APPENDIX I

Hydrology

APPENDIX I-1

Proposed Project Drainage Report and Supplement

EXECUTIVE SUMMARY

This drainage report is prepared for a proposed development of thirty-three (33) single-family residential lots, and fourteen (14) multifamily residential units in halfplex configuration to be located on approximately 46 acres in Alpine Meadows.

This TLA report contains the drainage information for pre and post project conditions and recommendations for Best Management Practices (BMP).

Following are the conclusions concerning drainage as related to development of this subdivision project.

1. Peak flows are not increased over pre-project flows with development. Therefore detention is not required;
2. There are no increases in peak flows or times of concentration in Bear Creek at the confluence with the Truckee River. Therefore, no increase in flows at Caltrans or county bridge locations would result from project development;
3. Drainage facilities will be designed and sized to accommodate anticipated flows from the 10-year storm post project winter storm event, the design storm that results in the greatest runoff. Overflow routes will be provided in the event of blockage of any of the proposed drainage facilities;
4. Project BMPs, whether temporary for use during construction, or permanent, will provide the required level of protection to downstream areas prescribed by area standards.

INTRODUCTION

This report presents the preliminary drainage characteristics and calculations associated with development of the proposed Alpine Sierra Subdivision. It was prepared utilizing Placer County Drainage Criteria. It is intended to accompany an application for Conditional Use Permit and Vesting Tentative Map that would create thirty-three (33) single-family residential lots, and fourteen (14) multifamily residential units in halfplex configuration on 46 acres.

The drainage analysis was performed using HEC1 computations and the following assumptions:

- Placer County's Peak Flow From Small Watersheds detailed in the Placer County Flood Control and Water Conservation District Stormwater Management manual (SWM) was not used because of the number of different types of flow conditions studied and the large size of drainage basins.
- Storm centering was not used.
- The affect of the Project on Bear Creek flows and Truckee River flows.

SITE DESCRIPTION

The proposed Project would be located near Alpine Meadows Ski Resort in Placer County, California near the end of Alpine Meadows Road at the Ginzton Access Road. The project consists of Assessor's Parcel Nos. 095-280-022 and 023 and is located in Section 5, Township 15 North, and Range 16 East.

The general location is shown on Figure 1 and the proposed project is shown on Figures 2 and 4. The project site is currently undeveloped, varying in elevation from 6,620 to 7,080 feet.

Currently, conveyance of drainage runoff from and through the project site is via overland sheet flow and natural drainage channels. Slopes throughout the site range from approximately 10% to over 30%. A 65' portion of Bear Creek is located on the project site at the property's frontage along Alpine Meadows Road. The site has existing natural drainages channels on the eastern portion of the site that traverse the property from the south towards the north with eventual discharge to Bear Creek. There are jurisdictional wetlands along Bear Creek, on a local drainage swale bisecting the project, and on the drainages located along the eastern end of the property.

The majority of the site drains towards and through existing developed areas with drainage discharge ultimately to Bear Creek. Bear Creek is a southwest to northeast creek that drains approximately 5.12 square miles prior to its confluence to the Truckee River.

The Federal Emergency Management Agency (FEMA) has a Flood Insurance Rate Map (FIRM) with the 100-year flood plain for Bear Creek, and is in the process of updating the study and map it drainage. A copy of the FIRM was obtained from FEMA, and the proposed mapping was supplied by Placer County. Both maps show the 100-year flood plan well downstream, and that the Project is not within a 100-year flood plain. Copies of the current and proposed FIRMs are in Appendix H.

The total Alpine drainage shed of 5.12 square miles has slopes varying from nearly level to 60% and natural channels that range from 2% to 33%. The drainage sheds studied vary in elevation from about 6180 at Bear Creek and the Truckee River to 8637 feet at Ward Peak in the southwest.

Woody vegetation includes white fir, ponderosa pine, and Jeffrey pine with an understory of mountain shrubs.

The hydrologic soil group for this type of area is Group B.

PROPOSED DEVELOPMENT

The proposed development would consist of up to three phases to include thirty-three (33) single-family residential lots, and fourteen (14) multifamily residential units in halfplex configuration, on 46 acres. Access to the development will be from a new road to be constructed off of Alpine Meadows Road, approximately 230' north of Ginzton Access Road. In all, the project road system encompasses approximately 7,900 lineal feet of new roads comprising three cul-de-sacs and three flag lot driveways. Snow removal will be required for the area as the Project is proposed to have year round use. See Figure 4 for proposed Project.

Drainage from the site will generally follow historic and natural patterns northerly through adjacent areas to Bear Creek. The roads will intercept some sheet flows and collect them in stormdrain systems. The stormdrains will either discharge to an existing swale or channel, or to a constructed level spreader to create a sheet flow condition.

EXISTING DRAINAGE CONDITIONS

General

The existing site and conditions are described in the Site Description section above.

The estimated storm runoff is calculated under two preproject conditions for 2, 10, and 100-year storm events respectively. The two preproject conditions are as follows:

1. Summer condition with 100% of infiltration value allowed on pervious surfaces and a base flow of 3 cfs per square mile;
2. Winter condition with no amount of infiltration value allowed on pervious surfaces and including a snowmelt amount of 32.3 cfs per square mile (0.050 inches/hour per SWM 5-2) which was added to the base flow. See Appendix G.

Existing drainage areas are depicted on Figure 2 for the total Bear Creek drainage basin area, and on Figure 3 for the Project site. Existing area drainage characteristics are tabulated in Table 1.

Results

Runoff calculated for the 2, 10 and 100-year storm event summer condition (with infiltration) and for the winter condition (with no infiltration) are tabulated in Table 3 for three locations that collect onsite drainage, and four locations on Bear Creek before discharge to the Truckee River.

The results show that the winter runoff condition results in the greatest amount of runoff for all storm events. The time of peak flow is 5-minutes earlier for the pre-project conditions versus the post project condition for the 2 Year storm event.

The HEC1 calculations for the 2, 10 and 100-year storm event are included in Appendix B for summer conditions and Appendix C for winter conditions. An electronic disk is included in Appendix I.

PROPOSED DRAINAGE CONDITIONS

General

The drainage areas for the proposed development are depicted on Figure 4 and are predominately the same as under preproject conditions. The Project buildout of the proposed development will include:

1. Construction of thirty-three (33) single-family residential units and fourteen halfplex units;
2. For this study, single family building hard surface area and driveway is assumed to consist of 3,500 square feet. Driveways will be paved as each building is constructed;
3. Access roads will consist of a 24-feet wide paved section;
4. Installation of underground utilities;
5. Construction of BMPs. Some of the BMPs will be constructed with street improvements, and others will be constructed with each building permit;
6. Construction of rolled curbs, roadside ditches and cross culverts at driveways to collect and covey storm water to drainageways.

The estimated storm runoff is calculated under two post project conditions for 2, 10 and 100-year storm events respectively. The two post-project conditions are as follows:

1. Summer condition with 100% infiltration value allowed on pervious surfaces and a base flow of 3 cfs per square mile;
2. Winter condition with no amount of infiltration value allowed on pervious surfaces and including a snowmelt amount of 32.3 cfs per square mile (0.050 inches/hour per SWM 5-2) which was added to the base flow. See Appendix G.

Proposed drainage areas are the same as preproject conditions and are depicted on Figures 2 for the total Bear Creek drainage basin area and on Figure 4 for the Project site. Proposed drainage area characteristics are tabulated in Table 2.

BMP facilities will not be considered as detention facilities in the determination of runoff Quantities as they will be assumed to be full at the time of the storm. There will be retention BMP for stormwater quality, but their impacts were neglected in calculating the post development flows.

Results

Runoff calculated for the 2, 10 and 100-year storm event summer condition (with infiltration) are tabulated in Table 3 for the three locations that collect onsite drainage, and the four along Bear Creek.

Culverts

The hydraulic analysis for drainage culverts shall conform to the SWMM. On-site minor culverts and drainage facilities will be designed and sized for the 10-year runoff winter flow condition

(winter runoff generates a greater flow than summer flow) and calculations will be furnished at the time of improvement plan submittal to meet the County criteria as follows:

Storm drains and channels

The hydraulic analysis for storm drain pipes, and channels shall conform to the SWMM and will be designed to meet the following criteria:

1. Drainage pipes:
   a. Minimum pipe velocities 2 ½ feet per second;
   b. Slopes less than 70% of critical slope or more than 130% of critical slope at design flow for pipes not under pressure flow;
   c. Mannings "n" value for CMO per SWMM Table 6-3;
   d. No inlet headwater under the 10-year storm event.

2. Drainage channel and drainage release channel:
   a. Will be designed per SWMM Section VIII;
   b. Shall be designed for the 100-year storm event with HGL 1-foot minimum below finished floor elevation;
   c. Shall be designed assuming all culverts 100% blocked.

Bridges

The project proposes four clear span bridges; one crossing Bear Creek, and three crossing the predominate drainage swale which bisects the site. The primary reason for proposing clear span bridges, and not culverts, is wetland impact avoidance.

OTHER REPORT DRAINAGE PEAK RUNOFF INFORMATION

There have been several other methods proposed in the area for calculation of peak runoff. These methods are included in Appendix D, which includes a table and graph of the various calculations for the 100-year storm events.

The range of flow calculations for the 100-year storm event for the 5.12 square mile drainage basin is 534 cfs to 867 cfs. The TLA HEC1 calculations result in 606 cfs (summer flows with infiltration) and 862 cfs (winter flows with snow melt and no infiltration). The results show that the TLA HEC1 calculations for the total Bear Creek drainage basin area of 5.12 square miles fall within the range of other agency projections.

EFFECT OF PROJECT DEVELOPMENT ON BEAR CREEK AND TRUCKEE RIVER FLOWS AND DOWNSTREAM DRAINAGE FACILITIES

As shown in Table 3, the peak flows in Bear Creek at its confluence with the Truckee River (Tables 1 & 2, station ID's 100C and 100C2 respectively), is essentially the same (for the same storm event) for pre and post project developed conditions for storm events studied. The three storm events studied are the 2, 10 and 100-year summer storm event (infiltration allowed) and winter storm event (no infiltration allowed). The time to peak flow in Bear Creek at the confluence with the Truckee River for the storm events studied is essentially the same under pre and post project summer conditions, and the same under pre and post project winter conditions.

Therefore, based on the calculations, there is no increase in peak flows or times of concentration in the Truckee River (or to Caltrans bridges) due to project development.

BEST MANAGEMENT PRACTICES

General

There are several permanent types of BMP measures proposed for the Project, which are described more fully below. In addition, temporary BMPs during construction will be implemented during construction of the street and infrastructure improvements and with each lot upon development. Due to the project's size, a SWPPP and NOI will be required for construction.

The proposed permanent BMPs will treat storm water runoff from new paved and hardscape areas to minimize pollutants from the initial runoff resulting from any storm event.

The temporary BMPs used during construction will help control dust and will pre-treat storm water and construction watering runoff to minimize suspended sediments prior to discharging into existing natural channels. In addition, they will cleanup possible fuel and oil spills from construction equipment to prohibit contamination of surface flows or groundwater. The Contractor will be required to monitor and maintain all BMPs during construction to ensure they function properly.

The BMPs that will ultimately be designed for the Project will consist of one or all of the following types:

Permanent Facilities

BMPs will be designed for a 1-hour 20-year storm event flow that falls on hard surface areas. The depth of the 1-hour 20-year storm event approximately equals 0.80" of rainfall at this location. The preferred treatment method will be infiltration of the resulting volume runoff from new impervious area.

Individual home sites will need to include accepted local practices to mitigate their individual impacts. These are often drip line trenches and infiltration trenches located down slope of the structure.

Permanent facilities will be built into the project to treat the stormwater runoff from the new roadways. The proposed half-width of the roads vary from 12-feet to 20, depending on the paving width and the use of curb, gutter and sidewalk. The treatment volume for a 20-foot wide section of roadway is 1.33 cubic feet/lineal foot. (cft/ft). This can be accomplished with a 2-foot wide by 2-foot deep trench located along the roadway backfilled with clean drain rock. Where infiltration immediately adjacent to the roadway is not feasible, the stormwater will be collected and routed to specifically designed treatment basis.

In some areas, cut off ditches will be used to keep the road runoff separate from runoff of undeveloped areas. Efforts will be made to keep the runoff from undeveloped areas separate from new impervious areas until after the BMP facilities.

It should be noted that portions of the site are rock and have low permeability, both in the existing state and post development. Because of this, new impervious area will not result in an increase in runoff, and therefore, infiltration will not be required. These areas will require low impact development (LID) design and treatment such as swales and buffer strips.

Concentrated points of discharge will be avoided or mitigated with berms and level spreaders to disperse flow to sheet flow conditions. When discharging into natural channels, rock riprap will be installed to prevent erosion and to dissipate flows. In addition, when the velocity in a manufactured earthen swale or channel exceeds 6 fps it may be lined with riprap.

All areas disturbed during construction which are not otherwise improved, will be revegetated. BMP facilities will be designed to treat the flows determined above and will be checked to assure they can pass greater flows (10-year peak runoff) without damage to the facilities. Measures such as rock riprap, bypass openings for larger flows, and larger inlet openings will be provided for larger flows.

See Appendix E for BMP volume and cfs calculations; example BMP calculations for water quality basins and trenches.

Temporary Facilities During Construction

BMPs proposed for use during construction will be per Placer county requirements and the High Sierra Resource Conservation district details and guidelines regarding the utilization of silt fences and/or straw bale dikes.

Maintenance of Permanent Facilities

It is anticipated that provisions to provide for the maintenance of the BMPs in the common areas will be the responsibility of a home owners association (H.O.A.) and included in the Codes, Covenants and Restrictions (CC & R). Each homeowner will be responsible for maintenance of the infiltration trench BMP associated with their lot, if applicable.

Provisions should be included in the CC & R's for routine inspection and maintenance of the facilities sufficient to ensure proper function. Suggested intervals will include before, during, and after intense storm events and prior to inundation by snow for the winter.

EROSION AND SEDIMENT CONTROL NOTES AND REVEGETATION SAMPLE SPECIFICATIONS

Sample erosion and sediment control notes and specifications proposed for the project are included in Appendix E. These may be augmented and revised to address finite design constraints during preparation of the improvement plans.

Also included are typical straw bale dike details, silt fence details, and fiber rolls. These facilities will be included in the improvement plans for protection of existing facilities and to prevent pollution of existing (to be retained) unimproved areas.

Sample revegetation specifications are also included in Appendix E. These may be augmented and revised to address finite design constraints during preparation of the improvement plans.

CONCLUSIONS

Following are the conclusions concerning drainage as related to development of this subdivision project:

1. Peak flows are not increased over pre project flows with development. Therefore, detention is not required;

2. There is no increase in peak flows or times of concentration in Bear Creek at the confluence with the Truckee River. Therefore, there is no increase in flows at Caltrans bridge locations attributable to project development;

3. Drainage facilities will be designed and sized to accommodate anticipated flows from the 10-year storm post project winter storm event; the condition that results in the greatest runoff. Overflow routes will be provided in the event of blockage of any of the proposed drainage facilities;

4. Project BMPs, whether temporary for use during construction or permanent, will provide the required level of protection to downstream areas prescribed by area standards.

ALPINE SIERRA
SUBDIVISION

SUPPLEMENT TO
"PRELIMINARY DRAINAGE REPORT"
DATED DECEMBER 2012"

Prepared for:

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- Summary Table SA1 @ original concentration comparison points
- HEC-1 calculation print output file

SB Bear Creek Bridge Site, HECRAS 100-year results
- Water surface profile figure
- Summary cross section table:
  1. pre-project
  2. post-project
- Upstream and downstream inside bridge cross sections

SC Tributary Bridge Sites, HECRAS 100-year results
- Water surface profile figure
- Summary cross section table:
  1. pre-project
  2. post-project
- Upstream and downstream inside bridge cross sections

SD (2, 10, & 100-year) Offsite Pre/post-project flows at nine common discharge locations from site

SE Computer files:

• 100-year HEC-1 pre/post-project		file:	TOMSTRY.DAT & OUT
• Bear Creek, HECRAS	pre-project	file:	Alpnobr.prj
	post-project	file:	Alpbr.prj
• Tributary Creek, HECRAS	pre-project	file:	atrnobr.prj
	post-project	file:	atrbrx.prj

S1 EXECUTIVE SUMMARY

This report responds to the "DRAINAGE" items and provides the additional information requested in Placer County's February 7, 2013 Memorandum to Maywan Krach, ECS with the Subject "PSUB 20130004: Alpine Sierra Subdivision – Tentative Map; Grading Plan, Details, Utility Plan, Geotechnical Report, Traffic Study, Drainage Report" (hereinafter referred to as MemoFeb13). It also responds to direction from Phil Frantz P.E., with Placer County who separately requested the 2-year and 10-year analyses.

The peak 2-year, 10-year and 100-year flows were determined using HEC-1 modeling under pre and post-project events. Peak flows occur under the 100-year winter condition with snowmelt and no infiltration. For 2, 10 and 100-year scenarios there is little to no difference under pre and post-project flow conditions (Appendix SA Table SA1).

In response to MemoFeb13 item 2, at nine concentration flow points at the project boundary, the results show that (Table S3):

- At eight of the locations there was less than 0 to 0.41 percent increase in exiting flows under post vs. pre-project conditions. This increase is very small and considered negligible and within the tolerances of the calculations. These flows therefore will not change the impact over existing conditions to any downstream offsite locations.
- At one concentration point, location "F," the exiting flow increased 0.56 cubic feet per second (cfs) (5.95 percent) under post-project conditions. This is a small flow and the increase will be dissipated because of the forested area before reaching any offsite drainage facilities.

In response to MemoFeb13 items 1 and 3, the pre and post floodplains were calculated using the HECRAS calculation model. The results of the calculations show that there is no increase in offsite floodplain elevations due to the post-project bridges.

- For the Bear Creek Bridge Site results see Table S1 and Figure S1.
- For the Tributary Creek Bridge Sites results see Table S2 and Figure S2.

S2 INTRODUCTION

This report responds to the "DRAINAGE" items and provides the additional information requested in Placer County's February 7, 2013 Memorandum to Maywan Krach, ECS with the Subject "PSUB 20130004: Alpine Sierra Subdivision – Tentative Map; Grading Plan, Details, Utility Plan, Geotechnical Report, Traffic Study, Drainage Report."

The MemoFeb13 had three items related to drainage. The three items in summarized form are:

1. Provide and show the 100 year floodplain in the project serving 20-acres or more. There are two areas to be shown:
   a) For Bear Creek at the proposed entry road "A" bridge crossing;
   b) For the tributary creek drainage crossing the project near the Projects northeast side.
2. What are the pre/post development flows at points of concentration along the north property line? Some are already addressed; others are not. There appear to be nine total locations. If there are flow increases, do the downstream drainage facilities have the capacity to accept the increase?
3. Provide the 100-year water surface elevations at bridge crossing and compare to the bridges elevations.

In order to avoid confusion between this supplementary report and the preliminary drainage report, the report sections, tables, and appendixes are indexed with the prefix "S."

S3 MEMOFEB13 ITEMS 1 & 3 RESPONSES

METHOD

To provide the information requested in items 1 and 3 of the MemoFeb13, the HECRAS River Analysis System was used to calculate water surface elevations for the areas required.

Models Run

The HECRAS model was run for each of the two creek areas under the pre-project condition "no bridges" and the post-project condition "with bridges."

The model was run twice to capture certain condition; once under subcritical conditions, (which usually produces the greatest water surface elevations and lowest velocities); and once under mixed flow conditions (both super and subcritical flow conditions whichever governs) which in steep slope channels (usually 1 percent or greater) typically produces the lowest water surface elevations and the greatest velocities.

