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## 4. ENVIRONMENTAL IMPACT ANALYSIS

### 6. HYDROLOGY / WATER QUALITY

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#### 4.6.1 INTRODUCTION

This section describes existing hydrology and water quality conditions in the project area and its immediate surroundings and addresses the federal state and local regulations and standards that govern impacts to hydrology, water quality and drainage as it pertains to the Project. Following a description of the regulations and existing conditions, potentially significant impacts associated with the Proposed Project are identified, along with mitigation measures to reduce potential project impacts. This section is heavily based on the findings and conclusions as presented in the following technical report:

- *Hydraulic and Scour Analysis Newhall Creek at Proposed Dockweiler Road Bridge, Newhall, California*, prepared by Rivertech, Inc., dated February 2015 (“Hydraulic Report”), which is provided in Appendix G of this Draft EIR.

#### 4.6.2 REGULATORY SETTING

##### **Federal Regulations**

##### **National Flood Insurance Program**

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 mandate the Federal Emergency Management Agency (FEMA) to evaluate flood hazards. FEMA provides flood insurance rate maps (FIRMs) for local and regional planners to promote sound land use and floodplain development, identifying potential flood areas based on the current conditions. To delineate a FIRM, FEMA conducts engineering studies referred to as flood insurance studies (FIS). Using information gathered in these studies, FEMA engineers and cartographers delineate special flood hazard areas (SFHA) on FIRMs.

The Flood Disaster Protection Act requires owners of all structures in identified SFHAs to purchase and maintain flood insurance as a condition of receiving federal or federally-related financial assistance, such as mortgage loans from federally-insured lending institutions. Community members within designated areas are able to participate in the National Flood Insurance Program (NFIP) afforded by FEMA. The NFIP is required to offer federally-subsidized flood insurance to property owners in those communities that adopt and enforce floodplain management ordinances that meet minimum criteria established by FEMA. The National Flood Insurance Reform Act of 1994 further strengthened the NFIP by providing a grant program for state and community flood mitigation projects. The act also established the Community Rating System, a system for crediting communities that implement measures to protect the natural and beneficial functions of their floodplains, as well as manage erosion hazards.

## **Clean Water Act**

The United States Environmental Protection Agency (EPA) regulates water quality under the Clean Water Act (also known as the Federal Water Pollution Control Act). Enacted in 1972, and significantly amended in subsequent years, the Clean Water Act is designed to restore and maintain the chemical, physical, and biological integrity of waters in the United States. The Clean Water Act provides the legal framework for several water quality regulations, including National Pollutant Discharge Elimination System (NPDES) Permits, effluent limitations, water quality standards, pretreatment standards, anti-degradation policy, non-point source discharge regulation, and wetlands protection.

The Clean Water Act requires NPDES permits for the discharge of pollutants to waters of the United States. The Clean Water Act requires that the EPA establish regulations for permitting of municipal and industrial storm water discharges under the NPDES permit program. The regulations require that municipal separate storm sewer system (MS4) discharges to surface waters be regulated by a NPDES permit. In implementing the Clean Water Act, the EPA has delegated the responsibility for administration of portions of the Clean Water Act to state and regional agencies. The Clean Water Act requires states to adopt water quality standards for receiving water bodies and to have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing, etc.), along with water quality criteria necessary to support those uses. Water quality criteria are prescribed concentrations or levels of constituents, such as lead, suspended sediment, and fecal coliform bacteria, or narrative statements that represent the quality of water that support a particular use.

## **Federal Antidegradation Policy**

The Federal Antidegradation Policy (Title 40, CFR §131.12) requires states to develop statewide anti-degradation policies and identify methods for implementing them. Pursuant to this policy, state anti-degradation policies and implementation methods shall, at a minimum, protect and maintain: (1) existing in-stream water uses; (2) existing water quality where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource. State permitting actions must be consistent with the Federal Antidegradation Policy.

## **State And Local Regulations**

### **California Porter-Cologne Act**

The Porter-Cologne Water Quality Control Act (embodied in the California Water Code) established the principal California legal and regulatory framework for water quality control. The California Water Code authorizes the State Water Resources Control Board (SWRCB) to implement the provisions of the Federal Clean Water Act including the authority to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The California Water Code also establishes reporting requirements for unintended discharges of hazardous substance, sewage, or oil or petroleum

products.

Under the California Water Code, the State of California is divided into nine regions governed by regional water quality control boards (RWQCB) that, under the guidance and review of the SWRCB, implement and enforce provisions of the California Water Code and the Clean Water Act. Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region. The Basin Plan must conform to the policies set forth in the California Water Code and established by the SWRCB in its state water policy. The California Water Code also provides RWQCBs the authority to include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

### **Los Angeles Regional Board Basin Plan**

The Los Angeles Regional Board's Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan: (i) designates beneficial uses for surface and ground waters; (ii) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's antidegradation policy; and (iii) describes implementation programs to protect all waters in the Region. In addition, the Basin Plan incorporates (by reference) all applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan.

### **California Toxics Rule**

The EPA has established water quality criteria for certain toxic substances via the California Toxics Rule. The California Toxics Rule establishes acute (i.e., short-term) and chronic (i.e., long-term) standards for bodies of water such as inland surface waters and enclosed bays and estuaries that are designated by the Los Angeles Regional Water Quality Control Board (LARWQCB) as having beneficial uses protective of aquatic life or human health. Due to the intermittent nature of storm water runoff, especially in southern California, the acute criteria are considered to be more relevant to storm water than are the chronic criteria.

