NORTH TAHOE
PUBLIC UTILITY DISTRICT

Kings Beach Grid Waterline Replacement Project

Preliminary Design Report

FINAL

AUERBACH
ENGINEERING CORPORATION

September 2007

North Tahoe
Public Utility District

Kings Beach Grid
Waterline Replacement
Project

PRELIMINARY DESIGN REPORT

FINAL
September 2007

AUERBACH ENGINEERING CORPORATION

P.O. Box 5399 • 3092 North Lake Blvd. • Tahoe city • California 96145
Voice (530) 581-1116 • Fax (530) 581-3162 • www.AuerbachEngineering.com

North Tahoe
Public Utility District
Kings Beach Grid
Waterline Replacement Project

PRELIMINARY DESIGN REPORT

TABLE OF CONTENTS

PRELIMINARY DESIGN REPORT

List Of Figures

PAGE No.

North Tahoe
Public Utility District
Kings Beach Grid
Waterline Replacement Project

PRELIMINARY DESIGN REPORT

List Of Tables

PROJECT BACKGROUND

INTRODUCTION

The North Tahoe Public Utility District (District) is located on the northern edge of Lake Tahoe, to the west of the California/Nevada state line and provides domestic water treatment and distribution, wastewater collection and conveyance and recreational services to its customers. Figure 1.1 presents a location map for the general vicinity of the District. The District service area encompasses approximately 6.8 square miles and extends from the state line on the eastern edge to Dollar Point on the western edge. The service area is bound on the southern edge by Lake Tahoe and extends northerly towards the Tahoe Basin rim. Figure 1.2 presents the District Service Area.

The District currently serves an area within the downtown portion of Kings Beach, California known as the Kings Beach Grid Study Area. This area was constructed in the early 1930's and the existing water distribution pipelines range in size from one (1) to twelve (12) inches in diameter and are routed within existing road right-of-ways, through backyards and undocumented easements. The area is bounded by Highway 28, Highway 267, Speckled Avenue and Beaver Street. Figure 1.3 presents the Study Area Boundary.

The purpose of the Kings Beach Grid Waterline Preliminary Engineering Project (Project) was to develop a preliminary engineering layout and cost estimates to assist the District in developing a phased approach to the construction for the replacement of the existing deficient waterlines.

PROJECT SCOPE

The scope of work for the Project was divided into four (4) major tasks. The major tasks completed during the Project are as follows:

- **Task 1 – Project Management.** This task included project administration such as tracking of the work and work progress reporting, meetings with District staff, coordination of subconsultant work efforts and development of a Project schedule.
- **Task 2 – Background Review.** Existing information such as previous studies, relevant geotechnical information improvement plans for waterline replacement projects, District Ordinances, Standards and Technical Specifications for waterline design and construction, property ownership maps and existing base mapping information were reviewed.
- **Task 3 – Base Mapping.** Existing base map information was provided by the District and incorporated into one overall base map for the Project area. This included existing utility information such as water, sewer, gas and electric from the respective utility companies.

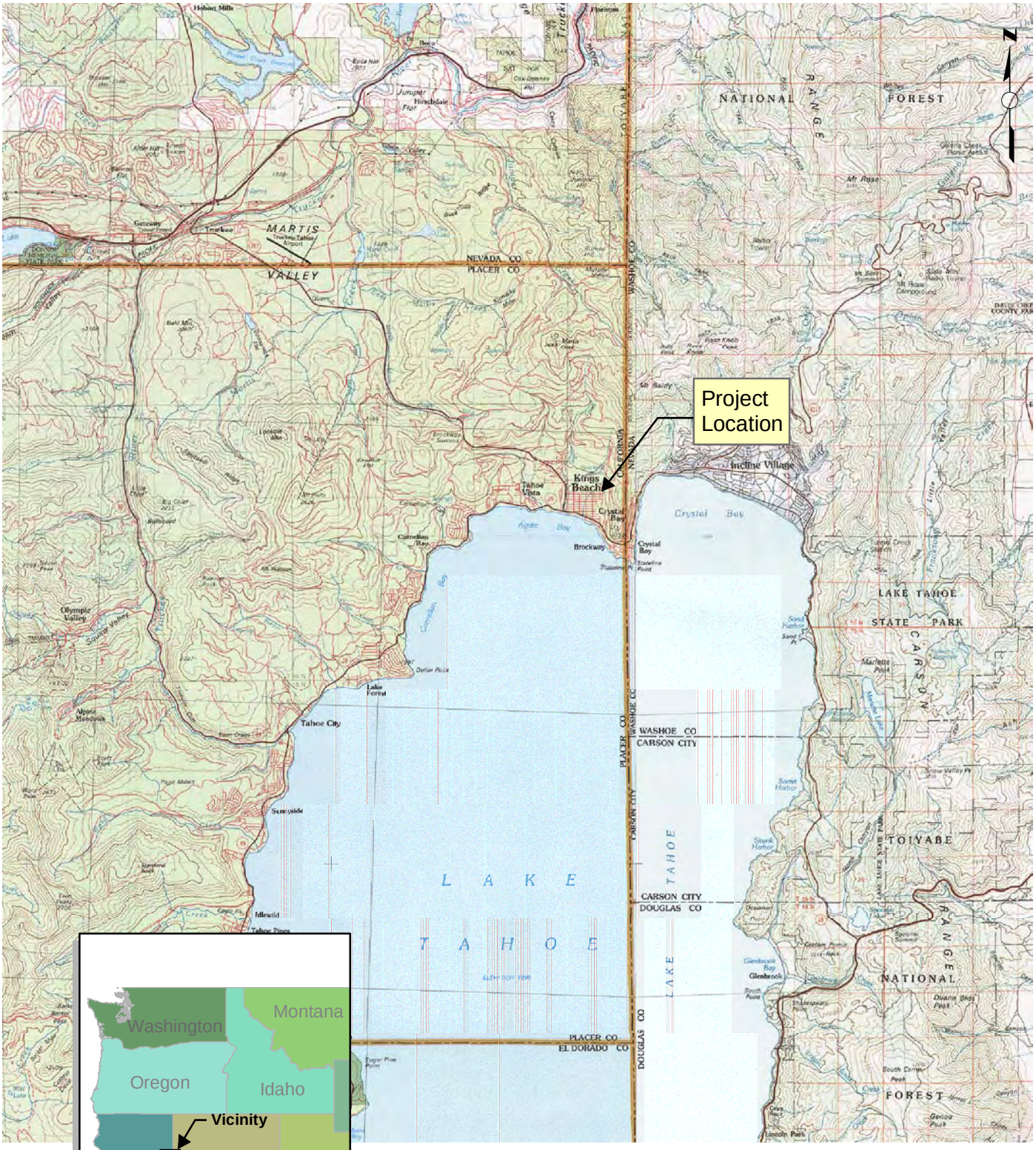
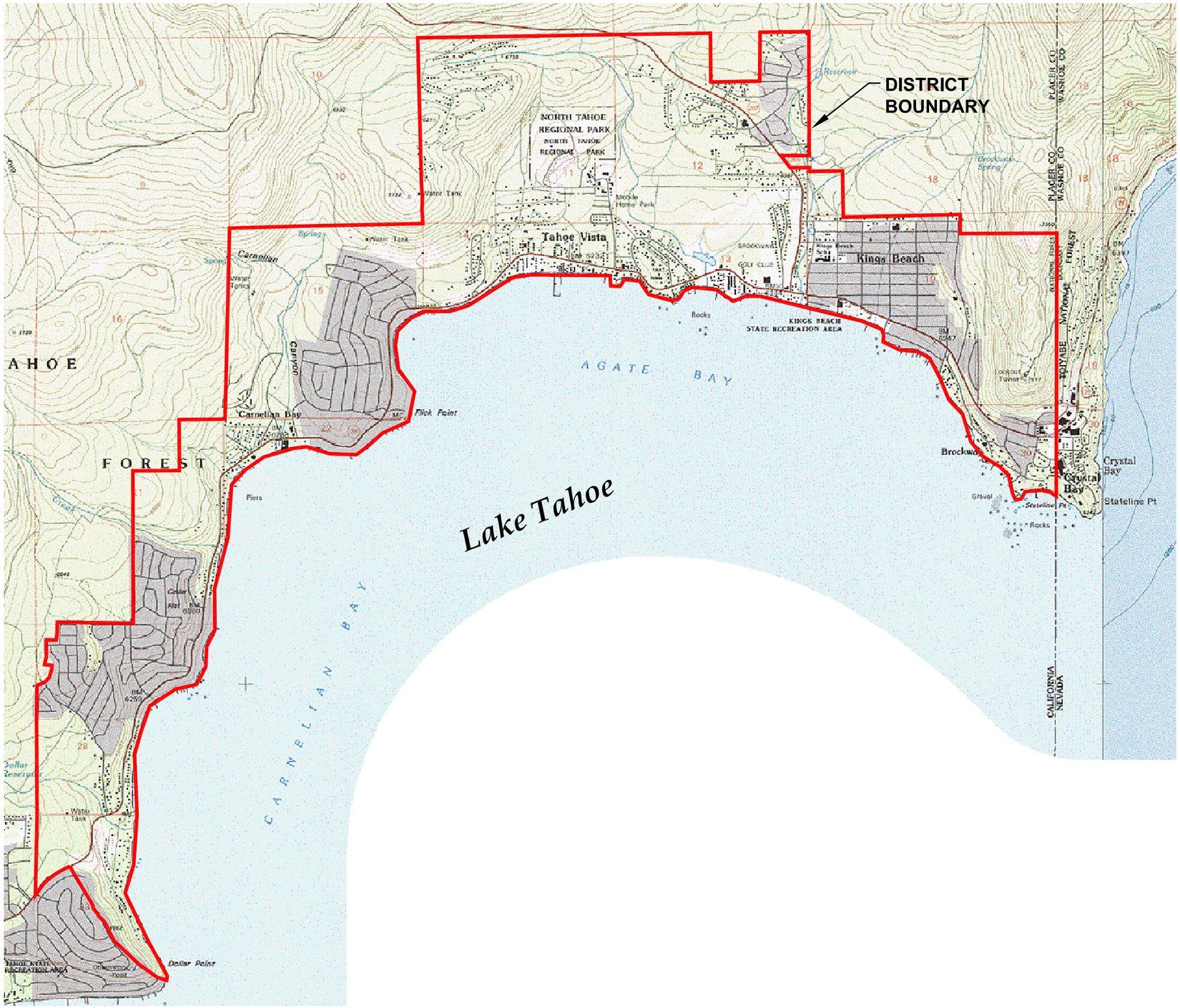


Figure 1.1
PROJECT LOCATION
Kings Beach Grid Project
North Tahoe Public Utility District



NOT TO SCALE

Figure 1.2
DISTRICT BOUNDARY
Kings Beach Grid Project
North Tahoe Public Utility District

NOT TO SCALE

Figure 1.3
STUDY AREA BOUNDARY
Kings Beach Grid Project
North Tahoe Public Utility District

- **Task 4 – Preliminary Design Report.** Draft copies of the Preliminary Design Report (PDR) were provided to the District for review. The PDR was revised based on District review comments and a FINAL report provided once all of the District comments were incorporated or addressed.

PREVIOUS REPORTS

The project team reviewed previous reports and information provided by District staff. This information included the following:

- "Master Water Plan", NTPUD Staff, dated 1999.
- "Hydraulic Model Documentation Report", Camp Dresser McKee (CDM), dated September 2006.
- "Water Distribution System Deficiency Study Technical Memorandum", CDM, dated November 2006.
- "Kings Beach Grid Study", CDM, dated January 9, 2007.
- "Technical Specifications – Water", North Tahoe Public Utility District (NTPUD), dated January 3, 2007.
- "Water Ordinance No. 320", NTPUD, dated July 13, 1999.
- "Sewer Master Plan", Kennedy/Jenks/Chilton Consulting Engineers, dated 1991.

EXISTING CONDITIONS and CONSTRAINTS

INTRODUCTION

The Kings Beach Grid Study Area serves approximately 330 acres with the existing land use being mainly residential, both single family and multi family, and some commercial/industrial areas along the outer edges. This section describes the existing conditions for the Project area as well as the anticipated constraints that may be encountered during the completion of the Project.

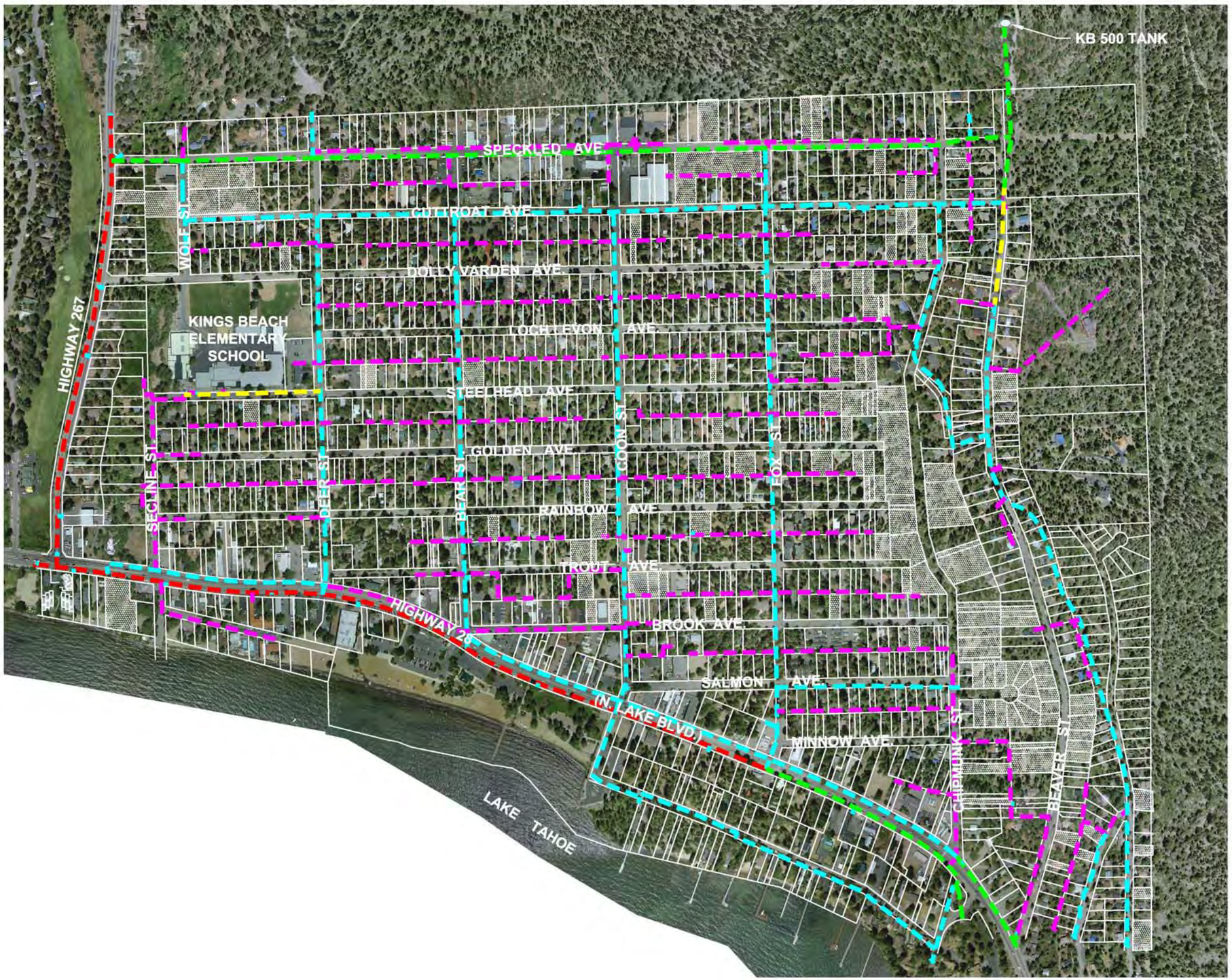
BASE MAPPING

The District provided base mapping consisting of parcel layout, two foot (2-ft) contours and street right of way. An aerial orthophoto was obtained from Placer County for the Project area. Additionally, the base maps for the Districts existing water and sewer pipelines were provided. The provided maps were combined into one overall layout that was used for the Project. The existing water distribution system pipelines, within the Project area, range from one (1) inches to twelve (12) inches in diameter. The larger water lines are typically along Speckled Avenue, Highway 267 and the animal streets such as Wolf Street. The smaller diameter pipelines are within undocumented easements in backyards running parallel to the fish streets such as Salmon Avenue. Other facilities within the area include a 500,000 gallon storage tank, known as the Kings Beach Tank (KB500), located above the intersection of Speckled Avenue and Beaver Street. Figure 2.1 presents the existing facilities layout within the Project area.

GEOLOGIC AND GEOTECHNICAL REVIEW

A preliminary geologic and geotechnical review report titled “Preliminary Geologic and Geotechnical Review Report for Kings Beach”, by Holdrege & Kull (H&K), dated September 14, 2006, for the Project area was completed. A copy of the report is provided in the Appendix. The purpose of the geologic and geotechnical review was to provide general information to be considered during the preliminary layout of the proposed distribution system within the Project area. The evaluation addressed the general soil/rock and groundwater conditions for the Project area with emphasis on how the conditions are expected to affect the proposed construction. It also considered potential geologic hazards including faulting and seismicity, slope stability, liquefaction, and other seismic hazards.

In general, the following conclusions are based on literature review, site visits, and experience of H&K staff within the Project area. It is important to point out that more specific geotechnical design criteria and engineering recommendations should be developed in a design level geotechnical report in conjunction with the individual projects final design and permit phase.



NOT TO SCALE

LEGEND

EXISTING

- < 6 - INCH
- 6 - INCH
- 8 - INCH
- 10 - INCH
- 12 - INCH
- CALIFORNIA TAHOE CONSERVANCY PARCELS

Figure 2.1
EXISTING FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Anticipated soil conditions generally consist of dense granular soil types of low plasticity that can be used as engineered fill. No severe soil, groundwater, or geologic constraints that would preclude Project development, as preliminarily planned, were observed in the course of the investigation.

- It is anticipated that some areas of near surface rock may be encountered during the excavation for the waterlines. A significant amount of boulders and oversized materials should be anticipated in excavations within the eastern sloping portions of the Project area. With the exception of the organic surface soil; site soil is generally suitable for reuse as structural backfill; however, processing to remove oversized material will likely be necessary.
- Groundwater should be anticipated between five (5) and ten (10) feet below ground surface (bgs) to the bottom of the trench excavation within the Project area. Additionally, near-surface soil layers will likely become seasonally saturated. Groundwater can cause degradation of asphalt concrete pavements, and contribute to frost heave and will increase the likelihood of trench caving, sloughing or other adverse conditions.
- Site soil should provide adequate pavement support. However, seasonal saturation of near-surface soils should be considered in the design of pavement areas.

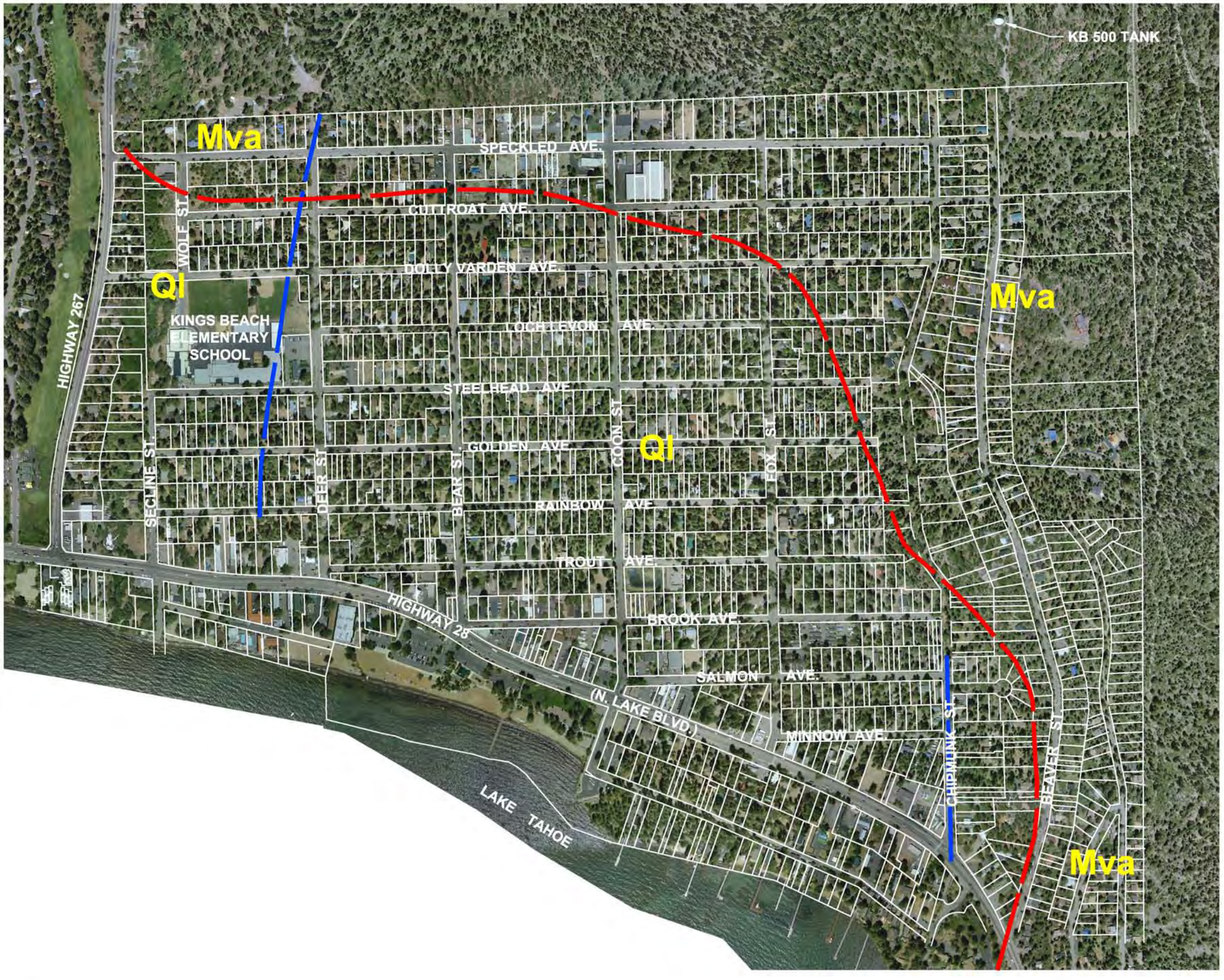
Figure 2.2 presents the anticipated Project area geology as provided by H&K.

EXISTING UTILITIES

The Project area is populated with both underground and overhead utilities. Therefore, determining the approximate quantity, type and location of existing utilities will provide valuable information during the preliminary layout of the proposed system. Using prior project experience, a preliminary list of utility companies known to operate facilities within the Project area was compiled. Once the preliminary list was obtained, a letter of request for information and copies of the Project area base maps were submitted to the utility companies. Copies of these letters are provided in the Appendix. This request for information served two major purposes:

- Informing the utility companies that the District was performing a preliminary design layout for an upgraded water system within the Project area; and
- Requesting information as to the approximate location of any existing utilities that the company may have in the area.

Table 2.1 presents a list of the utility companies of concern within the Project area. It is recommended that surface utility locating and potholing be completed during the final design phase of the waterlines.



NOT TO SCALE

LEGEND

	GEOLOGIC CONTACT (DASHED WHERE LOCATION APPROXIMATE)
	FAULT (DASHED WHERE LOCATION APPROXIMATE)
Ql	QUATERNARY LAKE DEPOSITS
Mva	MICOCENE VOLCANIC DEPOSITS

* GEOLOGIC INFORMATION PROVIDED BY HOLDREGE & KULL

Figure 2.2
GEOLOGIC INFORMATION
Kings Beach Grid Project
North Tahoe Public Utility District

Table 2.1 Known Utilities of Concern
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Utility	Service	Location
North Tahoe Public Utility District[1]	Water	Underground
North Tahoe Public Utility District[1]	Sewer	Underground
Charter Communications	Cable	Overhead
AT&T	Telephone	Overhead
Sierra Pacific Power Company	Power	Overhead
Southwest Gas Company	Natural Gas	Underground

Notes:

1) Close coordination with District staff was also completed for water and sewer underground utilities.

OTHER PROJECTS IN THE STUDY AREA

District staff will consider coordinating District projects with other agencies that are proposing projects within the study area. District coordination will depend on the District's financial ability to participate, including the District's commitments to other Capital Improvement Projects (CIP). Additionally, District coordination will depend on the condition of the infrastructure in the proposed project area(s) and the District's prioritization of infrastructure replacement. Below is a brief summary of agencies and their proposed projects that may be coordinated with District projects during the final design and permitting phases.

Placer County Water Quality and Erosion Control Projects

Placer County (County) has identified water quality and erosion control projects within the study area to assist in controlling storm water runoff and increasing the clarity of Lake Tahoe. The “Kings Beach Watershed Improvement Project, Final Watershed Improvement Plan Memorandum”, dated November 2006, by Entrix Incorporated, outlines the overall projects that the County anticipates designing and constructing over the next few years to assist in the reduction of erosion control problems and increase water quality in the Project area. A copy of this report is included in the Appendix.

Placer County Redevelopment Agency Projects

The Placer County Redevelopment Agency (RDA) has planned projects for redevelopment of parcels within the Project area. District staff provided three (3) maps showing redevelopment projects within the study area and are provided in the

Appendix. It is possible that District projects may be coordinated with RDA projects during the final design phase.

The Commercial Core Improvement

The Commercial Core Improvement Project is currently in the preliminary phase for projects within the Project Study Area. The District anticipates possibly coordinating District projects with the proposed improvements once these improvements are better defined.

NTPUD Sanitary Sewer Projects

The District currently has rehabilitation and replacement projects anticipated for the wastewater collection system within the Project study area. These projects will be closely coordinated with the proposed waterline projects. Currently the Beaver Street Waterline Replacement Project is being combined with the sewer replacement project.

ENVIRONMENTAL DOCUMENTATION

District projects will be required to meet the strict requirements of the California Environmental Quality Act (CEQA). Depending on the individual projects, the District can develop the documentation in-house or hire a consultant to provide the necessary data for submittal to the State Clearing House. The alternative approaches that can be explored for each project are briefly described below:

- *Categorical Exempt.* This approach requires that the District declare the project Categorical Exempt and state that it meets the requirements for this category. A categorical exempt project is an exemption from CEQA for a class of projects that generally will not have a significant effect on the environment. A typical list of categorical exempt projects is provided in the Appendix.
- *Initial Study*. The Initial Study assists the District in determining whether or not a Negative Declaration, a Mitigated Negative Declaration or an Environmental Impact Report (EIR) will be required. The Initial Study must include a project description, environmental setting, potential environmental impacts, mitigation measures for any significant effects, consistency with plans and policies, and names of preparers. If the initial study determines that the project will significantly impact the environment, an EIR will be required. Otherwise, a Negative Declaration, or Mitigated Negative Declaration can be prepared.

Typically, a Negative Declaration or Mitigated Negative Declaration can be completed for District projects of this nature. A copy of the Negative Declaration that was developed for the Beaver Street project is included in the Appendix as an example.

ROAD RIGHT OF WAY

The Project area consists of Placer County (County) owned road right of ways (ROW) for all of the existing streets. The proposed waterlines are anticipated to be constructed within the County ROW to eliminate easements with private property owners where possible. The County will require encroachment permit processing for all waterlines constructed within County ROW.

CONSTRUCTION SCHEDULING

The Lake Tahoe area provides for some unique challenges to the construction of underground utilities. The seasonal nature of the construction season limits the amount of time allowed for a contractor to perform his/her operations. Typically, projects of this nature are limited to the construction season of May 1st through October 15th of any year. Additionally, the limitations placed on construction projects by the local regulatory agencies also pose challenges to completing projects within a specified time frame.

REGULATORY PERMITTING

The regulatory permitting climate within the Tahoe Basin poses challenges to projects of this nature. Many public utility districts have Memorandums of Understanding (MOU) with the regulatory agencies in order to reduce the permitting timeframes for utility projects of a certain length.

Tahoe Regional Planning Agency

Currently, the Districts' MOU with the Tahoe Regional Planning Agency (TRPA) is limited to 2,000 lineal feet (lf) of pipeline for any one project. All projects within this limit are permitted through the Qualified Exempt permit process while all others must go through the standard TRPA permitting process. A copy of the Districts' current MOU with TRPA is provided in the Appendix. TRPA's standard permitting process is one hundred and twenty (120) days. Typically, a qualified exempt permit turn around time is approximately thirty (30) days. If additional information is requested, the process time can be lengthened by TRPA staff.

Regional Water Quality Control Board – Lahontan Region

The Regional Water Quality Control Board – Lahontan Region (Lahontan) regulates utility construction projects, within the Lake Tahoe Hydrologic Unit (LTHU), through the construction permitting process. A project falls into two categories based on the amount of total land disturbance during the construction operations. These categories are listed below:

- *Small Construction Permit.* A project that exhibits a land disturbance of less than one (1.0) acre (ac) can be permitted through Permit No. 91-31, "Construction of Small Commercial, Multi-Family Residential, Utility and Public Works Projects, Lake Tahoe Basin". This process involves filling out the Permit No. 91-31 forms and submitting the required documents and filing fee. A copy of the Permit No. 91-31 is provided in the Appendix.
- *Large Construction Permit.* A project that exhibits a land disturbance of one (1.0) ac or more is permitted through Permit No.: 05-007-CAG616002, "NPDES Permit for Discharges of Storm Water Runoff Associated with Construction Activity Involving Land Disturbance in the Lake Tahoe Hydrologic Unit – El Dorado, Placer and Alpine Counties". This process involves filing a Notice of Intent (NOI) with Lahontan and submitting a Storm Water Pollution Prevention Plan (SWPPP) and a filing fee. A copy of this permit is provided in the Appendix.

  The Lahontan permitting process is typically a thirty (30) day turn around time frame. If additional information is requested, the process time can be lengthened by Lahontan staff.

  In some instances, the Lahontan permitting process can be delegated by Lahontan staff to TRPA through the TRPA MOU that exists between Lahontan and TRPA. This is typically reviewed on a case by case basis and the final deferral approved by Lahontan staff. A copy of this MOU is provided in the Appendix.

Placer County

The Placer County (County) permitting process for utility projects typically involves an Encroachment Permit process. This process involves the submittal of the plans to the County Community Development Resource Agency, Engineering and Surveying Division (formerly County Department of Public Works) for review and the completion of an application provided by the department. Typical turn around times vary between six (6) to eight (8) weeks for final approval. A copy of the Beaver street project encroachment permit is provided in the Appendix.

CalTrans

The California Department of Transportation (CalTrans) requires that an Encroachment Permit be obtained for any anticipated work within CalTrans right-of-ways. This process involves the completion of an Encroachment Permit application and the submittal of the application and plans to CalTrans for review. Typical turn around times vary between eight (8) to twelve (12) weeks for final approval. A copy of the application form is provided in the Appendix.

Easements

Project components that are constructed on private property require permanent easements from the property owners. However, at this time, there are no permanent easements anticipated for this Project since it is anticipated that construction will be completed within County ROW. Temporary construction easements may be required for construction staging and storage areas for the individual projects. The temporary construction easements should be acquired at the time of final design of the projects.

A summary of the regulatory agencies that may be involved with the Project components are listed in Table 2.2 below.

Table 2.2 Regulatory Permit Summary
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit	Time Frame[1]
Tahoe Regional Planning Agency	Qualified Exempt	30 days
	Standard	120 days
RWQCB[2] Lahontan	91-31	30 days
	05-007-CAG616002	30 days
Placer County	Encroachment	6-8 weeks
CalTrans[3]	Encroachment	8-12 weeks

Notes:

1) Time frames for permit turn around are assumed typical. Each permit will be evaluated on a case by case basis by the respective agency.
2) RWQCB = Regional Water Quality Control Board.
3) CalTrans = California Department of Transportation.

PROPOSED FACILITIES

INTRODUCTION

Based on information provided by the hydraulic analysis, provided by others, the proposed facilities for the Project area were developed. This section describes the proposed capital improvement program (CIP) that focuses on addressing the deficiencies of the water distribution system in the Project area. The CIP has been divided into individual projects that will enable the District to construct the improvements within a reasonable financial and schedule means, but also taking into consideration the constraints and requirements as discussed in the previous chapter.

HYDRAULIC ANALYSIS

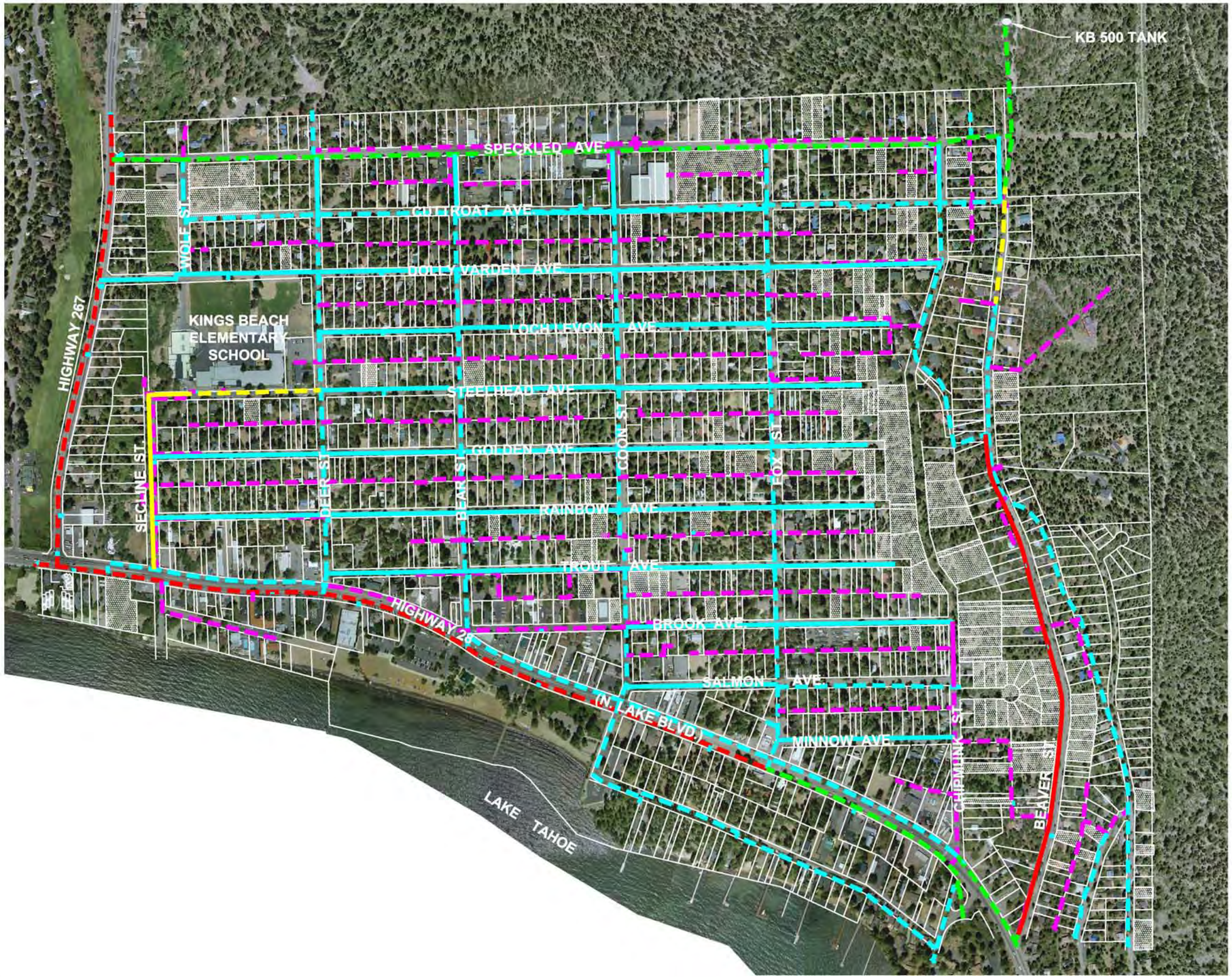
A complete service area distribution system hydraulic model analysis was performed by Camp Dresser McKee (CDM) under separate contract with the District. This study is titled “Water Distribution Deficiency Study Technical Memorandum”, dated November 2006, by CDM. Additionally, a brief study titled “Kings Beach Grid Study”, dated January 9, 2007, that reviews the existing and proposed distribution system requirements for the Project area was provided to the project team. A copy of this study can be found in the Appendix. The analysis reviews the performance of the existing system and the necessary upgrades to the Project area pipelines to bring the system into conformance with industry standards and regulatory requirements.

RECOMMENDED IMPROVEMENTS

As previously discussed, the existing water distribution system in the Project area was constructed of small diameter pipelines within undocumented easements. Based on the hydraulic analysis (performed by others), the operation of the existing system, and the desire of the District to replace the existing pipelines with industry standard sizes within public road right of ways, it is necessary to reconstruct the system almost in its’ entirety.

The system, in general, will be constructed of six (6) to eight (8) inch diameter pipelines on the fish streets such as Salmon Avenue and a twelve-inch (12”) diameter transmission pipeline on Beaver Street. Figure 3.1 presents the layout of the proposed water distribution system facilities for the Project area. Table 3.1 presents the proposed size and length of pipeline required for each street.

The Project area will be constructed with approximately 29,521 lineal feet of new water pipelines ranging in size from 6” to 12” in diameter. Approximately fifty (50) new fire hydrants will be constructed to assist in the protection of the area from fire damage. Under separate cover, full size plans (22 x 34) have been developed that present the existing base mapping and proposed Project Waterline Layout.



NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	
	CALIFORNIA TAHOE CONSERVANCY PARCELS	

Figure 3.1
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.1 Proposed Pipeline Quantity Estimates [1]
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Description	Diameter (inches)	Length (feet)
Cutthroat Avenue	6	1,485
Dolly Varden Avenue	6	4,100
Loch Levon Avenue	6	2,775
Steelhead Avenue	6	2,630
	8	100
Golden Avenue	6	3,500
Rainbow Avenue	6	3,510
Trout Avenue	6	2,770
Brook Avenue	6	1,590
Salmon Avenue	6	730
Minnow Avenue	6	860
Secline Street	8	905
Wolf Street	6	260
Deer Street	6	300
Bear Street	6	290
Coon Street	6	280
Chipmunk Street	4	320
	6	295
Beaver Street	6	325
	12	2,496
Total Length of Pipe		**29,521**

Notes:

1) Proposed pipeline sizes and quantities based on hydraulic model and system physical layout.

PROJECT PHASING

In order for the District to finance the proposed improvements the overall Project must be divided into individual projects. This not only assists in the financing of the projects but enables the projects to be constructed within one construction season. If the projects are designed, permitted and bid during the winter season, the construction of the projects can begin in May and completed prior to the end of the construction season. Additionally, other factors such as coordination with County Water Quality and Erosion Control projects and Redevelopment Agency projects were included in the overall phasing of the projects. Below is a description of the phased projects.

Cost Estimates

The construction cost estimates used in developing the CIP were based on information obtained from construction bids received for projects recently constructed or bid within the area. The costs are based on an Engineering News Record (ENR) Construction Cost Index (CCI) 20-Cities average of 7880 (January 2007). To develop total project costs, an additional twenty-five percent (25%) was added for construction contingencies and an additional 25% was added for engineering (design and construction phase), administration, and legal (E/A/L) costs.

Project No. 1

Project number (No.) 1 consists of the construction of approximately 2,496 lineal feet (lf) of twelve-inch (12") diameter transmission pipeline, four (4) fire hydrants, existing pipeline connections, water service connections and pavement restoration from the intersection of Beaver Street and State Highway 28 northerly along Beaver Street. This project was selected as the first project due to the need of a transmission pipeline being located on the eastern edge of the Project area. This 12" transmission pipeline will provide routing of flows to and from the Kings Beach Tank (KB500) located above the intersection of Speckled Avenue and Beaver Street. This project is being coordinated with two other projects anticipated for the area. The District is replacing an aging sanitary sewer pipeline within Beaver Street and the County is designing Water Quality and Erosion Control improvements along Beaver Street. The County RDA is not anticipating projects in the area.

Currently, Project No. 1 design and permitting has been completed and the project is anticipated to be under construction by May 1, 2007.

Figure 3.2 presents the Project No. 1 layout. Table 3.2 presents the Project No. 1 cost estimate. The Total Construction Cost is estimated at $785,090 and the Total Project Costs are approximately $981,390. Permits that were required for Project No. 1 are listed in Table 3.3.

NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

Figure 3.2
PROJECT No. 1
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.2 Estimated Costs (Project No. 1)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/Demobilization (5%)	1	LS[1]	$35,600	$35,600
2	Temporary Erosion Control	1	LS	$35,000	$35,000
3	Traffic Control	1	LS	$30,000	$30,000
4	AC Saw Cut[2]	4,900	LF[3]	$5	$24,500
5	12" Water Main- DIP (CL200)	2,496	LF	$165	$411,840
6	Shoring and Worker Safety	1	LS	$35,000	$35,000
7	Dewatering	1	LS	$20,000	$20,000
8	Hwy 28/Beaver St Tie-in No. 1	1	LS	$10,000	$10,000
9	Bass Ave/Beaver St Tie-in No 2	1	LS	$2,000	$2,000
10	12" x 6" System Inter-tie Tie-in No. 3	1	LS	$5,000	$5,000
11	Fire Hydrant Assembly	4	EA[4]	$6,000	$24,000
12	Existing Fire Hydrant Tie-in	1	EA	$5,500	$5,500
13	Water Service Lateral (Dual)	4	EA	$3,000	$12,000
14	Water Service Lateral (Single)	20	EA	$2,500	$50,000
15	Connect Existing Water Meter	15	EA	$2,000	$30,000
16	Abandon Exist. Pipeline In Place	1	LS	$5,000	$5,000
17	Rock Excavation[8]	70	CY	$175	$12,250
				Subtotal	$747,690
	Construction Contingency[9]	5%			$37,400
	Total Construction Cost[10]				$785,090
	E/A/L Contingency[11]	25%			$196,300
	Total Project Cost				**$981,390**

Notes:

(1) LS = Lump Sum.
(2) AC sawcut includes main pipeline trench and lateral trench sawcuts and are minimum values. (See Note 7)
(3) LF = Lineal Feet.
(4) EA = Each.
(5) Pavement Restoration includes main trench and lateral trench areas and are minimum values. (See Note 7)
(6) SF = Square Feet.
(7) Water trench is located close to the edge of the existing pavement for this project.
(8) Rock Excavation is an estimate based on geological review.
(9) A construction contingency of 5% was used for this project since it is currently (2007) under construction.
(10) Costs are current construction costs at ENR = 7,880 (Jan. 2007)
(11) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.3 Regulatory Permit Summary (Project No. 1)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit
Tahoe Regional Planning Agency	Standard (TRPA File No.: 20060865)
RWQCB[1] Lahontan	Fell within TRPA/Lahontan MOU
Placer County	Encroachment (DEPU No.: 2006283)
CalTrans	Encroachment (EP-No.: 0306-NUS0762)

Notes:

1) RWQCB = Regional Water Quality Control Board.

Project No. 2

Project No. 2 consists of the construction of approximately 1,590 lf of six-inch (6") diameter pipeline, four (4) fire hydrants, existing pipeline connections, water service laterals and pavement restoration along Salmon and Minnow Avenues between Coon and Chipmunk Streets. County Water Quality and Erosion Control projects are anticipated in the area and will be coordinated with the project design and construction. Additionally, the County RDA is anticipating commencing redevelopment projects in the area and will be coordinated with the Project.

Figure 3.3 presents the Project No. 2 layout. Table 3.4 presents the Project No. 2 cost estimate. The Total Construction Cost is estimated at $621,690 and the Total Project Costs are approximately $777,110. Permits that may be required for Project No. 2 are listed in Table 3.5.

NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

Figure 3.3
PROJECT No. 2
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.4 Estimated Costs (Project No. 2)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/Demobilization (5%)	1	LS[1]	$23,700	$23,700
2	Temporary Erosion Control	1	LS	$10,000	$10,000
3	Traffic Control	1	LS	$25,000	$25,000
4	AC Saw Cut	4,970	LF[2]	$5	$24,850
5	Shoring and Worker Safety	1	LS	$20,000	$20,000
6	Dewatering	1	LS	$20,000	$20,000
7	Pavement Restoration[3]	7,790	SF[4]	$10	$77,900
8	6" PVC (CL 150)[5]	0	LF	$75	$0
9	6" PVC (CL 200)[5]	1,590	LF	$85	$135,150
10	Coon/Salmon Tie-in No. 1	1	LS	$7,500	$7,500
11	Fox/Salmon Tie-in No. 2	1	LS	$7,500	$7,500
12	Chipmunk/Salmon Tie-in No. 3	1	LS	$7,500	$7,500
13	Fox/Minnow Tie-in No. 4	1	LS	$7,500	$7,500
14	Chipmunk/Minnow Tie-in No. 5	1	LS	$7,500	$7,500
15	Water Service Laterals (Single)[7]	37	EA[6]	$2,500	$92,500
16	Fire Hydrant Assembly	4	EA	$5,500	$22,000
17	Rock Excavation[8]	50	CY	$175	$8,750
				Subtotal	$497,350
	Construction Contingency	25%			$124,340
	Total Construction Cost[9]				$621,690
	E/A/L Contingency[10]	25%			$155,420
	Total Project Cost				**$777,110**

Notes:
(1) LS = Lump Sum.
(2) LF = Lineal Feet.
(3) Pavement Restoration based on main trench length multiplied by 4-foot width. This item also includes fire hydrant lateral and water service lateral pavement restoration.
(4) SF = Square Feet.
(5) Percentage estimate of PVC CL150 and CL200 based on pressure zones.
(6) EA = Each.
(7) Assumes all properties except combined lots receive a single service lateral.
(8) Rock Excavation is an estimate based on geological review.
(9) Costs are current construction costs at ENR = 7,880 (Jan. 2007)
(10) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.5 Potential Regulatory Permit Summary (Project No. 2)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit Type
Tahoe Regional Planning Agency	Standard Permit
RWQCB[1] Lahontan	Small Construction
Placer County	Encroachment Permit

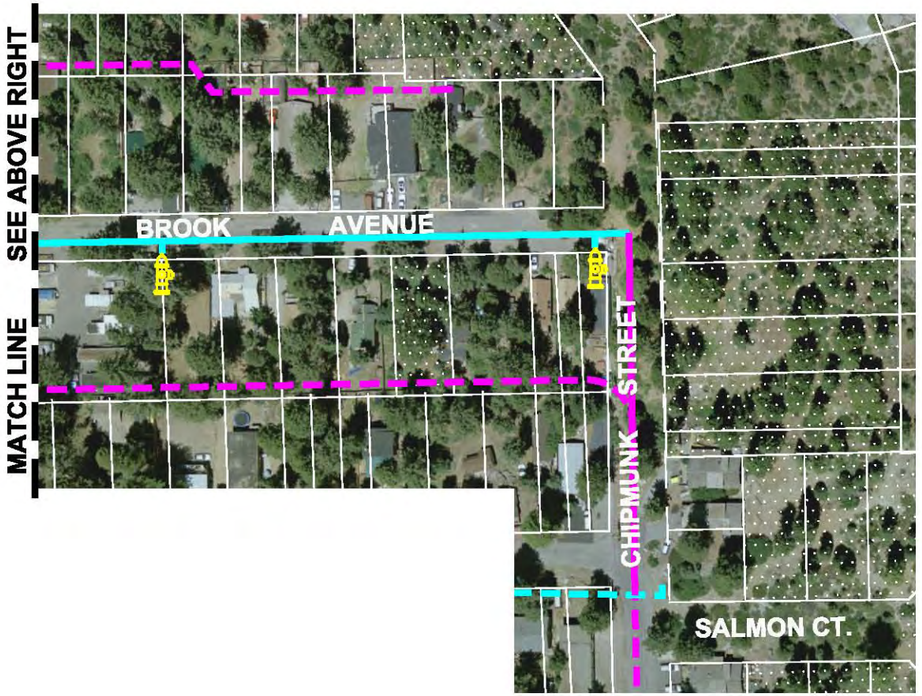
Notes:

1) RWQCB = Regional Water Quality Control Board.

Project No. 3

Project No. 3 consists of the construction of approximately 320 lf of four-inch (4") diameter pipeline and 1,590 lf of six-inch (6") diameter pipeline, three (3) fire hydrants, existing pipeline connections, water service laterals and pavement restoration along Brook Avenue between Coon and Chipmunk Streets. County Water Quality and Erosion Control improvement projects are anticipated in the area and will be coordinated with the project design and construction. Additionally, the County RDA is anticipating commencing redevelopment projects in the area and will be coordinated with Project No. 3 design and construction.

Figure 3.4 presents the Project No. 3 layout. Table 3.6 presents the Project No. 3 cost estimate. The Total Construction Cost is estimated at $679,810 and the Total Project Costs are approximately $849,760. Permits that may be required for Project No. 3 are listed in Table 3.7.



NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

Figure 3.4
PROJECT No. 3
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.6 Estimated Costs (Project No. 3)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/Demobilization (5%)	1	LS[1]	$25,900	$25,900
2	Temporary Erosion Control	1	LS	$10,000	$10,000
3	Traffic Control	1	LS	$25,000	$25,000
4	AC Saw Cut	6,040	LF[2]	$5	$30,200
5	Shoring and Worker Safety	1	LS	$20,000	$20,000
6	Dewatering	1	LS	$20,000	$20,000
7	Pavement Restoration[3]	9,320	SF[4]	$10	$93,200
8	4" PVC (CL 200)[5]	320	LF	$70	$22,400
9	6" PVC (CL 150)[5]	0	LF	$75	$0
10	6" PVC (CL 200)[5]	1,590	LF	$85	$135,150
11	Coon/Brook Tie-in No. 1	1	LS	$7,500	$7,500
12	Fox/Brook Tie-in No. 2	1	LS	$7,500	$7,500
13	Water Service Laterals (Single)[7]	48	EA[6]	$2,500	$120,000
14	Fire Hydrant Assembly	3	EA	$5,500	$16,500
15	Rock Excavation[8]	60	CY	$175	$10,500
				Subtotal	$543,850
	Construction Contingency	25%			$135,960
	Total Construction Cost[9]				$679,810
	E/A/L Contingency[10]	25%			$169,950
	Total Project Cost				**$849,760**

Notes:

(1) LS = Lump Sum.

(2) LF = Lineal Feet.

(3) Pavement Restoration based on main trench length multiplied by 4-foot width. This item also includes fire hydrant lateral and water service lateral pavement restoration.

(4) SF = Square Feet.

(5) Percentage estimate of PVC CL150 and CL200 based on pressure zones.

(6) EA = Each.

(7) Assumes all properties except combined lots receive a single service lateral.

(8) Rock Excavation is an estimate based on geological review.