Creek Stations

The HECRAS stations for cross sections were assigned with increasing stationing from downstream to upstream. The general method of station was used which assigns the zero station as the confluence with the first major downstream creek or river reached. The

stationing for the two creeks was established as follows by scale distance using the Figures in the Alpine Sierra Subdivision, "Preliminary Drainage Report" dated December 2012:

- Bear Creek, zero centerline creek station is at the confluence with the Truckee River. Approximate Creek centerline distance to the Project site centerline of the proposed "A Street" Bridge is about 13000 feet. For ease of calculation this was assigned as HECRAS Station 1478 in the calculations. Thus to get the approximate distance to each of the HECRAS stations used from the Truckee River add 13000 feet.
- The tributary Creek, crossing the northeast side of the Project, zero centerline station is at its confluence with Bear Creek. Approximate tributary creek distance to the west downstream Project side is 400 feet for a HECRAS Station of 400.

The cross sections used in the HECRAS model were started and ended far enough downstream and upstream of the proposed project improvements to provide the effect of the project on the floodplains.

Creek Cross Sections

HECRAS creek cross section locations are shown on the attached plans with elevations and cross stationing obtained from the existing topography and proposed road centerline elevations shown on the preliminary plans and road profiles.

It should be noted that the HECRAS cross-section distances across the each section has the distance increasing from left to right, with the left side being left when facing downstream.

100-year Flows

The peak 100-year flows were obtained from the HEC1 results for the 100-year winter results with snowmelt and no infiltration. This provided the greatest runoff flows. Also, under the pre and post-project winter conditions, the flows in the creek sections studied were near to or the same peak flows. Therefore, only one set of creek flows was used in the floodplain calculations. See Appendix SA for the HEC-1, 100-year pre and post-project flow calculations and results.

Cross-Section Parameters

a. Roughness coefficients, "n"
   - Channel 0.05
   - Overban 0.07

b. Coefficients:

	Contraction	Expansion
Normal	0.1	0.3
Near bridges	0.3	0.5

Bridges

Bridges were modeled using the HECRAS bridge input items including:

a. Ineffective flow areas input as the bridge length on the immediate upstream and downstream cross sections adjacent to the bridge.
b. Over-road weir flow coefficient = 3.0
c. Bridge skew angle of bridge to creek, if applicable.

Floodplain Water Surface Elevations

Water surface HECRAS elevations are calculated for both the subcritical and mixed flow calculation conditions as noted above.

Under subcritical flow conditions, if the creek profile is steep, the water surface calculated elevation would be lower than the critical water surface elevation and the HECRAS resulting would in this case default to the critical water surface elevation result.

Under the mixed flow condition, the water surface elevation calculated would be determined for each section for either the subcritical or supercritical condition whichever would be applicable and not default to the critical water surface elevation. In steep creek profile areas, the result is usually the supercritical condition that governs and this would be the resulting water surface elevation.

For this Project because of the steep creek profiles and to be conservative, the maximum floodplain calculated elevations occur under the subcritical flow (velocity) conditions and these are the elevations used to plot the resulting flood plain limits. This tends to be the most conservative method, as flow elevations under supercritical conditions are sometimes unstable and subject to hydraulic jumps created by minor obstructions in the channel or slope changes.

S3.1 BEAR CREEK BRIDGE CROSSING

General
The Bear Creek 100-year flood plain flows used under post-project conditions is included in Table S1.

The bridge was modeled under various trial span lengths with the result that a 50-foot long bridge span was adequate and did not substantially increase the up/downstream water surface elevations.

The Road "A" bridge is modeled with a 50 foot span and a centerline bridge HECRAS station at 1478 which is 175 upstream of the initial HECRAS station 1303 and 238 downstream of the furthest upstream HECRAS station 1716.

Results
The 100-year pre-project (no bridge) and post-project (with bridge) flow of 1141 cfs resulting water surface HECRAS elevations are summarized in Table S1 for both the subcritical and mixed flow calculation conditions.

The results show that there is very little difference between the pre and post-project resulting elevation when comparing subcritical flow calculations conditions, or when comparing mixed flow calculations. Under each calculation method compared to itself under per and post-project condition, the furthest downstream and upstream sections show no change in water surface elevation.

Per Table S1, the maximum floodplain calculated elevations occur under the subcritical flow (velocity) conditions and these are the elevations used to plot the resulting flood plain limits shown on Figure S1.

The 100-year post-project (with bridge) water surface profile per HECRAS subcritical flow calculation conditions is included Appendix SB. Also included in Appendix SB are the HECRAS summary cross section Table and the bridge upstream and downstream cross sections just inside the bridge.

S3.2 TRIBUTARY CREEK BRIDGES (4) CROSSINGS

General
The Tributary Creek 100-year flood plain flows used under post-project conditions are included in Table S2.

The bridges were modeled to be a 40 foot long span at the "D" Road Driveway bridge, HECRAS Station 569 and at the other upstream three bridges were modeled as 10 foot long spans.

The bridge at HECRAS Station 569 needed a longer span because of the shallow upstream side of bridge creek depth. The span can be made shorter if the creek channel can be lowered at this location or the banks raised and the bridge raised.

Results
The 100-year pre-project (no bridges) and post-project (with bridges) flows and resulting water surface HECRAS elevations are summarized in Table S2 for both the subcritical and mixed flow calculation conditions.

The results show that the is very little difference between the pre and post-project resulting elevation when comparing subcritical flow calculations conditions or when comparing mixed flow calculations. Under each calculation method compared to itself under per and post-project condition, the furthest downstream and upstream section show no change in water surface elevation.

Per Table S2, the maximum floodplain calculated elevations occur under the subcritical flow (velocity) conditions and these are the elevations used to plot the resulting flood plain limits shown on Figure S2.

The 100-year post-project (with bridge) water surface profile per HECRAS subcritical flow calculation conditions is included Appendix SC. Also included in Appendix SC are the HECRAS summary cross section Table and the bridge upstream and downstream cross sections just inside the bridges.

S4 MEMOFEB13 ITEM 2 RESPONSE

Method

To provide the information requested to item 2 of the MemoFeb13, the results of the H1 100-year flows and stationing were used. See Appendix SA for H1 calculation and results.

The pre and post-project exiting flow locations were then located on the Figures S3 and S4. These flow locations used the existing topography and include some additional locations not included in the H1 calculations.

The H1 flows under pre and post-project conditions were then prorated by acreage where different than those shown in the H1 model. This was determined to be appropriate because the times of concentration would not substantially change and would produce results that could be used for comparison of pre to post-project conditions.

Results

The results of the flow calculations at the nine points of concentration shown on the Figures S3 and S4 under pre and post 100-year conditions are shown in Table S3. A complete breakdown of the calculations is shown in the table in Appendix D.

At all of the concentration flow locations, except location F, exiting the Project site, the increase in flows under post-project conditions is less than 0.41 percent. At flow location the increase in flow under post-project conditions is 5.95 percent.

For the eight locations with less than a 0.41 percent post-project flow increase, this increase is very small and considered negligible and within the tolerances of the calculations. These flows therefore will not change the impact over existing conditions to any downstream offsite locations.

For concentration location F the flow increase under post-project conditions is 5.95 percent. The flow increases 0.56 cfs under post-project conditions from the pre-project 9.44 cfs condition. From the concentration F location leaving the site until it meets an existing road north of the project is a scaled distance of approximately 160 feet. The exiting channel from F to the road has an approximate slope of 20 percent and is through a forested area per the topography. The 0.56 cfs increase at the project boundary, concentration location F, is very small and will be substantially dissipated and reduced when passing though the 160 feet of forested downstream area. Thus, the affect of the increased flow from F will not reach the existing off site road area and there will be no substantial affect on the existing downstream drainage facilities over the pre-project conditions.

TABLES

TABLE S2
Alpine Sierra Subdivision
TRIBUTARY CREEK CHANNEL & 4 BRIDGES SITES
Floodplain Elevations, pre/post bridge, subcritical vs mixed flow conditions
100-year Winter peak flows
March 22, 2013

HECRAS Sta	Distance from 285	Description	Bridge span	100-year		Water Surface Elevation, feet			
				H1 Sta	Flow	Pre Project (no bridge)		Post Project (with bridges)	
				HECRAS .prj->		strnobr	strnobrm	strbnx	strbnxm
	feet		feet	ID a)	cfs	subcritical b)	mixed flow, c)	subcritical b)	mixed flow, c)
262	0	start downstream end, off site		6CC	407	6591.73	6591.11	6591.73	6591.11
305	43				407	6594.00	6593.25	6594.00	6593.25
350	88	50' +/- offsite			407	6598.61	6597.92	6598.61	6597.92
450	188	onsite			407	6612.56	6611.94	6612.56	6611.94
520	258				407	6621.31	6620.18	6621.31	6620.18
553	291				407	6626.97	6626.31	6626.93	6626.60
569	307	CL Bridge @ "D" Str. Driveway, Road CL Sta 7+06+/-	40						
585	323			6CC	407	6629.37	6629.37	6629.66	6629.66
610	348			adjusted between 6CC & 6BC	370	6630.03	6629.61	6630.09	6629.61
710	448				370	6640.47	6639.23	6640.47	6639.23
765	503				370	6648.53	6647.67	6648.53	6647.67
810	548				370	6652.67	6651.40	6652.67	6651.40
860	598				370	6661.78	6660.41	6661.78	6660.42
890	628				370	6668.71	6667.44	6668.71	6667.25
935	673				370	6675.71	6674.72	6676.64	6675.08
951.5	689.5	CL Bridge @ "C" Str., Road CL Sta 3+75+/-	10						
968	706			6BC	332	6680.32	6679.76	6681.59	6681.59
978	716				332	6680.93	6680.24	6682.60	6682.60
1038	776				332	6690.22	6689.64	6690.22	6689.63
1086	824				332	6698.01	6697.61	6698.01	6697.62
1179	917				332	6712.13	6711.56	6712.13	6711.55
1236	974				332	6722.69	6721.50	6722.69	6721.51
1271	1009				332	6729.02	6727.85	6729.02	6727.73
1303	1041				332	6734.10	6733.05	6734.68	6733.18
1320.5	1058.5	CL Bridge @ "A" Road, Road CL Sta 41+00+/-	10						
1338	1076				332	6739.87	6738.94	6741.30	6739.66
1348	1086				332	6741.87	6741.14	6741.87	6741.13
1428	1166				332	6752.18	6750.96	6752.18	6750.98
1508	1246				332	6766.84	6765.81	6766.84	6765.76
1524	1262				332	6769.78	6768.91	6769.78	6788.63
1534.5	1272.5	CL Bridge @ "Off A" Driveway, Road CL Sta 4+05+/-	10		332				
1545	1283			6BC	332	6772.05	6770.92	6773.33	6771.43
1555	1293			6AC	329	6773.83	6772.67	6773.83	6772.67
1585	1323				329	6779.29	6778.38	6779.29	6778.38
1681	1419				329	6797.37	6796.20	6797.37	6796.20
1771	1509				329	6813.97	6812.92	6813.97	6812.92
1821	1559				329	6821.66	6819.89	6821.66	6819.89
1893	1631	upsteam end at end project site +/-		6AC	329	6833.14	6833.14	6833.14	6833.14

Notes:

a) Post Project Hec-1 calculation file:
b) Subcritical conditions in HECRAS if water surface result calculates to less than subcritical defaults to the critical water surface elevations.
c) Mixed flow condition determines which condition (subcritical or supercritical flow) applies between HECRAS stations and shows the results in the table. On steeper channel slope areas, usually >= 1.0%,supercritical conditions exist.

file:L\Alpinelowell\alptables

TABLE S1
Alpine Sierra Subdivision
BEAR CREEK BRIDGE SITE
Floodplain Elevations, pre/post bridge, subcritical vs mixed flow conditions
100-year Winter peak flows
March 22, 2013

HECRAS Sta	Distance from 1303	Description	Bridge span	100-year		Water Surface Elevation, feet			
				H1 Sta	Flow	Pre Project (no bridge)		Post Project (with bridge)	
				HECRAS .prj->		Alpnobr	Alpnobrm	Alpbr	Alpbrm
	feet		feet	ID a)	cfs	subcritical b)	mixed flow, c)	subcritical b)	mixed flow, c)
1303	0	downstream end		1C	1141	6743.04	6741.05	6743.04	6741.05
1374	71			1C	1141	6754.88	6753.36	6754.88	6753.36
1419	116			1C	1141	6760.79	6759.42	6760.79	6759.55
1460	157			1C	1141	6765.83	6764.51	6765.60	6764.48
1478	175	CL Bridge @ "A" Road CL Sta 13+35 +/-	50						
1496	193			1C	1141	6769.91	6768.58	6770.39	6768.60
1586	283			1C	1141	6777.79	6776.82	6777.79	6776.82
1661	358			1C	1141	6783.59	6782.42	6783.59	6782.42
1716	413	upstream end		1C	1141	6787.76	6787.76	6787.76	6787.76

Notes:

a) Post Project Hec-1 calculation file:
b) Subcritical conditions in HECRAS if water surface result calculates to less than subcritical defaults to the critical water surface elevations
c) Mixed flow condition determines which condition (subcritical or supercritical flow) applies between HECRAS stations and shows the results in the table. On steeper channel slope areas, usually >= 1.0%, supercritical conditions exist.

file L\Alpinelowell\alptables

TABLE S3
Alpine Sierra Subdivision
Pre and post flows at nine common project discharge locations from site,summary
March 22, 2013

Common ID	PRE PROJECT		POST PROJECT		Post minus Pre Project	
	area acres	flow cfs	area acres	flow cfs	flows cfs	% pre
A	0.60	1.00	0.60	1.00	0.00	0.00%
B	976.14	1090.98	979.20	1095.36	4.38	0.40%
C	4.60	5.98	5.00	6.00	0.02	0.33%
D	45.10	50.63	43.50	50.64	0.01	0.02%
E	6.90	8.97	5.60	9.00	0.03	0.33%
F	7.26	9.44	6.10	10.00	0.56	5.95%
G	322.40	407.00	321.20	407.00	0.00	0.00%
H	7.80	10.00	9.10	10.00	0.00	0.00%
I&J	46.80	77.00	45.10	74.00	-3.00	-3.90%
Grand total	**1417.60**	**1661.00**	**1415.40**	**1663.00**	**2.00**	0.12%

FIGURES

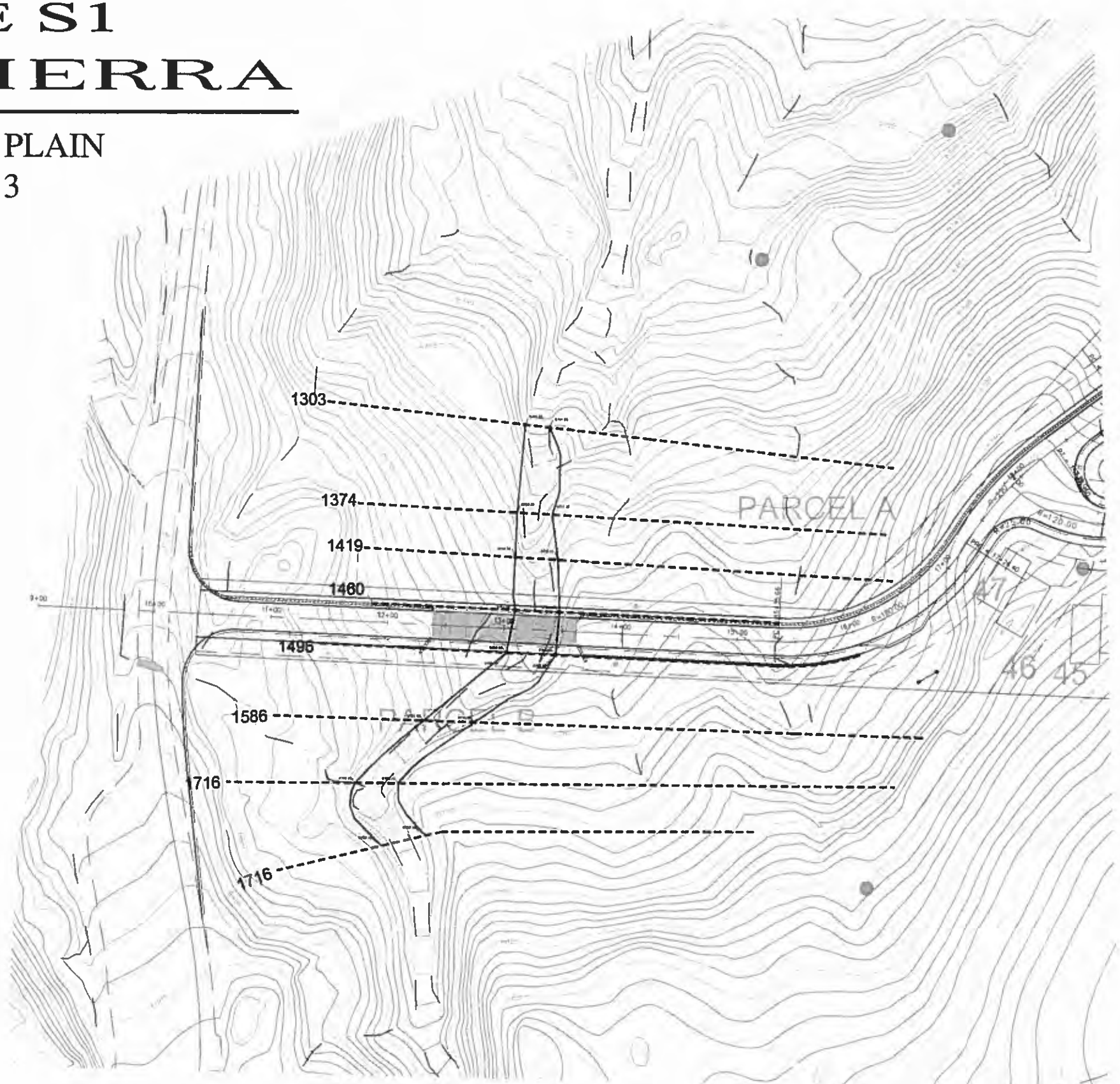
FIGURE S1
ALPINE SIERRA

100-YEAR FLOOD PLAIN
MARCH 2013

LEGEND

-------	CHANNEL CROSS SECTION LOCATION
1303	RIVER STATION
WSE	WATER SURFACE ELEVATION
	100-YEAR FLOOD PLAIN
	BRIDGE LOCATION

NOTE:
SEE TABLE S1 FOR 100-YEAR FLOOD PLAIN ELEVATIONS.



N

SCALE: 1"= 100'

100 0 50 100 200

BEAR CREEK

TLA
TERRANCE E. LOWELL & ASSOCIATES, INC.

FIGURE S1

TLA JOB#: 1142

FIGURE S2
ALPINE SIERRA

100-YEAR FLOOD PLAIN
MARCH 2013

NOTE:
SEE TABLE S2 FOR 100-YEAR FLOOD PLAIN ELEVATIONS.

