	Manhole	2D	76.55	86.97	86.77	86.77	86.78	86.78	87.40	87.39	87.40	87.38
3176113	Manhole	2D	71.06	82.95	84.12	84.12	84.13	84.15	84.58	84.58	84.58	84.61
	Manhole	Sealed	76.35	84.45	86.74	86.74	86.75	86.75	87.43	87.43	87.43	87.41
		2D	67.32	83.89	83.61	83.61	83.62	83.59	84.57	84.57	84.58	84.49
	Manhole Manhole	2D 2D	67.71 68.07	84.54 82.52	83.88 84.27	83.88 84.27	83.90 84.29	83.86 84.23	84.59 84.74	84.59 84.74	84.60 84.76	84.51 84.67
	Manhole	2D 2D	68.27	82.77	84.40	84.40	84.43	84.36	84.79	84.79	84.81	84.72
	Manhole	2D	68.49	83.92	84.85	84.85	84.90	84.84	85.26	85.26	85.30	85.21
	Manhole	2D	68.69	84.75	85.33	85.33	85.38	85.31	85.84	85.84	85.86	85.76
	Manhole	2D	81.84	86.03	86.88	86.88	86.93	86.90	87.25	87.25	87.27	87.25
	Manhole Manhole	2D 2D	72.20 80.43	86.00 84.61	85.77 85.34	85.77 85.34	85.88 85.34	85.82 85.37	86.37 85.50	86.37 85.50	86.45 85.50	86.35 85.53
	Manhole	2D 2D	80.30	85.87	86.40	86.39	86.40	86.36	86.62	86.62	86.62	86.59
	Manhole	2D	79.71	87.65	88.07	88.07	88.08	88.09	88.55	88.55	88.56	88.56
	Manhole	2D	79.68	87.33	88.06	88.06	88.06	88.07	88.55	88.55	88.56	88.57
	Manhole	2D	78.84	86.89	87.89	87.89	87.89	87.89	88.32	88.32	88.32	88.33
	Manhole	2D	83.57	88.12	88.23	88.23	88.23	88.23	88.72	88.72	88.73	88.74
	Manhole Outfall	2D Stored	86.11 85.84	88.46 87.82	88.65 0.00	88.65 0.00	88.65 0.00	88.70 0.00	88.91 0.00	88.91 0.00	88.91 0.00	89.00 0.00
	Manhole	2D	78.58	86.83	87.89	87.89	87.90	87.88	88.31	88.31	88.31	88.32
	Manhole	2D	86.26	89.10	88.66	88.66	88.66	88.70	88.91	88.91	88.91	89.00
	Manhole	2D	78.15	86.60	87.89	87.89	87.89	87.87	88.30	88.30	88.30	88.30
3177674	Manhole	2D	76.68	86.18	87.17	87.17	87.17	87.11	87.67	87.67	87.67	87.65



	ı				r	Dron	Future	Future		Prop	Future	Future
					Exist	Prop Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID		Flood Type		Elevation	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL
3177675 3177677	Manhole Manhole	2D 2D	83.41 76.61	87.41 86.37	87.54 87.25	87.54 87.25	87.54 87.25	87.53 87.16	87.89 87.90	87.89 87.90	87.89 87.91	87.84 87.88
3177678	Manhole	2D	83.13	87.15	87.62	87.62	87.62	87.57	88.17	88.17	88.17	88.16
3177683	Manhole	2D	75.55	85.83	87.16	87.16	87.16	87.04	87.83	87.83	87.83	87.78
3177966	Manhole	Sealed	86.38	88.03	88.66	88.66	88.66	88.71	88.91	88.91	88.91	89.00
3177985 3177990	Manhole Manhole	Sealed 2D	83.13 84.10	86.53 86.57	87.16 87.86	87.16 87.86	87.16 87.87	87.04 87.85	87.83 88.22	87.83 88.22	87.83 88.22	87.78 88.22
3178003	Manhole	Sealed	83.64	87.40	87.89	87.89	87.90	87.88	88.31	88.31	88.32	88.32
3178015	Manhole	2D	84.25	87.45	87.95	87.95	87.96	87.97	88.32	88.32	88.32	88.32
3178751	Manhole	2D	81.27	85.84	86.52	86.52	86.52	86.48	86.83	86.83	86.84	86.80
3178752	Manhole	2D	81.01	86.71	87.23	87.23	87.23	87.22	87.57	87.57	87.57	87.58
3178753 3178754	Manhole Manhole	2D 2D	74.12 70.82	86.85 83.86	86.74 84.33	86.74 84.33	86.75 84.35	86.75 84.35	87.34 84.99	87.34 84.99	87.34 84.99	87.33 84.99
3178755	Manhole	2D	80.07	85.89	86.50	86.50	86.50	86.44	86.85	86.85	86.85	86.81
3178756	Manhole	2D	70.71	83.61	84.32	84.32	84.34	84.34	84.95	84.95	84.95	84.95
3178758	Manhole	2D	75.82	85.86	86.46	86.46	86.63	86.62	86.67	86.67	86.88	86.87
3178759	Manhole	2D 2D	75.97 76.09	85.42 86.02	86.24	86.24	86.25	86.20	86.39	86.39	86.42 86.84	86.36
3178760 3178761	Manhole Manhole	2D 2D	76.09	85.68	86.61 86.43	86.61 86.42	86.62 86.54	86.59 86.53	86.80 86.61	86.80 86.61	86.78	86.80 86.77
3178762	Manhole	2D	75.67	87.54	86.69	86.69	86.71	86.69	87.27	87.27	87.27	87.26
3178763	Manhole	2D	79.54	86.93	86.75	86.75	86.85	86.81	87.17	87.17	87.22	87.23
3178765	Manhole	2D	77.44	86.00	86.52	86.51	86.64	86.61	86.74	86.74	87.04	87.04
3178767	Manhole	2D Socied	69.73	83.51	84.35	84.35	84.36	84.37	85.08	85.08	85.08 95.11	85.09
3178768 3178769	Manhole Manhole	Sealed 2D	69.76 69.81	83.37 84.18	84.37 84.43	84.37 84.43	84.39 84.45	84.41 84.50	85.10 85.17	85.10 85.17	85.11 85.17	85.13 85.23
3178770	Manhole	2D	69.85	84.36	84.47	84.47	84.48	84.54	85.26	85.26	85.27	85.32
3178771	Manhole	2D	69.98	85.15	84.57	84.57	84.58	84.64	85.37	85.37	85.37	85.42
3178772	Manhole	2D	70.16	85.53	84.75	84.75	84.76	84.84	85.68	85.68	85.68	85.76
3178773 3178775	Manhole	2D 2D	70.18 77.97	84.71 87.23	84.67 86.72	84.66 86.72	84.67 86.73	84.73 86.69	85.25 88.04	85.25	85.25 88.04	85.28 88.03
3178778	Manhole Manhole	2D 2D	77.00	86.36	86.73	86.73	86.74	86.71	87.06	88.04 87.06	87.06	87.05
3178779	Manhole	2D	76.99	86.52	86.87	86.87	86.87	86.94	87.27	87.27	87.27	87.32
3178781	Manhole	2D	70.33	83.50	84.49	84.49	84.50	84.53	85.09	85.09	85.09	85.12
3178783	Manhole	2D	70.35	83.66	84.50	84.50	84.51	84.55	85.22	85.22	85.23	85.26
3178785 3178787	Manhole Manhole	2D 2D	74.07 74.91	87.55 87.97	86.81 86.51	86.81 86.51	86.81 86.51	86.77 86.46	87.67 87.30	87.67 87.30	87.68 87.32	87.66 87.29
3178788	Manhole	2D	77.82	87.46	86.47	86.47	86.47	86.45	87.07	87.07	87.08	87.05
3178790	Manhole	2D	70.52	85.89	84.41	84.41	84.42	84.45	85.15	85.15	85.17	85.19
3178791	Manhole	2D	70.70	85.77	84.37	84.37	84.38	84.42	85.14	85.14	85.16	85.18
3178792	Manhole	2D 2D	77.89 78.67	87.28	85.84 86.18	85.83	85.79 86.15	85.64	86.89 87.12	86.88 87.12	86.86 87.12	86.78
3178793 3178794	Manhole Manhole	2D 2D	77.10	87.00 87.25	87.65	86.17 87.65	87.65	86.03 87.63	88.03	88.03	88.03	87.06 88.04
3178797	Manhole	2D	78.91	86.64	86.48	86.47	86.46	86.38	87.06	87.06	87.05	87.03
3178987	Manhole	2D	75.10	82.12	83.61	83.61	83.61	83.59	83.71	83.71	83.72	83.70
3178988	Manhole	2D	75.30	81.77	83.85	83.85	83.86	83.87	84.05	84.05	84.05	84.04
3178989 3178992	Manhole Manhole	2D 2D	75.30 74.16	81.97 84.47	84.02 85.36	84.02 85.36	84.03 85.37	84.05 85.49	84.72 85.59	84.72 85.59	84.73 85.59	84.73 85.70
3179002	Manhole	2D	80.15	85.69	86.35	86.35	86.35	86.34	86.62	86.62	86.63	86.64
3179010	Manhole	2D	79.92	84.31	84.97	84.97	84.97	84.95	85.16	85.16	85.16	85.15
3179011	Manhole	2D	79.72	85.28	86.73	86.73	86.73	86.68	86.98	86.98	86.98	86.94
3179012	Manhole	2D	79.42	84.33	85.23	85.23	85.23	85.23	85.44	85.44	85.44	85.45
3179013 3179018	Manhole Manhole	2D 2D	79.42 79.92	84.93 84.78	85.30 85.41	85.30 85.41	85.30 85.41	85.29 85.31	85.49 85.59	85.49 85.59	85.49 85.59	85.48 85.51
3179018	Manhole	2D 2D	79.92	84.78	84.82	84.82	84.82	84.79	84.97	84.97	84.98	84.90
3179020	Manhole	2D	77.00	85.29	86.50	86.50	86.50	86.45	86.74	86.74	86.74	86.68
3179021	Manhole	2D	77.00	85.20	86.19	86.19	86.19	86.13	86.39	86.39	86.39	86.32
3179024	Manhole	2D	78.62	86.51	86.47	86.47	86.47	86.47	87.06	87.06	87.07	87.04
3179025 3179029	Manhole Manhole	2D 2D	80.52 80.62	86.17 85.93	86.35 86.47	86.35 86.47	86.35 86.47	86.30 86.40	86.42 86.67	86.42 86.67	86.43 86.67	86.38 86.57
3179039	Manhole	2D	77.52	85.37	86.08	86.08	86.08	86.05	86.26	86.26	86.26	86.26
3218806	Manhole	2D	74.90	82.11	82.88	82.87	82.90	82.90	83.82	83.81	83.79	83.80
3218808	Manhole	2D	66.42	80.01	81.43	81.38	81.42	81.41	81.96	81.92	81.94	81.94
3218814	Manhole	2D	67.03	81.14	81.83	81.81	81.83	81.81	82.32	82.31	82.31	82.30
3218819 3218824	Manhole	2D 2D	67.38 67.97	81.76 81.52	82.30 82.65	82.29 82.64	82.30 82.65	82.27 82.61	82.91 83.21	82.91 83.21	82.91 83.21	82.88 83.18
3218829	Manhole Manhole	2D 2D	68.48	81.52	82.65	82.64	82.65	83.01	83.70	83.21	83.21	83.18
02 10020	iviaililli	2 U	00.40	01.02	00.00	00.00	00.00	00.01	00.70	UU.1 I	00.03	UU.UU



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					Fuint	Prop	Future	Future	Cviet	Prop	Future	Future
			Flowline	Ground	Exist 10-Year	Phase 1 10-Year	Phase 2 10-Year	Phase 3 10-Year	Exist 100-Year	Phase 1 100-Year	Phase 2 100-Year	Phase 3 100-Year
Node ID	Node Type	Flood Type		Elevation	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL
3218832	Manhole	2D	71.01	81.83	81.54	81.54	81.53	81.56	82.38	82.38	82.38	82.36
3218866	Manhole	2D	68.68	82.82	80.19	80.20	80.20	80.19	80.93	80.94	80.92	80.91
3218873	Manhole	2D	68.03	78.12	78.69	78.67	78.70	78.69	78.98	78.97	78.96	78.96
3219151	Manhole	2D	77.96	81.42	81.81	81.80	81.82	81.76	82.26	82.25	82.26	82.21
3219152	Manhole	2D	77.46	81.10	81.94	81.93	81.95	81.93	82.42	82.41	82.42	82.42
3219153	Manhole	2D	76.51	79.55	81.52	81.48	81.51	81.50	82.04	82.02	82.03	82.04
3219183	Manhole	2D	71.37	79.07	80.02	80.01	80.02	79.99	80.63	80.61	80.62	80.60
3219184	Manhole	2D	71.01	78.89	80.09	80.08	80.09	80.07	80.72	80.71	80.72	80.71
3219186	Manhole	2D	71.09	77.91	76.89	76.87	76.93	76.91	77.99	77.95	77.98	77.96
3219196	Manhole	2D	73.18	78.02	78.08	78.07	78.09	78.10	78.43	78.40	78.42	78.43
3219197	Manhole	2D	73.00	77.14	77.87	77.86	77.88	77.87	78.31	78.27	78.30	78.29
3219198	Manhole	2D	74.31	78.20	78.63	78.62	78.64	78.64	78.75	78.74	78.75	78.75
3219200 3219201	Manhole	2D 2D	69.47 68.99	73.94 73.72	74.85 75.69	74.84 75.67	74.88 75.72	74.88 75.68	75.52 76.39	75.38 76.25	75.53 76.40	75.52 76.37
3221259	Manhole Manhole	2D	67.45	77.67	77.72	77.62	77.78	77.76	78.33	78.26	78.24	78.23
3221268	Manhole	2D	66.97	76.97	77.11	76.97	77.20	77.17	78.04	77.89	77.94	77.84
3221271	Manhole	2D	66.69	77.55	76.21	75.99	76.36	76.30	77.51	77.17	77.41	77.32
3221280	Manhole	Sealed	66.76	78.13	75.66	75.37	75.82	75.74	77.00	76.57	76.96	76.91
3234001	Manhole	Stored	68.06	83.95	87.11	87.11	87.12	87.11	88.63	88.63	88.64	88.63
3234041	Manhole	2D	73.73	84.44	83.72	83.72	83.73	83.71	84.66	84.66	84.66	84.66
3234043	Manhole	2D	70.93	85.69	83.31	83.31	83.33	83.33	84.89	84.89	84.90	84.84
3234049	Manhole	Sealed	71.87	85.05	83.82	83.81	83.85	83.87	85.47	85.47	85.49	85.48
3234050	Manhole	2D	80.33	84.19	83.58	83.58	83.66	83.71	84.78	84.77	84.78	84.81
3234051	Manhole	Sealed	74.97	83.42	84.11	84.11	84.12	84.10	85.26	85.26	85.27	85.26
3234052	Manhole	Sealed	74.51	84.14	83.96	83.96	83.97	83.96	84.81	84.81	84.82	84.81
3234054	Manhole	Sealed	75.48	83.87	84.11	84.11	84.12	84.10	85.23	85.23	85.24	85.23
3234057	Manhole	2D	72.25	84.99	83.82	83.82	83.85	83.87	85.47	85.47	85.49	85.48
3234058	Manhole	Sealed	70.15	85.12	70.25	70.25	70.40	70.40	79.73	79.88	74.17	73.89
3234059	Manhole	Sealed 2D	72.67	85.43 83.32	83.82	83.82	83.85	83.87	85.45	85.45	85.47 84.52	85.46
3234307 3234312	Manhole Manhole	2D 2D	67.04 67.60	83.31	83.09 84.66	83.09 84.66	83.10 84.66	83.08 84.65	84.51 85.15	84.51 85.15	85.16	84.41 85.14
3234315	Manhole	Sealed	66.85	83.59	82.59	82.59	82.61	82.59	84.38	84.38	84.39	84.29
3236559	Manhole	2D	73.27	84.24	84.24	84.24	84.25	84.25	84.95	84.95	84.95	84.93
3236568	Manhole	Sealed	73.15	85.01	83.72	83.71	83.74	83.74	84.78	84.76	84.78	84.78
3236569	Manhole	Sealed	73.23	85.23	83.73	83.72	83.74	83.75	84.83	84.81	84.82	84.82
3236576	Manhole	2D	72.23	84.13	84.07	84.07	84.08	84.08	84.96	84.96	84.97	84.97
3236582	Manhole	2D	72.70	85.11	83.71	83.70	83.72	83.72	84.78	84.76	84.78	84.78
3236584	Manhole	2D	66.58	84.75	83.71	83.69	83.72	83.72	84.78	84.76	84.78	84.78
3236585	Manhole	Sealed	69.35	85.24	83.80	83.79	83.81	83.81	84.86	84.85	84.86	84.86
3236588	Manhole	Sealed	73.98	85.30	83.63	83.62	83.64	83.63	84.35	84.34	84.35	84.34
3236589	Manhole	Sealed	74.01	85.00	83.33	83.33	83.33	83.29	83.98	83.97	83.98	83.94
3236590	Manhole	Sealed	71.95	83.86	84.03	84.02	84.04	84.04	84.90	84.89	84.90	84.90
3236593	Manhole	Sealed	69.54	83.91	84.02	84.01	84.03	84.03	84.92	84.91	84.92	84.92
3236596	Manhole	Sealed	69.91	83.99	83.78	83.78	83.79	83.77	84.56	84.55	84.56	84.55
3236615 3236631	Manhole Manhole	Sealed Sealed	66.38 65.27	84.77 82.69	83.34 81.87	83.32 81.79	83.35 81.88	83.35 81.86	84.49 83.03	84.46 82.89	84.48 82.97	84.49 82.97
3236632	Manhole	Sealed	65.43	82.61	82.36	82.30	82.36	82.35	83.52	83.42	83.47	83.48
3236633	Manhole	Sealed	65.63	84.05	82.92	82.89	82.92	82.92	83.89	83.84	83.87	83.88
3236634	Manhole	Sealed	65.62	83.63	82.67	82.63	82.67	82.66	83.70	83.63	83.67	83.67
3236636	Manhole	2D	74.13	82.53	82.76	82.75	82.76	82.76	83.09	83.08	83.09	83.11
4161810	Manhole	2D	80.88	84.03	83.74	83.73	83.61	83.32	84.87	84.87	84.79	84.67
4161811	Manhole	2D	82.15	82.81	83.68	83.67	83.63	83.54	84.33	84.33	84.30	84.19
4161812	Manhole	2D	78.52	83.26	83.62	83.61	83.59	83.55	84.16	84.16	84.13	83.94
4165577	Manhole	Sealed	70.86	77.95	75.86	75.60	75.75	75.64	77.45	77.08	77.13	76.92
4165579	Manhole	Sealed	72.04	78.61	76.91	76.65	76.76	76.65	78.48	78.33	78.24	78.08
4165581	Manhole	Sealed	72.60	77.91	77.17	76.91	76.99	76.93	78.58	78.53	78.47	78.34
4165583	Manhole	Sealed	73.46	78.72	77.21	76.96	77.03	76.98	78.78	78.76	78.71	78.60
4165583!_2D	Manhole	2D Socied	77.86	77.89	78.15	78.13	78.08	78.07	78.81	78.80	78.75	78.67
4165585	Manhole	Sealed	71.93	78.30	73.54	73.54	73.54	73.54	78.64	78.62	78.58	78.51
4165604 4165604L 2D	Manhole	Sealed	72.50	78.78	75.86	75.60	75.75	75.64	77.45	77.08	77.13	76.92
4165604!_2D 4165605	Manhole	2D Sealed	77.91 72.50	77.95 79.39	78.05	78.05	78.05 75.75	78.05	78.09 77.56	78.09 77.16	78.09 77.19	78.09 76.05
4165605! 2D	Manhole Manhole	2D	78.52	78.56	75.87 78.74	75.60 78.74	78.74	75.65 78.74	79.07	77.16 79.05	79.00	76.95 78.90
4165605!_ZD 4165607	Manhole	Sealed	73.10	78.81	77.17	76.74	76.74	76.74	78.52	78.48	78.43	78.32
4165607! 2D	Manhole	2D	77.94	77.98	78.03	78.03	78.03	78.03	78.36	78.34	78.29	78.21
4165610	Manhole	Sealed	73.96	78.83	77.21	76.96	77.03	76.98	78.77	78.76	78.71	78.60
			. 5.00	. 5.55		. 5.55		. 5.55				



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					Exist	Prop Phase 1	Future Phase 2	Future Phase 3	Exist	Prop Phase 1	Future Phase 2	Future Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year	100-Year		100-Year	100-Year
Node ID			Elevation	Elevation	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL
4165610!_2D	Manhole	2D	77.96	78.00	78.12	78.11	78.10	78.08	78.76	78.74	78.69	78.61
4165614 4165616	Manhole Manhole	2D 2D	72.13 72.19	79.44 78.71	73.60 73.69	73.60 73.69	73.61 73.69	73.61 73.69	78.66 78.77	78.63 78.75	78.56 78.68	78.41 78.47
5000	Manhole	Sealed	69.54	78.15	76.71	76.58	76.62	76.48	78.09	77.99	77.90	77.78
5000!_2D	Manhole	2D	77.28	77.32	77.37	77.36	77.38	77.39	78.01	77.92	77.88	77.78
5001	Manhole	2D	79.15	86.18	86.76	86.75	86.74	86.69	87.34	87.34	87.34	87.33
5005 5007	Manhole Manhole	2D 2D	67.93 70.48	77.93 82.14	78.53 83.44	78.48 83.42	78.53 83.32	78.51 83.23	78.84 84.00	78.81 84.00	78.82 84.30	78.81 83.84
5010	Manhole	2D	75.73	83.90	83.22	83.22	83.19	82.46	84.09	84.09	84.08	83.72
5013	Manhole	2D	74.77	85.74	86.49	86.49	86.49	86.32	87.39	87.39	87.39	87.31
5022	Manhole	Sealed	70.05	82.53	82.94	82.93	82.93	82.91	83.61	83.63	92.88	83.57
5023	Manhole	2D	69.70	82.26	82.49	82.49	82.47	82.45	83.35	83.36	83.35	83.28
5025 5026	Manhole Manhole	2D 2D	69.64 69.21	82.43 82.67	81.81 81.57	81.84 81.59	81.82 81.57	81.79 81.54	82.88 82.62	82.90 82.65	82.87 82.61	82.85 82.59
5027	Manhole	2D	69.20	82.76	81.11	81.12	81.11	81.09	82.09	82.11	82.08	82.07
5028	Manhole	2D	67.58	77.88	77.94	77.85	77.99	77.97	78.47	78.41	78.44	78.42
5029	Manhole	2D	72.36	78.87	78.97	78.97	78.98	78.98	79.17	79.17	79.17	79.18
5030 5031	Manhole Manhole	2D 2D	70.22 69.43	78.20 77.19	78.44 76.39	78.42 76.22	78.45 76.33	78.46 76.18	78.66 78.00	78.64 77.89	78.65 77.83	78.67 77.73
5032	Manhole	2D 2D	69.43	77.19	76.03	75.82	75.96	75.82	77.86	77.66	77.64	77.53
5033	Manhole	Sealed	66.69	77.94	75.87	75.61	76.03	75.96	77.21	76.80	77.13	77.07
5034	Manhole	2D	68.29	77.93	75.46	75.19	75.36	75.24	76.91	76.53	76.63	76.63
5057	Manhole	Sealed	70.12 75.00	77.11	77.40 78.62	77.33	77.25 78.63	77.12	78.40	78.36 78.92	78.11 78.92	77.95
5058 5059	Manhole Manhole	2D 2D	69.58	78.19 82.77	83.37	78.61 83.33	83.33	78.63 83.24	78.93 83.93	83.93	78.92 84.53	78.93 83.86
5218	Outfall	Sealed	70.05	80.39	79.42	79.42	79.42	78.20	80.23	80.23	80.23	80.06
5225	Manhole	2D	68.99	76.36	76.55	76.42	76.64	76.61	77.84	77.72	77.73	77.70
5251	Outfall	Sealed	70.05	82.23	79.46	79.46	79.46	78.27	80.25	80.25	80.25	80.07
5360 5361	Manhole Manhole	2D Sealed	72.04 71.93	77.99 78.87	73.54 73.54	73.54 73.54	73.54 73.54	73.54 73.54	78.66 78.60	78.65 78.57	78.60 78.49	78.53 78.40
5632	Outfall	Sealed	70.05	82.31	79.45	79.45	79.45	78.24	80.24	80.24	80.24	80.06
5654	Manhole	2D	72.17	78.84	80.24	80.24	80.24	80.16	81.23	81.23	81.20	81.12
5659	Manhole	2D	71.87	79.35	80.47	80.47	80.46	80.38	81.53	81.53	81.48	81.41
5665	Manhole	2D	72.01	80.28	80.48	80.48	80.46	80.37	81.53	81.52	81.45	81.38
5669 5671	Manhole Manhole	2D 2D	71.87 71.54	81.55 79.60	80.45 80.39	80.45 80.39	80.42 80.37	80.33 80.27	81.27 80.88	81.26 80.87	81.19 80.84	81.07 80.91
5708649	Manhole	2D	71.13	75.87	76.57	76.48	76.65	76.62	77.57	77.42	77.52	77.50
5708650	Manhole	2D	70.60	75.43	76.55	76.42	76.64	76.57	77.83	77.72	77.72	77.63
5708651	Manhole	2D	70.70	75.40	76.79	76.66	76.89	76.84	78.11	78.00	78.00	77.94
5708685 5708686	Manhole Manhole	2D 2D	70.87 70.70	75.64 75.51	76.84 76.92	76.81 76.87	76.89 76.99	76.86 76.93	77.64 78.42	77.51 78.30	77.60 78.30	77.56 78.18
5708689		2D	70.70	75.01	77.16	77.12	77.23	77.16	78.26	78.15	78.17	78.05
5744	Manhole	Sealed	71.93	71.33	80.49	80.49	80.48	80.40	81.56	81.55	81.51	81.43
5750	Manhole	2D	70.83	78.63	79.53	79.51	79.47	78.68	80.08	80.06	80.04	79.92
5763 5765	Manhole Manhole	2D 2D	71.77 71.99	78.85 77.90	79.53 79.45	79.50 79.49	79.51 79.50	79.10 79.12	80.10 79.95	80.02 80.03	80.04 80.04	79.90 79.91
5770	Manhole	2D 2D	71.99	79.20	79.45	79.49	79.50	79.12	80.40	80.40	80.34	80.19
5771	Manhole	2D	72.42	79.15	79.83	79.79	79.73	79.36	80.41	80.40	80.35	80.20
5774	Manhole	2D	70.59	78.56	71.93	71.93	71.94	71.94	74.45	74.43	74.41	74.31
5776	Manhole	2D	68.49	77.39	70.81	70.81	70.83	70.83	72.25	72.25	72.25	72.21
5779 5784	Manhole Pond	2D Sealed	69.08 53.60	76.90 64.30	71.46 78.84	71.46 78.84	71.48 78.76	71.48 78.17	73.63 81.78	73.62 81.78	73.61 81.75	73.55 81.72
5788-1	Manhole	2D	73.70	78.85	79.36	79.35	77.64	77.41	79.94	79.91	78.34	78.62
5788-2	Manhole	2D	73.70	78.49	79.34	79.34	77.64	77.41	79.84	79.82	78.34	78.59
5788-3	Manhole	2D	73.70	78.96	79.37	79.36	77.64	77.41	79.97	79.95	78.34	78.63
5804 5809	Manhole Manhole	2D 2D	74.54 74.58	79.97 79.72	79.68 79.89	79.67 79.88	78.51 78.64	78.23 78.62	80.41 80.56	80.36 80.56	80.17 80.42	80.06 80.28
5816	Manhole	2D	68.32	76.86	75.40	75.06	75.40	75.39	77.21	76.93	77.22	77.19
5817	Manhole	2D	68.46	75.99	76.09	75.98	76.22	76.16	77.44	77.27	77.39	77.39
5819	Manhole	2D	74.60	79.59	80.07	80.05	78.86	79.30	80.74	80.75	80.63	80.48
5822	Manhole	2D	74.60	79.56	80.02	80.01	79.00	79.36	80.66	80.67	80.54	80.39
5825 5826	Manhole Manhole	2D 2D	66.42 65.41	75.31 75.39	75.45 75.12	75.36 74.81	75.50 75.12	75.46 75.10	76.19 76.19	76.04 75.97	76.21 76.18	76.19 76.17
5827	Manhole	2D	65.23	76.75	74.90	74.44	74.90	74.82	76.19	75.73	76.11	76.17
5830	Manhole	2D	74.85	79.65	79.84	79.83	79.12	79.36	80.34	80.35	80.24	80.02
5837	Manhole	2D	73.62	77.80	79.98	79.98	79.90	79.52	80.50	80.51	80.40	80.28



	1					Prop	Future	Future		Prop	Future	Future
					Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID 5839	Node Type Manhole	Flood Type 2D	73.62	Elevation 77.95	WSEL 79.86	WSEL 79.86	WSEL 79.78	WSEL 79.33	WSEL 80.38	WSEL 80.39	WSEL 80.28	WSEL 80.06
5849	Manhole	2D 2D	70.16	75.26	76.98	76.93	77.04	77.01	78.08	77.98	77.99	77.92
5850	Manhole	2D	69.55	76.10	76.93	76.89	76.98	76.96	78.38	78.25	78.26	78.19
5854	Manhole	2D	66.74	74.96	75.55	75.52	75.59	75.56	76.24	76.10	76.25	76.24
5860	Manhole	Sealed	67.44	74.21	75.65	75.64	75.69	75.65	76.26	76.24	76.27	76.25
5861 5868	Manhole Manhole	2D Sealed	66.41 71.01	74.17 76.74	75.64 76.89	75.62 76.87	75.63 76.93	75.61 76.91	76.31 77.73	76.15 77.65	76.31 77.72	76.25 77.70
5870	Manhole	2D	71.07	78.32	76.89	76.87	76.93	76.91	77.99	77.95	77.98	77.96
5874	Manhole	2D	73.00	77.31	78.08	78.07	78.09	78.10	78.53	78.50	78.52	78.54
5876	Manhole	2D	71.91	78.58	79.06	79.02	79.07	79.06	79.63	79.59	79.61	79.61
5879	Manhole	2D	77.00	81.66	81.98	82.12	81.98	81.97	83.43	83.88	83.42	83.45
5881 5887	Manhole	2D 2D	74.32 71.86	87.25 78.74	84.62 79.05	84.62 79.00	84.64 79.06	84.60 79.05	87.16 79.62	87.17 79.57	87.17 79.60	87.16 79.61
5888	Manhole Manhole	2D 2D	71.65	78.78	79.03	78.94	79.08	79.03	79.62	79.64	79.68	79.68
5890	Manhole	2D	72.85	86.68	84.86	84.85	84.79	84.53	86.17	86.16	86.09	85.92
5891	Manhole	2D	73.41	86.98	85.66	85.65	85.62	85.45	86.80	86.80	86.79	86.66
5895	Manhole	Sealed	71.38	79.22	78.98	78.85	78.98	78.97	79.85	79.68	79.78	79.78
5896 5897	Manhole	Sealed 2D	71.06 71.01	80.70 77.23	78.93 79.26	78.75 79.26	78.93 79.26	78.91 79.30	80.01 80.03	79.74 80.03	79.88 80.03	79.88 80.00
5897-1	Manhole Outfall	Stored	73.01	71.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5902	Manhole	2D	77.62	87.35	86.98	86.98	86.98	86.94	87.92	87.93	87.93	87.89
5905	Manhole	2D	74.25	87.86	86.24	86.23	86.22	86.13	87.15	87.15	87.19	87.12
5906134	Manhole	2D	74.65	86.99	84.72	84.72	84.74	84.70	87.24	87.24	87.24	87.23
5906135 5006136	Manhole	2D	74.78	87.05	85.16	85.16	85.18	85.14	87.42	87.42	87.42	87.41
5906136 5906137	Manhole Manhole	2D 2D	74.82 74.87	86.77 86.81	85.34 85.51	85.34 85.51	85.35 85.53	85.32 85.49	87.50 87.58	87.50 87.58	87.50 87.59	87.49 87.57
5906138	Manhole	2D	75.02	87.13	85.86	85.86	85.87	85.83	87.77	87.77	87.77	87.75
5906139	Manhole	2D	75.25	87.15	86.24	86.24	86.25	86.22	87.94	87.94	87.94	87.93
5906140	Manhole	2D	75.32	86.66	86.35	86.35	86.37	86.33	87.95	87.95	87.96	87.94
5906141	Manhole	2D	75.36	87.10	86.96	86.96	86.96	86.93	88.18	88.19	88.18	88.17
5906142 5906143	Manhole Manhole	2D 2D	75.41 75.62	86.97 87.63	87.04 87.27	87.04 87.27	87.04 87.27	87.01 87.24	88.19 88.38	88.19 88.38	88.19 88.38	88.17 88.37
5906172	Manhole	2D	77.57	87.59	86.97	86.97	86.97	86.93	88.28	88.28	88.28	88.23
5906175	Manhole	2D	76.31	86.46	86.28	86.28	86.29	86.25	87.89	87.89	87.89	87.88
5906176	Manhole	2D	77.96	88.14	86.57	86.57	86.58	86.54	87.80	87.81	87.81	87.77
5906177	Manhole	2D	78.65	86.57	86.89	86.89	86.90	86.86	87.70	87.70	87.70	87.65
5906183 5906184	Manhole Manhole	2D 2D	76.20 76.81	86.56 86.29	85.95 86.70	85.95 86.70	85.97 86.70	85.88 86.50	87.42 87.80	87.43 87.80	87.43 87.80	87.36 87.77
5906227	Manhole	2D	76.76	86.16	86.40	86.40	86.40	86.16	87.54	87.54	87.54	87.51
5906228	Manhole	2D	76.78	86.38	86.44	86.44	86.45	86.22	87.57	87.57	87.57	87.54
5906232	Manhole	2D	82.44	86.53	88.09	88.09	88.10	88.10	88.54	88.54	88.54	88.55
5906233	Manhole	2D	82.09	88.12	87.85	87.85	87.86	87.85	88.54	88.54	88.54	88.53
5906234 5906250	Manhole Manhole	2D 2D	81.50 79.63	86.83 86.92	87.54 87.67	87.54 87.67	87.55 87.67	87.54 87.62	88.38 88.32	88.38 88.32	88.38 88.32	88.38 88.32
5906258	Manhole	2D	77.06	85.84	86.55	86.55	86.55	86.39	87.25	87.25	87.25	87.17
5906312	Manhole	2D	75.76	86.85	87.41	87.41	87.41	87.38	88.41	88.41	88.41	88.40
5906313	Manhole	2D	75.81	87.27	87.51	87.51	87.52	87.48	88.53	88.53	88.53	88.51
5906314	Manhole	2D	76.86	89.04	87.89	87.89	87.89	87.84	89.26	89.26	89.27	89.20
5906316 5906317	Manhole Manhole	2D 2D	78.23 78.33	87.67 87.08	87.93 87.94	87.93 87.94	87.94 87.94	87.91 87.92	88.63 88.57	88.63 88.57	88.63 88.57	88.61 88.55
5906318	Manhole	Sealed	76.94	87.08	87.88	87.88	87.88	87.84	89.07	89.07	89.08	89.03
5906319	Manhole	2D	78.02	86.76	87.66	87.66	87.66	87.69	88.07	88.07	88.07	88.11
5906321	Manhole	2D	78.36	88.03	87.95	87.95	87.95	87.96	88.47	88.47	88.47	88.48
5906330	Manhole	2D	80.19	87.05	88.12	88.12	88.12	88.11	88.52	88.52	88.53	88.53
5906331	Manhole	2D	78.84	86.74	87.98	87.98	87.98	88.00	88.53	88.53	88.53	88.54
5906359 5906361	Manhole Manhole	2D 2D	78.45 79.07	86.87 86.97	88.09 88.18	88.09 88.18	88.09 88.18	88.10 88.18	88.69 88.68	88.69 88.68	88.70 88.69	88.71 88.67
5906388	Manhole	2D	75.90	87.17	87.53	87.53	87.53	87.50	88.53	88.53	88.53	88.51
5906390	Manhole	2D	78.06	87.55	87.51	87.51	87.52	87.48	88.37	88.37	88.37	88.33
5906410	Manhole	2D	80.37	86.45	88.20	88.20	88.20	88.15	88.78	88.78	88.78	88.72
5906476	Manhole	2D	79.70	86.77	88.21	88.21	88.21	88.23	88.71	88.71	88.71	88.70
5906479 5006481	Manhole	2D	79.77	86.89	88.24	88.24 88.46	88.25	88.26	88.75	88.75	88.75	88.75
5906481 5916	Manhole Manhole	2D 2D	80.92 75.91	88.24 87.40	88.46 87.58	88.46 87.58	88.47 87.58	88.44 87.55	89.28 88.53	89.28 88.53	89.28 88.54	89.27 88.52
	INICITIO	<i></i>	10.01	07.40	07.00	07.00	5.50	07.00	00.00	00.00	00.04	
5921	Manhole	2D	74.00	87.91	86.62	86.62	86.63	86.60	87.32	87.32	87.34	87.31



						Prop	Future	Future		Prop	Future	Future
					Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID		Flood Type		Elevation	WSEL 86.68	WSEL	WSEL	WSEL 86.67	WSEL	WSEL	WSEL	WSEL
5926 5928	Manhole Manhole	2D 2D	75.41 77.97	87.25 86.42	87.39	86.68 87.39	86.70 87.39	87.37	87.30 87.74	87.30 87.74	87.31 87.74	87.30 87.75
5929	Manhole	2D	78.04	86.68	87.77	87.77	87.77	87.75	88.14	88.14	88.14	88.15
5940	Manhole	Sealed	76.45	87.51	88.09	88.09	88.10	88.07	88.73	88.73	88.73	88.72
5942	Manhole	2D	79.70	81.74	83.38	83.38	83.39	83.31	84.00	84.00	84.01	83.92
5952 5060	Manhole Manhole	2D 2D	75.96	86.68 86.83	86.73	86.73	86.74	86.74	87.24	87.24	87.25	87.24
5960 5963	Manhole	2D 2D	76.44 76.77	84.92	86.74 86.66	86.74 86.66	86.75 86.67	86.75 86.67	87.47 86.99	87.47 86.99	87.48 87.00	87.44 87.00
5967	Manhole	2D	73.20	87.38	87.60	87.60	87.63	87.63	88.18	88.18	88.19	88.16
5968	Manhole	2D	73.07	87.74	87.46	87.46	87.50	87.49	88.00	88.00	88.01	87.99
5974	Manhole	2D	72.69	87.07	86.92	86.92	86.98	86.96	87.44	87.44	87.47	87.42
5979	Manhole	2D 2D	68.55	86.16 84.50	85.07	85.07	85.12 84.72	85.04	85.54	85.54	85.57 85.15	85.46 85.07
5982 5985	Manhole Manhole	2D 2D	68.34 68.14	84.50	84.64 84.35	84.64 84.35	84.72	84.67 84.31	85.08 84.78	85.08 84.78	85.15	85.07
5988	Manhole	2D	67.97	83.10	84.21	84.21	84.23	84.17	84.73	84.73	84.75	84.66
5990	Manhole	2D	67.84	83.17	84.05	84.05	84.07	84.01	84.64	84.64	84.65	84.56
5993	Manhole	2D	67.77	83.07	83.95	83.95	83.97	83.92	84.59	84.59	84.60	84.51
5997 5000	Manhole	2D 2D	67.64	84.99	83.82	83.82	83.83	83.79	84.59	84.59	84.60	84.51
5999 6003	Manhole Manhole	2D 2D	67.58 67.45	85.14 84.29	83.76 83.67	83.76 83.67	83.77 83.68	83.73 83.64	84.58 84.58	84.58 84.58	84.59 84.58	84.50 84.50
6006	Manhole	2D	67.20	84.46	83.52	83.52	83.53	83.50	84.57	84.57	84.57	84.49
6013	Manhole	2D	67.00	84.79	82.92	82.92	82.94	82.91	84.47	84.47	84.48	84.38
6016	Manhole	Sealed	66.60	83.54	82.19	82.19	82.21	82.19	84.25	84.25	84.26	84.16
6018	Manhole	2D	67.16	84.05	83.72	83.71	83.72	83.68	84.70	84.70	84.70	84.66
6021 6023	Manhole Manhole	2D 2D	73.84 73.94	87.51 87.72	88.50 88.67	88.50 88.67	88.51 88.68	88.53 88.68	88.93 89.11	88.93 89.11	88.94 89.11	88.94 89.26
6028	Manhole	2D	76.19	88.55	88.97	88.97	88.97	88.97	89.39	89.39	89.39	89.44
6029677	Manhole	2D	73.53	78.22	80.16	80.15	80.07	79.66	80.68	80.69	80.58	80.41
6029685	Manhole	2D	73.55	78.33	80.14	80.14	80.07	79.65	80.65	80.66	80.55	80.37
6029687	Manhole	2D	73.57	78.17	80.10	80.09	80.02	79.59	80.60	80.61	80.51	80.30
6029695 6029697	Manhole Manhole	2D 2D	73.62 73.79	78.20 78.78	79.85 80.11	79.85 80.10	79.78 80.05	79.40 79.91	80.34 80.59	80.35 80.60	80.25 80.50	80.05 80.38
6029708	Manhole	2D	74.20	79.05	80.06	80.06	80.02	79.91	80.51	80.51	80.44	80.34
6029724	Manhole	2D	72.49	77.88	79.85	79.84	79.84	79.79	80.46	80.45	80.42	80.37
6029730	Manhole	2D	68.65	81.00	80.01	80.00	80.03	80.02	81.01	81.01	81.00	80.98
6029738	Manhole	2D	74.54	79.43	80.16	80.15	80.13	80.02	80.76	80.76	80.71	80.63
6029740 6029741	Manhole Manhole	2D 2D	74.64 74.85	78.76 78.54	79.79 79.65	79.79 79.64	79.77 79.63	79.71 79.52	80.35 80.21	80.35 80.21	80.31 80.16	80.26 80.05
6029751	Manhole	2D	68.13	81.86	80.02	80.02	80.04	80.02	81.00	81.00	80.99	80.97
6029753	Manhole	2D	68.13	82.18	79.98	79.98	79.99	79.98	80.65	80.66	80.64	80.63
6029755	Manhole	2D	74.21	81.76	80.02	80.02	80.04	80.02	81.00	81.00	80.99	80.97
6029762	Manhole	2D	68.46	81.62	80.58	80.58	80.58	80.57	81.35	81.35	81.34	81.32
6029770 6029772	Manhole Manhole	2D Sealed	70.78 71.24	81.17 80.59	81.27 82.43	81.27 82.43	81.27 82.42	81.25 82.40	81.75 84.81	81.75 84.81	81.74 84.79	81.71 84.77
6029773	Manhole	2D	72.64	80.81	81.72	81.72	81.72	81.72	82.09	82.09	82.09	82.09
6029774	Manhole	2D	72.64	80.56	81.20	81.20	81.20	81.15	81.55	81.55	81.55	81.49
6029809	Manhole	2D	70.66	75.39	77.03	76.87	76.93	76.91	77.67	77.55	77.63	77.61
6029814	Manhole	2D	71.12	75.68	77.05	77.03	77.09	77.08	77.82	77.69	77.78	77.77
6029820 6029823	Manhole Manhole	2D 2D	71.10 66.51	75.90 74.72	76.77 75.55	76.75 75.54	76.81 75.58	76.71 75.57	77.51 76.23	77.39 76.08	77.47 76.23	77.36 76.22
6031	Manhole	2D	76.39	87.76	89.20	89.20	89.20	89.20	89.60	89.60	89.60	89.61
6037	Manhole	2D	78.64	88.59	89.64	89.64	89.64	89.65	89.89	89.89	89.89	89.90
6040	Manhole	2D	77.59	90.17	89.78	89.78	89.78	89.78	90.19	90.19	90.19	90.19
6046	Manhole	2D	73.40	80.90	80.24	80.24	80.24	80.16	81.12	81.12	81.11	81.07
6049	Manhole	2D Socied	69.54	69.60	77.96	77.84	78.61	78.52	79.52	79.61	79.70	79.72
6050 6052589	Outfall Manhole	Sealed 2D	68.13 76.25	75.42 83.59	0.00 83.80	0.00 83.80	0.00 83.79	0.00 83.30	0.00 84.45	0.00 84.45	0.00 84.45	0.00 84.33
6052590	Manhole	2D	78.17	83.14	83.53	83.53	83.53	83.36	83.83	83.83	83.83	83.77
6052591	Manhole	2D	78.17	83.27	83.81	83.81	83.80	83.42	84.36	84.36	84.36	84.28
6052597	Manhole	2D	77.06	84.54	84.07	84.07	84.07	83.66	84.88	84.88	84.88	84.82
6052599	Manhole	2D	77.43	85.01	84.38	84.38	84.38	84.05	85.60	85.60	85.60	85.58
6052601	Manhole	2D	78.28	84.90	84.46	84.46 84.45	84.46	84.31	85.40	85.40	85.40	85.35
6052608 6052609	Manhole Manhole	2D 2D	78.73 78.73	83.62 84.01	84.45 84.45	84.45	84.45 84.45	84.35 84.32	84.93 84.91	84.93 84.91	84.93 84.91	84.85 84.91
6052620	Manhole	2D	78.63	84.87	85.02	85.02	85.02	85.00	85.36	85.36	85.36	85.34
6052621	Manhole	2D	78.31	85.05	82.30	82.30	82.30	82.29	83.30	83.30	83.31	83.28



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					Exist	Prop Phase 1	Future Phase 2	Future Phase 3	Exist	Prop Phase 1	Future Phase 2	Future Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year	100-Year		100-Year	100-Year
Node ID			Elevation	Elevation	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL
6052633	Outfall	Sealed	78.04	78.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6061092 6061094	Manhole Manhole	2D 2D	78.36 85.04	88.31 87.27	87.05 87.05	87.05 87.05	87.03 87.03	87.00 87.00	87.87 87.61	87.87 87.61	87.88 87.61	87.86 87.60
6061230	Manhole	2D	74.55	88.11	89.03	89.03	89.02	88.95	89.16	89.16	89.16	89.09
6061231	Outfall	Sealed	88.76	88.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6061276	Manhole	2D	76.10	88.08	87.78	87.78	87.79	87.76	88.63	88.63	88.63	88.62
6061278	Manhole	2D	83.55	87.85	87.79 87.93	87.79	87.79	87.77 87.90	88.52	88.52	88.53	88.53
6061287 6061295	Manhole Manhole	2D 2D	76.26 76.33	86.82 87.04	87.96	87.93 87.96	87.93 87.97	87.94	88.71 88.71	88.71 88.71	88.71 88.71	88.70 88.71
6061297	Manhole	2D	83.45	87.48	87.93	87.93	87.93	87.84	88.39	88.39	88.39	88.30
6061307	Manhole	2D	77.70	88.49	88.15	88.15	88.15	88.13	88.72	88.72	88.72	88.71
6061308	Manhole	2D	76.64	87.53	88.10	88.10	88.10	88.08	88.73	88.73	88.73	88.72
6061320 6061322	Manhole Manhole	2D 2D	78.22 80.60	88.09 88.19	88.32 88.83	88.32 88.83	88.32 88.83	88.31 88.82	88.74 89.10	88.74 89.10	88.74 89.10	88.74 89.09
6061332	Manhole	2D 2D	78.62	87.74	88.31	88.31	88.31	88.30	88.69	88.69	88.69	88.67
6061338	Manhole	2D	80.69	87.86	88.46	88.46	88.46	88.45	88.80	88.80	88.80	88.78
6061347	Manhole	2D	82.02	88.32	88.65	88.65	88.65	88.65	88.91	88.91	88.91	88.91
6061355	Manhole	2D	79.50	87.86	88.32	88.32	88.33	88.32	88.74	88.74	88.75	88.75
6061365 6061368	Manhole Manhole	2D 2D	79.82 80.72	87.90 87.46	88.41 88.42	88.41 88.42	88.41 88.42	88.41 88.43	88.84 88.86	88.84 88.86	88.85 88.86	88.85 88.87
6061377	Manhole	2D 2D	81.11	87.68	88.42	88.42	88.43	88.43	88.86	88.86	88.87	88.87
6061387	Manhole	2D	81.22	87.49	88.36	88.36	88.37	88.37	88.78	88.78	88.78	88.79
6061395	Manhole	2D	76.61	87.54	88.10	88.10	88.11	88.08	88.73	88.73	88.73	88.72
6061397	Manhole	2D	76.70	87.71	88.12	88.12	88.12	88.10	88.73	88.73	88.73	88.72
6061405 6061415	Manhole Manhole	2D 2D	76.80 76.90	88.29 87.46	88.17 88.19	88.17 88.19	88.18 88.19	88.15 88.18	88.84 88.82	88.84 88.82	88.84 88.82	88.84 88.82
6061423	Manhole	2D	77.21	87.43	88.28	88.28	88.29	88.27	88.84	88.84	88.84	88.83
6061431	Manhole	2D	77.27	87.94	88.39	88.39	88.39	88.37	89.00	89.00	89.01	89.00
6061433	Manhole	2D	78.27	88.69	88.47	88.47	88.47	88.45	89.14	89.14	89.14	89.10
6061441	Manhole	2D	79.43	88.37	88.81	88.81	88.81	88.80	89.30	89.30	89.30	89.29
6061443 6061451	Manhole Manhole	2D 2D	81.27 80.35	88.16 87.89	88.74 88.54	88.74 88.54	88.74 88.54	88.75 88.68	89.16 88.91	89.16 88.91	89.17 88.91	89.19 89.08
6061459	Manhole	2D	78.26	89.01	88.44	88.44	88.44	88.42	89.00	89.00	89.00	88.99
6061461	Manhole	2D	78.40	89.10	88.47	88.47	88.47	88.45	89.00	89.00	89.00	88.99
6061463	Manhole	Sealed	78.52	88.31	88.51	88.51	88.50	88.48	89.00	89.00	89.00	88.98
6061466	Manhole	2D	79.11	87.89	88.51	88.51	88.50	88.48	88.94	88.94	88.94	88.90
6061468 6061471	Manhole Manhole	Sealed 2D	79.14 79.28	87.99 88.42	88.53 88.58	88.53 88.58	88.53 88.58	88.51 88.56	88.98 89.05	88.98 89.05	88.98 89.05	88.95 89.04
6061479	Manhole	2D	81.17	88.53	88.97	88.97	88.97	88.93	89.38	89.38	89.38	89.35
6061481	Manhole	2D	81.66	88.18	88.98	88.98	88.98	88.93	89.36	89.36	89.36	89.38
6061489	Manhole	2D	82.40	87.96	88.95	88.95	88.95	89.03	89.27	89.27	89.27	89.35
6061497		2D 2D	82.60	88.09	89.18	89.18	89.18	89.13	89.55	89.55	89.55	89.50
6061499 6062507	Manhole Manhole	2D 2D	83.21 80.74	88.24 88.00	89.20 88.87	89.20 88.87	89.20 88.86	89.18 88.88	89.50 89.30	89.50 89.30	89.50 89.30	89.48 89.30
6062515	Manhole	2D	82.50	88.51	89.16	89.16	89.16	89.16	89.59	89.59	89.59	89.58
6062523	Manhole	2D	83.31	89.45	89.16	89.16	89.16	89.16	89.60	89.60	89.61	89.61
6062528	Manhole	2D	81.64	87.93	88.71	88.71	88.71	88.71	89.17	89.17	89.17	89.19
6062536	Manhole	2D	80.59	88.63	88.64	88.64	88.64	88.63	89.07	89.07	89.07	89.06
6062544 6062552	Manhole Manhole	2D 2D	82.34 79.43	88.40 87.81	88.99 88.57	88.99 88.57	88.99 88.56	88.98 88.55	89.37 88.97	89.37 88.97	89.37 88.97	89.35 88.94
6062554	Manhole	2D	81.50	87.59	88.58	88.58	88.58	88.58	88.98	88.98	88.98	89.00
6062562	Manhole	2D	79.48	87.78	88.52	88.52	88.52	88.49	88.87	88.87	88.87	88.82
6062570	Manhole	2D	78.07	88.03	88.57	88.57	88.56	88.57	89.01	89.01	89.01	89.01
6062572	Manhole	2D	83.89	88.39	88.57	88.57	88.56	88.57	88.92	88.92	88.92	88.91
6062580 6062588	Manhole Manhole	2D 2D	84.67 80.79	88.44 87.89	88.86 88.35	88.86 88.35	88.86 88.35	88.85 88.34	89.24 88.76	89.24 88.76	89.24 88.77	89.24 88.75
6062598	Manhole	2D	80.98	87.57	88.33	88.33	88.33	88.31	88.77	88.77	88.77	88.75
6073349	Manhole	2D	87.87	88.84	89.42	89.42	89.42	89.47	89.77	89.77	89.77	89.79
6073352	Manhole	2D	78.53	88.93	89.47	89.47	89.47	89.55	89.69	89.69	89.69	89.77
6073404	Outfall	Sealed	87.87	87.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6073416 6073420	Outfall Manhole	Sealed 2D	87.53 81.81	87.63 88.85	0.00 89.43	0.00 89.43	0.00 89.43	0.00 89.43	0.00 89.74	0.00 89.74	0.00 89.74	0.00 89.74
6073424	Manhole	2D 2D	84.39	89.05	89.55	89.55	89.55	89.61	89.74	89.74	89.74	89.81
6073426	Manhole	2D	83.58	89.18	89.45	89.45	89.45	89.50	89.61	89.61	89.62	89.69
6073433	Manhole	2D	80.88	88.70	89.65	89.65	89.65	89.64	89.91	89.91	89.91	89.91
6073436	Manhole	2D	80.86	90.30	90.39	90.39	90.39	90.38	90.81	90.81	90.81	90.82



Node Prod Type Flood Type Flood Type Flood Type Elevation Flood Type Elevation Flood Type Elevation Elevation Flood Type Flood Type Elevation Elevation Flood Type Flood Type Elevation Elevation Flood Type Flood Type Flood Type Elevation Elevation Flood Type Flood Type Elevation Elevation Flood Type Flood Type Elevation Eleva		1	•	1	1		· _	· _			· _	· _	
Node IVP Plood Type Elovation Elovation Service WSEL WSEL						Cylina	Prop	Future	Future	Cviet	Prop	Future	Future
Node ID Node Type Flood Type Evolution Evolution Sept. WSEL WSEL				Flowline	Ground								
Marchole 20	Node ID	Node Type	Flood Type	-									
## State		,,											
6977465	6073447	Manhole	2D		89.33	89.89		89.90		90.15	90.15	90.15	90.18
6977463							89.81	89.81		90.07		90.07	
## Section ##													
## September ## September ## September ## September ## September ## September ## September													
607749141 Mannhole 2D													
6075001 Manhole 2D													
6075006 Manhole Seeled 75,40 68.12 88.90 89.90 89.88 89.35													
60750016 Manhole 2D	6075003	Manhole	2D	79.48	88.71	89.64	89.64	89.64	89.62	89.92	89.92	89.92	89.91
6075011 Manhole 2D													
5075013 Manhole 2D													
6075016 Manhole 2D													
6075019 Manhole ZD													
60750021 Manhole 2D													
60750024 Manhole 2D 80,94 88,34 88,91 88,91 89,78 89,36 89,36 89,36 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,31 89,36 89,30 89,30 89,37 88,87 88,86 89,32 89,40 <													
6075033 Manhole Sealed 75.27 89.90 88.87 88.87 88.86 89.32 89.32 89.32 89.30 8075039 Manhole 2D 71.81 88.06 89.00 89.00 89.00 89.01 88.08 89.49 89.49 89.50 8075065 Manhole 2D 79.48 88.06 89.20 89.10 89.10 89.20 89.10 89.40 89.49 89.49 89.50 8075083 Manhole 2D 79.68 88.42 89.19 89.19 89.20 89.10 89.40 89.40 89.40 89.50 8075083 Manhole 2D 78.06 89.34 88.93 88.94 89.50 89.			2D	80.94									
6075039 Manhole D													
6075045 Manhole DD 77.18 88.08 89.00 89.01 88.98 89.49 89.50 8075083 Manhole DD 79.48 88.42 88.19 89.19 89.19 89.10 89.18 89.62 89.62 89.62 89.62 89.62 89.62 89.63 6075083 Manhole DD 78.08 88.34 88.93 88.93 88.94 88.90 89.34 89.34 89.35 8075085 Manhole DD 78.04 78.48 88.89 88.89 88.89 88.89 89.35													
6075065 Manhole ZD													
6075083 Manhole 2D													
6075095 Manhole 2D													
B075097 Manhole DD 78.58 87.41 88.90 88.90 88.77 89.31 89.31 89.31 89.15													
6075103 Manhole ZD	6075095	Manhole	Sealed	79.11	87.64	88.90	88.90	88.90	88.76	89.31	89.31	89.31	89.17
6075107 Manhole 2D													
6075111													
6075121 Manhole DD 80.41 88.56 88.91 88.91 88.92 88.79 89.36 89.32 80.75 80.75 80.78 89.79 89.79 89.79 89.78 89.78 89.78 89.79 90.79 90.77 90.17													
6075123 Manhole DD 80.55 88.56 88.91 88.91 88.92 88.79 89.36 89.36 89.36 89.36 89.36 89.36 89.36 89.34 89.29 6075451 Manhole 2D 76.79 88.44 89.79 89.79 89.78 89.17 90.19 90.79 90.79 90.79 90.79 90.79 90.79 90.79 90.79 90.79 90.79 9													
6075125 Manhole 2D 80.40 88.58 88.90 88.90 88.78 89.78 89.34 89.34 89.29 6075459 Manhole 2D 76.62 88.28 89.78 89.78 89.78 90.17 90.17 90.17 6075463 Manhole 2D 76.53 88.36 90.05 90.05 90.79 90.79 90.79 90.79 6075465 Manhole 2D 76.56 87.77 89.78 89.78 89.79 90.21 </td <td></td>													
60754659 Manhole ZD													
6075463 Manhole ZD	6075451	Manhole	2D	76.79	88.44	89.79	89.79	89.79	89.78	90.17	90.17	90.17	
60754365 Manhole 2D 76.56 87.77 89.78 89.78 89.79 90.21 90.21 90.22 90.25 6076543 Manhole 2D 78.53 88.74 89.34 89.34 89.34 89.30 89.56 89.56 89.56 89.56 89.56 6076597 Manhole 2D 77.48 87.76 88.90 88.90 88.91 88.88 89.38 89.35 89.35 89.35 89.35 89.36 6076597 Manhole 2D 78.43 87.95 88.94 88.84 88.94 88.88 89.38 89.38 89.38 89.38 89.38 89.38 89.36 6076632 Manhole 2D 73.18 87.94 88.68 88.68 88.69 88.67 88.79 88.79 88.77 88.77 6076635 Outfall Sealed 88.18 88.28 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 6198704 Manhole 2D 74.06 87.38 84.35 84.35 84.35 84.33 87.05 87.06													
6076643 Manhole 2D 78.53 88.74 89.34 89.34 89.30 89.56 89.56 89.56 89.55 8076557 Manhole 2D 77.48 87.76 88.90 88.90 88.91 88.88 89.35 89													
6076557 Manhole 2D 77.48 87.76 88.90 88.90 88.91 88.88 89.35 89.35 89.36 6076697 Manhole 2D 78.43 87.85 88.94 88.94 88.88 89.35 89.35 89.35 89.35 89.38 89.38 81.88 88.89 88.79 8													
6076597 Manhole 2D 78.43 87.85 88.94 88.94 88.84 88.88 89.38 89.38 89.38 89.38 89.38 89.33 6076632 Manhole 2D 73.18 87.94 88.68 88.69 88.67 88.79 88.70 89.90 89.70 60.00 80.													
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6198704 Manhole 2D 74.06 87.38 84.35 84.35 84.37 84.33 87.05 87.06 87.06 87.04 6198706 Manhole 2D 73.74 87.85 84.04 84.04 84.02 86.91 86.92 86.92 86.90 6198708 Manhole 2D 72.54 87.31 82.99 83.91 83.32 86.58 86.59 86.59 86.58 6198711 Manhole 2D 72.54 87.31 82.99 83.01 82.97 86.44 86.45 86.58 6198730 Manhole 2D 70.56 84.90 80.93 80.93 80.94 80.91 85.75 85.76 85.75 85.74 6198761 Manhole 2D 70.56 84.90 80.93 80.93 80.94 80.91 85.75 85.76 85.75 85.76 6198780 Manhole 2D 69.83 85.27 79.91 79.91 79.92 79.89	6076632	Manhole											
6198706 Manhole 2D 73.74 87.85 84.04 84.04 84.06 84.02 86.91 86.92 86.92 86.90 6198708 Manhole 2D 72.84 87.32 83.33 83.35 83.32 86.58 86.59 86.59 86.58 6198711 Manhole 2D 71.54 85.59 81.97 81.97 86.44 86.45 86.58 6198730 Manhole 2D 71.54 85.59 81.97 81.99 81.96 85.75 85.76 85.75 85.75 85.74 6198761 Manhole 2D 70.56 84.90 80.93 80.93 80.91 85.01 85.03 85.01 85.00 6198771 Manhole 2D 69.83 85.27 79.91 79.91 79.92 79.89 84.27 84.30 84.63 34.62 6198780 Manhole 2D 69.66 85.11 79.61 79.63 79.59 84.07 84.11	6076635												
6198708 Manhole 2D 72.84 87.32 83.33 83.33 83.32 86.58 86.59 86.59 86.58 6198711 Manhole 2D 72.54 87.31 82.99 82.99 83.01 82.97 86.44 86.45 86.45 86.43 6198730 Manhole 2D 71.54 85.59 81.97 81.97 81.99 81.96 85.75 85.76 85.75 85.74 6198761 Manhole 2D 70.56 84.90 80.93 80.94 80.91 85.01 85.03 85.01 85.00 6198771 Manhole 2D 70.14 85.00 80.40 80.41 80.38 84.63 84.63 84.62 6198780 Manhole 2D 69.66 85.11 79.61 79.61 79.63 79.59 84.07 84.11 84.07 84.25 6198788 Manhole 2D 69.34 84.18 79.17 79.17 79.18 79.15													
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6198730 Manhole 2D 71.54 85.59 81.97 81.97 81.99 81.96 85.75 85.76 85.75 85.74 6198761 Manhole 2D 70.56 84.90 80.93 80.93 80.94 80.91 85.01 85.03 85.01 85.00 6198771 Manhole 2D 70.14 85.00 80.40 80.40 80.41 80.38 84.63 84.66 84.63 84.62 6198780 Manhole 2D 69.86 85.11 79.61 79.61 79.63 79.59 84.07 84.11 84.07 84.26 6198784 Manhole 2D 69.66 85.11 79.61 79.61 79.63 79.59 84.07 84.11 84.06 6198793 Manhole 2D 68.69 82.41 78.91 78.81 78.84 78.55 83.11 82.98 83.10 83.08 6198793 Manhole 2D 67.20 80.75 78.89													
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6198788 Manhole 2D 69.34 84.18 79.17 79.17 79.18 79.15 83.76 83.80 83.76 83.74 6198792 Manhole 2D 68.69 82.41 78.91 78.91 78.84 78.30 83.09 83.14 83.09 83.06 6198793 Manhole 2D 77.44 82.60 78.91 78.91 78.84 78.55 83.11 82.98 83.10 83.08 6198800 Manhole 2D 67.20 80.75 78.89 78.89 78.23 82.01 82.02 82.00 6198804 Manhole Sealed 66.92 80.44 78.88 78.88 78.81 78.22 81.92 81.92 81.94 81.92 6198806 Manhole Sealed 75.21 79.88 78.88 78.81 78.23 81.74 81.75 81.57 81.58 6198813 Manhole Sealed 75.24 80.50 78.89 78.88 78.8													
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6198804 Manhole Sealed 66.92 80.44 78.88 78.88 78.81 78.22 81.92 81.92 81.94 81.92 6198806 Manhole Sealed 75.21 79.88 78.88 78.88 78.81 78.23 81.74 81.74 81.75 81.72 6198808 Manhole 2D 75.30 80.39 78.88 78.81 78.22 81.57 81.57 81.58 6198813 Manhole Sealed 75.24 80.50 78.89 78.88 78.81 78.23 81.62 81.62 81.64 81.60 6198813_D Manhole 2D 80.04 80.08 80.18 80.18 80.18 80.18 81.62 81.62 81.64 81.60 6198814_D Manhole Sealed 75.24 80.37 78.89 78.88 78.81 78.23 81.72 81.74 81.71 6198814_D Manhole 2D 79.92 79.95 80.51 80.51													
6198806 Manhole Sealed 75.21 79.88 78.88 78.88 78.81 78.23 81.74 81.75 81.75 6198808 Manhole 2D 75.30 80.39 78.88 78.81 78.22 81.57 81.57 81.58 6198813 Manhole Sealed 75.24 80.50 78.89 78.88 78.81 78.23 81.62 81.62 81.64 81.60 6198813!_2D Manhole 2D 80.04 80.08 80.18 80.18 80.18 81.16 81.17 81.18 81.13 6198814 Manhole Sealed 75.24 80.37 78.89 78.88 78.81 78.23 81.72 81.72 81.74 81.71 6198814!_2D Manhole 2D 79.92 79.95 80.51 80.51 80.48 81.66 81.66 81.68 81.63 6198824 Manhole 2D 66.64 80.47 78.88 78.88 78.80 78.22													
6198813 Manhole Sealed 75.24 80.50 78.89 78.88 78.81 78.23 81.62 81.62 81.64 81.60 6198813!_2D Manhole 2D 80.04 80.08 80.18 80.18 80.18 80.18 81.16 81.17 81.18 81.13 6198814 Manhole Sealed 75.24 80.37 78.89 78.88 78.81 78.23 81.72 81.72 81.74 81.71 6198814!_2D Manhole 2D 79.92 79.95 80.51 80.51 80.48 81.66 81.66 81.68 81.63 6198824 Manhole 2D 66.64 80.47 78.88 78.88 78.80 78.22 81.87 81.89 81.88 6198825 Manhole Sealed 75.60 80.62 78.88 78.88 78.81 78.22 81.57 81.57 81.59 81.59 6198825!_2D Manhole 2D 80.17 80.20 80.49	6198806	Manhole	Sealed	75.21	79.88	78.88	78.88	78.81	78.23	81.74	81.74		81.72
6198813!_2D Manhole 2D 80.04 80.08 80.18 80.18 80.18 81.16 81.17 81.18 81.13 6198814 Manhole Sealed 75.24 80.37 78.89 78.88 78.81 78.23 81.72 81.74 81.71 6198814!_2D Manhole 2D 79.92 79.95 80.51 80.51 80.48 81.66 81.66 81.68 81.63 6198824 Manhole 2D 66.64 80.47 78.88 78.88 78.80 78.22 81.87 81.87 81.89 81.88 6198825 Manhole Sealed 75.60 80.62 78.88 78.88 78.81 78.22 81.57 81.57 81.59 81.59 6198825!_2D Manhole 2D 80.17 80.20 80.49 80.49 80.49 80.50 81.62 81.62 81.64 81.63													
6198814 Manhole Sealed 75.24 80.37 78.89 78.88 78.81 78.23 81.72 81.72 81.74 81.71 6198814!_2D Manhole 2D 79.92 79.95 80.51 80.51 80.51 80.48 81.66 81.66 81.68 81.63 6198824 Manhole 2D 66.64 80.47 78.88 78.88 78.80 78.22 81.87 81.87 81.89 81.88 6198825 Manhole Sealed 75.60 80.62 78.88 78.88 78.81 78.22 81.57 81.57 81.59 81.59 6198825!_2D Manhole 2D 80.17 80.20 80.49 80.49 80.50 81.62 81.62 81.64 81.63													
6198814!_2D Manhole 2D 79.92 79.95 80.51 80.51 80.51 80.48 81.66 81.66 81.68 81.63 6198824 Manhole 2D 66.64 80.47 78.88 78.88 78.80 78.22 81.87 81.87 81.89 81.88 6198825 Manhole Sealed 75.60 80.62 78.88 78.88 78.81 78.22 81.57 81.57 81.59 81.59 6198825!_2D Manhole 2D 80.17 80.20 80.49 80.49 80.49 80.50 81.62 81.62 81.64 81.63													
6198824 Manhole 2D 66.64 80.47 78.88 78.88 78.80 78.22 81.87 81.87 81.89 81.88 6198825 Manhole Sealed 75.60 80.62 78.88 78.88 78.81 78.22 81.57 81.57 81.59 81.59 6198825!_2D Manhole 2D 80.17 80.20 80.49 80.49 80.49 80.50 81.62 81.62 81.64 81.63													
6198825 Manhole Sealed 75.60 80.62 78.88 78.88 78.81 78.22 81.57 81.57 81.59 81.59 6198825!_2D Manhole 2D 80.17 80.20 80.49 80.49 80.49 80.50 81.62 81.62 81.64 81.63													
6198825!_2D Manhole 2D 80.17 80.20 80.49 80.49 80.49 80.50 81.62 81.62 81.64 81.63													
6198826 Manhole Sealed 75.60 81.04 78.88 78.88 78.81 78.22 81.59 81.59 81.61 81.61			2D										81.63
	6198826	Manhole	Sealed	75.60	81.04	78.88	78.88	78.81	78.22	81.59	81.59	81.61	81.61



	T											
					Exist	Prop Phase 1	Future Phase 2	Future Phase 3	Exist	Prop Phase 1	Future Phase 2	Future Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year			100-Year	100-Year
Node ID	Node Type	Flood Type	Elevation	Elevation	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL
6198826!_2D	Manhole	2D	80.59	80.62	80.69	80.69	80.69	80.69	81.79	81.79	81.80	81.79
6198834	Manhole	2D	66.31	80.77	78.87	78.87	78.80	78.21	81.85	81.85	81.87	81.85
6198836 6198837	Manhole Manhole	Sealed Sealed	66.21 74.94	80.33 81.41	78.87 78.87	78.87 78.87	78.79 78.80	78.21 78.21	81.87 81.69	81.84 81.69	81.88 81.71	81.85 81.71
6198837! 2D	Manhole	2D	80.55	80.58	80.70	80.70	80.70	80.70	81.53	81.53	81.55	81.56
6198838	Manhole	Sealed	75.50	80.80	78.87	78.87	78.79	78.21	81.86	81.83	81.87	81.84
6198838!_2D	Manhole	2D	80.34	80.38	80.63	80.63	80.63	80.57	81.72	81.72	81.74	81.67
6198839	Manhole	Sealed	75.50	80.87	78.87	78.87	78.79	78.21	81.84	81.83	81.86	81.84
6198839!_2D 6198853	Manhole Manhole	2D 2D	80.42 65.93	80.45 80.91	80.63 78.86	80.63 78.86	80.63 78.79	80.69 78.20	81.72 81.97	81.73 81.93	81.75 81.98	81.78 81.94
6198854	Manhole	Sealed	76.84	81.21	78.86	78.86	78.79	78.20	81.89	81.86	81.90	81.87
6198854!_2D	Manhole	2D	81.17	81.21	81.26	81.26	81.26	81.26	81.41	81.40	81.42	81.41
6198858	Manhole	2D	64.42	81.22	78.85	78.85	78.77	78.18	81.90	81.88	81.91	81.87
6198859	Manhole	Sealed	76.64	81.22	78.85	78.85	78.77	78.18	81.87	81.85	81.87	81.83
6198859!_2D	Manhole	2D	81.19	81.22	81.43	81.43	81.43	81.43	81.74	81.74	81.72	81.68
6198860 6198860! 2D	Manhole Manhole	Sealed 2D	76.64 81.89	81.92 81.92	78.85 82.26	78.85 82.26	78.77 82.26	78.18 82.27	81.92 82.53	81.90 82.52	81.92 82.49	81.88 82.48
6198869	Manhole	2D	74.18	80.52	80.16	80.16	80.16	80.12	81.86	81.86	81.88	81.87
6198872	Manhole	2D	75.73	80.60	80.81	80.81	80.82	80.82	81.87	81.87	81.89	81.88
6198873	Manhole	Sealed	75.46	80.61	80.16	80.16	80.17	80.13	81.82	81.83	81.84	81.83
6198873!_2D	Manhole	2D	80.16	80.19	80.45	80.45	80.46	80.45	81.64	81.64	81.65	81.64
6198874 6198874! 2D	Manhole Manhole	Sealed 2D	75.46 80.68	81.13 80.71	80.16 80.83	80.16 80.83	80.16 80.83	80.13 80.83	81.79 81.52	81.79 81.53	81.81 81.54	81.80 81.52
6198884	Manhole	2D 2D	75.88	80.89	81.04	81.04	81.05	81.04	81.90	81.90	81.91	81.90
6198885	Manhole	Sealed	75.76	80.92	80.98	80.98	80.98	80.98	81.75	81.75	81.76	81.76
6198885!_2D	Manhole	2D	80.47	80.50	80.75	80.75	80.75	80.75	81.19	81.20	81.21	81.20
6198886	Manhole	Sealed	75.84	81.53	81.05	81.05	81.05	81.04	81.91	81.91	81.92	81.92
6198886!_2D	Manhole	2D	81.08	81.11	81.31	81.31	81.31	81.31	82.03	82.03	82.04	82.04
6198892 6198894	Manhole Manhole	2D Sealed	76.15 76.22	81.09 80.74	81.18 81.03	81.18 81.03	81.18 81.03	81.18 81.03	81.84 81.53	81.84 81.53	81.85 81.53	81.85 81.47
6198894! 2D	Manhole	2D	80.71	80.74	80.85	80.85	80.85	80.85	81.34	81.34	81.33	81.27
7204174	Manhole	2D	67.04	81.98	83.39	83.39	83.40	83.35	84.51	84.51	84.52	84.41
A10	Manhole	2D	70.47	73.82	74.23	74.21	74.24	74.22	74.71	74.68	74.70	74.69
A11	Manhole	2D	70.21	74.23	74.35	74.35	74.37	74.36	74.86	74.84	74.86	74.85
A13 A15	Manhole Manhole	2D	65.50	74.07	74.50 74.84	74.49	74.51	74.51	74.92	74.91	74.92	74.94
A17	Manhole	2D 2D	65.50 66.10	74.84 73.29	73.87	74.84 73.86	74.85 73.88	74.85 73.81	75.21 74.27	75.20 74.27	75.21 74.28	75.18 74.21
A18	Manhole	2D	66.10	72.18	73.31	73.30	73.32	73.33	73.70	73.67	73.70	73.72
A2	Manhole	2D	69.63	73.80	74.79	74.76	74.83	74.85	75.44	75.41	75.44	75.48
A20	Manhole	2D	70.73	74.23	74.56	74.56	74.57	74.56	75.26	75.23	75.26	75.24
A21	Manhole	2D	71.03	73.87	74.87	74.86	74.89	74.90	75.36	75.35	75.36	75.36
A22 A25	Manhole Manhole	2D 2D	71.24 73.35	74.54 74.60	75.20 75.35	75.20 75.35	75.21 75.36	75.19 75.31	75.49 75.62	75.49 75.62	75.49 75.62	75.48 75.59
A26	Manhole	2D	74.28	75.05	75.30	75.30	75.30	75.28	75.38	75.38	75.38	75.37
A28	Manhole	2D	76.03	77.17	78.19	78.19	78.19	78.17	78.34	78.34	78.34	78.31
A29	Manhole	2D	75.73	77.91	78.30	78.30	78.31	78.31	78.51	78.51	78.51	78.50
A3	Manhole	2D	69.53	72.58	73.39	73.36	73.39	73.36	73.57	73.53	73.56	73.53
A31 A32	Manhole Manhole	2D 2D	73.75 72.36	79.12 78.34	79.17 79.12	79.17 79.10	79.18 79.12	79.18 79.12	79.40 79.36	79.39 79.34	79.40 79.36	79.40 79.38
A34	Manhole	2D 2D	73.86	78.80	78.12	78.97	78.12	78.98	79.03	79.03	79.03	79.38
A35	Manhole	2D	73.77	78.78	79.17	79.17	79.17	79.18	79.47	79.47	79.48	79.47
A41	Manhole	2D	68.29	72.08	73.92	73.91	73.92	73.81	74.36	74.35	74.36	74.25
A42	Manhole	2D	72.14	75.61	75.80	75.80	75.79	75.78	76.11	76.11	76.11	76.09
A43 A46	Manhole Manhole	2D 2D	70.06 71.50	74.32 77.32	75.58 77.68	75.58 77.68	75.58 77.69	75.59 77.71	75.82 78.07	75.82 78.07	75.82 78.07	75.82 78.09
A46 A47	Manhole Manhole	2D 2D	71.50	76.89	78.02	78.02	78.01	77.71	78.50	78.50	78.50	78.44
A48	Manhole	2D	73.30	75.67	76.81	76.81	76.81	76.79	76.87	76.87	76.87	76.85
A5	Manhole	2D	70.09	73.79	74.02	74.00	74.03	74.05	74.51	74.48	74.50	74.55
A6	Manhole	2D	70.40	73.29	73.88	73.86	73.88	73.90	74.41	74.37	74.40	74.39
A8	Manhole	2D	68.60	72.94	73.60	73.59	73.60	73.60	73.87	73.86	73.86	73.87
A9 AM1	Manhole Manhole	2D Sealed	70.24 61.18	72.54 74.15	73.08 73.46	73.08 73.39	73.08 73.45	73.06 73.43	73.26 73.96	73.26 73.77	73.26 73.83	73.24 73.84
AM12	Manhole	Sealed	63.30	73.04	74.20	74.19	74.21	74.20	74.63	74.60	74.61	74.61
AM14	Manhole	Sealed	65.34	73.49	74.51	74.51	74.53	74.53	74.93	74.91	74.93	74.94
AM16	Manhole	Sealed	65.95	72.15	73.78	73.77	73.80	73.74	74.19	74.18	74.19	74.15
AM19	Manhole	2D	64.21	74.18	74.56	74.55	74.56	74.56	74.96	74.95	74.96	74.97



						Prop	Future	Future		Prop	Future	Future
					Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID AM23	Node Type Manhole	Flood Type 2D	66.96	Elevation 74.93	WSEL 75.17	WSEL 75.17	WSEL 75.18	WSEL 75.16	WSEL 75.46	WSEL 75.46	WSEL 75.46	WSEL 75.46
AM24	Manhole	2D	66.96	76.38	75.35	75.35	75.16	75.10	75.63	75.63	75.63	75.60
AM27	Manhole	2D	70.10	78.76	78.22	78.22	78.22	78.21	78.49	78.49	78.49	78.48
AM30	Manhole	2D	70.10	79.67	79.10	79.09	79.09	79.10	79.43	79.42	79.42	79.43
AM33 AM36	Manhole Manhole	Sealed Sealed	70.16 71.10	77.36 78.88	79.13 79.12	79.12 79.11	79.12 79.11	79.13 79.12	79.38 79.36	79.37 79.36	79.37 79.35	79.39 79.35
AM37	Manhole	2D	66.95	73.61	74.67	74.66	74.67	74.59	75.12	75.10	75.11	75.02
AM38	Manhole	2D	64.82	73.22	74.74	74.73	74.74	74.73	75.20	75.18	75.20	75.19
AM39	Manhole	2D Cooled	65.73	73.86 73.25	74.95	74.94	74.95	74.98	75.41	75.40	75.41 74.04	75.45 74.04
AM4 AM40	Manhole Manhole	Sealed 2D	61.62 67.73	73.25	73.65 74.87	73.61 74.85	73.65 74.86	73.64 74.85	74.12 75.31	74.00 75.30	75.31	75.30
AM44	Manhole	2D	65.73	76.84	75.76	75.76	75.75	75.75	76.11	76.11	76.10	76.09
AM45	Manhole	2D	66.85	76.95	77.32	77.32	77.31	77.30	77.62	77.62	77.62	77.59
AM49 AM50	Manhole Manhole	2D 2D	67.11 67.95	76.76 77.06	77.08 77.08	77.08 77.08	77.08 77.08	77.08 77.07	77.24 77.14	77.24 77.14	77.23 77.14	77.22 77.13
AM7	Manhole	Sealed	61.99	74.19	73.71	73.67	73.70	73.69	74.14	74.05	74.08	74.08
B01	Manhole	Sealed	70.51	79.83	79.52	79.51	79.46	78.44	80.27	80.27	80.22	80.04
B03	Manhole	Sealed	73.82	77.53	79.53	79.53	79.48	78.45	80.48	80.48	80.41	80.05
B03_2D B04	Manhole Manhole	2D Sealed	80.56 71.00	80.66 81.13	80.96 79.52	80.96 79.51	80.96 79.41	80.77 78.43	82.65 80.27	82.59 80.27	82.33 80.18	80.84 79.98
B05	Manhole	Sealed	74.00	78.57	79.55	79.55	79.45	78.48	80.35	80.35	80.30	80.07
B05_2D	Manhole	2D	80.54	80.91	80.97	80.97	80.98	80.97	81.08	81.08	81.15	81.03
B06	Manhole	Sealed	74.13	79.02	79.57	79.58	79.42	78.44	80.35	80.35	80.26	80.01
B06_2D B07	Manhole Manhole	2D Sealed	79.78 71.09	79.88 80.33	80.51 79.52	80.51 79.52	80.53 79.35	80.22 78.42	82.09 80.27	82.03 80.27	82.10 80.14	80.33 79.96
B08	Manhole	Sealed	73.69	78.47	79.55	79.56	79.39	78.46	80.30	80.30	80.18	80.01
B08_2D	Manhole	2D	79.78	80.54	80.74	80.74	80.71	80.71	81.02	81.02	80.91	80.87
B10	Manhole	Sealed	71.67	80.35	79.52	79.53	79.22	78.40	80.26	80.26	80.03	79.91
B12 B12_2D	Manhole Manhole	Sealed 2D	74.55 76.52	77.56 77.56	79.12 79.06	79.11 79.05	79.12 79.19	78.55 78.62	79.91 79.85	79.72 79.65	79.99 80.08	79.52 79.52
B13	Manhole	Sealed	71.95	80.71	79.58	79.56	78.93	78.43	80.30	80.28	79.77	79.78
B14	Manhole	Sealed	71.93	80.74	79.54	79.55	79.01	78.39	80.25	80.24	79.85	79.82
B15	Manhole	Sealed 2D	73.19 75.16	79.28 80.32	79.72 79.84	79.73	79.22 79.34	78.56 78.67	80.59 80.78	80.58 80.78	80.33	80.86
B15_2D B18	Manhole Manhole	Sealed	72.00	80.10	79.84	79.84 79.86	79.34	78.89	80.78	80.78	80.60 80.23	81.47 80.23
B19	Manhole	Sealed	73.14	77.42	79.97	79.97	79.63	79.01	80.50	80.45	80.35	80.21
B19_2D	Manhole	2D	75.11	79.64	79.95	79.94	79.63	79.02	80.41	80.37	80.30	80.16
B20 B20 2D	Manhole Manhole	Sealed 2D	72.06 78.57	79.27 79.94	79.98 79.99	79.96 79.97	79.50 79.59	78.95 79.27	80.76 80.73	80.66 80.64	80.51 80.54	80.36 81.05
B22	Manhole	Sealed	72.09	80.07	80.07	80.06	79.63	79.00	80.89	80.80	80.57	80.44
B24	Manhole	Sealed	72.16	80.26	80.24	80.24	79.82	79.07	81.14	81.07	80.87	80.60
B26	Manhole	Sealed	76.01	79.43	80.38	80.38	80.03	79.19	81.28	81.25	81.09	80.70
B26_2D B27	Manhole Manhole	2D Sealed	79.24 72.18	79.46 79.62	79.67 80.46	79.67 80.46	79.64 80.07	79.55 79.18	79.83 81.44	79.84 81.40	79.78 81.22	79.74 80.80
B29	Manhole	Sealed	72.10	79.19	80.64	80.64	80.28	79.30	81.70	81.67	81.52	80.96
B30	Manhole	Sealed	74.25	80.16	80.85	80.84	80.51	79.61	82.01	81.96	81.84	81.45
B30_2D	Manhole	2D	78.63	79.56	80.31	80.30	80.20	80.34	80.88	80.87	80.85	81.15
B31 B31_2D	Manhole Manhole	Sealed 2D	73.14 78.63	78.98 79.23	80.86 80.23	80.85 80.23	80.51 80.15	79.56 79.67	82.02 80.75	81.98 80.77	81.87 80.65	81.42 80.48
B32	Manhole	Sealed	72.04	80.18	80.90	80.89	80.53	79.55	82.11	82.06	81.94	81.48
B35	Manhole	Sealed	76.99	80.23	82.07	82.05	81.94	80.44	83.27	83.26	83.16	82.33
B35_2D	Manhole	2D	81.18	81.53	82.57	82.56	82.50	82.17	83.60	83.60	83.56	82.65
B36 B38	Manhole Manhole	Sealed Sealed	72.44 72.60	84.28 85.44	81.43 81.80	81.43 81.80	81.05 81.45	80.02 80.67	83.00 83.55	82.93 83.52	82.85 83.40	82.52 83.04
B39	Manhole	Sealed	74.00	84.49	81.88	81.84	81.58	80.93	83.75	83.72	83.60	83.16
B39_2D	Manhole	2D	82.97	84.51	84.98	84.98	84.98	84.81	85.35	85.35	85.34	85.12
B41	Manhole	Sealed	72.62	85.52	81.89	81.88	81.54	80.96	83.67	83.64	83.50	83.15
B45 B46	Manhole Manhole	Sealed Sealed	72.64 75.58	84.74 85.07	82.83 82.83	82.81 82.81	82.61 82.61	82.13 82.14	84.38 84.42	84.37 84.41	84.19 84.21	83.84 83.84
B46_2D	Manhole	2D	84.77	84.87	85.00	85.00	84.91	84.91	85.62	85.62	85.22	85.05
B47	Manhole	Sealed	72.69	84.98	83.08	83.05	82.88	82.44	84.57	84.57	84.40	84.08
B48	Manhole	Sealed	72.70	85.08	83.54	83.52	83.38	82.99	84.95	84.94	84.80	84.54
B49 B50	Manhole Manhole	Sealed Sealed	76.03 79.94	85.22 84.21	83.98 84.11	83.97 84.09	83.88 84.06	83.52 83.63	85.32 85.55	85.32 85.54	85.23 85.50	85.05 85.32
B50_2D	Manhole	2D	84.57	84.67	85.02	85.02	85.03	85.02	85.86	85.86	85.83	85.65
BB-END	Outfall	Sealed	0.00	72.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



						Prop	Future	Future		Prop	Future	Future
					Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID		Flood Type		Elevation	WSEL							
BM10 BM13	Manhole Manhole	Sealed Sealed	63.03 62.69	74.81 75.31	73.99 73.92	73.71 73.61	73.89 73.82	73.81 73.74	74.75 74.75	74.33 74.33	74.57 74.59	74.57 74.59
BM14	Manhole	Sealed	62.65	75.47	74.53	74.31	74.46	74.43	75.25	75.07	75.20	75.20
BM2	Manhole	Sealed	65.64	75.20	74.35	74.33	74.36	74.33	74.69	74.61	74.65	74.64
BM20	Manhole	Sealed	62.92	74.94	75.03	74.95	75.02	75.00	75.57	75.50	75.55	75.54
BM24	Manhole	Sealed	63.17	74.33	75.11	75.05	75.11 75.28	75.09	75.63	75.58	75.61	75.61
BM25 BM29	Manhole Manhole	Sealed Sealed	64.63 67.85	74.35 74.20	75.28 75.42	75.23 75.38	75.47	75.25 75.44	75.83 76.49	75.79 76.46	75.83 76.51	75.81 76.50
BM30	Manhole	Sealed	64.99	74.50	75.34	75.29	75.36	75.32	76.19	76.17	76.19	76.18
BM33	Manhole	Sealed	66.24	76.06	75.53	75.51	75.56	75.54	76.26	76.24	76.26	76.25
BM34	Manhole	Sealed	66.62	75.84	75.95	75.94	75.95	75.96	76.39	76.39	76.39	76.39
BM38	Manhole	Sealed	67.45	76.74 73.56	76.11	76.11	76.10 74.33	76.11 74.30	76.47	76.48	76.46	76.46 74.64
BM4 BM40	Manhole Manhole	Sealed Sealed	65.39 66.13	73.56	74.31 75.47	74.28 75.43	75.51	75.47	74.69 76.65	74.60 76.62	74.65 76.65	76.64
BM7	Manhole	2D	64.82	73.70	74.30	74.23	74.31	74.28	74.71	74.59	74.65	74.65
C003	Manhole	Sealed	71.05	81.05	79.88	79.88	79.85	79.31	80.53	80.53	80.51	80.45
C004	Manhole	Sealed	71.06	81.62	80.35	80.35	80.32	80.23	80.91	80.87	80.84	80.91
C005	Manhole	Sealed	71.42	80.37	80.35	80.35	80.32	80.23	80.87	80.87	80.84	80.92
C006 C006_2D	Manhole Manhole	Sealed 2D	72.39 74.51	80.13 80.21	80.25 80.26	80.25 80.26	80.32 80.34	80.21 80.22	80.73 80.72	80.73 80.72	80.82 80.82	80.81 80.80
C007	Manhole	Sealed	71.07	81.19	80.40	80.40	80.36	80.26	80.93	80.93	80.90	80.96
C008	Manhole	Sealed	72.50	80.29	80.21	80.21	80.15	79.58	80.74	80.75	80.69	80.67
C008_2D	Manhole	2D	74.66	80.21	80.22	80.22	80.16	79.58	80.75	80.75	80.69	80.68
C009	Manhole	Sealed	72.76	79.58	80.20	80.20	80.37	80.14	80.67	80.67	80.83	80.81
C009_2D C010	Manhole Manhole	2D Sealed	74.73 71.08	79.23 80.33	80.18 80.45	80.18 80.45	80.40 80.41	80.13 80.28	80.64 81.00	80.64 81.00	80.84 80.96	80.80 80.99
C010	Manhole	Sealed	71.00	78.89	80.79	80.79	80.72	80.33	81.25	81.25	81.17	81.08
C011_2D	Manhole	2D	79.92	80.02	81.17	81.17	81.11	80.81	81.63	81.63	81.55	81.51
C012	Manhole	Sealed	71.08	79.86	80.48	80.48	80.44	80.30	81.04	81.04	81.00	81.01
C013	Manhole	Sealed	76.49	79.33	80.74	80.73	80.68	80.32	81.17	81.17	81.10	80.96
C013_2D C014	Manhole Manhole	2D Sealed	79.54 77.22	79.64 80.46	80.69 80.66	80.69 80.66	80.63 80.65	80.20 80.31	81.14 80.93	81.15 80.94	81.07 80.87	80.88 80.81
C014_2D	Manhole	2D	80.29	80.56	80.63	80.63	80.62	80.42	80.90	80.90	80.83	80.78
C019	Manhole	Sealed	75.35	79.09	79.64	79.64	80.24	79.95	80.11	80.11	80.69	80.61
C019_2D	Manhole	2D	77.32	79.09	79.62	79.62	80.23	79.95	80.09	80.09	80.69	80.60
C020	Manhole	Sealed	75.33	79.11	80.50	80.50	80.48	80.32	81.07	81.06	81.05	81.03
C021	Manhole	Sealed	71.09	80.00	80.54	80.54	80.49	80.33	81.11	81.11	81.06	81.04
C022 C023	Manhole Manhole	Sealed Sealed	75.78 77.13	79.24 79.35	80.52 80.77	80.52 80.77	80.48 80.71	80.31 80.39	81.11 81.24	81.11 81.24	81.06 81.17	81.03 81.09
C023 2D	Manhole	2D	79.71	79.81	80.79	80.79	80.74	80.44	81.26	81.26	81.18	81.10
C024	Manhole	Sealed	75.81	79.59	80.17	80.17	80.11	79.84	80.62	80.63	80.55	80.49
C024_2D	Manhole	2D	77.78	79.27	80.16	80.16	80.10	79.83	80.61	80.62	80.54	80.48
C028	Manhole	Sealed	75.05	79.39	80.59	80.59	80.50	80.32	81.17	81.17	81.08	81.02
C028_2D C029	Manhole Manhole	2D Sealed	77.02 71.09	79.52 78.28	80.58 80.61	80.58 80.61	80.20 80.56	79.99 80.37	81.07 81.19	81.07 81.19	80.66 81.14	80.56 81.08
C030	Manhole	Sealed	76.14	78.64	80.54	80.54	80.50	80.27	81.12	81.12	81.08	80.98
C030_2D	Manhole	2D	78.11	78.64	80.28	80.28	80.23	79.65	80.75	80.75	80.67	80.28
C033	Manhole	Sealed	71.10	79.06	80.68	80.68	80.63	80.40	81.27	81.27	81.22	81.12
C035	Manhole	Sealed	71.14	78.72	80.77	80.77	80.71	80.45	81.38	81.38	81.32	81.17
C036 C036_2D	Manhole Manhole	Sealed 2D	73.33 78.90	77.69 79.00	80.77 81.02	80.77 81.02	80.71 80.96	80.42 80.23	81.38 81.49	81.38 81.49	81.32 81.41	81.14 80.88
C036_2D	Manhole	Sealed	75.73	78.28	80.81	80.81	80.75	80.52	81.29	81.29	81.22	81.18
C036A_2D	Manhole	2D	79.12	79.22	80.82	80.82	80.76	80.55	81.30	81.30	81.22	81.19
C037	Manhole	Sealed	71.21	78.78	80.81	80.81	80.75	80.47	81.42	81.42	81.36	81.20
C038	Manhole	Sealed	73.31	78.50	81.16	81.16	81.09	80.59	81.69	81.69	81.61	81.36
C038_2D C038A	Manhole	2D Sealed	79.14 73.93	79.24 79.17	81.26 81.27	81.26 81.27	81.20 81.20	80.59 80.72	81.73 81.81	81.73 81.81	81.65 81.73	81.22 81.53
C038A C038A_2D	Manhole Manhole	Sealed 2D	73.93	79.17	81.27	81.27	81.20	80.72	81.81	81.81	81.73	81.53
C038A_2D	Manhole	Sealed	76.70	78.61	81.27	81.27	81.21	80.94	81.74	81.74	81.66	81.58
C038B_2D	Manhole	2D	79.47	79.57	81.28	81.28	81.22	80.96	81.74	81.74	81.67	81.59
C040	Manhole	Sealed	71.27	79.14	80.91	80.91	80.85	80.53	81.55	81.54	81.48	81.27
C041	Manhole	Sealed	75.88	80.33	80.80	80.80	80.75	80.48	81.42	81.42	81.38	81.17
C041_2D	Manhole	2D Socied	79.67	79.72	80.36	80.36	80.31	80.13	80.82	80.82	80.76	80.67
C044 C044 2D	Manhole Manhole	Sealed 2D	76.32 80.57	80.07 80.67	80.96 80.80	80.96 80.80	80.90 80.79	80.58 80.77	81.46 81.24	81.46 81.24	81.42 81.17	81.27 81.21
C044_2D C045	Manhole	Sealed	71.28	79.56	80.80	80.80	80.79	80.77	81.59	81.59	81.17	81.30
	mannoid	Jourou	. 1.20	. 0.00	50.51	50.51	50.50	50.00	01.00	01.00	01.00	01.00



						Prop	Future	Future		Prop	Future	Future
					Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Node ID	Node Type	Flood Type	Flowline	Ground Elevation	10-Year WSEL	10-Year WSEL	10-Year WSEL	10-Year WSEL	100-Year WSEL	100-Year WSEL	100-Year WSEL	100-Year WSEL
C046	Manhole	Sealed	75.92	79.40	81.00	81.00	80.93	80.60	81.59	81.59	81.53	81.31
C046_2D	Manhole	2D	79.75	79.85	80.83	80.82	80.80	80.74	81.31	81.31	81.26	81.17
C047	Manhole	Sealed	71.29	79.59	81.01	81.01	80.93	80.60	81.62	81.62	81.55	81.32
C048 C048 2D	Manhole Manhole	Sealed 2D	76.20 77.67	79.09 79.09	80.90 80.47	80.90 80.47	80.85 80.45	80.36 79.88	81.45 80.97	81.45 80.97	81.39 80.89	80.92 80.18
C049	Manhole	Sealed	71.35	80.07	81.08	81.08	81.01	80.63	81.69	81.69	81.63	81.35
C051	Manhole	Sealed	71.39	79.58	81.18	81.18	81.11	80.67	81.79	81.78	81.72	81.39
C051B C051B 2D	Manhole Manhole	2D 2D	75.89 77.36	78.56 78.43	79.90 80.27	79.90 80.26	79.86 80.02	79.42 79.25	80.40 80.79	80.39 80.77	80.31 80.48	79.72 79.54
C051B_2B	Manhole	Sealed	71.53	79.18	81.37	81.37	81.31	80.75	81.98	81.98	81.92	81.48
C054	Manhole	Sealed	76.39	78.54	80.71	80.71	80.68	80.04	81.23	81.23	81.19	80.55
C054_2D	Manhole	2D	77.86 71.60	78.54 79.26	80.05	80.05	80.02	79.28	80.56	80.55	80.47 82.14	79.58
C055 C057	Manhole Manhole	Sealed Sealed	75.12	78.42	81.59 81.25	81.59 81.25	81.53 81.22	80.83 80.46	82.19 81.82	82.19 81.81	81.78	81.57 81.09
C057_2D	Manhole	2D	77.07	78.42	80.30	80.30	80.28	79.27	80.81	80.81	80.73	79.58
C060	Manhole	Sealed	73.47	78.20	81.14	81.14	81.11	80.28	81.70	81.70	81.66	80.87
C060_2D C061	Manhole Manhole	2D Sealed	78.25 71.85	78.38 79.72	80.36 81.80	80.36 81.80	80.34 81.74	79.29 80.91	80.87 82.40	80.87 82.40	80.79 82.36	79.61 81.66
C062	Manhole	Sealed	76.16	78.69	80.57	80.57	80.54	79.73	81.09	81.09	81.02	80.15
C062_2D	Manhole	2D	77.63	78.74	80.19	80.19	80.16	79.31	80.69	80.69	80.62	79.61
C063	Manhole	Sealed	73.42	81.45	82.13	82.13	82.09	81.04	82.75	82.75	82.72	81.80
C064 C064 2D	Manhole Manhole	Sealed 2D	75.46 82.18	81.79 82.28	82.13 82.30	82.13 82.30	82.09 82.30	81.04 82.30	82.66 82.46	82.66 82.46	82.67 82.45	81.81 82.38
C065	Manhole	Sealed	73.45	82.34	82.38	82.38	82.34	81.13	83.01	83.01	82.98	81.91
C066	Manhole	Sealed	73.26	82.53	82.58	82.58	82.54	81.42	83.23	83.22	83.20	82.23
C067 C068	Manhole Manhole	Sealed Sealed	73.86 79.06	82.33 81.89	82.35 82.35	82.35 82.35	82.31 82.31	81.13 81.13	82.96 82.92	82.96 82.92	82.93 82.90	81.90 81.92
C068 2D	Manhole	2D	82.30	82.40	82.46	82.46	82.46	82.56	82.80	82.80	82.80	82.75
C069	Manhole	Sealed	73.46	82.51	83.09	83.09	83.05	82.08	83.75	83.75	83.73	82.92
C070	Manhole	Sealed 2D	77.85	82.31	82.35	82.35	82.31	81.13	82.96	82.96	82.94	81.90
C070_2D C071	Manhole Manhole	Sealed	82.93 73.13	83.03 82.97	83.12 83.46	83.12 83.46	83.12 83.43	83.13 82.55	83.13 84.16	83.13 84.16	83.13 84.14	83.14 83.42
C072	Manhole	Sealed	77.79	83.85	83.46	83.46	83.43	82.55	84.16	84.16	84.14	83.42
C072_2D	Manhole	2D	83.28	83.31	83.81	83.81	83.81	83.80	84.12	84.12	84.12	84.12
C073 C073 2D	Manhole Manhole	Sealed 2D	78.50 84.01	82.67 84.11	83.55 84.67	83.55 84.67	83.52 84.67	82.61 84.51	84.33 85.08	84.33 85.08	84.31 85.08	83.54 84.80
C080	Manhole	Sealed	83.96	84.06	84.70	84.70	84.72	84.55	85.12	85.12	85.13	84.80
C080_2D	Manhole	2D	84.53	84.63	85.38	85.38	85.39	85.18	85.76	85.76	85.76	85.48
C081 C082	Manhole Manhole	Sealed Sealed	73.63 81.12	84.00 84.57	84.17 84.19	84.17 84.19	84.14 84.17	83.43 83.45	84.94 84.98	84.94 84.98	84.92 84.96	84.37 84.42
C082_2D	Manhole	2D	84.53	84.53	85.05	85.05	85.05	85.11	85.56	85.56	85.55	85.42
C083	Manhole	Sealed	73.71	84.32	84.49	84.49	84.47	83.84	85.28	85.28	85.27	84.80
C083_2D	Manhole	2D	78.68	84.45	84.98	84.98	84.98	84.61	85.47	85.47	85.47	85.00
C084 C084 2D	Manhole Manhole	Sealed 2D	79.55 81.57	84.32 84.32	85.19 85.01	85.19 85.01	85.19 85.01	85.30 85.23	85.54 85.28	85.54 85.28	85.54 85.28	85.60 85.43
C085	Manhole	Sealed	79.47	85.86	85.42	85.42	85.41	85.39	85.86	85.86	85.86	85.80
C086	Manhole	Sealed	79.37	85.26	85.81	85.81	85.81	85.90	86.16	86.16	86.16	86.20
C086_2D C088	Manhole Manhole	2D Sealed	81.57 79.48	85.35 85.35	85.81 84.97	85.81 84.97	85.81 84.96	86.00 84.42	86.11 85.62	86.11 85.62	86.11 85.62	86.22 85.39
C088 2D	Manhole	2D	80.95	85.21	85.16	85.16	85.14	84.63	85.66	85.66	85.66	85.58
C089	Manhole	Sealed	73.90	84.71	84.73	84.73	84.72	84.15	85.58	85.58	85.57	85.15
C090	Manhole	Sealed	82.59	86.06	84.75	84.75	84.73	84.16	85.60	85.60	85.60	85.20
C090_2D C092	Manhole Manhole	2D Sealed	86.31 74.05	86.41 86.71	86.55 85.28	86.55 85.28	86.55 85.27	86.57 84.82	86.61 86.27	86.61 86.27	86.61 86.27	86.66 85.96
C092A	Manhole	Sealed	74.01	85.94	85.04	85.04	85.03	84.53	85.97	85.97	85.96	85.60
C092B	Manhole	Sealed	76.70	86.67	85.05	85.05	85.03	84.53	85.97	85.97	85.97	85.61
C092B_2D C093	Manhole Manhole	2D Sealed	86.97 85.01	87.07 86.41	87.14 85.37	87.14 85.37	87.14 85.40	87.14 85.28	87.17 86.60	87.17 86.59	87.17 86.62	87.21 86.38
C093_2D	Manhole	2D	87.32	87.42	87.62	87.62	87.62	87.62	87.83	87.83	87.83	87.84
C094	Manhole	Sealed	77.02	86.52	85.32	85.32	85.31	84.87	86.54	86.54	86.56	86.32
C095	Manhole	Sealed	83.90	86.62	85.34	85.34	85.34	84.91	86.78	86.78	86.81	86.66
C095_2D C096	Manhole Manhole	2D Sealed	87.42 83.46	87.52 86.11	87.71 86.35	87.71 86.35	87.71 86.35	87.74 86.06	87.98 87.58	87.98 87.58	87.98 87.58	88.09 87.53
C096_2D	Manhole	2D	87.05	87.15	87.59	87.59	87.59	87.60	88.13	88.13	88.13	88.17
C097	Manhole	Sealed	77.24	86.64	86.24	86.24	86.23	85.92	87.40	87.40	87.40	87.32
C098	Manhole	Sealed	83.54	86.52	86.25	86.25	86.24	85.94	87.61	87.61	87.61	87.58



		1				Б	F (F		B	F	F (]
					Exist	Prop Phase 1	Future Phase 2	Future Phase 3	Exist	Prop Phase 1	Future Phase 2	Future Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year			100-Year	100-Year
Node ID	Node Type	Flood Type	Elevation	Elevation	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL
C098_2D	Manhole	2D	87.27	87.37	87.51	87.51	87.51	87.50	87.95	87.95	87.95	88.02
C099 C103	Manhole Manhole	Sealed Sealed	84.10 84.36	87.23 87.76	86.25 86.26	86.25 86.26	86.25 86.25	85.94 85.94	87.42 87.43	87.42 87.43	87.42 87.43	87.33 87.33
C103 C103 2D	Manhole	2D	87.94	88.04	88.13	88.13	88.13	88.13	88.18	88.18	88.18	88.18
CP03	Manhole	2D	67.39	74.41	74.70	74.67	74.71	74.70	75.10	75.01	75.03	75.03
CP04	Manhole	2D	67.44	73.50	74.63	74.59	74.64	74.62	75.11	74.98	75.00	75.00
CP06	Manhole	2D	67.43	73.72	74.70	74.68	74.72	74.70	75.14	75.05	75.07	75.07
CP07 CP10	Manhole Manhole	2D 2D	67.43 66.24	74.23 74.17	74.81 74.59	74.79 74.57	74.83 74.61	74.81 74.59	75.28 75.00	75.19 74.90	75.21 74.92	75.20 74.92
CP114	Manhole	2D	66.45	73.91	74.38	74.37	74.01	74.38	74.74	74.90	74.73	74.74
CP16	Manhole	2D	66.76	73.27	74.48	74.46	74.50	74.46	74.85	74.80	74.82	74.81
CP17	Manhole	2D	67.00	73.99	75.36	75.27	75.36	75.33	75.92	75.87	75.91	75.90
CP18	Manhole	2D	67.00	74.18	75.04	74.94	75.04	74.96	75.61	75.55	75.59	75.52
CP20 CP22	Manhole Manhole	2D 2D	67.77 68.78	75.03 73.94	75.54 75.29	75.54 75.25	75.54 75.28	75.55 75.24	75.79 75.78	75.79 75.75	75.80 75.80	75.81 75.74
CP24	Manhole	2D	69.00	75.30	75.52	75.52	75.53	75.50	75.76	75.73	75.89	75.84
CP25	Manhole	2D	69.00	73.63	74.70	74.68	74.69	74.68	75.11	75.06	75.09	75.08
CP27	Manhole	2D	69.20	74.36	74.86	74.84	74.86	74.87	75.30	75.25	75.28	75.29
CP28 CP33	Manhole Manhole	2D 2D	69.20 67.88	74.19 75.24	75.20 75.34	75.18 75.33	75.20 75.36	75.20 75.35	75.64 75.60	75.59 75.55	75.62 75.61	75.63 75.59
	Manhole	2D 2D	67.88	76.13	75.40	75.33	75.43	75.43	76.02	75.55	76.03	76.03
CPM1	Manhole	Sealed	63.17	74.13	75.04	74.94	75.04	74.97	75.66	75.57	75.65	75.62
CPM11	Manhole	Sealed	65.15	74.76	74.70	74.68	74.72	74.70	75.12	75.05	75.07	75.06
CPM12	Manhole	2D	66.37	75.09	74.80	74.79	74.83	74.80	75.20	75.19	75.19	75.19
CPM13 CPM15	Manhole Manhole	Sealed Sealed	65.53 66.56	73.80 73.42	74.50 74.49	74.48 74.47	74.52 74.51	74.49 74.48	74.88 74.86	74.84 74.81	74.86 74.83	74.85 74.82
CPM19	Manhole	2D	64.36	74.60	75.36	75.29	75.34	75.32	75.89	75.84	75.86	75.85
CPM2	Manhole	Sealed	64.04	73.45	74.63	74.58	74.64	74.62	75.11	74.96	75.00	75.00
CPM21	Manhole	2D	64.54	74.61	75.36	75.31	75.36	75.35	75.90	75.85	75.88	75.88
CPM23	Manhole	Sealed	65.05	74.65	75.32	75.29	75.34	75.32	75.80	75.76	75.81	75.79
CPM26 CPM29	Manhole Manhole	Sealed Sealed	65.41 65.57	74.79 75.59	75.32 75.47	75.28 75.47	75.34 75.48	75.32 75.49	75.79 75.85	75.76 75.83	75.80 75.87	75.78 75.86
CPM30	Manhole	2D	66.31	75.01	75.39	75.38	75.40	75.38	75.85	75.83	75.86	75.84
CPM31	Manhole	2D	65.68	74.20	76.00	76.00	76.00	76.05	76.28	76.27	76.28	76.33
CPM32	Manhole	2D	65.93	75.15	75.36	75.34	75.42	75.39	75.78	75.73	75.87	75.84
CPM34 CPM5	Manhole Manhole	2D Sealed	66.58 64.46	74.84 73.78	75.40 74.71	75.37 74.68	75.43 74.73	75.43 74.70	75.94 75.14	75.85 75.05	75.94 75.07	75.96 75.07
CPM8	Manhole	Sealed	64.63	74.23	74.71	74.69	74.73	74.70	75.14	75.05	75.07	75.07
CPM9	Manhole	2D	64.94	74.07	74.71	74.69	74.73	74.71	75.14	75.05	75.07	75.07
D02	Manhole	Sealed	76.68	83.64	82.93	82.93	82.90	82.01	83.61	83.61	83.60	83.09
D02_2D	Manhole	2D	79.27	83.64	83.29	83.28	83.26	82.37	83.86	83.86	83.86	83.78
D03 D04	Manhole Manhole	Sealed Sealed	73.41 76.68	82.80 82.34	82.88 82.84	82.88 82.84	82.85 82.81	81.96 81.97	83.58 83.43	83.58 83.43	83.56 83.42	83.00 83.01
D04_2D	Manhole	2D	79.27	82.34	82.70	82.70	82.69	82.01	82.95	82.95	82.95	83.05
D05	Manhole	Sealed	76.62	80.86	81.98	81.98	81.96	81.05	82.47	82.47	82.46	81.66
D05_2D	Manhole	2D	78.59	80.63	80.93	80.93	80.93	80.85	81.01	81.01	81.01	80.97
D06 D07	Manhole Manhole	Sealed Sealed	73.97 76.62	79.35 79.95	82.23 81.87	82.23 81.87	82.19 81.85	81.09 80.96	82.82 82.40	82.82 82.40	82.79 82.38	81.82 81.60
D07 2D	Manhole	2D	77.68	79.95	80.61	80.61	80.60	80.51	81.03	81.03	80.96	80.83
	Manhole	Sealed	75.49	79.64	80.46	80.46	80.34	80.06	81.02	81.03	80.93	80.73
D08_2D	Manhole	2D	78.97	79.64	80.43	80.43	80.34	80.08	80.96	80.97	80.88	80.67
D09	Manhole	Sealed	73.76	78.98	80.47	80.47	80.34	80.06	81.04	81.04	80.95	80.74
D10 D10_2D	Manhole Manhole	Sealed 2D	75.49 78.97	79.32 79.49	80.48 80.58	80.48 80.58	80.36 80.49	80.09 80.33	81.05 81.11	81.05 81.12	80.96 81.03	80.76 80.92
D10_2D	Manhole	Sealed	73.99	79.49	80.41	80.40	80.24	79.85	80.98	80.98	80.89	80.67
D11_2D	Manhole	2D	76.46	79.16	80.26	80.26	80.17	79.89	80.78	80.79	80.70	80.49
D12	Manhole	Sealed	73.68	78.31	80.45	80.45	80.26	79.84	81.04	81.04	80.95	80.73
D13 D13_2D	Manhole Manhole	Sealed 2D	74.68 78.97	79.36	80.32 79.81	80.32 79.80	80.15 79.72	79.63 79.45	80.92 80.32	80.92 80.33	80.82 80.23	80.59 80.01
	Manhole Manhole	Sealed	78.97	78.98 78.12	80.47	80.46	80.27	79.45	80.32	81.08	80.23	80.01
D15	Manhole	Sealed	73.99	78.26	80.47	80.47	80.28	79.73	81.08	81.08	80.98	80.75
D15_2D	Manhole	2D	78.97	79.07	80.53	80.52	80.44	80.23	81.05	81.06	80.96	80.81
D16	Manhole	Sealed	73.46	78.97	80.58	80.57	80.27	79.46	81.44	81.41	81.29	80.87
D17 D18	Manhole Manhole	Sealed Sealed	73.40 73.43	78.41 77.61	80.46 80.16	80.45 80.15	80.19 80.04	79.36 79.46	81.33 80.73	81.31 80.73	81.18 80.62	80.75 80.41
E0	Manhole	Sealed	73.43	81.20	75.40	75.40	75.40	79.46	76.01	76.00	76.00	75.99
_~	mannoic	Journa	70.01	01.20	, 0.70	70.70	, 0.70	, 0.70	70.01	10.00	70.00	10.00



Node D								T = .				T = .	1
Node ID Node Type Flood Type						Eviet	Prop	Future	Future	Eviet	Prop	Future	Future
Node ID Node Type Flood Type Elevation Elevation West W				Flowline	Ground								100-Year
EGG 2D Manchole 2D 97.64 87.74 88.20 88.20 88.20 88.20 88.68 88.68 88.68 88.66 86.65	Node ID	Node Type	Flood Type										
EGG	E04												
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Egg													
E13	_												
E14 Manhole 2D 78.19 81.23 81.93 81.94 81.93 81.93 82.38 82.39 82.38 E17 Manhole 2D 77.68 81.48 81.72 81.72 81.72 81.72 81.72 81.72 81.72 81.72 81.72 81.72 81.72 81.72 81.72 81.72 81.72 81.73 81.83 81.98 81.88 81.8	E1												
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E21 Manhole 2D													
E22	E2												
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ES Manhole 2D 79.22 81.12 79.04 79.06 79.06 79.06 79.06 79.04 79.41 79.41 79.41 E8 E8 Manhole 2D 77.96 80.85 80.73 80.73 80.74 80.73 81.76 81.17 81.17 81.76 81.77 81.78 81.88 8													
EMIT	E5		2D	78.22	81.12	79.04	79.04	79.06	79.06	79.40	79.40	79.41	79.41
EMI10 Manhole Sealed 71.76 82.45 80.16 80.16 80.15 80.14 80.96 80.94 80.93 80.93 80.93 EMI11 Manhole Sealed 73.15 82.49 81.34 81.34 81.34 81.34 81.34 81.34 81.33 81.84	E8												
EMI1 Manhole Sealed 73.15 82.49 81.34 81.34 81.34 81.34 81.33 81.84 81.84 81.83 81.83 81.83 81.85 81.85 81.55 81.25 81.25 81.25 81.24 81.24 81.24 81.49 81.79 81.79 81.78 81.78 81.79 81.79 81.78 81.78 81.79 81.79 81.78 81.78 81.79 81.79 81.78 81.78 81.79 81.78 81.78 81.79 81.79 81.78 81.78 81.79 81.78 81.78 81.79 81.78 81.78 81.79 81.78 81.78 81.79 81.78 81.78 81.79 81.78 81.78 81.79 81.78 81.78 81.78 81.79 81.78 81.89 81.8													
EM12 Manhole Sealed 72.27 82.85 81.25 81.25 81.24 81.24 81.79 81.79 81.78 81.78 EM15 EM15 Manhole Sealed 73.43 81.94 81.44 81.44 81.44 81.44 81.44 81.89 81.89 81.88 81.88 EM18 Manhole Sealed 73.80 82.80 81.45 81.44 81.44 81.43 81.89 81.89 81.89 81.88 81.88 EM20 Manhole Sealed 75.85 81.26 81.36 81.36 81.36 81.35 81.78 81.89 81.89 81.89 81.88 EM23 Manhole Sealed 75.45 81.26 81.36 81.36 81.36 81.36 81.35 81.78 81.79 81.													
EM15 Manhole Sealed 73.43 81.94 81.44 81.44 81.44 81.43 81.49 81.89 81.89 81.88 81.88 EM20 Manhole Sealed 73.92 81.34 81.45 81.44 81.44 81.43 81.49 81.89 81.88 81.88 81.88 EM20 Manhole Sealed 73.92 81.34 81.45 81.44 81.44 81.43 81.89 81.89 81.88 81.88 81.88 EM23 Manhole Sealed 76.97 80.58 81.29 81.28	EM12												
EMZ3 Manhole Saeled 73.92 81.34 81.45 81.44 81.44 81.44 81.43 81.39 81.89 81.88 81.88 EMZ3 Manhole Saeled 76.45 81.26 81.36 81	EM15		Sealed	73.43	81.94		81.44	81.44	81.43	81.89		81.88	
EMZ3 Manhole Sealed 75.45 81.26 81.36 81.36 81.36 81.35 81.78 81.78 81.77 81.76 EMZ4 Manhole Sealed 76.97 80.58 81.29 81.29 81.28 81.28 81.27 81.66 81.66 81.66 81.66 81.66 EM3 Manhole Sealed 71.11 81.69 77.22 77.22 77.22 77.22 77.20 78.30 78.28 78.28 78.28 EMG Manhole Sealed 71.30 82.71 78.05 78.05 78.05 78.05 79.06 79.06 79.06 79.04 EMZ Manhole Sealed 71.50 82.70 80.00 80.00 97.99 99.08 80.85 80.83 80.81 80.81 FI Manhole Sealed 71.67 82.50 80.00 80.00 79.99 79.98 80.85 80.83 80.81 80.81 FI Manhole Sealed 71.67 82.50 80.00 80.00 80.00 79.99 79.98 80.85 80.83 80.81 80.81 80.81 FI Manhole Sealed 71.67 82.50 80.00 80.00 80.00 79.99 80.85 80.83 80.81 80.81 80.81 FI Manhole Sealed 71.00 82.70 80.00 80.00 80.00 80.00 79.99 80.85 80.83 80.81 80.81 80.81 FI Manhole Sealed 65.30 75.04 88.39 88.39 88.39 88.39 71.35 71.35 71.35 71.35 71.35 FI MILLION SEALED FI MANHOLE SEALED	EM18												
EMZ4 Manhole Sealed 76.97 80.58 81.29 81.28 81.27 81.66 81.66 81.66 81.64 EM3 Manhole Sealed 71.11 81.69 77.22 77.22 77.22 77.22 77.22 76.30 78.28 78.28 78.28 EM6 Manhole Sealed 71.30 82.71 78.05 78.05 78.05 78.05 79.06 79.05 79.04 79.04 79.04 EM7 Manhole Delta Manhole Sealed 71.67 82.50 80.00 80.00 79.99 79.98 80.85 80.83 80.81 80.81 80.81 F1 Manhole Delta Manhol													
EMS Manhole Sealed 71.11 B1 69 77.22 77.22 77.22 77.22 77.22 77.22 78.30 78.28 78.28 78.28 EM6 Manhole Sealed 71.30 82.71 78.05 78.05 78.05 79.06 79.05 79.04 79.04 79.04 FMT Manhole Sealed 71.67 82.50 80.00 80.00 79.99 80.85 80.83 80.81 80.81 80.81 80.81 FMT Manhole Sealed 71.67 82.50 80.00 80.00 79.99 80.85 80.83 80.81 80.82 80.82 80.82 72.65 72.75 72.75 72.75 72.75 72.75 72.75 72.75 72.75 72.75 72.75 72.75 72.75 72.75 72													
EMB Manhole Sealed 71.90 82.71 78.05 78.05 78.05 79.05 79.05 79.04 79.04 Pg.04													
F1 Manhole													
F2 Manhole 2D													
F3 Manhole 2D 65.40 75.14 88.15 68.15 68.15 68.15 70.62 70.62 70.63 70.63 F4OUT Outfall Sealed 65.30 73.20 0.00 0.00 0.00 0.00 0.00 0.00 0.00													
FAQUT Outfall Sealed 65.30 73.20 0.00 0.00 0.00 0.00 0.00 0.00 0.00													
G2 Manhole D 65.20 72.08 68.93 68.94 68.94 72.15 72.15 72.15 72.15 GMO1 Manhole Sealed 63.80 71.19 68.32 68.33 68.33 70.53 70.53 70.53 70.53 Manhole D 63.85 74.40 74.84 74.49 74.75 74.69 75.71 75.25 75.51 75.54 75.54 GM3 Manhole D 63.85 74.40 74.84 74.49 74.75 74.69 75.71 75.25 75.51 75.54 GM3 Manhole D 63.85 72.04 68.78 68.78 68.79 68.79 71.40 71.40 71.40 71.39 GM4 Manhole D 64.00 73.18 69.81 69.81 69.82 72.65 72.65 72.65 72.65 72.65 Manhole D 64.00 73.18 69.81 69.81 69.82 72.65 72.65 72.65 72.65 72.64 68.78 Manhole D 64.00 72.17 70.51 70.51 70.52 70.52 73.17 73.17 73.17 73.16 GM6 Manhole D 64.00 72.38 70.59 70.50 70.59 70.50 73.24 73.24 73.24 73.24 GM7 Manhole D 64.60 73.16 70.59 70.59 70.60 70.60 73.24 73.24 73.24 73.24 73.24 73.24 73.24 Manhole D 64.60 73.16 70.59 70.59 70.60 70.60 73.24 73.24 73.24 73.29 Manhole D 72.05 72.45 72.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	_												
GM1 Manhole 2D 63.85 74.40 74.84 74.49 74.75 74.69 75.71 75.25 75.51 75.54 GM3 Manhole 2D 63.85 72.04 68.78 68.78 68.79 68.79 71.40 71.40 71.40 71.30 GM4 Manhole 2D 64.00 73.18 69.81 69.81 69.82 69.82 72.65 72.65 72.65 72.65 72.65 GM5 Manhole 2D 64.00 72.17 70.51 70.51 70.52 70.52 70.52 73.17 73.17 73.17 73.16 GM6 Manhole 2D 64.40 72.38 70.56 70.56 70.58 70.58 70.58 73.17 73.17 73.17 73.16 GM6 Manhole 2D 64.60 73.16 70.59 70.59 70.60 70.60 73.24	G2		2D				68.93	68.94			72.15	72.15	
GM3 Manhole 2D 63.85 72.04 68.78 68.78 68.79 71.40 71.40 71.40 71.39 GM4 Manhole 2D 64.00 73.18 69.81 69.81 69.82 72.65 70.50 70.50 70.50 70.58 70.58 73.17 <td></td>													
GM4 Manhole 2D 64.00 73.18 69.81 69.81 69.82 69.82 72.65 72.65 72.64 GM5 Manhole 2D 64.30 72.17 70.51 70.51 70.52 70.52 73.17 73.18 73.22 70.60 70.60 70.60 70.60 70.60 70.60 70.60 70.60 70.60 70.60 70.60 70.60 70.60 70.17 73.11 73.16 <td></td>													
GM5 Manhole 2D 64.30 72.17 70.51 70.51 70.52 70.52 73.17 73.17 73.17 73.16 GM6 Manhole 2D 64.40 72.38 70.56 70.58 70.58 70.58 73.17 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.24 73.23 73.17 73.17 73.17 73.17 73.17 73.17 73.17 73.17 73.17 73.17 73.24 73.22 <td></td>													
GM6 Manhole 2D 64.40 72.38 70.56 70.56 70.58 70.51 73.17 73.17 73.17 73.17 73.17 73.16 GM7 Manhole 2D 64.60 73.16 70.59 70.60 70.60 73.24 <td></td>													
GOUT Outfall Sealed 63.50 72.45 0.00	GM6	Manhole											
H1													
H2													
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IH-10_JUNCTION_E116 Manhole 2D 70.61 80.56 79.52 79.51 79.47 78.55 80.22 80.21 80.17 80.01 IH-10_MH_C1									_				
H-10_MH_C107 Manhole 2D 70.92 79.27 79.80 79.79 79.77 79.16 80.46 80.46 80.44 80.36 H-10_MH_C121 Manhole 2D 70.69 79.54 79.67 79.66 79.63 78.83 80.37 80.37 80.35 80.24 H-10_MH_C2A Manhole Sealed 71.07 79.60 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_C7 Manhole 2D 70.78 79.30 79.72 79.71 79.68 78.96 80.41 80.41 80.39 80.47 H-10_MH_WD13 Manhole Sealed 70.92 79.81 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD19 Manhole Sealed 71.04 81.03 79.53 79.52 79.48 78.48 80.26 80.26 80.24 80.07 H-10_MH_WD20A Manhole Sealed 71.88 79.24 79.76 79.76 79.73 79.02 80.49 80.49 80.48 80.38 H-10_MH_WD35 Manhole Sealed 70.89 77.62 79.52 79.52 79.48 78.48 80.26 80.26 80.24 80.07 H-10_MH_WD35 Manhole Sealed 71.60 78.92 79.76 79.76 79.73 79.02 80.49 80.49 80.48 80.38 H-10_MH_WD4 Manhole Sealed 71.60 78.92 79.76 79.76 79.73 79.01 80.49 80.49 80.48 80.38 H-10_MH_WD6 Manhole Sealed 71.51 79.40 79.76 79.76 79.73 79.01 80.49 80.49 80.48 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.48 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.48 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 M													
H-10_MH_C121 Manhole 2D 70.69 79.54 79.67 79.66 79.63 78.83 80.37 80.37 80.35 80.24 H-10_MH_C2A Manhole Sealed 71.07 79.60 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_C7 Manhole 2D 70.78 79.30 79.72 79.71 79.68 78.96 80.41 80.41 80.39 80.47 H-10_MH_WD13 Manhole Sealed 70.92 79.81 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD19 Manhole Sealed 71.04 81.03 79.53 79.52 79.48 78.48 80.26 80.26 80.24 80.07 H-10_MH_WD20A Manhole Sealed 71.88 79.24 79.76 79.76 79.73 79.02 80.49 80.49 80.48 80.38 H-10_MH_WD3 Manhole Sealed 72.07 81.05 79.76 79.76 79.73 79.02 80.49 80.49 80.48 80.38 H-10_MH_WD35 Manhole Sealed 70.89 77.62 79.52 79.52 79.48 78.48 80.26 80.26 80.24 80.07 H-10_MH_WD4 Manhole Sealed 71.60 78.92 79.76 79.76 79.73 79.01 80.49 80.49 80.48 80.38 H-10_MH_WD6 Manhole Sealed 71.51 79.40 79.76 79.76 79.73 79.01 80.49 80.49 80.48 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.48 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.													
H-10_MH_C7										80.37			
H-10_MH_WD13 Manhole Sealed 70.92 79.81 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 R-10_MH_WD19 Manhole Sealed 71.04 81.03 79.53 79.52 79.48 78.48 80.26 80.26 80.24 80.07 R-10_MH_WD20A Manhole Sealed 71.88 79.24 79.76 79.76 79.73 79.02 80.49 80.49 80.48 80.38 R-10_MH_WD3 Manhole Sealed 72.07 81.05 79.76 79.76 79.73 79.02 80.49 80.49 80.48 80.38 R-10_MH_WD35 Manhole Sealed 70.89 77.62 79.52 79.52 79.48 78.48 80.26 80.26 80.24 80.07 R-10_MH_WD4 Manhole Sealed 71.60 78.92 79.76 79.76 79.73 79.01 80.49 80.49 80.48 80.38 R-10_MH_WD6 Manhole Sealed 71.51 79.40 79.76 79.76 79.73 79.01 80.49 80.49 80.48 80.38 R-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 R-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 R-10_MH_WD7 Manhole 2D 62.75 71.65 72.70 72.68 72.70 72.60 73.58 73.42 73.52 73.44 R-10_MH_MD6 R-1													
H-10_MH_WD19													
H-10_MH_WD20A Manhole Sealed 71.88 79.24 79.76 79.76 79.73 79.02 80.49 80.49 80.48 80.38 H-10_MH_WD3 Manhole Sealed 72.07 81.05 79.76 79.76 79.73 79.02 80.49 80.49 80.48 80.38 H-10_MH_WD35 Manhole Sealed 70.89 77.62 79.52 79.52 79.48 78.48 80.26 80.26 80.24 80.07 H-10_MH_WD4 Manhole Sealed 71.60 78.92 79.76 79.76 79.73 79.01 80.49 80.49 80.48 80.38 H-10_MH_WD6 Manhole Sealed 71.51 79.40 79.76 79.76 79.73 79.01 80.49 80.49 80.48 80.38 H-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 H-10_MH_WD7 Manhole 2D 62.75 71.65 72.70 72.68 72.70 72.60 73.58 73.42 73.52 73.44 73.83 73.24 73.35 73.34 73.37 73.32 73.80 73.76 73.84 73.83 73.83 73.83 73.83 73.84 73.83 73.85 73.84 73.83 73.85 73.84 73.83 73.85 73.84 73.85 73.84 73.85 73.84 73.85 73.84 73.85 73.84 73.85 73.84 73.85 73.85 73.85 73.86													
H-10_MH_WD3													
IH-10_MH_WD4 Manhole Sealed 71.60 78.92 79.76 79.76 79.73 79.01 80.49 80.49 80.48 80.38 IH-10_MH_WD6 Manhole Sealed 71.51 79.40 79.76 79.76 79.73 79.01 80.49 80.49 80.48 80.38 IH-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 J1 Manhole 2D 62.75 71.65 72.70 72.68 72.70 72.60 73.58 73.42 73.52 73.44 J2 Manhole Sealed 62.75 72.99 73.35 73.34 73.37 73.32 73.80 73.76 73.84 73.83	IH-10_MH_WD3												
IH-10_MH_WD6 Manhole Sealed 71.51 79.40 79.76 79.76 79.73 79.01 80.49 80.49 80.48 80.38 IH-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 J1 Manhole 2D 62.75 71.65 72.70 72.68 72.70 72.60 73.58 73.42 73.52 73.44 J2 Manhole Sealed 62.75 72.99 73.35 73.34 73.37 73.32 73.80 73.76 73.84 73.83													
IH-10_MH_WD7 Manhole Sealed 71.31 78.31 79.76 79.75 79.72 79.00 80.49 80.49 80.47 80.38 J1 Manhole 2D 62.75 71.65 72.70 72.68 72.70 72.60 73.58 73.42 73.52 73.44 J2 Manhole Sealed 62.75 72.99 73.35 73.34 73.37 73.32 73.80 73.76 73.84 73.83													
J1 Manhole 2D 62.75 71.65 72.70 72.68 72.70 72.60 73.58 73.42 73.52 73.44 J2 Manhole Sealed 62.75 72.99 73.35 73.34 73.37 73.32 73.80 73.76 73.84 73.83													
J2 Manhole Sealed 62.75 72.99 73.35 73.34 73.37 73.32 73.80 73.76 73.84 73.83													
	J2												
	J3												