California Toxics Rule criteria for certain metals are expressed as a function of hardness because hardness and/or water quality characteristics that are usually correlated with hardness can reduce or increase the toxicities of some metals. Hardness is used as a surrogate for a number of water quality characteristics that affect the toxicity of metals: increasing hardness has the effect of decreasing the toxicity of metals. At higher hardness values for the receiving water, copper, lead, and zinc are more likely to be bound with components in the water column; this in turn reduces the bioavailability and resulting potential toxicity of these metals. Therefore, the California Toxics Rule criteria increase with increasing levels of hardness.

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### **Construction Permits**

Pursuant to the Clean Water Act Section 402(p), requiring regulations for permitting of certain storm water discharges, the SWRCB has issued a statewide General Permit for Stormwater Discharges Associated with Construction Activity and Land Disturbance Activities (Order No. 2010-0014-DWQ, adopted by the SWRCB on November 16, 2010 and effective February 14, 2011).

Under this Construction General Permit, discharges of storm water from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for storm water discharges or be covered by the Construction General Permit. Coverage under the Construction General Permit is accomplished by completing and filing permit registration documents, which include a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other documents required by this General Permit, and mailing the appropriate permit fee to the State Water Board, prior to the commencement of construction activity. SWPPPs incorporate erosion control, sediment removal, and construction waste management control measures during construction, site stabilization measures in the short-term post-construction period, and may identify best management practices (BMPs) for post-construction land use.

Dischargers must file a Notice of Termination with the Regional Water Board when construction is complete and final stabilization has been reached or ownership has been transferred. The discharger must certify that all State and local requirements have been met in accordance with this General Permit. In order for construction to be found complete, the discharger must install post-construction storm water management measures and establish a long-term maintenance plan.

### **Los Angeles County MS4 Permit**

The State's Municipal Storm Water Permitting Program regulates storm water discharges from Municipal Separate Storm Sewer Systems (MS4s). Under Phase I of the Program, which started in 1990, the RWQCBs have adopted NPDES storm water permits for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 people) municipalities. Most of these permits were issued to a group of co-permittees encompassing an entire metropolitan area.

In 2001, the LARWQCB issued an NPDES Permit and Waste Discharge Requirements (Order No. 01-182) under the Clean Water Act and the Porter-Cologne Act for discharges of urban runoff in public storm drains in Los Angeles County. The Permit was most recently amended on April 14, 2011, pursuant to the peremptory writ of mandate in L.A. Superior Court Case No. BS122724, which voided and set aside a 2006 amendment. The Permittees are the Los Angeles County incorporated cities (including the City but excluding the City of Long Beach) and the County (collectively "the Co-permittees").

An important element incorporated into the NPDES MS4 Permit is the requirements associated with development or redevelopment of a site. The NPDES MS4 Permit requires many development projects to incorporate permanent (post-construction) storm water mitigation measures. These measures are addressed by developers through the preparation of a Standard Urban Stormwater Mitigation Plan (SUSMP) or a Site-Specific Mitigation Plan. The primary purpose of these plans is to reduce the quantity

and improve the quality of storm water runoff that leaves a site.

To implement the requirements of the NPDES permit, the Co-permittees have created development planning guidance and control measures that control and mitigate storm water quality and quantity impacts to receiving waters as a result of new development and redevelopment. The Co-permittees are also required to implement other municipal source detection and elimination programs, as well as maintenance measures.

### **Floodplain Management**

Pursuant to City of Santa Clarita Municipal Code (Chapter 10.06) the City of Santa Clarita regulates development within flood-prone areas via a City Floodplain Management Ordinance. This ordinance states that within special flood hazard areas no structure or land shall be constructed, located, extended, converted, or altered without full compliance with the terms of the ordinance and without obtaining a floodplain area development permit before any construction or other development begins within any area of special flood hazard.

The City has adopted its floodplain management ordinance to implement the NFIP and other federal requirements established by FEMA. The City has adopted Chapter 11.60 of the Los Angeles County Code by reference, which establishes floodway maps, governs land uses and construction of structures within floodways, and establishes water surface elevations. Floodplains are divided into two types of hazard areas:

- The “floodway,” which is the portion of the stream channel that carries deep, fast moving water (usually defined as the area needed to contain a 100-year storm flow); and
- The “flood fringe” area, the remainder of the floodplain outside the floodway, which is subject to inundation from shallow, slow-moving water. The standards described below are required for all types of construction in all areas of special flood hazards.

Drainage requirements set forth by the City are also addressed in other portions of the Uniform Development Code and in the Building Code, in order to ensure that stormwater flows are directed away from buildings into drainage devices to prevent flooding.

### **Stormwater and Urban Runoff Pollution Control**

Stormwater and Urban Runoff Pollution Control Section 10.04.070 of the City’s Municipal Code implements federal and state water runoff and discharges within the City of Santa Clarita. Each person applying to the City for a grading or building permit, for projects for which compliance with regulations governing State Construction Activity Stormwater Permits (SCASP) is required, must submit satisfactory proof to the City:

- (i) NOI to comply with the SCASP has been filed; and
- (ii) That a stormwater pollution prevention plan has been prepared before the City shall issue any grading or building permit on the construction project. A copy of the NOI and the SWPPP shall

be maintained on site during grading and construction and shall be made available for inspection, review and copying upon the request of any City inspector.

It shall be a violation of this chapter for any person or entity required under federal or state law to comply with the requirements for SCASP for construction activity in the City to conduct, authorize or permit construction activities in the City at any facility which discharges to the City's MS4 without complying with all applicable requirements for a SCASP.