(9) Costs are current construction costs at ENR = 7,880 (Jan. 2007)

(10) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.7 Potential Regulatory Permit Summary (Project No. 3)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit Type
Tahoe Regional Planning Agency	Standard Permit
RWQCB[1] Lahontan	Small Construction
Placer County	Encroachment Permit

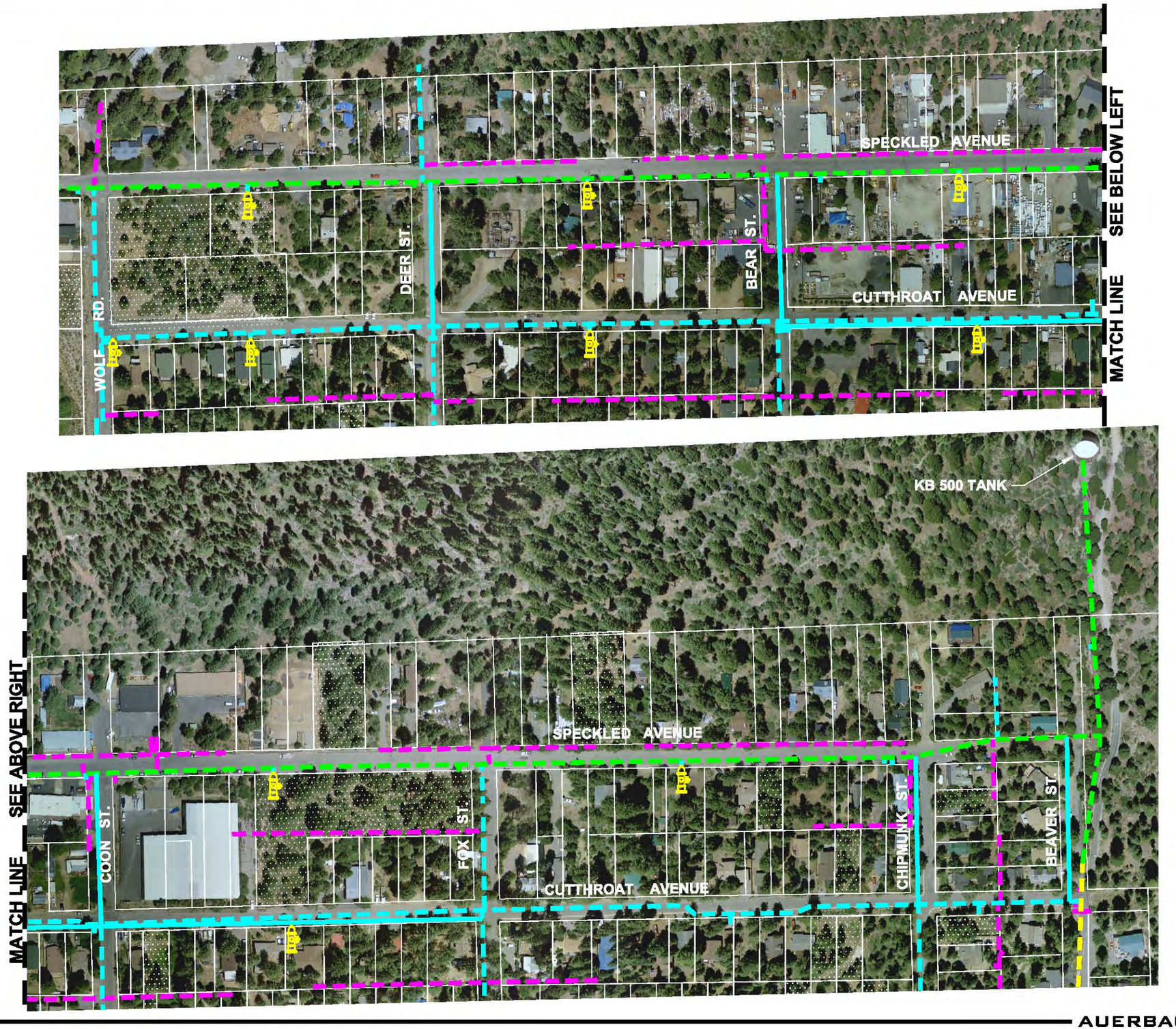
Notes:

1) RWQCB = Regional Water Quality Control Board.

Project No. 4

Project No. 4 consists of the construction of approximately 2,975 lf of six-inch (6") diameter pipeline, ten (10) fire hydrants, existing pipeline connections, water service laterals and pavement restoration along Cutthroat Avenue between Bear Street and Fox Street and along Deer, Bear, Coon, Chipmunk and Beaver Street between Cutthroat and Speckled Avenues. County Water Quality and Erosion Control improvement projects are anticipated in the area and will be coordinated with the project design and construction. The County RDA is not anticipating projects in the area.

Figure 3.5 presents the Project No. 4 layout. Table 3.8 presents the Project No. 4 cost estimate. The Total Construction Cost is estimated at $926,290 and the Total Project Costs are approximately $1,157,860. Permits that may be required for Project No. 4 are listed in Table 3.9.



NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

Figure 3.5
PROJECT No. 4
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

AUERBACH ENGINEERING CORPORATION

Table 3.8 Estimated Costs (Project No. 4)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/Demobilization (5%)	1	LS[1]	$35,300	$35,300
2	Temporary Erosion Control	1	LS	$10,000	$10,000
3	Traffic Control	1	LS	$15,000	$15,000
4	AC Saw Cut	8,330	LF[2]	$5	$41,650
5	Shoring and Worker Safety	1	LS	$10,000	$10,000
6	Dewatering	1	LS	$10,000	$10,000
7	Pavement Restoration[3]	14,020	SF[4]	$10	$140,200
8	6" PVC (CL 150)[5]	2,975	LF	$75	$223,130
9	6" PVC (CL 200)[5]	0	LF	$85	$0
10	Deer/Cutthroat Tie-in No. 1	1	LS	$7,500	$7,500
11	Deer/Speckled Tie-in No. 2	1	LS	$7,500	$7,500
12	Bear/Cutthroat Tie-in No. 3	1	LS	$7,500	$7,500
13	Bear/Speckled Tie-in No. 4	1	LS	$7,500	$7,500
14	Coon/Cutthroat Tie-in No. 5	1	LS	$7,500	$7,500
15	Coon/Speckled Tie-in No. 6	1	LS	$7,500	$7,500
16	Fox/Cutthroat Tie-in No. 7	1	LS	$7,500	$7,500
17	Chipmunk/Cutthroat Tie-in No. 8	1	LS	$7,500	$7,500
18	Chipmunk/Speckled Tie-in No. 9	1	LS	$7,500	$7,500
19	Beaver/Cutthroat Tie-in No. 10	0	LS	$7,500	$0
20	Beaver/Speckled Tie-in No. 11	1	LS	$7,500	$7,500
21	Water Service Laterals (Single)[6]	44	EA[7]	$2,500	$110,000
22	Fire Hydrant Assembly	10	EA	$5,500	$55,000
23	Rock Excavation[8]	90	CY	$175	$15,750
				Subtotal	$741,030
	Construction Contingency	25%			$185,260
	Total Construction Cost[9]				$926,290
	E/A/L Contingency[10]	25%			$231,570
	Total Project Cost				**$1,157,860**

Notes:
(1) LS = Lump Sum.
(2) LF = Lineal Feet.
(3) Pavement Restoration based on main trench length multiplied by 4-foot width. This item also includes fire hydrant lateral and water service lateral pavement restoration.
(4) SF = Square Feet.
(5) Percentage estimate of PVC CL150 and CL200 based on pressure zones.
(6) Assumes all properties except combined lots receive a single service lateral.
(7) EA = Each.
(8) Rock Excavation is an estimate based on geological review.
(9) Costs are current construction costs at ENR = 7,880 (Jan. 2007)
(10) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.9 Potential Regulatory Permit Summary (Project No. 4)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit Type
Tahoe Regional Planning Agency	Standard Permit
RWQCB[1] Lahontan	Small Construction
Placer County	Encroachment Permit

Notes:
1) RWQCB = Regional Water Quality Control Board.

Project No. 5

Project No. 5 consists of the construction of approximately 2,260 lf of six-inch (6") diameter pipeline, two (2) fire hydrants, existing pipeline connections, water service laterals and pavement restoration along Dolly Varden Avenue between Highway 267 and Bear Street. County Water Quality and Erosion Control improvement projects are anticipated in the area and will be coordinated with the project design and construction. The County RDA is not anticipating projects in the area.

Figure 3.6 presents the Project No. 5 layout. Table 3.10 presents the Project No. 5 cost estimate. The Total Construction Cost is estimated at $679,810 and the Total Project Costs are approximately $849,760. Permits that may be required for Project No. 5 are listed in Table 3.11.

NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

Figure 3.6
PROJECT No. 5
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.10 Estimated Costs (Project No. 5)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/Demobilization (5%)	1	LS[1]	$25,900	$25,900
2	Temporary Erosion Control	1	LS	$15,000	$15,000
3	Traffic Control	1	LS	$25,000	$25,000
4	AC Saw Cut	6,220	LF[2]	$5	$31,100
5	Shoring and Worker Safety	1	LS	$15,000	$15,000
6	Dewatering	1	LS	$15,000	$15,000
7	Pavement Restoration[3]	10,310	SF[4]	$10	$103,100
8	6" PVC (CL 150)[5]	2,260	LF	$75	$169,500
9	6" PVC (CL 200)[5]	0	LF	$85	$0
10	Hwy 267/Dolly Varden Tie-in No. 1	1	LS	$10,000	$10,000
11	Wolf Tie-in No. 2	1	LS	$3,500	$3,500
12	Deer/Dolly Varden Tie-in No. 3	1	LS	$7,500	$7,500
13	Bear/Dolly Varden Tie-in No. 4	1	LS	$7,500	$7,500
14	Water Service Laterals (Single)[6]	37	EA[7]	$2,500	$92,500
15	Fire Hydrant Assembly	2	EA	$5,500	$11,000
16	Rock Excavation[8]	70	CY	$175	$12,250
				Subtotal	$543,850
	Construction Contingency	25%			$135,960
	Total Construction Cost[9]				$679,810
	E/A/L Contingency[10]	25%			$169,950
	Total Project Cost				**$849,760**

Notes:

(1) LS = Lump Sum.
(2) LF = Lineal Feet.
(3) Pavement Restoration based on main trench length multiplied by 4-foot width. This item also includes fire hydrant lateral and water service lateral pavement restoration.
(4) SF = Square Feet.
(5) Percentage estimate of PVC CL150 and CL200 based on pressure zones.
(6) Assumes all properties except combined lots receive a single service lateral.
(7) EA = Each.
(8) Rock Excavation is an estimate based on geological review.
(9) Costs are current construction costs at ENR = 7,880 (Jan. 2007)
(10) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.11 Potential Regulatory Permit Summary (Project No. 5)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit Type
Tahoe Regional Planning Agency	Standard Permit
RWQCB [1] Lahontan	Small Construction
Placer County	Encroachment Permit
CalTrans	Encroachment Permit

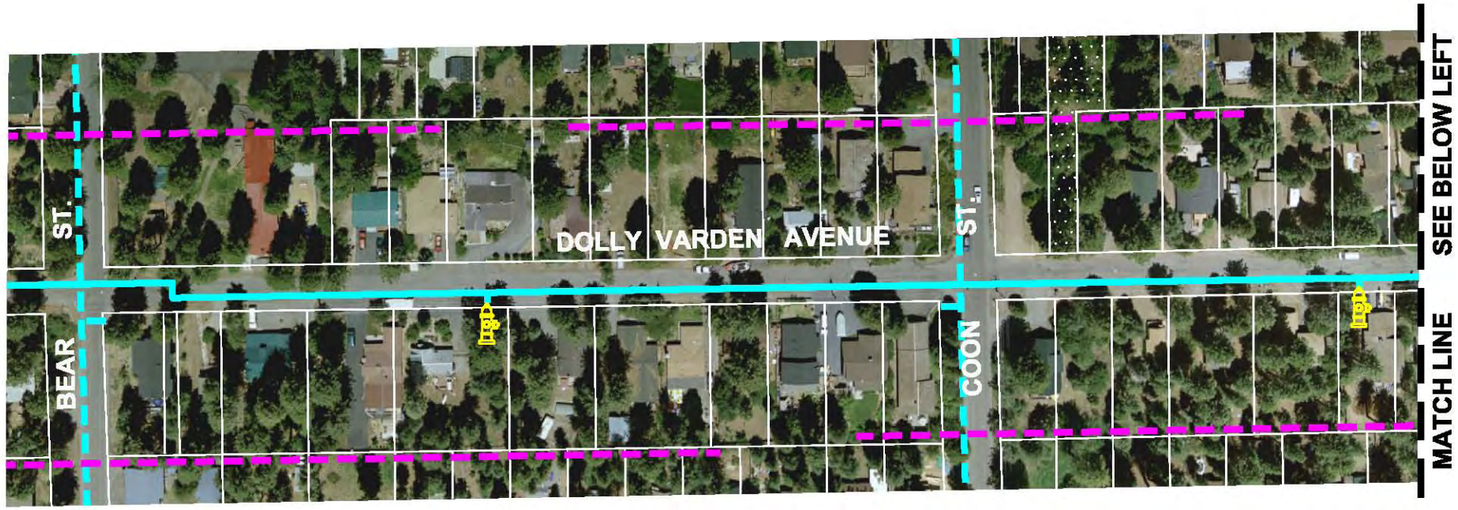
Notes:

1) RWQCB = Regional Water Quality Control Board.

Project No. 6

Project No. 6 consists of the construction of approximately 2,100 lf of six-inch (6") diameter pipeline, three (3) fire hydrants, existing pipeline connections, water service laterals and pavement restoration along Dolly Varden Avenue between Bear and Chipmunk Streets. County Water Quality and Erosion Control improvement projects are anticipated in the area and will be coordinated with the project design and construction. The County RDA is not anticipating projects in the area.

Figure 3.7 presents the Project No. 6 layout. Table 3.12 presents the Project No. 6 cost estimate. The Total Construction Cost is estimated at $752,155 and the Total Project Costs are approximately $940,195. Permits that may be required for Project No. 6 are listed in Table 3.13.



NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

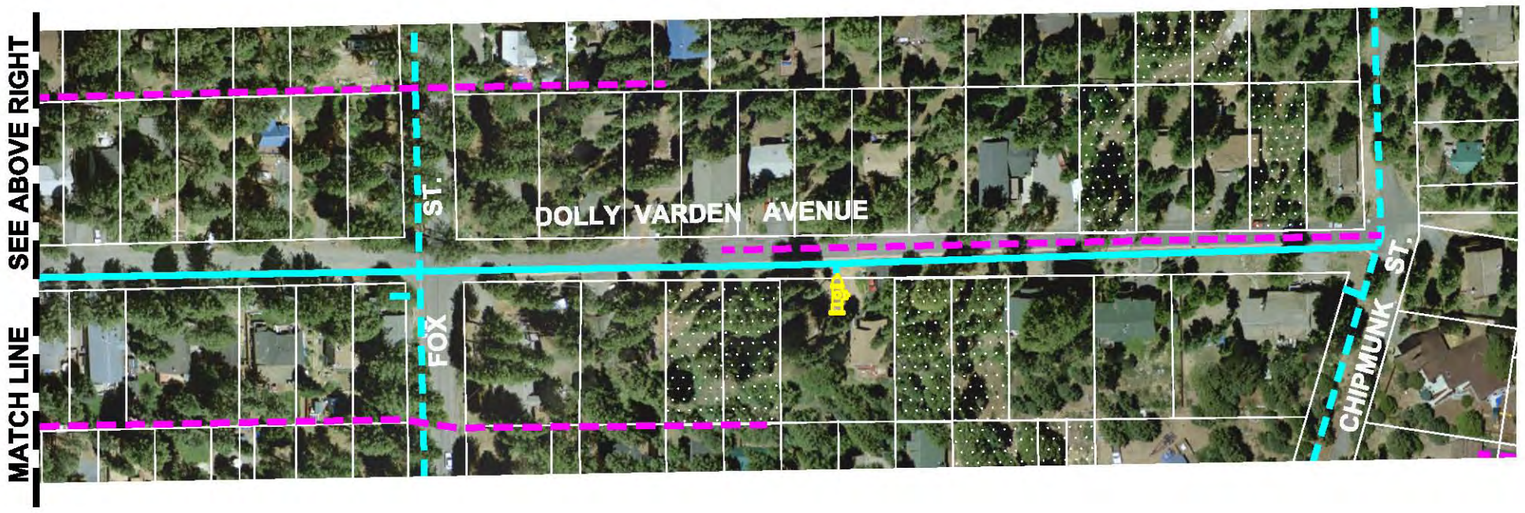


Figure 3.7
PROJECT No. 6
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.12 Estimated Costs (Project No. 6)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/Demobilization (5%)	1	LS[1]	$28,700	$28,700
2	Temporary Erosion Control	1	LS	$10,000	$10,000
3	Traffic Control	1	LS	$15,000	$15,000
4	AC Saw Cut	7,230	LF[2]	$5	$36,150
5	Shoring and Worker Safety	1	LS	$15,000	$15,000
6	Dewatering	1	LS	$15,000	$15,000
7	Pavement Restoration[3]	10,650	SF[4]	$10	$106,500
8	6" PVC (CL 150)[5]	2,100	LF	$75	$157,500
9	6" PVC (CL 200)[5]	0	LF	$85	$0
10	Coon/Dolly Varden Tie-in No. 1	1	LS	$7,500	$7,500
11	Fox/Dolly Varden Tie-in No. 2	1	LS	$7,500	$7,500
12	Chipmunk/Dolly Varden Tie-in No. 3	1	LS	$7,500	$7,500
13	Water Service Laterals (Single)[6]	67	EA[7]	$2,500	$167,500
14	Fire Hydrant Assembly	3	EA	$5,500	$16,500
15	Rock Excavation[8]	65	CY	$175	$11,375
				Subtotal	$601,725
	Construction Contingency	25%			$150,430
	Total Construction Cost[9]				$752,155
	E/A/L Contingency[10]	25%			$188,040
	Total Project Cost				**$940,195**

Notes:

(1) LS = Lump Sum.

(2) LF = Lineal Feet.

(3) Pavement Restoration based on main trench length multiplied by 4-foot width. This item also includes fire hydrant lateral and water service lateral pavement restoration.

(4) SF = Square Feet.

(5) Percentage estimate of PVC CL150 and CL200 based on pressure zones.

(6) Assumes all properties except combined lots receive a single service lateral.

(7) EA = Each.

(8) Rock Excavation is an estimate based on geological review.

(9) Costs are current construction costs at ENR = 7,880 (Jan. 2007)

(10) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.13 Potential Regulatory Permit Summary (Project No. 6)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit Type
Tahoe Regional Planning Agency	Standard Permit
RWQCB[1] Lahontan	Small Construction
Placer County	Encroachment Permit

Notes:

1) RWQCB = Regional Water Quality Control Board.

Project No. 7

Project No. 7 consists of the construction of approximately 2,775 lf of six-inch (6") diameter pipeline, four (4) fire hydrants, existing pipeline connections, water service laterals and pavement restoration along the length of Loch Levon Avenue east of Deer Street. County Water Quality and Erosion Control improvement projects are anticipated in the area and will be coordinated with the project design and construction. The County RDA is not anticipating projects in the area.

Figure 3.8 presents the Project No. 7 layout. Table 3.14 presents the Project No. 7 cost estimate. The Total Construction Cost is estimated at $1,032,665 and the Total Project Costs are approximately $1,290,835. Permits that may be required for Project No. 7 are listed in Table 3.15.

NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

Figure 3.8
PROJECT No. 7
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.14 Estimated Costs (Project No. 7)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/Demobilization (5%)	1	LS[1]	$39,300	$39,300
2	Temporary Erosion Control	1	LS	$15,000	$15,000
3	Traffic Control	1	LS	$25,000	$25,000
4	AC Saw Cut	9,880	LF[2]	$5	$49,400
5	Shoring and Worker Safety	1	LS	$15,000	$15,000
6	Dewatering	1	LS	$15,000	$15,000
7	Pavement Restoration[3]	14,300	SF[4]	$10	$143,000
8	6" PVC (CL 150)[5]	2,081	LF	$75	$156,090
9	6" PVC (CL 200)[5]	694	LF	$85	$58,970
10	Deer/Loch Leven Tie-in No. 1	1	LS	$7,500	$7,500
11	Bear/Loch Leven Tie-in No. 2	1	LS	$7,500	$7,500
12	Coon/Loch Leven Tie-in No. 3	1	LS	$7,500	$7,500
13	Fox/Loch Leven Tie-in No. 4	1	LS	$7,500	$7,500
14	Blow-Off Assembly	1	EA[6]	$2,500	$2,500
15	Water Service Laterals (Single)[7]	96	EA	$2,500	$240,000
16	Fire Hydrant Assembly	4	EA	$5,500	$22,000
17	Rock Excavation[8]	85	CY	$175	$14,875
				Subtotal	$826,135
	Construction Contingency	25%			$206,530
	Total Construction Cost[9]				$1,032,665
	E/A/L Contingency[10]	25%			$258,170
	Total Project Cost				**$1,290,835**

Notes:
(1) LS = Lump Sum.
(2) LF = Lineal Feet.
(3) Pavement Restoration based on main trench length multiplied by 4-foot width. This item also includes fire hydrant lateral and water service lateral pavement restoration.
(4) SF = Square Feet.
(5) Percentage estimate of PVC CL150 and CL200 based on pressure zones.
(6) EA = Each.
(7) Assumes all properties except combined lots receive a single service lateral.
(8) Rock Excavation is an estimate based on geological review.
(9) Costs are current construction costs at ENR = 7,880 (Jan. 2007)
(10) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.15 Potential Regulatory Permit Summary (Project No. 7)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit Type
Tahoe Regional Planning Agency	Standard Permit
RWQCB [1] Lahontan	Small Construction
Placer County	Encroachment Permit

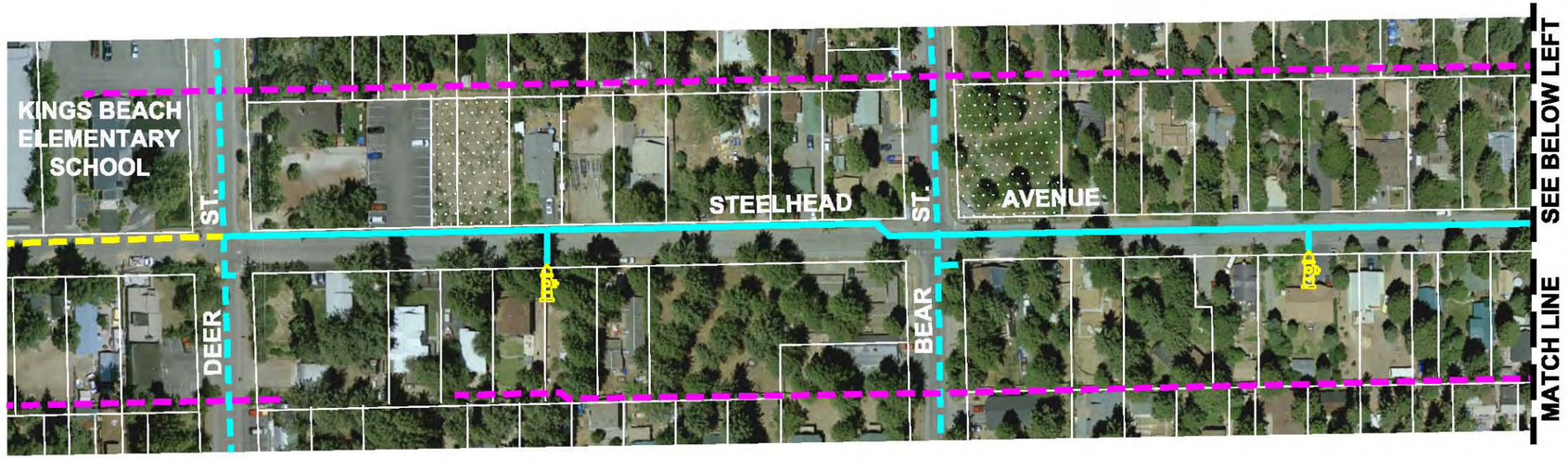
Notes:

1) RWQCB = Regional Water Quality Control Board.

Project No. 8

Project No. 8 consists of the construction of approximately 2,775 lf of six-inch (6") diameter pipeline, four (4) fire hydrants, existing pipeline connections, water service laterals and pavement restoration along the length of Steelhead Avenue east of Deer Street. County Water Quality and Erosion Control improvement projects are anticipated in the area and will be coordinated with the project design and construction. The County RDA is not anticipating projects in the area.

Figure 3.9 presents the Project No. 8 layout. Table 3.16 presents the Project No. 8 cost estimate. The Total Construction Cost is estimated at $921,600 and the Total Project Costs are approximately $1,152,000. Permits that may be required for Project No. 8 are listed in Table 3.17.



NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

Figure 3.9
PROJECT No. 8
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.16 Estimated Costs (Project No. 8)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/Demobilization (5%)	1	LS[1]	$35,100	$35,100
2	Temporary Erosion Control	1	LS	$15,000	$15,000
3	Traffic Control	1	LS	$20,000	$20,000
4	AC Saw Cut	8,730	LF[2]	$5	$43,650
5	Shoring and Worker Safety	1	LS	$15,000	$15,000
6	Dewatering	1	LS	$15,000	$15,000
7	Pavement Restoration[3]	13,120	SF[4]	$10	$131,200
8	6" PVC (CL 150)[5]	1,973	LF	$75	$147,940
9	6" PVC (CL 200)[5]	658	LF	$85	$55,890
10	Deer/Steelhead Tie-in No. 1	1	LS	$7,500	$7,500
11	Bear/Steelhead Tie-in No. 2	1	LS	$7,500	$7,500
12	Coon/Steelhead Tie-in No. 3	1	LS	$7,500	$7,500
13	Fox/Steelhead Tie-in No. 4	1	LS	$7,500	$7,500
14	Blow-Off Assembly	1	EA[6]	$2,500	$2,500
15	Water Service Laterals (Single)[7]	76	EA	$2,500	$190,000
16	Fire Hydrant Assembly	4	EA	$5,500	$22,000
17	Rock Excavation[8]	80	CY	$175	$14,000
				Subtotal	$737,280
	Construction Contingency	25%			$184,320
	Total Construction Cost[9]				$921,600
	E/A/L Contingency[10]	25%			$230,400
	Total Project Cost				**$1,152,000**

Notes:
(1) LS = Lump Sum.
(2) LF = Lineal Feet.
(3) Pavement Restoration based on main trench length multiplied by 4-foot width. This item also includes fire hydrant lateral and water service lateral pavement restoration.
(4) SF = Square Feet.
(5) Percentage estimate of PVC CL150 and CL200 based on pressure zones.
(6) EA = Each.
(7) Assumes all properties except combined lots receive a single service lateral.
(8) Rock Excavation is an estimate based on geological review.
(9) Costs are current construction costs at ENR = 7,880 (Jan. 2007)
(10) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.17 Potential Regulatory Permit Summary (Project No. 8) Kings Beach Grid Waterline Project North Tahoe Public Utility District	
Regulatory Agency	**Permit Type**
Tahoe Regional Planning Agency	Standard Permit
RWQCB(1) Lahontan	Small Construction
Placer County	Encroachment Permit
Notes: 1) RWQCB = Regional Water Quality Control Board.	

Project No. 9

Project No. 9 consists of the construction of approximately 1,005 lf of eight-inch (8") diameter pipeline, two (2) fire hydrants, existing pipeline connections, water service laterals and pavement restoration along Secline Street between Highway 28 and Steelhead Avenue. County Water Quality and Erosion Control improvement projects are anticipated in the area and will be coordinated with the project design and construction. Additionally, the County RDA is anticipating commencing redevelopment projects in the area and will be coordinated with Project No. 9 design and construction.

It should be noted, that this project will require coordination with the Kings Beach Commercial Core Improvement Project that is currently in the preliminary design phase. This coordination effort may "bump" the project for earlier construction if necessary. However, for the purposes of this study it will remain as Project No. 9.

Figure 3.10 presents the Project No. 9 layout. Table 3.18 presents the Project No. 9 cost estimate. The Total Construction Cost is estimated at $337,540 and the Total Project Costs are approximately $421,930. Permits that may be required for Project No. 9 are listed in Table 3.19.

NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

Figure 3.10
PROJECT No. 9
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.18 Estimated Costs (Project No. 9)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/Demobilization (5%)	1	LS[1]	$12,900	$12,900
2	Temporary Erosion Control	1	LS	$10,000	$10,000
3	Traffic Control	1	LS	$15,000	$15,000
4	AC Saw Cut	2,370	LF[2]	$5	$11,850
5	Shoring and Worker Safety	1	LS	$10,000	$10,000
6	Dewatering	1	LS	$10,000	$10,000
7	Pavement Restoration[3]	4,360	SF[4]	$10	$43,600
8	8" PVC (CL 200)[5]	1,005	LF	$85	$85,430
9	Secline/Hwy 28 Tie-in No. 1	1	LS	$15,000	$15,000
10	Secline/Rainbow Tie-in No. 2	1	LS	$7,500	$7,500
11	Secline/Golden Tie-in No. 3	1	LS	$7,500	$7,500
12	Secline/Steelhead Tie-in No. 4	1	LS	$7,500	$7,500
13	Blow-Off Assembly	1	EA[6]	$2,500	$2,500
14	Water Service Laterals (Single)[7]	6	EA	$2,500	$15,000
15	Fire Hydrant Assembly	2	EA	$5,500	$11,000
16	Rock Excavation[8]	30	CY	$175	$5,250
				Subtotal	$270,030
	Construction Contingency	25%			$67,510
	Total Construction Cost[9]				$337,540
	E/A/L Contingency[10]	25%			$84,390
	Total Project Cost				**$421,930**

Notes:
(1) LS = Lump Sum.
(2) LF = Lineal Feet.
(3) Pavement Restoration based on main trench length multiplied by 4-foot width. This item also includes fire hydrant lateral and water service lateral pavement restoration.
(4) SF = Square Feet.
(5) Percentage estimate of PVC CL150 and CL200 based on pressure zones.
(6) EA = Each.
(7) Assumes all properties except combined lots receive a single service lateral.
(8) Rock Excavation is an estimate based on geological review.
(9) Costs are current construction costs at ENR = 7,880 (Jan. 2007)
(10) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.19 Potential Regulatory Permit Summary (Project No. 9)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit Type
Tahoe Regional Planning Agency	Standard Permit
RWQCB[1] Lahontan	Small Construction
Placer County	Encroachment Permit
CalTrans	Encroachment Permit

Notes:

1) RWQCB = Regional Water Quality Control Board.

Project No. 10

Project No. 10 consists of the construction of approximately 3,500 lf of six-inch (6") diameter pipeline, five (5) fire hydrants, existing pipeline connections, water service laterals and pavement restoration along the length of Golden Avenue east of Secline Street. County Water Quality and Erosion Control improvement projects are anticipated in the area and will be coordinated with the project design and construction. The County RDA is not anticipating projects in the area.

Figure 3.11 presents the Project No. 10 layout. Table 3.20 presents the Project No. 10 cost estimate. The Total Construction Cost is estimated at $1,231,310 and the Total Project Costs are approximately $1,539,140. Permits that may be required for Project No. 10 are listed in Table 3.21.

NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

Figure 3.11
PROJECT No. 10
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.20 Estimated Costs (Project No. 10)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/Demobilization (5%)	1	LS[1]	$46,900	$46,900
2	Temporary Erosion Control	1	LS	$15,000	$15,000
3	Traffic Control	1	LS	$30,000	$30,000
4	AC Saw Cut	12,060	LF[2]	$5	$60,300
5	Shoring and Worker Safety	1	LS	$15,000	$15,000
6	Dewatering	1	LS	$15,000	$15,000
7	Pavement Restoration[3]	17,760	SF[4]	$10	$177,600
8	6" PVC (CL 150)[5]	1,750	LF	$75	$131,250
9	6" PVC (CL 200)[5]	1,750	LF	$85	$148,750
10	Deer/Golden Tie-in No. 1	1	LS	$7,500	$7,500
11	Bear/Golden Tie-in No. 2	1	LS	$7,500	$7,500
12	Coon/Golden Tie-in No. 3	1	LS	$7,500	$7,500
13	Fox/Golden Tie-in No. 4	1	LS	$7,500	$7,500
14	Blow-Off Assembly	1	EA[6]	$2,500	$2,500
15	Water Service Laterals (Single)[7]	112	EA	$2,500	$280,000
16	Fire Hydrant Assembly	5	EA	$5,500	$27,500
17	Rock Excavation[8]	30	CY	$175	$5,250
				Subtotal	$985,050
	Construction Contingency	25%			$246,260
	Total Construction Cost[9]				$1,231,310
	E/A/L Contingency[10]	25%			$307,830
	Total Project Cost				**$1,539,140**

Notes:
(1) LS = Lump Sum.
(2) LF = Lineal Feet.
(3) Pavement Restoration based on main trench length multiplied by 4-foot width. This item also includes fire hydrant lateral and water service lateral pavement restoration.
(4) SF = Square Feet.
(5) Percentage estimate of PVC CL150 and CL200 based on pressure zones.
(6) EA = Each.
(7) Assumes all properties except combined lots receive a single service lateral.
(8) Rock Excavation is an estimate based on geological review.
(9) Costs are current construction costs at ENR = 7,880 (Jan. 2007)
(10) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.21 Potential Regulatory Permit Summary (Project No. 10)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit Type
Tahoe Regional Planning Agency	Standard Permit
RWQCB[1] Lahontan	Small Construction
Placer County	Encroachment Permit

Notes:

1) RWQCB = Regional Water Quality Control Board.

Project No. 11

Project No. 11 consists of the construction of approximately 3,511 lf of six-inch (6") diameter pipeline, five (5) fire hydrants, existing pipeline connections, water service laterals and pavement restoration along the length of Rainbow Avenue east of Secline Street. County Water Quality and Erosion Control improvement projects are anticipated in the area and will be coordinated with the project design and construction. Additionally, the County RDA is anticipating commencing redevelopment projects in the area and will be coordinated with Project No. 11 design and construction.

Figure 3.12 presents the Project No. 11 layout. Table 3.22 presents the Project No. 11 cost estimate. The Total Construction Cost is estimated at $1,256,440 and the Total Project Costs are approximately $1,570,550. Permits that may be required for Project No. 11 are listed in Table 3.23.

NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

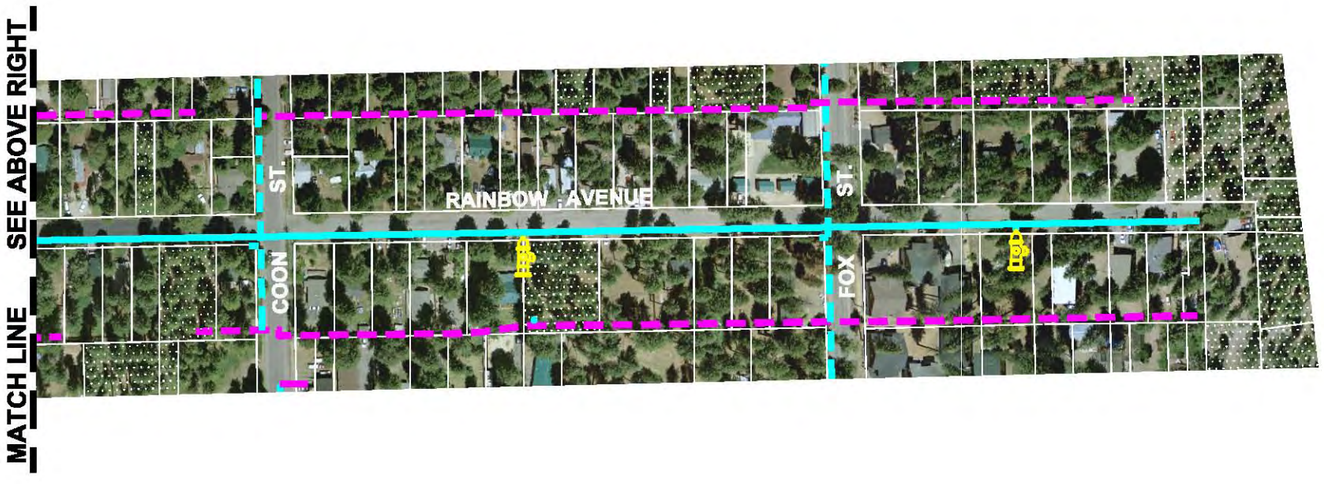


Figure 3.12
PROJECT No. 11
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.22 Estimated Costs (Project No. 11)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization/Demobilization (5%)	1	LS[1]	$47,900	$47,900
2	Temporary Erosion Control	1	LS	$15,000	$15,000
3	Traffic Control	1	LS	$30,000	$30,000
4	AC Saw Cut	11,740	LF[2]	$5	$58,700
5	Shoring and Worker Safety	1	LS	$25,000	$25,000
6	Dewatering	1	LS	$25,000	$25,000
7	Pavement Restoration[3]	17,560	SF[4]	$10	$175,600
8	6" PVC (CL 150)[5]	878	LF	$75	$65,813
9	6" PVC (CL 200)[5]	2,633	LF	$85	$223,763
10	Deer/Rainbow Tie-in No. 2	1	LS	$7,500	$7,500
11	Bear/Rainbow Tie-in No. 3	1	LS	$7,500	$7,500
12	Coon/Rainbow Tie-in No. 4	1	LS	$7,500	$7,500
13	Fox/Rainbow Tie-in No. 5	1	LS	$7,500	$7,500
14	Blow-Off Assembly	1	EA[6]	$2,500	$2,500
15	Water Service Laterals (Single)[7]	104	EA	$2,500	$260,000
16	Fire Hydrant Assembly	5	EA	$5,500	$27,500
17	Rock Excavation[8]	105	CY	$175	$18,375
				Subtotal	$1,005,150
	Construction Contingency	25%			$251,290
	Total Construction Cost[9]				$1,256,440
	E/A/L Contingency[10]	25%			$314,110
	Total Project Cost				**$1,570,550**

Notes:
(1) LS = Lump Sum.
(2) LF = Lineal Feet.
(3) Pavement Restoration based on main trench length multiplied by 4-foot width. This item also includes fire hydrant lateral and water service lateral pavement restoration.
(4) SF = Square Feet.
(5) Percentage estimate of PVC CL150 and CL200 based on pressure zones.
(6) EA = Each.
(7) Assumes all properties except combined lots receive a single service lateral.
(8) Rock Excavation is an estimate based on geological review.
(9) Costs are current construction costs at ENR = 7,880 (Jan. 2007)
(10) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.23 Potential Regulatory Permit Summary (Project No. 11)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit Type
Tahoe Regional Planning Agency	Standard Permit
RWQCB[1] Lahontan	Small Construction
Placer County	Encroachment Permit

Notes:

1) RWQCB = Regional Water Quality Control Board.

Project No. 12

Project No. 12 consists of the construction of approximately 2,771 lf of six-inch (6") diameter pipeline, four (4) fire hydrants, existing pipeline connections, water service laterals and pavement restoration along the length of Trout Avenue east of Deer Street. County Water Quality and Erosion Control improvement projects are anticipated in the area and will be coordinated with the project design and construction. Additionally, the County RDA is anticipating commencing redevelopment projects in the area and will be coordinated with Project No. 12 design and construction.

Figure 3.13 presents the Project No. 12 layout. Table 3.24 presents the Project No. 12 cost estimate. The Total Construction Cost is estimated at $941,880 and the Total Project Costs are approximately $1,177,350. Permits that may be required for Project No. 12 are listed in Table 3.25.

NOT TO SCALE

LEGEND

EXISTING		PROPOSED
	< 6 - INCH	
	6 - INCH	
	8 - INCH	
	10 - INCH	
	12 - INCH	

FIRE HYDRANT

CALIFORNIA TAHOE CONSERVANCY PARCELS

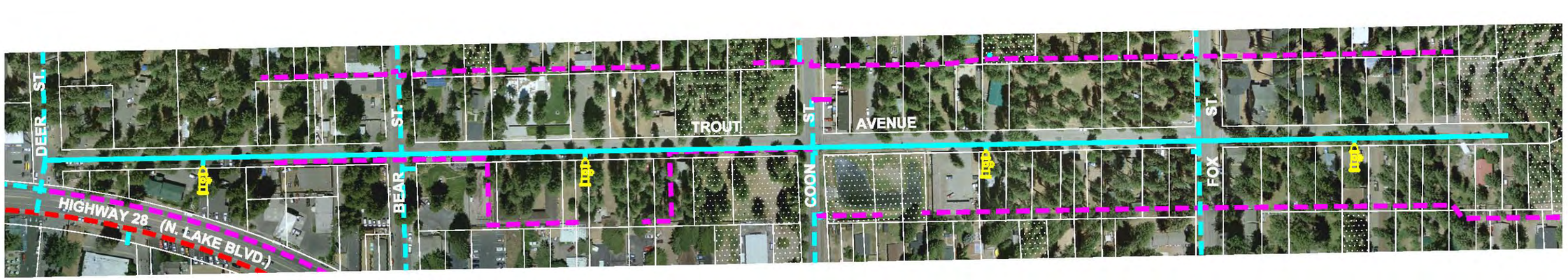


Figure 3.13
PROJECT No. 12
PROPOSED FACILITIES LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.24 Estimated Costs (Project No. 12)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
General					
1	Mobilization/Demobilization (5%)	1	LS[1]	$35,900	$35,900
2	Temporary Erosion Control	1	LS	$15,000	$15,000
3	Traffic Control	1	LS	$20,000	$20,000
4	AC Saw Cut	8,620	LF[2]	$5	$43,100
5	Shoring and Worker Safety	1	LS	$20,000	$20,000
6	Dewatering	1	LS	$20,000	$20,000
7	Pavement Restoration[3]	13,410	SF[4]	$10	$134,100
8	6" PVC (CL 150)[5]	693	LF	$75	$51,938
9	6" PVC (CL 200)[5]	2,078	LF	$85	$176,588
10	Deer/Trout Tie-in No. 1	1	LS	$7,500	$7,500
11	Bear/Trout Tie-in No. 2	1	LS	$7,500	$7,500
12	Coon/Trout Tie-in No. 3	1	LS	$7,500	$7,500
13	Fox/Trout Tie-in No. 4	1	LS	$7,500	$7,500
14	Blow-Off Assembly	1	EA[6]	$2,500	$2,500
15	Water Service Laterals (Single)[7]	67	EA	$2,500	$167,500
16	Fire Hydrant Assembly	4	EA	$5,500	$22,000
17	Rock Excavation[8]	85	CY	$175	$14,875
				Subtotal	$753,500
	Construction Contingency	25%			$188,380
	Total Construction Cost[9]				$941,880
	E/A/L Contingency[10]	25%			$235,470
	Total Project Cost				**$1,177,350**

Notes:
(1) LS = Lump Sum.
(2) LF = Lineal Feet.
(3) Pavement Restoration based on main trench length multiplied by 4-foot width. This item also includes fire hydrant lateral and water service lateral pavement restoration.
(4) SF = Square Feet.
(5) Percentage estimate of PVC CL150 and CL200 based on pressure zones.
(6) EA = Each.
(7) Assumes all properties except combined lots receive a single service lateral.
(8) Rock Excavation is an estimate based on geological review.
(9) Costs are current construction costs at ENR = 7,880 (Jan. 2007)
(10) E/A/L = Engineering, Administration and Legal costs for project.

Table 3.25 Potential Regulatory Permit Summary (Project No. 12)
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Regulatory Agency	Permit Type
Tahoe Regional Planning Agency	Standard Permit
RWQCB [1] Lahontan	Small Construction
Placer County	Encroachment Permit

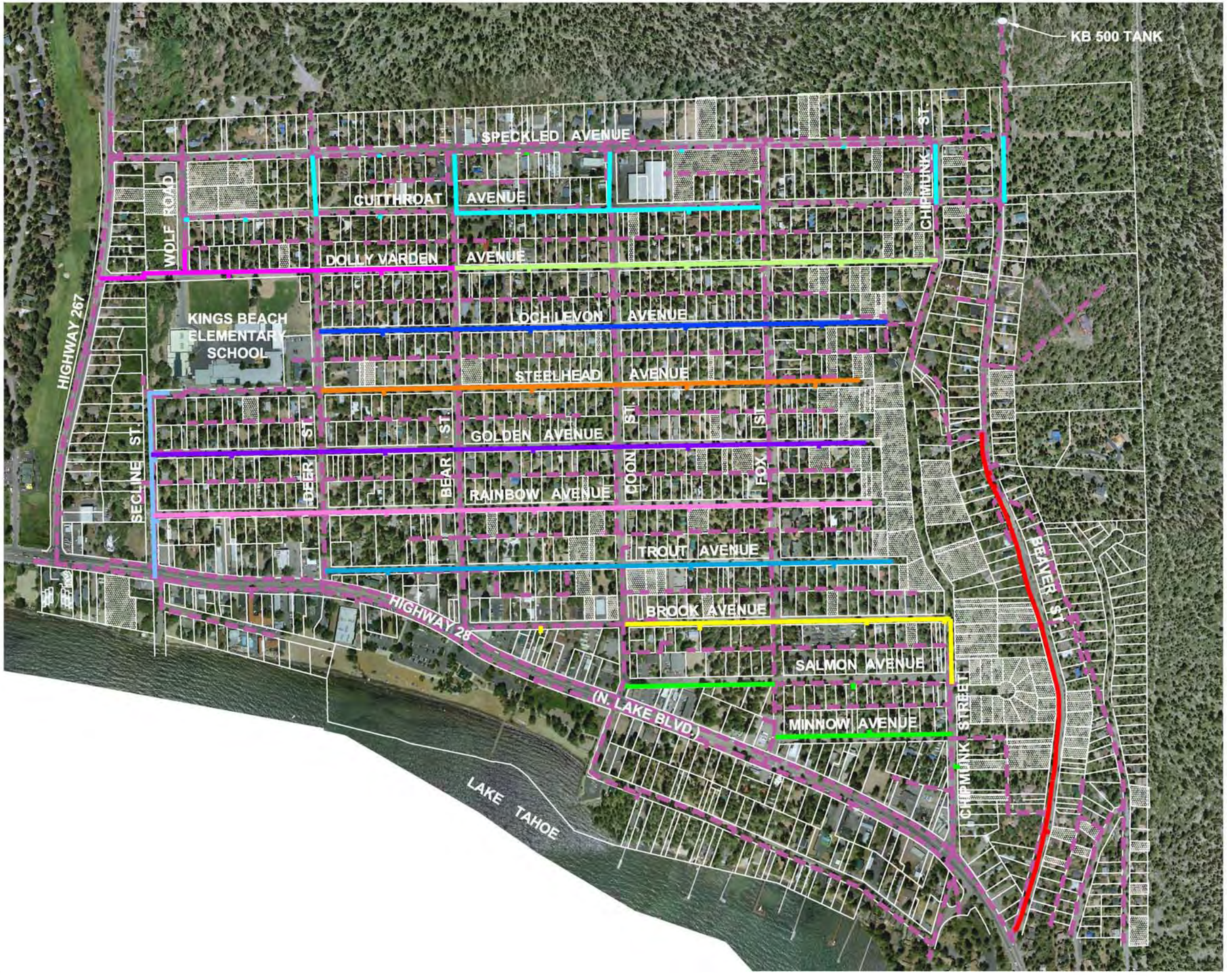
Notes:

1) RWQCB = Regional Water Quality Control Board.

SUMMARY

The District anticipates replacing existing waterlines and expanding the water distribution system within the Kings Beach Grid Area. The completed Project will provide enhanced fire protection and domestic water delivery to the area. The overall Project has been phased into twelve (12) projects and will be constructed over the next twelve to fifteen years. Figure 3.14 presents the overall phased proposed waterline facilities.

The Total Construction Cost in today's current dollar value is estimated at $10,166,280 with a Total Project Costs of $12,707,880. If the projects are designed and constructed over the next twelve years the estimated projected Total Project Cost is $16,205,326. This assumes an inflation rate of four percent (4%) annually. Table 3.26 presents a summary of the anticipated costs.



NOT TO SCALE

LEGEND

- PROJECT NO. 1
- PROJECT NO. 2
- PROJECT NO. 3
- PROJECT NO. 4
- PROJECT NO. 5
- PROJECT NO. 6
- PROJECT NO. 7
- PROJECT NO. 8
- PROJECT NO. 9
- PROJECT NO. 10
- PROJECT NO. 11
- PROJECT NO. 12
- EXISTING WATERLINES
- CALIFORNIA TAHOE CONSERVANCY PARCELS

Figure 3.14
PHASED PROJECT LAYOUT
Kings Beach Grid Project
North Tahoe Public Utility District

Table 3.26 **Cost Estimate Summary**[1]
Kings Beach Grid Waterline Project
North Tahoe Public Utility District

Description	Current Total Construction[3,4] Cost	Current Total Project[3,5] Cost	Total Project Costs ENR[2] 7880 2007	8195 2008	8523 2009	8864 2010	9219 2011	9588 2012	9972 2013	10371 2014	10786 2015	11217 2016	11666 2017	12133 2018	Total Project Cost
								Year of Construction[6]							
Project No. 1	$785,090	$981,390	$981,390												**$981,390**
Project No. 2	$621,690	$777,110		$808,175											**$808,175**
Project No. 3	$679,810	$849,760			$919,100										**$919,100**
Project No. 4	$926,290	$1,157,860				$1,302,446									**$1,302,446**
Project No. 5	$679,810	$849,760					$994,154								**$994,154**
Project No. 6	$752,155	$940,195						$1,143,983							**$1,143,983**
Project No. 7	$1,032,665	$1,290,835							$1,633,529						**$1,633,529**
Project No. 8	$921,600	$1,152,000								$1,516,166					**$1,516,166**
Project No. 9	$337,540	$421,930									$577,530				**$577,530**
Project No. 10	$1,231,310	$1,539,140										$2,190,931			**$2,190,931**
Project No. 11	$1,256,440	$1,570,550											$2,325,132		**$2,325,132**
Project No. 12	$941,880	$1,177,350												$1,812,790	**$1,812,790**
Total	$10,166,280	$12,707,880	$981,390	$808,175	$919,100	$1,302,446	$994,154	$1,143,983	$1,633,529	$1,516,166	$577,530	$2,190,931	$2,325,132	$1,812,790	**$16,205,326**

Notes:
1.) All projects except Project No. 1 are at preliminary design level. Project No. 1 is the Beaver Street project currently under construction for the 2007 construction season.
2.) Assumed Engineering News Record (ENR) inflation rate = 4% annually.
3.) Current construction costs based on ENR = 7,880 (20-Cities, Jan. 2007).
4.) Total Construction Cost includes 25% Construction Contingency.
5.) Total Project Cost includes 25% Engineering, Administration and Legal (E/A/L) Contingency.
6.) Total Project Costs escalated to mid-point of construction for scheduled year.

APPENDIX

PRELIMINARY GEOLOGIC AND GEOTECHNICAL REPORT

PRELIMINARY GEOLOGIC AND GEOTECHNICAL REVIEW REPORT
for
Kings Beach Grid Water System Project
Kings Beach, California

Prepared for:
Tim Taylor
Auerbach Engineering Corporation
P.O. Box 5399
Tahoe City, California

Prepared by:
Holdrege & Kull

Project No. 40820-01
September 14, 2006

HOLDREGE & KULL
CONSULTING ENGINEERS • GEOLOGISTS

Project No. 40820-01
September 14, 2006

Auerbach Engineering Corporation
P.O. Box 5399
Tahoe City, California 96145

Attention: Tim Taylor

Reference: ***Kings Beach Grid Water System Project***
Kings Beach/Placer County, California

Subject: ***Preliminary Geologic and Geotechnical Review Report***

Mr. Taylor:

This report presents the results of our preliminary geologic and geotechnical review for the proposed Kings Beach Grid Water System Project in Kings Beach/Placer County, California. The proposed project will involve construction of approximately 27,000 feet of water mains within Kings Beach Grid residential development.

Based on the results of our site reconnaissance and a review of our files in the vicinity of the project site, it is our professional opinion that the site is suitable for the proposed water main reconstruction. We anticipate that conventional earthwork grading will be suitable for the majority of the excavations. However, resistant rock may be encountered in the eastern and northern portion of the project site. Due to the possible presence of existing fill, near-surface expansive soil and groundwater at shallow depths, modifications in the schedule and/or approach may be required during site development. General suggestions to reduce potential adverse effects of the possible conditions described above as well as preliminary comments regarding the geotechnical aspects of project design are presented in the following report.

The results of our study and preliminary comments and recommendations regarding the geotechnical aspects of site development are presented in the following report.