	1					Dran	Future	l Futura		Dron	F. 141.180	F. H. WA
					Exist	Prop Phase 1	Phase 2	Future Phase 3	Exist	Prop Phase 1	Future Phase 2	Future Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year	100-Year		100-Year	100-Year
Node ID	, ,		Elevation	Elevation	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL
L01 L03	Manhole Manhole	2D 2D	70.29 70.29	75.00 74.05	74.38 74.35	74.36 74.33	74.39 74.36	74.36 74.33	74.75 74.60	74.69 74.53	74.73 74.55	74.72 74.54
L06	Manhole	2D	67.81	73.15	74.14	74.11	74.16	74.13	74.51	74.46	74.48	74.47
L08	Manhole	2D	70.45	73.51	74.11	73.79	73.93	73.85	74.58	74.36	74.46	74.45
L09	Manhole	2D	70.45	73.29	74.16	73.73	73.95	73.90	74.83	74.33	74.60	74.59
L11 L12	Manhole Manhole	2D 2D	70.65 70.65	74.13 74.40	73.92 73.93	73.62 73.65	73.82 73.86	73.74 73.78	74.81 74.86	74.33 74.48	74.59 74.72	74.61 74.72
L15	Manhole	2D	71.93	74.53	75.20	75.18	75.20	75.17	75.72	75.69	75.72	75.69
L16	Manhole	2D	71.05	74.06	75.34	75.29	75.34	75.28	75.87	75.82	75.85	75.80
L19 L21	Manhole Manhole	2D 2D	70.54 70.54	74.67 73.62	75.19 75.06	75.14 75.02	75.19 75.06	75.18 75.04	75.70 75.57	75.66 75.53	75.69 75.56	75.69 75.55
L22	Manhole	2D	70.34	73.02	75.31	75.02	75.32	75.30	75.82	75.78	75.81	75.81
L23	Manhole	2D	70.00	73.51	75.12	75.07	75.12	75.10	75.62	75.58	75.61	75.61
L26	Manhole	2D	71.66	75.21	75.46	75.41	75.46	75.43	75.99	75.95	75.98	75.97
L27 L35	Manhole Manhole	2D 2D	71.66 71.22	74.11 74.70	75.24 75.57	75.20 75.57	75.24 75.57	75.21 75.59	75.74 75.90	75.70 75.90	75.73 75.91	75.71 75.91
L36	Manhole	2D	71.22	76.29	76.56	76.56	76.56	76.57	76.88	76.88	76.88	76.89
L37	Manhole	2D	73.84	75.49	75.88	75.89	75.88	75.88	76.21	76.23	76.22	76.21
L39	Manhole	2D	73.98	76.02	76.39	76.39	76.39	76.40	76.73	76.73	76.74	76.74
LB001 M01	Manhole Manhole	2D Sealed	75.21 59.09	75.93 71.79	76.51 67.50	76.46 67.50	76.58 67.54	76.54 67.54	77.64 70.48	77.48 70.21	77.60 70.33	77.59 70.33
M03	Manhole	2D	67.00	71.79	67.66	67.66	67.69	67.69	70.46	70.21	70.33	70.33
M04	Manhole	2D	67.00	71.83	68.95	68.95	68.95	68.95	71.98	71.88	71.93	71.94
M06	Manhole	2D	66.60	71.69	68.43	68.43	68.43	68.43	71.64	71.38	71.50	71.50
M07 M09	Manhole Manhole	2D 2D	66.60 64.60	71.53 72.04	67.58 67.66	67.58 67.66	67.61 67.70	67.61 67.70	70.65 71.02	70.40 70.76	70.51 70.88	70.51 70.88
M10	Manhole	2D	64.60	72.68	67.50	67.50	67.54	67.54	70.53	70.27	70.38	70.38
M12	Manhole	2D	64.70	72.42	67.79	67.79	67.83	67.83	71.36	71.10	71.22	71.22
M13	Manhole	2D	64.70	72.45	67.50	67.50	67.54	67.54	70.53	70.28	70.39	70.39
M16 M18	Manhole Manhole	2D 2D	65.70 65.70	72.91 72.74	67.47 67.48	67.47 67.48	67.51 67.52	67.51 67.52	70.44 70.48	70.19 70.22	70.30 70.34	70.30 70.34
M20	Manhole	2D	64.00	71.81	67.46	67.46	67.50	67.50	70.41	70.16	70.27	70.27
M21	Manhole	2D	64.00	72.07	67.47	67.47	67.51	67.51	70.41	70.16	70.27	70.27
M23 M24	Manhole Manhole	2D 2D	65.00 65.00	71.25 72.22	67.47 67.46	67.47 67.46	67.50 67.50	67.50 67.50	70.42 70.40	70.16 70.14	70.27 70.25	70.27 70.25
MM11	Manhole	Sealed	57.50	72.73	67.48	67.48	67.52	67.52	70.45	70.14	70.23	70.23
MM14	Manhole	Sealed	57.08	72.69	67.47	67.47	67.51	67.51	70.42	70.16	70.27	70.27
MM15	Manhole	2D	60.78	72.19	67.47	67.47	67.51	67.51	70.44	70.19	70.30	70.30
MM17 MM19	Manhole Manhole	2D Sealed	62.87 56.90	72.95 72.35	67.48 67.46	67.48 67.46	67.52 67.50	67.52 67.50	70.47 70.40	70.22 70.14	70.33 70.25	70.33 70.25
MM2	Manhole	Sealed	58.81	71.89	67.50	67.50	67.54	67.54	70.47	70.14	70.33	70.33
MM22	Manhole	Sealed	56.81	72.03	67.46	67.46	67.50	67.50	70.38	70.13	70.24	70.23
MM25 MM5	Manhole Manhole	Sealed Sealed	56.51 58.05	72.42 72.20	67.45 67.49	67.45 67.49	67.49 67.53	67.49 67.53	70.35 70.47	70.10 70.21	70.20 70.33	70.20 70.33
MM8	Manhole	Sealed	57.85	72.20	67.49	67.48	67.52	67.52	70.47	70.21	70.33	70.33
MOUT	Outfall	Sealed	63.89	72.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MX1	Manhole	Sealed	60.35	71.97	69.62	69.46	69.56	69.51	70.27	69.96	70.12	70.12
MX2 N02	Manhole Manhole	Sealed 2D	61.83 66.25	71.97 71.42	67.50 70.56	67.50 70.42	67.54 70.55	67.54 70.50	70.46 71.66	70.18 71.62	70.31 71.64	70.30 71.64
N03	Manhole	2D 2D	65.90	70.03	70.09	69.94	70.08	70.03	70.83	70.65	70.74	70.73
N06	Manhole	2D	66.40	71.51	71.52	71.38	71.51	71.47	72.15	72.13	72.14	72.14
N07	Manhole	2D	65.60	70.70	70.43	70.28	70.42	70.37	71.65	71.59	71.62	71.63
N09 N10	Manhole Manhole	2D 2D	66.50 67.50	72.40 72.63	70.71 70.74	70.58 70.61	70.71 70.74	70.66 70.69	72.07 72.14	71.91 71.98	72.00 72.06	71.99 72.06
N13	Manhole	2D	73.60	73.70	74.34	74.34	74.34	74.31	74.41	74.41	74.41	74.38
N14	Manhole	2D	68.30	73.05	71.09	70.98	71.10	71.05	72.59	72.46	72.55	72.52
N16	Manhole	2D	68.60	73.39	71.39	71.28	71.40	71.36	72.92	72.81	72.90	72.88
N17 N19	Manhole Manhole	2D 2D	68.60 67.00	73.59 73.45	71.39 73.02	71.29 72.94	71.40 73.09	71.36 73.02	72.84 73.77	72.73 73.74	72.82 73.77	72.80 73.75
N20	Manhole	2D	66.90	72.90	73.02	72.93	73.08	73.02	73.68	73.67	73.69	73.67
N21	Manhole	2D	67.22	73.51	71.55	71.45	71.57	71.54	73.31	73.21	73.32	73.30
N22	Manhole	2D	67.12	73.22	71.55	71.45	71.57	71.53	73.24	73.14	73.24	73.23
N24 N25	Manhole Manhole	2D 2D	66.10 66.50	73.83 72.52	72.58 73.21	72.53 73.21	72.60 73.21	72.61 73.29	73.72 73.57	73.63 73.56	73.71 73.57	73.72 73.65
N26	Manhole	2D	66.10	73.51	72.22	72.17	72.24	72.23	73.29	73.15	73.29	73.03
N27	Manhole	2D	66.40	71.75	72.41	72.39	72.43	72.43	73.23	73.16	73.22	73.21



						Prop	Future	Future		Prop	Future	Future
					Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Node ID	Node Type	Flood Type	Flowline	Ground Elevation	10-Year WSEL	10-Year WSEL	10-Year WSEL	10-Year WSEL	100-Year WSEL	100-Year WSEL	100-Year WSEL	100-Year WSEL
NM1	Manhole	Sealed	60.30	71.36	70.06	69.91	70.05	69.99	70.89	70.66	70.75	70.75
NM11	Manhole	Sealed	61.68	73.77	70.69	70.56	70.69	70.65	71.90	71.74	71.83	71.82
NM12	Manhole	Sealed	60.98	73.80	71.04	70.93	71.05	71.00	72.38	72.25	72.34	72.33
NM15 NM18	Manhole Manhole	Sealed Sealed	60.98 60.98	73.77 73.75	71.38 71.53	71.28 71.43	71.39 71.55	71.35 71.51	72.79 72.90	72.68 72.81	72.76 72.89	72.75 72.88
NM23	Manhole	Sealed	62.21	73.72	71.90	71.83	71.93	71.91	73.05	72.99	73.05	73.06
NM4	Manhole	Sealed	60.40	71.88	70.23	70.08	70.22	70.17	71.16	70.96	71.05	71.04
NM5 NM8	Manhole Manhole	Sealed Sealed	60.45 60.98	71.88 72.95	70.39 70.59	70.25 70.46	70.38 70.59	70.33 70.54	71.41 71.76	71.23 71.59	71.31 71.68	71.30 71.67
OM0	Manhole	2D	67.79	83.19	83.78	83.78	83.78	83.79	84.03	84.02	84.02	84.04
OM1	Manhole	2D	68.15	83.21	83.78	83.77	83.77	83.79	84.02	84.02	84.02	84.04
OM10	Manhole	2D	70.12	84.16	84.55	84.55	84.55	84.55	84.74	84.74	84.75	84.76
OM11 OM2	Manhole Manhole	2D 2D	71.28 67.33	84.48 83.22	84.78 83.73	84.78 83.73	84.78 83.73	84.78 83.73	84.96 83.93	84.96 83.93	84.96 83.93	84.95 83.92
OM3	Manhole	2D	68.19	83.97	84.20	84.19	84.20	84.21	84.38	84.38	84.38	84.42
OM4	Manhole	2D	69.12	83.87	84.08	84.08	84.08	84.07	84.20	84.20	84.20	84.19
OM5	Manhole	2D	69.82	83.72	84.04	84.04	84.05	84.03	84.20	84.20	84.20	84.18
OM6 OM7	Manhole Manhole	2D 2D	69.23 68.22	83.72 84.19	84.03 84.13	84.03 84.13	84.03 84.12	84.04 84.13	84.33 84.46	84.33 84.46	84.33 84.46	84.34 84.46
OM8	Manhole	2D	69.20	83.06	84.03	84.03	84.03	84.03	84.22	84.22	84.22	84.21
OM9	Manhole	2D	69.20	84.22	84.39	84.39	84.39	84.39	84.56	84.56	84.56	84.56
OOUT P04	Manhole	Sealed 2D	67.26	82.65	83.78 73.74	83.78	83.78	83.79 73.62	84.03	84.02	84.02 75.14	84.04 75.11
P05	Manhole Manhole	2D 2D	67.36 69.80	73.99 73.90	74.06	73.51 73.96	73.68 74.04	74.02	75.15 74.53	74.96 74.43	74.48	74.50
P06	Manhole	2D	69.80	74.54	74.20	74.07	74.18	74.15	75.10	75.01	75.09	75.07
P08	Manhole	2D	69.80	74.07	74.49	74.43	74.49	74.49	75.11	75.02	75.08	75.10
P09 P12	Manhole	2D 2D	69.80	74.58	74.86	74.79	74.88	74.86	75.57	75.48	75.54	75.55
P13	Manhole Manhole	2D 2D	72.40 72.40	73.81 74.14	74.65 74.54	74.60 74.52	74.66 74.55	74.63 74.54	75.27 75.08	75.18 75.00	75.24 75.05	75.23 75.05
P17	Manhole	2D	73.40	75.89	75.91	75.89	75.92	75.91	76.35	76.33	76.34	76.33
P18	Manhole	2D	73.40	75.35	75.70	75.69	75.70	75.70	75.99	75.99	75.99	75.99
P23 P24	Manhole Manhole	2D 2D	71.72 79.68	79.54 79.78	79.56 79.95	79.56 79.95	79.56 79.96	79.56 79.96	79.88 80.36	79.88 80.37	79.88 80.38	79.87 80.39
P27	Manhole	2D	73.43	79.76	79.70	79.70	79.71	79.73	80.20	80.21	80.21	80.25
P28	Manhole	2D	76.43	79.82	80.02	80.03	80.04	80.02	80.60	80.61	80.61	80.60
P30	Manhole	2D	74.94	79.81	80.11	80.11	80.11	80.11	80.41	80.41	80.41	80.40
P31 P33	Manhole Manhole	2D 2D	71.94 77.32	79.27 80.11	80.09 81.33	80.10 81.32	80.10 81.32	80.10 81.35	80.51 81.68	80.51 81.67	80.51 81.68	80.52 81.70
P34	Manhole	2D	77.12	80.12	80.73	80.73	80.74	80.72	81.12	81.11	81.12	81.10
P36	Manhole	2D	75.78	80.79	81.23	81.22	81.23	81.19	81.56	81.56	81.56	81.53
P38	Manhole	2D	75.37	80.44	81.54	81.53	81.55	81.39	81.87	81.86	81.87	81.73
P40 P41	Manhole Manhole	2D 2D	75.35 75.05	81.41 81.23	82.15 81.82	82.13 81.80	82.16 81.82	82.13 81.79	82.54 82.19	82.52 82.17	82.53 82.19	82.52 82.17
P43	Manhole	2D	74.81	79.96	80.45	80.45	80.44	80.45	80.83	80.82	80.83	80.83
P44	Manhole	2D	74.81	81.70	80.54	80.54	80.54	80.54	81.19	81.18	81.18	81.18
P46 P47	Manhole Manhole	2D 2D	74.76 74.76	79.05 78.71	79.80 79.57	79.80 79.57	79.80 79.57	79.78 79.55	80.15 79.93	80.14 79.92	80.15 79.92	80.14 79.92
P49	Manhole	2D	80.43	80.53	81.08	81.08	81.09	81.09	81.29	81.29	81.30	81.29
P50	Manhole	2D	80.11	80.21	80.51	80.54	80.51	80.52	80.72	80.74	80.72	80.71
PM1	Manhole	Sealed	62.10	75.35	73.26	72.95	73.16	73.10	74.09	73.76	73.96	73.96
PM10 PM11	Manhole Manhole	Sealed Sealed	62.77 63.67	73.91 74.05	74.50 74.56	74.43 74.50	74.50 74.56	74.48 74.55	75.09 75.14	74.99 75.05	75.03 75.09	75.04 75.10
PM14	Manhole	Sealed	63.70	73.90	74.64	74.59	74.65	74.63	75.14	75.03	75.09	75.18
PM15	Manhole	Sealed	63.97	75.90	75.05	75.00	75.05	75.04	75.61	75.56	75.58	75.58
PM16	Manhole	Sealed	64.05	75.71	75.36	75.32	75.36	75.35	75.93	75.88	75.90	75.90
PM19 PM2	Manhole Manhole	Sealed 2D	65.22 67.66	76.45 74.91	75.78 73.86	75.75 73.63	75.78 73.81	75.77 73.76	76.35 75.04	76.33 74.85	76.34 74.96	76.33 74.97
PM20	Manhole	2D	69.80	78.35	76.79	76.77	76.80	76.79	77.96	77.94	77.96	77.96
PM21	Manhole	2D	65.60	79.89	76.72	76.70	76.72	76.72	77.75	77.73	77.74	77.74
PM22	Manhole	Sealed	66.93	80.13	77.15	77.13	77.14	77.14	78.11	78.10	78.10	78.10
PM25 PM26	Manhole Manhole	Sealed 2D	67.88 71.25	78.89 78.60	78.94 79.13	78.94 79.12	78.93 79.15	78.93 79.15	79.65 79.71	79.65 79.72	79.64 79.72	79.65 79.70
PM29	Manhole	Sealed	68.37	79.61	79.13	79.12	79.13	79.15	80.30	80.30	80.29	80.31
PM3	Manhole	Sealed	62.21	75.42	73.57	73.34	73.51	73.46	74.37	74.08	74.26	74.26
PM32	Manhole	Sealed	68.69	79.85	80.03	80.03	80.03	80.03	80.44	80.44	80.44	80.44
PM35	Manhole	Sealed	71.13	81.24	80.73	80.73	80.74	80.72	81.11	81.11	81.11	81.10



		1				D	F. d	Future		Deser	F. d. ma	F. d. ma
						Prop	Future	Future		Prop	Future	Future
			- 1. P	0	Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
			Flowline	Ground	10-Year	10-Year	10-Year	10-Year	100-Year		100-Year	100-Year
Node ID	Node Type	71 -	Elevation	Elevation	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL	WSEL
PM37	Manhole	Sealed	71.97	80.96	81.22	81.21	81.22	81.17	81.56	81.55	81.56	81.52
PM39	Manhole	Sealed	74.72	80.17	81.54	81.53	81.55	81.40	81.87	81.86	81.87	81.74
PM42	Manhole	Sealed	74.83	80.97	81.95	81.93	81.95	81.91	82.32	82.31	82.32	82.29
PM45	Manhole	Sealed	71.86	80.17	80.45	80.45	80.44	80.45	80.90	80.90	80.90	80.89
PM48	Manhole	Sealed	72.44	79.27	79.94	79.94	79.92	79.91	80.34	80.34	80.33	80.32
PM51	Manhole	Sealed	79.69	79.72	80.47	80.48	80.47	80.47	80.79	80.80	80.79	80.78
PM7	Manhole	Sealed	62.50	75.63	74.04	73.90	74.01	73.98	74.66	74.49	74.62	74.63
W1400105_sta0010	Break	Sealed	0.00	75.95	74.90	74.38	74.94	74.85	76.54	75.97	76.64	76.68
W1400105_sta0157	Break	Sealed	67.77	74.96	74.99	74.54	75.07	74.98	76.81	76.30	76.85	76.90
W1400105_sta0213	Break	Sealed	70.65	72.31	74.99	74.54	75.00	74.99	76.92	76.32	76.87	76.92
W1400105_sta1458	Break	Sealed	73.41	73.66	75.41	75.19	75.49	75.38	77.70	77.22	77.53	77.50
W14001_sta10765	Break	Sealed	0.00	60.03	69.27	69.11	69.23	69.18	69.83	69.57	69.71	69.70
W14001_sta10923	Break	Sealed	60.30	72.57	69.62	69.44	69.56	69.51	70.27	69.96	70.12	70.12
W14001_sta11029	Break	Sealed	0.00	0.00	70.14	69.89	70.06	70.00	70.94	70.58	70.79	70.78
W14001_sta12065	Break	Sealed	60.51	60.54	72.15	71.85	72.05	71.99	72.92	72.59	72.80	72.80
W14001_sta12528	Break	Sealed	62.80	65.72	72.15	71.87	72.05	72.00	72.88	72.56	72.76	72.76
W14001_sta13031	Break	Sealed	62.08	63.08	73.03	72.65	72.89	72.83	73.87	73.50	73.73	73.73
W14001_sta13092	Break	Sealed	0.00	0.00	73.18	72.78	73.03	72.97	74.07	73.68	73.92	73.93
W14001_sta13491	Break	Sealed	0.00	0.00	73.31	72.90	73.15	73.09	74.21	73.82	74.07	74.07
W14001 sta13602	Break	Sealed	62.52	0.00	73.83	73.39	73.66	73.60	74.73	74.33	74.59	74.59
W14001 sta13756	Break	Sealed	0.00	0.00	73.50	73.07	73.33	73.27	74.42	74.00	74.28	74.26
W14001 sta14232	Break	Sealed	62.88	74.56	73.96	73.47	73.75	73.68	75.03	74.55	74.86	74.86
W14001 sta14781	Break	Sealed	63.70	68.10	74.42	73.85	74.17	74.10	75.58	75.11	75.46	75.51
W14001 sta14945	Break	Sealed	63.97	65.97	74.62	74.02	74.54	74.47	75.79	75.28	75.76	75.75
W14001_sta14971	Break	Sealed	63.81	65.47	74.62	74.02	74.54	74.47	75.81	75.30	75.74	75.74
W14001_sta15025	Break	Sealed	0.00	66.66	74.66	74.05	74.64	74.57	75.80	75.34	75.96	75.97
W14001_sta15081	Break	Sealed	64.32	66.18	74.69	74.06	#N/A	#N/A	75.88	75.34	#N/A	#N/A
W14001_sta15381	Break	Sealed	0.00	0.00	74.73	74.08	74.67	74.60	75.93	75.37	75.96	75.97
W14001_sta15481	Break	Sealed	65.28	64.68	74.75	74.13	74.70	74.63	76.11	75.44	76.01	76.02
W14001_sta15401 W14001 sta15671	Break	Sealed	65.16	66.56	74.83	74.16	74.75	74.68	76.35	75.62	76.05	76.07
W14001_sta15863	Break	Sealed	67.50	67.06	74.86	74.32	74.80	74.72	76.42	75.64	76.09	76.10
W14001_sta16016	Break	Sealed	74.94	67.17	74.92	74.42	74.84	74.76	76.43	75.73	76.11	76.10
W14001_sta16681	Break	Sealed	66.32	70.06	75.25	74.92	75.10	75.00	76.63	76.06	76.24	76.12
W14001_sta16051	Break	Sealed	0.00	70.77	75.29	74.93	75.10	75.16	76.64	76.10	76.37	76.42
W14001_sta16821	Break	Sealed	71.12	72.79	75.27	74.93	75.15	75.04	76.65	76.10	76.29	76.32
W14001_sta16021 W14001 sta18066	Break	Sealed	75.14	75.86	77.48	77.45	77.46	77.33	78.47	78.28	78.32	78.47
W14001_sta18000 W14001 sta18481	Break	Sealed	73.14	75.36	78.29	78.28	77.59	77.36	79.01	78.88	78.34	78.53
			74.87	75.88	79.20	79.20	77.62	77.39	79.85	79.81	78.31	78.54
W14001_sta19161 W14001 sta19481	Break	Sealed							80.02	79.81		78.54
	Break	Sealed	73.70	76.20	79.42	79.38	77.64	77.41			78.34	
W14001_sta19701	Break	Sealed	72.44	73.60	80.12	80.10	79.77	79.29	80.97	80.78	80.74	80.36
W14001_sta19981	Break	Sealed	75.72	75.40	80.07	80.07	79.73	79.27	80.92	80.73	80.67	80.29
W14001_sta20481	Break	Sealed	75.61	75.66	80.09	80.06	79.74	79.27	80.99	80.74	80.65	80.28
W14001_sta20881	Break	Stored	0.00	0.00	80.16	80.12	#N/A	#N/A	80.95	80.90	#N/A	#N/A
W14001_sta21026	Break	Sealed	73.55	78.67	80.25	80.25	79.90	79.81	80.87	80.81	80.65	80.39
W54001	Manhole	2D	68.19	79.43	77.63	#N/A	#N/A	#N/A	80.31	#N/A	#N/A	#N/A
WittePond	Manhole	2D	72.46	76.17	81.44	81.43	81.05	80.02	83.02	82.94	82.87	82.55
Pond	Pond	#N/A	65.03	76.24	#N/A	70.63	72.70	71.28	#N/A	75.36	75.96	75.96



								I	Prop	Future	Future	l	Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
-1027	-1027_Outfall	1	Conduit	CIRC	3.3	1	1	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.01
-1018	-1018_Outfall	1	Conduit	CIRC	10	1	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5000	5031	1	Conduit	CIRC	19	42	42	42.39	42.48	38.67	39.00	46.20	45.50	38.27	37.47
5001	3178797	1	Conduit	CIRC	95.4	30	30	25.79	25.86	28.96	33.61	24.27	24.31	24.76	26.67
5005	10049	1	Conduit	RECT	158.6	60	72	201.17	201.73	187.24	195.71	189.06	190.08	178.09	180.03
5007	5059	1	Conduit	CIRC	145.1	66	66	111.91	114.87	111.61	112.52	111.23	111.60	329.78	111.28
5010	D03	1	Conduit	CIRC	179.6	42	42	41.73	41.73	42.01	48.55	50.71	50.71	51.10	60.44
5013	3143205	1	Conduit	CIRC	322.4	66	66	134.49	134.50	134.41	142.59	149.04	149.49	149.86	160.78
5022	3144608	1	Conduit	CIRC	25.5	72	72	159.12	159.08	161.75	160.54	148.61	149.17	-813.55	149.66
5023	3144616	1	Conduit	RECT	65.6	60	72	161.15	159.56	160.81	160.17	148.62	147.33	147.70	147.88
5025	5026	1	Conduit	RECT	72.7	60	72	183.15	185.11	181.12	180.53	199.73	201.00	198.71	199.55
5026	5027	1	Conduit	RECT	161.5	60	72	183.28	185.17	181.23	180.64	202.97	203.29	203.13	203.00
5027	10046	1	Conduit	RECT	112.6	60	72	191.33	192.76	189.31	188.97	214.94	215.86	214.00	213.94
5028	3221259	1	Conduit	RECT	130.8	72	84	202.04	202.64	188.02	196.47	192.22	197.08	188.17	187.44
5029	5030	1	Conduit	CIRC	132.6	24	24	14.93	14.98	14.11	14.52	14.18	14.28	13.71	13.73
5030	3221259	1	Conduit	CIRC	49.9	24	24	22.69	22.85	20.51	21.88	21.05	21.29	19.63	20.06
5031	5032	1	Conduit	CIRC	118.7	42	42	42.72	42.80	40.34	39.93	48.63	48.99	45.86	45.06
5032	5034	1	Conduit	CIRC	274.9	42	42	43.44	44.49	43.20	42.27	60.29	62.02	59.54	57.82
5033	3221280	1	Conduit	RECT	65.8	72	84	230.32	231.96	216.34	221.73	229.89	235.69	216.50	216.50
5034	W14001_sta16681	1	Conduit	CIRC	107.4	42	42	43.97	45.02	43.70	42.72	60.63	62.26	59.96	58.72
5057	5000	1	Conduit	CIRC	196	42	42	42.21	42.30	38.37	38.59	45.79	45.10	38.03	37.09
5058 5059	5005 3144607	1	Conduit	CIRC	70.8 33.5	24 72	24 72	13.86	13.99 115.09	11.40 111.83	12.71 112.73	12.26 111.25	12.45 111.61	10.69 969.77	11.05 111.32
		1	Conduit					112.14							
5225 5361	5817 10263	1	Conduit	CIRC	263.1 74.4	36 24	36 24	37.97 11.61	37.85 11.62	34.96 11.62	36.63 11.62	42.93 33.03	41.86 33.15	36.69 33.05	38.23 32.98
5361	4165585		Conduit Conduit	CIRC	107.6	36	36	-2.62	-2.12		-2.06	-21.50	-21.28	-20.87	-20.07
5654	5659	2	Conduit		59	48	60	-2.62 -107.55	-2.12	-2.06 -105.56	-2.06	-21.50 -125.76	-21.26	-122.24	-20.07
5659	5665	1	Conduit	rect rect	99	48	60	56.39	56.43	57.08	55.60	88.49	88.46	93.71	116.51
5665	5669	1	Conduit	rect	148	48	60	59.34	59.36	59.95	60.63	97.37	97.36	98.77	121.74
5669	10251	1	Conduit	rect	150	48	60	59.35	59.37	59.96	60.65	97.39	97.38	98.79	121.74
5671	C005	1	Conduit	RECT	125.3	48	72	61.44	61.46	62.16	64.51	99.80	99.96	102.26	121.76
5744	5659	1	Conduit	CIRC	92.8	48	48	22.34	22.34	22.34	22.99	22.61	22.61	22.70	23.20
5744	5659	2	Conduit	CIRC	92.8	48	48	24.70	24.70	24.68	24.36	25.29	25.29	25.28	25.33
5750	IH-10 JUNCTION E116		Conduit	rect	225	48	72	42.23	46.26	50.91	101.72	-61.56	-65.01	-61.60	60.41
5763	10285	1	Conduit	RECT	512	48	72	34.02	37.21	38.52	75.85	32.53	35.84	32.91	46.96
5765	5763	1	Conduit	RECT	214	48	72	-44.10	31.62	31.82	51.47	-64.93	32.36	27.67	38.43
5770	5765	1	Conduit	CIRC	232	48	48	56.02	49.05	42.84	49.44	57.89	52.76	47.20	46.82
5771	5770	1	Conduit	CIRC	212	48	48	24.48	22.72	22.49	29.77	23.60	22.14	19.80	25.64
5774	10262	1	Conduit	CIRC	127.8	36	36	12.42	12.42	12.43	12.43	33.85	33.83	33.56	33.39
5776	10264	1	Conduit	RECT	323.3	48	48	40.33	40.33	40.33	40.33	79.65	79.51	79.02	78.13
5779	10265	1	Conduit	CIRC	332.1	48	48	22.78	22.78	22.76	22.76	50.88	49.28	47.46	46.91
5110	. 3200		- C.Iduit	MATHEWSON	002.1						, 0		.5.25		
5784	5744	2	gump	SUMP	617.5	N/A	N/A	4.07	4.07	4.07	4.14	4.19	4.19	4.19	4.24
			hle	MATHEWSON	2										
5784	5744	3	pump	SUBMERSIBLE	617.5	N/A	N/A	21.05	21.05	21.05	21.36	21.61	21.61	21.62	21.83
			1 111	MATHEWSON				1				1		1	
5784	5744	4	pump	SUBMERSIBLE	617.5	N/A	N/A	21.05	21.05	21.05	21.36	21.61	21.61	21.62	21.83
5804	3146608	1	Conduit	CIRC	77	24	24	11.21	11.11	8.02	14.32	12.98	12.98	14.61	15.58
5809	5804	1	Conduit	CIRC	87.4	24	24	10.63	10.54	8.02	14.31	10.76	10.75	12.17	15.57
5816	W1400105 sta0157	1	Conduit	CIRC	62.3	36	36	47.62	48.61	45.59	45.92	55.83	60.29	49.74	48.55
5817	5816	1	Conduit	CIRC	50.4	36	36	47.66	48.62	45.59	45.92	55.81	52.59	44.73	45.31
			00114411	00	00.7								02.00		



									Prop	Future	Future		Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)							
5819	5809	1	Conduit	CIRC	160.5	24	24	8.22	8.25	8.02	14.30	8.28	8.27	11.16	15.30
5822	5819	1	Conduit	CIRC	98.9	24	24	5.40	5.41	8.02	5.93	-6.89	-6.64	8.73	-6.72
5825	5826	1	Conduit	CIRC	317.4	30	30	20.82	20.13	18.20	19.90	22.44	21.29	20.08	22.06
5826	5827	1	Conduit	CIRC	180.6	36	36	26.56	28.44	23.90	25.06	32.39	33.15	27.85	29.32
5827	W14001_sta15671	1	Conduit	CIRC	21.2	36	36	26.68	28.45	#N/A	#N/A	32.50	33.19	#N/A	#N/A
5827	Prop_Chan_07	1	Conduit	CIRC	21.2	36	36	#N/A	#N/A	23.90	25.06	#N/A	#N/A	27.86	29.35
5830	5822	1	Conduit	CIRC	168.3	24	24	-7.07	-6.97	5.19	-1.02	-9.40	-9.32	-9.23	-10.11
5837	D18	1	Conduit	CIRC	19.3	24	24	-10.23	-10.24	9.10	14.19	-11.86	-11.74	-11.51	14.07
5839	D18	1	Conduit	CIRC	22.5	24	24	-12.09	-12.09	-11.28	-10.07	-13.23	-13.12	-12.96	-13.09
5849	5850	1	Conduit	CIRC	323.8	36	36	27.14	26.93	24.15	27.08	30.22	29.72	26.27	28.07
5850	5225	1	Conduit	CIRC	346.9	36	36	32.37	32.02	29.09	31.69	35.41	34.86	30.90	32.74
5854	5825	1	Conduit	CIRC	317.6	30	30	18.86	18.28	16.40	18.07	20.17	19.41	18.14	20.15
5860	5854	1	Conduit	CIRC	315.3	24	24	17.48	17.20	15.55	17.48	17.36	16.87	15.43	16.47
5861	5860	1	Conduit	CIRC	323.9	24	24	7.02	6.98	6.71	6.74	7.05	6.96	6.79	6.70
5868	6029809	1	Conduit	CIRC	71.5	30	30	-2.94	-3.36	1.45	1.59	10.28	10.87	10.31	10.16
5870	5868	1	Conduit	CIRC	43.2	24	24	-1.90	-2.14	0.91	0.99	10.28	10.87	10.31	10.16
5874	5876	1	Conduit	CIRC	422.2	24	24	-9.93	-9.88	-9.99	-9.86	-10.72	-10.48	-10.56	-10.52
5876	5887	1	Conduit	CIRC	36.8	30	30	21.97	22.19	18.81	20.58	16.26	16.39	14.47	15.21
5879	5025	1	Conduit	CIRC	101.3	24	24	16.94	16.97	16.54	16.77	21.87	25.03	21.84	22.26
5881	6198704	1	Conduit	RECT	78.9	60	120	325.21	325.34	322.56	322.30	300.96	300.02	297.56	300.25
5887	5888	1	Conduit	CIRC	119.1	30	30	21.90	22.07	18.58	20.59	16.22	16.35	14.46	15.18
5888	5895	1	Conduit	CIRC	171.3	30	30	21.90	22.07	18.29	20.63	16.17	16.31	14.44	15.14
5890	3144610	1	Conduit	CIRC	11.4	66	66	157.05	157.64	160.29	167.39	147.87	148.08	150.99	159.38
5891	5890	1	Conduit	CIRC	411.7	66	66	142.73	143.20	145.15	151.83	134.56	134.77	138.04	145.09
5895	5896	1	Conduit	CIRC	183.7	30	30	21.84	22.00	17.94	20.58	16.14	16.27	14.42	15.10
5896	30008	1	Conduit	CIRC	267.9	30	30	21.66	21.84	17.46	20.39	16.09	16.22	14.41	15.05
5897	5897-1	1	Conduit	CIRC	100	1	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5902	5906172	1	Conduit	CIRC	17.3	24	24	-2.43	-2.42	-2.41	-2.56	-23.11	-23.12	-23.11	-22.90
5905	3144583	1	Conduit	CIRC	256.6	66	66	103.02	103.51	107.13	118.21	97.39	97.59	101.93	112.76
5916	5906388	1	Conduit	RECT	31.3	60	72	130.54	130.55	129.97	128.89	123.32	123.31	122.48	122.97
5921	3178787	1	Conduit	CIRC	240.5	60	60	77.41	78.37	81.47	89.12	75.31	75.48	81.15	91.28
5923	5921	1	Conduit	CIRC	93.9	60	60	71.71	71.68	75.63	83.53	67.35	67.52	73.22	83.30
5926	5923	1	Conduit	CIRC	289.7	60	60	65.29	65.28	68.88	77.16	59.75	60.66	63.27	70.51
5928	3177674	1	Conduit	CIRC	464.2	54	54	90.13	90.09	90.43	95.63	82.53	82.67	82.85	87.35
5929	5928	1	Conduit	CIRC	39.9	54	54	125.28	125.29	125.32	127.26	129.97	129.97	129.85	130.73
5940	6061295	1	Conduit	RECT	275.4	60	72	113.68	113.68	113.07	113.51	100.61	100.61	99.96	100.30
5942	3178768	1	Conduit	CIRC	5.7	24	24	-26.25	-26.24	-26.57	-27.86	-27.45	-27.44	-27.77	-29.09
5952	3178762	1	Conduit	CIRC	294	54	54	41.38	41.38	43.61	47.83	49.06	49.24	43.82	46.06
5960 5963	3176115	1 1	Conduit	CIRC	130.7 39.3	48 42	48 42	34.14 -41.44	34.14 -41.38	36.33 -41.81	41.24 -41.41	35.10 -79.67	35.26 -79.66	34.63 -79.70	35.63 -77.75
	3176112	+	Conduit												
5967	5968	1	Conduit	CIRC	193.5	96 96	96 96	245.77	245.78	243.87 227.90	247.25	247.86	247.87	245.47	249.23
5968 5974	3176104		Conduit	CIRC	282.2	96 96	96 96	231.08	231.10		232.11	224.48	224.49	220.01	225.68
5974 5979	3176102 3176249	1	Conduit	CIRC	51 95	96	96	242.73	242.74	239.68	244.05 343.37	253.17 408.53	253.18	247.71 401.79	249.69
5979	3176249	1 1	Conduit Conduit	RECT RECT	107.7	96	96	356.32 358.83	356.32 358.81	354.98 395.33	343.37	408.53 398.25	408.52 398.24	401.79	385.00 434.37
5985	3176246	1 1	Conduit	RECT	107.7	96	96	298.34	298.25	293.47	287.80	275.44	274.74	269.57	265.27
5988	5990	1 1	Conduit	RECT	199.7	96	96	307.48	307.38	303.13	300.06	297.49	296.69	291.80	290.00
5990	5990	1	Conduit	RECT	89.3	96	96	307.46	307.36	299.36	297.28	302.06	301.15	291.00	290.00
5990	3176246	1 1	Conduit	RECT	89.5	96	96	296.21	296.11	299.36	291.20	302.06	305.50	300.60	293.95
5997	5999	1 1	Conduit	RECT	91.6	96	96	293.87	293.75	288.61	284.77	305.95	303.74	299.10	296.49
5997	6003	1	Conduit	RECT	178.9	96	96	295.53	295.40	290.34	286.59	295.66	294.72	299.10	287.84
3555	1 0003		Conduit	I RECT	170.9	30	30	280.00	233.40	280.34	200.33	283.00	234.12	230.17	201.04



									Prop	Future	Future	l	Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)							
6003	3176245	1	Conduit	RECT	88.88	96	96	299.59	299.31	294.42	288.39	298.37	297.36	292.63	290.05
6006	7204174	1	Conduit	RECT	211.9	96	96	320.45	320.34	315.80	310.34	319.55	318.45	314.14	310.63
6013	3234315	1	Conduit	RECT	305.5	96	84	318.21	317.78	317.12	316.65	328.18	328.14	326.75	326.56
6013	3234315	2	Conduit	RECT	305.5	96	84	318.21	317.78	317.12	316.65	328.18	328.14	326.75	326.56
6016	30029	1	Conduit	RECT	1458	96	96	801.87	801.88	799.00	798.48	843.16	843.18	839.99	835.86
6018	7204174	1	Conduit	RECT	59.9	60	96	386.16	386.22	385.65	389.47	404.54	404.78	403.71	405.63
6021	3175107	1	Conduit	CIRC	356.4	96	96	221.38	221.50	219.60	222.63	216.82	216.77	215.67	212.79
6023	6021	1	Conduit	CIRC	95.8	96	96	258.04	258.04	256.44	248.60	269.36	269.36	268.09	262.20
6028	3175102	1	Conduit	CIRC	120.3	84	84	184.17	184.55	183.51	203.74	179.58	179.75	178.33	185.48
6031	6028	1	Conduit	CIRC	267.3	84	84	189.92	190.20	189.45	206.59	178.75	178.92	177.60	184.49
6037	6073459	1	Conduit	CIRC	45.2	66	66	-120.18	-120.17	-120.50	-115.84	-178.45	-178.45	-178.67	-175.01
6040	6073491	1	Conduit	CIRC	142.1	78	78	-98.75	-98.71	-100.63	-82.20	49.75	49.81	49.32	52.78
6046	5654	1	Conduit	CIRC	198.9	36	36	-12.86	-12.88	-12.87	5.16	-15.20	-15.08	-14.13	-10.26
6049	W14001_sta15481	1	Conduit	CIRC	65.5	24	24	32.42	32.24	28.88	31.59	31.48	32.35	27.50	29.25
10002	3234050	1	Conduit	CIRC	17.1	24	24	-14.59	-14.49	-15.44	-17.00	-27.15	-27.14	-27.24	-28.30
10003	3234050	1	Conduit	CIRC	22.4	24	24	-17.00	-16.93	-17.63	-18.64	-27.75	-27.74	-27.85	-28.59
10008	4165579	1	Conduit	CIRC	16.8	24	24	6.46	6.47	6.70	6.13	10.36	10.36	10.47	9.41
10009	5057	1	Conduit	CIRC	10.7	24	24	27.20	25.92	29.19	32.03	29.74	29.98	29.40	31.13
10010	5057	1	Conduit	CIRC	27.8	24	24	17.82	17.86	9.51	6.92	19.62	19.22	9.61	6.14
10011	10048	1	Conduit	CIRC	48.2	24	24	-12.84	-12.80	-13.15	-13.49	-14.72	-14.86	-14.96	-15.28
10032	6198894	1	Conduit	CIRC	37.2	24	24	-3.32	-3.32	-3.32	-3.39	-4.61	-4.61	-4.61	-4.71
10033	6198892	1	Conduit	CIRC	32.3	24	24	13.21	13.21	13.21	13.21	16.33	16.33	16.33	16.42
10034	6198872	1	Conduit	CIRC	18.9	24	24	4.52	4.51	4.52	4.99	6.30	6.29	6.47	7.25
10035	6198872	1	Conduit	CIRC	37.6	24	24	6.02	6.01	6.02	6.02	5.47	5.47	5.47	5.75
10036	6198824	1	Conduit	CIRC	25.3	24	24	3.32	3.32	3.32	3.32	18.41	18.39	18.26	19.74
10037	6198800	1	Conduit	CIRC	21.7	24	24	-0.95	-0.96	-0.94	-0.92	-16.38	-16.51	-16.38	-15.95
10044 10046	5025	1	Conduit	RECT	133	60 60	72	175.12	171.96	172.99	172.24	165.52 217.61	162.89 218.49	166.44 216.31	165.41
10046	3218866 3218873	1	Conduit Conduit	RECT RECT	150.9 21.7	60	72 72	192.66 189.87	194.07 190.40	190.65 176.45	190.27 184.63	178.92	179.88	166.57	216.07 169.68
10048	5028			RECT	54.9	60	72	202.23	202.81	188.26	196.74	190.04	191.32	179.10	181.03
10049	3221268	1	Conduit Conduit	RECT	64.8	72	84	202.23	202.81	207.15	212.65	214.94	221.55	205.78	206.29
10051	10051	1	Conduit	CIRC	49.6	30	30	2.76	2.77	2.82	2.85	-14.67	-13.02	-13.81	-14.63
10052	10051	1	Conduit	RECT	212.5	72	84	225.27	226.91	210.63	216.21	217.96	225.66	207.62	208.37
10054	3221271	1	Conduit	RECT	35.7	72	84	229.75	231.40	215.44	220.98	222.27	234.06	214.92	214.93
10054	5031	1	Conduit	CIRC	6.3	24	24	0.46	0.49	0.24	0.25	-5.20	-4.58	-7.72	-6.30
10056	5032	1	Conduit	CIRC	6.1	24	24	1.16	1.15	1.24	1.18	12.59	8.61	8.42	6.33
10057	5033	1	Conduit	CIRC	6.6	24	24	1.10	1.13	0.99	0.98	1.93	1.75	1.72	1.73
10058	5034	1	Conduit	CIRC	6.2	24	24	0.60	0.57	0.57	0.59	1.02	0.95	0.97	0.97
10059	4165581	1	Conduit	CIRC	7.7	24	24	4.51	4.52	4.34	4.55	4.71	5.15	5.02	5.54
10095	3234049	1	Conduit	CIRC	30	18	18	-4.67	-4.60	-5.03	-4.90	-14.41	-14.40	-14.50	-14.39
10096	3234059	1	Conduit	CIRC	19.6	18	18	-11.67	-11.63	-11.81	-11.66	-92.26	-18.97	-19.01	-18.80
10097	3234058	1	Conduit	CIRC	20.2	18	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10098	3236569	1	Conduit	CIRC	24.8	18	18	-8.22	-8.15	-8.29	-8.49	-13.03	-12.94	-12.98	-13.12
10099	3236568	1	Conduit	CIRC	22.2	18	18	-0.22	-0.15	-0.23	-0.43	-8.39	-8.23	-7.63	-7.72
10100	3236589	1	Conduit	CIRC	30.6	30	30	-4.64	-4.99	-2.75	-3.88	10.92	10.96	11.02	10.69
10101	3236589	1	Conduit	CIRC	12.9	30	30	-19.25	-19.20	-19.29	-21.59	-27.01	-26.98	-27.02	-29.15
10102	3236588	1	Conduit	CIRC	30.3	24	24	-5.05	-5.33	3.24	-4.20	-12.00	-11.92	-12.02	-11.47
10103	3236596	1	Conduit	CIRC	7.4	18	18	-5.64	-5.61	-5.67	-5.74	-7.64	-7.61	-7.66	-7.61
10106	3234051	1	Conduit	CIRC	10.4	18	18	20.77	20.41	20.09	20.25	20.91	20.74	20.27	20.01
10107	3234052	1	Conduit	CIRC	11.6	18	18	-12.85	-12.84	-12.82	-12.66	-17.21	-17.21	-17.14	-17.09
10108	3234054	1	Conduit	CIRC	21.9	18	18	15.01	15.00	14.99	14.63	15.76	15.74	15.73	15.35
10100	020 100 1		Conduit	00	21.0			10.01	10.00	1 11.00	11.00	10.70	10.71	1 10.70	10.00



								Γ	Prop	Future	Future	I	Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	Flow (CFS)	Flow (CFS)	,	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
10109	3234054	1	Conduit	CIRC	8.5	18	18	-15.37	-15.37	-15.43	-15.23	-20.41	-20.40	-20.46	-20.37
10110	3144586	1	Conduit	CIRC	20.8	24	24	-7.87	-8.97	-1.81	-2.81	0.62	0.66	0.48	0.60
10111	3178791	1	Conduit	CIRC	22.3	24	24	-5.89	-6.29	-2.09	-3.24	0.68	0.69	0.52	0.60
10112	3178790	1	Conduit	CIRC	21.7	24	24	-11.79	-11.55	-8.08	-9.03	-19.25	-19.24	-19.52	-19.85
10113	3178781	1	Conduit	CIRC	11.1	24	24	-29.52	-29.52	-29.55	-30.03	-31.19	-31.19	-31.22	-31.62
10114	3178783	1	Conduit	CIRC	12.5	24	24	-24.44	-24.43	-24.50	-25.00	-28.45	-28.44	-28.50	-29.06
10115	3178772 3178768	1	Conduit	CIRC	18.1 31.4	48 24	48 24	-42.86 0.00	-42.79	-43.37 0.00	-52.87	-67.40 0.00	-67.36	-67.13	-72.71
10118 10119	3178768	1	Conduit	CIRC	17.3	24	24	12.42	0.00 12.00	12.84	0.00 14.47	24.96	0.00 25.01	0.00 24.84	0.00 25.94
10119		1 1	Conduit	CIRC	30	24	24	-20.96	-20.72	-20.85	-20.95	-29.22	-29.00		
10120	3236615 3236633	1 1	Conduit Conduit	CIRC	28.9	24	24	22.53	22.90	21.81	22.25	21.24	21.60	-29.14 20.74	-29.32 21.07
10121	3236634	1	Conduit	CIRC	16	24	24	-11.27	-10.56	-11.28	-12.19	-23.87	-23.07	-23.56	-24.35
10123	3218806	1 1	Conduit	CIRC	10.1	24	24	-37.66	-37.62	-37.80	-37.85	-23.87 -40.70	-40.67	-40.66	-40.77
10124	3176113	1	Conduit	CIRC	36.8	24	24	-23.25	-23.25	-23.31	-23.39	-24.60	-24.60	-24.62	-24.75
10135	3236590	1 1	Conduit	CIRC	8.9	24	24	30.36	30.51	30.51	31.52	30.68	30.74	30.46	31.22
10136	3236590	1 1	Conduit	CIRC	25.3	24	24	-17.30	-17.27	-17.30	-17.93	-19.75	-19.71	-19.77	-20.63
10138	3144584	1	Conduit	CIRC	7.6	18	18	-12.61	-12.53	-11.40	-10.56	-15.75	-15.36	-17.04	-17.02
10245	5750	1	Conduit	RECT	223	48	72	47.92	56.52	57.94	101.97	44.46	54.57	53.52	61.31
10247	5771	1	Conduit	CIRC	210	48	48	37.14	35.51	33.59	20.87	40.84	39.88	39.07	38.55
10251	5671	1	Conduit	RECT	190	48	72	59.37	59.39	59.98	60.68	97.43	97.42	98.82	121.83
10260	5361	1	Conduit	CIRC	45.8	24	24	4.30	3.13	1.22	0.89	13.70	13.56	12.22	12.27
10261	4165585	1	Conduit	CIRC	44.9	24	24	0.56	0.56	0.55	0.55	8.70	8.72	8.70	8.73
10262	10266	1	Conduit	CIRC	40.6	36	36	15.87	15.87	15.87	15.87	43.95	43.17	40.42	35.76
10263	5774	1	Conduit	CIRC	59.5	24	24	12.24	12.24	12.24	12.24	33.41	33.53	33.42	33.34
10264	6050	1	Conduit	RECT	28	48	48	54.24	54.24	54.23	54.23	103.90	103.71	103.15	102.19
10265	5776	1	Conduit	CIRC	277	48	48	39.76	39.77	39.76	39.76	78.57	78.47	78.03	77.27
10266	5779	1	Conduit	CIRC	171.8	48	48	21.85	21.86	21.85	21.85	47.21	47.02	46.62	46.02
10285	10245	1	Conduit	RECT	223	48	72	34.03	37.22	38.43	75.55	32.55	35.86	-33.63	46.89
10289	5360	1	Conduit	CIRC	36.6	24	24	0.50	0.50	0.50	0.50	24.43	24.26	23.65	21.02
10290	5360	1	Conduit	CIRC	45.2	24	24	0.46	0.46	0.46	0.46	-16.27	-15.94	-14.87	-13.28
10297	3218866	1	Conduit	CIRC	17.9	24	24	-2.25	-2.18	-0.97	-1.57	-0.19	-0.19	0.15	0.18
10302	5861	1	Conduit	CIRC	70.6	24	24	11.07	11.04	11.32	12.01	11.71	11.33	11.69	12.42
10304	5854	1	Conduit	CIRC	30	24	24	9.85	9.45	8.45	9.22	10.94	10.48	10.52	12.19
10306	5854	1	Conduit	CIRC	19 34.1	24	24	-15.21	-14.86	-15.94	-15.56	-20.38 -17.04	-20.01	-20.48	-20.35
10308 10309	5825 5825	1	Conduit	CIRC	18	24 24	24 24	-13.70 -8.95	-12.98 -7.34	-14.17 -9.84	-12.87 -9.23	-17.04 -14.99	-16.53 -14.14	-16.73 -14.67	-15.50 -14.53
10309	5826	1 1	Conduit Conduit	CIRC	31.1	24	24	2.62	1.72	3.08	2.43	16.27	13.25	14.01	14.40
10311	5826	1	Conduit	CIRC	51.1	24	24	-0.86	-0.23	-0.92	-0.45	-10.35	-7.39	-9.04	-8.84
20053	20119	1 1	Conduit	CIRC	21.5	30	30	-0.35	-0.23	0.20	-0.45	0.37	0.37	0.42	0.41
20102	W14001 sta18481	1	Conduit	CIRC	38.2	48	48	33.23	33.18	38.71	42.64	33.13	32.76	37.98	40.69
20102	20102	1 1	Conduit	CIRC	13.6	48	48	33.01	33.03	38.82	42.97	32.98	32.70	38.01	40.67
20103	20102	1 1	Conduit	CIRC	44.4	42	42	32.87	32.87	38.88	43.13	31.60	31.77	38.05	37.84
20105	20104	1 1	Conduit	CIRC	119.8	42	42	32.89	32.89	38.94	43.36	31.60	31.70	38.07	37.91
20106	20105	1 1	Conduit	CIRC	120.3	42	42	32.92	32.92	39.06	43.87	30.89	30.89	37.74	38.08
20107	20106	1	Conduit	CIRC	120.6	42	42	32.95	32.96	39.19	44.30	30.90	30.91	37.78	38.24
20108	20107	1	Conduit	CIRC	114.5	36	36	22.75	22.88	26.63	30.06	20.31	20.34	24.12	25.54
20109	20108	1	Conduit	CIRC	80.5	36	36	17.22	17.23	21.16	25.32	16.35	16.39	19.81	21.20
20110	20111	1	Conduit	CIRC	125.3	36	36	12.71	12.71	16.26	19.36	11.82	11.88	15.11	16.31
20111	20109	1	Conduit	CIRC	123.1	36	36	15.66	15.66	19.38	23.17	14.84	14.86	18.18	19.47
20112	20110	1	Conduit	CIRC	123.6	30	30	12.83	12.85	16.70	19.44	11.76	11.77	15.07	16.61
20113	20112	1	Conduit	CIRC	124.4	30	30	12.69	12.71	16.53	19.02	12.61	12.62	14.95	16.42



									Prop	Future	Future	I	Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)							
20114	20113	1	Conduit	CIRC	123.7	21	21	5.59	5.60	6.73	7.65	4.84	4.71	5.47	6.40
20115	20114	1	Conduit	CIRC	124.4	15	15	2.89	2.89	3.49	4.02	-3.03	-3.03	-3.03	3.39
20116	W14001_sta19161	1	Conduit	CIRC	164.1	24	24	12.14	12.12	15.61	26.82	12.04	12.00	15.52	26.77
20117	20116	1	Conduit	CIRC	46.6	24	24	-19.46	-19.45	11.31	19.01	-20.16	-20.13	10.52	15.67
20118	20117	1	Conduit	CIRC	25.2	18	18	-8.87	-8.87	-6.87	-7.47	-9.26	-9.27	-7.60	-7.98
20119	20120	1	Conduit	CIRC	132.6	30	30	-1.72	-1.66	-0.95	-1.14	0.81	0.81	0.92	0.89
20120	20121	1	Conduit	CIRC	126	36	36	-2.79	-2.75	-1.70	-2.17	1.04	1.03	1.23	1.20
20121	20122	1	Conduit	CIRC	100	36	36	10.15	10.15	8.66	10.06	16.41	16.38	15.22	16.98
20122	20123	1	Conduit	CIRC	101	36	36	10.13	10.13	8.65	10.04	16.41	16.34	15.19	16.95
20123 20124	20124 W14001 sta16821	2	Conduit Conduit	CIRC	84.1 29.2	48 48	48 48	25.85 26.07	25.76 25.98	24.90 24.89	25.58 25.53	42.23 42.44	42.13 42.25	40.69 40.68	42.10 42.08
		1		CIRC	+	36	36	16.08	16.15	16.67	16.20	26.41	26.43	25.94	25.57
20125 20126	20123 20125	1	Conduit Conduit	CIRC	132.4 127.4	36	36	15.90	15.79	16.87	15.91	26.41	26.43	25.70	25.35
20126	20125	1	Conduit	CIRC	171.6	36	36	15.90	15.79	16.37	15.86	26.30	26.29	25.66	25.33
20127	20126	1	Conduit	CIRC	109.1	36	36	13.39	13.35	13.77	13.34	22.63	22.62	21.97	21.69
20129	20127	1	Conduit	CIRC	125.8	30	30	-1.00	-0.93	-0.90	-0.99	13.35	13.27	12.30	12.74
20131	20128	1	Conduit	CIRC	27	24	24	-6.22	-6.22	-6.24	-5.63	-8.54	-8.57	-8.67	-9.02
20131	20132	1	Conduit	CIRC	273.9	24	24	8.14	8.14	8.14	8.72	8.73	8.72	8.93	9.23
20132	20139	2	Conduit	CIRC	273.9	24	24	8.14	8.14	8.14	8.72	8.73	8.73	8.93	9.23
20133	20132	1	Conduit	CIRC	56.7	18	18	4.67	4.67	4.65	4.55	4.69	4.69	4.67	4.66
20134	20133	1	Conduit	CIRC	27.1	18	18	-4.93	-4.92	-4.80	-3.94	-5.50	-5.50	-5.50	-5.50
20135	20131	1	Conduit	CIRC	27	24	24	14.11	14.00	9.42	2.23	17.21	17.22	16.86	17.07
20136	20137	1	Conduit	CIRC	26.9	12	12	-4.98	-4.97	-5.00	-4.92	-5.29	-5.29	-5.31	-5.36
20137	20138	1	Conduit	CIRC	57.6	18	18	7.21	7.21	7.20	8.99	7.81	7.81	7.83	8.25
20138	20142-1	1	Conduit	CIRC	271.7	24	24	7.07	7.07	7.03	10.27	6.28	6.28	6.26	8.50
20138	20142-1	2	Conduit	CIRC	271.7	24	24	7.07	7.07	7.03	10.27	6.28	6.28	6.26	8.50
20139	20138	1	Conduit	CIRC	27.1	24	24	-11.63	-11.61	-11.08	-9.84	-12.64	-12.63	-12.32	-13.60
20139	20138	2	Conduit	CIRC	27.1	24	24	-11.64	-11.62	-11.08	-9.83	-12.65	-12.64	-12.32	-13.60
20140	20141	1	Conduit	CIRC	27.4	12	12	-2.92	-2.92	-2.93	-3.38	-3.25	-3.25	-3.26	-3.65
20141	20142	1	Conduit	CIRC	57.4	18	18	7.60	7.60	7.68	11.42	7.62	7.62	7.67	10.90
20142	W14001_sta18066	1	Conduit	CIRC	166.4	24	24	15.11	15.11	14.57	42.66	15.36	15.29	14.49	41.18
20142	W14001_sta18066	2	Conduit	CIRC	166.4	24	24	15.11	15.11	14.57	#N/A	15.36	15.29	14.49	#N/A
30000	30007	1	Conduit	CIRC	98.7	78	78	169.85	171.31	166.89	168.19	172.20	175.53	172.59	172.81
30001	30020	1	Conduit	CIRC	318.1	96	96	279.61	288.66	279.51	280.42	268.13	282.57	270.35	270.71
30002	30019	1	Conduit	CIRC	24.6	78	78	170.14	171.53	167.05	168.39	172.36	175.71	172.79	173.01
30003	30004	1	Conduit	CIRC	35.4	96	96	305.36	312.93	300.95	302.71	299.68	312.39	299.55	299.33
30004	30021	1	Conduit	CIRC	37.4	102	102	305.33	312.97	301.00	302.74	299.67	312.41	299.56	299.33
30005	30006	1	Conduit	CIRC	323.6	102	102	342.16	353.46	341.71	343.49	364.73	385.84	372.68	372.69
30006	30016	1	Conduit	CIRC	314.3	102	102	342.08	353.55	341.83	343.53	364.69	385.99	372.81	372.90
30007	30027	1	Conduit	CIRC	114.4	78	78	169.72	171.21	166.80	168.11	172.10	175.45	172.49	172.72
30008	30023	1	Conduit	CIRC	30	30	30	21.51	21.69	17.11	20.17	16.05	16.19	14.40	15.01
30009	30017	1	Conduit	CIRC	37.9	24	24	5.57	5.66	5.53	5.55	6.30	6.48	6.32	6.32
30009	30022	2	Conduit	CIRC	296.8	102	102	342.35	353.24	341.58	343.30	364.87	385.79	372.49	372.47
30010 30011	30027 30010	1	Conduit Conduit	CIRC	59.8 193.5	60 60	60 60	129.95 129.94	135.17 135.15	129.20 129.19	129.13 129.12	112.26 112.29	121.15 121.14	113.90 113.90	114.51 114.51
30011	30010	1	Conduit	CIRC	239.2	96	96	279.56	288.61	279.43	280.34	268.15	282.55	270.32	270.69
30012	30001	1	Conduit	CIRC	478.5	96	96	305.38	312.89	300.91	302.67	299.70	312.38	299.56	299.32
30013	W14001 sta14971	1	Conduit	CIRC	1150	24	24	5.52	5.63	5.50	5.52	6.24	6.45	6.35	6.28
30014	W14001_sta14945	2	Conduit	CIRC	14.8	102	102	414.86	425.95	414.28	415.99	496.46	515.91	504.07	504.03
30015	30015	1	Conduit	CIRC	151.5	102	102	414.53	425.93	414.23	415.94	492.15	515.41	502.30	502.38
30017	30013	1	Conduit	CIRC	298.2	24	24	5.55	5.64	5.52	5.54	6.21	6.46	6.29	6.29
30017	30017		Conduit	L OILO	200.2	47	47	5.55	J 5.07	0.02	3.57	0.21	0.70	1 0.20	0.20



									Prop	Future	Future		Prop	Future	Future
		l I						Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	,	,	,	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
30018	30012	1	Conduit	CIRC	63.4	96	96	279.51	288.57	279.35	280.26	268.10	282.52	270.27	270.67
30019	30000	1	Conduit	CIRC	238.7	78	78	169.99	171.40	166.96	168.28	172.28	175.60	172.68	172.90
30020	30023	1	Conduit	CIRC	24.2	96	96	279.64	288.69	279.57	280.48	268.14	282.59	270.37	270.73
30021	30009	1	Conduit	CIRC	29.8	102	102	347.94	358.89	347.16	348.87	371.11	392.29	378.81	378.80
30022	30005	1	Conduit	CIRC	329.7	102	102	342.25	353.26	341.54	343.28	364.81	385.73	372.45	372.43
30023	30013	1	Conduit	CIRC	362.4	96	96	305.80	312.38	300.46	302.20	299.89	312.17	299.57	299.29
30027	30018	1	Conduit	CIRC	11.6	96	96	279.47	288.53	279.28	280.20	268.05	282.49	270.23	270.64
30029	30028	1	Conduit	RECT	46	96	96	703.54	703.54	701.97	701.78	943.84	943.76	941.98	939.95
30029	30028	2	Conduit	RECT	46	96	96	703.54	703.54	701.97	701.78	943.84	943.76	941.98	939.95
30030	W1400105_sta1458	1	Conduit	RECT	48	36	72	10.03	10.29	10.20	11.00	21.27	20.02	21.12	22.43
30030	W1400105_sta1458	2	Conduit	RECT	48	36	72	10.03	10.29	10.20	11.00	21.27	20.02	21.12	22.43
30032	10044	1	Conduit	CIRC	32	24	24	5.22	5.23	5.22	5.25	-14.95	-15.17	-15.02	-15.25
30033	3144616	1	Conduit	CIRC	55.4	24	24	4.63	4.56	4.71	4.77	7.72	7.73	9.86	7.74
30034	5022	1	Conduit	CIRC	21	24	24	24.01	24.10	24.15	24.19	26.26	27.02	100.15	25.44
30035	5022	1	Conduit	CIRC	55	24	24	17.10	14.51	16.40	16.25	19.81	20.09	74.73	20.94
30036	10046	1	Conduit	CIRC	52.3	24	24	2.07	2.06	2.10	2.11	3.58	3.58	3.75	3.58
30037	5027	1	Conduit	CIRC	72.4	24	24	12.72	12.69	12.80	12.79	22.04	22.04	22.26	22.04
3143189	3143196	1	Conduit	CIRC	256.4	66	66	115.57	115.57	115.87	119.30	121.07	121.39	121.56	129.80
3143195	3143197	1	Conduit	CIRC	352.2	24	24	12.56	12.56	12.55	12.75	12.25	12.25	12.24	12.80
3143196	3143201	1	Conduit	CIRC	217.1	66	66	121.52	121.53	121.87	126.87	125.56	125.90	126.07	134.21
3143197	3143196	1	Conduit	CIRC	25.7	24	24	12.55	12.55	12.54	12.74	26.73	26.73	26.71	28.51
3143201	5013	1	Conduit	CIRC	73.8	66	66	121.62	121.63	121.97	126.94	125.75	126.10	126.27	134.16
3143205	C092	1	Conduit	CIRC	307.9	66	66	148.47	148.46	148.37	165.89	172.20	172.28	172.64	186.35
3143206	3143205	1	Conduit	CIRC	96.9	30	30	24.20	24.20	24.45	35.72	30.22	30.23	30.32	33.80
3143206	5906227	2	Conduit	CIRC	28.8	30	30	-22.43	-22.43	-22.68	-29.94	-22.94	-22.97	-23.09	-26.27
3143209	3144624	1	Conduit	CIRC	556.4	24	24	10.70	10.71	11.10	11.23	10.37	10.38	10.66	10.72
3143214	E05	1	Conduit	CIRC	266.6	30	30	19.22	19.23	19.28	20.32	16.00	16.07	16.08	16.97
3143215	3143214	1	Conduit	CIRC	260.3	24	24	12.70	12.65	12.71	13.36	9.84	9.86	9.93	10.96
3143216	3143215	1	Conduit	CIRC	283.4	24	24	9.89	10.32	10.42	11.07	7.17	7.17	7.14	8.25
3143228	C086	1	Conduit	CIRC	144.3	24	24	22.03	22.03	22.05	23.50	21.99	21.99	21.97	22.86
3143498	3143189	1	Conduit	CIRC	73.9	18	18	-1.53	-1.52	-1.55	-2.68	-1.11	-1.11	-1.12	-1.58
3143499	3143196	1	Conduit	CIRC	75	18	18	-3.36	-3.35	-3.60	-3.04	-1.10	-1.14	-0.92	-0.81
3143507	5013	1	Conduit	CIRC	72.8	18	18	6.06	6.07	5.75	-3.09	8.20	8.20	8.03	9.03
3144582	5001	1	Conduit	CIRC	107.9	30	30	26.66	26.88	29.41	33.96	24.31	24.35	24.81	26.86
3144583	5891	1	Conduit	CIRC	248	66	66	121.56	122.00	124.09	131.21	114.80	114.97	118.00	124.34
3144584	3144583	1	Conduit	CIRC	40.3	24	24	24.21	24.19	20.48	20.43	23.89	23.90	22.18	22.51
3144586	3144612	1	Conduit	CIRC	735.2	66	66	85.82	88.25	84.62	84.53	93.37	93.32	95.86	93.33
3144586	3178791	2	Conduit	CIRC	380.5	66	66	-80.90	-83.11	-79.70	-79.30	-87.08	-87.18	-85.99	-85.65
3144587	3144599	1	Conduit	CIRC	299.2	36	36	25.60	25.61	26.36	28.46	24.14	24.17	24.53	25.83
3144591	5891	1	Conduit	CIRC	24.4	24	24	23.07	23.11	24.12	24.84	20.26	20.28	21.20	21.74
3144598	3144591	1	Conduit	CIRC	47	24	24	23.06	23.09	24.08	24.81	20.27	20.29	21.21	21.76
3144599	3144609	1	Conduit	CIRC	288.1	36	36	25.69	25.81	26.40	28.48	24.11	24.14	24.48	25.72
3144600	3144619	1	Conduit	CIRC	478.3	30	30	22.03	22.05	22.09	22.38	23.98	23.98	24.03	24.25
3144602	3218829	1	Conduit	CIRC	176.7	48	48	31.48	31.73	29.21	30.78	35.26	35.25	-125.24	29.70
3144603	3144605	1	Conduit	CIRC	26.6	72	72	301.13	275.36	-297.36	-294.66	-397.80	-444.58	-7425.18	-463.24
3144605	3144602	1	Conduit	CIRC	129	48	48	-25.92	-26.38	18.03	-21.16	26.15	25.53	2525.98	-60.95
3144605	3144606	2	Conduit	CIRC	20.2	72	72	389.47	374.48	394.12	386.70	535.67	545.88	3571.13	528.18
3144606	5022	1	Conduit	CIRC	36.7	72	72	152.79	153.98	151.61	152.67	138.60	140.03	-4114.87	140.59
3144607	3144603	1	Conduit	CIRC	294.3	72	72	112.48	115.43	112.17	113.92	111.58	111.90	6912.38	111.40
3144608	5023	1	Conduit	RECT	131.8	60	72	159.47	158.57	160.32	158.38	145.78	144.47	145.40	146.79
3144609	3144610	1	Conduit	CIRC	30.1	36	36	25.61	25.71	26.43	28.52	24.08	24.11	24.44	25.65



Upstream Node D Node D Node D Suffix Link Type Link Shape Length Height (feet) (Inches) (Inches) (Inches) Flow (CFS) F	Phase 2 100-Year Flow (CFS) 198.64 90.15 220.49 -11.58 20.33 152.43 4.17 14.14 -21.50 14.20 18.10 19.53 26.93 35.44	Phase 3 100-Year Flow (CFS) 206.89 90.54 111.26 -10.53 20.61 153.65 2.64 14.37 -22.06 14.43 20.13 21.64
Node ID Suffix Link Type Link Shape (feet) (Inches) Flow (CFS)	Flow (CFS) 198.64 90.15 220.49 -11.58 20.33 152.43 4.17 14.14 -21.50 14.20 19.53 26.93	Flow (CFS) 206.89 90.54 111.26 -10.53 20.61 153.65 2.64 14.37 -22.06 14.43 20.13 21.64
3144610 B48 1 Conduit CIRC 290.5 66 66 193.93 194.54 197.79 206.11 191.77 192.00	198.64 90.15 220.49 -11.58 20.33 152.43 4.17 14.14 -21.50 14.20 18.10 19.53 26.93	206.89 90.54 111.26 -10.53 20.61 153.65 2.64 14.37 -22.06 14.43 20.13 21.64
3144612 3144613 1 Conduit CIRC 43.7 66 66 85.97 88.41 84.78 84.70 90.97 91.25 3144613 5007 1 Conduit CIRC 298.8 66 66 111.50 114.46 111.06 112.30 111.16 111.53 3144614 3144615 1 Conduit CIRC 20.4 24 24 11.06 11.38 -11.12 -11.12 3144615 3144613 1 Conduit CIRC 39.2 24 24 24.51 25.02 20.00 21.32 21.19 21.16 3144616 10044 1 Conduit CIRC 39.2 24 24 24.51 25.02 20.00 21.32 21.19 21.16 3144617 3144917 1 Conduit CIRC 75 24 24 -1.42 -1.33 -0.88 0.79 7.11 7.10 3144618 3144615 1	90.15 220.49 -11.58 20.33 152.43 4.17 14.14 -21.50 14.20 18.10 19.53 26.93	90.54 111.26 -10.53 20.61 153.65 2.64 14.37 -22.06 14.43 20.13 21.64
3144613 5007 1 Conduit CIRC 298.8 66 66 111.50 114.46 111.06 112.30 111.16 111.53 3144614 3144615 1 Conduit CIRC 20.4 24 24 11.37 11.45 11.06 11.38 -11.12 -11.12 3144615 3144613 1 Conduit CIRC 39.2 24 24 24.51 25.02 20.00 21.32 21.19 21.16 3144616 10044 1 Conduit RECT 53.6 60 72 167.27 164.73 165.69 165.21 152.55 151.11 3144617 3144917 1 Conduit CIRC 75 24 24 -1.42 -1.33 -0.88 0.79 7.11 7.10 3144618 3144615 1 Conduit CIRC 180 24 24 19.89 20.24 14.48 17.21 14.85 14.90 3144623 </td <td>220.49 -11.58 20.33 152.43 4.17 14.14 -21.50 14.20 18.10 19.53 26.93</td> <td>111.26 -10.53 20.61 153.65 2.64 14.37 -22.06 14.43 20.13 21.64</td>	220.49 -11.58 20.33 152.43 4.17 14.14 -21.50 14.20 18.10 19.53 26.93	111.26 -10.53 20.61 153.65 2.64 14.37 -22.06 14.43 20.13 21.64
3144614 3144615 1 Conduit CIRC 20.4 24 24 11.37 11.45 11.06 11.38 -11.12 -11.12 3144615 3144613 1 Conduit CIRC 39.2 24 24 24.51 25.02 20.00 21.32 21.19 21.16 3144616 10044 1 Conduit RECT 53.6 60 72 167.27 164.73 165.69 165.21 152.55 151.11 3144617 3144917 1 Conduit CIRC 75 24 24 -1.42 -1.33 -0.88 0.79 7.11 7.10 3144618 3144615 1 Conduit CIRC 180 24 24 19.89 20.24 14.48 17.21 14.85 14.90 3144623 3144627 1 Conduit CIRC 23.3 30 30 16.60 16.70 17.02 17.82 -21.59 -21.58 3144623 <td>-11.58 20.33 152.43 4.17 14.14 -21.50 14.20 18.10 19.53 26.93</td> <td>-10.53 20.61 153.65 2.64 14.37 -22.06 14.43 20.13 21.64</td>	-11.58 20.33 152.43 4.17 14.14 -21.50 14.20 18.10 19.53 26.93	-10.53 20.61 153.65 2.64 14.37 -22.06 14.43 20.13 21.64
3144615 3144613 1 Conduit CIRC 39.2 24 24 24.51 25.02 20.00 21.32 21.19 21.16 3144616 10044 1 Conduit RECT 53.6 60 72 167.27 164.73 165.69 165.21 152.55 151.11 3144617 3144917 1 Conduit CIRC 75 24 24 -1.42 -1.33 -0.88 0.79 7.11 7.10 3144618 3144615 1 Conduit CIRC 180 24 24 19.89 20.24 14.48 17.21 14.85 14.90 3144619 3144627 1 Conduit CIRC 23.3 30 30 16.60 16.70 17.02 17.82 -21.59 -21.58 3144623 3144618 1 Conduit CIRC 199.4 24 24 20.48 20.75 14.79 17.61 14.90 14.96 3144624	20.33 152.43 4.17 14.14 -21.50 14.20 18.10 19.53 26.93	20.61 153.65 2.64 14.37 -22.06 14.43 20.13 21.64
3144616 10044 1 Conduit RECT 53.6 60 72 167.27 164.73 165.69 165.21 152.55 151.11 3144617 3144917 1 Conduit CIRC 75 24 24 -1.42 -1.33 -0.88 0.79 7.11 7.10 3144618 3144615 1 Conduit CIRC 180 24 24 19.89 20.24 14.48 17.21 14.85 14.90 3144619 3144627 1 Conduit CIRC 23.3 30 30 16.60 16.70 17.02 17.82 -21.59 -21.58 3144623 3144618 1 Conduit CIRC 199.4 24 24 20.48 20.75 14.79 17.61 14.90 14.96 3144624 E08 1 Conduit CIRC 279.1 30 30 19.97 20.01 20.75 22.79 17.31 17.34 3144627	152.43 4.17 14.14 -21.50 14.20 18.10 19.53 26.93	153.65 2.64 14.37 -22.06 14.43 20.13 21.64
3144617 3144917 1 Conduit CIRC 75 24 24 -1.42 -1.33 -0.88 0.79 7.11 7.10 3144618 3144615 1 Conduit CIRC 180 24 24 19.89 20.24 14.48 17.21 14.85 14.90 3144619 3144627 1 Conduit CIRC 23.3 30 30 16.60 16.70 17.02 17.82 -21.59 -21.58 3144623 3144618 1 Conduit CIRC 199.4 24 24 20.48 20.75 14.79 17.61 14.90 14.96 3144624 E08 1 Conduit CIRC 279.1 30 30 19.97 20.01 20.75 22.79 17.31 17.34 3144627 3144628 1 Conduit CIRC 279.1 30 30 19.97 20.01 20.75 22.79 17.31 17.34 3144628	4.17 14.14 -21.50 14.20 18.10 19.53 26.93	2.64 14.37 -22.06 14.43 20.13 21.64
3144618 3144615 1 Conduit CIRC 180 24 24 19.89 20.24 14.48 17.21 14.85 14.90 3144619 3144627 1 Conduit CIRC 23.3 30 30 16.60 16.70 17.02 17.82 -21.59 -21.58 3144623 3144618 1 Conduit CIRC 199.4 24 24 20.48 20.75 14.79 17.61 14.90 14.96 3144624 E08 1 Conduit CIRC 279.1 30 30 19.97 20.01 20.75 22.79 17.31 17.34 3144627 3144628 1 Conduit CIRC 53.6 36 32.23 22.90 23.54 25.08 18.16 18.23 3144628 3144629 1 Conduit CIRC 458.7 36 36 31.28 31.57 32.64 36.10 24.26 24.40 3144629 B47	14.14 -21.50 14.20 18.10 19.53 26.93	14.37 -22.06 14.43 20.13 21.64
3144619 3144627 1 Conduit CIRC 23.3 30 30 16.60 16.70 17.02 17.82 -21.59 -21.58 3144623 3144618 1 Conduit CIRC 199.4 24 24 20.48 20.75 14.79 17.61 14.90 14.96 3144624 E08 1 Conduit CIRC 279.1 30 30 19.97 20.01 20.75 22.79 17.31 17.34 3144627 3144628 1 Conduit CIRC 53.6 36 36 22.73 22.90 23.54 25.08 18.16 18.23 3144628 3144629 1 Conduit CIRC 458.7 36 36 31.28 31.57 32.64 36.10 24.26 24.40 3144629 B47 1 Conduit CIRC 150.4 36 36 39.10 39.46 40.81 44.47 32.44 32.65 3144631	-21.50 14.20 18.10 19.53 26.93	-22.06 14.43 20.13 21.64
3144623 3144618 1 Conduit CIRC 199.4 24 24 20.48 20.75 14.79 17.61 14.90 14.96 3144624 E08 1 Conduit CIRC 279.1 30 30 19.97 20.01 20.75 22.79 17.31 17.34 3144627 3144628 1 Conduit CIRC 53.6 36 36 22.73 22.90 23.54 25.08 18.16 18.23 3144628 3144629 1 Conduit CIRC 458.7 36 36 31.28 31.57 32.64 36.10 24.26 24.40 3144629 B47 1 Conduit CIRC 150.4 36 36 39.10 39.46 40.81 44.47 32.44 32.65 3144631 3144623 1 Conduit CIRC 136.9 24 24 12.04 12.12 8.86 10.22 11.75 11.72	14.20 18.10 19.53 26.93	14.43 20.13 21.64
3144624 E08 1 Conduit CIRC 279.1 30 30 19.97 20.01 20.75 22.79 17.31 17.34 3144627 3144628 1 Conduit CIRC 53.6 36 36 22.73 22.90 23.54 25.08 18.16 18.23 3144628 3144629 1 Conduit CIRC 458.7 36 36 31.28 31.57 32.64 36.10 24.26 24.40 3144629 B47 1 Conduit CIRC 150.4 36 36 39.10 39.46 40.81 44.47 32.44 32.65 3144631 3144623 1 Conduit CIRC 136.9 24 24 12.04 12.12 8.86 10.22 11.75 11.72	18.10 19.53 26.93	20.13 21.64
3144627 3144628 1 Conduit CIRC 53.6 36 22.73 22.90 23.54 25.08 18.16 18.23 3144628 3144629 1 Conduit CIRC 458.7 36 36 31.28 31.57 32.64 36.10 24.26 24.40 3144629 B47 1 Conduit CIRC 150.4 36 36 39.10 39.46 40.81 44.47 32.44 32.65 3144631 3144623 1 Conduit CIRC 136.9 24 24 12.04 12.12 8.86 10.22 11.75 11.72	19.53 26.93	21.64
3144628 3144629 1 Conduit CIRC 458.7 36 36 31.28 31.57 32.64 36.10 24.26 24.40 3144629 B47 1 Conduit CIRC 150.4 36 36 39.10 39.46 40.81 44.47 32.44 32.65 3144631 3144623 1 Conduit CIRC 136.9 24 24 12.04 12.12 8.86 10.22 11.75 11.72	26.93	
3144629 B47 1 Conduit CIRC 150.4 36 36 39.10 39.46 40.81 44.47 32.44 32.65 3144631 3144623 1 Conduit CIRC 136.9 24 24 12.04 12.12 8.86 10.22 11.75 11.72		
3144631 3144623 1 Conduit CIRC 136.9 24 24 12.04 12.12 8.86 10.22 11.75 11.72		31.08
		41.28
	11.04	9.81
3144632 3144633 1 Conduit CIRC 36.1 24 24 11.25 11.33 10.96 11.27 6.95 6.97	6.73	7.16
3144633 3144614 1 Conduit CIRC 191 24 24 11.32 11.40 11.02 11.33 6.87 6.89	6.72	7.23
3144637 3144631 1 Conduit CIRC 61.9 24 24 8.68 8.71 -8.64 -8.25 -8.92 -8.91	-8.93	-8.91
3144638 3144623 1 Conduit CIRC 182 24 24 9.34 9.48 7.24 8.24 -8.46 -8.45	-8.96	-9.96
3144640 3144641 1 Conduit CIRC 98.7 24 24 11.13 11.21 10.86 11.16 -7.19 -7.18	-7.25	7.06
3144641 3144632 1 Conduit CIRC 191.9 24 24 11.20 11.28 10.92 11.23 7.01 7.03	6.74	7.12
3144642 3144640 1 Conduit CIRC 23.2 24 24 -18.75 -18.74 -18.88 -19.66 -19.14 -19.14	-19.18	-19.94
3144643 3144638 1 Conduit CIRC 152.6 24 24 9.79 9.89 7.98 8.78 -8.47 -8.46	-8.96	-9.97
3144646 3144642 1 Conduit CIRC 197.9 24 24 6.10 6.10 6.06 6.31 6.21 6.21	6.17	6.51
3144647 3144646 1 Conduit CIRC 85.2 24 24 4.80 4.83 4.85 4.65 6.69 6.69 3144648 3144637 1 Conduit CIRC 441.4 24 24 -9.33 -9.27 -8.97 8.57 -12.17 -12.17	6.62	6.42
5111616 5111667 1 Solidari Silve 111.11 21 21 5.65 5.21 5.67 5.67 12.17	-12.14	-11.96 -10.26
3144911 5890 1 Conduit CIRC 15.1 24 24 -1.60 -1.39 2.13 -1.42 -15.17 -15.12 3144912 5890 1 Conduit CIRC 30.3 24 24 16.02 16.06 16.42 16.46 17.55 17.62	-14.16 23.26	24.17
3144913 3144624 1 Conduit CIRC 30.3 24 24 16.02 16.06 16.42 16.46 17.33 17.62 3144913 3144624 1 Conduit CIRC 10.6 24 24 15.73 15.73 15.73 21.25 21.27	21.07	21.41
	12.29	11.92
3144914 3144624 1 Conduit CIRC 35.4 24 24 13.48 13.50 14.04 15.61 12.84 12.85 3144915 E08 1 Conduit CIRC 9.2 18 18 6.17 6.17 6.17 6.17 10.63 10.64	10.62	10.67
3144916 E08 1 Conduit CIRC 9.2 18 18 18 10.27 10.17 9.87 9.39 8.98 9.09	8.92	9.19
3144917 B49 1 Conduit CIRC 14.5 24 24 7.70 7.69 7.78 7.63 13.20 13.22	13.25	13.39
3144928 3144600 1 Conduit CIRC 47.7 18 18 -3.13 -3.12 -3.24 -2.97 -6.95 -6.95	-7.11	-6.59
3144930 3144600 1 Conduit CIRC 281.4 24 24 -8.57 -8.56 -8.55 -8.19 -12.39 -12.39	-12.37	-12.17
3144931 3144627 1 Conduit CIRC 38 24 24 -6.56 6.47 13.22 7.25 6.62 5.91	13.43	7.17
3144932 3144629 1 Conduit CIRC 24.7 18 18 11.42 11.42 11.42 13.41 13.45	14.41	15.61
3144935 3144631 1 Conduit CIRC 37.6 24 24 13.94 13.58 13.35 10.06 14.24 13.71	13.82	12.90
3144936 3144631 1 Conduit CIRC 26.7 24 24 6.09 5.37 5.67 4.06 6.45 5.81	5.66	8.32
3144937 3144648 1 Conduit CIRC 5.6 24 24 -7.08 -7.07 -7.11 -7.10 -7.47 -7.47	-7.52	-7.52
3144938 3144648 1 Conduit CIRC 19 24 24 -11.57 -11.56 -11.54 -11.26 -13.96 -13.96	-13.97	-13.71
3144944 3144586 1 Conduit CIRC 13.6 24 24 -30.86 -30.86 -30.96 -30.66 -31.80 -31.80	-31.90	-31.53
3144951 3144647 1 Conduit CIRC 4.6 24 24 -7.66 -7.67 -7.77 -8.63 -10.16 -10.16	-10.22	-10.92
3144952 3144951 1 Conduit CIRC 27.8 24 24 -25.84 -25.83 -26.24 -26.28 -27.17 -27.17	-27.43	-27.29
3144955 3144956 1 Conduit CIRC 28.4 24 -22.76 -22.75 -23.06 -24.00 -23.13 -23.13	-23.42	-24.34
3144956 3144640 1 Conduit CIRC 5 24 24 13.00 13.08 11.79 10.60 11.50 9.06	10.67	8.78
3144962 3144602 1 Conduit CIRC 60.1 30 30 39.66 39.88 35.74 38.08 -33.69 -33.75	953.77	-32.51
3144967 3144600 1 Conduit CIRC 44.6 24 24 -7.55 -7.56 -7.58 -7.38 -19.74 -19.73	-19.54	-19.92
3146601 3146604 1 Conduit CIRC 233.5 36 36 24.72 24.71 26.59 31.55 27.52 27.44	29.43	32.25
3146604 3146605 1 Conduit CIRC 57.7 30 30 25.06 25.05 27.05 32.18 27.83 27.77	29.76	33.64
3146605 W14001_sta19981 1 Conduit CIRC 158.8 36 36 26.41 25.79 27.59 32.96 28.69 28.88	30.23	34.24



Upsteam										Prop	Future	Future	I	Prop	Future	Future
Node D Node D Suffe Link Type Link Shape (feet) (inches) [Flow (CFS)] Flow (CFS)]											1				1	
3146796						_					1					
3146737 3146738 1 1 Conduit CIRC 53.7 24 24 11.20 11.48 14.50 11.28 10.78 19.81 17.47 18.16 3146742 5019 1 1 Conduit CIRC 38. 24 24 11.26 11.69 14.99 15.71 14.65 20.77 18.16 3146742 5019 1 1 Conduit CIRC 16.0 12 12 2.27 -2.30 -0.07 7.65 -2.54 -2.54 -2.54 -2.59 7.74 18.16 14.24 50.00 1 1 Conduit CIRC 17.6 12 12 1.2 2.27 -2.30 -0.07 7.65 -2.54 -2.54 -2.54 -2.59 7.74 18.16 14.24 50.00 1 1 Conduit CIRC 17.6 12 12 1.2 2.27 -2.30 -0.07 7.65 -2.54 -2.54 -2.54 -2.59 7.74 18.16 14.2 12 11.2 11.2 11.2 11.2 11.2 11.2 1	Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)							
34146738	3146608		1	Conduit	CIRC	68.3			11.23	11.42	14.38	14.66	11.20	10.72	19.67	17.29
3146742			1													
3146748 5809																
3146749			1													
3446752 5830			1													
3148766 5822																
3146767																
3176109																
3175098			1													
3175102			1													
3175102																
3175104 3175279 1 Condult CIRC 14.7 24 24 16.73 16.85 16.85 26.50 26.50 26.48 26.29 3175107 3175111 1 Condult CIRC 49.9 60 60 24.54 4.54 5.65 5.61 7.89 7.89 7.89 7.89 3175111 5967 1 Condult CIRC 296.5 80 96 22.23 22.33 22.34 23.24 23.548 23.548 23.544 23.548 23.544 23.548 23.548 23.541 24.088 3175112 3175111 1 Condult CIRC 48.9 60 60 4.54 4.54 5.65 5.61 7.89 7.89 7.89 7.89 7.89 7.89 3175112 3175111 1 Condult CIRC 326.4 80 96 23.470 23.172 23.108 23.244 23.548 23.548 23.544 23.548 23.544 23.548 2			1													
3175107 3175112 1 Conduit CIRC 48.9 96 222.23 222.32 222.08 225.16 216.71 216.67 215.54 212.43 213.15 215.54 212.43 213.15 215.54 212.43 213.15 215.54 212.43 213.15 215.54 212.43 213.15 215.54 212.43 213.15 215.54 212.43 213.15 215.54 212.43 213.15 215.54 212.43 213.15 213.15 215.54 212.43 213.15 213.15 215.15 21		I .	1													
3175109 3175111 1 Conduit CIRC 48.9 60 80 4.54 4.54 5.65 5.58 7.89 7.89 7.89 7.89 3175111 5.5667 1 Conduit CIRC 265.5 96. 96 96 234.70 234.72 232.13 232.13 232.04 234.72 234.72 232.13 232.13 232.04 234.72 234.72 232.13 232.04 234.72 234.72 232.13 232.04 234.72 234.72 232.13 232.04 234.72 234.72 232.13 232.04 234.72 234.72 232.13 232.04 234.72 234.7																
3175112 3175113 1 Conduit CIRC 296.5 86 96 235.68 235.70 231.06 234.84 235.64 235.64 234.12 240.86 3175112 3175113 2 Conduit CIRC 326.4 36 36 -43.27 -43.32 -42.83 23.13 232.13 2			1													
3175112 3175113 1 Conduit CIRC 166.2 96 96 234.70 234.72 230.13 233.84 232.13 232.13 230.46 234.71 231.75112 3175115 3175115 1 Conduit CIRC 36.4 36. 36 42.85 42.84 43.51 49.90 34.39 34.49 35.23 38.80 3175115 3175114 3175115 1 Conduit CIRC 90.8 30 30 4.58 4.45 4.73 -28.89 4.34 4.32 4.13 6.92 3175115 3175121 1 Conduit CIRC 263.2 48 48 45.93 45.93 46.59 52.23 37.97 38.07 38.78 42.44 41.5111 4			1													
3175112 3175113 2 Conduit CIRC 326.4 36. 36. 43.27 43.32 42.83 36.81 20.31 20.37 21.39 26.45 23.31 23.37 23.88 23.3175114 3175115 1 Conduit CIRC 90.8 30 30 4.58 4.59 4.52 3.288 4.34 4.32 4.32 4.13 6.92 3175115 3175121 1 Conduit CIRC 263.2 48 48 45.93 46.59 53.23 37.97 38.07 38.07 33.78 42.43 3175121 3177634 1 Conduit CIRC 263.2 48 48 44.59 34.59 34.59 34.9			1													
3175113 3175115 1 Conduit CIRC 177.9 36 36 42.85 42.84 43.51 49.90 34.39 34.49 35.23 38.80 33.75115 3175121 1 Conduit CIRC 90.8 30 30 4.58 4.50 4.73 -28.89 4.34 4.32 4.13 4.80 31.75121 3175121 1 Conduit CIRC 263.2 48 48 45.93 45.93 46.59 53.23 37.97 38.07 38.78 42.44 31.75121 3175121 3175121 1 Conduit CIRC 153.1 48 48 44.92 47.92 48.56 55.29 40.26 40.37 41.07 44.76 44																
3175114 3175115 1 Conduit CIRC 99.8 30 30 4.58 4.50 4.73 22.8.89 4.34 4.32 4.13 6.92 3175121 3177634 1 Conduit CIRC 6.81 4.8 4.8 4.59 4.792 4.792 4.8.56 5.529 4.02.6 40.37 41.07 44.76 3175121 3177634 1 Conduit CIRC 153.1 48 48 47.92 47.92 48.56 55.29 40.26 40.37 41.07 44.76 3175122 3175121 1 Conduit CIRC 72.2 18 18 5.546 5.506 -4.75 -11.47 -1.69 -1.68 -1.66 -1.66 -1.66 -2.84 3175213 3175113 1 Conduit CIRC 76.6 18 18 -2.76 -2.71 -3.05 -4.76 -2.03 -2.00 -2.27 -2.37 3175279 5968 1 Conduit CIRC 35.8 30 30 -3.47.77 -3.491 -3.458 -26.00 -42.37 -4																
3175115 3175121 1 Conduit CIRC 2632 48 48 45.93 46.59 53.23 37.97 38.07 38.78 42.44																
3175121 317634 1 Conduit CIRC 153.1 48 48 47.92 47.92 48.56 55.29 40.26 40.37 41.07 44.76			-													
3175122 3175121 1 Conduit CIRC 72.2 18 18 5.46 -5.06 -4.75 -11.47 -1.69 -1.68 -1.66 -2.94			1								48.56					
3175272 5968			1												-1.66	
3175279	3175261	3175113	1	Conduit	CIRC	76.6	18	18	-2.76	-2.71	-3.05	-4.76	-2.03	-2.00	-2.27	-2.37
3176092 3176096 1 Conduit CIRC 508.6 42 42 -19.54 -19.57 -20.25 -19.45 33.54 33.54 33.56 33.00 3176094 3176295 1 Conduit CIRC 492 30 30 34.99 34.99 34.92 35.30 34.10 34.35 34.04 34.11 3176096 3176098 1 Conduit CIRC 27.2 54 54 54 56.30 56.30 54.89 55.82 61.20 61.20 57.37 60.26 63.51 60.26 63.51 60.26 63.51		5968	1	Conduit		35.8	30	30			-34.58	-26.00				-35.29
3176094 3176254 1 Conduit CIRC 492 30 30 34.99 34.99 34.92 35.30 34.10 34.35 34.04 34.11	3175279	6023	1	Conduit	CIRC	81.8	24	24	10.98	10.98	10.90	11.07	10.00	10.00	9.92	9.92
3176096 3176098 1 Conduit CIRC 27.2 54 54 56.30 56.30 54.89 55.82 61.20 61.20 57.37 60.26	3176092	3176096	1	Conduit	CIRC	508.6	42	42	-19.54	-19.57	-20.25	-19.45	33.54		33.56	33.00
3176098 3176255 1 Conduit CIRC 15.4 54 54 57.68 57.69 56.49 55.91 66.45 66.45 62.04 63.52	3176094	3176254	1	Conduit	CIRC	492	30	30	34.99	34.99	34.92	35.30	34.10	34.35	34.04	34.11
3176100 3176255 1 Conduit RECT 179.1 96 96 263.80 263.80 258.33 264.95 284.29 284.29 277.16 278.40 3176102 3176100 1 Conduit CIRC 151.5 96 96 237.82 237.82 232.93 236.36 244.60 244.61 238.26 244.01 3176105 3176105 3176105 3176106 1 Conduit CIRC 532.7 96 96 242.70 242.72 239.66 244.03 240.34 240.34 235.51 247.91 24	3176096	3176098	1	Conduit	CIRC	27.2	54	54	56.30	56.30	54.89	55.82	61.20	61.20	57.37	60.26
3176102 3176100 1 Conduit CIRC 151.5 96 96 237.82 237.82 232.93 236.36 244.60 244.61 238.26 244.01 3176102 3176105 2 Conduit CIRC 15 24 24 -35.65 -35.48 -34.77 -33.13 -26.41 -26.23 -26.28 -26.43 3176104 5974 1 Conduit CIRC 532.7 96 96 242.70 242.72 239.66 244.03 240.34 240.34 240.34 245.51 247.91 2			1	Conduit												
3176102 3176105 2 Conduit CIRC 15 24 24 -35.65 -35.48 -34.77 -33.13 -26.41 -26.23 -26.28 -26.43 3176104 5974 1 Conduit CIRC 532.7 96 96 242.70 242.72 239.66 244.03 240.34 240.34 240.34 235.51 247.91 3176105 3176108 1 Conduit CIRC 282.7 36 36 -35.35 -35.30 -34.79 -33.23 -25.88 -25.72 -25.60 -25.93 3176107 3176109 1 Conduit CIRC 277.2 30 30 13.88 13.85 14.21 14.56 21.21 21.21 21.17 20.90 3176109 3176110 1 Conduit CIRC 240.6 42 42 -46.31 -46.30 -46.44 -46.64 -50.62 -50.62 -50.67 -50.33 3176109 3176110 1 Conduit CIRC 32.7 30 30 -56.15 -56.11 -56.86 -56.95 -69.79 -69.78 -70.26 -71.37 3176110 3176113 1 Conduit CIRC 387.3 54 54 28.35 29.05 26.75 29.52 62.38 62.37 63.94 3176112 5960 1 Conduit CIRC 187.7 48 48 24.22 24.24 26.15 30.01 -31.81 -31.70 -34.32 -32.50 3176115 3178753 1 Conduit CIRC 298.7 48 48 34.15 34.15 36.34 41.28 35.11 35.26 34.63 35.63 3176245 6006 1 Conduit RECT 107.4 96 96 306.08 305.41 301.20 295.80 298.87 295.0 298.87 295.0 295.90 295.80 298.87 295.0 295.90 3176247 5988 1 Conduit RECT 107.4 96 96 292.50 292.39 287.25 283.33 308.23 306.80 301.98 295.90 3176249 5982 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249 5982 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249 5982 1 Conduit RECT 190.5 96 96 293.69 293.55 288.10 284.14 278.44 278.44 278.50 275.71 3176246 5979 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249 5982 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249 5982 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249 5982 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249 5992 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249 5992 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249 5992 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249			1													
3176104 5974 1 Conduit CIRC 532.7 96 96 242.70 242.72 239.66 244.03 240.34 240.34 235.51 247.91			1													
3176105 3176108 1 Conduit CIRC 282.7 36 36 -35.35 -35.30 -34.79 -33.23 -25.88 -25.72 -25.60 -25.93 3176107 3176109 1 Conduit CIRC 277.2 30 30 13.88 13.85 14.21 14.56 21.21 21.21 21.17 20.90 3176108 5963 1 Conduit CIRC 240.6 42 42 -46.31 -46.30 -46.44 -46.64 -50.62 -50.67 -50.33 3176109 3176110 1 Conduit CIRC 32.7 30 30 -56.15 -56.11 -56.86 -56.95 -69.79 -69.78 -70.26 -71.37 3176110 3176113 1 Conduit CIRC 387.3 54 54 28.35 29.05 26.75 29.52 62.38 62.38 62.37 63.94 3176112 5960 1 Conduit CIRC 187.																
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3176110 3176113 1 Conduit CIRC 387.3 54 54 28.35 29.05 26.75 29.52 62.38 62.37 63.94 3176112 5960 1 Conduit CIRC 187.7 48 48 24.22 24.24 26.15 30.01 -31.81 -31.70 -34.32 -32.50 3176113 3178754 1 Conduit CIRC 353.5 54 54 -45.35 -45.25 -45.85 -44.39 -63.56 -63.51 -63.74 -61.27 3176115 3178753 1 Conduit CIRC 298.7 48 48 34.15 36.34 41.28 35.11 35.26 34.63 35.63 3176245 6006 1 Conduit RECT 171.7 96 96 306.08 305.81 301.20 295.80 298.87 298.02 293.50 291.14 3176246 5997 1 Conduit RECT 107.4 96			1													
3176112 5960 1 Conduit CIRC 187.7 48 48 24.22 24.24 26.15 30.01 -31.81 -31.70 -34.32 -32.50 3176113 3178754 1 Conduit CIRC 353.5 54 54 -45.35 -45.25 -45.85 -44.39 -63.56 -63.51 -63.74 -61.27 3176115 3178753 1 Conduit CIRC 298.7 48 48 34.15 36.34 41.28 35.11 35.26 34.63 35.63 3176245 6006 1 Conduit RECT 171.7 96 96 306.08 305.81 301.20 295.80 298.87 298.02 293.50 291.14 3176246 5997 1 Conduit RECT 107.4 96 96 292.50 292.39 287.25 283.33 308.23 306.80 301.98 299.90 3176247 5988 1 Conduit RECT 136.			1													
3176113 3178754 1 Conduit CIRC 353.5 54 54 -45.35 -45.25 -45.85 -44.39 -63.56 -63.51 -63.74 -61.27 3176115 3178753 1 Conduit CIRC 298.7 48 48 34.15 34.15 36.34 41.28 35.11 35.26 34.63 35.63 3176245 6006 1 Conduit RECT 171.7 96 96 306.08 305.81 301.20 295.80 298.87 298.02 293.50 291.14 3176246 5997 1 Conduit RECT 107.4 96 96 292.50 292.39 287.25 283.33 308.23 306.80 301.98 298.90 3176247 5988 1 Conduit RECT 136.4 96 96 305.45 305.37 300.92 295.98 282.34 281.70 276.77 272.84 3176248 5985 1 Conduit <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>																
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3176245 6006 1 Conduit RECT 171.7 96 96 306.08 305.81 301.20 295.80 298.87 298.02 293.50 291.14 3176246 5997 1 Conduit RECT 107.4 96 96 292.50 292.39 287.25 283.33 308.23 306.80 301.98 298.90 3176247 5988 1 Conduit RECT 136.4 96 96 305.45 305.37 300.92 295.98 282.34 281.70 276.77 272.84 3176248 5985 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249 5982 1 Conduit RECT 215 96 96 293.69 293.55 288.10 284.14 278.44 278.50 272.50 275.17 3176251 5979 1 Conduit <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td></td<>														1		
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3176247 5988 1 Conduit RECT 136.4 96 96 305.45 305.37 300.92 295.98 282.34 281.70 276.77 272.84 3176248 5985 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249 5982 1 Conduit RECT 215 96 96 293.69 293.55 288.10 284.14 278.44 278.50 272.50 275.17 3176251 5979 1 Conduit RECT 199.3 96 96 316.41 316.41 312.16 316.88 339.55 331.81 337.78 3176254 3176096 1 Conduit CIRC 10.4 36 36 43.49 43.49 42.29 43.04 40.88 40.89 40.80 41.51																
3176248 5985 1 Conduit RECT 190.5 96 96 297.19 297.08 292.05 285.85 273.73 272.97 267.54 262.95 3176249 5982 1 Conduit RECT 215 96 96 293.69 293.55 288.10 284.14 278.44 278.50 272.50 275.17 3176251 5979 1 Conduit RECT 199.3 96 96 316.41 316.41 312.16 316.88 339.55 339.55 331.81 337.78 3176254 3176096 1 Conduit CIRC 10.4 36 36 43.49 43.49 42.29 43.04 40.88 40.89 40.80 41.51		I .														
3176249 5982 1 Conduit RECT 215 96 96 293.69 293.55 288.10 284.14 278.44 278.50 272.50 275.17 3176251 5979 1 Conduit RECT 199.3 96 96 316.41 316.41 312.16 316.88 339.55 339.55 331.81 337.78 3176254 3176096 1 Conduit CIRC 10.4 36 36 43.49 43.49 42.29 43.04 40.88 40.89 40.80 41.51			1													
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3176254 3176096 1 Conduit CIRC 10.4 36 36 43.49 43.49 42.29 43.04 40.88 40.89 40.80 41.51																
	3176255	3176251	1	Conduit	RECT	318.2	96	96	321.04	321.05	313.88	317.33	356.85	356.84	347.29	343.48



									Prop	Future	Future	I	Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
3176274	3176275	1	Conduit	CIRC	49.4	24	24	-21.33	-21.33	-21.37	-20.79	-21.95	-21.95	-21.98	-21.38
3176275	5960	1	Conduit	CIRC	42	24	24	16.34	16.36	16.95	17.05	-20.06	-20.05	-20.47	-20.49
3177634	3177638	1	Conduit	CIRC	34.6	48	48	47.97	47.97	48.61	55.34	40.34	40.45	41.14	44.83
3177638	3177642	1	Conduit	CIRC	283.8	48	48	54.04	53.99	54.74	61.71	46.52	46.63	47.28	51.12
3177642	3177653	1	Conduit	CIRC	253.6	54	54	64.10	64.10	65.06	71.94	52.67	52.84	53.72	57.67
3177643	3177642	1	Conduit	CIRC	93.7	24	24	12.32	12.32	12.33	-16.31	14.40	14.40	14.38	14.40
3177646	3177647	1	Conduit	CIRC	267.1	21	21	9.82	9.82	9.81	9.92	10.56	10.56	10.55	10.84
3177653	3177664	1	Conduit	CIRC	363.7	54	54	71.93	71.94	72.80	80.15	63.51	63.65	64.29	68.78
3177657	3177646	1	Conduit	CIRC	154.5	18	18	-0.76	-0.76	-0.76	-0.76	-1.01	-1.01	-1.01	-1.00
3177664	5929	1	Conduit	CIRC	64.7	54	54	86.17	86.17	86.48	92.22	78.57	78.70	79.04	83.63
3177674	3177677	1	Conduit	CIRC	48.6	60	60	94.22	94.19	94.52	100.03	-133.36	-133.37	-133.65	-130.72
3177675	3177674	1	Conduit	CIRC	42	24	24	21.11	21.11	21.10	21.79	20.33	20.33	20.32	20.72
3177677	3177683	1	Conduit	CIRC	402.8	60	60	96.72	96.69	97.04	103.17	93.99	94.24	94.59	101.58
3177678	3177677		Conduit	CIRC	71.7	24	24	15.72	15.72	15.70	15.96	16.65	16.66	16.65	17.06
3177683	3143189	1	Conduit	CIRC	185.3	66	66	109.73	109.73	110.00	111.96	115.40	115.69	115.93	124.33
3177966 3177985	3177657	1	Conduit	CIRC	110.6 67.6	18 18	18 18	-0.35	-0.35	-0.35 -1.74	-0.35 -3.19	-0.59 -1.43	-0.59	-0.59	-0.59
3177990	3177683 3177664	1	Conduit Conduit	CIRC	70.5	18	18	-1.43 6.36	-1.43 6.36	6.23	-3.19 -7.59	9.37	-1.44 9.34	-1.36 8.96	-1.60 7.81
3178003	3177653	+ +	Conduit	CIRC	94	18	18	-4.33	-4.30	-4.85	-8.06	-1.81	-1.80	-1.83	-2.52
3178015	3177638	1	Conduit	CIRC	72.7	18	18	6.42	6.43	6.74	8.55	-5.37	-5.37	-5.39	-5.40
3178751	3178752	1	Conduit	CIRC	127	24	24	-15.93	-15.92	-15.96	-16.18	-3.3 <i>1</i> -16.70	-16.70	-16.74	-17.03
3178752	3179002	1	Conduit	CIRC	118.8	24	24	18.32	18.32	18.28	18.16	18.92	18.92	18.87	18.79
3178753	5952	1	Conduit	CIRC	45.8	54	54	41.37	41.36	43.60	47.76	63.60	63.58	62.90	62.30
3178754	3178756	1	Conduit	CIRC	220.5	54	54	41.84	42.90	39.83	40.72	34.03	34.48	32.89	35.59
3178755	3178763	1	Conduit	CIRC	270.6	24	24	17.52	17.52	17.82	19.21	16.82	16.88	17.18	18.32
3178756	3178767	1 1	Conduit	CIRC	267	54	54	48.83	49.75	46.99	45.23	45.99	46.36	44.25	45.48
3178758	3178762	1	Conduit	CIRC	32.2	30	30	22.29	22.30	23.51	29.39	-29.23	-29.22	-24.05	-23.95
3178759	3178758	1 1	Conduit	CIRC	86	30	30	19.70	19.70	-23.41	-24.61	-20.06	-20.06	-25.49	-26.93
3178760	3178759	1	Conduit	CIRC	70.4	30	30	27.27	27.27	26.92	27.44	28.45	28.45	28.52	29.41
3178761	3178760	1	Conduit	CIRC	136.1	30	30	19.36	19.36	20.20	23.93	18.27	18.34	18.63	19.79
3178762	5926	1	Conduit	CIRC	320.4	60	60	59.37	59.35	60.58	65.65	57.74	58.52	62.18	65.69
3178763	3178765	1	Conduit	CIRC	48.5	24	24	19.26	19.38	21.79	24.01	18.09	18.15	18.46	19.62
3178765	3178761	1	Conduit	CIRC	89.1	30	30	19.16	19.16	21.02	23.95	18.10	18.17	20.26	20.33
3178767	3236593	1	Conduit	CIRC	326	54	54	83.28	85.34	82.78	81.69	88.16	87.76	85.66	82.82
3178768	3178767	1	Conduit	CIRC	42	54	54	47.10	47.17	35.13	45.14	47.92	48.00	47.69	60.71
3178769	3178768	1	Conduit	CIRC	121.7	66	66	61.06	61.14	60.88	72.55	74.58	74.66	74.68	89.12
3178770	3178769	1	Conduit	CIRC	95.8	66	66	57.13	57.21	56.59	59.31	84.79	84.85	84.78	81.99
3178771	3178770	1	Conduit	CIRC	282.2	66	66	57.86	57.93	57.45	59.79	75.99	76.10	75.69	76.64
3178772	3178771	1	Conduit	CIRC	405.4	66	66	57.90	57.97	57.49	59.81	76.15	76.21	76.03	79.99
3178773	3178772	1	Conduit	CIRC	26.3	66	66	-61.57	-61.53	-61.84	-67.52	-138.81	-138.79	-138.90	-147.75
3178775	5926	1	Conduit	CIRC	24.5	24	24	14.86	14.98	15.17	16.54	19.29	19.30	19.14	18.90
3178778	3179011	1	Conduit	CIRC	4.8	18	18	-13.67	-13.68	-13.91	-12.61	-13.98	-14.07	-13.82	-12.96
3178778	5926	2	Conduit	CIRC	48.4	24	24	14.21	14.23	14.19	14.62	13.34	13.45	12.79	13.14
3178779	5923	1	Conduit	CIRC	24.8	24	24	15.94	16.06	16.67	18.17	13.67	13.69	13.61	15.06
3178781	3178773	1	Conduit	CIRC	344.2	66	66	-61.57	-61.52	-61.84	-66.83	-70.40	-70.39	-70.45	-72.42
3178783	3178781	1	Conduit	CIRC	40.6	66	66	46.18	46.12	47.02	43.79	132.92	132.88	134.69	131.09
3178785	5921	1	Conduit	CIRC	35.2	24	24	14.06	14.09	14.15	14.96	14.73	14.74	14.47	14.39
3178787	5905	1	Conduit	CIRC	564.6	66	66	84.77	85.78	90.22	98.93	81.99	82.17	87.83	98.11
3178788	3178787	1	Conduit	CIRC	44.8	24	24	-4.09	-4.06	-5.05	-6.99	-10.63	-10.62	-10.95	-11.24
3178790	3178783	1	Conduit	CIRC	364.8	66	66	-67.47	-68.41	-62.40	-62.73	-83.22	-83.16	-82.77	-84.67
3178791	3178790	1	Conduit	CIRC	394.7	66	66	-67.39	-68.95	-65.53	-65.93	-82.00	-82.42	-80.57	-81.30



Upsteam										Prop	Future	Future	I	Prop	Future	Future
Node D N											1				1	
3717872 314487 1 1 Conduit CIRC 3512 36 35 25.96 25.60 25.60 25.70 26.41 24.77 24.77 25.05 25.97						_					1					
3178793 3178792 1 Conduit CIRC 104.2 30 30 25.88 25.59 26.33 33.19 24.21 24.25 24.65 26.32 3178794 5005 1 Conduit CIRC 41.6 24 24 25.67 25.59 26.10 26.81 24.64 24.66 24.26 25.63 3178797 3179730 1 Conduit CIRC 41.6 24 24 25.67 25.09 27.00 33.32 24.4 24.26 24.71 26.43 3178797 3179730 1 Conduit CIRC 41.6 24 24 25.00 25.00 32.00 3178790 1 Conduit CIRC 41.6 24 24 25.00 25.00 32.00 3178790 1 Conduit CIRC 41.6 24 24 24 22.00 25.00 32.00 32.00 3178793 1 CONDUIT CIRC 41.6 24 24 24 24.00 24.00 25.00 32.00 32.00 3178793 1 CONDUIT CIRC 41.6 24 24 24 24.00 24.00 25.00 32.00 32.00 3178793 1 CONDUIT CIRC 41.6 24 24 24 27.51 22.00 27.00 31.45 21.00 31.00 3178793 1 CONDUIT CIRC 41.6 24 24 24 41.77 14.76 15.00 31.45 21.40 31.45 21.40 31.75 20.30 3178797 1 CONDUIT CIRC 40.4 24 24 41.77 14.76 14.76 14.75 11.75 15.33 1.55 31.45 11.53 21.75 21.20 3178797 1 CONDUIT CIRC 41.4 24 24 41.47 41.47 14.47 61.47 51.47 15.33 1.55 31.53 11.53 11.53 31.75 21.30 3178919 3178779 1 CONDUIT CIRC 43.4 4 16.1 15.1 15.1 15.2 3178919 3178779 1 CONDUIT CIRC 43.4 4 16.1 15.1 15.1 15.1 15.3 15.5 31.5 31.5 31			Suffix	Link Type		(feet)	(Inches)	,	, ,	, ,	,	,	, ,	, ,	, ,	Flow (CFS)
3178794	3178792		1	Conduit	CIRC	351.2			25.59	25.60	26.33	28.44	24.17	24.21	24.57	26.04
3178987 3178791 1 Conduit ORC 997 30 30 50 22.88 25.99 27.08 33.32 24.24 24.28 24.71 26.49 3178987 3178791 1 Conduit ORC 97 24 24 2110 2109 2121 2155 28.81			1	Conduit												
3178987 3178791 1 Conduit GRC 97 24 24 21.10 21.09 21.21 21.85 22.861 22.81 22.03 22.942 23.78988 3178790 1 Conduit GRC 129 24 24 18.08 18.07 18.03 12.52 277 22.55 22.88 22.41 23.78989 3178783 1 Conduit GRC 17.4 24 24 27.35 22.55 22.85 22.95 22.95 22.85 22.95 22.85 22.85 22.41 23.78989 3178783 1 Conduit GRC 17.4 24 24 27.35 22.55 22.85 22.95 22.85 22.85 22.41 23.78989 3178783 1 Conduit GRC 17.4 24 24 27.35 27.700 27.780 27.78 68 37.34 63 37.48 37.49 30.40 37.8999 317875 1 Conduit GRC 17.4 24 24 27.35 27.700 27.780 27.78 68 37.37 69.37 31.49 30.40 37.8999 317875 1 Conduit GRC 18.4 28 28 11.4 14.4 14.7 14.7 14.7 18.7 18.2 18.2 18.2 18.2 18.2 18.2 18.2 18.2			1													
3178988 3178780 1 Conduit CIRC 129 24 24 118.08 -18.09 -18.13 -18.53 -25.20 -25.19 -25.42 -25.80 -25.13 -25.24 -25.80 -25.13 -25.24 -25.80 -25.24 -25.20 -25.24 -25.25 -25.24 -25.20 -25.24 -25.20 -25.24 -25.20 -25.24 -25.24 -25.20 -25.24			1													
3178899 3178783 1 Conduit CIRC 17.4 24 24 22.85 22.95 22.95 22.97 22.77 22.55 22.88 22.41 3178902 3178763 1 Conduit CIRC 17.4 24 24 27.81 27.70 27.90 27.90 26.68 31.43 31.45 31.48 31.48 30.40 3178902 3178765 1 Conduit CIRC 40.4 24 24 24.71 14.76 15.03 15.84 16.24 16.24 16.31 15.29 17.90			1													
3178992 3178753 1 Condult CIRC 17.4 24 24 27.81 27.80 27.93 26.66 31.45 31.45 31.48 30.40 3179010 3178775 1 Condult CIRC 35.6 18 18 14.74 14.76 15.03 15.84 15.24 15.24 15.24 15.25 3179010 3178775 1 Condult CIRC 35.6 18 18 14.74 14.74 14.76 15.03 15.84 15.24 15.24 15.25 3179010 3178775 1 Condult CIRC G. 94 24 22.69 62.60 26.21 27.66 37.20																
3179002 3178755 1 Conduit CIRC 40.4 24 24 14.77 14.76 15.03 15.84 -16.24 -16.24 -16.31 15.29 3179010 3178775 1 Conduit CIRC 29.4 24 24 24.62.09 22.00 22.00 22.00 37.00 37.20																
3179010 3178778																
3179012 3178775 1 Conduit CIRC 29.4 24 24 22.09.8 -28.08 -28.21 -27.86 -37.20 -37.20 -37.23 -37.10 3179013 3178775 1 Conduit CIRC 16.2 2.4 24 -27.06 -27.05 -27.08 -26.94 -36.34 -36.34 -36.36			1													
3179013 3178775 1 Conduit CIRC 61.2 24 24 22.06 .27.05 .27.18 .28.94 .36.34 .36.36 .36.36 .318.319.198 .3178779 1 Conduit CIRC 61.1 18 18 .17.85 .18.33 .19.18 .19.18 .19.19 .19.92 .3179019 .3178779 1 Conduit CIRC 43.4 18 18 .15.13 .15.13 .15.14 .15.49 .16.03 .16.03 .16.03 .16.03 .16.03 .17.04 .16.43 .3179020 .3178785 1 Conduit CIRC 8.7 18 18 .18 .20.2 .80.1 .80.5 .80.4 .12.53 .13.33 .13.75 .13.89 .3179021 .3178785 1 Conduit CIRC 30.6 18 18 .80.9 .80.7 .97.9 .9.84 .9.97 .14.25 .14.25 .14.27 .14.56 .3179024 .3178788 1 Conduit CIRC 32 18 .18 .18 .4.70 .4.67 .4.72 .50.6 .10.64 .10.63 .10.77 .10.84 .3179029 .3178788 1 Conduit CIRC 32 .18 .18 .4.70 .4.67 .4.72 .50.6 .10.64 .10.63 .10.77 .10.84 .3179029 .3178788 1 Conduit CIRC 32 .18 .18 .4.70 .4.67 .4.72 .50.6 .10.64 .10.63 .10.77 .10.84 .3179029 .3178786 1 Conduit CIRC 32 .18 .18 .4.70 .4.67 .4.72 .10.18 .13.04 .13.06 .13.56 .3179029 .3378788 1 Conduit CIRC .27.3 18 .18 .5.77 .5.71 .5.56 .4.18 .13.90 .13.88 .14.13 .13.66 .32.18806 .32.36636 1 Conduit CIRC .27.3 18 .18 .5.77 .5.71 .5.56 .4.18 .13.90 .13.88 .14.13 .13.66 .32.18814 .32.18808 1 Conduit CIRC .32.5 .60 .60 .12.93 .13.51 .13.19 .13.19 .13.55 .13.78 .79 .32.18814 .32.18808 1 Conduit CIRC .37.8 .40 .42 .4 .91.9 .84 .99 .19.10 .13.88 .14.13 .13.66 .32.18814 .32.18808 1 Conduit CIRC .37.8 .40 .40 .40 .99 .40 .40 .60 .40 .40 .40 .40 .40 .40 .40 .40 .40 .4			1													
3179018 3178779 1 Condult CIRC 6.1 18 18 18 -17.85 -17.84 -17.86 -18.83 -19.18 -19.18 -19.19 -19.92 -19.92 -19.93			<u> </u>			+										
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	3234051	3234041	1 1	Conduit	CIRC	456.5	24	24	14.33	14.35	14.34	14.37	12.43	12.37	12.47	12.37



									Prop	Future	Future		Prop	Future	Future
	_ ,	1			l	l		Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	Flow (CFS)	Flow (CFS)	, ,	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
3234051	3234052	2	Conduit	CIRC	16.1	24	24	16.48	16.60	15.37	15.92	15.84	15.85	15.74	15.68
3234052	3236559	1	Conduit	CIRC	506.4	24	24	17.39	17.47	16.74	17.10	14.27	14.28	13.59	14.40
3234054	3234051	1	Conduit	CIRC	44.4	24	24	10.02	9.83	10.02	9.77	10.62	10.60	10.49	10.28
3234057	3234049	1	Conduit	CIRC	166.1	36	36	-22.18	-23.11	-20.21	-20.82	15.64	15.54	15.92	16.27
3234058	3234059	1	Conduit	CIRC	17.2	30	30	0.00	0.00	0.00	0.00	-11.02	-5.43	-4.53	-4.18
3234058	3236568	2	Conduit	CIRC	341.7	36	36	0.00	0.00	0.00	0.00	-0.86	-0.22	0.00	0.00
3234059	3234057	1	Conduit	CIRC	182.5	36	36	-22.26	-23.18	-20.26	-20.88	-14.56	-14.63	-14.90	-14.62
3234307	6013	1	Conduit	RECT	124.4	96	84	315.51	315.98	313.45	313.08	311.84	311.90	310.46	310.25
3234307	6013	2	Conduit	RECT	124.4	96	84	315.51	315.98	313.45	313.08	311.84	311.90	310.46	310.25
3234312	6018	1	Conduit	RECT	446	60	96	386.11	386.16	385.56	389.37	402.70	402.94	402.04	404.30
3234315	6016	1	Conduit	RECT	338.3	96	84	319.64	319.16	318.52	318.08	329.77	329.73	328.34	328.12
3234315	6016	2	Conduit	RECT	338.3	96	84	319.64	319.16	318.52	318.08	329.77	329.73	328.34	328.12
3236559	3236576	1	Conduit	CIRC	424.5	30	30	19.15	19.27	18.46	18.83	16.22	16.22	15.50	16.36
3236568	3236569	1	Conduit	CIRC	11	30	30	-14.23	-14.60	-13.25	-13.45	-8.77	-8.84	-8.32	-8.19
3236568	3236582	2	Conduit	CIRC	420.6	36	36	14.35	14.70	13.34	13.56	9.71	9.62	8.80	9.40
3236569	3234059	1	Conduit	CIRC	342	30	30	-25.35	-26.23	-23.11	-23.91	-17.77	-17.89	-17.90	-17.82
3236576	3236590	1	Conduit	CIRC	279.5	36	36	19.22	19.33	18.53	18.89	25.61	25.64	25.60	25.77
3236582	3236584	1	Conduit	CIRC	32.5	36	36	14.41	14.76	13.40	13.62	9.87	9.77	8.80	9.57
3236584	3236615	1	Conduit	CIRC	504.3	72	72	113.92	116.61	112.00	112.34	107.85	108.50	104.48	104.40
3236585	3236584	1	Conduit	CIRC	14.3	60	60	108.11	108.94	102.40	102.39	102.23	102.68	99.80	99.21
3236585	3236569	2	Conduit	CIRC	453.2	30	30	-11.39	-11.82	-10.38	-10.83	6.08	6.05	6.14	6.27
3236588	3236585	1	Conduit	CIRC	20.2	30	30	-15.59	-15.41	-15.67	-16.12	-27.30	-27.16	-27.29	-27.69
3236589	3236588	1	Conduit	CIRC	15.3	24	24	-13.74	-13.63	-13.86	-14.60	-17.72	-17.69	-17.73	-18.88
3236590	3236593	1	Conduit	CIRC	7.8	36	36	19.26	19.36	19.24	19.39	36.36	36.44	36.26	36.19
3236593	3236585	1	Conduit	CIRC	377.3	60	60	90.68	92.88	90.06	89.18	94.26	93.97	91.85	89.87
3236596	3236589	1	Conduit	CIRC	361.2	24	24	7.54	7.55	7.57	8.03	8.96	8.96	8.93	9.36
3236596	3236593	2	Conduit	CIRC	18	24	24	-12.66	-12.61	-12.66	-13.09	-16.17	-16.14	-16.18	-16.72
3236615	3236633	1	Conduit	CIRC	631.9	78	78	132.80	134.28	131.05	132.21	151.14	153.74	152.53	152.26
3236631	30002	1	Conduit	CIRC	324	78	78	170.25	171.62	167.12	168.46	172.39	175.72	172.80	173.03
3236632	3236631	1	Conduit	CIRC	426.1	78	78	170.42	171.75	167.22	168.59	172.58	175.85	172.94	173.14
3236633	3236634	1	Conduit	CIRC	29.8	78	78	144.58	145.51	140.48	142.27	148.89	149.63	144.94	145.99
3236634	3236632	1	Conduit	CIRC	471.9	78	78	144.25	144.99	141.66	142.55	152.76	153.78	149.42	148.72
3236636	3236633	1	Conduit	CIRC	30	24	24	-9.75	-9.04	-9.72	-9.51	-21.92	-21.39	-21.63	-21.50
4161810	3144629	1	Conduit	CIRC	28	18	18	5.41	5.41	5.41	5.41	6.11	6.16	6.49	7.70
4161811	3144628	1	Conduit	CIRC	19.1	18	18	-8.36	-8.35	-8.54	-8.85	-9.18	-9.18	-9.43	-9.70
4161812	3144627	1	Conduit	CIRC	38.2	18	18	-10.04	-10.01	-9.78	-9.67	-11.61	-11.61	-11.59	-12.49
4165577	W14001_sta16681	1	Conduit	CIRC	294.8	30	30	15.69	15.71	15.50	15.48	22.12	23.28	21.15	19.68
4165579	4165577	1	Conduit	CIRC	220.4	24	24	13.21	13.26	13.01	12.99	15.71	16.57	16.23	15.93
4165581	4165579	1	Conduit	CIRC	184.7	24	24	7.19	7.19	6.75	7.12	10.92	11.06	10.33	9.93
4165583	4165581	1	Conduit	CIRC	309.1	24	24	4.33	3.81	2.82	2.60	7.86	7.91	7.06	6.36
4165585	5360	1	Conduit	CIRC	68.3	36	36	-2.47	-1.98	-1.51	-1.02	-15.44	-15.46	-16.55	-16.52
4165604	4165577	1	Conduit	CIRC	7.6	24	24	0.73	0.73	0.74	0.73	1.25	1.24	1.24	1.26
4165605	4165577	1	Conduit	CIRC	51.3	24	24	1.89	1.88	1.86	1.83	8.94	8.37	7.12	4.84
4165607	4165581	1	Conduit	CIRC	50.1	24	24	0.26	0.27	0.28	0.27	-5.20	-4.59	-4.12	-2.77
4165610	4165583	1	Conduit	CIRC	56.5	24	24	1.00	0.90	0.76	0.67	2.37	2.39	-2.10	1.95
4165614	5361	1	Conduit	CIRC	85.1	36	36	9.45	9.46	9.45	9.45	16.93	16.93	16.67	16.69
4165616	4165614	1	Conduit	CIRC	62.9	30	30	9.45	9.45	9.45	9.44	16.64	16.65	16.54	16.55
5708649	5225	1	Conduit	CIRC	32.2	24	24	6.45	7.84	5.92	6.32	-12.60	-12.90	-10.96	-10.68
5708650	5225	1	Conduit	CIRC	25.9	24	24	-11.78	-11.22	-11.84	-11.83	-13.04	-13.26	-12.69	-13.14
5708651	5708650	1	Conduit	CIRC	21.2	24	24	19.58	19.36	19.56	20.68	20.45	20.43	20.29	21.22
5708685	5850	1	Conduit	CIRC	29.2	24	24	16.70	11.46	11.49	11.24	27.22	-20.43	-19.20	-18.93



									Prop	Future	Future		Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
5708686	5850	1	Conduit	CIRC	16.3	24	24	-15.97	14.34	13.51	19.66	13.04	-17.76	-23.64	19.85
5708689	5849	1	Conduit	CIRC	28.6	24	24	16.85	16.84	16.88	15.39	18.40	18.40	18.37	16.99
5906134	5881	1	Conduit	RECT	13.6	60	120	327.65	327.65	325.47	325.15	304.85	304.84	303.54	306.20
5906135	5906134	1	Conduit	RECT	200.9	60	120	318.50	318.50	316.33	316.00	297.28	297.28	295.97	298.43
5906136	5906135	1	Conduit	RECT	48.2	60	120	318.58	318.59	316.40	316.08	297.52	297.52	296.19	298.60
5906137	5906136	1	Conduit	RECT	71.5	60	120	278.95	278.95	276.89	277.28	261.27	261.29	260.02	262.55
5906138	5906137	1	Conduit	RECT	204.6	60	120	279.03	279.03	276.98	277.36	261.53	261.54	260.26	262.75
5906139	5906138	1	Conduit	RECT	300.6	60	120	258.52	258.53	256.48	256.81	245.08	245.07	243.77	245.77
5906140	5906139	1	Conduit	RECT	97.5	60	120	217.50	217.49	215.62	216.07	203.76	203.75	202.52	204.00
5906141	5906140	1	Conduit	CIRC	71.6	60	60	217.27	217.26	215.44	215.88	204.04	204.04	202.80	204.27
5906142	5906141	1	Conduit	RECT	66.7	60	120	212.69	212.70	210.86	210.14	197.97	197.97	196.70	197.50
5906143	5906142	1	Conduit	RECT	259.9	60	120	212.57	212.56	210.70	210.02	198.18	198.18	196.91	197.72
5906172	5906141	1	Conduit	CIRC	52.7	24	24	-2.47	-2.47	-2.46	-2.62	8.32	8.34	8.35	7.05
5906175	5906139	1	Conduit	CIRC	40.7	36	36	27.54	27.54	27.45	27.51	23.36	23.36	-23.38	-24.20
5906176	5906175	1	Conduit	CIRC	481.5	36	36	27.52	27.52	27.43	27.49	23.41	23.41	23.32	23.35
5906177	5906176	1	Conduit	CIRC	510.6	36	36	27.49	27.49	27.41	27.47	23.47	23.47	23.39	23.43
5906183	5906136	1	Conduit	CIRC	349.4	36	36	31.30	31.30	31.18	30.45	29.30	29.30	29.20	28.93
5906184	5906258	1	Conduit	CIRC	130.5	30	30	-19.49	-19.49	-19.64	-22.25	26.39	26.38	26.32	27.52
5906227	5906228		Conduit	CIRC	16.3	30 30	30 30	-22.44	-22.44	-22.73	-30.01 -30.10	-22.57	-22.57	-22.74	-25.09
5906228	5906184	1	Conduit	CIRC	251.5			-22.50	-22.50	-22.72		-22.61	-22.61	-22.71	-25.17
5906232	5906233	1	Conduit	CIRC	200.4	24	24	14.73	14.73	14.67	14.88	12.98	12.98	12.86	13.01
5906233	5906234		Conduit	CIRC	298.1	24	24	14.77	14.77	14.70	14.93	12.99	13.00	12.88	13.02
5906234	5906177 5906184	1	Conduit Conduit	CIRC	39 276.7	30 24	30 24	27.12 16.97	27.12 16.97	27.13 16.98	27.82 18.55	27.97 15.42	27.97 15.45	27.98 15.47	28.96 17.28
5906250 5906258	5906183	1		CIRC	601.7	30	30	20.90	20.90	20.82	19.74	17.55	17.55	-17.52	-18.09
	5906143	1	Conduit Conduit	RECT	189.6	60	120	200.02	200.01	199.30	19.74	180.34	180.33	179.27	179.94
5906312 5906313	5906143	1	Conduit	RECT	130.9	60	120	199.68	199.69	198.99	197.50	180.95	180.89	179.72	180.41
5906314	5906313	1	Conduit	CIRC	263.3	48	48	61.15	61.15	61.04	61.46	71.44	71.48	71.41	68.86
5906314	5906318	1	Conduit	CIRC	186.3	36	36	26.39	26.39	26.31	25.95	24.61	24.63	-24.67	24.80
5906317	5906316	1	Conduit	CIRC	81.4	36	36	26.36	26.36	26.29	25.92	24.59	24.61	24.35	24.78
5906318	5906314	1	Conduit	CIRC	56.7	48	48	60.95	60.95	60.75	61.42	-68.79	-68.85	-69.20	-65.21
5906319	5906318	1	Conduit	CIRC	55.2	36	36	36.52	36.48	36.29	36.90	-75.29	-75.33	-75.49	-72.26
5906321	5906319	1	Conduit	CIRC	231.8	36	36	36.48	36.46	36.27	36.85	33.39	33.41	33.08	33.63
5906330	5906331	1	Conduit	CIRC	260.4	24	24	12.38	12.38	12.30	12.51	10.77	10.78	10.68	10.95
5906331	5906321	1	Conduit	CIRC	323.3	36	36	33.96	33.94	33.77	34.32	30.84	30.86	30.55	31.11
5906359	5906317	1	Conduit	CIRC	95.2	36	36	26.16	26.16	26.09	26.50	24.40	24.41	24.22	26.03
5906361	5906359	1	Conduit	CIRC	605.2	36	36	22.70	22.70	22.62	22.86	20.92	20.93	20.69	21.05
5906388	5906313	1	Conduit	RECT	48.4	60	120	130.68	130.67	130.13	129.07	122.94	122.94	122.10	122.53
5906390	5906313	1	Conduit	CIRC	34.4	24	24	-0.18	-0.17	-0.17	-0.17	-14.64	-14.65	-14.72	-15.39
5906410	5906331	1	Conduit	CIRC	301.1	24	24	19.28	19.28	19.19	19.55	18.49	18.51	18.38	18.38
5906476	5906361	1	Conduit	CIRC	134.3	30	30	17.37	17.36	17.32	18.02	14.80	14.81	14.60	15.95
5906479	5906476	1	Conduit	CIRC	35.7	30	30	11.08	11.07	11.04	12.12	11.28	11.28	11.24	12.21
5906481	5906479	1	Conduit	CIRC	403.3	24	24	10.17	10.17	10.13	10.23	10.72	10.72	10.68	10.71
6029677	D18	1	Conduit	CIRC	209.5	30	30	13.39	13.37	13.40	19.78	13.26	13.22	13.48	14.18
6029685	6029677	1	Conduit	CIRC	41	30	30	9.85	9.92	11.82	18.42	7.92	8.02	9.13	12.47
6029687	6029685	1	Conduit	CIRC	37.8	30	30	-9.70	-9.69	9.95	15.91	-10.30	-10.29	-10.21	-12.44
6029695	6029687	1	Conduit	CIRC	99.3	30	30	-17.29	-17.29	-17.12	15.96	-17.69	-17.67	-17.61	-17.34
6029697	6029695	1	Conduit	CIRC	348.1	30	30	12.43	12.50	14.05	18.43	12.23	12.23	12.44	15.80
6029708	6029697	1	Conduit	CIRC	286.6	30	30	-6.09	-6.11	6.37	7.25	-7.15	-7.02	-6.67	6.18
6029724	6029730	1	Conduit	CIRC	372.1	24	24	20.57	20.60	18.36	17.66	20.33	20.25	17.95	17.08
6029730	6029751	1	Conduit	CIRC	201.1	24	24	20.89	20.92	18.73	18.25	20.71	20.63	18.33	17.51