Each person applying for a grading or building permit for any project for which compliance with regulations governing SCASP is not required shall submit to the City for information, and shall implement a grading and construction activity runoff control program adequate to accomplish all of the following:

1. Retain on site the sediments generated on or brought to the project site, using treatment control or structural BMPs;
2. Retain construction-related materials and wastes, spills and residues at the project site and prevent discharges to streets, drainage facilities, the MS4, receiving waters or adjacent properties;
3. Contain non-stormwater runoff from equipment and vehicle washing at the project site; and
4. Control erosion from slopes and channels through use of effective BMPs, such as limitation of grading during the wet season, inspection of graded areas during rain events; planting and maintenance of vegetation on slopes, if any, and covering any slopes susceptible to erosion.

Additionally, Section 10.04.070 requires that:

- No person generating or producing pavement sawcutting wastes in any street, curb or sidewalk in the City shall fail to recover and properly dispose of such sawcutting wastes, and in no case shall such wastes be permitted or suffered to enter any part of the MS4, including, but not limited to, any storm drain;
- No person performing street and road maintenance in any street in the City shall fail to manage street and road maintenance materials in a manner which prevents such materials from being discharged to the MS4; and
- No person shall wash any concrete truck or any part of any concrete truck, including, but not limited to, any chute, pump or tools, in any place in the City except an area designated for that purpose by the City, if the City has designated such a place. No person shall permit or suffer any concrete rinseate or washwater from any truck, pump, tool, or equipment to enter any drain, open ditch, street or road or any catch basin or any other part of the MS4.

## **Existing Conditions**

### **Local Hydrology**

The existing Project Site is generally pervious. The site consists of improved segments of Railroad Avenue and Lyons Avenue roadways and undeveloped land to the east extending towards The Master's University and Arch Street. The west end of the Project Site encompasses portions of Newhall Creek and

traverses a storage yard utilized by Los Angeles County Department of Public Works. The portion of the Project Site that includes the intersection of Railroad Avenue and 13<sup>th</sup> Street is developed with existing road surface and an at grade crossing.

The Newhall Creek study reach boundaries, as described in the Hydraulic Report, are Placerita Creek and the survey limits, approximately 3,000 feet downstream of the SR14 crossing, at the downstream and upstream limits, respectively. Based on the available topographic survey, the average channel slope of 0.4% was applied to determine the downstream normal depth, which is added to the channel invert to arrive at the starting water-surface elevation. Figure 4.6-1 depicts the topography and river stationing. The proposed bridge, an extension of Dockweiler Road and Lyons Avenue over Newhall Creek Channel crossing, was modeled using the culvert hydraulics computer program HY-8.

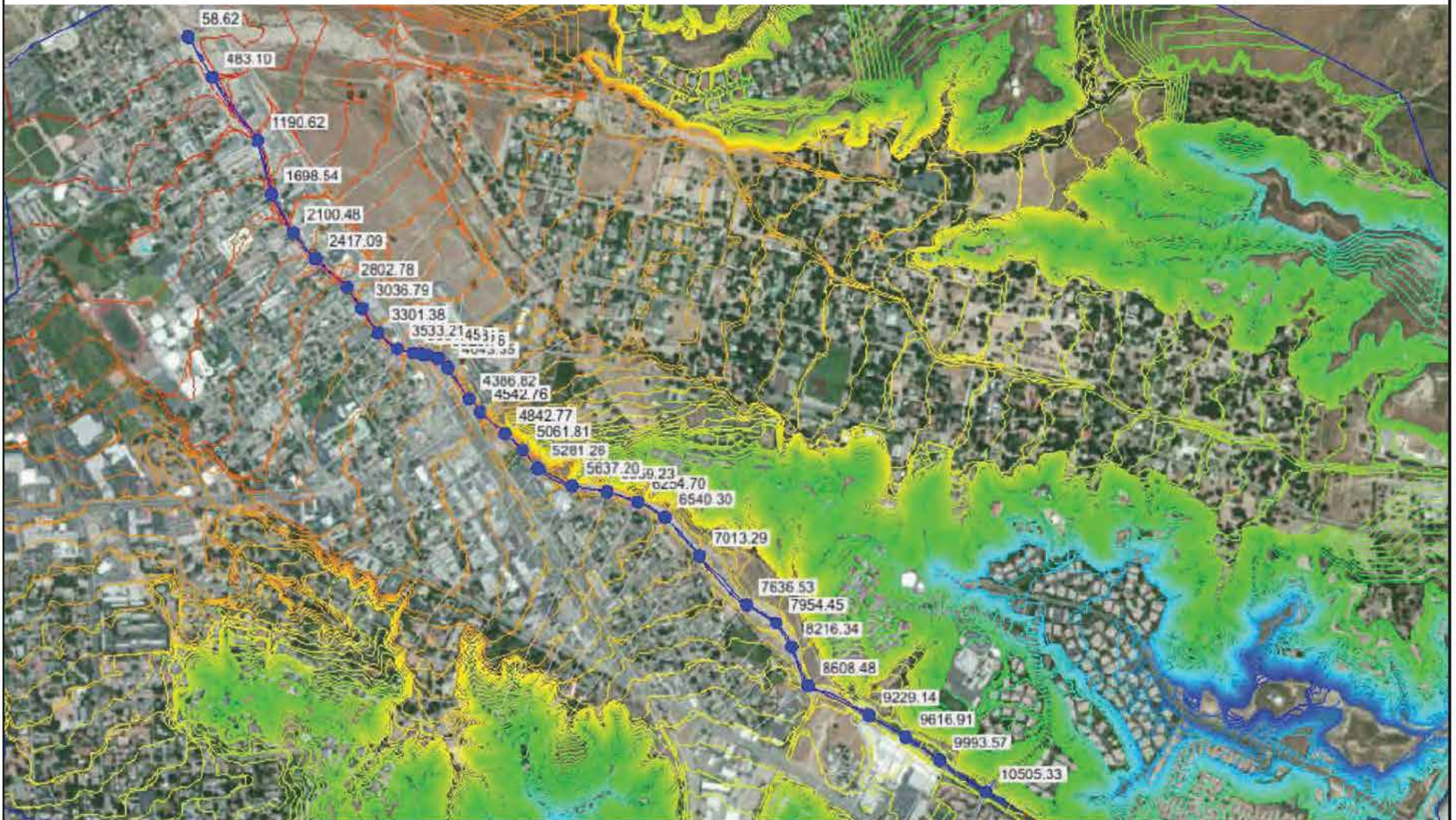
One of the sources of hydrologic data utilized for the Hydraulic Report is the Los Angeles County Flood Control District (LACFCD) Design Division, who provided hydrologic data for Newhall Creek Channel, which was part of 2001 to 2005 LACFCD comprehensive study for the South Fork of the Santa Clara River watershed. Peak flows for Newhall Creek sub-areas are provided for 50-year clear-flow, 50-year burned-flow and 50-year burned/bulked (Capital Flood). The second source of hydrologic data is the Federal Emergency Management Agency, as part of the Flood Insurance Study, which provides 100-year peak flows. Table 4.6-1 below, summarizes the flood flows.