Recommendations provided herein are contingent on the provisions outlined in the *Limitations* sections of this report. The project Owner should become familiar with these provisions in order to assess further involvement by Holdrege & Kull (H&K) and other potential impacts to the proposed project.

We appreciate the opportunity of providing our services for this project and look forward to providing further assistance once development plans have been finalized. Please contact us if you should have any questions regarding this report or if we can be of additional service.

Sincerely,

Holdrege & Kull

Prepared By:

Pamela J. Raynak, P.G. 7180
Project Geologist

REGISTERED GEOLOGIST
PAMELA J. RAYNAK
No 7180
Exp. 8-31-07
STATE OF CALIFORNIA

Reviewed By:

Charles R. Kull, G.E. 2359
Senior Engineer

REGISTERED PROFESSIONAL ENGINEER
CHARLES R. KULL
No. 2359
Expires 6/07
GEOTECHNICAL
STATE OF CALIFORNIA

1 INTRODUCTION

This report presents the results of our preliminary geologic and geotechnical review for the proposed Kings Beach Grid Water System Project located in Kings Beach/Placer County, California. We performed our investigation in general accordance with our August 7, 2006 (revised August 18, 2006) proposal for the project. A copy of the proposal is included as Appendix A of this report. For your review, Appendix B contains a document prepared by ASFE entitled *Important Information About Your Geotechnical Engineering Report.* This document summarizes the general limitations, responsibilities, and use of geotechnical engineering reports.

1.1 Purpose

The purpose of this preliminary report is to provide general geotechnical and geologic information to be considered during the planning of the project. Our evaluation addresses the general soil/rock and groundwater conditions at the project site, with emphasis on how the conditions are expected to affect the proposed construction. It also considers potential geologic hazards including faulting and seismicity, slope stability, liquefaction, and other coseismic hazards. Our findings are based on our site reconaissance, a review of available subsurface information contained in our files pertinent to the proposed construction, and our experience in the project area. The preliminary recommendations contained in this report should not be used for design, extrapolated to other areas, or used for other developments. Following the completion of preliminary plans, we will provide a brief review of the planned project and prepare a written response with comments concerning geotechnical engineering issues.

1.2 Scope of Services

To prepare this report we performed the following scope of services:

- Literature review including geologic maps, soil survey of the Lake Tahoe Basin, and available geotechnical investigation reports previously performed in the project area;
- Site reconnaissance to observe exposed soil and geologic features; and
- Preparation of this preliminary engineering report.

1.3 Site Description

The project site consists of a developed residential community adjacent to Lake Tahoe. The approximate location of the project area is shown on Figure 1, Site Vicinity Map. Preliminary layout plans provided by Auerbach Engineering Corporation (AEC), dated July 19, 2006 indicate that the proposed project will involve the installation of approximately 27,000 feet of water main throughout an existing residential development. A plan view of the proposed development is shown on Figure 2, Test Pit Location Plan.

The project area is bounded by Speckled Avenue to the north, Beaver Street to the east, State Highway 28 to the south, and North Shore Boulevard (also known as State Highway 267) to the west.

According to the 1992 edition of the KINGS BEACH California 7.5-minute quadrangle map published by the United States Geological Survey (USGS); the subject site comprises a portion of Section 19, Township 16 N., and Range 18 E. The westernmost portion of the project area adjacent to Highway 267 comprises a portion of Section 13, Township 16 N., and Range 17 E. Site elevations range from approximately 6,530 feet above mean sea level (MSL) near the northeast corner of the project area to 6,290 feet MSL near the southwest project boundary. The site generally slopes gently to steeply down from northeast to southwest.

1.4 Proposed Improvements

Information about the proposed project was obtained from our site visit, conversations with you, and a layout plan provided by AEC, dated July 19, 2006. A grading plan was not available at the time this report was prepared, however we anticipate cut depths for the water mains to be less than 5 feet in most areas of the site.

2. LITERATURE REVIEW

We performed a literature review in order to evaluate soil, geologic, seismic, and anticipated subsurface conditions at the project site.

2.1 Soil Survey

We reviewed the Tahoe Basin Area, California and Nevada, Soil Survey, prepared by U.S. Department of Agriculture, Soil Conservation and Forest Service, March 1974, to evaluate mapped soil units within the project area. The soils map indicates that most of the project area is capped with Jabu stony sandy loam, 2 to 9 percent slopes (JhC).

The sloping portions of the project area (eastern boundaries) are capped with Umpa very stony sandy loam, 5 to 15 percent slopes (UmD), 15 to 30 percent slopes (UmE), and 30 to 50 percent slopes (UmF). Several other soil units are mapped within the project area, including gravelly alluvial land (Gr), beaches (Be) and Jorge-Tahoma cobbly sandy loams, 2 to 15 percent slopes (JtD) along the alignment of Griff Creek (western project area), the shoreline (southern project area) and a small section within the central northern portion of the site, respectively.

In general, the soil mapped within the project area is granular in nature, well-drained, with a slow runoff and slight erosion hazard, without vegetation. These soil types also have a slow infiltration rate when saturated and moderately high runoff potential.

2.2 Site Geology

We reviewed the *Geologic Map of the Chico Quadrangle, California*, by G.J. Saucedo and D.L. Wagner, California Division of Mines and Geology, 1992. The geologic map indicates that most of the project area is underlain by Quaternary (less than 1.6 million years before present) lake deposits. The northeastern corner and easternmost portion of the project area is mapped as underlain by Miocene aged (approximately 23.7 to 5.3 million years before the present) volcanic rocks.

In addition we reviewed the geologic map titled *Geologic Map of the Lake Tahoe Basin, California and Nevada,* by G. J. Saucedo, California Geological Survey, 2005. The geologic map indicates similar bedrock materials underlying the site as the map referenced above.

Based on field reconnaissance performed by our project geologist, it appears that most of the low lying areas within the project boundary are underlain by lake deposits. The sloping portions of the project area (north, northeast and eastern boundaries) are likely underlain by volcanic rocks. The geology of the project area is shown on Figure 3, Project Geology.

2.3 Seismicity and Faulting

The project is located in a potentially active seismic area. To evaluate potential seismic hazards at the project site, we reviewed the following maps:

- *Fault Activity Map of California and Adjacent Areas;* by Charles W. Jennings, California Department of Conservation, Division of Mines and Geology, 1994.

- *Geologic Map of the Chico Quadrangle, California,* by G.J. Saucedo and D.L. Wagner, California Division of Mines and Geology, 1992.

The potential risk of fault rupture is based on the concept of recency and recurrence. The more recently a particular fault has ruptured, the more likely it will rupture again. The California State Mining and Geology Board defines an "active fault" as one that has had surface displacement within the past 11,000 years (Holocene). Potentially active faults are defined as those that have ruptured between 11,000 and 1.6 million years before the present (Quaternary). Faults are generally considered inactive if there is no evidence of displacement during the Quaternary.

The referenced geologic maps show several active and potentially active faults located near the project site, including the Dog Valley Fault (active, approximately 15 miles northwest), a group of unnamed faults southeast of Truckee (potentially active, approximately 10 miles northwest), and the North Tahoe Fault (active, approximately 2.5 miles southeast). Earthquakes associated with these faults may cause strong ground shaking and secondary hazards such as landslides and/or rock fall at the project site.

Two unnamed and discontinuous faults are mapped as crossing the western and southeast boundaries of the project area, according to the Geologic Map of Lake Tahoe Basin, California and Nevada (Saucedo, 2005). Additionally, the inferred location of the Agate Bay Fault is mapped approximately 1.0 mile west and the West Tahoe Fault is mapped approximately 4.5 miles southwest of the project area.

We reviewed the 2002 Interactive Fault Parameters Map on the California Geological Survey website, and the 1994 Fault Activity Map of California and Adjacent Areas, published by the California Department of Conservation Division of Mines and Geology, for information about regional faults and fault activity. The project site is mapped within the Western Nevada Fault System, which is designated as an areal, Type C seismic source with low seismicity and a low rate of recurrence.

We reviewed the 1997 version of Special Publication 43, Fault Rupture Hazard Zones in California, which describes active faults and fault zones (activity within 11,000 years), as part of the Alquist-Priolo Earthquake Fault Zoning Act. The map and document indicate the site is not located within an Alquist-Priolo active fault zone.

2.4 Previous Geotechnical Engineering Reports Within Project Area

To evaluate existing subsurface conditions within the project area, we reviewed the following previously prepared geotechnical engineering reports:

- *Geotechnical Investigation Report, Brook Avenue Public Parking Facility, Placer County, California,* prepared by Marvin E. Davis & Associates, dated March 10, 2004.

- *Geotechnical Engineering Report for North Tahoe Public Utility District, Beaver Street Waterline, Kings Beach, California,* prepared by Holdrege & Kull, dated March 31, 2006.

The investigation completed by Marvin Davis & Associates in 2004 included advancing two soil borings to approximate depths of 15.5 and 16.5 feet below ground surface (bgs). One percolation test was completed at an approximate depth of 35 inches bgs and an R-value bulk sample was collected for pavement design purposes. The results of this investigation indicated that subsurface materials consisted of medium dense to dense, poorly graded sand with silt to the depths explored. Groundwater was encountered in each boring at approximate depths of 9.3 and 10.3 feet bgs (estimated elevation of 6,467 feet above mean sea level, MSL). Percolation test results indicated an infiltration rate of one inch per 50 minutes, or 50 minutes per inch (MPI). A pavement design of 3 inches of asphaltic concrete (AC) over 6 inches of aggregate base (AB) was provided for the site.

The H&K 2006 Beaver Street investigation involved the advancement of five soil borings to depths ranging from approximately 1 to 9 feet bgs. The results of this investigation indicated that subsurface soil consisted of medium dense silty sand with gravel to clayey sand overlying volcanic rock. Sampler refusal was encountered in three of the borings at depths ranging from approximately 1 to 3 feet bgs. Surface groundwater seepage was observed along the southern sections of Beaver Street, above Highway 28 (estimated elevation of 6,330 MSL). Groundwater was encountered in one boring at an approximate depth of 9 feet bgs, which rose to a static depth of about 5 feet bgs after 20 minutes (estimated elevation of 6,411 MSL). The asphalt pavement was in poor condition along the length of Beaver Street investigated and H&K found that minimal to no baserock existed beneath the pavement. H&K concluded that shallow groundwater, local difficulties in excavating, replacement of asphalt pavement, and trench dewatering should be considered in the design of the project. The approximate locations of previous investigations are shown on Figure 2, Site Plan.

In addition to the previous investigations listed above, H&K also performed construction monitoring and materials testing services for the Brook Avenue Public Parking Lot, Upper Cutthroat Erosion Control Plan (ECP) and the Beaver Street ECP. In general, native soil was used as engineered fill, where possible. For the Brook Avenue site, the native soil consisted of sand with silt, which was used as engineered fill on site.

3. ANTICIPATED SITE CONDITIONS

The anticipated conditions at the site are based on our literature review described above, as well as a site visit performed by our project geologist on August 30, 2006.

3.1 Subsurface Soil

We anticipate near-surface soil within the low lying portions of the project area will consist of medium dense to dense, poorly graded sand with silt to depths of approximately 5 to 15 feet below existing site grades. The soil types and depths will vary across the project area and will depend on topography. Within the sloping portions of the project areas, the near surface soil will likely consist of medium dense silty sand with gravel to clayey sand overlying volcanic rock. Depending on topography, we anticipate that volcanic rock can be expected at depths ranging from approximately less than one foot to 5 feet bgs.

3.2 Excavations

We anticipate that near-surface soil within the low lying portions of the project area can be excavated to depths of approximately 5 to 10 feet below existing site grade using conventional earthwork equipment, such as rubber tired backhoes. Excavations which extend into volcanic rock (such as those within sloping areas of the project) are anticipated to be difficult and may require heavy earthmoving equipment such as a large track-mounted excavator equipped with a ripper tooth or hydraulic hammer. A “thumb” attachment may increase the ease of boulder removal at the site. In areas where moderately strong near-surface rock is encountered, spot blasting may be required.

3.3 Groundwater

We anticipate that static groundwater will be encountered in the upper 5 to 10 feet of the project site. Groundwater seepage should be anticipated within sloping portions of the project area. However, fluctuations in soil moisture content and groundwater levels should be anticipated depending on precipitation, irrigation, runoff conditions and other factors. Based on our experience in the project area, seasonal saturation of near-surface soil should be anticipated, especially during and immediately after seasonal snowmelt.

Depending on the depth of excavation, rainfall, irrigation practices, and other factors, perched groundwater could develop above onsite bedrock or seep at the ground surface. Perched groundwater may cause trench caving, degradation of asphalt concrete pavements, and other adverse conditions. Mitigation measures such as trench

drains, vertical water barriers, or other methods may be required to intercept shallow groundwater or reduce potential adverse effects on project features. We recommend the project civil engineer in conjunction with H&K, review the subsurface information available within this report in order to develop appropriate measures consistent with design considerations beyond the current scope of this study. A more detailed geotechnical investigation may be warranted.

3.4 Slope Stability

Slope instability includes landslides, debris flows, and rock fall. No landslides or existing debris flows were observed in the site area. Some rock outcrops or loose boulders that may be a source for rock fall were observed within the eastern portions of the project area. The soil in the site area is competent and not prone to sliding or debris flows. The possibility of landslides at the project area is considered low due to the relatively competent nature of the soil materials at the site.

3.5 Liquefaction

Liquefaction generally occurs in saturated fin sand and silt that is loose in consistency, and located within approximately 25 feet of the ground surface. In addition, fault distance and earthquake magnitude directly affect the potential for soil to liquefy. We anticipate that the majority of near-surface soil at the site will consist of medium dense to dense sand with silt to silty sand with gravel to clayey sand, which has a low potential for liquefaction. A liquefaction analysis of the Kings Beach area was not performed as part of this study.

4. CONCLUSIONS

The following conclusions are based on our literature review, site visit, and experience in the area. More specific geotechnical design criteria and engineering recommendations can be provided in a design level geotechnical report.

1. Anticipated soil conditions generally consist of dense granular soil types of low plasticity that can be used as engineered fill. No severe soil, groundwater, or geologic constraints that would preclude development as generally planned were observed in the course of our preliminary investigation. However, subsurface exploration should be performed as part or a design level geotechnical engineering report to provide geotechnical design and construction criteria and final engineering recommendations specific to the project.

2. We anticipate that some areas of near surface rock may be encountered during excavations for the proposed waterlines. A large track-mounted excavator equipped with a ripper tooth or hydraulic hammer, or spot blasting may be required in these areas. Confined excavations for under ground utilities that extend into rock will likely be difficult. A significant amount of boulders and over-sized material should be anticipated in on site excavations within the eastern sloping portions of the project area. With the exception of the organic surface soil, site soil is generally suitable for reuse as structural fill; however, processing to remove oversized material will likely be necessary.

3. Groundwater should be anticipated in the upper 5 to 10 feet of the project area, and near-surface soil layers will likely become seasonally saturated. Groundwater could cause degradation of asphalt concrete pavements, and contribute to frost heave and will increase the likelihood of trench caving, sloughing, or other adverse conditions.

4. Site soil should provide adequate pavement support. However, seasonal saturation of near-surface soil should be considered in the design of pavement areas. Subdrain construction under pavement areas should be considered to reduce saturation.

5. PRELIMINARY RECOMMENDATIONS

The following preliminary recommendations are based on our understanding of the project as currently proposed, our field observations, preliminary engineering analysis, and our experience in the project area.

5.1 Underground Utility Trenches

We anticipate that the contractor will be able to excavate underground utility trenches using conventional earthmoving equipment across the majority of the site. However, excavations may encounter moderately strong bedrock or large boulders in the sloping portions of the project area and locally some areas along the proposed waterline trenches. We anticipate that a track mounted excavator equipped with a ripper or hydraulic hammer or spot blasting may be required in some areas of the proposed waterline trench. An excavator with a “thumb” attachment may increase ease of boulder removal.

Due to the granular nature of the onsite soil, we expect that some caving and sloughing of utility trench sidewalls will occur. The California Occupational Safety and Health Administration (OSHA) requires all utility trenches deeper than 5 feet bgs be shored

with bracing equipment or sloped back prior to entry. All trench excavations should comply with current OSHA safety requirements (Federal Register 29 CFR, Part 1926). We recommend that the contractor employ a competent person to oversee trenching activities, and monitor soil types encountered. Design of bracing and shoring systems may be provided upon request.

Groundwater and surface seepage was encountered within the project area during previous investigations. Shallow subsurface seepage may be encountered in trench excavations, particularly if utility trenches are excavated during the spring or early summer. The earthwork contractor may need to employ dewatering methods as discussed in the *Construction Dewatering* section below to excavate, place and compact trench backfill materials.

Within the moderately to steep sloping topographic areas of the project, we recommend utility trench cut off walls and/or relief drains be considered for the proposed utility lines. We can provide details for cut off drain construction as necessary.

During wet weather, runoff should be prevented from entering excavations. Water should be collected and disposed of outside the construction limits. Heavy construction equipment, building materials, excavated soil and vehicular traffic should not be allowed within a distance of one half the excavation depth from the top of any excavation, without adequate shoring or approval by Holdrege & Kull.

5.2 Construction Dewatering

If grading is performed during or immediately following the wet season or spring snowmelt, seepage may be encountered during grading. We should observe those conditions and provide site-specific subsurface drainage recommendations. The following recommendations are preliminary and are not based on a groundwater flow analysis.

We anticipate that dewatering of excavations can be performed by gravity or by constructing sumps to depths below the excavation and removing water with pumps. To maintain stability of the excavation when placing and compacting the trench backfill, groundwater levels should be drawn down a minimum of 2 feet below the lowest point of the excavation.

If seepage is encountered during trench excavation, it may be necessary to remove underlying saturated soil and replace it with free draining, open-graded crushed rock. Soil backfill may be placed after backfilling with drain rock to an elevation higher than encountered groundwater.

5.3 Plan Review and Construction Monitoring

Construction monitoring includes review of plans and specifications and observation of onsite activities during construction. We should review final underground utility plans prior to construction. We also recommend that our firm be retained to provide construction monitoring and testing services during underground utility construction and backfill to observe subsurface conditions and construction activities with respect to our engineering recommendations and the project specifications.

5.4 Preliminary Pavement Design

Based on the anticipated traffic, soil, and environmental conditions at the site, we recommend a minimum pavement section of 3 inches of AC on 8 inches of Class 2 Aggregate Base (AB). Pavement section design for specific traffic loading may be provided upon request.

Based on our experience in the Tahoe-Truckee area, environmental factors, such as freeze-thaw cycles and thermal cracking will usually govern the life of asphalt concrete (AC) pavements. Thermal cracking of asphalt pavement allows more water to enter the pavement section, which promotes deterioration and increases maintenance costs. In addition, snow removal activities on site will result in heavy traffic loads.

In areas where surface seepage and near-surface ground water are encountered, we recommend that gravel subdrains be constructed beneath asphalt concrete pavement areas.

5.5 Erosion Control

Best management practices (BMPs) should be incorporated into the design and construction of this project. A reference regarding appropriate BMPs is the “Erosion and Sediment Control Guidelines for Developing Areas of the Sierra Foothills and Mountains”, prepared by the High Sierra Resource Conversation and Development Council, 1991. The California Regional Water Quality Control Board, Lahontan Region, Best Management Practices Plan is anther source of BMPs.

Erosion and sediment control measures can be categorized as temporary or permanent. Temporary measures should be installed to provide short-term protection until the permanent measures are installed and effective. Typical temporary measures include properly installed silt fences, straw bales, sediment logs, water bars, detention basins, covering of exposed soil, channel linings and inlet protection.

These structures are designed to slow runoff velocity and intercept suspended sediment to prevent sediment discharge from the construction area while allowing runoff to continue down gradient. The selection and sizing of a sediment barrier is dependent on slope angle, slope length, and soil type. Sediment barriers should be installed down gradient and at the edges of all disturbed areas and around topsoil and spoil piles where necessary Temporary erosion control measures require regular inspection and maintenance.

Berms, waterbars and ditches should be used to divert or channel storm water runoff away from sensitive, disturbed or construction areas. Waterbars are intended to slow water traveling down a disturbed slope and divert water off disturbed soil into adjacent stable often well-vegetated areas. Where possible, interceptor ditches and waterbars should take advantage of existing terrain and vegetation to divert runoff before it reaches slopes and disturbed areas. Waterbars should be constructed above and within disturbed areas. The spacing for temporary waterbars should be as needed to divert water off the disturbed areas. Waterbars should be located adjacent to non-erodible (vegetated or rocky) receiving areas. If stable receiving areas are not present, flow energy dissipaters or "J-hook" shaped silt fences should be positioned at the waterbar outlet. In highly erodible soil, waterbar ditches should be protected by temporary lining or by decreasing waterbar spacing and length of flow line slopes.

Permanent erosion and sediment control measures may include rock slope protection (RSP), rock lined ditches and inlet/outlet protection, rock energy dissipaters, infiltration/detention basins and vegetation. Existing vegetation should be protected and undisturbed where possible. Revegetation should consist of native brush and grass species. All areas disturbed by construction should be revegetated.

6 LIMITATIONS

The recommendations in this report are preliminary in nature. Actual subsurface conditions may vary from those described above. A full geotechnical investigation should be performed prior to preparation of project plans and specifications.

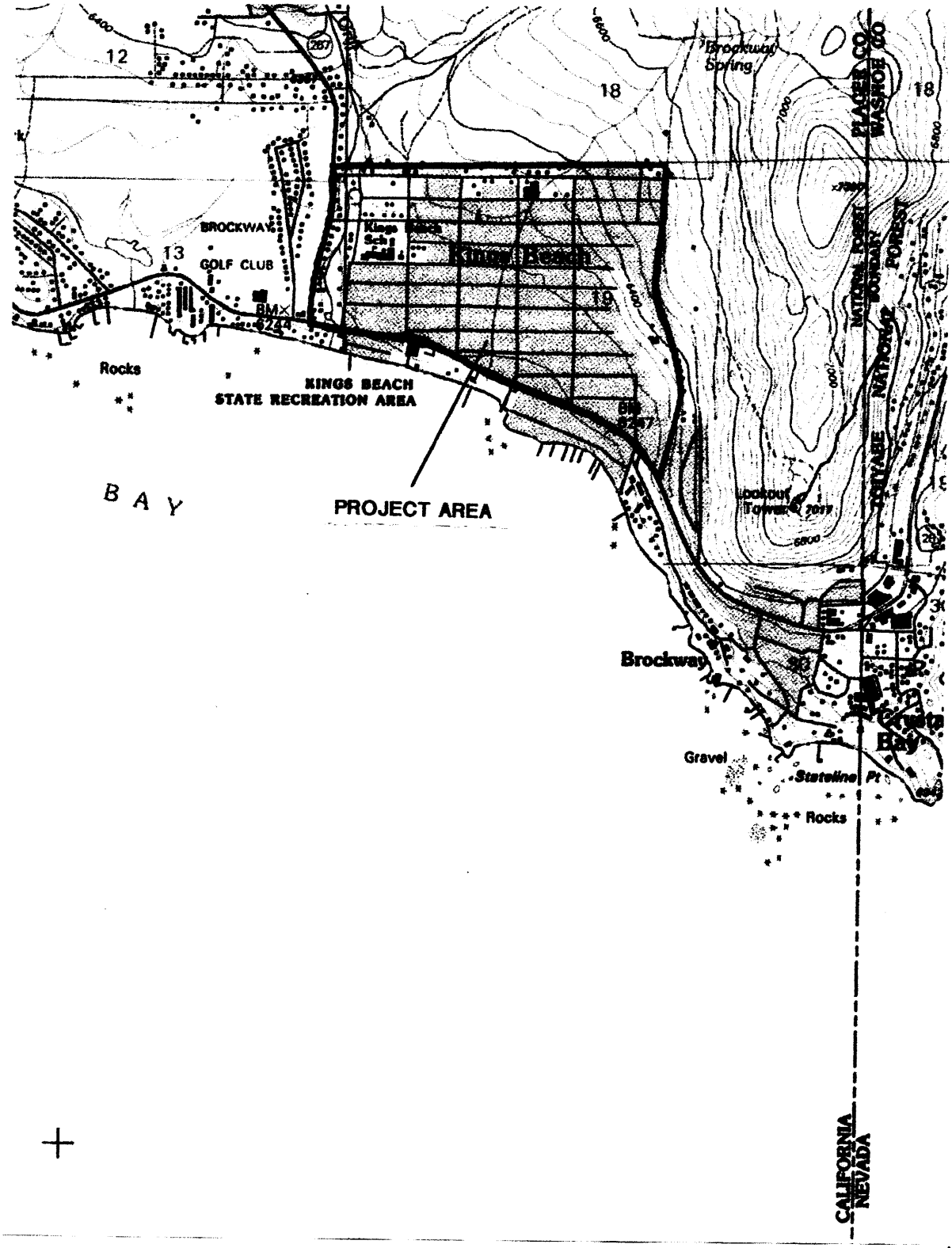
Our professional services were performed consistent with the generally accepted geotechnical engineering principles and practices employed in the site area at the time the report was prepared. This warranty is in lieu of all other warranties, either expressed or implied.

Our services were performed consistent with our agreement with our client. We are not responsible for the impacts of changes in environmental standards, practices or regulations subsequent to performance of our services. We do not warrant the

accuracy of information supplied by others, or the use of segregated portions of this report. This report is solely for the use of our client. Reliance on this report by a third party is at the risk of that party.

Our scope of services did not include evaluating the project site for the presence of hazardous materials or petroleum products. Although we did not observe evidence of hazardous materials or petroleum products at the time of our site visit, project personnel should take necessary precautions should hazardous materials be encountered during construction.

The findings of this report are valid as of the present date. Changes in the conditions of the property can occur with the passage of time. These changes may be due to natural processes or works of man, at the project site or adjacent properties. In addition, changes in applicable or appropriate standards can occur, whether they result from legislation or broadening of knowledge. Therefore, the recommendations presented in this report should not be relied upon after a period of two years from the issue date without our review.



SOURCE: USGS KINGS BEACH, CALIFORNIA 7.5 MINUTE TOPOGRAPHIC MAP, 1992

HOLDREGE & KULL
CONSULTING ENGINEERS • GEOLOGISTS
10775 PIONEER TRAIL
SUITE 213
TRUCKEE, CA 96161
(530) 587-5156

SITE VICINITY MAP

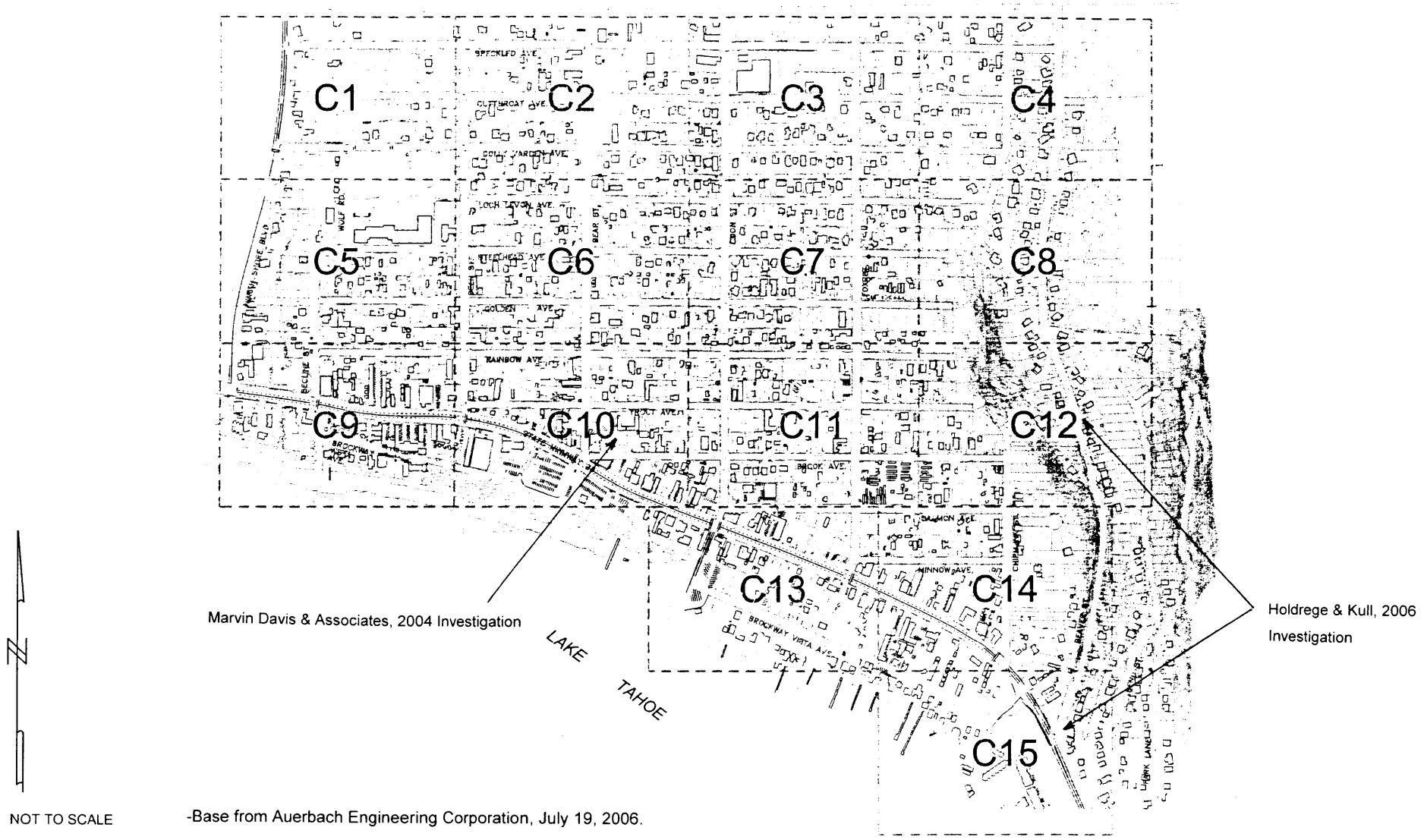
KINGS BEACH GRID WATER SYSTEM PROJECT

KINGS BEACH, CALIFORNIA

PROJECT NO.: 40820-01

DATE: SEPTEMBER 2006

FIGURE NO.: 1



NOT TO SCALE

-Base from Auerbach Engineering Corporation, July 19, 2006.

HOLDREGE & KULL
CONSULTING ENGINEERS • GEOLOGISTS
10775 PIONEER TRAIL, SUITE 213
TRUCKEE, CA 96161
(530) 587-5156 FAX 587-5196

SITE PLAN

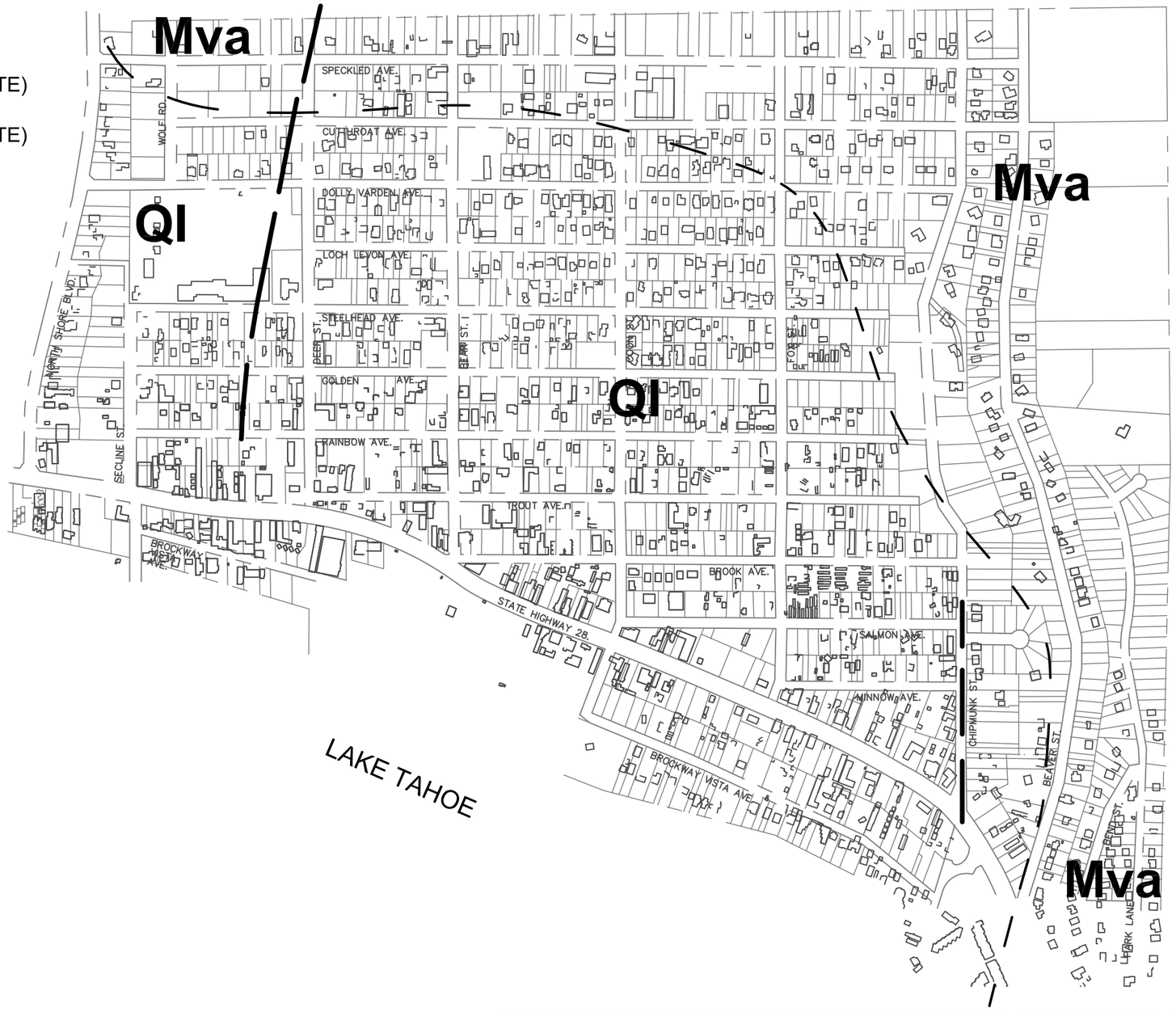
KINGS BEACH GRID WATER SYSTEM PROJECT

KINGS BEACH, CALIFORNIA

DRAWN BY: PJR	CHECKED BY: JKH
PROJECT NO.: 40820-01	
DATE: SEPTEMBER, 2006	
FIGURE NO.: 2	

LEGEND

———	GEOLOGIC CONTACT (DASHED WHERE LOCATION APPROXIMATE)
———	FAULT (DASHED WHERE LOCATION APPROXIMATE)
Ql	QUATERNARY LAKE DEPOSITS
Mva	MIOCENE VOLCANIC DEPOSITS



NOT TO SCALE

DRAWING MODIFIED FROM BASE MAP PROVIDED BY AUERBACH ENGINEERING CORPORATION

HOLDREGE & KULL
CONSULTING ENGINEERS • GEOLOGISTS
10775 PIONEER TRAIL, SUITE 213
TRUCKEE, CA 96161
(530) 587-5156 FAX 587-5196

PROJECT GEOLOGY

KINGS BEACH GRID WATER SYSTEM PROJECT

KINGS BEACH, CALIFORNIA

DRAWN BY: PJR	CHECKED BY: JKH
PROJECT NO.: 40820-01	
DATE: SEPTEMBER 2006	
FIGURE NO.: 3	

UTILITY COORDINATION LETTERS

AUERBACH ENGINEERING CORPORATION
CIVIL ENGINEERING • LAND SURVEYING • ENVIRONMENTAL PLANNING
PROGRAM MANAGEMENT AND PLANNING

July 17, 2006
Project No.: 296.14 AP

Phil Carrillo
Sierra Pacific Power Company
P.O. Box 107
Tahoe Vista, CA 96148

Subject: Kings Beach Grid Area – Existing Utility Locations

Dear Mr. Carrillo,

Auerbach Engineering Corporation (AEC) is providing preliminary engineering design services to the North Tahoe Public Utility District (NTPUD) for the proposed Waterline Replacement Project (Project) for the downtown grid area of Kings Beach, California. The location for the proposed project area can be defined by the area within the following boundary streets. The eastern boundary is defined by Beaver Street and the northern boundary is defined by Speckled Avenue. The southern boundary is defined by Highway 28 and the western boundary is defined by North Shore Boulevard. The project includes a preliminary analysis of the existing waterline grid system layout in order for a replacement plan may be developed. Currently the are is served by one to two inch mains in difficult backyard easement areas.

As part of the initial phase of the project, we respectfully request that your utility company provide information as to the approximate location of your existing facilities within grid area, as well as any information as to the location of service laterals if that information is readily available. Please review the attached drawing, markup your existing facilities and return to our office at your earliest convenience.

We will be contacting you to verify receipt of this correspondence and can provide more details at that time. Should you have any questions and/or require additional information on the project please contact me at 530.581.1116.

Sincerely,
AUERBACH ENGINEERING CORPORATION

Bree Allen
Project Engineer

Enclosure
Cc: Lee Schegg, NTPUD

P.O. BOX 5399 • 3092 NORTH LAKE BLVD. • TAHOE CITY • CALIFORNIA 96145
VOICE (530) 581-1116 • FAX (530) 581-3162 • WWW.AUERBACHENGINEERING.COM

AUERBACH ENGINEERING CORPORATION
CIVIL ENGINEERING • LAND SURVEYING • ENVIRONMENTAL PLANNING
PROGRAM MANAGEMENT AND PLANNING

July 17, 2006
Project No.: 296.14 AP

Tom Keatley
SBC
12824 Earhart Avenue
Auburn, CA 95602

Subject: Kings Beach Grid Area – Existing Utility Locations

Dear Mr. Keatley,

Auerbach Engineering Corporation (AEC) is providing preliminary engineering design services to the North Tahoe Public Utility District (NTPUD) for the proposed Waterline Replacement Project (Project) for the downtown grid area of Kings Beach, California. The location for the proposed project area can be defined by the area within the following boundary streets. The eastern boundary is defined by Beaver Street and the northern boundary is defined by Speckled Avenue. The southern boundary is defined by Highway 28 and the western boundary is defined by North Shore Boulevard. The project includes a preliminary analysis of the existing waterline grid system layout in order for a replacement plan may be developed. Currently the are is served by one to two inch mains in difficult backyard easement areas.

As part of the initial phase of the project, we respectfully request that your utility company provide information as to the approximate location of your existing facilities within grid area, as well as any information as to the location of service laterals if that information is readily available. Please review the attached drawing, markup your existing facilities and return to our office at your earliest convenience.

We will be contacting you to verify receipt of this correspondence and can provide more details at that time. Should you have any questions and/or require additional information on the project please contact me at 530.581.1116.

Sincerely,
AUERBACH ENGINEERING CORPORATION

Bree Allen
Project Engineer

Enclosure
Cc: Lee Schegg, NTPUD

P.O. BOX 5399 • 3092 NORTH LAKE BLVD. • TAHOE CITY • CALIFORNIA 96145
VOICE (530) 581-1116 • FAX (530) 581-3162 • WWW.AUERBACHENGINEERING.COM

AUERBACH ENGINEERING CORPORATION
CIVIL ENGINEERING • LAND SURVEYING • ENVIRONMENTAL PLANNING
PROGRAM MANAGEMENT AND PLANNING

July 17, 2006
Project No.: 296.14 AP

Steve Rebholz
Charter Communications
P.O. Box 1388
Kings Beach, CA 96143

Subject: Kings Beach Grid Area – Existing Utility Locations

Dear Mr. Rebholz,

Auerbach Engineering Corporation (AEC) is providing preliminary engineering design services to the North Tahoe Public Utility District (NTPUD) for the proposed Waterline Replacement Project (Project) for the downtown grid area of Kings Beach, California. The location for the proposed project area can be defined by the area within the following boundary streets. The eastern boundary is defined by Beaver Street and the northern boundary is defined by Speckled Avenue. The southern boundary is defined by Highway 28 and the western boundary is defined by North Shore Boulevard. The project includes a preliminary analysis of the existing waterline grid system layout in order for a replacement plan may be developed. Currently the are is served by one to two inch mains in difficult backyard easement areas.

As part of the initial phase of the project, we respectfully request that your utility company provide information as to the approximate location of your existing facilities within grid area, as well as any information as to the location of service laterals if that information is readily available. Please review the attached drawing, markup your existing facilities and return to our office at your earliest convenience.

We will be contacting you to verify receipt of this correspondence and can provide more details at that time. Should you have any questions and/or require additional information on the project please contact me at 530.581.1116.

Sincerely,
AUERBACH ENGINEERING CORPORATION

Bree Allen
Project Engineer

Enclosure
Cc: Lee Schegg, NTPUD

P.O. BOX 5399 • 3092 NORTH LAKE BLVD. • TAHOE CITY • CALIFORNIA 96145
VOICE (530) 581-1116 • FAX (530) 581-3162 • WWW.AUERBACHENGINEERING.COM

AUERBACH ENGINEERING CORPORATION
CIVIL ENGINEERING • LAND SURVEYING • ENVIRONMENTAL PLANNING
PROGRAM MANAGEMENT AND PLANNING

July 17, 2006
Project No.: 296.14 AP

Wally Goodman
Southwest Gas
400 Eagle Station Lane
Carson City, NV 89701

Subject: Kings Beach Grid Area – Existing Utility Locations

Dear Mr. Goodman,

Auerbach Engineering Corporation (AEC) is providing preliminary engineering design services to the North Tahoe Public Utility District (NTPUD) for the proposed Waterline Replacement Project (Project) for the downtown grid area of Kings Beach, California. The location for the proposed project area can be defined by the area within the following boundary streets. The eastern boundary is defined by Beaver Street and the northern boundary is defined by Speckled Avenue. The southern boundary is defined by Highway 28 and the western boundary is defined by North Shore Boulevard. The project includes a preliminary analysis of the existing waterline grid system layout in order for a replacement plan may be developed. Currently the are is served by one to two inch mains in difficult backyard easement areas.

As part of the initial phase of the project, we respectfully request that your utility company provide information as to the approximate location of your existing facilities within grid area, as well as any information as to the location of service laterals if that information is readily available. Please review the attached drawing, markup your existing facilities and return to our office at your earliest convenience.

We will be contacting you to verify receipt of this correspondence and can provide more details at that time. Should you have any questions and/or require additional information on the project please contact me at 530.581.1116.

Sincerely,
AUERBACH ENGINEERING CORPORATION

Bree Allen
Project Engineer

Enclosure
Cc: Lee Schegg, NTPUD

P.O. BOX 5399 • 3092 NORTH LAKE BLVD. • TAHOE CITY • CALIFORNIA 96145
VOICE (530) 581-1116 • FAX (530) 581-3162 • WWW.AUERBACHENGINEERING.COM

PLACER COUNTY
KINGS BEACH
WATERSHED IMPROVEMENT
PLAN MEMORANDUM

Kings Beach Watershed Improvement Project

Final Watershed Improvement Plan Memorandum

Prepared for:

Placer County

10825 Pioneer Trail, Suite 105

Pioneer Commerce Center

Truckee, CA 96161

Prepared by:

ENTRIX, Inc.

1048 Ski Run Boulevard

South Lake Tahoe, CA 96150

November, 2006

Final
Watershed Improvement Plan Memorandum
for
Kings Beach Watershed Improvement Project

Prepared for:

Placer County
Public Works Department
10825 Pioneer Trail, Suite 105
Pioneer Commerce Center
Truckee, CA 96161

Prepared by:

ENTRIX, Inc.
1048 Ski Run Boulevard
South Lake Tahoe, CA 96150

November 2006

List of Figures

1.0 INTRODUCTION

This memorandum summarizes the results of the planning process for the Kings Beach Watershed Improvement Project (WIP) completed under the direction of the Technical Advisory Committee (TAC). The memorandum also presents the Preferred Alternative identified by the TAC to address water quality issues in the Kings Beach watershed.

The WIP goals are to improve the quality of runoff that is generated in the Kings Beach watershed. Part of the WIP process has been an evaluation of the Griff Creek SEZ. Although this evaluation proceeded along with the evaluation of water quality improvements in the urban area, it has been presented in an independent set of reports.

2.0 SUMMARY OF PROJECT PLANNING PROCESS

The planning process for this project involved detailed analyses that were then summarized in a series of memorandums and reports. The process began with defining the existing conditions in the project area and proceeding through developing and approving alternatives. The planning process is described below under each of the reports that were prepared. Copies of the reports and memorandums are available from Placer County.

2.1 KINGS BEACH WIP SEZ EXISTING CONDITIONS AND ALTERNATIVES REPORT

The Kings Beach SEZ Existing Conditions and Alternatives Report was prepared in summer 2005 following extensive field work to assess the creek geomorphic function and topography. The report focused on Griff Creek and addressed the Project purpose and objectives, and historical and current information describing existing conditions within the area. The existing conditions analysis consisted of a geomorphic, riparian, and fish habitat assessments of Griff Creek, and an assessment of the Coon Street SEZ. The report identified 20 locations in Griff Creek where improvements were needed to restore the geomorphic function of the creek. Up to three alternatives were presented at each location. A technical memorandum describing fish passage conditions at the State Route 28 crossing of Griff Creek was also included in the report.

A TAC meeting was held on October 18, 2005 to discuss this report and provide input to Placer County. The SEZ Existing Conditions and Alternatives Report was reviewed by TAC members and comments/suggestions were provided. Minutes of the meeting were prepared and distributed to the TAC.

In addition to a TAC meeting, a Public Meeting was held on December 1, 2005. The meeting was advertised in the Sierra Sun and Tahoe World, and flyers were handed out door to door to residents along Griff Creek. The purpose of the meeting was to present the alternatives and solicit input from the community prior to selecting the preferred alternative and initiating the design process.

2.1.1 Reports Developed:

- Administrative Draft SEZ Existing Conditions and Alternatives Report, September 2005
- Final SEZ Existing Conditions and Alternatives Report, February 2006.

2.2 HYDROLOGIC CONDITIONS REPORT

The Hydrologic Conditions Report described the hydrologic conditions in the Kings Beach area and served as background information to support development, review, and evaluation of proposed water quality improvements in the Kings Beach urban and residential areas. The report included a HEC-HMS model to estimate the flow volume and peak for 1-hour and 72-hour storms with return periods of 2-years and 25-years. Runoff was estimated from the sub-basins within the Kings Beach watershed and also Griff Creek. In addition, the report identified the major water quality problems in the project area. Maps were provided showing subbasin boundaries, flow patterns, and locations of water quality problems. Several comments were received from the TAC that were addressed in a comment/response table that was included in the Final Hydrologic Conditions Report.

2.2.1 Reports Developed:

- TAC Draft Hydrologic Conditions Report, August 2005.
- Final Hydrologic Conditions Report, February 2006.

2.3 GRIFF CREEK SEZ IMPROVEMENT PLAN

The Griff Creek SEZ Improvement Plan provided additional detail on the alternatives presented in the SEZ existing conditions report. The plan also included recommendations for the five road crossings of Griff Creek. Concept sketches were presented to describe the alternatives along with preliminary cost estimates. Each of the alternatives was evaluated based on a ranking of Good/Better/Best.

The TAC was asked to review and comment on the report and provide comments at a TAC meeting held on February 23, 2006. Minutes of the meeting were subsequently developed and provided to the TAC. A Public meeting was advertised in the Sierra Sun and Tahoe World, and held on March 21, 2006 to present community members with alternatives for improvement of the Griff Creek SEZ, and to solicit input from the community. The process of selecting a preferred alternative was also discussed at the Public meeting. Comments from the TAC and the public were submitted and folded into the final report.

2.3.1 Reports:

- TAC Draft Report SEZ Improvement Plan, February 2006
- Final Report SEZ Improvement Plan, June 2006

2.4 REVIEW ALTERNATIVES MEMORANDUM

The Kings Beach Review Alternatives Memorandum was prepared to identify the range of alternatives that could address the identified water quality problems in the project area. The report was distributed to the TAC and a TAC meeting was held on March 16, 2006 to discuss the memorandum. The Review Alternatives Memorandum presented three alternatives to address the identified water quality problems in the Kings Beach Area (not including Griff Creek). The three alternatives are as follows.

Alternative A is the localized approach to runoff treatment, primarily using settling basins and sediment traps to treat runoff. Alternative A includes features such as basins and culverts that are relatively inexpensive and easy to implement. The objective of this alternative is to reduce the runoff volume and peak flow by storing runoff throughout the watershed.

Alternative B utilizes a basin-wide approach, with additional settling basins and sediment traps to slow and treat runoff. In addition, selected areas will have storm drain pipes, rolled curb and gutter, and infiltration beds to slow, treat, and redirect forest and surface runoff and reduce pollutant loads to the lake. This alternative will further reduce the volume of runoff and peak flow at State Route 28.

Alternative C utilizes a regional approach, and is the most comprehensive at collecting and treating runoff. Rolled curb and gutter and storm drains will collect and direct all runoff to several treatment facilities located at the bottom of the Project area where it is treated with media filters before discharging to the lake.

Full-size concept drawings were presented for each of the alternatives to identify the types of facilities and locations. The TAC provided comments on the alternatives at the meeting and in writing that were incorporated into the Final Review Alternatives Memorandum.

2.4.1 Reports:

- TAC Draft Review Alternatives Memorandum, February 2006
- Final Review Alternatives Memorandum, June 2006

2.5 EVALUATING ALTERNATIVES TECHNICAL MEMORANDUM

A technical memorandum was prepared and distributed by e-mail to the TAC that described the methodology that Placer County would use to evaluate the three alternatives. The memorandum presented the ranking criteria and matrices that comprised the evaluation methodology. There were five ranking criteria: Water Quality; Capital Cost; Feasibility; Operation and Maintenance; and Acquisition. Each ranking criterion had several factors that defined how the criterion would be evaluated.

The TAC was asked to provide comments on the methodology by June 5, 2006 and the final memorandum was sent by e-mail to the TAC on June 13, 2006. On June 23, 2006, Placer County held a site walk with the TAC to view the project area and discuss elements of the project alternatives. Input provided at the site walk was used in evaluating the alternatives.

The alternatives were analyzed and ranked in the Evaluating Alternatives Technical Memorandum. The technical memorandum applied the ranking criteria that were defined in the June evaluation memorandum and approved by the TAC. The TAC was given two weeks to review and submit comments before or at the TAC meeting held on October 2, 2006. During the TAC meeting, discussion of the memorandum led to verbal comments and suggestions. Also, a written comment was submitted that was added to the verbal comments and folded into the Kings Beach WIP Final Evaluating Alternatives Memorandum. Minutes of the TAC meeting were subsequently provided.

The final evaluation indicated that Alternative B has the highest ranking, although all three alternatives rank similar in several criteria. Because Alternative B did not resolve the water quality issues at State Route 28 (the commercial core), it was combined with the treatment

features of Alternative C. Alternative B provides treatment and runoff control in the residential area and Alternative C provides treatment of the commercial core. The memorandum concluded that this combination of Alternatives B and C would provide the highest level of treatment.

Overall, the TAC agreed with the evaluation. However, the TAC identified several issues for the project team to keep in mind when moving forward into the design phase. The TAC agreed that by-passing the forest runoff around the urban area was a reasonable means of controlling some of the runoff volume. However, the low-flows through the Coon Street SEZ should remain in the channel and only high flows are bypassed. Costs could increase with implementation of higher-end treatments, operations and maintenance, and land acquisition. The group suggested phasing this Project with other projects in the area, and working with Caltrans, NTPUD, and Southwest Gas to alleviate treatment and maintenance costs. Finally, the TAC requested they be apprised of the Project's progress for the remainder of the conceptual phase through the 50 percent design phase.