									Prop	Future	Future		Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)							
6029738	6029708	1	Conduit	CIRC	221.1	30	30	8.44	8.30	8.81	9.77	13.69	13.58	13.80	14.35
6029740	6029738	1	Conduit	CIRC	67.4	30	30	-26.11	-26.07	-25.76	-24.42	-28.31	-28.33	-28.08	-27.03
6029741	6029740	1	Conduit	CIRC	22.2	24	24	-9.45	-9.44	-9.39	-10.85	-9.56	-9.56	-9.54	-11.06
6029751	6029753	1	Conduit	CIRC	115.2	24	24	21.13	21.16	19.10	18.71	21.00	20.92	18.63	17.86
6029753	10048	1	Conduit	RECT	287.7	60	72	219.23	220.28	217.52	216.49	253.23	253.95	251.85	251.00
6029755	6029751	1	Conduit	CIRC	9.7	24	24	-0.41	-0.41	-0.40	-0.41	0.26	0.26	0.27	0.56
6029762	6029753	1	Conduit	CIRC	36.4	24	24	27.88	28.05	24.20	25.81	27.14	27.07	27.09	26.94
6029770	6029762	1	Conduit	CIRC	117.4	24	24	24.44	24.60	20.67	22.76	19.55	19.61	18.55	18.95
6029772	6029770	1	Conduit	CIRC	172.8	24	24	24.65	24.79	20.88	23.20	25.87	25.87	25.78	25.81
6029773	6029772	1	Conduit	CIRC	5	24	24	-23.36	-23.36	-23.34	-22.97	-46.18	-46.19	-46.17	-45.93
6029774	6029772	1	Conduit	CIRC	20.8	24	24	-27.77	-27.77	-27.90	-28.23	-45.59	-45.59	-45.70	-45.91
6029809	5849	2	Conduit	CIRC	331.4	36	36	17.39	17.18	15.28	17.53	-24.50	-24.74	-22.67	-21.74
6029814	6029809	1	Conduit	CIRC	49.5	24	24	12.51	12.50	12.43	12.79	12.63	12.61	12.52	12.88
6029820	6029809	1	Conduit	CIRC	40.7	24	24	-9.43	-9.28	-9.63	-12.38	-11.21	-11.21	-11.37	-14.09
6029823	5861	1	Conduit	CIRC	20.7	24	24	-8.07	-8.07	-8.06	-6.07	-9.27	-9.27	-9.25	-7.31
6052589	5010	1	Conduit	CIRC	318.1	42	42	41.72	41.71	41.99	48.50	40.18	40.19	40.50	49.94
6052590	6052589	1	Conduit	CIRC	31.9	24	24	15.22	15.23	15.37	20.19	-18.98	-18.98	-18.99	-18.59
6052591	6052589	1	Conduit	CIRC	31.9	24	24	11.86	11.86	11.91	11.65	10.87	10.87	10.97	13.29
6052597	6052589	1	Conduit	CIRC	217.5	36	36	22.72	22.72	22.73	27.15	29.15	29.15	29.18	30.96
6052599	6052597	1	Conduit	CIRC	246	36	36	22.71	22.71	22.72	27.03	34.57	34.58	34.51	35.48
6052601	6052599	1	Conduit	CIRC	58.1	24	24	18.14	18.14	18.34	21.05	15.93	15.92	16.09	19.36
6052608	6052601	1	Conduit	CIRC	33.2	24	24	16.40	16.40	16.57	19.02	-15.01	-15.01	-15.02	16.71
6052609	6052601	1	Conduit	CIRC	31.8	24	24	5.18	5.18	5.22	6.16	-16.31	-16.31	-16.43	-15.53
6052620	6052621	1	Conduit	CIRC	160.5	24	24	28.13	28.13	28.10	28.05	28.88	28.88	28.85	28.68
6052621	6052633	1	Conduit	CIRC	139	24	24	28.13	28.13	28.10	28.05	33.79	33.79	33.77	33.64
6061092	5902	1	Conduit	CIRC	229	24	24	-2.38	-2.38	-2.36	-2.51	-5.71	-5.71	-5.45	-4.82
6061094	6061092	1	Conduit	CIRC	228.7	24	24	-2.26	-2.26	-2.25	-2.38	-8.86	-8.86	-8.99	-8.89
6061230	6061231	1	Conduit	CIRC	390.8	30	30	0.47	0.47	0.47	0.39	1.20	1.20	0.78	0.60
6061276	5916	1	Conduit	RECT	235.1	60	72	130.41	130.40	129.84	128.76	123.50	123.49	122.67	123.17
6061278	6061276	1	Conduit	CIRC	323.7	24	24	-7.00	-7.00	-6.81	-6.81	-6.45	-6.46	-6.51	-6.17
6061287	6061276	1	Conduit	RECT	212.1	60	72	119.47	119.46	118.93	118.83	110.52	110.52	109.78	110.20
6061295	6061287	1	Conduit	RECT	96	60	72	119.10	119.10	118.49	118.76	111.40	111.39	110.72	111.00
6061297	6061295	1	Conduit	CIRC	250.3	24	24	-3.06	-3.06	-2.99	-4.56	-9.13	-9.14	-9.19	-9.83
6061307	6061308	1	Conduit	CIRC	59.4	36 60	36 120	33.60	33.60	33.46	33.29	30.51 100.84	30.51	30.32	30.62
6061308 6061320	5940 6061307	1	Conduit	RECT CIRC	13.7 246.2	36	36	113.58 33.55	113.58 33.55	112.99 33.41	113.44 33.56	30.62	100.84 30.62	100.12 30.43	100.55 30.74
6061320	6061307	1	Conduit Conduit	CIRC	172	24	24	12.11	12.11	12.06	12.04	11.85	11.85	11.80	11.79
6061332	6061320	1	Conduit	CIRC	195.4	36	36	26.83	26.83	26.71	26.50	22.88	22.89	22.66	22.51
6061338	6061320	1	Conduit	CIRC	183.4	24	24	10.23	10.24	10.17	10.36	8.59	8.58	8.50	9.00
6061338	6061320	1	Conduit	CIRC	344.3	24	24	5.30	5.30	5.27	5.60	5.62	5.62	5.58	5.60
6061355	6061332	1	Conduit		191.1	30	30	26.78	26.78	26.66	26.45	22.82	22.83	22.60	22.45
6061365	6061332	1 1	Conduit	CIRC	160.4	30	30	26.78	26.78	26.66	26.45	22.82	22.83	22.60	22.45
6061368	6061365	1	Conduit	CIRC	28.7	24	24	14.30	14.30	14.26	14.50	11.49	11.50	11.38	11.87
6061377	6061368	1	Conduit	CIRC	140.6	24	24	12.34	12.31	12.19	12.55	9.88	9.88	9.75	10.10
6061387	6061365	1	Conduit	CIRC	158	24	24	12.34	10.75	12.19	12.55	9.00 8.97	8.97	8.87	8.65
6061395	6061308	1	Conduit	RECT	29.4	60	72	79.09	79.07	78.66	78.53	65.22	65.22	64.78	64.98
6061397	6061395	1	Conduit	RECT	137.1	60	72	78.96	78.96	78.56	78.43	65.40	65.40	64.87	65.16
6061405	6061397	1	Conduit	CIRC	137.1	60	60	78.88	78.88	78.48	78.36	70.04	69.99	69.67	71.09
6061415	6061397	1	Conduit	CIRC	129.8	60	60	76.79	76.78	76.35	76.66	62.77	62.77	62.24	62.54
6061413	6061415	1	Conduit	CIRC	409.4	60	60	68.58	68.58	68.11	68.99	55.02	55.02	54.64	54.89
6061423	6061423	1	Conduit	CIRC	80	60	60	74.92	74.92	74.64	74.05	99.34	99.34	99.12	97.98
0001431	0001423	ı	Conduit	L CIRC	1 00	00	_ 00	14.32	14.32	14.04	74.00	99.54	99.34	33.12	91.30



									Prop	Future	Future	I	Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	Flow (CFS)						
6061433	6061431	1	Conduit	CIRC	35.4	36	36	29.97	29.97	29.89	31.96	31.08	31.08	31.09	28.96
6061441	6061433	1	Conduit	CIRC	162.2	36	36	29.90	29.90	29.82	31.91	22.36	22.34	22.14	22.27
6061443	6061441	1	Conduit	CIRC	147.6	24	24	-5.90	-5.90	-5.94	-5.43	-6.98	-6.98	-7.03	-6.28
6061451	6061441	1	Conduit	CIRC	102.3	30	30	23.96	23.97	23.75	24.83	-17.95	-17.95	-18.00	17.23
6061459	6061431	1	Conduit	CIRC	129.1	48	48	32.20	32.21	31.86	31.73	31.57	31.57	31.32	31.53
6061461	6061459	1	Conduit	CIRC	33.2	48	48	32.10	32.11	31.76	31.86	31.63	31.63	31.38	31.60
6061463	6061461	1	Conduit	CIRC	142	48	48	32.03	32.03	31.75	32.20	31.68	31.68	31.44	31.66
6061466	6061463	1	Conduit	CIRC	100.1	42	42	28.57	28.57	28.29	28.39	25.23	25.24	25.03	-26.25
6061468	6061466	1	Conduit	CIRC	29.6	42	42	27.82	27.82	27.55	27.61	27.21	27.21	26.86	28.83
6061471	6061468	1	Conduit	CIRC	164.9	42	42	25.39	25.39	25.12	25.24	20.73	20.73	20.55	20.94
6061479	6061451	1	Conduit	CIRC	210.4	30	30	23.88	23.88	23.67	20.99	16.42	16.42	16.26	16.41
6061481	6061479	1	Conduit	CIRC	241.1	24	24	5.61	5.61	5.56	4.40	-5.13	-5.13	-5.15	-5.13
6061489	6061479	1	Conduit	CIRC	245.4	24	24	19.50	19.50	19.40	18.54	14.12	14.13	14.00	14.06
6061497	6061489	1	Conduit	CIRC	68.6	24	24	16.77	16.77	16.70	16.14	11.91	11.91	11.75	11.72
6061499	6061497	1	Conduit	CIRC	305.1	24	24	11.81	11.81	11.77	11.91	-5.94	-5.94	-5.93	-5.92
6062507	6061463	1	Conduit	CIRC	41.2	24	24	17.91	17.91	17.87	18.75	17.94	17.94	17.90	18.78
6062515	6062507	1	Conduit	CIRC	349.4	24	24	7.40	7.40	7.37	7.38	7.39	7.39	7.36	7.33
6062523	6062515	1	Conduit	CIRC	167.2	24	24	-1.75	-1.75	-1.65	-1.87	4.04	4.04	4.06	4.13 7.40
6062528	6061468	1	Conduit	CIRC	214.4	24	24	7.41	7.41	7.40	7.47	7.20	7.20	7.19	
6062536	6061471	1	Conduit	CIRC	34.8	24	24	8.58	8.58	8.57	8.69	8.46	8.46	8.43	8.43
6062544	6062536	1	Conduit	CIRC	260.8	24	24	8.59	8.59	8.57	8.70	8.94	8.94	8.90	8.88
6062552	6061471	1	Conduit	CIRC	151.7	42	42	22.61	22.63	22.35	22.47	-23.49	-23.49	-23.66	-24.64
6062554	6062552	1	Conduit	CIRC	132.1	24	24	5.09	5.09	5.05	5.47	4.75	4.75	4.76	5.25
6062562	6062552	1	Conduit	CIRC	56.4	42	42	-23.24	-23.24	-23.39	-25.72	-34.78	-34.78	-34.88	-37.83
6062570	6062562		Conduit	CIRC	87.6	36	36	18.94	18.94	18.82	19.36	24.54	24.54	24.40	28.04
6062572	6062570 6062572	1	Conduit	CIRC	36.6 386.3	24 24	24 24	6.41 6.20	6.41 6.20	6.41 6.19	6.30 6.20	6.42 7.20	6.42 7.20	6.39	-6.72
6062580 6062588	6062570	+ + +	Conduit Conduit	CIRC	163.5	30	30	16.31	16.31	16.22	16.76	-15.58	-15.58	7.18 -16.29	7.24 -16.88
6062598	6062588	1	Conduit	CIRC	152.6	30	30	14.02	14.02	13.96	14.50	9.90	9.90	9.68	9.81
6073349	6073404	1	Conduit	CIRC	305.2	24	24	6.92	6.92	6.94	7.33	9.90	9.45	9.46	9.61
6073352	6076543	1	Conduit	CIRC	46.5	24	24	8.11	8.11	8.11	10.97	8.27	8.27	8.27	11.08
6073420	6073416	1 1	Conduit	CIRC	308.7	24	24	8.15	8.15	8.12	8.09	10.94	10.94	10.91	10.89
6073424	6073426	1	Conduit	CIRC	63.3	24	24	7.91	7.91	7.91	8.08	9.11	9.11	9.13	8.66
6073426	6073352	1 1	Conduit	CIRC	126	24	24	-2.59	-2.59	-2.59	-3.58	-4.66	-4.66	-4.66	-4.76
6073433	6073473	1 1	Conduit	CIRC	256.7	48	48	-41.08	-38.82	-39.39	-31.25	-14.11	-14.11	-14.18	-17.47
6073436	6073438	1	Conduit	CIRC	246	48	48	60.99	60.99	60.98	58.69	73.23	73.23	73.15	71.07
6073438	6073447	1 1	Conduit	CIRC	236.9	60	60	-70.84	-79.03	-69.50	-56.51	-37.43	-37.43	-37.61	-31.40
6073447	6073451	1	Conduit	CIRC	261.3	60	60	46.29	46.29	46.14	46.99	50.04	50.04	49.82	50.43
6073451	6037	1	Conduit	CIRC	185.2	66	66	86.16	86.16	85.99	88.00	91.05	91.05	90.84	93.33
6073459	6040	1 1	Conduit	CIRC	43.5	78	78	-96.08	-95.90	-98.63	-80.12	49.21	49.23	48.94	52.97
6073463	6073459	1	Conduit	CIRC	172.3	54	54	-56.94	-56.88	-57.70	-51.40	-38.01	-38.01	-38.09	-39.43
6073469	6073463	1	Conduit	CIRC	45.6	48	48	-61.68	-63.77	-61.47	-55.11	-27.53	-27.53	-27.56	-22.04
6073473	6073469	1	Conduit	CIRC	279.3	48	48	-65.22	-67.22	-64.44	-52.98	-14.56	-14.56	-14.61	-16.08
6073491	6075001	1	Conduit	CIRC	185	84	84	-100.10	-99.92	-100.86	-82.01	52.04	52.07	51.55	54.81
6075001	6075451	1	Conduit	CIRC	101	84	84	-103.85	-103.64	-104.50	-84.81	52.17	52.20	51.61	54.67
6075003	6075011	1	Conduit	CIRC	307.8	24	24	13.01	13.01	13.74	12.80	9.36	9.36	9.30	9.32
6075006	6075033	1	Conduit	CIRC	154.1	78	78	-115.12	-114.94	-115.32	-99.38	54.29	54.29	53.92	50.21
6075008	6075039	1	Conduit	CIRC	215.8	48	48	-44.80	-44.79	-43.20	-34.84	-15.48	-15.48	-15.59	-15.15
6075011	6075045	1	Conduit	CIRC	581.5	54	54	-57.12	-57.58	-56.83	-48.67	34.58	34.58	34.36	33.91
6075013	6075065	1	Conduit	CIRC	264.1	48	48	-39.54	-39.44	-44.01	-37.91	17.06	17.06	16.91	18.22
6075016	6076597	1	Conduit	CIRC	118.9	60	60	-56.73	-56.04	-58.81	-49.51	-30.35	-30.35	-30.54	-50.63



		1 1						Ι	Prop	Future	Future	I	Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)							
6075019	6075083	1	Conduit	CIRC	134.5	60	60	-90.56	-89.61	-90.27	-76.51	26.99	27.05	27.24	-29.04
6075021	6075085	1	Conduit	CIRC	385.3	48	48	-49.17	-49.37	-49.05	-38.91	23.37	23.37	23.32	23.39
6075024	6075123	1	Conduit	CIRC	212.6	48	48	-55.44	-28.82	-30.33	-28.10	9.19	9.19	9.15	8.99
6075027	3175102	1	Conduit	CIRC	33.4	78	78	-112.03	-111.82	-111.84	-96.31	57.40	57.40	57.04	53.90
6075033	6075027	1	Conduit	CIRC	106.2	78	78	-115.71	-115.52	-115.61	-99.92	54.29	54.29	53.92	50.21
6075039	6075006	1	Conduit	CIRC	33.3	48	48	-46.47	-46.80	-46.51	-39.97	-25.77	-25.77	-25.83	-25.89
6075045	6075006	1	Conduit	CIRC	278.8	60	60	58.06	57.84	57.20	55.84	54.58	54.58	54.38	55.42
6075065	6075011	1	Conduit	CIRC	33.9	48	48	-46.39	-46.33	-49.64	-42.11	-26.48	-26.48	-26.59	-25.51
6075083	6076557	1	Conduit	CIRC	118.3	60	60	-90.19	-89.23	-89.61	-76.51	51.77	51.77	51.61	44.60
6075085	6075019	1	Conduit	CIRC	37.4	48	48	-51.50	-51.71	-51.43	-40.82	-30.67	-30.67	-30.68	-28.67
6075095	6075097	1	Conduit	CIRC	20.7	54	54	-56.93	-56.14	-56.32	-48.78	-19.97	-19.97	-20.15	-18.48
6075097	6075016	1	Conduit	CIRC	8.1	60	60	-55.39	-54.62	-54.68	-48.62	-38.62	-38.62	-38.74	-55.69
6075103	6075107	1	Conduit	CIRC	40.9	48	48	-45.46	-45.54	-46.10	-42.01	-19.96	-19.96	-20.10	18.31
6075107	6075095	1	Conduit	CIRC	196.4	54	54	-54.74	-54.19	-54.41	-47.19	-19.97	-19.97	-20.15	-18.48
6075111	6075103	1	Conduit	CIRC	38.7	48	48	-45.24	-45.92	-46.53	-42.76	42.92	42.92	42.86	56.21
6075121	6075125	1	Conduit	CIRC	41.1	48	48	-28.72	-28.03	-29.41	-26.34	26.19	26.19	26.14	29.18
6075123	6075121	1	Conduit	CIRC	44.9	48	48	-30.80	-29.99	-31.04	-28.96	9.08	9.20	8.60	7.80
6075125	6075111	1	Conduit	CIRC	218.5	48	48	-45.70	-44.72	-45.67	-42.37	17.44	17.45	17.36	21.72
6075451	6075459	1	Conduit	CIRC	287.2	84	84	-102.02	-101.69	-102.71	-82.50	55.19	55.27	54.52	57.13
6075459	6075465	1	Conduit	CIRC	81.7	84	84	-103.15	-102.75	-103.77	-83.16	55.81	55.81	-55.68	-67.29
6075463	6031	1	Conduit	CIRC	148.8	84	84	209.14	209.14	208.78	208.80	254.55	254.56	254.30	253.78
6075465	6075463	1	Conduit	CIRC	41.7	84	84	-125.46	-125.47	-125.62	-123.71	-190.54	-190.54	-190.65	-188.50
6076543	6073420	1	Conduit	CIRC	265.8	24	24	-4.04	-4.04	-4.04	-4.86	-5.97	-5.97	-5.97	-6.65
6076557	6075006	1	Conduit	CIRC	30.6	66	66	-90.09	-88.92	-90.25	-76.31	38.95	38.94	38.28	29.45
6076597	6075019	1	Conduit	CIRC	160.4	60	60	-66.55	-66.52	-66.53	-54.49	-32.71	-32.71	-32.86	-38.34
6076632	6076635	1	Conduit	CIRC	374.1	24	24	1.73	1.73	1.34	1.20	2.44	2.44	2.10	1.92
6198704	6198706	1	Conduit	RECT	111.8 317	60 60	120 120	321.95	321.94 317.72	319.44 314.85	319.26	294.81	293.77	291.14	294.10
6198706 6198708	6198708 6198711		Conduit Conduit	RECT RECT	85.1	60	120	317.85 312.70	317.72	309.99	314.78 309.89	289.42 286.31	289.39 286.26	287.74 284.59	289.11 286.17
6198711	6198730	1		RECT	338	60	120	353.92	353.94	351.52	351.36	319.90	319.83	318.19	321.29
6198730	6198761	1	Conduit Conduit	RECT	325.8	60	120	370.55	370.58	367.98	367.92	333.13	333.13	331.34	333.33
6198761	6198771	1	Conduit	RECT	136.8	60	120	367.68	367.73	365.22	365.12	332.48	332.48	330.67	332.76
6198771	6198780	1	Conduit	RECT	119.2	60	120	365.29	365.35	362.75	362.64	331.91	331.91	330.04	332.17
6198780	6198784	1	Conduit	RECT	44.2	60	120	365.26	365.28	362.77	362.90	331.34	331.35	329.49	331.60
6198784	6198788	1	Conduit	RECT	98	60	120	365.69	365.71	363.19	364.08	330.73	330.74	328.90	330.99
6198788	6198792	1	Conduit	RECT	224.3	60	120	377.42	377.45	374.92	375.68	348.35	346.30	345.58	346.41
6198792	6198800	1	Conduit	RECT	496.6	60	120	417.49	417.49	415.02	414.42	391.69	391.70	389.76	393.79
6198793	6198792	1	Conduit	CIRC	39.4	24	24	9.46	9.46	9.46	9.46	14.65	14.65	14.69	15.01
6198800	6198804	1	Conduit	RECT	97.3	60	120	453.15	453.15	450.74	449.45	444.71	444.71	443.02	447.61
6198804	6198824	1	Conduit	RECT	74.7	60	120	463.15	463.15	460.73	459.42	453.95	453.96	452.58	458.33
6198806	6198804	1	Conduit	CIRC	64.2	24	24	7.39	7.39	7.39	7.12	-10.80	-10.78	-10.76	-11.20
6198808	6198804	1	Conduit	CIRC	9.9	24	24	2.70	2.70	2.70	2.99	-25.68	-25.61	-25.82	-25.45
6198813	6198806	1	Conduit	CIRC	13.3	24	24	0.53	0.53	0.53	0.53	-7.88	-7.87	-7.87	-8.02
6198814	6198806	1	Conduit	CIRC	7.7	24	24	6.86	6.86	6.86	6.59	8.40	8.42	8.36	8.28
6198824	6198834	1	Conduit	RECT	120.7	60	120	470.13	470.13	467.70	467.03	464.69	464.69	463.42	469.93
6198825	6198808	1	Conduit	CIRC	18.1	24	24	2.33	2.33	2.33	2.45	3.94	3.90	3.99	4.12
6198826	6198808	1	Conduit	CIRC	28.9	24	24	0.29	0.29	0.28	0.28	5.18	5.17	5.15	5.08
6198834	6198836	1	Conduit	RECT	53.9	60	120	503.08	503.08	500.63	499.91	489.75	489.75	488.63	495.91
6198836	6198853	1	Conduit	RECT	92.9	60	120	506.20	506.20	503.76	503.20	492.95	492.95	491.89	499.31
6198837	6198834	1	Conduit	CIRC	27.6	24	24	1.00	1.00	1.00	1.00	-14.47	-14.27	-14.48	-13.97
6198838	6198836	1	Conduit	CIRC	6.2	24	24	1.95	1.95	1.95	1.36	8.47	8.49	8.26	7.22
0.0000	0.00000		Conduit	0.110	J - J. Z			1.00	1.00	1.00	1.00	U.71	0.70	0.20	



									Prop	Future	Future	l	Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
6198839	6198836	1	Conduit	CIRC	20.5	24	24	1.24	1.24	1.24	1.83	7.46	7.48	6.61	7.78
6198853	6198858	1	Conduit	RECT	321.7	60	120	520.34	520.25	518.07	516.34	512.84	512.86	511.86	519.76
6198854	6198853	1	Conduit	CIRC	15.7	24	24	0.31	0.31	0.31	0.31	-12.25	-11.49	-12.86	-11.74
6198858	5784	1	Conduit	RECT	186.1	60	120	535.71	535.71	533.25	533.51	536.80	536.82	535.93	544.51
6198859	6198858	1	Conduit	CIRC	17.8	24	24	2.13	2.13	2.13	2.12	-8.36	-7.57	-9.07	-8.24
6198860	6198858	1	Conduit	CIRC	12.3	24	24	4.31	4.31	4.31	4.59	13.80	12.81	13.12	12.49
6198869	6198834	1	Conduit	CIRC	202.2	24	24	28.60	28.60	28.58	28.46	24.75	24.75	24.68	24.83
6198872	6198869	1	Conduit	CIRC	116.4	24	24	19.46	19.46	19.37	19.48	19.40	19.40	19.32	19.51
6198873	6198869	1	Conduit	CIRC	11.8	24	24	2.08	2.08	2.11	2.07	-5.02	-5.01	-5.05	-5.04
6198874	6198869	1	Conduit	CIRC	23.3	24	24	0.65	0.65	0.64	0.65	-5.99	-5.99	-6.03	-6.10
6198884	6198872	1	Conduit	CIRC	106	24	24	12.42	12.42	12.35	12.29	12.31	12.31	12.24	12.17
6198885	6198884	1	Conduit	CIRC	16.9	24	24	-5.60	-5.60	-5.61	-5.59	-8.65	-8.65	-8.66	-8.65
6198886	6198884	1	Conduit	CIRC	28.5	24	24	1.32	1.32	1.33	1.37	4.42	4.38	4.42	4.52
6198892	6198884	1	Conduit	CIRC	101.6	24	24	8.47	8.49	8.42	8.40	8.41	8.41	8.37	8.36
6198894	6198892	1	Conduit	CIRC	182.8	24	24	-6.05	-6.05	-6.05	-6.08	-10.56	-10.56	-10.52	-10.72
7204174	3234307	1	Conduit	RECT	38.8	96	84	315.47	315.94	313.41	313.03	310.62	310.71	309.29	306.84
7204174	3234307	2	Conduit	RECT	38.8	96	84	315.47	315.94	313.41	313.03	310.62	310.71	309.29	306.84
10008!_2D	10008	1	weir	N/A	0.667	0.83	8	6.50	6.50	6.72	6.16	10.36	10.38	10.48	9.41
10009!_2D	10009	1	weir	N/A	1.083	0.83	13	36.95	34.64	36.73	41.23	40.59	40.03	36.75	40.12
10010!_2D	10010	1	weir	N/A	1.083	0.83	13	17.82	17.85	9.15	5.75	26.99	26.39	9.11	-5.60
10032!_2D	10032	1	weir	N/A	0.604	0.00	7.25	-3.32	-3.32	-3.32 0.18	-3.39 0.18	-4.61	-4.61	-4.61	-4.71
10055!_2D	10055		weir	N/A	0.667	0.83	8	0.45	0.45			-5.19 8.79	-4.58	-7.72	-6.30
10056!_2D 10059! 2D	10056 10059	1	weir	N/A N/A	0.667	0.83	8	1.15 4.53	1.15 4.53	1.24 4.35	1.20 4.56	4.87	7.33 5.15	7.07 5.02	6.34 5.54
20053! 2D	20053	1	weir weir	N/A N/A	0.604	0.03	7.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20053!_2D 20103!_2D	20053	1	weir	N/A N/A	0.604		7.25	0.00	0.00	0.00	0.00	15.45	12.34	10.20	16.26
20103!_2D 20104! 2D	20103	1	weir	N/A N/A	0.604		7.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20104!_2D 20105! 2D	20104	1	weir	N/A	0.604		7.25	1.28	1.28	0.89	0.00	3.97	3.96	4.46	4.44
20103:_2D 20106! 2D	20103	1	weir	N/A	0.604		7.25	0.46	0.46	0.03	0.00	2.45	2.46	2.58	2.73
20100:_2D 20107! 2D	20107	1	weir	N/A	0.604		7.25	14.18	14.19	14.80	14.92	18.62	18.73	19.77	19.74
20107:_2D 20108! 2D	20107	1	weir	N/A	0.604		7.25	6.20	6.21	6.74	6.66	6.39	6.40	6.77	6.23
20109! 2D	20109	1	weir	N/A	0.604		7.25	4.91	4.91	4.42	4.02	6.69	6.70	6.98	6.76
20110!_2D	20110	1	weir	N/A	0.604		7.25	1.98	1.99	2.18	2.15	2.42	2.43	2.69	2.50
20111! 2D	20111	1	weir	N/A	0.604		7.25	3.27	3.27	4.23	4.91	-8.21	-8.17	-6.82	-7.17
20112! 2D	20112	1	weir	N/A	0.604		7.25	-1.47	-1.46	1.55	1.52	-4.61	-4.60	-4.14	-4.27
20113! 2D	20113	1	weir	N/A	0.604		7.25	10.72	10.72	12.53	14.02	15.30	15.30	15.55	15.50
20114! 2D	20114	1	weir	N/A	0.604		7.25	4.56	4.56	4.92	5.14	4.98	4.98	5.05	4.99
20115! 2D	20115	1	weir	N/A	0.604		7.25	2.89	2.88	3.48	4.01	-3.03	-3.03	-3.03	3.37
20119!_2D	20119	1	weir	N/A	0.604		7.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20120!_2D	20120	1	weir	N/A	0.604		7.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20121!_2D	20121	1	weir	N/A	0.604		7.25	10.17	10.17	8.69	10.13	16.40	16.40	15.32	17.08
20122!_2D	20122	1	weir	N/A	0.604		7.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20123!_2D	20123	1	weir	N/A	0.604		7.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20124!_2D	20124	1	weir	N/A	0.604		7.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20125!_2D	20125	1	weir	N/A	0.604		7.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20126!_2D	20126	1	weir	N/A	0.604		7.25	0.00	0.00	0.00	0.00	1.17	1.13	0.92	1.18
20127!_2D	20127	1	weir	N/A	0.604		7.25	2.60	2.60	2.65	2.63	3.74	3.73	3.71	3.69
20128!_2D	20128	1	weir	N/A	0.604		7.25	13.47	13.47	13.82	13.51	19.41	19.41	19.50	19.13
20129!_2D	20129	1	weir	N/A	0.604		7.25	0.00	0.00	0.00	0.00	13.28	13.21	12.31	12.74
20142-1	20142	1	Conduit	CIRC	28.1	24	24	-11.13	-11.11	-10.94	10.47	-12.35	-12.28	-12.23	-12.23
20142-1	20142	2	Conduit	CIRC	28.1	24	24	-11.13	-11.11	-10.94	10.47	-12.35	-12.28	-12.23	-12.23



									Prop	Future	Future		Prop	Future	Future
		l I			l			Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	• • •	, ,		, ,	Flow (CFS)	Flow (CFS)	Flow (CFS)
4165583!_2D	4165583	1	weir	N/A	0.667	0.83	8	3.32	2.88	2.03	1.84	8.25	8.68	8.97	5.01
4165604!_2D	4165604	1	weir	N/A	0.667	0.83	8	0.74	0.74	0.74	0.74	1.25	1.25	1.25	1.26
4165605!_2D	4165605	1	weir	N/A	0.667	0.83	8	1.90	1.90	1.87	1.85	8.93	8.37	7.11	4.82
4165607!_2D	4165607	1	weir	N/A	0.667	0.83	8	0.30	0.30	0.30	0.30	-5.20	-4.59	-4.12	-2.77
4165610!_2D	4165610	1	weir	N/A	0.667	0.83	8	0.98	0.88	0.76	0.62	2.37	2.39	2.07	1.94
5000!_2D	5000	1	weir	N/A	0.667	0.83	8	0.27	0.21	0.42	0.51	-5.27	-4.56	1.77	1.86
5788-1	W14001_sta19481	1	Conduit	RECT	5	36	36	-7.72	5.88	2.35	4.04	12.97	9.16	7.58	31.17
5788-2	W14001_sta19481	1	Conduit	RECT	5	36	36	-22.14	-21.91	-0.12	-0.11	-50.37	-48.88	6.78	19.34
5788-3	W14001_sta19481	1	Conduit	RECT	5	36	36	15.64	15.38	-0.12	4.89	33.43	31.44	2.78	35.30
6198813!_2D	6198813	1	weir	N/A	0.427	0.42	5.125	0.53	0.53	0.53	0.53	-7.88	-7.87	-7.87	-8.02
6198814!_2D	6198814	1	weir	N/A	0.427	0.42	5.125	6.86	6.86	6.86	6.59	8.85	8.85	8.74	8.69
6198825!_2D	6198825	1	weir	N/A	0.427	0.42	5.125	2.33	2.33	2.33	2.45	4.18	4.23	4.15	4.37
6198826!_2D	6198826	1	weir	N/A	0.427	0.42	5.125	0.28	0.28	0.28	0.27	5.34	5.34	5.32	5.27
6198837!_2D	6198837	1	weir	N/A	0.667	0.83	8	1.00	1.00	1.00	1.00	-15.99	-16.10	-16.22	-15.57
6198838!_2D	6198838	1	weir	N/A	0.427	0.42	5.125	1.95	1.95	1.95	1.36	8.36	8.37	8.19	7.34
6198839!_2D	6198839	1	weir	N/A	0.427	0.42	5.125	1.24	1.24	1.24	1.83	7.37	7.39	7.36	7.66
6198854!_2D	6198854	1	weir	N/A	0.604		7.25	0.31	0.31	0.31	0.31	-10.44	-9.75	-10.66	-10.04
6198859!_2D	6198859	1	weir	N/A	0.604		7.25	2.13	2.13	2.13	2.13	-5.66	-4.87	-6.11	-5.51
6198860!_2D	6198860	1	weir	N/A	0.604		7.25	4.31	4.31	4.31	4.59	10.43	10.19	9.39	9.21
6198873!_2D	6198873	1	weir	N/A	0.427	0.42	5.125	2.08	2.08	2.11	2.07	-5.02	-5.01	-5.04	-5.04
6198874!_2D	6198874	1	weir	N/A	0.427	0.42	5.125	0.66	0.66	0.66	0.66	-5.98	-5.99	-6.02	-6.10
6198885!_2D	6198885	1	weir	N/A	0.427	0.42	5.125	-5.60	-5.60	-5.61	-5.60	-8.65	-8.65	-8.66	-8.65
6198886!_2D	6198886	1	weir	N/A	0.427	0.42	5.125	1.32	1.32	1.33	1.37	4.56	4.56	4.58	4.62
6198894!_2D	6198894	1	weir	N/A	0.604		7.25	-2.73	-2.73	-2.73	-2.69	-7.45	-7.45	-7.49	-7.24
A10	AM12	1	Conduit	CIRC	47.1	24	24	8.27	8.38	7.59	7.80	9.65	10.01	9.71	9.47
A11	AM12	1	Conduit	CIRC	73.8	24	24	10.10	10.13	9.87	9.91	12.29	12.23	11.85	11.69
A13	AM14	1	Conduit	CIRC	24.1	24	24	9.88	9.92	9.54	9.75	9.27	9.92	9.98	10.52
A15	AM14	1	Conduit	CIRC	21.6	24	24	20.83	20.86	20.72	20.71	21.77	22.03	21.63	21.37
A17	AM16	1	Conduit	CIRC	17.7	24	24	18.54	18.49	18.05	16.10	20.29	19.90	19.94	17.98
A18	AM16	1	Conduit	CIRC	23.7	24	24	-17.30	-17.29	-17.28	-16.28	-17.47	-17.44	-17.44	-16.31
A2	AM1	1	Conduit	CIRC	24.9	24	24	39.40	40.19	39.68	40.32	42.01	43.91	42.89	43.38
A20	AM19	1	Conduit	CIRC	61.7	24	24	1.88	1.89	1.80	1.86	13.69	13.42	13.46	12.57
A21	AM19	1	Conduit	CIRC	51.5	24	24	14.57	14.52	14.48	14.75	17.30	17.35	17.01	16.82
A22	AM23	1	Conduit	CIRC	66.3	24	24	6.49	6.52	6.30	6.50	4.73	4.48	4.59	4.68
A25	AM24	1	Conduit	CIRC	57.3	24	24 24	-4.57 7.50	5.01	4.67	-5.26	3.30	3.82 -11.22	3.38	-4.47
A26 A28	AM24 AM27	1	Conduit	CIRC	41.5 35.8	24		-7.50 4.71	-7.51 4.74	-7.22 4.68	-6.69 -4.60	-11.22 -8.09	-11.22	-10.74 -8.23	-10.38 -8.91
A28 A29	AM27 AM27	1 1	Conduit Conduit	CIRC	35.8	24 24	24 24	4.71 8.88	8.89	8.74	9.52	-8.09 8.73	-8.07 8.74	-8.23 8.62	9.22
		_													
A3 A31	AM1 AM33	1	Conduit	CIRC	22.8 43.4	24 24	24 24	8.59 6.51	8.71 6.68	7.86 6.42	8.36 6.35	-15.78 6.36	-13.13	-14.58	-15.05 6.18
A31 A32	AM33 AM33		Conduit		43.4	24	24	5.63	5.57		<u> </u>		6.55 -5.58	6.26	5.28
A32 A34	AM33 AM36	1	Conduit	CIRC	38	24	24	-8.00	-7.84	5.59 -8.07	5.63 -8.22	5.27 -12.12	-5.58 -12.10	5.25 -12.25	-12.22
A34 A35	AM36	1	Conduit		36.5			7.87	7.97	7.71	7.80				12.17
		_	Conduit	CIRC		24	24					12.73	12.97	12.56	
A41 A42	AM39 AM44	1	Conduit Conduit	CIRC	17.1 26.5	24 24	24 24	-28.00 6.89	-28.00 6.89	-28.23 6.91	-30.11 6.34	-28.31 6.57	-28.30 6.58	-28.54 6.58	-30.42 6.08
A42 A43	AM44	1	Conduit	CIRC	31.6	24	24	-14.84	-14.83	-14.94	-14.52	-18.82	-18.80	-19.04	-18.48
A43 A46	AM44 AM45			CIRC	42.2		24	-14.84 18.62	-14.83 18.62	-14.94 18.22	-14.52 19.09	-18.82 20.70	20.70	20.06	-18.48 21.17
A46 A47	AM45	1	Conduit	CIRC	23.1	24 24	24	29.99	29.99	29.76	29.13	33.59	33.60	33.34	32.74
A47 A48	AM49	1	Conduit	CIRC	48	24	24	-11.21	-11.21	-11.59	-11.92	-12.99	-12.99	-13.42	-13.59
		-	Conduit												
A5 A6	AM4	1	Conduit	CIRC	30.5	24	24	19.88	20.06	19.68	20.74	24.74	23.01	23.78	24.94
Ab	AM4	1	Conduit	CIRC	40	24	24	14.62	14.88	14.37	14.93	16.10	18.70	17.74	17.30



					I			I	Prop	Future	Future	Ι	Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
A8	AM7	1	Conduit	CIRC	40.6	24	24	17.51	17.63	16.00	16.91	-17.64	-16.19	-17.28	-17.18
A9	AM7	1	Conduit	CIRC	34	24	24	-16.80	-16.19	-16.87	-17.01	-21.04	-19.94	-20.82	-21.01
AM1	W14001_sta12065	1	Conduit	CIRC	398.8	66	66	125.09	125.99	113.74	120.41	110.60	113.33	107.84	108.27
AM12	AM7	1	Conduit	CIRC	738.4	60	60	71.35	71.74	69.12	70.55	73.83	76.16	73.46	74.35
AM14	AM12	1	Conduit	CIRC	309.7	36	36	19.74	19.80	19.06	19.48	17.95	18.10	17.72	18.06
AM16	AM12	1	Conduit	CIRC	492.2	24	24	13.81	13.74	12.82	14.19	15.13	14.79	13.95	15.37
AM19	AM12	1	Conduit	CIRC	513.6	54	54	49.43	50.06	48.81	49.36	48.77	48.95	45.95	47.40
AM23	AM19	1	Conduit	CIRC	612.9	36	36	27.05	27.14	25.71	26.31	26.09	26.15	25.03	25.45
AM23	AM24	2	Conduit	CIRC	300	36	36	-21.81	-21.86	-21.30	-21.54	-21.47	-21.55	-20.57	-20.97
AM27	AM24	1	Conduit	CIRC	297	24	24	19.75	19.74	19.67	19.78	19.88	19.87	19.78	19.86
AM30	AM27	1	Conduit	CIRC	347.1	24	24	12.24	12.25	11.94	12.07	11.97	11.99	11.75	11.84
AM33	AM30	1	Conduit	CIRC	169.5	24	24	10.42	10.44	10.14	10.27	10.15	10.17	9.96	10.04
AM36	AM33	1	Conduit	CIRC	372.1	24	24	4.85	4.87	4.79	4.78	4.47	4.62	4.51	4.44
AM37	AM38	1	Conduit	CIRC	20.2	24	24	-6.02	-6.00	-6.11	-9.12	-6.79	-6.78	-6.85	-9.93
AM38	AM19	1	Conduit	CIRC	383.1	36	36	26.84	26.74	25.35	26.59	24.56	24.11	22.78	23.98
AM39	AM44	1	Conduit	CIRC	295.2	24	24	-16.34	-16.40	-14.91	-15.65	-15.10	-15.14	-14.34	-14.58
AM39 AM4	AM38 AM1	2	Conduit	CIRC	300.1 366.5	30 66	30 66	24.14 101.56	24.16 102.27	22.68 92.02	24.02 97.52	22.57 90.15	21.99 90.89	20.64 83.71	22.13 86.74
AM40	AM39	1	Conduit Conduit	CIRC	46.7	24	24	7.63	7.61	7.15	-7.71	8.05	7.76	7.40	-7.91
AM45	AM44	1	Conduit	CIRC	292	24	24	15.10	15.11	15.09	14.97	14.97	14.97	14.95	14.85
AM49	AM45	1	Conduit	CIRC	152.3	24	24	-7.46	-7.46	-7.48	-7.43	-9.56	-9.56	-9.58	-9.33
AM50	AM49	1	Conduit	CIRC	495.3	24	24	-7.46	-7.46	-7.46	-7.43	-3.15	-3.15	-3.13	-9.55
AM7	AM4	1	Conduit	CIRC	306.5	66	66	92.62	93.23	83.99	88.98	83.65	84.18	77.62	80.50
B01	IH-10 JUNCTION E01	1	Conduit	RECT	55	60	96	123.83	126.28	-83.68	166.31	135.04	137.37	-92.43	158.59
B03	B01	1	Conduit	CIRC	39.1	24	24	3.49	3.49	3.45	1.19	15.82	157.57	14.35	1.93
B03_2D	B03	1	weir	N/A	0.427	0.42	5.125	3.45	3.45	3.45	1.19	15.76	15.50	14.33	1.93
B04	B03	1	Conduit	RECT	177.9	60	96	119.33	119.31	-120.97	149.44	126.72	126.01	-106.89	118.12
B05	B04	1	Conduit	CIRC	92.3	24	24	4.00	4.01	3.98	3.86	6.37	6.38	7.06	5.83
B05 2D	B05	1	weir	N/A	0.427	0.42	5.125	3.96	3.96	3.98	3.88	6.35	6.35	7.06	5.81
B06	B07	1	Conduit	CIRC	28.8	24	24	8.19	8.18	8.29	3.97	16.66	16.59	17.51	7.94
B06 2D	B06	1	weir	N/A	0.427	0.42	5.125	8.15	8.15	8.29	4.00	16.66	16.59	17.51	8.09
B07	B04	1	Conduit	RECT	167.4	60	96	119.02	119.03	-122.67	96.79	126.43	125.71	-107.74	74.28
B07	B04	2	Conduit	RECT	167.4	60	60	#N/A	#N/A	#N/A	52.07	#N/A	#N/A	#N/A	43.33
B08	B07	1	Conduit	CIRC	7	24	24	9.91	9.90	9.64	9.62	11.95	11.86	11.58	11.65
B08 2D	B08	1	weir	N/A	0.427	0.42	5.125	9.86	9.86	9.65	9.63	12.02	11.90	11.72	11.74
B10	B07	1	Conduit	RECT	263.9	60	96	117.88	117.78	-131.07	93.82	122.98	122.33	-112.03	-73.13
B10	B07	2	Conduit	RECT	263.9	60	60	#N/A	#N/A	#N/A	52.19	#N/A	#N/A	#N/A	42.11
B12	B13	1	Conduit	CIRC	36.3	24	24	-25.27	-25.20	24.87	-19.46	-27.09	-26.69	26.55	-19.71
B12_2D	B12	1	weir	N/A	1	1	12	-25.09	-25.01	28.56	-24.00	-26.84	-26.41	32.82	22.60
B13	W14001_sta19481	1	Conduit	CIRC	22.8	48	48	101.89	99.36	349.75	314.16	122.17	117.67	374.18	359.56
B13	W14001_sta19481	2	Conduit	CIRC	22.8	48	48	101.89	99.36	#N/A	#N/A	122.17	117.67	#N/A	#N/A
B13	B14	3	Conduit	RECT	61.7	60	96	116.29	116.15	-137.75	92.76	121.80	120.73	-141.75	-99.30
B13	B14	4	Conduit	RECT	57.4	60	60	#N/A	#N/A	#N/A	48.36	#N/A	#N/A	#N/A	-62.50
B14	B10	1	Conduit	RECT	473.9	60	96	117.62	117.59	-130.83	93.15	122.91	122.20	-111.90	-73.47
B14	B10	2	Conduit	RECT	473.9	60	60	#N/A	#N/A	#N/A	52.22	#N/A	#N/A	#N/A	42.06
B15	B14	1	Conduit	CIRC	10.6	24	24	22.21	22.12	22.05	22.00	32.02	31.31	35.24	52.99
B15_2D	B15	1	weir	N/A	1	1	12	22.10	22.08	22.04	22.02	31.94	31.24	35.25	52.99
B18	B13	1	Conduit	RECT	152.9	60	96	259.84	255.88	264.08	346.43	272.76	267.38	287.55	340.50
B19	B22	1	Conduit	CIRC	42.7	24	24	-9.55	-9.31	6.14	6.07	-19.49	-18.65	-14.66	-15.10
B19_2D	B19	1	weir	N/A	1	1	12	-9.53	-9.30	6.11	6.08	-19.49	-18.64	-14.66	-15.09
B20	B18	1	Conduit	RECT	100.4	60	96	146.86	146.84	169.70	172.33	153.08	151.35	170.69	154.25



Upstream										Prop	Future	Future		Prop	Future	Future
Node D															1	
B2D						_	_									
B20				71		, ,	,	,	,	, ,	,	,	, ,	, ,	,	, ,
B22			2	Conduit		103.9	60									
BB22							1									
B24 B22																
B24			_													
B26																
Beb			_													
B27																
B27																
B29 B27 1 Conduit RECT 157.4 60 96 155.56 154.74 168.72 168.10 199.62 187.07 195.25 147.86 B30 B32 1 Conduit CIRC 21.4 24 24 -8.87 -8.86 9.22 13.84 -12.95 -12.99 11.65 B31 B32 1 Conduit CIRC 15.75 -8.86 -8.86 9.22 13.94 -12.95 -12.99 11.23 11.73 11.59 -12.39 11.75 B31 B32 1 Conduit CIRC 15.75 24 24 -9.20 -9.17 -7.06 9.61 -13.15 -12.99 <t>-12.83 -11.30 B3.22 13.93 11.00 -13.15 -12.99 -12.83 -11.30 B3.93 89.83 13.13 -12.99 -12.83 -11.30 B3.93 89.83 13.34 -12.99 -12.83 -11.30 B3.93 -13.34 -12.99 -12.83<td></td><td>II.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t>		II.														
B29 B27																
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B45 B41 1 Conduit RECT 34.6 60 96 267.92 273.71 286.91 261.79 289.16 285.81 B46 B45 1 Conduit CIRC 16.4 24 24 1.38 1.39 0.62 0.60 9.04 9.04 5.29 1.95 B47 B45 1 Conduit CIRC 36.6 66 26.25.73 266.76 273.32 228.52 257.55 258.14 228.54 284.89 B48 B47 1 Conduit CIRC 36 66 66 262.99 230.66 235.28 244.07 229.18 229.55 258.64 284.89 B49 B48 1 Conduit CIRC 20.4 30 30 36.66 36.77 37.89 38.87 37.70 38.73 41.4 B50 B49 1 Conduit CIRC 27.2 18 18 18 4.8 48 22.			_													
B46		B41	1			344.6	60								269.16	
B47 B45 1 Conduit RECT 45.5 60 96 265.73 226.76 273.32 286.52 257.55 258.14 288.54 284.89 B48 B47 1 Conduit CIRC 204 30 30 36.66 36.77 37.89 38.87 37.61 37.70 38.73 41.44 B50 B49 1 Conduit CIRC 47.2 18 18 4.84 4.82 5.28 4.11 8.25 8.38 8.53 8.61 B50_2D B50 1 weir N/A 0.427 0.42 5.15 5.31 5.38 4.12 8.25 8.38 8.53 8.61 BM10 BM13 1 Conduit CIRC 198.2 48 48 30.22 31.31 27.81 29.24 26.94 30.43 25.03 BM13 W14001_sta13602 1 Conduit CIRC 197.2 48 48 37.03 <t< td=""><td>B46</td><td>B45</td><td>1</td><td></td><td></td><td>16.4</td><td>24</td><td></td><td></td><td></td><td></td><td>0.60</td><td>9.04</td><td></td><td></td><td></td></t<>	B46	B45	1			16.4	24					0.60	9.04			
B48 B47	B46_2D	B46	1	weir	N/A	0.427	0.42	5.125	1.37	1.37	0.59	0.58	9.04	9.03	5.35	1.94
B49 B48	B47	B45	1	Conduit	RECT	45.5	60	96	265.73	266.76	273.32	286.52	257.55	258.14	268.54	284.89
B50	B48	B47	1	Conduit	CIRC	36	66	66	229.90	230.66	235.28	244.07	229.18	229.55	236.94	247.54
B50 2D B50	B49	B48	1	Conduit	CIRC	20.4	30	30	36.66	36.77	37.89	38.87	37.61	37.70	38.73	41.44
BM10 BM13	B50		1	Conduit	CIRC					4.82	5.28	4.11		8.38	8.53	8.61
BM13			1	weir												
BM14 W14001_sta13602 1 Conduit CIRC 224.2 54 54 83.80 83.20 77.24 82.17 84.34 80.71 78.75 83.87 BM2 BM4 1 Conduit CIRC 178.3 36 36 11.92 12.43 11.35 11.74 10.67 11.00 10.25 10.20 BM20 BM14 1 Conduit CIRC 674.4 54 54 68.67 68.29 62.77 67.99 68.88 66.91 64.40 69.16 BM24 BM20 1 Conduit CIRC 187.2 54 54 55.86 56.01 50.06 55.78 54.33 53.35 50.42 54.61 BM25 BM24 1 Conduit CIRC 284.4 42 37.68 38.03 34.94 36.94 34.34 35.03 32.95 33.01 BM29 BM30 1 Conduit CIRC 222.4 42.4 <td< td=""><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>			1													
BM2 BM4 1 Conduit CIRC 178.3 36 36 11.92 12.43 11.35 11.74 10.67 11.00 10.25 10.20 BM20 BM14 1 Conduit CIRC 674.4 54 54 68.67 68.29 62.77 67.99 68.88 66.91 64.40 69.16 BM24 BM20 1 Conduit CIRC 187.2 54 54 55.86 56.01 50.06 55.78 54.33 53.35 50.42 54.81 BM25 BM24 1 Conduit CIRC 284.4 42 47.80 7.80			_													
BM20 BM14 1 Conduit CIRC 674.4 54 54 68.67 68.29 62.77 67.99 68.88 66.91 64.40 69.16 BM24 BM20 1 Conduit CIRC 187.2 54 54 55.86 56.01 50.06 55.78 54.33 53.35 50.42 54.81 BM25 BM24 1 Conduit CIRC 284.4 42 42 37.68 38.03 34.94 36.94 34.34 35.03 32.95 33.01 BM29 BM30 1 Conduit CIRC 65.1 24 24 7.80 7.80 7.80 13.60			1													
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BM33 BM30 1 Conduit CIRC 180.6 30 30 22.43 22.62 20.86 21.69 21.93 22.11 20.04 20.83 BM34 BM33 1 Conduit CIRC 272 30 30 22.52 22.70 20.93 21.83 21.95 22.12 20.05 20.86 BM38 BM34 1 Conduit CIRC 177.9 24 24 11.88 11.92 11.25 11.54 10.92 10.97 10.44 10.60 BM4 BM7 1 Conduit CIRC 404.9 36 36 11.87 12.40 11.33 11.70 10.65 10.99 10.23 10.18 BM40 BM30 1 Conduit CIRC 67.6 24 24 9.50 9.50 9.50 16.77 16.77 16.77 16.77 16.77 16.77 17.35 17.81 C003 IH-10_MH_C107 1 Conduit <td></td> <td></td> <td>_</td> <td></td>			_													
BM34 BM33 1 Conduit CIRC 272 30 30 22.52 22.70 20.93 21.83 21.95 22.12 20.05 20.86 BM38 BM34 1 Conduit CIRC 177.9 24 24 11.88 11.92 11.25 11.54 10.92 10.97 10.44 10.60 BM4 BM7 1 Conduit CIRC 404.9 36 36 11.87 12.40 11.33 11.70 10.65 10.99 10.23 10.18 BM40 BM30 1 Conduit CIRC 67.6 24 24 9.50 9.50 9.50 16.77 16.77 16.77 16.77 16.77 16.77 16.77 16.77 16.77 16.77 16.77 17.81 17.81 17.81 17.81 17.81 17.81 17.81 17.81 17.81 17.81 17.81 17.81 17.81 17.81 17.81 17.81 17.81 17.81																
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BM40 BM30 1 Conduit CIRC 67.6 24 24 9.50 9.50 9.50 9.50 16.77 17.81 17.81 C003 IH-10_MH_C107																
BM7 BM10 1 Conduit CIRC 567 36 36 19.54 22.39 19.22 20.27 16.70 19.10 17.35 17.81 C003 IH-10_MH_C107 1 Conduit RECT 299 60 96 90.07 89.94 87.90 137.35 101.23 100.99 96.23 117.97 C003 IH-10_MH_WD3 2 Conduit CIRC 37 24 24 14.65 14.63 14.42 22.06 16.29 16.27 15.71 19.06 C003 IH-10_MH_C107 3 Conduit RECT 299 60 96 90.07 89.94 87.90 137.35 101.23 100.99 96.23 117.97		II														
C003 IH-10_MH_C107 1 Conduit RECT 299 60 96 90.07 89.94 87.90 137.35 101.23 100.99 96.23 117.97 C003 IH-10_MH_WD3 2 Conduit CIRC 37 24 24 14.65 14.63 14.42 22.06 16.29 16.27 15.71 19.06 C003 IH-10_MH_C107 3 Conduit RECT 299 60 96 90.07 89.94 87.90 137.35 101.23 100.99 96.23 117.97			_													
C003 IH-10_MH_WD3 2 Conduit CIRC 37 24 24 14.65 14.63 14.42 22.06 16.29 16.27 15.71 19.06 17.00 18.0			_													
C003 IH-10_MH_C107 3 Conduit RECT 299 60 96 90.07 89.94 87.90 137.35 101.23 100.99 96.23 117.97																
	C003	C003	1	Conduit	RECT	84.4	60	96	177.08	177.06	175.49	294.32	213.60	213.20	206.39	242.51



									Prop	Future	Future		Prop	Future	Future
Linetroom	Downstraam	Limbs			Lanath	Llaimht	\	Exist 10-Year	Phase 1	Phase 2	Phase 3 10-Year	Exist 100-Year	Phase 1 100-Year	Phase 2 100-Year	Phase 3 100-Year
Upstream Node ID	Downstream Node ID	Link Suffix	Link Type	Link Shape	Length (feet)	Height (Inches)	Width (Inches)	Flow (CFS)	10-Year Flow (CFS)	10-Year Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
		_	31	<u> </u>	` '	,	,	` '	• • •	` ′		` '	, ,	` '	, ,
C005	C004	1	Conduit	RECT	86	60	96	67.51	67.53	71.23	75.64	105.19	105.13	111.85	129.40
C006	C005	1	Conduit	CIRC	66	24	24	-8.36	-8.37	10.35	11.18	-11.21	-11.20	9.79	-10.97
C006_2D	C006	1	weir	N/A	0.667	0.83	8	2.05	2.05	4.40	2.05	-4.11	-4.11	4.74	-6.39
C007	C004	1	Conduit	RECT	60.4	60	120	127.02	127.10	125.88	122.02	137.86	137.88	131.28	98.03
C007 C008	C004 C003	2	Conduit	RECT	60.4	60	120 24	#N/A 18.70	#N/A 18.68	#N/A 17.89	122.02 20.86	#N/A 21.01	#N/A 20.93	#N/A 19.74	98.03 21.91
C008 C008 2D	C003	1 1	Conduit		0.667	24 0.83	8	2.44	2.41	17.89	1.31	5.70	5.63	4.66	7.11
C008_2D C009	C008	1	weir Conduit	N/A CIRC	102.6	24	24	-10.38	-10.38	9.07	10.84	-8.80	-8.80	8.43	8.79
C009 C009 2D	C009	1	weir	N/A	0.667	0.83	8	-10.36	-10.36	9.07	10.83	-8.79	-8.79	8.43	8.79
C009_2D	C009 C007	1	Conduit	RECT	105.8	60	120	127.01	127.09	126.04	122.18	137.86	137.87	131.27	98.13
C010	C007	2	Conduit	RECT	105.8	60	120	#N/A	#N/A	#N/A	122.18	#N/A	#N/A	#N/A	98.13
C010	C007	1	Conduit	CIRC	99.6	24	24	18.55	18.53	17.73	20.56	19.28	19.25	18.41	20.35
C011 2D	C011	1	weir	N/A	0.667	0.83	8	24.96	24.98	24.32	28.09	25.36	25.32	24.49	27.83
C012	C010	1	Conduit	RECT	33.8	60	120	127.01	127.09	126.21	122.36	137.85	137.87	131.26	98.23
C012	C010	2	Conduit	RECT	33.8	60	120	#N/A	#N/A	#N/A	122.36	#N/A	#N/A	#N/A	98.23
C012	C010	1	Conduit	CIRC	38.2	24	24	-7.65	-7.28	-7.82	-7.88	-8.16	-8.16	-8.50	-10.72
C013 2D	C013	1	weir	N/A	0.604	27	7.25	-7.13	-7.12	-7.26	-6.18	-6.71	-6.70	-6.96	-9.38
C014	C013	1 1	Conduit	CIRC	53	12	12	1.52	1.52	1.74	2.27	-2.26	-2.26	-2.30	-1.88
C014 2D	C014	1	weir	N/A	0.604		7.25	-1.27	-1.26	-0.97	0.65	-2.26	-2.26	-2.30	-1.88
C019	C020	1	Conduit	CIRC	35.4	12	12	-5.38	-5.38	3.77	7.69	-5.50	-5.50	-3.50	4.52
C019 2D	C019	1	weir	N/A	0.604		7.25	-5.38	-5.38	3.79	7.77	-5.50	-5.50	-3.49	4.53
C020	C021	1	Conduit	CIRC	62.8	24	24	-5.38	-5.38	3.75	7.57	-5.51	-5.51	-3.50	4.50
C021	C012	1	Conduit	RECT	118.9	60	120	127.01	127.09	126.37	122.51	137.85	137.87	131.26	98.32
C021	C012	2	Conduit	RECT	118.9	60	120	#N/A	#N/A	#N/A	122.51	#N/A	#N/A	#N/A	98.32
C022	C021	1	Conduit	CIRC	66.6	18	18	3.25	3.25	-2.96	4.19	3.80	3.76	2.83	3.51
C023	C022	1	Conduit	CIRC	29.6	12	12	4.21	4.21	3.97	4.01	4.30	4.29	4.11	4.12
C023_2D	C023	1	weir	N/A	0.604		7.25	4.21	4.21	3.97	4.01	4.30	4.29	4.11	4.12
C024	C022	1	Conduit	CIRC	25.6	12	12	-4.38	-4.38	-4.38	-4.22	-4.32	-4.32	-4.35	-4.56
C024_2D	C024	1	weir	N/A	0.604		7.25	-4.37	-4.37	-4.37	-4.22	-4.32	-4.32	-4.34	-4.55
C028	C029	1	Conduit	CIRC	49	24	24	6.94	6.94	-7.45	8.33	7.31	7.28	-7.60	-8.12
C028_2D	C028	1	weir	N/A	0.427	0.42	5.125	6.94	6.94	-7.45	8.78	7.30	7.28	-7.60	-8.11
C029	C021	1	Conduit	RECT	137.1	60	120	131.83	131.89	123.30	120.84	142.83	142.83	134.58	96.73
C029	C021	2	Conduit	RECT	137.1	60	120	#N/A	#N/A	#N/A	120.84	#N/A	#N/A	#N/A	96.73
C030	C029	1	Conduit	CIRC	45.5	24	24	-8.61	-8.61	-8.74	-9.79	-7.98	-7.98	-8.08	-10.50
C030_2D	C030	1	weir	N/A	0.427	0.42	5.125	-8.60	-8.60	-8.72	-9.78	-7.97	-7.98	-8.07	-10.49
C033	C029	1	Conduit	RECT	112.6	60	120	140.96	140.99	137.82	121.03	153.50	153.52	149.98	104.96
C033	C029	2	Conduit	RECT	112.6	60	120	#N/A	#N/A	#N/A	121.03	#N/A	#N/A	#N/A	104.96
C035	C033	1	Conduit	RECT	156.2	60	120	140.95	140.99	137.83	121.08	153.47	153.49	149.95	104.95
C035	C033	2	Conduit	RECT	156.2	60	120	#N/A	#N/A	#N/A	121.08	#N/A	#N/A	#N/A	104.95
C036	C035	1	Conduit	CIRC	41.6	24	24	13.53	13.52	12.96	12.92	14.14	14.11	13.56	12.68
C036_2D	C036	1	weir	N/A	0.427	0.42	5.125	9.32	9.31	8.90	7.34	9.62	9.60	9.19	7.12
C036A	C036	1	Conduit	CIRC	20.7	12	12	4.38	4.38	4.07	6.01	4.63	4.62	4.37	5.56
C036A_2D	C036A	1	weir	N/A	0.604		7.25	4.38	4.38	4.07	6.08	4.63	4.62	4.37	5.56
C037 C037	C035	1	Conduit	RECT	45.6 45.6	60	120	133.65	133.59 #N/A	130.53 #N/A	115.65	139.78	139.77 #N/A	136.20 #N/A	102.10
C037 C038	C035 C035	2	Conduit	RECT CIRC	36.9	60 24	120 24	#N/A 23.47	#N/A 23.46	#N/A 23.08	115.65 22.86	#N/A 24.35	#IN/A 24.32	#N/A 24.25	102.10 23.34
C038 C038 2D	C035 C038	1 1	Conduit weir	N/A	0.427	0.42	5.125	9.70	9.69	9.11	7.37	9.85	9.84	9.49	7.20
C038_2D	C038	1	Conduit	CIRC	16.1	24	24	15.31	15.28	15.00	15.58	16.52	16.50	16.21	17.99
C038A 2D	C038A	1	weir	N/A	0.604	24	7.25	15.31	15.28	15.00	15.58	16.52	16.50	16.21	17.99
C038B	C038A	1	Conduit	CIRC	40.6	12	1.25	4.05	4.04	3.55	5.15	4.16	4.15	3.82	4.09
C038B 2D	C038B	1	weir	N/A	0.604	12	7.25	4.05	4.04	3.55	5.15	4.16	4.15	3.76	4.09
C030B_ZD	CUSOB		well	IN/A	0.004		1.20	4.00	4.00	J.55	J.24	4.13	4.12	3.70	4.01



								I	Prop	Future	Future	I	Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
C040	C037	1	Conduit	RECT	248.2	60	120	133.66	133.61	130.55	115.67	139.78	139.77	136.19	102.10
C040	C037	2	Conduit	RECT	248.2	60	120	#N/A	#N/A	#N/A	115.67	#N/A	#N/A	#N/A	102.10
C041	C040	1	Conduit	CIRC	67.4	24	24	-8.69	-8.68	-8.52	-6.87	-9.17	-9.18	-9.20	-8.52
C041_2D	C041	1	weir	N/A	0.427	0.42	5.125	-8.68	-8.68	-8.52	-6.86	-9.17	-9.17	-9.19	-8.51
C044	C045	1	Conduit	CIRC	55.5	24	24	-3.08	-3.07	-2.15	1.53	-9.96	-9.92	-9.54	5.26
C044_2D	C044	1	weir	N/A	0.604		7.25	-3.08	-3.07	-2.15	1.52	-9.95	-9.92	-9.54	5.26
C045	C040	1	Conduit	RECT	202.5	60	120	122.09	122.07	116.65	103.12	108.52	108.59	107.90	84.95
C045	C040	2	Conduit	RECT	202.5	60	120	#N/A	#N/A	#N/A	103.12	#N/A	#N/A	#N/A	84.95
C046	C047	1	Conduit	CIRC	66.6	48	48	-11.11	-11.11	-9.09	12.40	-21.07	-21.00	-19.84	15.69
C046_2D	C046	1 1	weir	N/A	0.604		7.25	-11.11	-11.12	-9.09	12.34	-21.08	-21.00	-19.84	15.66
C047	C045	1	Conduit	RECT	112.8	60	120	117.45	117.38	112.11	99.68	110.20	110.23	107.93	82.35
C047	W14001_sta21026	2	Conduit	CIRC	50.5	36	36	72.66	72.70	81.83	69.90	78.56	78.34	87.11	83.16
C047	C045	3	Conduit	RECT	112.8	60	120	#N/A	#N/A	#N/A	99.68	#N/A	#N/A	#N/A	82.35
C048	C051	1	Conduit	CIRC	44.8	18	18	-7.66	-7.66	-7.42	-8.08	-8.46	-8.46	-8.42	-9.99
C048_2D	C048	1	weir	N/A	0.427	0.42	5.125	-7.66	-7.66	-7.42	-8.08	-8.45	-8.45	-8.42	-10.00
C049	C047	1	Conduit	RECT	48.2	60	120	184.59	184.62	186.28	118.24	193.10	193.14	194.37	122.97
C049 C051	C047 C049	2	Conduit Conduit	RECT RECT	48.2 72.9	60 60	120 120	#N/A 184.59	#N/A 184.61	#N/A 186.28	118.24 118.26	#N/A 193.10	#N/A 193.13	#N/A 194.38	122.97 122.97
C051	C049 C049	2	Conduit	RECT	72.9	60	120	#N/A	#N/A	#N/A	118.26	#N/A	#N/A	#N/A	122.97
C051 C051B	C049 C051	1	Conduit	CIRC	33.1	18	18	-18.97	-18.97	-18.68	-18.50	-20.34	-20.34	-20.32	-21.67
C051B 2D	C051B	1	weir	N/A	0.427	0.42	5.125	7.14	7.14	4.91	-4.78	7.32	7.28	5.03	-4.80
C051B_2D	C051B	1	Conduit	RECT	148.4	60	120	211.02	211.03	212.16	129.73	219.69	219.76	221.16	138.32
C053	C051	2	Conduit	RECT	148.4	60	120	#N/A	#N/A	#N/A	129.73	#N/A	#N/A	#N/A	138.32
C053	C051	1	Conduit	CIRC	71.7	18	18	-9.66	-9.66	-9.60	-10.15	-10.29	-10.29	-10.37	-11.62
C054 2D	C054	1 1	weir	N/A	0.427	0.42	5.125	-9.65	-9.65	-9.60	-10.15	-10.28	-10.28	-10.37	-11.62
C055	C054	1 1	Conduit	RECT	152.7	60	120	220.61	220.61	221.69	134.40	229.34	229.39	230.95	143.97
C055	C053	2	Conduit	RECT	152.7	60	120	#N/A	#N/A	#N/A	134.40	#N/A	#N/A	#N/A	143.97
C057	C055	1	Conduit	CIRC	31.5	24	24	-18.82	-18.82	-18.72	-20.24	-20.05	-20.05	-20.21	-23.00
C057 2D	C057	 	weir	N/A	0.427	0.42	5.125	-11.45	-11.45	-11.38	-12.67	-12.20	-12.20	-12.30	-14.37
C060	C055	1 1	Conduit	CIRC	40.5	18	18	-10.26	-10.26	-10.19	-11.58	-10.87	-10.87	-10.95	-13.04
C060 2D	C060	1 1	weir	N/A	0.427	0.42	5.125	-10.26	-10.26	-10.19	-11.58	-10.85	-10.86	-10.94	-13.04
C061	C055	1	Conduit	RECT	101.7	60	120	249.58	249.58	250.47	149.15	258.79	258.85	260.80	161.69
C061	C055	2	Conduit	RECT	101.7	60	120	#N/A	#N/A	#N/A	149.15	#N/A	#N/A	#N/A	161.69
C062	C057	1	Conduit	CIRC	82.3	18	18	-7.37	-7.37	-7.33	-7.57	-7.83	-7.83	-7.89	-8.63
C062 2D	C062	1	weir	N/A	0.427	0.42	5.125	-7.37	-7.37	-7.33	-7.57	-7.83	-7.83	-7.89	-8.63
C063	C061	1	Conduit	RECT	183.4	60	120	249.56	249.56	250.46	149.17	258.88	258.92	260.80	161.69
C063	C061	2	Conduit	RECT	183.4	60	120	#N/A	#N/A	#N/A	149.17	#N/A	#N/A	#N/A	161.69
C064	C063	1	Conduit	CIRC	36.6	18	18	0.42	0.42	0.42	0.43	-5.01	-5.00	-4.75	1.06
C064_2D	C064	1	weir	N/A	0.427	0.42	5.125	0.43	0.43	0.43	0.44	-5.28	-5.24	-5.25	1.07
C065	C063	1	Conduit	RECT	49.7	60	96	249.14	249.14	250.03	149.03	262.88	262.91	264.02	161.18
C065	C063	2	Conduit	RECT	49.7	60	96	#N/A	#N/A	#N/A	149.03	#N/A	#N/A	#N/A	161.18
C066	C065	1	Conduit	RECT	16.5	60	96	272.05	272.05	272.66	307.07	293.28	293.28	294.06	336.66
C067	C065	1	Conduit	CIRC	70.2	48	48	-22.97	-22.97	-22.72	-10.36	-30.48	-30.48	-30.24	-15.28
C068	C067	1	Conduit	CIRC	23.6	24	24	0.70	0.70	0.71	1.72	-3.97	-3.96	-3.68	4.19
C068_2D	C068	1	weir	N/A	0.427	0.42	5.125	0.70	0.71	0.72	1.69	-4.01	-4.09	-3.68	4.19
C069	C066	1	Conduit	RECT	50.8	60	96	229.30	229.30	229.42	249.99	245.56	245.55	245.68	266.44
C070	C067	1	Conduit	CIRC	34.8	24	24	0.96	0.96	0.96	1.06	1.35	1.35	1.30	1.18
C070_2D	C070	1	weir	N/A	0.427	0.42	5.125	0.96	0.96	0.96	1.06	1.07	1.07	1.07	1.19
C071	C069	1	Conduit	RECT	127.7	60	96	229.29	229.29	229.40	249.92	245.56	245.54	245.67	266.42
C072	C071	1	Conduit	CIRC	6.6	24	24	-0.09	-0.09	-0.09	-0.72	0.32	0.29	0.18	-0.10
C072_2D	C072	1	weir	N/A	0.427	0.42	5.125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



								Exist	Prop Phase 1	Future Phase 2	Future Phase 3	Exist	Prop Phase 1	Future Phase 2	Future Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
C073	C071	1	Conduit	CIRC	73.5	24	24	7.54	7.54	7.54	5.96	10.57	10.57	10.68	8.62
C073_2D	C073	1	weir	N/A	0.427	0.42	5.125	7.54	7.54	7.54	5.94	10.82	10.74	10.86	8.64
C080	C081	1	Conduit	CIRC	70.3	24	24	9.69	9.73	9.60	7.55	9.79	9.80	9.70	9.76
C080_2D	C080	1	weir	N/A	0.427	0.42	5.125	9.61	9.61	9.49	7.46	9.84	9.84	9.75	9.76
C081	C071	1	Conduit	RECT	350.8	60	96	221.72	221.73	221.85	243.88	235.79	235.79	235.80	259.45
C082	C081	1	Conduit	CIRC	8.5	24	24	6.16	6.16	6.14	6.73	9.93	9.93	10.03	9.36
C082_2D	C082	1	weir	N/A	0.427	0.42	5.125	6.17	6.17	6.14	6.71	10.09	10.09	10.18	9.38
C083	C081	1	Conduit	RECT	164.7	60	96	208.60	208.60	208.62	232.67	219.68	219.70	220.35	247.56
C083_2D	C083	1	weir	N/A	0.427	0.42	5.125	9.65	9.65	9.72	11.76	9.42	9.42	9.52	11.02
C084 C084 2D	C085 C084	1	Conduit weir	CIRC N/A	46.8 0.427	18 0.42	18 5.125	-4.97 -4.97	-4.97 -4.97	-4.94 -4.94	5.29 5.24	-5.90 -5.90	-5.90 -5.90	-5.88 -5.88	-4.75 -4.75
C084_2D	C083	1	Conduit	CIRC	140.7	24	24	21.10	21.11	21.12	24.73	20.78	20.77	20.86	23.15
C086	C085	1	Conduit	CIRC	24.8	24	24	23.67	23.67	23.68	25.44	23.38	23.38	23.41	24.92
C086 2D	C086	1	weir	N/A	0.427	0.42	5.125	2.36	2.36	2.37	5.16	-2.62	-2.62	-2.56	4.72
C088	C089	1	Conduit	CIRC	98.7	18	18	4.99	4.99	4.99	5.31	5.50	5.50	5.57	7.45
C088 2D	C088	1	weir	N/A	0.427	0.42	5.125	5.00	5.00	5.00	5.32	5.52	5.52	5.59	7.47
C089	C083	1	Conduit	RECT	163.9	60	96	181.73	181.74	181.42	198.76	204.59	204.62	204.49	225.67
C090	C089	1	Conduit	CIRC	72	18	18	1.45	1.45	1.43	1.68	2.16	2.16	2.16	2.76
C090 2D	C090	1	weir	N/A	0.427	0.42	5.125	1.43	1.43	1.43	1.71	2.15	2.15	2.15	2.77
C092	C092A	1	Conduit	RECT	174.9	60	96	174.62	174.63	174.36	191.91	200.03	200.07	200.07	220.61
C092A	C089	1	Conduit	RECT	238.7	60	96	175.57	175.58	175.31	192.79	200.78	200.82	200.63	221.35
C092B	C092A	1	Conduit	CIRC	19.3	24	24	1.09	1.09	1.09	1.14	1.57	1.56	1.56	2.09
C092B_2D	C092B	1	weir	N/A	0.604		7.25	1.10	1.10	1.10	1.15	1.56	1.56	1.56	2.09
C093	C094	1	Conduit	CIRC	6.5	18	18	2.17	2.17	2.17	2.12	6.05	6.04	6.04	6.18
C093_2D	C093	1	weir	N/A	0.427	0.42	5.125	2.18	2.18	2.18	2.13	6.06	6.06	6.06	6.18
C094	C092	1	Conduit	CIRC	21.2	24	24	4.23	4.23	4.23	4.44	12.30	12.29	12.29	13.79
C095	C094	1	Conduit	CIRC	46.4	18	18	2.07	2.07	2.07	2.36	6.56	6.55	6.56	7.61
C095_2D	C095	1	weir	N/A	0.427	0.42	5.125	2.08	2.08	2.08	2.35	6.56	6.55	6.55	7.61
C096	C097	1	Conduit	CIRC	15.4	18	18	6.40	6.40	6.40	6.44	10.13	10.13	10.13	10.58
C096_2D	C096	1	weir	N/A	0.427	0.42	5.125	6.39	6.39	6.39	6.43	10.13	10.13	10.12	10.58
C097	C092	1	Conduit	CIRC	73.3	24	24	24.58	24.57	24.63	25.91	26.26	26.26	26.21	28.81
C098	C097	1 1	Conduit	CIRC	39.9	18	18	1.46	1.46	1.46	1.40	7.42	7.43	7.45	8.33
C098_2D C099	C098 C097		weir	N/A CIRC	0.427 95.8	0.42	5.125	1.46 0.99	1.46 1.06	1.46	1.41	7.42	7.42	7.45	8.32
C103	C097	1 1	Conduit			18 18	18 18	0.99	0.99	1.10 1.02	0.98	1.47 1.44	1.44 1.44	1.43 1.44	1.44 1.42
C103 C103 2D	C103	1	Conduit weir	CIRC N/A	14.8 0.427	0.42	5.125	0.98	0.99	0.99	0.98	1.44	1.44	1.44	1.42
C103_2D CP03	CPM2	1	Conduit	CIRC	19	24	24	14.60	14.77	14.13	14.51	13.15	13.55	12.79	12.97
CP03	CPM2	1	Conduit	CIRC	16.3	24	24	8.41	8.80	7.69	8.14	8.47	7.16	8.04	8.82
CP06	CPM5	1	Conduit	CIRC	23.6	24	24	4.82	4.88	4.21	4.60	3.91	4.01	3.49	3.60
CP07	CPM5	1	Conduit	CIRC	20.8	24	24	12.10	12.25	12.23	12.24	13.68	13.65	13.56	13.44
CP10	CPM9	1	Conduit	CIRC	56.7	24	24	-6.95	-6.87	-7.05	-6.92	-7.63	-7.61	-7.64	-7.59
CP114	CPM13	1	Conduit	CIRC	102.3	24	24	-6.23	-6.12	-6.22	-6.01	-6.98	-6.50	-6.94	-6.76
CP16	CPM15	1	Conduit	CIRC	59.6	24	24	-7.06	-7.03	-7.35	-7.25	-5.88	-5.92	-5.24	-5.67
CP17	CPM1	1	Conduit	CIRC	11	24	24	25.55	25.31	25.04	26.77	26.45	25.66	25.63	27.67
CP18	CPM1	1	Conduit	CIRC	27.4	24	24	7.02	7.22	5.47	6.79	-6.28	5.91	-5.21	-7.05
CP20	CPM19	1	Conduit	CIRC	305.2	18	18	6.27	6.32	5.76	6.07	5.29	5.32	5.01	5.17
CP22	CPM21	1	Conduit	CIRC	310.3	18	18	4.61	4.51	4.31	4.97	4.71	4.59	4.36	4.94
CP24	CPM23	1	Conduit	CIRC	39.7	18	18	9.28	9.31	9.08	9.11	8.52	8.57	8.19	8.21
CP25	CPM23	1	Conduit	CIRC	27.8	18	18	-10.17	-9.94	-10.21	-10.15	-10.83	-10.74	-10.85	-10.90
CP27	CPM26	1	Conduit	CIRC	21	18	18	-9.51	-9.28	-9.58	-9.36	-9.99	-9.90	-10.03	-9.91
CP28	CPM26	1	Conduit	CIRC	26.6	18	18	12.29	11.96	11.14	12.18	12.13	11.62	11.30	11.77



									Prop	Future	Future		Prop	Future	Future
		l I			l	l		Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream		Link	Link Ton	Link Ohama	Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)	Flow (CFS)	Flow (CFS)	, ,	Flow (CFS)	Flow (CFS)	Flow (CFS)	Flow (CFS)
CP33	CPM32	1	Conduit	CIRC	47.6	24	24	-3.36	-2.65	-5.19	-4.33	-9.12	-9.00	-11.10	-10.66
CP35	CPM34	1	Conduit	CIRC	44.7	30	30	5.75	5.75	5.75	5.75	14.17	10.09	14.26	12.29
CPM1	W14001_sta14232	1	Conduit	CIRC	95	36	36	52.88	52.00	48.82	51.71	54.54	52.65	51.18	54.42
CPM11	CPM9	1	Conduit	CIRC	137.2	36	36	7.86	7.99	6.51	7.07	-7.64	6.73	-7.48	-7.53
CPM12	CPM11	1	Conduit	CIRC	114.1	24	24	6.54	6.54	6.54	6.54	10.04	10.23	9.96	10.03
CPM13	CPM11	1	Conduit	CIRC	191.3	27	27	-8.68	-8.61	-8.66	-8.72	-9.17	-8.94	-8.99	-9.05
CPM15	CPM13	1	Conduit	CIRC	177.1	24	24	-7.07	-7.04	-7.36	-7.26	-5.89	-5.92	-5.25	-5.68
CPM19	CPM1	1	Conduit	CIRC	396.2	36	36	38.58	38.22	35.81	38.64	38.95	38.10	36.74	39.59
CPM2	W14001_sta14232	1	Conduit	CIRC	221.6	36	36	32.54	32.93	27.60	30.71	24.38	25.80	23.09	23.13
CPM21	CPM19	1	Conduit	CIRC	130.5	36	36	34.77	34.40	32.55	35.57	35.18	34.40	33.40	35.90
CPM23	CPM21	1	Conduit	CIRC	425	36	36	29.79	29.49	27.50	30.34	29.79	29.00	27.91	29.73
CPM26	CPM23	1	Conduit	CIRC	300.1	36	36	22.85	22.49	20.58	23.43	23.21	22.50	21.29	23.27
CPM29	CPM26	1	Conduit	CIRC	137.3	36	36	24.46	24.58	23.66	24.27	22.14	22.27	21.49	21.80
CPM30	CPM29	1	Conduit	CIRC	124.4	24	24	-4.63	-4.61	-4.89	-5.34	-6.23	-6.12	-6.71	-7.23
CPM31	CPM29	1	Conduit	CIRC	125.6	36	36	39.94	39.99	39.49	40.76	41.22	41.41	40.14	41.92
CPM32	CPM29	1	Conduit	CIRC	68.7	30	30	-13.13	-13.08	-12.27	-12.78	-15.84	-15.67	-13.23	-14.67
CPM34	CPM32	1	Conduit	CIRC	331.8	30	30	-9.02	-9.02	-9.56	8.99	9.82	9.62	9.49	10.21
CPM5	CPM2	1	Conduit	CIRC	280.9	36	36	20.08	20.36	16.44	18.59	16.63	16.78	14.36	15.36
CPM8	CPM5	1	Conduit	CIRC	111.6	36	36	12.56	12.76	10.37 10.40	11.47	10.70 10.72	10.78	9.23	9.81
CPM9	CPM8	1	Conduit	CIRC	205.3	36	36	12.74	12.94		11.63		10.81	9.25	9.84
D02	D03	1	Conduit	CIRC	39.8	24	24	6.90	6.90	6.90	6.89	8.72	8.72	8.85	11.25
D02_2D	D02	1	weir	N/A	0.427	0.42	5.125	6.91	6.91	6.91	6.91	8.74	8.74	8.87	11.26
D03	C066	1	Conduit	CIRC	139	42	42	42.84	42.84	43.41	57.33	47.67	47.67	48.26	70.35
D04	D03	1 1	Conduit	CIRC	36.3	24	24	-4.23	-4.23	-3.98	2.44	-8.07	-8.07	-7.99	3.40
D04_2D	D04		weir	N/A	0.427	0.42	5.125	-4.24	-4.23	-3.98	2.45	-8.07	-8.07	-7.99 -14.06	3.42
D05 D05_2D	D06	1	Conduit weir	CIRC N/A	22.6 0.427	24 0.42	24 5.125	-11.90 -11.90	-11.90 -11.90	-11.76 -11.77	5.50 5.52	-14.13 -14.13	-14.13 -14.13	-14.06	-9.71 -9.72
D05_2D	C067	1	Conduit	CIRC	310.4	48	48	-24.94	-24.94	-24.71	-13.00	-14.13	-14.13	-14.06	-9.72 -19.93
D07	D06	1	Conduit	CIRC	25.1	24	24	-24.94	-13.05	-12.95	-7.84	-14.03	-14.03	-14.08	-10.23
D07 2D	D07	1	weir	N/A	0.427	0.42	5.125	-13.05	-13.05	-12.95	-7.84	-14.03	-14.03	-14.08	-10.23
D07_2D	D07	1	Conduit	CIRC	24.1	24	24	2.89	2.92	2.82	4.46	-2.96	-2.87	-2.78	3.35
D08 2D	D08	1 1	weir	N/A	0.427	0.42	5.125	3.51	3.54	2.82	4.81	-2.96	-2.87	-2.79	3.36
D00_2D	D12	1 1	Conduit	CIRC	172.3	24	24	6.23	6.29	6.82	8.27	6.08	6.07	6.15	7.36
D10	D09	1 1	Conduit	CIRC	22.4	24	24	5.13	5.13	5.09	6.30	5.13	5.12	5.21	6.73
D10 2D	D10	1 1	weir	N/A	0.427	0.42	5.125	5.13	5.12	5.09	7.11	5.12	5.12	5.20	7.31
D11	D12	1 1	Conduit	CIRC	38.8	24	24	-4.50	-4.49	-3.24	3.79	-5.19	-5.15	-5.07	-5.00
D11 2D	D12	1 1	weir	N/A	0.427	0.42	5.125	-4.50	-4.49	-3.24	3.87	-5.19	-5.15	-5.07	-5.00
D12	D14	1 1	Conduit	CIRC	217	30	30	7.95	7.93	8.16	11.75	8.21	8.19	8.50	9.84
D13	D14	1	Conduit	CIRC	25	24	24	-8.34	-8.33	-7.63	-5.03	-8.98	-8.94	-8.91	-8.87
D13_2D	D13	1 1	weir	N/A	0.427	0.42	5.125	-8.34	-8.33	-7.63	-5.09	-8.98	-8.94	-8.91	-8.87
D14	D16	1 1	Conduit	CIRC	218	30	30	14.12	14.07	14.80	19.09	-16.07	-15.49	14.91	18.36
D15	D14	1 1	Conduit	CIRC	22.9	24	24	8.32	8.31	8.38	8.69	8.23	8.21	8.44	9.03
D15 2D	D15	1 1	weir	N/A	0.427	0.42	5.125	8.31	8.30	8.36	8.67	8.22	8.20	8.43	9.02
D16	B29	1 1	Conduit	CIRC	162.5	30	30	14.13	14.08	14.79	19.18	-16.06	-15.49	14.92	18.37
D17	B29	1 1	Conduit	CIRC	49.1	30	30	-22.04	-21.97	19.04	25.86	-31.37	-30.86	-29.97	24.91
D18	D17	1	Conduit	CIRC	85.2	30	30	-22.04	-21.97	19.03	25.85	-31.38	-30.86	-29.97	24.90
E0	30029	1	Conduit	CIRC	339.5	54	54	130.87	130.89	130.60	130.56	145.70	145.51	145.19	145.16
E04	E05	1	Conduit	CIRC	5.4	18	18	6.60	6.61	6.60	5.78	10.28	10.28	10.28	10.48
E04 2D	E04	1	weir	N/A	0.427	0.42	5.125	6.60	6.60	6.59	5.79	10.28	10.28	10.28	10.48
E05	C097	1	Conduit	CIRC	230.6	24	24	21.10	21.09	21.17	22.05	17.80	17.80	17.83	19.12
E06	E05	1	Conduit	CIRC	38.4	18	18	1.69	1.60	1.58	1.58	3.03	3.02	3.02	3.40



									Prop	Future	Future		Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)							
E06 2D	E06	1	weir	N/A	0.427	0.42	5.125	1.09	1.09	1.09	1.09	3.02	3.01	3.02	3.40
E08	B49	1	Conduit	CIRC	270.1	30	30	28.01	28.05	28.68	30.18	23.43	23.48	24.42	27.00
E1	E0	1	Conduit	CIRC	66.6	24	24	1.24	1.19	1.27	0.95	9.94	9.89	9.97	8.06
E13	EM12	1	Conduit	CIRC	38.4	24	24	22.99	23.00	22.94	22.98	23.10	23.23	23.15	23.20
E14	EM12	1	Conduit	CIRC	34.9	24	24	28.28	28.38	28.28	28.24	26.84	26.89	26.76	27.52
E16	EM15	1	Conduit	CIRC	40.6	18	18	11.00	11.00	11.00	10.99	10.70	10.62	10.60	10.66
E17	EM15	1	Conduit	CIRC	44.4	15	15	13.52	13.54	13.10	13.22	13.80	13.82	13.21	13.18
E2	E0	1	Conduit	CIRC	60.8	24	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E21	EM20	1	Conduit	CIRC	43.5	24	24	15.08	14.87	14.79	14.59	14.89	14.72	14.65	14.48
E22	EM20	1	Conduit	CIRC	38	24	24	12.15	11.87	11.90	11.79	9.69	9.28	9.40	9.62
E25	EM24	1	Conduit	CIRC	30.9	24	24	-6.15	-6.14	-6.18	-6.50	-7.27	-7.26	-7.32	-7.71
E26	EM24	1	Conduit	CIRC	51.3	24	24	12.05	11.82	11.86	11.41	9.93	9.70	9.77	9.47
E4	EM3	1	Conduit	CIRC	64.5	24	24	11.28	11.28	11.28	11.28	19.99	19.99	19.99	19.99
E5	EM3	1	Conduit	CIRC	44.5	24	24	12.68	12.68	12.68	12.68	22.15	22.13	22.15	22.16
E8	EM7	1	Conduit	CIRC	38.6	24	24	30.46	30.46	30.34	30.38	31.87	30.64	30.47	30.67
E9	EM7	1	Conduit	CIRC	39.8	24	24	22.94	22.94	22.94	22.94	28.81	29.09	28.97	28.91
EM10	EM7	1	Conduit	CIRC	71.5	48	48	71.40	71.72	71.57	71.29	67.27	67.28	67.00	69.02
EM11	EM12	1	Conduit	CIRC	224.9	36	36	39.06	38.63	38.64	38.44	36.49	36.33	36.19	36.33
EM12	EM10	1	Conduit	CIRC	343.2	42	42	71.31	71.64	71.50	71.21	67.23	67.25	66.97	68.99
EM15	EM11	1	Conduit	CIRC	258.5	36	36	39.02	38.59	38.60	38.41	36.57	36.42	36.28	36.42
EM18	EM15	1	Conduit	CIRC	157.4	36	36	23.36	22.92	23.00	22.66	20.25	19.86	19.94	19.86
EM20	EM18	1	Conduit	CIRC	187.4	30	30	23.33	22.88	22.97	22.62	20.22	19.82	19.92	19.83
EM23	EM20	1	Conduit	CIRC	213.6	24	24	13.53	13.31	13.34	12.88	11.63	11.43	11.47	11.14
EM24	EM23	1	Conduit	CIRC	209.2	24	24	13.51	13.29	13.32	12.86	11.61	11.42	11.46	11.13
EM3	E0	1	Conduit	CIRC	344.6	54	54	130.91	130.92	130.63	130.60	145.72	145.53	145.21	145.18
EM6	EM3	1	Conduit	CIRC	215.3	54	54	107.46	107.49	107.21	107.16	113.41	113.14	112.88	113.46
EM7	EM6	1	Conduit	CIRC	308.7	48	48	107.28	107.31	107.03	106.98	113.37	113.10	112.84	113.42
F1	W14001_sta13031	1	Conduit	CIRC	366.5	30	30	12.04	13.39	11.19	11.59	10.23	12.07	10.36	9.79
F2	F3	1	Conduit	CIRC	316	30	30	10.97	10.98	10.97	10.97	19.22	19.22	19.22	19.20
F3	F4OUT	1	Conduit	CIRC	217.6	30	30	26.37	26.37	26.37	26.37	46.35	46.35	46.35	46.34
G2	GM01	1	Conduit	CIRC	31.3	18	18	12.46	12.46	12.46	12.46	26.27	21.45	22.71	22.68
GM01	GOUT	1	Conduit	CIRC	413.9	48	48	86.17	86.18	86.18	86.17	119.32	119.32	119.22	119.16
GM1	W14001_sta14781	1	Conduit	CIRC	104.6	36	36	24.76	27.81	26.54	27.02	25.17	34.11	29.97	30.21
GM3	GM01	1	Conduit	CIRC	88.6	48	48	73.88	73.89	73.89	73.88	98.73	98.73	98.65	98.58
GM4	GM3	1	Conduit	CIRC	399.2	48	48	55.40	55.40	55.40	55.40	70.23	70.23	70.15	70.15
GM5	GM4	1	Conduit	CIRC	499.1	48	48	39.91	39.92	39.91	39.91	53.52	53.52	53.46	53.64
GM6	GM5	1	Conduit	CIRC	157.7	48	48	20.60	20.60	20.60	20.60	33.49	33.49	33.45	34.12
GM7	GM6	1	Conduit	CIRC	191.1	48	48	14.45	14.46	14.45	14.45	25.63	25.63	25.63	25.63
H1	W14001_sta12528	1	Conduit	CIRC	143.2	24	24	11.34	11.54	10.51	10.93	11.18	12.84	12.19	12.19
H2	H1	1	Conduit	CIRC	29.6	24	24	7.03	7.04	7.04	7.03	10.54	10.73	10.50	10.56
H3	H2	1	Conduit	CIRC	139.9	24	24	7.04	7.04	7.04	7.03	10.56	10.75	10.51	10.57
IH-10_JUNCTION_E01	5251	1	Conduit	rect	377	96	60	108.37	108.61	55.42	152.60	124.00	115.64	80.53	138.74
IH-10_JUNCTION_E01	5218	2	Conduit	rect	377	96	60	131.65	132.42	96.29	170.21	154.19	147.60	121.67	154.77
IH-10_JUNCTION_E01	5632	3	Conduit	RECT	377	96	60	108.37	108.61	57.84	161.36	124.40	115.95	80.77	138.73
IH-10_JUNCTION_E116	B01	1	Conduit	RECT	170	48	72	39.86	43.75	48.74	93.13	-41.93	-44.96	-41.01	56.27
IH-10_JUNCTION_E116		2	Conduit	CIRC	40	24	24	8.13	8.50	5.85	16.58	8.44	8.80	-5.81	10.48
IH-10_MH_C1	IH-10_JUNCTION_E01	1	Conduit	RECT	234	60	96	102.11	102.14	104.08	148.52	138.50	129.55	118.85	127.10
IH-10_MH_C1	IH-10_MH_C2A	2	Conduit	CIRC	36	24	24	-14.15	-14.15	-14.34	-20.16	-14.75	-14.52	-14.58	-17.34
IH-10_MH_C1	IH-10_JUNCTION_E01	3	Conduit	RECT	234	60	96	102.11	102.14	104.08	148.52	138.50	129.55	118.85	127.10
IH-10_MH_C105A	IH-10_MH_C7	1	Conduit	RECT	94	60	96	86.26	86.26	86.82	127.12	96.40	95.47	93.77	107.70
IH-10_MH_C105A	IH-10_MH_WD4	2	Conduit	CIRC	37	24	24	6.74	6.73	6.84	13.34	-8.94	-8.92	-8.99	-9.34



									Prop	Future	Future		Prop	Future	Future
								Exist	Phase 1	Phase 2	Phase 3	Exist	Phase 1	Phase 2	Phase 3
Upstream	Downstream	Link			Length	Height	Width	10-Year	10-Year	10-Year	10-Year	100-Year	100-Year	100-Year	100-Year
Node ID	Node ID	Suffix	Link Type	Link Shape	(feet)	(Inches)	(Inches)	Flow (CFS)							
IH-10_MH_C105A	IH-10_MH_C7	3	Conduit	RECT	94	60	96	86.26	86.26	86.82	127.12	96.40	95.47	93.77	107.70
IH-10_MH_C107	IH-10_MH_WD20A	1	Conduit	CIRC	37	24	24	11.30	11.30	11.38	19.70	12.67	12.64	12.12	14.87
IH-10_MH_C107	IH-10_MH_C105A	2	Conduit	RECT	248	60	96	85.23	85.12	83.17	131.36	95.37	95.14	90.78	111.29
IH-10_MH_C107	IH-10_MH_C105A	5	Conduit	RECT	248	60	96	85.23	85.12	83.17	131.36	95.37	95.14	90.78	111.29
IH-10_MH_C121	IH-10_MH_C1	1	Conduit	RECT	232	60	96	93.39	93.33	94.61	133.95	114.69	109.84	104.39	113.45
IH-10_MH_C121	IH-10_MH_WD7	2	Conduit	CIRC	40	24	24	-10.06	-10.06	-10.18	-13.73	-11.76	-11.77	-11.79	-13.05
IH-10_MH_C121	IH-10_MH_C1	3	Conduit	RECT	232	60	96	93.39	93.33	94.61	133.95	114.69	109.84	104.39	113.45
IH-10_MH_C2A	IH-10_MH_WD13	1	Conduit	RECT	149	72	144	16.95	16.96	17.18	24.29	20.91	20.02	19.09	21.34
IH-10_MH_C7	IH-10_MH_C121	3	Conduit	RECT	208	60	96	88.07	88.03	88.74	127.52	100.21	98.33	95.43	108.00
IH-10_MH_C7	IH-10_MH_WD6	4	Conduit	CIRC	40	24	24	-6.79	-6.74	-6.68	10.16	-9.83	-9.82	-9.82	-10.55
IH-10_MH_C7	IH-10_MH_C121	6	Conduit	RECT	208	60	96	88.07	88.03	88.74	127.52	100.21	98.33	95.43	108.00
IH-10_MH_WD13	IH-10_JUNCTION_E01	1	Conduit	CIRC	32	24	24	18.41	18.42	18.65	26.73	21.53	20.61	19.74	22.86
IH-10_MH_WD19	IH-10_MH_WD35	1	Conduit	RECT	150	72	144	4.09	4.28	2.94	5.95	4.25	4.45	-2.84	5.27
IH-10_MH_WD19	IH-10_MH_WD35	2	Conduit	RECT	150	72	144	4.09	4.28	2.94	5.95	4.25	4.45	-2.84	5.27



Channel Impost Chan				Prop Phase 1		Future Phase 2		Future Phase 3				Prop Phase 1		Future Phase 2		Future Phase 3	Т
hydrouble Element How CPS Time Flow (CPS Time Ti		Fxist								Fxist						1	,
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\(align** \text{Windows \text{Wi	Hvdraulic Element		Time		Time		Time		Time		Time		Time		Time		Time
W1000000_1696_9_1_38969.9_1_2346_396918_2246_39600_1_2346_39697.0_23	W1000000 0007 R	986.7	20:15	986.7	20:15	986.7	20:15	986.7	20:15	2208.1	20:30	, ,	20:30	, ,	20:30	, ,	20:30
WINDOOD_0000_0000_R						39600.1											01:45
WT000000_1072_J 38441.5																	02:15
W100000_1287_J 85051 06.45 8927_2 06.45 8503_7 06.45 8503_2 06.45 17393_3 04.45 17306_6 04.45 17376_7 04.45 17376_2 04.0700000_1287_7 8505_3 0730 8030_8 0730 8030_8 0730 8030_8 0730 80516_6 0515 61614_4 0515_6 16174_5 0515_6 16174_4 1740_8 07400000_1288_7 0730_8 0730_									23:00								01:30
WINDOOD 1237 J 8035 06.45 8527 06.45 8532 06.45 17393 04.45 17306 04.45 17376 04.45 17376 04.05 04.00 04.0	W1000000 1102 R	8512.2	07:30	8504.1	07:30	8509.7	07:30	8507.1	07:30	17277.8	05:45	17245.3	05:45	17260.3	05:45	17259.8	05:45
WI1000000_1486_J	W1000000 1237 J	8535.1	06:45	8527.2	06:45	8532.7	06:45	8530.2	06:45	17393.3	04:45	17360.6			04:45	17375.2	04:45
\(\frac{\text{W1000000}}{\text{Times}} \) \(\frac{\text{R}}{\text{S886}} \) \(\frac{\text{R}}{\text{4}} \) \(\frac{\text{8385}}{\text{842}} \) \(\frac{\text{R}}{\text{100000}} \) \(\frac{\text{54}}{\text{8385}} \) \(\frac{\text{84}}{\text{8485}} \) \(\tex	W1000000_1237_R	8035	07:30	8028.4	07:30	8033.1	07:30	8030.8	07:30	16189.6	05:15	16161.4	05:15	16174.5	05:15	16174.1	05:15
WT000000_1569_J	W1000000_1488_J	8840.4	21:00	8813	21:00	8830.1	21:00	8823.6	21:00	17496.7	02:30	17475	02:45	17484.8	02:45	17484.5	02:45
\[\frac{\text{V1000000}}{\text{to}} \frac{159}{\text{R}} \text{8128} \text{8130} \text{8129} \text{8130} \text{8127} \text{8130} \text{8128} \text{8130} \text{8148} \text{8130} \text{8122} \text{8130} \text{8148} \text{8130} \text{8152} \text{8130} \text{8152} \text{8130} \text{8152} \text{8130} \text{8152} \text{8130} \text{8152} \t	W1000000_1488_R	8366	04:45	8362.7	04:45	8365.5	04:45	8363.8	04:45	16590.1	02:45	16569.7	02:45	16579.5	02:45	16579.2	02:45
WITOODOOD 1666 R	W1000000_1559_J	8431	03:15	8427.6	03:15	8430.5	03:15	8428.7	03:15	16676.3	01:45	16656.2	01:45	16665.8	01:45	16665.5	01:45
WI000000_1608 R	W1000000_1559_R	8129.8	03:30	8127.1	03:30	8129.5	03:30	8127.9	03:30	15875.4	02:00	15857.5	02:00	15866.1	02:00	15865.9	02:00
W1000000_168_B J	W1000000_1606_J	8152.4	03:00	8149.8	03:00	8152.2	03:00	8150.6	03:00	15902.8	01:30	15884.2	01:30	15893.2	01:30	15892.9	01:30
W1000000_1628_R 7936_6 02.45 7934 02.45 7934 02.45 7934 02.45 7934 02.45 7934 02.45 7934 02.45 7934 02.45 7934 02.45 7934 02.45 7934 02.45 7934 02.30 7953 02.30 7953 02.30 7953 02.30 7953 02.30 7953 02.30 7953 02.30 7953 02.30 7953 02.30 7953 02.30 7953 02.30 7953 02.30 7953 02.30 7953 02.30 0	W1000000_1606_R	8152.4	03:00	8149.8	03:00	8152.2	03:00	8150.6	03:00	15902.8	01:30		01:30		01:30	15892.9	01:30
W1000000_1685_JR																	01:30
W1000000 1655, R 6993.3 03.15																	01:30
W1000000 1663	W1000000_1646_J																01:15
W1000000_1766_R																	02:15
W1000000_1757_J																	02:15
WI000000 1766 J 6699.8 01:00 6699.8 01:00 6699.8 01:00 6699.8 01:00 12544.3 00:30 12544.3 00:30 12544.3 00:30 12544.3 00:30 12544.3 00:30 12544.3 00:30 1254.3 00:30 1254.3 00:30 WI000000 1777 R 6352.4 01:30 01:30																	02:15
WI000000 1766 R 6684 5 01:30 6684 5 01:30 6684 5 01:30 6684 5 01:30 6684 5 01:30 6352 4 01:30 6352 4 01:30 6352 4 01:30 6352 4 01:30 6352 4 01:30 01:51 11830 1 01:15 11830 1 01:15 11830 1 01:15 01:15 00:15																	00:30
WI100000 1865																	00:30
W1000000_1865_R																	00:45
W1000000_1865_R																	01:15
W1000000																	00:00
W1000000_1876_R 5877.1 00:30 5877.1 00:30 5877.1 00:30 5877.1 00:30 5877.1 00:30 10939.8 01:00 10938.8 01:00 10939.8 01:00 10939.8 01:00 10939.8 01:00			_														00:00
W1000000_2037_J																	00:00
W1000000																	01:00
W1000000																	23:15
W100000																	23:45
W100000_2116_R 4915.1 23:00 4915.1 23:00 4915.1 23:00 495.1 23:00 9259.6 00:00 176.5 00:00 176.5 00:00 444.8 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:																	00:15
W100000_2147_J 4921.8 22:45 4921.8 22:45 4921.8 22:45 9263.8 23:45 9263.8													_				23:00
W1000000_2150_R 3922.6 00:15 3922.6 00:15 3922.6 00:15 3922.6 00:15 7724.8 01:15 0736.5 00:30 7756.5 00:30 7756.5 00:30 7756.5 00:30 7756.5 00:30 7756.5 00:30 7756.5 00:30 7756.5 00:30 7756.5 00:30 7756.5 00:30 7756.5 00:30 7756.5 00:30 20:46 20:30 4446.4 20:00 4446.4																	00:00
W100000_2168_R 3959.9 23:00 3959.9 23:00 3959.9 23:00 3959.9 23:00 3959.9 23:00 3959.9 23:00 3959.9 23:00 7756.5 00:30 7756.5 00:30 7756.5 00:30 7756.5 00 30 7756.5 00:30 <thr< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>23:45</td></thr<>																	23:45
W1000000_2250_J 4446.4 20:00 4446.4 20:00 4446.4 20:00 8349.8 20:45 8349.8 20:45 8349.8 20:45 8349.8 20:45 8349.8 20:45 8349.8 20:45 8349.8 20:45 8349.8 20:45 7837 22:45 7843.8 22:15 7843.8 22:15 7843.8 22:15 7843.8 22:15 7843.8 22:15 7843.8 22:15 7843.8 <																	00:30
W1000000_2250_R 4102.9 20:15 4102.9 20:15 4102.9 20:15 7837 22:45 7838 22:15 7843.8 22:15 7843.8 22:15 7843.8 22:15 7843.8 22:15 7837 22:45 7837.8 22:45 7837 22:45 7837 22:45																	20:45
W1000000_2271_J 4121.6 19:45 4121.6 19:45 4121.6 19:45 7843.8 22:15 23:30 6345.2 22:15 7843.8 22:15 7843.8 22:15																	22:45
W1000000_2271_R 2946.4 23:00 2946.4 23:00 2946.4 23:00 2946.4 23:00 6331.5 23:30 6331.5 23:30 6331.5 23:30 6331.5 23:30 6331.5 23:30 6331.5 23:30 6331.5 23:30 6331.5 23:30 6331.5 23:30 6331.5 23:30 6331.5 23:30 6331.5 23:30 6331.5 23:30 6331.5 23:30 6462.2 20:30 3753.2 22:00 3753.2																	22:45
W1000000_2340_J 2980 21:00 2980 21:00 2980 21:00 6462.2 20:30 3753.2 22:00 3753.2 22:00 3753.2 22:00 3753.2 22:00 3753.2 22:00 3753.2 22:00 3753.2 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>23:30</td></t<>																	23:30
W1000000_2400_R 1654.2 22:15 1654.2 22:15 1654.2 22:15 1654.2 22:15 1654.2 22:15 1654.2 22:15 1654.2 22:15 3753.2 22:00 3753.2 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3353.7 22:15 3753.2 22:00 3752.6																	20:30
W1000000_2403_R 1468.3 22:30 1468.3 22:30 1468.3 22:30 1468.3 22:30 1468.3 22:30 3353.7 22:15 22:00 3752.6 22:00																	22:00
W1000000_2411_J 1654.3 22:15 1654.3 22:15 1654.3 22:15 1654.3 22:15 1654.3 22:15 1654.3 22:15 3752.6 22:00 3803.3 20:00 3803.3																	22:15
W1000000_2486_J 1765.6 20:15 1765.6 20:15 1765.6 20:15 1765.6 20:15 1765.6 20:15 1765.6 20:15 3803.3 20:00 3803.3																	22:00
W100A 421.8 16:45 421.8 16:45 421.8 16:45 421.8 16:45 421.8 16:45 791.5 17:00 17:00 18:00 18:00 16:45 2315.9 16:45 2315.9 16:45 2315.9 16:45 2315.9 16:45 2315.9 16:45 2315.9 16:45 2315.9 16:45 2315.9			_														20:00
W100B 1250 16:45 1250 16:45 1250 16:45 1250 16:45 1250 16:45 2315.9 16:45																	17:00
W100C 2158.2 16:45 2158.2 16:45 2158.2 16:45 2158.2 16:45 2158.2 16:45 3862.4 17:00 3862.4 17:00 3862.4 17:00 3862.4 17:00 3862.4 17:00 3862.4 17:00 399.5 17:00 999.5 17:00 999.5 17:00 999.5 17:00 999.5 17:00 999.5 17:00 999.5 17:00 17:30 1170.5 <td></td> <td>16:45</td>																	16:45
W100D 554.4 17:00 554.4 17:00 554.4 17:00 554.4 17:00 999.5 17:00 999.5 17:00 999.5 17:00 999.5 17:00 999.5 17:00 999.5 17:00 999.5 17:00 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>17:00</td></th<>																	17:00
W100E 634.3 17:30 634.3 17:30 634.3 17:30 634.3 17:30 634.3 17:30 1170.5 17:30 1170.5 17:30 1170.5 17:30 1170.5			$\overline{}$														17:00
																	17:30
			_														16:45
																	17:00



			Prop Phase 1		Future Phase 2		Future Phase 3				Prop Phase 1		Future Phase 2		Future Phase 3	
	Exist		(Pond-Only)		(Channel Impvs)		(Storm Sew Impvs)		Exist		(Pond-Only)		(Channel Impvs)		(Storm Sew Impvs)	
	10-Year Peak		10-Year Peak		10-Year Peak		10-Year Peak		100-Year Peak		100-Year Peak		100-Year Peak		100-Year Peak	
Hydraulic Element	Flow (CFS)	Time	Flow (CFS)	Time	Flow (CFS)	Time	Flow (CFS)	Time	Flow (CFS)	Time	Flow (CFS)	Time	Flow (CFS)	Time	Flow (CFS)	Time
W100H	667.3	17:00	667.3	17:00	667.3	17:00	667.3	17:00	1226	17:15	1226	17:15	1226	17:15	1226	17:15
W100I	687.2	17:15	687.2	17:15	687.2	17:15	687.2	17:15	1265.6	17:15	1265.6	17:15	1265.6	17:15	1265.6	17:15
W100J	525.3	17:30	525.3	17:30	525.3	17:30	525.3	17:30	982	17:30	982	17:30	982	17:30	982	17:30
W100K	1477.4	17:45	1477.4	17:45	1477.4	17:45	1477.4	17:45	2735.9	17:45	2735.9	17:45	2735.9	17:45	2735.9	17:45
W100L	1099.7	17:15	1099.7	17:15	1099.7	17:15	1099.7	17:15	2003	17:15	2003	17:15	2003	17:15	2003	17:15
W100M	1415.4	19:00	1415.4	19:00	1415.4	19:00	1415.4	19:00	2697	19:15	2697	19:15	2697	19:15	2697	19:15
W100N	1689.1	17:30	1689.1	17:30	1689.1	17:30	1689.1	17:30	3053.7	18:00	3053.7	18:00	3053.7	18:00	3053.7	18:00
W100O	2820.3	18:30	2820.3	18:30	2820.3	18:30	2820.3	18:30	5230.2	18:30	5230.2	18:30	5230.2	18:30	5230.2	18:30
W1290000_0001_J	402.7	18:15	402.7	18:15	402.7	18:15	402.7	18:15	742.2	19:00	742.2	19:00	742.2	19:00	742.2	19:00
W129A	402.7	18:15	402.7	18:15	402.7	18:15	402.7	18:15	742.2	19:00	742.2	19:00	742.2	19:00	742.2	19:00
W138A	599	17:00	599	17:00	599	17:00	599	17:00	1095.3	17:30	1095.3	17:30	1095.3	17:30	1095.3	17:30
W1390000_0001_J	249.2	18:00	249.2	18:00	249.2	18:00	249.2	18:00	466.9	18:30	466.9	18:30	466.9	18:30	466.9	18:30
W139A	249.2	18:00	249.2	18:00	249.2	18:00	249.2	18:00	466.9	18:30	466.9	18:30	466.9	18:30	466.9	18:30
W1400000_0001_J	1157.7	17:30	1123.8	17:30	1144.3	17:30	1137.3	17:30	2141.5	17:45	2046.8	17:45	2089.2	17:45	2087.7	17:45
W1400000_0007_R	3852.8	17:30	3814.1	17:30	3835.9	17:30	3830.5	17:30	7104.3	17:30	7008.3	17:30	7049.5	17:30	7047.9	17:30
W1400000_0008_J	3852.8	17:30	3814.1	17:30	3835.9	17:30	3830.5	17:30	7104.3	17:30	7008.3	17:30	7049.5	17:30	7047.9	17:30
W1400000_0008_R	586.9	17:45	555.4	18:00	575.3	18:00	567.2	17:45	1087.1	18:15	997.9	18:30	1037	18:15	1035.6	18:15
W1400000_0033_J	3846.2	17:15	3807	17:30	3827.4	17:30	3822.6	17:15	7125.4	17:15	7031.3	17:15	7071.4	17:15	7069.9	17:15
W1400000_0033_R	1580.1	17:30	1580.1	17:30	1580.1	17:30	1580.1	17:30	2869.8	17:30	2869.8	17:30	2869.8	17:30	2869.8	17:30
W1400000_0134_J	1618.8	17:00	1618.8	17:00	1618.8	17:00	1618.8	17:00	2888.4	17:00	2888.4	17:00	2888.4	17:00	2888.4	17:00
W1400100_0106_J	588.5	17:15	557	17:30	577.1	17:30	568.8	17:30	1088	18:00	998.8	18:00	1038.1	18:00	1036.6	18:00
W140A	359.2	17:30	359.2	17:30	359.2	17:30	359.2	17:30	682.8	17:45	682.8	17:45	682.8	17:45	682.8	17:45
W140B	1273.7	17:00	1273.7	17:00	1273.7	17:00	1273.7	17:00	2254.4	17:00	2254.4	17:00	2254.4	17:00	2254.4	17:00
W140C	588.5	17:15	557	17:30	577.1	17:30	568.8	17:30	1088	18:00	998.8	18:00	1038.1	18:00	1036.6	18:00
W140D	590.1	17:00	590.1	17:00	590.1	17:00	590.1	17:00	1075.6	17:15	1075.6	17:15	1075.6	17:15	1075.6	17:15
W140E	1308.4	16:45	1308.4	16:45	1308.4	16:45	1308.4	16:45	2300.1	16:45	2300.1	16:45	2300.1	16:45	2300.1	16:45
W141A	495.7	16:45	495.7	16:45	495.7	16:45	495.7	16:45	930.9	17:15	930.9	17:15	930.9	17:15	930.9	17:15
W142A	437.2	17:00	437.2	17:00	437.2	17:00	437.2	17:00	779.2	17:15	779.2	17:15	779.2	17:15	779.2	17:15
W145A	578.8	17:00	578.8	17:00	578.8	17:00	578.8	17:00	1049.3	17:30	1049.3	17:30	1049.3	17:30	1049.3	17:30
W147A	559.6	17:00	559.6	17:00	559.6	17:00	559.6	17:00	1013.9	17:00	1013.9	17:00	1013.9	17:00	1013.9	17:00
W1510000_1994_R	5283.5	00:00	5283.5	00:00	5283.5	00:00	5283.5	00:00	9906	00:30	9906	00:30	9906	00:30	9906	00:30
W151A	582.5	17:45	582.5	17:45	582.5	17:45	582.5	17:45	1084.8	17:45	1084.8	17:45	1084.8	17:45	1084.8	17:45
W1560000_0000_R	1345	18:00	1345	18:00	1345	18:00	1345	18:00	2494.8	17:45	2494.8	17:45	2494.8	17:45	2494.8	17:45
W1560000_0001_J	2144	17:45	2144	17:45	2144	17:45	2144	17:45	4047.7	17:30	4047.7	17:30	4047.7	17:30	4047.7	17:30
W1560000_0122_J	1508.8	16:45	1508.8	16:45	1508.8	16:45	1508.8	16:45	2661.1	16:45	2661.1	16:45	2661.1	16:45	2661.1	16:45
W156A	1508.8	16:45	1508.8	16:45	1508.8	16:45	1508.8	16:45	2661.1	16:45	2661.1	16:45	2661.1	16:45	2661.1	16:45
W156B	1042.4	16:45	1042.4	16:45	1042.4	16:45	1042.4	16:45	1851.8	16:45	1851.8	16:45	1851.8	16:45	1851.8	16:45
W1570000_0001_J	3959.9	23:00	3959.9	23:00	3959.9	23:00	3959.9	23:00	7756.5	00:30	7756.5	00:30	7756.5	00:30	7756.5	00:30
W1670000_0020_J	1227.4	19:00	1227.4	19:00	1227.4	19:00	1227.4	19:00	2268.8	18:45	2268.8	18:45	2268.8	18:45	2268.8	18:45
W1670000_0020_R	805.7	19:45	805.7	19:45	805.7	19:45	805.7	19:45	1539.7	20:45	1539.7	20:45	1539.7	20:45	1539.7	20:45
W1670000_0105_J	811.6	18:45	811.6	18:45	811.6	18:45	811.6	18:45	1557.7	19:15	1557.7	19:15	1557.7	19:15	1557.7	19:15
W167A	713.1	17:15	713.1	17:15	713.1	17:15	713.1	17:15	1285.3	17:15	1285.3	17:15	1285.3	17:15	1285.3	17:15
W167B	811.6	18:45	811.6	18:45	811.6	18:45	811.6	18:45	1557.7	19:15	1557.7	19:15	1557.7	19:15	1557.7	19:15
W170A	698.9	17:45	698.9	17:45	698.9	17:45	698.9	17:45	1313.2	18:00	1313.2	18:00	1313.2	18:00	1313.2	18:00
W1900000_0017_J	1214.6	20:15	1214.6	20:15	1214.6	20:15	1214.6	20:15	2695.6	20:30	2695.6	20:30	2695.6	20:30	2695.6	20:30
W1900000_0327_J	1021.8	17:45	1021.8	17:45	1021.8	17:45	1021.8	17:45	2230.4	18:15	2230.4	18:15	2230.4	18:15	2230.4	18:15
W1900000_0348_J	545.2	17:00	545.2	17:00	545.2	17:00	545.2	17:00	1148.4	17:45	1148.4	17:45	1148.4	17:45	1148.4	17:45
W190A	545.2	17:00	545.2	17:00	545.2	17:00	545.2	17:00	1148.4	17:45	1148.4	17:45	1148.4	17:45	1148.4	17:45
W190B	500.6	18:00	500.6	18:00	500.6	18:00	500.6	18:00	1093.5	18:30	1093.5	18:30	1093.5	18:30	1093.5	18:30
W190C	228.7	20:30	228.7	20:30	228.7	20:30	228.7	20:30	487.5	20:30	487.5	20:30	487.5	20:30	487.5	20:30



	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
Profile			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	13322	Existing ¹	589	62.35	73.08		73.29	0.001449	3.6	163.39	30.54	0.27
-		PropPh1 ²	557	62.35	73.00		73.29	0.001449	3.54	157.3	29.89	0.27
-		FuturePh2 ³	577	62.35	73.01		73.21	0.001435	3.58	161.06	30.29	0.27
-		FuturePh3 ⁴	569	62.35	72.96		73.15	0.001441	3.57	159.53	30.13	0.27
-	10022	T didioi 110	000	02.00	12.00		70.10	0.001111	0.01	100.00	00.10	0.21
	13075.6	Existing ¹	589	62.15	72.69	68.44	72.91	0.001593	3.74	157.64	29.93	0.29
		PropPh1 ²	557	62.15	72.5	68.3	72.71	0.001573	3.67	151.83	29.3	0.28
	13075.6	FuturePh2 ³	577	62.15	72.62	68.39	72.83	0.001587	3.71	155.4	29.69	0.29
	13075.6	FuturePh3 ⁴	569	62.15	72.57	68.35	72.78	0.001582	3.7	153.94	29.53	0.29
-	13053.2		Bridge									
-	40000.0	 1	500	00.00	70.50	00.07	70.74	0.004070	2.04	45450	20.50	0.00
-	13030.8	PropPh1 ²	589	62.08	72.52	68.37	72.74	0.001678	3.81	154.56	29.59	0.29
l		FuturePh2 ³	557 577	62.08	72.33	68.23	72.55 72.67	0.001654	3.74	148.94	28.98	0.29
-		FuturePh3 ⁴	569	62.08 62.08	72.45 72.4	68.32 68.28	72.62	0.00167 0.001664	3.78 3.77	152.45 151.03	29.36 29.21	0.29 0.29
-	13030.0	ruluieriis	309	02.00	12.4	00.20	12.02	0.001004	3.11	131.03	29.21	0.28
-	12896.2	Existing ¹	589	61.87	72.31	67.87	72.51	0.001616	3.66	160.73	31.95	0.29
•		PropPh1 ²	557	61.87	72.12	67.68	72.32	0.001599	3.6	154.75	31.25	0.29
•		FuturePh2 ³	577	61.87	72.24	67.8	72.44	0.001611	3.64	158.48	31.69	0.29
-		FuturePh3 ⁴	569	61.87	72.19	67.75	72.39	0.001607	3.62	156.97	31.51	0.29
	12527.9	Existing ¹	589	61.3	72	67.34	72.09	0.000748	2.46	239.61	54.58	0.21
		PropPh1 ²	557	61.3	71.81	67.21	71.9	0.000746	2.43	229.37	52.89	0.21
	12527.9	FuturePh2 ³	577	61.3	71.92	67.3	72.02	0.000748	2.45	235.73	53.95	0.21
	12527.9	FuturePh3 ⁴	569	61.3	71.88	67.26	71.97	0.000747	2.44	233.14	53.52	0.21
<u>.</u>												
10y	12065.3		589	60.51	71.48	66.5	71.65	0.001228	3.31	178.18	33.89	0.25
E		PropPh1 ²	557	60.51	71.3	66.32	71.46	0.001205	3.24	172.11	33.23	0.25
10PCT_10yr		FuturePh2 ³	577	60.51	71.41	66.44	71.58	0.00122	3.28	175.88	33.64	0.25
+	12065.3	FuturePh3 ⁴	569	60.51	71.36	66.39	71.53	0.001215	3.26	174.33	33.47	0.25
-	11510.2	F.,;_4;1	500	60.46	70.75	66.70	70.0	0.004540	2.42	400.00	E2 00	0.29
	11519.3	PropPh1 ²	589 557	60.46		66.73	70.9 70.72	0.001512	3.12	188.82	53.88	
		FuturePh2 ³	577	60.46 60.46	70.57 70.68	66.58	70.72	0.001523	3.1	179.72	49.75 50.97	0.29 0.29
-		FuturePh3 ⁴	569	60.46	70.63	66.68 66.64	70.63	0.001519 0.001523	3.11 3.11	185.31 182.96	50.97	0.29
-	11318.3	ruluieriis	309	00.40	70.03	00.04	70.70	0.001323	3.11	102.90	30.40	0.28
•	11029.3	Existing ¹	589	60.41	70.13	66.68	70.36	0.00081	3.86	152.61	36.4	0.33
-		PropPh1 ²	557	60.41	69.95	66.53	70.18	0.000805	3.81	146.38	35.33	0.33
		FuturePh2 ³	577	60.41	70.06	66.62	70.29	0.00081	3.84	150.17	35.99	
		FuturePh3⁴	569	60.41	70.01	66.59	70.24	0.00081	3.83	148.52	35.7	0.33
	11002.1	Existing ¹	589	60.41	70.11	66.55	70.34	0.001542	3.84	153.54	36.29	0.33
	11002.1	PropPh1 ²	557	60.41	69.93	66.4	70.16	0.001529	3.78	147.33	35.22	0.33
		FuturePh2 ³	577	60.41	70.04	66.5	70.27	0.00154	3.82	151.11	35.87	0.33
-	11002.1	FuturePh3 ⁴	569	60.41	69.99	66.46	70.22	0.001539	3.81	149.46	35.59	0.33
-	10962.7		Bridge									
•	10902.7		Driuge									
	10923.3	Existina ¹	589	60.3	69.87	66.44	70.12	0.001659	3.95	149.11	35.53	0.34
		PropPh1 ²	557	60.3	69.71	66.29	69.94	0.001639	3.89	143.17	34.5	0.34
ļ		FuturePh2 ³	577	60.3	69.81	66.39	70.05	0.001654	3.93	146.86		0.34
		FuturePh3 ⁴	569	60.3	69.77	66.35	70	0.001651	3.92	145.31	34.87	0.34
	10764.8	Existing ¹	589	59.93	69.8	66.26	69.93	0.000508	2.97	198.47	51.69	0.27
		PropPh1 ²	557	59.93	69.63	66.1	69.76	0.000512	2.93	189.9	50.58	0.27
	10764.8	FuturePh2 ³	577	59.93	69.73	66.2	69.87	0.00051	2.96	195.23	51.27	0.27
	10764.8	FuturePh3 ⁴	569	59.93	69.69	66.16	69.82	0.000511	2.95	193	50.98	0.27



	River Sta	Plan	O Total	Min Ch Fl	W.S. Flev	Crit W.S	F.G. Flev	F.G. Slone	Vel Chnl	Flow Area	Ton Width	Froude # Chl
Profile	Triver eta	1 IGH	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	T TOUGO II OTT
					()	()	()	,		() /	· /	
	10641.7	Existing ¹	589	59.65	69.72	65.71	69.87	0.000441	3.1	190.58	42.38	0.25
		PropPh1 ²	557	59.65	69.56	65.57	69.7	0.000437	3.03	184.02	40.51	0.25
	10641.7	FuturePh2 ³	577	59.65	69.66	65.66	69.8	0.00044	3.07	187.96	41.65	0.25
	10641.7	FuturePh3⁴	569	59.65	69.61	65.62	69.76	0.00044	3.06	186.19	41.14	0.25
		Existing ¹	682	59.55	69.63	65.97	69.84	0.000621	3.66	189.73	158.05	0.3
		PropPh1 ²	649	59.55	69.46	65.85	69.66	0.000629	3.61	181.37	153.46	0.3
		FuturePh2 ³	670	59.55	69.57	65.93	69.77	0.000624	3.64	186.64	156.35	0.3
	10599.6	FuturePh3 ⁴	661	59.55	69.53	65.89	69.73	0.000625	3.62	184.54	155.2	0.3
	40504.7		D : 1									
	10581.7		Bridge									
	10563.8	Existing ¹	682	59.46	69.53	65.88	69.74	0.000624	3.66	189.31	157.82	0.3
		PropPh1 ²	649	59.46	69.36	65.76	69.57	0.000632	3.61	181.04	153.28	0.3
		FuturePh2 ³	670	59.46	69.47	65.84	69.68	0.000627	3.65	186.24	156.14	0.3
		FuturePh3 ⁴	661	59.46	69.43	65.8	69.63	0.000628	3.63	184.16	154.99	0.3
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							0.00000			75 1165	
	10404.9	Existing ¹	682	59.39	69.21	65.67	69.57	0.00107	4.81	141.8	26.97	0.37
		PropPh1 ²	649	59.39	69.05	65.53	69.4	0.001051	4.72	137.63	26.56	0.37
	10404.9	FuturePh2 ³	670	59.39	69.15	65.62	69.5	0.001064	4.78	140.24	26.82	0.37
	10404.9	FuturePh3 ⁴	661	59.39	69.11	65.58	69.46	0.001057	4.75	139.21	26.72	0.37
		Existing 2	709	59.19	68.38		68.88	0.001606	5.65	125.56	25.32	0.45
		PropPh1 ²	675	59.19	68.25		68.73	0.001565	5.52	122.2	24.97	0.44
		FuturePh2 ³	696	59.19	68.34		68.82	0.001589	5.6	124.33	25.2	0.44
ž	9889.4	FuturePh3 ⁴	688	59.19	68.3		68.78	0.001582	5.57	123.45	25.1	0.44
10PCT_10yr	0202.9	Existing ¹	709	58.42	67.8	64.76	68.04	0.000807	3.94	179.86	42.84	0.34
[E		PropPh1 ²	675	58.42	67.67	64.64	67.91	0.000795	3.87	174.44	42.18	0.34
OP(FuturePh2 ³	696	58.42	67.76	64.71	67.99	0.000793	3.91	174.44	42.16	0.34
_		FuturePh3 ⁴	688	58.42	67.72	64.69	67.96	0.000801	3.9	176.4	42.42	0.34
	0202.0	T dtdror no	000	00.42	01.12	04.00	07.00	0.000001	0.0	170.4	72.72	0.04
	9132	Existing ¹	738	58.34	67.72	64.77	67.98	0.000875	4.11	179.68	42.74	0.35
	9132	PropPh1 ²	705	58.34	67.59	64.68	67.84	0.000868	4.05	174.24	42.08	0.35
	9132	FuturePh2 ³	726	58.34	67.67	64.73	67.93	0.000873	4.09	177.71	42.5	0.35
	9132	FuturePh3 ⁴	717	58.34	67.63	64.72	67.89	0.000871	4.07	176.23	42.33	0.35
	9104.1		Bridge									
	0070.0	F : .: 1	700	50.04	07.55	04.04	07.00	0.000000	4.44	470.45	40.50	0.00
		Existing ¹ PropPh1 ²	738 705	58.21	67.55	64.64	67.82	0.000896	4.14	178.15	42.56	0.36 0.35
		FuturePh2 ³		58.21 58.21	67.42 67.5	64.55	67.68 67.77	0.000889	4.08	172.78 176.2	41.9	0.35
		FuturePh2 ⁴	726 717			64.6	67.77	0.000893	4.12		42.32 42.15	
	9070.2	i utureens	/ 1 /	58.21	67.47	64.59	01.13	0.000891	4.1	174.74	42.15	0.36
	8911.9	Existing ¹	738	58.05	67.34		67.61	0.001797	4.17	183.53	43.73	0.32
		PropPh1 ²	705	58.05	67.22		67.48	0.001797	4.17	178.29	42.64	0.32
		FuturePh2 ³	726	58.05	67.3		67.57	0.001779	4.14	181.63	43.21	0.32
		FuturePh3 ⁴	717	58.05	67.27		67.53	0.001785	4.11	180.21	42.97	0.32
	8753.8	Existing ¹	738	57.9	67.04		67.32	0.001943	4.25	188	49.16	0.34
		PropPh1 ²	705	57.9	66.92		67.19	0.00193	4.17	182.14	48.46	0.33
		FuturePh2 ³	726	57.9	67		67.27	0.001938	4.22	185.88	48.91	0.34
	8753.8	FuturePh3 ⁴	717	57.9	66.97		67.24	0.001934	4.2	184.3	48.72	0.33
	8330 0	Existing ¹	771	57.59	65.17		65.83	0.006823	6.51	118.41	32.66	0.6
		PropPh1 ²	738	57.59	65.17		65.71	0.006823	6.4	115.26	32.00	0.59
		FuturePh2 ³	759	57.59	65.07		65.71	0.00677	6.47	117.25	32.34	0.59
		FuturePh3 ⁴	759		65.14		65.79	0.006809	6.44	117.25	32.34	0.6
	0020.0	i ataleli IIO	730	31.38	00.11		03.70	0.000181	0.44	110.58	J2. I	0.0
ı		L	ı									