**Table 4.6-1  
Summary of Flood Flows**

Source	Event	Peak Discharge (ft <sup>3</sup> /s)
Capital Flood	50-year Burn/Bulk	9,200
LACDPW	50-year Burn	7,321
LACDPW	50-year Clear	7,021
Flood Insurance Study	100-year	4,640

*Source: Hydraulic and Scour Analysis Newhall Creek at Proposed Dockweiler Road Bridge, Newhall, California, prepared by Rivertech, Inc., dated February 2015.*

Based on the LACFCD Sedimentation Manual recommendation for the Santa Clara River watershed, it is prescribed that the Newhall Creek be improved as a soft bottom channel with protected levees. To convey the Capital Flood, a discharge of 9,200 cubic feet per second (ft<sup>3</sup>/s), the proposed channel section will require a trapezoidal section with an 80-foot wide base and 2:1 lined side slopes. This section is similar to the existing upstream improvements at Del Oro Street crossing with Newhall Creek. HEC-RAS model input and output data, including cross sections and detailed tables are provided in the Appendix of the Hydraulic Report. The proposed four 24-foot wide and 8-foot deep opening reinforced concrete bridge will accommodate the Capital Flood.



Source: Rivertech, Inc., February 2015



Figure 4.6-1  
Topography and River Stationing



### ***Ground Water***

Review of historic ground water data from the Seismic Hazard Map for the Newhall Quadrangle, Water-Resources Investigation using Analog Model Techniques in the Saugus-Newhall Area, and LACFCD water well records indicates that historic high ground water levels are between 75 and 100 feet below the existing surface at the Project Site. The locations of nearby water wells are shown in Figure 4.5-3, Water Well Location Map in Section 4.5. The historic ground water levels for each well obtained from LACFCD records are provided in Table 4.5-1, Summary of LAFCD Water Well Data, in Section 4.5. In addition, ground water was not encountered in subsurface explorations to a depth of 50 feet in the alluvium for the adjacent Old Town Newhall Library. However, temporary perched ground water conditions may exist below Newhall Creek following periods of significant rainfall and runoff. A low potential exists for temporary, perched ground water conditions to develop within the bedrock of the Pacoima formation. Perched ground water can contribute to slope instability in natural slopes and cut slopes. To prevent build-up of water, subdrains are typically recommended in canyon areas in which fill will be placed and back drains for slopes that are to be constructed as Stability Fills or Buttress Fills. Due to the historic high ground water elevations and the elevated nature of portions of the road alignment, ground water is not expected to significantly affect the project, provided the proposed grading is evaluated from a geotechnical standpoint during the design stage and the geotechnical recommendations are implemented during construction.<sup>1</sup>