2.5.1 Reports:

- Draft Evaluating Alternatives Memorandum, May 2006
- Final Evaluating Alternatives Memorandum, June 2006
- TAC Draft Evaluating Alternatives Technical Memorandum, September 2006
- Final Evaluating Alternatives Technical Memorandum, November 2006

3.0 SUMMARY OF THE PREFERRED ALTERNATIVE

The Preferred Alternative is Alternative B, the basin wide approach, with additional media filters for treatment of commercial core runoff (Figure 1). Alternative B was estimated to reduce fine sediment loads by 51 percent, and the addition of media filters at the bottom of the watershed would further reduce fine sediment loads to the lake. The estimate of the fine sediment reduction for the Preferred Alternative is similar to the reduction for Alternative B, within the accuracy of the analysis. Because of the similarity of Alternative B and the Preferred Alternative, no further analysis of the water quality benefits will be made at this time.

The strategy of the Preferred Alternative would be to remove the forest runoff from the residential and commercial treatment train, treat the residential area with Alternative B, and treat the commercial core with a combination of vaults to settle particulates and media filters to treat the runoff. The media filter capacity may be configured as a single unit in each sub-basin or as parallel units. The separation of runoff between the residential area and the commercial core reduces the volume of runoff treated by the media filters. The Preferred Alternative also includes improvements at Griff Lane, north of the Project Area.

Elements of the Preferred Alternative would include:

- Encouraging homeowner's to install BMPs;
- Separating forest runoff with conveyance to Griff Creek or Lake Tahoe;
- Constructing grass-lined swales where they can be supported to convey runoff along the right-of-way and promote infiltration;

- Constructing rock-lined channels to convey water along the right-of-way and promote infiltration;
- Installing basins to collect and retain runoff;
- Constructing infiltration galleries to retain runoff; and
- Installing media filters, or advanced treatment technologies, to treat runoff from the commercial core and Brockway Vista Avenue.

This Preferred Alternative will be carried forward into a 50 percent design, where specific concepts and features will be defined and sized. The TAC will meet during the 50 percent design phase to provide input on the preferred alternative development.

LEGEND

- EXISTING SWALE
- EXISTING AC CURB
- EXISTING RIPRAP
- EXISTING STORM DRAIN
- EXISTING STORM DRAIN MANHOLE
- EXISTING SEDIMENT TRAP
- EXISTING STORM DRAIN DROP INLET
- EXISTING STORM DRAIN INTERCEPTOR
- EXISTING CULVERT
- EXISTING HEADWALL
- STREAM CHANNEL
- EXISTING EARTHEN BERM
- EXISTING INFILTRATION BED
- EXISTING BASIN
- EXISTING LAKE DISCHARGE POINT
- COMMERCIAL CORE BOUNDARY
- WATERSHED BOUNDARY
- EXISTING CONTOUR
- GRIFF-4 WATERSHED LABEL
- PROPOSED EARTHEN BERM WITH SWALE
- PROPOSED ROCK SWALE
- PROPOSED REVEGETATED SWALE
- PROPOSED ROLLED CURB & GUTTER
- PROPOSED VALLEY GUTTER
- PROPOSED STORM DRAIN PIPE
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN DROP INLET
- PROPOSED STORM DRAIN INTERCEPTOR/SEDIMENT VAULT
- PROPOSED SEDIMENT TRAP
- PROPOSED CULVERT
- REMOVE EXISTING CULVERT
- PROPOSED STREAM ENHANCEMENTS
- PROPOSED BASIN
- PROPOSED INFILTRATION BED
- PROPOSED VAULT & MEDIA FILTER
- PROPOSED POROUS PAVEMENT
- PROPOSED CRUSHED ROCK
- PROPOSED ROCK BOWL
- PROPOSED ROCK DRAIN WITH GEOGRID
- PROPOSED BOULDER

REVISION			
NUMBER	DATE	DESCRIPTION	BY

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

DATE:

DESIGNED:	DRAWN:
LKR	KBK
CHECKED:	DATE:
MJR	11/14/06
ROAD NUMBER:	
N/A	

PLACER COUNTY
DEPARTMENT OF PUBLIC WORKS

ENTRIX
1048 Ski Run Boulevard
South Lake Tahoe, CA 96150
(530) 542-0201 Main

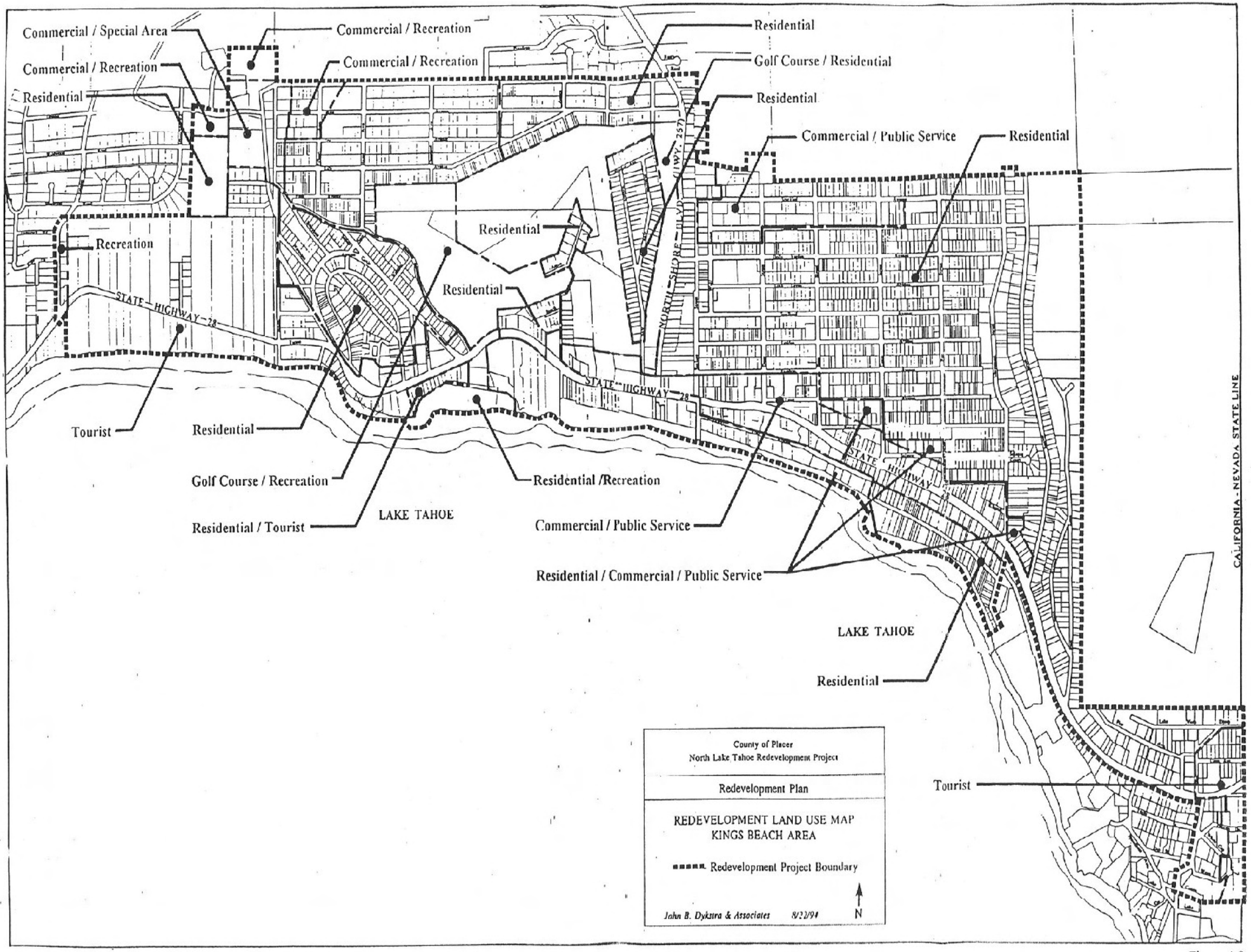
KINGS BEACH WATERSHED IMPROVEMENT PROJECT
RESIDENTIAL/COMMERCIAL CORE - OVERALL
ALTERNATIVE B
PLACER COUNTY, CALIFORNIA

FIGURE 5

1 OF 1

W.O. No. 7321801

PLACER COUNTY
REDEVELOPMENT AGENCY
REDEVELOPMENT PLANS


Commercial / Special Area
Commercial / Recreation
Residential
Commercial / Recreation
Commercial / Recreation
Residential
Golf Course / Residential
Residential
Commercial / Public Service
Residential
Recreation
Residential
STATE HIGHWAY 28
NORTH SHORE BLVD (HWY. 267)
Residential
Tourist
Residential
Golf Course / Recreation
Residential / Tourist
LAKE TAHOE
Residential /Recreation
STATE HIGHWAY 28
Commercial / Public Service
Residential / Commercial / Public Service
CALIFORNIA - NEVADA STATE LINE
LAKE TAHOE
Residential
Tourist
County of Placer
North Lake Tahoe Redevelopment Project
Redevelopment Plan
REDEVELOPMENT LAND USE MAP
KINGS BEACH AREA
Redevelopment Project Boundary
John B. Dykstra & Associates 8/22/94
N

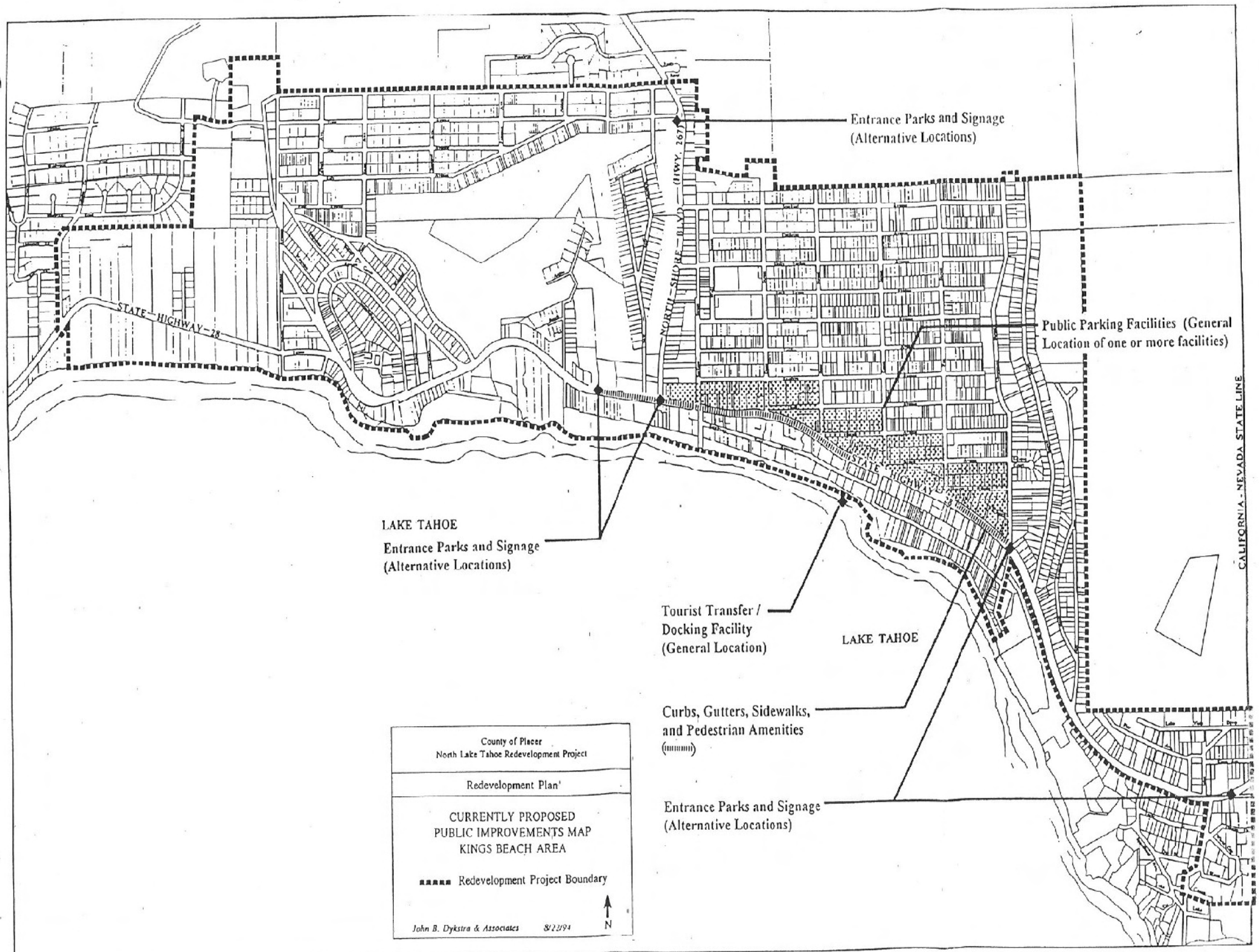

Entrance Parks and Signage
(Alternative Locations)
NORTH SHORE BLVD
(HWY. 267)
STATE HIGHWAY 28
Public Parking Facilities (General
Location of one or more facilities)
CALIFORNIA - NEVADA STATE LINE
LAKE TAHOE
Entrance Parks and Signage
(Alternative Locations)
Tourist Transfer /
Docking Facility
(General Location)
LAKE TAHOE
Curbs, Gutters, Sidewalks,
and Pedestrian Amenities
Entrance Parks and Signage
(Alternative Locations)
County of Placer
North Lake Tahoe Redevelopment Project
Redevelopment Plan
CURRENTLY PROPOSED
PUBLIC IMPROVEMENTS MAP
KINGS BEACH AREA
Redevelopment Project Boundary
John B. Dykstra & Associates 8/22/94
N

Figure 3-6

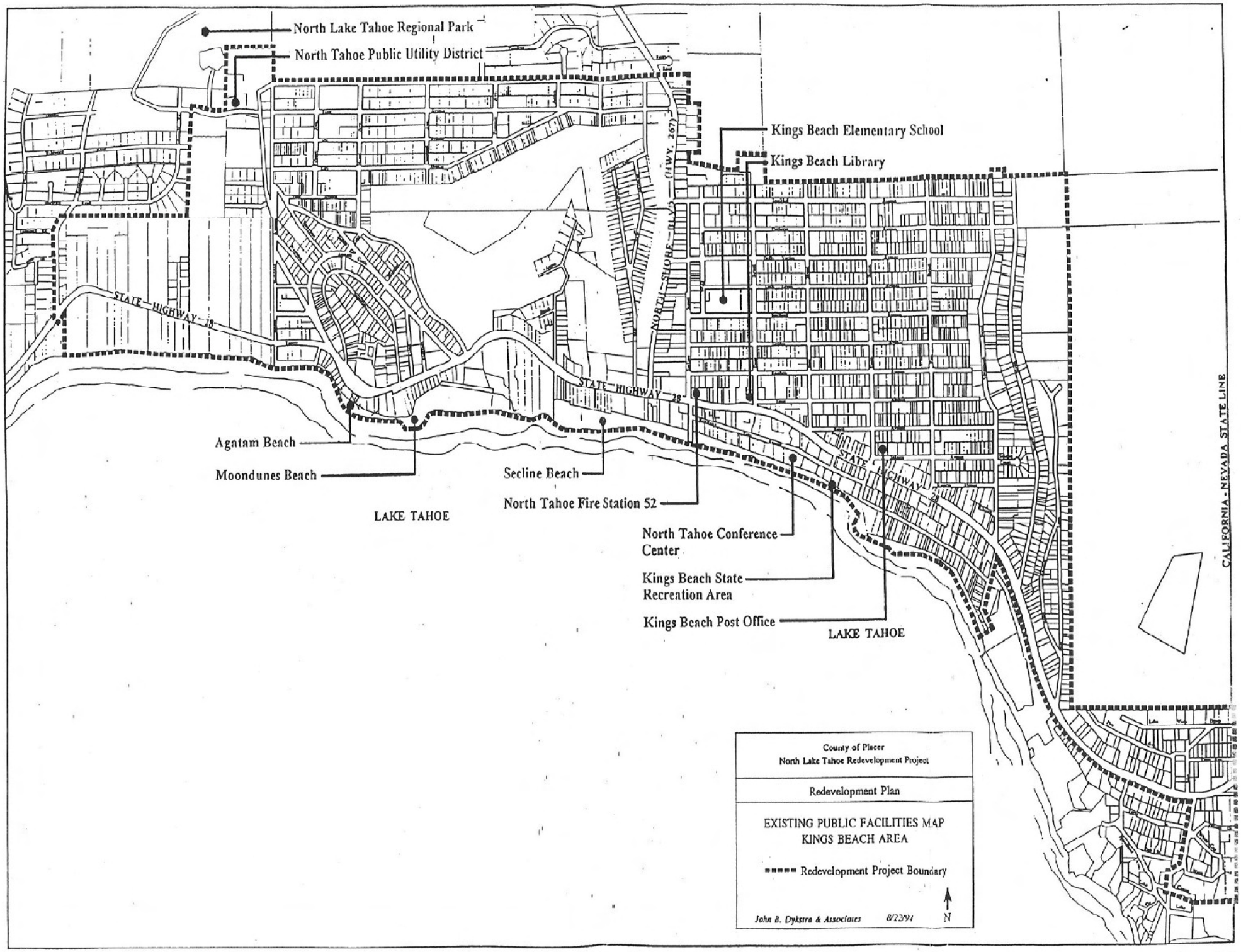

North Lake Tahoe Regional Park
North Tahoe Public Utility District
Kings Beach Elementary School
Kings Beach Library
NORTH SHORE BLVD. (HWY. 267)
STATE HIGHWAY 28
STATE HIGHWAY 28
STATE HIGHWAY 28
Agatam Beach
Moondunes Beach
LAKE TAHOE
Secline Beach
North Tahoe Fire Station 52
North Tahoe Conference Center
Kings Beach State Recreation Area
Kings Beach Post Office
LAKE TAHOE
CALIFORNIA - NEVADA STATE LINE
County of Placer
North Lake Tahoe Redevelopment Project
Redevelopment Plan
EXISTING PUBLIC FACILITIES MAP
KINGS BEACH AREA
Redevelopment Project Boundary
John B. Dykstra & Associates 8/22/94
N

Figure 3.3

CEQA CATEGORICAL EXEMPTION LIST

Figure 2-5. Categorical Exemptions

The Secretary for Resources has adopted a variety of categorical exemptions from CEQA. This table summarizes the exemptions (referred to as "classes") and provides citations to the appropriate Guidelines sections. Many of the categories include special limitations and examples of exempt projects. Please refer to the Guidelines section for complete Guidelines language. Also, unlike statutory exemptions, categorical exemptions are subject to certain exceptions found in Guidelines Section 15300.2.

Class	Exempt Activity	Guidelines Section
Class 1	Operation, repair, maintenance, or minor alteration of existing structures or facilities not expanding existing uses	15301
Class 2	Replacement or reconstruction of existing structures or facilities on the same site having substantially the same purpose and capacity	15302
Class 3	New construction of limited small new facilities; installation of small, new equipment and facilities in small structures; and conversion of the use of small existing structures (e.g., construction of three or fewer single-family homes in urban areas)	15303
Class 4	Minor alterations in the condition of the land, such as grading, gardening, and landscaping, that do not affect sensitive resources	15304
Class 5	Minor alterations to land use limitations, such as lot line adjustments, variances, and encroachment permits on land with a slope of less than 20%, that do not result in changes in land use or density	15305
Class 6	Basic data collection, research, experimental management, and resource evaluation activities that do not result in major disturbances to an environmental resource	15306
Class 7	Certain actions by regulatory agencies to maintain, restore, or enhance natural resources, other than construction activities, where the regulatory process includes procedures to protect the environment	15307
Class 8	Certain actions by regulatory agencies to maintain, restore, or enhance the environment, other than construction activities, where the regulatory process includes procedures to protect the environment	15308
Class 9	Inspections to check for the performance of an operation, or for quality, health, or safety of a project	15309
Class 10	Certain Department of Veterans Affairs loans and mortgages for purchases of certain existing structures	15310
Class 11	Construction or placement of minor structures accessory to existing facilities (e.g., signs, small parking lots, portable structures)	15311
Class 12	Sales of surplus government property, except in environmentally sensitive areas	15312
Class 13	Acquisition of land for fish and wildlife habitat conservation purposes	15313
Class 14	Minor additions to existing schools that do not increase capacity by more than 25%	15314
Class 15	Subdivision of certain properties in urban areas into four or fewer parcels	15315
Class 16	Certain acquisitions or sales of land in natural condition or containing cultural resource sites to establish a park	15316
Class 17	Establishment of agricultural preserves, making and renewal of Williamson Act contracts, and acceptance of open space property	15317
Class 18	Designation of wilderness areas under the California Wilderness System	15318
Class 19	Annexations of certain areas containing existing structures and certain small parcels	15319
Class 20	Local government reorganizations requiring no changes in the areas where previous powers were exercised, such as the establishment of subsidiary districts, consolidations, and mergers	15320
Class 21	Actions by regulatory agencies to enforce a lease, permit license, or other entitlement; actions by law enforcement officials	15321
Class 22	Actions related to educational or training programs involving no exterior physical changes	15322
Class 23	Normal operations of existing facilities for public gatherings for which the facilities were designed	15323
Class 24	Actions taken by regulatory agencies related to wages, hours, and working conditions	15324
Class 25	Transfers of interest in land to preserve open space	15325
Class 26	Actions needed to implement a housing assistance plan by acquiring an interest in housing units	15326
Class 27	Leasing of new or unoccupied private facilities in a building exempt from CEQA	15327
Class 28	Installations of certain hydroelectric facilities of less than 5 megawatts capacity at existing facilities	15328
Class 29	Installation of certain cogeneration equipment of less than 50 megawatts capacity at existing facilities	15329
Class 30	Minor actions to prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release of hazardous waste or substances	15330
Class 31	Historical resource restoration or rehabilitation consistent with Secretary of Interior guidelines	15331
Class 32	Certain in-fill development projects in urban areas	15332

NTPUD
BEAVER STREET
NEGATIVE DECLARATION

POSTED 11/21/2006
through 12/29/2006
JIM McCAULEY, COUNTY CLERK
By _____
Deputy Clerk

NORTH TAHOE PUBLIC UTILITY DISTRICT

EXHIBIT "F"

NEGATIVE DECLARATION

☐ Proposed
☒ Final

Name of Project: **Beaver Street Sewer & Water Line Replacement Project**

Location:
Beaver Street, between Highway 28 and Cutthroat Avenue, Kings Beach, Placer County

Entity or Person Undertaking Project:
North Tahoe Public Utility District
PO Box 139
Tahoe Vista, CA 96148

Project Description:
This project consists of the construction of replacement and new water transmission mains and the replacement of an existing sewer main, all located within the Beaver Street right-of-way.

Approximately 2,660 feet of the installation of 10-inch water transmission main will be installed on Beaver Street from Highway 28 with connection to the existing water line north of the Bass Avenue intersection, per the District's Master Water Plan. Construction of this water main will involve the replacement of approximately 2,500 feet of substandard water main, improve the hydraulics of the public water system, transmit drinking water to a 500,000 gallon storage tank at the north end of Beaver Street, and provide fire protection to an area which currently has no fire hydrants. The construction of this main will allow a substandard backyard water main that is beyond its design life between Beaver Street and Park Lane to be abandoned in place. The project will also include the installation of new water services from the main to the property line to feed the residences within the project area. Properties that are currently served by water lines in backyard easements will have one or two construction seasons to construct new services from their residences to the new water service at the property line. The purpose of this project is to improve water transmission to and from the 500,000 gallon tank in Kings Beach, to abandon backyard water lines and easements, to eliminate water loss due to leaks, to eliminate directional flow controls of the existing main which are currently in place to prevent freezing, and to provide fire protection in the form of fire hydrants to an area which is presently lacking such fire protection.

Approximately 1,900 feet of 6" clay and 168 feet of asbestos cement sewer main along Beaver Street will also be replaced as part of this project, per the District's ongoing preventive maintenance and replacement program. The sewer pipe's age, poor condition

PO Box 139, Tahoe Vista, CA 96148 • (530) 546-4212 • FAX (530) 546-2652 • 875 National Ave.
e-mail: ntpud@ntpud.org • website: www.ntpud.org

(resulting in infiltration, inflow, root intrusion, and potential for blockages), and shallow installation (the majority of the mains are between 2.5 and 3.5 feet deep) made this line a priority for replacement. The project will also replace sewer laterals and manholes within the project area. Replacing the sewer main, laterals, and manholes will prevent groundwater infiltration into the sewer main and potential exfiltration of sewage from the sewer main into the surrounding environment.

In order to minimize the environmental impacts, perform the construction within one season so as to disrupt traffic and the local community to the least extent possible, as well as to lower project overhead costs, the District combined the construction of a new water transmission main with the replacement of the existing sewer main in this location. Additionally, by combining the two projects, the District will be able to redesign the existing shallow sewer main to comply with current Department of Health Services' separation standards and to install both utilities in accordance with the separation requirements.

It should be noted that Placer County is planning an erosion control project within the same project area as the Beaver Street Sewer & Water Line Replacement Project. For purposes of minimizing environmental and community impacts, the North Tahoe Public Utility District and Placer County are considering partnering, so that portions of the proposed erosion control work would be constructed under the same contract as the sewer and water main replacement work. (See the Categorical Exemption #0887 filed by Placer County in 1997 and the more recent Categorical Exemption titled "Beaver Street Erosion Control Improvements" filed by Placer County in 2006 which describes the erosion control work in more detail. The District shall require that if the erosion control work is performed under the District's contract, then it must be environmentally certified by Placer County.)

Finding:

Although the proposed project could have a cumulative effect considered significant on the environment, incorporation of the mitigation measures described below will prevent significant impacts or reduce impacts to insignificant levels.

Initial Study:

An initial study of this project was undertaken and prepared in accordance with Article V of the District's local environmental guidelines for the purpose of ascertaining whether this project might have a significant effect on the environment. A copy of such initial study is attached hereto and by reference incorporated herein. Such initial study documents reasons to support the above finding.

Mitigation Measures:

The following mitigation measures have been included in the project to avoid potentially significant effects.

a) Will the project conflict with or obstruct implementation of the applicable air quality plan?

Construction activities for the proposed project may result in a short term increase in diesel emissions and some particulate matter from construction equipment and construction-related activities. This is an unavoidable impact of the project. However, once construction of the project is completed, there will be no additional air quality impacts. During construction of the project, the air quality provisions of the Tahoe Regional Planning Agency ordinances will be adhered to and Best Management Practices will be followed. Currently the Lake Tahoe Basin is in Attainment for all Air Quality Pollutants, with the exception of Particulate Matter (PM10).

b) Will the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction activities for the proposed project may result in a short term increase in diesel emissions and some particulate matter from construction equipment and construction-related activities. This is an unavoidable impact of the project. However, once construction of the project is completed, there will be no additional air quality impacts. During construction of the project, the air quality provisions of the Tahoe Regional Planning Agency ordinances will be adhered to and Best Management Practices will be followed. Currently the Lake Tahoe Basin is in Attainment for all Air Quality Pollutants, with the exception of Particulate Matter (PM10).

c) Will the project disrupt, displace, compact or overcover the soil?

Some displacement of the soil is an unavoidable consequence of this project. The North Tahoe Public Utility District will minimize the areas of disturbed soil and will ensure that Best Management Practices are adhered to during construction to prevent the runoff and erosion of soil into streambeds or Lake Tahoe. Construction of the new water transmission main and replacement of the sewer main will be located within existing paved or compacted right-of-way.

d) Will the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No emergency evacuation plan has officially been adopted for this area. However, construction in this area has the potential to impair the rapid evacuation of residents in this area of Kings Beach. The District will minimize the area of construction on a regular basis, will notify the local Fire Department (North Tahoe Fire Protection District) and the Police Department (Placer County Sheriff's Office) of the area and extent of construction, and will inform residents within the project area of road closures through the use of traffic signs and letters.

e) Will the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The project area is located within the TRPA Plan Area Statement #31 "Brockway" and abuts the Kings Beach Community Plan area, as defined by the TRPA. Pipeline facilities, such as those existing and proposed within the project area must be considered

under provisions for special use per TRPA Plan Area Statement #31 and the Kings Beach Community Plan.

f) Will the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
Construction activities for the proposed project will result in a short term increase in existing noise levels due to construction related activities. Persons working on the project as well as the general public may be exposed to noise levels in excess of local standards and ordinances. This is an unavoidable impact of the project. However, persons working on the project will be required to utilize proper hearing protection equipment and working hours will be limited to minimize noise impacts to the public. Once construction of the project is completed, no additional noise will be generated. The noise provisions of the Tahoe Regional Planning Agency ordinances are made a part of the contract requirements for work on this project to minimize or limit construction noise.

g) Will the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
Construction activities for the proposed project will result in a short term increase in existing noise levels due to construction related activities. Persons working on the project as well as the general public may be exposed to groundborne vibration and/or noise levels during construction on this project. These are unavoidable impacts of the project. However, persons working on the project will be required to utilize proper hearing protection equipment and working hours will be limited to minimize noise impacts to the public. Once construction of the project is completed, no additional noise will be generated. The noise provisions of the Tahoe Regional Planning Agency ordinances are made a part of the contract requirements for work on this project to minimize or limit construction noise.

h) Will the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
Construction activities for the proposed project will result in a short term increase in existing noise levels due to construction related activities. This is an unavoidable impact of the project. Once construction of the project is completed, no additional noise will be generated. The noise provisions of the Tahoe Regional Planning Agency ordinances are made a part of the contract requirements for work on this project to minimize or limit construction noise.

i) Will the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
Although this project involves the construction of a water main, which will increase the capacity of the water system, the District only serves properties which have been issued valid permits by all applicable local and regional government agencies. Therefore, this project will not induce growth either directly or indirectly.

j) Will the project result in inadequate emergency access?
Construction in this area has the potential to impair emergency access in this area of Kings Beach. The District will minimize the area of construction, will notify the local Fire Department (North Tahoe Fire Protection District) of the area and extent of construction on a regular basis, and will inform residents within the project area of road closures through the use of traffic signs and letters.

k) Will the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
This project will not require or result in the construction of new or expansion of existing storm water drainage facilities. However, it should be noted that Placer County is planning an erosion control project within the same project area as the Beaver Street Sewer & Water Line Replacement Project. For purposes of minimizing environmental and community impacts, the North Tahoe Public Utility District and Placer County are considering partnering, so that portions of the proposed erosion control work would be constructed under the same contract as the sewer and water main replacement work. (See the Categorical Exemption #0887 filed by Placer County in 1997 and the more recent Categorical Exemption titled "Beaver Street Erosion Control Improvements" filed by Placer County in 2006 which describes the erosion control work in more detail. The District shall require that if the erosion control work is performed under the District's contract, then it must be environmentally certified by Placer County.)

11-14-2006
Date

Authorized Person
Coral R. Taylor, P.E.
Associate Civil Engineer
North Tahoe Public Utility District

APPENDIX G

Initial Study & Environmental Checklist

1. Project title:

   Beaver Street Sewer & Water Line Replacement Project

2. Lead agency name and address:

   North Tahoe Public Utility District
   875 National Avenue
   PO Box 139
   Tahoe Vista, CA 96148

3. Contact person and phone number:

   Coral R. Taylor, Assistant Civil Engineer, (530) 546-4212

4. Project location:

   Beaver Street, between Highway 28 and Cutthroat Avenue, Kings Beach, Placer County (See attached map)

5. Project sponsor's name and address:

   North Tahoe Public Utility District
   875 National Avenue
   PO Box 139
   Tahoe Vista, CA 96148

6. General plan designation: _____

   The project area includes land use capability categories UmD(5) and UmF(1a).

   The project area is located within the TRPA Plan Area Statement #31 "Brockway" and abuts the Kings Beach Community Plan area, as defined by the TRPA. Pipeline facilities, such as those existing and proposed within the project area must be considered under provisions for special use per TRPA Plan Area Statement #31 and the Kings Beach Community Plan.

7. Zoning: _____

   The southern 250 feet of the project area is zoned HDR "High Density Residential" per TRPA zoning maps and TR-4 "Motel District" per Placer County zoning maps. The remainder of the project area is zoned LDR "Low Density Residential" per TRPA zoning maps and TR-1 "Single Residence" per Placer County zoning maps.

8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

This project consists of the construction of replacement and new water transmission mains and the replacement of an existing sewer main, all located within the Beaver Street right-of-way.

Approximately 2,660 feet of the installation of 10-inch water transmission main will be installed on Beaver Street from Highway 28 with connection to the existing water line north of the Bass Avenue intersection, per the District's Master Water Plan. Construction of this water main will involve the replacement of approximately 2,500 feet of substandard water main, improve the hydraulics of the public water system, transmit drinking water to a 500,000 gallon storage tank at the north end of Beaver Street, and provide fire protection to an area which currently has no fire hydrants. The construction of this main will allow a substandard backyard water main that is beyond its design life between Beaver Street and Park Lane to be abandoned in place. The project will also include the installation of new water services from the main to the property line to feed the residences within the project area. Properties that are currently served by water lines in backyard easements will have one or two construction seasons to construct new services from their residences to the new water service at the property line. The purpose of this project is to improve water transmission to and from the 500,000 gallon tank in Kings Beach, to abandon backyard water lines and easements, to eliminate water loss due to leaks, to eliminate directional flow controls of the existing main which are currently in place to prevent freezing, and to provide fire protection in the form of fire hydrants to an area which is presently lacking such fire protection.

Approximately 1,900 feet of 6" clay and 168 feet of asbestos cement sewer main along Beaver Street will also be replaced as part of this project, per the District's ongoing preventive maintenance and replacement program. The sewer pipe's age, poor condition (resulting in infiltration, inflow, root intrusion, and potential for blockages), and shallow installation (the majority of the mains are between 2.5 and 3.5 feet deep) made this line a priority for replacement. The project will also replace sewer laterals and manholes within the project area. Replacing the sewer main, laterals, and manholes will prevent groundwater infiltration into the sewer main and potential exfiltration of sewage from the sewer main into the surrounding environment.

In order to minimize the environmental impacts, perform the construction within one season so as to disrupt traffic and the local community to the least extent possible, as well as to lower project overhead costs, the District combined the construction of a new water transmission main with the replacement of the

existing sewer main in this location. Additionally, by combining the two projects, the District will be able to redesign the existing shallow sewer main to comply with current Department of Health Services' separation standards and to install both utilities in accordance with the separation requirements.

It should be noted that Placer County is planning an erosion control project within the same project area as the Beaver Street Sewer & Water Line Replacement Project. For purposes of minimizing environmental and community impacts, the North Tahoe Public Utility District and Placer County are considering partnering, so that portions of the proposed erosion control work would be constructed under the same contract as the sewer and water main replacement work. (See the Categorical Exemption #0887 filed by Placer County in 1997 and the more recent Categorical Exemption titled "Beaver Street Erosion Control Improvements" filed by Placer County in 2006 which describes the erosion control work in more detail. The District shall require that if the erosion control work is performed under the District's contract, then it must be environmentally certified by Placer County.)

9. Surrounding land uses and setting: Briefly describe the project's surroundings:
The project will take place within existing paved or compacted Placer County Beaver Street right-of-way. Surrounding land uses are primarily residential, although some of the properties adjacent to the proposed project are owned by the California Tahoe Conservancy, and are vacant. There are also two commercial properties adjacent to the southern portion of the project.

The proposed project is located in the southern half of Beaver Street, at the eastern edge of Kings Beach, in Placer County, CA (see attached map). Beaver Street is a narrow, paved, residential street with steep vertical (north/south) slopes. There also exists a steep east/west slope in this area.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)
California Highway Patrol
CalTRANS District #3
California Department of Health Services
California Water Quality Control Board, Lahontan Region #6
Tahoe Regional Planning Agency
Placer County, Department of Public Works
California Tahoe Conservancy
North Tahoe Fire Protection District
Placer County, Sheriff's Office

11. Energy Usage of Project:
The Beaver Street Sewer & Water Line Replacement Project will not result in or

encourage the use of substantial amounts of fuel or energy, nor will a substantial increase in the demand upon existing sources of energy occur, nor will the development of new sources of energy be required.

Improved water flow throughout the District's water piping network may have a small positive impact by reducing overall energy into the system to maintain flow and water distribution.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:
The environmental factors checked below would be potentially affected by this project, as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Agriculture Resources	X	Air Quality
☐	Biological Resources	☐	Cultural Resources	X	Geology /Soils
X	Hazards & Hazardous Materials	☐	Hydrology / Water Quality	X	Land Use / Planning
☐	Mineral Resources	X	Noise	X	Population / Housing
☐	Public Services	☐	Recreation	X	Transportation/Traffic
X	Utilities / Service Systems	☐	Mandatory Findings of Significance		

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

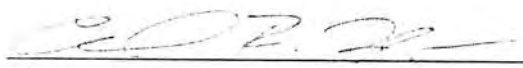
X I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature

10-3-2006

Date

Signature

Date

INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	X
II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	X
III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	X	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	X	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	X
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	X
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES -- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	X
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?	☐	☐	☐	X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?	☐	☐	☐	X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	X
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	X
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	X
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking?	☐	☐	☐	X
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	X
iv) Landslides?	☐	☐	☐	X
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	X
VII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	X	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	X
VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	X
b) 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)?	☐	☐	☐	X
c) 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?	☐	☐	☐	X
d) 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?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
e) 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?	☐	☐	☐	X
f) Otherwise substantially degrade water quality?	☐	☐	☐	X
g) 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?	☐	☐	☐	X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	X
i) 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?	☐	☐	☐	X
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	X
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	X
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	X
XI. NOISE -- Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	X	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	X	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	X	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	X
XII. POPULATION AND HOUSING - - Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	X
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	X
Police protection?	☐	☐	☐	X
Schools?	☐	☐	☐	X
Parks?	☐	☐	☐	X
Other public facilities?	☐	☐	☐	X
XIV. RECREATION --				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	X
XV. TRANSPORTATION/TRAFFIC -- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	X
e) Result in inadequate emergency access?	☐	☐	X	☐
f) Result in inadequate parking capacity?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	X
XVI. UTILITIES AND SERVICE SYSTEMS -- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	X
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporatio	Less Than Significant Impact	No Impact
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	X
XVII. MANDATORY FINDINGS OF SIGNIFICANCE --				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	X
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	X
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	X

ENVIRONMENTAL IMPACT EXPLANATIONS:

III. AIR QUALITY – a) Conflict with or obstruct implementation of the applicable air quality plan?

Construction activities for the proposed project may result in a short term increase in diesel emissions and some particulate matter from construction equipment and construction-related activities. This is an unavoidable impact of the project. However, once construction of the project is completed, there will be no additional air quality impacts. During construction of the project, the air quality provisions of the Tahoe Regional Planning Agency ordinances will be adhered to and Best Management Practices will be followed. Currently the Lake Tahoe Basin is in Attainment for all Air Quality Pollutants, with the exception of Particulate Matter (PM10).

III. AIR QUALITY – b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction activities for the proposed project may result in a short term increase in diesel emissions and some particulate matter from construction equipment and construction-related activities. This is an unavoidable impact of the project. However, once construction of the project is completed, there will be no additional air quality impacts. During construction of the project, the air quality provisions of the Tahoe Regional Planning Agency ordinances will be adhered to and Best Management Practices will be followed. Currently the Lake Tahoe Basin is in Attainment for all Air Quality Pollutants, with the exception of Particulate Matter (PM10).

VI. GEOLOGY AND SOILS?

Some displacement of the soil is an unavoidable consequence of this project. The North Tahoe Public Utility District will minimize the areas of disturbed soil and will ensure that Best Management Practices are adhered to during construction to prevent the runoff and erosion of soil into streambeds or Lake Tahoe. Construction of the new water transmission main and replacement of the sewer main will be located within existing paved or compacted right-of-way.

VII. HAZARDS AND HAZARDOUS MATERIALS – g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No emergency evacuation plan has officially been adopted for this area. However, construction in this area has the potential to impair the rapid evacuation of residents in this area of Kings Beach. The District will minimize the area of construction on a regular basis, will notify the local Fire Department (North Tahoe Fire Protection District) and the Police Department (Placer County Sheriff's Office) of the area and extent of construction, and will inform residents within the project area of road closures through the use of traffic signs and letters.

IX. LAND USE AND PLANNING – b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but

not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The project area is located within the TRPA Plan Area Statement #31 "Brockway" and abuts the Kings Beach Community Plan area, as defined by the TRPA. Pipeline facilities, such as those existing and proposed within the project area must be considered under provisions for special use per TRPA Plan Area Statement #31 and the Kings Beach Community Plan.

XI. NOISE – a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction activities for the proposed project will result in a short term increase in existing noise levels due to construction related activities. Persons working on the project as well as the general public may be exposed to noise levels in excess of local standards and ordinances. This is an unavoidable impact of the project. However, persons working on the project will be required to utilize proper hearing protection equipment and working hours will be limited to minimize noise impacts to the public. Once construction of the project is completed, no additional noise will be generated. The noise provisions of the Tahoe Regional Planning Agency ordinances are made a part of the contract requirements for work on this project to minimize or limit construction noise.

XI. NOISE – b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction activities for the proposed project will result in a short term increase in existing noise levels due to construction related activities. Persons working on the project as well as the general public may be exposed to groundborne vibration and/or noise levels during construction on this project. These are unavoidable impacts of the project. However, persons working on the project will be required to utilize proper hearing protection equipment and working hours will be limited to minimize noise impacts to the public. Once construction of the project is completed, no additional noise will be generated. The noise provisions of the Tahoe Regional Planning Agency ordinances are made a part of the contract requirements for work on this project to minimize or limit construction noise.

XI. NOISE – d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction activities for the proposed project will result in a short term increase in existing noise levels due to construction related activities. This is an unavoidable impact of the project. Once construction of the project is completed, no additional noise will be generated. The noise provisions of the Tahoe Regional Planning Agency ordinances are made a part of the contract requirements for work on this project to minimize or limit construction noise.

Notice of Determination

Form C

To:

☐ Office of Planning and Research

For U.S. Mail:
P.O. Box 3044
Sacramento, CA 95812-3044

Street Address:
1400 Tenth St.
Sacramento, CA 95814

☒ County Clerk
County of: Placer
Address: 2954 Richardson Drive
Auburn, CA 95603

From:
Public Agency: North Tahoe Public Utility District
Address: PO Box 139, Tahoe Vista, CA 96148

Contact: Coral R. Taylor, P.E.
Phone: (530) 546-4212 x 133

Lead Agency (if different from above):
Address:
Contact:
Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 2006102024

Project Title: Beaver Street Sewer and Water Line Replacement Project

Project Location (include county): see attached sheet

Project Description:

see attached sheet

This is to advise that the North Tahoe Public Utility District has approved the above described project on
☒ Lead Agency or ☐ Responsible Agency

November 13, 2006 and has made the following determinations regarding the above described project:
(Date)

1. The project [☐ will ☒ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☐ was ☒ was not] adopted for this project.
4. A statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.
5. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at: North Tahoe PUD - main office - 875 National Avenue, Tahoe Vista, CA 96148

Signature (Public Agency) _____ Title Associate Civil Engineer

Date 11-14-2006

Date Received for filing at OPR _____

FILED
NOV 21 2006
Jim McCauley
COUNTY CLERK OF PLACER COUNTY
BY _____ DEPUTY

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.

POSTED 11/21/2006
through 12/29/2006
JIM McCAULEY, COUNTY CLERK
By _____ Deputy Clerk

#2821

Revised 20

NORTH TAHOE PUBLIC UTILITY DISTRICT

NOTICE OF DETERMINATION

Additional Information

Project Title:
Beaver Street Sewer and Water Line Replacement Project, SCH #: 2006102024

Project Location:
This project is located within Township 15 North, Range 17 East, Section 10. The project will take place within the Beaver Street right-of-way, between State Highway 28 and Cutthroat Avenue, at the eastern edge of Kings Beach, an unincorporated area within Placer County, California.

Project Description:
The project consists of the construction of replacement and new water transmission mains and the replacement of an existing sewer main, all located within the Beaver Street right-of-way.

PO Box 139, Tahoe Vista, CA 96148 • (530) 546-4212 • FAX (530) 546-2652 • 875 National Ave.
e-mail: ntpud@ntpud.org • website: www.ntpud.org

California Department of Fish and Game
Certificate of Fee Exemption
De Minimis Impact Finding

Project Title: Beaver Street Sewer & Water Line Replacement Project

Project Location (including County): Beaver Street, Kings Beach, Placer County

Name and Address of Project Proponent: North Tahoe Public Utility District, PO Box 139, Tahoe Vista, CA 96148

Project Description: see attached sheet

Findings of Exemption:

1. **An Initial Study has been conducted by** North Tahoe Public Utility District **(insert lead agency name) to evaluate the potential for adverse environmental impacts.**

2. **A** Negative Declaration **(insert: Mitigated Negative Declaration, Negative Declaration or draft Environmental Impact Report) has been prepared by** North Tahoe Public Utility District **(insert lead agency name).**

3. **The lead agency has no evidence before it, including the information in the Initial Study, the** Negative Declaration **(insert: Mitigated Negative Declaration, Negative Declaration or draft EIR) and public comments, to indicate that the proposed project could have any potential for an adverse effect on fish and wildlife resources or the habitat upon which the fish and wildlife depends.**

Certification:

I hereby certify that the lead agency has made the above findings and that based upon the record, the project will not individually or cumulatively have an adverse effect on fish or wildlife resources, as defined in Section 711.2 of the Fish and Game Code.

Signature of Planning Official

Associate Civil Engineer
Title

North Tahoe Public Utility District
Lead Agency Name

November 13, 2006
Date

Reference: CCR Section 753.5

NORTH TAHOE PUBLIC UTILITY DISTRICT

CALIFORNIA DEPARTMENT OF FISH AND GAME

CERTIFICATE OF FEE EXEMPTION

De Minimus Impact Finding

Project Title:
Beaver Street Sewer and Water Line Replacement Project

Project Location:
This project is located within Township 15 North, Range 17 East, Section 10. The project will take place within the Beaver Street right-of-way, between State Highway 28 and Cutthroat Avenue, at the eastern edge of Kings Beach, an unincorporated area within Placer County, California.

Project Description:
The project consists of the construction of replacement and new water transmission mains and the replacement of an existing sewer main, all located within the Beaver Street right-of-way.

Findings of Exemption (attach as necessary):
There is no evidence before the North Tahoe Public Utility District that the proposed project will have a potential for an adverse effect on wildlife resources.

Certification:
I hereby certify that the public agency has made the above finding and that the project will not individually or cumulatively have an adverse effect on wildlife resources, as defined in section 711.2 of the Fish and Game Code.

Coral R. Taylor, P.E.
Title: Associate Civil Engineer
Lead Agency: North Tahoe Public Utility District
Date: November 14, 2006

NTPUD/TRPA MEMORANDUM OF UNDERSTANDING (MOU)

APPENDIX O

MEMORANDUM OF UNDERSTANDING BETWEEN
TAHOE REGIONAL PLANNING AGENCY AND
NORTH TAHOE PUBLIC UTILITY DISTRICT

October 1991

This Memorandum of Understanding is entered into this 29 day of October, 1991, by and between the TAHOE REGIONAL PLANNING AGENCY (TRPA), through its Executive Director as authorized by the Governing Board, and the NORTH TAHOE PUBLIC UTILITY DISTRICT (NTPUD), by and through its General Manager.

All activities described in this Memorandum of Understanding (MOU) shall be in accordance with the Regional Plan package of TRPA as adopted by Ordinance No. 87-9, as amended from time to time. Activities exempt under this MOU shall not result in the creation of additional land coverage, relocation of existing coverage, or an increase in vehicle trips in excess of that otherwise exempt pursuant to Subsection 4.3.B of the TRPA Code. All activities undertaken by the NTPUD pursuant to this MOU shall comply with applicable Best Management Practices (BMPs), and all provisions of the TRPA Code of Ordinances (Code), as it may be amended from time to time, except for the procedural provisions replaced by this MOU, and such guidelines as may be adopted by TRPA.

I. EXEMPT ACTIVITIES

The following activities of NTPUD, in addition to those exempt pursuant to Section 4.2. of the TRPA Code, are not subject to review and approval by TRPA provided any related excavation or backfilling work does not exceed 10 cubic yards (unless modified below), occurs during the grading season (May 1 to October 15) in land capability districts 4 through 7 and/or within an existing paved area or compacted road shoulder, and the site is stabilized and/or revegetated within 72 hours to prevent erosion.

A. WATER SUPPLY ACTIVITIES

1. Repair and replacement of existing waterworks equipment such as pumps, valves, motors, compressors, generators, electrical systems, control systems, alarm systems, fire hydrants, pipes, screens, wells, water meters, service connections, service boxes, water tanks, and treatment facilities provided there is no increase in capacity and the replacement facilities are similar in type and function.

2. Install new service connections for TRPA-approved projects.

3. Prune vegetation around water facilities and within easement areas provided no vegetation is removed.

4. Install new valves and fire hydrants along existing water lines within existing roadways and easements provided there is no increase in capacity.

5. Locate existing underground lines and appurtenances.

6. Install observation wells for groundwater monitoring, soil investigation, or pilot hole investigation.

B. WASTEWATER COLLECTION ACTIVITIES

1. Repair and replace wastewater collection system related equipment such as pumps, valves, motors, compressors, generators, electrical systems, control systems, alarm systems, pipes, service connections, odor control facilities, pumping stations, meters, and wet wells provided there is no increase in capacity and replacement facilities are similar in type and function.

2. Grouting, sealing and pressure testing of sewer lines, service laterals, and appurtenances.

3. Prune vegetation around existing sewer facilities and within easement areas involving no removal of vegetation.

4. Locate underground lines and manholes.

5. Install new service connections for TRPA-approved projects.

C. RECREATION ACTIVITIES

1. Repair and replace existing accessory structures associated with public recreation facilities such as parks and campgrounds such as picnic tables, playground equipment, barbeques, bicycle trail auto barriers and bollards.

2. Clean existing bicycle trails and related drainage facilities.

3. Repair, restore and maintain existing dirt in-fields.

4. Landscape and revegetate with TRPA-approved species including installation, repair and replacement of irrigation systems.

5. Annual replacement of sand in existing playground areas.

6. Pruning of vegetation to maintain adequate site distance, removal of hazardous limbs, and maintaining two foot shoulder clearance on bike trails.

7. Grooming of crosscountry and snowmobile trails provided there is no soil contact and there is a minimum of 6 inches of compacted snow cover.

D. SIGNS

1. Installation of roadside warning signs related to construction/ maintenance activities or needed for safety purposes, provided signs are removed within 10 business days following completion of the activities, or within 10 business days of the removal of the safety hazard.

E. STRUCTURES

1. Demolition of structures provided the structure is not designated, or pending designation on the TRPA Historic Resource Map, as amended from time to time.

2. Structural repair or remodeling less than $5,000 per year which does not result in an increase in the dimensions of a structure (including height), a change of use, an increase in commercial floor area, or an increase in density.

F. EROSION CONTROL AND RESTORATION ACTIVITIES

1. Installation of erosion control devices such as:

   a. Sediment basins not exceeding 150 square feet in size.

   b. Swales

   c. Rock slope protection not visible from any TRPA-designated scenic roadway or shorezone unit, class I bike paths, or recreation area.

   d. Rock-lined ditches.

   e. Willow wattling.

   f. Access barriers, i.e., bollards and split-rail fencing.

2. Restoration of disturbed areas of one acre or less provided scarification does not exceed 6" in depth and excavation and filling does not exceed 20 cubic yards.

G. BOAT LAUNCHING FACILITIES

1. Repair and replace existing pier decking, railings and steps provided no increase in height, width or length.

2. Annual boatramp maintenance consisting of concrete crack repairs and removal of obstructions providing no dredging occurs.