Profile		River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
7945.8 Existing 771 55.6 63.88 64.19 0.002726 4.57 200.6 72.69 0.0 7945.8 PropPhi* 738 55.6 63.84 64.15 0.002737 4.55 192.84 70.82 0.0 7945.8 FuturePh2* 799 55.6 63.84 64.15 0.002734 4.55 197.39 71.97 0.0 7945.8 FuturePh3* 750 55.6 63.84 64.15 0.002734 4.55 197.39 71.97 0.0 7945.8 Existing 771 53.23 62.12 62.51 0.005074 5.08 163.44 51.64 0.0 7482.7 Existing 771 738 53.23 62.90 62.38 0.005117 5.01 157.18 49.38 0.0 7482.7 FuturePh2* 759 53.23 62.07 62.40 0.005086 5.06 161.03 50.76 0.0 7482.7 FuturePh2* 759 53.23 62.07 62.40 0.005086 5.06 161.03 50.76 0.0 7482.7 FuturePh3* 750 53.23 62.04 62.43 0.005086 5.06 161.03 50.76 0.0 7444.9 Existing 809 53.04 61.96 59.47 62.32 0.004346 4.92 170.56 43.5 0.0 7444.9 FuturePh3* 775 53.04 61.98 59.38 62.19 0.004346 4.92 170.56 43.5 0.0 7444.9 FuturePh3* 788 53.04 61.98 59.44 62.27 0.004346 4.82 170.56 43.5 0.0 7444.9 FuturePh3* 788 53.04 61.88 59.41 62.24 0.004343 4.85 172.87 43.78 0.0 7444.9 FuturePh3* 788 53.07 61.12 59.5 61.75 0.007659 5.83 143.33 39.84 0.0 7448.8 Bridge 809 53.07 61.12 59.5 61.75 0.007659 5.83 143.33 39.84 0.0 748.8 Bridge 778 53.07 61.12 59.5 61.75 0.007659 5.83 143.33 39.84 0.0 748.8 Bridge 778 53.07 61.12 59.5 61.75 0.007659 5.83 143.33 39.84 0.0 748.9 FuturePh3* 788 53.07 61.12 59.5 61.75 0.007659 5.83 143.33 39.84 0.0 748.9 FuturePh3* 788 53.07 61.12 59.5 61.75 0.007659 5.83 143.33 39.84 0.0 748.9 FuturePh3* 788 53.07 61.12 59.5 61.75 0.007649 6.42 13.38 0.0 748.9 FuturePh3* 788 53.07 61.12 59.5 61.75 0.007649 6.42 13.38 0.0 748.9 FuturePh3* 788 53.07 61.12 59.5 61.		ravor ota	1 1011										Troducti om
T945.8 PropPhil 738 55.6 63.77 64.08 0.002737 4.5 192.88 70.82 0.002737 4.5 192.88 70.82 0.002745 4.5 197.67 71.97 0.00745 7945.8 FuturePhil 750 55.6 63.81 64.12 0.002742 4.53 195.42 71.44 0.002742 4.53 195.42 71.44 0.002742 71.97		7945.8	Existing ¹				,			_ `			0.39
T945.8 FuturePh2* 759 55.6 63.84 64.15 0.002736 4.55 197.59 71.97 0.7945.8 FuturePh3* 750 55.6 63.81 64.12 0.002742 4.53 195.42 71.44 0.7945.8 0.7945.8		7945.8	PropPh1 ²										0.39
Total Tota													0.39
TABLE TEXISTING T71 53.23 62.12 62.51 0.005074 5.08 183.44 51.64 0.0742 TexpoPh17 738 53.23 61.99 62.38 0.005117 5.01 157.18 49.38 0.0742 7462.7 FuturePh27 759 53.23 62.04 62.43 0.005089 5.03 159.58 50.26 0.0742 7462.7 FuturePh27 759 53.23 62.04 62.43 0.005089 5.03 159.58 50.26 0.0742 7444.9 FuturePh27 775 53.04 61.83 59.38 62.19 0.004346 4.82 170.56 43.5 0.0744 7444.9 FuturePh27 776 53.04 61.83 59.38 62.19 0.004346 4.82 170.56 43.5 0.0744 7444.9 FuturePh27 776 53.04 61.88 59.41 62.24 0.004343 4.85 172.67 43.78 0.0744 7444.9 FuturePh28 788 53.04 61.88 59.41 62.24 0.004343 4.85 172.67 43.78 0.0744 7444.9 FuturePh28 788 53.07 61.12 59.41 61.23 0.007594 5.73 138.89 39.25 0.0744 7444.9 FuturePh28 788 53.07 61.12 59.41 61.63 0.007594 5.73 138.89 39.25 0.0742 7392.3 FuturePh28 788 53.07 61.18 59.47 61.7 0.00763 5.79 142.42 39.62 0.0742 7392.3 FuturePh28 788 53.07 61.16 59.44 61.67 0.007613 5.77 141.48 39.48 0.0742 723.2 FuturePh28 788 53.07 61.16 59.44 61.67 0.007613 5.77 141.48 39.48 0.0742 723.2 FuturePh28 788 51.31 58.78 58.07 59.64 0.18323 7.76 106.42 36.36 0.00742 78.22 FuturePh28 788 51.31 58.74 58.07 59.64 0.018323 7.76 106.42 36.36 0.00742 78.22 FuturePh28 788 51.31 58.71 58.07 59.64 0.018323 7.76 104.91 35.83 0.00742 64.21 132.55 26.38 0.00742 64.21 132.55 26.38 0.00742 64.21 132.55 26.38 0.00742 64.21 132.55 26.38 0.00742 64.21 132.55 26.38 0.00742 64.21 132.55 26.38 0.00742 24.00742	•												0.39
7482.7 PropPh1* 738 53.23 61.99 62.38 0.005117 5.01 157.18 49.38 0. 7482.7 FuturePh3* 750 53.23 62.07 62.46 0.005089 5.06 161.03 507.8 0. 7482.7 FuturePh3* 750 53.23 62.04 62.43 0.005089 5.03 159.58 50.26 0. 7482.7 FuturePh3* 750 53.23 62.04 62.43 0.005089 5.03 159.58 50.26 0. 7444.9 PropPh1* 775 53.04 61.96 59.47 62.32 0.004341 4.9 176.01 44.21 0. 7444.9 ProtPh1* 775 53.04 61.91 59.44 62.27 0.004340 4.62 170.56 43.5 0. 7444.9 FuturePh3* 788 53.04 61.83 59.88 62.19 0.004340 4.62 170.56 43.5 0. 7444.9 FuturePh3* 788 53.04 61.88 59.41 62.24 0.004343 4.85 172.67 43.78 0. 7418.6 81dge 7392.3 Existing* 809 53.07 61.22 50.5 61.75 0.007659 5.83 143.93 39.84 0. 7392.3 FuturePh3* 775 53.07 61.12 59.41 61.63 0.007594 5.73 139.89 39.25 0. 7392.3 FuturePh3* 786 53.07 61.16 59.44 61.63 0.00763 5.79 142.42 39.62 0. 7392.3 FuturePh3* 788 53.07 61.16 59.44 61.67 0.00763 5.77 141.48 39.48 0. 7223.2 Existing* 809 51.31 58.78 58.03 59.59 0.018398 7.7 102.59 35.52 0. 7223.2 Existing* 809 51.31 58.78 58.03 59.59 0.018398 7.7 102.59 35.52 0. 7223.2 Existing* 831 42.18 51.15 51.79 0.00747 64.2 132.55 62.88 0. 6508.1 Existing* 838 42.18 51.15 51.79 0.00747 64.2 132.55 62.88 0. 6508.1 FuturePh3* 838 42.18 51.15 51.79 0.00747 64.2 132.55 62.88 0. 6508.1 FuturePh3* 838 42.18 51.15 51.73 0.00746 6.39 131.17 26.3 0. 6508.1 FuturePh3* 838 42.18 51.15 51.73 0.00746 6.39 131.17 26.3 0. 6508.1 FuturePh3* 838 42.18 51.15 51.73 0.00746 6.39 131.17 26.3 0. 6508.5 FuturePh3* 838 42.18 51.16 51.68 0.002002 3.4 24.90 0.498 0. 0. 5707.3 FuturePh3* 839 41.84 48.65 48.69 0.002002 3.4 24.90 48.99 0													
T482.7 FuturePh2 ³ 759 53.23 62.04 62.49 0.00508 5.06 161.03 50.78 0.0747 T482.7 FuturePh2 ³ 750 53.23 62.04 62.43 0.00508 5.03 159.58 50.26 0.0747 T484.9 FuturePh2 ³ 775 53.04 61.96 59.47 62.32 0.004341 4.9 176.01 44.21 0.07444.9 FuturePh2 ³ 776 53.04 61.83 59.38 62.19 0.004346 4.82 170.56 43.5 0.07444.9 FuturePh2 ³ 786 53.04 61.83 59.34 62.27 0.004342 4.87 173.94 43.94 0.07444 62.24 0.004342 4.87 173.94 43.94 0.07444 62.24 0.004343 4.85 172.67 43.78 0.07449 FuturePh2 ³ 786 53.04 61.83 59.41 62.24 0.004343 4.85 172.67 43.78 0.07449 62.27 0.004342 62.27 0.004343 0.004343 0				771	53.23			62.51	0.005074	5.08	163.44	51.64	0.42
7482.7 FuturePh3* 750 53.23 62.04 62.49 0.005089 5.03 159.58 50.26 0. 7444.9 Existing* 800 53.04 61.96 59.47 62.32 0.004341 4.9 176.01 44.21 0.007444.9 PropPh1* 775 53.04 61.83 59.38 62.19 0.004346 4.82 170.56 43.5 0. 7444.9 FuturePh3* 788 53.04 61.83 59.38 62.19 0.004342 4.67 173.94 43.94 0. 7444.9 FuturePh3* 788 53.04 61.88 59.41 62.27 0.004342 4.67 173.94 43.94 0. 7418.6 Bridge 7392.3 Existing* 809 53.07 61.22 59.5 61.75 0.007659 5.83 143.93 39.84 (0.7392.3 PropPh1* 7.75 53.07 61.12 59.41 61.30 0.007594 5.73 139.89 39.25 0. 7392.3 FuturePh3* 798 53.07 61.16 59.44 61.67 0.007631 5.77 141.48 39.48 (0.7392.3 FuturePh3* 798 53.07 61.16 59.44 61.67 0.007631 5.77 141.48 39.48 (0.7292.2 Existing* 809 51.31 58.76 58.13 59.72 0.018153 7.78 106.42 36.36 0. 7223.2 Existing* 809 51.31 58.76 58.13 59.72 0.018153 7.78 106.42 36.36 0. 7223.2 Existing* 809 51.31 58.76 58.03 59.59 0.018398 7.7 102.59 35.52 0. 7223.2 Existing* 809 51.31 58.76 58.03 59.59 0.018398 7.7 102.59 35.52 0. 7223.2 FuturePh3* 788 51.31 58.77 58.07 59.64 0.018239 7.75 104.93 36.03 0. 7223.2 FuturePh3* 809 51.31 58.74 58.09 59.67 0.010259 7.75 104.93 36.03 0. 7223.2 FuturePh3* 809 51.31 58.74 58.09 59.67 0.010259 7.75 104.93 36.03 0. 6506.1 Existing* 801 42.18 51.15 51.79 0.00744 6.42 132.55 62.88 (0.6508.1 FuturePh3* 830 42.18 51.15 51.79 0.00744 6.42 132.55 62.88 (0.6508.1 FuturePh3* 830 42.18 51.15 51.79 0.00744 6.42 132.55 62.88 (0.6508.1 FuturePh3* 830 42.18 51.15 51.79 0.00746 6.39 131.17 26.3 (6.508.1 FuturePh3* 830 42.18 51.16 51.06 51.69 0.007454 6.37 130.32 26.26 (0.507.3) FuturePh3* 830 44.18 48.67 48.60 0.002013 3.38 24.14 48.5 0. 5707.3 FuturePh3* 831 41.84 48.67 48.60 0.002013 3.38 24.14 48.5 0. 5707.3 FuturePh3* 830 41.84 48.67 48.60 0.002013 3.38 24.14 48.5 0. 5707.3 FuturePh3* 830 41.84 48.62 48.60 0.002013 3.38 24.14 48.5 0. 5707.3 FuturePh3* 830 41.79 48.29 45.12 48.5 0.000707 2.46 36.27 52.84 47.75 (0.500.25) FuturePh3* 830 41.79 48.29 45.12 48.60 0.000000 2.45 3.75 23.46 24.00 0.000000 2.45 3.0000000 2.45 3.00000000		7482.7	PropPh1 ²	738	53.23	61.99							
Taylor T													0.42
Taylor T	-	7482.7	FuturePh3*	750	53.23	62.04		62.43	0.005089	5.03	159.58	50.26	0.42
Taylor T	-	74440	Eviating ¹	900	F2 04	61.06	50 A7	62.22	0.004241	4.0	176.01	44.21	0.39
T444.9 FuturePh2 ³ 796 53.04 61.91 59.44 62.27 0.004342 4.87 173.94 43.94 0.0	-	7444.9	DropDh1 ²										0.38
Table Future Table Tab	-												0.38
T418.6 Bridge	-												0.38
7392.3 Existing	-	1444.5	i uturer 113	700	33.04	01.00	39.41	02.24	0.004343	4.00	172.07	45.70	0.36
7392.3 Existing	-	7418.6		Bridge									
Page 23 PropPht 2 775 53.07 61.12 59.41 61.63 0.007594 5.73 139.89 39.25 0.07392.3 FuturePh23 798 53.07 61.18 59.44 61.67 0.007613 5.77 141.48 39.48 0.007393 7392.3 FuturePh34 788 53.07 61.16 59.44 61.67 0.007613 5.77 141.48 39.48 0.007393 7392.3 FuturePh34 788 53.07 61.16 59.44 61.67 0.007613 5.77 141.48 39.48 0.007393 7392.3 FuturePh34 788 53.07 61.16 59.44 61.67 0.007613 5.77 141.48 39.48 0.007393 7.78 106.42 36.36 0.008393 0.													
7392.3 FuturePh2 ³ 796 53.07 61.18 59.47 61.7 0.00763 5.79 142.42 39.62 0.7392.3 FuturePh3 ⁴ 788 53.07 61.16 59.44 61.67 0.007613 5.77 141.48 39.48 0.007613 5.78 141.48 148.52 148.69 0.007613 3.42 249.09 48.99 0.007613 5.77 3 FuturePh3 ⁴ 830 41.84 48.62 48.8 0.002015 3.42 249.09 48.99 0.007613 FuturePh3 ⁴ 830 41.84 48.62 48.8 0.002015 3.42 249.09 48.99 0.007613 FuturePh3 ⁴ 830 41.84 48.62 48.8 0.002015 3.42 249.09 48.99 0.007613 FuturePh3 ⁴ 830 41.84 48.62 48.8 0.002015 3.42 249.09 48.99 0.007613 FuturePh3 ⁴ 830 41.84 48.62 48.8 0.002015 3.42 249.09 48.99 0.007613 FuturePh3 ⁴ 830 41.84 48.62 48.8 0.002015 3.42 249.09 48.99 0.007613 FuturePh3 ⁴ 830 41.84 48.62 48.8 0.002015 3.42 249.09 48.99 0.007613 FuturePh3 ⁴ 830 41.84 48.62 48.8 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.42 249.09 48.99 0.002015 3.38 241.4 48.55 0.0025015 3.42 249.09 48.99 0.002015 3.42 242 348.60 0.002015 3.42 242 348.60 0.0025015 3.42 244.45 348.60 0.002015 3.42 244.45 348.60 0.002015 3.42 244.45 348.60 0.002015 3.42 244.45 348.60 0.002015 3.42 242 348.60 0.0025015 3.42 242 348.60		7392.3	Existing ¹	809	53.07	61.22	59.5	61.75	0.007659	5.83	143.93	39.84	0.5
7392.3 FuturePh3 ⁴ 788 53.07 61.16 59.44 61.67 0.007613 5.77 141.48 39.48 0.00202				775	53.07	61.12	59.41	61.63	0.007594	5.73	139.89	39.25	0.49
7223.2 Existing 809 51.31 58.78 58.13 59.72 0.018153 7.78 106.42 36.36 0.0 7223.2 PropPh1 775 51.31 58.67 58.03 59.59 0.018398 7.7 102.59 35.52 0.0 7223.2 FuturePh2 788 51.31 58.74 58.09 59.67 0.018259 7.75 104.93 36.03 0.0 7223.2 FuturePh3 788 51.31 58.74 58.09 59.67 0.018259 7.75 104.93 36.03 0.0 6508.1 Existing 851 42.18 51.15 51.79 0.00747 6.42 132.55 26.38 (0.608.1 PropPh1 817 42.18 51.01 48.73 51.84 0.00743 6.34 128.94 26.18 (0.608.1 FuturePh2 838 42.18 51.1 51.73 0.00746 6.39 131.17 26.3 (0.608.1 FuturePh3 830 42.18 51.06 51.89 0.007454 6.37 130.32 26.26 (0.608.1 FuturePh2 847 41.84 48.67 48.68 0.002015 3.42 249.09 48.99 0.0 5707.3 Existing 851 41.84 48.67 48.68 0.002015 3.42 249.09 48.99 0.0 5707.3 FuturePh2 847 41.84 48.62 48.8 0.00202 3.4 246.22 48.8 0.0 5707.3 FuturePh2 838 41.84 48.62 48.8 0.00202 3.4 246.22 48.8 0.0 5707.3 FuturePh2 859 41.79 48.39 45.16 48.61 0.00256 3.76 237.52 48.25 (0.608.25 PropPh1 859 41.79 48.23 45.09 48.44 0.00256 3.76 237.52 48.25 (0.608.25 FuturePh2 859 41.79 48.23 45.09 48.44 0.00256 3.76 237.52 48.25 (0.608.25 FuturePh2 859 41.79 48.23 45.09 48.44 0.00256 3.76 237.52 48.25 (0.608.25 FuturePh2 859 41.79 48.23 45.09 48.44 0.00256 3.76 237.52 48.25 (0.608.25 FuturePh2 859 41.79 48.23 45.09 48.44 0.00256 3.76 237.52 48.25 (0.608.25 FuturePh2 859 41.79 48.23 45.09 48.44 0.00256 3.76 237.52 48.25 (0.608.25 FuturePh2 859 38.37 47.27 41.67 47.36 0.00252 3.75 234.62 48.06 (0.608.25 FuturePh2 859 38.37 47.27 41.67 47.36 0.000702 2.46 362.77 55.89 0.00256 3.75 234.62 48.06 (0.608.25 FuturePh2 859 38.37 47.27 41.67 47.36 0.000702 2.45 359.84 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.62 48.06 55.72 0.00256 3.75 234.6		7392.3	FuturePh2 ³	796	53.07	61.18	59.47	61.7	0.00763	5.79	142.42	39.62	0.5
7223.2 PropPh12 775 51.31 58.67 58.03 59.59 0.018398 7.7 102.59 35.52 0.0 7223.2 FuturePh22 796 51.31 58.74 58.09 59.67 0.018259 7.75 104.93 36.03 0.0 7223.2 FuturePh34 788 51.31 58.71 58.07 59.64 0.018323 7.74 104.01 35.83 0.0 6508.1 Existing 851 42.18 51.15 51.79 0.00747 6.42 132.55 26.38 0.0 6508.1 FuturePh22 838 42.18 51.11 51.73 0.00744 6.34 128.94 26.18 0.0 6508.1 FuturePh34 830 42.18 51.11 51.73 0.00746 6.39 131.17 26.3 0.0 6508.1 FuturePh34 830 42.18 51.10 51.73 0.00745 6.37 130.32 26.26 0.0 7707.3 Existing 851 41.84 48.67 48.86 0.002015 3.42 249.09 48.99 0.0 7707.3 FuturePh23 838 41.84 48.62 48.89 0.002015 3.42 249.09 48.99 0.0 7707.3 FuturePh23 838 41.84 48.62 48.8 0.00202 3.4 244.45 48.69 0.0 7707.3 FuturePh34 830 41.84 48.65 48.86 0.00202 3.4 244.45 48.69 0.0 7707.3 FuturePh35 830 41.84 48.65 48.87 0.00202 3.4 244.45 48.69 0.0 7707.3 FuturePh35 830 41.84 48.65 48.87 0.00202 3.4 244.45 48.69 0.0 7707.3 FuturePh35 830 41.84 48.65 48.87 0.00202 3.4 244.45 48.69 0.0 7707.3 FuturePh35 830 41.79 48.23 45.09 48.44 0.002586 3.74 229.78 47.75 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.002572 3.75 234.62 48.06 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.002572 3.75 232.84 47.95 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.002572 3.75 234.62 48.06 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.002572 3.75 232.84 47.95 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.000702 2.46 362.77 55.89 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.000702 2.45 359.84 55.72 0.0 7810.25 FuturePh36 873 38.37 47.42 41.74 47.51 0.000702 2.45 359.84 55.72 0.0 7810.25 FuturePh37 873 38.37 47.36 41.72 47.46 0.000709 2.45 359.84 55.72 0.0 7810.25 FuturePh36 873 38.37 47.33 41.7 47.42 0.000707 2.44 358.02 55.61 0.0 7810.25 FuturePh36 873 38.37 47.33 41.7 47.42 0.000707 2.44 358.02 55.61 0.0		7392.3	FuturePh3 ⁴	788	53.07	61.16	59.44	61.67	0.007613	5.77	141.48	39.48	0.5
7223.2 PropPh12 775 51.31 58.67 58.03 59.59 0.018398 7.7 102.59 35.52 0.0 7223.2 FuturePh22 796 51.31 58.74 58.09 59.67 0.018259 7.75 104.93 36.03 0.0 7223.2 FuturePh34 788 51.31 58.71 58.07 59.64 0.018323 7.74 104.01 35.83 0.0 6508.1 Existing 851 42.18 51.15 51.79 0.00747 6.42 132.55 26.38 0.0 6508.1 FuturePh22 838 42.18 51.11 51.73 0.00744 6.34 128.94 26.18 0.0 6508.1 FuturePh34 830 42.18 51.11 51.73 0.00746 6.39 131.17 26.3 0.0 6508.1 FuturePh34 830 42.18 51.10 51.73 0.00745 6.37 130.32 26.26 0.0 7707.3 Existing 851 41.84 48.67 48.86 0.002015 3.42 249.09 48.99 0.0 7707.3 FuturePh23 838 41.84 48.62 48.89 0.002015 3.42 249.09 48.99 0.0 7707.3 FuturePh23 838 41.84 48.62 48.8 0.00202 3.4 244.45 48.69 0.0 7707.3 FuturePh34 830 41.84 48.65 48.86 0.00202 3.4 244.45 48.69 0.0 7707.3 FuturePh35 830 41.84 48.65 48.87 0.00202 3.4 244.45 48.69 0.0 7707.3 FuturePh35 830 41.84 48.65 48.87 0.00202 3.4 244.45 48.69 0.0 7707.3 FuturePh35 830 41.84 48.65 48.87 0.00202 3.4 244.45 48.69 0.0 7707.3 FuturePh35 830 41.79 48.23 45.09 48.44 0.002586 3.74 229.78 47.75 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.002572 3.75 234.62 48.06 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.002572 3.75 232.84 47.95 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.002572 3.75 234.62 48.06 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.002572 3.75 232.84 47.95 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.000702 2.46 362.77 55.89 0.0 7800.25 FuturePh36 873 41.79 48.29 45.12 48.51 0.000702 2.45 359.84 55.72 0.0 7810.25 FuturePh36 873 38.37 47.42 41.74 47.51 0.000702 2.45 359.84 55.72 0.0 7810.25 FuturePh37 873 38.37 47.36 41.72 47.46 0.000709 2.45 359.84 55.72 0.0 7810.25 FuturePh36 873 38.37 47.33 41.7 47.42 0.000707 2.44 358.02 55.61 0.0 7810.25 FuturePh36 873 38.37 47.33 41.7 47.42 0.000707 2.44 358.02 55.61 0.0			1										
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T223.2 FuturePh2 ³ 796 51.31 58.74 58.09 59.67 0.018259 7.75 104.93 36.03 0.0													
7223.2 FuturePh2 ³ 796 51.31 58.74 58.09 59.67 0.018259 7.75 104.93 36.03 0.0 7223.2 FuturePh3 ⁴ 788 51.31 58.71 58.07 59.64 0.018323 7.74 104.01 35.83 0.0 6508.1 Existing 851 42.18 51.01 48.73 51.64 0.007443 6.34 128.94 26.18 0.0 6508.1 FuturePh2 ⁴ 838 42.18 51.01 51.73 0.00746 6.39 131.17 26.3 0.0 6508.1 FuturePh3 ⁴ 830 42.18 51.06 51.69 0.007454 6.37 130.32 26.26 0.0 5707.3 Existing 851 41.84 48.67 48.86 0.002015 3.42 249.09 48.99 0.0 5707.3 Existing 851 41.84 48.52 48.69 0.002015 3.42 249.09 48.99 0.0 5707.3 FuturePh2 ⁴ 838 41.84 48.52 48.69 0.00202 3.4 246.22 48.8 0.0 5707.3 FuturePh2 ⁴ 830 41.84 48.58 48.76 0.00202 3.4 244.45 48.69 0.0 5602.5 Existing 894 41.79 48.39 45.16 48.61 0.002548 3.76 237.52 48.25 0.0 5602.5 FuturePh2 ³ 881 41.79 48.39 45.16 48.61 0.002568 3.74 229.78 47.75 0.0 5602.5 FuturePh2 ³ 881 41.79 48.39 45.16 48.61 0.002568 3.75 232.84 47.95 0.0 5707.3 Existing 894 41.79 48.39 45.16 48.61 0.002568 3.75 232.84 47.95 0.0 5602.5 FuturePh2 ³ 881 41.79 48.39 45.16 48.61 0.002568 3.75 232.84 47.95 0.0 5707.3 FuturePh2 ³ 881 41.79 48.39 45.16 48.61 0.002568 3.75 232.84 47.95 0.0 5707.3 FuturePh2 ³ 881 41.79 48.39 45.16 48.51 0.002568 3.75 232.84 47.95 0.0 5707.3 FuturePh2 ³ 881 41.79 48.39 45.16 48.51 0.002568 3.75 232.84 47.95 0.0 5707.3 FuturePh2 ³ 881 41.79 48.39 45.16 48.51 0.002572 3.75 232.84 47.95 0.0 5707.3 FuturePh2 ³ 881 41.79 48.39 45.10 48.51 0.002572 3.75 232.84 47.95 0.0 5707.3 FuturePh2 ³ 873 41.79 48.29 45.12 48.51 0.000709 2.45 359.84 55.72 0.0 5707.3 FuturePh2 ³ 881 38.37 47.27 41.67 47.36 0.000709 2.45 359.84 55.72 0.0 5707.3 FuturePh2 ³ 873 38.37 47.36 41.72 47.46 0.000709 2.45 359.84 55.72 0.0 4988.3 Existing 1 1158 24.03 32.76 29.53 33.28 0.006302 5.79 199.87 33.84 0.0			0										
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4988.3 Existing 1 1158 24.03 32.76 29.53 33.28 0.006302 5.79 199.87 33.84 0.													0.17
		5170.1	. GLOI IIO	3,3	55.57	-17.00	- ⊤ 1.7	77.72	5.555101	۵.٦٩	000.02	55.01	0.10
		4988.3	Existing ¹	1158	24.03	32.76	29.53	33.28	0.006302	5.79	199.87	33.84	0.42
													0.42
													0.42
		4988.3	FuturePh3 ⁴										



	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
Profile			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
		Existing	1088	62.35	75.34		75.66	0.001766	4.51	264.01	297.08	0.31
		PropPh1 ²	999	62.35	75.07		75.36	0.001682	4.34	230.26	36.89	0.31
		FuturePh2 ³	1038	62.35	75.19		75.49	0.001725	4.42	234.74	37.28	0.31
	13322	FuturePh3 ⁴	1037	62.35	75.18		75.49	0.001724	4.42	234.6	37.27	0.31
	13075.6	Existing ¹	1088	62.15	75	70.22	75.22	0.001438	4.04	717.1	1340.56	0.28
		PropPh1 ²	999	62.15	74.6	69.94	74.92	0.001882	4.53	220.69	494.48	0.32
		FuturePh2 ³	1038	62.15	74.71	70.07	75.04	0.001942	4.62	224.47	610.79	0.33
	13075.6	FuturePh3 ⁴	1037	62.15	74.71	70.06	75.04	0.001942	4.62	224.35	608.32	0.33
	10050.0		D : 1									
	13053.2		Bridge									
	13030.8	Existing ¹	1088	62.08	74.67	70.15	75.03	0.002105	4.82	225.64	633.3	0.34
		PropPh1 ²	999	62.08	74.45	69.87	74.78	0.001953	4.59	217.63	399.4	0.33
		FuturePh2 ³	1038	62.08	74.55	70	74.89	0.002021	4.69	221.14	509	0.33
	13030.8	FuturePh3 ⁴	1037	62.08	74.54	69.99	74.89	0.00202	4.69	221.02	504.89	0.33
	12006.2	Existing ¹	1088	61.87	74.43	69.9	74.74	0.001754	4.52	283.54	793.36	0.32
		PropPh1 ²	999	61.87	74.43	69.61	74.74	0.001734	4.32	258.97	394.72	0.32
		FuturePh2 ³	1038	61.87	74.31	69.74	74.61	0.001718	4.41	269.47	553.36	0.31
		FuturePh3 ⁴	1037	61.87	74.31	69.74	74.61	0.001718	4.41	269.07	546.88	0.31
		4										
		Existing ¹	1088	61.3	74.2	68.79	74.32	0.000639	2.87	522.36	1423.22	0.2
		PropPh1 ²	999	61.3	73.98	68.57	74.1	0.00063	2.78	406.95	883.42	0.2
		FuturePh2 ³	1038	61.3	74.07	68.67	74.2	0.000637	2.83	452.45	1058.91	0.2
	12527.9	FuturePh3 ⁴	1037	61.3	74.07	68.67	74.19	0.000637	2.83	450.54	1051.43	0.2
_	12065.3	Existing ¹	1088	60.51	73.62	68.54	73.89	0.001349	4.19	333.99	1300.02	0.28
ò		PropPh1 ²	999	60.51	73.45	68.24	73.69	0.001261	3.98	268.6	652.97	0.27
, ₁		FuturePh2 ³	1038	60.51	73.52	68.39	73.78	0.001309	4.08	283.37	972.68	0.28
1PCT_100yr	12065.3	FuturePh3 ⁴	1037	60.51	73.52	68.38	73.77	0.00131	4.08	282.04	913.08	0.28
=	115100	. 1	4000	22.42	70.4	22.52	70.00	0.000044		540.07	222.22	
		Existing ¹ PropPh1 ²	1088 999	60.46	73.1	68.52	73.26	0.000911	3.26	513.87	630.28	0.24
		FuturePh2 ³	1038	60.46 60.46	72.93 72.98	68.19 68.34	73.08 73.14	0.000914 0.000954	3.19 3.28	338.52 343.67	370.42 412.24	0.24 0.25
		FuturePh3 ⁴	1037	60.46	72.97	68.34	73.14	0.000955	3.28	343.23	408.69	0.25
	11010.0	T dtarer no	1001	00.40	12.01	00.04	70.14	0.000000	0.20	040.20	400.00	0.20
	11029.3	Existing ¹	1088	60.41	72.82	68.41	72.98	0.000404	3.47	1390.75	2118.19	0.25
		PropPh1 ²	999	60.41	72.56	68.14	72.76	0.000483	3.68	522.57	1702.44	0.27
		FuturePh2 ³	1038	60.41	72.65	68.27	72.83	0.000455	3.61	938.01	1908.69	0.27
	11029.3	FuturePh3 ⁴	1037	60.41	72.64	68.27	72.83	0.000457	3.61	928.22	1897.08	0.27
	11002.1	Existing ¹	1088	60.41	72.82	68.37	72.95	0.000636	3.19	1592.71	2470.19	0.23
	11002.1	PropPh1 ²	999	60.41	72.5	68.08	72.73	0.000030	3.19	270.86	1517	0.29
		FuturePh2 ³	1038	60.41	72.54	68.18	72.8	0.001081	4.03	274.07	1619.98	0.29
		FuturePh3 ⁴	1037	60.41	72.54	68.18	72.79	0.001082	4.03	273.75	1609.76	0.29
	10000 =											
	10962.7		Bridge									
	10923.3	Existing ¹	1088	60.3	72.27	68.21	72.51	0.001154	4.09	611.4	1306.97	0.3
		PropPh1 ²	999	60.3	72.16	67.97	72.42	0.001183	4.08	256.19	1133.43	0.31
		FuturePh2 ³	1038	60.3	72.18	68.07	72.45	0.001263	4.23	257.35		0.32
	10923.3	FuturePh3 ⁴	1037	60.3	72.17	68.07	72.45	0.001263	4.22	257.1	1153.26	0.32
	40704.5	F : .: 1	4000	F0.05	70.05	07.00	70.0=	0.00000:	0.01	0.40.00	1000.01	
	10764.8	Existing ¹	1088	59.93	72.25	67.82	72.37	0.000291	3.01	940.33	1003.04	0.22
		PropPh1 ² FuturePh2 ³	999 1038	59.93 59.93	72.15 72.17	67.6 67.7	72.27 72.3	0.000275 0.000293	2.89 2.99	678.26 689.64	730.88 885.92	0.21 0.22
		FuturePh3 ⁴	1036	59.93	72.17	67.69	72.29	0.000293	2.99	686.96	882.56	0.22
	10104.0	, ataioi iio	1007	50.00	12.10	57.00	12.20	0.000200	2.00	550.50	552.50	0.22
		·					l					



	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
Profile			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	10641.7	Existing ¹	1088	59.65	72.14	67.34	72.33	0.000363	3.57	615.3	1574.24	0.24
		PropPh1 ²	999	59.65	72.06	67.11	72.23	0.000322	3.33	579.2	1414.56	0.23
		FuturePh2 ³	1038	59.65	72.08	67.21	72.25	0.000345	3.45	584.49	1443.46	0.23
	10641.7	FuturePh3 ⁴	1037	59.65	72.07	67.21	72.25	0.000345	3.45	582.57	1433	0.23
	40500.0	F:.4:1	4004	50.55	70.00	07.05	70.00	0.000400	0.00	000.40	074.00	0.00
		Existing ¹ PropPh1 ²	1261	59.55 59.55	72.09	67.65	72.29	0.000439	3.93 4.12	903.43	971.83	0.26
		FuturePh2 ³	1168 1209	59.55	71.92 72.02	67.43 67.53	72.18 72.22	0.000498 0.000424	3.84	311.44 841	752.92 891.18	0.28 0.26
		FuturePh3 ⁴	1209	59.55	72.02	67.52	72.21	0.000424	3.84	837.65	886.36	0.26
	10000.0	r atarci no	1201	00.00	12.02	07.02	12.21	0.000424	0.04	007.00	000.00	0.20
	10581.7		Bridge									
		1										
	10563.8	Existing ¹	1261	59.46	72.08	67.55	72.28	0.000412	3.84	987.3	1049.97	0.26
	10563.8	PropPh1 ²	1168	59.46	71.84	67.32	72.04	0.000408	3.73	768.94	768.98	0.25
		FuturePh2 ³ FuturePh3 ⁴	1209	59.46	71.89	67.42	72.1	0.000436	3.88	809.06	844.07	0.26
	10563.8	FuturePn3	1207	59.46	71.89	67.42	72.1	0.000436	3.88	803.93	836.26	0.26
	10404.9	Existing ¹	1261	59.39	71.55	67.7	72.08	0.001181	5.88	273.41	494.98	0.41
		PropPh1 ²	1168	59.39	71.35	67.43	71.85	0.001128	5.65	232.23	342.6	0.39
	10404.9	FuturePh2 ³	1209	59.39	71.37	67.55	71.9	0.001198	5.83	235.12	353.94	0.41
	10404.9	FuturePh3⁴	1207	59.39	71.36	67.55	71.89	0.001198	5.83	234.17	350.29	0.41
		. 1										
		Existing ¹ PropPh1 ²	1310 1216	59.19 59.19	70.51 70.42		71.29 71.11	0.001919	7.07 6.66	185.37 182.68	30.96 30.73	0.51 0.48
		FuturePh2 ³	1258	59.19	70.42		71.11	0.00172 0.001913	6.99	180.09	30.73	0.46
		FuturePh3 ⁴	1256	59.19	70.33		71.09	0.001913	6.98	179.96	30.5	0.51
	3000.4	i didici iio	1200	55.15	70.00		71.00	0.001011	0.00	170.00	50.5	0.01
_	9202.8	Existing ¹	1310	58.42	70.08	66.35	70.39	0.000708	4.52	293.22	179.54	0.34
ò		PropPh1 ²	1216	58.42	70.04	66.15	70.32	0.000622	4.22	290.78	162.91	0.32
	9202.8	FuturePh2 ³	1258	58.42	69.88	66.24	70.19	0.000738	4.51	280.27	111.64	0.34
1PCT_100yr	9202.8	FuturePh3 ⁴	1256	58.42	69.87	66.23	70.19	0.000737	4.5	280.02	111.26	0.34
=		1										
		Existing ¹	1365	58.34	69.99	66.38	70.33	0.00077	4.72	296.75	389.64	0.35
		PropPh1 ²	1270	58.34	69.96	66.17	70.26	0.000679	4.41	294.8	363.74	0.33
		FuturePh2 ³ FuturePh3 ⁴	1312	58.34	69.78	66.26	70.13 70.12	0.000807	4.71	283.71 283.48	250.79	0.36
	9132	FuturePris	1311	58.34	69.78	66.26	70.12	0.000808	4.71	203.40	247.52	0.36
	9104.1		Bridge									
	9076.2	Existing ¹	1365	58.21	69.6	66.25	69.98	0.000899	4.95	280.62	202.47	0.38
		PropPh1 ²	1270	58.21	69.34	66.04	69.7	0.000909	4.84	264.29	100.01	0.38
		FuturePh2 ³	1312	58.21	69.45	66.13	69.82	0.000907	4.89	271.25	124.73	0.38
	9076.2	FuturePh3 ⁴	1311	58.21	69.45	66.13	69.82	0.000907	4.89	271.08	123.93	0.38
 	8011 0	Existing ¹	1365	58.05	69.3		69.74	0.001976	5.42	305.64	123.43	0.36
		PropPh1 ²	1270	58.05	69.06		69.74	0.001976	5.42	280.8	80.18	0.35
		FuturePh2 ³	1312	58.05	69.16		69.59	0.001947	5.33	290.53	98.5	0.36
		FuturePh3 ⁴	1311	58.05	69.16		69.59	0.00196	5.33	290.27	98.05	0.36
	8753.8	Existing ¹	1365	57.9	68.98		69.42	0.002066	5.46	310.93	82.47	0.37
		PropPh1 ²	1270	57.9	68.74		69.16	0.002035	5.29	291.81	76.54	0.36
		FuturePh2 ³	1312	57.9	68.85		69.28	0.00205	5.37	300.1	79.16	0.36
	8753.8	FuturePh3 ⁴	1311	57.9	68.85		69.27	0.00205	5.37	299.89	79.1	0.36
	0200.0	Evissio1	4 407	F7 F0	00.00		67.00	0.000700	0.00	400.0	F0 07	0.00
		Existing ¹ PropPh1 ²	1427	57.59 57.50	66.86 66.67		67.86	0.006792	8.08	186.9	50.07	0.63
	8320.8	FuturePh2 ³	1331 1373	57.59 57.59	66.75		67.62 67.73	0.006717 0.006752	7.84 7.94	177.81 181.75	47.67 48.72	0.62 0.63
		FuturePh3 ⁴	1373	57.59	66.75		67.73	0.006752	7.94	181.63	48.69	0.63
 	0020.0	i atalei IIJ	1372	31.38	00.10		01.12	0.000104	1.54	101.03	40.08	0.03
• l		L								1		



	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
Profile			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
		Existing ¹	1427	55.6	66		66.37	0.002072	5.21	394.18	111.01	0.36
		PropPh1 ²	1331	55.6	65.82		66.17	0.002018	5.04	374.04	107.38	0.36
		FuturePh2 ³	1373	55.6	65.9		66.26	0.002044	5.12	382.65	108.95	0.36
	7945.8	FuturePh3 ⁴	1372	55.6	65.89		66.26	0.002046	5.12	382.28	108.88	0.36
	7400.7	F · · · 1	4.407	50.00	04.07		05.05	0.000000	5.00	070.70	400.00	0.04
		Existing ¹	1427	53.23	64.87		65.25	0.002933	5.28	379.72	108.32	0.34
		PropPh1 ² FuturePh2 ³	1331 1373	53.23 53.23	64.74 64.79		65.09 65.16	0.002748 0.002837	5.05 5.16	365.85 371.5	105.49 106.65	0.33 0.34
		FuturePh3 ⁴	1373	53.23	64.79		65.15	0.002837	5.16	371.02	106.65	0.34
	1402.1	ruluieriis	1372	33.23	04.79		03.13	0.00204	3.10	37 1.02	100.50	0.34
	7444.9	Existing ¹	1496	53.04	64.66	61.02	65.11	0.00315	5.56	312.44	228.15	0.35
		PropPh1 ²	1400	53.04	64.56	60.8	64.97	0.002904	5.29	306.5	215.46	0.34
		FuturePh2 ³	1442	53.04	64.6	60.9	65.03	0.003017	5.41	308.91	220.58	0.34
	7444.9	FuturePh3 ⁴	1441	53.04	64.6	60.9	65.02	0.003019	5.41	308.67	220.06	0.34
	7418.6		Bridge									
	7202.2	Fuinting!	1400	E2 07	60.77	61.05	62.67	0.008895	7 70	242.60	40.74	0.57
l		Existing ¹ PropPh1 ²	1496 1400	53.07	62.77 62.61		63.67		7.73	212.68	48.74	0.57
l	7302.3	FuturePh2 ³	1442	53.07 53.07	62.68	60.83 60.93	63.45 63.55	0.008647 0.008748	7.47 7.58	204.52 208.18	47.77 48.2	0.55 0.56
		FuturePh3 ⁴	1441	53.07	62.68	60.93	63.55	0.008744	7.58	208.11	48.2	0.56
	1382.3	ruluieriis	1441	33.07	02.00	00.93	03.33	0.000744	1.50	200.11	40.2	0.30
	7223.2	Existing ¹	1496	51.31	60.58	59.69	61.74	0.013799	8.84	201.77	81.3	0.7
		PropPh1 ²	1400	51.31	60.38	59.52	61.52	0.014171	8.72	185.83	74.1	0.7
	7223.2	FuturePh2 ³	1442	51.31	60.47	59.58	61.62	0.014007	8.77	192.72	77.39	0.7
	7223.2	FuturePh3 ⁴	1441	51.31	60.47	59.58	61.62	0.014021	8.77	192.48	77.28	0.7
ž		Existing ¹	1574	42.18	53.68		54.61	0.007536	7.71	204.61	32.89	0.52
100		PropPh1 ²	1477	42.18	53.39		54.28	0.007579	7.56	195.32	30.19	0.52
		FuturePh2 ³	1520	42.18	53.52		54.42	0.00756	7.63	199.37	31.4	0.52
1PCT_100yr	6508.1	FuturePh3 ⁴	1518	42.18	53.51		54.42	0.00756	7.63	199.19	31.35	0.52
`	5707 3	Existing ¹	1574	41.84	51.67		51.9	0.001694	3.84	409.96	58.33	0.26
l		PropPh1 ²	1477	41.84	51.35		51.57	0.001698	3.77	391.36	57.33	0.25
		FuturePh2 ³	1520	41.84	51.49		51.72	0.001696	3.8	399.62	57.77	0.25
		FuturePh3 ⁴	1518	41.84	51.49		51.71	0.001696	3.8	399.28	57.75	0.25
	0,01.0		1010	11.01	01.10		01.71	0.001000	0.0	000.20	07.70	0.20
	5602.5	Existing ¹	1653	41.79	51.43	46.53	51.7	0.00187	4.2	393.84	57.72	0.27
	5602.5	PropPh1 ²	1556	41.79	51.1	46.37	51.37	0.00192	4.13	376.71	56.72	0.27
		FuturePh2 ³	1599	41.79	51.25	46.44	51.52	0.001898	4.16	384.36	57.17	0.27
	5602.5	FuturePh3 ⁴	1597	41.79	51.24	46.44	51.51	0.001898	4.16	384.05	57.15	0.27
	5075.0		0 1 1									
	5375.3		Culvert									
	51/18 1	Existing ¹	1653	38.37	50.12	43.11	50.29	0.000811	3.27	505.97	64.31	0.19
		PropPh1 ²	1556	38.37	49.86	42.95	50.02	0.000789	3.16	492.05	63.5	0.19
	5148.1	FuturePh2 ³	1599	38.37	49.98	43.02	50.14	0.000799	3.21	498.28	63.86	0.18
		FuturePh3 ⁴	1597	38.37	49.97	43.02	50.13	0.000798	3.21	498.06	63.85	0.18
	31.10.1			33.31			55.15	0.000,00	5.21	100.00	55.55	55
	4988.3	Existing ¹	1653	37.97	49.62		50.01	0.002763	4.99	341.14	52.61	0.32
 	4988.3	PropPh1 ²	1556	37.97	49.37		49.74	0.002739	4.87	328.3	51.38	0.32
	4988.3	FuturePh2 ³	1599	37.97	49.48		49.86	0.002752	4.92	334	51.92	0.32
	4988.3	FuturePh3 ⁴	1597	37.97	49.48		49.85	0.002749	4.92	333.83	51.9	0.32
[4										
	4200.8	Existing ¹	1783	36	45.56		46.41	0.00818	7.41	241.21	42.56	0.53
	4200.8	PropPh1 ²	1686	36	45.37		46.18	0.008054	7.24	233.09	41	0.53
		FuturePh2 ³	1729	36	45.45		46.28	0.008111	7.31	236.67	41.7	0.53
	4200.8	FuturePh3 ⁴	1728	36	45.45		46.28	0.008111	7.31	236.58	41.68	0.53



	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
Profile			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	3767.1	Existing ¹	1783	34.6	43.92		44.2	0.003063	4.26	426.95	92.74	0.34
	3767.1	PropPh1 ²	1686	34.6	43.69		43.97	0.003103	4.22	406.61	90.1	0.34
		FuturePh2 ³	1729	34.6	43.79		44.07	0.003085	4.24	415.64	91.28	0.34
	3767.1	FuturePh3 ⁴	1728	34.6	43.79		44.07	0.003089	4.24	415.26	91.23	0.34
		Existing ¹	1866	33.01	42.58		42.94	0.003204	4.82	402.68	67.03	0.32
		PropPh1 ²	1768		42.36		42.71	0.003193	4.72	388.13	66.3	0.32
		FuturePh2 ³	1812	33.01	42.46		42.81	0.003201	4.77	394.57	66.62	0.32
	3368.2	FuturePh3 ⁴	1810	33.01	42.46		42.81	0.0032	4.77	394.28	66.61	0.32
		1										
		Existing ¹	1866	31.73	41.9		41.99	0.000759	2.37	801.69	130.72	0.16
		PropPh1 ²	1768	31.73	41.68		41.76	0.000755	2.32	772.96	128.67	0.16
)yr		FuturePh2 ³	1812	31.73	41.78		41.86	0.000758	2.34	785.55	129.58	0.16
1PCT_100yr	2735.8	FuturePh3 ⁴	1810	31.73	41.77		41.86	0.000758	2.34	784.99	129.53	0.16
	2225 5	. 1	0000	00.07	00.70		10.01	0.00705		224.00	40.00	
1PC		Existing ¹	2002	30.37	39.73		40.61	0.009765	7.55	264.99	42.69	0.53
,		PropPh1 ²	1906	30.37	39.55		40.4	0.009595	7.41	257.34	42.22	0.53
		FuturePh2 ³	1949	30.37	39.62		40.49	0.009699	7.48	260.51	42.42	0.53
	2065.5	FuturePh3 ⁴	1947	30.37	39.62		40.49	0.009693	7.48	260.38	42.41	0.53
	1680.7	Existing ¹	2002	28.45	39.01		39.15	0.001635	3.07	652.12	115.4	0.23
		PropPh1 ²	1906	28.45	38.78		38.93	0.001673	3.04	626.13	114.19	0.23
		FuturePh2 ³	1949	28.45	38.88		39.03	0.001673	3.04	637.66	114.73	0.23
		FuturePh3 ⁴	1947	28.45	38.88		39.02	0.001656	3.05	637.32	114.71	0.23
	1000.1	r dtarer ne	1041	20.40	00.00		00.02	0.001000	0.00	007.02	117.71	0.20
	821.4	Existing ¹	2142	24.03	35.82	31.68	36.54	0.006312	6.83	313.41	40.29	0.43
		PropPh1 ²	2047	24.03	35.56	31.5	36.27	0.006306	6.75	303.28	39.79	0.43
		FuturePh2 ³	2089	24.03	35.68	31.58	36.39	0.006309	6.79		40.02	0.43
		FuturePh3 ⁴	2088	24.03	35.67	31.58	36.39	0.006309	6.79	307.66	40.01	0.43
	Existing C	onditions ¹ : N	lodel incl	udes FEMA	Effective ge	eometry da	ta with the	Existing Cond	ditions HM	IS model flo	ws.	
								Phase 1 (Por				
								hase 2 (Char				
								hase 3 (Storr				



19209 Ensting	Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
192098 PropPh** 994 67:34 74:45 75:37 0.001032 767 129:06 29:52 0.66 192:09				(cfs)	(ft)	(ft)			(ft/ft)		(sq ft)	(ft)	
192096 InturePh2				994									0.64
192093 FuturePh3' 994 65.90 72.96 72.90 0.001048 9.13 108.82 23.60 0.75 18393 Firsting' 994 65.90 72.98 74.28 0.001048 9.13 108.82 23.60 0.75 18393 FuturePh2' 994 65.90 72.98 74.28 0.001048 9.13 108.82 23.60 0.75 18393 FuturePh2' 994 65.90 72.98 74.28 0.001048 9.13 108.82 23.60 0.75 18393 FuturePh3' 994 65.90 72.98 74.28 0.001048 9.13 108.82 23.60 0.75 18393 FuturePh3' 994 64.97 72.74 70.2 73.22 0.000006 6.08 163.48 31.07 0.45 17507 FuturePh3' 994 64.97 72.74 70.2 73.32 0.000006 6.08 163.48 31.07 0.45 17507 FuturePh3' 994 64.97 72.74 70.2 73.32 0.000006 6.08 163.48 31.07 0.45 17507 FuturePh3' 994 64.97 72.74 70.2 73.32 0.000006 6.08 163.48 31.07 0.45 17507 FuturePh3' 994 64.97 72.74 70.2 73.32 0.000006 6.08 163.48 31.07 0.45 17507 FuturePh3' 994 64.97 72.74 70.2 73.32 0.000006 6.08 163.48 31.07 0.45 17507 FuturePh3' 994 64.97 72.74 70.2 73.32 0.000006 6.08 163.48 31.07 0.45 17507 FuturePh3' 994 64.97 71.97 71.12 73.08 0.001704 8.74 113.79 22.65 0.75 17444.3 FuturePh3' 994 64.97 71.97 71.12 73.08 0.001704 8.74 113.79 22.65 0.75 17444.3 FuturePh3' 994 64.97 71.97 71.12 73.08 0.001704 8.74 113.79 22.65 0.75 17444.3 FuturePh3' 994 64.97 71.97 71.12 73.08 0.001704 8.74 113.79 22.65 0.75 17444.3 FuturePh3' 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 22.86 0.75 17431.3 FuturePh3' 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 22.84 0.68 17431.3 FuturePh3' 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 22.84 0.68 17431.3 FuturePh3' 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 22.84 0.68 17431.3 FuturePh3' 994 64.89 71.99 70.55 72.9													0.64
18393.7 Existing													0.64
183937 ProgPhit 994 65.96 72.98 74.28 0.01648 9.13 108.82 23.69 0.77		19209.6	FuturePh3⁴	994	67.34	74.45		75.37	0.001032	7.67	129.66	29.52	0.64
183937 ProgPhit 994 65.96 72.98 74.28 0.01648 9.13 108.82 23.69 0.77		40000.7	Eviation 1	004	05.00	70.00		74.00	0.004040	0.40	400.00	00.00	0.75
183937		18393.7	Drop Dh 12										
183937_FuturePh2'		10090.7	FuturoDh23										
178077 Existing													
176077 PropPhil* 994 64 97 72.74 70.2 73.32 0.000566 6.08 183.48 31.07 0.45		10030.1	r didici ilo	334	00.00	72.50		74.20	0.001040	3.10	100.02	20.00	0.70
176077 PropPhil* 994 64 97 72.74 70.2 73.32 0.000566 6.08 183.48 31.07 0.45		17507.7	Existing ¹	994	64.97	72.74	70.2	73.32	0.000506	6.08	163.48	31.07	0.47
17607.7 FuturePh3' 994 64.97 72.74 70.2 73.32 0.000566 6.08 163.48 31.07 0.41				994		72.74	70.2			6.08			0.47
17444.3 Existing 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 17444.3 PropPh1 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 17444.3 FuturePh3 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 17443.3 FuturePh3 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 17433.3 8 Bridge 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 17433.6 Existing 994 64.9 71.9 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 17431.8 FuturePh3 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 17431.8 FuturePh3 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 17433.8 FuturePh3 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 17433.8 FuturePh3 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 17433.8 FuturePh3 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 17433.8 FuturePh3 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1733.6 FuturePh2 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1733.6 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1743.9 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1743.9 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1743.9 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1743.9 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1743.9 FuturePh3 994 60.87 68.83 69.33 0.00667 6.7 14.917 2.942 0.0067 14.917 2.942 0.0067 14.917 2.942 0.0067 14.917 2.942 0.0067 14.917 2.942 0.0067 14.917 2.942 0.0067 14.918 14.918 14.918 14.918 14.		17507.7	FuturePh2 ³	994	64.97	72.74			0.000506	6.08		31.07	0.47
17444.3 PropPhi ² 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 17444.3 FuturePh3 ⁴ 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 1743.3 EntirePh3 ⁴ 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 1743.3 EntirePh3 ⁴ 994 64.9 71.9 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.1 EntirePh3 ⁴ 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.1 EntirePh3 ⁴ 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.1 EntirePh3 ⁴ 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.3 EntirePh3 ⁴ 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.3 EntirePh3 ⁴ 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.3 EntirePh3 ⁴ 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1743.3 EntirePh2 ² 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1743.3 EnturePh3 ⁴ 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1743.3 EnturePh3 ⁴ 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1743.3 EnturePh3 ⁴ 994 63.93 69.34 69.34 71.45 0.00005 11.67 85.21 20.31 1743.9 EnturePh3 ⁴ 994 63.93 69.34 69.34 71.45 0.00005 11.67 85.21 20.31 1743.9 EnturePh3 ⁴ 994 63.93 69.34 69.34 71.45 0.00005 11.67 85.21 20.31 1743.9 EnturePh3 ⁴ 994 63.93 69.34 69.34 71.45 0.00005 11.67 85.21 20.31 1743.9 EnturePh3 ⁴ 994 60.87 68.83 69.33 0.00067 67 149.17 294.2 0.0 16.38.6 EnturePh3 ⁴ 994 60.87 68.83 69.33 0.00067 67 149.17 294.2 0.0 16.38.6 EnturePh3 ⁴ 994 60.87 68.83 69.33 0.000667 67 149.17 294.2 0.0 16.38.6 EnturePh3 ⁴ 1190		17507.7	FuturePh34	994	64.97	72.74	70.2	73.32	0.000506	6.08	163.48	31.07	0.47
17444.3 PropPhi ² 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 17444.3 FuturePh3 ⁴ 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 1743.3 EntirePh3 ⁴ 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 1743.3 EntirePh3 ⁴ 994 64.9 71.9 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.1 EntirePh3 ⁴ 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.1 EntirePh3 ⁴ 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.1 EntirePh3 ⁴ 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.3 EntirePh3 ⁴ 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.3 EntirePh3 ⁴ 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.3 EntirePh3 ⁴ 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1743.3 EntirePh2 ² 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1743.3 EnturePh3 ⁴ 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1743.3 EnturePh3 ⁴ 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1743.3 EnturePh3 ⁴ 994 63.93 69.34 69.34 71.45 0.00005 11.67 85.21 20.31 1743.9 EnturePh3 ⁴ 994 63.93 69.34 69.34 71.45 0.00005 11.67 85.21 20.31 1743.9 EnturePh3 ⁴ 994 63.93 69.34 69.34 71.45 0.00005 11.67 85.21 20.31 1743.9 EnturePh3 ⁴ 994 63.93 69.34 69.34 71.45 0.00005 11.67 85.21 20.31 1743.9 EnturePh3 ⁴ 994 60.87 68.83 69.33 0.00067 67 149.17 294.2 0.0 16.38.6 EnturePh3 ⁴ 994 60.87 68.83 69.33 0.00067 67 149.17 294.2 0.0 16.38.6 EnturePh3 ⁴ 994 60.87 68.83 69.33 0.000667 67 149.17 294.2 0.0 16.38.6 EnturePh3 ⁴ 1190			,										
1744.3 FuturePh2 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 1743.3 StuturePh3 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 1743.3 Existing 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.18 Existing 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.18 FuturePh2 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.18 FuturePh2 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.18 FuturePh3 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 1743.18 FuturePh3 994 64.71 70.38 70.36 72.39 0.003679 11.38 87.37 21.7 1733.58 Existing 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1733.58 FuturePh3 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1733.58 FuturePh3 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 1733.58 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1743.9 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1743.9 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1743.9 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1743.9 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1743.9 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1743.9 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 1538.0 FuturePh3 994 60.87 68.83 69.53 0.000677 6.7 149.17 29.42 0.0 1538.0 FuturePh3 994 60.87 68.83 69.53 0.000677 6.7 149.17 29.42 0.0 1538.0 FuturePh3 11.90 59.59 67.25 68.44 0.001602 8.75 136.02 27.54 0		17444.3	Existing ¹										0.79
17444.3 FuturePh3 994 64.9 71.9 71.12 73.08 0.001704 8.74 113.79 29.65 0.75 17431.3 Existing 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 17431.8 FuturePh2 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 17431.8 FuturePh2 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 17431.8 FuturePh3 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 17431.8 FuturePh3 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.65 17431.8 FuturePh3 994 64.71 70.38 70.35 72.97 0.001604 7.94 125.13 29.84 0.65 17335.8 Existing 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 17335.8 FuturePh3 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 17335.8 FuturePh3 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 17335.8 FuturePh3 994 64.71 70.38 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 17335.8 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 17336 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 17336 FuturePh3 994 63.93 69.34 69.34 71.45 0.00305 11.67 85.21 20.31 17336 FuturePh3 994 60.87 68.83 69.53 0.000667 6.7 149.17 29.42 0.1 16368.5 FuturePh3 994 60.87 68.83 69.53 0.000667 6.7 149.17 29.42 0.1 16368.5 FuturePh3 994 60.87 68.83 69.53 0.000667 6.7 149.17 29.42 0.1 16388.5 FuturePh3 11.90 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.66 15380.2 FuturePh3 11.90 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.66 15380.2 FuturePh3 11.90 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.66 15029.4 FuturePh3 11.90 59.90 65.23 65.23 65.23 65.40													
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17431.8 Existing 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.68 174.31.8 PropPhri 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.68 174.31.8 FuturePh2 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.68 174.31.8 FuturePh3 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.68 174.31.8 FuturePh3 994 64.89 71.99 70.55 72.97 0.001604 7.94 125.13 29.84 0.68 174.31.8 FuturePh3 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 73.85 17335.8 FuturePh2 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 73.85 17335.8 FuturePh3 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 73.85 17335.8 FuturePh3 994 64.71 70.38 70.38 72.39 0.003679 11.38 87.37 21.7 73.85 73.		17/133 3		Bridge									
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Trans FuturePh2'				_									0.68
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16368.5 Existing				994	63.93	69.34	69.34	71.45	0.00305	11.67	85.21	20.31	1
16368.5 PropPh1 2 994 60.87 68.83 69.53 0.000667 6.7 149.17 29.42 0.5 16368.5 FuturePh2 3 994 60.87 68.83 69.53 0.000667 6.7 149.17 29.42 0.5 16368.5 FuturePh3 994 60.87 68.83 69.53 0.000667 6.7 149.17 29.42 0.5 16368.5 FuturePh3 994 60.87 68.83 69.53 0.000667 6.7 149.17 29.42 0.5 15380.2 Existing 1190 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.65 15380.2 FuturePh2 1190 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.65 15380.2 FuturePh3 1190 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.65 15380.2 FuturePh3 1190 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.65 15380.2 FuturePh3 1190 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.65 15029.4 Existing 1190 59.59 67.25 68.23 67.49 0.00373 12.07 98.6 22 15029.4 FuturePh2 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 15029.4 FuturePh3 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 15029.4 FuturePh3 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 15029.4 FuturePh3 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 14479.9 Existing 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh3 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14449.4 Bridge 1448.9 FuturePh3 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.78 14418.9 FuturePh2 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.78 14418.9 FuturePh2 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.78 14418.9 FuturePh2 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.78 14418.9 FuturePh2 1190 57.97 64.26 63.35 65.51 0.001311 9 132		17139	FuturePh3 ⁴	994	63.93	69.34	69.34	71.45	0.00305	11.67	85.21	20.31	1
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15380.2 PropPh1 ² 1190 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.66 15380.2 FuturePh2 ³ 1190 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.66 15380.2 FuturePh3 ⁴ 1190 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.66 15380.2 FuturePh3 ⁴ 1190 59.59 67.25 68.44 0.001692 8.75 136.02 27.54 0.66 15380.2 FuturePh3 ⁴ 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 15029.4 FuturePh2 ³ 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 15029.4 FuturePh3 ⁴ 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 15029.4 FuturePh3 ⁴ 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 14479.9 Existing		15380.2	Evietina ¹	1100	50 50	67.25		68.44	0.001602	8 75	136.02	27.54	0.60
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15029.4 PropPh1 ² 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 15029.4 FuturePh2 ³ 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 15029.4 FuturePh3 ⁴ 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 14479.9 Existing ¹ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh2 ³ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh2 ³ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh3 ⁴ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh3 ⁴ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14449.4 Bridge					22.30	520		301				2	5.50
15029.4 PropPh1 ² 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 15029.4 FuturePh2 ³ 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 15029.4 FuturePh3 ⁴ 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 14479.9 Existing ¹ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh2 ³ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh2 ³ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh3 ⁴ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh3 ⁴ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14449.4 Bridge		15029.4	Existing ¹	1190	59.02	65.23	65.23	67.49	0.00373	12.07	98.6	22	1
15029.4 FuturePh3 ⁴ 1190 59.02 65.23 65.23 67.49 0.00373 12.07 98.6 22 14479.9 Existing ¹ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 PropPh1 ² 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh2 ³ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh3 ⁴ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh3 ⁴ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14449.4 Bridge 14449.4 Bridge 14449.9 Existing ¹ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 PropPh1 ² 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 6				1190	59.02	65.23	65.23	67.49			98.6	22	1
14479.9 Existing¹ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 PropPh1² 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh2³ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh3⁴ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14449.4 Bridge 44449.4 Bridge 44449.4 4449.4				1190	59.02		65.23		0.00373	12.07	98.6		1
14479.9 PropPh1² 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh2³ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh3⁴ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14449.4 Bridge 4449.4 Bridge 4449.4		15029.4	FuturePh3 ⁴	1190	59.02	65.23	65.23	67.49	0.00373	12.07	98.6	22	1
14479.9 PropPh1² 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh2³ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh3⁴ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14449.4 Bridge 4449.4 Bridge 4449.4		4 /	E 1						0.557			<u> </u>	
14479.9 FuturePh2³ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14479.9 FuturePh3⁴ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14449.4 Bridge 14449.4 Bridge 14449.4 144				_									0.72
14479.9 FuturePh3 ⁴ 1190 58.14 64.53 63.52 65.73 0.001226 8.79 135.42 29.51 0.72 14449.4 Bridge 14418.9 Existing ¹ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 PropPh1 ² 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75													0.72
14449.4 Bridge 14418.9 Existing¹ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 PropPh1² 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75				_									
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14418.9 Existing¹ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 PropPh1² 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh2³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75		14449 4		Bridge									
14418.9 PropPh12 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh23 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75				Bilago									
14418.9 PropPh12 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75 14418.9 FuturePh23 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75		14418.9	Existing ¹	1190	57.97	64.26	63.35	65.51	0.001311	9	132.27	29.32	0.75
14418.9 FuturePh2 ³ 1190 57.97 64.26 63.35 65.51 0.001311 9 132.27 29.32 0.75			<u>.</u>	_									0.75
													0.75
	[0.75



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	13972.2	Existing ¹	1190	56.53	64.16	,	64.79	0.000669	6.35	187.32	39.85	0.52
		PropPh1 ²	1190	56.53	64.16		64.79	0.000669	6.35	187.32	39.85	0.52
		FuturePh2 ³	1190	56.53	64.16		64.79	0.000669	6.35	187.32	39.85	0.52
		FuturePh3⁴	1190	56.53	64.16		64.79	0.000669	6.35	187.32	39.85	0.52
		Existing ¹	1619	54.71	62.92		64.17	0.001443	8.95	180.9	32.14	0.66
		PropPh1 ²	1619	54.71	62.92		64.17	0.001443	8.95	180.9	32.14	0.66
		FuturePh2 ³	1619	54.71	62.92		64.17	0.001443	8.95	180.9	32.14	0.66
	13404.1	FuturePh3 ¹	1619	54.71	62.92		64.17	0.001443	8.95	180.9	32.14	0.66
	12050.0	Existing ¹	1619	53.36	63.32		63.66	0.000274	4.63	349.46	56.35	0.33
		PropPh1 ²	1619	53.36	63.32		63.66	0.000274	4.63	349.46	56.35	0.33
		FuturePh2 ³	1619	53.36	63.32		63.66	0.000274	4.63	349.46	56.35	0.33
		FuturePh3 ⁴	1619	53.36	63.32		63.66	0.000274	4.63	349.46	56.35	0.33
	12303.3	r didici 115	1013	33.30	00.02		00.00	0.000214	7.00	043.40	50.55	0.00
	12859.9	Existing ¹	1757	53.06	62.35	60.26	63.38	0.002738	8.12	216.28	40.99	0.62
		PropPh1 ²	1757	53.06	62.35	60.26	63.38	0.002738	8.12	216.28	40.99	0.62
		FuturePh2 ³	1757	53.06	62.35	60.26	63.38	0.002738	8.12	216.28	40.99	0.62
		FuturePh3 ⁴	1757	53.06	62.35	60.26	63.38	0.002738	8.12	216.28	40.99	0.62
	12817.9		Bridge									
	10775.0	- · · · 1	4757	50.07	04.47	22.27	22.24	0.000004	0.00	100.07	07.00	0.70
	12775.9	Existing ¹	1757	52.87	61.47	60.07	62.81	0.003831	9.28	189.37	37.29	0.73
	12775.0	PropPh1 ² FuturePh2 ³	1757 1757	52.87 52.87	61.47 61.47	60.07 60.07	62.81 62.81	0.003831 0.003831	9.28 9.28	189.37 189.37	37.29 37.29	0.73 0.73
	12775.9	FuturePh3 ⁴	1757	52.87	61.47	60.07	62.81	0.003831	9.28	189.37	37.29	0.73
	12115.9	FutureFilo	1757	52.67	01.47	00.07	02.01	0.003631	9.20	109.57	31.29	0.73
	12490	Existing ¹	1757	52.01	61.04	58.82	61.85	0.001671	7.25	242.39	48.92	0.57
		PropPh1 ²	1757	52.01	61.04	58.82	61.85	0.001671	7.25	242.39	48.92	0.57
		FuturePh2 ³	1757	52.01	61.04	58.82	61.85	0.001671	7.25	242.39	48.92	0.57
1		FuturePh3⁴	1757	52.01	61.04	58.82	61.85	0.001671	7.25	242.39	48.92	0.57
10PCT_10yr												
		Existing ¹	1885	51.11	58.09	58.09	60.67	0.009215	12.87	146.43	28.73	1
S		PropPh1 ²	1885	51.11	58.09	58.09	60.67	0.009215	12.87	146.43	28.73	1
10		FuturePh2 ³	1885	51.11	58.09	58.09	60.67	0.009215	12.87	146.43	28.73	1
	12193.4	FuturePh3 ⁴	1885	51.11	58.09	58.09	60.67	0.009215	12.87	146.43	28.73	1
	44500.5	Eviation 1	4005	40.70	50.00		50.50	0.000704	4.70	202.00	05.07	0.24
		Existing ¹ PropPh1 ²	1885 1885	49.79 49.79	58.23 58.23		58.59 58.59	0.000794 0.000794	4.78 4.78	393.99 393.99	65.37 65.37	0.34 0.34
		FuturePh2 ³	1885	49.79	58.23		58.59	0.000794	4.78	393.99	65.37	0.34
		FuturePh3 ⁴	1885	49.79	58.23		58.59	0.000794	4.78	393.99	65.37	0.34
	11000.0	r didici 110	1000	45.75	50.25		50.55	0.000754	7.70	000.00	00.07	0.04
	11492.6	Existing ¹	1885	49.55	58.15	54.14	58.49	0.000738	4.66	404.62	66.07	0.33
		PropPh1 ²	1885	49.55	58.15	54.14	58.49	0.000738	4.66	404.62	66.07	0.33
		FuturePh2 ³	1885	49.55	58.15	54.14	58.49	0.000738	4.66	404.62	66.07	0.33
	11492.6	FuturePh3 ⁴	1885	49.55	58.15	54.14	58.49	0.000738	4.66	404.62	66.07	0.33
	11443.6		Bridge									
	142040	Evicting 1	4005	40.0	E7 00	E2 70	E0.04	0.000700	A 77	204.0	GE 40	0.24
	11394.6	Existing ¹ PropPh1 ²	1885	49.2	57.66 57.66	53.79	58.01	0.000789	4.77	394.9	65.43	0.34
	11394.6	FuturePh2 ³	1885 1885	49.2 49.2	57.66 57.66	53.79 53.79	58.01 58.01	0.000789 0.000789	4.77 4.77	394.9 394.9	65.43 65.43	0.34 0.34
		FuturePh3 ⁴	1885	49.2 49.2	57.66	53.79	58.01	0.000789	4.77	394.9	65.43	0.34
	11354.0	i didici ilo	1000	43.2	37.00	JJ.19	36.01	0.000769	4.11	334.8	00.43	0.34
	11197.6	Existing ¹	1885	48.43	57.68		57.88	0.000135	3.58	559.38	89.63	0.23
	11197.6	PropPh1 ²	1885	48.43	57.68		57.88	0.000135	3.58	559.38	89.63	0.23
	11197.6	FuturePh2 ³	1885	48.43	57.68		57.88	0.000135	3.58	559.38	89.63	
1		FuturePh3 ⁴	1885	48.43	57.68		57.88	0.000135	3.58	559.38	89.63	0.23
1								_			_	
		Existing ¹	1885	48.08	57.62	52.76	57.85	0.000149	3.89	517.54	79.39	0.25
		PropPh1 ²	1885	48.08	57.62	52.76	57.85	0.000149	3.89	517.54	79.39	0.25
1		FuturePh2 ³	1885	48.08	57.62	52.76		0.000149	3.89	517.54	79.39	
	11108	FuturePh3 ⁴	1885	48.08	57.62	52.76	57.85	0.000149	3.89	517.54	79.39	0.25
1	4100=		Did									
1	11097		Bridge									
		l .	1									



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	11095.7	Existing ¹	1885	48.04	57.61	52.85	57.85	0.000302	3.94	511.63	79.52	0.25
		PropPh1 ²	1885	48.04	57.61	52.85	57.85	0.000302	3.94	511.63	79.52	0.25
		FuturePh2 ³	1885	48.04	57.61	52.85	57.85	0.000302	3.94	511.63	79.52	0.25
		FuturePh3 ⁴	1885	48.04	57.61	52.85	57.85	0.000302	3.94	511.64	79.52	0.25
	11073		Bridge									
	11050.3	Existing ¹	1885	47.71	57.23	52.52	57.47	0.000308	3.96	508.14	79.31	0.25
		PropPh1 ²	1885	47.71	57.23	52.52	57.47	0.000308	3.96	508.14	79.31	0.25
	11050.3	FuturePh23	1885	47.71	57.23	52.52	57.47	0.000308	3.96	508.14	79.31	0.25
	11050.3	FuturePh3⁴	1885	47.71	57.23	52.52	57.47	0.000308	3.96	508.14	79.31	0.25
	11007.9	Existing ¹	2149	47.75	57.2	52.41	57.45	0.001461	3.97	558.07	79.12	0.25
		PropPh1 ²	2149	47.75	57.2	52.41	57.45	0.001461	3.97	558.07	79.12	0.25
	11007.0	FuturePh2 ³	2149	47.75	57.2	52.41	57.45	0.001461	3.97	558.07	79.12	0.25
		FuturePh3 ⁴	2149	47.75	57.2	52.41	57.45	0.001461	3.97	558.07	79.12	0.25
		T dtdrcr 110	2143	47.70	07.2	02.41	07.40	0.001401	0.51	000.07	75.12	0.20
	10997.4		Bridge									
	10986.9	Existing ¹	2149	47.72	57.12	52.37	57.37	0.001497	4	553.73	78.95	0.25
		PropPh1 ²	2149	47.72	57.12	52.37	57.37	0.001497	4	553.73	78.95	0.25
		FuturePh2 ³	2149	47.72	57.12	52.37	57.37	0.001497	4	553.73	78.95	
		FuturePh3 ⁴	2149	47.72	57.12	52.37	57.37	0.001497	4	553.73	78.95	0.25
	10000.0	T dtdl Gl 110	2140	71.12	07.12	02.01	07.07	0.001407		000.10	70.00	0.20
		Existing ¹	2286	44.94	54.76		55.5	0.006185	7	364.52	96.72	0.49
		PropPh1 ²	2286	44.94	54.76		55.5	0.006184	7	364.52	96.72	0.49
		FuturePh2 ³	2286	44.94	54.76		55.5	0.006184	7	364.52	96.72	0.49
	10363.6	FuturePh3 ⁴	2286	44.94	54.76		55.5	0.006184	7	364.53	96.72	0.49
	9604.7	Existing ¹	2453	41.43	52		52.37	0.002846	5.2	641.43	132.54	0.34
≒		PropPh1 ²	2453	41.43	52		52.37	0.002847	5.2	641.31	132.54	0.34
잍		FuturePh2 ³	2453	41.43	52		52.37	0.002846	5.2	641.37	132.54	
占'		FuturePh3 ⁴	2453	41.43	52		52.37	0.002848	5.2	641.21	132.53	0.34
10PCT_10yr												
_		Existing ¹	2453	38.89	50.68		51.14	0.002913	5.46	470.97	72.98	0.35
		PropPh1 ²	2453	38.89	50.68		51.14	0.002915	5.46	470.83	72.97	0.35
		FuturePh2 ³	2453	38.89	50.68		51.14	0.002914	5.46	470.9	72.97	0.35
	9178.3	FuturePh3 ⁴	2453	38.89	50.68		51.14	0.002917	5.47	470.72	72.96	0.35
	8486 4	Existing ¹	2698	34.77	48.94		49.34	0.002341	5.39	648.92	94.89	0.31
		PropPh1 ²	2698	34.77	48.93		49.33	0.002345	5.4	648.5	94.87	0.31
		FuturePh2 ³	2698	34.77	48.94		49.33	0.002343	5.39	648.73	94.88	0.31
		FuturePh3 ⁴	2698	34.77	48.93		49.33		5.4	648.18	94.86	
		1										
		Existing ¹	2698	34.42	48.37		48.61	0.001149	3.95	719.59	88.52	0.23
		PropPh1 ²	2698	34.42	48.36		48.6	0.001151	3.95	719.11	88.43	
		FuturePh2 ³	2698	34.42	48.37		48.61	0.00115	3.95	719.38	88.48	
	8058.8	FuturePh3 ⁴	2698	34.42	48.36		48.6	0.001153	3.96	718.73	88.35	0.23
	7626	Existing ¹	2887	34.07	47.92		48.13	0.001065	3.92	926.61	103.26	0.22
		PropPh1 ²	2887	34.07	47.91		48.12	0.001067	3.93	925.95	103.25	
		FuturePh2 ³	2887	34.07	47.92		48.12	0.001066	3.93	926.31	103.25	
		FuturePh3 ⁴	2887	34.07	47.91		48.12	0.001069	3.93	925.43	103.25	
		1										
		Existing ¹	3106	31.18	46.12		46.58	0.00228	5.45	580.83	71.96	
		PropPh1 ²	3106	31.18	46.11		46.57	0.002289	5.46	579.98	71.85	
		FuturePh2 ³	3106	31.18	46.12		46.58	0.002284	5.45	580.45	71.91	0.3
	6629.4	FuturePh3 ⁴	3106	31.18	46.1		46.57	0.002296	5.46	579.32	71.75	0.31
	5764.3	Existing ¹	3106	29.94	44.75		45.09	0.001302	4.85	841.84	116.14	0.25
		PropPh1 ²	3106	29.94	44.73		45.07	0.00131	4.86	839.54	115.99	
		FuturePh2 ³	3106	29.94	44.74		45.08	0.001305	4.86	840.81	116.07	
		FuturePh3 ⁴	3106	29.94	44.72		45.05	0.001316	4.87	837.73	115.87	



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
		Existing ¹	3106	29.59	44.34	37.56	44.74	0.001469	5.14	701.59	81.56	0.26
		PropPh1 ²	3106	29.59	44.32	37.56	44.72	0.001479	5.15	699.77	81.46	0.27
		FuturePh2 ³	3106	29.59	44.33	37.56	44.73	0.001473	5.15	700.78	81.52	0.26
1	5522.1	FuturePh3 ⁴	3106	29.59	44.3	37.56	44.7	0.001487	5.16	698.33	81.39	0.27
-	5499.1		Bridge									
H	5499.1		Blidge									
	5485.3	Existing ¹	3106	29.57	44.24	36.71	44.53	0.001054	4.35	790.83	86.84	0.22
	5485.3	PropPh1 ²	3106	29.57	44.22	36.71	44.51	0.001061	4.36	788.88	86.75	0.23
		FuturePh2 ³	3106	29.57	44.23	36.71	44.52	0.001057	4.35	789.96	86.8	0.22
	5485.3	FuturePh3 ⁴	3106	29.57	44.2	36.71	44.49	0.001067	4.37	787.35	86.68	0.23
I -	5417.8		Bridge									
l	3417.0		Blidge									
	5350.3	Existing ¹	3106	30.24	43.63	37.38	44	0.001579	4.93	682.52	81.76	0.27
	5350.3	PropPh1 ²	3106	30.24	43.6	37.38	43.97	0.001592	4.94	680.49	81.66	0.27
		FuturePh2 ³	3106	30.24	43.61	37.38	43.99	0.001585	4.93	681.61	81.72	0.27
	5350.3	FuturePh3⁴	3106	30.24	43.58	37.38	43.95	0.001603	4.95	678.89	81.58	0.27
I -	52427	Evicting ¹	3106	20.24	42 FG	26.05	42.06	0.001531	5.22	681	79.27	0.27
I -		Existing ¹ PropPh1 ²	3106	30.34 30.34	43.56 43.53	36.95 36.95	43.96 43.94	0.001531	5.23	679.01	79.27	0.27 0.27
l		FuturePh2 ³	3106	30.34	43.55	36.95	43.95	0.001543	5.23	680.11	79.17	0.27
		FuturePh3 ⁴	3106	30.34	43.51	36.95	43.92	0.001553	5.24	677.44	79.08	0.27
			5.55	55.5 .				01001000	· · · ·	• • • • • • • • • • • • • • • • • • • •		
	5314.7		Bridge									
	5005.7	Cuintina 1	2400	20.40	40.40	20.0	40.55	0.004070	F 07	050.40	70.00	0.00
-		Existing ¹ PropPh1 ²	3106 3106	30.19 30.19	43.12 43.09	36.8 36.8	43.55 43.53	0.001673 0.001687	5.37 5.38	658.43 656.37	78.09 77.98	0.28 0.28
H		FuturePh2 ³	3106	30.19	43.09	36.8	43.54	0.00168	5.37	657.42	78.03	0.28
		FuturePh3 ⁴	3106	30.19	43.07	36.8	43.51	0.001698	5.39	654.74	77.89	0.28
	0200.1	T didi of 110	0,00	33.10	10.01	55.5	10.01	0.001000	0.00	55 1.1 1	77.00	0.20
10PCT_10yr		Existing ¹	3106	28.79	42.16		42.65	0.002048	5.66	610.75	76.44	0.31
ᄓ		PropPh1 ²	3106	28.79	42.13		42.62	0.002074	5.69	607.88	76.27	0.31
9	4805.3	FuturePh2 ³	3106	28.79	42.15		42.63	0.002061	5.67	609.34	76.36	0.31
`	4805.3	FuturePh3⁴	3106	28.79	42.1		42.59	0.002094	5.7	605.6	76.14	0.31
l	4470.3	Existing ¹	3106	27.81	41.69		42.01	0.001603	5.28	916.06	103.63	0.27
	4470.3	PropPh1 ²	3106	27.81	41.64		41.97	0.001626	5.31	911.39	103.51	0.27
	4470.3	FuturePh2 ³	3106	27.81	41.67		41.99	0.001614	5.3	913.77	103.57	0.27
	4470.3	FuturePh3⁴	3106	27.81	41.61		41.93	0.001645	5.33	907.66	103.42	0.27
		1										
I -		Existing ¹ PropPh1 ²	3106 3106	27.41 27.41	41.04 40.99	35.58 35.58	41.65 41.6	0.002544 0.002589	6.34 6.38	548.63 544.97	67.49 67.28	0.34 0.34
l		FuturePh2 ³	3106	27.41	41.01	35.58	41.63		6.36	546.84	67.39	
		FuturePh3 ⁴	3106	27.41	40.94	35.58	41.56	0.002626	6.41	542.04	67.11	0.34
	4321.5		Bridge									
	4200.7	Eviation 1	2400	07.00	40.00	25.55	44.54	0.000000	C 4	E40.22	07.40	0.24
l		Existing ¹ PropPh1 ²	3106 3106	27.38 27.38	40.92 40.86	35.55 35.55	41.54 41.49	0.002623 0.002671	6.4 6.44	542.33 538.6	67.13 66.92	0.34 0.35
H		FuturePh2 ³	3106	27.38	40.89	35.55	41.49	0.002671	6.42	540.51	67.03	
		FuturePh3 ⁴	3106	27.38	40.82	35.55	41.45	0.002707	6.47	535.88	66.76	
[4273.2		Bridge									
I -	4005.7	Fi	2400	00.00	40.05	25.42	40.70	0.000040	0.7	540.00	05.40	0.07
l		Existing ¹ PropPh1 ²	3106 3106	26.96 26.96	40.05 39.99	35.13 35.13	40.73 40.68	0.003042 0.003109	6.7 6.75	512.82 508.58	65.42 65.17	0.37 0.37
l		FuturePh2 ³	3106	26.96	40.02	35.13	40.00	0.003109	6.73	510.75	65.3	0.37
		FuturePh3 ⁴	3106	26.96	39.94	35.13	40.71	0.003073	6.78	505.47	64.99	0.37
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	. 3.2.0. 110	0,00	20.00	55.54	00.10	10.04	0.000101	5.75	555.77	0 4.00	0.07
		Existing ¹	3106	25.2	39.99		40.09	0.00039	2.8	1646.39	185.66	0.14
] [3807.1	PropPh1 ²	3106	25.2	39.92		40.02	0.000398	2.82	1633.71	185.23	0.14
[FuturePh2 ³	3106	25.2	39.96		40.05	0.000394	2.81	1640.19	185.45	
	3807.1	FuturePh3 ⁴	3106	25.2	39.87		39.97	0.000404	2.83	1624.38	184.9	0.14



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	3403.8	Existing ¹	3846	23.47	39.62	30.61	39.83	0.000738	3.74	1066.7	104.57	0.19
	3403.8	PropPh1 ²	3807	23.47	39.55	30.58	39.77	0.000736	3.72	1059.83	104.12	0.19
		FuturePh2 ³	3827	23.47	39.59	30.6	39.8	0.000737	3.73	1063.33	104.35	0.19
	3403.8	FuturePh3⁴	3778	23.47	39.5	30.56	39.72	0.000735	3.71	1054.79	103.79	0.19
l	3306.3		Bridge									
	3208.8	Existing ¹	3846	22.18	38.03	29.33	38.26	0.000801	3.83	1036.07	102.57	0.19
		PropPh1 ²	3807	22.18	37.97	29.29	38.2	0.000799	3.81	1029.83	102.19	0.19
		FuturePh2 ³	3827	22.18	38	29.31	38.23	0.0008	3.82	1033.19	102.39	0.19
	3208.8	FuturePh34	3778	22.18	37.92	29.27	38.15	0.000797	3.8	1025.01	101.91	0.19
		1										
		Existing ¹	3847	22	35.09		36.9	0.015376	10.79	360.66	58.13	0.73
l -		PropPh1 ²	3808	22	35.04		36.84	0.01543	10.76	357.85	57.92	0.73
l -		FuturePh2 ³	3829	22	35.07		36.87	0.015401	10.78	359.36	58.03	0.73
l	2790.6	FuturePh3 ⁴	3778	22	35		36.79	0.015482	10.74	355.62	57.75	0.73
l	2557.7	Existing ¹	3847	21.48	34.03		34.88	0.004343	7.45	543.81	74.22	0.44
l		PropPh1 ²	3808	21.48	33.97		34.82	0.004343	7.42	539.85	73.96	0.44
		FuturePh2 ³	3829	21.48	34		34.85	0.004343	7.43	541.99	74.1	0.44
		FuturePh3 ⁴	3778	21.48	33.93		34.77	0.004347	7.4	536.6	73.74	0.44
		Existing ¹	3847	21.18	32.88	29.79	34.07	0.007046	8.77	446.6	57.67	0.53
		PropPh1 ²	3808	21.18	32.83	29.75	34.01	0.007026	8.73	443.86	57.54	0.53
		FuturePh2 ³	3829	21.18	32.86	29.77	34.04	0.007036	8.75	445.34	57.61	0.53
≿	2427.7	FuturePh3 ⁴	3778	21.18	32.79	29.72	33.96	0.007023	8.71	441.47	57.43	0.53
10PCT_10yr	2416.7		Bridge									
D	2110.1		Bridge									
l ñ	2405.7	Existing ¹	3847	20.97	32.57	29.58	33.79	0.007297	8.87	441.16	57.42	0.54
` [2405.7	PropPh1 ²	3808	20.97	32.53	29.54	33.74	0.00727	8.83	438.59	57.3	0.54
	2405.7	FuturePh23	3829	20.97	32.55	29.56	33.77	0.007284	8.85	439.98	57.36	0.54
	2405.7	FuturePh3⁴	3778	20.97	32.49	29.51	33.69	0.007265	8.81	436.29	57.19	0.54
l -	00400	F · v · 1	22.40	40.70	20.00	07.74	20.40	0.000740	5.00	202.4	04.40	0.04
l -		Existing ¹	3849	19.76	32.66	27.74	33.16	0.002742	5.63	693.4	91.46	0.34
l		PropPh1 ² FuturePh2 ³	3810 3831	19.76 19.76	32.62 32.64	27.7 27.72	33.1 33.13	0.002739 0.00274	5.61 5.62	689.03 691.4	91.26 91.37	0.34 0.34
l		FuturePh3 ⁴	3777	19.76	32.57	27.67	33.06	0.00274	5.59	685.2	91.09	0.34
l	2040.3	i uturer 115	3777	13.70	02.01	21.01	33.00	0.002730	0.00	000.2	31.03	0.54
	2279.4		Bridge									
		1										
l -		Existing ¹	3849	18.97	31.2	26.95	31.78	0.003648	6.14	632.3	88.71	0.39
l -		PropPh1 ²	3810	18.97	31.15	26.91	31.73	0.003644	6.11	628.4	88.53	
l		FuturePh2 ³ FuturePh3 ⁴	3831 3777	18.97 18.97	31.18 31.11	26.93 26.88	31.76 31.69	0.003646 0.003644	6.12 6.09	630.51 624.92	88.63 88.37	0.39 0.39
l	2217.9	rulureriis	3///	10.97	31.11	20.00	31.09	0.003644	0.09	024.92	00.31	0.39
 	1752.3	Existing ¹	3850	17.74	29.12		29.86	0.004467	7.11	674.09	144.09	0.44
l		PropPh1 ²	3811	17.74	29.07		29.81	0.004469	7.09	667.73	141.3	0.44
 	1752.3	FuturePh2 ³	3832	17.74	29.1		29.84	0.004466	7.1	671.25	142.85	0.44
 		FuturePh3 ⁴	3777	17.74	29.03		29.77	0.004478	7.07	661.8	138.65	0.44
		4										
		Existing ¹	3853	16.28	26.11	22.1	26.51	0.002601	5.1	775.71	115.27	0.33
		PropPh1 ²	3814	16.28	26.07	22.08	26.47	0.002601	5.09	770.4	115.05	0.33
		FuturePh2 ³	3836	16.28	26.09	22.09	26.49	0.002601	5.1	773.39	115.17	0.33
	781.2	FuturePh3 ⁴	3776	16.28	26.02	22.05	26.41	0.002605	5.07	764.8	114.82	0.33



Profile	River Sta	Plan	Q Total	Min Ch El I	W.S. Elev	Crit W.S.	F G Flev	F.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
TTOME			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	110000 // 0111
	19209.6	Existing ¹	1760	67.34	76.76	. ,	77.88	0.000882	8.51	225.05	86.15	0.62
		PropPh1 ²	1760	67.34	76.76		77.88	0.000882	8.51	225.05	86.15	0.62
		FuturePh2 ³	1760	67.34	76.76		77.88	0.000882	8.51	225.05	86.15	
	19209.6	FuturePh3 ⁴	1760	67.34	76.76		77.88	0.000882	8.51	225.05	86.15	0.62
		1										
		Existing ¹	1760	65.96	75.27		76.89	0.001574	10.23	172.07	31.66	0.77
		PropPh1 ²	1760	65.96	75.27		76.89	0.001574	10.23	172.07	31.66	0.77
		FuturePh2 ³ FuturePh3 ⁴	1760 1760	65.96 65.96	75.27 75.27		76.89 76.89	0.001574 0.001574	10.23 10.23	172.07 172.07	31.66 31.66	0.77 0.77
	10393.7	ruluieriis	1760	65.96	13.21		70.09	0.001374	10.23	172.07	31.00	0.77
	17507.7	Existing ¹	1760	64.97	74.99	72.02	75.84	0.000603	7.38	238.38	37.63	0.52
		PropPh1 ²	1760	64.97	74.99	72.02	75.84	0.000603	7.38	238.38	37.63	0.52
		FuturePh23	1760	64.97	74.99	72.02	75.84	0.000603	7.38	238.38	37.63	0.52
	17507.7	FuturePh3 ⁴	1760	64.97	74.99	72.02	75.84	0.000603	7.38	238.38	37.63	0.52
		Existing ¹	1760	64.9	74.34	72.9	75.65	0.00119	9.19	191.53	34.12	0.68
	17444.3	PropPh1 ²	1760	64.9	74.34	72.9	75.65	0.00119		191.53	34.12	0.68
		FuturePh2 ³	1760	64.9	74.34	72.9	75.65	0.00119		191.53	34.12	0.68
	1/444.3	FuturePh3 ⁴	1760	64.9	74.34	72.9	75.65	0.00119	9.19	191.53	34.12	0.68
	17433.3		Bridge									
		Existing ¹	1760	64.89	74.4	72.59	75.57	0.001274	8.69	202.48	34.34	0.63
		PropPh1 ²	1760	64.89	74.4	72.59	75.57	0.001274	8.69	202.48	34.34	0.63
		FuturePh2 ³	1760	64.89	74.4	72.59	75.57	0.001274	8.69	202.48	34.34	0.63
	17431.8	FuturePh3 ⁴	1760	64.89	74.4	72.59	75.57	0.001274	8.69	202.48	34.34	0.63
	17383.8		Bridge									
	17 300.0		blidge									
	17335.8	Existing ¹	1760	64.71	72.62	72.43	74.76	0.002989	11.74	149.9	31.35	0.95
		PropPh1 ²	1760	64.71	72.62	72.43	74.76	0.002989	11.74	149.9	31.35	0.95
Ş		FuturePh23	1760	64.71	72.62	72.43	74.76	0.002989	11.74	149.9	31.35	0.95
1PCT_100yr	17335.8	FuturePh3⁴	1760	64.71	72.62	72.43	74.76	0.002989	11.74	149.9	31.35	0.95
ĊŢ		1										
4		Existing ¹	1760	63.93	71.49	71.49	74.04	0.002694	12.81	138.59	33.28	1
		PropPh1 ²	1760	63.93	71.49	71.49	74.04	0.002694	12.81	138.59	33.28	1
		FuturePh2 ³ FuturePh3 ⁴	1760 1760	63.93 63.93	71.49 71.49	71.49 71.49	74.04 74.04	0.002694 0.002694	12.81 12.81	138.59 138.59	33.28 33.28	1
	17139	FuturePris	1760	03.93	71.49	71.49	74.04	0.002694	12.01	130.09	33.20	1
	16368.5	Existing ¹	1760	60.87	71.16		72.23	0.000639	8.31	227.45	42.56	0.52
	16368.5	PropPh1 ²	1760	60.87	71.16		72.23	0.000639	8.31	227.45	42.56	
		FuturePh23	1760		71.16		72.23				42.56	
	16368.5	FuturePh3⁴	1760	60.87	71.16		72.23	0.000639	8.31	227.45	42.56	0.52
		Existing ¹	2106	59.59	69.66	68.1	71.19	0.001638	9.91	212.48	37.44	0.72
	15380.2	PropPh1 ²	2106	59.59	69.66	68.1	71.19	0.001638	9.91	212.48		
		FuturePh2 ³ FuturePh3 ⁴	2106	59.59	69.66	68.1	71.19	0.001638	9.91	212.48	37.44	
	10380.2	i utureriio	2106	59.59	69.66	68.1	71.19	0.001638	9.91	212.48	37.44	0.72
	15029 4	Existing ¹	2106	59.02	67.6	67.6	70.28	0.003353	13.14	160.31	30.03	1
		PropPh1 ²	2106	59.02	67.6	67.6	70.28	0.003353	13.14	160.31	30.03	1
	15029.4	FuturePh2 ³	2106	59.02	67.6	67.6	70.28	0.003353	13.14	160.31	30.03	
		FuturePh3 ⁴	2106	59.02	67.6	67.6	70.28	0.003353	13.14	160.31	30.03	1
		,										
		Existing ¹	2106	58.14	67.43	65.42	68.75	0.000887	9.23	228.22	34.56	0.63
		PropPh1 ²	2106	58.14	67.43	65.42	68.75	0.000887	9.23	228.22	34.56	
		FuturePh2 ³ FuturePh3 ⁴	2106	58.14	67.43	65.42	68.75 69.75	0.000887	9.23 9.23	228.22	34.56	
	14479.9	FuturePh3	2106	58.14	67.43	65.42	68.75	0.000887	9.23	228.22	34.56	0.63
	14449.4		Bridge									
			J .									
		Existing ¹	2106	57.97	67.22	65.25	68.56	0.000903	9.29	226.73	34.48	0.64
		PropPh1 ²	2106	57.97	67.22	65.25	68.56	0.000903	9.29	226.73	34.48	0.64
		FuturePh2 ³	2106	57.97	67.22	65.25	68.56	0.000903	9.29	226.73	34.48	
	14418.9	FuturePh3 ⁴	2106	57.97	67.22	65.25	68.56	0.000903	9.29	226.73	34.48	0.64



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
1 101110			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	13972.2	Existing ¹	2106	56.53	67.31		67.92	0.00044	6.3	334.31	53.71	0.44
		PropPh1 ²	2106	56.53	67.31		67.92	0.00044	6.3	334.31	53.71	0.44
		FuturePh2 ³	2106	56.53	67.31		67.92	0.00044	6.3	334.31	53.71	0.44
	13972.2	FuturePh3⁴	2106	56.53	67.31		67.92	0.00044	6.3	334.31	53.71	0.44
		4										
		Existing ¹	2888	54.71	65.83		67.39	0.001341	10.03	287.84	41.46	0.67
	13404.1	PropPh1 ²	2888	54.71	65.83		67.39	0.001341	10.03	287.84	41.46	0.67
1		FuturePh2 ³ FuturePh3 ⁴	2888 2888	54.71 54.71	65.83 65.83		67.39 67.39	0.001341 0.001341	10.03 10.03	287.84 287.84	41.46 41.46	0.67 0.67
	13404.1	ruturerns	2000	34.71	00.00		07.39	0.001341	10.03	207.04	41.40	0.67
	12959.9	Existing ¹	2888	53.36	66.38		66.82	0.000283	5.3	544.53	73.63	0.34
		PropPh1 ²	2888	53.36	66.38		66.82	0.000283	5.3	544.53	73.63	0.34
		FuturePh2 ³	2888	53.36	66.38		66.82	0.000283	5.3	544.53	73.63	0.34
		FuturePh3 ⁴	2888	53.36	66.38		66.82	0.000283	5.3	544.53	73.63	0.34
		Existing ¹	3151	53.06	65.37	62.86	66.53	0.002281	8.65	364.4	57.21	0.6
		PropPh1 ²	3151	53.06	65.37	62.86	66.53	0.002281	8.65	364.4	57.21	0.6
		FuturePh2 ³	3151	53.06	65.37	62.86	66.53	0.002281	8.65	364.4	57.21	0.6
	12859.9	FuturePh3 ⁴	3151	53.06	65.37	62.86	66.53	0.002281	8.65	364.4	57.21	0.6
1	12817.9		Bridge									
	12017.0		Dilage									
	12775.9	Existing ¹	3151	52.87	64.48	62.67	65.93	0.003066	9.68	325.49	53.43	0.69
		PropPh1 ²	3151	52.87	64.48	62.67	65.93	0.003066	9.68	325.49	53.43	0.69
		FuturePh2 ³	3151	52.87	64.48	62.67	65.93	0.003066	9.68	325.49	53.43	0.69
	12775.9	FuturePh3⁴	3151	52.87	64.48	62.67	65.93	0.003066	9.68	325.48	53.43	0.69
		Existing ¹	3151	52.01	64.24	61.16	65.06	0.001302	7.27	433.32	74.81	0.53
		PropPh1 ²	3151	52.01	64.24	61.16	65.06	0.001302	7.27	433.32	74.81	0.53
		FuturePh2 ³	3151	52.01	64.24	61.16	65.06	0.001302	7.27	433.32	74.81	0.53
ַּ	12490	FuturePh3 ⁴	3151	52.01	64.24	61.16	65.06	0.001302	7.27	433.31	74.81	0.53
PCT_100yr	12193 4	Existing ¹	3394	51.11	60.83	60.83	64.01	0.008358	14.3	237.26	37.59	1
I ⊨'		PropPh1 ²	3394	51.11	60.83	60.83	64.01	0.008358	14.3	237.26	37.59	1
1 4		FuturePh2 ³	3394	51.11	60.83	60.83	64.01	0.008358	14.3	237.26	37.59	1
		FuturePh3⁴	3394	51.11	60.83	60.83	64.01	0.008358	14.3	237.26	37.59	1
		Existing ¹	3394	49.79	61.25		61.73	0.000768	5.55	611.22	78.44	0.35
		PropPh1 ²	3394	49.79	61.25		61.73	0.000768	5.55	611.16	78.44	0.35
		FuturePh2 ³	3394	49.79	61.25		61.73	0.000768	5.55	611.18	78.44	0.35
	11598.5	FuturePh3 ⁴	3394	49.79	61.25		61.73	0.000768	5.56	610.96	78.43	0.35
l	11/02 6	Existing ¹	3394	49.55	61.17	55.99	61.63	0.000726	5.44	623.93	79.14	0.34
1		PropPh1 ²	3394	49.55	61.17	55.99	61.63	0.000726	5.44	623.87	79.14	0.34
		FuturePh2 ³	3394	49.55	61.17	55.99	61.63	0.000726	5.44	623.89	79.14	0.34
		FuturePh3 ⁴	3394	49.55	61.17	55.99	61.63	0.000726	5.44	623.66	79.13	0.34
			333,					0,000,20		5_5.00		5.5 .
	11443.6		Bridge									
		_ · · · · · · · · · · · · · · · · · · ·										
		Existing ¹	3394	49.2	60.67	55.64	61.14	0.000766	5.55	611.55	78.46	0.35
1		PropPh1 ²	3394	49.2	60.67	55.64	61.14	0.000767	5.55	611.48	78.46	0.35
		FuturePh2 ³ FuturePh3 ⁴	3394 3394	49.2 49.2	60.67 60.66	55.64 55.64	61.14 61.14	0.000767 0.000767	5.55 5.55	611.5 611.26	78.46 78.45	0.35 0.35
1	11394.6	i uluieriio	3394	49.2	00.00	55.64	01.14	0.000/6/	0.00	011.20	18.45	0.35
1	111976	Existing ¹	3394	48.43	60.69		61.01	0.000139	4.55	854.9	106.52	0.25
1		PropPh1 ²	3394	48.43	60.69		61.01	0.000139	4.55	854.81	106.51	0.25
1		FuturePh2 ³	3394	48.43	60.69		61.01	0.000139	4.55	854.85	106.51	0.25
1		FuturePh3 ⁴	3394	48.43	60.69		61.01	0.000139	4.55	854.52	106.5	0.25
1												
	11108	Existing ¹	3394	48.08	60.58	54.32	60.98	0.000163	5.05	774.26	93.84	0.27
		PropPh1 ²	3394	48.08	60.58	54.32	60.97	0.000163	5.05	774.18		0.27
		FuturePh2 ³	3394	48.08	60.58	54.32	60.97	0.000163	5.05	774.21	93.84	0.27
	11108	FuturePh3 ⁴	3394	48.08	60.58	54.32	60.97	0.000163	5.05	773.92	93.82	0.27
	11097		Bridge									
	11091		Diluge									
		1	1			ı						



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	11095.7	Existing ¹	3394	48.04	60.57	54.41	60.96	0.000325	5.07	768.48	93.95	0.27
		PropPh1 ²	3394	48.04	60.57	54.41	60.96	0.000325	5.07	768.4	93.95	0.27
		FuturePh2 ³	3394	48.04	60.57	54.41	60.96	0.000325	5.07	768.43	93.95	
	11095.7	FuturePh3⁴	3394	48.04	60.56	54.41	60.96	0.000326	5.07	768.14	93.94	0.27
	44070		Deidere									
l	11073		Bridge									
l	11050.3	Existing ¹	3394	47.71	60.17	54.08	60.57	0.000333	5.11	761.93	93.61	0.28
		PropPh1 ²	3394	47.71	60.17	54.08	60.57	0.000333	5.11	761.85	93.61	0.28
		FuturePh2 ³	3394	47.71	60.17	54.08	60.57	0.000333	5.11	761.88	93.61	0.28
		FuturePh3 ⁴	3394	47.71	60.16	54.08	60.56	0.000333	5.11	761.58	93.6	
	11007.9	Existing ¹	3898	47.75	60.12	54.03	60.53	0.001637	5.19	801.72	87.97	0.28
		PropPh1 ²	3898	47.75	60.12	54.03	60.53	0.001637	5.19	801.64	87.96	
		FuturePh2 ³	3898	47.75	60.12	54.03	60.53	0.001637	5.19	801.67	87.97	0.28
l	11007.9	FuturePh3 ⁴	3898	47.75	60.12	54.03	60.53	0.001639	5.19	801.38	87.96	0.28
l	10997.4		Bridge									
l	10337.4		Blidge									
	10986.9	Existing ¹	3898	47.72	60.01	54	60.43	0.00168	5.23	794.54	87.72	0.28
		PropPh1 ²	3898	47.72	60.01	54	60.43	0.00168	5.23	794.46	87.72	0.28
	10986.9	FuturePh2 ³	3898	47.72	60.01	54	60.43	0.00168	5.23	794.49	87.72	0.28
	10986.9	FuturePh3 ⁴	3898	47.72	60.01	54	60.43	0.001682	5.23	794.2	87.71	0.28
I -	10363.6	Existing'	4158	44.94	57.59		58.54	0.005161	8.17	655.65	108.64	0.47
l		PropPh1 ²	4158	44.94	57.59		58.54	0.005168	8.17	655.33	108.62	0.47
		FuturePh2 ³	4158	44.94	57.59		58.54	0.005165	8.17	655.44	108.63	0.47
	10363.6	FuturePh3 ⁴	4158	44.94	57.58		58.53	0.005189	8.18	654.26	108.58	0.48
l	9604.7	Existing ¹	4475	41.43	55.79		56.19	0.001895	5.64	1208.41	167.05	0.3
<u> </u>		PropPh1 ²	4475	41.43	55.78		56.18	0.001899	5.64	1207.16	166.97	0.3
1 6		FuturePh2 ³	4475	41.43	55.79		56.18	0.001898	5.64	1207.63	167	0.3
		FuturePh3 ⁴	4475	41.43	55.76		56.16	0.001916	5.66	1203.01	166.72	0.3
1PCT_100yr												
`		Existing ¹	4475	38.89	54.69		55.29	0.002238	6.36	794.43	88.62	0.33
		PropPh1 ²	4475	38.89	54.68		55.29	0.002245	6.36	793.5	88.58	0.33
		FuturePh2 ³	4475	38.89	54.68		55.29	0.002242	6.36	793.85	88.6	
	9178.3	FuturePh3 ⁴	4475	38.89	54.64		55.25	0.002269	6.38	790.38	88.44	0.33
l	0.406.4	Eviating ¹	40.42	2477	53.35		53.85	0.001887	6.26	1101 75	109.5	0.3
 	8486.4	Existing ¹ PropPh1 ²	4942 4942	34.77 34.77	53.33		53.84	0.001887	6.27	1101.75 1099.99	109.5	
		FuturePh2 ³	4942	34.77	53.34		53.84		6.27	1100.64	109.48	
		FuturePh3 ⁴	4942	34.77	53.28		53.79		6.3	1094.06	109.31	0.3
	- 10011											
		Existing ¹	4942	34.42	52.91		53.22	0.001004	4.63	1289.37	143.93	0.22
] [8058.8	PropPh1 ²	4942	34.42	52.89		53.21	0.001009	4.63	1286.72	143.83	
		FuturePh2 ³	4942	34.42	52.9		53.21	0.001007	4.63	1287.71	143.87	0.22
	8058.8	FuturePh3 ⁴	4942	34.42	52.83		53.15	0.001027	4.66	1277.79	143.5	0.23
I -	7000	Cuinting 1	5004	24.07	FO 40		E0 70	0.004000	4.00	4.440.00	440.00	0.00
I -		Existing ¹ PropPh1 ²	5301	34.07	52.48		52.79	0.001028	4.82	1410.86	110.88	
]		FuturePh2 ³	5301 5301	34.07 34.07	52.46 52.47		52.77 52.78	0.001033 0.001032	4.83 4.82	1408.6 1409.44	110.81 110.84	0.22 0.22
]		FuturePh2 ⁴	5301	34.07	52.47		52.78	0.001032	4.82	1409.44	110.84	
	1020	T GLUICI IIO	3301	34.07	32.33		JZ.11	0.00100	4.00	1700.50	110.00	0.23
	6629.4	Existing ¹	5717	31.18	50.75		51.37	0.001943	6.49	1090.43	133.36	0.3
		PropPh1 ²	5717	31.18	50.72		51.34	0.00196	6.51	1086.09	133.06	
[6629.4	FuturePh23	5717	31.18	50.73		51.35		6.5	1087.7	133.17	0.3
	6629.4	FuturePh3 ⁴	5717	31.18	50.61		51.24	0.002018	6.57	1071.34	132.04	
[
		Existing ¹	5717	29.94	49.59		50.03	0.00117	5.79	1509.53	160.55	
		PropPh1 ²	5717	29.94	49.55		49.99	0.001182	5.81	1502.3	160.13	
		FuturePh2 ³	5717	29.94	49.56		50	0.001178	5.8	1505	160.29	
-	5/64.3	FuturePh3 ⁴	5717	29.94	49.39		49.85	0.001227	5.88	1477.57	158.68	0.26
												<u> </u>



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	5522.1	Existing ¹	5717	29.59	49.08	40.15	49.67	0.001472	6.45	1135.38	101.73	0.28
1 1		PropPh1 ²	5717	29.59	49.03	40.15	49.62	0.001489	6.47	1130.32	101.52	
1 1		FuturePh2 ³	5717	29.59	49.04	40.15	49.64	0.001483	6.47	1132.21	101.6	
		FuturePh3 ⁴	5717	29.59	48.85	40.15	49.47	0.001547	6.55	1112.93	100.79	
[
	5499.1		Bridge									
	5.405.0	F.::-4:1	57.47	00.57	40.00	00.40	40.40	0.004075	F F4	4040.00	405.57	0.04
l		Existing ¹ PropPh1 ²	5717 5717	29.57 29.57	48.98 48.93	39.18 39.18	49.43 49.38	0.001075 0.001087	5.51 5.53	1246.88 1241.68	105.57 105.38	0.24 0.24
l		FuturePh2 ³	5717	29.57	48.95	39.18	49.4	0.001087	5.52	1241.63	105.36	
		FuturePh3 ⁴	5717	29.57	48.76	39.18	49.22	0.001002	5.6	1223.93	104.71	0.25
	0400.0	r didici no	0717	20.01	40.70	00.10	75.22	0.001120	0.0	1220.00	104.71	0.20
	5417.8		Bridge									
		Existing ¹	5717	30.24	48.32	39.85	48.86	0.001452	6.06	1109.89	100.32	0.27
		PropPh1 ²	5717	30.24	48.27	39.85	48.82	0.00147	6.08	1104.64	100.11	0.28
		FuturePh2 ³	5717	30.24	48.29	39.85	48.83	0.001463	6.07	1106.68	100.19	
	5350.3	FuturePh3 ⁴	5717	30.24	48.08	39.85	48.65	0.001536	6.16	1086.3	99.38	0.28
	52/2 7	Existing ¹	5717	30.34	48.22	39.53	48.84	0.001543	6.57	1095.14	98.45	0.29
		PropPh1 ²	5717	30.34	48.16	39.53	48.79	0.001543	6.6	1093.14	98.23	0.29
		FuturePh2 ³	5717	30.34	48.18	39.53	48.81	0.001554	6.59	1091.92	98.32	0.29
		FuturePh3 ⁴	5717	30.34	47.98	39.53	48.62	0.00163	6.69	1071.45	97.46	
	0010.1	T GREAT OF THE	07.11	55.51		00.00	10.02	0.00100	0.00	107 1.10	07.10	0.20
	5314.7		Bridge									
		4										
		Existing ¹	5717	30.19	47.76	39.38	48.41	0.001654	6.72	1065.12	97.19	0.3
		PropPh1 ²	5717	30.19	47.7	39.38	48.36	0.001676	6.75	1059.45	96.95	
		FuturePh2 ³	5717	30.19	47.73	39.38	48.38	0.001667	6.73	1061.85	97.05	
l . F	5285.7	FuturePh3 ⁴	5717	30.19	47.5	39.38	48.18	0.001755	6.84	1040.14	96.12	0.31
1PCT_100yr	4905.3	Existing ¹	5717	28.79	46.86		47.56	0.001876	6.93	1018.18	97.17	0.31
ᅡ우		PropPh1 ²	5717	28.79	46.78		47.30	0.001876	6.97	1010.16	96.83	0.31
D		FuturePh2 ³	5717	28.79	46.81		47.52	0.001896	6.95	1013.97	96.97	0.32
₽ +		FuturePh3 ⁴	5717	28.79	46.52		47.26	0.002034	7.11	985.64	95.67	0.32
	1000.0	T ditaror no	37.11	20.10	10.02		17.20	0.002001		000.01	00.01	0.02
	4470.3	Existing ¹	5717	27.81	46.48		46.93	0.001525	6.47	1448.87	123.17	0.28
		PropPh1 ²	5717	27.81	46.39		46.85	0.001554	6.51	1438.55	122.65	0.28
		FuturePh2 ³	5717	27.81	46.43		46.89	0.001542	6.49	1442.93	122.87	0.28
	4470.3	FuturePh3⁴	5717	27.81	46.1		46.58	0.001662	6.65	1402.77	120.85	0.29
	4000	F · v · 1	F7.47	07.44	45.04	00.00	40.54	0.000440	7.07	200.44	25.45	0.05
		Existing ¹	5717	27.41	45.64	38.36	46.54	0.002443	7.87	899.44 890.9	85.15	
l -		PropPh1 ² FuturePh2 ³	5717 5717	27.41	45.54 45.58	38.36 38.36	46.45 46.49		7.93 7.9	890.9	84.77 84.93	
l		FuturePh3 ⁴	5717	27.41 27.41	45.58	38.36	46.49	0.002476	8.15	860.96	83.4	
l 1	4002	i didieriis	3/1/	21.41	45.10	30.30	40.13	0.002123	0.10	000.90	00.4	0.57
l	4321.5		Bridge									
] [
		Existing ¹	5717	27.38	45.5	38.33	46.42	0.002506	7.93	890.27	84.74	
		PropPh1 ²	5717	27.38	45.4	38.33	46.33	0.002567	7.99	881.6	84.34	
		FuturePh2 ³	5717	27.38	45.44	38.33	46.37	0.002541	7.97	885.29	84.51	0.36
	4320.7	FuturePh3 ⁴	5717	27.38	45.03	38.33	46.01	0.002807	8.22	850.62	82.92	0.38
	4273.2		Bridge									
l	4210.2		Dilage									
	4225.7	Existing ¹	5717	26.96	44.56	37.91	45.55	0.002842	8.26	846.34	82.72	0.38
		PropPh1 ²	5717	26.96	44.44	37.91	45.45	0.002925	8.33	836.66	82.27	0.38
	4225.7	FuturePh23	5717	26.96	44.49	37.91	45.49	0.002889	8.3	840.78	82.46	
[FuturePh3 ⁴	5717	26.96	44	37.91	45.09	0.003263	8.62	800.96	80.59	
] [
		Existing ¹	5717	25.2	44.63		44.77	0.000398	3.51	2576.14	215.37	
		PropPh1 ²	5717	25.2	44.51		44.66	0.000408	3.54	2550.62	214.61	0.15
] .		FuturePh2 ³	5717	25.2	44.56		44.7	0.000404	3.53	2561.49	214.93	
	3807.1	FuturePh3 ⁴	5717	25.2	44.06		44.22	0.000452	3.66	2455.77	211.76	0.16



	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area		Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	3403.8	Existing ¹	7125	23.47	44.09	33	44.46	0.000869	4.98	1600.48	133.33	0.21
		PropPh1 ²	7031	23.47	43.98	32.94	44.35	0.000867	4.95	1585.51	132.65	0.21
		FuturePh2 ³	7071	23.47	44.02	32.97	44.4	0.000868	4.96	1591.89	132.94	0.21
	3403.8	FuturePh3 ⁴	6680	23.47	43.55	32.68	43.91	0.000856	4.84	1530.32	130.12	0.21
ŀ	3306.3		Bridge									
ł	3300.3		Blidge									
İ	3208.8	Existing ¹	7125	22.18	42.4	31.71	42.79	0.000946	5.11	1547.6	130.92	0.22
Ī	3208.8	PropPh1 ²	7031	22.18	42.29	31.66	42.68	0.000944	5.08	1533.24	130.25	0.22
		FuturePh23	7071	22.18	42.33	31.69	42.73	0.000945	5.1	1539.36	130.54	0.22
	3208.8	FuturePh3 ⁴	6680	22.18	41.87	31.4	42.25	0.000932	4.97	1480.02	127.76	0.22
		- 1	7101		22.57		44.45	0.040055	40.00	500.00	70.54	. 70
-		Existing ¹	7121	22	38.57		41.16	0.012955	13.03	589.29	73.51	0.72
-		PropPh1 ²	7027	22	38.48		41.05	0.013003	12.97	582.74	73.12	0.72
}		FuturePh2 ³ FuturePh3 ⁴	7067	22 22	38.51		41.09	0.012981	13 12.77	585.54	73.28	0.72 0.72
}	2/90.6	FuturePn3	6679	22	38.14		40.64	0.013172	12.77	558.69	71.64	0.72
Ì	2557.7	Existing ¹	7121	21.48	37.79		39.14	0.004435	9.49	858.25	92.35	0.47
ľ	2557.7	PropPh1 ²	7027	21.48	37.69		39.03	0.004437	9.44	849.3	91.95	0.47
İ		FuturePh2 ³	7067	21.48	37.74		39.08	0.004436	9.46	853.14	92.12	0.47
İ		FuturePh3 ⁴	6679	21.48	37.33		38.63	0.004437	9.26	816.49	90.5	0.46
]		Existing ¹	7121	21.18	36.11	32.84	38.17	0.008097	11.6	654.04	71.5	0.6
		PropPh1 ²	7027	21.18	36.03	32.76	38.07	0.008081	11.53	648.12	71.12	0.6
		FuturePh2 ³	7067	21.18	36.06	32.79	38.11	0.008086	11.56	650.68	71.28	0.6
Ş	2427.7	FuturePh3 ⁴	6679	21.18	35.73	32.47	37.68	0.008	11.27	626.8	69.73	0.59
1PCT_100yr	2416.7		Bridge									
5	2-10.1		Bridge									
#	2405.7	Existing ¹	7121	20.97	35.56	32.63	37.76	0.008972	11.97	629.87	69.93	0.63
		PropPh1 ²	7027	20.97	35.48	32.55	37.65	0.008944	11.9	624.53	69.58	0.63
		FuturePh2 ³	7067	20.97	35.52	32.58	37.7	0.008954	11.93	626.86	69.74	0.63
	2405.7	FuturePh3⁴	6679	20.97	35.21	32.26	37.28	0.008799	11.6	605.55	68.32	0.62
}	0240.0	F.::-4:1	7447	40.70	25.00	20.40	20.70	0.000000	7.40	4040.00	404.00	0.20
}		Existing ¹ PropPh1 ²	7117 7023	19.76 19.76	35.92 35.83	30.48 30.42	36.76 36.67	0.003063 0.003058	7.42 7.37	1012.23 1003.44	104.62 104.27	0.38 0.38
}	2340.9	FuturePh2 ³	7023	19.76	35.83	30.42	36.71	0.003058	7.39	1003.44	104.27	0.38
		FuturePh3 ⁴	6678	19.76	35.53	30.45	36.33	0.00308	7.39	971.89	104.42	0.38
	2040.0	T didici 110	0070	13.70	00.00	00.17	00.00	0.000001	1.21	37 1.03	100.04	0.00
	2279.4		Bridge									
		1										
-		Existing ¹	7117	18.97	34.15	29.69	35.16	0.004143	8.13	911.62	100.65	0.44
}		PropPh1 ²	7023	18.97	34.07	29.63	35.08		8.08	904.02	100.34	0.44
}		FuturePh2 ³ FuturePh3 ⁴	7063	18.97	34.1	29.66	35.12 34.76	0.004137	8.1 7.9	907.31	100.48	0.44 0.43
	2217.9	ruturerns	6678	18.97	33.8	29.38	34.76	0.004088	7.9	876.74	99.24	0.43
}	1752.3	Existing ¹	7113	17.74	32.25		33.21	0.004129	8.5	1300.07	241.55	0.45
ŀ		PropPh1 ²	7018	17.74	32.17		33.13	0.004142	8.47	1280.67	239.48	0.45
		FuturePh2 ³	7059	17.74	32.21		33.16	0.004136	8.48	1289.13	240.39	0.45
İ		FuturePh3 ⁴	6678	17.74	31.89		32.83	0.004177	8.36	1213.35	232.14	0.45
[
		Existing ¹	7104	16.28	29.35	24.01	29.99	0.002603	6.46	1206.85	156.4	0.35
		PropPh1 ²	7008	16.28	29.26	23.96	29.9	0.002603	6.43	1193.86	155.01	0.35
-		FuturePh2 ³ FuturePh3 ⁴	7050	16.28	29.3	23.98	29.94	0.002603	6.45	1199.54	155.62	0.35
	/81.2	FutureP113	6676	16.28	28.97	23.78	29.58	0.002603	6.31	1149.16	150.11	0.35
	Existing C	L conditions ¹ : Model inclu	I Ides FEMA Effe	tive geome	tny data with	the Evicti	na Conditio	ns HMS mod	tel flows			
		: Model includes FEMA										
		23: Model includes FEN										
		34: Model includes FEM										



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	248647.7		1765	56.61	70.9		70.97		2.01	878.52		0.12
		PropPh1 ²	1765	56.61	70.9		70.97	0.000045	2.01	878.51	104.4	0.12
		FuturePh2 ³	1765	56.61	70.9		70.97	0.000045		878.51	104.4	0.12
	248647.7	FuturePh3 ⁴	1765	56.61	70.9		70.97	0.000045	2.01	878.51	104.4	0.12
		- · · · 1	.=									
	248547.8		1765	56.16	70.9		70.96			925.49		0.11
		PropPh1 ²	1765	56.16	70.9		70.96			925.49		0.11
		FuturePh2 ³	1765	56.16			70.96	 		925.49		0.11
	248547.8	FuturePh3 ⁴	1765	56.16	70.9	61.11	70.96	0.000158	1.91	925.49	107.1	0.11
	248481.1		Bridge									
	240401.1		Dilage									
	248414.4	Existing ¹	1765	55.9	70.65	60.84	70.71	0.000157	1.9	926.94	107.18	0.11
		PropPh1 ²	1765	55.9	70.65		70.71	0.000157	1.9	926.93		
		FuturePh2 ³	1765	55.9	70.65		70.71	0.000157	1.9			
	248414.4	FuturePh3 ⁴	1765	55.9	70.65	60.84	70.71	0.000157	1.9	926.94	107.18	
		Existing ¹	1752	50.81	70.5		70.53		1.43	1223.85	119.14	0.08
		PropPh1 ²	1752	50.81	70.5		70.53		1.43	1223.85	119.14	0.08
		FuturePh2 ³	1752	50.81	70.5		70.53		1.43			
	247502	FuturePh3 ⁴	1752	50.81	70.5		70.53	0.000214	1.43	1223.85	119.14	0.08
		1										
	246449.8		1752	52.3	70.31		70.34	0.000151	1.46			0.08
		PropPh1 ²	1752	52.3	70.31		70.34		1.46			0.08
		FuturePh2 ³	1752	52.3	70.31		70.34		1.46	1203.46		
	246449.8	FuturePh3 ⁴	1752	52.3	70.31		70.34	0.000151	1.46	1203.46	123.34	0.08
	2454127	Evicting 1	1724	51.09	70.13		70.16	0.000214	1.37	1258.83	123.15	0.08
	245413.7	PropPh1 ²	1724	51.09	70.13		70.16		1.37	1258.82		
		FuturePh2 ³	1724	51.09	70.13		70.16		1.37	1258.83	1	
		FuturePh3 ⁴	1724	51.09	70.13		70.16		1.37	1258.83		
충	240410.1	T didi Ci 110	1124	31.03	70.13		70.10	0.000214	1.01	1200.00	120.10	0.00
10PCT_10yr	244345.5	Existing ¹	1724	49	69.98		70	0.000105	1.22	1412.46	136.72	0.07
Ö		PropPh1 ²	1724	49	69.98		70			1412.46		0.07
<u>5</u>	244345.5	FuturePh2 ³	1724	49	69.98		70	0.000105	1.22	1412.46	136.72	0.07
	244345.5	FuturePh3 ⁴	1724	49	69.98		70			1412.46		0.07
	243452.9		1698	49	69.89		69.91	0.000095	1.07	1586.77	167.59	0.06
		PropPh1 ²	1698	49	69.89		69.91	0.000095		1586.77		
		FuturePh2 ³	1698	49	69.89		69.91	0.000095	1.07	1586.77	167.59	
	243452.9	FuturePh3 ⁴	1698	49	69.89		69.91	0.000095	1.07	1586.77	167.59	0.06
		- · · · 1	4000	40.04				0.00074		4000 50	107.50	
	242655.3		1698	49.31	69.76		69.79		1.3			
		PropPh1 ²	1698	49.31	69.76		69.79		1.3			
		FuturePh2 ³	1698	49.31	69.76		69.79		1.3			
	242655.3	FuturePh3 ⁴	1698	49.31	69.76		69.79	0.000271	1.3	1303.53	127.56	0.07
	241917.5	Evisting ¹	1698	48.64	69.61	54.21	69.63	0.000184	1.12	1522.22	152.25	0.06
		PropPh1 ²	1698	48.64	69.61	54.21	69.63					
		FuturePh2 ³	1698	48.64	69.61	54.21	69.63					
		FuturePh3 ⁴	1698	48.64	69.61	54.21	69.63					
			7550		20.01		22.00		···-		1.2.20	3.30
	241646.1		1698	48.4	69.56	53.97	69.58	0.000134	1.08	1577.5	140.56	0.06
		PropPh1 ²	1698	48.4	69.56		69.58					
		FuturePh2 ³	1698	48.4	69.56		69.58					+
	241646.1	FuturePh3 ⁴	1698	48.4	69.56	53.97	69.58	0.000134	1.08	1577.5	140.56	0.06
					·							
	241632.7		Bridge									ļ
1	241640.2	Eviating 1	4000	40.00	CO 40	50.0	CO 54	0.000404	4.00	1570 74	140.50	0.00
	241619.3		1698	48.33	69.49			0.000134	1.08			
		PropPh1 ² FuturePh2 ³	1698	48.33 48.33	69.49				1.08 1.08			
		FuturePh3 ⁴	1698		69.49							
	241019.3	ruuleriis	1698	48.33	69.49	53.9	69.51	0.000134	1.08	1576.73	140.53	0.06
	241070	Existing ¹	1665	49.13	69.46		69.46	0.000042	0.62	2667.76	210.17	0.03
1		PropPh1 ²	1665	49.13			69.46					
	241019	μιοριπι	1005	45.13	09.40	l	09.40	L 0.000042	0.02	2001.73	210.17	0.03



Profile	River Sta	Plan	Q Total								Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
		FuturePh2 ³	1665				69.46		0.62	2667.75		
	241079	FuturePh3⁴	1665	49.13	69.46		69.46	0.000042	0.62	2667.75	210.17	0.03
		= 1										
		Existing ¹	1665	48.94			69.44		0.8	2081.12		
	240579	PropPh1 ²	1665	48.94			69.44			2081.11		
	240579	FuturePh2 ³	1665	48.94	 		69.44			2081.12		
	240579	FuturePh3 ⁴	1665	48.94	69.43		69.44	0.000069	0.8	2081.12	198.23	0.04
		= · · · 1										
	240376.3	Existing'	1665	48.86		53.01	69.42		0.8	2093.73		
	240376.3	PropPh1 ²	1665	48.86		53.01	69.42		0.8	2093.72		
		FuturePh2 ³	1665				69.42			2093.72		
	240376.3	FuturePh3 ⁴	1665	48.86	69.41	53.01	69.42	0.000099	0.8	2093.72	198.62	0.04
	040045.0		Date									
	240315.3		Bridge									
	240254.3	Evicting ¹	1665	48.68	69.28	52.82	69.29	0.000098	0.79	2102.92	198.9	0.04
		PropPh1 ²	1665	48.68			69.29		0.79	2102.92	198.9	
		FuturePh2 ³	1665	48.68			69.29		0.79			
		FuturePh3 ⁴	_				69.29		0.79	2102.91		
	240234.3	FuturePris	1665	48.68	09.20	52.82	09.29	0.000098	0.79	2102.91	190.9	0.04
	239993.6	Evicting ¹	3152	47	69.17		69.21	0.000502	1.69	1862.08	161.6	0.09
		PropPh1 ²	3152	47			69.21		1.69	1862.08		
		FuturePh2 ³	3152				69.21		1.69	1862.08		
	239993.6	FuturePh3 ⁴	3152	47	69.17		69.21	0.000502	1.69	1862.08	161.6	0.09
	220026.0	Eviating 1	3152	47.67	68.71		60.76	0.000447	1.74	101117	152.04	0.00
	239036.8	Drap Dh 12	_	47.67			68.76			1814.47	 	0.09
		PropPh1 ²	3152	47.67			68.76		1.74	1814.47		
		FuturePh2 ³	3152	47.67	68.71		68.76	 	1.74	1814.47		
	239036.8	FuturePh3 ⁴	3152	47.67	68.71		68.76	0.000447	1.74	1814.47	153.94	0.09
	000000 4	F: _ #:1	2450	45.0	60.07		CO 24	0.000460	4 77	4777.0	450.47	0.00
Σ̈́	238060.4	Existing	3152	45.2			68.31	0.000468	1.77	1777.6		0.09
, i		PropPh1 ²	3152	45.2			68.31		1.77	1777.59		0.09
10PCT_10yr		FuturePh2 ³	3152	45.2			68.31		1.77	1777.59		
PO	238060.4	FuturePh3 ⁴	3152	45.2	68.27		68.31	0.000468	1.77	1777.59	158.47	0.09
_	007070.0	Fuintin -1	2450	44.00	07.04		07.00	0.000050	4.70	400444	400.04	0.00
	237276.3		3152	44.89			67.88		1.73	1824.14		0.09
		PropPh1 ²	3152	44.89			67.88		1.73	1824.13		
		FuturePh2 ³	3152	44.89			67.88		1.73	1824.14		0.09
	237276.3	FuturePh3 ⁴	3152	44.89	67.84		67.88	0.000653	1.73	1824.14	160.31	0.09
	000044	F: _ #: 1	0004	44.00	07.44		07.40	0.000007	4.07	4707.4	450.50	0.4
	236611	Existing ¹	3361	44.63			67.46		1.87	1797.4		
		PropPh1 ²	3361	44.63			67.46					
		FuturePh2 ³	3361	44.63			67.46			1797.4		
	236611	FuturePh3 ⁴	3361	44.63	67.41		67.46	0.000607	1.87	1797.4	159.56	0.1
	025700.0	Eviating 1	2204	4444	00.00		00.00	0.000505	4.00	4700.05	400.07	0.44
	235706.9	Dran Dh 42	3361	44.41			66.92			1700.25	 	
		PropPh1 ²	3361	44.41			66.92			1700.25		
		FuturePh2 ³	3361	44.41			66.92					
	235706.9	FuturePh3 ⁴	3361	44.41	66.86		66.92	0.000585	1.98	1700.25	163.07	0.11
	024007.0	Eviation 1	2500	4404	00.00		00.00	0.000477	4.04	0054.00	200.40	0.00
	234807.9	EXISTING Distance	3539				66.66			2851.98		
	234807.9	PropPh1 ² FuturePh2 ³	3539 3539				66.66		1.61	2851.97 2851.97		
							66.66				 	
	234807.9	FuturePh3 ⁴	3539	44.91	66.62		66.66	0.000177	1.61	2851.97	366.42	0.08
	233698.4	Evicting ¹	3539	15.15	66.35	51.63	66.39	0.000343	1.64	2153.21	640.96	0.08
	232600 4	PropPh1 ²	3539	 	 	 						
		FuturePh2 ³	3539							2153.21		
	233698.4	FuturePh3 ⁴	3539	45.45	66.35	51.63	66.39	0.000343	1.64	2153.21	640.96	0.08
	222020.2	Eviating 1	2520	42.45	66.00		66.40	0.000440	2.05	1700 55	140.0	0.44
	233029.3		3539				66.13			1728.55		
		PropPh1 ²	3539				66.13					
		FuturePh2 ³	3539				66.13					+
	233029.3	FuturePh3 ⁴	3539	43.15	66.06		66.13	0.000443	2.05	1728.55	149.9	0.11
I				I	I		<u> </u>	<u> </u>			1	l