LEGEND

-------	CHANNEL CROSS SECTION LOCATION
1303	RIVER STATION
WSE	WATER SURFACE ELEVATION
	100-YEAR FLOOD PLAIN
	BRIDGE LOCATION

TRIBUTARY TO BEAR CREEK

SCALE: 1"= 100'

100 0 50 100 200

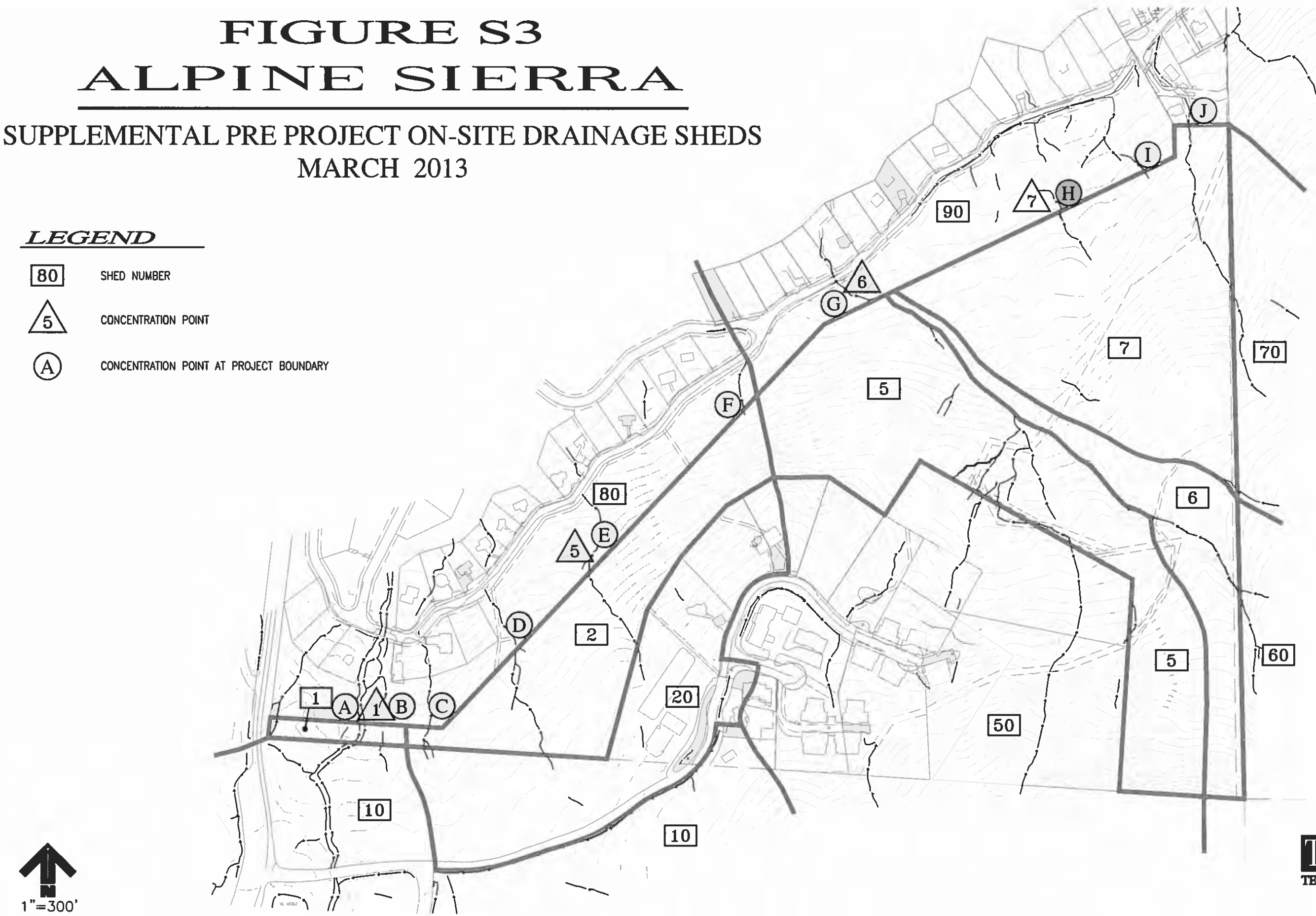
TLA
TERRANCE E. LOWELL & ASSOCIATES, INC.

FIGURE S2

TLA JOB#: 1142

FIGURE S3
ALPINE SIERRA

SUPPLEMENTAL PRE PROJECT ON-SITE DRAINAGE SHEDS
MARCH 2013



TLA
TERRANCE E. LOWELL & ASSOCIATES, INC.

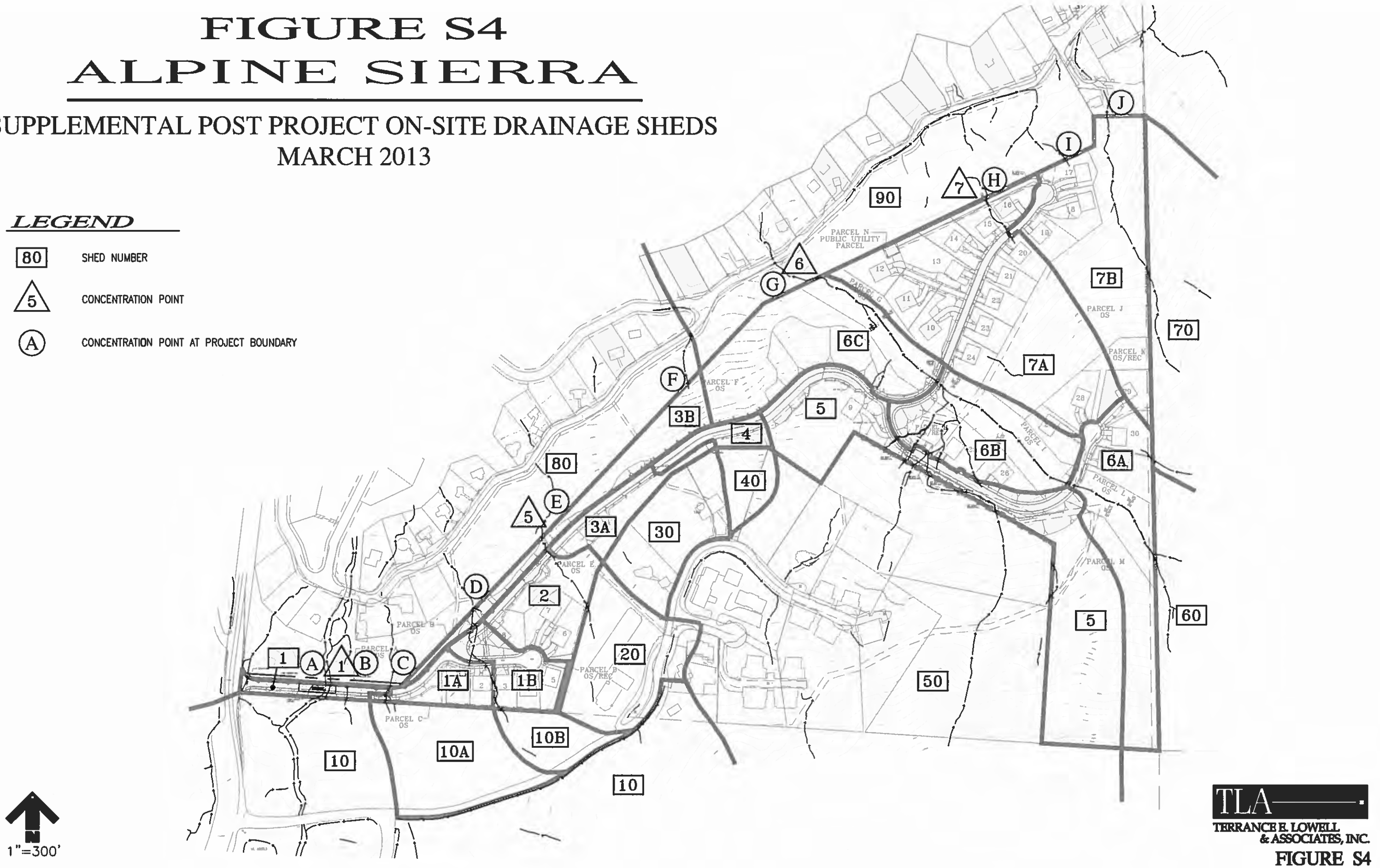
FIGURE S3

L:\1proj\11xx\1142\Drainage\SUPPLEMENTAL PRE PROJECT.dwg

TLA JOB#: 1142

FIGURE S4
ALPINE SIERRA

SUPPLEMENTAL POST PROJECT ON-SITE DRAINAGE SHEDS
MARCH 2013



L:\1proj\11xx\1142\Drainage\SUPPLEMENTAL POST PROJECT.dwg

TLA JOB#: 1142

APPENDIX

APPENDIX SA

TABLE SA1
Alpine Sierra Subdivision
Pre/post Development Peak Flows @ Original Concentrations Points
100-year Winter peak flows
March 22, 2013

Concentration Point Sta ID-PRE Sta ID-POST	HEC1 Sta ID-PRE Sta ID-POST	DESCRIPTION	AREA SERVED AREA - PRE AREA - POST acres	 sq. mi.	PEAK FLOW CONDITION HEC 1 file ---> Description	100-yr. Peak Flow 100-year peak Winter cfs	 time
1	1C CP1	Offsite Area Entrance Road A At Bear Creek x-ing	1,020.6 1,020.6	1.5947	Pre project Post project Post/Pre ratio =	1140 1141 1.00	12.50 12.50
2	80C CP2	Offsite Area Along Bear Crek near middle of project	1,302.6 1,302.0	2.0353	Pre project Post project Post/Pre ratio =	1442 1439 1.00	12.50 12.50
3	90C CP3	Offsite Area Along Bear Creek near bottom of project	1,848.4 1,848.4	2.8881	Pre project Post project Post/Pre ratio =	2093 2090 1.00	12.25 12.17
4	100C 100C2	Offsite Area Along Bear Creek at concfluence of Truckee River	3,227.4 3,227.4	5.1209	Pre project Post project Post/Pre ratio =	3944 3952 1.00	12.33 12.33
5	2C 3C2	Offsite Area At beginning of project (@Phase 1/2 brdy)	20.0 14.4	0.0313	Pre project Post project Post/Pre ratio =	26 23 0.88	12.08 12.00
6	6C2 6CC	Offsite Area At middle of project (@Phase 2/3 brdy)	322.4 323.2	0.5038	Pre project Post project Post/Pre ratio =	407 407 1.00	12.25 12.07
7	7C 7BC	Offsite Area At end of project (@ northernmost end)	54.4 54.2	0.0850	Pre project Post project Post/Pre ratio =	87 83 0.95	12.08 12.08

```
c1*****************************************
****************************************
 *                                      *                                                          *
*
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                                                          *    U.S. ARMY
CORPS OF ENGINEERS      *
 *               JUN   1998             *                                                          *    HYDROLOGIC
ENGINEERING CENTER    *
 *            VERSION 4.1               *                                                          *          609
SECOND STREET           *
 *                                      *                                                          *       DAVIS,
CALIFORNIA 95616        *
 *  RUN DATE   06MAR13  TIME  10:51:34   *                                                          *           (916)
756-1104             *
 *                                      *                                                          *
*
 *****************************************
****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX        XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.

THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION

NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,

DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION

KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT

PAGE 1

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

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              * I=ASP100W.IN O=ASP100W.DAT
              * Input File Name = ASP100W.IN
              * PDP Vers 1.6 8/13/94
              * I=ASP100W.DAT O=ASP100W.OUT
              * Input File Name = ASP100W.DAT
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  2           ID   ALPINE SIERRA
  3           ID   PRE AND POST PROJECT
  4           ID   WINTER SCENARIO WITH NO INFILTRATION AND WITH SNOW MELT
  5           ID   UK CARD
  6           ID        1ST ENTRY = PERVIOUS
  7           ID        2ND ENTRY = IMPERVIOUS
  8           ID   SPATIAL DISTRIBUTION AND STORM CENTERING NOT USED
  9           ID   USED PLACER COUNTY PDP PROGRAM FOR RAINFALL ON EAST SIDE OF SIERRA CREST
 10           ID   100-YEAR, 24-HOUR STORM
 11           ID   FEBRUARY 20, 2004
 12           IT       5    0000    0000     288
 13           IO       5
```