H. MISCELLANEOUS ACTIVITIES

1. Land surveys, corner recovery, remonumentation and land-line posting.

2. Use of portable instruments for research and monitoring of sewer and water systems, and park visitor use.

3. Replace, patch, seal, overlay and stripe existing paved surfaces.

II. QUALIFIED EXEMPT ACTIVITIES

The following activities of NTPUD are not subject to review and approval by TRPA, provided NTPUD certifies, on a form provided by TRPA, that the actvity does not result in the creation of additional land coverage or relocation of land coverage, excavation and backfilling does not exceed 25 cubic yards (unless modified below), occurs during the grading season (May 1 to October 15) in land capability districts 4-7 and/or within an existing paved area or compacted road shoulder, the site is stabilized and/or revegetated within 72 hours to prevent erosion, and the activity is in conformance with the applicable provisions of the TRPA Code. The statement shall be filed with TRPA at least five working days before the activity commences. For those activities involving in excess of 25 cubic yards of excavation (as provided below), NTPUD shall submit the statement to TRPA at least 30 days before the activity commences. The following activities are in addition to those activities deemed "Qualified Exempt" pursuant to Section 4.3 of the TRPA Code.

A. WATER SUPPLY ACTIVITIES

1. Replace existing water lines and service connections for a distance of not more than 2,000 lineal feet, provided all excavation is within an existing road right-of-way or easement, there is no increase in capacity (except when required to meet minimum fire safety standards and/or California Waterworks standards and documentation of the required standards is provided), there is no relocation of main lines outside of existing paved areas, compacted road shoulders, or land capability districts 4-7, the amount of excavation is the minimum necessary, and all stockpiling of spoil material is accomplished in accordance with TRPA BMPs.

2. Repair or replace existing water intake lines, vertical wells, horizontal wells, and infiltration galleries with facilities of similar type and function, and no increase in capacity (except when required to meet minimum fire safety standards and documentation from the applicable fire district is provided).

3. Install new water lines for a distance of not more than 750 lineal feet to intertie existing facilities or extend service to TRPA-approved projects provided all excavation is within an existing road right-of-way or easement, there is no increase in capacity (except when required to meet minimum fire safety standards and/or California Waterworks standards and documentation of the required standards is provided), the amount of excavation is the minimum necessary, and all stockpiling of spoil material is accomplished in accordance with TRPA BMPs.

B. WASTE WATER COLLECTION ACTIVITIES

1. Replace existing sewer lines and service connections for a distance of not more than 750 lineal feet, provided all excavation is within an existing road right-of-way or easement, there is no increase in capacity, there is no relocation of main lines outside of paved areas, compacted road shoulders, or land capability districts 4-7, the amount of excavation is the minimum necessary, and all stockpiling of spoil material is accomplished in accordance with TRPA BMPs.

2. Install new sewer lines for a distance of not more than 750 lineal feet to intertie existing facilities or extend service to TRPA-approved projects provided all excavation is within an existing road right-of-way or easement, there is no increase in capacity, the amount of excavation is the minimum necessary, and all stockpiling of spoil material is accomplished in accordance with TRPA BMPs.

C. RECREATION ACTIVITIES

1. Replacement of existing fences, provided there is no increase in height, and the fence is consistent with the TRPA Design Review Guidelines.

2. Tree removal for public health and safety pursuant to Section 71.4.E(2) of the TRPA Code.

3. Install directional and informational signs in NTPUD-operated recreation areas, provided the signs are consistent with Section 26.6.A(2)(a), (b), and (c) of the TRPA Code, and an inventory of existing signage is completed prior to the installation of any new signs.

4. Install bike path signs in accordance with the Caltrans Highway Design Manual (Bikeway Uniform Signs, Markings and Traffic Control Devices, Section 7-1004), provided the signage is the minimum amount required, and an inventory of existing signage is completed prior to the installation of any new signs.

D. ROADS, TRAILS AND PARKING LOTS

1. Reconstruction, resurfacing or overlaying of existing pavement provided that BMPs are in place, including dust control measures.

2. Replacing existing bridge rails provided there is no increase in height, and there is no deterioration of scenic views.

3. Maintenance or repair of existing bridge structures provided there is no change in width or length of the existing structure.

E. EROSION CONTROL AND RESTORATION ACTIVITIES

1. Installation of retaining walls not exceeding 200 feet in length and 2 feet in height, provided that if located within a TRPA-designated scenic roadway or shoreline unit, the wall design is consistent with the TRPA Design Review Guidelines (Chapter 1, Section C(7) and Section 30.13.C(2) of the TRPA Code, and an inventory of existing retaining walls is completed prior to the installation of any new walls.

2. Restoration of disturbed areas not exceeding 2 acres, provided scarification does not exceed 6" in depth.

III. TREATMENT AND ACCOUNTING OF COVERAGE

It is understood by the NTPUD and TRPA that the activities set forth herein may result in a requirement to mitigate existing excess coverage. Further, many of the activities involve removal of existing land coverage or restoration of disturbed lands.

Chapter 38 of the Code provides for the accounting, tracking, and banking of coverage in conjunction with Chapter 20. The NTPUD shall report to the Executive Director of TRPA annually on the status of compliance with all excess coverage mitigation, coverage removal and restoration requirements as related to all activities undertaken pursuant to this MOU.

IV. LOSS OF EXEMPTION

Any exempt activity set forth herein shall be considered a project requiring TRPA review if the Executive Director determines that the activity may have a substantial effect on the land, air, water, space, or any other natural resource in the Region.

V. TERMINATION

This MOU may be terminated by either party upon sixty (60) days notice in writing.

NORTH TAHOE PUBLIC UTILITY DISTRICT

DATED: 29 OCT 91

John C. Hassenplug
General Manager/Treasurer

TAHOE REGIONAL PLANNING AGENCY

DATED: Oct. 25, 1991

David S. Ziegler
Executive Director

LAHONTAN (RWQCB)
SMALL CONSTRUCTION
PERMIT NO. 91-31

TABLE OF GENERAL PERMITS FOR USE WITHIN THE LAHONTAN REGION

Permit No.	Title	Annual Fees (see Note 1)	URL	Project Type/Area of Disturbance
GENERAL PERMITS ADOPTED BY THE LAHONTAN WATER BOARD				
R6T-2003-004	**Non-404 Dredging and Small Construction Waste Discharge Requirements**	$800 + 9%=$872	http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2003/R6T-2003-0004_Small_Const_WDR.pdf	This order regulates construction activity disturbances between 10,000 sq. ft. and 1 acre. It also regulates dredging and minor stream alterations within surface waters when 401 Water Quality Certification (for non-federal waters) is not applicable. This permit does not apply to projects within the Lake Tahoe Hydrologic Unit (please see 91-31). Projects are typically non-recurring, and short-term (completed within 2 construction seasons). TTWQ/CPX (Note 8) rating of 3C. Requires NOI; NOA may be issued.
R6T-2003-0034 NPDES No. CAG996001	**NPDES limited threat discharge to surface water**	Cat.3: $1,000+18.5%=$1,185 Cat. 2: $2,900+18.5%=$3,436.50 Cat.1: $4,800+18.5%=$5,688	http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2003/R6T-2003-0034_Revised_LTD_NPDES_Permit.pdf	Project discharges must meet the following criteria: pollutant concentrations do not cause, have a reasonable potential to cause, or contribute to any excursion above any applicable federal water quality criterion set forth by the Clean Water Act Section 303,or Regional Board water quality objectives; pollutant concentrations will not degrade water quality or affect beneficial uses; will not cause acute or chronic toxicity of receiving waters; and discharge to land is not practical. Requires NOI and BMP plan; NOA issued. Permit Attachments A-F are available for download at: http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2003/BO_Num_2003.htm #LTD_0034
91-31	**Construction of Small Commercial, Multi-Family Residential, Utility and Public Works Projects, Lake Tahoe Basin (erosion control)**	$800 + 9%= $872	http://www.waterboards.ca.gov/rwqcb6/files/91-31.pdf	This Order regulates activities such as the construction or modification of small commercial, multi-family residential, or utility projects which does not include any outdoor waste-generating activities in the LTHU. Total disturbance must be less than one acre. Requires Form 200; NOA issued.
04-015	**General Waste Discharge Requirements for Land Disposal of Treated Ground Water (i.e. discharges from site cleanups)**	$5,720+9%=$6234.80	http://www.waterboards.ca.gov/rwqcb6/files/r6t_2004_0015.pdf	Primary pollutants covered are petroleum product and chlorinated hydrocarbon constituents. See permit for areas where discharge is prohibited. Most projects have a fee according to a TTWQ/CPX rating of 2B. Requires NOI letter; Form 200 (See Note 5); Information to Support Discharges (See Note 6); NOA issued. (Currently being updated.)
04-025 CAG916001	**NPDES Permit for Surface Water Disposal of Treated Ground Water**	Cat.3: $1,000+18.5%=$1,185 Cat. 2: $2,900+18.5%=$3,436.50 Cat.1: $4,800+18.5%=$5,688	http://www.waterboards.ca.gov/rwqcb6/files/r6t_2004_0025.pdf	The Primary pollutants covered are petroleum product and chlorinated hydrocarbon constituents. See permit for areas where discharge is prohibited. Requires NOI letter; Form 200 (See Note 5); Information to Support Discharges (See Note 6); California Toxics Rule Monitoring; NOA issued. (Currently being updated.)

TABLE OF GENERAL PERMITS FOR USE WITHIN THE LAHONTAN REGION

Permit No.	Title	Annual Fees (see Note 1)	URL	Project Type/Area of Disturbance
GENERAL PERMITS ADOPTED BY THE LAHONTAN WATER BOARD				
05-007 CAG616002	**NPDES Permit for Discharges of Storm Water Runoff Associated with Construction Activity Involving Land Disturbance in the Lake Tahoe Hydrologic Unit - El Dorado, Placer, and Alpine Counties**	$200 + $20/acre + 18.5%	http://www.waterboards.ca.gov/rwqcb6/files/const_npdes_order_r6t_2005-0007_final.pdf	This permit regulates construction activities resulting in the disturbance of one or more acres of soil in the Lake Tahoe Hydrologic Unit. Construction activity includes clearing, grading, demolition, excavation, construction of new structures, and reconstruction. Requires NOI, and submittal of a Storm Water Pollution Prevention Plan (SWPPP); NOA issued.
05-15 CAG616003	**NPDES Permit for Discharges of Storm Water Runoff Associated with Industrial Activities and Maintenance Dredging at Marinas in the Lake Tahoe Basin Hydrologic Unit - El Dorado and Placer Counties**	$700 + 18.5%= $830	http://www.waterboards.ca.gov/lahontan/update20036.html	This General Permit regulates pollutants in storm water discharges associated with industrial activities conducted at marinas (fueling, boat and vehicle maintenance, boat and vehicle washing, maintenance dredging, etc.) to surface waters within the Lake Tahoe Hydrologic Unit. Requires NOI; NOA issued.
05-26 CAG616001	**NPDES Permit for the City of South Lake Tahoe, El Dorado County, and Placer County Storm Water/Urban Runoff Discharge**	based on population; see fee schedule, section b1.	http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2005/r6t2005-0026_swpermit.pdf	Permittees are The City of South Lake Tahoe, El Dorado County and Placer County.
STATEWIDE PERMITS ADOPTED BY THE STATE WATER BOARD				
99-08-DWQ	**NPDES Construction Activities Storm Water General Permit**	$200 + $20/acre + 18.5%	http://www.waterboards.ca.gov/stormwtr/docs/finalconstpermit.pdf	This permit regulates construction activities resulting in the disturbance of one or more acres of soil. Construction acitivity includes clearing, grading, demolition, excavation, construction of new structures, reconstruction. It does not include routine maintenance of utilities, etc. This permit does not cover construction activity in the LTHU, please see 00-03. Requires NOI and preparation of a Storm Water Pollution Prevention Plan (SWPPP). SWRCB issues NOA
97-03-DWQ	**NPDES Industrial Storm Water General Permit Order**	$700 + 18.5%=$830	http://www.waterboards.ca.gov/stormwtr/docs/induspmt.pdf	This permit covers manufacturing facilities, oil and gas mining activities, hazardous waste treatment, landfills, land application sites, and open dumps, recycling facilties, steam electric power generating facilities, transportation facilities, sewage or wastewater treatment works, and manufacturing facilities where industrial equipment, materials, or activities are exposed to storm water.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

BOARD ORDER NO. 6-91-31
WDID NO. 6A0999999999

GENERAL WASTE DISCHARGE REQUIREMENTS

FOR

CONSTRUCTION OF SMALL COMMERCIAL, MULTI-FAMILY RESIDENTIAL UTILITY AND PUBLIC WORKS PROJECTS LAKE TAHOE BASIN

The California Regional Water Quality Control Board, Lahontan Region, finds:

1. The discharge of stormwater runoff and products of erosion from small commercial, multi-family residential, utility and public works projects within the Lake Tahoe Basin during and after construction is considered to be a discharge of waste that could affect the quality of waters of the State, as defined in Section 13260 of the California Water Code.

2. The Regional Board may prescribe requirements for any proposed discharge, in accordance with Section 13263 of the California Water Code.

3. Implementation of temporary best management practices (BMP's) is an effective and economical means of preventing or minimizing the discharge of the products of erosion, sediment-laden stormwater and accidental waste discharge spillage from the site during construction of commercial, multi-family residential, utility and public works projects.

4. Implementation of permanent best management practices (BMP's) after construction is an effective means of treating storm water runoff from impervious surfaces and of preventing erosion during operation of the facility on the site.

5. For purposes of this Order, individual property owners and/or operators to whom a Notification of Applicability has been issued by the Executive Officer are referred to as the "Discharger", and the individual projects described in the Notification of Applicability of General Waste Discharge Requirements as the "project". For the purposes of this Order, a "small commercial project" is one which in conjunction with existing parking, provides parking for approximately 50 vehicles. For the purposes of this Order, a "multi-family residential project" is any individual residential project involving five or more residential units. For the purposes of this Order, a "utility project" is any project proposed by a public or private utility. For the purposes of this Order, a "public works project" is any project proposed by a public entity. Public works projects include both erosion control projects covered under a general stormwater permit, and small construction projects which, in conjunction with existing parking, provide parking for approximately 50 vehicles.

6. A separate report of waste discharge must be submitted for each project subject to these general waste discharge requirements. The report of waste discharge must include a plan which proposes implementation of specific BMP's to prevent or minimize the discharge of waste from the project site, a proposed time schedule for completion of the project, and a proposal for any perpetual maintenance.

7. These general waste discharge requirements are for small projects which will normally be completed within two construction seasons.

8. Potential pollutant discharge from the projects consists of products of erosion, construction waste materials, and small amounts of petroleum products from construction equipment.

9. Projects covered under these requirements are located on land classified as land capability Classes 2 through 7. Projects may also be located on land classified as land capability Class 1 if appropriate exemptions from the Basin Plan discharge prohibitions are granted.

10. The Regional Board adopted a Water Quality Control Plan for the North Lahontan Basin on June 26, 1975.

11. The State Water Resources Control Board adopted a Water Quality Plan for the Lake Tahoe Basin on October 29, 1980, which was amended on January 20, 1983 and June 22, 1989. This Order implements the Plan as amended. The Plan contains water quality objectives for Lake Tahoe and its tributaries. To the extent of any inconsistencies the Lake Tahoe Basin Water Quality plan supersedes the Water Quality Control Plan for the North Lahontan Basin.

12. The projects covered under these requirements must comply with the land coverage requirements in the Lake Tahoe Basin Water Quality Plan, as amended on January 20, 1983 and June 22, 1989. Compliance can be achieved by coverage transfers, relocation or other mitigation procedures specified in the Tahoe Regional Planning Agency Regional Plan and the revised 208 Plan.

13. Runoff from the project sites will potentially enter either ground or surface waters of the Lake Tahoe Hydrologic Unit as defined in the Lake Tahoe Basin Water Quality Plan.

14. The beneficial uses of Lake Tahoe and its tributaries as set forth and defined in the Water Quality Control Plan for the North Lahontan Basin are:

    a. municipal and domestic supply;
    b. agricultural supply;
    c. water-contact recreation;
    d. non-water-contact recreation;
    e. cold freshwater habitat;
    f. wildlife habitat; and
    g. groundwater recharge.

15. The beneficial uses of ground water in the Lake Tahoe Hydrologic Unit as set forth and defined in the Water Quality Control Plan for the North Lahontan Basin are:

    a. municipal and domestic supply;
    b. agricultural supply; and
    c. freshwater replenishment.

16. A Negative Declaration for the adoption of these General Waste Discharge Requirements was certified by the Regional Board on May 9, 1991 in accordance with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.)

17. The California State Water Resources Control Board adopted the California Inland Surface Waters Plan on April 11, 1991. This Order incorporates specific effluent limitations and water quality objectives that are required by that plan.

18. The California Inland Surface Waters Plan states that within 5 years of the adoption of the plan the Regional Board shall determine what actions are appropriate to ensure that stormwater discharges are in compliance with the numerical objectives in that plan. The Discharger shall be given a maximum of ten years from the date of adoption of the plan to come into compliance with the numerical objectives.

19. The projects regulated by these general requirements are nonrecurring and short term construction projects. Upon project completion the applicability of these requirements to the specific project will be revoked.

20. The Board has notified the interested agencies and persons of its intent to adopt general waste discharge requirements for small commercial, utility public works and multi-family residential projects and has provided them with an opportunity to submit their written views and recommendations.

21. The Board in a public meeting heard and considered all comments pertaining to the requirements.

IT IS HEREBY ORDERED THAT:

A. ~~Applicability~~

This Order shall serve as General Waste Discharge Requirements for the temporary discharge of products of erosion and construction waste materials during and after the construction of specified small commercial, multi-family residential, utility, or public works projects. Upon receipt of a Report of Waste Discharge describing a proposed discharge, the Executive Officer shall determine if such a discharge satisfies condition 1 or 2, and conditions 3 through 7 below:

1. The discharge will be generated from the construction or modification of a small commercial, multi-family residential, or utility project which does not include any other outdoor waste-generating activities.

2. The discharge will be generated from the construction of a public works project which, including existing parking, provides parking for approximately 50 vehicles.

3. The project does not include construction on Category 1 low capability lands (unless an exemption is granted) or on backshore areas as defined in the Water Quality Control Plan for the Lake Tahoe Basin.

4. The amount of proposed coverage is equal to or less than that allowed by the Water Quality Control Plan for the Lake Tahoe Basin.

5. The project incorporates appropriate BMP's, as feasible, to infiltrate and/or treat stormwater runoff from existing and proposed impervious surfaces on the site.

6. The project plans include specific dates for: (a) completion of construction; (b) completion of construction of stormwater infiltration and/or treatment facilities; and, (c) completion of any necessary restabilization and revegetation.

7. The project plans include an erosion control and stormwater runoff management plan which proposes specific temporary and permanent measures to prevent the discharge of pollutants from the site.

When the Executive Officer finds the above conditions are met, the Discharger shall be notified in writing by issuance of a Notice of Applicability of General Waste Discharge Requirements.

Notwithstanding the provisions of the above paragraph, appropriate projects may be brought to the Board for consideration of adoption of project-specific waste discharge requirements when the Executive Officer deems it desirable or necessary to do so.

B. Stormwater Treatment Best Management Practices

The operation of any stormwater infiltration and/or treatment facility shall be in compliance with the effluent standards and receiving water objectives of the Water Quality Control Plan for the North Lahontan Basin and the Water Quality Control Plan for the Lake Tahoe Basin, and the California Inland Surface Water Plan as applicable, and as listed in part, in Attachments "A", "B", "C", and "D" of this Order. The review and determination of the appropriateness of proposed BMP's shall include consideration of the potential for attaining the applicable effluent standards and receiving water objectives. Unless it can be demonstrated by the Discharger that the alternate BMP's can attain the applicable effluent standards and receiving water objectives, BMP's shall meet the following standards:

1. All surface flow from the project site shall be controlled so as to not cause downstream erosion.

2. Stormwater runoff collection, treatment, and/or infiltration disposal facilities should be designed, installed, and maintained for a discharge of stormwater runoff from a 20-year, 1-hour design storm (approximately 1" of rainfall) from all impervious surfaces.

3. Stormwater runoff in excess of the design storm shall only be discharged to a storm drain or stabilized drainage.

The Regional Board reserves the right to require additional or different BMP's if it determines that the additional or different BMP's would provide a better assurance that effluent standards and receiving water objectives will be achieved.

C. Discharge Specifications and Prohibitions

1. The discharge of treated or untreated domestic wastewater, industrial water, garbage or other solid wastes, or any deleterious material to surface waters of the Lake Tahoe Hydrologic Unit is prohibited.

2. The discharge or threatened discharge, attributable to human activities, of solid or liquid waste materials including soil, silt, clay, sand, and other organic and earthen materials to surface waters to lands within the highwater rim (Elevation 6229.1 ft. Lake Tahoe Datum) of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe is prohibited.

3. The discharge of oil, gasoline, diesel fuel, or any other petroleum derivative or any toxic chemical or hazardous waste is prohibited.

4. The discharge of waste shall not cause a pollution or nuisance as defined in Section 13050 of the California Water Code, or a threatened pollution.

D. Construction Best Management Practices

The following conditions apply to project sites undergoing construction. These practices have been developed to prevent or minimize the temporary discharge of pollutants or nutrients associated with construction activities.

1. Prior to the initiation of any construction-related activities, the Discharger shall install temporary erosion control measures to prevent transport of earthen materials and other wastes off the property.

2. There shall be no removal of vegetation nor disturbance of ground surface conditions between October 15 of any year and May 1 of the following year. A written variance to the ground disturbance dates stated above may be granted by the Executive Officer where it can be shown that granting such a variance would not contribute to the degradation of water quality.

3. Ground compaction and disturbance activities shall be prevented in unpaved areas not subject to construction. Areas not subject to construction shall be fenced or otherwise marked to limit access. These boundary facilities shall be inspected periodically and shall be repaired when necessary.

4. Dust shall be controlled to prevent the transport of such material off the project site or into any surface water drainage course.

5. All disturbed areas shall be adequately restabilized or revegetated. Revegetated areas shall be continually maintained until vegetation becomes established.

6. Prior to October 15 of each year, the Discharger shall provide permanent or temporary (if project is incomplete) stabilization of all disturbed or eroding areas through commencement of revegetation and/or completion of mechanical stabilization measures. Commencement of revegetation shall consist of seeding, planting, mulching, initial fertilization as needed, and initial watering as needed.

7. All surface flow from the project site shall be controlled so as to not cause downstream erosion.

8. All disturbed soils and surplus waste earthen materials shall be removed from the project site and deposited only at a legal, authorized point of disposal or restabilized on-site in accordance with erosion control plans previously approved by the Executive Officer.

9. At no time shall waste earthen materials be placed in surface water drainage courses, or in such a manner as to allow the discharge of such materials to adjacent undisturbed land or to any surface water drainage course.

10. Fresh concrete or grout shall not be allowed to contact or enter surface waters.

11. The Discharger shall immediately clean up and transport to a legal treatment or disposal site, any spilled petroleum products or other hazardous material to the maximum extent practicable.

12. All slopes steeper than two horizonal to one vertical shall be stabilized.

E. Provisions

1. The Discharger shall at all times fully comply with the engineering plans, specifications, and technical reports submitted with the completed report of waste discharge.

2. The Discharger shall permit the Regional Board staff:

   a. to enter upon premises in which an effluent source is located or in which any required records are kept;

   b. to copy any records required to be kept under terms and conditions of this Order;

   c. to inspect monitoring equipment or records; and

   d. to sample any discharge.

3. Pursuant to California Water Code Section 13267, the Discharger shall immediately notify the Board by telephone whenever an adverse condition occurs as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, a violation or threatened violation of waste discharge requirements, significant spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.

4. The owners of property subject to waste discharge requirements shall be considered to have a continuing responsibility for ensuring compliance with applicable waste discharge requirements in the operations or use of the owned property. Any change in the ownership and/or operation of property subject to waste discharge requirements shall be reported to the Board. Notification of applicable waste discharge requirements shall be furnished to the new owners and/or operators and a copy of such notification shall be sent to the Board.

5. In accordance with Section 13260 of the California Water Code, the Discharger shall file a report with this Regional Board of any material change or proposed change in the character, location, or volume of the discharge. Any proposed material change in the operation shall be reported to the Executive Officer at least 30 days in advance of implementation of any such proposal. this shall include, but not be limited to, all significant new soil disturbances, all proposed expansion of development extent, increase in impervious surface coverage, or any change in drainage characteristics at the project site. Any proposed change in the time schedule submitted with the report of waste discharge will require the submittal of a revised report.

6. In accordance with Section 13263 of the Water Code, these waste discharge requirements are subject to periodic review and revision by this Regional Board.

7. These requirements do not exempt the Discharger from compliance with any other laws, regulations, or ordinances which may be applicable, they do not legalize these land treatment and disposal facilities and they leave unaffected any further restraints on those facilities which may be contained in other statutes or required by other regulatory agencies.

8. Pursuant to California Water Code Section 13267, the Discharger shall comply with the attached Monitoring and Reporting Program. (Attachment "E")

F. Revocation Procedures

After completion of the construction of the project, installation of permanent BMP's, submittal of the information required by the attached Monitoring and Reporting Program, and an inspection of the project site by Regional Board staff, if necessary, the Notification of Applicability of General Waste Discharge Requirements to the specific project will be revoked in writing by the Executive Officer.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on May 9, 1991.

_____

HAROLD J. SINGER
EXECUTIVE OFFICER

Attachment A: Uniform Runoff Guidelines, Lake Tahoe Basin (Call (530)542-5400 for copy)

Attachment B: Water Quality Objectives, Lake Tahoe Basin Surface Waters (Call (530)542-5400 for copy)

Attachment C: Water Quality Objectives for Protection of Human Health (Call (530)542-5400 for copy)

Attachment D: Effluent Limitations for Protection of Human Health (Call (530)542-5400 for copy)

Attachment E: Monitoring and Reporting Program

ATTACHMENT "E"

MONITORING AND REPORTING PROGRAM NO. 91-31

GENERAL WASTE DISCHARGE REQUIREMENTS
FOR CONSTRUCTION OF COMMERCIAL AND PUBLIC WORKS PROJECTS

A. An inspection of the construction site shall be made daily at the end of each work day and monthly during long periods of inactivity (e.g. winter), by the Discharger, resident engineer, superintendent, general contractor, or equivalent. The purpose of the inspection is to discover potential water quality problems at the construction site so that the Discharger can implement corrective measures. The inspection shall include, at least, the following items, as applicable:

1. Damaged containment dikes or erosion fencing
2. Unauthorized access by vehicles
3. Boundary fence damage or removal
4. Disturbed areas with no erosion control protection
5. Evidence of any sediment leakage through erosion control fencing or containment dikes
6. Soil piles unprotected or located in drainage ways
7. Spilled chemicals, paints, fuels, oils, sealants, etc.
8. Upstream runoff diversion structures in place and operational
9. Any signs of downstream erosion from runoff discharges
10. Sediment accumulation within onsite stormwater drainage facilities

The inspector shall maintain a daily log noting the date of the inspection, the inspector's name, problem areas discovered, and corrective measures taken. The log shall be made available to Regional Board staff for review, if so requested.

B. Following completion of project construction, the Discharger shall submit a final report containing, at a minimum, the following information:

1. Details on any modification from the construction plans to the proposed stormwater collection, treatment, or disposal facilities.

2. Details on any changes to the amount of impervious coverage for this project.

3. Any significant problems which occurred during project construction and remedial measures taken.

4. Statement that onsite stabilization/revegetation measures have been completed.

5. Certification that project was constructed in strict accordance with the plans and specifications. This certification shall be signed by a Civil Engineer registered in the State of California.

The final report shall contain the name of the project and shall be signed and dated by the property owner or his legal representative. The report shall be submitted to the Regional Board office in South Lake Tahoe.

Ordered by _____ Date:_____

HAROLD J. SINGER
EXECUTIVE OFFICER

LAHONTAN (RWQCB)

LARGE CONSTRUCTION

PERMIT NO. 005-007-CAG616002

TABLE OF GENERAL PERMITS FOR USE WITHIN THE LAHONTAN REGION

Permit No.	Title	Annual Fees (see Note 1)	URL	Project Type/Area of Disturbance
GENERAL PERMITS ADOPTED BY THE LAHONTAN WATER BOARD				
R6T-2003-004	**Non-404 Dredging and Small Construction Waste Discharge Requirements**	$800 + 9%=$872	http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2003/R6T-2003-0004_Small_Const_WDR.pdf	This order regulates construction activity disturbances between 10,000 sq. ft. and 1 acre. It also regulates dredging and minor stream alterations within surface waters when 401 Water Quality Certification (for non-federal waters) is not applicable. This permit does not apply to projects within the Lake Tahoe Hydrologic Unit (please see 91-31). Projects are typically non-recurring, and short-term (completed within 2 construction seasons). TTWQ/CPX (Note 8) rating of 3C. Requires NOI; NOA may be issued.
R6T-2003-0034 NPDES No. CAG996001	**NPDES limited threat discharge to surface water**	Cat.3: $1,000+18.5%=$1,185 Cat. 2: $2,900+18.5%=$3,436.50 Cat.1: $4,800+18.5%=$5,688	http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2003/R6T-2003-0034_Revised_LTD_NPDES_Permit.pdf	Project discharges must meet the following criteria: pollutant concentrations do not cause, have a reasonable potential to cause, or contribute to any excursion above any applicable federal water quality criterion set forth by the Clean Water Act Section 303,or Regional Board water quality objectives; pollutant concentrations will not degrade water quality or affect beneficial uses; will not cause acute or chronic toxicity of receiving waters; and discharge to land is not practical. Requires NOI and BMP plan; NOA issued. Permit Attachments A-F are available for download at: http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2003/BO_Num_2003.htm #LTD_0034
91-31	**Construction of Small Commercial, Multi-Family Residential, Utility and Public Works Projects, Lake Tahoe Basin (erosion control)**	$800 + 9%= $872	http://www.waterboards.ca.gov/rwqcb6/files/91-31.pdf	This Order regulates activities such as the construction or modification of small commercial, multi-family residential, or utility projects which does not include any outdoor waste-generating activities in the LTHU. Total disturbance must be less than one acre. Requires Form 200; NOA issued.
04-015	**General Waste Discharge Requirements for Land Disposal of Treated Ground Water (i.e. discharges from site cleanups)**	$5,720+9%=$6234.80	http://www.waterboards.ca.gov/rwqcb6/files/r6t_2004_0015.pdf	Primary pollutants covered are petroleum product and chlorinated hydrocarbon constituents. See permit for areas where discharge is prohibited. Most projects have a fee according to a TTWQ/CPX rating of 2B. Requires NOI letter; Form 200 (See Note 5); Information to Support Discharges (See Note 6); NOA issued. (Currently being updated.)
04-025 CAG916001	**NPDES Permit for Surface Water Disposal of Treated Ground Water**	Cat.3: $1,000+18.5%=$1,185 Cat. 2: $2,900+18.5%=$3,436.50 Cat.1: $4,800+18.5%=$5,688	http://www.waterboards.ca.gov/rwqcb6/files/r6t_2004_0025.pdf	The Primary pollutants covered are petroleum product and chlorinated hydrocarbon constituents. See permit for areas where discharge is prohibited. Requires NOI letter; Form 200 (See Note 5); Information to Support Discharges (See Note 6); California Toxics Rule Monitoring; NOA issued. (Currently being updated.)

TABLE OF GENERAL PERMITS FOR USE WITHIN THE LAHONTAN REGION

Permit No.	Title	Annual Fees (see Note 1)	URL	Project Type/Area of Disturbance
GENERAL PERMITS ADOPTED BY THE LAHONTAN WATER BOARD				
05-007 CAG616002	**NPDES Permit for Discharges of Storm Water Runoff Associated with Construction Activity Involving Land Disturbance in the Lake Tahoe Hydrologic Unit - El Dorado, Placer, and Alpine Counties**	$200 + $20/acre + 18.5%	http://www.waterboards.ca.gov/rwqcb6/files/const_npdes_order_r6t_2005-0007_final.pdf	This permit regulates construction activities resulting in the disturbance of one or more acres of soil in the Lake Tahoe Hydrologic Unit. Construction activity includes clearing, grading, demolition, excavation, construction of new structures, and reconstruction. Requires NOI, and submittal of a Storm Water Pollution Prevention Plan (SWPPP); NOA issued.
05-15 CAG616003	**NPDES Permit for Discharges of Storm Water Runoff Associated with Industrial Activities and Maintenance Dredging at Marinas in the Lake Tahoe Basin Hydrologic Unit - El Dorado and Placer Counties**	$700 + 18.5%= $830	http://www.waterboards.ca.gov/lahontan/update20036.html	This General Permit regulates pollutants in storm water discharges associated with industrial activities conducted at marinas (fueling, boat and vehicle maintenance, boat and vehicle washing, maintenance dredging, etc.) to surface waters within the Lake Tahoe Hydrologic Unit. Requires NOI; NOA issued.
05-26 CAG616001	**NPDES Permit for the City of South Lake Tahoe, El Dorado County, and Placer County Storm Water/Urban Runoff Discharge**	based on population; see fee schedule, section b1.	http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2005/r6t2005-0026_swpermit.pdf	Permittees are The City of South Lake Tahoe, El Dorado County and Placer County.
STATEWIDE PERMITS ADOPTED BY THE STATE WATER BOARD				
99-08-DWQ	**NPDES Construction Activities Storm Water General Permit**	$200 + $20/acre + 18.5%	http://www.waterboards.ca.gov/stormwtr/docs/finalconstpermit.pdf	This permit regulates construction activities resulting in the disturbance of one or more acres of soil. Construction acitivity includes clearing, grading, demolition, excavation, construction of new structures, reconstruction. It does not include routine maintenance of utilities, etc. This permit does not cover construction activity in the LTHU, please see 00-03. Requires NOI and preparation of a Storm Water Pollution Prevention Plan (SWPPP). SWRCB issues NOA
97-03-DWQ	**NPDES Industrial Storm Water General Permit Order**	$700 + 18.5%=$830	http://www.waterboards.ca.gov/stormwtr/docs/induspmt.pdf	This permit covers manufacturing facilities, oil and gas mining activities, hazardous waste treatment, landfills, land application sites, and open dumps, recycling facilties, steam electric power generating facilities, transportation facilities, sewage or wastewater treatment works, and manufacturing facilities where industrial equipment, materials, or activities are exposed to storm water.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD-
LAHONTAN REGION

BOARD ORDER NO. R6T-2005-0007

UPDATED WASTE DISCHARGE REQUIREMENTS AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT NO. CAG616002

FOR

DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY INVOLVING LAND DISTURBANCE IN THE LAKE TAHOE HYDROLOGIC UNIT

EL DORADO, PLACER, AND ALPINE COUNTIES

The California Regional Water Quality Control Board, Lahontan Region (Regional Board) finds that:

1. Federal regulations for controlling pollutants in storm water runoff discharges were promulgated by the U.S. Environmental Protection Agency (USEPA) on November 16, 1990 (40 Code of Federal Regulations (CFR) Parts 122, 123, and 124). The regulations require discharges of storm water to surface waters associated with construction activity including clearing, grading, and excavation activities (except operations that result in disturbance of less than five acres of total land area and which are not part of a larger common plan of development or sale) to obtain an NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate storm water pollution.

   On December 8, 1999 federal regulations promulgated by USEPA (40CFR Parts 9, 122, 123, and 124) expanded the NPDES storm water program to include storm water discharges from municipal separate storm sewer systems (MS4s) and construction sites that were smaller than those previously included in the program. Federal regulation 40 CFR § 122.26(b)(15) defines small construction activity as including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre or less than five acres or is part of a larger common plan of development or sale.

2. This General Permit regulates pollutants in storm water discharges associated with construction activity (storm water discharges) to surface waters within the Lake Tahoe Hydrologic Unit (Department of Water Resources Hydrologic Unit (HU) No. 634.00); and storm water discharges which are determined eligible for coverage under this General Permit by the Regional Board. Attachment "A" contains definitions and the address and telephone number of the Regional Board and the State Water Resources Control Board (SWRCB).

3. This General Permit does not preempt or supersede the authority of local or regional storm water management agencies to regulate, prohibit, restrict, or control storm water discharges to separate storm sewer systems or other watercourses within their jurisdiction, as allowed by State and Federal law.

4. To obtain authorization for proposed storm water discharges to surface waters, pursuant to this General Permit, the landowner (discharger) must submit a Notice of Intent (NOI) (Attachment I) and the proper fee to the Regional Board before starting construction activities. In addition, coverage under this General Permit shall not occur until the applicant develops, submits, and implements a Storm Water Pollution Prevention Plan (SWPPP) for the project. Each SWPPP must be developed in accordance with the requirements of Section IV and Attachment "D" of this General Permit. If the project is a restoration project, a restoration monitoring and reporting plan must also be submitted to the Regional Board. For proposed construction activity on easements or on nearby property by agreement or permission, the entity responsible for the construction activity must submit the NOI and filing fee and shall be responsible for development of the SWPPP. Notification of coverage by the Regional Board is required.

5. If an individual NPDES Permit is issued to a discharger otherwise subject to this General Permit or if an alternative General Permit is subsequently adopted which covers storm water discharges regulated by this General Permit, the applicability of this General Permit to such discharges is automatically terminated on the effective date of the individual NPDES Permit or the date of approval for coverage under the subsequent General Permit.

6. This action to adopt a NPDES General Permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Section 13389 of the California Water Code.

7. The Regional Board has adopted and the SWRCB has approved the *Water Quality Control Plan for the Lahontan Region* (Basin Plan). Dischargers regulated by this General Permit must comply with the water quality standards in the Basin Plan and subsequent amendments thereto.

8. Any project covered under this General Permit must comply with land coverage requirements specified in the Basin Plan. Compliance can be achieved by coverage transfers, relocating coverage or other mitigation procedures specified in the Basin Plan and in the Tahoe Regional Planning Agency's *Water Quality Management Plan for the Lake Tahoe Region*.

9. The beneficial uses of the surface waters of Lake Tahoe and its tributaries, as set forth and defined in the Basin Plan for the Lahontan Region, include the following:

   a. municipal and domestic supply,
   b. agricultural supply,
   c. water contact recreation,
   d. non-contact water recreation,
   e. ground water recharge,
   f. freshwater replenishment,
   g. navigation,
   h. commercial and sportfishing,

i. cold freshwater habitat,
j. wildlife habitat,
k. preservation of biological habitats of special significance,
l. rare, threatened, or endangered species,
m. migration of aquatic organisms,
n. spawning, reproduction, and development,
o. water quality enhancement, and
p. flood peak attenuation/flood water storage.

10. The beneficial uses of the groundwaters of the Lake Tahoe HU, and Department of Water Resources Groundwater Basin No. 6-5.02, as set forth and defined in the Basin Plan, include the following:

a. municipal and domestic supply, and
b. agricultural supply.

11. Numeric effluent limitations for pollutants in storm water discharges from construction activities are contained in the Basin Plan. The provisions of this General Permit require implementation of Best Available Technologies/Best Control Technologies (BAT/BCT) and Best Management Practices (BMPs) to control and abate the discharge of pollutants in storm water discharges, and achieve the numerical and narrative standards of this General Permit and those contained in the Basin Plan.

12. Discharges of non-storm water may be necessary for the completion of certain construction projects. Such discharges include, but are not limited to, irrigation of vegetative erosion control measures, pipe flushing and testing, and construction dewatering to land. Such discharges are authorized by this General Permit as long as they (a) comply with the prohibitions in Section I of this General Permit, (b) do not cause or contribute to a violation of any water quality standard, (c) do not violate any other provision of this General Permit, (d) do not require a non-storm water General Permit as issued by the Regional Board, and (e) do not require a prohibition exemption from the Regional Board for prohibitions contained in the Basin Plan.

13. Following public notice in accordance with State and Federal laws and regulations, the Regional Board in a public meeting heard and considered all comments pertaining to this General Permit. Regional Board staff considered all comments received and have incorporated the comments in the General Permit as appropriate.

14. This Order is an NPDES General Permit in compliance with Section 402 of the Clean Water Act (CWA) and shall take effect upon adoption by the Regional Board provided the Regional Administrator of the U.S. EPA has no objection. If the U.S. EPA Regional Administrator objects to its issuance, the General Permit shall not become effective until such objection is withdrawn.

15. This General Permit does not authorize discharges of fill or dredged material regulated by the U.S. Army Corps of Engineers under CWA Section 404 and does not constitute a waiver of water quality certification under CWA Section 401.

16. The Monitoring and Reporting Program Requirements are modified in compliance with a judgement in the case of San Francisco BayKeeper, et al. v. State Water Resources Control Board. The modifications include sampling and analysis requirements for direct discharges of sediment to water impaired due to sediment and for runoff pollutants that are not visually detectable that may cause or contribute to an exceedance of water quality objectives.

IT IS HEREBY ORDERED that all dischargers receiving written authorization from the Regional Board's Executive Officer to be regulated under the provisions of this General Permit shall comply with the following:

I. DISCHARGE PROHIBITIONS

A. Unless otherwise authorized by a separate NPDES permit, discharges of material other than storm water to a separate storm sewer system or waters of the nation are prohibited, except as allowed in Special Provisions for Construction Activity, Section V.

B. Discharges of non-storm water are allowed only when necessary for performance and completion of construction projects and where they do not cause or contribute to a violation of any water quality standards. Such discharges must be described in the SWPPP. Wherever feasible, alternatives, which do not result in discharge of non-storm water, shall be implemented, in accordance with Section 8 of Attachment "D".

C. Storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

D. The removal of vegetation or disturbance of ground surface conditions between October 15 of any year and May 1 of the following year is prohibited. Where it can be shown that granting a variance would not cause or contribute to the degradation of water quality, an exception to the dates stated above may be granted in writing by the Executive Officer.

E. Discharge of fresh concrete, fresh grout, or concrete rinse waste to surface waters is prohibited.

F. The discharge of oil, gasoline, diesel fuel, any petroleum derivative, any toxic chemical, or hazardous waste is prohibited.

G. The discharge of waste, including wastes contained in storm water, shall not cause a pollution, threatened pollution, or nuisance as defined in Section 13050 of the California Water Code.

H. At no time shall surplus or waste earthen materials be placed in surface water drainage courses, within the 100-year flood plain of any surface water, below the high water line

of Lake Tahoe, or in such a manner as to allow the discharge of such materials to adjacent undisturbed land or to any surface water drainage course.

I. The discharge or threatened discharge, attributable to new development in Stream Environment Zones, of solid or liquid waste, including soil, silt, sand, clay, rock, metal, plastic, or other organic, mineral or earthen materials to Stream Environment Zones in the Lake Tahoe Basin is prohibited.

J. The discharge or threatened discharge, attributable to human activities, of solid or liquid waste materials, including soil, silt, clay, sand and other organic and earthen materials, to lands below the highwater rim of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe, is prohibited.

II. DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. All surface flows generated within the facility which are discharged to land treatment systems, surface waters or municipal storm water collection systems shall not contain constituents in excess of the following concentrations:

Constituent	Units	Maximum Concentration for Discharge to: Land Treatment Systems	Maximum Concentration for Discharge to: Collection Systems and Surface Waters
Total Nitrogen	mg/L as N	5	0.5
Total Phosphorus	mg/L as P	1	0.1
Total Iron	mg/L	4	0.5
Turbidity	NTU	200	20
Grease and Oil	mg/L	40	2

2. Land treatment systems are those involving the use of plants, the soil surface, and the soil matrix for treatment of runoff. Any waters discharged into land treatment systems should not contain excessive concentrations of nutrients that may not be effectively filtered out by soil and vegetation.

3. If constituent concentrations of waters entering the project area exceed the numerical limitations specified above there shall be no increase in the constituent concentrations in the waters that are discharged from the project area.

4. All surface flows generated within the project area, or as a result of the development of the project, which are discharged to surface waters or municipal storm water collection systems shall not contain the following:

a. substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, or animal life; and

b. coliform organisms attributable to human wastes.

B. Receiving Water Limitations

1. Storm water discharged from the project area shall not cause the receiving water quality objectives to be exceeded for the specified surface waters, and tributaries thereto, listed in Attachment "E", which is made a part of this General Permit. To the extent of any inconsistencies between the water quality objectives in Attachment "E" and those contained in Section II. B. 3. of this General Permit, the objectives in Attachment "E" shall take precedence.

2. Storm water discharges to any surface or ground water shall not adversely impact human health or the environment.

3. The discharge of storm water from within the project area to surface waters shall not cause a violation of the following water quality objectives:

a. Color - Waters shall be free of coloration that causes nuisance or adversely affects the water for beneficial uses.

b. Floating Material - Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses. For natural high quality waters, the concentrations of floating material shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.

c. Suspended Material - Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect the water for beneficial uses. For natural high quality water, the concentration of total suspended material shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.

d. Settleable Material - Waters shall not contain substances in concentrations that result in the deposition of materials that cause nuisance or adversely affect the water for beneficial uses. For natural high quality waters, the concentration of settleable materials shall not be raised by more than 0.1 milliliters per liter.

e. Oil and Grease - Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect the water for beneficial uses. For natural high quality waters, the concentration of oils, greases, or other film or coat generating substances shall not be altered.

f. Biostimulatory Substances - Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.

g. Sediment - The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect the water for beneficial uses. The suspended sediment concentration shall not exceed a 90^{th} percentile value of 60 milligrams per liter (mg/L) in streams tributary to Lake Tahoe.

h. Turbidity - Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.

i. pH - In Lake Tahoe, the pH shall not be depressed below 7.0 nor raised above 8.4. Changes in normal ambient pH levels shall not exceed 0.5 pH units.

j. Dissolved Oxygen - The dissolved oxygen concentration, in terms of percent saturation, shall not be depressed by more than 10 percent, nor shall the minimum dissolved oxygen concentration at any time be less than 80 percent of saturation, or less than 7.0 mg/l, whichever is more restrictive.

k. Temperature - The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not create a nuisance or adversely affect the water for beneficial uses.

l. Toxic Pollutants - All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for "experimental water" as described in Standard Methods for the Examination of Water and Wastewater, latest edition.

m. Un-ionized Ammonia - The discharge of storm water from the area contained in the General Permit shall not cause concentrations of un-ionized ammonia (NH_4) to exceed 0.025 mg/l (as N) in receiving waters.

n. Pesticides - The summation of concentrations of total identifiable chlorinated hydrocarbons, carbamates, organophosphates, and all other pesticide and herbicide groups, in all waters of the Lake Tahoe HU, shall not exceed the lowest detectable levels, using the most recent detection procedures available. There shall no increase in pesticide concentrations found in bottom sediments or aquatic life. The receiving water shall not contain concentrations of

pesticides in excess of the limiting concentrations set forth in the Code of California Regulations, Title 22, Chapter 15, Article 4, Section 64435.

o. Nuisance - The discharge shall not cause a nuisance by reason of odor.

p. Algal Growth Potential - The mean annual algal growth potential at any point in Lake Tahoe shall not be greater than twice the mean annual algal growth potential at the limnetic reference station.

q. Plankton Count - The mean seasonal concentration of plankton organisms in Lake Tahoe shall not be greater than 100 per milliliter and the maximum concentration shall not be greater than 500 per milliliter at any point.

r. Clarity - For Lake Tahoe, the vertical extinction coefficient shall be less than 0.08 per meter when measured below the first meter. The turbidity shall not exceed 3 NTU at any location in Lake Tahoe which is too shallow to determine a reliable extinction coefficient. In addition, turbidity shall not exceed 1 NTU in shallow waters of Lake Tahoe not directly influenced by stream discharges. Secchi disk transparency shall not be decreased below levels recorded in 1967-71 based on a statistical comparison of seasonal and annual mean values.

s. Electrical Conductivity - The mean annual electrical conductivity shall not exceed 95 umhos/cm at 50°C, and the 90-percentile value shall not exceed 100 umhos/cm at 25°C at any location in Lake Tahoe.

t. Additional Biological Indicators - Algal productivity and the biomass of phytoplankton, zooplankton and periphyton in Lake Tahoe shall not be increased beyond levels recorded in 1967-71, based on a statistical comparison of seasonal and annual mean values.

4. The discharge of storm water from within the project area to surface and ground waters shall not cause violation of the following objectives:

a. Tastes and Odors - Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect the water for beneficial uses.

b. Bacteria - Waters shall not contain concentrations of coliform organisms attributable to human wastes. The fecal coliform concentration of Lake Tahoe and its tributaries, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 20 per 100 milliliters, nor shall more than 10 percent of the total samples during any 30-day period exceed 40 per 100 milliliters. The median concentration of coliform organisms over any seven-day period shall be less than 1.1 per 100 milliliters in groundwaters of the Lake Tahoe HU

c. Chemical Constituents - The receiving surface waters and ground waters shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 4, Section 64435, Tables 2 and 4, or in amounts that adversely affect the water for agricultural beneficial uses.

d. Radioactivity - Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life, or that result in the accumulation of radionuclides in the food chain to an extent that it presents a hazard to human, plant, animal, or aquatic life. Waters shall not contain concentrations of radionuclides in excess of limits specified in the California Code of Regulation, Title 22, Chapter 15, Article 5, Section 64443.

III. BEST MANAGEMENT PRACTICES (BMPs)

A. Prior to the initiation of any construction related activities the Discharger shall install temporary erosion control facilities to prevent transport of earthen materials and other wastes off the property.

B. Temporary gravel bag dikes, fiber rolls, or filter fabric fence shall be used as necessary to prevent discharge of earthen materials from the site during periods of precipitation or runoff.

C. Ground compaction and disturbance activities shall be prevented in unpaved areas not subject to construction. All non-construction areas shall be protected by fencing or other means to limit access. These facilities shall be inspected periodically and shall be repaired when necessary.

D. Surface flows from the project site shall be controlled to prevent downstream erosion at any point. All storm water runoff which leaves the site shall be discharged to a storm drain or stabilized drainage.

E. Permanent storm water runoff collection, treatment, and/or infiltration disposal facilities shall be designed, installed, and maintained to maximize fine sediment and nutrient removal.

F. By no later than October 15 of each year, the Discharger shall provide permanent or temporary (if project is incomplete) stabilization of all disturbed or eroding areas by completing construction of mechanical stabilization measures and initiating revegetation plans. Revegetation shall consist of seeding, planting, mulching, initial fertilization as needed, and initial watering as needed.

G. Snow storage and disposal shall be separated from surface waters and contained to avoid surface runoff. Treatment facilities shall be designed to accommodate snowmelt runoff from snow storage and disposal areas.

H. All disturbed areas shall be adequately restabilized or revegetated. Revegetated areas shall be continually maintained in order to assure adequate growth and root development until vegetation becomes established. When applicable, the following mitigation measures may be implemented:

1. Depending on the level of disturbance, wood chip or pine needle mulch may be applied on disturbed surfaces in lieu of vegetation;

2. Tackifier shall not be applied within 100 feet of the high water line;

3. Whenever practical seeds collected from the project site area should be added to the seed mix being applied during revegetation; and

4. Whenever practical, natural revegetation and native mulch will be the preferred and most utilized method of stabilization.

I. All slopes subject to erosion shall be stabilized.

J. All loose piles of soil, silt, clay, sand, debris, or other earthen materials shall be protected in a reasonable manner to prevent the discharge of these materials to waters of the State.

K. Dewatering shall be done in a manner so as to eliminate discharge to surface waters. A separate NPDES Permit may be required for dewatering discharges to surface waters.

L. Where possible, existing drainage patterns shall not be significantly modified.

M. Erosion control facilities shall be installed in conjunction with a routine maintenance and inspection program to provide continued integrity and proper performance of erosion control facilities.

N. Dust shall be controlled to prevent the transport of such material off the project site, into any surface water, or into any drainage course.

O. Construction activities that involve crossing or alteration of a stream channel shall be timed to occur during the period of the year in which stream flow is expected to be lowest.

P. The discharger shall immediately clean up and transport to a legal disposal site any spilled petroleum products or petroleum-contaminated soils to the maximum extent practicable.