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	232816.9		3634	42.42		50.55	66.03		1.94	1873.68	278.55	0.1
		PropPh1 ²	3634	42.42	65.97	50.55	66.03		1.94		278.55	
		FuturePh2 ³	3634	42.42	65.97	50.55	66.03		1.94		278.55	
	232816.9	FuturePh3 ⁴	3634	42.42	65.97	50.55	66.03	0.000417	1.94	1873.67	278.55	0.1
	232805.9		Bridge									
	232600.9		blidge									
	232794.9	Existing ¹	3634	42.38	65.96	50.5	66.02	0.000415	1.94	1877.5	279	0.1
	232794.9	PropPh1 ²	3634	42.38	65.96	50.5	66.01	0.000415		1877.49	279	0.1
	232794.9	FuturePh2 ³	3634	42.38		50.5	66.01	0.000415		1877.49	279	0.1
	232794.9	FuturePh3 ⁴	3634	42.38	65.96	50.5	66.01	0.000415	1.94	1877.49	279	0.1
		1										
	232790.8		3634	42.38		50.46	66.01	0.000341	1.99	1828.07	272.07	0.1
		PropPh1 ²	3634	42.38		50.46	66.01	0.000341	1.99		272.07	0.1
		FuturePh2 ³	3634	42.38	65.95	50.46	66.01	0.000341	1.99		272.07	0.1
	232790.8	FuturePh3 ⁴	3634	42.38	65.95	50.46	66.01	0.000341	1.99	1828.06	272.07	0.1
	232732.9		Bridge									
	232681.7		3634	43.64	65.82	51.22	65.88	0.000183	1.99	1828.32	146.83	0.1
		PropPh1 ²	3634	43.64	65.82	51.22	65.88				146.83	0.1
		FuturePh2 ³	3634	43.64	65.82	51.22	65.88	0.000183	-		146.83	0.1
	232681.7	FuturePh3 ⁴	3634	43.64	65.82	51.22	65.88	0.000183	1.99	1828.31	146.83	0.1
	232669.7		Dridge									
	232009.1		Bridge									
	232657.7	Existing ¹	3634	44.33	65.8	51.91	65.86	0.000199	2.11	1725.11	142.49	0.11
		PropPh1 ²	3634	44.33	65.8	51.91	65.86			1725.1	142.49	0.11
	232657.7	FuturePh2 ³	3634	44.33		51.91	65.86			1725.1	142.49	
Ę.		FuturePh3⁴	3634	44.33	65.8	51.91	65.86			1725.1	142.49	0.11
€												
10PCT_10yr	232645.3		Bridge									
l g	0000000	e.c.e1	0004	44.0	05.70	54.00	05.00	0.000400	0.4	4700 77	4.40.0	0.44
_	232632.3	Existing 2	3634	44.3	65.79	51.89	65.86	0.000199		1728.77	142.8	0.11
		PropPh1 ²	3634	44.3	65.79	51.89	65.86			1728.77	142.8	0.11
		FuturePh2 ³ FuturePh3 ⁴	3634 3634	44.3 44.3	65.79 65.79	51.89 51.89	65.86 65.86			1728.77 1728.77	142.8 142.8	0.11 0.11
	232032.3	i utureriis	3034	44.3	00.79	31.09	00.00	0.000199	2.1	1120.11	142.0	0.11
	231798	Existing ¹	3708	41.92	65.48		65.55	0.000882	2.11	1756.07	177.58	0.12
		PropPh1 ²	3708	41.92	65.48		65.55		2.11	1756.06	177.58	0.12
		FuturePh2 ³	3708	41.92	65.48		65.55	0.000882	2.11	1756.06	177.58	0.12
	231798	FuturePh3 ⁴	3708	41.92	65.48		65.55	0.000882	2.11	1756.06	177.58	0.12
		Existing ¹	3878				65.02					
		PropPh1 ²	3878				65.02					0.08
		FuturePh2 ³	3878				65.02				394.77	
	230908	FuturePh3 ⁴	3878	42.68	64.98		65.02	0.000425	1.63	2928.81	394.77	0.08
	229882.5	Existing ¹	3878	41.58	64.71		64.75	0.000175	1.73	2662.83	456.07	0.09
		PropPh1 ²	3878	41.58			64.75				456.07	
		FuturePh2 ³	3878				64.75				456.07	
		FuturePh3 ⁴	3878				64.75				456.06	
			35.0				2 0					
	228917.1		4040	41.61	64.56		64.59	0.000155	1.46	4318.44	599.84	0.07
		PropPh1 ²	4040		64.56		64.59				599.84	
		FuturePh2 ³	4040		64.56		64.59				599.84	
	228917.1	FuturePh3 ⁴	4040	41.61	64.56		64.59	0.000155	1.46	4318.4	599.84	0.07
	000000 =	F.::-#:1	10.10	10.00	04.1		04.42	0.00005 1		4047.55	040.74	0.07
	228060.7		4040				64.42		1.47	4817.55	940.71	0.07
		PropPh1 ²	4040				64.42		1.47		940.7	0.07
		FuturePh2 ³	4040				64.42		1.47		940.71	0.07
	228060.7	FuturePh3 ⁴	4040	40.89	64.4		64.42	0.000251	1.47	4817.48	940.71	0.07
ı		1	1	L	L			l	l	l		l



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		7,000	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	227524.1		4040	40.54	64.29	48.6	64.32	0.000141	1.47	2751.38	264.17	0.07
		PropPh1 ²	4040	40.54	64.29			0.000141	1.47		264.17	0.07
		FuturePh2 ³	4040	40.54	64.29				1.47		264.17	0.07
	227524.1	FuturePh3 ⁴	4040	40.54	64.29	48.6	64.32	0.000141	1.47	2751.37	264.17	0.07
	0074447	F:-4:1	4420	40.0	04.04	40.40	04.07	0.000405	4.04	2270.04	207.4	0.00
	227144.7		4139		64.24	48.48		0.000125	1.34		397.4	0.06
		PropPh1 ² FuturePh2 ³	4139 4139	40.3 40.3	64.24 64.24	48.48 48.48	64.27 64.27	0.000125 0.000125	1.34 1.34		397.4 397.4	0.06 0.06
		FuturePh3 ⁴	4139	40.3	64.24			0.000125	1.34		397.4 397.4	0.06
	221 177.1	r didici 110	7100	40.0	04.24	70.70	04.21	0.000120	1.04	007 0.10	007.4	0.00
	227088.2		Bridge									
	227031.7	Evicting ¹	4139	40.22	64.22	48.39	64.25	0.000123	1.33	3402.82	398.54	0.06
		PropPh1 ²	4139	40.22	64.22	48.39		0.000123	1.33		398.54	0.06
		FuturePh2 ³	4139	40.22	64.22	48.39			1.33		398.54	0.06
		FuturePh3 ⁴	4139	40.22	64.22	48.39			1.33		398.54	0.06
	227 00 1.7	T didici 110	7100	70.22	04.22	40.00	04.20	0.000120	1.00	0402.73	000.04	0.00
	225979.2		4297	40.46	64.03		64.06	0.000259	1.58	3201.8	309.55	0.08
	225979.2	PropPh1 ²	4297	40.46	64.03		64.06	0.000259	1.58	3201.77	309.55	
	225979.2	FuturePh2 ³	4297	40.46			64.06		1.58		309.55	
	225979.2	FuturePh3 ⁴	4297	40.46	64.03		64.06	0.000259	1.58	3201.78	309.55	0.08
	224981.6	Existing ¹	4484	40.72	63.61		63.66	0.000693	1.97	3083.28	398.54	0.1
		PropPh1 ²	4484	40.72	63.61		63.66		1.97	3083.24	398.54	0.1
		FuturePh2 ³	4484	40.72	63.61		63.66		1.97	3083.26	398.54	0.1
		FuturePh3 ⁴	4484	40.72	63.61		63.66	0.000693	1.97	3083.25	398.54	0.1
		1										
	224198	Existing ¹	4484	39.2	63.19		63.24	0.000419	1.8		383.9	0.09
		PropPh1 ²	4484	39.2	63.19		63.24	0.000419	1.8		383.89	0.09
Oyı		FuturePh2 ³ FuturePh3 ⁴	4484 4484	39.2 39.2	63.19 63.19		63.24 63.24	0.000419 0.000419	1.8 1.8		383.9 383.89	0.09 0.09
10PCT_10yr	224190	i utureriis	4404	39.2	03.19		03.24	0.000419	1.0	2909.31	303.09	0.09
PC	223061.1	Existing ¹	4580	37.26	62.83	46.44	62.89	0.00024	1.87	2450.83	473.23	0.09
10		PropPh1 ²	4580	37.26	62.83	46.44	62.89	0.00024	1.87	2450.81	473.22	0.09
		FuturePh2 ³	4580	37.26		46.44	62.89	0.00024	1.87	2450.83	473.23	0.09
		FuturePh3⁴	4580	37.26	62.83	46.44	62.89		1.87	2450.82	473.23	0.09
		,										
	222172.8		4580	38.92	62.5				1.82		701.9	0.09
	222172.8	PropPh1 ²	4580	38.92	62.5			0.000659	1.82		701.88	
		FuturePh2 ³	4580	38.92	62.5			0.000659	1.82	2732.79	701.89	0.09
	222172.8	FuturePh3 ⁴	4580	38.92	62.5	48.19	62.55	0.000659	1.82	2732.77	701.88	0.09
	221721.3	Existing ¹	4580	38.24	62.38		62.45	0.0001	2.12	2469.19	187.4	0.08
	221721.3	PropPh1 ²	4580	38.24	62.38		62.45		2.12		187.4	0.08
		FuturePh2 ³	4580	38.24			62.45		2.12			0.08
	221721.3	FuturePh3 ⁴	4580				62.45		2.12			0.08
		1	10.10									
	221523.4		4616					0.000081	1.92			
		PropPh1 ²	4616						1.92			
		FuturePh2 ³ FuturePh3 ⁴	4616						1.92 1.92			
	221023.4	FuturePris	4616	37.90	02.37	44.20	02.42	0.000081	1.92	3223.62	254.59	0.07
	221469.5		Bridge									
		1										
	221415.6		4616			44.19			1.92			
		PropPh1 ²	4616			44.19			1.92			
		FuturePh2 ³	4616						1.92			
	221415.6	FuturePh3 ⁴	4616	37.86	62.27	44.19	62.32	0.000081	1.92	3222.64	254.49	0.07
	220426.4	Existing ¹	4748	36.86	62.1		62.15	0.000615	1.82	3090.17	438.15	0.09
		PropPh1 ²	4748				62.15					
	220426.4	FuturePh2 ³	4748				62.15					
	220426.4	FuturePh3 ⁴	4748				62.15				438.15	



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)		(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	
	219577.1	Existing ¹	4748	35.81	61.36		61.43	0.001221	2.2		328.16	0.11
		PropPh1 ²	4748	35.81	61.36		61.43		2.2	3237.85	328.16	
		FuturePh2 ³	4748	35.81	61.36		61.43		2.2		328.16	
		FuturePh3 ⁴	4748	35.81	61.36		61.43		2.2		328.16	
	210011.1	r ataror no	.,	55.51	01.00		01.10	0.00 1221		0201.00	020.10	0.11
	218625.5	Existing ¹	4748	33.78	61.05		61.06	0.000171	1.15	7224.96	765.97	0.05
		PropPh1 ²	4748	33.78	61.05		61.06		1.15	7224.83	765.96	0.05
		FuturePh2 ³	4748	33.78			61.06		1.15		765.96	0.05
		FuturePh3 ⁴	4748	33.78	61.05		61.06		1.15	7224.88	765.96	0.05
	2 10025.5	i didici ilo	4740	33.70	01.00		01.00	0.000171	1.10	1224.00	705.90	0.00
	217899.8	Evisting ¹	4835	35.59	60.68	44.3	60.76	0.001944	2.18	2215.29	181.16	0.11
		PropPh1 ²	4835	35.59	60.68	44.3	60.76		2.18		181.16	
		FuturePh2 ³	4835	35.59		44.3	60.76		2.18		181.16	
		FuturePh3 ⁴			60.68							
	217099.0	ruturerns	4835	35.59	00.00	44.3	60.76	0.001944	2.18	2215.27	181.16	0.11
	246002.0	Cvietine 1	4025	22.00	60.21	40 5	60.22	0.000209	0.83	8700.94	060.00	0.04
	216802.9		4835	33.28		42.5					868.28	0.04
		PropPh1 ²	4835	33.28	60.21	42.5	60.22	0.000209	0.83		868.28	0.04
		FuturePh2 ³	4835	33.28	60.21	42.5	60.22	0.000209	0.83	8700.89	868.28	0.04
	216802.9	FuturePh3 ⁴	4835	33.28	60.21	42.5	60.22	0.000209	0.83	8700.83	868.28	0.04
	0400:5	F. d. 45 - 1		20.7	====	10.00		0.000		1015 ==	100.00	
	216040.3		4835	33.72	59.92	42.93	59.94	0.000653	1.17	4649.52	422.97	0.06
		PropPh1 ²	4835	33.72	59.92	42.93	59.94		1.17	4649.42	422.97	0.06
		FuturePh2 ³	4835	33.72		42.93	59.94		1.17	4649.49	422.97	0.06
	216040.3	FuturePh3 ⁴	4835	33.72	59.92	42.93	59.94	0.000653	1.17	4649.46	422.97	0.06
	214968	Existing ¹	4922	34.34	59.9	40.69	59.91	0.000009	0.85	9081.02	944.47	0.03
		PropPh1 ²	4922	34.34	59.9	40.69	59.91	0.000009	0.85	9080.84	944.46	0.03
		FuturePh2 ³	4922	34.34	59.9	40.69	59.91	0.000009	0.85		944.46	0.03
	214968	FuturePh3⁴	4922	34.34	59.9	40.69	59.91	0.000009	0.85	9080.91	944.46	0.03
Уr	214945		Bridge									
10PCT_10yr												
<u> </u>		Existing ¹	4922	33.55		39.9	59.01	0.00001	0.86	8992.25	942.21	0.03
P.		PropPh1 ²	4922	33.55		39.9	59.01	0.00001	0.86	8992.07	942.21	0.03
_		FuturePh2 ³	4922	33.55		39.9	59.01	0.00001	0.86	8992.21	942.21	0.03
	214922	FuturePh3 ⁴	4922	33.55	59	39.9	59.01	0.00001	0.86	8992.15	942.21	0.03
	214866.8	Existing ¹	4922	34.09	58.9	42.58	58.98	0.000091	2.4	2688.09	222.53	0.1
	214866.8	PropPh1 ²	4922	34.09	58.9	42.58	58.98	0.000091	2.4	2688.04	222.53	0.1
	214866.8	FuturePh2 ³	4922	34.09	58.9	42.58	58.98	0.000091	2.4	2688.08	222.53	0.1
	214866.8	FuturePh3 ⁴	4922	34.09	58.9	42.58	58.98	0.000091	2.4	2688.06	222.53	0.1
	214821.3		Bridge									
	214775.8		4922	34.17	58.86	42.65	58.95	0.000093	2.42	2663.08	221.6	0.1
	214775.8	PropPh1 ²	4922	34.17	58.86	42.65	58.95	0.000093	2.42	2663.03	221.59	0.1
	214775.8	FuturePh2 ³	4922	34.17	58.86	42.65	58.95	0.000093	2.42	2663.07	221.6	0.1
		FuturePh3 ⁴	4922	34.17	58.86	42.65			2.42	2663.05	221.6	
	214672.8	Existing ¹	4942	34.45	58.85	41.97	58.94	0.000089	2.48	2487.15	178.64	0.1
		PropPh1 ²	4942	34.45		41.97	58.94		2.48		178.64	0.1
		FuturePh2 ³	4942	34.45		41.97	58.94				178.64	0.1
		FuturePh3 ⁴	4942	34.45		41.97	58.94		2.48		178.64	0.1
			10 12	5 1. 10	55.00	. 1.07	55.04	2.00000	2.10	07.12	5.5 1	J. 1
	214628.5		Bridge									
			J-									
	214584.2	Existing ¹	4942	34.14	58.51	41.66	58.6	0.000089	2.48	2481.72	178.46	0.1
		PropPh1 ²	4942	34.14		41.66			2.48		178.45	
		FuturePh2 ³	4942	34.14		41.66			2.48		178.45	
		FuturePh3 ⁴	4942	34.14		41.66			2.48		178.45	
	1 214584 2		10 12	31.74	55.51	11.50	55.6	2.200000	2. 10	5 1.50	., 0. 10	5.1
	214584.2											
		Existing ¹	5040	32.8	58 37		58 44	0.000401	2 24	3001 39	237 31	0 091
	213687.7		5040 5040	32.8 32.8			58.44 58.44		2.24	3001.39 3001.33	237.31 237.31	0.09
	213687.7 213687.7	PropPh1 ²	5040	32.8	58.37		58.44	0.000401	2.24	3001.33	237.31	0.09
	213687.7 213687.7 213687.7				58.37 58.37			0.000401 0.000401		3001.33 3001.38		



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	212742.1	Existing ¹	5040	32.47	58.22		58.28	0.000094	2.07	3931.41	294.3	0.08
	212742.1	PropPh1 ²	5040	32.47	58.22		58.28	0.000094	2.07	3931.34	294.3	0.08
	212742.1	FuturePh2 ³	5040	32.47			58.28	0.000094	2.07	3931.39	294.3	0.08
	212742.1	FuturePh3 ⁴	5040	32.47	58.22		58.28	0.000094	2.07	3931.37	294.3	0.08
	211631.3	Existing ¹	5116		58.14		58.18	0.00008		7007.88		0.07
		PropPh1 ²	5116		58.14		58.18	0.00008		7007.71	670.37	0.07
		FuturePh2 ³	5116	32.47	58.14		58.18	0.00008			670.37	0.07
	211631.3	FuturePh3⁴	5116	32.47	58.14		58.18	0.00008	1.94	7007.78	670.37	0.07
	040075.0	F: - # 1	5440	00.40	57.00		50.4	0.000407	0.74	0700	100.01	0.44
	210975.8		5116	30.49	57.99		58.1	0.000197	2.71	2739	188.21	0.11
		PropPh1 ²	5116		57.99		58.1	0.000197		2738.95	188.21	0.11
		FuturePh2 ³ FuturePh3 ⁴	5116 5116				58.1 58.1	0.000197 0.000197	2.71 2.71	2738.99 2738.97	188.21	0.11 0.11
	210975.8	ruturerno	3110	30.49	57.99		36.1	0.000197	2.71	2136.91	188.21	0.11
	209864.1	Existing ¹	5230	28.37	57.8		57.84	0.000262	1.9	4327.74	404.34	0.08
		PropPh1 ²	5230	28.37	57.8		57.84	0.000262	1.9		404.34	0.08
		FuturePh2 ³	5230	28.37	57.8		57.84	0.000262	1.9		404.34	0.08
		FuturePh3 ⁴	5230	28.37	57.8		57.84	0.000262	1.9		404.34	0.08
	20000 1.1	T dtdl Ol 110	0200	20.01	07.0		07.01	0.000202	1.0	1027.07	10 1.0 1	0.00
	208924.8	Existing ¹	5230	31.48	57.41		57.48	0.000618	2.03	2611.27	226.06	0.1
		PropPh1 ²	5230				57.48	0.000618			226.05	0.1
		FuturePh2 ³	5230	31.48			57.48				226.06	0.1
		FuturePh3 ⁴	5230	31.48	57.41		57.48	0.000618			226.05	0.1
	207774.7		5230	26.21	56.87		56.91	0.000406	1.88	4164.21	510.49	0.08
	207774.7	PropPh1 ²	5230	26.21	56.87		56.91	0.000406	1.88	4164.04	510.47	0.08
		FuturePh2 ³	5230	26.21	56.87		56.91	0.000406	1.88	4164.17	510.48	0.08
Š	207774.7	FuturePh3 ⁴	5230	26.21	56.87		56.91	0.000406	1.88	4164.11	510.48	0.08
10PCT_10yr												
Ď	206741.3		5230		56.5		56.55	0.000321	1.89		308.24	0.08
<u>1</u>		PropPh1 ²	5230	31.91	56.5		56.55	0.000321	1.89		308.23	0.08
		FuturePh2 ³	5230		56.5		56.55	0.000321	1.89			0.08
	206741.3	FuturePh3 ⁴	5230	31.91	56.5		56.55	0.000321	1.89	3216.76	308.24	0.08
	205679.6	Evicting ¹	5288	28.19	56.31		56.38	0.000101	2.24	4279.13	397.6	0.08
		PropPh1 ²	5288	28.19			56.38	0.000101	2.24		397.6	0.08
		FuturePh2 ³	5288	28.19			56.38	0.000101	2.24		397.6	
		FuturePh3 ⁴	5288	28.19			56.38	0.000101	2.24		397.6	0.08
	200010.0	T dtdrcr 115	3200	20.13	30.31		30.30	0.000101	2.27	4213.00	337.0	0.00
	205102.2	Existing ¹	5288	28.33	56.26		56.32	0.000094	2.21	3937.32	305.44	0.08
		PropPh1 ²	5288				56.32					
		FuturePh2 ³	5288				56.32					
	205102.2	FuturePh3 ⁴	5288		56.26		56.32	0.000094	2.21		305.44	0.08
	204727.6	Existing ¹	5288	28.33	56.2	37	56.28	0.000109	2.37	3282.2	258.21	0.09
	204727.6	PropPh1 ²	5288	28.33	56.2	37	56.28	0.000109	2.37	3282.1	258.2	0.09
	204727.6	FuturePh2 ³	5288	28.33	56.2	37	56.28	0.000109	2.37	3282.17	258.21	0.09
	204727.6	FuturePh3 ⁴	5288	28.33	56.2	37	56.28	0.000109	2.37	3282.14	258.2	0.09
	204673.8		Bridge									
	004600	F:-4:1	5000	00.45	55.00	20.04	FC 0C	0.00044	0.00	2074.47	057.00	0.00
		Existing ¹ PropPh1 ²	5288	28.15		36.81	56.06	0.00011	2.38		257.26	
		FuturePh2 ³	5288	28.15			56.05		2.38		257.25	
		FuturePh3 ⁴	5288 5288				56.05 56.05		2.38 2.38		257.25 257.25	
	204620	FuturePris	5288	28.15	55.98	36.81	20.05	0.00011	2.38	3271.41	257.25	0.09
	203658.9	Existing ¹	5497	28.97	55.79		55.83	0.000575	1.44	3824.69	305.77	0.07
		PropPh1 ²	5497	28.97	55.79		55.83				305.76	
		FuturePh2 ³	5497	28.97	55.79		55.83					
		FuturePh3 ⁴	5497	28.97	55.79		55.83				305.76	
	/U.\n:\^ \											



Profile	River Sta	Plan	Q Total	Min Ch Fl	W.S. Flev	Crit W S	F G Flev	F.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
1 101110	7 11 01 014	1 10011	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	110000 11011
	202834.1	Existing ¹	5497	27.57	55.39		55.44	0.000392	1.79	3288.11	306.75	0.08
	202834.1	PropPh1 ²	5497	27.57	55.39		55.44	0.000392	1.79	3287.98	306.74	0.08
	202834.1	FuturePh2 ³	5497	27.57	55.39		55.44	0.000392	1.79	3288.08	306.75	0.08
	202834.1	FuturePh3⁴	5497	27.57	55.39		55.44	0.000392	1.79	3288.04	306.75	0.08
		,										
	201783.6		5620		54.87		54.93	0.000595				0.1
		PropPh1 ²	5620	27.98	54.87		54.93	0.000595	-			0.1
		FuturePh2 ³	5620		54.87		54.93		1.98			0.1
	201783.6	FuturePh3 ⁴	5620	27.98	54.87		54.93	0.000595	1.98	2854.71	278.33	0.1
		1										
	201212.1		5620	27.61	54.54	36.35		0.000593				0.09
		PropPh1 ²	5620		54.54	36.35						0.09
		FuturePh2 ³ FuturePh3 ⁴	5620		54.54	36.35				3229.79		0.09
	201212.1	FuturePn3	5620	27.61	54.54	36.35	54.59	0.000593	1.74	3229.75	368.53	0.09
	200299.3	Evicting 1	5620	27.02	54.1		54.17	0.000356	2.19	2643.47	214.15	0.09
		PropPh1 ²	5620	27.02	54.1		54.17	0.000356	2.19			0.09
		FuturePh2 ³	5620	 	54.1		54.17	0.000357	2.19			0.09
		FuturePh3 ⁴	5620	27.02	54.1		54.17	0.000357	2.19			0.09
	200299.3	i utulerilə	3620	21.02	04.1		54.17	0.000337	2.19	2043.39	∠14.15	0.09
	200076.4	Existing ¹	5833	27.02	54.03	36.45	54.1	0.000305	2.1	2771.59	199.58	0.1
		PropPh1 ²	5833	27.02	54.03	36.45		0.000305		2771.47		0.1
		FuturePh2 ³	5833		54.03	36.45		0.000305				0.1
		FuturePh3 ⁴	5833		54.03	36.45		0.000305		2771.52		0.1
	200010.4	T didn'th'	0000	21.02	04.00	00.40	04.1	0.000000	2.1	2111.02	100.00	0.1
	200020.5		Bridge									
	199964.6		5833	26.77	53.7	36.2	53.77	0.000309			199.19	0.1
		PropPh1 ²	5833	26.77	53.7	36.2	53.77	0.000309	2.12			0.1
₹		FuturePh2 ³	5833		53.7	36.2	53.77	0.000309				0.1
₽	199964.6	FuturePh3 ⁴	5833	26.77	53.7	36.2	53.77	0.000309	2.12	2756.65	199.19	0.1
10PCT_10yr												
O	199440.6		5977	27.48			53.58	0.000425	-			0.09
_		PropPh1 ²	5977	27.48	53.52		53.58					0.09
		FuturePh2 ³	5977	27.48			53.58					0.09
	199440.6	FuturePh3 ⁴	5977	27.48	53.52		53.58	0.000425	1.98	4106	450.15	0.09
		1									242.22	
	198496.4		5977	27.21	53.05		53.12	0.000523			213.23	0.1
		PropPh1 ²	5977	27.21	53.05		53.12					0.1
		FuturePh2 ³ FuturePh3 ⁴	5977 5977	27.21 27.21	53.05 53.05		53.12 53.12	0.000523 0.000523	2.13 2.13			0.1 0.1
	130430.4	i uturer 113	3311	21.21	33.03		33.12	0.000323	2.13	2004.32	213.23	0.1
	197506.8	Existing ¹	5977	26.73	52.62		52.71	0.000342	2.58	3442.26	371.33	0.1
	197506.8	PropPh1 ²	5977	26.73	52.62		52.71	0.000342				0.1
		FuturePh2 ³	5977				52.71					
		FuturePh3 ⁴	5977	26.73	52.62		52.71	0.000342			371.33	0.1
			3011	20.70	52.02		52.71	2.000012	2.00	0,72.1	3, 1.00	0.1
	196463.1	Existing ¹	5977	26.19	52.08		52.2	0.000806	2.78	2205.5	242.88	0.13
		PropPh1 ²	5977	26.19			52.19					0.13
		FuturePh2 ³	5977				52.2					0.13
		FuturePh3 ⁴	5977	26.19			52.19					0.13
	196182.3		6059	25.3	51.87	36.3	52.03	0.000423	3.38	2562.92	392.5	0.14
	196182.3	PropPh1 ²	6059	25.3	51.86	36.3				2562.72	392.49	
		FuturePh2 ³	6059			36.3						0.14
	196182.3	FuturePh3 ⁴	6059	25.3	51.86	36.3	52.03	0.000423	3.38	2562.8	392.49	0.14
	10011		D : 1									
	196149		Bridge									
	106445.7	Evicting 1	0050	05.40	E4 74	20.45	F4.01	0.000404	2.22	0500.05	200.77	0.44
	196115.7		6059	 		36.15			t			0.14
		PropPh1 ²	6059						3.38			
		FuturePh2 ³	6059			36.15			3.38			
	196115.7	FuturePh3 ⁴	6059	25.16	51.74	36.15	51.9	0.000421	3.38	2566.84	392.76	0.14
		I	1	L	L	L	L	<u> </u>	<u> </u>	L		



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	195567.4		6140	23.51	51.66		51.68	0.000205	1.29	7617.48		0.05
	195567.4	PropPh1 ²	6140	23.51	51.66		51.68	0.000205	1.29	7616.91	656.95	0.05
		FuturePh2 ³	6140		51.66		51.68					
	195567.4	FuturePh3 ⁴	6140	23.51	51.66		51.68	0.000205	1.29	7617.15	656.96	0.05
	1046144	Eviatina 1	61.40	20.45	E1 11		E4 40	0.000204	0.46	E220.02	475.00	0.00
	194614.1	PropPh1 ²	6140 6140				51.46 51.46		2.16 2.16		475.03 475.02	0.09
		FuturePh2 ³	6140				51.46		2.16			
		FuturePh3 ⁴	6140				51.46		2.16		475.03	0.09
	193675.6		6140	23.35	51.42		51.42	0.000009	0.57	14418.29	933.55	0.02
		PropPh1 ²	6140				51.42					
		FuturePh2 ³	6140				51.42					
	193675.6	FuturePh3 ⁴	6140	23.35	51.42		51.42	0.000009	0.57	14417.79	933.55	0.02
	192820.3	Existing ¹	6303	24.17	51.33		51.39	0.000584	2.13	3333.51	278.37	0.09
		PropPh1 ²	6303	24.17			51.39		2.13			
		FuturePh2 ³	6303	24.17	51.33		51.39					0.09
	192820.3	FuturePh3⁴	6303		51.33		51.39		2.13	3333.36	278.35	0.09
		- 1										
	191722.7	Existing'	6303				50.58		2.02		418.37	0.1
		PropPh1 ² FuturePh2 ³	6303	20.85			50.58 50.58		2.02	3268.93	418.35 418.36	
		FuturePh3 ⁴	6303 6303	20.85 20.85			50.58		2.02		418.36	
	191122.1	I didieriis	0303	20.65	30.32		30.36	0.000994	2.02	3209.12	410.30	0.1
	190794	Existing ¹	6303	20.58	49.91		50	0.000441	2.6	3698.63	339.36	0.11
		PropPh1 ²	6303	20.58			49.99		2.6			
		FuturePh2 ³	6303				50	0.000441	2.6	3698.49	339.36	
	190794	FuturePh3 ⁴	6303	20.58	49.91		49.99	0.000441	2.6	3698.37	339.35	0.11
		1								/		
↹	189869.8		6303	17.5			49.72		2.61	3991.28		
위		PropPh1 ² FuturePh2 ³	6303 6303	17.5 17.5			49.72 49.72		2.61 2.61	3990.68 3991.1	430.76 430.77	0.1 0.1
10PCT_10yr		FuturePh3 ⁴	6303	17.5			49.72			3990.93	430.77	0.1
9	103003.0	T dtdlCl 110	0000	17.0	45.00		75.12	0.000221	2.01	0000.00	400.11	0.1
,	188903.7	Existing ¹	6388	21.71	49.43		49.48	0.000273	2.02	5088.61	570.65	0.08
	188903.7	PropPh1 ²	6388	21.71	49.42		49.47				570.63	0.08
		FuturePh2 ³	6388	21.71	49.43		49.48	0.000273	2.02	5088.35	570.64	
	188903.7	FuturePh3 ⁴	6388	21.71	49.43		49.48	0.000273	2.02	5088.11	570.64	0.08
	4070704	r:-4:1	6200	00.70	40.00		40.00	0.000000	0.74	0040.00	200.00	0.44
	187878.1	PropPh1 ²	6388 6388	23.78 23.78			49.06	0.000692 0.000692				
		FuturePh2 ³	6388				49.05					
		FuturePh3 ⁴	6388				49.05					
										,		
	186536.1		6388				48.2					
		PropPh1 ²	6388				48.2					
		FuturePh2 ³	6388				48.2				478.74	
	100035.1	FuturePh3 ⁴	6388	20.17	48.12		48.2	0.000629	2.47	3463.3	478.61	0.12
	185293.8	Existing ¹	6388	20.84	47.8		47.83	0.000187	1.72	5798.55	423.25	0.07
		PropPh1 ²	6388				47.83		1			
		FuturePh2 ³	6388				47.83					
1	185293.8	FuturePh3⁴	6388	20.84	47.8		47.83					
		- 1										
	184862.8		6500			31.25						
		PropPh1 ² FuturePh2 ³	6500 6500				47.71 47.72					
		FuturePh3 ⁴	6500					_				0.11 0.11
	107002.0	i didi di lio	0000	21.07	47.01	01.20	71.12	0.00020	2.09	0030.10	201.21	0.11
	184807.6		Bridge									
		1										
	184752.4		6500				47.58		-			
		PropPh1 ²	6500									
	184752.4	FuturePh2 ³	6500	21.24	47.47	31.11	47.58	0.00025	2.89	3094.36	231.17	0.11



Profile	River Sta	Plan	Q Total								Top Width	Froude # Chl
			(cfs)	(ft)	(ft)		(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	184752.4	FuturePh3 ⁴	6500	21.24	47.47	31.11	47.58	0.00025	2.89	3094.21	231.16	0.11
	1010050	F . v. 1	2500	40.07	47.04				0.04	222224	22172	
	184295.8		6500	18.27	47.31		47.4	0.000634	2.61	3232.24		
		PropPh1 ²	6500	18.27	47.31		47.4	0.000634	2.61			
		FuturePh2 ³	6500	18.27	47.31		47.4	0.000634		3232.06		0.11
	184295.8	FuturePh3 ⁴	6500	18.27	47.31		47.4	0.000634	2.61	3231.88	261.77	0.11
	183335.1	Evisting ¹	6500	20.58	46.79	30.65	46.95	0.00036	3.45	2492.21	170.3	0.13
		PropPh1 ²	6500	20.58		30.65	46.95	0.00036				
		FuturePh2 ³	6500	20.58	46.79	30.65	46.95	0.00036				0.13
		FuturePh3 ⁴	6500	20.58	46.79	30.65	46.95	0.00036			170.3	0.13
	100000.1		3330	20.00	10.70	00.00	10.00	0.0000	0.10	2101.00	110.0	0.10
	182381.6	Existing ¹	6625	18.93	46.43		46.49	0.00062	2.12	3492.22	286.18	0.1
		PropPh1 ²	6625	18.93	46.43		46.49	0.00062	2.12	3491.45	286.16	0.1
	182381.6	FuturePh2 ³	6625	18.93	46.43		46.49	0.00062	2.12	3491.98	286.18	0.1
	182381.6	FuturePh3 ⁴	6625	18.93	46.43		46.49	0.00062	2.12	3491.76	286.17	0.1
		Existing ¹	6625	18.35	46.23		46.26	0.000183			899.73	0.07
		PropPh1 ²	6625	18.35	46.23		46.25	0.000183			899.69	
		FuturePh2 ³	6625	18.35	46.23		46.26	0.000183			899.72	0.07
	181623	FuturePh3 ⁴	6625	18.35	46.23		46.25	0.000183	1.58	8445.85	899.71	0.07
	1007010	F 1	2225	10.10	45.04		40	0.000040	4.00	0540.04	005.00	
	180731.2	PropPh1 ²	6625	19.12	45.94 45.94		46 46	0.000646			295.83 295.72	0.09
		FuturePh2 ³	6625 6625	19.12 19.12	45.94 45.94		46 46	0.000646 0.000646			295.72	0.09
		FuturePh3 ⁴	6625	19.12	45.94 45.94		46	0.000646			295.76	
	100731.2	i utureriio	0023	13.12	40.34		40	0.000040	1.32	3309.71	290.10	0.03
	179838.1	Existing ¹	6625	17.65	45.22		45.29	0.000998	2.06	3213.74	239.53	0.1
		PropPh1 ²	6625	17.65	45.22		45.29	0.000998	_		239.51	0.1
		FuturePh2 ³	6625	17.65			45.29					
Oyr		FuturePh3⁴	6625	17.65	45.22		45.29	0.000998			239.52	0.1
IOPCT_10yr												
ς C	179305.6	Existing ¹	6625	17.48	44.8		44.97	0.000383	3.49	2612.24	221.2	0.13
10.		PropPh1 ²	6625	17.48	44.8		44.96	0.000383	3.49	2611.43	221.16	0.13
		FuturePh2 ³	6625	17.48	44.8		44.96	0.000383	3.49	2611.99	221.19	0.13
	179305.6	FuturePh3 ⁴	6625	17.48	44.8		44.96	0.000383	3.49	2611.76	221.18	0.13
	178955.5		6660	17.37	44.68	29.31	44.83	0.000357	3.37	3102.14	301.43	0.13
		PropPh1 ²	6660	17.37	44.68	29.31	44.82	0.000357	3.37	3101	301.34	
		FuturePh2 ³	6660	17.37	44.68	29.31	44.82	0.000357	3.37		301.4	0.13
	178955.5	FuturePh3 ⁴	6660	17.37	44.68	29.31	44.82	0.000357	3.37	3101.47	301.38	0.13
	178899.3		Bridge									
	170099.5		Blidge									
	178843.1	Existing ¹	6660	17.13	44.38	29.08	44.53	0.000361	3.39	3084.52	300.05	0.13
		PropPh1 ²	6660				44.53	0.000362			299.96	
		FuturePh2 ³	6660	17.13		29.08	44.53	0.000361	3.39			0.13
		FuturePh3 ⁴	6660				44.53					
	177732.9		6893	16.54	43.99		44.05	0.000419				
		PropPh1 ²	6893	16.54			44.05		+			0.09
		FuturePh2 ³	6893				44.05					
	177732.9	FuturePh3 ⁴	6893	16.54	43.99		44.05	0.000419	2.1	3671.22	273.32	0.09
	1705	F : 0 1						0.00000		F07.11		<u> </u>
	176644.1		6893	17.41	43.69		43.75					0.1
		PropPh1 ²	6893	17.41	43.69		43.75				568.05	
		FuturePh2 ³	6893		43.69		43.75					
	1/6644.1	FuturePh3 ⁴	6893	17.41	43.69	27.24	43.75	0.000213	2.24	5323.35	568.14	0.1
	175675.6	Existing ¹	6958	16.27	43.43	24.71	43.49	0.000373	1.95	3578.99	242.39	0.09
l		PropPh1 ²	6958				43.49				242.39	
	175675 6	IFutur⊵Ph?°	6060									
	175675.6	FuturePh2 ³ FuturePh3 ⁴	6958 6958	16.27 16.27	43.43 43.42		43.48 43.48				242.38 242.37	



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
	141701 044	7 75.11	(cfs)	(ft)	(ft)		(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	77044577 5111
	173819.4	Existing ¹	6958	14.97	42.72		42.74	0.000416			602.79	0.07
		PropPh1 ²	6958		42.72		42.74					
		FuturePh2 ³	6958		42.72		42.74					
		FuturePh3 ⁴	6958		42.72		42.74					0.07
	110010.1	T dtdl of 110	5555	11.01	12.72		12.71	0.000111	1.00	0020.0	552.72	0.01
	172846.5	Existing ¹	6958	11.61	42.37		42.4	0.000471	1.69	6004.03	641.88	0.07
		PropPh1 ²	6958	11.61	42.36		42.39		1.69			
		FuturePh2 ³	6958		42.36		42.4		1.69			0.07
		FuturePh3 ⁴	6958		42.36		42.39		1.69	6001.76		0.07
	112010.0	T didn't 110	0000	11.01	12.00		12.00	0.000111	1.00	0001.70	011.01	0.07
	171967.4	Existing ¹	6958	14.04	42.15		42.18	0.000201	1.66	7601.51	678.48	0.07
		PropPh1 ²	6958		42.15		42.17		1.67	7597.27	678.45	
		FuturePh2 ³	6958	14.04	42.15		42.18		1.66		678.47	0.07
		FuturePh3 ⁴	6958	14.04	42.15		42.18		1.67	7598.98		
	17 1007.4	T didi of 110	0300	17.07	72.10		72.10	0.000201	1.07	7000.00	010.40	0.07
	171168.9	Existing ¹	6958	6.86	42.04		42.07	0.000129	1.57	7042.2	502.49	0.06
		PropPh1 ²	6958	6.86			42.07					
		FuturePh2 ³	6958				42.07			7041.21	502.48	
		FuturePh3 ⁴	6958				42.07			7040.29		0.06
	171100.9	i uturer 113	0930	0.00	42.04		42.01	0.000129	1.51	1040.23	302.47	0.00
	170256	Existing ¹	6958	13.83	41.82		41.9	0.000319	2.31	3543.6	250.91	0.1
		PropPh1 ²	6958		41.82		41.89			3541.94		0.1
		FuturePh2 ³	6958		41.82		41.09			3543.09		
		FuturePh3 ⁴	6958		41.82		41.9			3542.61	250.89	
	170236	rutureriis	6936	13.63	41.02		41.9	0.00032	2.31	3042.01	200.69	0.1
	169087.1	Evicting ¹	6979	11.36	41.59		41.61	0.000185	1.36	8533.92	674.7	0.05
		PropPh1 ²	6979				41.61	0.000185				0.05
		FuturePh2 ³	6979				41.61				674.68	
		FuturePh3 ⁴	6979									
충	109007.1	rutureriis	0979	11.36	41.59		41.61	0.000185	1.30	8531.13	674.65	0.05
10PCT_10yr	168169.9	Evicting ¹	6979	14.35	41.35		41.4	0.000362	1.93	4563.9	352.07	0.08
P.		PropPh1 ²	6979				41.39		1.93			0.08
OP		FuturePh2 ³	6979				41.39				352.02	
_		FuturePh3 ⁴	6979		41.35		41.4		1.93		352.05	0.08
	100 109.9	rutureriis	6979	14.50	41.33		41.4	0.000362	1.93	4002.37	332.04	0.06
	167249.9	Evicting 1	6989	11.5	40.93	21.9	41.01	0.000542	2.22	3151.01	203.76	0.1
		PropPh1 ²	6989			21.9	41.01	0.000542		3149.41	203.76	
		FuturePh2 ³										
		FuturePh3 ⁴	6989			21.9	41	0.000542	2.22	3150.52		
	167249.9	FuturePn3	6989	11.5	40.92	21.9	41	0.000542	2.22	3150.06	203.74	0.1
	166070.7	Evicting 1	6000	10.04	40.74		40.02	0.000373	2.44	4448.86	511.02	0.12
	166879.7	PropPh1 ²	6989 6989		40.71 40.7		40.83	0.000373				
		FuturePh2 ³										
		FuturePh3 ⁴	6989				40.83					0.12
	1008/9./	ruturerns	6989	10.84	40.7		40.82	0.000373	3.44	4446.32	510.99	0.12
1	166610	Eviating 1	70.44	40.00	40.64	02.20	40.70	0.00024	2.40	4000 40	205.00	0.40
		Existing ¹ Prop Ph 1 ²	7041	10.36		23.36	40.73	-			305.29	
1		PropPh1 ²	7041	10.36			40.72				305.21	0.12
		FuturePh2 ³	7041	10.36			40.73					
	166613	FuturePh3 ⁴	7041	10.36	40.6	23.36	40.72	0.00034	3.48	4096.9	305.24	0.12
1	166585.6		Bridge									
	100000.0		Diluge									
1	166558.2	Existing ¹	7041	10.11	40.49	23.11	40.62	0.000332	3.45	4140.82	306.61	0.12
	166550.2	PropPh1 ²	7041	10.11	40.49		40.62	 				
1		FuturePh2 ³		10.11	40.49		40.61					
		FuturePh3 ⁴	7041 7041		40.49		40.61		 			
1	100008.2	i utureriis	/041	10.11	40.49	23.11	40.61	0.000332	3.45	4139.27	306.56	0.12
	166297.3	Evisting ¹	7261	8.4	40.44		40.51	0.000272	2.17	4240.96	264.05	0.08
1		PropPh1 ²	7261	8.4	40.44		40.51					
		FuturePh2 ³										
		FuturePh3 ⁴	7261 7261	8.4			40.51 40.5					
	100291.3	I didicello	7261	8.4	40.44		40.5	0.000272	2.17	4239.6	264.04	0.08
I		I	I	l	l			<u> </u>	ı	l	l	l



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	165903.2	Existing ¹	7261	10.27	40.33		40.39	0.000323	2.23	4529.54	354.11	0.08
	165903.2	PropPh1 ²	7261	10.27	40.32		40.38	0.000324	2.23	4526.43	354.01	0.08
		FuturePh2 ³	7261	10.27	40.32		40.39	0.000323	2.23	4528.57	354.08	0.08
	165903.2	FuturePh3 ⁴	7261	10.27	40.32		40.39	0.000323	2.23	4527.68	354.05	0.08
	165476.1		7961	12.3	40.07	21.53	40.23	0.000302	3.41	3137.69		0.12
		PropPh1 ²	7961	12.3	40.06	21.53	40.22	0.000302	3.42	3135.77	211.07	0.12
		FuturePh2 ³	7961	12.3	40.07	21.53	40.23	0.000302	3.42	3137.09	211.11	0.12
	1654/6.1	FuturePh3⁴	7961	12.3	40.07	21.53	40.22	0.000302	3.42	3136.54	211.09	0.12
	165428.1		Bridge									
	100420.1		Dilage									
	165380.1	Existing ¹	7961	11.69	39.43	20.92	39.58	0.000304	3.42	3130.08	210.88	0.12
	165380.1	PropPh1 ²	7961	11.69		20.92	39.58	0.000304	3.42	3128.14		0.12
		FuturePh2 ³	7961	11.69	39.42	20.92	39.58		3.42	3129.48		
		FuturePh3 ⁴	7961	11.69	39.42	20.92	39.58	0.000304	3.42	3128.92	210.84	0.12
	164555.2		7953	8.31	39.16		39.27	0.000416		3173.29	207.67	0.12
	164555.2	PropPh1 ²	7951	8.31	39.15		39.26	0.000417	2.85	3171.31	207.63	0.12
	164555.2	FuturePh2 ³	7953	8.31	39.15		39.27	0.000416	2.85	3172.67	207.65	0.12
	164555.2	FuturePh3 ⁴	7952	8.31	39.15		39.26	0.000416	2.85	3172.11	207.64	0.12
	163635.5		7953	11.2	38.92		38.99	0.000242	2.64	5366.75	551.56	0.11
		PropPh1 ²	7951	11.2	38.91		38.98	0.000243		5361.24		
		FuturePh2 ³	7953	11.2	38.91		38.99	0.000243	2.64	5365	551.54	
	163635.5	FuturePh3 ⁴	7952	11.2	38.91		38.99	0.000243	2.64	5363.45	551.52	0.11
	1000110	r	0455	0.00	00.74		20.00	0.000400	0.54	4505.40	000.70	0.4
	162811.9		8155	8.08	38.74 38.73		38.82	0.000196		4595.43	289.78	0.1
ӄ		PropPh1 ² FuturePh2 ³	8153	8.08			38.81	0.000196		4592.47	289.72	0.1 0.1
_19		FuturePh3 ⁴	8155 8154	8.08 8.08	38.73 38.73		38.81 38.81	0.000196 0.000196		4594.48 4593.66	289.76 289.75	0.1
10PCT_10yr	102011.9	ruturerns	0104	0.00	30.73		30.01	0.000196	2.52	4595.00	209.73	0.1
OP	161822.3	Existing ¹	8155	6.55	38.42		38.53	0.000485	2.84	3687.23	272.42	0.11
_		PropPh1 ²	8153	6.55	38.41		38.52	0.000486	2.85		272.36	0.11
		FuturePh2 ³	8155	6.55	38.42		38.52	0.000486		3686.29	272.4	0.11
		FuturePh3 ⁴	8154	6.55	38.41		38.52	0.000486	-	3685.49		0.11
	160630.7		8155	6.96	37.76		37.89	0.000583	2.97	3084.01	255.07	0.12
	160630.7	PropPh1 ²	8153	6.96			37.88	0.000584	2.97	3081.06	254.99	0.12
		FuturePh2 ³	8155	6.96	37.75		37.88	0.000583	2.97	3083.02	255.04	0.12
	160630.7	FuturePh3⁴	8154	6.96	37.75		37.88	0.000583	2.97	3082.22	255.02	0.12
		- 1										
	159757.4		8155				37.22					0.11
		PropPh1 ²	8153		37.11		37.21	0.001011	2.56			
		FuturePh2 ³	8155				37.22		2.56			
	109/5/.4	FuturePh3 ⁴	8154	9.2	37.11		37.21	0.00101	2.56	3189.85	180.21	0.11
	158811.6	Existing ¹	8152	7.94	36.73		36.79	0.000253	2.01	4950.42	442.02	0.08
		PropPh1 ²	8150				36.79	0.000253		4930.42		
		FuturePh2 ³	8152				36.77			4948.34		
		FuturePh3 ⁴	8151	7.94			36.78			4946.78		
	,00011.0	i atalor no	0101	7.54	00.72		30.70	0.000200	2.01	4040.70	- 	0.00
	157933.4	Existing ¹	8152	5.48	36.41	17.48	36.54	0.000307	3.13	3982.38	401.05	0.12
		PropPh1 ²	8150			17.48	36.53					
		FuturePh2 ³	8152			17.48	36.54					
		FuturePh3 ⁴	8151	5.48		17.48	36.53					
	156882.1		8152	5.55			36.28	0.000205	2.71	3500	231.25	
		PropPh1 ²	8150				36.26			3496.59		0.1
		FuturePh2 ³	8152				36.27					
	156882.1	FuturePh3 ⁴	8151	5.55	36.16		36.27	0.000205	2.71	3497.91	231.16	0.1



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	156116.3	Existing ¹	8152	5.91	36.04		36.09	0.000242	1.76	4628.36	282.66	0.08
		PropPh1 ²	8150		36.02		36.07				282.62	
		FuturePh2 ³	8152	5.91	36.03		36.08					
		FuturePh3⁴	8151	5.91	36.03		36.08					
	155861.6	Existing ¹	8431	6.03	35.96	16.29	36.01	0.000307	1.88	4478.07	292.89	0.08
	155861.6	PropPh1 ²	8428	6.03	35.94	16.29	36	0.000308	1.88	4473.61	292.79	0.08
	155861.6	FuturePh2 ³	8431	6.03		16.29	36.01	0.000307	1.88	4476.47	292.85	0.08
	155861.6	FuturePh3 ⁴	8429	6.03	35.95	16.29	36.01	0.000307	1.88	4475.34	292.83	0.08
	155805.1		Bridge									
	455740 C	Eviation 1	0424	5 70	25.60	16.04	25.60	0.000343	1.89	4440.00	202.20	0.00
	155748.6	PropPh1 ²	8431	5.79		16.04	35.68					
			8428			16.04	35.66					
		FuturePh2 ³	8431	5.79		16.04	35.67		-			
	155748.6	FuturePh3 ⁴	8429	5.79	35.61	16.04	35.67	0.000313	1.9	4446.52	292.23	0.09
	154890.7	Evicting ¹	8587	5.42	35.26	15.79	35.39	0.000304	2.97	3296.94	472.25	0.12
		PropPh1 ²	8575	5.42	35.24	15.79	35.37					
		FuturePh2 ³	8583			15.79	35.38					
		FuturePh3 ⁴	8579			15.79	35.38		2.97	3294.51	472.14	
	104030.7	i didici iio	0579	0.42	30.20	10.79	33.30	0.000304	2.31	3234.01	472.00	0.12
	153992.6	Existing ¹	8587	3.83	35.05	16.2	35.14	0.000246	2.5	4839.77	849.02	0.11
		PropPh1 ²	8575			16.19	35.12					
		FuturePh2 ³	8583	3.83		16.2	35.13				848.79	
		FuturePh3 ⁴	8579			16.2	35.13					
	100002.0	T didi of 110	3070	0.00	00.01	10.2	00.10	0.000210	2.0	100 1.20	0 10.0 1	0.11
	153119.9	Existina ¹	8587	4.13	34.77	14.46	34.86	0.000435	2.37	3982.81	686.98	0.09
	153119.9	PropPh1 ²	8575	4.13		14.45	34.84					
		FuturePh2 ³	8583			14.46						
		FuturePh3 ⁴	8579			14.46	34.85					
₹	70011010											
10PCT_10yr	153108.9		Bridge									
ပွ												
10	153097.9	Existing ¹	8587	4.13		14.46	34.84		2.37	3977.93		
		PropPh1 ²	8575			14.45	34.82		2.37	3973.42	686.1	0.09
		FuturePh2 ³	8583	4.13	34.75	14.45	34.83	0.000436	2.37	3976.27	686.36	
	153097.9	FuturePh3⁴	8579	4.13	34.75	14.45	34.83	0.000436	2.37	3975.2	686.26	0.09
	152376.3	Existing ¹	8587	3.84		15.82	34.61	0.000251	2.68			
		PropPh1 ²	8575	3.84		15.81	34.59		2.68		981.15	
		FuturePh2 ³	8583									
	152376.3	FuturePh3 ⁴	8579	3.84	34.51	15.81	34.6	0.000251	2.68	4583.7	981.9	0.1
		1										
	151996.2		8587	4.14			34.53					
		PropPh1 ²	8575									
		FuturePh2 ³	8583						1		1	
	151996.2	FuturePh3 ⁴	8579	4.14	34.49	14.33	34.52	0.000075	1.47	6522.01	472.95	0.06
	151963.3		Bridge									
	101000.0		Briage									
	151930.4	Existing ¹	8587	3.37	34.47	13.56	34.5	0.000066	1.41	6854.21	478.32	0.06
		PropPh1 ²	8575								1	
		FuturePh2 ³	8583		34.47	13.56						
1		FuturePh3 ⁴	8579								 	
			30,0	0.07	51.10	.3.00	5 1. 10	2.00000	····	3000.02	0.20	1 0.00
	151925.3	Existing ¹	8587	2.99	34.48	11.76	34.5	0.000033	1.15	7948.89	608.96	0.04
		PropPh1 ²	8575									
		FuturePh2 ³	8583			11.75					1	
		FuturePh3 ⁴	8579			11.75						
	111111		1						1		1 2 2 3 3 4	1
	151846.3		Bridge									
	151767.3	Existing ¹	8587	1.3	33.7	10.07	33.72	0.000029	1.1	8309.14	617.7	0.04
			8575			10.06						
	151767.3	Propent	6575	1.0	00.00	10.00	00.7	0.000020	1	0002.02	017.00	
		FuturePh2 ³	8583				33.72					



-	4547000		Q Total (cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	Froude # Chl
-	151700.0					(11)	(,	(IUIL)	(103)	(34 11)	(11)	
-	4547000	,										
	151/36.6	Existing ¹	8587	3.46		12.82	33.71	0.000112			308.27	0.08
		PropPh1 ²	8575	3.46		12.82	33.69	0.000111	2.07	4693.97	308.15	
		FuturePh2 ³	8583	3.46	33.63	12.82	33.7	0.000112	2.08		308.22	0.08
'	151736.6	FuturePh3 ⁴	8579	3.46	33.63	12.82	33.7	0.000111	2.07	4695.67	308.2	0.08
	4547444		Duidas									
i -	151711.1		Bridge									
i F	151685.6	Existing ¹	8587	4.19	33.61	13.55	33.69	0.000125	2.15	4497.79	302.78	0.08
		PropPh1 ²	8575	4.19			33.67	0.000125			302.66	
	151685.6	FuturePh2 ³	8583	4.19		13.55	33.68	0.000125			302.74	
		FuturePh3⁴	8579	4.19		13.55	33.68	0.000125		4495.28	302.71	0.08
	151353.8		8690	4.9	33.59	15.51	33.63	0.000119		7902.28	868.46	
		PropPh1 ²	8671	4.9	33.58	15.5	33.61	0.000119		7892.17	867.84	
		FuturePh2 ³	8683	4.9		15.51	33.62	0.000119		7898.55	868.23	
i -	151353.8	FuturePh3 ⁴	8678	4.9	33.58	15.51	33.62	0.000119	1.71	7896.22	868.09	0.07
, F	150358.8	Evicting ¹	8797	2.24	33.39		22.47	0.00019	2.40	4197.64	371.94	0.1
		PropPh1 ²		3.31	33.39		33.47				371.94 371.67	
		FuturePh2 ³	8772 8788	3.31 3.31	33.37		33.46 33.47	0.000189 0.00019		4191.94 4195.53	371.67 371.84	
		FuturePh3 ⁴	8782	3.31	33.38		33.47	0.00019		4194.23	371.78	
i F	100000.0	T didici IIO	0102	3.31	33.30		55.47	0.00019	2.42	7134.23	3/ 1./0	0.1
i F	149526.4	Existing ¹	8797	3.15	33.27	14.02	33.33	0.00015	2.16	5927.99	465.04	0.09
		PropPh1 ²	8772	3.15		14.01	33.31	0.00015			464.93	0.08
		FuturePh2 ³	8788	3.15		14.02	33.32	0.00015			465	
		FuturePh3 ⁴	8782	3.15		14.01	33.32	0.00015			464.97	0.08
i [
	149122.7		8797	3.15	33.19		33.27	0.000132	2.32	4429	267.64	
		PropPh1 ²	8772	3.15			33.26	0.000132		4425.07	267.48	
\>		FuturePh2 ³	8788	3.15			33.27	0.000132	2.32	4427.54	267.58	
10PCT_10yr	149122.7	FuturePh3 ⁴	8782	3.15	33.18		33.26	0.000132	2.32	4426.64	267.55	0.08
½	4.40705.4	F:-4:1	00.40	2.45	22.44	42.50	22.04	0.000000	0.05	4004.00	4004.07	0.00
#	148795.4	PropPh1 ²	8840	3.15		13.59	33.21	0.000268	2.35	4804.26	1004.37	0.09
		FuturePh2 ³	8813 8830	3.15 3.15		13.57	33.19 33.2	0.000267 0.000267	2.34 2.35		1003.3 1003.97	0.09 0.09
		FuturePh3 ⁴	8824	3.15		13.58 13.58	33.2	0.000267	2.33		1003.97	
i -	140790.4	i utureriio	0024	3.10	33.13	13.36	33.2	0.000267	2.34	4001.40	1003.73	0.09
i t	148768.4		Bridge									
[
	148741.4		8840	3.04	33.03	13.47	33.11	0.000267	2.35	4806.51	1004.89	
. ⊢		PropPh1 ²	8813	3.04								
		FuturePh2 ³	8830	3.04				0.000267			1004.49	
i -	148741.4	FuturePh3 ⁴	8824	3.04	33.02	13.46	33.1	0.000267	2.34	4803.75	1004.25	0.09
, F	147622.4	Existing ¹	00.40	1 17	20.07	40.70	22.04	0.000000	2.46	4040.00	207.2	0.00
, F	147632.4	PropPh1 ²	8840 8813	-1.17 -1.17	32.87 32.85	10.73 10.72	32.94 32.92	0.000098 0.000098			397.3 397.2	
		FuturePh2 ³	8830	-1.17 -1.17			32.92					
		FuturePh3 ⁴	8824	-1.17 -1.17	32.86	10.73	32.93	0.000098				
i F	552.7		0024		52.00	.5.72	52.00			.0.1.00	551.27	0.55
i l	146698	Existing ¹	8840	1.88	32.75	10.63	32.83	0.000116	2.5	4864.62	325.23	0.1
į l	146698	PropPh1 ²	8813	1.88	32.73		32.82				325.14	
, [146698	FuturePh2 ³	8830	1.88	32.74	10.62	32.83	0.000116	2.5		325.2	
i [146698	FuturePh3 ⁴	8824	1.88	32.74	10.62	32.83	0.000116	2.5	4862.01	325.17	0.1
į [4										
	145723.9		8840	1.61	32.56		32.7	0.000165			380.23	
		PropPh1 ²	8813	1.61	32.54		32.68	0.000165				
		FuturePh2 ³	8830	1.61	32.55		32.69					
i -	145/23.9	FuturePh3 ⁴	8824	1.61	32.55		32.69	0.000165	3.25	4513.85	380.16	0.12
i -	144753.5	Existing ¹	8840	0.07	32.42	11.07	32.54	0.000141	2.83	3876 20	296.23	0.11
		PropPh1 ²	8840 8813	0.07	32.42	11.07	32.54		2.83			
		FuturePh2 ³	8830	0.07	32.41		32.53		2.82		296.02	
		FuturePh3 ⁴	8824	0.07			32.53		2.83		296.13	<u> </u>
, 1	177133.3	i aturor 110	0024	0.07	32.42	11.00	32.03	0.000141	2.03	3014.23	250.11	0.11



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	143966.8	Existing ¹	8840	-7.47	32.28	11.16	32.41	0.000191	3.05	4107.88	435.6	0.12
		PropPh1 ²	8813		32.27	11.13		0.00019	3.04	4103.51	435.2	0.12
	143966.8	FuturePh23	8830	-7.47	32.28	11.15	32.41	0.00019	3.05	4106.26	435.45	0.12
	143966.8	FuturePh3 ⁴	8824	-7.47	32.27	11.14		0.00019	3.05	4105.24	435.36	0.12
	143078.2		8840	-4.19			32.26	0.00014	2.59	5309.01	508.25	0.11
	143078.2	PropPh1 ²	8813	-4.19	32.15		32.25	0.000139	2.58	5303.44	507.9	0.11
	143078.2	FuturePh2 ³	8830	-4.19			32.26	0.00014	2.58	5306.94	508.12	0.11
	143078.2	FuturePh3 ⁴	8824	-4.19	32.16		32.25	0.00014	2.58	5305.64	508.04	0.11
	142061.4	Existing ¹	8840	0.55	32.07		32.14	0.000083				0.09
		PropPh1 ²	8813	0.55			32.13					0.09
		FuturePh2 ³	8830	0.55			32.14				 	0.09
	142061.4	FuturePh3 ⁴	8824	0.55	32.06		32.14	0.000083	2.3	5545.35	449.84	0.09
		1										
	141320.1		8840	-2.7	32.06		32.09					0.06
		PropPh1 ²	8813		32.05		32.08					0.06
		FuturePh2 ³	8830		32.05							0.06
	141320.1	FuturePh3 ⁴	8824	-2.7	32.05	9.01	32.08	0.000046	1.58	10141.12	740.86	0.06
	140446.0	Evicting ¹	00.40	4 24	24.04	0.70	20	0.000440	0.55	5246.67	507.70	0.00
	140116.2		8840	-1.31	31.91	9.76		0.000118				
		PropPh1 ²	8813		31.9			0.000117				0.09
		FuturePh2 ³	8830		31.9							
	140116.2	FuturePh3 ⁴	8824	-1.31	31.9	9.75	31.99	0.000118	2.54	5343.16	587.63	0.09
	120220	Eviating 1	8840	214	31.85	0.42	24.04	0.000087	2.07	6196.82	581.05	0.08
		Existing ¹					31.91				1	
		PropPh1 ²	8813	-2.14		9.4	31.9	0.000087				0.08
		FuturePh2 ³	8830				31.91	0.000087	2.07			0.08
	139320	FuturePh3 ⁴	8824	-2.14	31.84	9.41	31.91	0.000087	2.07	6193.44	580.85	0.08
₹	120607.0	Cvietine 1	0747	2.00	24.00	10.2	24.07	0.000001	1 10	45740.00	1001 55	0.04
10	138607.9	Dran Dh 12	8717	-2.08	31.86 31.85			0.000021	1.12			0.04
10PCT_10yr	138607.9	PropPh1 ² FuturePh2 ³	8698	-2.08					1.12			0.04
)PC			8710		31.86			0.000021	1.12			
1	138607.9	FuturePh3 ⁴	8705	-2.08	31.86	10.29	31.87	0.000021	1.12	15743.03	1061.1	0.04
	127722	Evicting ¹	8717	2.4	31.79	9.67	21.04	0.000062	2.16	9103.22	863.69	0.07
		Existing ¹ PropPh1 ²	8698	-2.4	31.79		31.84	0.000063			1	0.07
		FuturePh2 ³	8710	-2.4 -2.4	31.78							0.07 0.07
		FuturePh3 ⁴	8705		31.79			0.000063				
	13//32	ruturerns	8705	-2.4	31.79	9.00	31.04	0.000063	2.13	9096.55	003.40	0.07
	137113	Existing ¹	8717	-2.62	31.71	9.45	31.8	0.000089	2.57	5879.69	438.14	0.09
	137113	PropPh1 ²	8698					0.000089				
		FuturePh2 ³	8710									
		FuturePh3 ⁴	8705									0.09
	13/113	i utureriis	8703	-2.02	31.1	9.44	31.79	0.000069	2.00	3611.30	430.01	0.09
	136331.2	Existing ¹	8717	-2.09	31.66	9.32	31.68	0.000168	1.42	8880.56	632.41	0.05
		PropPh1 ²	8698									
		FuturePh2 ³	8710									
		FuturePh3 ⁴	8705									
	700001.2	. ataror no	0,00	2.00	01.00	5.02	31.07	0.000100	1.72	3377.00	302.00	0.00
	135666.2	Existing ¹	8717	-1.47	31.53		31.6	0.00008	2.21	6545.7	542.87	0.08
		PropPh1 ²	8698		31.53		31.59					0.08
		FuturePh2 ³	8710				31.6				1	
		FuturePh3 ⁴	8705		31.53		31.6					
	134706.7	Existing ¹	8717	-1.93	31.52		31.54	0.000037	1.55	12263.28	856.26	0.06
	134706.7	PropPh1 ²	8698	 			31.53					
		FuturePh2 ³	8710	 			31.54					0.06
		FuturePh3 ⁴	8705	_			31.53				_	
	134090.6		8717	-1.59	31.47		31.52	0.00005	1.9	9679.35	714.05	0.07
		PropPh1 ²	8698				31.51					0.07
		FuturePh2 ³	8710	-1.59			31.51			9677.07		0.07
		FuturePh3 ⁴	8705				31.51				1	



1337721 PropPh1" 8698 -0.79 31.41 8.81 31.48 0.000073 2.44 8073.35 799. 1337721 FuturePh3" 8705 -0.79 31.41 8.81 31.48 0.000073 2.44 8076.33 799. 133761	h Froude # Chl	Top Width	Flow Area	Vel Chnl	E.G. Slope	E.G. Elev	Crit W.S.	W.S. Elev	Min Ch El	Q Total	Plan	River Sta	Profile
1337721 PropPhil 8698 -0.79 31.41 8.81 31.48 0.000073 2.44 8073.3 799.1 1337721 FuturePh3' 8705 -0.79 31.41 8.81 31.49 0.000073 2.44 8076.33 799.1 133760.1 Bridge						(ft)				(cfs)			
133772.1 FuturePh3													
133772.1 FuturePh3 ¹ 8705 -0.79 31.41 8.81 31.49 0.000073 2.44 8076.33 799.1 133760.1 Bridge													
133760.1 Bridge													
133748.1 Existing	0.08	799.59	8076.33	2.44	0.000073	31.49	8.81	31.41	-0.79	8705	FuturePh3*	133772.1	
133748.1										Bridge		133760.1	
133748.1	18 0.08	706.40	7010.25	2.40	0.000077	21.40	0.15	21 41	0.46	0717	Eviating 1	122740 1	
133748.1 FuturePh2* 8710 -0.46 31.41 9.15 31.48 0.000077 2.49 7809.9 786.1		 											
133748.1 FuturePh3 ¹													
132963.8 Existing													
132963.8 FrutrePh2 ³ 8698 -1.98 31.32 8.66 31.41 0.000099 2.46 4846.74 439.1 132963.8 FuturePh2 ³ 8710 -1.98 31.32 8.66 31.41 0.00001 2.46 4848.98 440.0 13799.8 Existing ¹ 8717 -2.31 31.21 7.48 31.3 0.000096 2.58 5499.48 482.1 131789.8 FuturePh2 ³ 8710 -2.31 31.21 7.47 31.29 0.000096 2.57 5495.74 482.1 131789.8 FuturePh2 ³ 8710 -2.31 31.21 7.47 31.3 0.000096 2.58 5498.09 482.1 131789.8 FuturePh2 ³ 8710 -2.31 31.21 7.47 31.3 0.000096 2.58 5498.09 482.1 131789.8 FuturePh2 ³ 8710 -2.31 31.21 7.47 31.3 0.000096 2.58 5498.09 482.1 130765.5 Existing ¹ 8717 -3.81 31.19 31.23 0.000038 1.76 8162.38 487.1 130765.5 FruturePh2 ³ 8710 -3.81 31.18 31.22 0.000038 1.76 8160.99 487.1 130765.5 FuturePh2 ³ 8710 -3.81 31.18 31.22 0.000038 1.76 8160.19 487.1 129725.3 Existing ¹ 8717 -3.71 31.1 31.17 0.00007 2.38 7765.94 683.1 129725.3 FuturePh2 ³ 8710 -3.71 31.1 31.17 0.00007 2.38 7765.94 683.1 129725.3 FuturePh2 ³ 8710 -3.71 31.1 31.17 0.00007 2.38 7765.94 683.1 129725.3 FuturePh2 ³ 8710 -3.71 31.1 31.17 0.00007 2.37 7760.85 683.1 129725.3 FuturePh2 ³ 8710 -3.71 31.1 31.17 0.00007 2.38 7765.94 683.1 129725.3 FuturePh2 ³ 8790 -3.71 31.1 31.17 0.00007 2.38 7765.04 683.1 129725.3 FuturePh2 ³ 8790 -3.71 31.1 31.17 0.00007 2.38 7765.94 683.1 129725.3 FuturePh2 ³ 8698 -3.73 31.06 31.13 0.00061 2.13 5875.2 477.1 129163.2 FuturePh2 ³ 8698 -3.13 31.06 31.13 0.00061 2.13 5875.2 477.1 129163.2 FuturePh2 ³ 8698 -3.03 31.06 31.13 0.00061 2.13 5875.2 477.1 128326.9 FuturePh2 ³ 8698 -4.05 31.03 6.09 31.08 0.000042 1.88 8403.11 128326.9 FuturePh2 ³ 869	1 0.00	100.11	7 000.00	2.10	0.000011	01.10	0.11	01.1	0.10	0,00	T dtdror 110	1007 10.1	
132963.8 FuturePh2 ³				2.46	0.0001	31.42	8.66		-1.98	8717			
132963.8 FuturePh3 ⁴	0.09	439.59	4846.74	2.46	0.000099	31.41	8.65	31.32	-1.98	8698	PropPh1 ²	132963.8	
131789.8 Existing					0.0001								
131789.8 FropPh1 2 8698 -2.31 31.2 7.47 31.29 0.000096 2.57 5495.74 482.1 131789.8 FuturePh2 8710 -2.31 31.21 7.47 31.3 0.000096 2.58 5498.09 482.1 131789.8 FuturePh3 8705 -2.31 31.2 7.47 31.3 0.000096 2.58 5498.09 482.1 130765.5 Existing 8717 -3.81 31.19 31.23 0.000038 1.76 8162.38 487.1 130765.5 FropPh1 8698 -3.81 31.18 31.22 0.000038 1.76 8162.38 487.1 130765.5 FuturePh2 8710 -3.81 31.18 31.22 0.000038 1.76 8160.99 487.1 130765.5 FuturePh2 8705 -3.81 31.18 31.22 0.000038 1.76 8160.99 487.1 130765.5 FuturePh2 8705 -3.81 31.18 31.22 0.000038 1.76 8160.99 487.1 129725.3 Existing 8717 -3.71 31.1 31.17 0.00007 2.38 7765.94 683.1 129725.3 FuturePh2 8699 -3.71 31.1 31.17 0.00007 2.37 7760.95 683.1 129725.3 FuturePh2 8698 -3.71 31.1 31.17 0.00007 2.38 7764.04 683.1 129163.2 Existing 8717 -3.13 31.07 31.13 0.000061 2.13 8876.5 477.1 129163.2 Existing 8717 -3.13 31.06 31.13 0.000061 2.13 8876.5 477.1 129163.2 FuturePh2 8698 -3.13 31.06 31.13 0.000061 2.13 8876.5 477.1 129163.2 FuturePh2 8698 -3.13 31.06 31.13 0.000061 2.13 8876.5 477.1 129163.2 FuturePh2 8710 -3.13 31.06 31.13 0.000061 2.13 8876.5 477.1 128326.9 Existing 8717 -4.05 31.04 6.09 31.08 0.000042 1.88 8407.04 128326.9 FuturePh2 8698 -4.05 31.03 6.08 31.08 0.000042 1.88 8407.04 128326.9 FuturePh3 8705 -4.05 31.03 6.08 31.08 0.000042 1.88 8405.11 128104.6 Existing 8588 -4.29 31.03 5.79 31.08 0.000041 1.87 6694.96 384.1 128104.6 ExiturePh2 8588 -4.29 31.03 5.79 31.07 0.000041 1.87 6694.01 128028.8 Existing 8588 -4.51 30.8 5.57 30.85 0.000041 1.87 6694.47 128028.8 Existing	0.09	440.29	4848.18	2.46	0.000099	31.41	8.65	31.32	-1.98	8705	FuturePh3⁴	132963.8	
131789.8 FropPh1 2 8698 -2.31 31.2 7.47 31.29 0.000096 2.57 5495.74 482.1 131789.8 FuturePh2 8710 -2.31 31.21 7.47 31.3 0.000096 2.58 5498.09 482.1 131789.8 FuturePh3 8705 -2.31 31.2 7.47 31.3 0.000096 2.58 5498.09 482.1 130765.5 Existing 8717 -3.81 31.19 31.23 0.000038 1.76 8162.38 487.1 130765.5 FropPh1 8698 -3.81 31.18 31.22 0.000038 1.76 8162.38 487.1 130765.5 FuturePh2 8710 -3.81 31.18 31.22 0.000038 1.76 8160.99 487.1 130765.5 FuturePh2 8705 -3.81 31.18 31.22 0.000038 1.76 8160.99 487.1 130765.5 FuturePh2 8705 -3.81 31.18 31.22 0.000038 1.76 8160.99 487.1 129725.3 Existing 8717 -3.71 31.1 31.17 0.00007 2.38 7765.94 683.1 129725.3 FuturePh2 8699 -3.71 31.1 31.17 0.00007 2.37 7760.95 683.1 129725.3 FuturePh2 8698 -3.71 31.1 31.17 0.00007 2.38 7764.04 683.1 129163.2 Existing 8717 -3.13 31.07 31.13 0.000061 2.13 8876.5 477.1 129163.2 Existing 8717 -3.13 31.06 31.13 0.000061 2.13 8876.5 477.1 129163.2 FuturePh2 8698 -3.13 31.06 31.13 0.000061 2.13 8876.5 477.1 129163.2 FuturePh2 8698 -3.13 31.06 31.13 0.000061 2.13 8876.5 477.1 129163.2 FuturePh2 8710 -3.13 31.06 31.13 0.000061 2.13 8876.5 477.1 128326.9 Existing 8717 -4.05 31.04 6.09 31.08 0.000042 1.88 8407.04 128326.9 FuturePh2 8698 -4.05 31.03 6.08 31.08 0.000042 1.88 8407.04 128326.9 FuturePh3 8705 -4.05 31.03 6.08 31.08 0.000042 1.88 8405.11 128104.6 Existing 8588 -4.29 31.03 5.79 31.08 0.000041 1.87 6694.96 384.1 128104.6 ExiturePh2 8588 -4.29 31.03 5.79 31.07 0.000041 1.87 6694.01 128028.8 Existing 8588 -4.51 30.8 5.57 30.85 0.000041 1.87 6694.47 128028.8 Existing	0.09	/82 13	5/00 /8	2.58	0.000096	31 3	7 /18	31 21	-2 31	8717	Existing ¹	131780 8	
131789.8 FuturePh2 ³													
131789.8 FuturePh3 ⁴ 8705 -2.31 31.2 7.47 31.3 0.000096 2.58 5497.25 482.0													
130765.5 Existing													
130765.5 PropPh12					0.00000								
130765.5 FuturePh2 ³													
130765.5 FuturePh3 ⁻¹ 8705 -3.81 31.18 31.22 0.000038 1.76 8160.15 486.85													
129725.3 Existing 8717 -3.71 31.1 31.17 0.00007 2.38 7765.94 683.9 129725.3 PropPh12 8698 -3.71 31.1 31.17 0.00007 2.37 7760.85 683.9 129725.3 FuturePh24 8710 -3.71 31.1 31.17 0.00007 2.38 7764.04 683.1 129725.3 FuturePh34 8705 -3.71 31.1 31.17 0.00007 2.37 7762.92 683.9 129725.3 FuturePh34 8705 -3.71 31.1 31.17 0.00007 2.37 7762.92 683.9 129163.2 Existing 8717 -3.13 31.07 31.13 0.000061 2.13 5873.01 477.3 129163.2 FuturePh24 8698 -3.13 31.06 31.12 0.000061 2.13 5875.2 477.4 129163.2 FuturePh24 8705 -3.13 31.06 31.13 0.000061 2.13 5875.2 477.4 129163.2 FuturePh24 8705 -3.13 31.06 31.13 0.000061 2.13 5875.2 477.4 129163.2 FuturePh24 8705 -3.13 31.06 31.13 0.000061 2.13 5875.2 477.4 477.3 129163.2 FuturePh25 8717 -4.05 31.04 6.09 31.08 0.000042 1.88 8407.04 810.1 128326.9 FuturePh25 8717 -4.05 31.03 6.08 31.08 0.000042 1.88 8403.11 809.9 128326.9 FuturePh25 8710 -4.05 31.03 6.08 31.08 0.000042 1.88 8403.11 809.9 128326.9 FuturePh25 8710 -4.05 31.03 6.08 31.08 0.000042 1.88 8404.72 810.0 128104.6 Existing 8588 -4.29 31.03 5.79 31.08 0.000041 1.87 6694.96 384.9 128104.6 FuturePh25 8584 -4.29 31.03 5.79 31.07 0.000041 1.87 6694.01 384.9 128104.6 FuturePh25 8581 -4.29 31.02 5.78 31.07 0.000041 1.87 6694.47 384.9 128028.8 Existing 8588 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.9 128028.8 Existing 8584 -4.51 30.8 5.56 30.85 0.000041 1.87 6693.52 384.9 128028.8 FuturePh25 85877 -4.51 30.8 5.56 30.85 0.000041 1.87 6693.52 384.9 128028.8 FuturePh25 8584 -4.51 30.8 5.56 30.85 0.000041 1.87 6693.52 384.9 128028.8 FuturePh25 8584 -4.51 30.8 5.56 30.85 0.000041 1.87													
129725.3 PropPht2 8698	0.06	486.99	8160.15	1.76	0.000038	31.22		31.18	-3.81	8705	FuturePh3 [*]	130765.5	
129725.3 PropPht2 8698	0.08	683 07	7765.04	2 38	0.00007	31 17		21 1	_3 71	8717	Existing ¹	120725.3	
129725.3 FuturePh23 8710 -3.71 31.1 31.17 0.00007 2.38 7764.04 683.9											PronPh1 ²	129725.3	
129725.3 FuturePh3 ⁴ 8705 -3.71 31.1 31.17 0.00007 2.37 7762.92 683.9											Ŷ		
129163.2 FuturePh23 8710													Š
129163.2 FuturePh23 8710													
129163.2 FuturePh23 8710			5876.5	2.13				31.07	-3.13	8717			ပ္ပ
129163.2 FuturePh3 ⁴ 8705 -3.13 31.06 31.13 0.000061 2.13 5874.44 477.3 128326.9 Existing ¹ 8717 -4.05 31.04 6.09 31.08 0.000042 1.88 8407.04 810.7 128326.9 PropPh1 ² 8698 -4.05 31.03 6.08 31.08 0.000042 1.88 8403.11 809.9 128326.9 FuturePh2 ³ 8710 -4.05 31.03 6.09 31.08 0.000042 1.88 8405.58 810.7 128326.9 FuturePh3 ⁴ 8705 -4.05 31.03 6.08 31.08 0.000042 1.88 8404.72 810.0 128326.9 FuturePh3 ⁴ 8705 -4.05 31.03 6.08 31.08 0.000042 1.88 8404.72 810.0 128104.6 Existing ¹ 8588 -4.29 31.03 5.79 31.08 0.000041 1.87 6694.96 384.8 128104.6 FuturePh2 ³ 8584 -4.29 31.03 5.79 31.07 0.000041 1.87 6694.01 384.8 128104.6 FuturePh3 ⁴ 8581 -4.29 31.02 5.79 31.07 0.000041 1.87 6693.45 384.8 128028.8 Existing ¹ 8588 -4.51 30.81 5.57 30.85 0.000041 1.87 6691.92 384.8 128028.8 FropPh1 ² 8577 -4.51 30.8 5.56 30.85 0.000041 1.87 6693.52 384.8 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8 128028.8 FuturePh2 ³ 85		477.32											10
128326.9 Existing 1 8717 -4.05 31.04 6.09 31.08 0.000042 1.88 8407.04 810.7 128326.9 PropPh12 8698 -4.05 31.03 6.08 31.08 0.000042 1.88 8403.11 809.5 128326.9 FuturePh23 8710 -4.05 31.03 6.09 31.08 0.000042 1.88 8405.58 810.7 128326.9 FuturePh34 8705 -4.05 31.03 6.09 31.08 0.000042 1.88 8404.72 810.0 128326.9 FuturePh34 8705 -4.05 31.03 6.08 31.08 0.000042 1.88 8404.72 810.0 128326.9 FuturePh34 8588 -4.29 31.03 5.79 31.08 0.000041 1.87 6694.96 384.5 128104.6 PropPh12 8577 -4.29 31.02 5.78 31.07 0.000041 1.87 6692.4 384 128104.6 FuturePh23 8584 -4.29 31.03 5.79 31.07 0.000041 1.87 6694.01 384.5 128104.6 FuturePh34 8581 -4.29 31.02 5.79 31.07 0.000041 1.87 6693.45 384.5 128028.8 Existing 1 8588 -4.51 30.81 5.57 30.85 0.000041 1.87 6694.47 384.5 128028.8 PropPh12 8577 -4.51 30.8 5.56 30.85 0.000041 1.87 6691.92 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23 8594 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.5 128028.8 FuturePh23													
128326.9 PropPh1² 8698 -4.05 31.03 6.08 31.08 0.000042 1.88 8403.11 809.9 128326.9 FuturePh2³ 8710 -4.05 31.03 6.09 31.08 0.000042 1.88 8405.58 810.0 128326.9 FuturePh3⁴ 8705 -4.05 31.03 6.08 31.08 0.000042 1.88 8404.72 810.0 128104.6 Existing¹ 8588 -4.29 31.03 5.79 31.08 0.000041 1.87 6694.96 384.8 128104.6 PropPh1² 8577 -4.29 31.02 5.78 31.07 0.000041 1.87 6692.4 384 128104.6 FuturePh2³ 8584 -4.29 31.03 5.79 31.07 0.000041 1.87 6694.01 384.8 128104.6 FuturePh3⁴ 8581 -4.29 31.02 5.79 31.07 0.000041 1.87 6693.45 384.8 128028.8 Existing¹ 8588 -4.51 30.81 5.57 30.85 0.000041 1.87 6694.47	0.07	477.39	5874.44	2.13	0.000061	31.13		31.06	-3.13	8705	FuturePh3 ⁴	129163.2	
128326.9 PropPh1² 8698 -4.05 31.03 6.08 31.08 0.000042 1.88 8403.11 809.9 128326.9 FuturePh2³ 8710 -4.05 31.03 6.09 31.08 0.000042 1.88 8405.58 810.0 128326.9 FuturePh3⁴ 8705 -4.05 31.03 6.08 31.08 0.000042 1.88 8404.72 810.0 128104.6 Existing¹ 8588 -4.29 31.03 5.79 31.08 0.000041 1.87 6694.96 384.8 128104.6 PropPh1² 8577 -4.29 31.02 5.78 31.07 0.000041 1.87 6692.4 384 128104.6 FuturePh2³ 8584 -4.29 31.03 5.79 31.07 0.000041 1.87 6694.01 384.8 128104.6 FuturePh3⁴ 8581 -4.29 31.02 5.79 31.07 0.000041 1.87 6693.45 384.8 128028.8 Existing¹ 8588 -4.51 30.81 5.57 30.85 0.000041 1.87 6694.47	19 0.06	810.19	8407.04	1.88	0.000042	31.08	6.09	31.04	-4.05	8717	Existing ¹	128326.9	
128326.9 FuturePh2³ 8710 -4.05 31.03 6.09 31.08 0.000042 1.88 8405.58 810.000042 128326.9 FuturePh3⁴ 8705 -4.05 31.03 6.08 31.08 0.000042 1.88 8404.72 810.00000000000000000000000000000000000													
128104.6 Existing ¹ 8588 -4.29 31.03 5.79 31.08 0.000041 1.87 6694.96 384.8 128104.6 PropPh1 ² 8577 -4.29 31.02 5.78 31.07 0.000041 1.87 6692.4 384.8 128104.6 FuturePh2 ³ 8584 -4.29 31.03 5.79 31.07 0.000041 1.87 6694.01 384.8 128104.6 FuturePh3 ⁴ 8581 -4.29 31.02 5.79 31.07 0.000041 1.87 6693.45 384.8 128028.8 Existing ¹ 8588 -4.51 30.81 5.57 30.85 0.000041 1.87 6694.47 384.8 128028.8 PropPh1 ² 8577 -4.51 30.8 5.56 30.85 0.000041 1.87 6691.92 384.8 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8		1		1.88	0.000042				-4.05	8710			
128104.6 PropPh1² 8577 -4.29 31.02 5.78 31.07 0.000041 1.87 6692.4 384 128104.6 FuturePh2³ 8584 -4.29 31.03 5.79 31.07 0.000041 1.87 6694.01 384.8 128104.6 FuturePh3⁴ 8581 -4.29 31.02 5.79 31.07 0.000041 1.87 6693.45 384.8 128066.7 Bridge -4.29 30.81 5.57 30.85 0.000041 1.87 6694.47 384.8 128028.8 Existing¹ 8588 -4.51 30.81 5.57 30.85 0.000041 1.87 6691.92 384.8 128028.8 FuturePh2³ 8584 -4.51 30.8 5.56 30.85 0.000041 1.87 6693.52 384.8		810.06	8404.72	1.88	0.000042	31.08	6.08	31.03	-4.05	8705	FuturePh3 ⁴	128326.9	
128104.6 PropPh1² 8577 -4.29 31.02 5.78 31.07 0.000041 1.87 6692.4 384 128104.6 FuturePh2³ 8584 -4.29 31.03 5.79 31.07 0.000041 1.87 6694.01 384.8 128104.6 FuturePh3⁴ 8581 -4.29 31.02 5.79 31.07 0.000041 1.87 6693.45 384.8 128066.7 Bridge 128028.8 Existing¹ 8588 -4.51 30.81 5.57 30.85 0.000041 1.87 6694.47 384.8 128028.8 PropPh1² 8577 -4.51 30.8 5.56 30.85 0.000041 1.87 6691.92 384.8 128028.8 FuturePh2³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8	0.06	384.88	6694 96	1.87	0.000041	31.08	5 79	31 03	-4 29	8588	Existing ¹	128104 6	
128104.6 FuturePh2³ 8584 -4.29 31.03 5.79 31.07 0.000041 1.87 6694.01 384.8 128104.6 FuturePh3⁴ 8581 -4.29 31.02 5.79 31.07 0.000041 1.87 6693.45 384.8 128066.7 Bridge 31.02 5.79 31.07 0.000041 1.87 6693.45 384.8 128028.8 Existing¹ 8588 -4.51 30.81 5.57 30.85 0.000041 1.87 6694.47 384.8 128028.8 PropPh1² 8577 -4.51 30.8 5.56 30.85 0.000041 1.87 6691.92 384.8 128028.8 FuturePh2³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8		1											
128104.6 FuturePh3 ⁴ 8581 -4.29 31.02 5.79 31.07 0.000041 1.87 6693.45 384.8 128066.7 Bridge 128028.8 Existing ¹ 8588 -4.51 30.81 5.57 30.85 0.000041 1.87 6694.47 384.8 128028.8 PropPh1 ² 8577 -4.51 30.8 5.56 30.85 0.000041 1.87 6691.92 384.1 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8													
128028.8 Existing ¹ 8588 -4.51 30.81 5.57 30.85 0.000041 1.87 6694.47 384.8 128028.8 PropPh1 ² 8577 -4.51 30.8 5.56 30.85 0.000041 1.87 6691.92 384.8 128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8													
128028.8 Existing¹ 8588 -4.51 30.81 5.57 30.85 0.000041 1.87 6694.47 384.8 128028.8 PropPh1² 8577 -4.51 30.8 5.56 30.85 0.000041 1.87 6691.92 384.8 128028.8 FuturePh2³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8	+									Bridge		128066.7	
128028.8 PropPh12 8577 -4.51 30.8 5.56 30.85 0.000041 1.87 6691.92 384.7 128028.8 FuturePh23 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8	1												
128028.8 FuturePh2 ³ 8584 -4.51 30.8 5.57 30.85 0.000041 1.87 6693.52 384.8													
128028.8 Future Ph3" 8581 -4.51 30.8 5.56 30.85 0.000041 1.87 6692.96 384.8													
	0.06	384.82	6692.96	1.87	0.000041	30.85	5.56	30.8	-4.51	8581	FuturePh3*	128028.8	
126647 Existing ¹ 8588 -3.93 30.77 30.79 0.00003 1.63 11094.66 73	39 0.05	739	11094.66	1.63	0.00003	30.79		30.77	-3.93	8588	Existing ¹	126647	
	_												
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125376.9 FuturePh3 ⁴ 8581 -4.05 30.66 30.73 0.000056 2.28 5520.37 329.0	0.07	329.08	0020.37	2.28	0.000056	30.73		30.06	-4.05	6561	i uturerilə	1203/6.9	



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		7.15	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	124983.5	Existing ¹	8588	-3.86	30.66	7.84	30.71	0.000054	2.2	5734.26	979.78	0.07
	124983.5	PropPh1 ²	8577	-3.86			30.7	0.000054	2.2	5731.67	979.47	0.07
		FuturePh2 ³	8584	-3.86			30.71	0.000054	2.2		979.66	0.07
	124983.5	FuturePh3⁴	8581	-3.86	30.66	7.83	30.71	0.000054	2.2	5732.73	979.6	0.07
		4										
	124644.1		8588	-3.69			30.69				484.25	0.07
		PropPh1 ²	8577	-3.69			30.68			5510.72	484.18	0.07
		FuturePh2 ³	8584	-3.69			30.69				484.22	0.07
	124644.1	FuturePh3 ⁴	8581	-3.69	30.63	7.97	30.69	0.000058	2.28	5511.63	484.21	0.07
	124591.8		Bridge									
	121001.0		Bridge									
	124539.5	Existing ¹	8588	-3.74	30.62	7.93	30.68	0.000058	2.27	5524.39	484.63	0.07
		PropPh1 ²	8577	-3.74	30.61	7.92	30.67	0.000058	2.27	5522.19	484.55	0.07
	124539.5	FuturePh23	8584	-3.74	30.62	7.93	30.67	0.000058	2.27	5523.57	484.6	0.07
	124539.5	FuturePh3 ⁴	8581	-3.74	30.62	7.92	30.67	0.000058	2.27	5523.1	484.58	0.07
	123658.2		8535				30.62	0.000036			1134.85	0.06
		PropPh1 ²	8527	-2.04			30.62				1133.63	0.06
		FuturePh2 ³	8533	-2.04			30.62				1134.4	0.06
	123658.2	FuturePh3 ⁴	8530	-2.04	30.59		30.62	0.000036	1.72	11048.88	1134.14	0.06
	123138.8	Evicting ¹	8535	-4.08	30.6		30.61	0.000016	1.11	14706.36	944.62	0.04
		PropPh1 ²	8527	-4.08			30.61				944.02	0.04
		FuturePh2 ³	8533	-4.08			30.6			14703.89	944.13	0.04
	123138.8	FuturePh3 ⁴	8530				30.6				944.33	0.04
	120100.0	T didirer no	0000	4.00	00.00		00.0	0.000010	1.11	14702.40	011.00	0.04
	122627.1	Existing ¹	8535	-6.08	30.57	3.66	30.59	0.000027	1.41	8230.19	628.37	0.05
	122627.1	PropPh1 ²	8527	-6.08		3.66	30.59		1.4		627.98	0.05
	122627.1	FuturePh23	8533	-6.08	30.56	3.66	30.59	0.000027	1.41	8228.55	628.22	0.05
충	122627.1	FuturePh3 ⁴	8530	-6.08	30.56	3.66	30.59	0.000027	1.41	8227.62	628.14	0.05
10PCT_10yr	100570.4		11.11.0									
ပြ	122572.1		Mult Open									
<u> </u>	122517.1	Evicting ¹	8535	-5.38	30.55	4.36	30.58	0.00003	1.45	7794.86	584.21	0.05
	122517.1	PropPh1 ²	8527	-5.38		4.36	30.57	0.00003			583.54	0.05
		FuturePh2 ³	8533				30.58				583.96	0.05
		FuturePh3 ⁴	8530				30.57	0.00003			583.82	0.05
	122017.1	T ditaror 110	0000	0.00	00.00	1.00	00.01	0.00000	1.10	1102.10	000.02	0.00
	121229.5	Existing ¹	8535	-11.37	30.48		30.53	0.000043	1.94	8222.25	832.23	0.06
	121229.5	PropPh1 ²	8527	-11.37	30.48		30.52	0.000043	1.94	8216.35	832.14	0.06
	121229.5	FuturePh23	8533	-11.37	30.48		30.52	0.000043	1.94	8219.94	832.19	0.06
	121229.5	FuturePh3 ⁴	8530	-11.37	30.48		30.52	0.000043	1.94	8218.74	832.17	0.06
		1										
	120962.2		8535				30.51	0.000056			651.75	
		PropPh1 ²	8527	-10.59			30.5				651.62	
		FuturePh2 ³	8533				30.51	0.000056			651.7	0.07
	120962.2	FuturePh3 ⁴	8530	-10.59	30.44		30.51	0.000056	2.2	6243.03	651.67	0.07
	120005.2	Existing ¹	8535	-7.78	30.45	3.1	30.46	0.000015	1.14	13451.35	899.79	0.04
		PropPh1 ²	8527	-7.78			30.46				898.78	0.04
		FuturePh2 ³	8533				30.46				899.4	0.04
		FuturePh3 ⁴	8530				30.46				899.19	
					55. 10		25.10					3.31
	119952.6		Bridge									
	,	E . u . 1						0.000		10015		
	119900	Existing ¹	8535				30.45				891.64	0.04
		PropPh1 ²	8527	-7.64			30.44				891.45	0.04
		FuturePh2 ³	8533				30.44				891.57	0.04
	119900	FuturePh3 ⁴	8530	-7.64	30.43	3.25	30.44	0.000015	1.15	13306.33	891.53	0.04
	119495.9	Existing ¹	8535	-7.21	30.43		30.44	0.000009	0.97	20397.1	1226.89	0.03
		PropPh1 ²	8527	-7.21	30.43		30.44				1226.58	
1		FuturePh2 ³	8533		30.43		30.44				1226.77	0.03
		FuturePh3 ⁴	8530		30.43		30.44				1226.71	0.03



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	118667.7		8535	-8.56	30.4		30.42	0.000022	1.56	10520.76	697.84	0.05
		PropPh1 ²	8527	-8.56			30.42		1.56		697.55	0.05
		FuturePh2 ³	8533	-8.56			30.42		1.56			0.05
	118667.7	FuturePh3 ⁴	8530	-8.56	30.39		30.42	0.000022	1.56	10517.87	697.66	0.05
	4404004	F · (· 1	0505			4.00	00.40		4 ==	0.400.00	700 5	0.05
	118466.1	Existing '	8535	-8.89			30.42			8188.02	789.5	0.05
	118466.1	PropPh1 ²	8527	-8.89		1.22	30.41	0.000028		8182.53	789.38	0.05
		FuturePh2 ³ FuturePh3 ⁴	8533 8530	-8.89		1.23	30.41	0.000028		8185.85	789.45	0.05 0.05
	1 10400.1	FuturePris	6030	-8.89	30.37	1.23	30.41	0.000028	1.77	8184.77	789.43	0.05
	118418.1		Bridge									
	118370.1	Existing ¹	8535	-8.87	30.35		30.39			8149.54	788.64	0.05
		PropPh1 ²	8527	-8.87	30.34	1.22	30.38	0.000029		8144.07	788.52	0.05
		FuturePh2 ³	8533	-8.87	30.35		30.39			8147.38	788.59	0.05
	1183/0.1	FuturePh3 ⁴	8530	-8.87	30.34	1.22	30.38	0.000029	1.77	8146.3	788.57	0.05
	117845.4	Existing ¹	8535	-7.26	30.34		30.37	0.000027	1.63	8947.12	567.24	0.05
		PropPh1 ²	8527	-7.26			30.36		1.63		567.17	0.05
		FuturePh2 ³	8533	-7.26			30.37	0.000027	1.63		567.21	0.05
		FuturePh3 ⁴	8530	-7.26			30.36		1.63		567.2	0.05
	111010.1			1.20	00.01		00.00	0.000021	1.00	5511115	001.2	0.00
	117204.3	Existing ¹	8535	-4.6	30.33		30.35	0.000026	1.54	10724.17	646.04	0.05
	117204.3	PropPh1 ²	8527	-4.6	30.32		30.34	0.000026	1.54		645.99	0.05
		FuturePh2 ³	8533	-4.6	30.32		30.35	0.000026	1.54	10722.4	646.02	0.05
	117204.3	FuturePh3 ⁴	8530	-4.6	30.32		30.34	0.000026	1.54	10721.52	646.01	0.05
	440005.7	F : 0 1	2525				22.22		4.50		100.00	
	116395.7		8535	-3.88			30.33	0.000023	1.53		499.26	0.05
느		PropPh1 ²	8527	-3.88			30.32				499.22	0.05
10		FuturePh2 ³ FuturePh3 ⁴	8533 8530	-3.88 -3.88			30.33 30.32		1.53 1.53	9635.43 9634.76	499.25 499.24	0.05 0.05
IOPCT_10yr	116395.7	FuturePh3	8030	-3.88	30.3		30.32	0.000023	1.53	9034.70	499.24	0.05
) DG	116167.6	Existing ¹	8535	-3.68	30.26	3.79	30.31	0.000037	1.92	5861.92	270.07	0.06
7		PropPh1 ²	8527	-3.68	30.25		30.31	0.000037	1.92	5860.16	270.05	0.06
		FuturePh2 ³	8533	-3.68			30.31	0.000037	1.92		270.06	0.06
		FuturePh3⁴	8530	-3.68			30.31	0.000037	1.92		270.06	0.06
	116121.9		Bridge									
	116076.2	Evisting ¹	8535	-3.86	30.08	3.62	30.14	0.000037	1.92	5862.64	270.08	0.06
		PropPh1 ²	8527	-3.86			30.14		1.92	5860.89	270.06	0.06
		FuturePh2 ³	8533				30.13					
		FuturePh3 ⁴	8530				30.13					
	115655.5	Existing ¹	8535	-5.03			30.12				536.39	0.07
		PropPh1 ²	8527	-5.03			30.11					0.07
		FuturePh2 ³	8533									0.07
	115655.5	FuturePh3 ⁴	8530	-5.03	30.06	4.01	30.12	0.000033	2.06	6060.87	536.26	0.07
	115635.5		Bridge									
	110000.0		Dilago									
	115615.5	Existing ¹	8535	-5.27	30.06	3.77	30.12	0.000032	2.04	6192.46	544.21	0.06
		PropPh1 ²	8527	-5.27							543.98	
		FuturePh2 ³	8533	-5.27	30.06		30.11	0.000032	2.04	6190.98	544.12	0.06
	115615.5	FuturePh3 ⁴	8530	-5.27	30.06	3.76	30.11	0.000032	2.04	6190.28	544.07	0.06
	4455705	Fuinting 1	0505	F 70	20.07	0.7	00.44	0.000001	4 70	7000.00	400.74	0.05
	115573.5		8535	-5.72			30.11	0.000024	1.73		493.74	0.05
		PropPh1 ² FuturePh2 ³	8527 8533	-5.72 -5.72			30.1 30.1	0.000024 0.000024				0.05 0.05
		FuturePh3 ⁴	8530				30.1	0.000024			493.73	0.05
	110010.0	r didici iio	6530	-5.12	30.00	2.1	30.1	0.000024	1.13	1 39 1.93	483.13	0.00
	115553.5		Bridge									



Profile	River Sta	Plan										Froude # Chl
			(cfs)	(ft)		(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	115533.5		8535	-6.77	30.06		30.1	0.000021	1.64		496.78	
		PropPh1 ²	8527	-6.77	30.06		30.09		1.64	7908.65	496.76	
		FuturePh2 ³	8533	-6.77	30.06		30.09		1.64	7910.67	496.77	0.05
	115533.5	FuturePh3 ⁴	8530	-6.77	30.06	1.64	30.09	0.000021	1.64	7910.03	496.77	0.05
	115214	Existing ¹	8535	-7.96	30.05	0.66	30.09	0.00002	1.63	6506.6	326.95	0.05
		PropPh1 ²	8527	-7.96		0.66	30.08		1.63		326.91	0.05
	115214	FuturePh2 ³	8533	-7.96			30.09		1.63		326.94	
	115214	FuturePh3 ⁴	8530	-7.96	30.05	0.66	30.08	0.00002	1.63	6505.42	326.93	0.05
	115100.5		D : 1									
	115168.5		Bridge									
	115123	Existing ¹	8535	-8.12	30.03	0.5	30.06	0.00002	1.63	6546.76	327.77	0.05
		PropPh1 ²	8527	-8.12	30.02	0.49	30.06	0.00002	1.63		327.73	0.05
		FuturePh2 ³	8533	-8.12	30.02	0.49	30.06		1.63		327.76	
		FuturePh3 ⁴	8530	-8.12	30.02		30.06		1.63		327.75	
	114890.5		8535	-8.56	30.01	1.24	30.06	0.000025		6828.36	416.9	0.06
		PropPh1 ²	8527	-8.56		1.23	30.05			6825.72	416.81	0.06
		FuturePh2 ³	8533	-8.56	30.01	1.24	30.06		1.74	6827.29	416.86	
	114890.5	FuturePh3 ⁴	8530	-8.56	30.01	1.24	30.05	0.000025	1.74	6826.8	416.85	0.06
	114864.5		Dridge									
	114004.3		Bridge									
	114838.5	Existing ¹	8535	-9.27	29.36	0.52	29.4	0.000025	1.74	6849.4	417.57	0.06
		PropPh1 ²	8527	-9.27	29.35		29.39		1.74	6846.78	417.49	
		FuturePh2 ³	8533	-9.27	29.35		29.4	0.000025		6848.34	417.54	0.06
		FuturePh3 ⁴	8530	-9.27	29.35		29.4	0.000025		6847.85	417.52	0.06
≒	114492	Existing ¹	8535	-10.48	29.35		29.39	0.00003	1.77	6380.26	347.92	0.06
ا ج		PropPh1 ²	8527	-10.48	29.34		29.39	0.00003	1.76	6377.94	347.84	0.06
등		FuturePh2 ³	8533	-10.48	29.34		29.39	0.00003	1.76		347.88	
10PCT_10yr	114492	FuturePh3 ⁴	8530	-10.48	29.34		29.39	0.00003	1.76	6378.89	347.87	0.06
_		1										
	114195.9		8535	-11.52	29.34	0.75	29.38	0.000027	1.71	5843.05	321.97	0.06
		PropPh1 ²	8527	-11.52	29.33	0.75	29.37	0.000027	1.71	5840.98	321.93	0.06
		FuturePh2 ³	8533	-11.52	29.34	0.75	29.38	0.000027	1.71	5842.21	321.96	
	114195.9	FuturePh3 ⁴	8530	-11.52	29.33	0.75	29.38	0.000027	1.71	5841.82	321.95	0.06
	114168.9		Bridge									
			gc									
	114141.9	Existing ¹	8535	-10.83	29.33	1.43	29.37	0.00003	1.76	5625.98	317.56	0.06
		PropPh1 ²	8527									
		FuturePh2 ³	8533	-10.83			29.37					
	114141.9	FuturePh3 ⁴	8530	-10.83	29.32	1.43	29.37	0.00003	1.76	5624.76	317.54	0.06
	444007.4	r:1	0505	7.40	20.00		00.07	0.000005	4.50	0.404.04	070.40	0.05
	114097.4	PropPh1 ²	8535	-7.46			29.37				379.43	0.05
			8527 9522	-7.46			29.36					0.05
		FuturePh2 ³ FuturePh3 ⁴	8533 8530	-7.46 -7.46								
	114031.4	I didieriis	6550	-7.40	29.55	2.0	29.30	0.000023	1.59	0400.12	313.42	0.00
	114070.4		Bridge									
	114043.4		8535	-7.72			28.37	0.000028				
		PropPh1 ²	8527	-7.72	28.32		28.36					
		FuturePh2 ³	8533	-7.72	28.32		28.36				377.74	
	114043.4	FuturePh3 ⁴	8530	-7.72	28.32	2.53	28.36	0.000028	1.65	6198.05	377.73	0.06
	440041	r.:1	0505	0.01	20.00		00.05	0.000017	101	F400 F0	200.0	0.07
		Existing ¹	8535	-8.91	28.29		28.35			5130.59	360.2	0.07
		PropPh1 ²	8527	-8.91	28.28		28.34				359.84	
		FuturePh2 ³ FuturePh3 ⁴	8533	-8.91	28.29		28.34		1.91	5129.62	360.05	
	113644	FuturePris	8530	-8.91	28.29		28.34	0.000047	1.91	5129.18	359.99	0.07
ı		<u> </u>	<u> </u>		l	l		l .	I	l		l



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(ft)						(sq ft)	(ft)	
	113411.6	Existing ¹	8535	-9.61	28.29	-0.01	28.33	0.000025	1.75	5295.84	370.53	0.05
		PropPh1 ²	8527	-9.61		-0.01	28.33		1.75		370.51	0.05
	113411.6	FuturePh2 ³	8533	-9.61		-0.01	28.33		1.75		370.52	0.05
	113411.6	FuturePh3⁴	8530	-9.61	28.29	-0.01	28.33	0.000025	1.75	5295.12	370.52	0.05
	113374.3		Bridge									
	110074.0		Dilago									
	113337	Existing ¹	8535	-9.65	28.17	-0.05	28.22	0.000025	1.75	5281.44	370.32	0.05
		PropPh1 ²	8527	-9.65		-0.05	28.21	0.000025	1.75	5280.23		0.05
	113337	FuturePh2 ³	8533	-9.65		-0.05	28.21	0.000025	1.75	5280.94		0.05
	113337	FuturePh3 ⁴	8530	-9.65	28.17	-0.05	28.21	0.000025	1.75	5280.73	370.31	0.05
	113266.4	Existing ¹	8535	-9.11	28.12	2.42	28.2	0.000055	2.35	4305.92	237.88	0.08
		PropPh1 ²	8527	-9.11		2.41	28.2	0.000055	2.35	4304.37	237.86	0.08
		FuturePh2 ³	8533	-9.11		2.41	28.2	0.000055	2.35			0.08
	113266.4	FuturePh3 ⁴	8530	-9.11	28.12	2.41	28.2	0.000055	2.35	4305.01	237.87	0.08
	440000.0		Delatera									
	113238.6		Bridge									
	113210.8	Existing ¹	8535	-9.46	27.72	2.06	27.8	0.000056	2.36	4293.9	237.69	0.08
		PropPh1 ²	8527	-9.46		2.05		0.000056	2.35	4292.37	237.67	0.08
		FuturePh2 ³	8533	-9.46		2.05		0.000056	2.35	4293.27	237.68	
		FuturePh3 ⁴	8530	-9.46		2.05	27.8	0.000056	2.35	4293	237.68	0.08
		1										
	112974	Existing ¹ PropPh1 ²	8535 8527	-10.69 -10.69		0.5 0.49		0.000066 0.000065	2.33 2.33	4105.83 4104.54	199.72 199.7	0.08 0.08
	112974	FuturePh2 ³	8527 8533	-10.69		0.49	27.78	0.000065	2.33	4104.54		0.08
		FuturePh3 ⁴	8530	-10.69		0.48		0.000065	2.33	4105.07	199.71	0.08
	112071	T dtdl of 110	0000	10.00	21.1	0.0	27.70	0.000000	2.00	1100.01	100.71	0.00
	112944.9		Bridge									
	4400450	- · · · 1	0505	40.00	07.50	0.00	27.04		0.00	4400.00	400.00	0.00
δ	112915.8	Existing '	8535	-10.82		0.36		0.000066	2.33	4102.09		
		PropPh1 ² FuturePh2 ³	8527 8533	-10.82 -10.82		0.36 0.34	27.63 27.64	0.000066 0.000066	2.33 2.33	4100.8 4101.55		0.08 0.08
10PCT_10yr		FuturePh3 ⁴	8530	-10.82		0.34		0.000066	2.33	4101.33		0.08
1	112010.0	T dtd/C/ 110	0000	10.02	27.00	0.00	21.04	0.000000	2.00	4101.00	100.01	0.00
	112575.5	Existing ¹	8535	-9.2	27.55	1.97	27.61	0.000049	2.1	4867.87	239.49	0.07
		PropPh1 ²	8527	-9.2		1.96		0.000049	2.1	4866.49		
		FuturePh2 ³	8533	-9.2		1.94	27.61	0.000049	2.1	4867.29		0.07
	112575.5	FuturePh3 ⁴	8530	-9.2	27.54	1.8	27.61	0.000049	2.1	4867.06	239.48	0.07
	112534.5		Bridge									
	11200 1.0		Bilago									
	112493.5	Existing ¹	8535	-9.47	27.22	1.7	27.28	0.000049	2.11	4854.56	239.38	0.07
		PropPh1 ²	8527	-9.47		1.68		0.000049				0.07
		FuturePh2 ³	8533	-9.47		1.66		0.000049	2.11	4853.99		
	112493.5	FuturePh3 ⁴	8530	-9.47	27.21	1.52	27.28	0.000049	2.11	4853.76	239.37	0.07
	112003.3	Existing ¹	8535	-9.69	27.21	1.56	27.25	0.000027	1.66	5818.32	284.59	0.06
	112003.3	PropPh1 ²	8527	-9.69		1.56			1.66			
	112003.3	FuturePh2 ³	8533	-9.69		1.56		0.000027	1.66			
		FuturePh3 ⁴	8530	-9.69		1.56		0.000027	1.66	5817.29		0.06
	111050.0		D : 1									
	111953.3		Bridge									
1	111903.3	Existing ¹	8535	-9.84	27.19	1.4	27.23	0.000027	1.65	5853.15	285.09	0.05
1		PropPh1 ²	8527	-9.84		1.4		0.000027	1.65			0.05
		FuturePh2 ³	8533	-9.84		1.4	27.22	0.000027	1.65	5852.41		
		FuturePh3 ⁴	8530	-9.84		1.4		0.000027	1.65	5852.13		
		- · · · 1										
	111853.5		8535	-9.86		1.12		0.000024	1.6			0.05
1		PropPh1 ² FuturePh2 ³	8527	-9.86		1.11	27.22	0.000024	1.6			
		FuturePh3 ⁴	8533 8530	-9.86 -9.86		1.11 1.12	27.22 27.22	0.000024 0.000024	1.6 1.6			
	111000.0	i didici ilo	0030	-9.00	21.10	1.12	21.22	0.000024	1.0	33 13.6	220.93	0.05
	111818.6		Bridge									



111783.7 PropPni	Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
111783.7 PropPrint 8927 8-867 27.16 2.3 27.2 0.000028 1.67 5244.98 222.27 111783.7 PuturePhot 8530 8-67 27.16 2.3 27.21 0.000028 1.67 5245.06 222.28 111783.7 PuturePhot 8530 -1.87 27.16 2.3 27.21 0.000028 1.67 5245.06 222.28 111783.7 PuturePhot 8530 -1.183 27.16 0.78 27.2 0.000034 1.48 5444.98 229.28 11186.7 PropPrint 8527 -1.183 27.16 0.77 27.2 0.000034 1.48 5444.98 229.28 11186.7 PuturePhot 8533 -1.18.3 27.16 0.77 27.2 0.000034 1.48 5444.98 229.28 11186.7 PuturePhot 8533 -1.18.3 27.16 0.77 27.2 0.000034 1.48 5444.15 229.26 11186.7 PuturePhot 8530 -1.18.3 27.16 0.77 27.2 0.000034 1.48 5441.15 229.26 11116.7 PuturePhot 8530 -1.12.3 27.12 1.37 27.17 0.000037 1.49 529.78 228.2 111410.5 PuturePhot 8530 -1.12.3 27.12 1.37 27.17 0.000037 1.49 529.78 228.2 111410.5 PuturePhot 8530 -1.12.3 27.12 1.36 27.17 0.000037 1.49 529.72 228.2 111410.5 PuturePhot 8530 -1.12.3 27.12 1.36 27.17 0.000037 1.49 529.72 228.2 111410.5 PuturePhot 8530 -1.12.3 27.12 1.36 27.17 0.000037 1.49 529.72 228.2 111410.5 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.3 33.12 1.0076.6 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.3 33.12 1.0076.6 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.13 33.12 1.0076.6 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.13 33.12 1.0076.6 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.13 33.12 1.0076.6 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.13 33.12 1.0076.6 PuturePhot 8530 -1.077 27.00 -1.27 27.00 0.00003 1.77 689.23 33.12 1.0076.7 0.0076.7 0.0076.7 0.0076.7 0.0076.7 0.0076.7 0.00				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
111783.7 PropPrint 8927 8-867 27.16 2.3 27.2 0.000028 1.67 5244.98 222.27 111783.7 PuturePhot 8530 8-67 27.16 2.3 27.21 0.000028 1.67 5245.06 222.28 111783.7 PuturePhot 8530 -1.87 27.16 2.3 27.21 0.000028 1.67 5245.06 222.28 111783.7 PuturePhot 8530 -1.183 27.16 0.78 27.2 0.000034 1.48 5444.98 229.28 11186.7 PropPrint 8527 -1.183 27.16 0.77 27.2 0.000034 1.48 5444.98 229.28 11186.7 PuturePhot 8533 -1.18.3 27.16 0.77 27.2 0.000034 1.48 5444.98 229.28 11186.7 PuturePhot 8533 -1.18.3 27.16 0.77 27.2 0.000034 1.48 5444.15 229.26 11186.7 PuturePhot 8530 -1.18.3 27.16 0.77 27.2 0.000034 1.48 5441.15 229.26 11116.7 PuturePhot 8530 -1.12.3 27.12 1.37 27.17 0.000037 1.49 529.78 228.2 111410.5 PuturePhot 8530 -1.12.3 27.12 1.37 27.17 0.000037 1.49 529.78 228.2 111410.5 PuturePhot 8530 -1.12.3 27.12 1.36 27.17 0.000037 1.49 529.72 228.2 111410.5 PuturePhot 8530 -1.12.3 27.12 1.36 27.17 0.000037 1.49 529.72 228.2 111410.5 PuturePhot 8530 -1.12.3 27.12 1.36 27.17 0.000037 1.49 529.72 228.2 111410.5 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.3 33.12 1.0076.6 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.3 33.12 1.0076.6 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.13 33.12 1.0076.6 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.13 33.12 1.0076.6 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.13 33.12 1.0076.6 PuturePhot 8530 -1.04.3 27.11 0.98 27.15 0.000003 1.76 6445.13 33.12 1.0076.6 PuturePhot 8530 -1.077 27.00 -1.27 27.00 0.00003 1.77 689.23 33.12 1.0076.7 0.0076.7 0.0076.7 0.0076.7 0.0076.7 0.0076.7 0.00		4447007	F : e 1	0505	0.07	07.47	0.0	07.04	0.000000	4.07	5045.00	200.00	0.00
111183.7 [FuturePha"				_						-			0.06 0.06
111783.7 FuturePh3' 8530 -8.67 27.16 2.3 27.21 0.000026 1.67 524.06 222.28 1111867.7 FuturePh3' 8535 -11.83 27.15 0.77 27.2 0.000034 1.84 5442.34 229.27 111867.7 FuturePh2' 8533 -11.83 27.15 0.77 27.2 0.000034 1.84 5448.29 229.26 111867.7 FuturePh3' 8530 -11.83 27.15 0.77 27.2 0.000034 1.84 5441.5 229.26 111867.7 FuturePh3' 8530 -11.83 27.15 0.77 27.2 0.000034 1.84 5441.5 229.26 111867.7 FuturePh3' 8530 -11.83 27.15 0.77 27.2 0.000034 1.84 5441.5 229.26 111867.7 111410.5 FuturePh3' 8536 -11.23 27.12 1.37 27.17 0.000037 1.89 529.6 228.21 111410.5 FuturePh2' 8533 -11.23 27.12 1.37 27.17 0.000037 1.89 529.6 228.21 111410.5 FuturePh2' 8533 -11.23 27.12 1.38 27.17 0.000037 1.89 529.6 228.21 111410.5 FuturePh3' 8530 -11.23 27.12 1.38 27.15 0.000023 1.75 6845.32 330.97 110976.6 Extentral 8527 -10.43 27.11 0.98 27.15 0.000023 1.75 6845.32 330.97 110976.6 Extentral 8530 -10.43 27.11 0.98 27.15 0.000023 1.75 6845.32 330.97 110976.6 FuturePh3' 8530 -10.43 27.11 0.98 27.15 0.000023 1.75 6845.33 331.24 110976.6 FuturePh3' 8530 -10.43 27.11 0.98 27.15 0.000023 1.75 6845.32 330.97 110976.6 FuturePh3' 8530 -10.43 27.11 0.98 27.15 0.000023 1.75 6846.33 331.24 110976.6 FuturePh3' 8530 -10.43 27.11 0.98 27.15 0.000023 1.75 6846.33 331.24 110976.6 FuturePh3' 8530 -10.43 27.11 0.98 27.15 0.000023 1.75 6846.33 331.24 110976.6 FuturePh3' 8530 -10.77 27.08 -1.27 27.12 0.000023 1.75 6846.33 331.25 110976.7 FuturePh3' 8530 -10.77 27.08 -1.27 27.12 0.000023 1.75 6896.33 342.65 110976.7 110976.6 FuturePh3' 8530 -10.77 27.08 -1.27 27.12 0.000023 1.75 6896.33 342.65 110976.7 110976.7 110976.7 1109													
111626.7 Existing													
1116267 PropPhil 8627 -1183 27.15 0.77 27.2 0.000034 184 5440.89 229.26 1116267 FuturePh2 8633 -1183 27.15 0.77 27.2 0.000034 184 5441.5 229.26 1116267 FuturePh2 8633 -1183 27.15 0.77 27.2 0.000034 184 5441.5 229.26 1116267 FuturePh2 8633 -1123 27.12 1.37 27.17 0.000037 189 5296.38 228.21 111410.5 FuturePh2 8633 -112.3 27.11 1.36 27.17 0.000037 189 5296.38 228.21 111410.5 FuturePh2 8633 -112.3 27.12 1.36 27.17 0.000037 189 5296.38 228.21 111410.5 FuturePh2 8633 -112.3 27.12 1.36 27.17 0.000037 189 5296.38 228.21 111410.5 FuturePh2 8633 -112.3 27.12 1.36 27.17 0.000037 189 5296.38 228.22 111410.5 FuturePh2 8633 -112.3 27.12 1.36 27.17 0.000037 189 5296.38 228.22 111410.5 FuturePh2 8633 -112.3 27.11 0.98 27.15 0.000023 1.75 6845.32 330.97 110876.6 FuturePh2 8633 -10.43 27.11 0.98 27.15 0.000023 1.75 6845.32 330.97 110876.6 FuturePh2 8633 -10.43 27.11 0.98 27.15 0.000023 1.75 6846.18 331.08 110876.6 FuturePh2 8633 -10.43 27.11 0.98 27.15 0.000023 1.75 6846.18 331.08 110876.6 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.34 342.76 110799 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.34 342.76 110799 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.53 342.64 110799 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.53 342.64 110799 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.53 342.64 110799 FuturePh2 8633 -10.72 27.00 -1.28 27.12 0.000023 1.75 6896.53 342.64 110799 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.53 342.64 110792 FuturePh2 8633 -10.72 27.00 -1.28 27.11 0.000032 1.82 77.12 77.00		111700.7	T dtdl Cl 110	0000	-0.07	27.10	2.0	21.21	0.000020	1.07	0240.00	222.20	0.00
1116267 PropPhil 8627 -1183 27.15 0.77 27.2 0.000034 184 5440.89 229.26 1116267 FuturePh2 8633 -1183 27.15 0.77 27.2 0.000034 184 5441.5 229.26 1116267 FuturePh2 8633 -1183 27.15 0.77 27.2 0.000034 184 5441.5 229.26 1116267 FuturePh2 8633 -1123 27.12 1.37 27.17 0.000037 189 5296.38 228.21 111410.5 FuturePh2 8633 -112.3 27.11 1.36 27.17 0.000037 189 5296.38 228.21 111410.5 FuturePh2 8633 -112.3 27.12 1.36 27.17 0.000037 189 5296.38 228.21 111410.5 FuturePh2 8633 -112.3 27.12 1.36 27.17 0.000037 189 5296.38 228.21 111410.5 FuturePh2 8633 -112.3 27.12 1.36 27.17 0.000037 189 5296.38 228.22 111410.5 FuturePh2 8633 -112.3 27.12 1.36 27.17 0.000037 189 5296.38 228.22 111410.5 FuturePh2 8633 -112.3 27.11 0.98 27.15 0.000023 1.75 6845.32 330.97 110876.6 FuturePh2 8633 -10.43 27.11 0.98 27.15 0.000023 1.75 6845.32 330.97 110876.6 FuturePh2 8633 -10.43 27.11 0.98 27.15 0.000023 1.75 6846.18 331.08 110876.6 FuturePh2 8633 -10.43 27.11 0.98 27.15 0.000023 1.75 6846.18 331.08 110876.6 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.34 342.76 110799 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.34 342.76 110799 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.53 342.64 110799 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.53 342.64 110799 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.53 342.64 110799 FuturePh2 8633 -10.72 27.00 -1.28 27.12 0.000023 1.75 6896.53 342.64 110799 FuturePh2 8633 -10.72 27.00 -1.27 27.12 0.000023 1.75 6896.53 342.64 110792 FuturePh2 8633 -10.72 27.00 -1.28 27.11 0.000032 1.82 77.12 77.00		111626.7	Existing ¹	8535	-11.83	27.15	0.78	27.2	0.000034	1.84	5442.34	229.27	0.06
1116267 FuturePh3		111626.7	PropPh1 ²	8527	-11.83	27.15	0.77	27.2	0.000034	1.84	5440.89	229.26	0.06
111618.6					-11.83	27.15							
111410.5 Existing		111626.7	FuturePh3⁴	8530	-11.83	27.15	0.77	27.2	0.000034	1.84	5441.5	229.26	0.06
111410.9 Existing		1115196		Bridge									
111410.5 PropPh1" 8527 -11.23 27.11 1.36 27.77 0.000037 1.89 5296.38 228.2 111410.5 FuturePh2" 8533 -11.23 27.12 1.36 27.17 0.000037 1.89 5296.97 228.2 111410.5 FuturePh2" 8533 -11.23 27.12 1.36 27.17 0.000037 1.89 5296.97 228.2 111410.5 FuturePh2" 8535 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.51 331.04 110876.6 FuturePh2" 8533 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.51 331.02 110876.6 FuturePh2" 8533 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.51 331.02 110876.6 FuturePh2" 8530 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.51 331.02 110837.8 Bridge 110799 FuturePh2" 8530 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.51 331.02 110799 FropPh1" 8527 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.34 342.78 110799 FropPh1" 8527 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.34 342.78 110799 FuturePh2" 8530 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.22 342.59 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge Bridge 110672.7 Bridge Bridge 110672.7 Bridge		111010.0		Diluge									
111410.5 PropPh1" 8527 -11.23 27.11 1.36 27.77 0.000037 1.89 5296.38 228.2 111410.5 FuturePh2" 8533 -11.23 27.12 1.36 27.17 0.000037 1.89 5296.97 228.2 111410.5 FuturePh2" 8533 -11.23 27.12 1.36 27.17 0.000037 1.89 5296.97 228.2 111410.5 FuturePh2" 8535 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.51 331.04 110876.6 FuturePh2" 8533 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.51 331.02 110876.6 FuturePh2" 8533 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.51 331.02 110876.6 FuturePh2" 8530 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.51 331.02 110837.8 Bridge 110799 FuturePh2" 8530 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.51 331.02 110799 FropPh1" 8527 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.34 342.78 110799 FropPh1" 8527 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.34 342.78 110799 FuturePh2" 8530 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.22 342.59 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge 110672.7 Bridge Bridge 110672.7 Bridge Bridge 110672.7 Bridge		111410.5	Existing ¹	8535	-11.23	27.12	1.37	27.17	0.000037	1.89	5297.8	228.21	0.06
111410.5 FuturePh3*				8527						1.89			0.06
110876.6					-11.23	27.12		27.17					0.06
110876.6		111410.5	FuturePh3⁴	8530	-11.23	27.12	1.36	27.17	0.000037	1.89	5296.97	228.2	0.06
110876.6		110076.6	Eviating 1	0525	10.42	27.11	0.00	07.45	0.000022	1 75	6047.20	224.04	0.05
110876.6 FuturePh2 ² 8533 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.51 331.02 110876.6 FuturePh3 ⁴ 8530 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.18 331.08 110837.8 8 91092 815187 8530 -10.72 27.08 -1.27 27.12 0.000023 1.73 6899.34 342.78 110799 FuturePh2 ³ 8527 -10.72 27.08 -1.28 27.12 0.000023 1.73 6897.41 342.45 110799 FuturePh2 ³ 8533 -10.72 27.08 -1.28 27.12 0.000023 1.73 6897.41 342.45 110799 FuturePh2 ³ 8533 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.74 342.64 110799 FuturePh2 ³ 8530 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.22 342.69 1106727 FuturePh2 ³ 8530 -10.72 27.08 1.28 27.12 0.000023 1.73 6898.22 342.69 1106727 FuturePh2 ³ 8537 -13.25 27.07 1.88 27.12 0.000032 1.82 7112.78 689.88 110672.7 FuturePh2 ³ 8533 -13.25 27.07 1.88 27.12 0.000032 1.82 7112.78 689.88 110672.7 FuturePh2 ³ 8530 -13.25 27.07 1.88 27.12 0.000032 1.82 7110.4 659.05 110672.7 FuturePh3 ⁴ 8530 -13.25 27.07 1.88 27.12 0.000032 1.82 7110.66 659.01 110643.7 FuturePh3 ⁴ 8530 -13.25 27.07 1.88 27.12 0.000032 1.82 7110.66 659.01 110647.7 FuturePh3 ⁴ 8530 -13.25 27.07 1.88 27.12 0.000032 1.82 7110.66 659.01 110647.7 FuturePh3 ⁴ 8530 -13.25 27.07 1.88 27.12 0.000032 1.82 7110.66 659.01 110647.7 FuturePh3 ⁴ 8530 -13.25 27.06 -1.4 27.11 0.000034 1.86 6813.24 639.64 110614.7 FuturePh3 ⁴ 8530 -12.75 27.06 -1.4 27.11 0.000034 1.86 6899.62 639.64 110614.7 FuturePh3 ⁴ 8530 -12.75 27.06 -1.4 27.11 0.000034 1.86 6811.11 639.73 110614.7 FuturePh3 ⁴ 8530 -12.75 27.06 -1.4 27.11 0.000034 1.86 6811.11 639.73 110614.7 FuturePh3 ⁴ 8530 -12.75 27.06 -1.4 27.11 0.000034 1.86 6811.71 639.73 110614.7 FuturePh3 ⁴ 8530 -12.75 27.06 -1.4 27.11 0.000034 1.86 6899.62 639.64 1100000000000000000000000000000000000				_									0.05 0.05
10876.6 FuturePh3 ⁴ 8530 -10.43 27.11 -0.98 27.15 0.000023 1.75 6846.18 331.08 110837.8													
110837.8 Bridge 110799 Existing 8535 -10.72 27.08 -1.27 27.12 0.000023 1.73 6899.34 342.78 110799 FuturePh2 8527 -10.72 27.08 -1.28 27.12 0.000023 1.73 6897.41 342.45 110799 FuturePh2 8533 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.74 342.45 110799 FuturePh2 8533 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.63 342.64 110799 FuturePh2 8530 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.25 342.64 110799 FuturePh2 8530 -10.72 27.08 -1.28 27.12 0.000023 1.73 6898.25 342.64 110672.7 Existing 8535 -13.26 27.07 -1.88 27.12 0.000032 1.82 7110.78 669.18 110672.7 FuturePh2 8527 -13.25 27.07 -1.88 27.11 0.000032 1.82 7110.2 658.88 110672.7 FuturePh2 8530 -13.25 27.07 -1.88 27.12 0.000032 1.82 7110.2 658.88 110672.7 FuturePh3 8530 -13.25 27.07 -1.88 27.12 0.000032 1.82 7110.66 659.01 11064.7 Existing 8535 -12.75 27.06 -1.4 27.11 0.000034 1.86 6813.24 639.86 11061.47 PropPh1 8527 -12.75 27.06 -1.4 27.11 0.000034 1.86 6813.24 639.86 11061.47 PropPh1 8527 -12.75 27.06 -1.4 27.11 0.000034 1.86 6817.71 639.77 110614.7 FuturePh2 8530 -12.76 27.06 -1.4 27.11 0.000034 1.86 6817.71 639.77 110614.7 FuturePh2 8530 -12.76 27.06 -1.4 27.11 0.000034 1.86 6817.71 639.77 110614.7 FuturePh2 8530 -12.76 27.06 -1.4 27.11 0.000034 1.86 6817.71 639.77 110614.7 FuturePh2 8530 -12.76 27.06 -1.4 27.11 0.000034 1.86 6817.71 639.77 110614.7 FuturePh2 8530 -12.76 27.06 -1.4 27.11 0.000034 1.86 6817.71 639.77 110614.7 FuturePh2 38427 -9.11 25.88 11.11 26.76 0.000661 8.12 6776.93 438.81 110200.2 FuturePh2 38436 -9.91 25.88 11.11 26.76 0.000661 8.12 6775.81 438.67 110200.2 FuturePh2 38436 -9.91 25.87 11.2 26.75 0.0006		110876.6	FuturePh3 ⁴										
110799 Existing		110010.0	T didiren no	0000	10.10	27.11	0.00	27.10	0.000020	1.70	00 10.10	001.00	0.00
110799 FruturePh2		110837.8		Bridge									
110799 FrubrePh2			- · · · 1										
110799 FuturePh2 ²		110799	Existing '										
110799 FuturePh3 ⁻¹													
110672.7 Existing													
110672.7 PropPh1 8527 -13.25 27.07 -1.88 27.11 0.00032 1.82 7109.12 658.88 659.05 110672.7 FuturePh2 8633 -13.25 27.07 -1.88 27.12 0.000032 1.82 7111.24 659.05 659.01 110672.7 FuturePh3 8530 -13.25 27.07 -1.88 27.12 0.000032 1.82 7111.24 659.01 110672.7 110672.7 FuturePh3 8530 -13.25 27.07 -1.88 27.12 0.000032 1.82 7110.66 659.01 110672.7 1		110799	FuturePris	6030	-10.72	21.00	-1.20	21.12	0.000023	1.73	0090.22	342.59	0.05
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110108.2 Existing ¹ 38442 -9.31 25.47 10.91 26.37 0.000681 8.2 6685.69 433.83 110108.2 PropPh1 ² 38427 -9.31 25.46 10.9 26.36 0.000681 8.19 6683.07 433.69 110108.2 FuturePh2 ³ 38436 -9.31 25.47 10.9 26.37 0.000681 8.19 6684.58 433.77 110108.2 FuturePh3 ⁴ 38433 -9.31 25.47 10.9 26.37 0.000681 8.19 6684.18 433.75 110108.2 FuturePh3 ⁴ 38433 -9.31 25.47 10.9 26.37 0.000681 8.19 6684.18 433.75 110108.2 FuturePh3 ⁴ 38442 -14.28 25.27 4.9 25.98 0.000424 6.95 6872.54 334.15 1109551.7 FuturePh2 ³ 38427 -14.28 25.27 4.89 25.97 0.000424 6.95 6870.53 334.12 1109551.7 FuturePh2 ³ 38436 -14.28 25.27 4.89 25.97 0.000424 6.95 6871.68 334.14 1109551.7 FuturePh3 ⁴ 38433 -14.28 25.27 4.9 25.97 0.000424 6.95 6871.38 334.13 1109551.7 FuturePh3 ⁴ 38432 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.98 334.92 1109485.7 PropPh1 ² 38427 -15.31 24.44 3.86 25.13 0.000413 6.89 6940.13 334.91 1109485.7 FuturePh2 ³ 38436 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.13 334.91		110154.2		Bridge									
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110108.2 FuturePh2 ³ 38436 -9.31 25.47 10.9 26.37 0.000681 8.19 6684.58 433.77 110108.2 FuturePh3 ⁴ 38433 -9.31 25.47 10.9 26.37 0.000681 8.19 6684.18 433.75 109551.7 Existing ¹ 38442 -14.28 25.27 4.9 25.98 0.000424 6.95 6872.54 334.15 109551.7 FuturePh2 ³ 38436 -14.28 25.27 4.89 25.97 0.000424 6.95 6870.53 334.12 109551.7 FuturePh2 ³ 38436 -14.28 25.27 4.89 25.97 0.000424 6.95 6871.68 334.14 109551.7 FuturePh3 ⁴ 38433 -14.28 25.27 4.9 25.97 0.000424 6.95 6871.38 334.13 109551.7 FuturePh3 ⁴ 38433 -14.28 25.27 4.9 25.97 0.000424 6.95 6871.38 334.13 109551.7 Existing ¹ 38442 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.98 334.92 109485.7 PropPh1 ² 38427 -15.31 24.44 3.86 25.13 0.000413 6.89 6938.97 334.9 109485.7 FuturePh2 ³ 38436 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.13 334.91				38427	-9.31	25.46	10.9	26.36	0.000681	8.19	6683.07	433.69	
109551.7 Existing ¹ 38442 -14.28 25.27 4.9 25.98 0.000424 6.95 6872.54 334.15 (109551.7 PropPh1 ² 38427 -14.28 25.27 4.89 25.97 0.000424 6.95 6870.53 334.12 (109551.7 FuturePh2 ³ 38436 -14.28 25.27 4.89 25.97 0.000424 6.95 6871.68 334.14 (109551.7 FuturePh3 ⁴ 38433 -14.28 25.27 4.9 25.97 0.000424 6.95 6871.38 334.13 (109551.7 Existing ¹ 38442 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.98 334.92 (109485.7 PropPh1 ² 38427 -15.31 24.44 3.86 25.13 0.000413 6.89 6938.97 334.9 (109485.7 FuturePh2 ³ 38436 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.13 334.91				38436	-9.31		10.9		0.000681	8.19	6684.58	433.77	0.28
109551.7 PropPh12 38427 -14.28 25.27 4.89 25.97 0.000424 6.95 6870.53 334.12 109551.7 FuturePh23 38436 -14.28 25.27 4.89 25.97 0.000424 6.95 6871.68 334.14 109551.7 FuturePh34 38433 -14.28 25.27 4.9 25.97 0.000424 6.95 6871.38 334.13 109518.7 Bridge 109485.7 Existing1 38442 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.98 334.92 109485.7 PropPh12 38427 -15.31 24.44 3.86 25.13 0.000413 6.89 6938.97 334.91 109485.7 FuturePh23 38436 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.13 334.91		110108.2	FuturePh3 ⁴	38433	-9.31	25.47	10.9	26.37	0.000681	8.19	6684.18	433.75	0.28
109551.7 PropPh12 38427 -14.28 25.27 4.89 25.97 0.000424 6.95 6870.53 334.12 109551.7 FuturePh23 38436 -14.28 25.27 4.89 25.97 0.000424 6.95 6871.68 334.14 109551.7 FuturePh34 38433 -14.28 25.27 4.9 25.97 0.000424 6.95 6871.38 334.13 109518.7 Bridge 109485.7 Existing1 38442 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.98 334.92 109485.7 PropPh12 38427 -15.31 24.44 3.86 25.13 0.000413 6.89 6938.97 334.91 109485.7 FuturePh23 38436 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.13 334.91	1	40055:=	Europe of	0011		2		05.5-	0.000:00:		0077	22 : -	
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109518.7 Bridge 109485.7 Existing ¹ 38442 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.98 334.92 109485.7 PropPh1 ² 38427 -15.31 24.44 3.86 25.13 0.000413 6.89 6938.97 334.9 109485.7 FuturePh2 ³ 38436 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.13 334.91													1
109485.7 Existing ¹ 38442 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.98 334.92 109485.7 PropPh1 ² 38427 -15.31 24.44 3.86 25.13 0.000413 6.89 6938.97 334.9 109485.7 FuturePh2 ³ 38436 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.13 334.91				55.50	20					5.50		30 10	3.22
109485.7 PropPh1 ² 38427 -15.31 24.44 3.86 25.13 0.000413 6.89 6938.97 334.9 109485.7 FuturePh2 ³ 38436 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.13 334.91		109518.7		Bridge									
109485.7 PropPh1 ² 38427 -15.31 24.44 3.86 25.13 0.000413 6.89 6938.97 334.9 109485.7 FuturePh2 ³ 38436 -15.31 24.45 3.87 25.14 0.000413 6.89 6940.13 334.91		102 15 =	Europe of		4==	<u> </u>			0.000		001		
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103400.7 utule=110 30400 -10.01 24.44 3.07 20.14 0.000415 0.89 0939.82 334.91		109485.7	i utuleriio	38433	-15.31	24.44	3.87	25.14	0.000413	0.89	0939.82	334.91	0.22