### ***Inundation and Flooding***

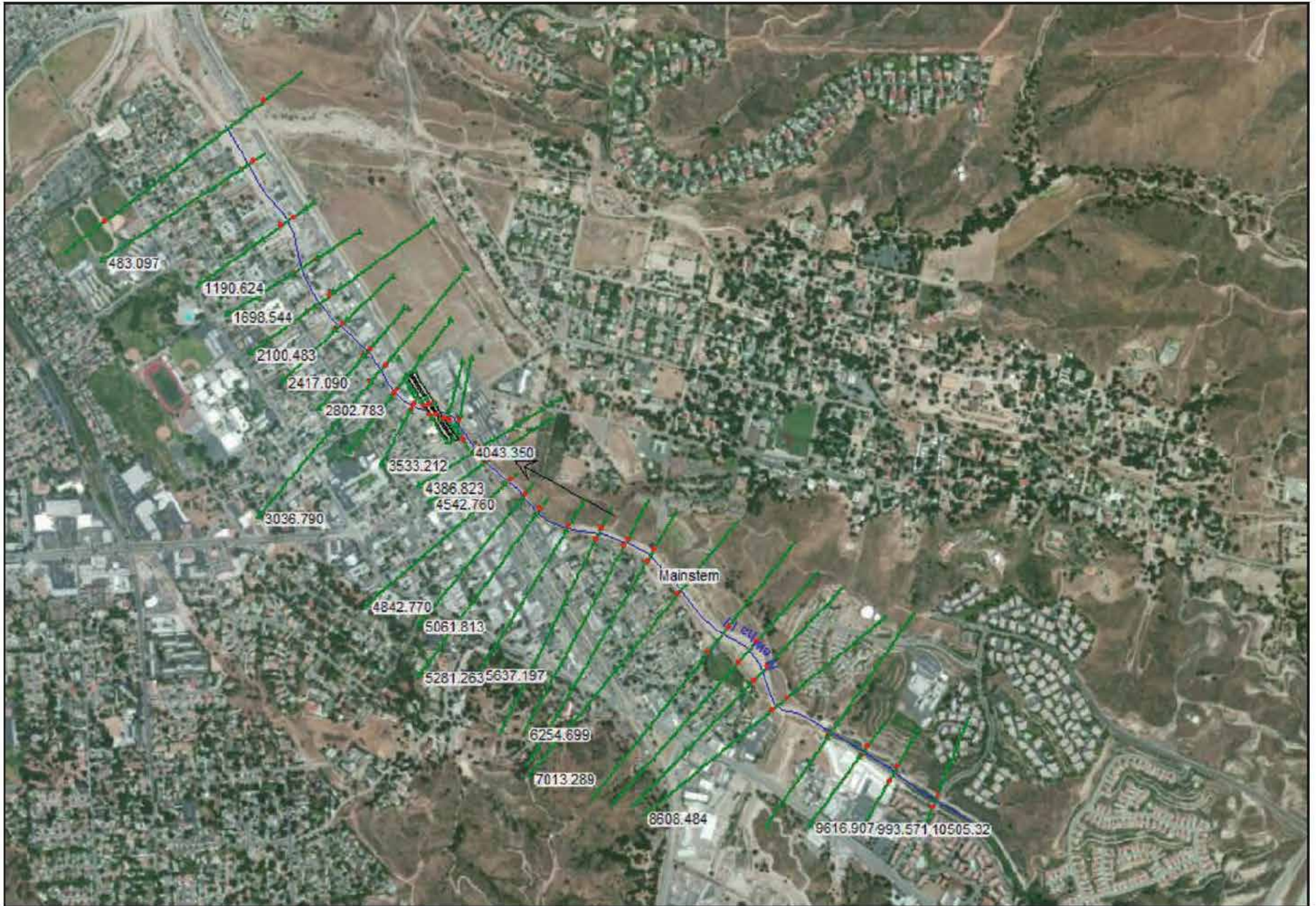
No dams currently exist in the Newhall Creek Drainage and the Project Site is not in a dam inundation area per the Flood and Inundation Hazard Map of the Los Angeles County Safety Element of the General Plan. The potential for dam inundation is therefore considered nonexistent.<sup>2</sup> The western portion of the roadway extension that crosses Newhall Creek, is located in a “Zone A”, as indicated in the National Flood Insurance Rate Map for Los Angeles County, which indicates a special flood hazard area that is subject to inundation by the 1% annual chance flood (100-year flood).<sup>3</sup> The floodplain map for Capital peak flow is provided in the Appendix of the Hydraulic Report. The cut sections using the Watershed Modeling System (WMS) river tools were imported into HECRAS as georeferenced geometry. This geometric data was then modified and amended to accurately reflect the hydraulic characteristics, e.g., bridges, channel banks, roughness, etc. The model includes the Railroad Avenue and Southern Pacific Railway bridges. Boundary conditions (i.e., flows and starting water-surface elevations) were added to complete the model. Figure 4.6-2 and Figure 4.6-3 depict the hydraulic sections and existing conditions of the water profile, respectively. The detailed input and output of the existing condition hydraulic model is

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<sup>1</sup> *Geologic and Geotechnical Report EIR-Level Review Of Road Alignments For Dockweiler Road and Lyons Avenue, prepared by Allan E. Seward Engineering Geology, Inc., dated October 17, 2014. See Appendix E of this Draft EIR.*