TOMSTRY.DAT
.OUT

```
                *DIAGRAM
                *
                *  BEGIN PRE PROJECT CONDITIONS
                *

 14             KK      10
 15             KM  1020.0 acres
 16             BA  1.5938
 17             BF   -32.3
 18             PB
 19             IN       5    0000    0000
                * PI E=7660 S=E R=100
                *
                *  Placer Design Precipitation -  depths in inches
                *  Return period in years   100   Time interval in minutes     5
                *  Elevation in feet       7660   E of Crest
                *  Duration in minutes     1440   Maximum depth at   720 minutes
                *  Cloudburst 1-hr Factor  1.00
                *
 20             PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
 21             PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.025   0.025   0.025
 22             PI   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
 23             PI   0.025   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026
 24             PI   0.026   0.026   0.026   0.026   0.027   0.027   0.027   0.027   0.027   0.027
 25             PI   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028   0.028
 26             PI   0.028   0.028   0.028   0.028   0.029   0.029   0.029   0.029   0.029   0.029
 27             PI   0.029   0.029   0.031   0.032   0.032   0.032   0.032   0.032   0.032   0.032
 28             PI   0.032   0.033   0.033   0.033   0.033   0.033   0.033   0.034   0.034   0.034
 29             PI   0.034   0.034   0.035   0.035   0.035   0.035   0.035   0.036   0.036   0.036
 30             PI   0.036   0.036   0.037   0.037   0.037   0.038   0.038   0.038   0.035   0.035
 31             PI   0.036   0.036   0.036   0.037   0.037   0.038   0.038   0.039   0.039   0.040
 32             PI   0.040   0.041   0.042   0.043   0.043   0.044   0.046   0.047   0.048   0.049
 33             PI   0.050   0.052   0.042   0.044   0.046   0.049   0.052   0.056   0.085   0.090
 34             PI   0.096   0.078   0.163   0.256   0.126   0.088   0.071   0.093   0.088   0.084
 35             PI   0.054   0.050   0.047   0.045   0.043   0.041   0.051   0.050   0.049   0.048
 36             PI   0.047   0.046   0.044   0.043   0.042   0.041   0.041   0.040   0.040   0.039
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 38             PI   0.038   0.038   0.037   0.037   0.037   0.037   0.036   0.036   0.036   0.036
 39             PI   0.035   0.035   0.035   0.035   0.035   0.034   0.034   0.034   0.034   0.034
 40             PI   0.034   0.033   0.033   0.033   0.033   0.033   0.033   0.032   0.032   0.032
 41             PI   0.032   0.032   0.032   0.032   0.031   0.031   0.029   0.029   0.029   0.029
 42             PI   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028   0.028   0.028
 43             PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
 44             PI   0.027   0.027   0.027   0.027   0.026   0.026   0.026   0.026   0.026   0.026
 45             PI   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.025
 46             PI   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
 47             PI   0.025   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
 48             PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
 49             LU       0       0               0       0
 50             UK    2000     .30     .90    96.6
 51             UK     500     .05     .11     3.4
 52             RD    4500     .25     .07   0.478    TRAP       2       4
 53             RD    2300     .09     .05           TRAP       4       3
                *
                *  DELETED FOR PROGRAM TO RUN
                *  10R
                *   65     .10     .05            TRAP       4       3
                *

 54             KK       1
 55             KM     0.6 acres
 56             BA   .0009
 57             BF   -32.3
 58             PB
 59             IN       5    0000    0000
                * PI E=6800 S=E R=100
```

```
                 *
                 *  Placer Design Precipitation -  depths in inches
                 *  Return period in years   100   Time interval in minutes     5
                 *  Elevation in feet       6800   E of Crest
                 *  Duration in minutes     1440   Maximum depth at   720 minutes
                 *  Cloudburst 1-hr Factor  1.00
                 *
  60             PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
  61             PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
  62             PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
  63             PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021
  64             PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
  65             PI   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
  66             PI   0.022   0.022   0.022   0.023   0.023   0.023   0.023   0.023   0.023   0.023
  67             PI   0.023   0.023   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025
  68             PI   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026
  69             PI   0.027   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028
  70             PI   0.028   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.029   0.029
  71             PI   0.029   0.030   0.030   0.030   0.031   0.031   0.031   0.032   0.032   0.033
  72             PI   0.033   0.034   0.034   0.035   0.035   0.036   0.038   0.038   0.039   0.040
  73             PI   0.041   0.042   0.033   0.035   0.037   0.039   0.041   0.044   0.067   0.071
  74             PI   0.077   0.062   0.133   0.209   0.105   0.070   0.056   0.074   0.069   0.066
  75             PI   0.043   0.040   0.038   0.036   0.034   0.033   0.042   0.041   0.040   0.039
  76             PI   0.038   0.037   0.036   0.035   0.034   0.034   0.033   0.033   0.032   0.032
  77             PI   0.032   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.029
1                                              HEC-1 INPUT
PAGE  3


LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  78             PI   0.030   0.030   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
  79             PI   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.026   0.026
  80             PI   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.025   0.025
  81             PI   0.025   0.025   0.025   0.025   0.024   0.024   0.023   0.023   0.023   0.023
  82             PI   0.023   0.023   0.023   0.023   0.023   0.022   0.022   0.022   0.022   0.022
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  84             PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
  85             PI   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
  86             PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.019   0.019
  87             PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
  88             PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
  89             LU       0       0               0       0
  90             UK      65     .10     .90     100
  91             RD      65     .10     .05             TRAP       4       3
                 *


  92             KK      1C
  93             KM   COMBINE 2: 1, 10R
  94             HC       2
                 *


  95             KK      1R
  96             RD    1500     .11     .05             TRAP       4       3
                 *


  97             KK      20
  98             KM    11.8 acres
  99             BA   .0184
 100             BF   -32.3
 101             PB
 102             IN       5    0000    0000
                 * PI E=7000 S=E R=100
                 *
                 *  Placer Design Precipitation -  depths in inches
                 *  Return period in years   100   Time interval in minutes     5
                 *  Elevation in feet       7000   E of Crest
                 *  Duration in minutes     1440   Maximum depth at   720 minutes
                 *  Cloudburst 1-hr Factor  1.00
                 *
 103             PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
 104             PI   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021
```

```
105          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
106          PI   0.021   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022
107          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023   0.023
108          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.024
109          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.025
110          PI   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027
111          PI   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028
112          PI   0.028   0.029   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.030
113          PI   0.030   0.030   0.031   0.031   0.031   0.031   0.032   0.032   0.030   0.030
114          PI   0.031   0.031   0.031   0.032   0.032   0.033   0.033   0.033   0.034   0.034
115          PI   0.035   0.035   0.036   0.037   0.037   0.038   0.040   0.040   0.041   0.042
116          PI   0.043   0.044   0.035   0.037   0.039   0.041   0.044   0.047   0.072   0.076
117          PI   0.081   0.066   0.140   0.220   0.110   0.075   0.060   0.078   0.074   0.070
118          PI   0.045   0.042   0.040   0.038   0.036   0.035   0.044   0.043   0.042   0.041
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

119          PI   0.040   0.039   0.038   0.037   0.036   0.036   0.035   0.035   0.034   0.034
120          PI   0.033   0.033   0.032   0.032   0.032   0.031   0.031   0.031   0.030   0.030
121          PI   0.032   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030
122          PI   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
123          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
124          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.024
125          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.023
126          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
127          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
128          PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
129          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
130          PI   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
131          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
132          LU       0       0               0       0
133          UK     200     .15     .90     100
134          RD    2300     .30     .07             TRAP       1       4
             *


135          KK     20R
136          RD     350     .18     .07             TRAP       1       4
             *

137          KK       2
138          KM     8.2 acres
139          BA   .0128
140          BF   -32.3
141          PB
142          IN       5    0000    0000
             * PI E=6800 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       6800   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
143          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
144          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
145          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
146          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021
147          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
148          PI   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
149          PI   0.022   0.022   0.022   0.023   0.023   0.023   0.023   0.023   0.023   0.023
150          PI   0.023   0.023   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025
151          PI   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026
152          PI   0.027   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028
153          PI   0.028   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.029   0.029
154          PI   0.029   0.030   0.030   0.030   0.031   0.031   0.031   0.032   0.032   0.033
155          PI   0.033   0.034   0.034   0.035   0.035   0.036   0.038   0.038   0.039   0.040
156          PI   0.041   0.042   0.033   0.035   0.037   0.039   0.041   0.044   0.067   0.071
157          PI   0.077   0.062   0.133   0.209   0.105   0.070   0.056   0.074   0.069   0.066
158          PI   0.043   0.040   0.038   0.036   0.034   0.033   0.042   0.041   0.040   0.039
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159          PI   0.038   0.037   0.036   0.035   0.034   0.034   0.033   0.033   0.032   0.032
160          PI   0.032   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.029
161          PI   0.030   0.030   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
1                                          HEC-1 INPUT
PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

162          PI   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.026   0.026
163          PI   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.025   0.025
164          PI   0.025   0.025   0.025   0.025   0.024   0.024   0.023   0.023   0.023   0.023
165          PI   0.023   0.023   0.023   0.023   0.023   0.022   0.022   0.022   0.022   0.022
166          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021
167          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
168          PI   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
169          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.019   0.019
170          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
171          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
172          LU       0       0               0       0
173          UK     600     .13     .90     100
174          RD     350     .09     .07             TRAP       1       4
             *

175          KK      2C
176          KM   COMBINE 2: 2, 20R
177          HC       2
             *

178          KK      2R
179          RD    1500     .11     .05             TRAP       4       3
             *

180          KK      80
181          KM   262.0 acres
182          BA   .4094
183          BF   -32.3
184          PB
185          IN       5    0000    0000
             * PI E=7200 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       7200   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
186          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
187          PI   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
188          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023
189          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
190          PI   0.023   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024   0.024
191          PI   0.024   0.024   0.024   0.024   0.024   0.025   0.025   0.025   0.025   0.025
192          PI   0.025   0.025   0.025   0.025   0.025   0.026   0.026   0.026   0.026   0.026
193          PI   0.026   0.026   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028
194          PI   0.029   0.029   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.030
195          PI   0.030   0.030   0.030   0.031   0.031   0.031   0.031   0.031   0.032   0.032
196          PI   0.032   0.032   0.033   0.033   0.033   0.033   0.034   0.034   0.032   0.032
197          PI   0.032   0.033   0.033   0.033   0.034   0.034   0.035   0.035   0.035   0.036
198          PI   0.037   0.037   0.038   0.038   0.039   0.040   0.042   0.042   0.043   0.044
199          PI   0.045   0.047   0.037   0.039   0.041   0.043   0.046   0.050   0.076   0.080
200          PI   0.086   0.069   0.147   0.231   0.115   0.079   0.063   0.083   0.078   0.074
201          PI   0.048   0.045   0.042   0.040   0.038   0.037   0.046   0.045   0.044   0.043
202          PI   0.042   0.041   0.039   0.039   0.038   0.037   0.037   0.036   0.036   0.035
1                                          HEC-1 INPUT
PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

203          PI   0.035   0.034   0.034   0.033   0.033   0.033   0.032   0.032   0.032   0.031
204          PI   0.034   0.033   0.033   0.033   0.033   0.032   0.032   0.032   0.032   0.032
205          PI   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030   0.030
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206          PI   0.030   0.029   0.029   0.029   0.029   0.029   0.029   0.029   0.028   0.028
207          PI   0.028   0.028   0.028   0.028   0.028   0.028   0.026   0.026   0.026   0.026
208          PI   0.026   0.026   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
209          PI   0.025   0.025   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
210          PI   0.024   0.024   0.024   0.024   0.023   0.023   0.023   0.023   0.023   0.023
211          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022   0.022
212          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
213          PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
214          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
215          LU       0       0               0       0
216          UK    1200     .22     .90     100
217          RD    4000     .22     .07             TRAP       2       4
             *


218          KK     80C
219          KM   COMBINE 3: 80, 2R, 1R
220          HC       3
             *

221          KK     80R
222          RD    1900     .08     .05             TRAP       4       3
             *

223          KK      50
224          KM    47.0 acres
225          BA   .0734
226          BF   -32.3
227          PB
228          IN       5    0000    0000
             * PI E=7000 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       7000   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
229          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
230          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021
231          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
232          PI   0.021   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022
233          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023   0.023
234          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.024
235          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.025
236          PI   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027
237          PI   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028
238          PI   0.028   0.029   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.030
239          PI   0.030   0.030   0.031   0.031   0.031   0.031   0.032   0.032   0.030   0.030
240          PI   0.031   0.031   0.031   0.032   0.032   0.033   0.033   0.033   0.034   0.034
241          PI   0.035   0.035   0.036   0.037   0.037   0.038   0.040   0.040   0.041   0.042
242          PI   0.043   0.044   0.035   0.037   0.039   0.041   0.044   0.047   0.072   0.076
243          PI   0.081   0.066   0.140   0.220   0.110   0.075   0.060   0.078   0.074   0.070
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

244          PI   0.045   0.042   0.040   0.038   0.036   0.035   0.044   0.043   0.042   0.041
245          PI   0.040   0.039   0.038   0.037   0.036   0.036   0.035   0.035   0.034   0.034
246          PI   0.033   0.033   0.032   0.032   0.032   0.031   0.031   0.031   0.030   0.030
247          PI   0.032   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030
248          PI   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
249          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
250          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.024
251          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.023
252          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
253          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
254          PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
255          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
256          PI   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
257          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
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258          LU       0       0                0       0
259          UK     500     .38     .90      100
260          RD    1900     .32     .07              TRAP       1       4
             *

261          KK     50R
262          RD     800     .33     .07              TRAP       1       4
             *

263          KK       5
264          KM    15.2 acres
265          BA   .0238
266          BF   -32.3
267          PB
268          IN       5    0000    0000
             * PI E=6680 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       6680   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
269          PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018
270          PI   0.018   0.018   0.018   0.018   0.019   0.019   0.019   0.019   0.019   0.019
271          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
272          PI   0.019   0.019   0.019   0.020   0.020   0.020   0.020   0.020   0.020   0.020
273          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021
274          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
275          PI   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
276          PI   0.022   0.023   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024
277          PI   0.024   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.025
278          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027   0.027
279          PI   0.027   0.027   0.028   0.028   0.028   0.028   0.029   0.029   0.028   0.028
280          PI   0.028   0.029   0.029   0.029   0.030   0.030   0.030   0.031   0.031   0.032
281          PI   0.032   0.033   0.033   0.034   0.034   0.035   0.037   0.037   0.038   0.039
282          PI   0.040   0.041   0.032   0.034   0.035   0.037   0.040   0.043   0.065   0.069
283          PI   0.074   0.060   0.129   0.202   0.102   0.068   0.054   0.071   0.067   0.063
284          PI   0.041   0.039   0.036   0.035   0.033   0.032   0.040   0.039   0.038   0.038
285          PI   0.037   0.036   0.035   0.034   0.033   0.033   0.032   0.032   0.031   0.031
286          PI   0.031   0.030   0.030   0.029   0.029   0.029   0.028   0.028   0.028   0.028
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                                        HEC-1 INPUT

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

287          PI   0.029   0.028   0.028   0.028   0.028   0.028   0.027   0.027   0.027   0.027
288          PI   0.027   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025
289          PI   0.025   0.025   0.025   0.025   0.025   0.024   0.024   0.024   0.024   0.024
290          PI   0.024   0.024   0.024   0.024   0.023   0.023   0.022   0.022   0.022   0.022
291          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021
292          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.020
293          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
294          PI   0.020   0.020   0.020   0.020   0.020   0.019   0.019   0.019   0.019   0.019
295          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
296          PI   0.019   0.019   0.019   0.019   0.018   0.018   0.018   0.018   0.018   0.018
297          PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018
298          LU       0       0                0       0
299          UK     600     .13     .90      100
300          RD     400     .30     .07              TRAP       1       4
             *

301          KK       5C
302          KM   COMBINE 2: 5, 50R
303          HC       2
             *

304          KK      60
305          KM   254.0 acres
306          BA   .3969
307          BF   -32.3
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308          PB
309          IN        5    0000    0000
             * PI E=7400 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       7400   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
310          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023
311          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
312          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.024   0.024   0.024   0.024
313          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
314          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
315          PI   0.025   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026
316          PI   0.026   0.026   0.027   0.027   0.027   0.027   0.027   0.027   0.027   0.027
317          PI   0.028   0.028   0.029   0.029   0.030   0.030   0.030   0.030   0.030   0.030
318          PI   0.030   0.030   0.031   0.031   0.031   0.031   0.031   0.031   0.032   0.032
319          PI   0.032   0.032   0.032   0.032   0.033   0.033   0.033   0.033   0.033   0.034
320          PI   0.034   0.034   0.034   0.035   0.035   0.035   0.035   0.036   0.033   0.033
321          PI   0.034   0.034   0.034   0.035   0.035   0.036   0.036   0.037   0.037   0.038
322          PI   0.038   0.039   0.039   0.040   0.041   0.042   0.044   0.044   0.045   0.046
323          PI   0.048   0.049   0.039   0.041   0.043   0.046   0.049   0.052   0.080   0.084
324          PI   0.090   0.073   0.154   0.242   0.120   0.083   0.066   0.087   0.082   0.078
325          PI   0.050   0.047   0.044   0.042   0.040   0.039   0.048   0.047   0.046   0.045
326          PI   0.044   0.043   0.041   0.040   0.040   0.039   0.039   0.038   0.037   0.037
327          PI   0.036   0.036   0.035   0.035   0.035   0.034   0.034   0.034   0.033   0.033
328          PI   0.036   0.035   0.035   0.035   0.034   0.034   0.034   0.034   0.034   0.033
329          PI   0.033   0.033   0.033   0.033   0.032   0.032   0.032   0.032   0.032   0.031
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

330          PI   0.031   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030
331          PI   0.030   0.030   0.030   0.029   0.029   0.029   0.028   0.027   0.027   0.027
332          PI   0.027   0.027   0.027   0.027   0.027   0.027   0.026   0.026   0.026   0.026
333          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.025
334          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.024
335          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
336          PI   0.024   0.024   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
337          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022
338          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
339          LU       0       0               0       0
340          UK    1000     .44     .90     100
341          RD    4500     .21     .07             TRAP       1       4
             *

342          KK     60R
343          RD    1400     .17     .07             TRAP       1       4
             *

344          KK       6
345          KM     6.2 acres
346          BA   .0097
347          BF   -32.3
348          PB
349          IN        5    0000    0000
             * PI E=6700 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       6700   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
350          PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018
351          PI   0.018   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
352          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
353          PI   0.019   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
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354          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021
355          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.022
356          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
357          PI   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
358          PI   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.026
359          PI   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027   0.027   0.027
360          PI   0.027   0.028   0.028   0.028   0.028   0.029   0.029   0.029   0.028   0.028
361          PI   0.028   0.029   0.029   0.029   0.030   0.030   0.031   0.031   0.031   0.032
362          PI   0.032   0.033   0.033   0.034   0.034   0.035   0.037   0.037   0.038   0.039
363          PI   0.040   0.041   0.032   0.034   0.036   0.038   0.040   0.043   0.065   0.069
364          PI   0.074   0.060   0.130   0.204   0.102   0.068   0.055   0.071   0.067   0.064
365          PI   0.042   0.039   0.037   0.035   0.033   0.032   0.041   0.040   0.039   0.038
366          PI   0.037   0.036   0.035   0.034   0.034   0.033   0.032   0.032   0.032   0.031
367          PI   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.028   0.028   0.028
368          PI   0.029   0.029   0.028   0.028   0.028   0.028   0.028   0.027   0.027   0.027
369          PI   0.027   0.027   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.025
370          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.024   0.024   0.024
371          PI   0.024   0.024   0.024   0.024   0.024   0.023   0.023   0.022   0.022   0.022
372          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.021   0.021
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                                        HEC-1 INPUT

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

373          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
374          PI   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
375          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.019   0.019   0.019
376          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
377          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.018   0.018   0.018   0.018
378          PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018
379          LU       0       0               0       0
380          UK     300     .27     .90     100
381          RD    1400     .17     .07             TRAP       1       4
             *

382          KK      6C
383          KM   COMBINE 2: 6, 60R
384          HC       2
             *

385          KK     6C2
386          KM   COMBINE 2: 5C, 6C
387          HC       2
             *

388          KK      6R
389          RD     800     .08     .05             TRAP       4       3
             *

390          KK      70
391          KM    39.0 acres
392          BA   .0609
393          BF   -32.3
394          PB
395          IN       5    0000    0000
             * PI E=7000 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       7000   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
396          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
397          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021
398          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
399          PI   0.021   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022
400          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023   0.023
401          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.024
402          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.025
403          PI   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027
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404          PI   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028
405          PI   0.028   0.029   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.030
406          PI   0.030   0.030   0.031   0.031   0.031   0.031   0.032   0.032   0.030   0.030
407          PI   0.031   0.031   0.031   0.032   0.032   0.033   0.033   0.033   0.034   0.034
408          PI   0.035   0.035   0.036   0.037   0.037   0.038   0.040   0.040   0.041   0.042
409          PI   0.043   0.044   0.035   0.037   0.039   0.041   0.044   0.047   0.072   0.076
410          PI   0.081   0.066   0.140   0.220   0.110   0.075   0.060   0.078   0.074   0.070
411          PI   0.045   0.042   0.040   0.038   0.036   0.035   0.044   0.043   0.042   0.041
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

412          PI   0.040   0.039   0.038   0.037   0.036   0.036   0.035   0.035   0.034   0.034
413          PI   0.033   0.033   0.032   0.032   0.032   0.031   0.031   0.031   0.030   0.030
414          PI   0.032   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030
415          PI   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
416          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
417          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.024
418          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.023
419          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
420          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
421          PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
422          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
423          PI   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
424          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
425          LU       0       0               0       0
426          UK     200     .50     .90     100
427          RD    2000     .48     .07             TRAP       1       4
             *


428          KK     70R
429          RD     400     .20     .07             TRAP       1       4
             *

430          KK       7
431          KM    15.4 acres
432          BA   .0241
433          BF   -32.3
434          PB
435          IN       5    0000    0000
             * PI E=6680 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       6680   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
436          PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018
437          PI   0.018   0.018   0.018   0.018   0.019   0.019   0.019   0.019   0.019   0.019
438          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
439          PI   0.019   0.019   0.019   0.020   0.020   0.020   0.020   0.020   0.020   0.020
440          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021
441          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
442          PI   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
443          PI   0.022   0.023   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024
444          PI   0.024   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.025
445          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027   0.027
446          PI   0.027   0.027   0.028   0.028   0.028   0.028   0.029   0.029   0.028   0.028
447          PI   0.028   0.029   0.029   0.029   0.030   0.030   0.030   0.031   0.031   0.032
448          PI   0.032   0.033   0.033   0.034   0.034   0.035   0.037   0.037   0.038   0.039
449          PI   0.040   0.041   0.032   0.034   0.035   0.037   0.040   0.043   0.065   0.069
450          PI   0.074   0.060   0.129   0.202   0.102   0.068   0.054   0.071   0.067   0.063
451          PI   0.041   0.039   0.036   0.035   0.033   0.032   0.040   0.039   0.038   0.038
452          PI   0.037   0.036   0.035   0.034   0.033   0.033   0.032   0.032   0.031   0.031
453          PI   0.031   0.030   0.030   0.029   0.029   0.029   0.028   0.028   0.028   0.028
454          PI   0.029   0.028   0.028   0.028   0.028   0.028   0.027   0.027   0.027   0.027
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 455          PI   0.027   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025
 456          PI   0.025   0.025   0.025   0.025   0.025   0.024   0.024   0.024   0.024   0.024
 457          PI   0.024   0.024   0.024   0.024   0.023   0.023   0.022   0.022   0.022   0.022
 458          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021
 459          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.020
 460          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
 461          PI   0.020   0.020   0.020   0.020   0.020   0.019   0.019   0.019   0.019   0.019
 462          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
 463          PI   0.019   0.019   0.019   0.019   0.018   0.018   0.018   0.018   0.018   0.018
 464          PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018
 465          LU       0       0               0       0
 466          UK     350     .26     .90      70
 467          UK     350     .34     .90      30
 468          RD     500     .18     .07  .01687    TRAP       1       4
 469          RD     400     .18     .07  .00723    TRAP       1       4
              *


 470          KK      7C
 471          KM   COMBINE 2: 7, 70R
 472          HC       2
              *

 473          KK      7R
 474          RD     300     .07     .05            TRAP       4       3
              *

 475          KK     7C2
 476          KM   COMBINE 3: 6R, 7R, 80R
 477          HC       3
              *

 478          KK      90
 479          KM   169.0 acres
 480          BA   .2641
 481          BF   -32.3
 482          PB
 483          IN       5    0000    0000
              * PI E=7200 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       7200   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
 484          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
 485          PI   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
 486          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023
 487          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
 488          PI   0.023   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024   0.024
 489          PI   0.024   0.024   0.024   0.024   0.024   0.025   0.025   0.025   0.025   0.025
 490          PI   0.025   0.025   0.025   0.025   0.025   0.026   0.026   0.026   0.026   0.026
 491          PI   0.026   0.026   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028
 492          PI   0.029   0.029   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.030
 493          PI   0.030   0.030   0.030   0.031   0.031   0.031   0.031   0.031   0.032   0.032
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 494          PI   0.032   0.032   0.033   0.033   0.033   0.033   0.034   0.034   0.032   0.032
 495          PI   0.032   0.033   0.033   0.033   0.034   0.034   0.035   0.035   0.035   0.036
 496          PI   0.037   0.037   0.038   0.038   0.039   0.040   0.042   0.042   0.043   0.044
 497          PI   0.045   0.047   0.037   0.039   0.041   0.043   0.046   0.050   0.076   0.080
 498          PI   0.086   0.069   0.147   0.231   0.115   0.079   0.063   0.083   0.078   0.074
 499          PI   0.048   0.045   0.042   0.040   0.038   0.037   0.046   0.045   0.044   0.043
 500          PI   0.042   0.041   0.039   0.039   0.038   0.037   0.037   0.036   0.036   0.035
 501          PI   0.035   0.034   0.034   0.033   0.033   0.033   0.032   0.032   0.032   0.031
 502          PI   0.034   0.033   0.033   0.033   0.033   0.032   0.032   0.032   0.032   0.032
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503          PI   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030   0.030
504          PI   0.030   0.029   0.029   0.029   0.029   0.029   0.029   0.029   0.028   0.028
505          PI   0.028   0.028   0.028   0.028   0.028   0.028   0.026   0.026   0.026   0.026
506          PI   0.026   0.026   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
507          PI   0.025   0.025   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
508          PI   0.024   0.024   0.024   0.024   0.023   0.023   0.023   0.023   0.023   0.023
509          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022   0.022
510          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
511          PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
512          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
513          LU       0       0               0       0
514          UK     600     .66     .90     100
515          RD    3300     .30     .07             TRAP       1       4
             *

516          KK     90C
517          KM   COMBINE 2: 7C2, 90
518          HC       2
             *

519          KK     90R
520          RD   12000     .04     .05             TRAP       4       3
             *

521          KK     100
522          KM    1429 acres
523          BA  2.2328
524          BF   -32.3
525          PB
526          IN       5    0000    0000
             * PI E=7000 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       7000   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
527          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
528          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021
529          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
530          PI   0.021   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022
531          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023   0.023
532          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.024
533          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.025
534          PI   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

535          PI   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028
536          PI   0.028   0.029   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.030
537          PI   0.030   0.030   0.031   0.031   0.031   0.031   0.032   0.032   0.030   0.030
538          PI   0.031   0.031   0.031   0.032   0.032   0.033   0.033   0.033   0.034   0.034
539          PI   0.035   0.035   0.036   0.037   0.037   0.038   0.040   0.040   0.041   0.042
540          PI   0.043   0.044   0.035   0.037   0.039   0.041   0.044   0.047   0.072   0.076
541          PI   0.081   0.066   0.140   0.220   0.110   0.075   0.060   0.078   0.074   0.070
542          PI   0.045   0.042   0.040   0.038   0.036   0.035   0.044   0.043   0.042   0.041
543          PI   0.040   0.039   0.038   0.037   0.036   0.036   0.035   0.035   0.034   0.034
544          PI   0.033   0.033   0.032   0.032   0.032   0.031   0.031   0.031   0.030   0.030
545          PI   0.032   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030
546          PI   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
547          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
548          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.024
549          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.023
550          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
551          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
552          PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
553          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
554          PI   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
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555          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
556          LU       0       0               0       0
557          UK     500     .40     .90     100
558          RD    5500     .23     .07   0.558    TRAP       1       4
559          RD    6500     .03     .05            TRAP       4       3
             *

560          KK    100C
561          KM   COMBINE 2: 90R, 100
562          HC       2
             *
             *
             *  END PRE PROJECT CONDITIONS
             *
             *   ..............................................................................
             *
             *  BEGIN POST PROJECT CONDITIONS
             *

563          KK      10
564          KM  1020.0 acres
565          BA  1.5938
566          BF   -32.3
567          PB
568          IN       5    0000    0000
             * PI E=7660 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       7660   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
569          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
570          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.025   0.025   0.025
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

571          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
572          PI   0.025   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026
573          PI   0.026   0.026   0.026   0.026   0.027   0.027   0.027   0.027   0.027   0.027
574          PI   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028   0.028
575          PI   0.028   0.028   0.028   0.028   0.029   0.029   0.029   0.029   0.029   0.029
576          PI   0.029   0.029   0.031   0.032   0.032   0.032   0.032   0.032   0.032   0.032
577          PI   0.032   0.033   0.033   0.033   0.033   0.033   0.033   0.034   0.034   0.034
578          PI   0.034   0.034   0.035   0.035   0.035   0.035   0.035   0.036   0.036   0.036
579          PI   0.036   0.036   0.037   0.037   0.037   0.038   0.038   0.038   0.035   0.035
580          PI   0.036   0.036   0.036   0.037   0.037   0.038   0.038   0.039   0.039   0.040
581          PI   0.040   0.041   0.042   0.043   0.043   0.044   0.046   0.047   0.048   0.049
582          PI   0.050   0.052   0.042   0.044   0.046   0.049   0.052   0.056   0.085   0.090
583          PI   0.096   0.078   0.163   0.256   0.126   0.088   0.071   0.093   0.088   0.084
584          PI   0.054   0.050   0.047   0.045   0.043   0.041   0.051   0.050   0.049   0.048
585          PI   0.047   0.046   0.044   0.043   0.042   0.041   0.041   0.040   0.040   0.039
586          PI   0.039   0.038   0.038   0.037   0.037   0.036   0.036   0.035   0.035   0.035
587          PI   0.038   0.038   0.037   0.037   0.037   0.037   0.036   0.036   0.036   0.036
588          PI   0.035   0.035   0.035   0.035   0.035   0.034   0.034   0.034   0.034   0.034
589          PI   0.034   0.033   0.033   0.033   0.033   0.033   0.033   0.032   0.032   0.032
590          PI   0.032   0.032   0.032   0.032   0.031   0.031   0.029   0.029   0.029   0.029
591          PI   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028   0.028   0.028
592          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
593          PI   0.027   0.027   0.027   0.027   0.026   0.026   0.026   0.026   0.026   0.026
594          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.025
595          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
596          PI   0.025   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
597          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
             *
598          LU       0       0               0       0
599          UK    2000     .30     .90    96.7
600          UK     500     .05     .11     3.3
```