199402 Evisting 38442	Profile	River Sta	Plan	Q Total									Froude # Chl
1094402 PropPhil* 38427 -16.48 24.22 4.29 25.07 0.000476 7.65 64867.16 330.55 0.24				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1094402 UnurePh2" 38458 -16.48 24.22 4.29 26.07 0.000476 7.65 6467.97 339.55 0.24				_									
1094402_PuturePh3 ¹ 38443 -16.89 23.89 3.88 24.73 0.000475 7.65 6467.97 320.95 0.24						24.22							
109350 2 Existing													
109350.2 Existing		109440.2	FuturePh3*	38433	-16.48	24.22	4.29	25.07	0.000475	7.65	6467.97	320.55	0.24
1095002 PropPhil* 38427 -16.89 23.88 3.88 24.72 0.000471 7.63 6490 320.66 0.24		109395.2		Bridge									
1095002 PropPhil* 38427 -16.89 23.88 3.88 24.72 0.000471 7.63 6490 320.66 0.24		109350.2	Existing ¹	38442	-16.89	23 89	3 88	24 73	0.000471	7 63	6491.89	320.66	0.24
1093502 FuturePha* 38438 -16.89 28.88 3.88 24.73 0.000471 7.63 6491.09 320.066 0.24													
1093502 FuturePh3' 38442 -17,14 23.53 5.51 24.56 0.00084 8.27 5167.31 340.67 0.27										7.63			
109119 PropPh1* 38427 17.14 23.53 5.51 24.54 0.000684 8.27 516.53 340.53 0.27		109350.2	FuturePh3 ⁴	38433	-16.89	23.88	3.88	24.73	0.000471	7.63			0.24
109119 PropPh1* 38427 17.14 23.53 5.51 24.54 0.000684 8.27 516.53 340.53 0.27		109119	Existing ¹	38442	-17 14	23 53	5 51	24 55	0.000684	8 27	5167 31	340 57	0.27
109119 FuturePh2 38436 -17.14 23.53 5.5 24.55 0.00084 8.27 5166.53 340.53 0.27													
109119 FuturePh3' 38433 -17.14 23.63 6.61 24.54 0.000684 8.27 5166.27 340.52 0.27													
109087.2 Existing													0.27
109087.2 Existing		109103.1		Bridge									
1090872 PropPhT ² 38427 -17.55 23.28 5.1 24.28 0.0006699 8.2 5216.72 342.80 0.27			,										
109087.2 FuturePh2 ²													0.27
109087.2 FuturePh3 ⁴ 38433 -17.55 23.29 5.1 24.29 0.000669 8.2 5217.5 342.83 0.27													
108565.3 Existing 38442 -12.77 23.21 4.31 23.82 0.00043 6.28 6121.74 248.09 0.22 108565.3 FuturePh2 38436 -12.77 23.2 4.31 23.81 0.00043 6.28 6120.26 248.07 0.22 0.00656.3 FuturePh3 38436 -12.77 23.2 4.31 23.82 0.00043 6.28 6120.26 248.07 0.22 0.00656.3 FuturePh3 38436 -12.77 23.2 4.31 23.82 0.00043 6.28 6121.11 248.08 0.22 0.00656 0.00656													
108565.3 Frorphit 38427 -12.77 23.2 4.31 23.81 0.00043 6.28 6120.26 248.07 0.22 108563.3 FuturePh2 38436 -12.77 23.2 4.31 23.82 0.00043 6.28 6120.11 248.08 0.22 0.00043 6.28 6120.91 248.07 0.22 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.000345 6.28 6120.91 248.07 0.22 0.000345 0.000676 0.00043		109087.2	FuturePh3 ^⁴	38433	-17.55	23.29	5.1	24.29	0.000669	8.2	5217.5	342.83	0.27
108565.3 Frorphit 38427 -12.77 23.2 4.31 23.81 0.00043 6.28 6120.26 248.07 0.22 108563.3 FuturePh2 38436 -12.77 23.2 4.31 23.82 0.00043 6.28 6120.11 248.08 0.22 0.00043 6.28 6120.91 248.07 0.22 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.00043 6.28 6120.91 248.07 0.22 0.000345 6.28 6120.91 248.07 0.22 0.000345 0.000676 0.00043		108565.3	Existing ¹	38442	-12.77	23.21	4.31	23.82	0.00043	6.28	6121.74	248.09	0.22
108565.3 FuturePh2 38438 -12.77 23.2 4.31 23.82 0.00043 6.28 6121.11 248.08 0.22 108565.3 FuturePh3 38433 -12.77 23.2 4.31 23.82 0.00043 6.28 6120.9 248.07 0.22 108565.3 FuturePh3 38442 -14.06 23.17 23.71 0.000356 5.88 6566.2 271.66 0.22 0.00348 Fotoph1 2.00000000000000000000000000000000000													
108565.3 FuturePh3 ⁴ 38433 -12.77 23.2 4.31 23.82 0.00043 6.28 6120.9 248.07 0.22													
108334 FruturePh2 ³ 38427 -14.06 23.17 23.7 0.000356 5.88 6566.6 271.61 0.2													0.22
108334 FruturePh2 ³ 38427 -14.06 23.17 23.7 0.000356 5.88 6566.6 271.61 0.2		100224	Eviating 1	20442	14.06	22.47		22.74	0.000356	5.00	6560.01	271.66	0.0
107179.4 Existing 38563 -20.52 22.33 1.35 23.09 0.000676 7 5795.33 336.11 0.24	<u>Ş</u>												
107179.4 Existing 38563 -20.52 22.33 1.35 23.09 0.000676 7 5795.33 336.11 0.24	È												
107179.4 Existing 38563 -20.52 22.33 1.35 23.09 0.000676 7 5795.33 336.11 0.24	PC												0.2
107179.4 PropPh1 ² 38549 -20.52 22.32 1.35 23.08 0.000676 7 5793.34 335.94 0.24	1												
107179.4 FuturePh2 ³ 38557 -20.52 22.33 1.35 23.08 0.000676 7 5794.47 336.04 0.24		107179.4	Existing '										
107179.4 FuturePh3 ⁴ 38555 -20.52 22.33 1.35 23.08 0.000676 7 5794.19 336.02 0.24													
107158.9 Bridge 22.15 1.68 22.94 0.000723 7.14 5629.31 321.54 0.25													
107138.4 Existing		10/1/9.4	FuturePn3	38555	-20.52	22.33	1.35	23.08	0.000676	/	5794.19	336.02	0.24
107138.4 PropPh12 38549 -20.19 22.15 1.67 22.94 0.000723 7.14 5627.42 321.37 0.25		107158.9		Bridge									
107138.4 PropPh12 38549 -20.19 22.15 1.67 22.94 0.000723 7.14 5627.42 321.37 0.25		107139 /	Evicting ¹	39563	20.10	22.15	1.60	22.04	0.000723	7 1/	5620.21	221.54	0.25
107138.4 FuturePh2 ³ 38557 -20.19 22.15 1.67 22.94 0.000723 7.14 5628.5 321.47 0.25													
107138.4 FuturePh3 ⁴ 38555 -20.19 22.15 1.67 22.94 0.000723 7.14 5628.22 321.45 0.25													
106594 Existing ¹ 38563 -16.7 21.99 0.71 22.58 0.000342 6.2 6402.65 247.39 0.2 106594 PropPh1 ² 38549 -16.7 21.98 0.71 22.58 0.000342 6.2 6401.19 247.37 0.2 106594 FuturePh2 ³ 38557 -16.7 21.99 0.71 22.58 0.000342 6.2 6402.02 247.38 0.2 106594 FuturePh3 ⁴ 38555 -16.7 21.99 0.71 22.58 0.000342 6.2 6402.02 247.38 0.2 106594 FuturePh3 ⁴ 38563 -13.85 21.62 3.57 22.36 0.000342 6.2 6401.81 247.38 0.2 106151.4 Existing ¹ 38563 -13.85 21.62 3.57 22.36 0.000486 6.94 5888.06 254.91 0.24 106151.4 FuturePh2 ³ 38549 -13.85 21.61 3.56 22.35 0.000486 6.94 5886.57 254.88 0.24 106151.4 FuturePh2 ³ 38557 -13.85 21.62 3.57 22.36 0.000486 6.94 5887.42 254.9 0.24 106151.4 FuturePh3 ⁴ 38555 -13.85 21.61 3.57 22.36 0.000486 6.94 5887.42 254.9 0.24 106151.4 FuturePh3 ⁴ 38555 -13.85 21.61 3.57 22.36 0.000486 6.94 5887.21 254.89 0.24 106131.1 Bridge													
106594 PropPh12 38549 -16.7 21.98 0.71 22.58 0.000342 6.2 6401.19 247.37 0.2 106594 FuturePh23 38557 -16.7 21.99 0.71 22.58 0.000342 6.2 6402.02 247.38 0.2 106594 FuturePh34 38555 -16.7 21.99 0.71 22.58 0.000342 6.2 6401.81 247.38 0.2 106151.4 Existing1 38563 -13.85 21.62 3.57 22.36 0.000486 6.94 5888.06 254.91 0.24 106151.4 PropPh12 38549 -13.85 21.61 3.56 22.35 0.000486 6.94 5887.42 254.91 0.24 106151.4 FuturePh23 38557 -13.85 21.62 3.57 22.36 0.000486 6.94 5887.42 254.99 0.24 106151.4 FuturePh34 38555 -13.85 21.61 3.57 22.36 0.000486 6.94 5887.21 254.89 0.24 106131.1		107 100.1	, attairer ine		20:10	22.10	1.01	22.01	0.000120	7.11	0020:22	021.10	0.20
106594 FuturePh2³ 38557 -16.7 21.99 0.71 22.58 0.000342 6.2 6402.02 247.38 0.2 106594 FuturePh3⁴ 38555 -16.7 21.99 0.71 22.58 0.000342 6.2 6401.81 247.38 0.2 106151.4 Existing¹ 38563 -13.85 21.62 3.57 22.36 0.000486 6.94 5888.06 254.91 0.24 106151.4 PropPh1² 38549 -13.85 21.61 3.56 22.35 0.000486 6.94 5886.57 254.88 0.24 106151.4 FuturePh2³ 38557 -13.85 21.62 3.57 22.36 0.000486 6.94 5887.42 254.99 0.24 106151.4 FuturePh3⁴ 38555 -13.85 21.61 3.57 22.36 0.000486 6.94 5887.42 254.99 0.24 106131.1 Bridge -106131.9 -106131.9 -106131.9 -106131.9 -106131.9 -106131.9 -106131.9 -106131.9 -106131.9 -10				38563	-16.7						6402.65	247.39	
106594 FuturePh3 ⁴ 38555 -16.7 21.99 0.71 22.58 0.000342 6.2 6401.81 247.38 0.2 106151.4 Existing ¹ 38563 -13.85 21.62 3.57 22.36 0.000486 6.94 5888.06 254.91 0.24 106151.4 PropPh1 ² 38549 -13.85 21.61 3.56 22.35 0.000486 6.94 5886.57 254.88 0.24 106151.4 FuturePh2 ³ 38557 -13.85 21.62 3.57 22.36 0.000486 6.94 5887.42 254.99 0.24 106151.4 FuturePh3 ⁴ 38555 -13.85 21.61 3.57 22.36 0.000486 6.94 5887.21 254.89 0.24 106131.1 Bridge -106131.1 Bridge -106131.2 -106131.2 -106131.2 -106131.2 -106131.2 -106131.2 -106131.2 -106131.2 -106131.2 -106131.2 -106131.2 -106131.2 -106131.2 -106131.2 -10613				+									
106151.4 Existing 1 38563 -13.85 21.62 3.57 22.36 0.000486 6.94 5888.06 254.91 0.24 106151.4 PropPh1 2 38549 -13.85 21.61 3.56 22.35 0.000486 6.94 5886.57 254.88 0.24 106151.4 FuturePh2 3 38557 -13.85 21.62 3.57 22.36 0.000486 6.94 5887.42 254.9 0.24 106151.4 FuturePh3 4 38555 -13.85 21.61 3.57 22.36 0.000486 6.94 5887.21 254.89 0.24 106131.1 Bridge 106110.8 Existing 1 38563 -12.53 21.4 4.88 22.24 0.000585 7.37 5500.11 248.35 0.26 106110.8 PropPh1 2 38549 -12.53 21.39 4.88 22.23 0.000585 7.37 5498.67 248.33 0.26 106110.8 FuturePh2 3 38557 -12.53 21.39 4.88 22.23 0.000585 7.37 5499.49 248.34 0.26													
106151.4 PropPh12 38549 -13.85 21.61 3.56 22.35 0.000486 6.94 5886.57 254.88 0.24 106151.4 FuturePh23 38557 -13.85 21.62 3.57 22.36 0.000486 6.94 5887.42 254.9 0.24 106151.4 FuturePh34 38555 -13.85 21.61 3.57 22.36 0.000486 6.94 5887.21 254.89 0.24 106131.1 Bridge 21.61 3.57 22.36 0.000486 6.94 5887.21 254.89 0.24 106110.8 Existing1 38563 -12.53 21.4 4.88 22.24 0.000585 7.37 5500.11 248.35 0.26 106110.8 PropPh12 38549 -12.53 21.39 4.88 22.23 0.000585 7.37 5498.67 248.33 0.26 106110.8 FuturePh23 38557 -12.53 21.39 4.88 22.23 0.000585 7.37 5499.49 248.34 0.26		106594	FuturePh3⁴	38555	-16.7	21.99	0.71	22.58	0.000342	6.2	6401.81	247.38	0.2
106151.4 PropPh12 38549 -13.85 21.61 3.56 22.35 0.000486 6.94 5886.57 254.88 0.24 106151.4 FuturePh23 38557 -13.85 21.62 3.57 22.36 0.000486 6.94 5887.42 254.9 0.24 106151.4 FuturePh34 38555 -13.85 21.61 3.57 22.36 0.000486 6.94 5887.21 254.89 0.24 106131.1 Bridge 21.61 3.57 22.36 0.000486 6.94 5887.21 254.89 0.24 106110.8 Existing1 38563 -12.53 21.4 4.88 22.24 0.000585 7.37 5500.11 248.35 0.26 106110.8 PropPh12 38549 -12.53 21.39 4.88 22.23 0.000585 7.37 5498.67 248.33 0.26 106110.8 FuturePh23 38557 -12.53 21.39 4.88 22.23 0.000585 7.37 5499.49 248.34 0.26		106151.4	Existing ¹	38563	-13.85	21.62	3.57	22.36	0.000486	6.94	5888.06	254.91	0.24
106151.4 FuturePh2³ 38557 -13.85 21.62 3.57 22.36 0.000486 6.94 5887.42 254.9 0.24 106151.4 FuturePh3⁴ 38555 -13.85 21.61 3.57 22.36 0.000486 6.94 5887.21 254.89 0.24 106131.1 Bridge -106110.8 Existing¹ 38563 -12.53 21.4 4.88 22.24 0.000585 7.37 5500.11 248.35 0.26 106110.8 PropPh1² 38549 -12.53 21.39 4.88 22.23 0.000585 7.37 5498.67 248.33 0.26 106110.8 FuturePh2³ 38557 -12.53 21.39 4.88 22.23 0.000585 7.37 5499.49 248.34 0.26		106151.4	PropPh1 ²	38549	-13.85						5886.57	254.88	
106131.1 Bridge 106110.8 Existing 1 38563 -12.53 21.4 4.88 22.24 0.000585 7.37 5500.11 248.35 0.26 106110.8 PropPh12 38549 -12.53 21.39 4.88 22.23 0.000585 7.37 5498.67 248.33 0.26 106110.8 FuturePh23 38557 -12.53 21.39 4.88 22.23 0.000585 7.37 5499.49 248.34 0.26				38557	-13.85	21.62	3.57	22.36	0.000486	6.94	5887.42	254.9	0.24
106110.8 Existing¹ 38563 -12.53 21.4 4.88 22.24 0.000585 7.37 5500.11 248.35 0.26 106110.8 PropPh1² 38549 -12.53 21.39 4.88 22.23 0.000585 7.37 5498.67 248.33 0.26 106110.8 FuturePh2³ 38557 -12.53 21.39 4.88 22.23 0.000585 7.37 5499.49 248.34 0.26		106151.4	FuturePh3 ⁴	38555	-13.85	21.61	3.57	22.36	0.000486	6.94	5887.21	254.89	0.24
106110.8 PropPh12 38549 -12.53 21.39 4.88 22.23 0.000585 7.37 5498.67 248.33 0.26 106110.8 FuturePh23 38557 -12.53 21.39 4.88 22.23 0.000585 7.37 5499.49 248.34 0.26		106131.1		Bridge									
106110.8 PropPh12 38549 -12.53 21.39 4.88 22.23 0.000585 7.37 5498.67 248.33 0.26 106110.8 FuturePh23 38557 -12.53 21.39 4.88 22.23 0.000585 7.37 5499.49 248.34 0.26		1001100	Tuistin a 1	20502	40.50	04.4	4.00	00.01	0.000505	7.07	EE00.44	040.05	0.00
106110.8 FuturePh2 ³ 38557 -12.53 21.39 4.88 22.23 0.000585 7.37 5499.49 248.34 0.26				_									
100 110.5) didirente 00000 -12.00 21.00 4.00 22.20 0.000000 1.31 0499.20 240.34 0.20													
		100110.0	i attai or iio	30000	-12.00	21.39	4.00	22.23	0.000000	1.51	0499.20	240.04	0.20



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)		(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	105705.4		38563	-18.22	21.25		21.97	0.000431	6.79			0.25
		PropPh1 ²	38549	-18.22		2.11	21.97	0.000431	6.79		253.94	0.25
		FuturePh2 ³	38557	-18.22	21.25		21.97		6.79		253.97	0.25
	105705.4	FuturePh3 ⁴	38555	-18.22	21.25	2.11	21.97	0.000431	6.79	5677.29	253.96	0.25
	105667.4		Bridge									
	100007.4		Dilage									
	105629.4	Existing ¹	38563	-18.43	20.95	1.89	21.68	0.000437	6.82	5655.12	252.93	0.25
		PropPh1 ²	38549	-18.43		1.89	21.67	0.000437	6.82	5653.64	252.86	
		FuturePh23	38557	-18.43		1.89	21.67	0.000437	6.82	5654.48	252.9	
	105629.4	FuturePh3 ⁴	38555	-18.43	20.95	1.89	21.67	0.000437	6.82	5654.27	252.89	0.25
		F : 0 1						0.000.00.0		5015 10	0.17.10	
	105211	Existing ¹	38563	-16.14		2.27	21.45	0.000484	7.39	5215.42	217.49	0.27
		PropPh1 ²	38549	-16.14		2.27	21.44	0.000484	7.39	5214.17	217.47	0.27
		FuturePh2 ³ FuturePh3 ⁴	38557 38555	-16.14 -16.14	20.59 20.59	2.27 2.27	21.44 21.44	0.000484 0.000484	7.39 7.39		217.48 217.48	0.27 0.27
	100211	ruturerns	36000	-10.14	20.59	2.21	21.44	0.000464	7.39	52 14.7	217.40	0.27
	104608.2	Existing ¹	38563	-18.46	20.43		21.06	0.0006	6.37	6053.55	386.44	0.28
		PropPh1 ²	38549	-18.46			21.05	0.0006		6051.24	386.39	0.28
		FuturePh2 ³	38557	-18.46			21.05			6052.56	386.42	0.28
		FuturePh3 ⁴	38555	-18.46			21.05			6052.22	386.41	0.28
	104370.8		38563	-19.99	19.8	3.71	20.81	0.00054	8.46	6377.4	436.14	0.28
		PropPh1 ²	38549	-19.99		3.71	20.8	0.00054	8.46		436.11	0.28
		FuturePh2 ³	38557	-19.99		3.71	20.81	0.00054	8.46		436.13	
	104370.8	FuturePh3 ⁴	38555	-19.99	19.8	3.71	20.81	0.00054	8.46	6375.93	436.12	0.28
	104350		Bridge									
		1	+									
Š	104329.2		38563	-20.2	19.03	3.5	20.1	0.000587	8.7	6131.51	433.76	
		PropPh1 ²	38549	-20.2	19.02	3.5	20.09		8.7	6129.07	433.73	
10PCT_10yr		FuturePh2 ³ FuturePh3 ⁴	38557 38555	-20.2 -20.2	19.03 19.03	3.5 3.5	20.1	0.000587 0.000587	8.7 8.7	6130.46 6130.11	433.75 433.74	0.3 0.3
101	104329.2	ruturerns	36000	-20.2	19.03	3.0	20.1	0.000367	0.1	0130.11	433.74	0.3
	103664	Existing ¹	38563	-23.03	16.67		19.11	0.001445	13.24	4062.63	258.56	0.42
		PropPh1 ²	38549				19.1	0.001445		4061.29	258.54	
		FuturePh2 ³	38557	-23.03			19.1	0.001445		4062.06	258.55	
		FuturePh34	38555	-23.03			19.1	0.001445			258.55	
	102875.3		38563	-26.39	16.13	0.65	17.86	0.000959	11.43	4870.27	338.71	0.35
		PropPh1 ²	38549	-26.39		0.65	17.85				338.68	
		FuturePh2 ³	38557									
	102875.3	FuturePh3⁴	38555	-26.39	16.12	0.65	17.85	0.000959	11.43	4869.21	338.69	0.35
	102847.5		Bridge									
	102010 7	Eviating 1	20502	00.40	45.0	0.57	47 44	0.00103	14.70	4705.86	225.00	0.00
	102819.7		38563				17.44					0.36
		PropPh1 ² FuturePh2 ³	38549 38557	-26.43 -26.43			17.43 17.44				335.18 335.2	
		FuturePh3 ⁴	38557	-26.43 -26.43			17.44				335.2	
	102019.1	I didici iio	36000	-20.43	10.09	0.56	17.43	0.00103	11.73	4104.32	330.19	0.30
	102309	Existing ¹	38563	-23.48	15.91		16.58	0.000329	6.59	5855.86	216.46	0.22
	102309	PropPh1 ²	38549				16.58				216.45	
	102309	FuturePh2 ³	38557	-23.48			16.58				216.46	
		FuturePh3 ⁴	38555	-23.48			16.58				216.46	
	,	F : 0 1			:							
	101828	Existing ¹	38563	-20.7	15.46		16.33					
		PropPh1 ²	38549		15.46		16.32			5161.69		
		FuturePh2 ³	38557	-20.7	15.46		16.33			5162.29		
	101828	FuturePh3 ⁴	38555	-20.7	15.46	-0.83	16.33	0.0005	7.47	5162.14	219.13	0.27
	101790.1		Bridge									



1017/32 ProcPhi* 38949 2069 15.28 -0.83 16.16 0.00013 7.53 5119.66 217.52 0.27	Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
1017/32 ProcPhi* 38949 2069 15.28 -0.83 16.16 0.00013 7.53 5119.66 217.52 0.27				(cfs)				(ft)			(sq ft)		
101762_2 FuturePha* 38567 -2069 15.28 -0.88 16.6 .0000613 7.58 5120.45 277.52 0.27				38563									0.27
101752_2 FuturePha" 38565 -2069 15.28 -0.83 16.16 0.000513 7.53 5120.3 217.52 0.27						15.28							0.27
101007.3 Existing 38663 -16.93 15.02 15.72 0.000435 6.76 5704.31 255.99 0.25 101007.3 PropPhit* 38964 -16.93 15.01 15.72 0.000435 6.76 5703.31 255.99 0.25 101007.3 PropPhit* 38964 -16.93 15.01 15.72 0.000435 6.76 5703.61 255.98 0.25 101007.3 PropPhit* 38965 -16.93 15.01 15.72 0.000435 6.76 5703.61 255.98 0.25 101007.3 PropPhit* 38965 -16.93 15.01 15.72 0.000435 6.76 5703.61 255.98 0.25 101007.3 PropPhit* 38966 -18.9 14.45 15.24 0.000492 7.16 543.26 238.48 0.26 10.00													
101007.3 PropPrin* 38549 -16.93 15.01 15.72 0.000435 6.76 5703.1 255.97 0.25		101752.2	FuturePh3⁴	38555	-20.69	15.28	-0.83	16.16	0.000513	7.53	5120.3	217.52	0.27
101007.3 PropPrin* 38549 -16.93 15.01 15.72 0.000435 6.76 5703.1 255.97 0.25		101007.2	Existing 1	20562	16.02	15.00		15.70	0.000425	6.76	5704.24	255.00	0.25
1010073 FuturePh2 38657 -16.93 15.01 15.72 0.000455 6.76 5703.79 255.98 0.25													
101007.3 FuturePh3' 38856 -16.93 15.01 15.72 0.000435 6.76 6703.61 255.88 0.28													
99992.6 Existing													
9992.6 PropPh1 ² 38896 -18.9 14.45 15.24 0.000492 7.16 543.81 238.48 0.26 9992.6 FuturePh2 ³ 38902 -18.9 14.45 15.24 0.000492 7.16 5432.28 238.48 0.26 9993.6 FuturePh3 ³ 38902 -18.9 14.45 15.24 0.000492 7.16 5432.28 238.48 0.26 9993.6 FuturePh2 ³ 38901 -20.26 13.71 14.45 0.000492 6.95 5601.47 250.78 0.26 9839.4 FuturePh2 ³ 38904 -20.26 13.71 14.45 0.000482 6.95 5600.32 250.76 0.26 9839.4 FuturePh3 ³ 38902 -20.26 13.71 14.45 0.000482 6.95 5600.8 250.77 0.26 9839.4 FuturePh3 ³ 38901 -19.35 13.65 14.07 0.00023 5.24 7436.6 311 0.15 97517.4 PropPh1 ³ 38896 -19.35 13.65 14.07 0.00023 5.24 7436.6 311 0.15 97517.4 PropPh1 ³ 38890 -19.35 13.64 14.07 0.000233 5.24 7436.6 311 0.15 97517.4 FuturePh3 ⁴ 38902 -19.35 13.64 14.07 0.000233 5.24 7436.6 311 0.15 97517.4 FuturePh3 ⁴ 38904 -19.35 13.64 14.07 0.000233 5.24 7436.6 311 0.15 97517.4 FuturePh3 ⁴ 38904 -17.81 12.83 -3.24 13.52 0.000446 6.7 5820.66 277.03 0.26 96028.6 FuturePh2 ³ 38904 -17.81 12.83 -3.24 13.52 0.000446 6.7 5820.06 277.03 0.26 96028.6 FuturePh2 ³ 38904 -17.81 12.82 -3.25 13.52 0.000446 6.7 5820.06 277.03 0.26 96028.6 FuturePh2 ³ 38904 -17.81 12.80 -3.24 13.52 0.000446 6.7 5820.06 277.03 0.26 96028.6 FuturePh3 ³ 38902 -17.81 12.87 -3.31 13.37 0.000452 6.73 5799.27 276.42 0.26 96028.6 FuturePh3 ³ 38902 -17.81 12.87 -3.31 13.37 0.000452 6.73 5799.27 276.42 0.26 96028.6 FuturePh3 ³ 38900 -17.87 12.67 -3.31 13.37 0.000452 6.73 5799.27 276.44 0.26 96038.9 FuturePh3 ³ 38900 -17.87 12.67 -3.31 13.37 0.000452 6.73 5799.27 276.44 0.26 96038.9 FuturePh3 ³ 38900 -17.87 12.67 -3.31 13.37 0.000452 6.73 5799		101001.0	T dtdl of Ho		10.00	10.01		10.12	0.000100	0.70	0100.01	200.00	0.20
99992 6 FuturePh3' 38904 -18.9 14.45 15.24 0.000492 7.16 5432.45 239.48 0.26 99992 6 FuturePh3' 38902 -18.9 14.45 15.24 0.000492 7.16 5432.28 238.48 0.26 99992 6 FuturePh3' 38905 -20.26 13.71 14.45 0.000482 6.95 5601.47 250.78 0.26 9839.4 PropPh1' 38896 -20.26 13.71 14.45 0.000482 6.95 5600.32 250.76 0.26 9839.4 FuturePh3' 38904 -20.26 13.71 14.45 0.000482 6.95 5600.32 250.76 0.26 9839.4 FuturePh3' 38904 -20.26 13.71 14.45 0.000482 6.95 5600.32 250.76 0.26 9839.4 FuturePh3' 38904 -20.26 13.71 14.45 0.000482 6.95 5600.8 250.77 0.26 9839.4 FuturePh3' 38904 1-93.55 13.65 14.07 0.000233 5.24 7438.03 311.01 0.18 97517.4 FuturePh3' 38904 1-93.55 13.65 14.07 0.000233 5.24 7438.03 311.01 0.18 97517.4 FuturePh3' 38904 1-93.55 13.65 14.07 0.000233 5.24 7437.42 311 0.18 97517.4 FuturePh3' 38904 1-193.55 13.65 14.07 0.000233 5.24 7437.42 311 0.18 97517.4 FuturePh3' 38904 1-193.55 13.65 14.07 0.000233 5.24 7437.42 311 0.18 97517.4 FuturePh3' 38904 1-193.55 13.65 14.07 0.000233 5.24 7437.42 311 0.18 97517.4 FuturePh3' 38904 1-193.55 13.65 14.07 0.000233 5.24 7437.21 311 0.18 97517.4 FuturePh3' 38904 1-17.81 12.82 3.24 13.52 0.000446 6.7 580.05 277.04 0.26 99028.6 FuturePh3' 38904 1-17.81 12.82 3.25 13.52 0.000446 6.7 580.05 277.04 0.26 99028.6 FuturePh2' 38904 17.781 12.83 3.324 13.52 0.000446 6.7 580.05 277.04 0.26 99028.6 FuturePh2' 38904 17.781 12.87 3.32 13.37 0.00045 6.7 580.05 277.04 0.26 99028.6 FuturePh3' 38905 1-17.81 12.82 3.32 13.37 0.00046 6.7 580.05 277.04 0.26 99028.6 FuturePh3' 38904 1-17.81 12.67 3.33 13.37 0.00046 6.7 580.05 277.04 0.26 99028.6 FuturePh3' 38904 1-17.81 12.87 3.32 13.37 0.00046 6.7 580.05 277.04 0.26 99028.6 FuturePh3' 38904 1-17.81 12.67 3.33 13.37 0.00046 6.7 5819.87 277.04 0.26 99028.6 FuturePh3' 38904 1-17.81 12.67 3.31 13.38 0.00046 6.7 5819.87 277.04 0.26 99028.6 FuturePh3' 38904 1-17.81 12.67 3.31 13.38 0.00046 6.7 5819.87 277.04 0.26 99028.6 FuturePh3' 38904 1-17.81 12.67 0.33 13.37 0.00046 6.7 5819.87 276.44 0.26 99028.6 FuturePh3' 38904 1-17.81 12.67 3.31 13.39 0.00046 6.8 621.07 31		99992.6	Existing ¹	38910	-18.9	14.45		15.25	0.000492	7.16	5432.93	238.49	0.26
99992 6 FuturePh3 ¹ 38890		99992.6	PropPh1 ²	38896	-18.9			15.24	0.000492	7.16	5431.81	238.48	0.26
Second Color Seco				38904	-18.9								0.26
983994 PropPhi* 38986 20.26 13.7		99992.6	FuturePh3 ⁴	38902	-18.9	14.45		15.24	0.000492	7.16	5432.28	238.48	0.26
983994 PropPhi* 38986 20.26 13.7		00200.4	Evicting ¹	20010	20.26	12 71		14.46	0.000492	6.05	5601.47	250.79	0.26
98399.4 FuturePh2' 38904 -20.26 13.71 14.45 0.000482 6.95 5600.8 250.77 0.26 98399.4 FuturePh3' 38902 -20.26 13.71 14.45 0.000482 6.95 5600.8 250.77 0.26 97517.4 Existing' 38910 -19.35 13.65 14.07 0.000233 5.24 7438.03 311.01 0.15 97517.4 FropPh1' 38896 -19.35 13.64 14.07 0.000233 5.24 7436.6 311 0.15 97517.4 FuturePh2' 38904 -15.35 13.65 14.07 0.000233 5.24 7436.6 311 0.15 97517.4 FuturePh2' 38904 -18.35 13.66 14.07 0.000233 5.24 7437.42 311 0.15 97517.4 FuturePh2' 38904 -18.35 13.64 14.07 0.000233 5.24 7437.42 311 0.15 96028 Existing' 38910 -17.81 12.83 -3.24 13.52 0.000446 6.7 58919.34 277.01 0.25 96028 PropPh1' 38986 17.81 12.82 -3.25 13.52 0.000446 6.7 58919.34 277.01 0.25 96028 FuturePh3' 38902 -17.81 12.82 -3.25 13.52 0.000446 6.7 58919.34 277.02 0.25 96941.6 FropPh1' 38896 -17.87 12.67 -3.31 13.30 0.000452 6.73 5794.5 276.45 0.25 96941.6 FropPh1' 38896 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.79 276.44 0.25 96941.6 FropPh1' 38896 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.79 276.44 0.25 95941.6 FropPh1' 38896 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.79 276.44 0.25 95941.6 FuturePh3' 38902 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.79 276.44 0.25 95941.6 FuturePh3' 38902 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.79 276.44 0.25 95941.6 FuturePh3' 38902 -17.87 12.47 13.08 0.000452 6.73 5793.79 276.44 0.25 95941.6 FuturePh3' 38902 -17.87 12.47 13.08 0.000452 6.73 5793.79 276.44 0.25 95941.6 FuturePh3' 38902 -17.87 12.47 13.07 0.000452 6.73 5793.79 276.44 0.25 95941.6 FuturePh3' 38902 -17.87 12.47 13.07 0.000452 6.73 5793.79 276.44 0.25 95941.6 Fu													
983994 FuturePh3 ¹ 38902													
97617.4 Existing		98399.4	FuturePh3 ⁴										
97517.4 PropPh1 ² 38896 -19.35 13.64 14.07 0.000233 5.24 7437.42 311 0.15 97517.4 FuturePh2 ² 38904 -19.35 13.65 14.07 0.000233 5.24 7437.42 311 0.15 97517.4 FuturePh3 ⁴ 38902 -19.35 13.64 14.07 0.000233 5.24 7437.42 311 0.15 96028.6 Existing 38910 -17.81 12.83 -3.24 13.52 0.000446 6.7 5820.59 277.04 0.25 96028.6 FuturePh2 ² 38896 -17.81 12.83 -3.24 13.52 0.000446 6.7 5820.59 277.01 0.25 96028.6 FuturePh2 ² 389904 -17.81 12.83 -3.25 13.52 0.000446 6.7 5820.06 277.01 0.25 96028.6 FuturePh3 ⁴ 38902 -17.81 12.82 -3.25 13.52 0.000446 6.7 5820.06 277.01 0.25 96028.6 FuturePh3 ⁴ 38902 -17.81 12.82 -3.25 13.52 0.000446 6.7 5820.06 277.01 0.25 95981.6 Bridge 95981.6 Existing 38910 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.27 276.42 0.25 95981.6 FuturePh3 ⁴ 38990 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.27 276.42 0.25 95981.6 FuturePh3 ⁴ 38902 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.79 276.44 0.25 95981.6 FuturePh3 ⁴ 38902 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.79 276.44 0.25 95382.9 Existing 38910 -15.97 12.47 13.08 0.000419 6.26 6211.67 312.97 0.25 95382.9 FuturePh3 ⁴ 38902 -15.97 12.47 13.07 0.000419 6.26 6211.67 312.99 0.25 95382.9 FuturePh3 ⁴ 38902 -15.97 12.47 13.07 0.000419 6.26 6212.47 312.99 0.25 95382.9 FuturePh3 ⁴ 38902 -15.97 12.47 13.07 0.000419 6.26 6212.47 312.99 0.25 95382.9 FuturePh3 ⁴ 38902 -15.97 12.47 13.07 0.000419 6.26 6212.47 312.99 0.25 95382.9 FuturePh3 ⁴ 38905 -19.82 11.41 12.47 0.00064 8.25 4733.81 0.003 0.27 94280.7 FuturePh3 ⁴ 38906 -15.87 11.41 12.47 0.000664 8.25 4733.81 0.003 0.27 94280.7 FuturePh3 ⁴ 39056 -19.82 11.41		30033.4	T dtdl Cl 110	00302	20.20	10.7		14.40	0.000402	0.50	0000.0	200.11	0.20
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Second Sexisting Second Sexisting Second Seco				38904	-19.35	13.65		14.07	0.000233	5.24			0.19
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96028.6 PropPht 38896 -17.81 12.82 -3.25 13.52 0.000446 6.7 5819.34 277.01 0.25 96028.6 FuturePh2 38904 -17.81 12.82 -3.25 13.52 0.000446 6.7 5819.87 277.02 0.25 9598.5 Bridge			1										
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95941.6 FuturePh2 ³ 38904 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.98 276.44 0.25 95941.6 FuturePh3 ⁴ 38902 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.79 276.44 0.25 95941.6 FuturePh3 ⁴ 38910 -15.97 12.47 13.08 0.000419 6.26 6213.07 313 0.25 95362.9 Existing 38896 -15.97 12.46 13.07 0.000419 6.26 6211.67 312.97 0.25 95362.9 FuturePh2 ³ 38904 -15.97 12.47 13.07 0.000419 6.26 6212.47 312.99 0.25 95362.9 FuturePh3 ⁴ 38902 -15.97 12.47 13.07 0.000419 6.26 6212.47 312.99 0.25 95362.9 FuturePh3 ⁴ 38902 -15.97 12.47 13.07 0.000419 6.26 6212.26 312.98 0.25 94280.7 Existing 38904 -15.97 12.47 13.07 0.000419 6.26 6212.26 312.98 0.25 94280.7 FuturePh3 ⁴ 39059 -19.82 11.41 12.47 0.000664 8.25 4733.69 202.44 0.3 94280.7 FuturePh2 ³ 39059 -19.82 11.41 12.47 0.000664 8.25 4733.31 202.44 0.3 94280.7 FuturePh2 ³ 39068 -19.82 11.41 12.47 0.000664 8.25 4733.31 202.44 0.3 94280.7 FuturePh3 ⁴ 39065 -19.82 11.41 12.47 0.000664 8.25 4733.31 202.44 0.3 94280.7 FuturePh3 ⁴ 39065 -19.82 11.41 12.47 0.000664 8.25 4733.31 202.44 0.3 94380.6 Existing 39068 -19.82 11.41 12.47 0.000664 8.25 4733.2 00.96 0.27 93495.6 FuturePh2 ³ 39068 -20.43 11.18 11.9 0.00053 6.8 5749.72 300.96 0.27 93495.6 FuturePh2 ³ 39068 -20.43 11.18 11.9 0.00053 6.8 5749.15 300.95 0.27 93495.6 FuturePh2 ³ 39068 -20.43 11.18 11.9 0.00053 6.8 5749.15 300.95 0.27 93495.6 FuturePh2 ³ 39068 -20.43 11.18 11.9 0.00053 6.8 5748.98 300.94 0.27 92795.6 FuturePh2 ³ 3916 -20.98 10.81 -5.19 11.54 0.00049 6.84 5719.03 277.86 0.27 92795.6 FuturePh2 ³ 39136 -20.98 10.81 -5.19 11.54 0.00049 6.84 5718.36 277.85 0.27 92795.6 FuturePh2 ³ 39136 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.85 0.27 92795.6 FuturePh2 ³ 39136 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.93 277.07 0.27 92686.6 FuturePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.93 277.07 0.27 92686.6 FuturePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.93 277.07 0.27 92686.6 FuturePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.91 277.09 0.27 92686.6 FuturePh2 ³ 39131 -21.08 1	οŞ	95985.1		Bridge									
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95941.6 FuturePh3 ⁴ 38902 -17.87 12.67 -3.31 13.37 0.000452 6.73 5793.79 276.44 0.25 95362.9 Existing 38910 -15.97 12.47 13.08 0.000419 6.26 6213.07 313 0.25 95362.9 PropPh1 ² 38896 -15.97 12.46 13.07 0.000419 6.26 6211.67 312.97 0.25 95362.9 FuturePh2 ³ 38904 -15.97 12.47 13.07 0.000419 6.26 6211.67 312.97 0.25 95362.9 FuturePh3 ⁴ 38902 -15.97 12.47 13.07 0.000419 6.26 6212.47 312.99 0.25 95362.9 FuturePh3 ⁴ 38902 -15.97 12.47 13.07 0.000419 6.26 6212.26 312.98 0.25 94280.7 Existing 39073 -19.82 11.41 12.47 0.000664 8.25 4733.69 202.44 0.3 94280.7 FroutrePh2 ³ 39068 -19.82 11.41 12.47 0.000664 8.25 4733.31 202.44 0.3 94280.7 FuturePh3 ⁴ 39065 -19.82 11.41 12.47 0.000664 8.25 4733.31 202.44 0.3 94280.7 FuturePh3 ⁴ 39065 -19.82 11.41 12.47 0.000664 8.25 4733.31 202.44 0.3 94280.7 FuturePh3 ⁴ 39065 -19.82 11.41 12.47 0.000664 8.25 4733.31 202.44 0.3 94280.7 FuturePh3 ⁴ 39065 -19.82 11.41 12.47 0.000664 8.25 4733.31 202.43 0.3 9436.6 FropPh1 ² 39059 -20.43 11.18 11.9 0.00053 6.8 5749.72 300.96 0.27 93495.6 FuturePh2 ³ 39068 -20.43 11.18 11.9 0.00053 6.8 5749.15 300.93 0.27 93495.6 FuturePh2 ³ 39068 -20.43 11.18 11.9 0.00053 6.8 5749.15 300.95 0.27 93495.6 FuturePh3 ⁴ 39136 -20.98 10.81 -5.19 11.54 0.00049 6.84 5719.03 277.86 0.27 92795.6 FuturePh2 ³ 39131 -20.98 10.81 -5.2 11.54 0.00049 6.84 5719.03 277.86 0.27 92795.6 FuturePh2 ³ 39136 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92795.6 FuturePh2 ³ 39136 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92795.6 FuturePh2 ³ 39136 -20.08 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92795.6 FuturePh2 ³ 39136 -21.08 10.59 -5.3 11.33 0.00048 6.88 5684.93 277.1 0.27 92686.6 FrottrePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.00048 6.88 5684.93 277.1 0.27 92686.6 FrottrePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.00048 6.88 5684.93 277.07 0.27 92686.6 FrottrePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.00049 6.88 5684.93 277.07 0.27 92686.6 FrottrePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.00049 6.88 5684.93 277.07 0.27 92686.6 FrottrePh2 ³ 39131	10			38896	-17.87	12.67	-3.31	13.37	0.000452	6.73	5793.27	276.42	0.25
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93495.6 PropPh12 39059 -20.43 11.18 11.9 0.00053 6.79 5748.45 300.93 0.27 93495.6 FuturePh23 39068 -20.43 11.18 11.9 0.00053 6.8 5749.15 300.95 0.27 93495.6 FuturePh34 39065 -20.43 11.18 11.9 0.00053 6.8 5748.98 300.94 0.27 92795.6 Existing 1 39136 -20.98 10.81 -5.19 11.54 0.00049 6.84 5719.03 277.86 0.27 92795.6 FropPh12 39122 -20.98 10.81 -5.2 11.54 0.00049 6.84 5717.88 277.83 0.27 92795.6 FuturePh23 39131 -20.98 10.81 -5.19 11.54 0.00049 6.84 5718.5 277.85 0.27 92795.6 FuturePh34 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92795.6 FuturePh34 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92795.6 FuturePh34 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92795.6 FuturePh34 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92686.6 Existing 1 39136 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.93 277.1 0.27 92686.6 PropPh12 39122 -21.08 10.59 -5.3 11.32 0.000498 6.88 5684.41 277.09 0.27 92686.6 FuturePh23 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27		94280.7	FuturePh3 ⁴	39065	-19.82	11.41		12.47	0.000664	8.25	4733.2	202.43	0.3
93495.6 PropPh12 39059 -20.43 11.18 11.9 0.00053 6.79 5748.45 300.93 0.27 93495.6 FuturePh23 39068 -20.43 11.18 11.9 0.00053 6.8 5749.15 300.95 0.27 93495.6 FuturePh34 39065 -20.43 11.18 11.9 0.00053 6.8 5748.98 300.94 0.27 92795.6 Existing 1 39136 -20.98 10.81 -5.19 11.54 0.00049 6.84 5719.03 277.86 0.27 92795.6 FropPh12 39122 -20.98 10.81 -5.2 11.54 0.00049 6.84 5717.88 277.83 0.27 92795.6 FuturePh23 39131 -20.98 10.81 -5.19 11.54 0.00049 6.84 5718.5 277.85 0.27 92795.6 FuturePh34 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92795.6 FuturePh34 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92795.6 FuturePh34 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92795.6 FuturePh34 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92686.6 Existing 1 39136 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.93 277.1 0.27 92686.6 PropPh12 39122 -21.08 10.59 -5.3 11.32 0.000498 6.88 5684.41 277.09 0.27 92686.6 FuturePh23 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27		00 15 = -	F: - #:1	2	22.1	4			0.000==		F= 10 ==	202.2	
93495.6 FuturePh2 ³ 39068 -20.43 11.18 11.9 0.00053 6.8 5749.15 300.95 0.27 93495.6 FuturePh3 ⁴ 39065 -20.43 11.18 11.9 0.00053 6.8 5748.98 300.94 0.27 92795.6 Existing ¹ 39136 -20.98 10.81 -5.19 11.54 0.00049 6.84 5719.03 277.86 0.27 92795.6 FuturePh2 ³ 39122 -20.98 10.81 -5.2 11.54 0.00049 6.84 5717.88 277.83 0.27 92795.6 FuturePh2 ³ 39131 -20.98 10.81 -5.19 11.54 0.00049 6.84 5718.5 277.85 0.27 92795.6 FuturePh3 ⁴ 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.5 277.85 0.27 92795.6 FuturePh3 ⁴ 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92795.6 FuturePh3 ⁴ 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92686.6 Existing ¹ 39136 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.93 277.1 0.27 92686.6 FuturePh2 ³ 39122 -21.08 10.59 -5.3 11.32 0.000498 6.88 5683.69 277.07 0.27 92686.6 FuturePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27													
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92795.6 PropPh12 39122 -20.98 10.81 -5.2 11.54 0.00049 6.84 5717.88 277.83 0.27 92795.6 FuturePh23 39131 -20.98 10.81 -5.19 11.54 0.00049 6.84 5718.5 277.85 0.27 92795.6 FuturePh34 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92795.6 Existing1 39136 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.93 277.1 0.27 92686.6 PropPh12 39122 -21.08 10.59 -5.3 11.32 0.000498 6.88 5683.69 277.07 0.27 92686.6 FuturePh23 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27 92686.6 FuturePh23 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27 92686.6 FuturePh23 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27 92686.6 FuturePh23 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27 92686.6 FuturePh23 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27 92686.6 FuturePh23 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27 92686.6 FuturePh23 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27 92686.6 FuturePh23 92686.6 Fu		92795.6	Existing ¹	39136	-20.98	10.81	-5.19	11.54	0.00049	6.84	5719.03	277.86	0.27
92795.6 FuturePh2 ³ 39131 -20.98 10.81 -5.19 11.54 0.00049 6.84 5718.5 277.85 0.27 92795.6 FuturePh3 ⁴ 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92741.1 Bridge 92686.6 Existing 1 39136 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.93 277.1 0.27 92686.6 PropPh1 ² 39122 -21.08 10.59 -5.3 11.32 0.000498 6.88 5683.69 277.07 0.27 92686.6 FuturePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27													
92795.6 FuturePh3 ⁴ 39128 -20.98 10.81 -5.2 11.54 0.00049 6.84 5718.36 277.84 0.27 92741.1 Bridge 92686.6 Existing ¹ 39136 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.93 277.1 0.27 92686.6 PropPh1 ² 39122 -21.08 10.59 -5.3 11.32 0.000498 6.88 5683.69 277.07 0.27 92686.6 FuturePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27													
92686.6 Existing ¹ 39136 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.93 277.1 0.27 92686.6 PropPh1 ² 39122 -21.08 10.59 -5.3 11.32 0.000498 6.88 5683.69 277.07 0.27 92686.6 FuturePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27		92795.6	FuturePh3 ⁴										
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92686.6 PropPh12 39122 -21.08 10.59 -5.3 11.32 0.000498 6.88 5683.69 277.07 0.27 92686.6 FuturePh23 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27		92/41.1		Bridge									
92686.6 PropPh12 39122 -21.08 10.59 -5.3 11.32 0.000498 6.88 5683.69 277.07 0.27 92686.6 FuturePh23 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27		92686.6	Existing ¹	39136	-21 08	10.59	-5.3	11 33	0.000498	6.88	5684 93	277 1	n 27
92686.6 FuturePh2 ³ 39131 -21.08 10.59 -5.3 11.33 0.000498 6.88 5684.41 277.09 0.27													
	<u> </u>												



Profile	River Sta	Plan	Q Total	Min Ch Fl	W.S. Flev	Crit W.S	F.G. Flev	F.G. Slone	Vel Chnl	Flow Area	Ton Width	Froude # Chl
Tromo	Triver ora	Tidii	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	I loude ii Oili
	90936.7	Existing ¹	39136	-18.64	9.61		10.3	0.000667	6.68		382.23	0.3
		PropPh1 ²	39122	-18.64			10.3		6.68	5859.94		0.3
		FuturePh2 ³	39131	-18.64	9.61		10.3	0.000667	6.68	5860.93	382.21	0.3
	90936.7	FuturePh3 ⁴	39128	-18.64	9.61		10.3	0.000667	6.68	5860.6	382.21	0.3
		Existing ¹	39247	-17.23			9.46					0.36
		PropPh1 ²	39233	-17.23	8.43		9.46		8.12	4830.83	305.24	0.36
		FuturePh2 ³	39241	-17.23	8.44		9.46				305.25	0.36
	89918.4	FuturePh3 ⁴	39238	-17.23	8.44		9.46	0.00095	8.12	4831.37	305.25	0.36
	00570	Eviating 1	20247	20.07	7.25		0.00	0.000000	7.04	40.42.0	200.00	0.25
		Existing ¹ PropPh1 ²	39247 39233	-20.97	7.25		8.22 8.22	0.000883 0.000883	7.94 7.94	4943.2 4941.72	306.28 306.25	0.35 0.35
		FuturePh2 ³	39233	-20.97 -20.97	7.24		8.22	0.000883	7.94	4941.72	306.25	0.35
		FuturePh3 ⁴	39241	-20.97	7.24		8.22	0.000883	7.94	4942.37	306.26	0.35
	00079	FutureFilo	39230	-20.97	1.24		0.22	0.000003	7.94	4942.3	300.20	0.33
	87591.9	Existing ¹	39247	-23.72	6.69		7.46	0.000585	7.04	5573.68	298.66	0.29
		PropPh1 ²	39233	-23.72	6.68		7.45		7.04	5572.21	298.65	0.29
		FuturePh2 ³	39241	-23.72	6.69		7.46		7.04	5573.05	298.66	0.29
		FuturePh3 ⁴	39238	-23.72	6.69		7.46		7.04	5572.8	298.66	
	07 00 1.0	T dtd/o/ 1/0	00200	20.72	0.00		7.10	0.000000	7.01	0012.0	200.00	0.20
	86660.2	Existing ¹	39247	-23.42	6.35	-10.08	6.95	0.000359	6.2	6334.66	286.28	0.23
		PropPh1 ²	39233	-23.42			6.95			6333.25	286.27	0.23
		FuturePh2 ³	39241	-23.42	6.35	-10.07	6.95		6.2	6334.06	286.27	0.23
		FuturePh3 ⁴	39238	-23.42			6.95		6.2	6333.81	286.27	0.23
	86641.7		Bridge									
		F : 0 1	222.17	20.04		40.07	2.50		2.05	222224	225.0	
		Existing ¹	39247	-23.61	5.99	-10.27	6.59		6.25	6283.94	285.2	0.23
		PropPh1 ²	39233	-23.61	5.98	-10.27	6.59		6.25		285.17	0.23
_	86623.2	FuturePh2 ³	39241	-23.61	5.99		6.59		6.25	6283.35	285.19	0.23
10PCT_10yr	86623.2	FuturePh3 ⁴	39238	-23.61	5.98	-10.27	6.59	0.000368	6.25	6283.12	285.18	0.23
Ì-l	85855.2	Existing ¹	39247	-26.84	4.61		5.95	0.000906	9.31	4217.41	200.58	0.36
<u>Р</u>		PropPh1 ²	39233				5.95		9.3		200.57	0.36
6		FuturePh2 ³	39241	-26.84			5.95		9.31	4217.02	200.58	0.36
		FuturePh3 ⁴	39238	-26.84	4.6		5.95			4216.87	200.58	0.36
	00000.2	T didi of 110	03200	-20.04	7.0		0.50	0.000000	3.01	4210.07	200.00	0.00
	85238.7	Existing ¹	39247	-29.43	4.31		5.4	0.000671	8.38	4686.02	215.54	0.31
		PropPh1 ²	39233	-29.43			5.39	0.000671	8.38		215.43	0.31
		FuturePh2 ³	39241	-29.43	4.3		5.39		8.38	4685.6	215.5	0.31
		FuturePh3 ⁴	39238	-29.43			5.39		8.38		215.48	0.31
		Existing ¹	39247	-32.27	4.03	-13.2	4.9	0.000492	7.51	5223.9	214.37	0.27
	84561.7	PropPh1 ²	39233	-32.27	4.02	-13.21	4.9	0.000491	7.51	5222.95	214.36	
		FuturePh2 ³	39241	-32.27	4.02	-13.21	4.9	0.000492	7.51	5223.49	214.37	0.27
	84561.7	FuturePh3 ⁴	39238	-32.27	4.02	-13.21	4.9	0.000491	7.51	5223.35	214.36	0.27
	0.450.4.4		B : 1									
	84531.4		Bridge									
	04504.4	Existing ¹	20247	20.07	2.54	0.01	4.76	0.000785	8.85	4422.25	203.63	0.22
		PropPh1 ²	39247 39233	-28.97 -28.97	3.54 3.54	-9.91 -9.92	4.76 4.76					0.33 0.33
		FuturePh2 ³	39233				4.76					
		FuturePh3 ⁴	39241	-28.97 -28.97	3.54	-9.91	4.76	 				0.33 0.33
	04301.1	FutureFilo	39230	-20.91	3.04	-9.92	4.70	0.000765	0.00	4432.04	203.03	0.55
	84252.6	Existing ¹	39247	-26.9	3.45	-9.61	4.49	0.000697	8.16	4809.4	232.73	0.32
		PropPh1 ²	39233	-26.9			4.48		8.16			0.32
		FuturePh2 ³	39241	-26.9			4.48		8.16			0.32
		FuturePh3 ⁴	39238				4.48		8.16		232.72	0.32
												5,52
	84222.3		Bridge									
		1										
		Existing ¹	39247	-24.1	2.82	-6.82	4.3				222.16	
		PropPh1 ²	39233		2.82		4.29					
		FuturePh2 ³	39241	-24.1	2.82		4.3	 				
	84192	FuturePh3 ⁴	39238	-24.1	2.82	-6.81	4.29	0.001168	9.74	4029.51	222.15	0.4
L												



Profile	River Sta	Plan	Q Total	Min Ch Fl	W.S. Flev	Crit W.S	F.G. Flev	F.G. Slone	Vel Chnl	Flow Area	Ton Width	Froude # Chl
1 101110	Tavor ota	T IGHT	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	T TOUGO II OIII
	83635.7	Existing ¹	39496	-21.72			3.47	0.000938			326.21	0.36
	83635.7	PropPh1 ²	39482	-21.72	2.49		3.46				326.19	0.36
		FuturePh2 ³	39490				3.47	0.000938				0.36
	83635.7	FuturePh3⁴	39488	-21.72	2.49		3.46	0.000938	7.91	4989.45	326.2	0.36
		,										
		Existing ¹	39496	-31.97	1.01		1.87	0.000763				
		PropPh1 ²	39482	-31.97	1		1.87	0.000763			322.14	
		FuturePh2 ³ FuturePh3 ⁴	39490 39488	-31.97	1.01		1.87 1.87	0.000763			322.17	
	01/00.1	FuturePh3	39400	-31.97	1.01		1.07	0.000763	7.40	5289.88	322.16	0.32
	80903.1	Existing ¹	39606	-27.77	0.49	-12.43	1.18	0.000625	6.65	5953.04	365.19	0.29
		PropPh1 ²	39592	-27.77	0.48	-12.43	1.17	0.000625			365.14	0.29
		FuturePh2 ³	39600	-27.77	0.49	-12.43	1.17	0.000625			365.17	0.29
₹		FuturePh3 ⁴	39598	-27.77	0.49	-12.43	1.17				365.16	
10PCT_10yr												
<u>5</u>	80883.1		Bridge									
10P	000004	Fuinting!	20000	20.4	0.00	40.77	0.04	0.000040	0.74	5070 F	200.00	0.2
_		Existing ¹ PropPh1 ²	39606	-28.1	-0.06 -0.07	-12.77	0.64	0.000648				0.3 0.3
	80863.1	FuturePh2 ³	39592 39600	-28.1 -28.1	-0.07	-12.77 -12.77	0.64 0.64	0.000648 0.000648			362.77 362.8	0.3
		FuturePh3 ⁴	39598	-28.1	-0.06	-12.77	0.64	0.000648			362.8	0.3
	00000.1	T didi of 110	03030	20.1	0.00	12.77	0.04	0.000040	0.74	007 1.00	002.0	0.0
	80538	Existing ¹	39606	-33.12	0.08	-20.17	0.32	0.00015	3.95	10017.38	472.21	0.15
	80538	PropPh1 ²	39592	-33.12	0.08	-20.17	0.32	0.00015	3.95	10015.17	472.17	0.15
		FuturePh2 ³	39600	-33.12	0.08	-20.17	0.32	0.00015				
	80538	FuturePh3 ⁴	39598	-33.12	0.08	-20.17	0.32	0.00015	3.95	10016.12	472.19	0.15
		1										
	248647.7		3803	56.61	77.37		77.44	0.000037	2.26		152.59	0.12
		PropPh1 ²	3803	56.61	77.36		77.44	0.000037	2.26		152.59	
		FuturePh2 ³ FuturePh3 ⁴	3803 3803	56.61 56.61	77.36 77.36		77.44 77.44	0.000037 0.000037	2.26 2.26		152.59 152.59	0.12 0.12
	240047.7	i utureriio	3003	30.61	11.30		11.44	0.000037	2.20	1002.21	152.59	0.12
	248547.8	Existing ¹	3803	56.16	77.36	63.56	77.43	0.000133	2.18	1750.71	157.6	0.11
		PropPh1 ²	3803	56.16		63.56	77.43	0.000133			157.59	
		FuturePh2 ³	3803	56.16		63.56	77.43	0.000133			157.6	
		FuturePh3 ⁴	3803	56.16		63.56	77.43				157.6	0.11
	248481.1		Bridge									
	0404444	F : 0 1	0000	55.0	77.40	20.04	77.40	0.000400	0.40	4750.07	450.54	0.44
	248414.4	PropPh1 ²	3803	55.9	77.12	63.31	77.19				158.54	0.11
		FuturePh2 ³	3803 3803	55.9 55.9	77.12 77.12	63.31 63.31	77.19 77.19				158.53 158.53	0.11 0.11
		FuturePh3 ⁴	3803	55.9			77.19			-		
	240414.4	i uturer 113	3003	33.9	11.12	03.31	11.19	0.000132	2.10	1733.23	130.33	0.11
	247502	Existing ¹	3797	50.81	76.96		77.01	0.000291	1.8	2111.43	156.36	0.09
¥		PropPh1 ²	3797	50.81	76.96		77.01	0.000291	1.8			
PCT_100yr	247502	FuturePh2 ³	3797	50.81	76.96		77.01	0.000291	1.8			0.09
<u> </u>	247502	FuturePh3⁴	3797	50.81	76.96		77.01	0.000291	1.8	2111.42	156.36	0.09
S		4										
_	246449.8		3797	52.3			76.75					0.09
		PropPh1 ²	3797	52.3	76.7		76.75					0.09
		FuturePh2 ³ FuturePh3 ⁴	3797	52.3			76.75					
	246449.8	FuturePn3	3797	52.3	76.7		76.75	0.000214	1.79	2144	238.3	0.09
	245413.7	Existing ¹	3784	51.09	76.46		76.5	0.000255	1.76	2144.91	157.27	0.08
		PropPh1 ²	3784	51.09			76.5					0.08
		FuturePh2 ³	3784	51.09			76.5					
		FuturePh3 ⁴	3784	51.09			76.5					
	244345.5		3784	49			76.26					0.08
		PropPh1 ²	3784	49			76.26					0.08
	1 244245 5	FuturePh2 ³	3784	49	76.22		76.26	0.000202	1.57	2427.34	194.91	0.08
		FuturePh3 ⁴	3784	49			76.26					0.08



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
1 101110	7 11 7 0 1 0 10	1 1811	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	11044011 0111
	243452.9	Existing ¹	3772	49	76.08		76.11	0.000135	1.37	3550.04	589	0.06
	243452.9	PropPh1 ²	3772	49	76.08		76.11	0.000135	1.37	3549.95	588.99	0.06
		FuturePh2 ³	3772	49	76.08		76.11	0.000135				0.06
	243452.9	FuturePh3 ⁴	3772	49	76.08		76.11	0.000135	1.37	3549.99	588.99	0.06
		1										
	242655.3		3772	49.31	75.91		75.95	0.000338				0.08
		PropPh1 ²	3772	49.31	75.91		75.95	0.000338				0.08
		FuturePh2 ³	3772	49.31	75.91		75.95				702.76	0.08
	242655.3	FuturePh3 ⁴	3772	49.31	75.91		75.95	0.000338	1.63	2909.91	702.76	0.08
	241917.5	Evicting ¹	3772	48.64	75.74	57.62	75.77	0.000174	1.31	3558.05	1278.14	0.06
		PropPh1 ²	3772	48.64	75.74	57.62	75.77	0.000174				0.06
		FuturePh2 ³	3772	48.64	75.74	57.62	75.77	0.000174		3557.95		0.06
		FuturePh3 ⁴	3772	48.64	75.74	57.62	75.77	0.000174	1.31	3557.95		0.06
	241017.0	r didirer no	0112	40.04	70.74	07.02	10.11	0.000174	1.01	0007.00	1210.04	0.00
	241646.1	Existing ¹	3772	48.4	75.69	57.39	75.72	0.000158	1.47	3518.78	1233.18	0.06
		PropPh1 ²	3772	48.4	75.69	57.39	75.72	0.000158				0.06
		FuturePh2 ³	3772	48.4	75.69	57.39	75.72	0.000158		3518.65		0.06
		FuturePh3 ⁴	3772	48.4	75.69	57.39	75.72	0.000158		3518.65		0.06
	241632.7		Bridge									
	0440400	Eviation 1	0770	40.00	75.00	F7.	75.71	0.000455	4 40	2500.71	100170	0.00
	241619.3		3772	48.33	75.68	57.3	75.71	0.000155			1264.78	0.06
		PropPh1 ²	3772	48.33	75.68	57.3	75.71	0.000155 0.000155				0.06
		FuturePh2 ³ FuturePh3 ⁴	3772 3772	48.33 48.33	75.68 75.68	57.3 57.3	75.71 75.71	0.000155				0.06 0.06
	241019.3	rutureens	3112	40.33	75.00	57.3	75.71	0.000133	1.40	3096.0	1204.73	0.06
	241079	Existing ¹	3758	49.13	75.64		75.65	0.000062	0.89	5548.05	952.69	0.04
		PropPh1 ²	3758	49.13	75.64		75.65		0.89			0.04
Ę.		FuturePh2 ³	3758	49.13	75.64		75.65	0.000062				0.04
0	241079	FuturePh3 ⁴	3758	49.13	75.64		75.65	0.000062	0.89			0.04
1PCT_100yr	211070	- ataror no	0.00		10.01		10.00	0.000002	0.00	0011.00	552.51	0.0.
ပ်	240579	Existing ¹	3758	48.94	75.6		75.61	0.0001	1.07	3815.06	933.32	0.05
#	240579	PropPh1 ²	3758	48.94	75.6		75.61	0.0001	1.07	3814.89	933.27	0.05
		FuturePh2 ³	3758	48.94	75.6		75.61	0.0001	1.07	3814.96	933.29	0.05
	240579	FuturePh3 ⁴	3758	48.94	75.6		75.61	0.0001	1.07	3814.96	933.29	0.05
	240376.3		3758	48.86	75.57	55.58	75.59	0.000147	1.09			0.05
		PropPh1 ²	3758	48.86	75.57	55.58	75.59	0.000147	1.09		808.49	0.05
		FuturePh2 ³	3758	48.86	75.57	55.58	75.59	0.000147	1.09		808.53	0.05
	240376.3	FuturePh3 ⁴	3758	48.86	75.57	55.58	75.59	0.000147	1.09	3661.71	808.53	0.05
	240315.3		Bridge									
	240010.0		Dilage									
	240254.3	Existing ¹	3758	48.68	75.54	55.39	75.56	0.000143	1.08	3754.02	861.55	0.05
		PropPh1 ²	3758	48.68	75.54	55.39	75.56				861.46	0.05
		FuturePh2 ³	3758	48.68	75.54	55.39	75.56					0.05
	240254.3	FuturePh3 ⁴	3758	48.68	75.54	55.39	75.56	0.000143	1.08	3753.95		0.05
	239993.6		6670		75.42		75.47	0.000535			1685.18	
		PropPh1 ²	6670		75.42		75.47				1685.15	
		FuturePh2 ³	6670		75.42		75.47					
	239993.6	FuturePh3 ⁴	6670	47	75.42		75.47	0.000535	1.93	5026.22	1685.16	0.09
	220020	Eviation 1	0070	47.07	74.05		74.00	0.000507	0.00	2242.4	000.70	0.1
	239036.8		6670		74.85 74.85		74.93				839.79	
		PropPh1 ² FuturePh2 ³	6670 6670	47.67 47.67	74.85 74.85		74.93 74.93		2.29 2.29			0.1 0.1
		FuturePh3 ⁴	6670		74.85		74.93					0.1
	208030.8	i dialei ilo	0070	41.01	14.00		14.93	0.000007	2.29	3312.99	039.11	U.1
	238060.4	Existing ¹	6670	45.2	74.28		74.36	0.000581	2.25	3444.21	661.3	0.1
		PropPh1 ²	6670		74.28		74.36		2.25			
		FuturePh2 ³	6670	45.2	74.28		74.36		2.25		661.27	0.1
		FuturePh3 ⁴	6670		74.28		74.36		2.25		661.27	0.1
		+ · · · · · · · · · · · · · · · · · · ·	+		0				1		·	5.1



Coffs	Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
23776.3 PropPhil* 6670 44.89 73.84 73.9 0.00058 2.01 3943.24 789.35 23776.3 FuturePh2** 6670 44.89 73.84 73.9 0.000579 2.01 3943.33 789.38 236611 Existing* 6923 44.63 73.84 73.9 0.000579 2.01 3943.33 789.38 236611 Existing* 6923 44.63 73.44 73.61 0.000589 2.25 3769.08 722.0 236611 FuturePh2** 6923 44.63 73.44 73.61 0.000589 2.25 3769.03 722.02 236706.9 Existing* 6923 44.63 73.44 73.61 0.000589 2.25 3769.93 722.02 236706.9 Existing* 6923 44.61 72.86 72.97 0.000611 2.44 3300.96 738.62 236706.9 PropPhil* 6923 44.41 72.88 72.97 0.000611 2.44 3300.96 738.62 236706.9 FuturePh3** 6923 44.41 72.88 72.97 0.000611 2.44 3300.96 738.64 236706.9 FuturePh3** 6923 44.41 72.88 72.97 0.000611 2.44 3300.77 738.44 234807.9 FuturePh3** 6923 44.41 72.88 72.97 0.000611 2.44 3300.77 738.44 234807.9 FuturePh3** 6923 44.91 72.64 72.69 0.000174 1.85 5219.38 438.55 234807.9 FuturePh2** 71.99 44.91 72.64 72.69 0.000174 1.85 5219.38 438.55 234807.9 FuturePh2** 71.99 44.91 72.64 72.69 0.000174 1.85 5219.24 438.56 233808.4 Existing** 71.99 44.91 72.64 72.49 0.000164 1.35 3497.34 875.59 233808.4 Existing** 71.99 45.91 72.64 72.49 0.000164 1.35 3497.34 875.59 233808.4 Existing** 71.99 45.94 72.48 54.6 72.49 0.000164 1.35 3497.34 875.59 233808.4 Existing** 71.99 45.49 72.48 54.6 72.49 0.000164 1.35 3497.34 875.59 233808.4 PropPh1** 71.99 45.49 72.64 72.69 53.76 72.19 0.00056 2.64 2761.04 2.00058 233808.4 PropPh1** 72.94 42.40 72.09 53.76 72.19 0.00056 2.64 2761.04 2.00058 233808.9 Existing** 72.94 42.40 72.09 53.76 72.19 0.000064 2.59 2.813.81 539.49 2323809.9 Existing** 72.94 42.38 72.07 53.77 72.17 0.0006				(cfs)		(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)		
237763 FuturePha' 6670 44.89 73.84 73.9 0.000679 2.01 3943.33 789.38				6670	44.89	73.84		73.9	0.000579	2.01	3943.48	789.43	0.09
232776.3 FuturePh3' 6670 44.86 73.84 73.9 0.000679 2.01 3943.33 789.38				6670	44.89			73.9	0.00058	2.01			
236611 Existing				6670	44.89					2.01		789.38	
238611 PropPhil		237276.3	FuturePh3 ⁴	6670	44.89	73.84		73.9	0.000579	2.01	3943.33	789.38	0.09
238611 PropPhi ¹ 6923 44.63 73.44 73.51 0.000899 2.25 3750.93 722.03 2303.03 FuturePhi ² 6923 44.63 73.44 73.51 0.000899 2.25 3750.93 722.03 2303.03 PropPhi ² 6923 44.63 73.44 72.88 72.97 0.000611 2.44 3300.96 738.42 23576.99 FuturePhi ² 6923 44.41 72.88 72.97 0.000611 2.44 3300.96 738.42 23576.99 FuturePhi ² 6923 44.41 72.88 72.97 0.000611 2.44 3300.96 738.44 23576.99 FuturePhi ² 6923 44.41 72.88 72.97 0.000611 2.44 3300.96 738.44 23576.99 FuturePhi ² 6923 44.41 72.88 72.97 0.000611 2.44 3300.76 738.45 23576.99 FuturePhi ² 6923 44.41 72.88 72.97 0.000611 2.44 3300.76 738.45 23576.99 FuturePhi ² 713.90 44.91 72.64 72.69 0.000174 18.6 5219.36 43.65 72.2800.79 FuturePhi ² 713.90 44.91 72.64 72.69 0.000174 18.6 5219.36 43.65 22480.79 FuturePhi ² 713.90 44.91 72.64 72.69 0.000174 18.6 5219.25 438.56 22480.79 FuturePhi ² 713.90 44.91 72.64 72.69 0.000174 18.6 5219.25 438.56 22480.79 FuturePhi ² 713.90 44.91 72.64 72.69 0.000174 18.6 5219.25 438.56 22480.79 FuturePhi ² 713.90 44.91 72.64 72.69 0.000174 18.6 5219.25 438.56 22480.79 FuturePhi ² 713.90 45.95 72.48 54.6 72.49 0.000154 13.3 849.71 875.59 23589.84 FuturePhi ² 713.90 45.95 72.48 54.6 72.49 0.000154 13.3 849.71 875.56 23589.84 FuturePhi ² 713.90 45.95 72.48 54.6 72.49 0.000154 13.3 849.71 875.56 23589.84 FuturePhi ² 713.90 45.95 72.48 54.6 72.49 0.000154 13.3 849.71 875.56 23589.85 FuturePhi ² 713.90 43.15 72.2 72.31 0.00056 2.64 2761.04 32.03 2359.39 FuturePhi ³ 713.90 43.15 72.2 72.31 0.00056 2.64 2761.04 32.03 2359.39 FuturePhi ³ 713.90 43.15 72.2 72.31 0.00056 2.64 2761.04 32.03 2359.39 FuturePhi ³ 713.90 43.15 72.2 72.31 0.00056 2.64 2761.04 32.03 2359.99 FuturePhi ³ 7254 42.42 72.09 53.76 72.19 0.00052 2.51 2889.29 542.88 233023.3 FuturePhi ³ 7254 42.42 72.09 53.76 72.19 0.00052 2.51 2889.29 542.88 23379.99 FuturePhi ³ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.47 544.09 23379.99 FuturePhi ³ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.39 544.09 23379.99 FuturePhi ³ 72													
238611 FuturePn3													0.1
238611 FuturePh3' 6923 44.41 72.88 72.97 0.000611 2.44 3300.86 738.52 235706 9 PropPh1' 6923 44.41 72.88 72.97 0.000611 2.44 3300.86 738.52 235706 9 FuturePh2' 6923 44.41 72.88 72.97 0.000611 2.44 3300.86 738.42 235706 9 FuturePh2' 6923 44.41 72.88 72.97 0.000611 2.44 3300.77 738.44 73.87 738.70 738.45 738.70 738													0.1
236706 9 Existing 6823													0.1
235706 9 PropPhi ¹ 6923 44.41 72.87 72.97 0.000611 2.44 3300.67 738.45 235706 9 FuturePh3 ¹ 6923 44.41 72.88 72.97 0.000611 2.44 3300.77 738.45 235706 9 FuturePh3 ¹ 6923 44.41 72.88 72.97 0.000611 2.44 3300.77 738.45 235706 9 FuturePh3 ¹ 739 44.91 72.64 72.69 0.000174 1.85 5219.36 438.57 738.45		236611	FuturePh3 [*]	6923	44.63	73.44		73.51	0.000589	2.25	3750.93	722.02	0.1
23706 9 PropPhi ¹ 6923 44.41 72.87 72.97 0.000611 2.44 3300.67 738.45 235706 9 FuturePh3 ¹ 6923 44.41 72.88 72.97 0.000611 2.44 3300.77 738.45 236706 9 FuturePh3 ¹ 6923 44.41 72.88 72.97 0.000611 2.44 3300.77 738.45 236706 9 FuturePh3 ¹ 739 44.91 72.86 72.97 0.000611 2.44 3300.77 738.45 234807 9 Eropha ¹ 739 44.91 72.84 72.86 0.000174 1.85 5219.36 438.57 234807 9 FuturePh3 ² 71.98 44.91 72.64 72.69 0.000174 1.86 5219.25 438.56 234807 9 FuturePh3 ² 71.98 44.91 72.64 72.69 0.000174 1.86 5219.25 438.56 234807 9 FuturePh3 ² 71.99 44.91 72.64 72.69 0.000174 1.86 5219.25 438.56 72.3808.4 Existing 71.99 44.91 72.64 72.69 0.000174 1.86 5219.25 438.56 72.3808.4 Existing 71.99 43.45 72.48 54.6 72.49 0.000154 1.33 8497.12 875.59 235868.4 FuturePh3 ² 71.99 45.45 72.48 54.6 72.49 0.000154 1.33 8497.12 875.59 235808.4 FuturePh3 ² 71.99 43.15 72.2 72.31 0.000566 2.64 2761.12 231.23 23029.3 Existing 71.99 43.15 72.2 72.31 0.000566 2.64 2761.12 231.23 23029.3 FuturePh3 ² 71.99 43.15 72.2 72.31 0.000566 2.64 2761.14 320.85 23029.3 FuturePh3 ² 71.99 43.15 72.2 72.31 0.000566 2.64 2761.14 320.85 23029.3 FuturePh3 ² 71.99 43.15 72.2 72.31 0.000566 2.64 2761.14 320.85 320.97 320.			F : 0 1			70.00		70.07	0.000044		222222	700.50	
235706.9 FuturePh2 6923 44.41 72.88 72.97 0.000611 2.44 3300.78 738.45 235706.9 FuturePh3 6923 44.41 72.88 72.97 0.000611 2.44 3300.78 738.45 235706.9 FuturePh3 6923 44.41 72.84 72.68 72.97 0.000611 2.44 3300.77 738.44 235706.9 FuturePh2 7139 44.91 72.64 72.69 0.000174 1.85 5219.36 438.67 234807.9 FuturePh2 7139 44.91 72.64 72.69 0.000174 1.85 5219.25 438.56 234807.9 FuturePh3 7139 44.91 72.64 72.69 0.000174 1.85 5219.25 438.56 234807.9 FuturePh3 7139 44.91 72.64 72.69 0.000174 1.85 5219.25 438.56 234807.9 FuturePh3 7139 44.91 72.64 72.69 0.000174 1.85 5219.25 438.56 233698.4 Existing 7139 45.45 72.48 54.6 72.5 0.000154 1.33 8497.34 875.59 233698.4 EvuturePh3 7139 45.45 72.48 54.6 72.49 0.000154 1.33 8497.11 875.58 233698.4 EvuturePh3 7139 45.45 72.48 54.6 72.49 0.000154 1.33 8497.11 875.58 233029.3 EvuturePh3 7139 43.15 72.2 72.31 0.000566 2.64 2761.04 320.85 233029.3 FuturePh3 7139 43.15 72.2 72.31 0.000566 2.64 2761.04 320.85 233029.3 FuturePh3 7139 43.15 72.2 72.31 0.000566 2.64 2761.04 320.85 232816.9 Evitsing 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.25 542.86 232816.9 Evitsing 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.25 542.86 232816.9 Evitsing 7254 42.42 72.09 53.75 72.19 0.00056 2.51 2889.25 542.86 232816.9 Evitsing 7254 42.42 72.09 53.75 72.19 0.00056 2.51 2889.25 542.86 232816.9 Evitsing 7254 42.42 72.09 53.75 72.19 0.00056 2.51 2889.25 542.86 232816.9 Evitsing 7254 42.42 72.09 53.75 72.19 0.00056 2.51 2889.25 542.86 232816.9 Evitsing 7254 42.48 72.07 53.7 72.17 0.000618 2.51 2889.25 542.86 232819.8 FuturePh3 7254 42.38 72.07 53.7 72.17 0.000													0.11
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234807.9 Existing													
234807.9 PropPh1*		235706.9	FuturePn3"	6923	44.41	72.88		72.97	0.000611	2.44	3300.77	/38.44	0.11
234807.9 PropPh1*		224907.0	Evicting ¹	7130	44.01	72.64		72.60	0.000174	1 95	5210.26	129 57	0.08
234807.9 FuturePh2													
23889.4 Eusting													
233698.4 Evisting													
233698.4 PropPh1 ⁴ 7139 45.45 72.48 54.6 72.49 0.00154 1.33 8496.97 875.58 233698.4 FuturePh2 ³ 7139 45.45 72.48 54.6 72.49 0.000154 1.33 8497.11 875.58 233698.4 FuturePh2 ³ 7139 45.45 72.48 54.6 72.49 0.000154 1.33 8497.11 875.58 233693.23 Existing ¹ 7139 43.15 72.2 72.31 0.000566 2.64 2761.12 321.23 233029.3 PropPh1 ³ 7139 43.15 72.2 72.31 0.000566 2.64 2761.02 320.57 233029.3 FuturePh2 ³ 7139 43.15 72.2 72.31 0.000566 2.64 2761.04 320.85 233029.3 FuturePh2 ³ 7139 43.15 72.2 72.31 0.000566 2.64 2761.04 320.85 232616.9 Existing ¹ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.23 542.9 232816.9 FuturePh2 ³ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.25 542.86 232816.9 FuturePh2 ³ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.29 542.88 232816.9 FuturePh2 ³ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.29 542.88 232805.9 8 Pridge 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.47 544.11 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.42 544.09 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.42 544.09 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.42 544.09 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.48 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.48 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.48 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.48 232790.8 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232881.7 FuturePh2 ³ 7254 43.64		204001.9	i utulerilə	1139	44.91	12.04		12.09	0.000174	1.00	JZ 19.Z3	430.00	0.08
233698.4 PropPh1 ⁴ 7139 45.45 72.48 54.6 72.49 0.000154 1.33 8496.97 875.58 233698.4 FuturePh2 ³ 7139 45.45 72.48 54.6 72.49 0.000154 1.33 8497.11 875.58 233698.4 FuturePh2 ³ 7139 45.45 72.48 54.6 72.49 0.000154 1.33 8497.11 875.58 233698.4 FuturePh2 ³ 7139 45.45 72.48 54.6 72.49 0.000154 1.33 8497.11 875.58 233693.4 FuturePh2 ³ 7139 43.15 72.2 72.31 0.000566 2.64 2761.12 321.23 23029.3 PropPh1 ⁴ 7139 43.15 72.2 72.31 0.000566 2.64 2761.02 320.57 233029.3 FuturePh2 ³ 7139 43.15 72.2 72.31 0.000566 2.64 2761.04 320.85 233029.3 FuturePh2 ³ 7139 43.15 72.2 72.31 0.000566 2.64 2761.04 320.85 233029.3 FuturePh2 ³ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.33 542.9 232816.9 FuturePh2 ³ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.25 542.86 232816.9 FuturePh2 ³ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.29 542.88 232805.9 Bridge 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.47 544.11 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.07 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.09 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.09 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000618 2.51 2892.43 544.09 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000618 2.51 2892.42 544.09 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000618 2.51 2892.42 544.09 232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000618 2.51 2892.42 544.09 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.85 539.48 232790.8 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232861.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232861.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232861.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232861.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232861.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89		233698 4	Existing ¹	7130	45.45	72 <u>4</u> 8	54.6	72 5	0.000154	1 33	8497 34	875.59	0.06
233698.4 FuturePh2 ² 7139 45.45 72.48 54.6 72.49 0.000154 1.33 8497.11 875.58 233698.4 FuturePh3 ⁴ 7139 45.45 72.48 54.6 72.49 0.000154 1.33 8497.11 875.58 1.33698.4 FuturePh3 ⁴ 7139 43.15 72.2 72.31 0.000556 2.64 2761.91 321.23 233029.3 FropPh1 ² 7139 43.15 72.2 72.31 0.000556 2.64 2761.04 320.85 233029.3 FuturePh2 ³ 7139 43.15 72.2 72.31 0.000556 2.64 2761.04 320.85 233029.3 FuturePh3 ⁴ 7139 43.15 72.2 72.31 0.000556 2.64 2761.04 320.85 233029.3 FuturePh3 ⁴ 7139 43.15 72.2 72.31 0.000556 2.64 2761.04 320.85 232816.9 FuturePh3 ⁴ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.33 542.9 232816.9 FropPh1 ² 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.29 542.86 232816.9 FuturePh3 ⁴ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.29 542.86 232816.9 FuturePh3 ⁴ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.29 542.88 232879.9 FropPh1 ² 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.29 542.88 232879.9 FropPh1 ² 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.29 542.88 232879.9 FropPh1 ² 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.47 544.11 232794.9 FuturePh3 ⁴ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.49 544.07 232794.9 FuturePh3 ⁴ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.45 544.09 232794.9 FuturePh3 ⁴ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.45 544.09 232790.8 FuturePh3 ⁴ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh3 ⁴ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232861.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232861.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232667.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232667.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232667.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232667.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232667.7 FuturePh3 ⁴ 7													
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233029.3 Existing													0.06
233029.3 PropPht		200000.1	T didici 110	7100	10.10	12.10	01.0	12.10	0.000101	1.00	0107.11	070.00	0.00
233029.3 PropPht		233029.3	Existing ¹	7139	43.15	72.2		72.31	0.000556	2.64	2761.12	321.23	0.12
Page Page													0.12
23294.9 Existing									0.000556				
232816.9 Existing		233029.3	FuturePh3 ⁴										0.12
232816.9 FuturePh3 ⁴ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.29 542.88 232805.9 Bridge 232794.9 Existing ¹ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.47 544.11 232794.9 FuturePh2 ² 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.09 232794.9 FuturePh3 ⁴ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.09 232794.9 FuturePh3 ⁴ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.09 232794.9 FuturePh3 ⁴ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.09 232790.8 Existing ¹ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.85 539.48 232790.8 FuturePh2 ² 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232681.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.97 182.89 232681.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232669.7 Bridge 232669.7 Bridge 232657.7 FuturePh2 ³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.26 178.5 232657.7 FuturePh2 ³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh2 ³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh3 ⁴ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5	Š												
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232816.9 FuturePh3 ⁴ 7254 42.42 72.09 53.75 72.19 0.00052 2.51 2889.29 542.88 232805.9 Bridge 232794.9 Existing ¹ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.47 544.11 232794.9 FuturePh2 ² 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.09 232794.9 FuturePh3 ⁴ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.09 232794.9 FuturePh3 ⁴ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.09 232794.9 FuturePh3 ⁴ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.09 232790.8 Existing ¹ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.85 539.48 232790.8 FuturePh2 ² 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232681.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.97 182.89 232681.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232669.7 Bridge 232669.7 Bridge 232657.7 FuturePh2 ³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.26 178.5 232657.7 FuturePh2 ³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh2 ³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh3 ⁴ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5	₽,	232816.9	PropPh1 ²	7254	42.42	72.09	53.75	72.19	0.00052	2.51	2889.25	542.86	0.11
232805.9 Bridge	<u>A</u>			7254	42.42	72.09	53.75	72.19	0.00052	2.51	2889.29	542.88	0.11
232794.9 Existing		232816.9	FuturePh3⁴	7254	42.42	72.09	53.75	72.19	0.00052	2.51	2889.29	542.88	0.11
232794.9 Existing													
232794.9 PropPh12		232805.9		Bridge									
232794.9 PropPh12		0007040	F : r: 1	705.4	40.00	70.07	50.7	70.47	0.000540	0.54	0000 47	54444	0.44
232794.9 FuturePh2 ³ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.43 544.09				_									0.11
232794.9 FuturePh3 ⁴ 7254 42.38 72.07 53.7 72.17 0.000518 2.51 2892.42 544.09 232790.8 Existing ¹ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.85 539.48 232790.8 PropPh1 ² 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.77 539.45 232790.8 FuturePh3 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh3 ⁴ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh3 ⁴ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.46 232732.9 Bridge 232681.7 Existing ¹ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.97 182.89 232681.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.88 182.89 232681.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232687.7 Existing ¹ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232687.7 Existing ¹ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232687.7 Existing ¹ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.26 178.5 232657.7 FuturePh3 ³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh3 ⁴ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.21 178.5													0.11
232790.8 Existing ¹ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.85 539.48 232790.8 PropPh1 ² 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.77 539.45 232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh3 ⁴ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh3 ⁴ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.8 539.46 232732.9 Bridge 232681.7 Existing ¹ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.97 182.89 232681.7 PropPh1 ² 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.88 182.89 232681.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232669.7 Bridge						72.07							
232790.8 PropPh12 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.77 539.45		232194.9	rului er ilə	1254	42.38	12.07	33.7	12.17	0.000518	2.51	2892.42	544.09	0.11
232790.8 PropPh12 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.77 539.45		232790.8	Existing ¹	7254	12.38	72.06	53 50	72 16	0.000464	2 50	2813.85	530 / 9	0.11
232790.8 FuturePh2 ³ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.81 539.47 232790.8 FuturePh3 ⁴ 7254 42.38 72.06 53.59 72.16 0.000464 2.58 2813.8 539.46 232732.9 Bridge 232681.7 Existing ¹ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.97 182.89 232681.7 PropPh1 ² 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.88 182.89 232681.7 FuturePh2 ³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232669.7 Bridge 232657.7 Existing ¹ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.26 178.5 232657.7 FuturePh2 ³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.21 178.5 232657.7 FuturePh2 ³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5													
232732.9 Bridge 232681.7 Existing¹ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.97 182.89 232681.7 PropPh¹² 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.88 182.89 232681.7 FuturePh2³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.88 182.89 232681.7 FuturePh2³ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh3⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh3⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232669.7 Bridge 232657.7 Existing¹ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.26 178.5 232657.7 FuturePh2³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.21 178.5 232657.7 FuturePh3⁴ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh3⁴ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh3⁴ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.21 178.5													
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232681.7 Existing 1 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.97 182.89 232681.7 PropPh12 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.88 182.89 232681.7 FuturePh23 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh34 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232681.7 FuturePh34 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232669.7 Bridge 232657.7 Existing 1 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.26 178.5 232657.7 PropPh12 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.18 178.5 232657.7 FuturePh23 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh34 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh34 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5		232732.9		Bridge									
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232681.7 FuturePh3 ⁴ 7254 43.64 71.82 54.17 71.92 0.000335 2.57 2817.92 182.89 232669.7 Bridge 232657.7 Existing ¹ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.26 178.5 232657.7 PropPh1 ² 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.18 178.5 232657.7 FuturePh2 ³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh3 ⁴ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5		232681.7	PropPh1 ²	7254	43.64	71.82	54.17			2.57	2817.88	182.89	0.12
232657.7 Existing 1 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.26 178.5 232657.7 PropPh12 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.18 178.5 232657.7 FuturePh23 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh34 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh34 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.21 178.5				7254	43.64	71.82	54.17	71.92	0.000335	2.57	2817.92	182.89	0.12
232657.7 Existing 1 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.26 178.5 232657.7 PropPh12 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.18 178.5 232657.7 FuturePh23 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.18 178.5 232657.7 FuturePh34 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh34 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.21 178.5		232681.7	FuturePh3 ⁴	7254	43.64	71.82	54.17	71.92	0.000335	2.57	2817.92	182.89	0.12
232657.7 Existing 1 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.26 178.5 232657.7 PropPh12 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.18 178.5 232657.7 FuturePh23 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh34 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh34 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.21 178.5				<u> </u>									
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232657.7 PropPh12 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.18 178.5 232657.7 FuturePh23 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh34 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.21 178.5		000057.7	Cvietine 1	705 1	44.00	74.70	F 4 00	74.67	0.00007		0000.00	170 -	0.10
232657.7 FuturePh2 ³ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.22 178.5 232657.7 FuturePh3 ⁴ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.21 178.5		232657.7	EXISTING 1										
232657.7 FuturePh3 ⁴ 7254 44.33 71.76 54.86 71.87 0.00037 2.7 2682.21 178.5				_									
232645.3 Bridge		232657.7	ruturern3"	/254	44.33	/ 1. <i>/</i> 6	54.86	/1.87	0.00037	2.7	2682.21	1/8.5	0.12
EVECTOR Drings		232645.3		Bridge									
		2020-0.0		Bridge									



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)		(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	232632.3		7254	44.3	71.74	54.83	71.85	0.000371	2.7	2685.87	179.04	0.12
		PropPh1 ²	7254	44.3	71.73		71.85		2.7	2685.79		0.12
		FuturePh2 ³	7254	44.3		54.83	71.85		2.7	2685.83		0.12
	232632.3	FuturePh3 ⁴	7254	44.3	71.73	54.83	71.85	0.000371	2.7	2685.83	179.04	0.12
		1										
		Existing ¹	7344	41.92	71.28		71.37	0.000935		3024.92	377.07	0.12
		PropPh1 ²	7344	41.92	71.27		71.37	0.000935		3024.73		0.12
		FuturePh2 ³	7344	41.92	71.27		71.37	0.000935		3024.81	377.04	0.12
	231798	FuturePh3⁴	7344	41.92	71.27		71.37	0.000935	2.52	3024.8	377.04	0.12
	230008	Existing ¹	7549	42.68	70.85		70.89	0.000346	1.68	7278.64	1133.1	0.07
		PropPh1 ²	7549		70.85		70.89			7278		0.07
		FuturePh2 ³	7549	42.68			70.89			7278.28		0.07
		FuturePh3 ⁴	7549	42.68	70.85		70.89			7278.26		0.07
	200000	T didi of 110	1045	72.00	70.00		70.00	0.000040	1.00	7270.20	1102.01	0.07
	229882.5	Existing ¹	7549	41.58	70.67		70.7	0.000112	1.68	8359.18	1871.91	0.07
		PropPh1 ²	7549	41.58			70.7		1.68	8358.05		0.07
	229882.5	FuturePh2 ³	7549				70.7	0.000112	1.68	8358.55	1871.72	0.07
	229882.5	FuturePh3 ⁴	7549	41.58	70.67		70.7	0.000112	1.68	8358.51	1871.71	0.07
	228917.1		7745		70.56		70.59			8766.52	1106.76	0.06
		PropPh1 ²	7745		70.56		70.59			8765.83	1106.53	0.06
		FuturePh2 ³	7745		70.56		70.59			8766.14		0.06
	228917.1	FuturePh3 ⁴	7745	41.61	70.56		70.59	0.000125	1.57	8766.11	1106.62	0.06
	200000 7	F. :- e:1	77.45	40.00	70.47		70.40	0.000445	4.00	10500 57	004074	0.05
	228060.7		7745		70.47		70.48				2312.74	0.05
		PropPh1 ²	7745		70.47		70.48				2312.62	0.05
		FuturePh2 ³ FuturePh3 ⁴	7745 7745		70.47 70.47		70.48 70.48					0.05 0.05
λr	228060.7	ruturerns	7745	40.69	70.47		70.46	0.000115	1.20	13565.71	2312.66	0.05
1PCT_100yr	227524.1	Existing ¹	7745	40.54	70.36	50.84	70.41	0.000156	1.81	7598.05	2168.6	0.07
⊱'		PropPh1 ²	7745		70.36	50.84	70.41	0.000156		7596.65		0.07
160		FuturePh2 ³	7745	40.54	70.36	50.84	70.41	0.000156		7597.27	2168.11	0.07
		FuturePh3 ⁴	7745		70.36		70.41	0.000156		7597.23	2168.08	0.07
	227144.7	Existing ¹	7870	40.3	70.31	50.67	70.35	0.000126	1.68	7363.05	1483.59	0.06
		PropPh1 ²	7870	40.3	70.31	50.67	70.35	0.000126	1.68	7362.12	1483.06	0.06
		FuturePh2 ³	7870	40.3	70.31	50.67	70.35			7362.53		0.06
	227144.7	FuturePh3 ⁴	7870	40.3	70.31	50.67	70.35	0.000126	1.68	7362.5	1483.28	0.06
	007000.0		Deidere									
	227088.2		Bridge									
	227031.7	Existing ¹	7870	40.22	70.29	50.58	70.33	0.000125	1.67	7448.62	1531.08	0.06
		PropPh1 ²	7870		70.29		70.33			7447.63		
		FuturePh2 ³	7870		70.29		70.33			7447.03		
		FuturePh3 ⁴	7870				70.33			7448.05		0.06
			1.070	10.22	, 0.20	30.00	7 0.00	2.200120	1.57	15.50		0.00
	225979.2	Existing ¹	8117	40.46	70.1		70.15	0.000256	1.84	5391.47	627.27	0.08
		PropPh1 ²	8117				70.14			5391.04		0.08
	225979.2	FuturePh2 ³	8117		70.1		70.15	0.000256	1.84	5391.23		0.08
	225979.2	FuturePh3 ⁴	8117	40.46	70.1		70.15	0.000256	1.84	5391.21	627.07	0.08
		1										
	224981.6		8422	40.72	69.79		69.83			7440.06		0.08
		PropPh1 ²	8422	40.72			69.83					0.08
		FuturePh2 ³	8422	40.72			69.83			7439.59		0.08
	224981.6	FuturePh3 ⁴	8422	40.72	69.79		69.83	0.000402	1.92	7439.56	1144.46	0.08
	224400	Evicting ¹	0.400	20.0	60.40		60 F 4	0.000000	1.04	5707.22	550 00	0.00
		Existing ¹ PropPh1 ²	8422 8422	39.2 39.2	69.49 69.49		69.54 69.54			5707.33 5706.89		0.08 0.08
		FuturePh2 ³	8422	39.2	69.49		69.54			5706.89 5707.09		
		FuturePh3 ⁴	8422		69.49		69.54			5707.09		
	224198	i utuleriio	0422	39.2	09.49		09.04	0.00033	1.91	5707.08	000.24	0.08
		ı	1	l	I			<u> </u>			I	



Profile	River Sta	Plan	Q Total	Min Ch Fl	W.S. Flev	Crit W S	F G Flev	F.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
1 101110	1 11 10 1 0 101	11011	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	110000 11 0111
	223061.1		8606	37.26	69.12	50.72	69.2	0.000263	2.24	4099.71	1262.21	0.1
	223061.1	PropPh1 ²	8606			50.72	69.2	0.000263	2.24	4099.43	1261.81	0.1
		FuturePh2 ³	8606				69.2				1261.99	0.1
	223061.1	FuturePh3 ⁴	8606	37.26	69.12	50.72	69.2	0.000263	2.24	4099.55	1261.98	0.1
	000470.0	F:-4:1	0000	20.00	60.0	F0 47	60.00	0.000540	4.0	4000 50	4.400.40	0.00
	222172.8	PropPh1 ²	8606 8606	38.92 38.92	68.8 68.8		68.86 68.86		1.9 1.9		1498.48 1498.4	0.08
		FuturePh2 ³	8606	38.92	68.8		68.86				1498.44	0.08
		FuturePh3 ⁴	8606	38.92	68.8		68.86				1498.43	0.08
	ZZZ 17 Z.O	r dtarer ne		00.02	00.0	00.17	00.00	0.000040	1.0	4020.41	1400.40	0.00
	221721.3	Existing ¹	8606	38.24	68.62		68.74	0.000131	2.89	4060.23	694.29	0.1
		PropPh1 ²	8606	38.24	68.62		68.74		2.89	4059.6	693.61	0.1
		FuturePh2 ³	8606	38.24	68.62		68.74	0.000131	2.89	4059.89	693.93	0.1
	221721.3	FuturePh3 ⁴	8606	38.24	68.62		68.74	0.000131	2.89	4059.87	693.91	0.1
		I 1										
	221523.4		8675		68.63		68.69		2.32	9595.29	2064.69	0.08
		PropPh1 ²	8675		68.63	47.07	68.69		2.32		2064.41	0.08
		FuturePh2 ³ FuturePh3 ⁴	8675 8675				68.69		2.32	9594.28	2064.54 2064.53	0.08 0.08
	221523.4	FuturePh3	8673	37.95	68.63	47.07	68.69	0.000083	2.32	9594.24	2004.53	0.08
	221469.5		Bridge									
			, ,									
	221415.6		8675	37.86	68.59	46.98	68.65	0.000082	2.31	9693.17	2079.81	0.08
		PropPh1 ²	8675				68.65		2.31	9691.28	2079.52	0.08
		FuturePh2 ³	8675	37.86	68.58	46.98	68.65		2.31	9692.15	2079.65	0.08
	221415.6	FuturePh3 ⁴	8675	37.86	68.58	46.98	68.65	0.000082	2.31	9692.11	2079.64	0.08
	0004004	Eviation 1	2020	20.00	00.44		60.40	0.000444	4.70	0004.40	4420.40	0.00
	220426.4	PropPh1 ²	8930	36.86	68.44 68.44		68.48 68.48	_	1.78 1.78		1138.12 1137.26	0.08 0.08
		FuturePh2 ³	8930 8930	36.86 36.86	68.44		68.48				1137.26	0.08
₹		FuturePh3 ⁴	8930		68.44		68.48		1.78	6860.89	1137.64	0.08
PCT_100yr	220420.4	r dtarer ne	0300	00.00	00.44		00.40	0.000414	1.70	0000.00	1107.04	0.00
5'	219577.1	Existing ¹	8930	35.81	67.8		67.89	0.001311	2.55	7036.07	778.23	0.11
1 <u>F</u>		PropPh1 ²	8930		67.8		67.89		2.55		778.19	0.11
		FuturePh2 ³	8930	35.81	67.8		67.89	0.001311	2.55	7035.61	778.21	0.11
	219577.1	FuturePh3 ⁴	8930	35.81	67.8		67.89	0.001311	2.55	7035.59	778.21	0.11
		I 1										
	218625.5		8930	33.78	67.51		67.53				1120.24	0.05
		PropPh1 ²	8930	33.78	67.51		67.53				1120.11	0.05
		FuturePh2 ³ FuturePh3 ⁴	8930 8930	33.78 33.78	67.51 67.51		67.53 67.53		1.23 1.23		1120.17 1120.17	0.05 0.05
	2 10025.5	FutureFilo	6930	33.76	07.51		07.55	0.000103	1.23	12701.55	1120.17	0.03
	217899.8	Existing ¹	9096	35.59	67.13	47.82	67.23	0.001872	2.56	4000.73	680.75	0.11
		PropPh1 ²	9096				67.23				680.6	
	217899.8	FuturePh2 ³	9096				67.23				680.67	0.11
	217899.8	FuturePh3 ⁴	9096				67.23				680.67	0.11
		1										
	216802.9		9096		66.78		66.79				970.32	0.03
		PropPh1 ²	9096				66.79				970.27	0.03
		FuturePh2 ³ FuturePh3 ⁴	9096				66.79				970.29	
	216802.9	FuturePh3	9096	33.28	66.78	46.05	66.79	0.000159	0.81	14576.48	970.29	0.03
	216040.3	Existing ¹	9096	33.72	66.54	46.49	66.57	0.000539	1.3	7673.73	544.3	0.06
		PropPh1 ²	9096		66.54		66.57				544.19	
		FuturePh2 ³	9096		66.54		66.57	0.000539			544.24	0.06
		FuturePh3 ⁴	9096				66.57	0.000539			544.24	0.06
		Existing ¹	9264				66.54	_			1520.79	
		PropPh1 ²	9264				66.53				1520.61	0.03
		FuturePh2 ³	9264				66.54				1520.69	
	214968	FuturePh3 ⁴	9264	34.34	66.53	42.71	66.54	0.000009	1	14708.95	1520.69	0.03
	214945		Bridge									
	214343		Dilage									
		1		·	L		1					



Profile	River Sta	Plan	Q Total								Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
		Existing ¹	9264									
		PropPh1 ²	9264	33.55			65.63					
		FuturePh2 ³	9264	33.55								0.03
	214922	FuturePh3 ⁴	9264	33.55	65.63	41.92	65.63	0.000009	1.01	14610.72	1506.03	0.03
	214866.8	Evieting ¹	9264	34.09	65.45	45.71	65.59	0.000107	3.19	4901.69	873.52	0.11
		PropPh1 ²	9264	34.09	65.45	45.71	65.59		3.19		873.42	0.11
		FuturePh2 ³	9264	34.09	65.45		65.59			-	873.47	0.11
		FuturePh3 ⁴	9264	34.09	65.45		65.59		3.19		873.47	0.11
	214821.3		Bridge									
	044775.0	F	0004	04.47	05.00	45.70	05.50	0.00044	0.04	4000.00	000.57	0.44
	214775.8		9264	34.17	65.38	45.79		0.00011			863.57	0.11
		PropPh1 ² FuturePh2 ³	9264	34.17	65.38	45.79					863.47	0.11
	214775.8	FuturePh3 ⁴	9264 9264	34.17 34.17	65.38 65.38	45.79 45.79					863.52 863.51	0.11 0.11
	214775.0	Futurerns	9204	34.17	00.30	45.19	00.00	0.00011	3.21	402 1.90	003.51	0.11
	214672.8	Existing ¹	9299	34.45	65.34	44.91	65.51	0.000118	3.44	3790.43	456.36	0.12
	214672.8	PropPh1 ²	9299	34.45		44.91	65.51	0.000118			456.1	0.12
	214672.8	FuturePh2 ³	9299	34.45	65.34	44.91	65.51	0.000118			456.22	0.12
		FuturePh3 ⁴	9299	34.45	65.34	44.91	65.51	0.000118			456.22	0.12
	214628.5		Bridge									
	0445040	F: - 4: 1	0000	2444	CE 24	44.6	CF 40	0.000444	2.4	2050.00	505.00	0.40
	214584.2	PropPh1 ²	9299	34.14	65.31	44.6 44.6	65.48	0.000114			505.23 505	0.12
		FuturePh2 ³	9299 9299	34.14 34.14	65.31 65.31	44.6	65.48 65.48	0.000114 0.000114			505.11	0.12 0.12
		FuturePh3 ⁴	9299	34.14	65.31	44.6					505.11	0.12
	214504.2	i didiei 115	3233	34.14	00.01	44.0	00.40	0.000114	3.4	3033.70	303.1	0.12
	213687.7	Existing ¹	9467	32.8	65.17		65.26	0.000459	2.7	4662.5	257.56	0.1
)yr		PropPh1 ²	9467	32.8	65.17		65.25				257.55	0.1
10(FuturePh2 ³	9467	32.8			65.26				257.56	
1PCT_100yr	213687.7	FuturePh3 ⁴	9467	32.8	65.17		65.26	0.000459	2.7	4662.3	257.55	0.1
1P(
	212742.1		9467	32.47	64.96		65.06				334.03	0.09
		PropPh1 ²	9467	32.47			65.06					0.09
		FuturePh2 ³	9467	32.47	64.96		65.06				334.01	0.09
	212742.1	FuturePh3 ⁴	9467	32.47	64.96		65.06	0.000116	2.79	6032.81	334.01	0.09
	211631.3	Evicting ¹	9600	32.47	64.9		64.95	0.000079	2.31	11868.33	897.24	0.08
		PropPh1 ²	9600	32.47	64.9		64.95		l		897.06	
		FuturePh2 ³	9600				64.95					
		FuturePh3 ⁴	9600				64.95					
	210975.8		9600	30.49	64.67		64.85	0.000256	3.67			0.13
		PropPh1 ²	9600	30.49			64.85			4553.16	562.19	0.13
		FuturePh2 ³	9600	30.49			64.85					0.13
	210975.8	FuturePh3 ⁴	9600	30.49	64.67		64.85	0.000256	3.67	4553.55	562.3	0.13
	200004.1	Eviating 1	0000	00.07	04.5		04.55	0.000000	0.00	7570.05	745 4	0.00
	209864.1	PropPh1 ²	9809	28.37 28.37	64.5 64.5		64.55 64.55				715.1 714.92	0.08
		FuturePh2 ³	9809 9809				64.55					
		FuturePh3 ⁴	9809		64.5		64.55					
	203004.1	i ataror no	3009	20.01	04.0		04.00	0.000230	2.23	7071.02	113	0.00
	208924.8	Existing ¹	9809	31.48	64.14		64.22	0.000602	2.36	4946.68	685.81	0.1
		PropPh1 ²	9809	31.48			64.22				685.65	0.1
		FuturePh2 ³	9809	31.48			64.22	0.000602	2.36	4946.04	685.72	0.1
	208924.8	FuturePh3 ⁴	9809	31.48	64.13		64.22	0.000602	2.36	4946.02	685.72	0.1
		1										
	207774.7		9809		63.7		63.73				923.1	0.07
		PropPh1 ²	9809				63.73				922.24	
		FuturePh2 ³ FuturePh3 ⁴	9809	26.21	63.7		63.73				922.63	
		IEUTUREPN3"	9809	26.21	63.7	I	63.73	0.000313	1.72	8656.73	922.62	0.07



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	206741.3		9809	31.91	63.32		63.38	0.000431	2.19	5999.5	731.73	0.09
		PropPh1 ²	9809	31.91	63.31		63.38	0.000432	2.19	5997.98	731.51	0.09
		FuturePh2 ³	9809		63.32		63.38					0.09
	206741.3	FuturePh3⁴	9809	31.91	63.32		63.38	0.000432	2.19	5998.66	731.61	0.09
		1										
	205679.6		9914				63.17	0.000113				0.09
		PropPh1 ²	9914	28.19	63.08		63.17	0.000113	 		793.85	0.09
		FuturePh2 ³	9914	28.19			63.17				794.2	0.09
	205679.6	FuturePh3 ⁴	9914	28.19	63.08		63.17	0.000113	2.83	7679.69	794.19	0.09
	205102.2	Evicting ¹	9914	28.33	63.01		63.1	0.000111	2.85	6352.49	610.69	0.09
	205102.2	PropPh1 ²	9914	28.33	63.01		63.1	0.000111				
		FuturePh2 ³	9914	28.33	63.01		63.1	0.000111	2.85		610.47	0.09
		FuturePh3 ⁴	9914	28.33	63.01		63.1	0.000111				0.09
	200102.2	r uturer no	3314	20.00	00.01		00.1	0.000111	2.00	0001.70	010.47	0.03
	204727.6	Existing ¹	9914	28.33	62.94	40.42	63.05	0.00013	3.08	5436.44	443.41	0.1
		PropPh1 ²	9914	28.33	62.93	40.42	63.05					0.1
		FuturePh2 ³	9914	28.33	62.93	40.42	63.05					0.1
		FuturePh3 ⁴	9914		62.93	40.42	63.05				442.9	0.1
	204673.8		Bridge									
	00.1000	e 1	2011	20.45	20.77	40.04	20.00	0.00040	0.00	5440.40	450.77	
		Existing ¹	9914	28.15		40.24	62.89	0.00013		5442.42	450.77	0.1
		PropPh1 ² FuturePh2 ³	9914	28.15		40.24	62.89 62.89					0.1
		FuturePh3 ⁴	9914 9914	28.15 28.15		40.24 40.24	62.89				450.27 450.26	0.1 0.1
	204620	FuturePiis	9914	20.13	02.77	40.24	02.09	0.00013	3.00	3442.01	430.26	0.1
	203658.9	Existing ¹	10276	28.97	62.57		62.62	0.000611	1.68	6133.67	378.06	0.07
		PropPh1 ²	10276		62.57		62.61	0.000612			378.03	0.07
		FuturePh2 ³	10276		62.57		62.61	0.000612			378.04	0.07
0yr		FuturePh3 ⁴	10276		62.57		62.61	0.000612			378.04	0.07
1PCT_100yr	200000.0	- utaror no	10210	25.51	52.51		02.01	0.000012		0.00.2	010.01	0.07
5	202834.1	Existing ¹	10276	27.57	62.18		62.25	0.000333	2.15	5574.36	372.2	0.08
1P(202834.1	PropPh1 ²	10276	27.57	62.18		62.25	0.000333	2.15	5573.47	372.17	0.08
		FuturePh2 ³	10276	27.57	62.18		62.25	0.000333	2.15	5573.88	372.18	0.08
	202834.1	FuturePh3⁴	10276	27.57	62.18		62.25	0.000333	2.15	5573.86	372.18	0.08
	201783.6		10489		61.75		61.81	0.000546		6178.58		0.09
		PropPh1 ²	10489	27.98	61.74		61.81	0.000546		6176.98	610.35	
		FuturePh2 ³	10489	27.98	61.74		61.81	0.000546	 		610.38	0.09
	201783.6	FuturePh3 ⁴	10489	27.98	61.74		61.81	0.000546	2.17	6177.7	610.38	0.09
	201212.1	Evicting ¹	10489	27.61	61.46	39.37	61.52	0.00047	1.92	5503.73	567.55	0.09
		PropPh1 ²	10489		61.46		61.51	0.00047				0.09
		FuturePh2 ³	10489		61.46		61.51	0.00047				
		FuturePh3 ⁴	10489		61.46		61.51	0.00047				
	201212.1	T didn't 110	10100	27.01	01.10	00.01	01.01	0.00011	1.02	0000.10	007.11	0.00
	200299.3	Existing ¹	10489	27.02	61		61.11	0.000426	2.75	4786.18	493.45	0.1
		PropPh1 ²	10489		60.99		61.1	0.000426				
	200299.3	FuturePh2 ³	10489	27.02	60.99		61.11	0.000426	2.75	4785.38	493.38	0.1
	200299.3	FuturePh3⁴	10489	27.02	60.99		61.11	0.000426	2.75	4785.37	493.38	0.1
		4										
	200076.4		10859		60.92						235.92	0.1
		PropPh1 ²	10859			39.55						0.1
		FuturePh2 ³	10859						-			0.1
	200076.4	FuturePh3 ⁴	10859	27.02	60.92	39.55	61.02	0.000313	2.55	4257.13	235.91	0.1
	200020.5		Bridge									
	200020.0		Diluge									
	199964.6	Existing ¹	10859	26.77	60.57	39.3	60.67	0.000318	2.56	4235.21	235.4	0.1
		PropPh1 ²	10859			39.3						
		FuturePh2 ³	10859		60.57	39.3		0.000318				0.1
		FuturePh3 ⁴	10859		60.57	39.3						