<sup>2</sup> *Ibid.*

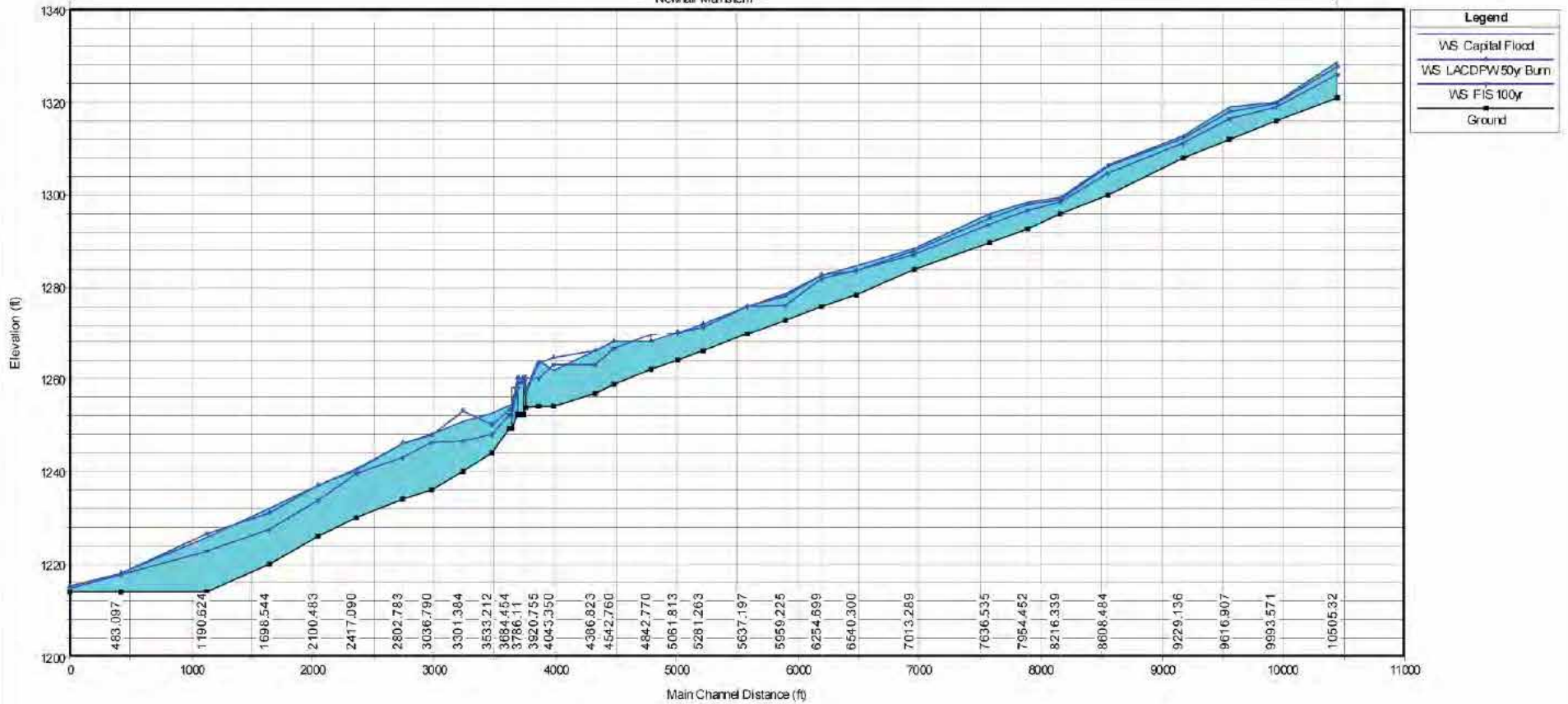
<sup>3</sup> *Federal Emergency Management Agency, National Flood Insurance Program, Flood Insurance Rate Map, Los Angeles County, California and Incorporated Areas, Map Number 06037C0820F, September 26, 2008.*



Source: Rivertech, Inc., February 2015

Newhall Creek Plan: Existing SedTran Avg 2/26/2015

Newhall Mainstem



Source: Rivertech, Inc., February 2015



Figure 4.6-3  
Water Surface Profile - Existing Conditions

exhibited in the Appendix of the Hydraulic Report. The existing Newhall Creek Channel does not have the capacity to convey the FIS 100-year and the Capital Flood flow rates. As a result, the 100-year model results show that a significant percentage of the flow spill out the main channel and flood the railroad, entering the Railroad Avenue.

### 4.6.3 ENVIRONMENTAL IMPACTS

#### Thresholds of Significance

In accordance with Appendix G to the CEQA Guidelines, a project could result in a significant impact if the project would result in one or more of the following:

- (a) Violate any water quality standards or waste discharge requirements;  
Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- (b) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site;
- (c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- (d) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- (e) Otherwise substantially degrade water quality;
- (f) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- (g) Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- (h) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- (i) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

## **Project Impacts**

### **Water Quality**

#### *Construction*

During construction, sediment is typically the constituent of greatest potential concern. The greatest risk of soil erosion during the construction phase occurs when site disturbance peaks due to grading activity and removal and re-compaction or replacement of fill areas. Sediment is not typically a constituent of concern during the long-term operation of developments similar to the Project because sites are usually paved or landscaped, and proper drainage infrastructure is installed. Other pollutants that could affect surface-water quality during the Project construction phase include petroleum products (gasoline, diesel, kerosene, oil, and grease), hydrocarbons from asphalt paving, construction equipment leaks, paints and solvents, detergents, fertilizers, and pesticides (including insecticides, fungicides, herbicides, and rodenticides).

Development projects within the City of Santa Clarita are required to prepare and implement a SWPPP, in accordance with the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity and Land Disturbance Activities. The site-specific SWPPP would be prepared prior to earthwork activities and would be implemented and monitored for compliance during project construction activities. The SWPPP would include BMPs and erosion control measures to prevent pollution in storm water discharge.

Typical BMPs that could be used during construction include good-housekeeping practices (e.g., street sweeping, proper waste disposal, vehicle and equipment maintenance, concrete washout area, materials storage, minimization of hazardous materials, proper handling and storage of hazardous materials, etc.) and erosion/sediment control measures (e.g., silt fences, fiber rolls, gravel bags, storm water inlet protection, and soil stabilization measures, etc.). The SWPPP would be subject to review and approval by the City for compliance with the City's Stormwater and Urban Runoff Pollution Control, Section 10.04.070 of the City's Municipal Code. Additionally, all Project construction activities would comply with the City's grading permit regulations, which require the implementation of grading and dust control measures, including a wet weather erosion control plan if construction occurs during rainy season, as well as inspections to ensure that sedimentation and erosion is minimized. The site specific BMPs that are required to be incorporated into the Project's SWPPP are identified below in Section (3), Regulatory Compliance. Therefore, through compliance with NPDES requirements and City grading regulations, the Project's construction impacts related to water quality would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality. Construction-related impacts to hydrology and water quality would therefore be less than significant.

#### *Operation*

Once the Proposed Project has been constructed, urban runoff could include the above-mentioned contaminants. Trace metals from road surface runoff and landscape maintenance debris may be mobilized in storm runoff and in dry-season in "nuisance flows" from landscape irrigation. Liquid product spills occurring at the Project Site could also enter the storm drain. Dry product spills could enter

the storm drain via runoff in wet weather conditions or dry-season “nuisance flows.”