Q. At or before completion of a construction project, all surplus or waste earthen materials shall be removed from the project site and deposited only at a legal, authorized point of disposal or restabilized onsite in accordance with erosion control plans previously approved by the Executive Officer.

R. Drainage swales disturbed by construction activities shall be stabilized by appropriate soil stabilization measures to prevent erosion.

S. Restoration Projects shall implement all of the above-mentioned BMPs where applicable as well as the Temporary BMPs defined in Attachment "C".

IV. STORM WATER POLLUTION PREVENTION PLAN

A. All dischargers must develop and implement a Storm Water Pollution Prevention Plan or SWPPP in accordance with Attachment "D", which is made a part of this General Permit. The SWPPP shall be submitted to the Regional Board as part of a report of waste discharge. The SWPPP must be approved by the Executive Officer before discharge under this General Permit will be authorized.

B. The SWPPP must identify and detail storm water pollution prevention measures that will be constructed and implemented at the construction site. The proposed pollution control measures must be adequate to reduce pollutants in storm water discharges from the construction site, both during construction and after construction is completed, to levels that are in compliance with effluent limits and receiving water objectives contained in this General Permit. The SWPPP must also comply with and incorporate the Discharge Prohibitions (Section I), Discharge Requirements (Section II), and applicable BMPs (Section III) contained in this General Permit.

V. SPECIAL PROVISIONS FOR CONSTRUCTION ACTIVITY

A. Discharges of non-storm water are authorized only where they do not cause or contribute to a violation of any water quality standard and are controlled through implementation of BMPs which effectively eliminate or reduce pollutants in the discharge. Implementation of effective BMPs are a condition for authorization of non-storm water discharges. Non-storm water discharges and the BMPs appropriate for their control must be described in the SWPPP. Wherever feasible, alternatives such as land disposal which do not result in discharge of non-storm water shall be implemented, in accordance with Attachment "D".

B. In accordance with Section 13260 of the California Water Code, the Discharger shall file a report with the Regional Board of any material change or proposed change in the character, location, or volume of the discharge. Any proposed material change in the operation shall be reported to the Executive Officer at least 30 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant new soil disturbances, all proposed expansion of development, any increase in impervious surface coverage, or any change in drainage characteristics at the project site. Any proposed change in the construction completion dates submitted in the report of waste discharge will require the submittal of a revised report.

C. The Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurs as a result of this discharge. An adverse condition

includes, but is not limited to, a violation or threatened violation of the conditions of this General Permit, significant spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance pursuant to Section 13267(b) of the California Water Code, a written notification of the adverse condition shall be submitted to the Regional Board within one week of occurrence. The written notification shall identify the adverse condition, describe the actions necessary to remedy the condition and/or the actions implemented to abate the problem from continuing, and specify a timetable, subject to the modifications of the Regional Board, for the remedial actions.

VI. APPLICABILITY

A. This Order shall serve as a general NPDES Construction Activity Storm Water General Permit for the temporary discharge of products of erosion and construction waste materials during and after construction activity that results in one acre or more of land disturbance in the Lake Tahoe HU. In the event that USEPA amends its storm water requirements, this General Permit will be applicable for all projects meeting the amended requirements.

B. Upon receipt of a report of waste discharge describing a proposed discharge and an NOI (Attachment I) to comply with the provisions of this General Permit, the Executive Officer shall determine if such a discharge satisfies all of the following conditions:

1. The discharge will be generated from construction activity that does not include any other waste discharge activities.

2. The project does not include disturbance to lands classified as Stream Environment Zones, Bailey Land Capability Classification 1b as defined in the Basin Plan, unless the Regional Board grants an exemption.

3. The amount of proposed coverage is equal to or less than that allowed by the Basin Plan.

4. The project incorporates appropriate BMPs, as feasible, to infiltrate and/or treat storm water runoff from existing and proposed impervious surfaces on the site.

5. The project plans include a SWPPP that proposes specific temporary and permanent measures to prevent the discharge of pollutants from the site.

6. The project plans include specific dates for (a) completion of construction; (b) completion of construction of storm water infiltration and/or treatment facilities; and (c) completion of any necessary restabilization and revegetation.

C. When the Executive Officer finds the above conditions are met, the applicant shall be notified in writing by issuance of a Notice of Applicability (NOA) of the Lake Tahoe HU General NPDES Construction Activity Storm Water General Permit.

D. Notwithstanding the provisions of the above paragraph, appropriate projects may be brought to the Regional Board for consideration of adoption of an individual NPDES Permit when the Executive Officer deems it desirable or necessary to do so.

VII. ADMINISTRATIVE PROVISIONS

A. Requirements

1. The conditions of this General Permit do not exempt the Discharger from compliance with any other laws, regulations, or ordinances which may be applicable, do not legalize land treatment and disposal facilities, and leave unaffected any further restraints on those facilities which may be contained in other statutes or required by other regulatory agencies.

2. Unless specifically granted, authorization pursuant to this General Permit does not constitute an exemption to applicable discharge prohibitions prescribed in the Basin Plan.

3. All Dischargers must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to drainage systems or other water courses under their jurisdiction, including applicable requirements in municipal storm water management programs developed to comply with NPDES General Permits issued to local agencies by the Regional Board.

4. Construction activities that involve crossing or alteration of a stream channel require a prior written agreement with the California Department of Fish and Game.

5. The Discharger shall at all times fully comply with the engineering plans, specifications, and technical reports submitted with the completed report of waste discharge.

6. The Discharger shall at all times fully comply with the Storm Water Pollution Prevention Plan.

7. All Dischargers must comply with the Standard Provisions contained in Attachment “F” which is made a part of this General Permit.

8. Pursuant to California Water Code Section 13267, the Discharger shall comply with the attached Monitoring and Reporting Program (Attachment “G”) made a part of this General Permit.

9. In addition to the Monitoring and Reporting Program defined in Attachment "G" any Restoration Projects shall also adhere to the Monitoring and Reporting Requirements defined in Attachment "C" made a part of this General Permit.

10. The owners of property subject to this General Permit shall have a continuing responsibility for ensuring compliance with the General Permit. The Discharger identified in the Notice of Applicability shall remain liable for General Permit violations until a NOI is received from the new owner/operator. Notification of applicable General Permit requirements shall be furnished to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board. This General Permit is transferable to the new owner. Any change in the ownership and/or operation of property subject to this General Permit shall be reported to the Regional Board. The new owner must comply with the General Permit, including the Monitoring and Reporting Program.

B. Time Schedules

1. The Discharger shall submit a NOI, a complete report of waste discharge including a SWPPP, and the appropriate fee at least 60 days prior to the proposed date of construction. Additional time will be required for projects that propose disturbance to stream environment zones. Construction may not begin until a written Notice of Applicability (NOA) is received from the Regional Board Executive Officer.

2. All Dischargers must implement the SWPPP and the Monitoring and Reporting Program upon commencement of construction.

C. Revocation Procedures

You will be required to pay the annual fee (as specified in the annual billing you will receive from the State Water Resources Control Board) until the Notice of Applicability is officially revoked. To terminate coverage under the General Permit, please complete and submit the enclosed Request for Permit Revocation Form (RFPR) (Attachment H) and any reports required by the General Permit to the Lahontan Regional Water Quality Control Board (RWQCB).

The General Permit for the specific project will be revoked by the Executive Officer, or designated staff, provided the following conditions are met: (1) the construction project is complete and there is no potential for construction related storm water pollution, (2) construction materials and waste have been disposed of properly, (3) all elements of the SWPPP have been completed, (4) permanent BMPs have been installed, (5) information required by the attached Monitoring and Reporting Program has been submitted, and (6) Regional Board staff have inspected the site if necessary. Approval of your Request for Permit Revocation does not relieve you from paying any applicable outstanding invoices.

If the Executive Officer, or his designated staff, does not agree with the basis of revocation, the Request for Permit Revocation will be returned and reasons for denial will be provided in a written notification.

D. General Permit Expiration

This General Permit will expire five years after the date of adoption. Upon reissuance of the NPDES General Permit by the Regional Board, dischargers conducting construction activities subject to the reissued General Permit may be required to file a revised NOI, report of waste discharge, and fee.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on March 10, 2005.

HAROLD J. SINGER
EXECUTIVE OFFICER

Enclosure: Notice of Intent Form

Attachments:
- A: Definitions
- B: Lake Tahoe Hydrologic Unit Map
- C: Restoration Projects: Additional BMPs and Monitoring and Reporting Requirements
- D: Storm Water Pollution Prevention Plan
- E: Receiving Water Objectives for Specific Surface Waters in the Lake Tahoe Hydrologic Unit
- F: Standard Provisions
- G: Monitoring and Reporting Program No. R6T-2005-0007
- H: Request for Permit Revocation
- I. Notice of Intent (NOI)

BL/dcc T:\TENTS\March 05 NPDES\Const.NPDES.order-mfw.doc

ATTACHMENT "A"

DEFINITIONS

BEST MANAGEMENT PRACTICES (BMPs)	means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States.
CLEAN WATER ACT (CWA)	means the Federal Water Pollution Control Act enacted by Public Law 92-500 as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; USC 1252 et seq.
CONSTRUCTION SITE	is the location of the construction activity, including easements and other construction areas not under the Discharger's ownership or control.
CONTAMINATION	means "an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease including any equivalent effect resulting from the disposal of waste, whether, or not waters of the State are affected" [California Water Code Section 13050 (d)].
EMERGENCY	means a sudden, unexpected occurrence involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, essential public services, or the environment.
GROUNDWATER	includes, but is not limited to, all subsurface water being above atmospheric pressure and the capillary fringe of such water.
LOCAL AGENCY	means any agency that is involved with providing review, approval, or oversight of the construction site's (a) construction activity, (b) erosion and sediment controls, or (c) storm water discharge.
LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD (LRWQCB)	LAKE TAHOE WATERSHED UNIT- DOUG SMITH 2501 LAKE TAHOE BLVD. SOUTH LAKE TAHOE, CA 96150 PHONE: (530) 542-5453 FAX: (530) 544-2271

MUNICIPAL STORM WATER COLLECTION SYSTEM means a conveyance or system of conveyance (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) which is:

(1) owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created pursuant to applicable federal and bi-state laws) having jurisdiction, that discharges to water of the United States; including special districts under State law such as a sewer district or drainage district, flood control district, Indian tribe or an authorized Indian tribal organization or a designated and approved management agency under Section 208 of the CWA;

(2) designed or used for collecting or conveying storm water

(3) which is not a combined sewer; and

(4) which is not part of Publicly Owned Treatment Works as defined in 40 CFR 122.2.

NON-STORM WATER means any discharge to municipal storm water collection systems that is not composed entirely of storm water except discharges pursuant to an NPDES permit and discharges resulting from fire fighting activities.

NUISANCE means "anything which meets all of the following criteria: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life and property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during or as a result of the treatment or disposal of wastes" [California Water Code Section 13050 (m)].

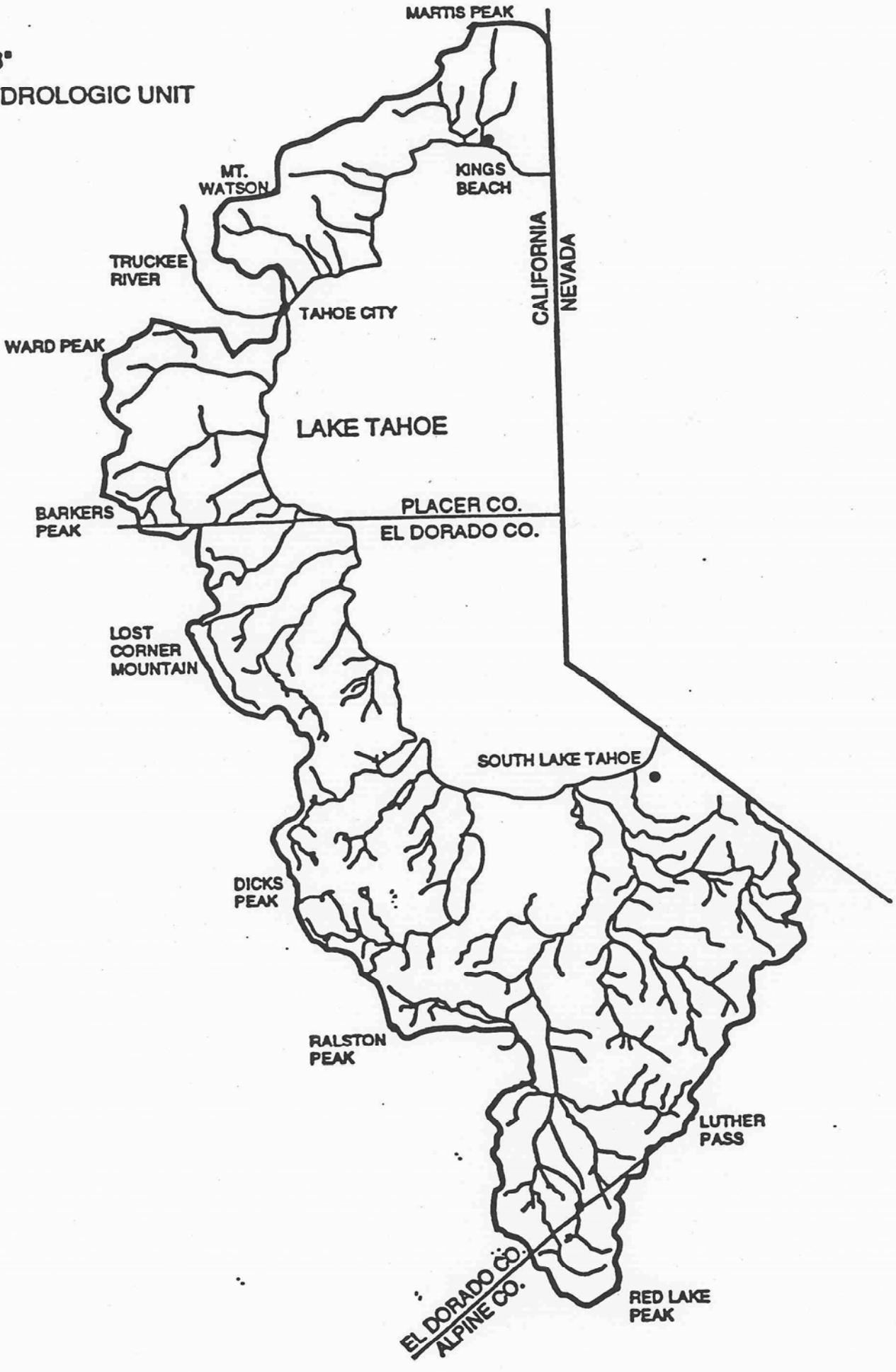
POLLUTION means "the man-made or man-induced alternation of the chemical, physical, biological, and radiological integrity of water" [CWA Section 502 (19)]. Pollution also means "an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either the waters for beneficial uses or facilities which serve these beneficial uses"[California Water code Section 13050 (1)].

STATE WATER DIVISION OF WATER QUALITY-BRUCE FUJIMOTO

RESOURCES CONTROL BOARD (SWRCB)	STORM WATER PERMIT UNIT 1001 I Street SACRAMENTO, CA 95814 PHONE: (916) 341-5523 FAX: (916) 341-5463
SIGNIFICANT QUANTITIES	is the volume, concentration, or mass of a pollutant in storm water discharge that can cause or threaten to cause pollution, contamination, or nuisance, adversely impact human health or the environment, and cause or contribute to a violation of any applicable water quality standards for the receiving water.
STORMWATER	means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.
SURFACE WATER	includes, but is not limited to, perennial or ephemeral streams, lakes, wetlands, springs and similar waters which flow or reside in natural or artificial impoundments or drainage ways.

ATTACHMENT "B"

LAKE TAHOE HYDROLOGIC UNIT
(CALIFORNIA)



ATTACHMENT "C"

RESTORATION PROJECTS

ADDITIONAL BEST MANAGEMENT PRACTICES AND GUIDELINES FOR MONITORING AND REPORTING REQUIREMENTS

Discharges of Storm Water Runoff Associated with Construction Activity in the Lake Tahoe Hydrologic Unit-El Dorado, Placer, and Alpine Counties

To restore natural resources disturbed by natural and man-made causes, many entities in the Lake Tahoe Basin construct environmental restoration projects. Restoration projects are designed to mitigate impacts from the land development, overuse, and misuse. Restoration projects include but are not limited to stream bank enhancement and channel restoration, slope stabilization, habitat restoration, revegetation of logged forest lands, drainage improvement projects, and rangeland management. The ultimate goal of most restoration projects is to return disturbed land to a more natural state that will promote long-term stability of the ecological system. The restored area will often resume previous environmental functions that typically improve air, water, soil, and habitat quality.

Best Management Practices to Implement during Construction Activity

Restoration projects often involve work close to or within a watercourse and involve significant soil disturbance. Because the construction period associated with a restoration project has the potential to expose large amounts of sediment, it is imperative to implement temporary Best Management Practices (BMPs) on-site. Temporary BMPs should be installed and maintained before and during the entire construction period. These temporary BMPs are intended to provide effective erosion and sediment control so water quality is not impacted during construction. To minimize stream bank erosion and sedimentation of watercourses, the following BMPs shall be implemented by the project proponent:

1. Implement temporary erosion and sediment control practices to minimize construction related erosion and sedimentation;

2. Minimize any activities that cause turbidity (cloudiness of the water);

3. Install and maintain sediment/silt barriers or materials (e.g. geotextile fabrics) as needed until they can be replaced by permanent erosion control devices or stabilized vegetation;

4. Inspect the construction site daily during construction so potential water quality problems can be identified and remedied immediately;

5. Design and construct the project to minimize impacts to streams, wetlands, soils, and endangered, threatened, and sensitive species;

6. Limit or eliminate vehicle crossing, especially where streams meander or have multiple crossings and utilize upland access roads whenever practicable;

7. Salvage and respread topsoil in areas disturbed by clearing and grading, except in areas with standing water or saturated soil; and

8. Upon completion of the construction project, remove all construction debris, timber pads, prefabricated equipment pads and geotextile fabric (unless necessary for erosion control). Erosion control fences should be removed upon stabilization from erosion.

For projects requiring stream crossings, the following site preparation measures shall be implemented:

1. Existing crossings shall be used before the construction of new access ways across a watercourse;

2. All new construction corridors shall be cleared only to the extent necessary to allow for establishing the travel route crossing; and

3. Where possible, stream crossings shall be generally perpendicular to the water flow located in a straight section of the stream where width, depth, bank, and bottom characteristics will reduce the potential for channel alteration.

For restoration projects involving streambank alteration/restoration and wetland disturbance, the following mitigation measures shall be implemented to restore and protect the project area:

1. Placing native sod stripped from the proposed fill areas in the wetland restoration/creation areas; and

2. Planting of additional native grasses, shrubs and trees.

When disturbed streambanks require contouring work, the contouring shall not leave:

1. Sharp edges or vertical faces vulnerable to stream cutting contouring work;

2. Uneven banks; and

3. Bank remnants projecting out into the streambed.

In cases where the original stream bank contours are excessively steep and/or unstable, a more stable final contour can be attained.

Monitoring and Reporting Requirements for Restoration Projects

Because restoration projects are often executed to improve existing water quality conditions, it is necessary to monitor restoration project effectiveness. Monitoring information can also identify project and/or construction method strengths and weaknesses. This knowledge can feedback into the maintenance of the existing system and also be applied to future water quality improvement projects.

To monitor the success of the restoration of a disturbed area, the project proponent shall submit a detailed Monitoring Plan with annual performance criteria for the review and approval of the Executive Officer of the Regional Board. A contingency plan must also be submitted for actions to be taken if performance criteria are not met.

Ideally, pre- and post-construction monitoring is required to best evaluate the success of the restoration project. If funding permits, it is also desirable to conduct monitoring during construction. Monitoring should include, but not be limited to, assessments of vegetative cover and water quality and quantity measurements. Where appropriate, monitoring should also include upgradient and downgradient sampling of water entering a pretreatment system (sediment can, sand and oil trap).

The Regional Board suggests a Monitoring Plan include, but not be limited to the following:

1. Pre- and Post project surveys of vegetative cover (5 per 100 feet), including an inventory of species diversity and an assessment of the restored soil's ability to infiltrate runoff;

2. Pre- and Post project cross-sectional surveys of stream channel (if applicable);

3. Post project monitoring of the survivability of plantings;

4. Photo survey including photo-point locations of the disturbed/restored area, photos should be taken at the same time each year, preferably in the early fall;

5. Pre- and post-project groundwater level measurements from at least two piezometers installed for observing groundwater levels;

6. Site assessments of the success of the implemented erosion and sediment control measures;

7. Water quality analyses to include Total N, Total P, Conductivity, and Turbidity at a minimum.

ATTACHMENT "D"

STORM WATER POLLUTION PREVENTION PLAN

1. Objectives

A Storm Water Pollution Prevention Plan (SWPPP) shall be developed and implemented for each construction site covered by this permit. The SWPPP shall be designed to comply with Federal requirements to implement best management practices (BMPs) to achieve compliance with effluent limits and receiving water objectives. The SWPPP shall be certified in accordance with the signatory requirements of Section 9 of the Standard Provisions in Attachment "F". The SWPPP shall be developed and amended, when necessary, to meet the following objectives:

a. Identify pollutant sources including sediment sources that may affect the quality of storm water discharges associated with construction activity.

b. Identify non-storm water discharges.

c. Identify, construct, implement, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants in storm water discharges and authorized non storm water discharges from the construction site.

d. Identify a sampling an analysis strategy and sampling schedule for discharges from construction activity that discharge to surface waters and stream environment zones (SEZs).

e. For all construction activity, identify a sampling and analysis strategy and sampling schedule for discharges that have been discovered through visual monitoring to be potentially contaminated by pollutants not visually detectable in storm water runoff.

2. Regional Board Authorization

A SWPPP must be developed by the discharger and approved by the Regional Board Executive Officer, before written authorization will be granted to discharge under the terms and conditions of this permit. The Regional Board will notify the discharger if the SWPPP does not meet one or more of the minimum requirements of this Section.

3. Implementation Schedule

a. For construction activity commencing on and after adoption of this General Permit, the SWPPP shall be developed prior to the start of soil disturbing activity in accordance with this Attachment and shall be implemented concurrently with commencement of soil disturbing activities.

b. Existing permittees engaging in construction activities covered under terms of the previous General Permit (Board Order 6-00-03) shall continue to implement their existing SWPPP and shall implement any necessary revisions to their SWPPP in accordance with this Attachment in a timely manner, but in no case more than 90 calendar days from this General Permit adoption date.

c. For on-going construction activity involving a change of owner/developer of property covered by this permit, the new owner/developer must accept and maintain the existing

SWPPP until a new SWPPP is developed by the new owner/developer and approved by the Regional Board Executive Officer.

4. Availability

The SWPPP shall be kept on site during construction activity and made available upon request of a representative of the Regional Board or any local storm water management agency which receives the storm water discharge.

5. Required Changes

a. The discharger shall amend the SWPPP whenever there is a change in ownership, construction, or operations, which may effect the discharge or pollutants to surface waters, ground waters, or a municipal storm drain system. The amended SWPPP shall be submitted to the Regional Board for the Executive Officer's approval 30 days prior to the date when the change is to occur.

b. The SWPPP should also be amended if it is in violation of any condition of this permit, or has not achieved the general objectives of controlling pollutants in storm water discharges. The amended SWPPP shall be submitted no later than 30 days after the determination of violation or non-achievement to the Regional Board Executive Officer for review and approval.

c. The Regional Board, or local agency with the concurrence of the Regional Board, may require the discharger to amend the SWPPP.

6. Source Identification

The SWPPP shall provide a description of potential sources which may be expected to add pollutants to storm water discharges, or which may result in non-storm water discharges from the construction site. The SWPPP shall include the following items:

a. A topographic map (USGS or other map if a topographic may is unavailable), extending one-quarter mile beyond the property boundaries of the construction site, showing: the construction site, surface water bodies (including known springs, wells, and wetlands), and the anticipated discharge points where the construction site's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.

b. A site map(s) showing:

i. Location of storm water structures and controls used during construction;

ii. Areas used to store soils and wastes;

iii. Areas of cut and fill;

iv. Drainage patterns and slopes anticipated after major grading activities;

v. Areas of soil disturbance;

vi. Surface water locations;

vii. Areas of potential soil erosion where control practices will be used during construction;

viii. Existing and planned paved areas and buildings;

ix. Locations of post-construction storm water structures and controls;

x. An outline of the drainage area for each on-site storm water discharge point;

xi. Vehicle storage and service area; and

xii. Areas of existing vegetation.

c. A narrative description of the following:

i. Toxic materials that are known to have been treated, stored, disposed, spilled, or leaked in significant quantities onto the construction site;

ii. Management practices employed to minimize contact of construction materials, equipment, and vehicles with storm water;

iii. Construction material loading, unloading, and access areas;

iv. Pre-construction storm water structures and controls to reduce sediment and other pollutants in storm water discharge;

v. Equipment storage, cleaning, and maintenance areas;

vi. Methods of on-site storage and disposal of construction materials;

vii. Nature of fill material and existing data describing the soil on the construction site; and

viii. Ground water depth, gradient, and quality if known, readily available, or a reasonable approximation.

d. A list of pollutants (other than sediment) that are likely to be present in storm water discharges. Describe the structures and management practices (if different from Paragraph 7 below) appropriate to control the storm water discharge of these pollutants.

e. A description of drainage patters into each storm water inlet point or receiving water. Show or describe the BMPs that will protect operational storm water inlets or receiving waters from contaminated discharges other than sediment discharges, such as, but not limited to: slurry from concrete or asphalt saw cutting, concrete rinse water, equipment washing operations, street washing operations, and/or sealing and paving activities during rain events.

f. An estimate of the size of construction site (in acres or square feet), and the percent of the construction site that has impervious areas (e.g., pavement, buildings, etc.) before an after construction.

g. Show the locations designated for storm water discharge sampling. Describe sampling procedures, location, and rationale for the proposed sampling program. See Attachment G for additional detail regarding sampling requirements.

h. The SWPPP shall include a construction activity schedule that describes all major activities such as mass grading, paving, and other improvements and the proposed time frame to conduct those activities.

i. The SWPPP shall list the name and telephone number of the qualified person(s) who have been assigned responsibility for pre-storm, post-storm, and storm event BMP inspections; and the qualified person(s) assigned responsibility to ensure full compliance with the permit and implementation of all SWPPP elements, including the preparation of annual compliance evaluation and the elimination of all unauthorized discharges.

j. A copy of the Notice of Intent (NOI).

7. Erosion and Sediment Control

The SWPPP shall include:

a. An outline of areas of vegetative soil cover or native onsite vegetation that will remain undisturbed during construction.

b. A description of soil stabilization practices. Vegetative measures shall be designed to preserve existing vegetation where practicable, and to revegetate and/or mulch open areas as soon as practicable after grading or construction. In developing soil stabilization practices, the discharger shall consider: temporary seeding, permanent seeding, mulching, sod stabilization, vegetative buffer strips, protection of trees, or other soil stabilization procedures. At a minimum, the operator must implement these practices on all disturbed areas during the rainy season.

c. Descriptions and illustrations of control practices designed to prevent a net increase of sediment load in storm water discharge. In developing control practices, the discharger shall consider a full range of erosion and sediment controls such as detention basins, silt fences, earth dikes, brush barriers, velocity dissipation devices, drainage swales, check dams, subsurface drain, pipe slope drain, level spreaders, storm drain inlet protection, rock outlet protection, sediment traps, temporary sediment basins, or other controls which may reduce erosion and sediment discharge to pre-construction levels. Sandbag dikes, silt fences, or equivalent controls practices are required for all sideslope and downslope boundaries of the construction area. The Discharger must consider site specific and seasonal conditions when designing the control practices.

d. Control practices to reduce the tracking of sediment onto public and private roads. These roads shall be inspected and cleaned as necessary.

e. Control practices to reduce wind erosion.

f. A proposed schedule to implement erosion and sediment control measures.

8. Non-Storm Water Management

The SWPPP shall include provisions which eliminate or reduce to the extent practicable the discharge of materials other than storm water to the storm sewer system and/or receiving water. Such provisions shall ensure, to the extent practicable, that no materials are discharged in quantities which have an adverse effect on receiving waters. Materials other than storm water that are discharged shall be listed along with the estimated quantity of the discharged material.

9. Post-Construction Storm Water Management

The SWPPP shall describe the storm water control structures and management practices that will be implemented to minimize pollutants in storm water discharges after construction phases have been completed at the site. These must be consistent with all local post-construction storm water management requirements, policies, and guidelines. The discharger must consider site-specific factors and seasonal conditions when designing the control practices after construction is completed shall be addressed, including short and long-term funding sources and responsible party.

10. Waste Management and Disposal

The SWPPP shall describe waste management and disposal practices to be used at the construction site. All wastes (including equipment and maintenance waste) removed from the site for disposal shall be disposed of in a manner that is in compliance with federal, state, and local laws, regulations, and ordinances.

11. Maintenance, Inspection, and Repair

The SWPPP shall include maintenance and repair procedures to accompany the Monitoring and Reporting Program that ensure all grade surfaces, walls, dams and structures, vegetation, erosion and sediment control measures, and other protective devices identified in the site plan are maintained in good and effective condition and are promptly repaired or restored. A qualified person shall be assigned the responsibility to conduct inspections. The name and telephone number of that person shall be listed in the SWPPP. A tracking and follow-up procedure shall be described to ensure that all inspections are done by trained personnel and that adequate response and corrective actions have been taken in response to the inspection.

12. Training

The SWPPP shall include procedures to ensure that all inspections required in Section A of the Monitoring and Reporting Program of this general permit, and maintenance and repair required above, in Paragraph 11. These procedures shall include identification of specific personnel and the training required to perform inspections, maintenance, and repair.

13. List of Contractors/Subcontractors

The SWPPP shall contain a list of all contractors and subcontractors responsible for implementing the SWPPP. This information shall be added to the SWPPP once the contractors and subcontractors selected to implement the SWPPP are determined.

14. Other Plans

This SWPPP may incorporate, by reference, the appropriate elements of other plans required by local, state or Federal agencies. A copy of any requirements incorporated by reference shall be kept at the construction site.

15. Public Access

The SWPPP is considered a report that shall be available to the public under Section 308(b) of the CWA. Upon request by members of the public, the discharger shall make available for review a copy of the SWPPP directly to the requestor.

16. Preparer

The SWPPP shall include the signature and title of the person responsible for preparation of the SWPPP, the date of initial preparation, and the person and date for each amendment thereto.

ATTACHMENT "E"

WATER QUALITY OBJECTIVES FOR CERTAIN WATER BODIES LAKE TAHOE HYDROLOGIC UNIT

	Surface Waters	Objective (mg/L except as noted) [1,2]						
		TDS	Cl	SO_4	B	N	P	Fe
1	Lake Tahoe	60 65	3.0 4.0	1.0 2.0	0.01 -	0.15 -	0.008 -	
2	Fallen Leaf Lake	50 -	0.30 0.50	1.3 1.4	0.01 0.02	See Table 5.1-4 for additional objectives		
3	Griff Creek	80 -	0.40 -			0.19 -	0.010 -	0.03 -
4	Carnelian Bay Creek	80 -	0.40 -			0.19 -	0.015 -	0.03 -
5	Watson Creek	80 -	0.35 -			0.22 -	0.015 -	0.04 -
6	Dollar Creek	80 -	0.30 -			0.16 -	0.030 -	0.03 -
7	Burton Creek	90 -	0.30 -			0.16 -	0.015 -	0.03 -
8	Ward Creek	70 85	0.30 0.50	1.4 2.8		0.15 -	0.015 -	0.03 -
9	Blackwood Creek	70 90	0.30 -			0.19 -	0.015 -	0.03 -
10	Madden Creek	60 -	0.10 0.20			0.18 -	0.015 -	0.015 -
11	McKinney Creek	55 -	0.40 0.50			0.19 -	0.015 -	0.03 -
12	General Creek	50 90	1.0 1.5	0.4 0.5		0.15 -	0.015 -	0.03 -
13	Meeks Creek	45 -	0.40 -			0.23 -	0.010 -	0.07 -
14	Lonely Gulch Creek	45 -	0.30 -			0.19 -	0.015 -	0.03 -
	continued...							

WATER QUALITY OBJECTIVES FOR CERTAIN WATER BODIES LAKE TAHOE HYDROLOGIC UNIT

See Fig. 5.1-1	Surface Waters	Objective (mg/L except as noted) [1,2]						
		TDS	Cl	SO_4	B	N	P	Fe
15	Eagle Creek	35 -	0.30 -			0.20 -	0.010 -	0.03 -
16	Cascade Creek	30 -	0.40 -			0.21 -	0.005 -	0.01 -
17	Tallac Creek	60 -	0.40 -			0.19 -	0.015 -	0.03 -
18	Taylor Creek	35 -	0.40 0.50			0.17 -	0.010 -	0.02 -
19	Upper Truckee River	55 75	4.0 5.5	1.0 2.0		0.19 -	0.015 -	0.03 -
20	Trout Creek	50 60	0.15 0.20			0.19 -	0.015 -	0.03 -

[1] Annual average value/90th percentile value.

[2] Objectives are as mg/L and are defined as follows:
B Boron
Cl Chloride
SO_4 Sulfate
Fe Iron, Total
N Nitrogen, Total
P Phosphorus, Total
TDS Total Dissolved Solids (Total Filterable Residues)

ATTACHMENT "F"

STANDARD PROVISIONS

1. Duty to Comply

The Discharger must comply with all of the conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

The discharge shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this permit has not yet been modified to incorporate the requirements.

2. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit conditions.

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified, or revoked and reissued to conform to the toxic effluent standard or prohibition, and the Discharger so notified.

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Duty to Mitigate

The Discharger shall take all responsible steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems, installed by a Discharger when necessary to achieve compliance with the conditions of this permit.

6. Property Rights

This permit does not convey any property rights of sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

7. Duty to Provide Information

The Discharger shall furnish the Regional Water Board, State Water Board, or EPA, within a reasonable time, any requested information to determine compliance with this permit. The Discharger shall also furnish, upon request, copies of records required to be kept by this permit.

8. Inspections and Entry

The Discharger shall allow the Regional Water Board, State Water Board, or EPA, and local storm water management agency, upon the presentation of credentials and other documents as may be required by law to:

a. Enter upon the Discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this permit;

b. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

c. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment) that are related to or may impact storm water discharge.

d. Sample or monitor at reasonable times for the purpose of ensuring permit compliance.

9. Signatory Requirements

a. All Notices of Intent submitted to the Regional Board shall be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (2) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For a partnership or sole proprietorship: by a general partner or the proprietary, respectively; or

3. For a municipality, State, Federal, or other public agency: by either a principal executive officer, ranking elected official, or duly authorized representative. The principal executive office of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

b. All reports, certifications, or other information required by the permit and requested by the Regional Water Board, State Water Board, EPA, or local storm water management agency shall be signed by a person described above or duly authorized representative. A person is a duly authorized representative if:

1. The authorization is made in writing by a person described above and retained as part of the Storm Water Pollution Prevention Plan.

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the construction activity, such as the position of manager, operator, superintendent, or position equivalent responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

10. Certification

Any person signing documents under Provision 9 shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false

information, including the possibility of fine and imprisonment for knowing violations."

11. Penalties for Falsification of Reports

Section 309 (c) (4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this general permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine or not more than $10,000 or by imprisonment for not more than two years or by both.

12. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Discharger from any responsibilities, liabilities, or penalties to which the Discharger is or maybe subject under Section 311 of the CWA.

13. Severability

The provisions of this permit are severable, and, if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

14. Reopener Clause

This general permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations 122.62, 122.63, 122.64, and 122.65. If there is evidence indicating potential or actual impacts on water quality due to any storm water discharge, associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or an alternative general permit, or this permit may be modified to include different limitations and/or requirements.

15. Penalties for Violations of Permit Conditions

a. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this permit is subject to civil penalty not to exceed $25,000 per day of violation, as well as other appropriate sanction provided by Section 309 of the CWA.

b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties which in some cases are greater than those under the CWA.

16. Availability

A copy of this permit shall be maintained at the construction site during construction and be available to operating personnel.

17. Transfers

This permit is transferable. A new owner/developer of an ongoing construction activity must submit a Notice of Intent (NOI) in accordance with the requirements of this permit to be authorized to discharge under this permit. An owner/developer who terminates all interest in the property (by sale of this property, or termination of contracts) shall inform the new/owner developer of the duty to file a NOI and shall provide the new owner/developer with a copy of this permit.

18. Continuation of Expired Permit

This permit continues in force and effect until a new general permit is issued or the Regional Board rescinds this permit. Only those Dischargers authorized to discharge under the expiring permit are covered by the continued permit.

ATTACHMENT "G"

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION (REGIONAL BOARD)

MONITORING AND REPORTING PROGRAM NO. R6T-2005-0007

WASTE DISCHARGE REQUIREMENTS AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

FOR

DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY INVOLVING LAND DISTURBANCE IN THE LAKE TAHOE HYDROLOGIC UNIT

EL DORADO, PLACER, AND ALPINE COUNTIES

A. Inspections

An inspection of the construction site shall be made at the end of each work day during active construction periods, and at least once a month during long periods of inactivity (e.g., winter) by the Discharger, resident engineer, superintendent, general contractor or equivalent. In addition, qualified personnel shall conduct construction site inspections prior to anticipated storm events, during extended storm events, and after actual storm events. Inspections shall be performed from the commencement of construction activities until revocation of this permit. The purpose of the inspections is to discover potential water quality problems at the construction site so the Discharger can implement corrective measures immediately. The inspections will also be used to document compliance with the conditions of the General Permit and the Storm Water Pollution Prevention Plan (SWPPP) and to evaluate the effectiveness of the SWPPP. An inspection shall consist of checking for the following items, as applicable:

1. Damage to containment dikes or erosion control fencing;

2. Improperly installed or ineffective erosion control fencing;

3. Unauthorized vehicle access;

4. Boundary fence damage or removal;

5. Disturbed areas with inadequate erosion prevention and sediment control protection;

6. Evidence of any sediment leakage through erosion control fencing or containment dikes;

7. Soil piles and other earthen materials which are unprotected or located in drainage way;

8. Spilled and improperly stored chemicals, paint, fuel, oil, solvents, sealants, etc.;

9. Upstream runoff diversion structures (in-place and operational);

10. Any evidence of sediment tracking from construction equipment;

11. Any signs of soil erosion or deposition downgradient form runoff discharges; and

12. Sediment accumulation within on-site storm water drainage control facilities.

The Discharger shall maintain a site inspection logbook noting the date of the inspection, the inspection, the inspector's name and position title, and problem areas discovered for each inspection performed. The inspection log shall be made available to Regional Board staff for review if so requested.

B. Storm Water Monitoring

Dischargers of storm water associated with construction activity shall conduct a sampling and analysis program to monitor for sedimentation/siltation and for pollutants not visibly detected in storm water discharges that are known to occur on the construction site and that could cause or contribute to an exceedance of receiving water quality objectives. All sampling and analysis procedures shall be designed to assess whether installed and maintained BMPs prevent sediment and other pollutant discharges from contributing to receiving water impairment.

Sediment and other pollutant samples shall be collected during daylight hours during the first two hours of storm events that result in a direct discharge to surface water. Surface water includes any storm water conveyance directly connected to an ephemeral or perennial drainage way, stream, stream environment zone, or lake. The surface water may be outside the project area. All sampling, sample preservation, and analysis must be conducted according to test procedures specified in 40 CFR Part 136. All sampling equipment shall be used and calibrated according to manufacturers specifications. All field and laboratory analytical data shall be kept at the construction site at all times with the SWPPP document.

Sedimentation/Siltation

a. Samples shall be analyzed for Settleable Solids (ml/L) and Turbidity (NTU).
b. No more than four samples need be collected per month.
c. All samples shall be representative of the prevailing conditions of both the discharge and the receiving water.
d. Samples shall be collected from accessible locations upstream of the construction site and immediately downstream of the last discharge point.

Not Visually Detectable Pollutants

a. The Discharger shall implement sampling for non-visual pollutants that are not stored in water tight roof or inside a building.
b. Sampling and Analysis procedures shall be designed to determine whether the installed and maintained BMPs prevent discharge of pollutants from contributing to receiving water impairment.
c. Any observed breach, malfunction, leakage, or spill that could result in a non-visual pollutant discharge to surface waters shall trigger sample collection.

d. Samples shall be collected at all discharge locations that drain the areas impacted by pollutant discharge identified by visual inspection.
e. A sufficiently large storm water sample that has not contacted disturbed soil or the pollutant source (uncontaminated sample) shall be collected for comparison with the discharge sample.
f. Analysis may include, but are not limited to indicator parameters such as pH, specific conductance, dissolved oxygen, conductivity, and TDS.

Examples of construction sites that may require sampling and analysis include: sites that are known to have contaminants spilled or spread on the ground; sites where construction practices include the application of soil amendments, such as gypsum, that can increase runoff pH; or sites that have uncovered stockpiles of material exposed to storm water. Visual observations before, during, and after storm events may trigger a sampling event.

C. Annual Reporting

At the end of each construction season the Discharger shall submit a report to the Regional Board containing, at minimum, the following information:

1. The project name and location;

2. Any significant problem(s) which occurred during project construction and remedial measures planned or implemented;

3. Analytical results from storm water samples collected pursuant to Paragraph B.

4. Certification that the site has been winterized in accordance with BMPs for erosion prevention and sediment control;

5. Certification that the construction project site is in compliance with the conditions of the general permit and the SWPPP. This certification shall be signed by a Civil Engineer registered in the State of California. This certification should be based upon site inspections required in Paragraph A.

This report shall be submitted to the Regional Board on or before November 30 of each year before completion of the construction project.

D. Restoration Monitoring and Reporting

For restoration projects, the Notice of Applicability may require additional monitoring and reporting. For a list of common elements that may be included as required for additional monitoring, refer to Attachment “C”.

A report shall be submitted to the Regional Board on or before October 31 of each year, for three years, following the completion of the project. This report shall contain an update of the current status of the site and the success of additional monitoring efforts. For projects that involve establishing a vegetative cover, for the purposes of mitigation, restoration, stormwater treatment and/or erosion control, the report shall describe the success of the revegetation efforts. If any of the annual reports indicate that the annual performance criteria is not being met, the project proponent shall submit a plan and schedule in accordance

with the previously submitted Contingency Plan for Regional Board staff review and approval.

E. Final Monitoring Report

Following completion of project construction, the Discharger shall submit a final monitoring report to the Regional Board containing, at minimum, the following information:

1. Details of any modification of the construction plans for the proposed storm water collection treatment, or disposal facilities or restoration work;

2. Details on any change in the amount of impervious coverage for the project site;

3. Any significant problem(s) which occurred during project construction and remedial measures planned or implemented;

4. A statement certifying that on-site soil stabilization and revegetation measures have been completed; and

5. Certification that construction activity has been completed, that the project was constructed in strict accordance with the specifications in all elements of the SWPPP, that construction and equipment maintenance waste have been disposed properly, that the site is in compliance with all local storm water management requirements including erosion prevention and sediment control requirements, policies, and guidelines, and that the project site is in compliance with the conditions of the general permit. This certification shall be signed by a Civil Engineer registered in the State of California.

The final report shall be signed and dated by the property owner, or the property owner's legal representative, and submitted to the Regional Board within 30 days of project completion.

Records of all inspections (including the inspection log book), compliance certificates, monitoring reports, and noncompliance reporting must be maintained by the project proponent for a period of at least three years.

These Monitoring and Reporting Program requirements may be modified or amended in the future by action of the Regional Board Executive Officer.

Ordered by _____ Date: _____
HAROLD J. SINGER
EXECUTIVE OFFICER

ATTACHMENT "H"

State of California
California Regional Water Quality Control Board-Lahontan Region

REQUEST FOR PERMIT REVOCATION

FOR COVERAGE UNDER THE NPDES GENERAL PERMIT NO. CAG616002
FOR DISCHARGES OF STORM WATER RUNOFF
ASSOCIATED WITH CONSTRUCTION ACTIVITY
IN THE LAKE TAHOE HYDROLOGIC UNIT
EL DORADO, PLACER, AND ALPINE COUNTIES

Submission of this Request for Permit Revocation constitutes notice that the owner (and his/her agent) of the site identified on this form is no longer authorized to discharge storm water associated with construction activity by NPDES General Permit No. CAG616002.

I. WDID NO. _____

II. OWNER

COMPANY NAME _____ CONTACT PERSON _____

STREET ADDRESS _____ TITLE _____

CITY _____ STATE _____ ZIP _____ PHONE _____

III. CONSTRUCTION SITE INFORMATION

A. DEVELOPER NAME _____ CONTACT PERSON _____

STREET ADDRESS _____ TITLE _____

CITY _____ STATE _____ ZIP _____ PHONE _____

B. SITE ADDRESS _____ COUNTY _____

CITY _____ STATE _____ ZIP _____ PHONE _____

IV. BASIS OF REVOCATION

_____ 1. The construction project is complete and all of the following conditions have been met.

- The construction project is complete and there is no potential for construction related storm water pollution.
- Construction materials and waste have been disposed of properly.
- All elements of the SWPPP have been completed.
- Permanent BMPs have been installed.
- Information required by the Monitoring and Reporting Program has been submitted.

Date of project completion _____/_____/_____

_____ 2. There is a new owner of the identified site. Date of owner transfer _____/_____/_____

Was the new owner notified of the General Permit requirements? YES ____ NO ____

NEW OWNER INFORMATION

COMPANY NAME _____ CONTACT PERSON _____

STREET ADDRESS _____ TITLE _____

CITY _____ STATE _____ ZIP _____ PHONE _____

V. EXPLANATION OF BASIS OF REVOCATION (Attach site photographs - see instructions).

VI. CERTIFICATION:

I certify under penalty of law that all storm water discharges associated with construction activity from the identified site that are authorized by NPDES General Permit No. CAG616002 have been eliminated or that I am no longer the owner of the site. I understand that by submitting this Request for Revocation Form, I am no longer authorized to discharge storm water associated with construction activity under the General Permit, and that discharging pollutants in storm water associated with construction activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this Request for Permit Revocation does not release an owner from liability for any violations of the General Permit or the Clean Water Act.

PRINTED NAME _____ TITLE _____

SIGNATURE: _____ DATE ____/____/____

REGIONAL WATER BOARD USE ONLY

This Request for Permit Revocation has been reviewed, and I recommend revocation of coverage under the General Permit.

PRINTED NAME _____ TITLE _____

SIGNATURE: _____ DATE _____/_____/_____

ROUTE TO SWIM COORDINATOR AFTER REVOCATION IS APPROVED

State of California
California Regional Water Quality Control Board-Lahontan Region

INSTRUCTIONS FOR COMPLETING
REQUEST FOR PERMIT REVOCATION

Who May File

Dischargers who are presently covered under NPDES General Permit No. CAG616002 for discharge of storm water associated with construction activity may submit a Request for Permit Revocation when they meet one of the following criteria.

1. The construction project has been completed and all of the following conditions have been met: (1) the construction project is complete and there is no potential for construction related storm water pollution, (2) construction materials and waste have been disposed of properly, (3) all elements of the SWPPP have been completed, (4) permanent BMPs have been installed, (5) information required by the attached Monitoring and Reporting Program has been submitted, and (6) Regional Board staff have inspected the site if necessary.

2. There is a new owner of the identified site. If ownership or operation of the facility has been transferred then the previous owner must submit a Request for Permit Revocation and the new owner must submit a Notice of Intent for coverage under the General Permit. The date of transfer and information on the new owner should be provided. Note that the previous owner may be liable for discharge from the site until the new owner files a Notice of Intent for coverage under the General Permit.

Where to File

Submit the Request for Permit Revocation to the Executive Officer of the Regional Water Quality Control Board-Lahontan Region located at 2501 Lake Tahoe Boulevard, South Lake Tahoe, CA 96150. Submittal of the Request for Permit Revocation does not guarantee that permit coverage will be revoked and outstanding invoices are still valid. If the Executive Officer, or his designated staff, agrees with the basis of revocation, your permit will be revoked. (The Regional Water Board may also inspect your site prior to accepting the basis of revocation.) Approval of the Request for Permit Revocation does not relieve you from paying any applicable outstanding invoices. If the Executive Officer, or his designated staff, does not agree with the basis of revocation, the Request for Permit Revocation will be returned and reasons for denial will be provided in a written notification.

LINE-BY-LINE INSTRUCTIONS

All necessary information must be provided on the form. Type or print in the appropriate areas only. Submit additional information, if necessary, on a separate sheet of paper.

SECTION I--WDID NO.

The WDID No. is a number assigned to each discharger covered under the General Permit. If you do not know your WDID No., please call the Lahontan Regional Water Quality Control Board at 530) 542-5400 and request it before submitting the Request for Permit Revocation.

SECTION II--OWNER

Enter the owner of the construction site's official or legal name (This should correspond with the name on the Notice of Intent submitted for the site), address of the owner, contact person, and contact person's title and telephone number.

SECTION III--CONSTRUCTION SITE INFORMATION

In Part A, enter the name of the developer (or general contractor), address, contact person, and contact person's title and telephone number. The contact person should be the construction site manager completely familiar with the construction site and charged with compliance and oversight of the general permit. This information should correspond with information on the Notice of Intent submitted for the site.

In Part B, enter the address, county, and telephone number (if any) of the construction site. Construction sites that do not have a street address must attach a legal description of the site.

SECTION IV--BASIS OF REVOCATION

Check the category which best defines the basis of your termination request. See the discussion of the criteria in the Who May File section of these instructions. Provide dates and other information requested. Use the space under Explanation of Basis of Revocation heading.

SECTION V--EXPLANATION OF BASIS OF REVOCATION

Please explain the basis or reasons why you believe your construction site is not required to comply with the General Permit. To support your explanation, on a separate sheet, provide a site map and photographs of your site. Include photographs that show BMP installation and site revegetation and stabilization efforts.

SECTION VI--CERTIFICATION

This section must be completed by the owner of the site.

The Request for Permit Revocation must be signed by:

For a Corporation: a responsible corporate officer

For a Partnership or Sole Proprietorship: a general partner or the proprietor, respectively.

For a Municipality, State, or other Non-Federal Public Agency: either a principal executive officer or ranking elected official

For a Federal Agency: either the chief or senior executive officer of the agency

ATTACHMENT "I"

State of California
California Regional Water Quality Control Board-Lahontan Region

NOTICE OF INTENT

TO COMPLY WITH THE LAKE TAHOE HYDROLOGIC UNIT
WASTE DISCHARGE REQUIREMENTS AND
GENERAL NPDES CONSTRUCTION ACTIVITY STORMWATER PERMIT
(BOARD ORDER R6T-2005-TENT, WDID CAG616002)

I. NOI STATUS

MARK ONLY ONE ITEM ☐ 1. New Construction ☐ 2. Change of Information for WDID#	

II. PROPERTY OWNER

Name	Contact Person		
Mailing Address	Title		
City	State	Zip	Phone ( ) --

III. DEVELOPER/CONTRACTOR INFORMATION

Developer/Contractor	Contact Person		
Mailing Address	Title		
City	State	Zip	Phone ( ) --

IV. BILLING INFORMATION

SEND BILL TO: ☐ OWNER (as in II. above)	Name	Contact Person	
☐ DEVELOPER	Mailing Address	Phone/Fax	
☐ OTHER (enter information at right)	City	State	Zip

V. CONSTRUCTION PROJECT INFORMATION

Site/Project Name	Site Contact Person		
Physical Address/Location	Latitude _____ 0	Longitude _____ 0	County
City (or nearest City)	Zip	Site Phone Number ( )	Emergency Phone Number ( )

A. Total size of construction site area: _____ Acres B. Total area to be disturbed: _____ Acres (% of total _____)	C. Percent of site imperviousness (including rooftops): Before Construction _____% After Construction _____%	D. Tract Number/s: _____, _____ E. Mile Post Marker: _____

F. Is the construction site part of a larger common plan of development or sale? ☐ YES ☐	G. Name of plan or development:

H. Construction commencement date: _____/_____/_____ I. % of site to be mass graded: _____	J. Projected construction dates: Complete grading ____/_____/____ Complete project ____/____/____
K. Type of Construction (Check all that apply) ☐ Residential ☐ Commercial ☐ Industrial ☐ Reconstruction ☐ Transportation ☐ Restoration	☐ Utility (Please explain):_____ ☐ Other (Please explain):_____

VI. REGULATORY STATUS

Does your project involve dredging or fill in waters of the United States, subject to U.S. Army Corps of Engineers permitting requirements under Clean Water Act Section 404?