1994-0.6 Existing 11113 2748 60.42 60.40 60.00352 2.17 7814.08 82.57 0.0	Profile	River Sta	Plan	Q Total	Min Ch Fl	W.S. Flev	Crit W.S	F.G. Flev	F.G. Slone	Vel Chnl	Flow Area	Top Width	Froude # Chl
1994-06 Existing	TOILE	Taver old	T Idii										T TOUGE II OIII
1994406 ProcPhri"		199440.6	Existing ¹		27.48				0.000352	2.17			0.08
1994406 UsurePha?													0.08
1994406 FuturePhs* 11113 2749 60.42 60.48 0.003032 2.17 7913.18 842.47 0.01 198496.4 Existing* 11113 27.21 59.92 60.02 0.000663 2.52 4449.22 311.47 0.1 198496.4 FuturePhs* 11113 27.21 59.92 60.02 0.000664 2.52 4448.67 313.37 0.1 198496.4 FuturePhs* 11113 27.21 59.92 60.02 0.000664 2.52 4448.67 313.37 0.1 197506.8 Existing* 11113 26.73 59.47 59.58 0.000319 3.06 6466.67 541.86 0.1 197506.8 Existing* 11113 26.73 59.46 59.58 0.000319 3.06 6466.67 541.86 0.1 197506.8 FuturePhs* 11113 26.73 59.46 59.58 0.000319 3.06 6466.67 541.86 0.1 197506.8 EvaturePhs* 11113 26.73 59.46 59.58 0.000319 3.06 6466.67 541.86 0.1 197506.8 EvaturePhs* 11113 26.73 59.46 59.58 0.000319 3.06 6466.67 541.76 0.1 197606.8 EvaturePhs* 11113 26.73 59.46 59.58 0.000319 3.06 6466.65 541.79 0.1 196403.1 EvaturePhs* 11113 26.19 59 59.14 0.00062 3.2 4677.67 431.93 0.1 196403.1 EvaturePhs* 11113 26.19 59 59.14 0.00062 3.2 4677.67 431.93 0.1 196403.1 EvaturePhs* 11113 26.19 59 59.14 0.00062 3.2 4677.67 431.93 0.1 196403.1 EvaturePhs* 111262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.48 670.71 0.1 196102.3 EvaturePhs* 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.68 670.75 0.1 196102.3 EvaturePhs* 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4256.68 670.99 0.1 196103.7 EvaturePhs* 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4256.87 670.99 0.1 196103.7 EvaturePhs* 11407 25.51 58.6 39.9 58.84 0.000452 4.29 4256.87 670.99 0.1 196103.7 EvaturePhs* 11407 25.51 58.6 58.8 39.0 58.84 0.000452 4.29 4256.80 670.95 0.1 196103.7 EvaturePhs* 11407 25.51 58.6 58.8 39.0 58.84 0.000452 4.29				11113									0.08
198496.4 Existing													0.08
198496 PropPht*													
198496.4 FuturePh2		198496.4	Existing ¹	11113	27.21			60.02	0.000663	2.52	4449.22	313.47	0.1
197008 Existing		198496.4	PropPh1 ²	11113	27.21	59.92		60.01	0.000664	2.52	4448.19	313.27	0.1
197508.8 Existing				11113	27.21			60.02	0.000664	2.52	4448.67	313.37	0.1
197506.8 PropPhi ² 11113 26.73 59.46 59.58 0.000319 3.06 6464.73 541.75 0.1 197506.8 FuturePh3 ³ 11113 26.73 59.46 59.58 0.000319 3.06 6465.6 541.79 0.1 197506.8 FuturePh3 ³ 11113 26.73 59.46 59.58 0.000319 3.06 6465.6 541.79 0.1 198463.1 Evisting ¹ 11113 26.19 59 59.15 0.00062 3.19 4678.78 431.97 0.1 198463.1 FuturePh3 ³ 11113 26.19 59 59.14 0.00062 3.2 4677.09 431.93 0.1 198463.1 FuturePh3 ³ 11113 26.19 59 59.14 0.00062 3.2 4677.87 431.95 0.1 198463.1 FuturePh3 ³ 11113 26.19 59 59.14 0.00062 3.2 4677.87 431.95 0.1 198463.1 FuturePh3 ³ 111262 25.3 58.73 40.04 58.97 0.00062 3.2 4677.84 431.95 0.1 198182.3 Evisting ¹ 11262 25.3 58.73 40.04 58.97 0.00062 4.29 4256.88 670.71 0.1 198182.3 FuturePh3 ³ 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.88 670.59 0.1 198182.3 FuturePh3 ³ 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.88 670.59 0.1 198183.1 FuturePh3 ³ 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4256.88 670.59 0.1 198185.7 FuturePh3 ³ 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4258.85 670.77 0.1 198185.7 FuturePh3 ³ 11407 23.51 58.56 58.86 39.9 58.84 0.000452 4.29 4258.25 670.88 0.1 198185.7 FuturePh3 ³ 11407 23.51 58.56 58.86 39.9 58.84 0.000452 4.29 4258.25 670.88 0.1 198667.4 Evisting ¹ 11407 23.51 58.56 58.86 39.9 58.84 0.000452 4.29 4258.25 670.87 0.1 198611.1 FuturePh3 ³ 11407 23.51 58.56 58.86 39.9 58.84 0.000452 4.29 4258.25 670.88 0.1 198667.6 FuturePh3 ³ 11407 23.51 58.56 58.86 39.88 0.000183 15. 12508.01 798.59 0.0 198667.6 FuturePh3 ³ 11407 23.51 58.56 58.86 39.88 0.000183 15. 12508.01 798.59 0.0 198		198496.4	FuturePh3⁴	11113	27.21	59.92		60.02	0.000664	2.52	4448.66	313.36	0.1
197506.8 PropPhi ² 11113 26.73 59.46 59.58 0.000319 3.06 6464.73 541.75 0.1 197506.8 FuturePh3 ³ 11113 26.73 59.46 59.58 0.000319 3.06 6465.6 541.79 0.1 197506.8 FuturePh3 ³ 11113 26.73 59.46 59.58 0.000319 3.06 6465.6 541.79 0.1 198463.1 Evisting ¹ 11113 26.19 59 59.15 0.00062 3.19 4678.78 431.97 0.1 198463.1 FuturePh3 ³ 11113 26.19 59 59.14 0.00062 3.2 4677.09 431.93 0.1 198463.1 FuturePh3 ³ 11113 26.19 59 59.14 0.00062 3.2 4677.87 431.95 0.1 198463.1 FuturePh3 ³ 11113 26.19 59 59.14 0.00062 3.2 4677.87 431.95 0.1 198463.1 FuturePh3 ³ 111262 25.3 58.73 40.04 58.97 0.00062 3.2 4677.84 431.95 0.1 198182.3 Evisting ¹ 11262 25.3 58.73 40.04 58.97 0.00062 4.29 4256.88 670.71 0.1 198182.3 FuturePh3 ³ 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.88 670.59 0.1 198182.3 FuturePh3 ³ 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.88 670.59 0.1 198183.1 FuturePh3 ³ 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4256.88 670.59 0.1 198185.7 FuturePh3 ³ 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4258.85 670.77 0.1 198185.7 FuturePh3 ³ 11407 23.51 58.56 58.86 39.9 58.84 0.000452 4.29 4258.25 670.88 0.1 198185.7 FuturePh3 ³ 11407 23.51 58.56 58.86 39.9 58.84 0.000452 4.29 4258.25 670.88 0.1 198667.4 Evisting ¹ 11407 23.51 58.56 58.86 39.9 58.84 0.000452 4.29 4258.25 670.87 0.1 198611.1 FuturePh3 ³ 11407 23.51 58.56 58.86 39.9 58.84 0.000452 4.29 4258.25 670.88 0.1 198667.6 FuturePh3 ³ 11407 23.51 58.56 58.86 39.88 0.000183 15. 12508.01 798.59 0.0 198667.6 FuturePh3 ³ 11407 23.51 58.56 58.86 39.88 0.000183 15. 12508.01 798.59 0.0 198			1										
197508.8 FuturePh3 11113 26.73 59.46 59.86 0.000319 3.06 6465.62 541.79 0.1													
197506.8 FuturePh3'													
196463.1 Existing 111113 26.19 59 59.16 0.00062 3.19 4678.78 431.97 0.1 196463.1 PropPh1 11113 26.19 59 59.14 0.00062 3.2 4677.09 431.93 0.1 196463.1 FuturePh3 11113 26.19 59 59.14 0.00062 3.2 4677.87 431.95 0.1 196162.3 Existing 11262 25.3 58.73 40.04 58.98 0.00062 3.2 4677.84 431.95 0.1 196182.3 Existing 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4257.46 670.71 0.1 196182.3 PropPh1 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.88 670.49 0.1 196182.3 FuturePh3 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.88 670.59 0.1 196182.3 FuturePh3 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.88 670.59 0.1 196183.7 Existing 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4256.88 670.59 0.1 196185.7 Existing 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4256.88 671.05 0.1 196185.7 Existing 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4256.82 670.88 0.1 196185.7 Existing 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4256.82 670.88 0.1 196185.7 Existing 11407 23.51 58.56 58.58 0.000183 15.12508.63 798.52 0.0 196567.4 Existing 11407 23.51 58.56 58.58 0.000183 15.12508.63 798.52 0.0 194614.1 Existing 11407 26.15 58.31 58.38 0.000293 2.61 8925.77 590.17 0.0 194614.1 Existing 11407 26.15 58.31 58.38 0.000293 2.61 8925.77 590.17 0.0 194614.1 Existing 11407 23.35 58.35 58.34 58.34 0.00001 0.69 21063.73 991.98 0.0 194614.1 Existing 11407 23.35 58.33 58.34 0.00001 0.69 21063.73 991.98 0.0 194614.1 Existing 11407 26.15 58.31 58.38 0.000293 2.61 8924.38 590.1 0.0 194614.1 Existing 11407 23.35 58.35 58.34 58.34 0.00001 0.69 21063.04 991.95 0.0 194614.1													
196463.1 PropPh1 11113 26.19 59 59.14 0.000621 3.2 4677.09 431.93 0.1		197506.8	FuturePh3 ⁺	11113	26.73	59.46		59.58	0.000319	3.06	6465.6	541.79	0.11
196463.1 PropPh1 11113 26.19 59 59.14 0.000621 3.2 4677.09 431.93 0.1		4004004	F. 4-41	44440	00.40	50		50.45	0.00000	2.40	4070.70	404.07	0.40
196463.1 FuturePh2 11113 26.19 59 59.14 0.00062 3.2 4677.87 431.95 0.11 196463.1 FuturePh3 11113 26.19 59 59.14 0.00062 3.2 4677.87 431.95 0.11 196182.3 Existing 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4257.46 670.71 0.11 196182.3 FuturePh2 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.88 670.95 0.11 196182.3 FuturePh3 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.88 670.95 0.11 196182.3 Existing 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.88 670.59 0.11 196149 Bridge													
196463.1 FuturePh3													
196182.3 Existing													
196182.3 PropPht		196463.1	FuturePn3	11113	26.19	59		59.14	0.00062	3.2	46/7.84	431.95	0.12
196182.3 PropPht		106192.2	Evicting 1	11262	25.2	50 72	40.04	50.00	0.000452	4 20	1257.46	670.71	0.15
196182.3 FuturePh2* 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.88 670.59 0.11 196182.3 FuturePh3* 11262 25.3 58.73 40.04 58.98 0.000452 4.29 4256.87 670.59 0.11 196185.7 Existing* 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4258.28 670.77 0.11 196115.7 FuturePh3* 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4258.25 670.87 0.11 196115.7 FuturePh3* 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4258.25 670.87 0.11 196115.7 FuturePh3* 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4258.25 670.87 0.11 196115.7 FuturePh3* 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4258.25 670.87 0.11 196567.4 Existing* 11407 23.51 58.56 58.88 0.000183 1.5 12508.53 798.52 0.00 195567.4 FuturePh3* 11407 23.51 58.56 58.58 0.000183 1.5 12508.04 798.59 0.01 195667.4 FuturePh3* 11407 23.51 58.56 58.58 0.000183 1.5 12508.04 798.59 0.01 196681.1 Existing* 11407 23.51 58.56 58.58 0.000183 1.5 12508.04 798.59 0.01 194614.1 Existing* 11407 26.15 58.31 58.36 0.000293 2.61 8925.77 590.17 0.00 194614.1 FuturePh3* 11407 26.15 58.31 58.38 0.000293 2.61 8925.77 590.17 0.00 194614.1 FuturePh3* 11407 26.15 58.31 58.38 0.000293 2.61 8924.34 590.1 0.00 193675.6 Existing* 11407 23.35 58.34 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 Existing* 11407 23.35 58.33 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 FuturePh3* 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 193675.6 FuturePh3* 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 193675.6 FuturePh3* 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 193675.6 FuturePh3* 11699 24.17 58.22 58.31 0.000518 2.		106102.3	Drop Dh 1 ²										
196182.3 FuturePh3'													
196146 Bridge 196147 Existing 11262 25.16 58.6 39.9 58.84 0.000452 4.29 4258.25 670.77 0.11													
196115.7 Existing		190102.3	rutureriis	11202	20.3	36.73	40.04	30.90	0.000432	4.29	4200.07	670.59	0.13
196115.7 Existing		196149		Bridge									
196115.7 PropPht ²													
196115.7 PropPht ²		196115.7	Existing ¹	11262	25.16	58.6	39.9	58.84	0.000452	4.29	4258.83	671	0.15
195567.4 PropPh1 ² 11407 23.51 58.56 58.56 0.000183 1.5 12506.53 798.52 0.00 195567.4 FuturePh2 ³ 11407 23.51 58.56 58.56 0.000183 1.5 12508.04 798.59 0.00 195567.4 FuturePh3 ⁴ 11407 23.51 58.56 58.56 0.000183 1.5 12508.01 798.59 0.00 195567.4 FuturePh3 ⁴ 11407 23.51 58.56 58.58 0.000183 1.5 12508.01 798.59 0.00 194614.1 Existing 1 11407 26.15 58.32 58.39 0.000293 2.61 8925.77 590.17 0.00 194614.1 FropPh1 ² 11407 26.15 58.31 58.38 0.000293 2.61 8923.25 590.04 0.00 194614.1 FuturePh2 ³ 11407 26.15 58.31 58.38 0.000293 2.61 8924.41 590.1 0.00 194614.1 FuturePh3 ⁴ 11407 26.15 58.31 58.38 0.000293 2.61 8924.38 590.1 0.00 194614.1 FuturePh3 ⁴ 11407 23.35 58.34 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 FropPh1 ² 11407 23.35 58.33 58.34 0.00001 0.69 21063.14 991.93 0.00 193675.6 FuturePh2 ³ 11407 23.35 58.33 58.34 0.00001 0.69 21063.14 991.93 0.00 193675.6 FuturePh2 ³ 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh3 ⁴ 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 193675.6 FuturePh3 ⁴ 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 192820.3 Existing 11699 24.17 58.22 58.31 0.000518 2.52 6151.85 575.04 0.00 192820.3 FruturePh2 ³ 11699 24.17 58.22 58.31 0.000518 2.52 6149.36 574.85 0.00 192820.3 FuturePh2 ³ 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 192820.3 FuturePh2 ³ 11699 20.85 57.64 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 FruturePh2 ³ 11699 20.85 57.64 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.63 57.70 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.63 57.70 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.58 57.64 57.70 0.000651 2.16 6773.94 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.58 57.64 57.72 0.000651 2.16 6773.94 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.58 57.63 57.74 0.000651 2.16 6773.94 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.58 57.63 57.74 57.24 0.000394 3.05 6469.6 461.92 0.19 190794 FrotPh1 ² 11699 20.58 57.14 57.24 0.000394 3.05								58.84	0.000452	4.29		670.77	0.15
195567.4 PropPh1 ² 11407 23.51 58.56 58.56 0.000183 1.5 12506.53 798.52 0.00 195567.4 FuturePh2 ³ 11407 23.51 58.56 58.56 0.000183 1.5 12508.04 798.59 0.00 195567.4 FuturePh3 ⁴ 11407 23.51 58.56 58.56 0.000183 1.5 12508.01 798.59 0.00 195567.4 FuturePh3 ⁴ 11407 23.51 58.56 58.58 0.000183 1.5 12508.01 798.59 0.00 194614.1 Existing 1 11407 26.15 58.32 58.39 0.000293 2.61 8925.77 590.17 0.00 194614.1 FropPh1 ² 11407 26.15 58.31 58.38 0.000293 2.61 8923.25 590.04 0.00 194614.1 FuturePh2 ³ 11407 26.15 58.31 58.38 0.000293 2.61 8924.41 590.1 0.00 194614.1 FuturePh3 ⁴ 11407 26.15 58.31 58.38 0.000293 2.61 8924.38 590.1 0.00 194614.1 FuturePh3 ⁴ 11407 23.35 58.34 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 FropPh1 ² 11407 23.35 58.33 58.34 0.00001 0.69 21063.14 991.93 0.00 193675.6 FuturePh2 ³ 11407 23.35 58.33 58.34 0.00001 0.69 21063.14 991.93 0.00 193675.6 FuturePh2 ³ 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh3 ⁴ 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 193675.6 FuturePh3 ⁴ 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 192820.3 Existing 11699 24.17 58.22 58.31 0.000518 2.52 6151.85 575.04 0.00 192820.3 FropPh1 ² 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 192820.3 FuturePh3 ⁴ 11699 20.85 57.64 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 Existing 11699 20.85 57.64 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.64 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.64 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.63 57.70 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.58 57.63 57.74 0.000651 2.16 6773.94 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.58 57.64 57.74 57.24 0.000394 3.05 6469.6 461.92 0.190794 FrotPh1 ⁴ 11699 20.58 57.14 57.24 0.000394 3.05 6469.6 461.92 0.190794 FrotPh1 ⁴ 11699 20.58 57.14 57.24 0.000394 3.05 6468.28 461.8 0.1	Q.	196115.7	FuturePh2 ³	11262	25.16	58.6	39.9	58.84	0.000452	4.29	4258.25	670.88	0.15
195567.4 PropPh1 ² 11407 23.51 58.56 58.56 0.000183 1.5 12506.53 798.52 0.00 195567.4 FuturePh2 ³ 11407 23.51 58.56 58.56 0.000183 1.5 12508.04 798.59 0.00 195567.4 FuturePh3 ⁴ 11407 23.51 58.56 58.56 0.000183 1.5 12508.01 798.59 0.00 195567.4 FuturePh3 ⁴ 11407 23.51 58.56 58.58 0.000183 1.5 12508.01 798.59 0.00 194614.1 Existing 1 11407 26.15 58.32 58.39 0.000293 2.61 8925.77 590.17 0.00 194614.1 FropPh1 ² 11407 26.15 58.31 58.38 0.000293 2.61 8923.25 590.04 0.00 194614.1 FuturePh2 ³ 11407 26.15 58.31 58.38 0.000293 2.61 8924.41 590.1 0.00 194614.1 FuturePh3 ⁴ 11407 26.15 58.31 58.38 0.000293 2.61 8924.38 590.1 0.00 194614.1 FuturePh3 ⁴ 11407 23.35 58.34 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 FropPh1 ² 11407 23.35 58.33 58.34 0.00001 0.69 21063.14 991.93 0.00 193675.6 FuturePh2 ³ 11407 23.35 58.33 58.34 0.00001 0.69 21063.14 991.93 0.00 193675.6 FuturePh2 ³ 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh3 ⁴ 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 193675.6 FuturePh3 ⁴ 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 192820.3 Existing 11699 24.17 58.22 58.31 0.000518 2.52 6151.85 575.04 0.00 192820.3 FropPh1 ² 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 192820.3 FuturePh3 ⁴ 11699 20.85 57.64 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 Existing 11699 20.85 57.64 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.64 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.64 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.63 57.70 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.58 57.63 57.74 0.000651 2.16 6773.94 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.58 57.64 57.74 57.24 0.000394 3.05 6469.6 461.92 0.190794 FrotPh1 ⁴ 11699 20.58 57.14 57.24 0.000394 3.05 6469.6 461.92 0.190794 FrotPh1 ⁴ 11699 20.58 57.14 57.24 0.000394 3.05 6468.28 461.8 0.1	_ _9	196115.7	FuturePh3 ⁴	11262	25.16	58.6	39.9	58.84	0.000452	4.29	4258.24	670.87	0.15
195567.4 PropPh1 ² 11407 23.51 58.56 58.56 0.000183 1.5 12506.53 798.52 0.00 195567.4 FuturePh2 ³ 11407 23.51 58.56 58.56 0.000183 1.5 12508.04 798.59 0.00 195567.4 FuturePh3 ⁴ 11407 23.51 58.56 58.56 0.000183 1.5 12508.01 798.59 0.00 195567.4 FuturePh3 ⁴ 11407 23.51 58.56 58.58 0.000183 1.5 12508.01 798.59 0.00 194614.1 Existing 1 11407 26.15 58.32 58.39 0.000293 2.61 8925.77 590.17 0.00 194614.1 FropPh1 ² 11407 26.15 58.31 58.38 0.000293 2.61 8923.25 590.04 0.00 194614.1 FuturePh2 ³ 11407 26.15 58.31 58.38 0.000293 2.61 8924.41 590.1 0.00 194614.1 FuturePh3 ⁴ 11407 26.15 58.31 58.38 0.000293 2.61 8924.38 590.1 0.00 194614.1 FuturePh3 ⁴ 11407 23.35 58.34 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 FropPh1 ² 11407 23.35 58.33 58.34 0.00001 0.69 21063.14 991.93 0.00 193675.6 FuturePh2 ³ 11407 23.35 58.33 58.34 0.00001 0.69 21063.14 991.93 0.00 193675.6 FuturePh2 ³ 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh3 ⁴ 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 193675.6 FuturePh3 ⁴ 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 192820.3 Existing 11699 24.17 58.22 58.31 0.000518 2.52 6151.85 575.04 0.00 192820.3 FropPh1 ² 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 192820.3 FuturePh3 ⁴ 11699 20.85 57.64 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 Existing 11699 20.85 57.64 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.64 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.64 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.63 57.70 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.58 57.63 57.74 0.000651 2.16 6773.94 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.58 57.64 57.74 57.24 0.000394 3.05 6469.6 461.92 0.190794 FrotPh1 ⁴ 11699 20.58 57.14 57.24 0.000394 3.05 6469.6 461.92 0.190794 FrotPh1 ⁴ 11699 20.58 57.14 57.24 0.000394 3.05 6468.28 461.8 0.1	5												
19567.4 FuturePh2 11407 23.51 58.56 58.58 0.000183 1.5 12508.04 798.59 0.00 19567.4 FuturePh3 11407 23.51 58.56 58.58 0.000183 1.5 12508.04 798.59 0.00 194614.1 Existing 11407 26.15 58.32 58.39 0.000293 2.61 8925.77 590.17 0.00 194614.1 PropPh1 11407 26.15 58.31 58.38 0.000293 2.62 8923.25 590.04 0.00 194614.1 FuturePh2 11407 26.15 58.31 58.38 0.000293 2.61 8924.41 590.1 0.00 194614.1 FuturePh2 11407 26.15 58.31 58.38 0.000293 2.61 8924.43 590.1 0.00 194614.1 FuturePh3 11407 26.15 58.31 58.38 0.000293 2.61 8924.38 590.1 0.00 193675.6 Existing 11407 23.35 58.34 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 FuturePh2 11407 23.35 58.33 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 FuturePh3 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh3 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh3 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 193675.6 FuturePh3 11699 24.17 58.23 58.31 0.000519 2.52 6149.36 574.85 0.00 192820.3 FuturePh2 11699 24.17 58.22 58.31 0.000519 2.52 6149.36 574.85 0.00 192820.3 FuturePh3 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 192820.3 FuturePh3 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 191722.7 Existing 11699 20.85 57.64 57.7 0.000651 2.16 6772.56 633.26 0.00 191722.7 FuturePh3 11699 20.85 57.63 57.7 0.000651 2.16 6773.94 633.51 0.00 191722.7 FuturePh3 11699 20.85 57.63 57.7 0.000651 2.16 6773.94 633.51 0.00 191722.7 FuturePh3 11699 20.85 57.63 57.7 0.000651 2.16 6773.94 633.51 0.00 191722.7 FuturePh3 11699 20.85 57.63 57.7 0.0	<u>1</u>			11407	23.51			58.58	0.000183	1.5	12509.82	798.67	0.05
195667.4 FuturePh3 ⁴		195567.4	PropPh1 ²	11407				58.58	0.000183	1.5			0.05
194614.1 Existing 11407 26.15 58.32 58.39 0.000293 2.61 8925.77 590.17 0.00 194614.1 FuturePh2 11407 26.15 58.31 58.38 0.000293 2.62 8923.25 590.04 0.00 194614.1 FuturePh3 11407 26.15 58.31 58.38 0.000293 2.61 8924.24 590.1 0.00 194614.1 FuturePh3 11407 26.15 58.31 58.38 0.000293 2.61 8924.38 590.1 0.00 193675.6 Existing 11407 23.35 58.34 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 FropPh1 11407 23.35 58.33 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 FropPh1 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.93 0.00 193675.6 FuturePh2 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh3 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh3 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 192820.3 Existing 11699 24.17 58.23 58.31 0.000518 2.52 6151.85 575.04 0.00 192820.3 FuturePh2 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 192820.3 FuturePh3 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 191722.7 Existing 11699 24.17 58.22 58.31 0.000518 2.52 6150.48 574.93 0.00 191722.7 FuturePh3 11699 20.85 57.63 57.7 0.000651 2.16 6775.54 633.82 0.00 191722.7 FuturePh3 11699 20.85 57.63 57.7 0.000651 2.16 6773.94 633.51 0.00 190794 Existing 11699 20.58 57.14 57.24 0.000394 3.05 6467.15 461.7 0.11 190794 FuturePh2 11699 20.58 57.14 57.24 0.000394 3.05 6468.28 461.8 0.11 190794 FuturePh2 11699 20.58 57.14 57.24 0.000394 3.05 6468.28 461.8 0.11 190794 FuturePh2 11699 20.58 57.14 57.24 0.000394 3.05 6468.28 461.8 0.11 190794 FuturePh2 11699 20.58 57.14 57.2				11407				58.58	0.000183			798.59	
194614.1 PropPh12		195567.4	FuturePh3 ⁴	11407	23.51	58.56		58.58	0.000183	1.5	12508.01	798.59	0.05
194614.1 PropPh12			4										
194614.1 FuturePh2 ³ 11407 26.15 58.31 58.38 0.000293 2.61 8924.41 590.1 0.001													0.09
194614.1 FuturePh3 ⁴ 11407 26.15 58.31 58.38 0.000293 2.61 8924.38 590.1 0.00 193675.6 Existing¹ 11407 23.35 58.34 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 PropPh1² 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.93 0.00 193675.6 FuturePh2³ 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh2³ 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 192820.3 Existing¹ 11609 24.17 58.23 58.31 0.000518 2.52 6151.85 575.04 0.00 192820.3 FuturePh2³ 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 192820.3 FuturePh3⁴ 11699 24.17 58.22 58.31 0.000518 2.													
193675.6 Existing ¹ 11407 23.35 58.34 58.34 0.00001 0.69 21067.37 991.98 0.00 193675.6 PropPh1 ² 11407 23.35 58.33 58.34 0.00001 0.69 21063.14 991.93 0.00 193675.6 FuturePh2 ³ 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh3 ⁴ 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh3 ⁴ 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 192820.3 Existing ¹ 11699 24.17 58.23 58.31 0.000518 2.52 6151.85 575.04 0.00 192820.3 PropPh1 ² 11699 24.17 58.22 58.31 0.000519 2.52 6149.36 574.85 0.00 192820.3 FuturePh2 ³ 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 192820.3 FuturePh3 ⁴ 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 191722.7 Existing ¹ 11699 20.85 57.64 57.7 0.00065 2.16 6775.64 633.82 0.00 191722.7 FropPh1 ² 11699 20.85 57.63 57.7 0.000651 2.16 6775.64 633.82 0.00 191722.7 FruturePh2 ³ 11699 20.85 57.63 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.63 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.63 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh3 ⁴ 11699 20.85 57.63 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh3 ⁴ 11699 20.85 57.63 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.63 57.7 0.000651 2.16 6773.94 633.51 0.00 190794 Existing ¹ 11699 20.58 57.14 57.24 0.000394 3.05 6469.6 461.92 0.00 190794 FruturePh2 ³ 11699 20.58 57.14 57.24 0.000394 3.05 6467.15 461.7 0.11 190794 FuturePh2 ³ 11699 20.58 57.14 57.24 0.000394 3.05 6467.15 461.7 0.11													
193675.6 PropPh12		194614.1	FuturePh3 ⁺	11407	26.15	58.31		58.38	0.000293	2.61	8924.38	590.1	0.09
193675.6 PropPh12		100075.0	e · e · 1	44407	20.05	50.04		50.04	0.000.4	0.00	04007.07	004.00	0.00
193675.6 FuturePh2 ³ 11407 23.35 58.33 58.34 0.00001 0.69 21065.09 991.95 0.00 193675.6 FuturePh3 ⁴ 11407 23.35 58.33 58.34 0.00001 0.69 21065.04 991.95 0.00 192820.3 Existing 11699 24.17 58.23 58.31 0.000518 2.52 6151.85 575.04 0.00 192820.3 PropPh1 ² 11699 24.17 58.22 58.31 0.000519 2.52 6149.36 574.85 0.00 192820.3 FuturePh2 ³ 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 192820.3 FuturePh3 ⁴ 11699 24.17 58.22 58.31 0.000518 2.52 6150.48 574.93 0.00 191722.7 Existing 11699 24.17 58.22 58.31 0.000518 2.52 6150.48 574.93 0.00 191722.7 Existing 11699 20.85 57.64 57.7 0.00065 2.16 6775.64 633.82 0.00 191722.7 FuturePh2 ³ 11699 20.85 57.63 57.7 0.000651 2.16 6772.55 633.26 0.00 191722.7 FuturePh3 ⁴ 11699 20.85 57.63 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh3 ⁴ 11699 20.85 57.63 57.7 0.000651 2.16 6773.94 633.51 0.00 190794 Existing 11699 20.58 57.14 57.24 0.000394 3.05 6469.6 461.92 0.1 190794 FuturePh2 ³ 11699 20.58 57.13 57.24 0.000394 3.05 6468.28 461.8 0.1													
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192820.3 PropPh1² 11699 24.17 58.22 58.31 0.000519 2.52 6149.36 574.85 0.00 192820.3 FuturePh2³ 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 192820.3 FuturePh3⁴ 11699 24.17 58.22 58.31 0.000518 2.52 6150.48 574.93 0.00 191722.7 Existing¹ 11699 20.85 57.64 57.7 0.00065 2.16 6775.64 633.82 0.00 191722.7 PropPh1² 11699 20.85 57.63 57.7 0.000651 2.16 6772.55 633.26 0.00 191722.7 FuturePh2³ 11699 20.85 57.63 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh3⁴ 11699 20.85 57.63 57.7 0.000651 2.16 6773.94 633.51 0.00 190794 Existing¹ 11699 20.58 57.14 57.24 0.000394 3.05		192820.3	Existing ¹	11600	2/ 17	58 22		52 21	0.000519	2 52	6151 85	575.04	0.00
192820.3 FuturePh2³ 11699 24.17 58.22 58.31 0.000518 2.52 6150.51 574.94 0.00 192820.3 FuturePh3⁴ 11699 24.17 58.22 58.31 0.000518 2.52 6150.48 574.93 0.00 191722.7 Existing¹ 11699 20.85 57.64 57.7 0.00065 2.16 6775.64 633.82 0.00 191722.7 PropPh1² 11699 20.85 57.63 57.7 0.000651 2.16 6772.55 633.26 0.00 191722.7 FuturePh2³ 11699 20.85 57.63 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh3⁴ 11699 20.85 57.63 57.7 0.000651 2.16 6773.97 633.52 0.00 190794 Existing¹ 11699 20.58 57.14 57.24 0.000394 3.05 6469.6 461.92 0.1 190794 PropPh1² 11699 20.58 57.13 57.24 0.000394 3.05													
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191722.7 PropPh1² 11699 20.85 57.63 57.7 0.000651 2.16 6772.55 633.26 0.00 191722.7 FuturePh2³ 11699 20.85 57.63 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh3⁴ 11699 20.85 57.63 57.7 0.000651 2.16 6773.94 633.51 0.00 190794 Existing¹ 11699 20.58 57.14 57.24 0.000394 3.05 6469.6 461.92 0.1 190794 PropPh1² 11699 20.58 57.13 57.24 0.000394 3.05 6467.15 461.7 0.1 190794 FuturePh2³ 11699 20.58 57.14 57.24 0.000394 3.05 6468.28 461.8 0.1		191722 7	Existing ¹	11699	20.85	57 64		57 7	0.00065	2 16	6775 64	633.82	0.09
191722.7 FuturePh2³ 11699 20.85 57.63 57.7 0.000651 2.16 6773.97 633.52 0.00 191722.7 FuturePh3⁴ 11699 20.85 57.63 57.7 0.000651 2.16 6773.94 633.51 0.00 190794 Existing¹ 11699 20.58 57.14 57.24 0.000394 3.05 6469.6 461.92 0.1 190794 PropPh1² 11699 20.58 57.13 57.24 0.000394 3.05 6467.15 461.7 0.1 190794 FuturePh2³ 11699 20.58 57.14 57.24 0.000394 3.05 6468.28 461.8 0.1													
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190794 PropPh12 11699 20.58 57.13 57.24 0.000394 3.05 6467.15 461.7 0.1 190794 FuturePh23 11699 20.58 57.14 57.24 0.000394 3.05 6468.28 461.8 0.1				. 1000		27.00		31.1	2,22,3001		25.54	220.01	1 3.30
190794 PropPh12 11699 20.58 57.13 57.24 0.000394 3.05 6467.15 461.7 0.1 190794 FuturePh23 11699 20.58 57.14 57.24 0.000394 3.05 6468.28 461.8 0.1		190794	Existing ¹	11699	20.58	57.14		57.24	0.000394	3.05	6469.6	461.92	0.1
190794 FuturePh2 ³ 11699 20.58 57.14 57.24 0.000394 3.05 6468.28 461.8 0.1													0.11



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	
	189869.8	Existing ¹	11699	17.5	56.91		57.01	0.000204	3	7818.78	603.38	0.1
		PropPh1 ²	11699	17.5			57	0.000204	3	7815.44	603.28	0.1
	189869.8	FuturePh2 ³	11699	17.5			57.01	0.000204	3	7816.98	603.32	0.1
	189869.8	FuturePh3 ⁴	11699	17.5			57.01	0.000204	3	7816.95	603.32	0.1
	188903.7		11852	21.71	56.75		56.8	0.00021	2.2	9661.09	717.24	0.08
	188903.7	PropPh1 ²	11852	21.71	56.74		56.79	0.00021	2.2	9657.01	716.97	0.08
	188903.7	FuturePh2 ³	11852	21.71	56.75		56.8	0.00021	2.2	9658.89	717.09	0.08
	188903.7	FuturePh3⁴	11852	21.71	56.75		56.8	0.00021	2.2	9658.84	717.09	0.08
		,										
	187878.1		11852	23.78	56.3		56.44	0.000671	3.39	4573.45	288.3	0.12
	187878.1	PropPh1 ²	11852	23.78			56.44	0.000671	3.39	4571.71	288.21	0.12
	187878.1	FuturePh2 ³	11852	23.78	56.3		56.44	0.000671	3.39	4572.51	288.25	0.12
	187878.1	FuturePh3⁴	11852	23.78	56.3		56.44	0.000671	3.39	4572.49	288.25	0.12
	186536.1		11852	20.17	55.76		55.83	0.000352	2.5	7995.83	650.63	0.1
	186536.1	PropPh1 ²	11852	20.17			55.82	0.000352	2.5	7991.43	650.55	
		FuturePh2 ³	11852	20.17			55.83	0.000352	2.5	7993.46	650.59	
	186536.1	FuturePh3 ⁴	11852	20.17	55.75		55.83	0.000352	2.5	7993.41	650.59	0.1
	185293.8		11852	20.84			55.56	0.000175		9307.72	490.06	0.07
		PropPh1 ²	11852	20.84			55.55	0.000175	2.07	9304.27	489.99	0.07
		FuturePh2 ³	11852	20.84	55.51		55.55	0.000175	2.07	9305.86	490.02	0.07
	185293.8	FuturePh3 ⁴	11852	20.84	55.51		55.55	0.000175	2.07	9305.82	490.02	0.07
	184862.8		12103	21.37	55.29		55.44	0.000249		5035.27	489.06	0.11
		PropPh1 ²	12103	21.37	55.29		55.43	0.000249	-	5033.31	488.25	0.11
		FuturePh2 ³	12103	21.37	55.29	34.78	55.44	0.000249	3.53	5034.22	488.62	0.11
Ŀ	184862.8	FuturePh3 ⁴	12103	21.37	55.29	34.78	55.44	0.000249	3.53	5034.19	488.61	0.11
l é												
PCT_100yr	184807.6		Bridge									
ပ္မ		F · v · 1										
#	184752.4		12103	21.24			55.38	0.000246		5054.13	496.89	0.11
		PropPh1 ²	12103	21.24			55.37	0.000247	3.52	5052.21	496.09	0.11
		FuturePh2 ³	12103	21.24			55.37	0.000246	-	5053.09	496.46	0.11
	184752.4	FuturePh3 ⁴	12103	21.24	55.23	34.65	55.37	0.000246	3.52	5053.07	496.45	0.11
	101005.0	Eviation 1	42402	40.07	EE 00		EE 40	0.00074.4	2.05	5551.95	469.42	0.4
	184295.8		12103	18.27	55.08		55.18		2.85			0.1
		PropPh1 ²	12103	18.27	55.07		55.17	0.000715		5548.54	466.12	0.1
		FuturePh2 ³ FuturePh3 ⁴	12103	18.27	55.08 55.08		55.17 55.17	0.000714	2.85 2.85	5550.11	467.64	0.1 0.1
	184295.8	FuturePris	12103	18.27	55.08		55.17	0.000714	2.80	5550.07	467.6	0.1
	183335.1	Evicting ¹	12103	20.58	54.42	34.68	54.67	0.000406	4.48	4050.16	553.13	0.15
		PropPh1 ²	12103			34.68	54.66				552.68	
		FuturePh2 ³	12103			34.68					552.88	
		FuturePh3 ⁴	12103			34.68		0.000406			552.88	
	100000.1	i didictiio	12103	20.00	04.41	34.00	34.07	0.000400	4.40	4040.93	JUZ.00	0.15
	182381.6	Existing ¹	12379	18.93	54.1		54.18	0.000583	2.38	5937.02	364.34	0.09
	182381.6	PropPh1 ²	12379				54.16		2.38		364.22	
		FuturePh2 ³	12379				54.17		2.38	5935.38	364.28	
		FuturePh3 ⁴	12379				54.17		2.38		364.27	0.09
	102301.0	T GRAIGI IIO	12379	10.93	04.1		54.17	0.000564	2.30	0900.04	504.27	0.09
	181623	Existing ¹	12379	18.35	53.97		53.99	0.000127	1.67	15837.79	1012.79	0.06
		PropPh1 ²	12379				53.98				1012.73	
		FuturePh2 ³	12379				53.99				1012.03	0.06
		FuturePh3 ⁴	12379	18.35			53.99		1.67	15833.01	1012.71	
	101023	I GLOTO TIO	12019	10.00	55.50		55.55	0.000121	1.01	10000.01	1012.1	0.00
	180731.2	Existing ¹	12379	19.12	53.72		53.8	0.000616	2.2	6106.2	385.79	0.09
		PropPh1 ²	12379				53.79			6102.77	385.54	
		FuturePh2 ³	12379				53.79			6104.34	385.65	
		FuturePh3 ⁴	12379				53.79			6104.34	385.65	
	100731.2	I didici ilo	12319	13.12	55.12		55.18	0.000017	2.2	0 104.01	303.03	0.09
•		l	1		I	l		L	l			l



Profile	River Sta	Plan	Q Total		W.S. Elev		E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	179838.1		12379	17.65	52.97		53.05		2.32	5341.14	329.67	0.1
	179838.1	PropPh1 ²	12379	17.65			53.04	0.001209	2.32	5337.86		
		FuturePh2 ³	12379	17.65			53.05				329.52	
	179838.1	FuturePh3 ⁴	12379	17.65	52.96		53.05	0.001208	2.32	5339.33	329.52	0.1
	470005.0	Estation 1	40070	47.40	50.40		50.74	0.000070	4.04	4050.00	040.5	0.44
	179305.6		12379	17.48	52.49		52.71	0.000372	4.24	4653.98	312.5	0.14
		PropPh1 ²	12379				52.7	0.000373			312.29	
		FuturePh2 ³ FuturePh3 ⁴	12379				52.71	0.000373			312.39	
	179305.6	FuturePn3	12379	17.48	52.49		52.71	0.000373	4.25	4652.16	312.39	0.14
	178955.5	Existing ¹	12457	17.37	52.4	33.01	52.57	0.000314	3.9	5708.74	869.01	0.13
		PropPh1 ²	12457	17.37	52.39	33.01	52.56		3.9		866.86	
		FuturePh2 ³	12457	17.37	52.39	33.01	52.56		3.9		867.85	
		FuturePh3 ⁴	12457	17.37	52.39	33.01	52.56		3.9		867.82	0.13
	110000.0		12.01		52.55	55.51	02.00	0.000011	0.0	0.00.0	557.52	55
	178899.3		Bridge									
		1										
	178843.1		12457	17.13		32.77	52.27	0.000316		5687.47	857.2	0.13
		PropPh1 ²	12457	17.13			52.26		3.91	5683.55	855.02	0.13
		FuturePh2 ³	12457	17.13			52.26			5685.35	856.03	0.13
	178843.1	FuturePh3 ⁴	12457	17.13	52.09	32.77	52.26	0.000317	3.91	5685.31	856	0.13
	4777000	Fuintin al	40007	40.54	E4 70		E4 04	0.000447	0.44	0440.00	270.05	0.00
	177732.9	PropPh1 ²	12967	16.54	51.73 51.71		51.81	0.000447 0.000448	2.44		376.05	0.09
		FuturePh2 ³	12967 12967	16.54 16.54	51.71		51.8 51.8		2.44 2.44	6108.6 6110.6	376 376.02	0.09 0.09
		FuturePh3 ⁴	12967	16.54	51.72		51.8		2.44	6110.54		0.09
	111132.9	ruturerno	12901	10.54	31.72		31.0	0.000447	2.44	0110.54	3/0.02	0.09
	176644.1	Existing ¹	12967	17.41	51.48	30.63	51.54	0.000169	2.34	10360.17	826.67	0.08
		PropPh1 ²	12967	17.41	51.47	30.63	51.52				826.23	0.08
₹		FuturePh2 ³	12967	17.41	51.47	30.63	51.53				826.43	0.08
100		FuturePh3 ⁴	12967	17.41	51.47	30.63	51.53				826.43	0.08
PCT_100yr	11001111	T didn't 110	12001		01.11	00.00	0 1.00	0.000100	2.01	10000.00	020.10	5.55
≧	175675.6	Existing ¹	13131	16.27	51.22	28.53	51.3	0.000386	2.22	5796.27	322.44	0.09
`		PropPh1 ²	13131	16.27	51.21	28.53	51.29		2.22		322.33	0.09
		FuturePh2 ³	13131	16.27	51.21	28.53	51.29			5794.1	322.38	0.09
	175675.6	FuturePh3 ⁴	13131	16.27	51.21	28.53	51.29	0.000386	2.22	5794.06	322.38	0.09
	173819.4	Existing ¹	13131	14.97	50.66		50.68		1.37	12313.01	880.29	0.06
		PropPh1 ²	13131	14.97	50.64		50.66	0.000277			879.77	0.06
		FuturePh2 ³	13131	14.97	50.65		50.67	0.000277	1.37	12306.49	880.01	0.06
	173819.4	FuturePh3⁴	13131	14.97	50.65		50.67	0.000277	1.37	12306.35	880	0.06
	4700405	e	40404	44.04	50.45		50.40	0.000000	4.07	44040.00	000.45	0.00
	172846.5	PropPh1 ²	13131	11.61	50.45		50.48			11343.29		
			13131	11.61	50.43		50.46					0.06
		FuturePh2 ³ FuturePh3 ⁴	13131	11.61	50.44 50.44		50.47 50.47	0.000266 0.000266			683.08 683.08	
	172846.5	FuturePn3	13131	11.61	50.44		50.47	0.000266	1.07	11337.92	683.08	0.06
	171967.4	Existing ¹	13131	14.04	50.32		50.34	0.000153	1.71	13328.57	727.51	0.06
		PropPh1 ²	13131	14.04			50.33				727.41	0.06
		FuturePh2 ³	13131	14.04			50.33					
		FuturePh3 ⁴	13131	14.04			50.33				727.45	
	171307.4	T dtdl of 110	10101	14.04	00.01		00.00	0.000100	1.71	10022.72	727.40	0.00
	171168.9	Existing ¹	13131	6.86	50.21		50.25	0.000141	1.94	11488.72	656.5	0.07
		PropPh1 ²	13131	6.86			50.23					
		FuturePh2 ³	13131	6.86			50.24		1.94		656.32	
		FuturePh3 ⁴	13131	6.86			50.24	0.000141	1.94			
	170256	Existing ¹	13131	13.83			50.07					
		PropPh1 ²	13131	13.83			50.06		2.81			
		FuturePh2 ³	13131	13.83			50.06					0.1
	170256	FuturePh3 ⁴	13131	13.83	49.96		50.06	0.000304	2.8	6264.56	448.7	0.1
l												



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	169087.1	Existing ¹	13185	11.36	49.79		49.81	0.000152	1.54	14808.95	868.47	0.05
	169087.1	PropPh1 ²	13185	11.36	49.77		49.8	0.000153	1.54	14795.25	868.25	0.05
		FuturePh2 ³	13185				49.8					
	169087.1	FuturePh3 ⁴	13185	11.36	49.78		49.8	0.000153	1.54	14801.39	868.35	0.05
	1001000	F. :-e1	40405	4405	40.50		40.04	0.000000	0.00	7004.0	455.00	0.07
	168169.9		13185				49.64	0.000302	2.08			0.07
		PropPh1 ² FuturePh2 ³	13185 13185	14.35 14.35	49.57 49.58		49.62 49.63	0.000303	2.09			0.07 0.07
		FuturePh3 ⁴	13185		49.58		49.63		2.09	7857.71	454.87	0.07
	100103.3	i didici iio	10100	14.00	43.50		43.00	0.000000	2.03	7007.71	404.07	0.07
	167249.9	Existing ¹	13209	11.5	49.18	25.79	49.28	0.000541	2.64	5515.75	632.41	0.1
		PropPh1 ²	13209	11.5		25.79	49.27	0.000543	2.65			0.1
	167249.9	FuturePh23	13209	11.5	49.17	25.79	49.27	0.000542	2.65	5509.82	632.04	0.1
	167249.9	FuturePh3 ⁴	13209	11.5	49.17	25.79	49.27	0.000542	2.65	5509.69	632.03	0.1
		1										
	166879.7		13209	10.84	49.05		49.14		3.43	9018.61	643.42	0.11
		PropPh1 ²	13209	10.84	49.03		49.13		3.43		642.43	0.11
		FuturePh2 ³	13209	10.84	49.04		49.13		3.43			0.11
	166879.7	FuturePh3 ⁴	13209	10.84	49.04		49.13	0.000251	3.43	9012.31	642.87	0.11
	166613	Existing ¹	13331	10.36	48.84	28.16	49.03	0.000387	4.47	7934.13	857.12	0.14
		PropPh1 ²	13331	10.36		28.16	49.01	0.000388	4.48	7919.41	853.83	0.14
		FuturePh2 ³	13331	10.36		28.16	49.02		4.48	7926.18	855.35	0.14
		FuturePh3 ⁴	13331	10.36	48.83	28.16	49.02	0.000387	4.48	7926	855.31	0.14
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			, , , , ,	10100			0.00000				•
	166585.6		Bridge									
		- · · · 1										
	166558.2		13331	10.11	48.66	27.91	48.84	0.000383	4.46	7988.56	869.18	0.14
		PropPh1 ²	13331	10.11	48.64	27.91	48.83		4.46	7973.63	865.89	0.14
Ş		FuturePh2 ³	13331	10.11	48.65	27.91	48.83		4.46	7980.49	867.4	0.14
PCT_100yr	166558.2	FuturePh3 ⁴	13331	10.11	48.65	27.91	48.83	0.000383	4.46	7980.31	867.36	0.14
CŢ	166297.3	Existing ¹	13835	8.4	48.61		48.71	0.000308	2.81	6769.79	357.58	0.09
₽		PropPh1 ²	13835		48.59		48.69		2.81	6763.2	357.37	0.09
		FuturePh2 ³	13835		48.6		48.7	0.000308	2.81	6766.23	357.47	0.09
		FuturePh3 ⁴	13835	8.4	48.6		48.7	0.000308	2.81	6766.15	357.47	0.09
	165903.2	Existing ¹	13835	10.27	48.5		48.59	0.000313	2.72	8201.88	589.53	0.09
	165903.2	PropPh1 ²	13835	10.27	48.48		48.57	0.000314	2.72	8190.85	588.35	0.09
		FuturePh2 ³	13835	10.27	48.49		48.57	0.000314	2.72	8195.92	588.9	0.09
	165903.2	FuturePh3 ⁴	13835	10.27	48.49		48.57	0.000314	2.72	8195.78	588.88	0.09
	105 170 1	e · o · 1	45440	40.0	40.40	25.40	40.00	0.00000	4.50	5007.05	000.50	0.44
	165476.1		15440				48.39					0.14
		PropPh1 ² FuturePh2 ³	15440		48.11	25.43	48.37		4.53			0.14
		FuturePh3 ⁴	15440 15440				48.38 48.38		4.53 4.53		288.1 288.09	0.14 0.14
	100470.1	I GLUIGI IIJ	13440	12.3	40.12	20.43	40.30	0.000307	4.03	3004.97	200.09	0.14
	165428.1		Bridge									
	165380.1		15440		47.47	24.82	47.72			5052.53		
		PropPh1 ²	15440				47.7		4.54		285.38	
		FuturePh2 ³	15440				47.71					
	165380.1	FuturePh3⁴	15440	11.69	47.46	24.82	47.71	0.000369	4.54	5049.62	285.75	0.14
	164555.2	Existing ¹	15423	8.31	47.14		47.32	0.000541	3.56	4937.19	238.18	0.13
		PropPh1 ²	15425		47.14		47.32	 	3.56			0.13
		FuturePh2 ³	15414		47.12		47.31		3.56			0.13
		FuturePh3 ⁴	15414		47.13		47.31		3.56			0.13
			13414	0.01	.,		17.01	2.000071	3.00	.554.65	200.1	0.10
	163635.5		15423	11.2	46.97		47.05	0.000179	2.86	10038.66	610.38	0.1
		PropPh1 ²	15405	11.2			47.03	1				0.1
	163635.5	FuturePh23	15414				47.04					
	163635.5	FuturePh3⁴	15414	11.2	46.96		47.04	0.000179	2.86	10031.91	610.29	



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	162811.9	Existing ¹	15905	8.08	46.75		46.88	0.000224	3.33	7107.68	340.4	0.11
	162811.9	PropPh1 ²	15888	8.08	46.73		46.86	0.000225	3.33	7100.8	340.21	0.11
	162811.9	FuturePh2 ³	15896	8.08			46.87	0.000224	3.33	7103.99	340.3	0.11
	162811.9	FuturePh3 ⁴	15896	8.08	46.74		46.87	0.000224	3.33	7103.9	340.3	0.11
	161822.3	Existing ¹	15905	6.55			46.55	0.000593			314.25	0.11
		PropPh1 ²	15888	6.55			46.53	0.000593	3.38		313.97	0.11
		FuturePh2 ³	15896	6.55			46.54	0.000593			314.1	0.11
	161822.3	FuturePh3 ⁴	15896	6.55	46.4		46.54	0.000593	3.38	6025.6	314.1	0.11
	1000007	r:1	45005	0.00	45.00		45.70	0.000004	0.57	504400	400.07	0.40
	160630.7	PropPh1 ²	15905 15888	6.96 6.96	45.62 45.6		45.79 45.77	0.000661 0.000661	3.57 3.57	5344.93 5336.34	406.87 404.84	0.13 0.13
		FuturePh2 ³	15896	6.96			45.77	0.000661	3.57	5340.31	404.84	
		FuturePh3 ⁴	15896	6.96			45.78	0.000661	3.57	5340.31	405.76	
	160630.7	ruturerno	13090	0.90	45.0		40.76	0.000001	3.37	5540.19	400.70	0.13
	159757.4	Existing ¹	15905	9.2	44.89		45.05	0.001119	3.32	5450.26	347.72	0.12
		PropPh1 ²	15888	9.2	44.86		45.03	0.00112			347.54	0.12
		FuturePh2 ³	15896	9.2	44.87		45.04	0.00112				
		FuturePh3 ⁴	15896	9.2	44.87		45.04	0.00112		5446.07	347.62	0.12
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							5,557,12				
	158811.6	Existing ¹	15903	7.94	44.52		44.6	0.000247	2.46	9193.7	691.25	0.08
		PropPh1 ²	15884	7.94	44.5		44.57	0.000247	2.46			
		FuturePh2 ³	15893	7.94	44.51		44.58		2.46		689.98	
	158811.6	FuturePh3 ⁴	15893	7.94	44.51		44.58	0.000247	2.46	9185.22	689.94	0.08
	157933.4		15903	5.48	44.21	22.05	44.37	0.000291	3.73		485.24	0.12
		PropPh1 ²	15884	5.48	44.19		44.34	0.000291	3.73		484.99	
		FuturePh2 ³	15893	5.48		22.04	44.35		3.73		485.1	0.12
Oyr	157933.4	FuturePh3 ⁴	15893	5.48	44.2	22.04	44.35	0.000291	3.73	7428.68	485.1	0.12
1PCT_100yr	450000.4	F · e 1	45000		40.00		44.00	0.000050	0.7	5050.4	470.00	0.40
5	156882.1		15903	5.55			44.08	0.000259		5950.1	470.63	0.12
1P(PropPh1 ²	15884	5.55			44.06	0.000259		5939.5	469.29	
		FuturePh2 ³	15893	5.55			44.07	0.000259		5944.39	469.91	0.12 0.12
	100882.1	FuturePh3 ⁴	15893	5.55	43.87		44.07	0.000259	3.1	5944.21	469.89	0.12
	156116.3	Existing ¹	15903	5.91	43.77		43.85	0.000261	2.29	7424.88	455.9	0.08
		PropPh1 ²	15884	5.91	43.74		43.82	0.000261	2.29		455.35	
		FuturePh2 ³	15893	5.91	43.75		43.83	0.000261	2.29		455.6	
		FuturePh3 ⁴	15893	5.91	43.75		43.83	0.000261	2.29		455.6	
	155861.6		16676	6.03			43.77	0.000317				
	155861.6	PropPh1 ²	16656	6.03	43.66	20.86	43.75	0.000317	2.43	6994.76	427.39	0.09
	155861.6	FuturePh2 ³	16666	6.03		20.87	43.76	0.000317	2.43	6999.15	427.75	
	155861.6	FuturePh3 ⁴	16666	6.03	43.67	20.87	43.76	0.000317	2.43	6998.98	427.73	0.09
	155805.1		Bridge									
	4 <i>EE</i> 740.0	Evicting 1	40070	F 70	40.05	00.00	40.44	0.000000	0.44	6005.70	405.00	0.00
	155748.6		16676	5.79			43.44	0.000322				0.09
		PropPh1 ²	16656	5.79			43.42				424.29 424.63	
		FuturePh2 ³ FuturePh3 ⁴	16666	5.79			43.43		2.44			
	100748.6	i utureriio	16666	5.79	43.33	20.62	43.43	0.000322	2.44	6960.71	424.62	0.09
	154890.7	Existing ¹	16989	5.42	42.9	20.32	43.11	0.00036	3.9	5780.54	900.77	0.13
		PropPh1 ²	16969	5.42	42.87	20.32	43.11					
	154890.7	FuturePh2 ³	16978	5.42			43.09	0.00036				
		FuturePh3 ⁴	16978	5.42	42.88		43.1	0.00036				
			.5570	5.⊣∠	,2.00	20.01	10.1	5.00000	0.0	21.10.20	220.00	0.10
	153992.6	Existing ¹	16989	3.83	42.75	21.39	42.84	0.000217	2.79	10284.98	1336.18	0.1
		PropPh1 ²	16969	3.83			42.82			10266.13		
		FuturePh2 ³	16978	3.83			42.83					
		FuturePh3 ⁴	16978	3.83			42.83					



Profile	River Sta	Plan	Q Total			Crit W.S.		E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	153119.9		16989			19.16	42.55	0.000533	3.08			0.11
		PropPh1 ²	16969	4.13		19.15	42.53	0.000534	3.08		964.48	0.11
		FuturePh2 ³	16978	4.13		19.15	42.54	0.000534	3.08		965.24	0.11
	153119.9	FuturePh3 ⁴	16978	4.13	42.41	19.15	42.54	0.000534	3.08	6670.79	965.2	0.11
	153108.9		Bridge									
		1										
	153097.9		16989	4.13	42.4	19.16	42.53	0.000535	3.08	6665.88	964.35	0.11
		PropPh1 ²	16969	4.13	42.37	19.15	42.5		3.08		962.7	0.11
		FuturePh2 ³ FuturePh3 ⁴	16978 16978	4.13 4.13		19.15 19.15	42.51 42.51	0.000536 0.000536	3.08 3.08	6660.83 6660.64	963.46 963.43	0.11 0.11
	100001.0	i uturer 113	10370	4.13	42.00	13.10	42.01	0.000000	3.00	0000.04	300.40	0.11
	152376.3	Existing ¹	16989	3.84	42.22	22.15	42.29	0.000173	2.75	10137.56	1365.9	0.09
	152376.3	PropPh1 ²	16969	3.84	42.2	22.13	42.27	0.000173	2.75	10118.55	1364.11	0.09
		FuturePh2 ³	16978		42.21	22.14	42.28	0.000173	2.75		1364.93	0.09
	152376.3	FuturePh3 ⁴	16978	3.84	42.21	22.14	42.28	0.000173	2.75	10126.92	1364.9	0.09
	151996.2	Existing ¹	16989	4.14	42.19	18.15	42.24	0.000089	1.99	9939.74	1127.26	0.07
		PropPh1 ²	16969	4.14	42.16	18.14	42.22	0.000089	1.99	9929.38	1126.48	0.07
		FuturePh2 ³	16978			18.14	42.23	0.000089	1.99		1126.84	0.07
	151996.2	FuturePh3 ⁴	16978	4.14	42.17	18.14	42.23	0.000089	1.99	9933.94	1126.83	0.07
	4540000		Delalar									
	151963.3		Bridge									
	151930.4	Existing ¹	16989	3.37	42.15	17.37	42.21	0.000081	1.94	10268.48	1156.42	0.06
		PropPh1 ²	16969	3.37	42.13	17.36	42.18		1.94		1155.48	0.06
		FuturePh2 ³	16978	3.37	42.14	17.37	42.2		1.94		1155.91	0.06
	151930.4	FuturePh3 ⁴	16978	3.37	42.14	17.37	42.19	0.000081	1.94	10262.64	1155.89	0.06
١,	454005.0	F.viatina 1	40000	2.00	40.40	4444	40.0	0.000040	4.00	44000.05	4075.00	0.05
Įδ	151925.3	PropPh1 ²	16989 16969	2.99 2.99	42.16 42.14	14.11 14.1	42.2 42.18	0.000049 0.000049	1.68 1.68	11090.25 11080.5	1275.02 1274.13	0.05 0.05
5		FuturePh2 ³	16978	2.99		14.1	42.19		1.68		1274.13	
PCT_100yr		FuturePh3 ⁴	16978		42.15	14.1	42.19		1.68		1274.52	0.05
<u>+</u>												
	151846.3		Bridge									
	151767.3	Existing ¹	16989	1.3	41.54	12.42	41.58	0.000043	1.62	11540.45	1315.93	0.05
		PropPh1 ²	16969			12.41	41.56		1.62		1315.02	0.05
		FuturePh2 ³	16978		41.53	12.41	41.57	0.000043	1.62		1315.44	0.05
	151767.3	FuturePh3 ⁴	16978	1.3	41.53	12.41	41.57	0.000043	1.62	11534.87	1315.42	0.05
	151736.6	Existing ¹	16989	3.46	41.41	15.79	41.55	0.000162	3.02	6857.22	649.46	0.1
		PropPh1 ²	16969									
		FuturePh2 ³	16978						3.02			
		FuturePh3 ⁴	16978								648.86	
	154744 1		Deidere									
	151711.1		Bridge									
	151685.6	Existing ¹	16989	4.19	41.37	16.52	41.51	0.000176	3.1	6623.59	611.17	0.1
		PropPh1 ²	16969			16.52	41.49					
		FuturePh2 ³	16978				41.5					
	151685.6	FuturePh3⁴	16978	4.19	41.35	16.52	41.5	0.000176	3.1	6619.69	608.94	0.1
	151353.8	Existing ¹	17195	4.9	41.37	20.11	41.42	0.000105	2.07	13217.61	1157.51	0.07
		PropPh1 ²	17174				41.42					
		FuturePh2 ³	17183				41.4				1157.39	
		FuturePh3 ⁴	17183				41.4				1157.38	
	150358.8		17410		41.13		41.27	0.000211	3.18		413.06	
		PropPh1 ²	17389		41.1		41.24		3.18			
		FuturePh2 ³	17399		41.11		41.25		3.18			0.11
	150358.8	FuturePh3 ⁴	17398	3.31	41.11		41.25	0.000211	3.18	7249.38	413.01	0.11
		l .	l	l	l	I	I	l	I	l		l



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)		(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	149526.4		17410	3.15	41.01	18.03	41.1	0.000159	2.76	9847.91	546.82	0.09
	149526.4	PropPh1 ²	17389	3.15	40.99	18.03	41.08		2.76	9834.76	546.67	0.09
	149526.4	FuturePh2 ³	17399	3.15		18.03	41.09	0.000159	2.76	9840.81	546.74	
	149526.4	FuturePh3 ⁴	17398	3.15	41	18.03	41.09	0.000159	2.76	9840.55	546.74	0.09
	149122.7		17410	3.15			41.03			6810.2	360.2	0.1
		PropPh1 ²	17389	3.15			41.01	0.00019		6801.56	358.85	0.1
		FuturePh2 ³	17399	3.15			41.02			6805.53	359.47	0.1
	149122.7	FuturePh3 ⁴	17398	3.15	40.86		41.02	0.00019	3.34	6805.37	359.44	0.1
		1										
	148795.4		17497	3.15		17.93	40.94	0.000328	3.18	7334.8	1799.63	0.1
		PropPh1 ²	17475	3.15			40.91	0.000328			1799.39	0.1
		FuturePh2 ³	17485	3.15			40.92		3.18		1799.5	
	148795.4	FuturePh3 ⁴	17485	3.15	40.79	17.93	40.92	0.000328	3.18	7330.31	1799.5	0.1
	148768.4		Dridge									
	148/08.4		Bridge									
	148741.4	Existing ¹	17497	3.04	40.68	17.82	40.81	0.000328	3.19	7329.47	1799.47	0.1
		PropPh1 ²	17437	3.04	40.66	17.82	40.81		3.19			0.1
		FuturePh2 ³	17475	3.04		17.82	40.73					0.1
		FuturePh3 ⁴	17485	3.04		17.82	40.8		3.19		1799.34	0.1
	140741.4	T dtdrei 110	17400	3.04	40.07	17.02	40.0	0.000329	3.19	1324.33	1733.34	0.1
	147632.4	Existing ¹	17497	-1.17	40.49	15.08	40.6	0.000114	2.79	8153.86	490.51	0.1
		PropPh1 ²	17475	-1.17		15.07	40.58		2.79			0.1
		FuturePh2 ³	17485	-1.17	40.48	15.07	40.59		2.79	8147.78		0.1
		FuturePh3 ⁴	17485	-1.17	40.48		40.59		2.79		490.23	0.1
								0.000				•
	146698	Existing ¹	17497	1.88	40.33	14.88	40.48	0.000157	3.3	7668.89	663.37	0.12
	146698	PropPh1 ²	17475	1.88		14.87	40.45		3.3		662.28	0.12
) Jyr		FuturePh2 ³	17485	1.88			40.46		3.3		662.78	0.12
1PCT_100yr		FuturePh3 ⁴	17485	1.88	40.32	14.88	40.46		3.3	7663.17	662.76	0.12
⊱'												
l PC	145723.9	Existing ¹	17497	1.61	40.08		40.3	0.000199	4.3	7599.37	441.85	0.14
	145723.9	PropPh1 ²	17475	1.61	40.06		40.27	0.000199	4.3	7588.62	441.52	0.14
	145723.9	FuturePh2 ³	17485	1.61	40.07		40.29				441.67	0.14
	145723.9	FuturePh3 ⁴	17485	1.61	40.07		40.29	0.000199	4.3	7593.35	441.66	0.14
	144753.5		17497	0.07	39.9	15.81	40.1	0.000198		6572.02	417.94	0.13
	144753.5	PropPh1 ²	17475	0.07	39.88	15.8	40.08	0.000198	3.81	6561.8	417.66	0.13
		FuturePh2 ³	17485	0.07	39.89		40.09		3.81	6566.51	417.79	
	144753.5	FuturePh3 ⁴	17485	0.07	39.89	15.81	40.09	0.000198	3.81	6566.29	417.78	0.13
	143966.8		17497	-7.47			39.95					0.13
		PropPh1 ²	17475		39.73		39.92					
		FuturePh2 ³	17485				39.93					
	143966.8	FuturePh3 ⁴	17485	-7.47	39.75	17.08	39.93	0.000208	3.86	8366.35	1050.56	0.13
		F · e 1										_
	143078.2		17497	-4.19			39.78					
		PropPh1 ²	17475				39.75					0.12
		FuturePh2 ³	17485				39.76					
	143078.2	FuturePh3 ⁴	17485	-4.19	39.61		39.76	0.000157	3.43	9734.89	677.44	0.12
	140001 1	Eviatina 1	47107	0.55	20.51		20.01	0.000400	0.45	0474.04	E47.00	2.4
	142061.4		17497	0.55			39.64					
	142061.4	PropPh1 ²	17475				39.61					0.1
		FuturePh2 ³	17485				39.63				517.58	
	142061.4	FuturePh3 ⁴	17485	0.55	39.5		39.62	0.000106	3.15	9164.03	517.58	0.1
	141320.1	Existing ¹	17497	-2.7	39.51	13.23	39.56	0.000055	2.03	16138.09	866.73	0.07
		PropPh1 ²	17497				39.56					0.07
		FuturePh2 ³	17475		39.49		39.55					
		FuturePh3 ⁴	17485				39.55					
	141320.1	i utuleriio	17460	-2.1	39.5	13.22	39.00	0.00005	2.03	10120.98	000.00	0.07
		l	L		I	l .		<u> </u>	L	I	I	<u> </u>



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)		(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	140116.2	Existing ¹	17497	-1.31	39.31	14.6	39.46	0.000143	3.36	10369.47	803.62	0.11
	140116.2	PropPh1 ²	17475	-1.31	39.29	14.59	39.43	0.000143	3.36	10350.3	802.75	0.11
	140116.2	FuturePh2 ³	17485	-1.31	39.3	14.59	39.44	0.000143	3.36	10359.14	803.16	0.11
	140116.2	FuturePh3 ⁴	17485	-1.31	39.3	14.59	39.44	0.000143	3.36	10358.7	803.14	0.11
	139320	Existing ¹	17497	-2.14	39.25		39.35	0.000114	2.75			
		PropPh1 ²	17475	-2.14	39.22	13.65	39.32	0.000114	2.75		920.15	
		FuturePh2 ³	17485	-2.14	39.23	13.66	39.33		2.75			
	139320	FuturePh3 ⁴	17485	-2.14	39.23	13.66	39.33	0.000114	2.75	11716.38	920.24	0.09
	100007.0	F: - #: 1	47455	0.00	00.00	44.04	20.00	0.000000	4.40	00700 50	4040.40	0.05
	138607.9		17455	-2.08	39.28	14.61	39.29	0.000026			1319.43	0.05
		PropPh1 ²	17429	-2.08	39.25	14.47	39.27	0.000026				0.05
		FuturePh2 ³	17441	-2.08	39.26	14.48	39.28	0.000026				0.05
	138607.9	FuturePh3 ⁴	17440	-2.08	39.26	14.48	39.28	0.000026	1.46	23764.71	1318.99	0.05
	127722	Existing ¹	17455	-2.4	39.18	14.16	39.26	0.000077	2.81	15488.5	1159.28	0.09
		PropPh1 ²	17433	-2.4	39.16		39.23	0.000077	2.81	15464.39		0.09
		FuturePh2 ³	17441	-2.4	39.17	14.15	39.25		2.81	15475.49		
		FuturePh3 ⁴	17441	-2.4	39.17	14.15	39.25	0.000077	2.81	15474.96	1157.40	
	137732	T didier 113	17440	-2.4	33.17	14.10	33.23	0.000077	2.01	13474.30	1101.00	0.03
	137113	Existing ¹	17455	-2.62	39.01	13.93	39.19	0.000137	3.75	9049.63	1117.9	0.11
		PropPh1 ²	17429	-2.62	38.98	13.92	39.16		3.75	9037.11	1115.22	0.11
		FuturePh2 ³	17441	-2.62	39		39.18		3.75		1116.09	
		FuturePh3 ⁴	17440	-2.62	38.99	13.92	39.17	0.000137	3.75	9042.6		0.11
	10/110	T dtdl of 110	17110	2.02	00.00	10.02	00.11	0.000101	0.70	00 12.0	1110.00	0.11
	136331.2	Existing ¹	17455	-2.09	38.98	13.21	39.01	0.000207	1.76	13810.95	713.79	0.06
		PropPh1 ²	17429	-2.09	38.95	13.2	38.98	0.000207	1.76		713.57	0.06
		FuturePh2 ³	17441	-2.09	38.96	13.2	38.99		1.76			0.06
		FuturePh3 ⁴	17440	-2.09	38.96	13.2	38.99	0.000207	1.76			0.06
1PCT_100yr												
\ ⊢	135666.2	Existing ¹	17455	-1.47	38.8		38.91	0.0001	2.99	11079.29	694.12	0.1
D.	135666.2	PropPh1 ²	17429	-1.47	38.78		38.89	0.0001	2.99	11061.78	693.69	0.1
₽	135666.2	FuturePh2 ³	17441	-1.47	38.79		38.9	0.0001	2.99	11069.85	693.89	0.1
	135666.2	FuturePh3 ⁴	17440	-1.47	38.79		38.9	0.0001	2.99	11069.47	693.88	0.1
	134706.7		17455	-1.93	38.79		38.83	0.000049				
		PropPh1 ²	17429	-1.93	38.76		38.8	0.000049				0.07
		FuturePh2 ³	17441	-1.93	38.77		38.82	0.000049				0.07
	134706.7	FuturePh3 ⁴	17440	-1.93	38.77		38.82	0.000049	2.13	19361.35	1100.42	0.07
		1										
	134090.6		17455	-1.59	38.72		38.8			15312.83		
		PropPh1 ²	17429					0.000069		15291.88		
		FuturePh2 ³	17441	-1.59			38.79			15301.53		
	134090.6	FuturePh3 ⁴	17440	-1.59	38.71		38.78	0.000069	2.64	15301.08	827.95	0.08
	133772.1	Evicting ¹	17455	-0.79	38.66	13.2	38.77	0.000092	3.2	14426.19	909.94	0.1
		PropPh1 ²	17455				38.77			14426.19		
		FuturePh2 ³										
		FuturePh3 ⁴	17441 17440	-0.79 -0.79			38.76 38.76			14413.75 14413.26		
	100112.1	I WILLIE IIO	17440	-0.79	30.00	13.19	30.70	0.000092	3.2	14413.20	303.76	0.1
	133760.1		Bridge									
			3-									
	133748.1	Existing ¹	17455	-0.46	38.61	13.53	38.72	0.000097	3.27	14077.37	905.15	0.1
		PropPh1 ²	17429	-0.46	38.58		38.7	0.000097	3.27			
		FuturePh2 ³	17441	-0.46	38.6		38.71	0.000097	3.27		904.98	
		FuturePh3 ⁴	17440	-0.46	38.6		38.71	0.000097	3.27		904.97	
	132963.8		17455	-1.98	38.46	13.46	38.61	0.000146	3.43	8567.06	561.99	0.11
		PropPh1 ²	17429	-1.98			38.59					
		FuturePh2 ³	17441	-1.98	38.44	13.45	38.6	0.000146	3.43	8559.5	560.09	0.11
	132963.8	FuturePh3 ⁴	17440	-1.98	38.44	13.45	38.6	0.000146	3.43	8559.21	560.02	0.11
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Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	131789.8		17455	-2.31	38.29	12.06	38.45	0.000133	3.59	9143.51	617.44	0.11
	131789.8	PropPh1 ²	17429	-2.31	38.27	12.05	38.43	0.000133	3.59	9129.33	616.76	0.11
		FuturePh2 ³	17441	-2.31	38.28	12.06	38.44	0.000133	3.59	9135.87	617.07	0.11
	131789.8	FuturePh3 ⁴	17440	-2.31	38.28	12.06	38.44	0.000133	3.59	9135.58	617.06	0.11
		4										
	130765.5		17455	-3.81	38.25		38.34	0.000062	2.62		558.56	
		PropPh1 ²	17429	-3.81	38.23		38.31	0.000062	2.62		558.15	
		FuturePh2 ³	17441	-3.81	38.24		38.33	0.000062	2.62		558.34	
	130765.5	FuturePh3⁴	17440	-3.81	38.24		38.33	0.000062	2.62	11811	558.33	0.08
	129725.3	Existing ¹	17455	-3.71	38.15		38.26	0.000095	3.23	13232.32	897.01	0.1
		PropPh1 ²	17429	-3.71	38.12		38.24				895.48	0.1
		FuturePh2 ³	17441	-3.71	38.14		38.25	0.000095	3.23		896.19	0.1
		FuturePh3 ⁴	17440	-3.71	38.13		38.25	0.000095	3.23		896.16	
	129163.2	Existing ¹	17455	-3.13	38.07		38.2	0.000093	3.1	9829.66	666.17	0.1
	129163.2	PropPh1 ²	17429	-3.13	38.05		38.18	0.000093	3.09	9812.76	665.26	0.1
	129163.2	FuturePh2 ³	17441	-3.13	38.06		38.19	0.000093	3.1	9820.55	665.68	0.1
	129163.2	FuturePh3 ⁴	17440	-3.13	38.06		38.19	0.000093	3.1	9820.21	665.66	0.1
	128326.9		17455	-4.05	38.03	10.31	38.13	0.000069	2.8		1203.21	0.08
		PropPh1 ²	17429	-4.05		10.3	38.1	0.000069			1202.44	
		FuturePh2 ³	17441	-4.05	38.01	10.31	38.11	0.000069	2.8		1202.79	
	128326.9	FuturePh3 ⁴	17440	-4.05	38.01	10.31	38.11	0.000069	2.8	12523.18	1202.78	0.08
	1001046	Eviating 1	17111	4.00	20	10.07	20.44	0.000070	2.07	0425.54	COE 74	0.00
	128104.6	PropPh1 ²	17411 17380	-4.29 -4.29	38 37.98	10.07 10.06	38.11 38.08	0.000072 0.000072	2.87 2.87	9135.51 9126.71	605.74 598.31	0.09 0.09
		FuturePh2 ³	17300	-4.29	37.99		38.09	0.000072	2.87	9130.77	601.74	0.09
		FuturePh3 ⁴	17393	-4.29	37.99	10.06	38.09	0.000072	2.87	9130.77	601.74	0.09
	120104.0	r didici ilo	17394	-4.23	31.33	10.00	30.03	0.000012	2.01	3130.33	001.00	0.09
PCT_100yr	128066.7		Bridge									
6			Ĭ									
5	128028.8		17411	-4.51	37.99	9.85	38.1	0.00007	2.85	9208.7	641.52	0.09
4	128028.8	PropPh1 ²	17380	-4.51	37.97	9.84	38.07	0.00007	2.85		640.61	0.09
		FuturePh2 ³	17395	-4.51	37.98	9.84	38.08	0.00007	2.85		641.03	0.09
	128028.8	FuturePh3 ⁴	17394	-4.51	37.98	9.84	38.08	0.00007	2.85	9203.82	641.01	0.09
		1	.=							.==		
	126647	Existing ¹	17411	-3.93	37.94		37.99	0.000045		17549.99	995.94	0.07
		PropPh1 ²	17380	-3.93	37.92		37.96	0.000045		17525.21	995.02	0.07
		FuturePh2 ³ FuturePh3 ⁴	17395	-3.93	37.93 37.93		37.97	0.000045	2.31 2.31	17536.63	995.44	0.07 0.07
	120047	rutureriis	17394	-3.93	37.93		37.97	0.000045	2.31	17536.12	995.42	0.07
	125376.9	Existing ¹	17411	-4.05	37.74		37.89	0.000098	3.49	8108.93	514.2	0.1
		PropPh1 ²	17380	-4.05			37.87	0.000098			501.35	
		FuturePh2 ³	17395				37.88					
		FuturePh3 ⁴	17394	-4.05			37.88					0.1
	124983.5		17411	-3.86	37.75		37.84	0.000082	3.13	8802.85	1282.9	0.09
	124983.5	PropPh1 ²	17380	-3.86	37.72	13.15	37.81	0.000082	3.13	8788.91	1276.62	0.09
		FuturePh2 ³	17395				37.83				1279.51	0.09
	124983.5	FuturePh3 ⁴	17394	-3.86	37.73	13.16	37.83	0.000082	3.13	8795.03	1279.39	0.09
		1										
	124644.1		17411	-3.69		12.94	37.81	0.000091	3.29			0.1
		PropPh1 ²	17380			12.92	37.78		3.29		560.3	
		FuturePh2 ³	17395				37.79		3.29			
	124644.1	FuturePh3 ⁴	17394	-3.69	37.68	12.93	37.79	0.000091	3.29	7834.59	560.44	0.1
	124591.8		Bridge									
	.2.1301.0		211490									
	124539.5		17411	-3.74	37.67	12.89	37.78	0.000091	3.29	7848.52	560.93	0.1
		PropPh1 ²	17380				37.76		3.28		560.63	
		FuturePh2 ³	17395	-3.74			37.77	0.000091	3.29		560.77	
		FuturePh3 ⁴	17394	-3.74			37.77		3.29		560.76	



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	123658.2	Existing ¹	17393	-2.04	37.66		37.7	0.000039	2.1	22368.29	2048	0.06
	123658.2	PropPh1 ²	17361	-2.04	37.64		37.67	0.000039	2.1	22317.75	2043.67	0.06
		FuturePh2 ³	17376				37.68				2045.66	
	123658.2	FuturePh3 ⁴	17375	-2.04	37.65		37.68	0.000039	2.1	22339.99	2045.58	0.06
		1	1									
	123138.8		17393	-4.08	37.65		37.68		1.59		1452.05	
		PropPh1 ²	17361	-4.08	37.63		37.65		1.59		1449.43	0.05
		FuturePh2 ³	17376		37.64		37.66				1450.64	
	123138.8	FuturePh3 ⁴	17375	-4.08	37.64		37.66	0.000024	1.59	22548.71	1450.58	0.05
	122627.1	Existing ¹	17393	-6.08	37.61	8.11	37.65	0.000038	1.96	14326.96	1058.65	0.06
		PropPh1 ²	17361	-6.08			37.63				1056.52	
		FuturePh2 ³	17376		37.6		37.64				1057.5	
		FuturePh3 ⁴	17375		37.6		37.64				1057.46	
	122572.1		Mult Open									
		- 1										
	122517.1		17393		37.58	8.84	37.62				1000.37	0.06
	122517.1	PropPh1 ²	17361	-5.38		8.82	37.6				998.52	
		FuturePh2 ³	17376		37.56	8.83	37.61				999.37	0.06
	122017.1	FuturePh3 ⁴	17375	-5.38	37.56	8.83	37.61	0.000042	2.04	13557.64	999.34	0.06
	121229.5	Existing ¹	17393	-11.37	37.5		37.56	0.000053	2.45	14307.13	901.56	0.07
		PropPh1 ²	17361	-11.37	37.48		37.54				900.73	
	121229.5	FuturePh2 ³	17376		37.49		37.55				900.84	
	121229.5	FuturePh3 ⁴	17375		37.49		37.55				900.83	
	120962.2	Existing ¹	17393	-10.59	37.45		37.54	0.000077	2.94	11106.27	728.27	0.08
		PropPh1 ²	17361	-10.59	37.42		37.51		2.94		728.02	0.08
		FuturePh2 ³	17376	-10.59			37.53		2.94		728.13	
5	120962.2	FuturePh3 ⁴	17375	-10.59	37.43		37.53	0.000077	2.94	11096.25	728.13	0.08
1PCT_100yr		E · (· 1										
	120005.2		17393	-7.78		7.73	37.47				1036.65	
ပ္ထ		PropPh1 ²	17361	-7.78	37.43		37.45				1036.42	
_		FuturePh2 ³	17376			7.73	37.46		-		1036.53	
	120005.2	FuturePh3 ⁴	17375	-7.78	37.44	7.73	37.46	0.000023	1.65	20388.39	1036.52	0.05
	119952.6		Bridge									
		Existing ¹	17393	-7.64	37.41	7.84	37.43		1.67	20215.12	1034.93	0.05
		PropPh1 ²	17361	-7.64	37.39	7.82	37.41					
		FuturePh2 ³	17376							20201.35		
	119900	FuturePh3 ⁴	17375	-7.64	37.4	7.83	37.42	0.000024	1.67	20200.84	1034.8	0.05
	4404050	= · · · 1	47000	7.04	07.44		07.40	0.000044	4.00	00.407.07	1007.10	
	119495.9	PropPh1 ²	17393		37.41 37.38		37.42				1337.43	
		FuturePh2 ³	17361	-7.21	37.38		37.4					
		FuturePh3 ⁴	17376 17375		37.39		37.41 37.41				1337.29	
	113430.9	I ULUI EFIIO	1/3/3	-1.21	31.39		31.41	0.000014	1.30	25005.43	1331.29	0.04
	118667.7	Existing ¹	17393	-8.56	37.35		37.4	0.000036	2.24	16162.81	924.51	0.06
		PropPh1 ²	17361	-8.56			37.37					
		FuturePh2 ³	17376				37.38					
		FuturePh3 ⁴	17375				37.38					
	118466.1		17393			5.29					1130.71	0.07
		PropPh1 ²	17361	-8.89			37.36			14372.84	1128.76	
		FuturePh2 ³	17376									
	118466.1	FuturePh3 ⁴	17375	-8.89	37.3	5.28	37.37	0.000046	2.55	14385.09	1129.62	0.07
	118418.1		Bridge									
	110410.1		Diluge									
	118370.1	Existing ¹	17393	-8.87	37.28	5.3	37.35	0.000046	2.56	14342.54	1126.63	0.07
		PropPh1 ²	17361	-8.87	37.26							
		FuturePh2 ³	17376		37.27	5.29						
		FuturePh3 ⁴	17375		37.27	5.29	37.34					
I			1	5.57		3.20	231		1 2.50			1 3.37



Profile	River Sta	Plan	Q Total	Min Ch Fl	MS Flev	Crit W.S	F.G. Flav	F.G. Slone	Val Chnl	Flow Area	Ton Width	Froude # Chl
FIOIIIE	Triver Sta	Fian	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	1 Todde # Cili
	117845.4	Existing ¹	17393	-7.26		(12)	37.32				833.7	0.07
		PropPh1 ²	17361	-7.26			37.29					0.07
		FuturePh2 ³	17376	-7.26			37.31				833.54	
		FuturePh3 ⁴	17375	-7.26			37.3				833.54	0.07
					020		0.110	0.0000.0		10100101		
	117204.3	Existing ¹	17393	-4.6	37.25		37.29	0.000041	2.21	15744.75	1090.88	0.06
		PropPh1 ²	17361	-4.6			37.26		2.21		1087.95	
		FuturePh2 ³	17376	-4.6			37.27		2.21		1089.3	0.06
	117204.3	FuturePh3 ⁴	17375	-4.6			37.27	0.000041	2.21		1089.24	0.06
	116395.7	Existing ¹	17393	-3.88			37.25	0.000043	2.38	13225.78	544.07	0.07
		PropPh1 ²	17361	-3.88	37.17		37.23	0.000043	2.38	13212.57	543.78	0.07
	116395.7	FuturePh2 ³	17376	-3.88	37.18		37.24	0.000043	2.38	13218.65	543.9	0.07
	116395.7	FuturePh3 ⁴	17375	-3.88	37.18		37.24	0.000043	2.38	13218.39	543.89	0.07
	116167.6		17393	-3.68			37.22	0.000074	3.1	7622.62	290.98	0.09
		PropPh1 ²	17361	-3.68			37.19		3.1	7616.42	290.91	0.09
		FuturePh2 ³	17376	-3.68	37.07	7.22	37.21	0.000074	3.1	7619.27	290.94	
	116167.6	FuturePh3 ⁴	17375	-3.68	37.07	7.22	37.2	0.000074	3.1	7619.15	290.94	0.09
	116121.9		Bridge									
	440070.0	E . c. 1	47000	0.00	00.00	7.05	07.44	0.000074	0.00	7044.04	004.04	0.00
	116076.2		17393	-3.86		7.05	37.11	0.000074	3.09		291.21	0.09
		PropPh1 ²	17361	-3.86			37.09				291.13	
		FuturePh2 ³	17376	-3.86		7.04	37.1	0.000074	3.09		291.17	0.09
	116076.2	FuturePh3 ⁴	17375	-3.86	36.97	7.04	37.1	0.000074	3.09	7637.96	291.17	0.09
	4450555	Cuintin a 1	47202	5.00	20.00	7.00	27.07	0.000050	0.00	40005.00	700.04	0.00
	115655.5	Existing	17393	-5.03			37.07	0.000053	2.99		732.64	
_		PropPh1 ²	17361	-5.03		7.62	37.05		2.99		731.56	
Ιğ		FuturePh2 ³	17376	-5.03	36.95		37.06		2.99		732.05	0.09
=	115655.5	FuturePh3 ⁴	17375	-5.03	36.95	7.62	37.06	0.000053	2.99	10255.48	732.03	0.09
1PCT_100yr	115635.5		Bridge									
₽	110000.0		Dilage									
	115615.5	Existing ¹	17393	-5.27	36.95	7.39	37.06	0.000052	2.96	10433.02	750.34	0.08
		PropPh1 ²	17361	-5.27			37.03					0.08
		FuturePh2 ³	17376	-5.27	36.94	7.38	37.04		2.96			0.08
		FuturePh3 ⁴	17375	-5.27		7.38	37.04				748.68	
	110010.0	T dtdror 110	11010	0.21	00.01	7.00	01.01	0.000002	2.00	10 120.21	7 10.00	0.00
	115573.5	Existing ¹	17393	-5.72	36.96	6.44	37.04	0.000041	2.59	10866.93	513.77	0.07
	115573.5	PropPh1 ²	17361	-5.72		6.43	37.02		2.59		513.71	0.07
		FuturePh2 ³	17376							10860.44		
		FuturePh3 ⁴	17375							10860.21	513.74	
	115553.5		Bridge									
	115533.5		17393		36.95		37.02		2.49		663.24	
		PropPh1 ²	17361	-6.77			37				662.27	
		FuturePh2 ³	17376	-6.77	36.94			0.000037	2.48		662.71	0.07
	115533.5	FuturePh3 ⁴	17375	-6.77	36.94	5.39	37.01	0.000037	2.48	11397.54	662.69	0.07
		1										
	115214	Existing ¹	17393	-7.96			37		2.67	9314.26		0.07
		PropPh1 ²	17361	-7.96			36.98				613.82	0.07
		FuturePh2 ³	17376				36.99	_			615.39	
	115214	FuturePh3 ⁴	17375	-7.96	36.89	3.91	36.99	0.000042	2.67	9306.26	615.32	0.07
	115168.5		Bridge									
	1 10 100.5		Diluge									
	115123	Existing ¹	17393	-8.12	36.84	3.75	36.94	0.000042	2.66	9376.4	631.85	0.07
l		PropPh1 ²	17393	-8.12 -8.12								
l		FuturePh2 ³	17376						2.66		630.01	0.07
		FuturePh3 ⁴	17376									
	110123	i atarei iio	11313	-0.12	30.03	3.13	30.93	0.000042	2.00	9500.20	029.90	0.07
1		1		l	I	l		1	1	l		l



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	114890.5	Existing ¹	17393	-8.56	36.82	4.81	36.93	0.00005	2.8	11632.13	1285.02	0.08
		PropPh1 ²	17361	-8.56			36.9	0.00005	2.79	11604.9	1282.08	0.08
		FuturePh2 ³	17376	-8.56			36.91	0.00005	2.8		1283.43	0.08
	114890.5	FuturePh3 ⁴	17375	-8.56	36.8	4.81	36.91	0.00005	2.8	11616.91	1283.38	0.08
	114864.5		Bridge									
	114004.0		Dilago									
	114838.5		17393	-9.27	36.78		36.88	0.000047	2.73			0.08
		PropPh1 ²	17361	-9.27	36.75		36.86	0.000046	2.73		1367.41	0.08
		FuturePh2 ³ FuturePh3 ⁴	17376 17375	-9.27	36.76 36.76		36.87 36.87	0.000047 0.000047	2.73 2.73		1368.76 1368.71	0.08
	114636.5	FuturePh3	1/3/3	-9.27	30.70	4.1	30.67	0.000047	2.13	12431.01	1300.71	0.06
	114492	Existing ¹	17393	-10.48	36.76		36.86	0.000053	2.75	9916.67	931	0.08
	114492	PropPh1 ²	17361	-10.48	36.73		36.84	0.000053	2.75	9895.3	927.4	0.08
		FuturePh2 ³	17376	-10.48			36.85	0.000053	2.75	9905.11	929.05	0.08
	114492	FuturePh3 ⁴	17375	-10.48	36.74		36.85	0.000053	2.75	9904.72	928.99	0.08
	114195.9	Existing ¹	17393	-11.52	36.75	5.13	36.84	0.000046	2.62	8907.06	800.48	0.08
	114195.9	PropPh1 ²	17361	-11.52	36.72	5.11	36.82	0.000046	2.61		796.45	0.08
	114195.9	FuturePh2 ³	17376	-11.52			36.83	0.000046	2.62			0.08
		FuturePh3 ⁴	17375	-11.52			36.83	0.000046	2.62		798.23	0.08
	114168.9		Bridge									
	114141.9		17393	-10.83	36.63	5.81	36.73	0.000051	2.69			0.08
		PropPh1 ²	17361	-10.83	36.6			0.000051	2.69		588.54	0.08
		FuturePh2 ³	17376	-10.83	36.61	5.8	36.72	0.000051	2.69		592.47	0.08
	114141.9	FuturePh3 ⁴	17375	-10.83	36.61	5.8	36.72	0.000051	2.69	8319.58	592.31	0.08
	114097.4	Existing ¹	17393	-7.46	36.64	6.54	36.71	0.00004	2.36	10128.26	969.03	0.07
7		PropPh1 ²	17361	-7.46		6.53	36.69	0.00004	2.36		964.73	0.07
00		FuturePh2 ³	17376	-7.46			36.7	0.00004	2.36		966.71	0.07
1PCT_100yr		FuturePh3 ⁴	17375	-7.46			36.7	0.00004	2.36		966.63	0.07
1PC	114070.4		Bridge									
			J									
	114043.4		17393	-7.72	36.57	6.25	36.64	0.000039	2.34		1002.99	0.07
		PropPh1 ²	17361	-7.72			36.62	0.000039	2.34		998.6	0.07
		FuturePh2 ³	17376	-7.72	36.55		36.63	0.000039	2.34			0.07
	114043.4	FuturePh3 ⁴	17375	-7.72	36.55	6.24	36.63	0.000039	2.34	10299.81	1000.54	0.07
	113644	Existing ¹	17393	-8.91	36.51		36.61	0.000062	2.7	9504.64	628.59	0.09
		PropPh1 ²	17361	-8.91	36.48		36.59		2.7			0.09
		FuturePh2 ³	17376	-8.91	36.49		36.6		2.7			
		FuturePh3 ⁴	17375	-8.91	36.49		36.6		2.7			0.09
	113411.6		17393	-9.61	36.49		36.6					0.08
		PropPh1 ²	17361	-9.61	36.47							0.08
		FuturePh2 ³	17376	-9.61	36.48						563.33	
	113411.6	FuturePh3 ⁴	17375	-9.61	36.48	3.67	36.59	0.000046	2.77	6810.43	563.32	0.08
	113374.3		Bridge									
	142227	Existing ¹	47202	0.65	26.25	2.62	26.40	0.000040	0.70	6793.97	560.27	0.00
		Existing ¹ PropPh1 ²	17393 17361	-9.65 -9.65			36.46 36.43					0.08
		FuturePh2 ³	17361	-9.65 -9.65								0.08
	113337	FuturePh3 ⁴	17376	-9.65 -9.65			36.45				559.82	0.08
	1.0007	. staror no	11010	3.50	55.55	0.02	30.40	5.5555-40	2.70	3731.32	300.02	0.00
	113266.4		17393	-9.11	36.25				3.55			0.11
		PropPh1 ²	17361	-9.11	36.23		36.41	0.000089	3.55			0.11
		FuturePh2 ³	17376	-9.11	36.24		36.42		3.55			0.11
	113266.4	FuturePh3 ⁴	17375	-9.11	36.24	6.92	36.42	0.000089	3.55	6889.68	492.06	0.11
	113238.6		Bridge									
	· · · · · · · · · · · · · · · · · · ·	 	Zilago		-	 	 			 	-	



Profile	River Sta	Plan	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S.	E.G. Elev	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
	113210.8	Existing ¹	17393	-9.46	36.18	6.57	36.36	0.000087	3.52	7041.37	583.09	0.1
		PropPh1 ²	17361	-9.46	36.15	6.56			3.51		568.79	
		FuturePh2 ³	17376	-9.46	36.17	6.56			3.52	7034.13	575.35	0.1
	113210.8	FuturePh3 ⁴	17375	-9.46	36.17	6.56	36.34	0.000087	3.52	7033.9	575.1	0.1
	112974	Existing ¹	17393	-10.69	36.15	6	36.33	0.000101	3.49	5881.96	266.25	0.11
		PropPh1 ²	17361	-10.69	36.13	5.98		0.000101	3.49		265.15	
		FuturePh2 ³	17376	-10.69		5.99		0.000101	3.49		265.63	0.11
		FuturePh3 ⁴	17375	-10.69	36.14	5.99		0.000101	3.49		265.62	0.11
	112944.9		Bridge									
	112915.8	Existing ¹	17393	-10.82	36.09	5.86	36.27	0.0001	3.49	5900.42	269.42	0.1
		PropPh1 ²	17361	-10.82		5.85			3.48		268.34	0.1
		FuturePh2 ³	17376	-10.82	36.08	5.85		0.0001	3.48		268.81	0.1
		FuturePh3 ⁴	17375	-10.82	36.08	5.85			3.48		268.8	0.1
	112575.5	Existing ¹	17393	-9.2	36.09	7.47	36.22	0.000076	3.13	9236.1	939.52	0.09
	112575.5	PropPh1 ²	17361	-9.2	36.06	7.46	36.2	0.000076	3.13	9214	937.92	0.09
	112575.5	FuturePh2 ³	17376	-9.2	36.07	7.46	36.21	0.000076	3.13	9223.72	938.63	0.09
	112575.5	FuturePh3⁴	17375	-9.2	36.07	7.47	36.21	0.000076	3.13	9223.36	938.6	0.09
	112534.5		Bridge									
	1101005	e	47000	0.47	20.00	7.0	00.45	0.00074	0.44	0.400.00	050.00	
	112493.5		17393	-9.47	36.02	7.2		0.000074	3.11		953.08	0.09
		PropPh1 ²	17361	-9.47	35.99	7.19		0.000074	3.11	9403.57	951.48	
		FuturePh2 ³	17376	-9.47	36	7.2			3.11	9413.47	952.18	
	112493.5	FuturePh3 ⁴	17375	-9.47	36	7.19	36.14	0.000074	3.11	9413.11	952.16	0.09
	112003.3	Existing ¹	17393	-9.69	36.01	4.74	36.1	0.000042	2.49	8807.88	481.2	0.07
₹	112003.3	PropPh1 ²	17361	-9.69	35.99	4.72	36.08	0.000042	2.49	8796.52	480.46	0.07
100	112003.3	FuturePh2 ³	17376	-9.69	36	4.73	36.09	0.000042	2.49	8801.52	480.79	0.07
1PCT_100yr	112003.3	FuturePh3 ⁴	17375	-9.69	36	4.72	36.09	0.000042	2.49	8801.33	480.78	0.07
1PC	111953.3		Bridge									
	111903.3	Evicting ¹	17393	-9.84	35.93	4.58	36.02	0.000042	2.49	8841.75	483.39	0.07
		PropPh1 ²	17361	-9.84	35.91	4.57	36	0.000042	2.48		482.65	
		FuturePh2 ³	17376	-9.84	35.92	4.57	36.01	0.000042	2.48		482.98	0.07
		FuturePh3 ⁴	17375	-9.84	35.92	4.57	36.01	0.000042	2.48		482.96	0.07
	111000.0	- utaror no		0.01	00.02		00.01	0.000012	2:10	5555.12	102.00	0.01
	111853.5	Existing ¹	17393	-9.86	35.92	4.69	36.02	0.000039	2.46	8122.19	478.2	0.07
	111853.5	PropPh1 ²	17361	-9.86	35.9	4.68	35.99	0.000039	2.46	8110.83	477.46	0.07
	111853.5	FuturePh2 ³	17376	-9.86	35.91	4.68	36	0.000039	2.46	8115.82	477.78	0.07
	111853.5	FuturePh3 ⁴	17375	-9.86	35.91	4.68	36	0.000039	2.46	8115.64	477.77	0.07
	111818.6		Bridge									
	444702.7	Eviating 1	47202	0.07	25.00	F 07	25.00	0.000044	2.55	7540.00	400.75	0.00
	111783.7	PropPh1 ²	17393	-8.67	35.86 35.84	5.87 5.86			2.55 2.55		429.75 428.44	
			17361	-8.67								0.08
		FuturePh2 ³ FuturePh3 ⁴	17376 17375	-8.67 -8.67	35.85 35.85	5.87 5.87	35.95 35.95		2.55 2.55		429.02 429	0.08 0.08
	111100.1	i diui Gi IIO	1/3/5	-0.07	30.60	5.67	30.90	0.000044	2.00	1043.13	429	0.08
	111626.7		17393	-11.83	35.83	4.88	35.95	0.000056	2.83	8429.75	574.53	0.08
		PropPh1 ²	17361	-11.83	35.81	4.86					571.23	
		FuturePh2 ³	17376	-11.83	35.82	4.87	35.94	0.000056	2.82	8422.14	572.68	0.08
	111626.7	FuturePh3 ⁴	17375	-11.83	35.82	4.87	35.93	0.000056	2.82	8421.92	572.63	0.08
	111518.6		Bridge									
	111410.5	Existing ¹	17393	-11.23	35.67	5.42	35.79	0.00006	2.89	8018.83	517.83	0.09
		PropPh1 ²	17393	-11.23		5.42					516.75	
		FuturePh2 ³	17376				35.77				517.22	
		FuturePh3 ⁴	17375				35.78					0.08
	1114105		17.570		מחכר. ו	1 541	37 /8	I DUDUUM	2.89	ווט א	517.21	t uua



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	110876.6	Existing ¹	17393	-10.43	35.66	2.4	35.75	0.000038	2.61	14187.62	1377.45	0.07
		PropPh1 ²	17361	-10.43		2.39					1375.98	0.07
		FuturePh2 ³	17376	-10.43		2.39					1376.62	0.07
		FuturePh3⁴	17375	-10.43		2.4	35.73		2.61	14168.87	1376.6	
	110837.8		Bridge									
		Existing ¹	17393	-10.72		2.1	35.71	0.000037	2.58		1393.35	0.07
		PropPh1 ²	17361	-10.72		2.09	35.69		2.58		1391.89	0.07
		FuturePh2 ³	17376	-10.72		2.09		0.000037	2.58		1392.53	0.07
	110799	FuturePh3⁴	17375	-10.72	35.61	2.09	35.7	0.000037	2.58	14523.17	1392.51	0.07
	110672.7	Existing '	17393	-13.25		2.5		0.000045			1341.78	
		PropPh1 ²	17361	-13.25		2.48	35.68				1340.88	
	110672.7	FuturePh2 ³	17376	-13.25		2.49					1341.27	0.07
	110672.7	FuturePh3 ⁴	17375	-13.25	35.61	2.48	35.69	0.000045	2.56	15689.84	1341.26	0.07
	1100107		Dill									
	110643.7		Bridge									
	110614.7	Existing ¹	17393	-12.75	35.6	2.99	35.69	0.000048	2.62	15014.15	1321.89	0.08
		PropPh1 ²										
		FuturePh2 ³	17361 17376	-12.75 -12.75		2.98 2.98					1320.98 1321.38	
		FuturePh3 ⁴										
	110614.7	FuturePn3	17375	-12.75	35.59	2.98	35.68	0.000048	2.62	14996.07	1321.37	0.08
	110200.2	Evicting ¹	59250	-9.11	34.35	14.71	35.33	0.000539	8.83	11065.68	566.44	0.26
	110200.2	PropPh1 ²	59189	-9.11 -9.11		14.71					566.06	
	110200.2	FuturePh2 ³	59216	-9.11 -9.11	34.33	14.71	35.32				566.22	0.26
		FuturePh3 ⁴	59215	-9.11 -9.11	34.34	14.71	35.32				566.22	0.26
	110200.2	ruluieriis	392 13	-9.11	34.34	14.71	30.32	0.000539	0.03	11006.12	300.22	0.26
	110154.2		Bridge									
	110104.2		Blidge									
충	110108.2	Existing ¹	59250	-9.31	33.9	14.51	34.9	0.000554	8.91	10928.22	562.46	0.27
1PCT_100yr		PropPh1 ²	59189	-9.31	33.88	14.51	34.88		8.91		562.09	
F		FuturePh2 ³	59216	-9.31	33.89	14.51	34.89		8.91	10921	562.25	0.27
8		FuturePh3 ⁴	59215	-9.31		14.51	34.89		8.91	10920.8	562.25	0.27
_	110100.2	r didi or no	552,10	0.01	00.00	11.01	0 1.00	0.000001	0.01	10020.0	002.20	0.21
	109551.7	Existing ¹	59250	-14.28	33.69	10.42	34.59	0.000403	7.99	9820.34	366.02	0.23
		PropPh1 ²	59189	-14.28		10.4						0.23
		FuturePh2 ³	59216	-14.28		10.41	34.57	0.000403	7.99	9815.57	365.97	0.23
		FuturePh3⁴	59215	-14.28		10.41	34.57		7.99		365.97	0.23
	109518.7		Bridge									
	109485.7		59250	-15.31		9.39	33.74	0.000396	7.95		366.74	0.23
	109485.7	PropPh1 ²	59189	-15.31		9.37	33.71	0.000396	7.95		366.66	
1		FuturePh2 ³	59216			9.38						0.23
1	109485.7	FuturePh3 ⁴	59215	-15.31	32.84	9.38	33.72	0.000396	7.95	9885.43	366.69	0.23
1												
1	109440.2		59250			9.25						
	109440.2	PropPh1 ²	59189			9.23						
		FuturePh2 ³	59216			9.24						
	109440.2	FuturePh3 ⁴	59215	-16.48	32.54	9.24	33.64	0.000473	8.9	9186.04	332.72	0.25
	109395.2		Bridge									
	400050.0	F: - #::1	50050	40.00	24.02	0.04	20.05	0.000407	0.00	0005.00	220.07	0.05
1	109350.2	EXISTING Drap Db12	59250	-16.89		8.84			8.98			0.25
1		PropPh1 ²	59189	-16.89		8.82			8.98		332.24	
1		FuturePh2 ³	59216			8.83						
	109350.2	FuturePh3 ⁴	59215	-16.89	31.82	8.83	32.94	0.000487	8.98	9081.29	332.26	0.25
	100110	Eviating 1	50050	4744	04.70	40.00	20.0	0.000500	0.00	7070 75	500.07	0.05
		Existing ¹	59250									
1		PropPh1 ²	59189			10.82					502.47	
1		FuturePh2 ³	59216			10.82						
	109119	FuturePh3 ⁴	59215	-17.14	31.72	10.82	32.79	0.000566	8.86	7972.38	502.68	0.25
	100102.1		Dridge									
	109103.1		Bridge	l	I		<u> </u>	<u> </u>	l	i .		



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
		1										
	109087.2		59250			10.52	32.53	0.000555			506.73	
		PropPh1 ²	59189	-17.55	31.46	10.51	32.51	0.000556				
		FuturePh2 ³	59216		31.47	10.52	32.52					
	109087.2	FuturePh3 ⁴	59215	-17.55	31.47	10.52	32.52	0.000555	8.8	8030.25	506.45	0.25
	108565.3	Existing ¹	59250	-12.77	31.37	8.21	32.15	0.000401	7.14	9686.57	546.88	0.22
	108565.3	PropPh1 ²	59189		31.35	8.2	32.13		7.14		546.56	
		FuturePh2 ³	59216		31.36	8.2	32.14		7.14			
		FuturePh3 ⁴	59215	-12.77	31.36	8.2	32.14	0.000401	7.14			0.22
		,										
		Existing ¹	59250	-14.06			32.03	0.00034	6.65			
		PropPh1 ²	59189	-14.06	31.34		32.01	0.00034	6.65		839.94	
		FuturePh2 ³	59216	-14.06			32.02		6.65			
	108334	FuturePh3 ⁴	59215	-14.06	31.35		32.02	0.00034	6.65	12197.26	840.22	0.21
	107179.4	Evieting ¹	59499	-20.52	30.44	5.99	31.42	0.000627	8.07	8971.74	396.54	0.24
		PropPh1 ²	59438	-20.52	30.42	5.97	31.42	0.000627	8.06		396.53	
		FuturePh2 ³	59465	-20.52	30.42	5.98	31.41	0.000627	8.06			
		FuturePh3 ⁴	59464	-20.52	30.43	5.98	31.41	0.000627	8.06		396.53	
	107 17 0.4	T dtdl of 110	00404	20.02	00.40	0.00	01.41	0.000021	0.00	0007.02	000.00	0.24
	107158.9		Bridge									
		,										
	107138.4	Existing ¹	59499	-20.19		6.31	31.24		8.21		396.31	0.25
		PropPh1 ²	59438	-20.19		6.3	31.22	0.000664	8.21			
		FuturePh2 ³	59465	-20.19		6.3	31.23		8.21			
	107138.4	FuturePh3⁴	59464	-20.19	30.21	6.3	31.23	0.000664	8.21	8750.32	396.3	0.25
	106504	Existing ¹	59499	-16.7	30.04	5.23	30.89	0.000378	7.41	8518.04	278.16	0.22
		PropPh1 ²	59438	-16.7	30.04	5.23	30.87	0.000378				
		FuturePh2 ³	59465	-16.7	30.02	5.22	30.87	0.000378		8515.06		
Š		FuturePh3 ⁴	59464	-16.7	30.03	5.22	30.87	0.000378		8514.97	278.11	
1PCT_100yr	100001	T dtdl of 110	00101	10.1	55.55	0.22	00.01	0.000010	7.11	0011.01	270.11	0.22
5	106151.4	Existing ¹	59499	-13.85	29.63	8.08	30.64	0.000502	8.14	8070.87	291.24	0.25
<u>1</u>	106151.4	PropPh1 ²	59438	-13.85	29.61	8.07	30.62	0.000502	8.13	8065.3	291.15	0.25
		FuturePh2 ³	59465	-13.85	29.62	8.07	30.63	0.000502	8.13	8067.77	291.19	
	106151.4	FuturePh3⁴	59464	-13.85	29.62	8.07	30.63	0.000502	8.13	8067.69	291.19	0.25
	106131.1		Deidera									
	106131.1		Bridge									-
	106110.8	Existing ¹	59499	-12.53	29.37	9.4	30.5	0.000583	8.55	7618.3	283.68	0.27
		PropPh1 ²	59438									
		FuturePh2 ³	59465									
		FuturePh3 ⁴	59464	-12.53		9.39	30.48	0.000582	8.55		1	
	105705.4		59499	-18.22	29.29	6.68	30.2				 	
		PropPh1 ²	59438		29.27	6.67	30.18					
		FuturePh2 ³	59465			6.68						
	105705.4	FuturePh3⁴	59464	-18.22	29.27	6.67	30.19	0.000393	7.69	8049.02	340.18	0.25
	105667.4		Bridge									-
	100007.4		Dilago									
	105629.4		59499	-18.43	28.97	6.47	29.89		7.71	8017.7	338.9	0.25
		PropPh1 ²	59438						7.71		338.63	
	105629.4	FuturePh2 ³	59465	-18.43	28.96	6.47	29.88	0.000397	7.71	8014.13	338.75	
	105629.4	FuturePh3 ⁴	59464	-18.43	28.96	6.47	29.88	0.000397	7.71	8014.02	338.75	0.25
		Existing ¹	59499	-16.14	28.65	6.95	29.66		8.06			
		PropPh1 ²	59438			6.94	29.64					
		FuturePh2 ³	59465									
	105211	FuturePh3 ⁴	59464	-16.14	28.64	6.95	29.65	0.000627	8.06	7379.48	333.66	0.3
	104608.2	Evicting ¹	59499	-18.46	28.64		29.24	0.00039	6.24	9549.53	483.46	0.24
		PropPh1 ²	59499				29.24	0.00039				
		FuturePh2 ³	59438				29.22					
		FuturePh3 ⁴	59463	-18.46			29.23					
	104008.2	i uturenio	09464	<u>- 18.46</u>	∠ఠ.სპ	<u> </u>	29.23	_I 0.00039	0.24	J 9044.08	<u> 403.13</u>	U.24



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	104370.8		59499	-19.99			29	0.000446			491.01	0.27
		PropPh1 ²	59438	-19.99	27.91	9.48	28.98	0.000446	9.14		490.94	
		FuturePh2 ³	59465	-19.99	27.92	9.49	28.99	0.000446				
	104370.8	FuturePh3 ⁴	59464	-19.99	27.92	9.49	28.99	0.000446	9.15	10163.04	490.97	0.27
	104350		Bridge									
	104329.2		59499	-20.2		9.29	27.97	0.000496	9.48		487.5	
		PropPh1 ²	59438	-20.2	26.79		27.96	0.000496		9715.02	487.43	
		FuturePh2 ³	59465	-20.2			27.96	0.000496				
	104329.2	FuturePh3 ⁴	59464	-20.2	26.8	9.28	27.96	0.000496	9.48	9718.85	487.46	0.28
	103664	Existing ¹	59499	-23.03	24.18		26.97	0.001364	14.86	6732.44	682.19	0.42
		PropPh1 ²	59438	-23.03	24.16		26.95	0.001365	14.86			
		FuturePh2 ³	59465	-23.03	24.16		26.96	0.001365			680.9	
		FuturePh3 ⁴	59464	-23.03			26.96	0.001365			680.87	
	102875.3		59499	-26.39	23.94	10.35	25.64	0.000815		7688.27	382.31	0.33
		PropPh1 ²	59438	-26.39		10.33	25.62	0.000815		7680.85	382.19	
		FuturePh2 ³	59465	-26.39		10.34	25.63	0.000815		7684.17	382.24	
	102875.3	FuturePh3 ⁴	59464	-26.39	23.93	10.34	25.63	0.000815	12.1	7684.05	382.24	0.33
	102847.5		Bridge									
	102047.0		Bridge									
	102819.7	Existing ¹	59499	-26.43	22.69	10.28	24.61	0.000943	12.76	7230.29	375.03	0.35
	102819.7	PropPh1 ²	59438	-26.43	22.68	10.26	24.6	0.000943	12.76	7223.77	374.94	0.35
		FuturePh2 ³	59465	-26.43	22.68	10.27	24.61	0.000943	12.76	7226.69	374.98	0.35
	102819.7	FuturePh3 ⁴	59464	-26.43	22.68	10.27	24.6	0.000943	12.76	7226.59	374.98	0.35
	400000	- · · · 1	50.400	20.40				0.00007	0.4	707400	200.44	
⊢		Existing ¹	59499	-23.48			23.88	0.000367	8.1	7374.99	223.14	
6		PropPh1 ² FuturePh2 ³	59438	-23.48 -23.48	22.84 22.85		23.86 23.87	0.000367	8.1 8.1	7371.19 7372.9		
1PCT_100yr		FuturePh3 ⁴	59465 59464	-23.48 -23.48			23.87	0.000367 0.000367	8.1		223.12 223.12	
2	102303	i didiei iio	33404	-20.40	22.00		25.01	0.000307	0.1	1312.04	220.12	0.24
_	101828	Existing ¹	59499	-20.7	22.38	3.45	23.61	0.000508	8.91	6973.04	298.05	0.28
	101828	PropPh1 ²	59438	-20.7	22.36		23.59		8.91		297.84	
	101828	FuturePh2 ³	59465	-20.7	22.37	3.44	23.6	0.000507	8.91	6970.27	297.93	0.28
	101828	FuturePh3 ⁴	59464	-20.7	22.37	3.44	23.6	0.000507	8.91	6970.19	297.93	0.28
	404700 4		Deidera									
	101790.1		Bridge									-
	101752.2	Fxisting ¹	59499	-20.69	22.17	3.45	23.41	0.00052	8.98	6906.28	295.24	0.29
		PropPh1 ²	59438					0.00052				
		FuturePh2 ³	59465				23.4		8.98			
1		FuturePh3 ⁴	59464	-20.69			23.4				295.12	
		-										
1	101007.3	Existing ¹	59499				22.91	0.000457	7.87			
		PropPh1 ²	59438	-16.93			22.89		7.87			
		FuturePh2 ³	59465				22.9					
1	101007.3	FuturePh3 ⁴	59464	-16.93	21.94		22.9	0.000457	7.87	7557.33	277.39	0.27
1	99992.6	Existing ¹	60210	-18.9	21.29		22.39	0.000548	8.39	7173.94	266.17	0.28
		PropPh1 ²	60150				22.37	0.000548				
		FuturePh2 ³	60177	-18.9			22.38					
		FuturePh3 ⁴	60176				22.38					
		Existing ¹	60210				21.51				277.51	
		PropPh1 ²	60150				21.5					
		FuturePh2 ³	60177				21.5					
	98399.4	FuturePh3 ⁴	60176	-20.26	20.47		21.5	0.000525	8.14	7388.59	277.47	0.28
	07517.4	Evicting ¹	60240	10.25	20.40		24.00	0.000244	6 22	0500 44	210.00	0.0
	97517.4	PropPh1 ²	60210 60150				21.09 21.07					
		FuturePh2 ³	60177	-19.35 -19.35			21.07					
		FuturePh3 ⁴	60177				21.08					



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)		(ft)	
		1										
		Existing ¹	60210		19.54	1.31	20.5	0.000436		7809.9	311.2	
		PropPh1 ² FuturePh2 ³	60150 60177	-17.81 -17.81	19.52 19.53	1.3 1.31	20.49 20.49	0.000436 0.000436		7804.83 7807.11	311.15 311.17	
		FuturePh3 ⁴	60177		19.53	1.31	20.49			7807.11	311.17	0.26
	30020.0	r uturer 115	00170	-17.01	19.00	1.01	20.43	0.000430	1.31	7007.03	311.17	0.20
	95985.1		Bridge									
		1										
		Existing ¹ PropPh1 ²	60210		19.37	1.24	20.35	0.000441	7.94 7.94	7776.85 7771.8	310.87	0.26
		FuturePh2 ³	60150 60177		19.35 19.36	1.23 1.24	20.33 20.34	0.000441 0.000441	7.94	7774.06	310.82 310.85	0.26 0.26
		FuturePh3 ⁴	60176		19.36	1.24	20.34	0.000441	7.94	7773.98	310.84	0.26
	00011.0	T GLGT TIO	00110	17.07	10.00		20.01	0.000111	7.01	1110.00	010.01	5.25
		Existing ¹	60210	-15.97	19.21		20.01	0.000415	7.14	8432.15	344.5	0.25
		PropPh1 ²	60150		19.2		19.99	0.000415			344.43	0.25
		FuturePh2 ³	60177	-15.97	19.2		20	0.000415			344.46	
	95362.9	FuturePh3 ⁴	60176	-15.97	19.2		20	0.000415	7.14	8428.95	344.46	0.25
	94280.7	Existing ¹	60545	-19.82	17.82		19.33	0.000793	9.86	6314.94	281.56	0.34
	94280.7	PropPh1 ²	60485	-19.82			19.31	0.000792	9.86		281.45	
		FuturePh2 ³	60512	-19.82	17.81		19.32	0.000793	9.86	6312.51	281.5	
		FuturePh3 ⁴	60511	-19.82			19.32	0.000793	9.86		281.5	0.34
		Existing ¹	60545				18.63	0.000554	7.62	7946.5	363.89	0.29
		PropPh1 ²	60485				18.61	0.000554	7.62	7940.63	363.7	0.29
		FuturePh2 ³	60512	-20.43			18.62	0.000554	7.62	7943.26	363.79	
	93495.6	FuturePh3 ⁴	60511	-20.43	17.72		18.62	0.000554	7.62	7943.17	363.79	0.29
	92795.6	Existing ¹	60674	-20.98	17.24	-1.36	18.22	0.000537	7.95	7632.67	317.73	0.29
		PropPh1 ²	60614	-20.98		-1.37	18.21	0.000537	7.95		317.6	
L .		FuturePh23	60641	-20.98	17.23	-1.37	18.22	0.000537	7.95	7629.88	317.66	
ò	92795.6	FuturePh3 ⁴	60640	-20.98	17.23	-1.37	18.22	0.000537	7.95	7629.8	317.66	0.29
	92741.1		Dridge									
1PCT_100yr	92741.1		Bridge									
_	92686.6	Existing ¹	60674	-21.08	16.99	-1.46	17.98	0.000548	8	7583.07	316.49	0.29
		PropPh1 ²	60614	-21.08		-1.47	17.96	0.000547	8		316.4	0.29
		FuturePh2 ³	60641	-21.08		-1.47	17.97	0.000548			316.44	
	92686.6	FuturePh3 ⁴	60640	-21.08	16.98	-1.47	17.97	0.000548	8	7580.23	316.44	0.29
	000007	F: - #:1	00074	10.01	40.45		40.05	0.000547	7.47	0.400.00	447.50	0.00
		Existing ¹ PropPh1 ²	60674	-18.64			16.95	0.000517	7.17	8482.63	417.52 417.44	0.28 0.28
		FuturePh2 ³	60614 60641				16.94 16.94				417.44	
		FuturePh3 ⁴	60640				16.94	0.000517	7.17		417.48	
	30300.1	T didn't no	00040	10.04	10.14		10.04	0.000017	7.17	047 0.0 1	717.70	0.20
	89918.4	Existing ¹	60900	-17.23	15.13		16.3	0.000728	8.69	7697.78	631.8	0.33
	89918.4	PropPh1 ²	60840				16.28				630.66	
		FuturePh2 ³	60867	-17.23			16.29				631.17	
	89918.4	FuturePh3 ⁴	60866	-17.23	15.13		16.29	0.000728	8.69	7691.87	631.15	0.33
	99570	Existing ¹	60900	-20.97	14.2		15.3	0.000727	8.42	7230.29	353.11	0.33
		PropPh1 ²	60840		14.2		15.3		8.42		352.93	
		FuturePh2 ³	60867	-20.97			15.29				353.01	0.33
		FuturePh3 ⁴	60866				15.29		8.42		353.01	0.33
		Existing ¹	60900				14.66	0.000521	7.89		311.49	
		PropPh1 ²	60840				14.64		7.89			
		FuturePh2 ³	60867	-23.72			14.65		7.89			
	87591.9	FuturePh3 ⁴	60866	-23.72	13.68		14.65	0.000521	7.89	7711.37	311.47	0.28
	86660.2	Existing ¹	60900	-23.42	13.36	-6.42	14.19	0.000364	7.29	8414.51	311.38	0.24
		PropPh1 ²	60840				14.17		7.29		311.31	0.24
		FuturePh2 ³	60867	-23.42			14.18		7.29		311.34	
		FuturePh3 ⁴	60866				14.18		7.29		311.34	
	000::=		D									
	86641.7		Bridge									l



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
		,										
	86623.2		60900	-23.61	12.93	-6.62	13.77	0.000374	7.35			
		PropPh1 ²	60840	-23.61	12.91	-6.63	13.75		7.35		310.34	
		FuturePh2 ³	60867	-23.61	12.92	-6.62	13.76		7.35		310.37	
	86623.2	FuturePh3 ⁴	60866	-23.61	12.92	-6.62	13.76	0.000374	7.35	8336.73	310.37	0.24
	05055.0	Eviating 1	60900	26.04	11.2		12.02	0.000971	10.87	5602.89	227.13	0.38
	85855.2	PropPh1 ²	60840	-26.84 -26.84	11.18		13.03 13.02	0.000971	10.87	5599.36		
		FuturePh2 ³	60867	-26.84	11.10		13.02	0.000971	10.87			
		FuturePh3 ⁴	60866	-26.84	11.19		13.03	0.000971	10.87	5600.89	226.84	
	00000.2	1 didier 113	00000	-20.04	11.19		13.02	0.000371	10.07	3000.03	220.04	0.30
	85238.7	Existing ¹	60900	-29.43	10.92		12.42	0.000733	9.88	6628.34	352.21	0.33
	85238.7	PropPh1 ²	60840	-29.43	10.9		12.4	0.000733	9.87		352	
	85238.7	FuturePh2 ³	60867	-29.43	10.91		12.41	0.000733		6625.3	352.1	0.33
	85238.7	FuturePh3 ⁴	60866	-29.43	10.91		12.41	0.000733	9.87	6625.21	352.09	
	84561.7		60900	-32.27	10.61	-8.81	11.87	0.000546	9.03		423.03	
	84561.7	PropPh1 ²	60840	-32.27	10.6	-8.82	11.85	0.000546	9.03		422.62	
		FuturePh2 ³	60867	-32.27	10.6	-8.81	11.86	0.000546			422.81	0.29
	84561.7	FuturePh3 ⁴	60866	-32.27	10.6	-8.81	11.86	0.000546	9.03	7357.69	422.8	0.29
	04504.4		Drides									
	84531.4		Bridge									-
1	84501.1	Existing ¹	60900	-28.97	9.98	-5.52	11.69	0.000875	10.48	5924.49	305.55	0.36
	84501.1	PropPh1 ²	60840	-28.97	9.97	-5.53	11.67	0.000875			305.22	
		FuturePh2 ³	60867	-28.97	9.98	-5.52	11.68					
		FuturePh3 ⁴	60866	-28.97	9.98	-5.52	11.68	0.000875			305.36	
	0.100	T dtdl of 110	00000	20.01	0.00	0.02	11.00	0.000010	10.10	0021.00	000.00	0.00
	84252.6	Existing ¹	60900	-26.9	9.93	-5.58	11.35	0.000709	9.55	6555.97	446.68	0.33
		PropPh1 ²	60840	-26.9	9.92	-5.59	11.33				444.74	
Ι.	84252.6	FuturePh2 ³	60867	-26.9	9.93	-5.59	11.34	0.000709			445.61	0.33
Įδ	84252.6	FuturePh3 ⁴	60866	-26.9	9.93	-5.59	11.34	0.000709	9.54	6552.08	445.58	
5												
1PCT_100yr	84222.3		Bridge									ļ
₽	0.4400	Fuinting 1	00000	04.4	0.00	0.70	44.45	0.004404	44.00	550400	040.00	0.44
		Existing ¹	60900	-24.1	9.26	-2.79	11.15		11.02		242.02	
		PropPh1 ²	60840	-24.1	9.25	-2.8	11.13		11.02			
		FuturePh2 ³ FuturePh3 ⁴	60867	-24.1 -24.1	9.25 9.25	-2.8	11.14 11.14		11.02 11.02		241.99	
	04192	ruturerns	60866	-24.1	9.20	-2.8	11.14	0.001124	11.02	3322.13	241.99	0.41
	83635.7	Existing ¹	61411	-21.72	9.13		10.22	0.000822	8.4	7312.48	394.24	0.34
		PropPh1 ²	61351	-21.72			10.21		8.4			
		FuturePh2 ³	61378				10.21		8.4			
		FuturePh3 ⁴	61377	-21.72	9.12		10.21	0.000822	8.4		394.16	
			0.0		02		10.21	0.000022	J	1 555.51	55 11.15	3.5
	81786.1	Existing ¹	61411	-31.97	7.86		8.87	0.000634	8.05	7626.16	358.33	0.31
	81786.1	PropPh1 ²	61351	-31.97	7.84		8.85		8.05		358.26	
		FuturePh2 ³	61378	-31.97			8.86		8.05	7623		0.31
	81786.1	FuturePh3 ⁴	61377	-31.97	7.85		8.86	0.000634	8.05	7622.91	358.29	0.31
		-										
	80903.1		61636				8.27	0.00049				
		PropPh1 ²	61576		7.46						408.81	
		FuturePh2 ³	61603	-27.77	7.47	-8.99	8.26				408.84	
	80903.1	FuturePh3 ⁴	61602	-27.77	7.47	-8.99	8.26	0.00049	7.12	8665.7	408.84	0.27
	80883.1		Bridge									
	00000.1		blidge									
	80863.1	Existing ¹	61636	-28.1	6.93	-9.32	7.73	0.000506	7.2	8580.03	407.83	0.27
	80863.1	PropPh1 ²	61576		6.91	-9.33	7.72					
		FuturePh2 ³	61603		6.92							
		FuturePh3 ⁴	61602	-28.1	6.92	-9.32	7.72					
		Existing ¹	61636	-33.12	7.09	-17.01	7.41	0.00015	4.58	13471.92	521.38	0.16
		PropPh1 ²	61576			-17.02	7.4					
I	80538	FuturePh2 ³	61603	-33.12	7.08							
l		FuturePh3 ⁴	61602	-33.12								



Profile	River Sta	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
	Existing Conditions ¹ : Model includes FEMA Effective geometry data with the Existing Conditions HMS model flows.											
	PropPh1 ² : Model includes FEMA Effective geometry data with the Proposed Phase 1 (Pond-Only) HMS model flows.											
	FuturePh2 ³ : Model includes FEMA Effective geometry data with the Future Phase 2 (Channel Impvs) HMS model flows.											
	FuturePh3 ⁴ : Model includes FEMA Effective geometry data with the Future Phase 3 (Storm Sew Impvs) HMS model flows.											



	DETENTIO	N BASIN STO	DRAGE SU	IMMARY
CONTOUR		VOLUME	VOLUME	
ELEVATION	AREA (SF)	(CF)	(AC-FT)	DESCRIPTION
65.03	0	0	0.0	Outfall Elevation
65.50	5,457	1,100	0.0	
66.00	28,425	9,571	0.2	
66.50	121,208	46,979	1.1	
67.00	183,706	123,208	2.8	
67.50	187,809	216,086	5.0	
68.00	191,252	310,852	7.1	
68.50	194,718	407,344	9.4	
69.00	198,226	505,580	11.6	
69.50	201,756	605,575	13.9	
70.00	205,313	707,343	16.2	
70.50	208,920	810,901	18.6	
70.63	209,865	838,297	19.2	Prop 10-Year WSEL
71.00	212,556	916,270	21.0	
71.50	216,208	1,023,461	23.5	
72.00	219,908	1,132,490	26.0	
72.50	225,387	1,243,813	28.6	
73.00	233,812	1,358,613	31.2	
73.50	237,767	1,476,507	33.9	
74.00	241,774	1,596,393	36.6	
74.50	245,805	1,718,287	39.4	
75.00	249,881	1,842,209	42.3	
75.36	252,849	1,932,908	44.4	Prop 100-Year WSEL
75.50	254,004	1,968,180	45.2	
76.00	258,172	2,096,224	48.1	
76.50	262,386	2,226,363	51.1	Top of Bank



Step 1: Commitment for future Witte construction

- 1A: Reconstruction on Witte will add additional impervious area, so detention must be provided.
- 1B: From the PER plans for Witte Road, the proposed design includes 2.63 Ac of existing impervious area (Aie) and 2.90 Ac of proposed impervious area (Aip).
- 1C: Per revised City of Houston standards, detention must be provided at a rate of V = 43560*0.5(A_{ip} A_{ie}) + 1815*(A_{ie})

	Results	
Exist Area:	2.6	Ac
Prop Area:	2.9	Ac
Volume:	0.2	Ac-ft

Step 2: Commitment for future Gessner construction

2A: To address the excessive ponding issue on Gessner, the roadway profile will be raised,

but the WSEL along Gessner will remain largely the same.

- 2B: Use Infoworks to quantify the existing 100-year inundation depths for Gessner Road between IH-10 and Long Point Road.
- 2C: Use GIS to sum the existing inundation volume (inundation depth times mesh element area)
 2D: Asssume that the roadway profile uniformly increases by 6" while the water surface elevations do not increase/decrease.
 2E: Use GIS to total the proposed inundation volume (inundation depth minus 6" times the mesh element area)
- 2F: Tabulate the results

	Results	
Exist Vol:	5.7	Ac-ft
Prop Vol:	3.2	Ac-ft
Difference:	2.4	Ac-ft

- 2G: Reconstruction on Witte will add additional impervious area, so detention must be provided.
- 2H: From the PER plans for Witte Road, the proposed design includes 2.63 Ac of existing impervious area (Aie) and 2.90 Ac of proposed
- 21: Per revised City of Houston standards, detention must be provided at a rate of V = 43560*0.5(A_{ip} A_{ie}) + 1815*(A_{ie})

	Results	
Exist Area:	7.1	Ac
Prop Area:	7.7	Ac
Volume:	0.6	Ac-ft

Step 3: Commitment for future redevelopment at the Prop Basin site

- 3A: Development south of the pond will add additional impervious area.
- 3B: Delineate the existing impervious area using aerial imagery within basin site
- 3C: Delineate the prop impervious area, assuming full development
- 3D: Subtract the existing impervious area from the proposed to get the additional impervious area.
- 3E: Assume each acre of extra impervious will require 0.55 acre-feet of detention.

	Results	
Exist Area:	4.3	Ac
Prop Area:	6.8	Ac
Volume:	1.4	Ac-ft

Step 4: Summarize

		Allocation
#	Description	Volume (Ac-ft)
1	Witte Rd	0.2
2	N Gessner Dr	3.0
3	Basin Site	1.4



GEOTECHNICAL INVESTIGATION MEMORIAL CITY REDEVELOPMENT AUTHORITY W140 DETENTION POND HOUSTON, TEXAS

REPORT NO. 1140182101

Reported to:

LOCKWOOD, ANDREWS AND NEWNAM, INC.

Houston, Texas

Submitted by

GEOTEST ENGINEERING, INC.

Houston, Texas

Key Map Nos. 450 X & 490 B



GEOTEST ENGINEERING, INC.

Geotechnical Engineers & Materials Testing

5600 Bintliff Drive

Houston, Texas 77036

Telephone: (713) 266-0588

Fax: (713) 266-2977

Report No. 1140182101 August 19, 2011

Mr. Robert J. Fiederlein, P.E. MCRDA c/o Lockwood, Andrews and Newnam, Inc. 2925 Briarpark Drive, Suite 400 Houston, Texas 77042

Reference:

Geotechnical Investigation

Memorial City Redevelopment Authority

W140 Detention Pond

Houston, Texas

Dear Mr. Fiederlein:

Presented herein is the geotechnical investigation final report for the above-referenced project. A draft report was submitted to you on July 29, 2011. This final report will supercede all previously submitted reports, transmittals, e-mails, etc. for the referenced project. This study was authorized by Notice to Proceed Letter for Task Order No. 864/2 Rev.1 dated June 13, 2011 by accepting our proposal No. 1140294999, dated June 9, 2011.

We appreciate this opportunity to be of service to you. If you have any questions regarding the report, or if we can be of further service to you, please call us.

Sincerely,

GEOTEST ENGINEERING, INC.

TBPE Registration No. F-410

Naresh Kolli

Assistant Project Manager

B. C. 7

Mohan C. Ballagere, P. Vice President

MB\NK\ego

Copies Submitted:

(2 + 1 pdf)

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MOHAN C. BALLAGER

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Backup Calculations

Briar Branch Stormwater Detention Basin Impact Analysis Report (Unit W140-01-00) August 19, 2011

EXECUTIVE SUMMARY

A geotechnical investigation was conducted by Geotest Engineering, Inc. for the design and construction of the proposed W140 Detention Pond for Memorial City Redevelopment Authority in Houston, Texas.

The purpose of this investigation was to explore the subsurface conditions and to develop geotechnical recommendations pertaining to the design and construction of the W140 detention pond. This investigation included drilling and sampling six (6) soil borings to depths ranging from 20 to 30 feet, performing appropriate laboratory tests on selected recovered soil samples, performing engineering analyses and preparing a geotechnical report.

The principal findings and conclusions developed from this investigation are summarized below:

- The location of the project site (per Houston Sheet, Texas Geologic Atlas of Texas) lies within the boundary of Beaumont Formation, which is characterized by clays and sands and minor amounts of cemented material. The type of soils is Addicks-Urban land complex and Gessner-Urban land complex. (Based on United Status Department of Agricultural (USDA), Natural Resources Conservation Service (NRCS) database.
- Based on available information, the nearest known faults are Piney Point Fault
 and Long Point Fault. The Piney Point Fault is located 600 feet south of the
 project site and Long Point Fault is 800 feet north of the project site.
- The subsurface soils as revealed by boring logs GB-1 through GB-6 consists of predominantly cohesive soils to the termination depths of 20 to 30 feet (El. 56.51 ft. to El. 47.42 ft.), except in borings GB-1, GB-5 and GB-6. In boring GB-1, cohesive with intermittent cohesionless soils were encountered to the explored depth of 30 feet. In borings GB-5 and GB-6, the cohesive soils, encountered to

depths of 12 to 21 feet (El. 65.42 ft. to El. 63.76 ft.) below existing grade, were underlain by cohesionless soils to a termination depth of 30 feet. The cohesive soils consist of stiff to hard dark gray, gray, yellowish brown and reddish brown lean clay with sand (CL), sandy lean clay (CL) and fat clay (CH). The cohesionless soils consist of medium dense to very dense gray, brown and yellowish brown silty sand (SM), fine sand with silt (SP-SM), and sandy silt (ML). In all the borings, except GB-3, fill material consisting of stiff to hard sandy lean clay and lean clay with grass roots was encountered within the upper 2 to 5 feet depth (El. 75.42 ft. to El. 81.76 ft.). In boring GB-4, the 2 feet of fill appeared to be random fill consisting of concrete, asphalt, shell and gravel. The cross section of fill material is shown on Figures 3.1 through 3.6 of this report. No fill materials were encountered in boring GB-3. A summary of the on-site fill materials revealed by the borings is also given below:

Boring No.	Depth (Elevation), Feet	Thickness, Feet	Fill Material
GB-1	0-2 (El. 80-El. 76)	4	Lean clay w/grass roots, sand, calcareous nodules and ferrous stains
GB-2	0-5 (El. 80-El. 75)	5	Sandy lean clay w/roots and calcareous nodules
GB-4	0-2 (El. 77-El. 75)	2	Sandy lean clay w/concrete, asphalt, shell, gravel, sand seams and grass roots (possible random fill)
GB-5	0-3 (El., 85-El. 82)	3	Lean clay w/sand, grass roots and calcareous nodules
GB-6	0-2 (El. 77-El. 75)	2	Lean clay w/sand, grass roots and calcareous nodules

• Groundwater was encountered during drilling at depths ranging between 15.3 feet and 24 feet (El. 64.85 ft. and El. 58.61 ft.) in all the borings except in borings GB-3 and GB-4. In borings GB-3 and GB-4, no groundwater was encountered during drilling. The groundwater level measured 24 hours or more, after drilling was completed, ranges from 16.3 to 24.75 feet (El. 60.61 ft. to El. 54.91 ft.). The

August 19, 2011

groundwater level measured on July 14, 2011 in piezometers GB-1P and GB-5P is at 20.9 and 24.75 feet (El. 59.25 ft. and El. 60.06 ft.), respectively.

- All excavation operations should be in accordance with OSHA standards.
- Recommended Stable Slope: Based on the results of slope stability analysis and
 Harris County Flood Control District requirements, the side slope of detention
 pond should be no steeper than 3(H):1(V) entire North and West Bank and
 4(H):1(V) along entire East and South Bank of detention pond.
- Slope Protection and Erosion Control: Due to the presence of the granular/cohesionless soils at and/or near the bottom of the detention pond, it is recommended that at the toe and bottom of the eastern and southern banks of detention pond be covered with low permeability clay liner or Geotextile fabric to prevent erosion. However, additional borings may be required to better determine the horizontal limits of the granular/cohesionless soils. The details of onsite fat clay can be used as clay liner.
- Ground Water Control: For excavations in granular or cohesionless soils, as encountered in soil borings GB-5 and GB-6 between El. 65.4 to El. 47 feet and other areas where water bearing granular or cohesionless soils are encountered during the construction, dewatering may be required to lower and maintain the ground water level at least 5 feet below the level of excavation prior to and during the excavations or other appropriate ground water control method may be used to prevent any sloughing of excavation face and the excavation bottom blow up. The details of groundwater control during excavation are provided in Section 7.0 "Construction Considerations" of this report.

W140 Detention Pond; Houston, Texas

Briar Branch Stormwater Detention Basin Impact Analysis Report (Unit W140-01700) Report No. 1410-21700) August 19, 2011

1.0 INTRODUCTION

1.1 Authorization

The Memorial City Redevelopment Authority, the owner, selected Lockwood, Andrews & Newnam, Inc. (LAN) to provide engineering services for the proposed W140 Detention Pond in Houston, Texas. LAN retained the services of Geotest Engineering, Inc. to provide geotechnical support for the design and construction of the detention pond. This study was authorized by Notice to Proceed Letter for Task Order No. 864/2 Rev. 1 dated June 13, 2011 by accepting our Proposal No. 1140294999 dated June 9, 2011.

1.2 Project Description

The project consists of a W140 detention pond (10 to 11 feet deep) approximately 5.4 acres in surface area and storage volume of 43.1 acre-foot proposed for Memorial City Redevelopment Authority at HCAD property number 0430080000507 in Houston, Texas. The total area of the proposed right of way is approximately 8.2 acres. Based on the provided information, the proposed side slopes calculated as from 3(H):1(V) to 4(H):1(V). The bottom elevation of the detention pond will be at 65 feet and the top of the bank elevation will be at 76 feet. The 100-year flood elevation is at 76.40 feet. A project location map is shown on Figure 1.

1.3 Purpose and Scope of Work

The purposes of this investigation were to evaluate subsurface soil and groundwater conditions at the proposed detention pond site and to develop geotechnical engineering recommendations for the design and construction of the proposed detention pond.

The scope of work for this study included the following:

- drilling and sampling six (6) soil borings to depths ranging from 20 to 30 feet and to determine site soil stratigraphy and soil properties, groundwater levels during and after 24-hour of drilling;
- convert two (2) borings into piezometers for long term groundwater measurements;
- performing appropriate laboratory tests on selected representative soil samples to
 evaluate the engineering properties of soils and to select design soil parameters
 for slope stability analyses;
- performing engineering analyses to develop geotechnical recommendations for the design and construction of the detention pond; and
- preparing a geotechnical engineering report summarizing our findings and recommendations.

5

Briar Branch Stormwater Detention Basin Impact Analysis Report (Unit W140-01-00)

*Report No. 1440-01-00)

August 19, 2011

2.0 SITE EXPLORATION

2.1 Physical Description of Area

The subject of this study is located north of Interstate 10 near its intersection with Bunker Hill Road in Houston, Texas. The project site is approximately 5.4 acre tract, with HCAD property No. 0430080000507 in Houston, Texas.

The proposed detention pond site is generally covered by sparsely located trees within the site. Fill was presented within the project site in north central and south western area. Some of the fill appeared to be random fill consisting of concrete, asphalt, shell and gravel.

2.2 Geology

The geology of Harris County is characterized by two formations. The Beaumont Formation and the Lissie Formation. The Beaumont Formation is located in the southeastern portion of the county and the Lissie Formation is located in the northwest portion of the county.

Both the Beaumont and Lissie formations are part of the fluvial and marine coastal complex resulting from the glacial cycles within the Pleistocene (10,000 years to 2 million years ago)/Holocene (2,500 years to 10,000 years ago) epoch. Seaward the lithologies are primarily dominated by clays, often interspersed with coarser sediments, primarily silts and sands. The clays of the Beaumont formation are overconsolidated and slickensided as a result of exposure to weathering during glacial retrenchment and cyclic wetting and drying. Northern portions of Harris County are under the influence of the drainage systems established by rivers such as the Brazos and the San Jacinto. The lithologic pattern generally includes silt, sand and clay with minor amounts of calcareous nodules and iron oxide. Various mineral impregnations are associated with the lithologies. Primary among these are the ferruginous-iron-based and calcareous minerals, which include calcium carbonate. These minerals impart an acidic or alkaline characteristic to soils.

W140 Detention Pond; Houston, Texas

Briar Branch Stormwater Detention Basin Impact Analysis Report (Unit W140-01-00) August 19, 2011

Based on the Houston sheet, Geologic Atlas of Texas (Bureau of Economic Geology, the University of Texas at Austin, Austin, Texas, 1982), the project site (project area) is located in the Beaumont Formation. The clays and sands of this formation are overconsolidated as a result of desiccation or frequent raising and lowering of the sea level and subsequently the groundwater table. Consequently, clays of this formation have moderate to high shear strength and relatively low compressibility. Sands of the Beaumont Formation are typically very fine and often silty. Further, there is occasional evidence in the Houston area of the occurrence of cemented material (sandstone and siltstone) deposits within the Beaumont Formation. The types of soils are Addicks-Urban Land Complex and Gessner-Urban Land Complex (based on USDA NRCS database).

2.3 Faults

A review of information in the Geotest Library relating to known surface and subsurface geologic faults in the general area of the project sites (project area) were undertaken. The available information consisted of U. S. Geological Survey and NASA maps, open file reports and information contained in our files relating to geologic faults in this area.

Based on available information, the nearest known faults are Piney Point Fault and Long Point Fault. The Piney Point Fault is located approximately 600 feet south of the project site and Long Point Fault is approximately 800 feet north of the project site. However, the approximate fault location with respect to the project site was interpreted based on the desktop information and a Phase I fault study was not within the scope of this study. To further determine the impact of these faults on the proposed detention pond, a Phase I fault study may be required.

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3.0 FIELD EXPLORATION

3.1 General

The subsurface conditions were explored by drilling a total of six (6) soil borings, designated as GB-1 through GB-6. The borings were marked in the field by LAN. The borings GB-1, GB-2, GB-5 and GB-6 were drilled to a depth of 30 feet and borings GB-3 and GB-4 were drilled to a depth of 20 feet. All borings were drilled using a marsh buggy mounted drill rig. The approximate boring locations are shown on Figure 2, Plan of Borings. The survey information of the completed borings was provided to us by LAN.

3.2 Drilling and Sampling Methods

Samples were obtained continuously to a depth of 20-foot depth and 5 foot intervals thereafter. In general, samples of cohesive soils were obtained with a 3-inch diameter thin-walled tube sampler in general accordance with ASTM D 1587. Cohesionless soils were obtained using the Standard Penetration Test (SPT) with a 2-inch split-spoon barrel in general accordance with ASTM D 1586. Each soil sample was removed from the sampler in the field, carefully examined and then logged by an experienced soils technician. Portions of each sample were sealed and packaged for transportation to Geotest's laboratory for further testing. The shear strength of cohesive soil samples was estimated by use of a calibrated pocket penetrometer in the field. Driving resistances for the split-barrel samples were, recorded as "Blows per Foot," on the boring logs. Water level measurements were made in the open boreholes at the time of drilling.

Detailed descriptions of the soils encountered in the borings drilled for this project are presented on the boring logs (GINT format) on Figures A-1 through A-6 in Appendix A. The depth at which ground water was encountered during drilling and 24-hours water level is also noted on the boring logs. The terms used on borings logs and classification of soils for engineering purposes are presented following the logs of borings on Figures A-7 and A-8, respectively, in Appendix A.