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601          RD    4500     .25     .07   0.478    TRAP       2       4
602          RD    2300     .09     .05            TRAP       4       3
             *
             *  DELETED ROUTING AS NOT MEANINGFULL
             *  KK   10R
             *  RD    65     .10     .05            TRAP       4       3
             *

603          KK       1
604          KM     0.6 acres
605          BA   .0009
606          BF   -32.3
607          PB
608          IN       5    0000    0000
             * PI E=6800 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       6800   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
609          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
610          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
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                                          HEC-1 INPUT

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

611          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
612          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021
613          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
614          PI   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
615          PI   0.022   0.022   0.022   0.023   0.023   0.023   0.023   0.023   0.023   0.023
616          PI   0.023   0.023   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025
617          PI   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026
618          PI   0.027   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028
619          PI   0.028   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.029   0.029
620          PI   0.029   0.030   0.030   0.030   0.031   0.031   0.031   0.032   0.032   0.033
621          PI   0.033   0.034   0.034   0.035   0.035   0.036   0.038   0.038   0.039   0.040
622          PI   0.041   0.042   0.033   0.035   0.037   0.039   0.041   0.044   0.067   0.071
623          PI   0.077   0.062   0.133   0.209   0.105   0.070   0.056   0.074   0.069   0.066
624          PI   0.043   0.040   0.038   0.036   0.034   0.033   0.042   0.041   0.040   0.039
625          PI   0.038   0.037   0.036   0.035   0.034   0.034   0.033   0.033   0.032   0.032
626          PI   0.032   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.029
627          PI   0.030   0.030   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
628          PI   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.026   0.026
629          PI   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.025   0.025
630          PI   0.025   0.025   0.025   0.025   0.024   0.024   0.023   0.023   0.023   0.023
631          PI   0.023   0.023   0.023   0.023   0.023   0.022   0.022   0.022   0.022   0.022
632          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021
633          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
634          PI   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
635          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.019   0.019
636          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
637          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
638          LU       0       0               0       0
639          UK     270     .11     .90    50.0
640          UK      12     .02     .11    50.0
641          RD      65     .10     .05  .00045    TRAP       3       4
642          RD     300     .08     .02  .00045    TRAP       1       2
             *