If yes, you are required to obtain a 401 Water Quality Certification from the Regional Board. Have you submitted a completed Water Quality Certification Application? The Clean Water Act §401 Water Quality Certification Application Form is available at http://www.swrcb.ca.gov/cwa401/docs/applicationform.doc.

VII. DISTURBANCE TO SEZ (STREAM ENVIRONMENT ZONE)

If your project involves new disturbance or fill in an SEZ, you are required to obtain an Exemption to a Basin Plan Prohibition that prohibits disturbance in SEZs. In order to qualify for an Exemption, you must present information with your application that allows the Regional Board or the Executive Officer to determine that the project meets the necessary findings required to grant an Exemption. (Refer to Page 5.8-7 for a list of the exemption criteria.)

Does the project involve disturbance to a stream environment zone? __YES ___NO

If yes, provide the amount (in square feet) of new disturbance in an SEZ: _____ square feet

If yes, provide the amount (in cubic yards) of fill in an SEZ: _____ cubic yards

Exemption findings to allow new SEZ disturbance require that the project includes restoration of SEZ lands in an amount 1.5 times the area of SEZ developed or disturbed by the project. The 1.5:1 restoration requirement does not apply to erosion control projects, habitat or SEZ restoration projects, or wetland rehabilitation. The project description and site map submitted with your application should clearly identify the location and amount of SEZ restoration.

VIII. RECEIVING WATER INFORMATION

A. Does the storm water runoff from the construction site discharge to (Check all that apply):

1. ☐ **Indirectly to waters of the U.S.**
2. ☐ **Storm drain system - Enter owner's name:_____**
3. ☐ **Directly to waters of U.S. (e.g. , river, lake, creek, bay, ocean)**

B. Name of receiving water: (river, lake, creek, stream, bay, ocean): _____

IX. IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

The SWPPP must be accepted by the Executive Officer before authorizing discharge under this General Permit. (If your report of waste discharge does not include a SWPPP, your application will be deemed incomplete.)

☐ A SWPPP has been prepared and submitted to the Regional Board as part of this report of waste discharge.

☐ This report of waste discharge does not contain a SWPPP.

B. MONITORING PROGRAM

To comply with the conditions of this General Permit, you must prepare a monitoring and maintenance schedule that includes inspection of construction BMPs before anticipated storm events and after actual storm events. The monitoring and maintenance plan must be available for review. If the project is a Restoration project, additional monitoring, including a vegetative cover survey, is required.

As part of this project, a stormwater monitoring plan for sedimentation/siltation and for pollutants not visibly detected in storm water discharges has been prepared and will be implemented when appropriate. Yes ☐ o ☐

The project is a Restoration-type project and requires additional monitoring requirements. A Restoration Monitoring and Reporting Program has been prepared and submitted as part of this application. Yes No ☐ ☐

Provide the name and contact information for the person that has been assigned responsibility for stormwater sampling and/or restoration monitoring.

Name: Phone:

C. PERMIT COMPLIANCE RESPONSIBILITY

A qualified person must be assigned responsibility to ensure full compliance with the General Permit, and to implement all elements of the Storm Water Pollution Prevention Plan. Provide the name and contact information for the person that has been assigned responsibility for 1) conducting pre-storm and post-storm BMP inspections to identify effectiveness and necessary repairs or design changes, 2) preparing the Annual Report due at the end of each construction season, 3) implementing restoration and monitoring reporting if applicable, and 4) preparing the Final Monitoring Report.

Name: Phone:

X. MATERIAL HANDLING/MANAGEMENT PRACTICES

A. Types of materials that will be handled and/or stored at the site during construction:

☐ Solvents ☐ Metal ☐ Petroleum Products ☐ Plated Products
☐ Asphalt/Concrete ☐ Hazardous Substances ☐ Paint ☐ Wood Treated Products
☐ Other (Please list)

B. Identify proposed management practices to reduce pollutants in storm water discharges (Check all that apply)

☐ Oil/Water Separator ☐ Erosion Controls ☐ Sedimentation Controls ☐ Overhead Coverage
☐ Detention Pond ☐ Other (Please list)

XI. VICINITY MAP AND FEE (must show site location in relation to nearest named streets, intersections, etc.)

Have you included a vicinity map with this submittal? _____ YES ☐ NO ☐

Have you included payment of the annual fee with this submittal_____ YES ☐ NO ☐

XII. CERTIFICATIONS

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. In addition, I certify that the provisions of the permit, including the development and implementation of a Storm Water Pollution Prevention Plan and a Monitoring Program Plan will be complied with."

Printed Name: _____ _____

Signature: _____ **Date:** _____

Title: _____

LAHONTAN/TRPA MEMORANDUM OF UNDERSTANDING (MOU)

MEMORANDUM OF UNDERSTANDING BETWEEN THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LAHONTAN REGION, AND THE TAHOE REGIONAL PLANNING AGENCY

WHEREAS, the California Regional Water Quality Control Board, Lahontan Region (Lahontan RWQCB), through direction to the RWQCB Executive Officer, and the Tahoe Regional Planning Agency (TRPA) Governing Body, through direction to the TRPA Executive Director, have agreed to enter into this Memorandum of Understanding (MOU); and

WHEREAS, Lake Tahoe is a designated Outstanding National Resource Water whose quality and beneficial uses are threatened by sediment, nutrient, and other pollutant loading from a variety of sources. Control of these sources is of major interest to the States of California and Nevada and the federal government; and

WHEREAS, the Lahontan RWQCB is an agency of the State of California, empowered by the federal Clean Water Act, the Porter-Cologne Water Quality Control Act, and other federal and state laws to set water quality standards and to regulate activities in the California portion of the Lake Tahoe Basin which may have an adverse effect on water quality; and

WHEREAS, the Lahontan RWQCB is responsible for implementing the federal Clean Water Act NPDES and 401 Water Quality Certification Programs, and is a responsible agency under the California Environmental Quality Act (CEQA); and

WHEREAS, TRPA is required by the Tahoe Regional Planning Compact (P.L. 96-551, 94 Stat. 3233, Cal. Govt. Code 66801; NRS 277.200) to regulate activities within the Lake Tahoe Basin, which may have a substantial effect on natural resources of the Basin. To protect these resources, the Compact directs TRPA to establish and ensure attainment of environmental standards for water quality, air quality, noise, recreation, soil conservation, wildlife habitat, vegetation preservation, scenic quality, and fisheries. The Compact also directs TRPA to define which activities are exempt from TRPA review and approval. TRPA defines exempt activities in Chapter 4 of its Code of Ordinances; and

WHEREAS, the Lahontan RWQCB and TRPA are both responsible for implementing the bi-state Water Quality Management Plan for the Lake Tahoe Region ("208 Plan") and TRPA is recognized as one of the implementing agencies for certain California Water Quality Control Plan provisions applicable to the Lake Tahoe Basin. These provisions require compliance with water quality standards and the installation of BMPs for the control of erosion and storm water on all improved properties in the California portion of the Lake Tahoe Basin, and prohibit disturbance of Stream Environment Zones (SEZs), with limited exceptions; and

WHEREAS, the Lahontan RWQCB and TRPA are interested in developing a cooperative approach toward implementation of water quality plan provisions related to prevention of water pollution; control of erosion, sediment, storm water, and wastewater; and cleanup activities for ground water contamination; and

WHEREAS, the Lahontan RWQCB and TRPA recognize that areas of overlapping authority and regulatory effort exist in the operations of the two agencies, and that it will be mutually beneficial to the RWQCB, TRPA, and the regulated community to avoid unnecessary duplicative regulation.

WHEREAS, the Lahontan RWQCB has found that waiving filing a report of waste discharge and/or waste discharge requirements (WDRs) for discharges associated with Best Management Practices (BMP) retrofit projects and other construction activity defined below, involving less than one acre of total land disturbance and less than 1,000 square feet of new disturbance in lands classified as SEZ, would not be against the public interest when the project or discharge is effectively regulated by TRPA.

NOW THEREFORE, the Lahontan RWQCB and TRPA agree as follows:

1. The Lahontan RWQCB and TRPA will both be responsible for the following categories of projects and activities:

   a. **Projects Over One Acre Total Land Disturbance***: Review, permitting, and enforcement for any project, regardless of the category of use, involving more than one (1) acre of land disturbance.

   *** Total Land Disturbance refers to any and all temporary and permanent land disturbance associated with a project, including access roads, staging areas, building foundations, BMPs, and landscaping.**

   b. **Ski Areas**: Review, permitting, and enforcement to ensure BMP retrofit of existing ski areas.

   c. **Public Erosion Control/Runoff Treatment Projects**: Review, permitting, and enforcement to ensure BMP retrofit of public right-of-ways. (Public right-of-ways include the City of South Lake Tahoe, El Dorado County, Placer County, and Caltrans roadways.) These projects may include treatment of storm water generated on private land.

   d. **New Disturbance in an SEZ**: Review, permitting, and enforcement for facilities/projects involving more than 1,000 square feet of new disturbance or 100 cubic yards of fill in an SEZ.

   e. **Stream Restoration and Wetland Restoration Projects**: Review, permitting, and enforcement for stream restoration and wetland restoration projects involving more than 1,000 square feet of disturbance or 100 cubic yards of fill in SEZ lands.

   f. **New Dredging**: Review, permitting, and enforcement for new dredging.

2. Each agency will assume either primary or secondary responsibility, within the confines of each agency's authority, for the types of projects and activities listed in Paragraphs 3 and 4, below. The agency with primary responsibility will review project proposals, issue permits, conduct inspections, and take enforcement action as necessary to ensure compliance with permits. The other agency will not normally issue a permit, but may

consult with staff of the primary agency as provided below in Paragraph 10, and may also use its full regulatory authority when necessary as described below in Paragraph 9.

3. The Lahontan RWQCB will have primary responsibility for the following categories of projects or activities in the California portion of the Lake Tahoe Basin:

   a. **Activities Regulated Under Existing Waste Discharge Requirements (WDRs)/NPDES Permits:** Ensure compliance with requirements contained in permits adopted by the Regional Board or State Water Resources Control Board for BMP retrofit, maintenance activities (Caltrans, utility districts, and municipalities), and industrial operations.

   b. **Marinas - Industrial Activities and Maintenance Dredging**: Ensure compliance with the Lake Tahoe NPDES Storm Water General Permit for Industrial Activities and Maintenance Dredging at Marinas. This applies only to discharges of storm water from the facility or non-storm water discharges associated with the industrial operations of the facilities. Construction of new facilities, facility expansion/modification projects, and changes in use are also subject to review and approval by TRPA.

   e. **Contaminated Ground Water Sites**: Site assessment, investigation, and review of BMPs and ground water cleanup levels, in cooperation with the appropriate County for specification of soil cleanup levels, for leaking underground storage tank (UST) sites, above-ground tank (AGT) sites, and other spill/leak/investigation/cleanup (SLIC) sites. (SLIC sites include spills of sewage, fuel, oil, paints, pesticides, detergents, etc.) The Regional Board is responsible for reviewing and authorizing any grading associated with cleanup/remediation activities and temporary/permanent BMP plans for the site, and review of any proposed temporary remediation equipment housing for conformance with TRPA's Code of Ordinances. All proposals for temporary structures not conforming to TRPA guidelines shall be referred to TRPA for review, permitting, and enforcement.

4. TRPA will have primary responsibility for the following types of projects or activities in the California portion of the Lake Tahoe Basin:

   a. **BMPs**: Review, permitting, and enforcement to ensure BMP retrofit on private properties with existing improvements and for which the Lahontan RWQCB has not adopted WDRs.

   b. **New/Modification/Expansion**: Unless covered in paragraphs 1 or 3 above, review, permitting, and enforcement for the construction of new facilities, modification and/or expansion of existing facilities, and changes in use, provided the project does not exceed one (1) acre of total land disturbance and involve more than 1,000 square feet of new disturbance or 100 cubic yards of fill in an SEZ. This applies to any category of use as defined by TRPA, including residential.

c. **Shorezone/Lakezone**: Review, permitting, and enforcement for piers, boat ramps, buoys, floating docks and platforms, and shorezone protection provided 401 Water Quality Certification (pursuant to Section 401 of the Clean Water Act) is obtained from the Lahontan RWQCB for those projects requiring an Army Corps of Engineers Section 404 Permit. This applies to all lakes within the Lake Tahoe Basin.

d. **Land Capability and Land Coverage**: Verification of land capability districts, in accordance with the Bailey Land Capability Classification System, and verification and tracking of existing, banked, transferred, and mitigated land coverage.

e. **Man-modified Determinations**: Review and approval of man-modified determinations to reclassify land capability and shorezone tolerance districts. This includes man-modified determinations for backshore boundary delineations.

5. Private property owners proposing to retrofit their properties with BMPs may elect to obtain approval for their project from the Regional Board instead of TRPA, provided the project does not involve any remodel or expansion of the existing facilities.

6. Only the agency issuing a permit will be responsible for approval of exemptions to prohibitions related to SEZ disturbance. Any exemptions shall be in accordance with the TRPA Code of Ordinances or the Water Quality Control Plan for the Lahontan Region (Basin Plan).

7. The agency issuing a permit will conduct any required pre-grade and final inspections, and will be responsible for granting a variance to the October 15 – May 1 soil disturbance prohibition period.

8. This MOU does not affect projects or activities within the mutual jurisdiction of the Lahontan RWQCB and TRPA in the Truckee River watershed downstream of Lake Tahoe.

9. Nothing in this MOU shall be construed to limit the authority of either the Lahontan RWQCB or TRPA to ensure compliance with its environmental standards and regulations or to take enforcement action.

10. Staff of the Lahontan RWQCB and TRPA shall cooperatively provide training, technical review, and comments to each other, as appropriate.

11. A staff person from each agency shall be designated as a liaison and responsible person for the implementation of this MOU.

12. Staff of each agency shall meet and coordinate on implementation of the MOU as follows:

    a. Proposed shorezone projects, including maintenance dredging, shall be discussed at the Shorezone Review Committee.

b. TRPA staff shall provide training to Regional Board staff for reviewing proposed temporary structures at ground water remediation sites for conformance with the TRPA Code of Ordinances. Regional Board staff shall consult with TRPA staff as needed in reviewing proposals for temporary structures.

c. TRPA and Lahontan staff shall meet semi-annually to discuss issues, problems, and opportunities encountered during administration and implementation of this MOU. TRPA and Lahontan staff shall provide a mutual report to the TRPA Executive Director and the Regional Board Executive Officer within 60 days following such a meeting.

13. This MOU will continue in effect until written notice of termination is given by either party to the other party. Both parties hereby agree to cooperate in good faith to carry out the provisions of this MOU to achieve the objectives set forth herein.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LAHONTAN REGION

Dated: August 5, 2003

Harold J. Singer
Executive Officer

TAHOE REGIONAL PLANNING AGENCY

Dated: 7-2-03

Jerry Wells
Acting Executive Director

PLACER COUNTY
ENCROACHMENT PERMIT
SAMPLE

COUNTY OF PLACER
ENCROACHMENT PERMIT-UTILITY

11428 F Ave.
Auburn, CA 95603
(530) 889-7565

Permit #: **DEPU 2006283**

Location BEAVER ST. AT SR28 IN KINGS BEACH
Appl. Date: 10/17/06

Job Descrip NTPUD BEAVER ST. H2O/SEWER REPLCMT PROJ.

OWNER INFORMATION
NORTH TAHOE PUBLIC UTILITY DISTRICT
P.O. BOX 139

TAHOE VISTA CA 96148

APPLICANT INFORMATION
NORTH TAHOE PUBLIC UTILITY DISTRICT
P.O. BOX 139

TAHOE VISTA CA 96148

Bus. Phone: 530-546-4212
Home Phone:

Comments Reference DPN 8469 Improvement Plans
See Attached Exhibit A, General Provisions

CALL 48 HOURS IN ADVANCE OF CONSTRUCTION: ___ **(530) 889-7565** ___ **(530)745-7558** ✓ **(530) 581-6227**

DECLARATIONS:
The County of Placer, State of California, having received an application therefore, hereby authorizes and grants revocable license to the owner/applicant of this permit to do the work, construction and/or otherwise encroach upon the right of way of County Roadway(s), as described above, in accordance with the Placer County Code Chapter 12 and the General Provision of Encroachment (on back of this permit). In the event the future improvements of the highway necessitates the relocation of such encroachment the permittee will relocate the same at his/her sole expense.

This permit shall be void unless the work herein contemplated shall have been completed before the expiration date. Permit approved subject to payment of fees and CONDITION OF WORK and is revocable at any time.

APPLICATION FOR ENCROACHMENT

I hereby apply for a permit to encroach on Placer County Right of Way and hereby agree to adhere to all Provisions of Encroachment stated in the General Provisions of Encroachment, all County Codes and Ordinances, Street and Highway Codes, Vehicle Codes and all special conditions placed on this permit if granted.

PERMIT SHALL BE PRESENT AT JOB SITE.

Applicant Signature: _____ Date: 12-4-06

Approved: Ken Grehm Issued: 2/16/07 Expires: 10-15-08
Ken Grehm, Director of Public Works

PERMIT SPECIFICATIONS ___Excavation ___Access Rd ___Obstruction ✓ Imp. Plans ___Other

PN# 8469 **CUP#**_____ **DSA#**_____ **PM#**_____ **SUB#**_____ **FF#**_____

(1) Work to conform to approved Plans & Specifications.
(2) Work to conform to Placer County General Specifications.
(3) Work to conform to Placer County General Specifications Sections 19 and Plates U-26.1, U-26.2, U-29.
(4) Backfill material to be Structural.
5. Street crossings to be repaired within one week on encroachment.
6. Road crossings to be bored. If not possible, contact Inspector prior to construction.
7. Pole to be set behind ditchline.
(8) All County Codes and Ordinances, Street and Highway Codes and Vehicle Codes are to be adhered to.
(9) Traffic control per General Provision 12 & 13.
(10) Sawcut existing roadway surface 1 ft beyond all limits of excavation.
(11) Pave excavated area with 3" AC or match existing, whichever is greater, over 6" AB or match existing, whichever is greater.
(12) Other requirements:

GENERAL PROVISIONS

EXHIBIT "A"

ENCROACHMENT PERMIT

1. DEFINITIONS: Encroachment Permits are issued under Chapter 12 of the County Code. Permits may be referred to as "permit," "encroachment permit," or "utility encroachment permit." The Department of Public Works is herein called "Department." Except as otherwise provided for public agencies and franchise holders, Encroachment Permits shall be revocable as hereinafter provided.

2. REVOCATION: Terms and conditions for any Encroachment Permit issued are revocable, subject to modification, or abrogation at any time. However, to prior rights, including those evidenced by joint use agreement, franchise rights, or reserved right for operating purposes in a grant of highway easement are not so subjected to revocation.

3. NO PRECEDENT ESTABLISHED: Permits are issued with the understanding that any particular action is not to be considered as establishing precedent (1) in the question of expediency of permitting any certain kind of encroachment to be erected within right-of-ways, or (2) as to any utility, of the acceptability of such permits as to any other or future situation.

4. NOTICE PRIOR TO STARTING WORK: The Permittee shall notify the Department twenty-four (24) hours in advance of the day the work is to begin.

5. PERMIT AT THE WORK: A copy of the Permit shall be kept at the site of the work and shown to any representative of the Department or any law enforcement officer on demand.

6. PERMITS FROM OTHER AGENCIES: The party to whom a permit is issued shall, whenever required by law, secure the written order or consent to work from the Public Utilities Commission of the State of California or any other public agency having jurisdiction.

7. LOCATION PLAN: For installation of any facility, the Permittee shall furnish a plan showing location and details with his application. Upon completion of the work, the Permittee shall furnish a set of "As Built Plans" where substantial variation has been made.

8. FUTURE MOVING OF INSTALLATION: It is agreed that whenever construction, reconstruction, or maintenance work on the highway may require, the installation shall, upon request of the Department, be immediately moved or modified by and at the sole expense of the Permittee, except as otherwise provided by law, or by any applicable permit provisions.

9. BONDING: A Faithful Performance Bond or acceptable sureties shall be furnished to the Department in the amount established by the Department to insure the work being done in conformance with the Permit.

10. COUNTY INSPECTION AND INSPECTION FEE: The County will inspect all work within right-of-ways. Inspection on underground facilities will begin one (1) foot above the facilities. An Inspection Fee is to be paid in accordance with the provisions of Sec. 12.04 of the County Code.

11. STANDARDS OF CONSTRUCTION: All work performed within the County Highway shall conform to the County Land Development Manual and subject to inspection and approval by the Department.

12. PROTECTION OF TRAFFIC: Adequate provisions shall be made for the protection of the traveling public. The warning signs, lights and other safety, shall conform to and follow the requirements of Section 21401 of the Vehicle Code and of any sign manual issued by the Department. Convenient access to driveways, houses and buildings shall be maintained. Nothing in the permit is intended as to third parties.

13. MINIMUM INTERFERENCE WITH TRAFFIC. All work shall be planned and carried out so that there will be the least possible inconvenience to the traveling public. Permittee is authorized to place flagmen to stop and warn traffic for necessary protection to public safety, but traffic shall not be unreasonably delayed.

The Highway shall not be closed or traffic lanes blocked unless specifically authorized by the permit or without first obtaining permission from the Department. When permission is obtained, the applicant shall notify Highway Patrol, Sheriff's Department, and Fire Department prior to closing the road.

14. STORAGE OF MATERIAL: Construction material shall not be stored, nor equipment parked, within four (4) feet from the edge of pavement or traveled way. Permittee may, however, stop, stand or park subject to the provisions of Section 25301 of the Vehicle Code, essential construction or maintenance vehicles or equipment at the edge of pavement or in the traveled way, while permittee's employees are in attendance when necessary to install or maintain its facilities.

15. CROSSING ROADWAY: Pavement or roadway shall not be cut unless specifically authorized by the permit. Service and other small diameter pipes shall be jacked or otherwise forced underneath pavement without disturbing same. Service pipes will not be permitted inside of culverts used as drainage structures.

16. LIMIT OF EXCAVATION: Excavation shall not be made closer than four (4) feet from the edge of the pavement except as may be specifically authorized by the permit.

17. TUNNELING: Tunneling is not permitted, except in major installations as may be specifically authorized by the permit.

18. TREES: Trees located within the right-of-way shall not be removed, trimmed or roots disturbed unless specifically authorized on this permit (Ref. Sec. 12.04 County Code)

19. LOCATION ON POLE LINES, ETC.: Pole lines shall be located as shown on the plan.

20. PUBLIC UTILITIES COMMISSION ORDERS: All clearances and type of construction shall be in accordance with the applicable orders of the Public Utilities Commission of the State of California.

21. REMOVE OLD POLES, GUYS AND STUBS: When removing poles, guys and stubs, the entire length shall be removed from the ground and the holes backfilled and thoroughly tamped.

22. CLEAN UP RIGHT-OF-WAY: Upon completion of the work, the right-of-way shall be left in as presentable a condition as existed before the work started.

23. LIABILITY FOR DAMAGES: The permittee is responsible for all liability imposed by law for personal injury or property damage which may arise out of work performed by permittee or which may arise out of failure on the permittee's part to perform obligations under any permit in the respect to maintenance. In the event any claim of such liability is made against the County of Placer, or any Department, Officer, or Employee thereof, permittee shall defend, indemnify and hold them, and each of them harmless from such claim. Nothing herein is intended to impose on permittee any different or higher standard of care than that required by law.

24. MAKING REPAIRS: In every case, the permittee shall be responsible for restoring to its former condition any portion of the highway which has been excavated or otherwise disturbed, except where the Department elects to make repairs to paving and except where provision to the contrary is made in the permit. If the highway is not restored as herein provided, or if the Department elects to make repairs, permittee agrees by acceptance of the permit to bear the cost thereof.

25. GUARANTEE OF WORK: The permittee shall maintain the surface over facilities for a period of five years after completion of work under the permit.

26. MAINTENANCE: The permittee agrees, to exercise reasonable care to maintain properly any installation placed in the right-of-way and to exercise reasonable care in inspecting and preventing injury in any portion of the highway resulting from the work.

27. ROUTINE OR EMERGENCY MAINTENANCE OF PERMITTEE'S FACILITIES: The Permittee is hereby given permission to enter upon the right-of-way to perform routine or emergency maintenance on permittee's facilities, subject to the following terms, conditions, and limitations: Tree trimming for overhead utilities shall be considered routine maintenance.

Permittee, before proceeding with Maintenance involving excavation within the traveled way or other work interfering with the Public Traffic, shall notify the Highway Superintendent prior to starting the work. In emergencies, the Superintendent shall be notified as soon as possible.

Permittee is authorized to make routine inspection and repairs from the manhole without notification.

28. SERVICE CONNECTIONS: These terms and conditions do not authorize installation of gas or water service connections within County highway right-of-way, regardless of location of main. All new pipe services, main extensions or excavations to abandon services must be covered by individual applications.

CALTRANS ENCROACHMENT PERMIT APPLICATION

INSTRUCTIONS FOR COMPLETING THE STANDARD ENCROACHMENT PERMIT APPLICATION

Please complete items 1 through 30. Insert "N/A" in the boxes, if it does not apply to your project. Submit all of the required attachments with the application (described in Section VII, A & B).

All dimensions shall be in US Customary (English) Units .

1 – 5: County, highway route number, highway postmile (location of work), address of work site (if the property does not have an address, enter street or road name), and city.

6: Distance and the direction from the nearest cross street to the work site (e.g., 500 ft north of C Street).

7: Portion of State right-of-way where work will occur (pavement, shoulder, back of curb, slope, ditch, etc.)

8: Indicate whether a contractor or your own work forces will perform the work.

9 – 10: Estimated start and completion dates for the permit work.

11: Maximum depth, average depth, average width and length. Describe the existing highway surface type (concrete, asphalt, gravel, dirt, etc.) of the excavation area.

12: Estimated cost for all work to be done within State right-of-way.

13: Type of pipe or conduit material to be used and product (water, gas, etc.), the diameter, and voltage of electrical current or pressure of liquid or gas.

14: E.A. number if this is a State project, capital project, or joint venture project.

15: Indicate if you are applying for a "Double Permit" and list the "Parent Permit Number". Your company's reference number or utility work order number for this project.

16: Has another Caltrans branch seen or reviewed your plans? Who?

17: Describe the proposed work to be done entirely. If applicable, attach six (6) complete sets of FOLDED plans (folded 8-½" X 11") and any applicable specifications, calculations, maps, etc.

18: Check "YES", if you are getting a permit or approval from another agency (City, County, etc.), and an environmental determination has been made. If your project is Exempt, then check the Categorically Exempt, Negative Declaration, Environmental Impact Report box if one has been prepared. Attach a copy of the approved document and a copy of the Notice of Determination.

If you check "NO", check the box of the appropriate type of work to be done, or check "other" and fill in the type of work to be done.

19: A Historical Resource includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that has historical or archeological significance, or significance in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

20: In this context a Scenic Resource includes, but is not limited to, trees that display outstanding features of form or age; unique, massive rock formations; historic buildings that are rare examples of their period, style, design, or which have special architectural features and details of importance.

21: Is there any work being done on the applicant's property?

22: Indicate if the propose project will require the disturbance of soil within highway right-of-way. If so, estimate the area in square feet **AND** acres.

23: Indicate if the proposed project will require dewatering. If so, estimate volume in gallons per day.

24: Indicate how will any storm water or ground water be disposed of from or near the limits of the proposed project.

25: Name of the applicant or organization applying for the permit. List e-mail address if applicable, the address where the permit is to be mailed, phone and a fax numbers.

26: Name of the authorized agent or engineer on behalf of the applicant or organization. Attach letter of authorization signed by the applicant or organization, e-mail address if applicable, address, phone and fax numbers.

27 - 28: Signature shall be that of the applicant or applicant's authorized agent.

29: Title (owner, president, etc.).

30: Date of the signature.

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

STANDARD ENCROACHMENT PERMIT APPLICATION

TR-0100 (REV. 05/2006)

Permission is requested to encroach on the State highway right-of-way as follows:
(Complete all BOXES [write N/A if not applicable])
This application is not complete until all requirements have been approved.

FOR CALTRANS USE
PERMIT NO.
DIST/CO/RTE/PM
SIMPLEX STAMP
DATE OF SIMPLEX STAMP

1. COUNTY	2. ROUTE	3. POSTMILE

4. ADDRESS OR STREET NAME	5. CITY

6. CROSS STREET *(Distance and direction from site)*	7. PORTION OF RIGHT-OF-WAY

8. WORK TO BE PERFORMED BY ☐ OWN FORCES ☐ CONTRACTOR	9. EST. START DATE	10. EST. COMPLETION DATE

11. EXCAVATION	MAX. DEPTH	AVG. DEPTH	AVG. WIDTH	LENGTH	SURFACE TYPE	12. EST. COST IN STATE R/W
13. PIPES	PRODUCT TYPE		DIAMETER	VOLTAGE / PSIG	14. CALTRANS PROJECT E.A. NUMBER	

15. ☐ **Double Permit** **Parent Permit Number** _____

Applicant's Reference Number / Utility Work Order Number _____

16. **Have your plans been reviewed by another Caltrans branch?** NO ☐ YES ☐ (If "YES") **Who?** _____

17. **Completely describe work to be done within STATE highway right-of-way :**
Attach 6 complete sets of **FOLDED** plans (folded 8.5" x 11"), and any applicable specifications, calculations, maps, etc.
All dimensions shall be in U.S. Customary (English) Units.

18. **Is a city, county, or other agency involved in the approval of this project?**

☐ YES ***(If "YES", check type of project and attach environmental documentation and conditions of approval.)***

☐ COMMERCIAL DEVELOPMENT ☐ BUILDING ☐ GRADING ☐ OTHER _____

☐ CATEGORICALLY EXEMPT ☐ NEGATIVE DECLARATION ☐ ENVIRONMENTAL IMPACT REPORT ☐ OTHER _____

☐ NO ***(If "NO", please check the category below which best describes the project, and complete page 4 of this application.)***

☐ DRIVEWAY OR ROAD APPROACH, RECONSTRUCTION, MAINTENANCE, OR RESURFACING
☐ PUBLIC UTILITY MODIFICATIONS, EXTENSIONS, HOOKUPS
☐ FLAGS, SIGNS, BANNERS, DECORATIONS, PARADES AND CELEBRATIONS
☐ OTHER _____
☐ FENCE
☐ MAILBOX
☐ EROSION CONTROL
☐ LANDSCAPING

19. Will this project cause a substantial change in the significance of a historical resource (45 years or older), or cultural resource? ☐ YES ☐ NO
(If "YES", provide a description)

20. Is this project on an existing highway or street where the activity involves removal of a scenic resource including a significant tree or stand of trees, a rock outcropping or a historic building? ☐ YES ☐ NO (If "YES", provide a description)

21. **Is work being done on applicant's property?** ☐ YES ☐ NO (If "YES", attach site and grading plans.)

STANDARD ENCROACHMENT PERMIT APPLICATION

TR-0100 (REV. 05/2006)

PERMIT NO.

22. Will this proposed project require the disturbance of soil within highway right-of-way? ☐ YES ☐ NO

If "YES", estimate the area in square feet AND acres: _____ (sf)

_____ (acres)

23. Will this proposed project require dewatering? ☐ YES ☐ NO

If "YES", estimate daily volume in gallons per day: _____ (gpd)

24. How will any storm water or ground water be disposed of from within or near the limits of this proposed project?

☐ Storm Drain System ☐ Combined Sewer / Storm System ☐ Storm Water Retention Basin

☐ Other (explain): _____

PLEASE READ THE FOLLOWING CLAUSES PRIOR TO SIGNING THIS ENCROACHMENT PERMIT APPLICATION.

The applicant, understands and herein agrees to that an encroachment permit can be denied, and/or a bond required for non-payment of prior or present encroachment permit fees. Encroachment Permit fees may still be due when an application is withdrawn or denied, and that a denial may be appealed, in accordance with the California Streets and Highways Code, Section 671.5. All work shall be done in accordance with Caltrans rules and regulations subject to inspection and approval.

The applicant, understands and herein agrees to the general provisions, special provisions and conditions of the encroachment permit, and to indemnify and hold harmless the State, its officers, directors, agents, employees and each of them (Indemnitees) from and against any and all claims, demands, causes of action, damages, costs, expenses, actual attorneys' fees, judgments, losses and liabilities of every kind and nature whatsoever (Claims) arising out of or in connection with the issuance and/or use of this encroachment permit for: 1) bodily injury and/ or death to persons including but not limited to the Applicant, the State and its officers, directors, agents and employees, the Indemnities, and the public; and 2) damage to property of anyone. Except as provided by law, the indemnification provisions stated above shall apply regardless of the existence or degree of fault of Indemnities. The Applicant, however, shall not be obligated to indemnify Indemnities for Claims arising from conduct delineated in Civil Code Section 2782.

DISCHARGES OF STORM WATER AND NON-STORM WATER: Work within State highway right-of-way shall be conducted in compliance with all applicable requirements of the National Pollutant Discharge Elimination System (NPDES) permit issued to the Department of Transportation (Department), to govern the discharge of storm water and non-storm water from its properties. Work shall also be in compliance with all other applicable Federal, State and Local laws and regulations, and with the Department's Encroachment Permits Manual and encroachment permit. Compliance with the Departments NPDES permit requires amongst other things, the preparation and submission of a Storm Water Pollution Protection Plan (SWPPP), or a Water Pollution Control Program (WPCP), and the approval of same by the appropriate reviewing authority prior to the start of any work. Information on the requirements may also be reviewed on the Department's Construction Website at:

http://www.dot.ca.gov/hq/construc/stormwater1.htm

25. NAME of APPLICANT or ORGANIZATION *(Print or Type)*		E-MAIL ADDRESS
ADDRESS of APPLICANT or ORGANIZATION WHERE PERMIT IS TO BE MAILED *(Include City and Zip Code)*		
PHONE NUMBER	FAX NUMBER	
26. NAME of AUTHORIZED AGENT / ENGINEER *(Print or Type)*	IS LETTER OF AUTHORIZATION ATTACHED? ☐ YES ☐ NO	E-MAIL ADDRESS
ADDRESS of AUTHORIZED AGENT / ENGINEER *(Include City and Zip Code)*		
PHONE NUMBER	FAX NUMBER	

27. SIGNATURE of APPLICANT or AUTHORIZED AGENT	28. PRINT OR TYPE NAME	29.TITLE	30. DATE

FEE CALCULATION -- FOR CALTRANS USE

☐ CASH ☐ CREDIT CARD NAME ON CARD _____ PHONE NUMBER _____

☐ CHECK NUMBER _____ NAME ON CHECK _____ PHONE NUMBER _____

☐ EXEMPT ☐ PROJECT EA _____ ☐ DEFERRED BILLING (Utility)

CALCULATED BY	(1)		(2)		
REVIEW 1. _____ HOURS @ $_____ * 2. _____ HOURS @ $_____ *	1. FEE / DEPOSIT $_____	DATE	2. FEE / DEPOSIT $_____	DATE	TOTAL FEE / DEPOSIT $_____ $_____
INSPECTION 1. _____ HOURS @ $_____ * 2. _____ HOURS @ $_____ *	1. FEE / DEPOSIT $_____	DATE	2. FEE / DEPOSIT $_____	DATE	TOTAL FEE / DEPOSIT $_____ $_____
FIELD WORK _____ HOURS @ $_____ *	$_____		$_____		$_____
EQUIPMENT & MATERIALS	DEPOSIT $_____	DATE	DEPOSIT $_____	DATE	DEPOSIT $_____
CASH DEPOSIT IN LIEU OF BOND	$_____		$_____		$_____
TOTAL COLLECTED **CASHIER'S INITIALS**	$_____ _____		$_____ _____		$_____

** The current hourly rate is set annually by Headquarters Accounting. District Office staff do not have authority to modify this rate.*

PERFORMANCE BOND	☐	DATE	AMOUNT $
PAYMENT BOND	☐	DATE	AMOUNT $
LIABILITY INSURANCE REQUIRED?		☐ YES ☐ NO	AMOUNT $

INSTRUCTIONS
for completing page 4

This page needs to be completed when the proposed project DOES NOT involve a City, County or other public agency.

Your answers to these questions will assist departmental staff in identifying any physical, biological, social or economic resources that may be affected by your proposed project within the State highway right-of-way. And, to determine which type of environmental studies may be required to approve your application for an encroachment permit.

It is the applicant's responsibility for the production of all required environmental documentation and supporting studies, in some cases this may be costly and time-consuming. If possible, attach photographs of the location of the proposed project.

Please answer these questions to the best of your ability. Provide a description of any "YES" answers (type, name, number, etc.)

1. Will any existing vegetation and/or landscaping within the highway right-of-way be disturbed?
2. Will the proposed project involve any soil disturbance within highway right-of-way (trenching or excavation)?
3. Are there waterways (river, creek, pond, natural pool or dry streambed) adjacent to or within the limits of the project or highway right-of-way?
4. Is the proposed project located within five miles of the coast line?
5. Will the proposed project generate construction noise levels greater than 86 dBA (i.e. jack-hammering, pile driving)?
6. Will the proposed project incorporate land from a public park, recreation area or wildlife refuge open to the public?
7. Are there any recreational trails or paths within the limits of the proposed project or highway right-of-way?
8. Will the proposed project impact any structures, buildings, rail lines, or bridges within highway right-of-way?
9. Will the proposed project impact access to any businesses or residences?
10. Will the proposed project impact any existing public utilities or public services?
11. Will the proposed project impact existing pedestrian facilities, such as sidewalks, crosswalks, or overcrossings?
12. Will new lighting be constructed within or adjacent to highway right-of-way?

NTPUD
KINGS BEACH
GRID STUDY

CDM

Memorandum

To: *Ms. Coral Taylor P.E., Associate Civil Engineer, North Tahoe PUD*

From: *Tim Rynders, Youssif Hussein P.E., CDM Inc.*

Date: *January 9, 2007*

Subject: *Kings Beach Grid Study*

CDM has completed the analysis of the proposed improvements to the water distribution system in the Kings Beach Grid area. The project objective was to simulate and analyze the effects of the proposed improvements developed by Auerbach Engineering using the recently developed water distribution system hydraulic model (H2ONET). As defined in our Scope of Services, CDM has produced four (4) figures to illustrate the results of the following simulations which were run using estimated 20-year projected demands developed previously:

- Peak hour showing residual pressures at each node,
- Peak hour showing pipe headlosses,
- Max day plus fire showing a color coded range of available fire flow at every node in the Lower Main System, and
- A color coded layout of the proposed improvements showing pipe diameters and recommendations to enhance their function.

Four graphs are also included from the Extended Period Simulation (EPS) that show the levels of the KB 500 and Park Tanks during a 72-hour period of existing maximum demand. Existing demands were used for the EPS due to the previously noted storage deficiencies that exist when the 20-year projected demands are applied. These graphs illustrate the system's transmission capacity to maintain acceptable tank levels before and after grid improvements. Slightly less drawdown in the KB 500 tank is visible after the grid improvements.

An appendix is also included that tabulates the available fire flow for each node in the Lower Main System on a maximum demand day for 20-year projections. For reference, node elevation, static pressure, and static demands at each node are also included, sorted by pressure zone.

Coral Taylor, P.E.
January 9, 2007

Below is a brief description of Figures 1-4:

Figure 1: Node Pressure at Peak Hour 20-Year Demands

The figure shows the node pressure when the estimated 20-year peak hour demands are applied to the system. In general, the simulation shows that the grid is adequate to meet minimum pressure, except for a few locations where the pressure is low due to relatively high elevation in the grid. Figure 1 also shows the nodes where the pressure is high - exceeding 120 psi. The proposed improvements do not address the issue of nodes with high pressures.

Figure 2: Pipe Headloss at Peak Hour 20-Year Demands

This figure uses the same model scenario as Figure 1 and it highlights the pipelines with high headlosses. Comparison of Figure 2 to Figure 6 of the Deficiency Study demonstrates that most of the high headloss pipes seen in the grid have been alleviated by the proposed improvements.

Figure 3: Available Fire Flow on 20-Year Projected Max Day

This figure is color-coded by available fire flow, while maintaining a residual pressure of 20 psi, at service nodes in the Lower Main System during a maximum day with the 20-year demand projection. All areas within the grid served by 6-inch, or larger, looped mains are capable of receiving greater than 2,500 gpm fire flows. Some of the dead-end pipes east of Fox Street have lower capacities. The northern portion of Beaver Street where the main is 8-inches in diameter also has a lower capacity. Please note: pipelines shown in blue are in the KB2 and KB3 pressure zones where fire flow was not evaluated and nodes appear red by default.

Figure 4: Proposed Grid Layout

This figure depicts the grid, after the proposed improvements, with all of the two-inch mains that ran in backyard easements removed. A number of recommendations are included on the figure based upon the results observed on Figures 1 though 3. The recommendations are limited to the grid project area, and are largely based upon the first recommendation in the Beaver Street Technical Memorandum. This recommendation was to enhance the proposed grid improvements with a large diameter transmission backbone on Beaver Street. Increasing the number of direct connections from the 12- inch Beaver Street main to the grid will increase fire flows in this area.

Please feel free to contact us with any questions or comments regarding this information and thank you very much for the continued opportunity to assist the North Tahoe Public Utility District (District) with water distribution system modeling services.