3.3 Piezometer Installation

During the field investigation, two (2) piezometers were installed for this study. The locations of the piezometers, designated as GB-1P, and GB-5P are shown on Plan of Borings, Figure 2. Piezometer installation details showing the construction of piezometer, including the water level readings at different dates, are provided on Figures A-9 and A-10 in Appendix A.

3.4 Ground Water Observation

Borings GB-1, GB-2, GB-5 and GB-6 were dry augered to free water depth or to where the borehole could not be maintained open then continued with the wet rotary method to boring termination depths. Borings GB-3 and GB-4 were dry augered to boring termination depth. Water level measurements were made in all open boreholes at the time of drilling, 24 hours and 30 day (Piezometers) after the completion of drilling. The groundwater level measured 24 hours or more, after drilling was completed, ranges from 16.3 to 24.75 feet. The groundwater level measured on July 14, 2011 in piezometers GB-1P and GB-5P is at 20.9 and 24.75 feet, respectively.

3.5 Borehole Completion

After taking final measurements of the depths to ground water at the boring locations, all boreholes were backfilled with cement bentonite grout. After taking the 30 day water level readings, the piezometers were abandoned in place.

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4.0 LABORATORY TESTING PROGRAM

The laboratory-testing program was designed to evaluate the pertinent physical properties and shear strength and compressibility characteristics of the subsurface soils. Laboratory tests were performed in general accordance with the appropriate ASTM standards. The results of the index and physical property tests are presented on the boring logs given on Figures A-1 through A-6 in Appendix A.

4.1 Classification Tests

The index and physical properties tests aid in classifying the soils and are used to correlate the results of other tests performed on samples taken from different borings and/or different depths. The following index and physical property tests were performed on select soil samples obtained from the sampled soil borings:

- particle-size analysis
- water content
- liquid and plastic limits

Particle-Size Analysis of Soils (ASTM D422). The quantitative evaluation of the distribution of particle sizes in the sampled soils was measured via sieve analyses on selected samples. The distribution of particle sizes larger than 75 µm (retained on the No. 200 sieve) is measured by sieving. Grain size distribution curves are shown on Figure B-1 in Appendix B. Results from the sieve analyses are summarized on boring logs. Percent passing the No. 200 sieve were also performed to measure the gradation characteristics of granular soils and to aid in classification of both cohesive and cohesionless soils.

Water Content Tests (ASTM D2216). The measured water content values are included on the individual boring logs in Appendix A on Figures A-1 through A-6.

Atterberg Limits (ASTM D4318). This group of tests aids in the classification of fine-grained soils. Plastic limit (PL) and Liquid limit (LL) tests were conducted on selected soil specimens obtained from the borings at the project site. The results of these classification tests are presented on the borings logs on Figures A-1 through A-6.

4.2 Strength Tests

The undrained shear strength of select undisturbed samples of cohesive soils was measured by performing unconfined compression tests (ASTM D2166) and unconsolidated undrained triaxial (UU) compression tests (ASTM D2850). Natural moisture contents and dry unit weight were measured as routine portions of each compression test and UU triaxial compression tests. The results of unconfined compression tests and UU triaxial tests are plotted on the boring logs as solid triangles. The shear strengths of cohesive samples were initially measured in the field and later in the laboratory, with a calibrated pocket penetrometer. Torvane was used in the laboratory to also measure the shear strengths of cohesive samples. The shear strength values obtained from the penetrometer and torvane are plotted on the boring logs as solid squares and diamonds, respectively.

Multi-stage consolidated undrained (CU) triaxial compression tests (ASTM D4767) were conducted on two soil samples. Three stages of consolidation (with pore pressure measurements) were carried out on the samples following saturation of the samples and consolidation to approximately 100%, 200% and 300% of estimated in situ overburden pressures. The results are presented on Figures B-2 and B-3 in Appendix B.

4.3 Other Tests

Two Pinhole tests (ASTM D4647) and two Crumb tests (ASTM D6572) were performed to measure the potential for dispersion of soils in distilled water. Both Pinhole and Crumb dispersion test results provide a qualitative evaluation of the potential for soil dispersion in the presence of distilled water. The results are presented below and also given on Figure B-4 in Appendix B. The results of the Pinhole and Crumb tests were also provided on the boring logs presented on Figure A-1 through A-6 in Appendix A.

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	PINHOLE TEST	S (ASTM D4647)	CRUMB TESTS	S (ASTM D6572)
Boring No.	GB-1	GB-6	GB-2	GB-5
Sample No.	S-6	S-4	S-5	S-5
Depth (ft)	10-12	6-8	8-10	6-8
	Lean Clay (CL) w/sand	Lean Clay (CL) w/sand	Lean Clay (CL) w/sand	Fat Clay (CH)
Visual Classification	Stiff to very stiff	Stiff to very stiff	Very stiff to hard	Very stiff to hard
Classification	ND 1 - Nondispersive	ND 1 - Nondispersive	ND 1 - Nondispersive	ND 1 – Nondispersive

5.0 SUBSURFACE SOIL STRATIGRAPHY AND GROUND WATER

5.1 Soil Stratigraphy

Based on the subsurface soils encountered in the discrete boreholes drilled, five (5) boring log profiles were developed and are presented on Figures 3.1 through 3.6. To the left of each boring shown on the profile is an indication of the consistency or density of each stratum. More than one consistency for an individual stratum indicates that the consistency is different at different depths within the stratum. For cohesive soils, consistency is related to the undrained shear strength of the soil. For granular and cohesionless soils, the consistency is related to the relative density of soil. To the right of each boring shown on the profile is the overall classification of the soil contained within each stratum. The soil classification is based on ASTM Standard D2487.

As revealed on the boring logs and as indicated on the boring log profiles, the subsurface soils at the proposed detention pond are summarized below:

The subsurface soils as revealed by boring logs GB-1 through GB-6 consists of predominantly cohesive soils to the termination depths of 20 to 30 feet (El. 56.51 ft. to El. 47.42 ft.), except in borings GB-1, GB-5 and GB-6. In boring GB-1, cohesive with intermittent cohesionless soils were encountered to the explored depth of 30 feet. In borings GB-5 and GB-6, the cohesive soils, encountered to depths of 12 to 21 feet (El. 65.42 ft. to El. 63.76 ft.) below existing grade, were underlain by cohesionless soils to a termination depth of 30 feet. The cohesive soils consist of stiff to hard dark gray, gray, yellowish brown and reddish brown lean clay with sand (CL), sandy lean clay (CL) and fat clay (CH). The cohesionless soils consist of medium dense to very dense gray, brown and yellowish brown silty sand (SM), fine sand with silt (SP-SM), and sandy silt (ML). In all the borings, except GB-3, fill material consisting of stiff to hard sandy lean clay and lean clay with grass roots was encountered within the upper 2 to 5 feet depth (El. 75.42 ft. to El. 81.76 ft.). In boring GB-4, the 2 feet of fill appeared to be random fill consisting of concrete, asphalt, shell and gravel. The cross section of fill material is

shown on Figures 3.1 through 3.6 of this report. No fill materials were encountered in boring GB-3. A summary of the on-site fill materials revealed by the borings is also given below:

Boring No.	Depth (Elevation), Feet	Thickness, Feet	Fill Material
GB-1	0-2 (El. 80-El. 76)	4	Lean clay w/grass roots, sand, calcareous nodules and ferrous stains
GB-2	0-5 (El. 80-El. 75)	5	Sandy lean clay w/roots and calcareous nodules
GB-4	0-2 (El. 77-El. 75)	2	Sandy lean clay w/concrete, asphalt, shell, gravel, sand seams and grass roots (possible random fill)
GB-5	0-3 (El., 85-El. 82)	3	Lean clay w/sand, grass roots and calcareous nodules
GB-6	0-2 (El. 77-El. 75)	2	Lean clay w/sand, grass roots and calcareous nodules

The sandy lean clay (CL) and lean clay with sand (CL) are of low to high plasticity with liquid limits ranging from 23 to 45 and plasticity indices ranging from 9 to 25. The fines content (percent passing no. 200 sieve) of the sandy lean clay and lean clay with sand ranged from 61 to 81 percent.

The fat clay (CH) and fat clay with sand (CH) is of high plasticity with liquid limits ranging from 52 to 61, and plasticity indices ranging from 31 to 37. The fines content of the fat clay and fat clay with sand ranged from 82 to 98 percent.

The fines content of silty sand (SM) and fine sand with silt (SP-SM) ranged from 8 to 17 percent and the fines content of silt is about 72 percent.

The results of pinhole tests indicate that the shallow cohesive soils are non-dispersive. Pinhole test results are given on Figure B-4 in Appendix B.

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5.2 Ground Water

Groundwater was encountered during drilling at depths ranging between 15.3 feet and 24 feet in all the borings except in borings GB-3 and GB-4. In borings GB-3 and GB-4, no groundwater was encountered during drilling. The groundwater level measured 24 hours or more, after drilling was completed, ranges from 16.3 to 24.75 feet. The groundwater level measured on July 14, 2011 in piezometers GB-1P and GB-5P is at 20.9 and 24.75 feet, respectively. However, it should be noted that various environmental and man-made factors, such as amount of precipitation and nearby subsurface construction activities, and changes in adjacent creek level can substantially influence the groundwater level.

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6.0 ENGINEERING ALAYSES AND RECOMMENDATIONS

The project consists of a W140 detention pond (10 to 11 feet deep) approximately 5.4 acres in surface area and storage volume of 43.1 acre-foot proposed for Memorial City Redevelopment Authority at HCAD property number 0430080000507 in Houston, Texas. The total area of the proposed right of way is approximately 8.2 acres. Based on the provided information, the proposed side slopes calculated as 3(H):1(V) to 4(H):1(V). The bottom elevation of the detention pond will be at 65 feet and the top of the bank elevation will be at 76 feet. The 100-year flood elevation is at 76.40 feet.

6.1 Slope Stability Analyses

Slope stability analyses were performed for the proposed detention pond. The analyses were performed using a computer program "GSTABLE7" (Reference 1) and the Modified Bishop Method of Analyses. Analyses conditions consisted of End of Construction, Rapid Drawdown and Long Term cases. The required factors of safety per HCFCD criteria for end of construction, rapid drawdown and long term condition are 1.3, 1.25 and 1.5, respectively.

- 6.1.1 Method of Analyses Experience indicates that the failure of a slope occurs by slippage along a surface of nearly circular cross section. Sufficiently accurate estimates of the stability of such slopes can be made if the surface of sliding is assumed to be circular. Several methods of slope stability analysis are available. The most commonly used method is known as the Bishop Method. For this study, the slope stability analyses were conducted using a computer program. The calculation of the factor of safety against instability was performed using the Modified Bishop Method. Slope stability analyses were performed on critical sections of the proposed detention pond by the computer program "GSTABLE7" with the built-in critical section search algorithm.
- 6.1.2 Soil Parameters and Water Level To evaluate the potential stability of a slope, or to assess the effectiveness of a slope, requires the physical properties of the geological material involved to be measured. Shear strength characteristics of corresponding type of soil are

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discussed below for each case. Slope stability analyses were performed for the End of Construction, Rapid Drawdown and Long Term design cases for the proposed detention pond with a 3(H):1(V) (critical slope) grass lined slope and 4(H):1(V) grassed lined slope, where 3(H):1(V) slope is not feasible.

- End of Construction: When a slope is excavated, altered stress conditions created pore pressure changes within the slope. In cohesive soils, undrained strength of the bank soil is mobilized since no sufficient time to allow the excess pore pressure to dissipate (drain) immediately or within a short period of time after the completion of the slope excavation. Thus, the end of construction case models the initial undrained condition of the (cohesive) soil. In granular/cohesionless soils, drained strength parameters will be utilized for the analyses for the end of construction case because of the higher permeability nature of the granular or cohesionless soils. For this analysis, 100-year flood level (El. 76.4 feet) was considered to be at or near the top of the pond and water level within the pond was assumed at the bottom of pond elevation of 65 For cohesive soils, laboratory shear strength unconsolidated undrained parameters were used for the analyses. For granular/cohesionless soils (as encountered in borings GB-5 and GB-6), the angle of internal friction was used for the analyses. The angle of internal friction of granular, cohesionless soils was estimated based on field SPT data.
- Rapid Drawdown: The rapid drawdown case models the condition where high floodwater saturates and piezometerically "loads" the slope and then quickly recedes leaving a large unbalanced piezometric head in the bank slope. This unbalanced force increases the shear stresses in the soils behind the slope. For this analysis, 100-year flood level (El. 76.4 feet) within the pond was considered to be at or near the top of the pond. The water level within the pond was assumed to instantaneously drop from the 100-year flood level (El. 76.4 feet) to the bottom of pond (El. 65 feet). For granular/cohesionless soils, angle of internal friction was used for the analyses. For cohesive soils, laboratory consolidated undrained soil parameters were used in this analysis. For earthen slopes, a most critical rapid drawdown case occurs when

shrinkage cracks develop all through the slope soils due to the drying of the soil, the shrinkage cracks are filled with water as the water level rises in the basin and the slopes become "saturated" and then the water level in the basin drops rapidly. This case is most common in medium to high plasticity clay as encountered at all depths in borings GB-1 through GB-4, and above 21 feet in boring GB-5 and above 12 feet in boring GB-6. As shrinkage cracks develop in the medium to high plasticity clay after long periods of exposure to environmental conditions (wetting-drying, swellingshrinking, etc.), the medium to high plasticity clay shear strength degrades to weathered effective stress shear strength. Experience with shallow slope failure associated with matric suction loss and strength degradation suggests that realistic crack depths will vary between 3 and 8 feet with an average of about 6 feet (Reference 2). Thus, based on the depth of assumed seasonal moisture variation zone, a crack depth of 7 feet was used for developing the weathered soil parameters. In order to incorporate the effects of weathering on the high plasticity clay shear strength, we used a weathered effective stress angle of internal friction (ϕ'_w) and a weathered effective stress cohesion (C'w) for the rapid drawdown condition analyses. The ϕ'_w was assumed to be the residual secant friction angle of the soil (Reference 3) and the C'w was assumed to be the mobilized cohesion intercept of the soil (Reference 4). Effective stress cohesion (C') and effective stress angle of internal friction (ϕ') were used below 7-foot from the top of basin.

Long Term: The long term design case represented steady state piezometric and stress conditions. When a slope is excavated, altered stress conditions create pore pressure changes within the slope and the undrained strength of the bank soils is mobilized. With time, the soil pore pressures adjust to the imposed stress and piezometric conditions and the bank soils rely on their available strength for long term stability. In this analysis, the static water level within the embankment soils was assumed to be the groundwater level measured in the borings 24 hours after the completion of drilling that will be elevation ranging from 58.5 to 65.02 feet for different cases of boring locations. Weathered effective stress sheer strength parameters consisting of a weathered effective stress angle of internal friction (φ'w)

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and weathered effective stress cohesion (c'_w) were used to analyze the long term conditions in order to account for the degradation of the slope soil strength due to weathering. Effective stress cohesion (c') and effective stress angle of internal friction (ϕ') were also used below 7-foot from the top of the basin.

6.1.3 Loading Conditions - A surcharge load (construction or maintenance equipment) of 250 psf (per HCFCD geotechnical guidelines) was assumed at the top of the bank and was considered for the short term (end of construction), rapid drawdown and long term conditions. This loading is based on Harris County Flood Control District Geotechnical Guidelines.

Based on the borings drilled, soil parameters were used in the analyses and are presented below.

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> FOR SLOPE STABILITY ANALYSES FOR DETENTION POND TABLE 1: SUMMARY OF SOIL PARAMETERS USED

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(Bosed on Bowing CD 1)

					0							Re
		j					Shear Strength	igth				eport
ate	Material	Wet	End of Cons	Construction		Rapid D	Rapid Drawdown			Lor	Long Term	
Sec	Description	Density (pcf)	Cohesion	Friction Angle	Effective	tive	Weathered Effective	Effective	Effective		Weathered Effective	Effective
			(bst) - cun	- (San)	t'S	. 0	c'w	φ',	c,	-0	c'w	φ, φ
	Lean Clay w/sand	130	1,500	1	270	25	255	20	270	25	270	20
	Fat Clay (CH)	120	1,600	-1	230	23	175	19	230	23	175	19
- 4	Silt (ML)	100	1	30	1	30	1	1	1	30	Ī	4.
	Fat Clay (CH)	120	1,000	ı	230	23	175	19	230	23	175	19
7 3	Lean Clay w/sand (CL)	130	1,500	1	270	25	255	20	270	25	255	20

Unconsolidated-Undrained Cohesion Where

Unconsolidated-Undrained Friction Angle Effective Stress Cohesion

Effective Stress Friction Angle

Weathered Effective Stress Cohesion

Weathered Effective Stress Friction Angle

For rapid drawdown and long term conditions, weathered effective stress parameters were used within 7' zone below top of bank, slope surface, and bottom of basin wherever is applicable within each layer. Note:

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TABLE 2: SUMMARY OF SOIL PARAMETERS USED FOR SLOPE STABILITY ANALYSES FOR DETENTION POND Case 2 - (Based on Borings GB-2 thru GB-4)

						0		0					Repo
1								Shear Strength	ıgth				ort
Elevation (ft)	Layer		Wet	End of Construction	struction		Rapid I	Rapid Drawdown			Loi	Long Term	
	(depth, ft)	Description	Density (pcf)	Cohesion	Friction	Effective	tive	Weathered Effective	Effective	Effective	tive	Weathered Effective	Effective
				$(psr) = c_{uu}$	(deg) =	ر,	φ.	c'w	ψ'ψ	c,	φ.	c'w	φ',
75-62	1 (0 – 13)	Lean Clay w/Sand (CL)	130	1,500	1	270	25	255	20	270	25	255	20
62-57	2 (13 – 18)	Fat Clay (CH)	123	2,000	1	230	23	175	19	230	23	175	19
57-50	3 (18 – 25)	Sandy Lean Clay (CL)	130	1,500	1	270	25	255	20	270	25	255	25

Where c_{uu}: Unconsolidated-Undrained Cohesion
 φ_{uu}: Unconsolidated-Undrained Friction Angle
 c': Effective Stress Cohesion
 φ': Effective Stress Friction Angle

c'w: Weathered Effective Stress Cohesion ϕ'_w : Weathered Effective Stress Friction Angle

For rapid drawdown and long term conditions, weathered effective stress parameters were used within 7' zone below top of bank, slope surface, and bottom of basin wherever is applicable within each layer. Note:

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FOR SLOPE STABILITY ANALYSES FOR DETENTION POND TABLE 3: SUMMARY OF SOIL PARAMETERS USED

Case 3 - (Based on Borings GB-5 and GB-6)

								Shear Strength	ngth				Report
Elevation (ft)	Layer	Material	Wet	End of Construction	struction		Rapid]	Rapid Drawdown			Lor	Long Term	
	(depth, ft)	Description	Density (pcf)	Cohesion	Friction	Effec	Effective	Weathered Effective	Effective	Effective		Weathered Effective	l Effective
				(pst) - c _{uu}	(gan)	, o	φ.	c'w	φ',	, o	φ	c'w	φ, φ
75.4-65.4	1	Lean Clay w/sand to	130	1 500		270	36	255	00	270	30	255	C
	(0 - 10)	Sandy Lean Clay (CL)	051	000,1	ı		7		04		7		07
65.4-59.4	2	Fine Sand w/silt (SP-	6			1		1		1		1	
	(10-16)	SM) to Silty Sand (SM)	66	l	1		30		1		30	a l	I
59.4-47.4	0	Silty Sand (SM) to Fine			C	i	C	1		-1	00	1	
	(16-28)	Sand w/silt (SP-SM)	100	ı	00		00		1		20		1

Unconsolidated-Undrained Friction Angle Unconsolidated-Undrained Cohesion Where

Effective Stress Friction Angle Effective Stress Cohesion

For rapid drawdown and long term conditions, weathered effective stress parameters were used within 7' zone below top of bank, slope surface, and bottom of basin wherever is applicable within each layer Note:

Weathered Effective Stress Friction Angle

C.w.:

Weathered Effective Stress Cohesion

6.1.4 Factors of Safety - Based on the soil parameters and water level conditions discussed previously, slope stability analyses were performed for 3(H):1(V) earthen bank slope. The results of these analyses are presented on Figures 4.1 through 4.9. The computed factors of safety for these soil conditions are also summarized below.

			Fac	tor of Safe	ety	
Case No.	Boring No.	Slope	EOC	RD	<u>LT</u>	Figure No.
1	GB-1	3(H):1(V)	4.40	1.61	2.18	4.1, 4.2, 4.3
2	GB-2 thru GB-4	3(H):1(V)	5.45	1.99	2.76	4.4, 4.5, 4.6
3	GB-5 and GB-6	3(H):1(V)	2.20	1.23	2.21	4.7, 4.8, 4.9

A minimum factor of safety of 1.3, 1.25 and 1.5 is considered adequate for end of construction, rapid drawdown and long term conditions, respectively per HCFCD criteria. As can be seen from the above results, the factors of safety will not meet the HCFCD minimum required factors of safety for RD condition for Case 3. Hence, a 4(H):1(V) slope was analyzed for the Case 3 and the results are presented on Figures 4.10 through 4.12. The computed factor of safety for this case is also summarized below:

			Factor of Safety			771
Case No.	Boring No.	Slope	EOC	RD	LT	Figure No.
3a	GB-5 and GB-6	4(H):1(V)	2.32	1.45	2.61	4.10, 4.11, 4.12

6.1.5 Conclusions and Recommendations - A minimum factor of safety of 1.3 is considered acceptable for end of construction, minimum factor of safety of 1.25 is considered acceptable for rapid drawdown conditions, while a minimum factor of safety of 1.5 is considered acceptable for long term condition. Based on the above analyses, additional soil borings will be required to better determine the horizontal limits of the granular/cohesionless soils between borings GB-2 and GB-6, GB-4 and GB-5 as well as in the vicinity of the center of the pond. However, for a conservative approach, we recommend the side slope be no

steeper than 3(H):1(V) along western and northern banks and 4(H):1(V) along entire eastern and southern banks of the detention pond.

6.2 Borrow Material Analysis

Based on the HCFCD "Standard Specification Book-2005" Section 02314 "Fill Material", Part 2 Subsection 2.2 "Fill Material Excavation from On-Site", on-site excavated soils that are used as fill material should consist of lean clay with sand and sandy lean clay including onsite fill soils after removal of roots and shell fragments.

Based on the HCFCD specification criteria, the onsite soils that can be used as fill material are:

Boring No.	(Elevation)	Soil Type
	Range of Depth, feet	
GB-1	·0-4 (El. 80 – El. 76)	Lean Clay
	4-15 (El. 76 – El. 65)	Lean Clay with Sand
GB-2	0-5 (El. 80 – El. 75)	Sandy Lean Clay
	5-18 (El. 75 – El. 62)	Lean Clay with Sand
GB-3	0-10 (El. 75 – El. 65)	Lean Clay with Sand
GB-4	2-12 (El. 75 – El. 65)	Sandy Lean Clay
GB-5	0-3 (El. 85 – El. 82)	Lean Clay with Sand
	8-20 (El. 82 – El. 65)	Sandy Lean Clay
GB-6	0-2 (El. 77 – El. 75)	Lean Clay
	2-12 (El. 75 – El. 65)	Lean Clay with Sand

6.3 Excavation Dewatering

Groundwater was encountered at depths ranging from 16.3 feet to 24.75 feet in about 24 hours or more after drilling completion. The excavations along the proposed profile of the

detention pond may encounter groundwater seepage depending upon ground water conditions at the time of construction and the location and depth of excavation.

For cohesive soils as predominantly encountered for the excavation depths of 10 to 11 feet, groundwater may be managed by collection in trench bottom sumps for pumped disposal. For excavations in granular or cohesionless soils, as encountered in soil borings GB-5 and GB-6 between El. 65.4 to El. 47 feet and other areas where water bearing granular or cohesionless soils are encountered during the construction, dewatering will be required to lower and maintain the ground water level at least 5 feet below the level of excavation prior to and during the excavations or other appropriate ground water control method may be used to prevent any sloughing of excavation face and the excavation bottom blow up. It is the responsibility of the contractor to verify the groundwater level at the time of construction and should provide an adequate dewatering system, where required.

Adequate drainage shall be maintained at all times during construction and any drainage ditch or structure disturbed during construction shall be restored to the satisfaction of the HCFCD requirements.

6.4 Slope Protection and Erosion Control

In views of granular/cohesionless soils encountered in borings GB-5 and GB-6 at and/or near the bottom of the detention pond, it is recommended that at toe and bottom of the entire eastern and southern banks of detention pond be covered with low permeability clay liner or Geotextile fabric to prevent erosion. However, additional borings may be required to better determine the horizontal limits of the granular/cohesionless soils. The on-site fat clay can be used as clay liner. Attention should be given for the erosion protection of the detention ponds to prevent over-bank runoff. Excessive erosion can cause substantial ground loss and progressive movement of soil that may cause slope failure. A properly installed and maintained grass cover can serve as a protection for the detention slope by reducing soil erosion. Furthermore, routine maintenance of the slope surface including removal of undesirable vegetation growth on or

around the cover, repair minor cracks or spalling, regrade and repair eroded areas should also be performed on a regular basis to enhance the integrity of the slope protective system.

7.0 CONSTRUCTION CONSIDERATIONS

7.1 Borrow Material

The soils that are to be excavated from the detention pond site consist of lean clay with sand (CL) and sandy lean clay (CL). The lean clay with sand (CL) and sandy lean clay (CL) can be utilized as fill, provided these soils should meet HCFCD requirements as provided in HCFCD "Standard Specifications book Section 02314 entitled "Fill Material" and after all foreign materials (i.e. roots, organic material, shell fragments) are removed.

Based on the HCFCD specification criteria, the onsite soils that can be used as fill material are:

Boring No.	(Elevation)	Soil Type
	Range of Depth, feet	
GB-1	0-4 (El. 80 – El. 76)	Lean Clay
	4-15 (El. 76 – El. 65)	Lean Clay with Sand
GB-2	0-5 (El. 80 – El. 75)	Sandy Lean Clay
	5-18 (El. 75 – El. 62)	Lean Clay with Sand
GB-3	0-10 (El. 75 – El. 65)	Lean Clay with Sand
GB-4	2-12 (El. 75 – El. 65)	Sandy Lean Clay
GB-5	0-3 (El. 85 – El. 82)	Lean Clay with Sand
	8-20 (El. 82 – El. 65)	Sandy Lean Clay
GB-6	0-2 (El. 77 – El. 75)	Lean Clay
	2-12 (El. 75 – El. 65)	Lean Clay with Sand

Appendix F
Geotechnical Reports, Inc.

Memorial City Redevelopment Authority;

W140 Detention Pond; Houston, Texas

7.2 Ground Water Control

It should be noted that control of groundwater will be the contractor's responsibility. The comments and suggestions provided in this report regarding groundwater control are for information purposes only and as a general guidance for the control of groundwater.

It is our opinion that for excavations in cohesive soils, ground water may be collected in excavation bottom sumps for pumped disposal. For excavations in granular or cohesionless soils, as encountered in soil borings GB-5 and GB-6 between El. 65.4 to El. 47 feet and other areas where water bearing granular or cohesionless soils are encountered during the construction, dewatering may be required to lower and maintain the ground water level at least 5 feet below the level of excavation prior to and during the excavations or other appropriate ground water control method may be used to prevent any sloughing of excavation face and the excavation bottom blow up. In general, for excavations shallower than 15 feet, dewatering, if used, is performed by the installation and operation of vacuum well points.

The contractor should verify the ground water level at the site at the time of construction and should provide an adequate ground water control method or dewatering system, where required.

8.0 REFERENCES

- 1. Garry H. Gregory and Harold W. Van Aller (1999) GSTABL 7 with Stedwin Slope Stability Analysis System Software.
- 2. Charles Aubeny and Robert Lytton (February 2003) "Estimating Strength Versus Location and Time in High-Plasticity Clays," Report No. FHWA/TX-03/2100-P1, Texas Transportation Institute, The Texas A & M University System, College Station, Texas.
- 3. A. A. Saleh and Stephen G. Wright (October 1997) "Shear Strength Correlations and Remedial Measure Guidelines for Long-Term Stability of Slopes Constructed of Highly Plastic Clay Soils," Research Report 1435-2F, Center for Transportation Research, Bureau of Engineering Research, The University of Texas at Austin, Figure 3.2.
- G. Mesri and M. E. M. Abdel-Ghaffar (August 1993) "Cohesion Intercept in Effective Stress-Stability Analysis," Journal of Geotechnical Engineering, Volume 119, No.8, Figure 13.

Appendix F
Geolegh Reporting, Inc.

Memorial City Redevelopment Authority;

W140 Detention Pond; Houston, Texas

9.0 PROVISIONS

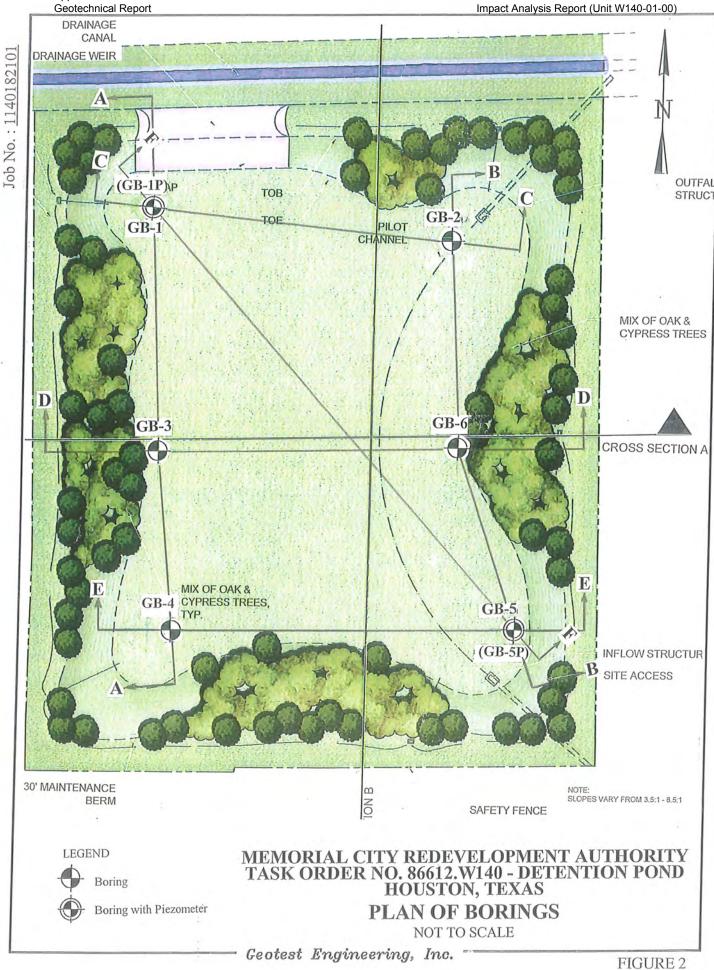
The description of subsurface conditions and the design information contained in this report are based on the soil borings made at the time of drilling at specific locations. Some variation in soil conditions may occur between soil borings. Should subsurface conditions be encountered which differ from those described on our boring logs, Geotest should immediately be notified so that further investigation and supplemental recommendations can be provided. The depth of the ground water level may vary with changes in environmental conditions such as frequency and magnitude of rainfall. The stratification lines on the boring logs represent approximate boundaries between soil types. The transition between soil types, however, may be more gradual than depicted.

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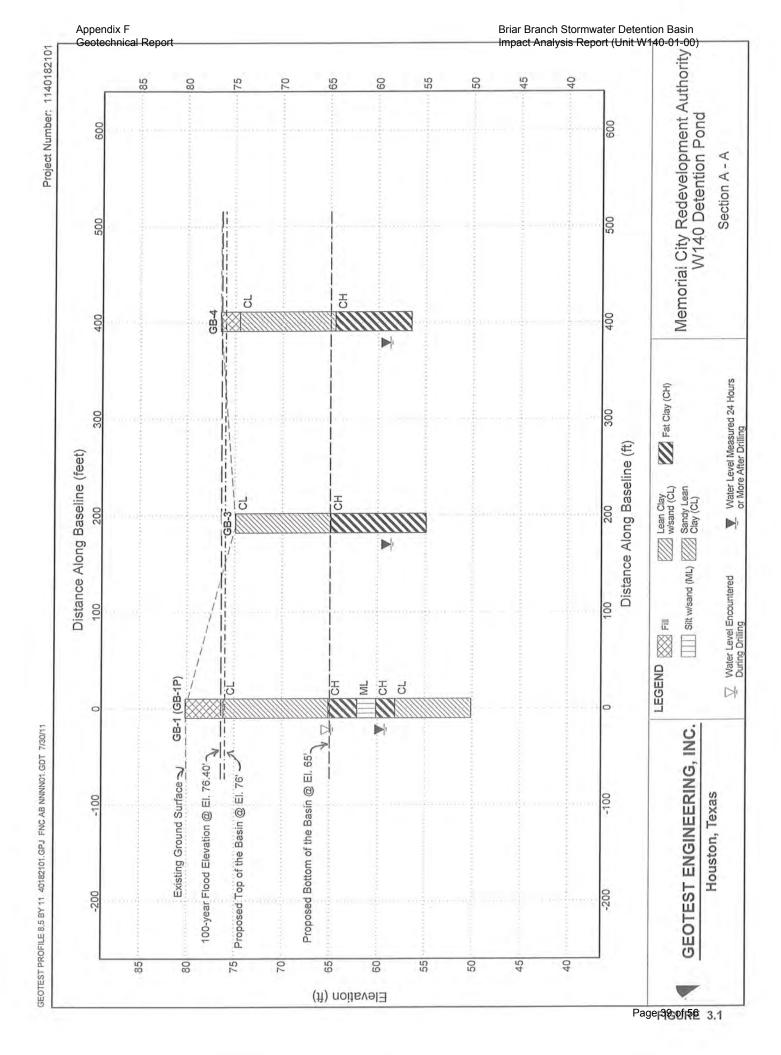
ILLUSTRATIONS

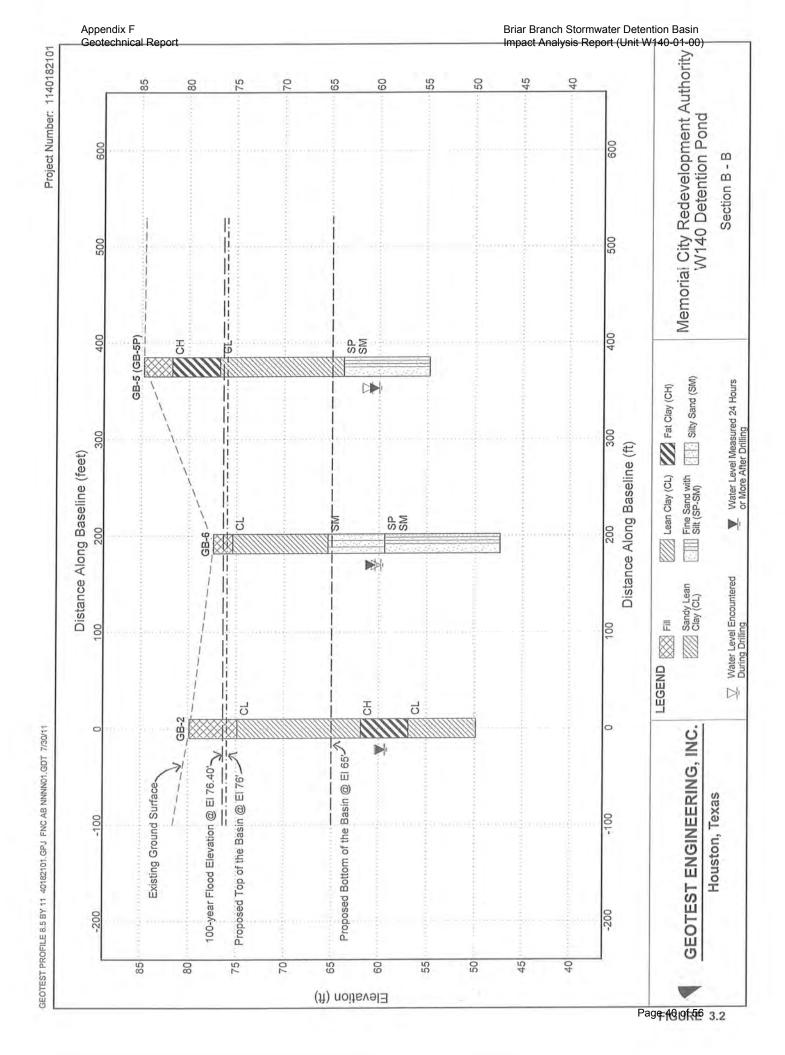
	Figure
Project Location Map	1
Plan of Borings	2
Boring Log Profile	thru 3.5
Results of Slope Stability4.1	thru 4.12

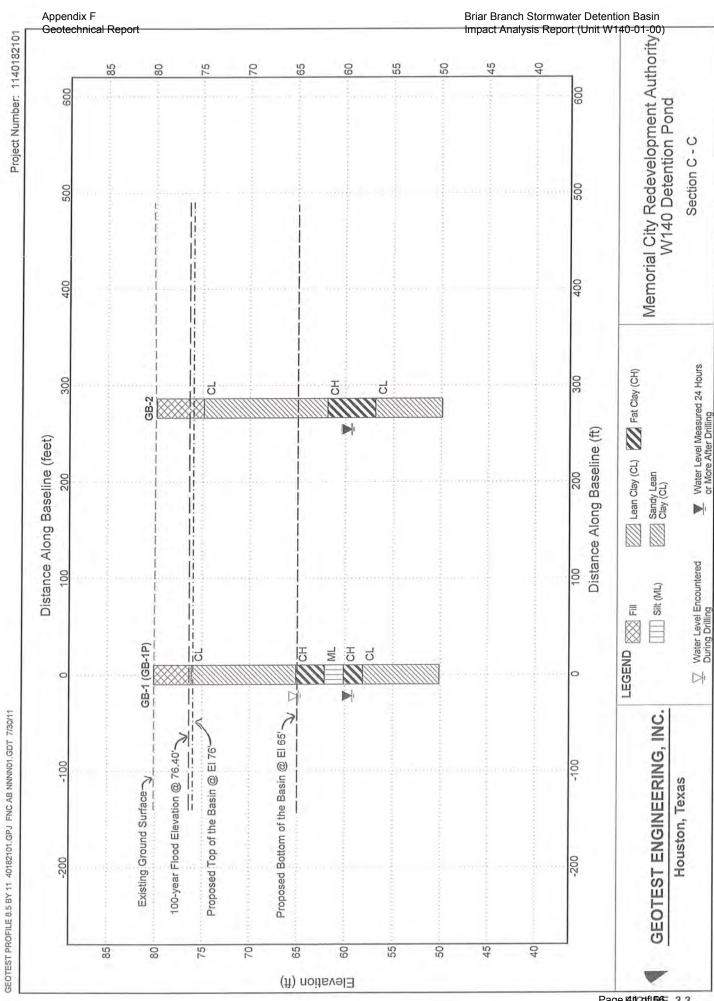


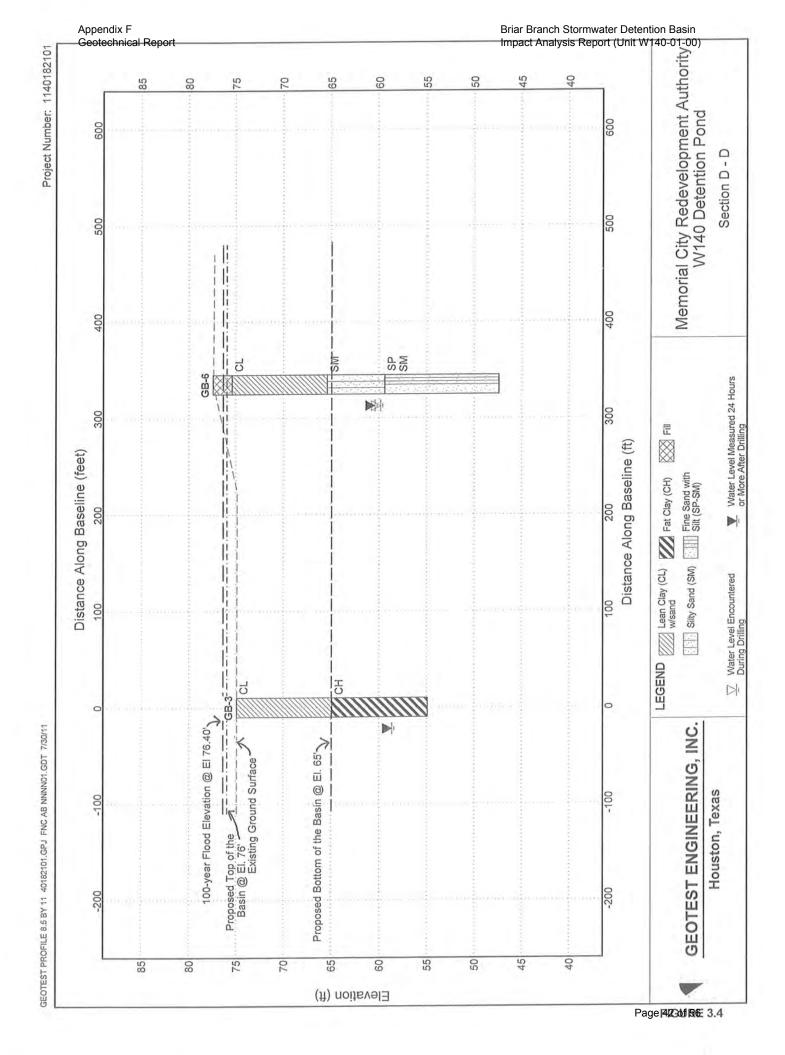
Appendix F

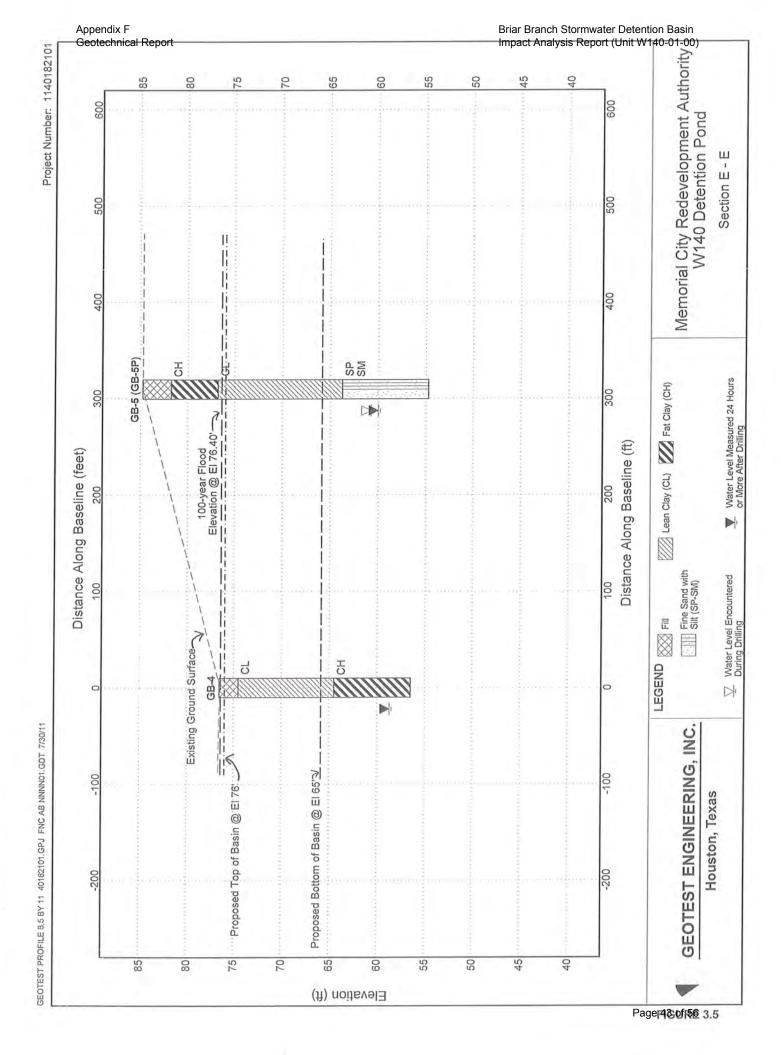
Briar Branch Stormwater Detention Basin

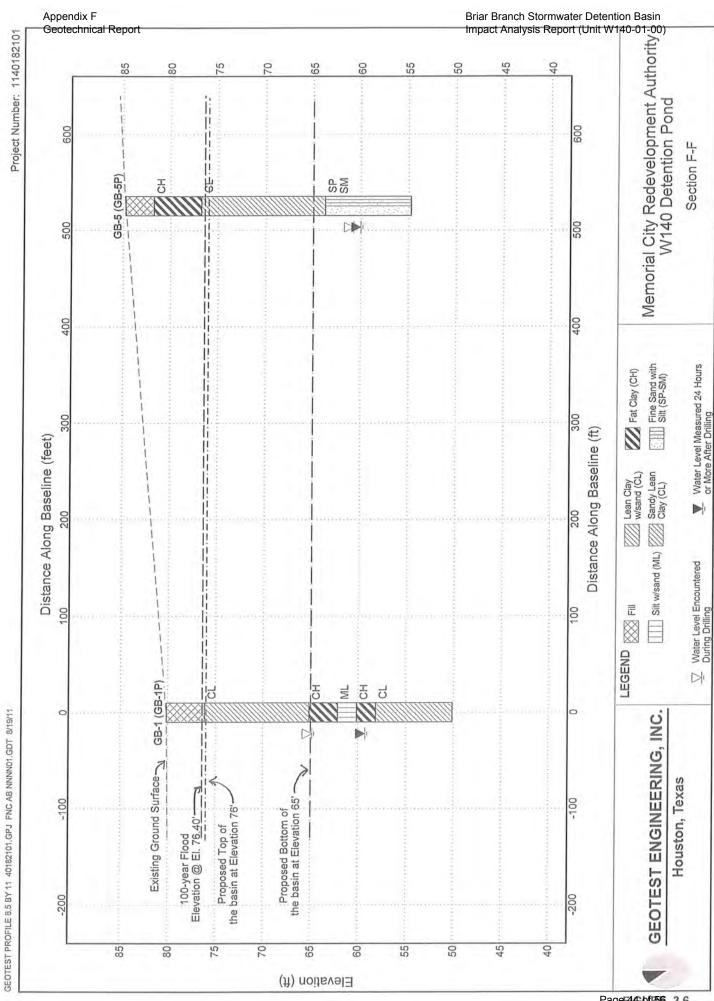


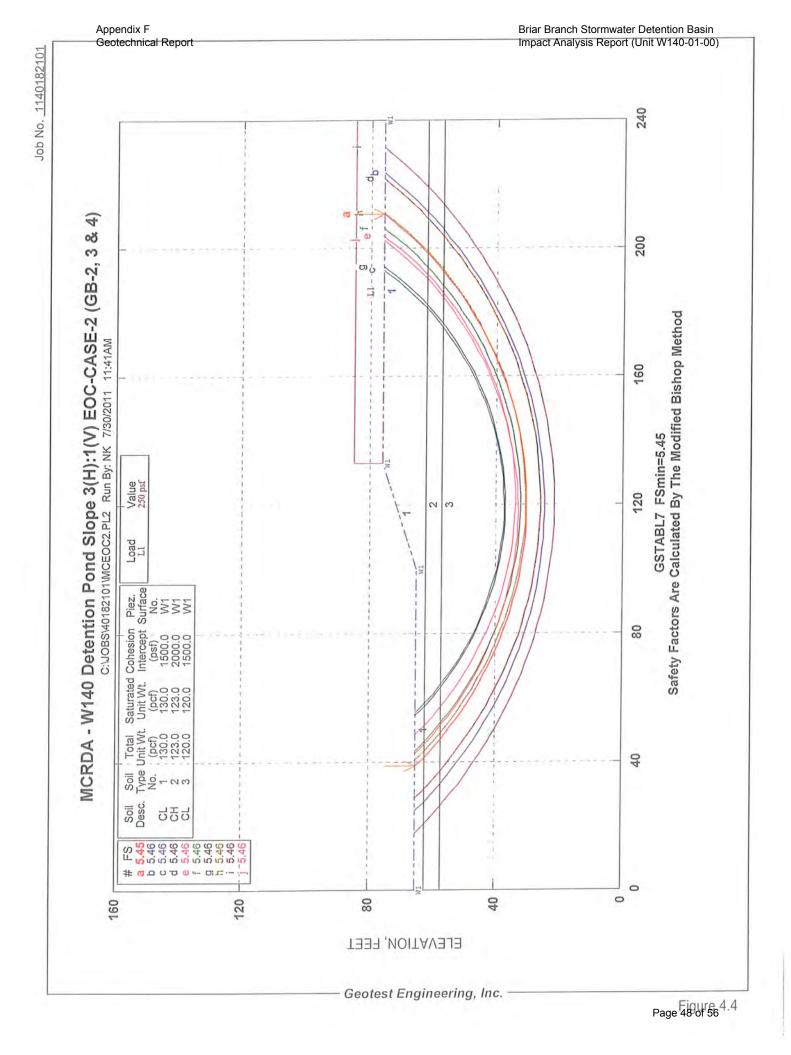












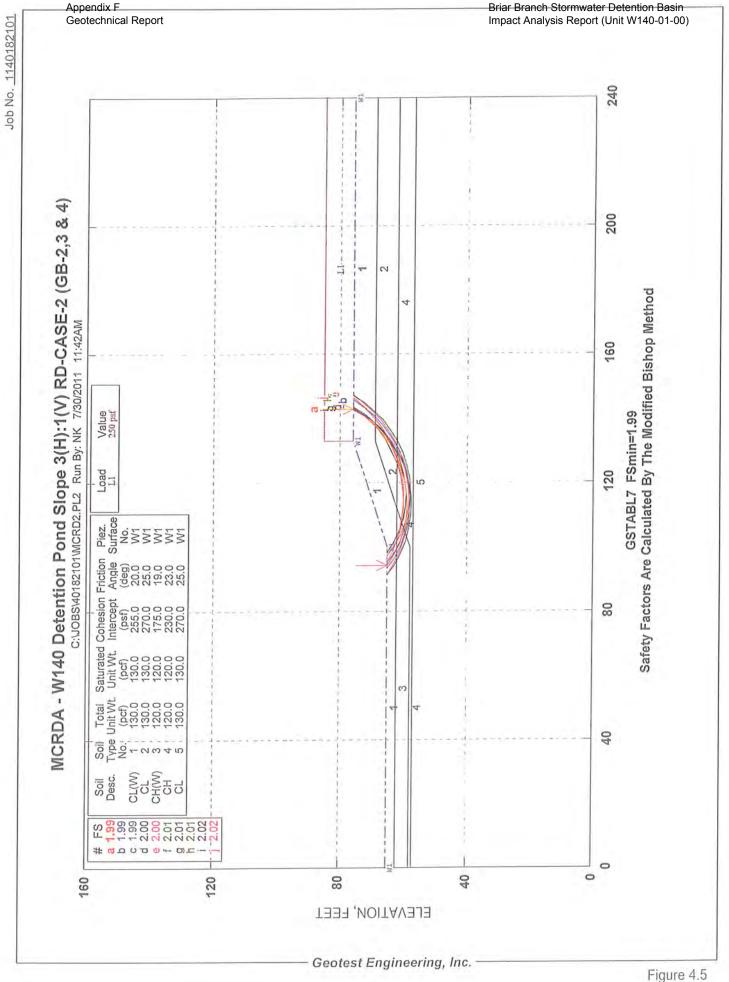
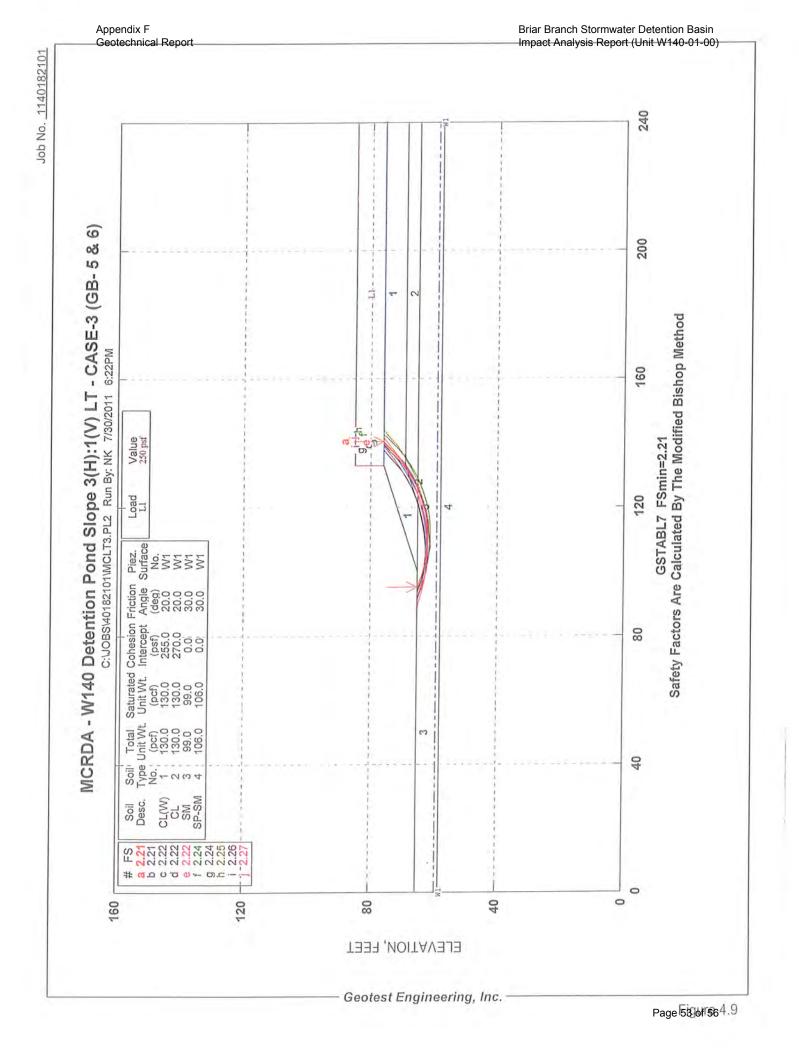
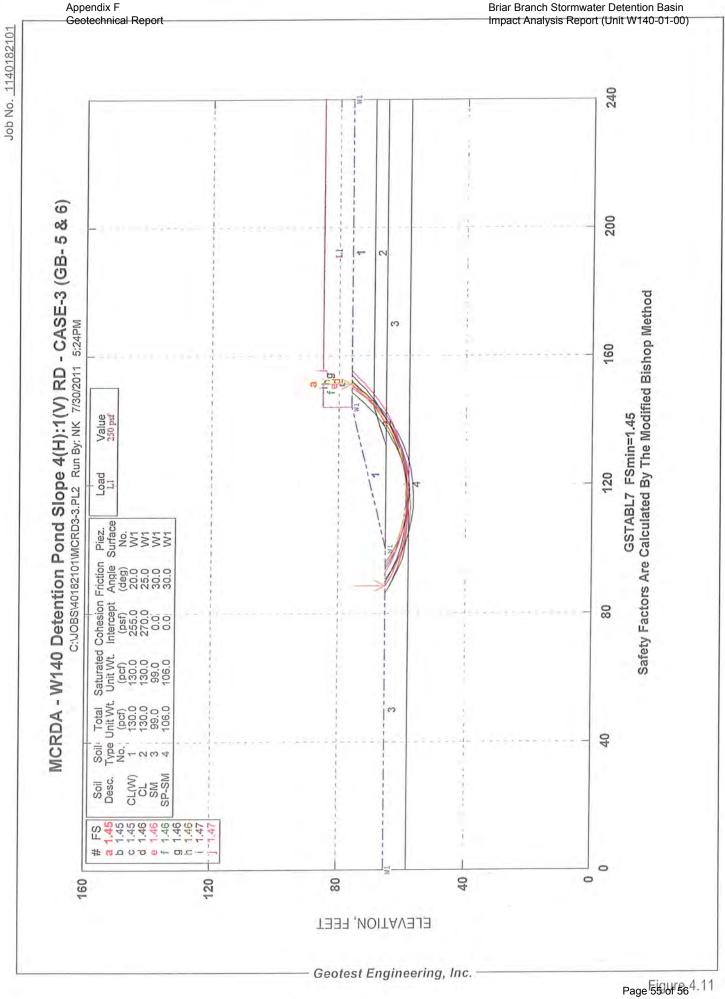
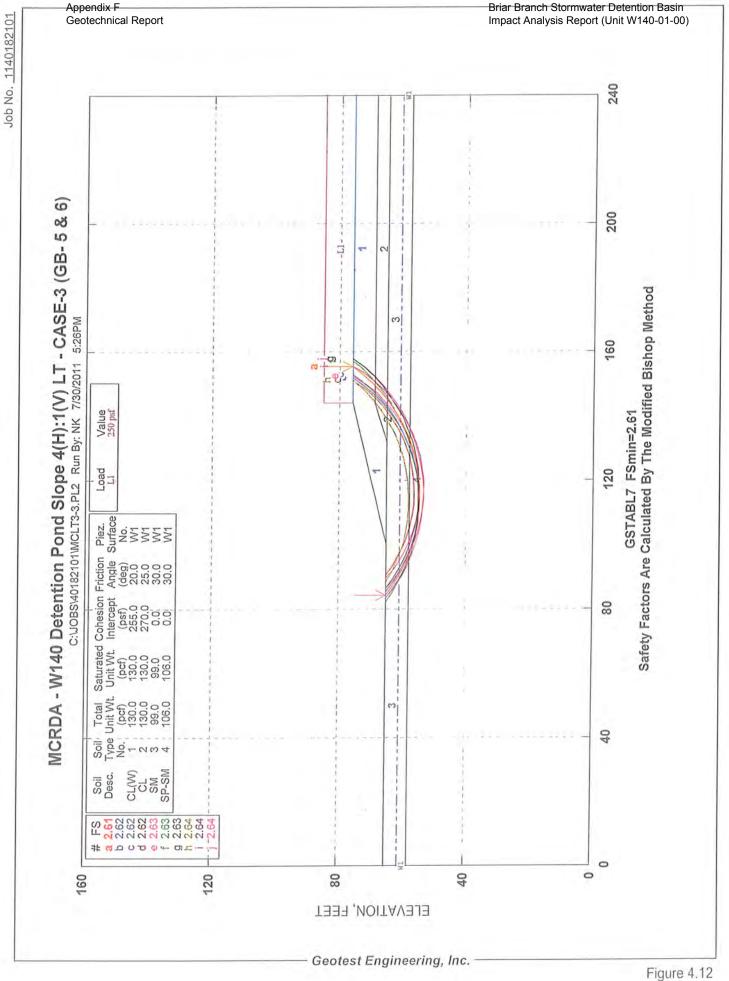


Figure 4.: Page 49 of 56









PHASE I ENVIRONMENTAL SITE ASSESSMENT W140 DETENTION BASIN FEASIBILITY STUDY

Houston, Texas

August 2011

REPORT NO. 082011-A

Prepared for:

Memorial City Redevelopment Authority on behalf of Tax Increment Reinvestment Zone No. 17 (TIRZ 17)

Prepared by:

Lockwood Andrews & Newnam, Inc. Firm No. 2614 2925 Briarpark Houston, Texas 77042



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I. EXECUTIVE SUMMARY

A summary of the findings for the Phase I Environmental Site Assessment (ESA) for the W140 Detention Basin Feasibility Study is provided below. Details are neither included nor fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of this summary.

- The project area includes a property approximately 8.3 acres located north of Interstate Highway 10 between Bunker Hill Road and Blalock Road.
- The proposed work includes design of a detention pond with 40-45 acre-feet of capacity on the subject property that will provide detention for storm events in the W140 watershed in Houston, TX.
- The regulatory database search identified nine (9) Leaking Underground Storage Tank sites and four (4) Voluntary Cleanup Program (VCP) sites within the specified search radius.

The facilities identified in the regulatory agency database review that appear to constitute a Recognized Environmental Condition (REC), based on facility characteristics and environmental settings at the time of this assessment study, are listed below. Based on the Phase I ESA for the W140 Detention Basin Feasibility Study, there are three (3) potential RECs present.

- Hurricane Steel Industries. 9600 Old Katy Rd. TXVCP. Phase: Completed. Metal contaminants were found in soils and groundwater. A certificate of completion was granted on February 4, 2003. A groundwater sample was collected from the existing monitoring well on the subject property, and Barium, Chromium, Mercury, and Lead were below Maximum Contaminant Levels. Based on the available information, and since the soil has been affected further investigation is recommended.
- Daniel Measurement and Control. 9720 Old Katy Road. **TXVCP**. Phase: Conditional. VOC's, SVOCs, metals, and chlorinated solvents contaminants were found in soils and groundwater. Currently there is a pump and treat system to assist with on-site remediation. Because the site is outside ½ mile radius, no impact is anticipated. **No further investigation is recommended.**
- Goodson Yugo. 9702 Old Katy Rd. **LPST**. Status code: Final concurrence issued, case closed. Groundwater is affected. Because the site is outside ½ mile radius, no impact is anticipated. **No further investigation is recommended.**

Although groundwater sampling results were below maximum contaminant levels, the possibility of soil contamination still exists. For the purpose of the detention basin construction, Phase II soil sampling on the subject property is recommended to determine soil handling and disposal requirements.

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II. INTRODUCTION

A. Purpose

The purpose of the Phase I ESA is to investigate the subject property through a combination of historical research and site reconnaissance in order to determine the likelihood of any environmental risks or liabilities. These results are to assist the City of Houston (City) in developing information to identify Recognized Environmental Conditions (RECs). A REC is the presence or likely presence of hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products.

B. Detailed Scope of Work

This Phase I ESA was performed in accordance with ASTM E 1527-00 and the City of Houston Department of Public Works and Engineering ECRE Standard Practices for ESAs. The scope of work includes the following tasks:

- Review of Federal and State regulatory agency database records to assess any documented RECs near the subject property. The database prepared by Environmental Data Resources, Inc. (EDR), dated June 24, 2011, contains information on:
 - o Federal National Priority List (NPL) sites within 1.0 mile:
 - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) sites within 500 feet;
 - o CERCLIS sites designated No Further Remedial Action Planned (NFRAP) on or adjoining the subject property;
 - o Resource Conservation and Recovery Act (RCRA) Corrective Action Activity (CORRACTS) within 500 feet;
 - o Federal RCRA Treatment, Storage, and Disposal Facilities (TSDF) within 0.5 mile;
 - o RCRA generators on or adjoining the subject property;
 - Emergency Response Notification System (ERNS) listings on the subject property;
 - o Texas Hazardous Waste Sites including state NPL, CERCLIS, and Texas Voluntary Cleanup (VCP) sites within 0.5 mile;
 - o Leaking Petroleum Storage Tanks (LPSTs) within 500 feet; and
 - o Registered Underground Storage Tanks (USTs) on or adjoining the subject property.
- Compare selected historical and current aerial photographs to identify changes in land uses near the subject property over time and to determine potential environmental concerns related to the use of the subject alignment or adjacent properties. Sources of aerial photography are the Agricultural Stabilization and Conservation Service (ASCS) (1953), the United States Geological Survey (USGS)

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(1968), Texas Department of Transportation (TxDOT) (1979, 1989), United States Geological Survey (1995), United States Department of Agriculture (2004), and the Environmental Data Resources (EDR) (2005, 2008).

- Review Emergency Release Reports, pipeline maps, and flood plain maps.
- Review City directories and interview individuals with knowledge of the subject alignment in order to assess the historical ownership, development, and use of the subject property and adjacent properties.
- Conduct visual site reconnaissance of the subject property and the adjoining properties, and interview available individuals with knowledge of the subject property in order to assess any current RECs.
- Prepare a report that summarizes the results of the investigation and provides recommendations regarding further investigation to fully determine and quantify potential environmental liabilities associated with the subject property.

C. Limitations of Scope and Services

This assessment is limited to the visual observation of surface conditions within the subject property, interviews with public agencies and other persons knowledgeable of the subject property, and a review of reasonably ascertainable data. For the purposes of this ESA, reasonably ascertainable data is defined as interview information that could be obtained from property owners, individuals present during the site visit, and any agency records and historical maps that could be readily obtained through a commercial source. The information obtained was not further verified unless it was known to be incorrect or conflicted with other information previously obtained. Lockwood, Andrews & Newnam, Inc. (LAN) does not guarantee the completeness or accuracy of the regulatory agency files and site listings. Therefore, this report does not contain any information that was not provided or was not known by the individuals that were interviewed at the time this site assessment was performed.

The ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs in connection with the subject property. The following conditions were not included in the scope of work:

- Naturally occurring toxins in subsurface soils, rocks, and water or toxicity of on-site flora;
- Biological hazards;
- Health effects of electromagnetic radiation from high-voltage power lines;
- Drinking water quality including lead in drinking water;
- Asbestos-containing building materials or lead-based paint;
- Radon and other naturally occurring radioactive materials; or
- Surface or subsurface contamination.

There is no guarantee that not finding the indicators of hazardous substances or petroleum products assumes that these materials do not exist within the subject alignment. No subsurface investigations were performed to identify any closed landfills within the subject property. This report is based on the regulations in effect at the time it was prepared.

LAN has completed this Phase I ESA in general accordance with ASTM E 1527-00, unless otherwise specified, for the W140 Detention Basin Feasibility Study. The guidelines and procedures used to perform this ESA are consistent with the City of Houston's ECRE Standard Practice for conducting Phase I ESAs.

D. User Reliance

This Phase I ESA report has been prepared for the exclusive use and reliance of the Tax Increment Reinvestment Zone No. 17 (TIRZ 17) and City of Houston for this project. Use or reliance by any other party is prohibited without written authorization of LAN, TIRZ 17, or the City of Houston. Reliance on this Phase I ESA by the client and all authorized parties will be subject to the terms, conditions, and limitations stated in the ESA report.

III. SITE DESCRIPTION

This subject property is located north of Interstate Highway 10 between Bunker Hill Road and Blalock Road in Houston, Harris County, Texas. The project area is approximately 8.3 acres.

A. Location and Legal Description

The proposed work includes design of a storm water detention pond with 40-45 acrefeet of capacity on the subject property that will provide storage for storm events in the W140 watershed in Houston, TX. Vicinity maps and project location maps are included in Appendix A.

B. Current Land Use

Land use in the subject property is considered to be general commercial vacant land. The site is bordered by Lowe's and Costco to the west, Briar Branch Ditch (Harris County Flood Control District Ditch Number W140-01-05) to the north, office buildings and warehouses to the east, and Interstate Highway 10 to the south.

C. Site and Vicinity General Characteristics

1. Geology and Soils

The subject property is located in Harris County, which lies in the Quaternary Gulf Coastal Plain of Texas. According to Soil Survey of Harris County, Texas the surface soil mapping units on the proposed Detention Basin consists mostly of Addicks-Urban land complex (**Ak**) and partially of Gessner-Urban land complex (**Gu**).

The Addicks-Urban land complex (Ak) is a nearly level complex in urban areas and in the surrounding rural areas where the population is increasing. Encroachment of trees has occurred in some areas. The older urban areas are generally wooded, as a result of tree planting to provide shade.

The Addicks soil has a surface layer of friable, neutral, black loam about 11 inches thick. The layer below that is friable, neutral, dark gray loam about 12 inches thick. The next layer is about 26 inches thick and consists of friable, moderately alkaline, light gray loam that is about 20 percent, by volume, visible calcium carbonate. The layer at a depth of about 49 inches is firm, moderately alkaline, light gray loam that has distinct yellow and yellowish brown mottles and is about 5 percent visible calcium carbonate.

Urban land in the Addicks-Urban land complex consists of small areas of Addicks loam that has been altered by cutting, filling, and grading. Fill material has altered the soil in places. In some areas the entire profile is covered with 6 to 24 inches of fill material. Soils in the older areas that are drained by road ditches show less evidence of alteration. The area is characterized with poor drainage and chlorosis is common in areas where cuts have been made. Most of the acreage was formerly in cropland or native pasture.

The Gessner-Urban land complex contains slopes that are 0 to 1 percent. This component is on depressions on coastal plains. The parent material consists of loamy fluviomarine deposits of Early Pleistone age. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 0 inches during the entire year. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land and Irrigated land capability classification is 4w. Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both. Capability subclasses are soil groups within one class. They are designated by adding a small letter, e, w, s, or c, to the class numeral, for example, 4w. The letter w shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage). This soil meets hydric criteria.

In general, both mapping units also contain Urban Land soil mapping unit. Urban land consists of soils that have been altered or covered by buildings and other urban structures, making classification impractical. Typical structures are single-unit and multiple-unit dwellings, streets, schools, churches, parking lots, office buildings, shopping centers that are less than 40 acres in size, and few industrial sites. The soils in this unit have been altered by cutting, filling, and grading in urban development. Also included are remnants of undisturbed soil and areas where the natural soil is covered by fill material.

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2. Topography and Surface Water Drainage

The Hedwig Village, Texas, United States Geological Survey (USGS) topographical quadrangle map, dated 1995, identifies the slope of the natural ground surface of the subject property. Based on the available information, it can be reasonably assumed that surface water flows in a south-southeast, towards Buffalo Bayou. The typical elevation the subject property ranges between 80 and 85 feet above sea level.

3. Hydrogeology

The key water bearing aquifers located underneath the subject property are the Chicot Aquifer and the Evangeline Aquifer. Both the Chicot and Evangeline aquifers are composed of lenticular deposits of sand compressible clay but bear different hydraulic conductivities. The general direction of groundwater flow is assumed to be in the same direction as the slope of the natural historic ground elevation.

The subject property area's Hydrologic Group is classified as Class B/D. The area includes soils having very slow infiltration rates with a seasonal high water table but can be drained.

4. Floodplain Data

Floodplain characteristics for the subject property were found in the Flood Insurance Rate Map (FIRM) Number 48201C0645L revised on June 18, 2007. The FIRMs are maintained and published by the Federal Emergency Management Agency (FEMA). The subject property lies within Zone X, which means the subject property has been determined to be outside the 500-year flood plain. The Flood Insurance Rate Maps are included in Appendix A.

5. Wetlands

The map provided by EDR shows no areas within the vicinity of the subject property that are listed in the National Wetlands Inventory.

IV. HISTORICAL RECORDS REVIEW

A. Aerial Photographs

Historic and recent aerial photographs were obtained through EDR to identify changes in land uses on and around the subject property over time and to determine potential environmental concerns related to the use of the subject property or adjacent properties.

Aerial photographs were obtained for review from the Agricultural Stabilization and Conservation Service (ASCS) (1953), the United States Geological Survey (USGS) (1968), Texas Department of Transportation (TxDOT) (1979, 1989), United States Geological Survey (1995), United States Department of Agriculture (2004), and the Environmental Data Resources (EDR) (2005, 2008). Best available copies for each decade have been provided. Apparent conditions for each aerial photograph are

summarized below, and reproductions of the aerial photographs are included in Appendix B.

- The 1953 ASCS aerial shows that the subject property is undeveloped. Early stages of Interstate Highway 10 (IH-10), Bunker Hill Road, Blalock Road, and Long Point are shown. There is heavy residential development north of Briar Branch Ditch.
- The 1968 USGS aerial photograph shows the subject property remains undeveloped. Trees have grown in the subject property, but there is significant residential and commercial development in the surrounding vicinity. A neighborhood exists north of the subject property and Briar Branch Ditch. IH-10 has been built into a highway. Industrial sites can be found west adjacent to the subject property. Memorial High School is now found south of IH-10.
- The 1979 TxDOT aerial photograph shows commercial development on the southern portion of the subject property, with the construction of three new buildings and accompanying parking lots. Trees on the land have also been cleared. Continued growth in the area is shown with construction of shopping centers and parking lots south of IH-10. Bunker Hill Road has also been expanded.
- The 1989 TxDOT aerial photograph shows trees on the northern portion have been cleared and two buildings have been built on the southwest corner of the subject property. Three areas appear to have fill material. A building on the adjacent western property has been demolished, and warehouse and office buildings have been built on the adjacent eastern properties. Blalock Road has been expanded also.
- The 1995 USGS aerial photograph shows no significant change within the subject property. Bunker Hill Road has been expanded, south of IH-10. The eastern adjoining property appears to have turned into a car junk yard.
- The 2004 USDA aerial photograph shows no significant change in the subject property. A building appears to be demolished south of the subject area. IH-10 expansion construction is also shown.
- The 2005 EDR aerial photograph shows no significant change, except for the demolition of buildings north of Town & Country Village and north of Queensbury Lane.
- The 2008 EDR aerial photograph shows no significant change in the subject property.

B. USGS Topographic Maps

Historic and recent USGS topographic maps were obtained through EDR to identify changes in surface topography on and around the subject area over time. The USGS Topographic Maps are used to visually identify historic and current conditions on or near the subject property. Apparent conditions for each topographic map are summarized below, and reproductions of the maps are included in Appendix C.

- Year: 1918. Quad: Hillendahl, TX. Series: 7.5. Few roads exist, including Long Point Road, Katy Road, Jennetta Road, and portion of Gessner Road from Old Katy Road to Long Point. There is also minor residential presence surrounding the area of interest. Spring Branch creek and Rummel Creek are shown draining into Buffalo Bayou. The elevation along subject property is approximately 80 to 85 feet above sea level.
- Year: 1919. Quad: Addicks, TX. Series: 7.5. The topography of the subject property has not changed. Project area is still undeveloped.
- Year: 1955. Quad: Addicks, TX. Series: 15. Significant development appears in the vicinity, including the villages of Bunker Hill, Piney Point, Hunters Creek, Spring Valley, and Hedwig Village. Drainage improvements have been made in the vicinity, such as Briar Branch Ditch, which is located north of the subject property. Beltway 8 extends up to Katy Highway.
- Year: 1970. Quad: Hedwig Village, TX. Series: 7.5. Residential development continues to grow in the area. Railroad tracks are shown on the western adjoining property. Memorial City Shopping Center, a golf course, and some other commercial development appear along IH-10, which has been expanded into a 6-lane freeway. Buildings appear in the western adjoining property. The Town and Country Shopping Center appears along Beltway 8, which have expanded to northbound and southbound lanes.
- Year: 1982. Quad: Hedwig Village, TX. Series: 7.5. The subject property remains mostly unchanged, with the exception of new buildings along the IH-10 corridor. Bunker Hill Road has also expanded. There is continued growth for the Memorial City Shopping Center.
- Year: 1995. Quad: Hedwig Village, TX. Series: 7.5. The subject property remains mostly unchanged. The golf course is replaced with a building.

C. City Directories

Morrison & Fourmy's City Directory, Polk's City Directory, Southwestern Bell Yellow Pages, and Cole's Criss Cross Directory for the City of Houston were reviewed for this study and made available through EDR. Business directories including city, cross reference and telephone directories were reviewed, when available, at approximately 5 year intervals for the years spanning 1962 to 2004. Data obtained indicates when particular addresses came into existence, whether or not the property was (or is) vacant, and the names of occupying facilities. A review of the city directories, using select addresses along the subject property, did not reveal any significant information regarding past or present use. Copies of the city directory search results are included in Appendix D.

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D. Sanborn Maps

The Sanborn Company began preparing maps of central business districts in the late nineteenth century for use by fire insurance companies. The Sanborn maps were updated periodically and expanded geographically through the twentieth century. These maps often indicate construction materials of specific building structures and the location of gasoline storage tanks. Based upon review of the statewide Sanborn Map index, no Sanborn Maps were found for the area of interest. The EDR's Sanborn map report can be found in Appendix D.

V. REGULATORY AGENCY RECORDS REVIEW

EDR was contracted to conduct a regulatory database review for the subject property. The database report, prepared by EDR and dated June 24, 2011, includes information on:

- Federal National Priority List (NPL) sites within 1.0 mile:
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) sites within 500 feet;
- CERCLIS sites designated No Further Remedial Action Planned (NFRAP) on or adjoining the subject property;
- Resource Conservation and Recovery Act (RCRA) Corrective Action Activity (CORRACTS) within 500 feet;
- Federal RCRA Treatment, Storage, and Disposal Facilities (TSDF) within 1.0 mile;
- RCRA generators on or adjoining the subject property;
- Emergency Response Notification System (ERNS) listings on the subject property;
- Texas Hazardous Waste Sites including state NPL, CERCLIS and Texas Voluntary Cleanup (VCP) sites within 0.5 mile;
- Leaking Petroleum Storage Tanks (LPSTs) within 500 feet; and
- Registered Underground Storage Tanks (USTs) on or adjoining the subject property.

The executive summary of the EDR database search is in Appendix E. The report in its entirety totals 481 pages. Reports on each of the RECs have been extracted from the full body of the EDR reports and follow the executive summaries. Some of the facilities have more than one report because the title or address was recorded slightly differently.

A. National Priority List (NPL)

The database research performed by EDR revealed no NPL sites within the 1-mile search radius.

B. Comprehensive Environmental Response and Compensation Liabilities Information System (CERCLIS)

The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) contains data on potentially hazardous waste sites, which are either proposed to or on the National Priorities List (NPL), and sites that are in the screening and assessment phase for inclusion on the NPL. The database research performed by EDR identified no CERCLIS sites within 500 feet of the subject property.

C. No Further Remedial Action Planned (NFRAP)

NFRAP sites are those where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund Action or NPL consideration. No NFRAP sites were located within 500 feet of the subject property.

D. Corrective Action Activity (CORRACTS)

CORRACTS is a list of handlers with RCRA Corrective Action Activity and shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity. No CORRACTS sites are within 500 feet of the subject property.

E. Federal Resource Conservation and Recovery Act (RCRA) Treatment, Storage, and Disposal Facilities (TSDF)

The Resource Conservation and Recovery Act (RCRA) oversee sites that generate, store, treat, or dispose of hazardous waste. Activities at these Treatment, Storage, and Disposal Facilities (TSDF) are tracked. No sites exist within 1.0 mile of the subject property.

F. RCRA Generators

The Resource Conservation and Recovery Act (RCRA) oversees sites that generate, store, treat, or dispose of hazardous waste. Generators are categorized by the amount of waste they generate: conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg. of acutely hazardous waste per month; small quantity generators (SQGs) generate between 100 kg. and 1,000 kg. of hazardous waste per month; and large quantity generators generate (LQG) over 1,000 kg. of hazardous waste or over 1 kg. of acutely hazardous waste per month. The database research performed by EDR identified zero (0) RCRA generator located on or adjoining the subject property.

G. Leaking Underground Storage Tanks (LTANKS)

The Leaking Underground Storage Tank incident reports contain an inventory of reported leaking underground storage tank incidents from the Texas Commission on Environmental Quality database. The database search performed by EDR revealed nine (9) LTANKS sites, which include:

- Goodson Yugo. 9702 Old Katy Rd. Status code: Final concurrence issued, case closed. Groundwater is affected.
- Phillips 66 Co 018424. 9669 Katy Rd. Status code: Final concurrence issued, case closed. Groundwater is affected.
- Bunker Hill Texaco. 995 Bunker Hill Rd. Status code: Final concurrence issued, case closed. Groundwater is affected.
- Pick N Pay 2 Shell. 1315 Blalock Rd. Status Code: Final concurrence issued, case closed. Groundwater is affected and a domestic water supply well is located within 0.25 and 0.5 miles of underground storage tank.
- Former Shell. 1314 Blalock Rd. Status code: Final concurrence issued, case closed. Assessment incomplete, no apparent threats or impacts to receptors.
- Lucky Gas Phillips 66. 9226 Katy Fwy. Status code: Final concurrence pending documentation of well plugging. Groundwater is affected and a domestic water supply well is located within 0.25 and 0.5 miles of underground storage tank.
- Buy the Way. 9342 Westview Dr. Status code: Final concurrence issued, case closed. Groundwater is affected and a domestic water supply well is located within 0.25 and 0.5 miles of underground storage tank.
- Target Store 17. 9429 Katy Fwy. Status code: Final concurrence pending documentation of well plugging. Groundwater is affected.
- Chevron 60108044. 9303 IH 10. Status code: Final concurrence issued, case closed. Groundwater is affected and a domestic water supply well is located within 0.25 miles of underground storage tank.

H. Underground Storage Tanks (UST)

The Underground Storage Tank (UST) Database contains registered USTs, which are regulated under Subtitle I of RCRA. The data comes from the Texas Commission on Environmental Quality database. The database search performed by EDR revealed zero (0) UST sites within 0.25 of subject property.

I. Emergency Response Notification System (ERNS)

The Emergency Response Notification System is a national computer database system that is used to store information reported releases of oil and hazardous substances into the environment. The database research performed by EDR did not find any ERNS sites listed on the subject property.

J. Texas Voluntary Cleanup Program Sites (TX VCP)

In 1995, the Texas legislature amended the Texas Solid Waste Disposal Act and created the Voluntary Cleanup Program. The voluntary cleanup program has focused on "brownfields," abandoned industrial or commercial sites in urban areas that have remained undeveloped because of contamination and fear of liability. The Texas Voluntary Cleanup Program operates in partnership with the EPA's Brownfields Initiative. EDR performed a search for TX VCP sites near the subject property in which four (4) were found.

- Daniel Measurement and Control. 9720 Old Katy Road. Phase: Conditional. VOC's, SVOCs, metals, chlorinated solvents, and TP contaminants were found in soils and groundwater. Currently there is a pump and treat system to assist with on-site remediation.
- Dilley's Dry Cleaner. 1304 Blalock Road, Suite F. Phase: Investigation. VOCs and chlorinated solvents have affected approximately 4.0 acres of soils and groundwater. A natural attenuation has been proposed to remedy the contamination.
- Hurricane Steel Industries. 9600 Old Katy Rd. Phase: Completed. Metal contaminants were found in soils and groundwater. A certificate of completion was granted on February 4, 2003.
- Echo Lane Shopping Center. 9309 9363 Katy Freeway. Phase: Completed. Chlorinated solvents affected the soils and groundwater. The site was excavated to remove contaminants. A certificate of completion was granted on April 7, 2000.

K. Solid Waste Municipal Landfill

The database research performed by EDR revealed no Solid Waste Municipal Landfill sites with 500 feet of the subject property.

L. Aboveground Storage Tanks (AST)

The database research performed by EDR found no aboveground storage tank sites within the search radius.

VI. SITE RECONNAISSANCE

A partial walk-through site reconnaissance was completed on July 1, 2011. The weather was hot and humid. A photographic overview can be found in Appendix F.

A. Methodology and Limiting Conditions

Site reconnaissance was completed in the form of a walk-through survey. One limiting condition included obtaining access of fenced in areas in the subject property.

B. Observations Made During Site Reconnaissance

All sites listed with potential concern in the regulatory agency review were verified. Visual inspection of the sites to identify any past activities or new development that may pose an environmental threat to the subject property was limited due to restricted areas.

The following table provides a summary of the items observed during the Site Reconnaissance. No problematic evidence was noted.

Category	Item or Feature	Item or Feature Observed
Aboveground Chemical or	Evidence of aboveground storage tanks	
Waste Storage	Drums, barrels and containers greater than 5 gallons	
Underground Chemical or	Evidence of underground storage tanks or ancillary UST equipment	
Waste Storage, Drainage	Sumps, cisterns, catch basins and/or drywalls	
or Collection Systems	Septic tanks and/or leach fields	
	Pipeline markers	
Electrical Transformers/PCB's	Pad or pole mounted transformers	
	Stressed vegetation	
	Stained soil	
	Stained pavement or similar service	
Evidence of Releases or	Trash, debris and/or other waste materials	X
Potential Releases	Dumping or disposal areas	X
. otomiai moreades	Construction/demolition debris and/or dumped fill dirt	X
	Surface water discoloration, odor, sheen and/or floating free product	
	Strong, pungent or noxious odors	
	Surface water bodies	
Other Notable Site Features	Quarries or pits	
i catares	Monitoring wells	Х

During the site visit, a Costco Gasoline Station was identified adjacent to the subject property. Two monitoring wells were located close to the underground gasoline storage tank. The capacity of the underground storage tank is unknown. No impact is anticipated from this site.

A photographic overview of the site reconnaissance is included in Appendix F.

VIII. INTERVIEWS

A. Interviews with Government Officials

A written inquiry was made to Nekiea (Nikki) Corpening of the City of Houston Fire Department regarding documented hazardous material incidents on or adjacent to the subject alignment. The Hazmat Chemical Release database list provided showed nine possible sites with hazardous material incidents since November 2003. All sites were outside a ½ mile radius of the subject property or were a "turn-around" incident. Ms. Phillips of the City of Houston Department of Health and Human Services was also contacted. Written correspondence returned no incidents found. Correspondence with these government officials can be found in Appendix G.

B. Interviews with Owners/Operators

Ms. Tammie Porch with Texas Commission on Environmental Quality (TCEQ) was contacted to request records information on the following sites:

- Hurricane Steel Industries. 9600 Old Katy Road. TXVCP
- Daniel Measurement and Control. 9720 Old Katy Road. TXVCP
- Goodson Yugo. 9702 Old Katy Rd. LPST.

No pertinent records were found.

The property owner made the following report available for review: Phase I ESA Update for Business Park and & Vacant Land 9446, 9444, and 9440 Old Katy Road by Fugro Environmental, dated 1996. The report summarized previous environmental investigations that were completed on the subject property, and additional sampling was performed.

- A Limited Subsurface Investigation (Report No. 50-280-91) dated March 1991 included two (2) soil borings and one (1) monitoring well taken along the western boundary of the subject property. No VOCs were detected in the soil samples. Barium, Chromium, & Mercury were detected in the soil at MW-1 and SB-1, but were below reporting limits. Chromium was found in the groundwater in MW-1 at a concentration of 0.09 mg/L, which was above the MCL of 0.05 mg/L. Barium was found in the groundwater at a concentration of 0.53 mg/L, which was below the MCL of 2.0 mg/L.
- An ESA Update dated June 1993 (Report No. 505193-372) indicated that heavy metals were below detection limits in the groundwater, with the exception of Barium, which was found at a concentration of 0.501 mg/L (below the MCL of 2.0 mg/L).
- The Fugro Phase I ESA Update performed groundwater sampling at MW-1 on March 28, 1996. Barium and lead concentrations were 0.07 and 0.006 mg/L, respectively, both of which were below MCLs. Concentrations of Arsenic, Cadmium, Chromium, Mercury, Selenium, and Silver were not found.

For a comparison of sampling results, refer to Table 1: Summary of Groundwater Sampling from Existing Monitoring Well at Proposed W140 Detention Basin Property (see Section IX. Groundwater Sampling).

Notes and relevant documentation are included in Appendix G.

IX. GROUNDWATER SAMPLING

LAN contracted Geotest Engineering, Inc. to perform groundwater sampling for Barium, Chromium, Lead, and Mercury. Groundwater samples were collected from the existing monitoring well at the subject property on July 18, 2011.

The constituents tested were below the MCLs published by the Environmental Protection Agency's National Primary Drinking Water Regulations and TCEQ's Drinking Water Standards (30 TAC 290.104). Although they were below MCLs, concentrations of Barium, Lead, and Chromium were detected in the groundwater samples.

The table below provides a summary of samples and concentrations collected from the existing monitoring well.

Table 1. Summary of Groundwater Sampling from Existing Monitoring Well at Proposed W140

Detention Basin Property

Detention Basin Property										
		Sample Date: Sample Date: Sample Date: Sample Date: 3/1991 6/1993 3/28/1996		Sample Date:						
	2011	3/1	991	6/	1993	3/	/28/1996	//16	7/18/2011	
Contaminant	MCL (mg/L)	Sample (mg/L)	Note	Sample (mg/L)	Note	Sample (mg/L)	Note	Sample (mg/L)	Note	
					Below					
			Below		1996					
			1991		MCL (2.0		Below 1996		Below	
Barium	2.00	0.53	MCL	0.201	mg/L)	0.07	MCL	0.319	2011 MCL	
			Above							
			1991							
			MCL							
			(0.05						Below	
Chromium	0.10	0.09	mg/L)	-	-	-	Not Found	0.0101	2011 MCL	
			_				Below 1996		Below	
Lead	0.015	-	-	-	-	0.006	MCL	0.00857	2011 MCL	
							_		Below	
									Reporting	
Mercury	0.002	-	-	-	-	-	Not Found	-	Limit	

The lab results collected by Geotest Engineering, Inc. from the existing monitoring well on July 18, 2011 are included in Appendix G.

X. FINDINGS AND CONCLUSIONS

LAN has performed a Phase I ESA of the subject property in conformance with the scope and limitations of ASTM Practice E 1527-00 and the City of Houston Department of Public Works and Engineering ECRE Standard Practices for ESAs. Any exceptions to or deletions from this practice are described in Section II C of this report. This assessment revealed three (3) RECs in connection with the subject project.

A summary below provides recommendations regarding further investigations of the findings/potential RECs:

- Hurricane Steel Industries. 9600 Old Katy Rd. TXVCP. Phase: Completed. Metal contaminants were found in soils and groundwater. A certificate of completion was granted on February 4, 2003. A groundwater sample was collected from the existing monitoring well on the subject property, and Barium, Chromium, Mercury, and Lead were below Maximum Contaminant Levels. Based on the available information, and since the soil has been affected further investigation is recommended.
- Daniel Measurement and Control. 9720 Old Katy Road. **TXVCP**. Phase: Conditional. VOC's, SVOCs, metals, and chlorinated solvents contaminants were found in soils and groundwater. Currently there is a pump and treat system to assist with on-site remediation. Because the site is outside ½ mile radius, no impact is anticipated. **No further investigation is recommended.**
- Goodson Yugo. 9702 Old Katy Rd. LPST. Status code: Final concurrence issued, case closed. Groundwater is affected. Because the site is outside ½ mile radius, no impact is anticipated. No further investigation is recommended.

Although groundwater sampling results were below maximum contaminant levels, the possibility of soil contamination still exists. For the purpose of the detention basin construction, Phase II soil sampling on the subject property is recommended to determine soil handling and disposal requirements.

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Federal Emergency Management Agency (FEMA), June 18, 2007. Flood Insurance Rate Map Number 48201C0645L, Harris County, Texas and Incorporated Areas.

U.S. Department of the Interior, Geological Survey. USGS, Denver CO.

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National Resources Conservation Service, United States Department of Agriculture, July 6, 2011. Custom Soil Resource Report for Harris County, Texas.

X. LIST OF PREPARERS

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PHASE II ENVIRONMENTAL SITE ASSESSMENT MEMORIAL CITY REDEVELOPMENT AUTHORITY W140 DETENTION BASIN LAN PROJECT NO. 130-10384-011-112 HOUSTON, TEXAS DRAFT

Reported to:

LOCKWOOD, ANDREWS & NEWNAM, INC.

Houston, Texas

Submitted by:

GEOTEST ENGINEERING, INC.

Houston, Texas

REPORT NO. 1130015101, dated October 21, 2011

Key Map Nos. 450 C & 490 B



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Report No. 1130015101 DRAFT October 21, 2011

Mr. Muhammad M. Ali, P.E. Lockwood, Andrews & Newnam, Inc. 2929 Briarpark Drive, Suite 400 Houston, Texas 77042

Reference:

Phase II Environmental Site Assessment (ESA)

Memorial City Redevelopment Authority

W140 Detention Pond

LAN Project No. 130-10384-011-112

Houston, Texas

Dear Mr. Ali:

We are pleased to submit the Phase II Environmental Site Assessment draft report for the referenced project. This study was authorized by Notice to Proceed Letter dated September 19, 2011 and Task Order No. 899/2 by accepting our proposal No. 1130022999 dated August 16, 2011.

We appreciate the opportunity to be of service to you. If we can be of further assistance, please call us.

THIS PRELIMINARY DOCUMENT IS FOR INTERIM REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

MOHAN C. BALLAGERE, P.E.

87622

TEXAS SERIAL NO.

10/21/2011

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Sincerely,

GEOTEST ENGINEERING, INC.

TBPE Registration No. F-410

Naresh Kolli, E.I.T. Assistant Project Manager

Mohan C. Ballagere, P.E. Vice President

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1.0 EXECUTIVE SUMMARY

A Phase II Environmental Site Assessment (the study) was conducted for Lockwood, Andrews & Newnam, Inc. for the W140 Detention Basin in Houston, Texas. This study is in reference to the existing monitoring well located on the proposed W140 detention basin site.

This study was based on the ASTM guidelines for Phase II Environmental Site Assessment, designation ASTM 1903-97 (2002) and modified by City of Houston Department of Public Works and Engineering Design Manual, Chapter 11 — Geotechnical and Environmental Requirements Subsection, Phase II Environmental Requirements, dated July 1, 2011. The purpose of this study is to evaluate the presence of heavy metals contamination in soil and groundwater around the existing monitoring well at the proposed W140 detention basin site.

This study included drilling and continuous sampling three (3) environmental borings to depths ranging from 13 to 17 feet, screen each soil sample in the field for the presence of volatile compounds using a photoionization detector (PID), performing analytical tests on soil and water samples (if encountered) recovered from the borings, performing laboratory testing on collected samples and preparation of a report documenting the field investigation and analytical test results

The principal findings and conclusions developed from this study are summarized below:

- The field screening indicated no organic vapors for the soil samples.
- No groundwater was encountered in all the borings performed during this study.
- Three selected soil samples were tested for RCRA metals including, Mercury, Arsenic,
 Barium, Cadmium, Chromium, Lead, Selenium and Silver.
- Based on the results of analytical testing, the metals Arsenic, Barium, Cadmium,
 Chromium and Lead were detected in laboratory tests in borings EB-1 through EB-3.
 The contaminants Arsenic in borings EB-1 and EB-3 and Lead in borings EB-1 through

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EB-3 exceeded the TCEQ TRRP TIER 1 PCLs for residential guidelines (based on Tier 1 Residential Soil PCLs on 0.5-acre source area and ^{GW}soil_{ing} exposure pathway).

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2.0 INTRODUCTION

2.1 General

A Phase II Environmental Site Assessment (the study) was conducted for Lockwood, Andrews & Newnam, Inc. for the W140 Detention Basin in Houston, Texas. This study is in reference to the existing monitoring well located on the proposed W140 detention basin site.

The project location map is shown on Figure 1.

This study was authorized by Notice to Proceed Letter dated September 19, 2011 and Task Order No. 899/2 by accepting our proposal No. 1130022999 dated August 16, 2011.

2.2 Objectives

The objectives of this study are to evaluate the presence of heavy metals contamination in soil and groundwater (if encountered) around the existing monitoring well at the proposed W140 detention basin site. This study was performed in general accordance with ASTM guidelines for Phase II Environmental Site Assessment, designation ASTM 1903-97 (2002) and modified by City of Houston Department of Public Works and Engineering Design Manual, Chapter 11 – Geotechnical and Environmental Requirements Subsection, Phase II Environmental Requirements, dated July 1, 2011.

2.3 Scope of the Study

The scope will consist of the following:

- Drilling and continuously sampling three (3) environmental borings utilizing Geoprobe, with two (2) borings to a depth of 17 feet and one (1) boring to a depth of 13 feet;
- Screening each soil sample for the presence of organic vapor using a photoionization detector (PID);
- develop 1-inch temporary monitoring wells for groundwater (if encountered) sampling

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and then plug and abandon;

• Conducting analytical tests on selected one (1) soil sample from each boring and one (1) ground water sample (if encountered) from each location;

 Preparing a Phase II environmental site assessment report documenting the field investigation and analytical test results.

2.4 Special Terms and Conditions

There were no special terms or conditions.

2.5 Limitations and Exceptions of Assessment

The scope of this Phase II ESA is limited to matters expressly described herein. In preparing this report, Geotest has relied upon the information derived from secondary sources. All findings and conclusions stated in this report are based upon the facts and circumstances as they existed at the time this report was prepared (e.g., Federal, State and Local Laws, Rules, Regulations and other matters that Geotest deemed relevant). A change in any facts or circumstances upon which this report was based may affect the findings expressed herein.

The subsurface conditions described in this report and the results of analytical tests are based on three (3) completed borings drilled at specific locations. However, variation in soil conditions and level of contamination, if any, may occur between the completed borings. The depth of the groundwater level may vary with changes in environmental conditions such as frequency and magnitude of rainfall.

2.6 Limiting Conditions and Methodology Used

This Phase II ESA is limited to the data derived from the soil borings and the laboratory tests performed on the samples recovered from the project site. Following this section of the report, Section 3 provides a subsurface investigation; Section 4 describes the laboratory analytical program, Section 5 describes the data evaluation and Section 6 contains references.

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3.0 SUBSURFACE INVESTIGATION

3.1 Field Investigation Methodologies

The field investigation methodology takes into consideration the potential distributions of contaminants with respect to the properties, behaviors and fate and transport characteristics of the contaminant in a setting such as that being assessed. The sampling plan was designed to provide for the collection of potentially contaminated environmental media, if they occur, at locations and depths where the highest concentrations are likely to occur.

These investigation methodologies were developed in general accordance with ASTM Standard D 5730: Guide to Site Characteristics for Environmental Purposes with Emphasis on Soil, Rock, The Vadose Zone and Groundwater (Reference 1).

Personal health and safety precautions were followed in accordance with applicable federal and state laws or local equivalents and any requirements imposed by the owner, occupant or field personnel.

No test pits were excavated as part of this Phase II ESA study.

The field investigation includes drill and continuously sample three (3) environmental borings (designated as EB-1 through EB-3). All the boring locations are shown on Figure 2, Plan of Borings.

In each boring, geoprobe tubes were pushed to collect samples. At the start of the each boring, all sampling tools were decontaminated with a phosphate-free Liquid-Nox detergent, followed by a Freon rinse and a final deionized water rinse to reduce possible sample cross-contamination. The sampling tools, however, were decontaminated after every sample recovery. After extrusion, the soil samples were placed in EPA-approved laboratory-provided glass jars. All the samples were then placed in a small cooler with ice.

Geotest's representative visually field-classified the recovered soil samples. Notations of soil type, color and odor, if present, were recorded on the soil boring logs. Soil classifications presented

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on the log of borings are based on visual field classification and have not been verified by geotechnical laboratory soil testing. All the borings were grouted with cement-bentonite grout at the end of drilling.

The environmental boring logs are presented on Figures A-1 through A-3 in Appendix A. A key to symbols and terms used on the boring logs is presented on Figure A-4 in Appendix A.

During the field investigation, field screening for organic vapor concentrations was performed on all soil samples recovered from the borings. The measurements were made in the field with a benzene-calibrated, HNU DL-101 Photo-Ionization Detector (PID) equipped with a 10.2 eV lamp. Results of the field PID screening are summarized as "Field Screening – Organic Vapor" on the boring logs presented on Figures A-1 through A-3 in Appendix A.

Since no groundwater was encountered during drilling, temporary monitoring wells were not installed in the borings for this study.

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4.0 LABORATORY ANALYTICAL PROGRAM

4.1 Chemical Testing Plan

All soil samples were screened in the field for organic vapors with a Photo-Ionization Detector (PID). Three (3) soil samples were selected for the analytical testing. The analytical testing included RCRA metals including Mercury, Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, and Silver. The results are presented in Appendix B.

4.2 Sampling and Chemical Analyses and Methods

4.2.1 Soil. Soil samples were obtained by pushing a geoprobe tube. After extrusion, the soil samples were collected and placed in EPA-approved laboratory-provided glass jars and then placed in a portable ice cooler with ice. One soil sample from each boring (based on excavation depth of detention basin) was selected for analytical testing. The samples selected for analytical testing are given below.

Boring No.	Sample No	Depth, ft
EB-1	S-8	14-16
EB-2	S-7	12-14
EB-3	S-6	10-12

The analytical tests and corresponding test methods are listed below.

Mercury SW-846 7471 A

Metals SW846 6010B Sub: T104704295-TX

The samples were transported along with the chain-of-custody documentation to XENCO Laboratories in Houston, Texas for analytical testing.

<u>4.2.2 Groundwater</u>. No groundwater was encountered in the borings performed for this study and hence no testing was performed.

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5.0 DATA EVALUATION

5.1 Subsurface Conditions

5.1.1 Geologic Setting. Based on the Geologic Atlas of Texas - Houston Sheet, the project area is in the Beaumont Formation. The clays and sands of this formation are overconsolidated as a result of desiccation or frequent raising and lowering of the sea level and subsequently the groundwater table. Consequently, clays of this formation have moderate to high shear strength and relatively low compressibility. Sands of the Beaumont Formation are typically very fine and often silty. Further there is evidence in the Houston area of the occurrence of cemented material (sandstone and siltstone) deposits within the Beaumont Formation.

5.1.2 Hydrogeologic Conditions. There are three major water-producing components in the region; Chicot (shallowest), Evangeline and Jasper (deepest) aquifers. The Chicot and Evangeline aquifers have base altitudes as deep as 600 and 1,500 feet below mean sea level, respectively. Most of the groundwater usage in the region is supplied by the Chicot and Evangeline aquifers. The permeability of the subsurface soils ranges from low permeable sandy lean clay and lean clay to very low permeable fat clay. The general groundwater flow in the area is typically from northwest to southeast.

5.1.3 Verification of Conceptual Site Model. The conceptual site model and sampling plan developed for the site were verified during the Phase II ESA assessment activities. The Quality Assurance (QA)/Quality Control (QC) procedures described in the chemical testing plan were adequate to verify the data acceptability.

5.2 Analytical Data

5.2.1 Soil. Based on the results of analytical testing, the metals Arsenic, Barium, Cadmium, Chromium and Lead were detected in laboratory tests in borings EB-1 through EB-3. The contaminants Arsenic in borings EB-1 and EB-3 and Lead in borings EB-1 through EB-3 exceeded the TCEQ TRRP TIER 1 PCLs for residential guidelines (based on Tier 1 Residential Soil PCLs on

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0.5-acre source area and ^{GW}soil_{ing} exposure pathway).

A summary of analytical test results and the TIER 1 PCLs are presented in Table 1. Soil contamination levels were based on TCEQ RG-366/TRRP-23, revised on March 25, 2009 regulatory guidance document that includes TIER 1 PCLs for residential guidelines (using 0.5-acre source area and ^{GW}soil_{ing} exposure pathway) (Reference 2). Details of analytical test results are presented in Appendix B.

<u>5.2.2 Groundwater</u>. No groundwater was encountered in the borings performed for this study and hence no testing was performed.

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6.0 REFERENCES

- 1. ASTM Standard D 5730 Guide to Site Characteristics for Environmental Purposes with Emphasis on Soil, Rock, the Vadose Zone and Groundwater.
- 2. TCEQ (TNRCC) Regulatory Guidance-Remediation Division-RG-366/TRRP- Tier 1 PCL Tables March 25, 2009.

TABLES

	<u>Table</u>
Summary of Analytical Test Results for Metals (Soil)	1

TABLE 1

SUMMARY OF ANALYTICAL TEST RESULTS FOR METALS (Soil)

		~ 1	·	
Silver (mg/kg)	0.48	<0.226	<0.216	<0.201
Selenium (mg/kg)	2.3	11.7 <0.564	<0.540	23.4 <0.517
Lead (mg/kg)	3.0	11.7	6.85	23.4
Arsenic Barium Cadmium Chromium Lead Selenium Silver (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg)	240	6.77	5.32	9.30
Cadmium (mg/kg)	1.5	<0.28	0.335	<0.26
Barium (mg/kg)	300	62.6	91.2	110
Arsenic (mg/kg)	5.9	12.2	3.69	14.2
Mercury (mg/kg)	0.07	<0.06	<0.06	<0.06
TCEQ TRRP TIER 1 Soil PCLs (mg/kg)	Residential (1)			
IION ure 2)	Sample Depth, ft	14-16	12-14	10-12
LOCATION (See Figure 2)	Boring No. Sample Depth, fi	EB-1	EB-2	EB-3

Value in **BOLD** shows exceeds the TCEQ TRRP TIER 1 PCLs Details of these tests are provided in Appendix B.

(1) TCEQ TRRP TIER 1 PCLS For 0.5 acre source area and ^{Gw}soil_{ing} exposure pathway

Note:

ILLUSTRATIONS

	<u>Figure</u>
Project Location Map	1
Plan of Borings	2

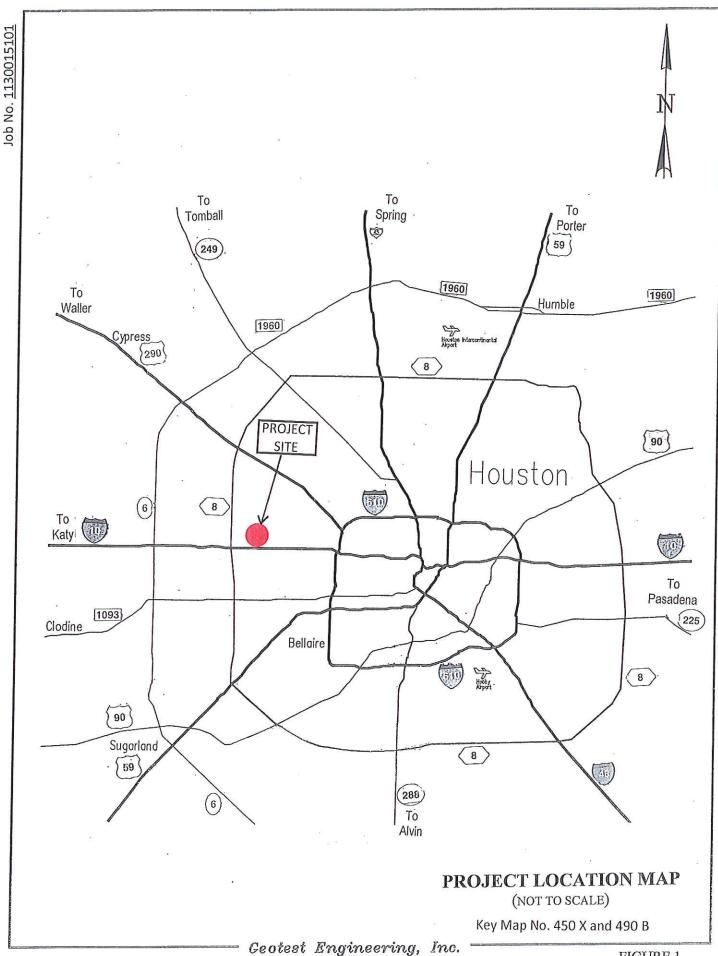
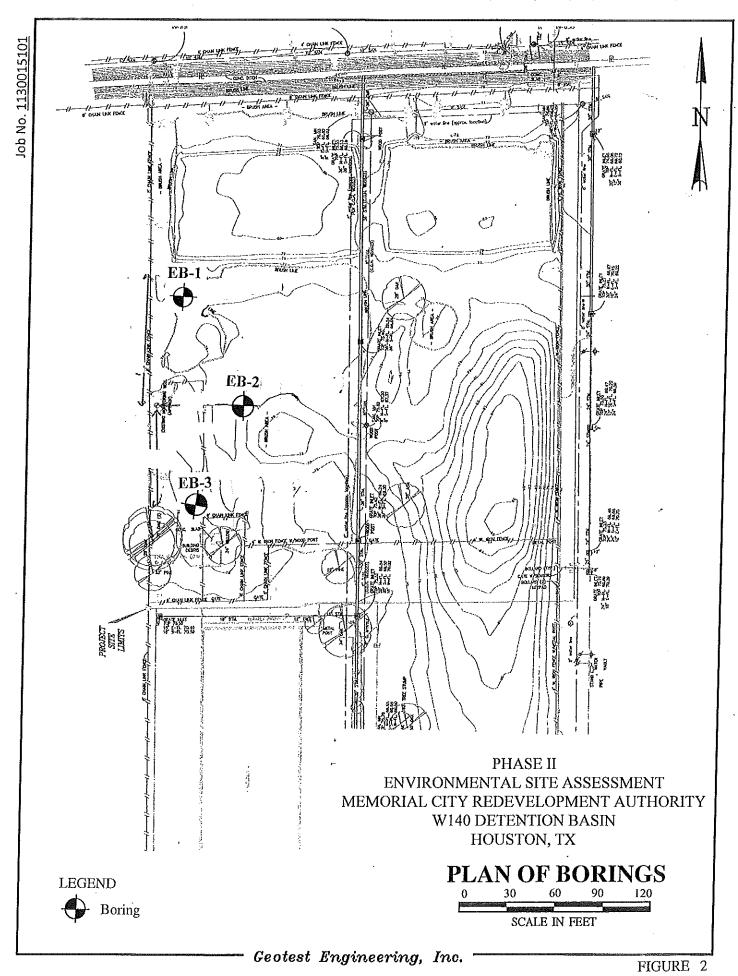


FIGURE 1 Page 18 of 19



PHASE II ENVIRONMENTAL SITE ASSESSMENT MEMORIAL CITY REDEVELOPMENT AUTHORITY W140 DETENTION BASIN LAN PROJECT NO. 130-10384-011-112 HOUSTON, TEXAS DRAFT

Reported to:

LOCKWOOD, ANDREWS & NEWNAM, INC.

Houston, Texas

Submitted by:

GEOTEST ENGINEERING, INC.

Houston, Texas

REPORT NO. 1130015101, dated October 21, 2011

Key Map Nos. 450 C & 490 B



GEOTEST ENGINEERING, INC.

Geotechnical Engineers & Materials Testing

5600 Bintliff Drive

Houston, Texas 77036

Telephone: (713) 266-0588

Fax: (713) 266-2977

Report No. 1130015101 DRAFT October 21, 2011

Mr. Muhammad M. Ali, P.E. Lockwood, Andrews & Newnam, Inc. 2929 Briarpark Drive, Suite 400 Houston, Texas 77042

Reference:

Phase II Environmental Site Assessment (ESA)

Memorial City Redevelopment Authority

W140 Detention Pond

LAN Project No. 130-10384-011-112

Houston, Texas

Dear Mr. Ali:

We are pleased to submit the Phase II Environmental Site Assessment draft report for the referenced project. This study was authorized by Notice to Proceed Letter dated September 19, 2011 and Task Order No. 899/2 by accepting our proposal No. 1130022999 dated August 16, 2011.

We appreciate the opportunity to be of service to you. If we can be of further assistance, please call us.

THIS PRELIMINARY DOCUMENT IS FOR INTERIM REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

MOHAN C. BALLAGERE, P.E.

87622

TEXAS SERIAL NO.

10/21/2011

MB\NK\ego

Copies submitted: (1+1 PDF)
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Sincerely,

GEOTEST ENGINEERING, INC.

TBPE Registration No. F-410

Naresh Kolli, E.I.T. Assistant Project Manager

Mohan C. Ballagere, P.E. Vice President

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1.0 EXECUTIVE SUMMARY

A Phase II Environmental Site Assessment (the study) was conducted for Lockwood, Andrews & Newnam, Inc. for the W140 Detention Basin in Houston, Texas. This study is in reference to the existing monitoring well located on the proposed W140 detention basin site.

This study was based on the ASTM guidelines for Phase II Environmental Site Assessment, designation ASTM 1903-97 (2002) and modified by City of Houston Department of Public Works and Engineering Design Manual, Chapter 11 – Geotechnical and Environmental Requirements Subsection, Phase II Environmental Requirements, dated July 1, 2011. The purpose of this study is to evaluate the presence of heavy metals contamination in soil and groundwater around the existing monitoring well at the proposed W140 detention basin site.

This study included drilling and continuous sampling three (3) environmental borings to depths ranging from 13 to 17 feet, screen each soil sample in the field for the presence of volatile compounds using a photoionization detector (PID), performing analytical tests on soil and water samples (if encountered) recovered from the borings, performing laboratory testing on collected samples and preparation of a report documenting the field investigation and analytical test results

The principal findings and conclusions developed from this study are summarized below:

- The field screening indicated no organic vapors for the soil samples.
- No groundwater was encountered in all the borings performed during this study.
- Three selected soil samples were tested for RCRA metals including, Mercury, Arsenic,
 Barium, Cadmium, Chromium, Lead, Selenium and Silver.
- Based on the results of analytical testing, the metals Arsenic, Barium, Cadmium,
 Chromium and Lead were detected in laboratory tests in borings EB-1 through EB-3.
 The contaminants Arsenic in borings EB-1 and EB-3 and Lead in borings EB-1 through

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EB-3 exceeded the TCEQ TRRP TIER 1 PCLs for residential guidelines (based on Tier 1 Residential Soil PCLs on 0.5-acre source area and ^{GW}soil_{ing} exposure pathway).

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2.0 INTRODUCTION

2.1 General

A Phase II Environmental Site Assessment (the study) was conducted for Lockwood, Andrews & Newnam, Inc. for the W140 Detention Basin in Houston, Texas. This study is in reference to the existing monitoring well located on the proposed W140 detention basin site.

The project location map is shown on Figure 1.

This study was authorized by Notice to Proceed Letter dated September 19, 2011 and Task Order No. 899/2 by accepting our proposal No. 1130022999 dated August 16, 2011.

2.2 Objectives

The objectives of this study are to evaluate the presence of heavy metals contamination in soil and groundwater (if encountered) around the existing monitoring well at the proposed W140 detention basin site. This study was performed in general accordance with ASTM guidelines for Phase II Environmental Site Assessment, designation ASTM 1903-97 (2002) and modified by City of Houston Department of Public Works and Engineering Design Manual, Chapter 11 – Geotechnical and Environmental Requirements Subsection, Phase II Environmental Requirements, dated July 1, 2011.

2.3 Scope of the Study

The scope will consist of the following:

- Drilling and continuously sampling three (3) environmental borings utilizing Geoprobe, with two (2) borings to a depth of 17 feet and one (1) boring to a depth of 13 feet;
- Screening each soil sample for the presence of organic vapor using a photoionization detector (PID);
- develop 1-inch temporary monitoring wells for groundwater (if encountered) sampling

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and then plug and abandon;

• Conducting analytical tests on selected one (1) soil sample from each boring and one (1) ground water sample (if encountered) from each location;

 Preparing a Phase II environmental site assessment report documenting the field investigation and analytical test results.

2.4 Special Terms and Conditions

There were no special terms or conditions.

2.5 Limitations and Exceptions of Assessment

The scope of this Phase II ESA is limited to matters expressly described herein. In preparing this report, Geotest has relied upon the information derived from secondary sources. All findings and conclusions stated in this report are based upon the facts and circumstances as they existed at the time this report was prepared (e.g., Federal, State and Local Laws, Rules, Regulations and other matters that Geotest deemed relevant). A change in any facts or circumstances upon which this report was based may affect the findings expressed herein.

The subsurface conditions described in this report and the results of analytical tests are based on three (3) completed borings drilled at specific locations. However, variation in soil conditions and level of contamination, if any, may occur between the completed borings. The depth of the groundwater level may vary with changes in environmental conditions such as frequency and magnitude of rainfall.

2.6 Limiting Conditions and Methodology Used

This Phase II ESA is limited to the data derived from the soil borings and the laboratory tests performed on the samples recovered from the project site. Following this section of the report, Section 3 provides a subsurface investigation; Section 4 describes the laboratory analytical program, Section 5 describes the data evaluation and Section 6 contains references.

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3.0 SUBSURFACE INVESTIGATION

3.1 Field Investigation Methodologies

The field investigation methodology takes into consideration the potential distributions of contaminants with respect to the properties, behaviors and fate and transport characteristics of the contaminant in a setting such as that being assessed. The sampling plan was designed to provide for the collection of potentially contaminated environmental media, if they occur, at locations and depths where the highest concentrations are likely to occur.

These investigation methodologies were developed in general accordance with ASTM Standard D 5730: Guide to Site Characteristics for Environmental Purposes with Emphasis on Soil, Rock, The Vadose Zone and Groundwater (Reference 1).

Personal health and safety precautions were followed in accordance with applicable federal and state laws or local equivalents and any requirements imposed by the owner, occupant or field personnel.

No test pits were excavated as part of this Phase II ESA study.

The field investigation includes drill and continuously sample three (3) environmental borings (designated as EB-1 through EB-3). All the boring locations are shown on Figure 2, Plan of Borings.

In each boring, geoprobe tubes were pushed to collect samples. At the start of the each boring, all sampling tools were decontaminated with a phosphate-free Liquid-Nox detergent, followed by a Freon rinse and a final deionized water rinse to reduce possible sample cross-contamination. The sampling tools, however, were decontaminated after every sample recovery. After extrusion, the soil samples were placed in EPA-approved laboratory-provided glass jars. All the samples were then placed in a small cooler with ice.

Geotest's representative visually field-classified the recovered soil samples. Notations of soil type, color and odor, if present, were recorded on the soil boring logs. Soil classifications presented

Report No. 1130015101 October 21, 2011

on the log of borings are based on visual field classification and have not been verified by geotechnical laboratory soil testing. All the borings were grouted with cement-bentonite grout at the end of drilling.

The environmental boring logs are presented on Figures A-1 through A-3 in Appendix A. A key to symbols and terms used on the boring logs is presented on Figure A-4 in Appendix A.

During the field investigation, field screening for organic vapor concentrations was performed on all soil samples recovered from the borings. The measurements were made in the field with a benzene-calibrated, HNU DL-101 Photo-Ionization Detector (PID) equipped with a 10.2 eV lamp. Results of the field PID screening are summarized as "Field Screening – Organic Vapor" on the boring logs presented on Figures A-1 through A-3 in Appendix A.

Since no groundwater was encountered during drilling, temporary monitoring wells were not installed in the borings for this study.

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4.0 LABORATORY ANALYTICAL PROGRAM

4.1 Chemical Testing Plan

All soil samples were screened in the field for organic vapors with a Photo-Ionization Detector (PID). Three (3) soil samples were selected for the analytical testing. The analytical testing included RCRA metals including Mercury, Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, and Silver. The results are presented in Appendix B.

4.2 Sampling and Chemical Analyses and Methods

4.2.1 Soil. Soil samples were obtained by pushing a geoprobe tube. After extrusion, the soil samples were collected and placed in EPA-approved laboratory-provided glass jars and then placed in a portable ice cooler with ice. One soil sample from each boring (based on excavation depth of detention basin) was selected for analytical testing. The samples selected for analytical testing are given below.

Boring No.	Sample No	Depth, ft
EB-1	S-8	14-16
EB-2	S-7	12-14
EB-3	S-6	10-12

The analytical tests and corresponding test methods are listed below.

Mercury SW-846 7471 A

Metals SW846 6010B Sub: T104704295-TX

The samples were transported along with the chain-of-custody documentation to XENCO Laboratories in Houston, Texas for analytical testing.

<u>4.2.2 Groundwater</u>. No groundwater was encountered in the borings performed for this study and hence no testing was performed.

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5.0 DATA EVALUATION

5.1 Subsurface Conditions

5.1.1 Geologic Setting. Based on the Geologic Atlas of Texas - Houston Sheet, the project area is in the Beaumont Formation. The clays and sands of this formation are overconsolidated as a result of desiccation or frequent raising and lowering of the sea level and subsequently the groundwater table. Consequently, clays of this formation have moderate to high shear strength and relatively low compressibility. Sands of the Beaumont Formation are typically very fine and often silty. Further there is evidence in the Houston area of the occurrence of cemented material (sandstone and siltstone) deposits within the Beaumont Formation.

5.1.2 Hydrogeologic Conditions. There are three major water-producing components in the region; Chicot (shallowest), Evangeline and Jasper (deepest) aquifers. The Chicot and Evangeline aquifers have base altitudes as deep as 600 and 1,500 feet below mean sea level, respectively. Most of the groundwater usage in the region is supplied by the Chicot and Evangeline aquifers. The permeability of the subsurface soils ranges from low permeable sandy lean clay and lean clay to very low permeable fat clay. The general groundwater flow in the area is typically from northwest to southeast.

5.1.3 Verification of Conceptual Site Model. The conceptual site model and sampling plan developed for the site were verified during the Phase II ESA assessment activities. The Quality Assurance (QA)/Quality Control (QC) procedures described in the chemical testing plan were adequate to verify the data acceptability.

5.2 Analytical Data

5.2.1 Soil. Based on the results of analytical testing, the metals Arsenic, Barium, Cadmium, Chromium and Lead were detected in laboratory tests in borings EB-1 through EB-3. The contaminants Arsenic in borings EB-1 and EB-3 and Lead in borings EB-1 through EB-3 exceeded the TCEQ TRRP TIER 1 PCLs for residential guidelines (based on Tier 1 Residential Soil PCLs on

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0.5-acre source area and ^{GW}soil_{ing} exposure pathway).

A summary of analytical test results and the TIER 1 PCLs are presented in Table 1. Soil contamination levels were based on TCEQ RG-366/TRRP-23, revised on March 25, 2009 regulatory guidance document that includes TIER 1 PCLs for residential guidelines (using 0.5-acre source area and ^{GW}soil_{ing} exposure pathway) (Reference 2). Details of analytical test results are presented in Appendix B.

<u>5.2.2 Groundwater</u>. No groundwater was encountered in the borings performed for this study and hence no testing was performed.

Geotest Engineering, Inc.
Phase II – ESA, MCDRA-W140 Detention Basin, Houston, Texas – DRAFT

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6.0 REFERENCES

- 1. ASTM Standard D 5730 Guide to Site Characteristics for Environmental Purposes with Emphasis on Soil, Rock, the Vadose Zone and Groundwater.
- 2. TCEQ (TNRCC) Regulatory Guidance-Remediation Division-RG-366/TRRP- Tier 1 PCL Tables March 25, 2009.

TABLES

	<u>Table</u>
Summary of Analytical Test Results for Metals (Soil)	1

TABLE 1

SUMMARY OF ANALYTICAL TEST RESULTS FOR METALS (Soil)

<u></u>				
Silver (mg/kg)	0.48	<0.226	<0.216	<0.201
Selenium (mg/kg)	2.3	<0.564	<0.540	<0.517
Lead (mg/kg)	3.0	11.7	6.85	23.4
Arsenic Barium Cadmium Chromium Lead Selenium Silver (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg)	240	6.77	5.32	9.30
Barium Cadmium (mg/kg)	1.5	<0.28	0.335	<0.26
Barium (mg/kg)	300	62.6	91.2	110
Arsenic (mg/kg)	5.9	12.2	3.69	14.2
Mercury (mg/kg)	0.07	<0.06	<0.06	>0.06
TCEQ TRRP TIER 1 Soil PCLs (mg/kg)	Residential (1)			
LOCATION (See Figure 2)	Sample Depth, ft	14-16	12-14	10-12
	Boring No. Sample Depth, ft	EB-1	EB-2	EB-3

Value in **BOLD** shows exceeds the TCEQ TRRP TIER 1 PCLs Details of these tests are provided in Appendix B.

(1) TCEQ TRRP TIER 1 PCLS For 0.5 acre source area and ^{Gw}soil_{ing} exposure pathway

Note:

ILLUSTRATIONS

	<u>Figure</u>
Project Location Map	1
Plan of Borings	2

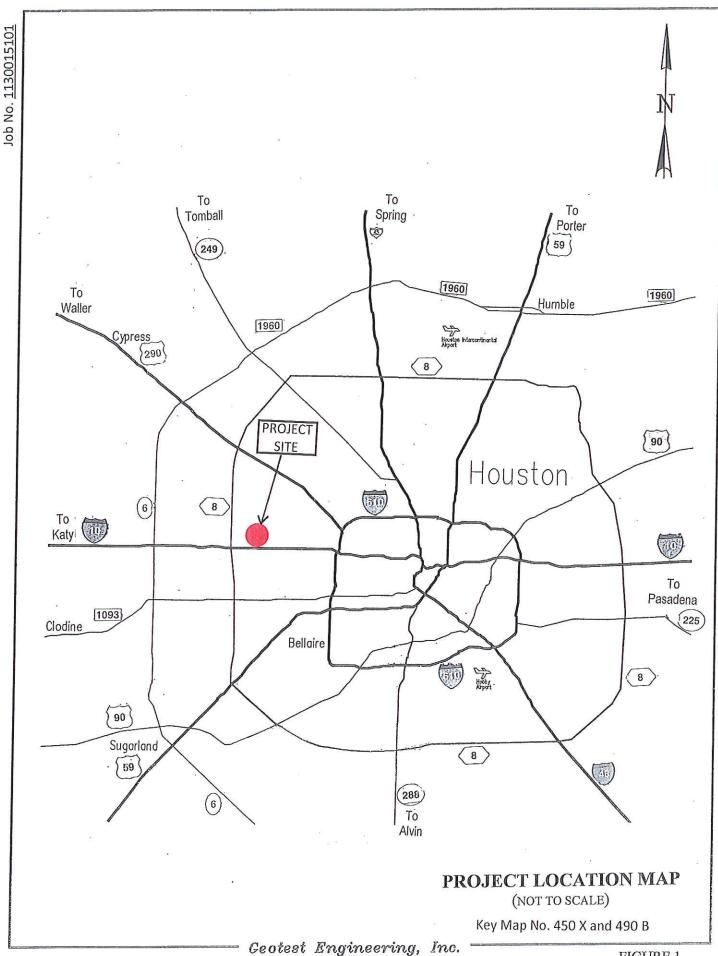
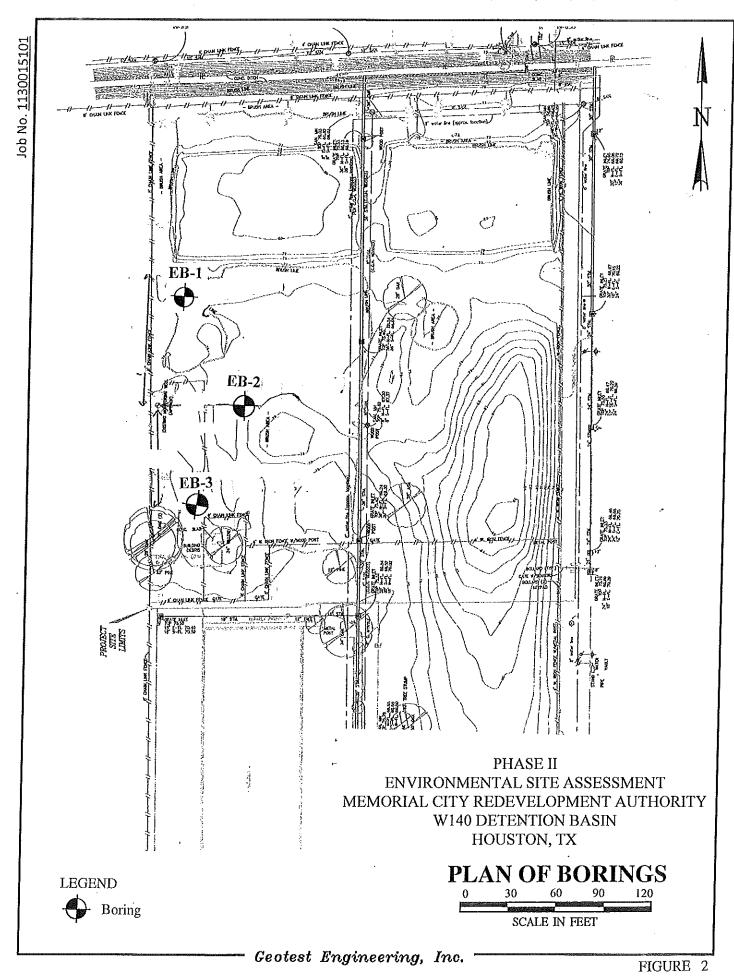


FIGURE 1 Page 18 of 19



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Projeci kumiiêr:



DEPARTMENT OF THE ARMY GALVESTON DISTRICT, CORPS OF ENGINEERS P. O. BOX 1229 GALVESTON TEXAS 77553-1229

February 20, 2013

Compliance Section

SUBJECT: SWG 2012-00174; TIRZ 17 Redevelopment Authority, Jurisdictional Determination, Proposed Drainage Improvement Project, Located Along a Drainage Ditch-South of the Intersection of Bunker Hill Road and Long Branch Lane, City of Reward and Eventy, Texas

Muhammad Ali, P.E. TIRZ 17 Redevelopment Authority 2925 Briarpark Drive, Suite 400 Houston, Texas 77042-3720

Dear Mr. Ali:

This letter is in response to your request for a jurisdictional determination received February 12, 2012, for the proposed drainage improvement project on behalf of TIRZ 17 Redevelopment Authority. The project is located along a drainage ditch south of the intersection of Bunker Hill Road and Long Branch Lane, City of Houston, Harris County, Texas.

Based on our desk review and the June 4, 2012 site visit, we determined that the project site (see attached map) does not contain waters of the United States. Therefore, any work, structures, or the discharge of fill material on the project site is not subject to Section 10 of the Rivers and Harbors Act or Section 404 of the Clean Water Act (CWA) and does not require a Department of the Army permit.

This determination has been conducted to identify the limits of the Corps' Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

This letter contains an approved jurisdictional determination for your subject site, which is valid for 5 years from the date of this letter unless new information warrants a revision prior to the expiration date. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeals Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination, you must submit a completed RFA form to the Southwest Division Office at the following address:

-2-

Mr. Elliott Carman Regulatory Appeals Officer Southwest Division USACE (CESWD-PD-O) 1100 Commerce Street, Suite 831 Dallas, Texas 75242-1731 Telephone: 469-487-7061; FAX: 469-487-7199

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete; that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within **60 days** of the date of the NAP. It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.

If you have questions concerning this matter, please reference file number SWG 2012-00174 and contact Ms. Diana Stevens at the letterhead address, by telephone at 409-766-6380 or email at diana.d.stevens@usace.army.mil. To assist us in improving our service to you, please complete the survey found at http://per2.nwp.usace.army.mil/survey.html. If you would prefer a hard copy of the survey form, please let us know, and one will be mailed to you.

Sincerely,

Kenny Jaynes / / Chief, Compliance Section

Enclosure

Appendix J

Briar Branch Stormwater Detention Basin Impact Analysis Report (Unit W140-01-00)

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: TIRZ 17 REDEVEL OPMENT File Number: SWG-2012-00174 Date: 02/20/2013 **AUTHORITY** See Section below Attached is: INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission) PROFFERED PERMIT (Standard Permit or Letter of Permission) В C PERMIT DENIAL APPROVED JURISDICTIONAL DETERMINATION D E PRELIMINARY JURISDICTIONAL DETERMINATION

SECTION I – The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/inet/functions/ew/cecwo/reg/ or Corps regulations at 33 CFR Part 331.

- A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.
- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved iurisdictional determination (JD) or provide new information.
- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

Signature of appellant or authorized agent.

US Army Corps of Engineers Jurisdictional Determination Lette	Impact Analysis Report (Unit with 100 100)			
SECTION II - REQUEST FOR APPEAL or OBJECTION	ONS TO AN INITIAL PROFFERED PERMIT			
REASONS FOR APPEAL OR OBJECTIONS: (Describ				
ADDITIONAL INFORMATION: The appeal is limited to a review record of the appeal conference or meeting, and any supplemental	w of the administrative record, the Corps memorandum for the			
clarify the administrative record. Neither the appellant nor the Coryou may provide additional information to clarify the location of its	rps may add new information or analyses to the record. However,			
POINT OF CONTACT FOR QUESTIONS OR INFOR If you have questions regarding this decision and/or the appeal	If you only have questions regarding the appeal process you may			
process you may contact:	also contact:			
Ms Diana Sevens Regulatory Specials, Compliance Section	Mr. Elliott Carman			
CESWG-PE-RC	Appeal Review Officer, (CESWD-PD-O)			
U.S. Army Corps of Engineers	U.S. Army Corps of Engineers			
P.O. Box 1229	1100 Commerce Street, Suite 831			
Galveston, Texas 77553-1229	Dallas, Texas 75242-1731			
409-766-6380 FAX: 409-766-3931	Telephone: 469-487-7061; FAX: 469-487-7199			
RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day				
notice of any site investigation, and will have the opportunity to participate in all site investigations.				
	Date: Telephone number:			

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