643          KK      1C
644          KM   COMBINE 2: 1, 10R
645          HC       2
             *

646          KK     10A
647          KM     4.0 acres
648          BA   .0063
```

```
649          BF   -32.3
650          PB
651          IN       5    0000    0000
             * PI E=6830 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       6830   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
652          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
653          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.020   0.020   0.020   0.020
```


HEC-1 INPUT

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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

654          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
655          PI   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021   0.021   0.021
656          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.022
657          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
658          PI   0.022   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
659          PI   0.023   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
660          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.027   0.027
661          PI   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028   0.028
662          PI   0.029   0.029   0.029   0.029   0.030   0.030   0.030   0.030   0.029   0.029
663          PI   0.029   0.030   0.030   0.030   0.031   0.031   0.032   0.032   0.032   0.033
664          PI   0.033   0.034   0.034   0.035   0.036   0.036   0.038   0.039   0.040   0.040
665          PI   0.041   0.043   0.034   0.035   0.037   0.039   0.042   0.045   0.068   0.072
666          PI   0.077   0.063   0.134   0.211   0.106   0.071   0.057   0.074   0.070   0.066
667          PI   0.043   0.040   0.038   0.036   0.034   0.033   0.042   0.041   0.040   0.039
668          PI   0.038   0.038   0.036   0.035   0.035   0.034   0.034   0.033   0.033   0.032
669          PI   0.032   0.031   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029
670          PI   0.030   0.030   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028
671          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
672          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025
673          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.023   0.023   0.023
674          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022   0.022   0.022
675          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.021
676          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
677          PI   0.021   0.021   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020
678          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
679          PI   0.020   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
680          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
681          LU       0       0               0       0
682          UK     500     .10     .90     100
683          RD     270     .16     .07             TRAP       1       4
             *


684          KK    10AR
685          RD     350     .16     .02             TRAP       1       2
             *

686          KK      1A
687          KM     1.0 acres
688          BA   .0016
689          BF   -32.3
690          PB
691          IN       5    0000    0000
             * PI E=6790 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       6790   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
692          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
693          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
694          PI   0.019   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
```

```
 695          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021
 696          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1                                            HEC-1 INPUT
PAGE 18

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 697          PI   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
 698          PI   0.022   0.022   0.022   0.022   0.023   0.023   0.023   0.023   0.023   0.023
 699          PI   0.023   0.023   0.024   0.024   0.024   0.025   0.025   0.025   0.025   0.025
 700          PI   0.025   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.026   0.026
 701          PI   0.027   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028
 702          PI   0.028   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.029   0.029
 703          PI   0.029   0.029   0.030   0.030   0.030   0.031   0.031   0.032   0.032   0.033
 704          PI   0.033   0.033   0.034   0.035   0.035   0.036   0.038   0.038   0.039   0.040
 705          PI   0.041   0.042   0.033   0.035   0.037   0.039   0.041   0.044   0.067   0.071
 706          PI   0.076   0.062   0.133   0.208   0.105   0.070   0.056   0.073   0.069   0.066
 707          PI   0.043   0.040   0.038   0.036   0.034   0.033   0.042   0.040   0.040   0.039
 708          PI   0.038   0.037   0.036   0.035   0.034   0.034   0.033   0.033   0.032   0.032
 709          PI   0.031   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.028
 710          PI   0.030   0.030   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
 711          PI   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.026   0.026   0.026
 712          PI   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.025   0.025   0.025
 713          PI   0.025   0.025   0.025   0.024   0.024   0.024   0.023   0.023   0.023   0.023
 714          PI   0.023   0.023   0.023   0.023   0.022   0.022   0.022   0.022   0.022   0.022
 715          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021
 716          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
 717          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
 718          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.019   0.019   0.019
 719          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
 720          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
 721          LU       0       0               0       0
 722          UK     220     .13     .90    70.0
 723          UK      90     .02     .11    30.0
 724          RD     250     .08     .02  .00112    TRAP       1       2
 725          RD     400     .08     .02  .00048    TRAP       1       2
              *


 726          KK     1AC
 727          KM   COMBINE 2: 1A, 10AR
 728          HC       2
              *

 729          KK     CP1
 730          KM   COMBINE 2: 1C, 1AC
 731          HC       2
              *

 732          KK    CP1R
 733          RD    1700     .11     .05            TRAP       4       3
              *

 734          KK     10B
 735          KM     1.3 acres
 736          BA   .0020
 737          BF   -32.3
 738          PB
 739          IN       5    0000    0000
              * PI E=6850 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       6850   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
1                                            HEC-1 INPUT
PAGE 19

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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740          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
741          PI   0.019   0.019   0.019   0.019   0.020   0.020   0.020   0.020   0.020   0.020
742          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
743          PI   0.020   0.020   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
744          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.022   0.022   0.022
745          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023
746          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.024
747          PI   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.026
748          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027
749          PI   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028   0.028   0.029
750          PI   0.029   0.029   0.029   0.029   0.030   0.030   0.030   0.030   0.029   0.029
751          PI   0.030   0.030   0.030   0.031   0.031   0.031   0.032   0.032   0.033   0.033
752          PI   0.034   0.034   0.035   0.035   0.036   0.036   0.038   0.039   0.040   0.041
753          PI   0.042   0.043   0.034   0.035   0.037   0.039   0.042   0.045   0.068   0.072
754          PI   0.078   0.063   0.135   0.212   0.106   0.071   0.057   0.075   0.070   0.067
755          PI   0.043   0.041   0.038   0.036   0.035   0.033   0.042   0.041   0.040   0.039
756          PI   0.039   0.038   0.036   0.035   0.035   0.034   0.034   0.033   0.033   0.032
757          PI   0.032   0.032   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029
758          PI   0.030   0.030   0.030   0.030   0.029   0.029   0.029   0.029   0.029   0.028
759          PI   0.028   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027
760          PI   0.027   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025
761          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.024   0.023   0.023
762          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022   0.022
763          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
764          PI   0.022   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
765          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.020   0.020   0.020   0.020
766          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
767          PI   0.020   0.020   0.020   0.020   0.019   0.019   0.019   0.019   0.019   0.019
768          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
769          LU       0       0               0       0
770          UK      80     .05     .11     100
771          RD     430     .12     .07  0.0016    TRAP       1       4
             *


772          KK    10BR
773          RD     130     .12     .02            TRAP       1       2
774          RD     210     .20    .015            CIRC       3
             *

775          KK      1B
776          KM     1.4 acres
777          BA   .0022
778          BF   -32.3
779          PB
780          IN       5    0000    0000
             * PI E=6830 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       6830   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
781          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
782          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.020   0.020   0.020   0.020
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

783          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
784          PI   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021   0.021   0.021
785          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.022
786          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
787          PI   0.022   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
788          PI   0.023   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
789          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.027   0.027
790          PI   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028   0.028
791          PI   0.029   0.029   0.029   0.029   0.030   0.030   0.030   0.030   0.029   0.029
792          PI   0.029   0.030   0.030   0.030   0.031   0.031   0.032   0.032   0.032   0.033
793          PI   0.033   0.034   0.034   0.035   0.036   0.036   0.038   0.039   0.040   0.040
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794          PI   0.041   0.043   0.034   0.035   0.037   0.039   0.042   0.045   0.068   0.072
795          PI   0.077   0.063   0.134   0.211   0.106   0.071   0.057   0.074   0.070   0.066
796          PI   0.043   0.040   0.038   0.036   0.034   0.033   0.042   0.041   0.040   0.039
797          PI   0.038   0.038   0.036   0.035   0.035   0.034   0.034   0.033   0.033   0.032
798          PI   0.032   0.031   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029
799          PI   0.030   0.030   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028
800          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
801          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025
802          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.023   0.023   0.023
803          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022   0.022   0.022
804          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.021
805          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
806          PI   0.021   0.021   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020
807          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
808          PI   0.020   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
809          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
810          LU       0       0               0       0
811          UK     100     .11     .90     100
812          RD     400     .10     .02  0.0018    TRAP       1       2
             *


813          KK     1BC
814          KM   COMBINE 2: 1B, 10BR
815          HC       2
             *

816          KK      20
817          KM     3.5 acres
818          BA   .0055
819          BF   -32.3
820          PB
821          IN       5    0000    0000
             * PI E=6860 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       6860   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
822          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
823          PI   0.019   0.019   0.019   0.020   0.020   0.020   0.020   0.020   0.020   0.020
824          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
825          PI   0.020   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

826          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.022   0.022   0.022   0.022
827          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023
828          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.024
829          PI   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.026   0.026
830          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027   0.027
831          PI   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028   0.029   0.029
832          PI   0.029   0.029   0.029   0.030   0.030   0.030   0.030   0.030   0.031   0.029   0.029
833          PI   0.030   0.030   0.030   0.031   0.031   0.031   0.032   0.032   0.033   0.033
834          PI   0.034   0.034   0.035   0.035   0.036   0.037   0.038   0.039   0.040   0.041
835          PI   0.042   0.043   0.034   0.036   0.037   0.040   0.042   0.045   0.069   0.073
836          PI   0.078   0.063   0.135   0.212   0.106   0.072   0.057   0.075   0.071   0.067
837          PI   0.044   0.041   0.038   0.036   0.035   0.033   0.042   0.041   0.040   0.039
838          PI   0.039   0.038   0.036   0.036   0.035   0.034   0.034   0.033   0.033   0.032
839          PI   0.032   0.032   0.031   0.031   0.030   0.030   0.030   0.030   0.029   0.029
840          PI   0.030   0.030   0.030   0.030   0.029   0.029   0.029   0.029   0.029   0.028
841          PI   0.028   0.028   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027
842          PI   0.027   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.025
843          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.024   0.024   0.023
844          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022
845          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
846          PI   0.022   0.022   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
847          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.020   0.020   0.020
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848          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
849          PI   0.020   0.020   0.020   0.020   0.020   0.019   0.019   0.019   0.019   0.019
850          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
851          LU       0       0               0       0
852          UK     100     .10     .90     100
853          RD     500     .11     .07             TRAP       1       4
             *

854          KK     20R
855          RD     250     .28     .07             TRAP       1       4
             *

856          KK       2
857          KM     2.1 acres
858          BA   .0033
859          BF   -32.3
860          PB
861          IN       5    0000    0000
             * PI E=6800 S=E R=100
             *
             *  Placer Design Precipitation -  depths in inches
             *  Return period in years   100   Time interval in minutes     5
             *  Elevation in feet       6800   E of Crest
             *  Duration in minutes     1440   Maximum depth at   720 minutes
             *  Cloudburst 1-hr Factor  1.00
             *
862          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
863          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
864          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
865          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021
866          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
867          PI   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
868          PI   0.022   0.022   0.022   0.023   0.023   0.023   0.023   0.023   0.023   0.023
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                                          HEC-1 INPUT

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

869          PI   0.023   0.023   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025
870          PI   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026
871          PI   0.027   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028
872          PI   0.028   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.029   0.029
873          PI   0.029   0.030   0.030   0.030   0.031   0.031   0.031   0.032   0.032   0.033
874          PI   0.033   0.034   0.034   0.035   0.035   0.036   0.038   0.038   0.039   0.040
875          PI   0.041   0.042   0.033   0.035   0.037   0.039   0.041   0.044   0.067   0.071
876          PI   0.077   0.062   0.133   0.209   0.105   0.070   0.056   0.074   0.069   0.066
877          PI   0.043   0.040   0.038   0.036   0.034   0.033   0.042   0.041   0.040   0.039
878          PI   0.038   0.037   0.036   0.035   0.034   0.034   0.033   0.033   0.032   0.032
879          PI   0.032   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.029
880          PI   0.030   0.030   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
881          PI   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.026   0.026
882          PI   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.025   0.025
883          PI   0.025   0.025   0.025   0.025   0.024   0.024   0.023   0.023   0.023   0.023
884          PI   0.023   0.023   0.023   0.023   0.023   0.022   0.022   0.022   0.022   0.022
885          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021
886          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
887          PI   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
888          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.019   0.019
889          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
890          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
891          LU       0       0               0       0
892          UK     200     .11     .90    80.9
893          UK      85     .01     .11    19.1
894          RD     210     .28     .07  0.0017     TRAP       1       4
895          RD     170     .10     .02             TRAP       1       2
             *

896          KK      2C
897          KM   COMBINE 2: 2, 20R
898          HC       2
             *
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```
 899          KK      30
 900          KM     3.0 acres
 901          BA   .0047
 902          BF   -32.3
 903          PB
 904          IN       5    0000    0000
              * PI E=6840 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       6840   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
 905          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
 906          PI   0.019   0.019   0.019   0.019   0.019   0.020   0.020   0.020   0.020   0.020
 907          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
 908          PI   0.020   0.020   0.020   0.021   0.021   0.021   0.021   0.021   0.021   0.021
 909          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.022   0.022
 910          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
 911          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 912          PI   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
 913          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027
 914          PI   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028   0.029
 915          PI   0.029   0.029   0.029   0.029   0.030   0.030   0.030   0.030   0.029   0.029
 916          PI   0.030   0.030   0.030   0.031   0.031   0.031   0.032   0.032   0.032   0.033
 917          PI   0.033   0.034   0.034   0.035   0.036   0.036   0.038   0.039   0.040   0.041
 918          PI   0.042   0.043   0.034   0.035   0.037   0.039   0.042   0.045   0.068   0.072
 919          PI   0.077   0.063   0.134   0.211   0.106   0.071   0.057   0.075   0.070   0.067
 920          PI   0.043   0.041   0.038   0.036   0.035   0.033   0.042   0.041   0.040   0.039
 921          PI   0.038   0.038   0.036   0.035   0.035   0.034   0.034   0.033   0.033   0.032
 922          PI   0.032   0.031   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029
 923          PI   0.030   0.030   0.030   0.030   0.029   0.029   0.029   0.029   0.028   0.028
 924          PI   0.028   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027
 925          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025
 926          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.023   0.023   0.023
 927          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022   0.022
 928          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
 929          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
 930          PI   0.021   0.021   0.021   0.021   0.021   0.020   0.020   0.020   0.020   0.020
 931          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
 932          PI   0.020   0.020   0.020   0.019   0.019   0.019   0.019   0.019   0.019   0.019
 933          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
 934          LU       0       0               0       0
 935          UK     100     .16     .90     100
 936          RD     180     .41     .07  0.0044    TRAP       1       4
              *


 937          KK     30R
 938          RD     450     .14     .07            TRAP       1       2
              *

 939          KK      3A
 940          KM     1.2 acres
 941          BA   .0019
 942          BF   -32.3
 943          PB
 944          IN       5    0000    0000
              * PI E=6780 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       6780   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
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                 *
945              PI   0.018   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
946              PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
947              PI   0.019   0.019   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
948              PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.021
949              PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
950              PI   0.021   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022
951              PI   0.022   0.022   0.022   0.022   0.023   0.023   0.023   0.023   0.023   0.023
952              PI   0.023   0.023   0.024   0.024   0.024   0.025   0.025   0.025   0.025   0.025
953              PI   0.025   0.025   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.026
954              PI   0.026   0.027   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028
1                                              HEC-1 INPUT
PAGE 24

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

955              PI   0.028   0.028   0.029   0.029   0.029   0.029   0.030   0.030   0.029   0.029
956              PI   0.029   0.029   0.030   0.030   0.030   0.031   0.031   0.032   0.032   0.032
957              PI   0.033   0.033   0.034   0.035   0.035   0.036   0.038   0.038   0.039   0.040
958              PI   0.041   0.042   0.033   0.035   0.037   0.039   0.041   0.044   0.067   0.071
959              PI   0.076   0.062   0.132   0.208   0.104   0.070   0.056   0.073   0.069   0.065
960              PI   0.043   0.040   0.038   0.036   0.034   0.033   0.041   0.040   0.039   0.039
961              PI   0.038   0.037   0.035   0.035   0.034   0.034   0.033   0.033   0.032   0.032
962              PI   0.031   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.028
963              PI   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
964              PI   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.026   0.026   0.026
965              PI   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.025   0.025   0.025
966              PI   0.025   0.025   0.024   0.024   0.024   0.024   0.023   0.023   0.023   0.023
967              PI   0.023   0.023   0.023   0.022   0.022   0.022   0.022   0.022   0.022   0.022
968              PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
969              PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.020
970              PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
971              PI   0.020   0.020   0.020   0.020   0.020   0.020   0.019   0.019   0.019   0.019
972              PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
973              PI   0.019   0.019   0.019   0.019   0.019   0.019   0.018   0.018
974              LU       0       0               0       0
975              UK      60     .40     .90    80.1
976              UK      12     .02     .11    19.9
977              RD     330     .10     .02  0.0010    TRAP       1       2
978              RD     440     .05     .02            TRAP       1       2
                 *


979              KK      3B
980              KM     1.9 acres
981              BA   .0030
982              BF   -32.3
983              PB
984              IN       5    0000    0000
                 * PI E=6740 S=E R=100
                 *
                 *  Placer Design Precipitation -  depths in inches
                 *  Return period in years   100   Time interval in minutes     5
                 *  Elevation in feet       6740   E of Crest
                 *  Duration in minutes     1440   Maximum depth at   720 minutes
                 *  Cloudburst 1-hr Factor  1.00
                 *
985              PI   0.018   0.018   0.018   0.018   0.018   0.018   0.019   0.019   0.019   0.019
986              PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
987              PI   0.019   0.019   0.019   0.019   0.019   0.019   0.020   0.020   0.020   0.020
988              PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
989              PI   0.020   0.020   0.020   0.021   0.021   0.021   0.021   0.021   0.021   0.021
990              PI   0.021   0.021   0.021   0.021   0.021   0.021   0.022   0.022   0.022   0.022
991              PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023   0.023
992              PI   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024   0.025   0.025
993              PI   0.025   0.025   0.025   0.025   0.025   0.025   0.026   0.026   0.026   0.026
994              PI   0.026   0.026   0.026   0.027   0.027   0.027   0.027   0.027   0.027   0.028
995              PI   0.028   0.028   0.028   0.028   0.029   0.029   0.029   0.029   0.028   0.028
996              PI   0.029   0.029   0.029   0.030   0.030   0.030   0.031   0.031   0.032   0.032
997              PI   0.033   0.033   0.034   0.034   0.035   0.035   0.037   0.038   0.039   0.040
998              PI   0.040   0.041   0.033   0.034   0.036   0.038   0.041   0.044   0.066   0.070
999              PI   0.075   0.061   0.131   0.206   0.103   0.069   0.055   0.072   0.068   0.065
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HEC-1 INPUT

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1000          PI   0.042   0.039   0.037   0.035   0.034   0.032   0.041   0.040   0.039   0.038
1001          PI   0.037   0.037   0.035   0.034   0.034   0.033   0.033   0.032   0.032   0.031
1002          PI   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.028   0.028
1003          PI   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028   0.028   0.027
1004          PI   0.027   0.027   0.027   0.027   0.026   0.026   0.026   0.026   0.026   0.026
1005          PI   0.026   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.024
1006          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.023   0.023   0.023   0.023
1007          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1008          PI   0.022   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1009          PI   0.021   0.021   0.021   0.021   0.021   0.020   0.020   0.020   0.020   0.020
1010          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1011          PI   0.020   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1012          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1013          PI   0.019   0.018   0.018   0.018   0.018   0.018   0.018   0.018
1014          LU       0       0               0       0
1015          UK     200     .13     .90     100
1016          RD     120     .45     .07             TRAP       1       4
              *


1017          KK      3C
1018          KM   COMBINE 3: 3A, 3B, 30R
1019          HC       3
              *

1020          KK     3C2
1021          KM   COMBINE 3: 1BC, 2C, 3C
1022          HC       3
              *

1023          KK      3R
1024          RD    1000     .16     .05             TRAP       4       3
              *

1025          KK      80
1026          KM   262.0 acres
1027          BA   .4094
1028          BF   -32.3
1029          PB
1030          IN       5    0000    0000
              * PI E=7200 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       7200   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
1031          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1032          PI   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1033          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023
1034          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
1035          PI   0.023   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024   0.024
1036          PI   0.024   0.024   0.024   0.024   0.024   0.025   0.025   0.025   0.025   0.025
1037          PI   0.025   0.025   0.025   0.025   0.025   0.026   0.026   0.026   0.026   0.026
1038          PI   0.026   0.026   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028
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HEC-1 INPUT

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1039          PI   0.029   0.029   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.030
1040          PI   0.030   0.030   0.030   0.031   0.031   0.031   0.031   0.031   0.032   0.032
1041          PI   0.032   0.032   0.033   0.033   0.033   0.033   0.034   0.034   0.032   0.032
1042          PI   0.032   0.033   0.033   0.033   0.034   0.034   0.035   0.035   0.035   0.036
1043          PI   0.037   0.037   0.038   0.038   0.039   0.040   0.042   0.042   0.043   0.044
1044          PI   0.045   0.047   0.037   0.039   0.041   0.043   0.046   0.050   0.076   0.080
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1045          PI   0.086   0.069   0.147   0.231   0.115   0.079   0.063   0.083   0.078   0.074
1046          PI   0.048   0.045   0.042   0.040   0.038   0.037   0.046   0.045   0.044   0.043
1047          PI   0.042   0.041   0.039   0.039   0.038   0.037   0.037   0.036   0.036   0.035
1048          PI   0.035   0.034   0.034   0.033   0.033   0.033   0.032   0.032   0.032   0.031
1049          PI   0.034   0.033   0.033   0.033   0.033   0.032   0.032   0.032   0.032   0.032
1050          PI   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030   0.030
1051          PI   0.030   0.029   0.029   0.029   0.029   0.029   0.029   0.029   0.028   0.028
1052          PI   0.028   0.028   0.028   0.028   0.028   0.028   0.026   0.026   0.026   0.026
1053          PI   0.026   0.026   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
1054          PI   0.025   0.025   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
1055          PI   0.024   0.024   0.024   0.024   0.023   0.023   0.023   0.023   0.023   0.023
1056          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022   0.022
1057          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1058          PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
1059          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1060          LU       0       0               0       0
1061          UK    1200     .22     .90     100
1062          RD    4000     .22     .07             TRAP       2       4
              *


1063          KK     CP2
1064          KM   COMBINE 3: CP1R, 3R, 80
1065          HC       3
              *


1066          KK    CP2R
1067          RD    1800     .09     .05             TRAP       4       3
              *


1068          KK      40
1069          KM     1.0 acres
1070          BA   .0016
1071          BF   -32.3
1072          PB
1073          IN       5    0000    0000
              * PI E=6830 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       6830   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
1074          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1075          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.020   0.020   0.020   0.020
1076          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1077          PI   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021   0.021   0.021
1078          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.022
1079          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
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HEC-1 INPUT

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1080          PI   0.022   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
1081          PI   0.023   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
1082          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.027   0.027
1083          PI   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028   0.028
1084          PI   0.029   0.029   0.029   0.029   0.030   0.030   0.030   0.030   0.029   0.029
1085          PI   0.029   0.030   0.030   0.030   0.031   0.031   0.032   0.032   0.032   0.033
1086          PI   0.033   0.034   0.034   0.035   0.036   0.036   0.038   0.039   0.040   0.040
1087          PI   0.041   0.043   0.034   0.035   0.037   0.039   0.042   0.045   0.068   0.072
1088          PI   0.077   0.063   0.134   0.211   0.106   0.071   0.057   0.074   0.070   0.066
1089          PI   0.043   0.040   0.038   0.036   0.034   0.033   0.042   0.041   0.040   0.039
1090          PI   0.038   0.038   0.036   0.035   0.035   0.034   0.034   0.033   0.033   0.032
1091          PI   0.032   0.031   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029
1092          PI   0.030   0.030   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028
1093          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
1094          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025
1095          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.023   0.023   0.023
1096          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022   0.022   0.022
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1097          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.021
1098          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1099          PI   0.021   0.021   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020
1100          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1101          PI   0.020   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1102          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1103          LU       0       0               0       0
1104          UK     120     .13     .90     100
1105          RD     200     .35     .07  0.0016    TRAP       1       4
              *


1106          KK     40R
1107          RD     200     .24     .02            TRAP       1       2
              *

1108          KK       4
1109          KM     0.7 acres
1110          BA   .0010
1111          BF   -32.3
1112          PB
1113          IN       5    0000    0000
              * PI E=6760 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       6760   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
1114          PI   0.018   0.018   0.018   0.018   0.019   0.019   0.019   0.019   0.019   0.019
1115          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1116          PI   0.019   0.019   0.019   0.019   0.020   0.020   0.020   0.020   0.020   0.020
1117          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1118          PI   0.020   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1119          PI   0.021   0.021   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022
1120          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023   0.023   0.023
1121          PI   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.025   0.025   0.025
1122          PI   0.025   0.025   0.025   0.025   0.025   0.026   0.026   0.026   0.026   0.026
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1123          PI   0.026   0.026   0.027   0.027   0.027   0.027   0.027   0.027   0.028   0.028
1124          PI   0.028   0.028   0.028   0.029   0.029   0.029   0.029   0.030   0.028   0.029
1125          PI   0.029   0.029   0.030   0.030   0.030   0.031   0.031   0.031   0.032   0.032
1126          PI   0.033   0.033   0.034   0.034   0.035   0.036   0.037   0.038   0.039   0.040
1127          PI   0.041   0.042   0.033   0.035   0.036   0.038   0.041   0.044   0.067   0.070
1128          PI   0.076   0.061   0.132   0.207   0.104   0.070   0.056   0.073   0.068   0.065
1129          PI   0.042   0.040   0.037   0.035   0.034   0.032   0.041   0.040   0.039   0.038
1130          PI   0.038   0.037   0.035   0.035   0.034   0.033   0.033   0.032   0.032   0.032
1131          PI   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.028   0.028
1132          PI   0.029   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028   0.028
1133          PI   0.027   0.027   0.027   0.027   0.027   0.027   0.026   0.026   0.026   0.026
1134          PI   0.026   0.026   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
1135          PI   0.025   0.024   0.024   0.024   0.024   0.024   0.023   0.023   0.023   0.023
1136          PI   0.023   0.023   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1137          PI   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1138          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.020   0.020   0.020
1139          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1140          PI   0.020   0.020   0.020   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1141          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1142          PI   0.019   0.019   0.019   0.019   0.018   0.018   0.018   0.018
1143          LU       0       0               0       0
1144          UK      40     .40     .90    37.7
1145          UK      12     .02     .11    62.3
1146          RD     145     .17     .02  0.0003    TRAP       1       2
1147          RD     420     .06     .02            TRAP       1       2
              *


1148          KK      4C
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```
1149          KM   COMBINE 2: 4, 40R
1150          HC       2
              *

1151          KK      4R
1152          RD     500      .13      .07            TRAP       2        4
              *

1153          KK      50
1154          KM    46.0 acres
1155          BA   .0719
1156          BF   -32.3
1157          PB
1158          IN       5    0000    0000
              * PI E=7000 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       7000   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
1159          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1160          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021
1161          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1162          PI   0.021   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1163          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023   0.023
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1164          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.024
1165          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.025
1166          PI   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027
1167          PI   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028
1168          PI   0.028   0.029   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.030
1169          PI   0.030   0.030   0.031   0.031   0.031   0.031   0.032   0.032   0.030   0.030
1170          PI   0.031   0.031   0.031   0.032   0.032   0.033   0.033   0.033   0.034   0.034
1171          PI   0.035   0.035   0.036   0.037   0.037   0.038   0.040   0.040   0.041   0.042
1172          PI   0.043   0.044   0.035   0.037   0.039   0.041   0.044   0.047   0.072   0.076
1173          PI   0.081   0.066   0.140   0.220   0.110   0.075   0.060   0.078   0.074   0.070
1174          PI   0.045   0.042   0.040   0.038   0.036   0.035   0.044   0.043   0.042   0.041
1175          PI   0.040   0.039   0.038   0.037   0.036   0.036   0.035   0.035   0.034   0.034
1176          PI   0.033   0.033   0.032   0.032   0.032   0.031   0.031   0.031   0.030   0.030
1177          PI   0.032   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030
1178          PI   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
1179          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
1180          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.024
1181          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.023
1182          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
1183          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1184          PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
1185          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1186          PI   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1187          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1188          LU       0       0               0       0
1189          UK     500     .38     .90     100
1190          RD    1900     .32     .07  0.0534     TRAP       1        4
              *


1191          KK     50R
1192          RD     350     .23     .07            TRAP       1        4
              *

1193          KK       5
1194          KM     8.0 acres
1195          BA   .0125
1196          BF   -32.3
1197          PB
1198          IN       5    0000    0000
```

```
                 * PI E=6750 S=E R=100
                 *
                 *  Placer Design Precipitation -  depths in inches
                 *  Return period in years   100   Time interval in minutes     5
                 *  Elevation in feet       6750   E of Crest
                 *  Duration in minutes     1440   Maximum depth at   720 minutes
                 *  Cloudburst 1-hr Factor  1.00
                 *
1199             PI   0.018   0.018   0.018   0.018   0.018   0.019   0.019   0.019   0.019   0.019
1200             PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1201             PI   0.019   0.019   0.019   0.019   0.019   0.020   0.020   0.020   0.020   0.020
1202             PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1203             PI   0.020   0.020   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1204             PI   0.021   0.021   0.021   0.021   0.021   0.022   0.022   0.022   0.022   0.022
1205             PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023   0.023
1206             PI   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024   0.025   0.025
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LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1207             PI   0.025   0.025   0.025   0.025   0.025   0.025   0.026   0.026   0.026   0.026
1208             PI   0.026   0.026   0.027   0.027   0.027   0.027   0.027   0.027   0.028   0.028
1209             PI   0.028   0.028   0.028   0.029   0.029   0.029   0.029   0.030   0.028   0.029
1210             PI   0.029   0.029   0.029   0.030   0.030   0.031   0.031   0.031   0.032   0.032
1211             PI   0.033   0.033   0.034   0.034   0.035   0.035   0.037   0.038   0.039   0.040
1212             PI   0.041   0.042   0.033   0.034   0.036   0.038   0.041   0.044   0.066   0.070
1213             PI   0.075   0.061   0.131   0.206   0.104   0.069   0.056   0.073   0.068   0.065
1214             PI   0.042   0.039   0.037   0.035   0.034   0.032   0.041   0.040   0.039   0.038
1215             PI   0.038   0.037   0.035   0.035   0.034   0.033   0.033   0.032   0.032   0.032
1216             PI   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.028   0.028
1217             PI   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028   0.028   0.027
1218             PI   0.027   0.027   0.027   0.027   0.027   0.026   0.026   0.026   0.026   0.026
1219             PI   0.026   0.026   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
1220             PI   0.024   0.024   0.024   0.024   0.024   0.024   0.023   0.023   0.023   0.023
1221             PI   0.023   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1222             PI   0.022   0.022   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1223             PI   0.021   0.021   0.021   0.021   0.021   0.021   0.020   0.020   0.020   0.020
1224             PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1225             PI   0.020   0.020   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1226             PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1227             PI   0.019   0.019   0.018   0.018   0.018   0.018   0.018   0.018
1228             LU       0       0               0       0
1229             UK      50     .50     .90     100
1230             RD     800     .33     .07  0.0040    TRAP       1       4
1231             RD     500     .10     .02            TRAP       1       2
                 *


1232             KK      5C
1233             KM   COMBINE 2: 5, 50R
1234             HC       2
                 *

1235             KK      5R
1236             RD     140     .36     .07            TRAP       1       4
1237             RD     350     .12     .07            TRAP       2       4
                 *

1238             KK     5C2
1239             KM   COMBINE 2: 4R, 5R
1240             HC       2
                 *

1241             KK      60
1242             KM   254.0 acres
1243             BA   .3969
1244             BF   -32.3
1245             PB
1246             IN       5    0000    0000
                 * PI E=7400 S=E R=100
                 *
```

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                    *  Placer Design Precipitation -  depths in inches
                    *  Return period in years   100   Time interval in minutes     5
                    *  Elevation in feet       7400   E of Crest
                    *  Duration in minutes     1440   Maximum depth at   720 minutes
                    *  Cloudburst 1-hr Factor  1.00
                    *
1                                                HEC-1 INPUT
PAGE 31

          LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

          1247      PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023
          1248      PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
          1249      PI   0.023   0.023   0.023   0.023   0.023   0.023   0.024   0.024   0.024   0.024
          1250      PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
          1251      PI   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
          1252      PI   0.025   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026
          1253      PI   0.026   0.026   0.027   0.027   0.027   0.027   0.027   0.027   0.027   0.027
          1254      PI   0.028   0.028   0.029   0.029   0.030   0.030   0.030   0.030   0.030   0.030
          1255      PI   0.030   0.030   0.031   0.031   0.031   0.031   0.031   0.031   0.032   0.032
          1256      PI   0.032   0.032   0.032   0.032   0.033   0.033   0.033   0.033   0.033   0.034
          1257      PI   0.034   0.034   0.034   0.035   0.035   0.035   0.035   0.036   0.033   0.033
          1258      PI   0.034   0.034   0.034   0.035   0.035   0.036   0.036   0.037   0.037   0.038
          1259      PI   0.038   0.039   0.039   0.040   0.041   0.042   0.044   0.044   0.045   0.046
          1260      PI   0.048   0.049   0.039   0.041   0.043   0.046   0.049   0.052   0.080   0.084
          1261      PI   0.090   0.073   0.154   0.242   0.120   0.083   0.066   0.087   0.082   0.078
          1262      PI   0.050   0.047   0.044   0.042   0.040   0.039   0.048   0.047   0.046   0.045
          1263      PI   0.044   0.043   0.041   0.040   0.040   0.039   0.039   0.038   0.037   0.037
          1264      PI   0.036   0.036   0.035   0.035   0.035   0.034   0.034   0.034   0.033   0.033
          1265      PI   0.036   0.035   0.035   0.035   0.034   0.034   0.034   0.034   0.034   0.033
          1266      PI   0.033   0.033   0.033   0.033   0.032   0.032   0.032   0.032   0.032   0.031
          1267      PI   0.031   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030
          1268      PI   0.030   0.030   0.030   0.029   0.029   0.029   0.028   0.027   0.027   0.027
          1269      PI   0.027   0.027   0.027   0.027   0.027   0.027   0.026   0.026   0.026   0.026
          1270      PI   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.025
          1271      PI   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.024
          1272      PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
          1273      PI   0.024   0.024   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
          1274      PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022
          1275      PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
          1276      LU       0       0               0       0
          1277      UK    1000     .44     .90     100
          1278      RD    4500     .21     .07             TRAP       1       4
                    *



          1279      KK     60R
          1280      RD     380     .19     .07             TRAP       2       4
                    *