cc: Mr. Lee Schegg
Mr. Tom Goebel

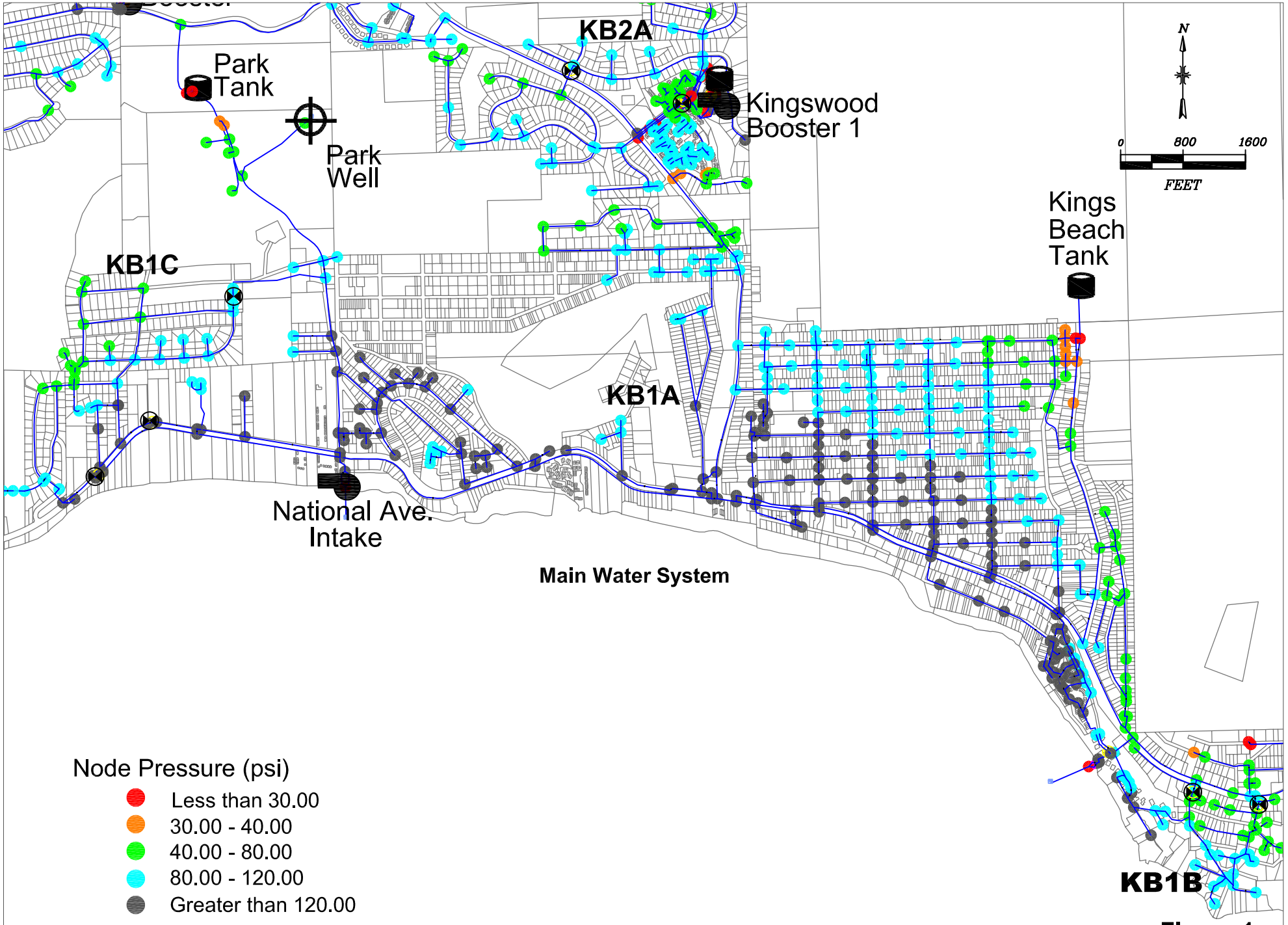


Figure 1
Node Pressure at Peak Hour 20-Year Demands

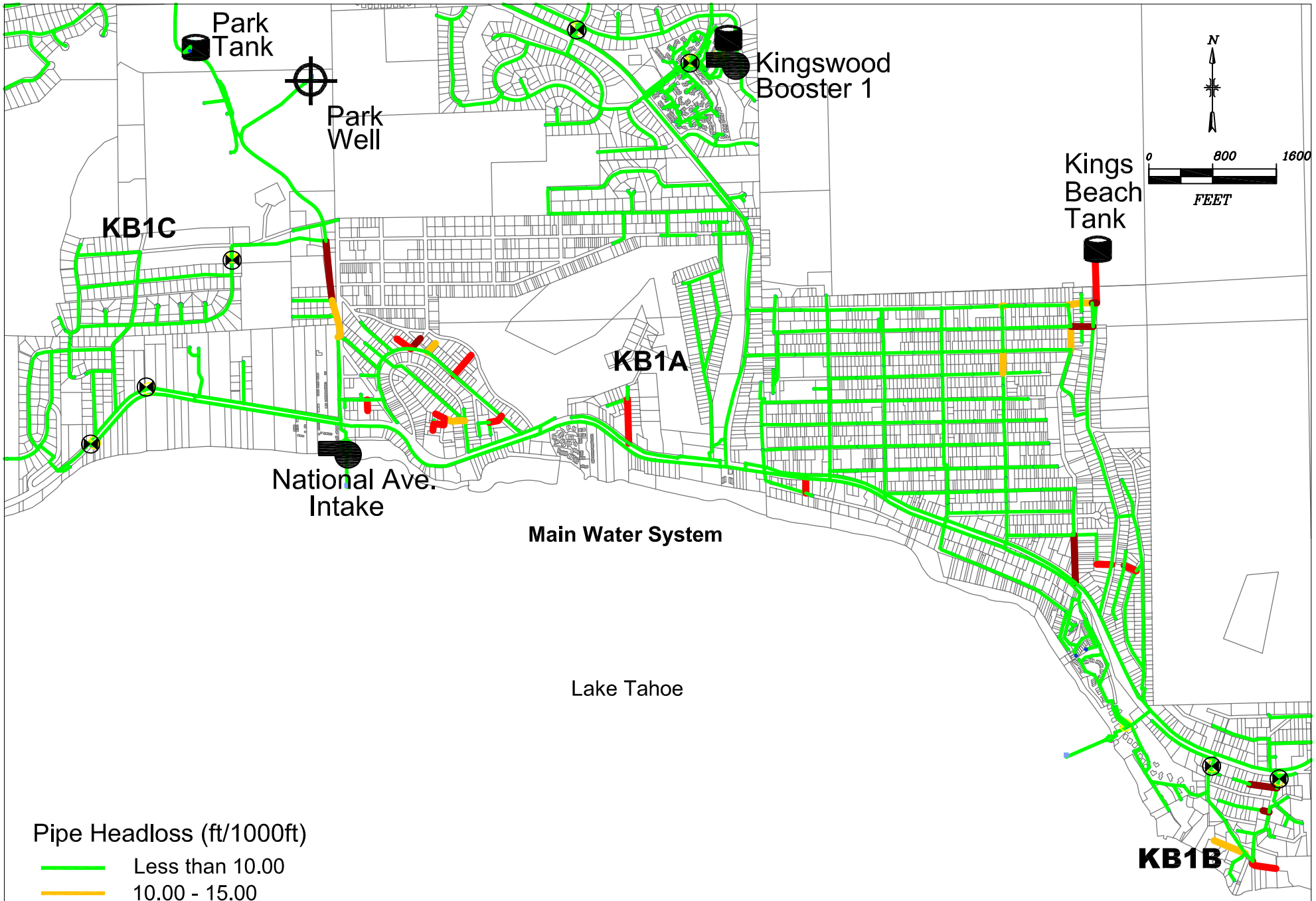


Figure 2
Pipe Headloss at Peak Hour for
20-Year Demand Projection

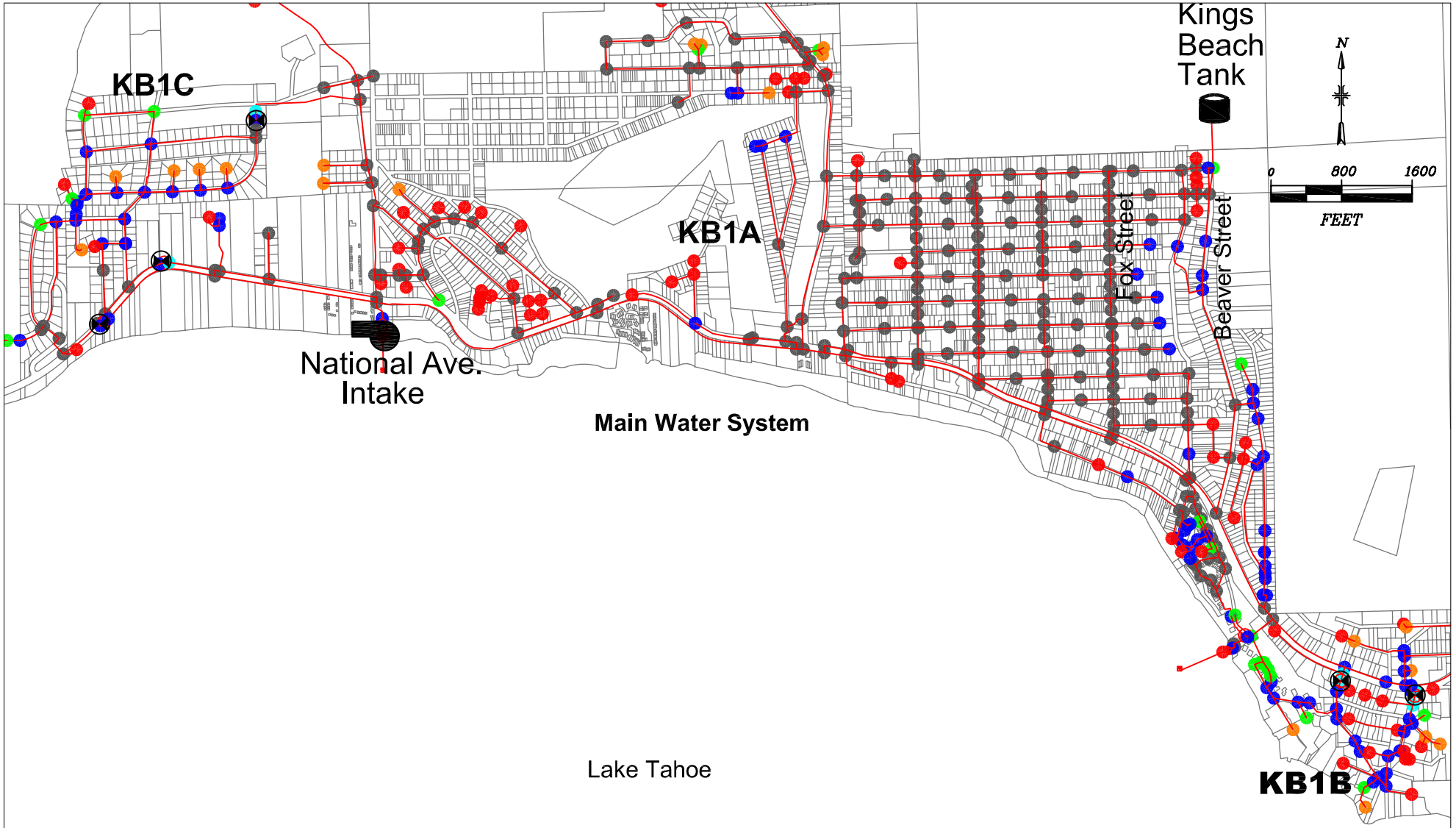


Figure 3
Available Fire Flow on
20-Year Projected Max Day

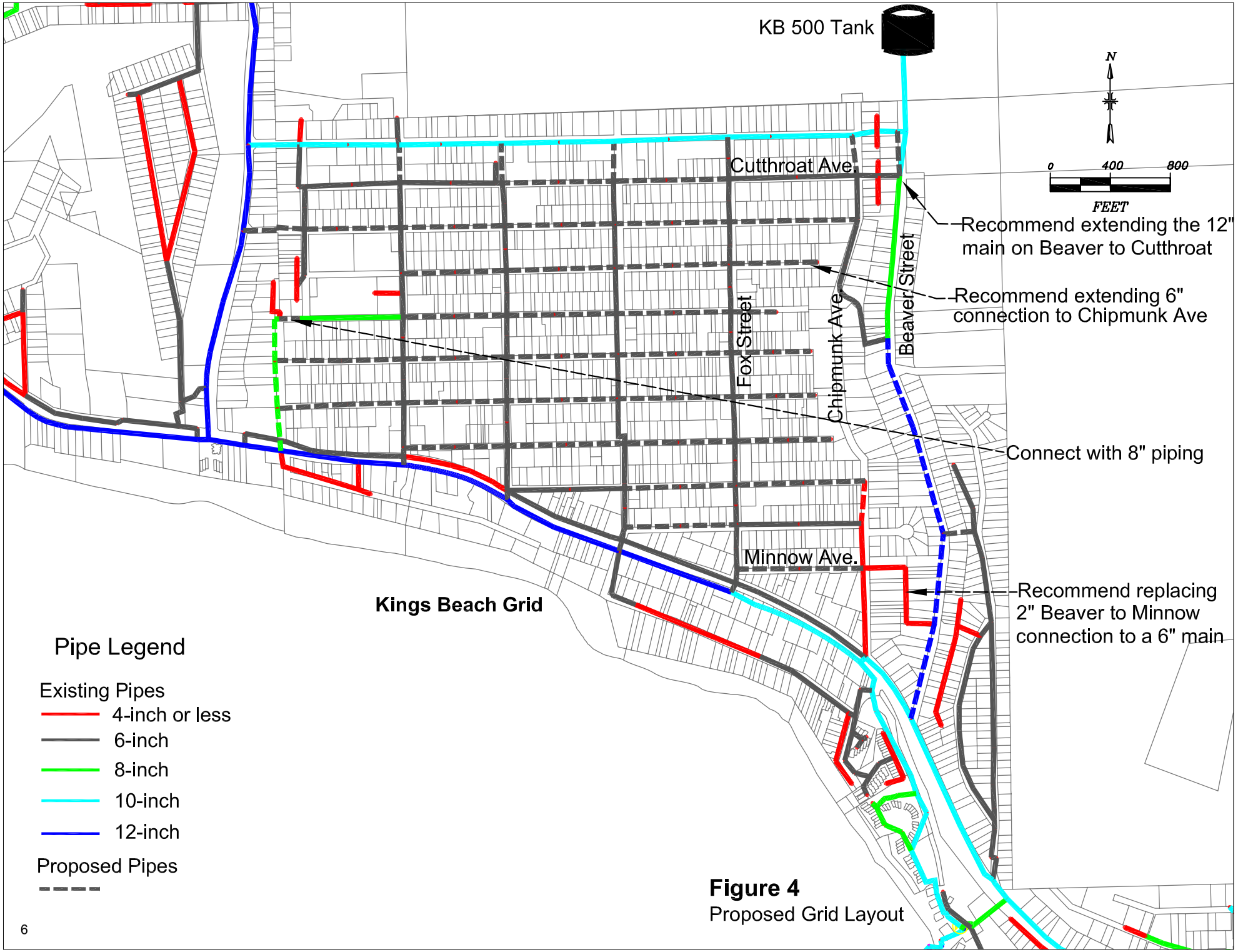
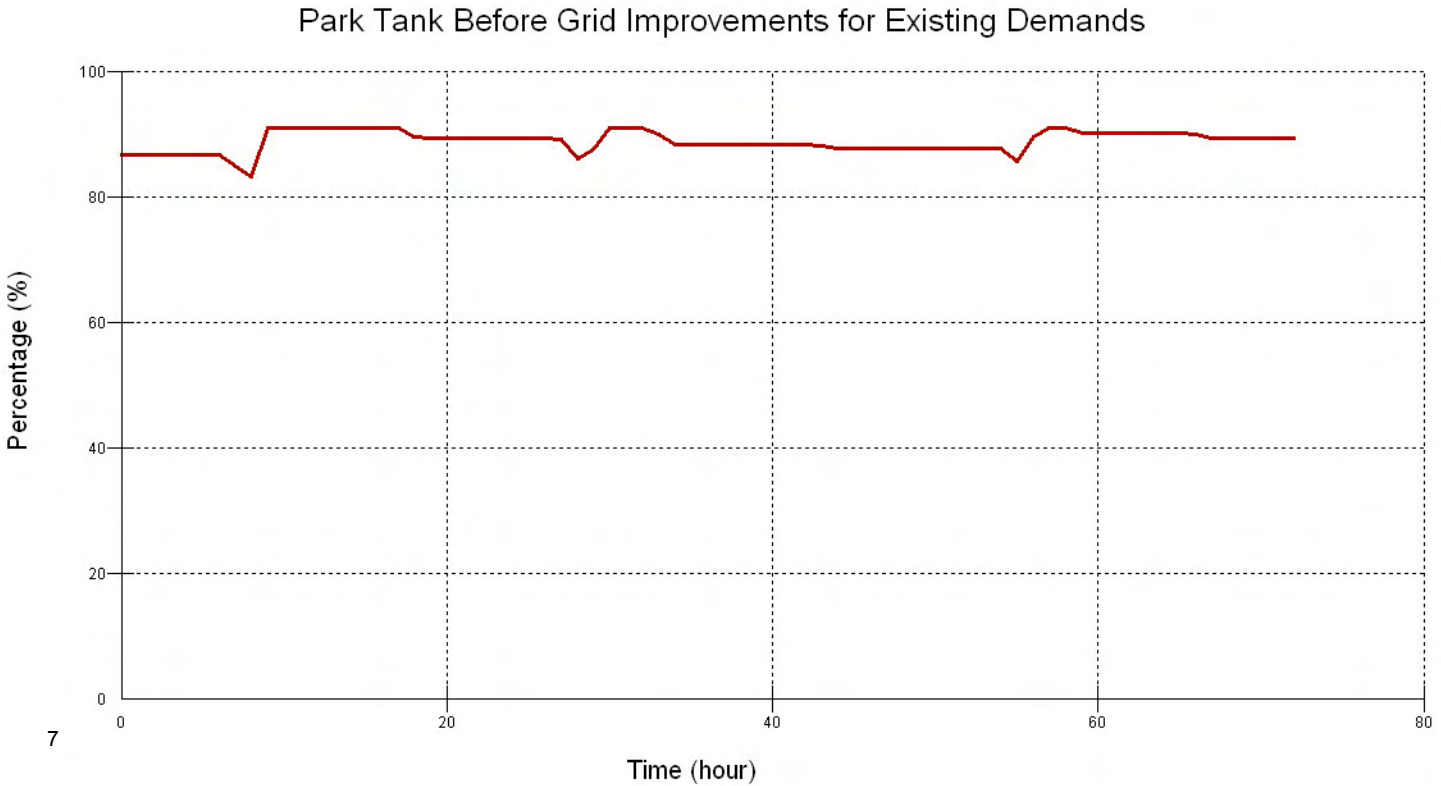
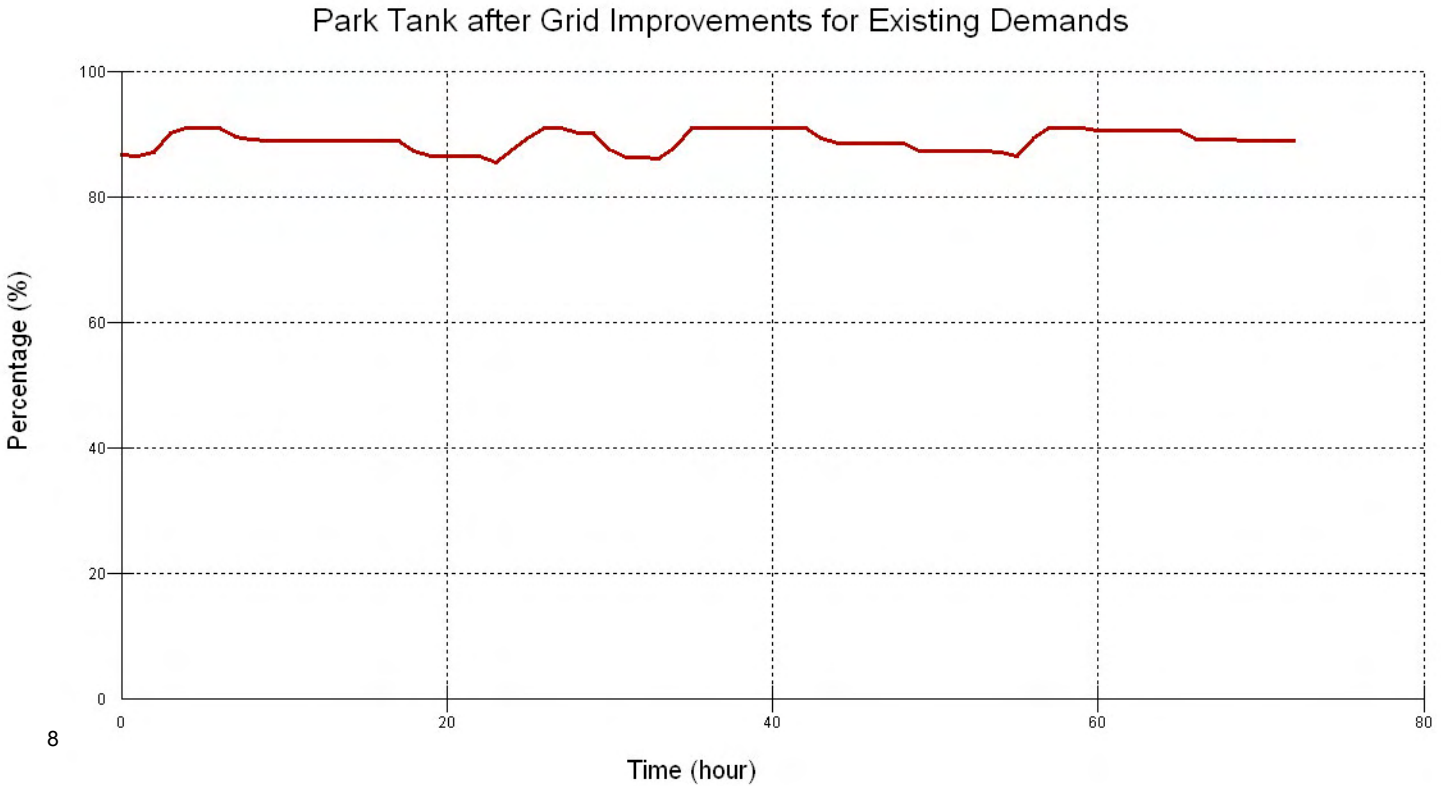
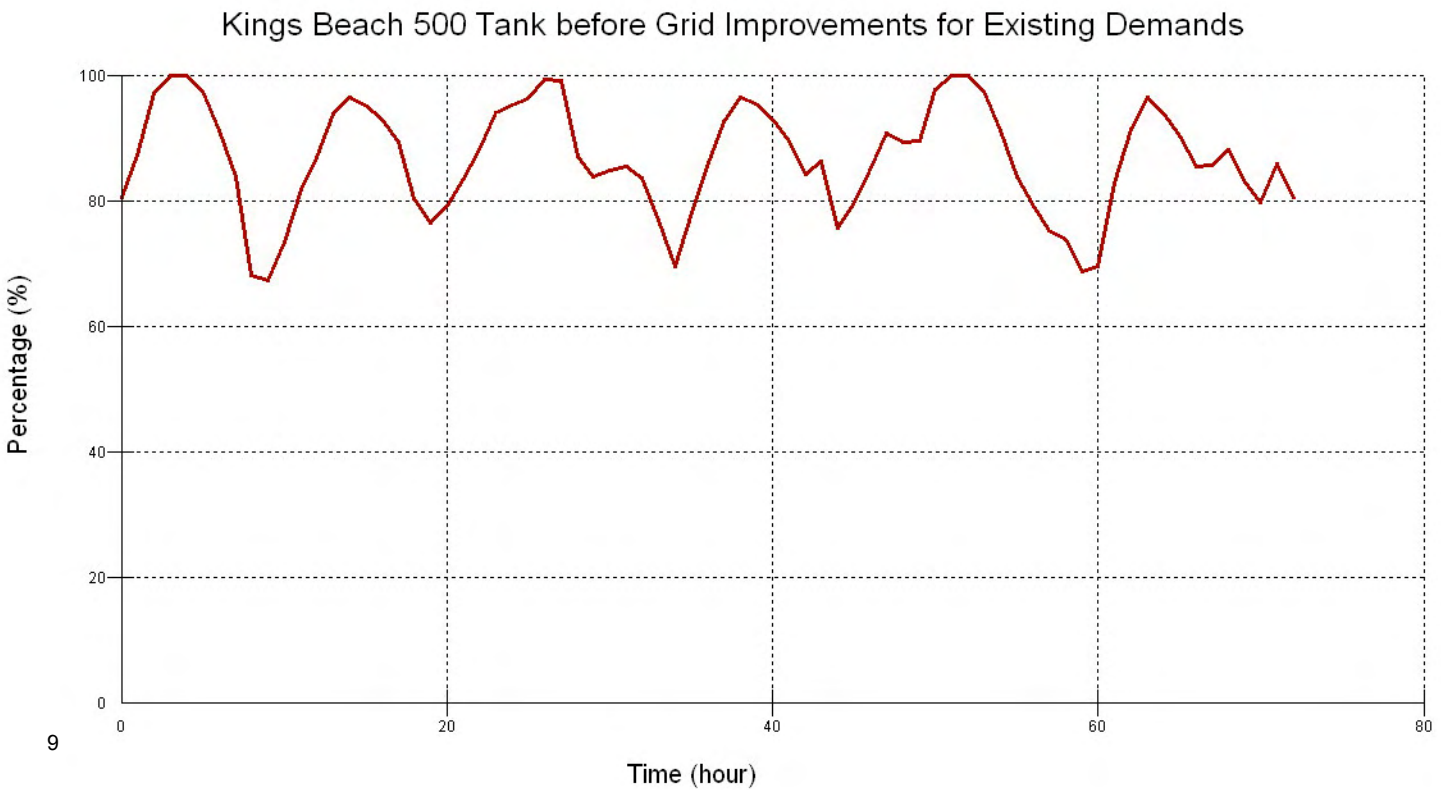
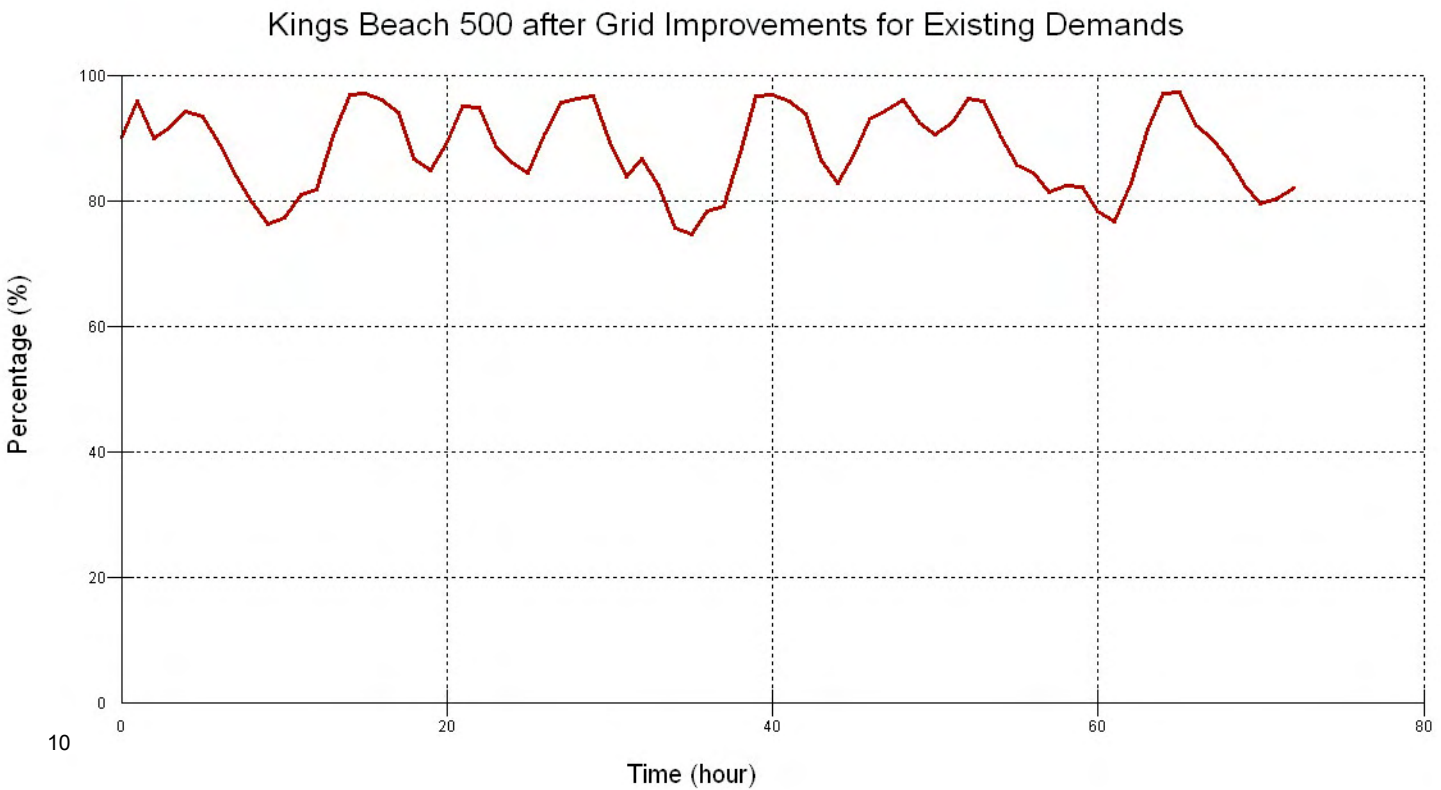


Figure 4
Proposed Grid Layout


Park Tank Before Grid Improvements for Existing Demands
Percentage (%)
100
80
60
40
20
0
0
20
40
60
80
Time (hour)


Park Tank after Grid Improvements for Existing Demands
Percentage (%)
100
80
60
40
20
0
0
20
40
60
80
Time (hour)


Kings Beach 500 Tank before Grid Improvements for Existing Demands
Percentage (%)
100
80
60
40
20
0
0
20
40
60
80
Time (hour)


Kings Beach 500 after Grid Improvements for Existing Demands
Percentage (%)
100
80
60
40
20
0
0
20
40
60
80
Time (hour)

ID	Available Flow @Hydrant (gpm)	Node Elevation	Static Pressure	Static Demand
KB-1A-J141	8,683.13	6,307.3	119.91	3.07
KB-1A-J199	8,609.10	6,300.4	122.74	6.95
KB-1A-J179	8,474.34	6,241.2	139.04	26.1
KB-1A-J346	8,466.85	6,241.8	138.7	8.01
KB-1A-J331	8,399.44	6,234.0	147.76	213.47
KB-1A-J019	8,351.59	6,239.7	139.6	2.71
KB-1A-J237	8,303.92	6,236.8	140.88	30.42
KB-1A-J165	8,238.98	6,234.0	147.76	37.69
KB-1A-J004	8,210.74	6,245.8	136.73	13.24
KB-1A-J162	8,201.51	6,236.0	144.19	95.21
KB-1A-J148	8,129.12	6,235.3	147.2	0.07
KB-1A-J240	7,895.88	6,241.3	138.9	12.43
KB-1A-J065	7,777.72	6,244.2	137.63	24.38
KB-1A-J225	7,498.83	6,272.0	131.41	18.75
KB-1A-J209	7,473.17	6,239.6	139.64	10.08
KB-1A-J415	7,465.29	6,270.0	125.58	0
KB-1A-J288	7,196.80	6,229.1	144.19	1.12
KB-1A-J477	7,100.93	6,241.0	139.06	0
KB-1A-J390	7,067.65	6,245.1	137.25	14.74
KB-1A-J145	7,065.46	6,279.3	128.95	3.64
KB-1A-J143	7,059.87	6,283.1	127.84	67.87
KB-1A-J344	7,057.55	6,287.3	117.59	9
KB-1A-J011	7,043.56	6,286.6	118.5	1.65
KB-1A-J272	6,868.02	6,241.5	138.83	10.71
KB-1A-J437	6,746.17	6,301.0	112.62	0
KB-1A-J287	6,714.21	6,229.7	143.9	14.9
KB-1A-J208	6,645.44	6,315.3	106.86	2.95
KB-1A-J006	6,627.52	6,239.6	139.6	11.5
KB-1A-J426	6,623.96	6,247.0	136.45	0
KB-1A-J438	6,541.55	6,320.0	105.11	0
KB-1A-J476	6,516.88	6,240.0	139.51	0
KB-1A-J181	6,431.95	6,242.6	138.32	0
KB-1A-J345	6,431.43	6,353.9	91.87	9.34
KB-1A-J343	6,378.59	6,340.1	96.86	1.16
KB-1A-J440	6,358.28	6,363.0	88.63	0
KB-1A-J151	6,351.10	6,237.7	146.17	0
KB-1A-J439	6,332.44	6,345.0	95.25	0
KB-1A-J030	6,311.43	6,264.6	128.9	0
KB-1A-J259	6,292.90	6,241.6	138.76	7.79
KB-1A-J433	6,284.09	6,251.0	134.74	0
KB-1A-J069	6,264.36	6,249.4	135.42	4.69
KB-1A-J003	6,253.44	6,385.8	79.5	0
KB-1A-J378	6,223.91	6,387.7	78.79	1.74
KB-1A-J186	6,209.30	6,252.9	133.91	21.89
KB-1A-J183	6,189.77	6,232.8	142.58	0
KB-1A-J435	6,188.84	6,257.0	132.18	0
KB-1A-J416	6,181.10	6,277.0	123.5	0
KB-1A-J427	6,160.69	6,265.0	128.79	0
KB-1A-J413	6,155.99	6,259.0	131.31	0
KB-1A-J286	6,155.51	6,257.4	132	0
KB-1A-J430	6,137.24	6,273.0	125.44	0
KB-1A-J066	6,112.75	6,292.2	116.9	0
KB-1A-J271	6,103.22	6,242.7	138.28	18.06

KB-1A-J163	6,075.11	6,236.0	144.34	0
KB-1A-J260	6,064.81	6,239.7	139.6	0
KB-1A-J480	6,046.89	6,286.0	119.96	0
KB-1A-J354	5,969.37	6,308.9	119.21	0.31
KB-1A-J441	5,967.17	6,404.0	72.42	0
KB-1A-J072	5,950.78	6,253.4	133.69	0
KB-1A-J226	5,947.86	6,255.3	138.31	1.91
KB-1A-J431	5,946.17	6,280.0	122.58	0
KB-1A-J005	5,940.04	6,245.4	136.87	1.52
KB-1A-J418	5,926.75	6,305.0	111.87	0
KB-1A-J264	5,924.17	6,242.0	138.67	0.09
KB-1A-J428	5,901.03	6,274.0	124.98	0
KB-1A-J419	5,881.98	6,316.0	107.75	0
KB-1A-J434	5,878.68	6,265.0	128.76	0
KB-1A-J028	5,803.70	6,243.9	137.78	0
KB-1A-J274	5,763.77	6,242.9	138.21	3.19
KB-1A-J479	5,756.99	6,307.0	111.23	0
KB-1A-J210	5,737.52	6,326.0	102.89	0.44
KB-1A-J256	5,734.23	6,333.7	100.4	5.41
KB-1A-J249	5,703.03	6,241.0	138.88	0
KB-1A-J425	5,694.58	6,271.0	126.16	0
KB-1A-J401	5,643.39	6,237.8	140.4	6.43
KB-1A-J031	5,638.58	6,249.1	135.57	19.84
KB-1A-J359	5,599.40	6,261.9	130.06	9.75
KB-1A-J355	5,593.69	6,255.9	132.63	14.78
KB-1A-J385	5,584.48	6,250.3	135.01	3.59
KB-1A-J365	5,579.22	6,253.4	133.71	18.19
KB-1A-J297	5,557.28	6,269.1	127.06	21.19
KB-1A-J342	5,555.56	6,279.4	122.45	1.1
KB-1A-J293	5,542.15	6,261.2	130.39	12.03
KB-1A-J270	5,515.73	6,276.4	123.19	0.4
KB-1A-J325	5,475.38	6,268.6	127.21	0.13
KB-1A-J335	5,452.95	6,277.6	123.53	4.38
KB-1A-J212	5,411.59	6,283.5	120.09	1.39
KB-1A-J436	5,401.15	6,259.0	131.23	0
KB-1A-J284	5,379.39	6,371.6	85.24	7
KB-1A-J102	5,354.69	6,274.7	124.53	5.92
KB-1A-J417	5,343.63	6,357.0	90.88	0
KB-1A-J315	5,336.98	6,294.1	116.52	9.06
KB-1A-J282	5,331.79	6,269.5	126.85	15.36
KB-1A-J128	5,307.33	6,335.2	94.16	8.41
KB-1A-J211	5,302.69	6,281.1	121.12	0
KB-1A-J377	5,288.82	6,287.0	119.72	3.17
KB-1A-J349	5,256.30	6,306.7	111.55	6.97
KB-1A-J233	5,255.05	6,260.3	130.75	3.74
KB-1A-J384	5,229.49	6,260.0	130.81	0
KB-1A-J276	5,222.99	6,246.4	136.69	17.21
KB-1A-J308	5,216.96	6,317.1	106.69	4
KB-1A-J348	5,211.87	6,325.1	103.97	4.66
KB-1A-J221	5,188.60	6,234.0	147.67	45.64
KB-1A-J290	5,140.22	6,254.4	133.23	46.35
KB-1A-J383	5,120.94	6,270.2	126.42	0.11
KB-1A-J213	5,111.65	6,325.9	102.88	0
KB-1A-J007	5,108.75	6,255.6	132.64	18.46
KB-1A-J155	5,076.58	6,261.2	135.78	1.54

KB-1A-J192	5,051.31	6,283.1	120.26	0.15
KB-1A-J432	5,051.24	6,280.0	122.27	0
KB-1A-J281	5,042.44	6,277.7	123.29	0
KB-1A-J122	5,038.98	6,318.0	105.68	0.15
KB-1A-J015	5,030.79	6,258.0	131.61	0
KB-1A-J410	5,003.56	6,234.0	147.66	0
KB-1A-J429	4,945.08	6,297.0	115.05	0
KB-1A-J133	4,940.03	6,349.1	87.62	1.71
KB-1A-J466	4,931.88	6,248.0	136.02	0
KB-1A-J330	4,905.01	6,247.4	141.89	1
KB-1A-J300	4,899.35	6,264.9	128.69	20.37
KB-1A-J228	4,876.65	6,257.6	136.83	12.04
KB-1A-J465	4,856.17	6,254.0	133.46	0
KB-1A-J398	4,822.45	6,377.9	82.73	1.61
KB-1A-J386	4,814.58	6,273.8	124.9	1.58
KB-1A-J374	4,807.89	6,363.1	88.56	1.58
KB-1A-J235	4,804.73	6,316.2	106.98	0.84
KB-1A-J457	4,785.02	6,262.0	130.05	0
KB-1A-J453	4,778.23	6,268.0	127.52	0
KB-1A-J447	4,758.66	6,276.5	123.32	0
KB-1A-J041	4,756.39	6,261.0	130.29	0
KB-1A-J470	4,751.81	6,242.0	138.6	0
KB-1A-J298	4,736.54	6,287.5	119.11	10.19
KB-1A-J022	4,729.35	6,236.0	144.74	7.66
KB-1A-J481	4,727.83	6,341.0	96.77	0
KB-1A-J265	4,680.55	6,237.2	140.68	14.22
KB-1A-J153	4,678.02	6,252.8	139.54	0
KB-1A-J139	4,673.50	6,313.1	117.4	0
KB-1A-J358	4,663.58	6,234.0	147.66	3.39
KB-1A-J464	4,663.11	6,260.0	130.9	0
KB-1A-J467	4,659.10	6,251.0	134.74	0
KB-1A-J382	4,653.49	6,244.0	137.78	1.93
KB-1A-J472	4,644.25	6,241.0	139.02	0
KB-1A-J452	4,634.47	6,276.0	124.21	0
KB-1A-J448	4,632.59	6,290.0	118.13	0
KB-1A-J456	4,631.40	6,278.0	123.28	0
KB-1A-J389	4,626.24	6,307.1	110.77	12.76
KB-1A-J241	4,615.45	6,359.3	82.52	0.25
KB-1A-J458	4,609.63	6,270.0	126.67	0
KB-1A-J242	4,593.26	6,358.3	82.95	0.4
KB-1A-J347	4,571.60	6,471.3	44.73	2.82
KB-1A-J471	4,570.64	6,250.0	135.13	0
KB-1A-J040	4,544.17	6,264.9	128.59	0
KB-1A-J090	4,542.83	6,351.1	92.82	12.67
KB-1A-J184	4,521.71	6,248.1	136	0
KB-1A-J455	4,493.07	6,295.0	116.23	0
KB-1A-J446	4,473.60	6,286.0	119.29	0
KB-1A-J468	4,466.15	6,261.0	130.42	0
KB-1A-J334	4,437.70	6,366.1	79.23	0
KB-1A-J449	4,409.76	6,310.0	110.04	0
KB-1A-J147	4,405.69	6,268.4	132.73	3.46
KB-1A-J375	4,395.30	6,331.1	100.79	7.37
KB-1A-J039	4,359.67	6,270.1	126.35	0
KB-1A-J463	4,348.59	6,272.0	125.73	0
KB-1A-J445	4,287.69	6,310.0	109.49	0

KB-1A-J459	4,280.05	6,285.0	120.23	0
KB-1A-J451	4,271.02	6,292.0	117.42	0
KB-1A-J247	4,240.62	6,373.8	75.5	1.6
KB-1A-J038	4,197.83	6,271.8	125.61	0
KB-1A-J450	4,125.76	6,335.0	99.98	0
KB-1A-J037	4,097.81	6,271.4	125.76	0
KB-1A-J454	4,073.83	6,322.0	104.86	0
KB-1A-J444	4,050.36	6,328.0	102.44	0
KB-1A-J224	4,045.80	6,259.9	135.7	2.35
KB-1A-J034	4,017.76	6,240.7	139.05	28.27
KB-1A-J036	3,986.69	6,273.6	124.83	0
KB-1A-J042	3,959.99	6,254.5	133.06	0
KB-1A-J059	3,941.81	6,236.0	141.12	1.48
KB-1A-J057	3,935.52	6,239.0	139.82	2.32
KB-1A-J060	3,907.97	6,242.8	138.15	0.61
KB-1A-J061	3,893.39	6,272.6	125.25	0.55
KB-1A-J062	3,873.29	6,257.7	131.73	2.05
KB-1A-J056	3,870.04	6,237.7	140.36	1.18
KB-1A-J442	3,849.44	6,350.0	93.92	0
KB-1A-J475	3,837.56	6,257.0	132.2	0
KB-1A-J236	3,798.34	6,275.6	123.96	4.9
KB-1A-J008	3,731.53	6,258.0	134.55	11.77
KB-1A-J318	3,725.34	6,236.1	144.26	0
KB-1A-J474	3,675.49	6,268.0	127.33	0
KB-1A-J158	3,622.48	6,239.3	143.46	4.65
KB-1A-J289	3,531.34	6,297.2	117.59	7.96
KB-1A-J206	3,528.81	6,486.4	38.85	0.62
KB-1A-J275	3,492.76	6,272.5	125.57	0
KB-1A-J010	3,470.60	6,310.3	112.02	0
KB-1A-J216	3,445.00	6,466.6	46.32	4.2
KB-1A-J357	3,435.25	6,234.0	147.65	28
KB-1A-J244	3,432.27	6,348.7	87.1	4.3
KB-1A-J327	3,427.90	6,263.4	133.98	1.85
KB-1A-J017	3,368.64	6,286.6	119.29	18.11
KB-1A-J248	3,346.93	6,380.8	73.18	0
KB-1A-J246	3,342.07	6,334.3	93.34	0.57
KB-1A-J207	3,265.29	6,326.5	102.01	2.55
KB-1A-J366	3,261.96	6,333.2	99.7	4.1
KB-1A-J111	3,222.69	6,389.1	77.93	3.12
KB-1A-J172	3,183.04	6,260.4	135.1	1.84
KB-1A-J473	3,168.60	6,275.0	124.3	0
KB-1A-J340	3,129.86	6,352.8	85.34	7.52
KB-1A-J406	3,071.02	6,370.8	77.52	8.29
KB-1A-J157	3,000.34	6,259.8	135.03	8.75
KB-1A-J319	2,988.89	6,262.5	133.59	0.29
KB-1A-J252	2,968.00	6,337.8	93.22	2.95
KB-1A-J443	2,960.36	6,420.0	65.45	0
KB-1A-J280	2,955.71	6,247.2	136.2	0
KB-1A-J268	2,915.36	6,252.9	133.36	0
KB-1A-J279	2,887.43	6,229.1	144.19	10.08
KB-1A-J230	2,866.95	6,237.3	140.48	0
KB-1A-J131	2,860.71	6,318.7	100.11	3.37
KB-1A-J409	2,846.59	6,364.0	80.47	3.81
KB-1A-J227	2,843.02	6,265.2	132.58	13.99
KB-1A-J267	2,828.77	6,494.3	35.85	0

KB-1A-J312	2,821.11	6,244.5	137.34	26.81
KB-1A-J461	2,765.34	6,292.0	117.07	0
KB-1A-J231	2,747.80	6,236.7	140.75	9.45
KB-1A-J460	2,718.22	6,305.0	111.58	0
KB-1A-J254	2,688.39	6,264.8	127.3	26.62
KB-1A-J277	2,669.31	6,277.1	123.47	12.12
KB-1A-J356	2,633.04	6,273.6	130.51	24.5
KB-1A-J310	2,626.70	6,238.8	139.82	0
KB-1A-J407	2,619.11	6,394.5	67.24	5.51
KB-1A-J424	2,618.70	6,290.0	117.8	0
KB-1A-J269	2,615.93	6,251.1	134.13	0
KB-1A-J469	2,605.20	6,283.0	120.89	0
KB-1A-J412	2,601.39	6,387.7	70.18	0
KB-1A-J113	2,562.75	6,480.6	41.01	2.45
KB-1A-J110	2,549.61	6,457.2	49.19	5.24
KB-1A-J408	2,516.11	6,398.1	65.7	4.36
KB-1A-J243	2,405.24	6,325.4	97.18	3.05
KB-1A-J253	2,398.25	6,312.0	104.72	18.02
KB-1A-J311	2,386.13	6,243.7	137.68	0
KB-1A-BEAVER	2,342.29	6,413.0	67.6	0
KB-1A-J054	2,297.21	6,234.1	141.85	0
KB-1A-J174	2,283.34	6,383.5	80.02	2.2
KB-1A-J055	2,281.84	6,250.9	134.57	0
KB-1A-J234	2,262.97	6,339.2	97	1.3
KB-1A-J219	2,247.45	6,433.3	59.41	3.3
KB-1A-J043	2,231.60	6,229.1	144.04	0
KB-1A-J033	2,207.24	6,475.0	43.6	5.13
KB-1A-J016	2,200.89	6,264.4	130.47	8.68
KB-1A-J013	2,199.35	6,386.3	78.77	0.46
KB-1A-J332	2,198.42	6,287.5	115.36	13.15
KB-1A-J333	2,101.18	6,282.3	117.63	2.6
KB-1A-J420	2,076.43	6,508.0	30.04	0
KB-1A-J422	2,073.21	6,305.0	111.44	0
KB-1A-J421	2,065.47	6,313.0	108.11	0
KB-1A-J045	2,059.01	6,230.8	143.27	0
KB-1A-J032	2,021.87	6,376.3	82.96	6.16
KB-1A-J164	2,020.38	6,387.5	78.29	2.25
KB-1A-J423	1,980.56	6,295.0	115.69	0
KB-1A-J364	1,975.01	6,291.6	122.71	17.79
KB-1A-J170	1,965.11	6,396.4	74.46	0.46
KB-1A-J167	1,960.11	6,371.6	84.96	1.17
KB-1A-J194	1,950.25	6,368.0	86.52	2.76
KB-1A-J316	1,928.52	6,369.0	86.06	0
KB-1A-J046	1,890.86	6,240.8	138.95	0.4
KB-1A-J134	1,886.43	6,413.8	67.19	0
KB-1A-J222	1,837.09	6,362.5	88.84	0.79
KB-1A-J044	1,813.05	6,456.9	48.91	8.45
KB-1A-J360	1,795.94	6,303.1	117.72	0.83
KB-1A-J278	1,792.31	6,231.8	142.78	30.45
KB-1A-J309	1,776.15	6,235.8	141.13	7.28
KB-1A-J307	1,771.24	6,242.7	138.13	13.6
KB-1A-J198	1,744.94	6,383.9	79.6	1.54
KB-1A-J047	1,740.44	6,251.4	134.34	0.22
KB-1A-J396	1,728.60	6,430.3	48.71	1.32
KB-1A-J035	1,721.14	6,465.3	45.97	5.48

KB-1A-J161	1,717.75	6,408.3	69.3	0.42
KB-1A-J262	1,704.31	6,415.4	66.43	0.99
KB-1A-J304	1,689.70	6,395.7	74.84	5.26
KB-1A-J166	1,681.73	6,389.7	77.09	0.34
KB-1A-J261	1,679.99	6,410.7	68.3	5.54
KB-1A-J108	1,660.56	6,395.6	73.13	1.41
KB-1A-J150	1,603.45	6,411.7	67.84	1.2
KB-1A-J136	1,597.08	6,414.9	66.51	3.96
KB-1A-J048	1,593.23	6,266.4	127.87	0.8
KB-1A-J130	1,586.23	6,321.2	99.01	3.04
KB-1A-J193	1,571.14	6,398.3	73.39	5.82
KB-1A-J391	1,547.56	6,415.7	55.02	5.52
KB-1A-J140	1,518.88	6,412.1	67.7	1.03
KB-1A-J125	1,514.48	6,417.4	65.63	0
KB-1A-J202	1,456.28	6,409.8	68.37	4.88
KB-1A-J137	1,424.61	6,416.6	65.75	6.71
KB-1A-J189	1,372.91	6,399.5	72.87	7.91
KB-1A-J397	1,253.96	6,442.0	43.65	2.23
KB-1A-J115	1,183.87	6,414.3	66.99	0
KB-1A-J023	1,159.30	6,252.9	139.46	0.49
KB-1A-J336	1,128.02	6,365.1	79.66	0
KB-1A-J393	1,113.84	6,446.8	41.56	0
KB-1A-J050	1,099.87	6,267.3	127.46	0.7
KB-1A-J175	1,066.02	6,434.8	57.55	0
KB-1A-J049	1,064.62	6,265.6	128.18	1.43
KB-1A-J245	1,051.28	6,350.9	86.13	0.9
KB-1A-J338	962.35	6,360.6	81.62	0.06
KB-1A-J337	950.86	6,365.9	79.34	0.13
KB-1A-J135	927.82	6,353.0	85.23	0.35
KB-1A-J220	922.77	6,453.5	49.45	1.48
KB-1A-J341	882.54	6,359.2	82.52	2.77
KB-1A-J223	880.05	6,269.2	131.66	3.17
KB-1A-J314	874.40	6,460.3	46.5	2.79
KB-1A-J129	849.79	6,329.5	95.42	2.77
KB-1A-J142	809.08	6,312.1	115.27	0.96
KB-1A-J144	777.81	6,302.1	119.09	4.5
KB-1A-J195	700.82	6,384.5	79.29	17.72
KB-1A-J180	540.47	6,489.7	33.78	1.1
KB-1A-J132	450.40	6,348.8	87.75	1.27
KB-1A-J239	388.23	6,237.6	139.67	23.86
KB-1A-J021	351.87	6,503.0	28.02	0
KB-1A-J024	341.16	6,229.1	143.71	14.52
KB-1A-J009	286.96	6,290.0	118.24	2.73
KB-1A-J146	279.37	6,262.3	133.85	0.6
KB-1A-J238	256.93	6,237.6	139.65	3.1
KB-1A-J064	241.44	6,277.8	124.1	2.57
KB-1A-J103	240.84	6,265.0	128.76	0
KB-1A-J154	238.72	6,248.5	141.28	0.49
KB-1A-J361	219.97	6,306.6	116.16	1.3
KB-1A-J052	190.37	6,229.1	144.01	1.74
KB-1A-J321	189.85	6,281.0	125.23	3.98
KB-1A-J127	154.49	6,335.9	94.03	1.3
KB-1A-J051	148.91	6,229.4	143.85	0
KB-1A-J379	144.63	6,251.8	134.2	0
KB-1A-J112	135.84	6,481.8	40.46	0.84

KB-1A-J370	132.06	6,481.9	40.8	1.19
KB-1A-J201	117.17	6,248.4	138.64	5.08
KB-1A-J395	113.74	6,445.1	42.24	3.96
KB-1A-J369	112.43	6,495.5	34.9	0.42
KB-1A-J012	109.99	6,301.6	111.86	2.92
KB-1A-J373	108.48	6,471.6	44.71	7.37
KB-1A-J001	104.89	6,372.3	84.43	4.84
KB-1A-J250	104.70	6,348.4	88.44	1.39
KB-1A-J339	96.31	6,349.5	87.97	0.87
KB-1A-J394	88.82	6,438.1	45.32	1.25
KB-1A-J313	86.90	6,362.8	87.56	5.06
KB-1A-J200	84.31	6,248.7	138.37	3.42
KB-1A-J320	83.28	6,256.0	135.34	0
KB-1A-J329	73.19	6,249.2	141.09	0.42
KB-1A-J303	72.45	6,368.8	84.95	1.21
KB-1A-J160	67.70	6,255.9	135.38	0
KB-1A-J305	66.15	6,341.2	96.5	5.92
KB-1A-J251	65.75	6,346.1	89.39	1.91
KB-1A-J197	63.2	6,254.1	128.83	9.4
KB-1A-J149	61.85	6,236.8	146.49	0.75
KB-1A-J404	54.25	6,254.5	128.63	0.52
KB-1A-J152	49.86	6,246.2	140.47	5.29
KB-1A-J171	47.28	6,246.4	140.89	1.84
KB-1A-J322	45.94	6,284.6	122.83	3.55
KB-1A-J168	42.11	6,256.9	136.3	2.2
KB-1A-J169	37.73	6,261.9	133.6	2.95
KB-1A-J328	34.56	6,259.8	135.85	0.38
KB-1A-J323	31.58	6,286.6	121.24	0.79
KB-1A-J156	31.02	6,239.1	132.01	8.8
KB-1A-J317	28.82	6,371.0	85.18	0
KB-1A-J326	28.5	6,287.8	120.31	2.92
KB-1A-J324	28.12	6,286.3	121.38	0
KB-1A-J196	26.93	6,249.3	130.62	1.31
KB-1A-J014	18.73	6,239.7	139.4	0
KB-1A-J203	18.69	6,470.0	42.14	1.32

ZONE KB1B	Available Flow @Hydrant (gpm)	Node Elevation	Static Pressure	Static Demand
KB-1B-J006	2,990.01	6,229.1	146.93	0
KB-1B-J005	2,977.33	6,229.1	146.93	0
KB-1B-J019	1,950.20	6,268.6	105.76	3.9
KB-1B-J011	1,937.65	6,271.0	104.74	1.21
KB-1B-J049	1,905.24	6,279.1	101.22	0
KB-1B-J025	1,888.25	6,343.0	73.61	2.31
KB-1B-J020	1,877.32	6,291.2	95.99	1.84
KB-1B-J023	1,847.93	6,303.0	90.88	7.17
KB-1B-J013	1,836.61	6,330.5	78.99	0.5
KB-1B-J024	1,832.79	6,327.1	80.46	27.3
KB-1B-J048	1,812.31	6,303.0	90.89	1.59
KB-1B-J047	1,745.26	6,321.0	83.1	3.15
KB-1B-J046	1,741.58	6,344.0	73.19	0
KB-1B-J028	1,729.62	6,333.0	77.92	0.2
KB-1B-J053	1,728.94	6,341.9	74.07	0
KB-1B-J014	1,640.81	6,292.9	95.26	3.96
KB-1B-J015	1,637.20	6,267.9	106.07	0.2
KB-1B-J033	1,590.81	6,229.8	122.58	0.33
KB-1B-J010	1,537.49	6,264.5	107.56	0
KB-1B-J034	1,513.38	6,233.0	121.22	6.27
KB-1B-J038	1,477.21	6,230.2	122.43	0.18
KB-1B-J039	1,414.97	6,240.9	117.77	0
KB-1B-J035	1,391.58	6,229.1	122.92	0.28
KB-1B-J040	1,347.06	6,254.2	112.02	0
KB-1B-J041	1,323.00	6,255.6	111.39	0
KB-1B-J036	1,314.67	6,247.2	115.07	0
KB-1B-J042	1,298.96	6,258.8	110.04	0
KB-1B-J037	1,270.78	6,258.9	110	0.25
KB-1B-J008	1,222.52	6,252.1	112.92	1.46
KB-1B-J007	1,133.58	6,274.9	103.07	0.18
KB-1B-J055	1,107.71	6,256.1	111.18	0.4
KB-1B-J017	1,073.97	6,271.4	104.6	0
KB-1B-J004	1,019.45	6,350.5	70.36	0.29
KB-1B-J002	966.60	6,339.6	75.06	3.57
KB-1B-J012	905.98	6,245.8	115.65	8.63
KB-1B-J032	877.54	6,231.0	122.01	15.12
KB-1B-J003	718.26	6,339.5	75.11	0
KB-1B-J052	368.63	6,324.4	81.62	0
KB-1B-J027	265.15	6,331.6	78.34	2.77
KB-1B-J051	212.64	6,322.9	82.26	0
KB-1B-J001	211.91	6,333.7	77.51	7.7
KB-1B-J021	196.98	6,350.0	70.61	2.55
KB-1B-J050	183.75	6,324.0	81.78	1.19
KB-1B-J018	156.56	6,266.5	104.32	22.58
KB-1B-J030	104.89	6,353.5	68.21	3.54
KB-1B-J026	90.34	6,328.3	78.91	9.84
KB-1B-J045	87.07	6,292.1	95.6	0.99
KB-1B-J031	85.97	6,354.0	67.74	9.37
KB-1B-J016	66.09	6,261.6	107.8	5.88

ZONE KB1C	Available Flow @Hydrant (gpm)	Node Elevation	Static Pressure	Static Demand
KB-1C-J043	5,139.91	6,235.0	148.93	1.23
KB-1C-J014	4,636.14	6,235.7	148.64	0
KB-1C-J034	3,996.00	6,242.1	145.83	0.84
KB-1C-J042	3,442.96	6,235.0	148.93	3.24
KB-1C-J007	3,142.18	6,317.2	113.33	3.96
KB-1C-J037	2,781.93	6,367.3	92.14	0
KB-1C-J040	2,755.98	6,352.2	98.16	5.59
KB-1C-J021	2,697.84	6,365.1	92.98	13.76
KB-1C-J022	2,692.02	6,271.6	133.07	2.65
KB-1C-J003	2,596.43	6,352.1	98.2	14.91
KB-1C-J015	2,303.24	6,367.6	91.62	9.32
KB-1C-J033	2,234.50	6,273.9	132.08	0.07
KB-1C-J024	2,207.67	6,306.4	118.01	0.04
KB-1C-J027	2,188.83	6,386.7	83.25	1.79
KB-1C-J001	2,185.00	6,316.5	113.79	3.97
KB-1C-J017	2,180.81	6,355.5	96.92	4.36
KB-1C-J009	2,131.03	6,353.0	98.08	5.63
KB-1C-J013	2,113.40	6,371.6	89.89	0.66
KB-1C-J019	2,101.69	6,355.3	97.04	2.11
KB-1C-J046	2,080.34	6,390.0	81.84	0
KB-1C-J026	2,062.98	6,390.6	81.64	1.3
KB-1C-J023	1,988.08	6,273.8	132.27	0.52
KB-1C-J047	1,943.07	6,400.0	77.54	0
KB-1C-J011	1,929.62	6,401.7	76.82	0.59
KB-1C-J006	1,857.88	6,421.9	67.99	8.55
KB-1C-J028	1,832.84	6,415.7	70.81	8.95
KB-1C-J030	1,591.87	6,429.6	64.76	3.24
KB-1C-J005	1,560.08	6,357.9	95.66	2.47
KB-1C-J041	1,475.82	6,362.1	93.84	0
KB-1C-J039	1,422.30	6,451.5	55.13	11.54
KB-1C-J032	1,308.15	6,445.4	57.93	2.86
KB-1C-J038	1,228.96	6,416.5	70.4	2.42
KB-1C-J029	1,021.00	6,472.9	46.02	5.77
KB-1C-J008	983.19	6,368.8	91.24	7.1
KB-1C-J012	981.4	6,391.9	81.09	0.49
KB-1C-J018	931.02	6,375.6	88.24	1.47
KB-1C-J016	918.68	6,381.0	85.88	2.21
KB-1C-J004	838.00	6,363.5	93.23	6.47
KB-1C-J002	620.15	6,341.3	102.93	5.53
KB-1C-J010	141.10	6,450.4	55.72	1.21
KB-1C-J031	94.75	6,474.9	45.13	0.76
KB-1C-J025	40.37	6,317.3	113.23	0.6
KB-1C-J035	34.94	6,229.1	151.51	0