The existing Project Site is generally pervious. In accordance with NPDES requirements, the Project Applicant would be required to have a Project-specific SUSMP in place during the operational life of the Project to address the management of runoff from the proposed roadway extension. The SUSMP would include site design, source control, low-impact development, and treatment control BMPs and would address site design BMPs (such as minimizing impervious areas, maximizing permeability, minimizing directly connected impervious areas, and creating reduced or “zero discharge” areas); incorporate applicable source control BMPs; incorporate treatment control BMPs as described in the Los Angeles County SUSMP; describe long-term operation and maintenance requirements for the treatment control BMPs; and describe the mechanism for funding the long-term operation and maintenance of the treatment control BMPs.

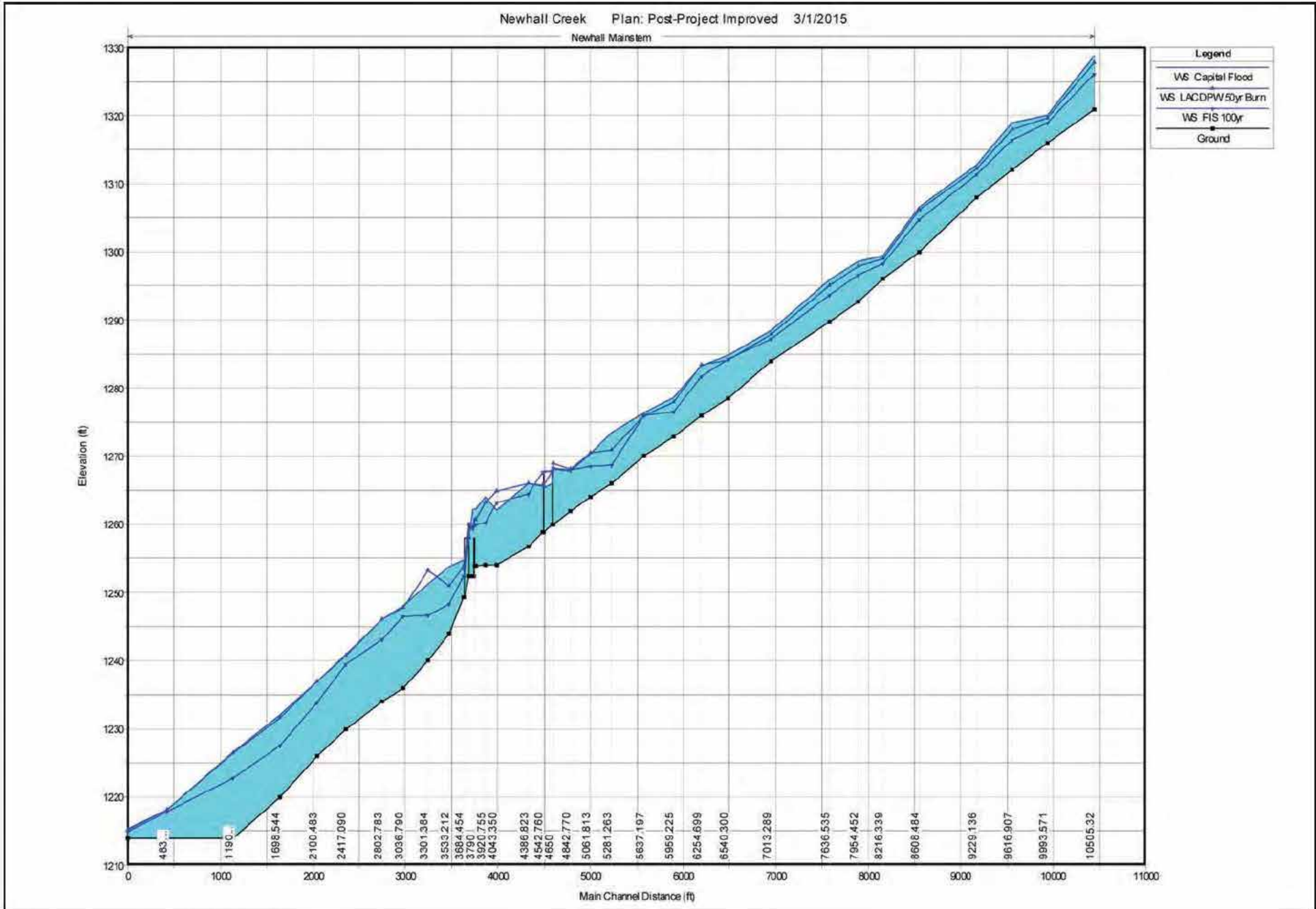
The final selection of BMPs would be completed through coordination with the City. Also, per the NPDES, the storm water quality plan would be subject to review and approval by the City for compliance with the City’s Development Best Management Practices Handbook, Low Impact Development Manual, Part B Planning Activities. Therefore, implementation of the storm water quality plan as discussed above water quality impacts during operation would be less than significant.