          1281      KK      6A
          1282      KM     4.5 acres
          1283      BA   .0070
          1284      BF   -32.3
          1285      PB
          1286      IN       5    0000    0000
                    * PI E=6870 S=E R=100
                    *
                    *  Placer Design Precipitation -  depths in inches
                    *  Return period in years   100   Time interval in minutes     5
                    *  Elevation in feet       6870   E of Crest
                    *  Duration in minutes     1440   Maximum depth at   720 minutes
                    *  Cloudburst 1-hr Factor  1.00
                    *
          1287      PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
          1288      PI   0.019   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
          1289      PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1                                                HEC-1 INPUT
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          LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1290    PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1291    PI   0.021   0.021   0.021   0.021   0.021   0.022   0.022   0.022   0.022   0.022
1292    PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023
1293    PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.024   0.024
1294    PI   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.026   0.026
1295    PI   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027   0.027   0.027
1296    PI   0.027   0.027   0.028   0.028   0.028   0.028   0.028   0.028   0.029   0.029
1297    PI   0.029   0.029   0.029   0.030   0.030   0.030   0.030   0.031   0.029   0.029
1298    PI   0.030   0.030   0.030   0.031   0.031   0.031   0.032   0.032   0.033   0.033
1299    PI   0.034   0.034   0.035   0.035   0.036   0.037   0.038   0.039   0.040   0.041
1300    PI   0.042   0.043   0.034   0.036   0.038   0.040   0.042   0.045   0.069   0.073
1301    PI   0.078   0.063   0.135   0.213   0.107   0.072   0.058   0.075   0.071   0.067
1302    PI   0.044   0.041   0.039   0.037   0.035   0.033   0.042   0.041   0.040   0.040
1303    PI   0.039   0.038   0.036   0.036   0.035   0.034   0.034   0.033   0.033   0.033
1304    PI   0.032   0.032   0.031   0.031   0.031   0.030   0.030   0.030   0.029   0.029
1305    PI   0.031   0.030   0.030   0.030   0.030   0.029   0.029   0.029   0.029   0.029
1306    PI   0.028   0.028   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027
1307    PI   0.027   0.027   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026
1308    PI   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.024   0.024   0.023
1309    PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
1310    PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1311    PI   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1312    PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.020   0.020
1313    PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1314    PI   0.020   0.020   0.020   0.020   0.020   0.020   0.019   0.019   0.019   0.019
1315    PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1316    LU       0       0               0       0
1317    UK      50     .50     .90     100
1318    RD     600     .33     .07  0.0028    TRAP       1       4
1319    RD     390     .18     .07            TRAP       2       4
        *


1320    KK     6AC
1321    KM   COMBINE 2: 6A, 60R
1322    HC       2
        *

1323    KK     6AR
1324    RD     560     .16     .07            TRAP       2       4
        *

1325    KK      6B
1326    KM     4.0 acres
1327    BA   .0063
1328    BF   -32.3
1329    PB
1330    IN       5    0000    0000
        * PI E=6720 S=E R=100
        *
        *  Placer Design Precipitation -  depths in inches
        *  Return period in years   100   Time interval in minutes     5
        *  Elevation in feet       6720   E of Crest
        *  Duration in minutes     1440   Maximum depth at   720 minutes
        *  Cloudburst 1-hr Factor  1.00
        *
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HEC-1 INPUT

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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1331    PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.019
1332    PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1333    PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.020
1334    PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1335    PI   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021   0.021
1336    PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.022   0.022
1337    PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023
1338    PI   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
1339    PI   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.026   0.026
1340    PI   0.026   0.026   0.026   0.026   0.027   0.027   0.027   0.027   0.027   0.027
1341    PI   0.028   0.028   0.028   0.028   0.029   0.029   0.029   0.029   0.028   0.028
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1342          PI   0.029   0.029   0.029   0.030   0.030   0.030   0.031   0.031   0.031   0.032
1343          PI   0.032   0.033   0.033   0.034   0.035   0.035   0.037   0.038   0.038   0.039
1344          PI   0.040   0.041   0.033   0.034   0.036   0.038   0.040   0.043   0.066   0.070
1345          PI   0.075   0.061   0.130   0.205   0.103   0.069   0.055   0.072   0.068   0.064
1346          PI   0.042   0.039   0.037   0.035   0.033   0.032   0.041   0.040   0.039   0.038
1347          PI   0.037   0.037   0.035   0.034   0.034   0.033   0.033   0.032   0.032   0.031
1348          PI   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.028   0.028   0.028
1349          PI   0.029   0.029   0.029   0.028   0.028   0.028   0.028   0.028   0.027   0.027
1350          PI   0.027   0.027   0.027   0.026   0.026   0.026   0.026   0.026   0.026   0.026
1351          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.024
1352          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.023   0.023   0.023   0.022
1353          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1354          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1355          PI   0.021   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1356          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.019
1357          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1358          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.018
1359          PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018
1360          LU       0       0               0       0
1361          UK      70     .40     .90    87.7
1362          UK      12     .02     .11    12.3
1363          RD     480     .16     .07  0.0015    TRAP       2       4
1364          RD     400     .10     .02            TRAP       1       2
              *


1365          KK     6BC
1366          KM   COMBINE 2: 6AR, 6B
1367          HC       2
              *

1368          KK     6BR
1369          RD     530     .14     .07            TRAP       2       4
              *

1370          KK      6C
1371          KM     5.0 acres
1372          BA   .0078
1373          BF   -32.3
1374          PB
1375          IN       5    0000    0000
              * PI E=6830 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       6830   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
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HEC-1 INPUT

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1376          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1377          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.020   0.020   0.020   0.020
1378          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1379          PI   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021   0.021   0.021
1380          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.022
1381          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1382          PI   0.022   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
1383          PI   0.023   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
1384          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.027   0.027
1385          PI   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028   0.028
1386          PI   0.029   0.029   0.029   0.029   0.030   0.030   0.030   0.030   0.029   0.029
1387          PI   0.029   0.030   0.030   0.030   0.031   0.031   0.032   0.032   0.032   0.033
1388          PI   0.033   0.034   0.034   0.035   0.036   0.036   0.038   0.039   0.040   0.040
1389          PI   0.041   0.043   0.034   0.035   0.037   0.039   0.042   0.045   0.068   0.072
1390          PI   0.077   0.063   0.134   0.211   0.106   0.071   0.057   0.074   0.070   0.066
1391          PI   0.043   0.040   0.038   0.036   0.034   0.033   0.042   0.041   0.040   0.039
1392          PI   0.038   0.038   0.036   0.035   0.035   0.034   0.034   0.033   0.033   0.032
1393          PI   0.032   0.031   0.031   0.031   0.030   0.030   0.030   0.029   0.029   0.029
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1394          PI   0.030   0.030   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028
1395          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
1396          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025
1397          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.023   0.023   0.023
1398          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022   0.022   0.022
1399          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.021
1400          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1401          PI   0.021   0.021   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020
1402          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1403          PI   0.020   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1404          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1405          LU       0       0               0       0
1406          UK      50     .16     .90     100
1407          RD     480     .14     .07             TRAP       2       4
              *


1408          KK     6CC
1409          KM   COMBINE 3: 5C2, 6BR, 6C
1410          HC       3
              *


1411          KK     6CR
1412          RD     800     .10     .05             TRAP       4       3
              *


1413          KK      70
1414          KM    39.0 acres
1415          BA   .0609
1416          BF   -32.3
1417          PB
1418          IN       5    0000    0000
              * PI E=7000 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       7000   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
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                                    HEC-1 INPUT

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1419          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1420          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021
1421          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1422          PI   0.021   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1423          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023   0.023
1424          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.024
1425          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.025
1426          PI   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027
1427          PI   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028
1428          PI   0.028   0.029   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.030
1429          PI   0.030   0.030   0.031   0.031   0.031   0.031   0.032   0.032   0.030   0.030
1430          PI   0.031   0.031   0.031   0.032   0.032   0.033   0.033   0.033   0.034   0.034
1431          PI   0.035   0.035   0.036   0.037   0.037   0.038   0.040   0.040   0.041   0.042
1432          PI   0.043   0.044   0.035   0.037   0.039   0.041   0.044   0.047   0.072   0.076
1433          PI   0.081   0.066   0.140   0.220   0.110   0.075   0.060   0.078   0.074   0.070
1434          PI   0.045   0.042   0.040   0.038   0.036   0.035   0.044   0.043   0.042   0.041
1435          PI   0.040   0.039   0.038   0.037   0.036   0.036   0.035   0.035   0.034   0.034
1436          PI   0.033   0.033   0.032   0.032   0.032   0.031   0.031   0.031   0.030   0.030
1437          PI   0.032   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030
1438          PI   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
1439          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
1440          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.024
1441          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.023
1442          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
1443          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1444          PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
1445          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
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1446          PI   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1447          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1448          LU       0       0               0       0
1449          UK     200     .50     .90     100
1450          RD    2000     .48     .07             TRAP       1       4
              *

1451          KK     70R
1452          RD     600     .16     .07             TRAP       1       4
              *

1453          KK      7A
1454          KM     9.1 acres
1455          BA   .0142
1456          BF   -32.3
1457          PB
1458          IN       5    0000    0000
              * PI E=6690 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       6690   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
1459          PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018
1460          PI   0.018   0.018   0.018   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1461          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1462          PI   0.019   0.019   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1463          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021
1464          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1465          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1466          PI   0.022   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024   0.024
1467          PI   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.026
1468          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027   0.027
1469          PI   0.027   0.028   0.028   0.028   0.028   0.028   0.029   0.029   0.028   0.028
1470          PI   0.028   0.029   0.029   0.029   0.030   0.030   0.030   0.031   0.031   0.032
1471          PI   0.032   0.033   0.033   0.034   0.034   0.035   0.037   0.037   0.038   0.039
1472          PI   0.040   0.041   0.032   0.034   0.036   0.038   0.040   0.043   0.065   0.069
1473          PI   0.074   0.060   0.129   0.203   0.102   0.068   0.055   0.071   0.067   0.064
1474          PI   0.041   0.039   0.037   0.035   0.033   0.032   0.040   0.039   0.039   0.038
1475          PI   0.037   0.036   0.035   0.034   0.033   0.033   0.032   0.032   0.031   0.031
1476          PI   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.028   0.028   0.028
1477          PI   0.029   0.029   0.028   0.028   0.028   0.028   0.027   0.027   0.027   0.027
1478          PI   0.027   0.027   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025
1479          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.024   0.024   0.024
1480          PI   0.024   0.024   0.024   0.024   0.023   0.023   0.023   0.022   0.022   0.022
1481          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021
1482          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1483          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1484          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.019   0.019   0.019   0.019
1485          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1486          PI   0.019   0.019   0.019   0.019   0.019   0.018   0.018   0.018   0.018   0.018
1487          PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018
1488          LU       0       0               0       0
1489          UK     600     .20     .90    70.0
1490          UK     400     .15     .90    30.0
1491          RD     650     .10     .02  .00994     TRAP       1       4
1492          RD     350     .02     .02  .00426     TRAP       1       2
              *

1493          KK     7AR
1494          RD     500     .10     .07             TRAP       1       4
              *

1495          KK      7B
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1496          KM     6.1 acres
1497          BA   .0096
1498          BF   -32.3
1499          PB
1500          IN       5    0000    0000
              * PI E=6690 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       6690   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
1501          PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018
1502          PI   0.018   0.018   0.018   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1503          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1504          PI   0.019   0.019   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
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                                   HEC-1 INPUT

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1505          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021
1506          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1507          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1508          PI   0.022   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024   0.024
1509          PI   0.024   0.024   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.026
1510          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027   0.027
1511          PI   0.027   0.028   0.028   0.028   0.028   0.028   0.029   0.029   0.028   0.028
1512          PI   0.028   0.029   0.029   0.029   0.030   0.030   0.030   0.031   0.031   0.032
1513          PI   0.032   0.033   0.033   0.034   0.034   0.035   0.037   0.037   0.038   0.039
1514          PI   0.040   0.041   0.032   0.034   0.036   0.038   0.040   0.043   0.065   0.069
1515          PI   0.074   0.060   0.129   0.203   0.102   0.068   0.055   0.071   0.067   0.064
1516          PI   0.041   0.039   0.037   0.035   0.033   0.032   0.040   0.039   0.039   0.038
1517          PI   0.037   0.036   0.035   0.034   0.033   0.033   0.032   0.032   0.031   0.031
1518          PI   0.031   0.030   0.030   0.030   0.029   0.029   0.029   0.028   0.028   0.028
1519          PI   0.029   0.029   0.028   0.028   0.028   0.028   0.027   0.027   0.027   0.027
1520          PI   0.027   0.027   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025
1521          PI   0.025   0.025   0.025   0.025   0.025   0.025   0.024   0.024   0.024   0.024
1522          PI   0.024   0.024   0.024   0.024   0.023   0.023   0.023   0.022   0.022   0.022
1523          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021
1524          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1525          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1526          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.019   0.019   0.019   0.019
1527          PI   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019   0.019
1528          PI   0.019   0.019   0.019   0.019   0.019   0.018   0.018   0.018   0.018   0.018
1529          PI   0.018   0.018   0.018   0.018   0.018   0.018   0.018   0.018
1530          LU       0       0               0       0
1531          UK     540     .19     .90    50.0
1532          UK     540     .31     .90    50.0
1533          RD     550     .18     .07  .00475    TRAP       1       4
1534          RD     300     .04     .02  .00475    TRAP       1       2
              *


1535          KK     7BC
1536          KM   COMBINE 3: 70R, 7AR, 7B
1537          HC       3
              *

1538          KK     7BR
1539          RD     500     .16     .05            TRAP       4       3
              *

1540          KK      90
1541          KM   169.0 acres
1542          BA   .2641
1543          BF   -32.3
1544          PB
1545          IN       5    0000    0000
              * PI E=7200 S=E R=100
              *
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                    *  Placer Design Precipitation -  depths in inches
                    *  Return period in years   100   Time interval in minutes     5
                    *  Elevation in feet       7200   E of Crest
                    *  Duration in minutes     1440   Maximum depth at   720 minutes
                    *  Cloudburst 1-hr Factor  1.00
                    *
1                                                HEC-1 INPUT
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1546          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1547          PI   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1548          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023
1549          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
1550          PI   0.023   0.023   0.023   0.024   0.024   0.024   0.024   0.024   0.024   0.024
1551          PI   0.024   0.024   0.024   0.024   0.024   0.025   0.025   0.025   0.025   0.025
1552          PI   0.025   0.025   0.025   0.025   0.025   0.026   0.026   0.026   0.026   0.026
1553          PI   0.026   0.026   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028
1554          PI   0.029   0.029   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.030
1555          PI   0.030   0.030   0.030   0.031   0.031   0.031   0.031   0.031   0.032   0.032
1556          PI   0.032   0.032   0.033   0.033   0.033   0.033   0.034   0.034   0.032   0.032
1557          PI   0.032   0.033   0.033   0.033   0.034   0.034   0.035   0.035   0.035   0.036
1558          PI   0.037   0.037   0.038   0.038   0.039   0.040   0.042   0.042   0.043   0.044
1559          PI   0.045   0.047   0.037   0.039   0.041   0.043   0.046   0.050   0.076   0.080
1560          PI   0.086   0.069   0.147   0.231   0.115   0.079   0.063   0.083   0.078   0.074
1561          PI   0.048   0.045   0.042   0.040   0.038   0.037   0.046   0.045   0.044   0.043
1562          PI   0.042   0.041   0.039   0.039   0.038   0.037   0.037   0.036   0.036   0.035
1563          PI   0.035   0.034   0.034   0.033   0.033   0.033   0.032   0.032   0.032   0.031
1564          PI   0.034   0.033   0.033   0.033   0.033   0.032   0.032   0.032   0.032   0.032
1565          PI   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030   0.030
1566          PI   0.030   0.029   0.029   0.029   0.029   0.029   0.029   0.029   0.028   0.028
1567          PI   0.028   0.028   0.028   0.028   0.028   0.028   0.026   0.026   0.026   0.026
1568          PI   0.026   0.026   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025
1569          PI   0.025   0.025   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024
1570          PI   0.024   0.024   0.024   0.024   0.023   0.023   0.023   0.023   0.023   0.023
1571          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.022   0.022
1572          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1573          PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
1574          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1575          LU       0       0               0       0
1576          UK     600     .66     .90     100
1577          RD    3300     .30     .07             TRAP       1       4
              *


1578          KK     CP3
1579          KM   COMBINE 4: CP2R, 6CR, 7BR, 90
1580          HC       4
              *

1581          KK    CP3R
1582          RD   12000     .04     .05             TRAP       4       3
              *

1583          KK     100
1584          KM    1429 acres
1585          BA  2.2328
1586          BF   -32.3
1587          PB
1588          IN       5    0000    0000
              * PI E=7000 S=E R=100
              *
              *  Placer Design Precipitation -  depths in inches
              *  Return period in years   100   Time interval in minutes     5
              *  Elevation in feet       7000   E of Crest
              *  Duration in minutes     1440   Maximum depth at   720 minutes
              *  Cloudburst 1-hr Factor  1.00
              *
1                                                HEC-1 INPUT
PAGE 39
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1589          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1590          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.021   0.021   0.021   0.021
1591          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1592          PI   0.021   0.021   0.021   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1593          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.023   0.023   0.023
1594          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.024
1595          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.025
1596          PI   0.025   0.025   0.026   0.026   0.026   0.026   0.026   0.027   0.027   0.027
1597          PI   0.027   0.027   0.027   0.027   0.027   0.028   0.028   0.028   0.028   0.028
1598          PI   0.028   0.029   0.029   0.029   0.029   0.029   0.029   0.030   0.030   0.030
1599          PI   0.030   0.030   0.031   0.031   0.031   0.031   0.032   0.032   0.030   0.030
1600          PI   0.031   0.031   0.031   0.032   0.032   0.033   0.033   0.033   0.034   0.034
1601          PI   0.035   0.035   0.036   0.037   0.037   0.038   0.040   0.040   0.041   0.042
1602          PI   0.043   0.044   0.035   0.037   0.039   0.041   0.044   0.047   0.072   0.076
1603          PI   0.081   0.066   0.140   0.220   0.110   0.075   0.060   0.078   0.074   0.070
1604          PI   0.045   0.042   0.040   0.038   0.036   0.035   0.044   0.043   0.042   0.041
1605          PI   0.040   0.039   0.038   0.037   0.036   0.036   0.035   0.035   0.034   0.034
1606          PI   0.033   0.033   0.032   0.032   0.032   0.031   0.031   0.031   0.030   0.030
1607          PI   0.032   0.031   0.031   0.031   0.031   0.031   0.030   0.030   0.030   0.030
1608          PI   0.030   0.029   0.029   0.029   0.029   0.029   0.028   0.028   0.028   0.028
1609          PI   0.028   0.028   0.028   0.027   0.027   0.027   0.027   0.027   0.027   0.027
1610          PI   0.026   0.026   0.026   0.026   0.026   0.026   0.025   0.025   0.025   0.024
1611          PI   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.023
1612          PI   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.023
1613          PI   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022   0.022
1614          PI   0.022   0.022   0.022   0.022   0.022   0.021   0.021   0.021   0.021   0.021
1615          PI   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021   0.021
1616          PI   0.021   0.021   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1617          PI   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020
1618          LU       0       0               0       0
1619          UK     500     .40     .90     100
1620          RD    5500     .23     .07  0.5582    TRAP       1       4
1621          RD    6500     .03     .05            TRAP       4       3
              *


1622          KK   100C2
1623          KM   COMBINE 2: CP3R, 100 (@ CONFLUENCE OF BEAR CREEK / TRUCKEE RIVER)
1624          HC       2
              *
              *  END POST PROJECT CONDITIONS
              *