### ***Inundation and Flooding***

The implementation of the proposed bridge and channel widening are two significant components of the post-project hydraulic model. The bridge has four 25-foot wide and 8-foot deep openings. The approach to the bridge is an improved channel that is trapezoidal in shape with an 80-foot bottom width and 2:1 aide slopes. The hydraulic sections and input from the existing condition model was the basis for the post project with the implementation of the proposed bridge and channel widening. The results of the HEC-RAS hydraulic model output indicate that the proposed bridge and channel improvement will accommodate the Capital Flood, i.e., no overtopping of the road, and will not create any flood hazard for the adjacent railroad and proposed street improvements. The bridge conveys both the 50-year burn/bulk and FIS 100-year flood flows with more than 2 feet of freeboard. Figure 4.6-4 illustrates the resulting water-surface profiles for the post-project scenario. The detailed input and output of the post-project scenario hydraulic model is exhibited in the Appendix of the Hydraulic Report. The results of this study provide the calculated shear stress on the streambank. In order to protect the streambank from erosion, a lining with a *permissible shear stress*,  $\tau_p$ , greater than  $\tau_c$  must be installed. Riprap and vegetation linings are recommended for the high and moderate shear zones, respectively.

### **Regulatory Compliance**

The Proposed Project will span the Newhall Creek. Roadway construction will include a new bridge across Newhall Creek and provide embankment protection to the roadway and creek. The Newhall Creek improvements will be designed in accordance with current regulatory and State permitting agencies, which include:



Source: Rivertech, Inc., February 2015



Figure 4.6-4  
Water Surface Profile - Post Project Scenario

- Excavation and grading activities shall be scheduled during dry weather periods. If grading occurs during the rainy season (October 15 through April 1), diversion dikes shall be constructed to channel runoff around the site. Channels shall be lined with grass or roughened pavement to reduce runoff velocity.
- Appropriate erosion control and drainage devices shall be provided in compliance with the Building Code.
- Stockpiles and excavated soil shall be covered with secured tarps or plastic sheeting.
- All waste shall be disposed of properly. Use appropriately labeled recycling bins to recycle construction materials including: solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and vegetation. Non-recyclable materials/wastes shall be taken to an appropriate landfill. Toxic wastes shall be discarded at a licensed regulated disposal site.
- Leaks, drips, and spills shall be cleaned up immediately to prevent contaminated soil on paved surfaces that can be washed away into the storm drains.
- Pavement shall not be hosed down at material spills. Dry cleanup methods shall be used whenever possible.
- Dumpsters shall be covered and maintained. Uncovered dumpsters shall be placed under a roof or be covered with tarps or plastic sheeting.
- The Project Applicant shall implement storm water best management practices (BMPs) to treat and infiltrate the runoff from a storm event producing 0.75 inch of rainfall in a 24-hour period. The design of structural BMPs shall be in accordance with the Development Best Management Practices Handbook, Part B, Planning Activities. A signed certificate from a California licensed civil engineer or licensed architect that the proposed BMPs meet this numerical threshold standard shall be required.
- Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate.
- The amount of impervious surface shall be reduced to the extent feasible by using permeable pavement materials where appropriate, including: pervious concrete/asphalt, unit pavers (i.e., turf block), and granular materials (i.e. crushed aggregates, cobbles, etc.).
- A roof runoff system shall be installed, as feasible, where site is suitable for installation.
- All storm drain inlets and catch basins within the project area shall be stenciled with prohibitive language (such as NO DUMPING - DRAINS TO OCEAN) and/or graphical icons to discourage illegal dumping.
- Legibility of stencils and signs shall be maintained.
- Materials with the potential to contaminate storm water shall be placed in an enclosure, such as a cabinet or shed or similar structure that prevents contact with or spillage to the storm water conveyance system.
- Storage areas shall be paved and sufficiently impervious to contain leaks and spills.
- An efficient irrigation system shall be designed and implemented by a certified landscape contractor to minimize runoff including: drip irrigation for shrubs to limit excessive spray; a SWAT-tested weather-based irrigation controller with rain shutoff; matched precipitation (flow) rates for sprinkler heads; rotating sprinkler nozzles; minimum irrigation system distribution uniformity of 75 percent; and flow reducers.



- The owner(s) of the property shall prepare and execute a covenant and agreement binding the owners to post construction maintenance on the structural BMPs in accordance with the Standard Urban Stormwater Mitigation Plan and or per manufacturer's instructions.
- Toxic wastes shall be discarded at a licensed regulated disposal site.
- Wastes including paper, glass, aluminum, oil, and grease shall be recycled to the extent feasible.
- The owner(s) of the property shall prepare and execute a covenant and agreement satisfactory to the Planning Department binding the owners to post construction maintenance on the structural BMPs in accordance with the Standard Urban Stormwater Mitigation Plan and/or per manufacturer's instructions.

#### **4.6.4 CUMULATIVE IMPACTS**

Future development projects within the Project area are likely to be subject to more stringent BMPs (since BMPs are regularly updated) than what are in use under the existing conditions. As such, future development would likely result in a net beneficial impact by reducing surface water runoff flows during storm events and improving the overall quality of water draining from the area.

Additionally, similar to the Proposed Project, each of the applicants of proposed development projects would be required to prepare and implement a SWPPP (construction) and SUSMP (operation) and would be subject to preliminary Site Plan review by the City to determine what drainage improvements and BMPs would be required to ensure no significant water quality issues. As discussed above, the Proposed Project would not result in any significant hydrology and water quality impacts and together with future development, would not create an impact that is cumulatively considerable, as each development project would have to comply with site specific development standards and state water quality regulations. Compliance with these standards would ensure that the related projects would further the objectives of applicable regional water quality plans. Therefore, cumulative impacts to hydrology and water quality would not be cumulatively considerable.

#### **4.6.5 MITIGATION MEASURES**

No project specific mitigation measures are required.

#### **4.6.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of the regulatory compliance measures identified above, construction and operational hydrology and water quality impacts would be less than significant prior to mitigation. Therefore no mitigation measures are required.