1625          KK    DUM1
1626          KM   COMBINE 2: 100C, 100C2
1627          HC       2
1628          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    14          10
                 .
                 .
    54           .          1
                 .          .
                 .          .
    92          1C...........
                 V
                 V
    95          1R
                 .
                 .
    97           .         20
                 .          V
                 .          V
   135           .        20R
```

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                .          .
                .          .
137             .          .          2
                .          .          .
                .          .          .
175             .         2C..........
                .          V
                .          V
178             .         2R
                .          .
                .          .
180             .          .         80
                .          .          .
                .          .          .
218          80C .......................
                V
                V
221           80R
                .
                .
223             .         50
                .          V
                .          V
261             .        50R
                .          .
                .          .
263             .          .          5
                .          .          .
                .          .          .
301             .         5C..........
                .          .
                .          .
304             .          .         60
                .          .          V
                .          .          V
342             .          .        60R
                .          .          .
                .          .          .
344             .          .          .          6
                .          .          .          .
                .          .          .          .
382             .          .         6C..........
                .          .          .
                .          .          .
385             .        6C2..........
                .          V
                .          /
388             .         6R
                .          .
                .          .
390             .          .         70
                .          .          V
                .          .          V
428             .          .        70R
                .          .          .
                .          .          .
430             .          .          .          7
                .          .          .          .
                .          .          .          .
470             .          .         7C..........
                .          .          V
                .          .          V
473             .          .         7R
                .          .          .
                .          .          .
475          7C2.......................
                .
                .
478             .         90
                .          .
                .          .
```

```
516        90C............
             V
             V
519        90R
             .
             .
521          .        100
             .          .
             .          .
560       100C............
             .
             .
563          .         10
             .          .
             .          .
603          .          .          1
             .          .          .
             .          .          .
643          .         1C............
             .          .
             .          .
646          .          .        10A
             .          .         V
             .          .         V
684          .          .       10AR
             .          .          .
             .          .          .
686          .          .          .         1A
             .          .          .          .
             .          .          .          .
726          .          .       1AC............
             .          .          .
             .          .          .
729          .        CP1............
             .          \
             .          \
732          .       CP1R
             .          .
             .          .
734          .          .        10B
             .          .         V
             .          .         V
772          .          .       10BR
             .          .          .
             .          .          .
775          .          .          .         1B
             .          .          .          .
             .          .          .          .
813          .          .       1BC............
             .          .          .
             .          .          .
816          .          .          .         20
             .          .          .          V
             .          .          .          V
854          .          .          .        20R
             .          .          .          .
             .          .          .          .
856          .          .          .          .          2
             .          .          .          .          .
             .          .          .          .          .
896          .          .          .         2C............
             .          .          .          .
             .          .          .          .
899          .          .          .          .         30
             .          .          .          .          V
             .          .          .          .          V
937          .          .          .          .        30R
             .          .          .          .          .
             .          .          .          .          .
939          .          .          .          .          .         3A
             .          .          .          .          .          .
```

```
979                                                                  3B
1017                                                 3C.....................
1020                          3C2.....................
                               V
                               V
1023                           3R
1025                                            80
1063                     CP2.....................
                          V
                          V
1066                    CP2R
1068                           40
                               V
                               V
1106                          40R
1108                                             4
1148                           4C............
                               V
                               V
1151                           4R
1153                                            50
                                                 V
                                                 V
1191                                            50R
1193                                                                 5
1232                                            5C............
                                                 V
                                                 V
1235                                            5R
1238                          5C2............
1241                                            60
                                                 V
                                                 V
1279                                            60R
1281                                                                 6A
1320                                            6AC............
                                                 V
                                                 V
1323                                            6AR
1325                                                                 6B
```

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                .         .         .         .         .
                .         .         .         .         .
  1365          .         .         .       6BC.........
                .         .         .         V
                .         .         .         V
  1368          .         .         .       6BR
                .         .         .         .
                .         .         .         .
  1370          .         .         .         .        6C
                .         .         .         .         .
                .         .         .         .         .
  1408          .         .       6CC.......................
                .         .         V
                .         .         V
  1411          .         .       6CR
                .         .         .
                .         .         .
  1413          .         .         .        70
                .         .         .         V
                .         .         .         V
  1451          .         .         .       70R
                .         .         .         .
                .         .         .         .
  1453          .         .         .         .        7A
                .         .         .         .         V
                .         .         .         .         V
  1493          .         .         .         .       7AR
                .         .         .         .         .
                .         .         .         .         .
  1495          .         .         .         .         .        7B
                .         .         .         .         .         .
                .         .         .         .         .         .
  1535          .         .         .       7BC.......................
                .         .         .         V
                .         .         .         V
  1538          .         .         .       7BR
                .         .         .         .
                .         .         .         .
  1540          .         .         .         .        90
                .         .         .         .         .
                .         .         .         .         .
  1578          .       CP3.................................
                .         V
                .         V
  1581          .       CP3R
                .         .
                .         .
  1583          .         .       100
                .         .         +
                .         .         +
  1622          .      100CZ............
                .         .
                .         .
  1625       DUM1............
```

```
 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************
*****************************************
 *                                       *                                        *
*
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                                        *    U.S. ARMY
CORPS OF ENGINEERS     *
 *               JUN   1998              *                                        *    HYDROLOGIC
ENGINEERING CENTER    *
 *           VERSION 4.1                 *                                        *         609
SECOND STREET          *
 *                                       *                                        *       DAVIS,
CALIFORNIA 95616       *
 *  RUN DATE   06MAR13  TIME  10:51:34   *                                        *           (916)
756-1104            *
```

```
 +                                        +                                                                  +
+
 ****************************************
****************************************
```

ALPINE SIERRA
PRE AND POST PROJECT
WINTER SCENARIO WITH NO INFILTRATION AND WITH SNOW MELT
UK CARD
1ST ENTRY = PERVIOUS
2ND ENTRY = IMPERVIOUS
SPATIAL DISTRIBUTION AND STORM CENTERING NOT USED
USED PLACER COUNTY PDP PROGRAM FOR RAINFALL ON EAST SIDE OF SIERRA CREST
100-YEAR, 24-HOUR STORM
FEBRUARY 20, 2004

```
 13 IO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1 00 0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         288  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1    0  ENDING DATE
                     NDTIME        2355  ENDING TIME
                     ICENT           19  CENTURY MARK

                 COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE   23.92 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT
1
                                                    RUNOFF SUMMARY
                                            FLOW IN CUBIC FEET PER SECOND
                                         TIME IN HOURS,  AREA IN SQUARE MILES

                                        PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN
MAXIMUM     TIME OF
            OPERATION       STATION     FLOW     PEAK                                          AREA
STAGE       MAX STAGE
+                                                          6-HOUR     24-HOUR     72-HOUR

            HYDROGRAPH AT
+                              10      1140.   12.50        715.        458.        458.       1.59

            HYDROGRAPH AT
+                               1         1.   12.08          0.          0.          0.        .00

            2 COMBINED AT
+                              1C      1140.   12.50        715.        458.        458.       1.59

            ROUTED TO
+                              1R      1138.   12.50        715.        458.        458.       1.59

            HYDROGRAPH AT
+                              20        18.   12.08          7.          5.          5.        .02
```

+ ROUTED TO	20R	18.	12.08	7.	5.	5.	.02
+ HYDROGRAPH AT	2	9.	12.42	5.	3.	3.	.01
+ 2 COMBINED AT	2C	26.	12.08	12.	8.	8.	.03
+ ROUTED TO	2R	26.	12.17	12.	8.	8.	.03
+ HYDROGRAPH AT	80	283.	12.50	166.	107.	107.	.41
+ 3 COMBINED AT	80C	1442.	12.50	893.	572.	572.	2.04
+ ROUTED TO	80R	1437.	12.50	893.	572.	572.	2.04
+ HYDROGRAPH AT	50	63.	12.17	28.	19.	19.	.07
+ ROUTED TO	50R	63.	12.17	28.	19.	19.	.07
+ HYDROGRAPH AT	5	16.	12.42	9.	6.	6.	.02
+ 2 COMBINED AT	5C	78.	12.17	37.	24.	24.	.10
+ HYDROGRAPH AT	60	325.	12.42	168.	110.	110.	.40
+ ROUTED TO	60R	325.	12.42	168.	110.	110.	.40
+ HYDROGRAPH AT	6	8.	12.08	3.	2.	2.	.01
+ 2 COMBINED AT	6C	331.	12.42	172.	112.	112.	.41
+ 2 COMBINED AT	6C2	407.	12.25	209.	136.	136.	.50
+ ROUTED TO	6R	406.	12.25	209.	136.	136.	.50
+ HYDROGRAPH AT	70	68.	12.08	24.	16.	16.	.06
+ ROUTED TO	70R	67.	12.08	24.	16.	16.	.06
+ HYDROGRAPH AT	7	20.	12.17	9.	6.	6.	.02
+ 2 COMBINED AT	7C	87.	12.08	32.	21.	21.	.09
+ ROUTED TO	7R	86.	12.08	32.	21.	21.	.09
+ 3 COMBINED AT	7C2	1885.	12.50	1134.	730.	730.	2.62
HYDROGRAPH AT							

+		90	246.	12.08	107.	71.	71.	.26
+	2 COMBINED AT	90C	2093.	12.25	1241.	800.	800.	2.89
+	ROUTED TO	90R	2115.	12.33	1241.	794.	794.	2.89
+	HYDROGRAPH AT	100	1983.	12.17	865.	563.	563.	2.23
+	2 COMBINED AT	100C	3944.	12.33	2104.	1357.	1357.	5.12
+	HYDROGRAPH AT	10	1140.	12.50	715.	458.	458.	1.59
+	HYDROGRAPH AT	1	1.	12.00	0.	0.	0.	.00
+	2 COMBINED AT	1C	1141.	12.50	715.	458.	458.	1.59
+	HYDROGRAPH AT	10A	4.	12.42	2.	2.	2.	.01
+	ROUTED TO	10AR	4.	12.42	2.	2.	2.	.01
+	HYDROGRAPH AT	1A	2.	12.00	1.	0.	0.	.00
+	2 COMBINED AT	1AC	6.	12.08	3.	2.	2.	.01
+	2 COMBINED AT	CP1	1146.	12.50	718.	460.	460.	1.60
+	ROUTED TO	CP1R	1143.	12.50	718.	460.	460.	1.60
+	HYDROGRAPH AT	10B	3.	12.00	1.	1.	1.	.00
+	ROUTED TO	10BR	3.	12.00	1.	1.	1.	.00
+	HYDROGRAPH AT	1B	2.	12.08	1.	1.	1.	.00
+	2 COMBINED AT	1BC	5.	12.00	2.	1.	1.	.00
+	HYDROGRAPH AT	20	6.	12.08	2.	1.	1.	.01
+	ROUTED TO	20R	6.	12.08	2.	1.	1.	.01
+	HYDROGRAPH AT	2	3.	12.08	1.	1.	1.	.00
+	2 COMBINED AT	2C	9.	12.08	3.	2.	2.	.01
+	HYDROGRAPH AT	30	5.	12.08	2.	1.	1.	.00
+	ROUTED TO	30R	5.	12.08	2.	1.	1.	.00

+	HYDROGRAPH AT	3A	3.	12.00	1.	0.	0.	.00
+	HYDROGRAPH AT	3B	3.	12.08	1.	1.	1.	.00
+	3 COMBINED AT	3C	10.	12.08	4.	2.	2.	.01
+	3 COMBINED AT	3C2	23.	12.00	8.	6.	6.	.02
+	ROUTED TO	3R	23.	12.08	8.	6.	6.	.02
+	HYDROGRAPH AT	80	283.	12.50	166.	107.	107.	.41
+	3 COMBINED AT	CP2	1439.	12.50	892.	572.	572.	2.03
+	ROUTED TO	CP2R	1435.	12.50	892.	572.	572.	2.03
+	HYDROGRAPH AT	40	2.	12.08	1.	0.	0.	.00
+	ROUTED TO	40R	2.	12.08	1.	0.	0.	.00
+	HYDROGRAPH AT	4	1.	12.00	0.	0.	0.	.00
+	2 COMBINED AT	4C	3.	12.00	1.	1.	1.	.00
+	ROUTED TO	4R	3.	12.08	1.	1.	1.	.00
+	HYDROGRAPH AT	50	62.	12.17	28.	18.	18.	.07
+	ROUTED TO	50R	62.	12.17	28.	18.	18.	.07
+	HYDROGRAPH AT	5	18.	12.00	5.	3.	3.	.01
+	2 COMBINED AT	5C	73.	12.08	32.	21.	21.	.08
+	ROUTED TO	5R	73.	12.08	32.	21.	21.	.08
+	2 COMBINED AT	5C2	76.	12.08	33.	22.	22.	.09
+	HYDROGRAPH AT	60	325.	12.42	168.	110.	110.	.40
+	ROUTED TO	60R	325.	12.42	168.	110.	110.	.40
+	HYDROGRAPH AT	6A	10.	12.00	3.	2.	2.	.01
+	2 COMBINED AT	6AC	329.	12.42	171.	112.	112.	.40
+	ROUTED TO	6AR	329.	12.42	171.	112.	112.	.40

HYDROGRAPH AT	6B	9.	12.00	2.	2.	2.	.01
2 COMBINED AT	6BC	332.	12.42	173.	113.	113.	.41
ROUTED TO	6BR	332.	12.42	173.	113.	113.	.41
HYDROGRAPH AT	6C	10.	12.00	3.	2.	2.	.01
3 COMBINED AT	6CC	407.	12.17	209.	137.	137.	.50
ROUTED TO	6CR	406.	12.17	209.	137.	137.	.50
HYDROGRAPH AT	70	68.	12.08	24.	16.	16.	.06
ROUTED TO	70R	67.	12.08	24.	16.	16.	.06
HYDROGRAPH AT	7A	10.	12.33	5.	3.	3.	.01
ROUTED TO	7AR	10.	12.33	5.	3.	3.	.01
HYDROGRAPH AT	7B	7.	12.17	3.	2.	2.	.01
3 COMBINED AT	7BC	83.	12.08	32.	21.	21.	.08
ROUTED TO	7BR	82.	12.08	32.	21.	21.	.08
HYDROGRAPH AT	90	246.	12.08	107.	71.	71.	.26
4 COMBINED AT	CP3	2090.	12.17	1241.	801.	801.	2.89
ROUTED TO	CP3R	2123.	12.33	1241.	795.	795.	2.89
HYDROGRAPH AT	100	1983.	12.17	865.	563.	563.	2.23
2 COMBINED AT	100C2	3952.	12.33	2104.	1357.	1357.	5.12
2 COMBINED AT	DUM1	7896.	12.33	4208.	2715.	2715.	10.24

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
10	MANE	2.19	1089.05	751.28	9.43	5.00	1088.49	750.00	9.45

```
 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .8552E+03 OUTFLOW= .8018E+03 BASIN STORAGE= .1721E+02
PERCENT ERROR=   4.2

                 1  MANE          .39      1.01    720.93      7.90      5.00       .97    725.00        7.91

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .3842E+00 OUTFLOW= .3793E+00 BASIN STORAGE= .3893E-02
PERCENT ERROR=    .2

                1R  MANE         1.30   1139.68    751.73     10.63      5.00   1137.68    750.00       10.64

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .9054E+03 EXCESS= .0000E+00 OUTFLOW= .9047E+03 BASIN STORAGE= .5584E+00
PERCENT ERROR=    .0

                20  MANE         5.00     17.82    725.00      8.30      5.00     17.82    725.00        8.30

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .8323E+01 OUTFLOW= .8140E+01 BASIN STORAGE= .1657E+00
PERCENT ERROR=    .2

               20R  MANE          .98     18.38    726.10      9.49      5.00     18.06    725.00        9.49

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .9317E+01 EXCESS= .0000E+00 OUTFLOW= .9311E+01 BASIN STORAGE= .5731E-02
PERCENT ERROR=    .0

                 2  MANE         1.56      8.25    745.72      7.67      5.00      8.25    745.00        7.67

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .5464E+01 OUTFLOW= .5234E+01 BASIN STORAGE= .2135E+00
PERCENT ERROR=    .3

                2R  MANE         3.56     26.14    733.30      9.21      5.00     26.08    730.00        9.21

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1538E+02 EXCESS= .0000E+00 OUTFLOW= .1534E+02 BASIN STORAGE= .3475E-01
PERCENT ERROR=    .0

                80  MANE         5.00    269.66    750.00      8.49      5.00    269.66    750.00        8.49

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .1956E+03 OUTFLOW= .1854E+03 BASIN STORAGE= .9760E+01
PERCENT ERROR=    .2

               80R  MANE         1.73   1441.54    751.94     10.41      5.00   1437.21    750.00       10.42

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1132E+04 EXCESS= .0000E+00 OUTFLOW= .1131E+04 BASIN STORAGE= .8674E+00
PERCENT ERROR=    .0

                50  MANE         3.19     60.96    730.06      8.25      5.00     60.96    730.00        8.25

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .3320E+02 OUTFLOW= .3229E+02 BASIN STORAGE= .7716E+00
PERCENT ERROR=    .4

               50R  MANE         1.30     63.23    730.32      9.44      5.00     63.12    730.00        9.44
```

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3699E+02 EXCESS= .0000E+00 OUTFLOW= .3696E+02 BASIN STORAGE= .2959E-01
PERCENT ERROR= .0

5	MANE	.98	14.79	745.72	7.39	5.00	14.78	745.00	7.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .9791E+01 OUTFLOW= .9380E+01 BASIN STORAGE= .3810E+00
PERCENT ERROR= .3

60	MANE	5.00	312.30	745.00	9.07	5.00	312.30	745.00	9.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .1996E+03 OUTFLOW= .1920E+03 BASIN STORAGE= .6777E+01
PERCENT ERROR= .4

60R	MANE	1.93	324.84	744.96	10.25	5.00	324.84	745.00	10.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2173E+03 EXCESS= .0000E+00 OUTFLOW= .2171E+03 BASIN STORAGE= .2621E+00
PERCENT ERROR= .0

6	MANE	4.92	8.13	723.74	7.58	5.00	8.11	725.00	7.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .4016E+01 OUTFLOW= .3920E+01 BASIN STORAGE= .9259E-01
PERCENT ERROR= .1

6R	MANE	1.02	406.46	735.76	10.02	5.00	406.39	735.00	10.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2695E+03 EXCESS= .0000E+00 OUTFLOW= .2693E+03 BASIN STORAGE= .1754E+00
PERCENT ERROR= .0

70	MANE	2.81	66.66	724.10	8.35	5.00	65.65	725.00	8.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .2755E+02 OUTFLOW= .2712E+02 BASIN STORAGE= .3500E+00
PERCENT ERROR= .3

70R	MANE	.77	67.20	725.89	9.54	5.00	67.07	725.00	9.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3102E+02 EXCESS= .0000E+00 OUTFLOW= .3101E+02 BASIN STORAGE= .1546E-01
PERCENT ERROR= .0

7	MANE	1.11	19.22	727.26	7.54	5.00	19.01	730.00	7.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .9914E+01 OUTFLOW= .9685E+01 BASIN STORAGE= .1610E+00
PERCENT ERROR= .7

7R	MANE	.61	86.46	725.57	9.31	5.00	85.90	725.00	9.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4222E+02 EXCESS= .0000E+00 OUTFLOW= .4221E+02 BASIN STORAGE= .1440E-01
PERCENT ERROR= .0

90	MANE	4.02	238.34	728.17	8.72	5.00	237.24	725.00	8.73

```
 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .1262E+03 OUTFLOW= .1228E+03 BASIN STORAGE= .3068E+01
PERCENT ERROR=    .2

                90R  MANE        5.00   2115.39    740.00     10.19      5.00   2115.39    740.00      10.19

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1584E+04 EXCESS= .0000E+00 OUTFLOW= .1573E+04 BASIN STORAGE= .1210E+02
PERCENT ERROR=   -.1

                100  MANE        5.00   1911.13    730.00      8.14      5.00   1911.13    730.00       8.14

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .1010E+04 OUTFLOW= .9696E+03 BASIN STORAGE= .1268E+02
PERCENT ERROR=   2.7

                 10  MANE        2.19   1089.12    751.27      9.43      5.00   1088.52    750.00       9.45

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .8552E+03 OUTFLOW= .8018E+03 BASIN STORAGE= .1722E+02
PERCENT ERROR=   4.2

                  1  MANE         .81      1.04    719.70      7.88      5.00      1.01    720.00       7.88

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .3842E+00 OUTFLOW= .3784E+00 BASIN STORAGE= .2717E-02
PERCENT ERROR=    .8

                10A  MANE        1.15      4.16    744.65      7.75      5.00      4.16    745.00       7.75

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .2712E+01 OUTFLOW= .2603E+01 BASIN STORAGE= .1040E+00
PERCENT ERROR=    .2

               10AR  MANE         .50      4.36    745.43      8.94      5.00      4.36    745.00       8.95

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3007E+01 EXCESS= .0000E+00 OUTFLOW= .3006E+01 BASIN STORAGE= .9005E-03
PERCENT ERROR=    .0

                 1A  MANE         .98      1.57    720.70      7.84      5.00      1.55    720.00       7.84

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .6811E+00 OUTFLOW= .6687E+00 BASIN STORAGE= .8524E-02
PERCENT ERROR=    .6

               CP1R  MANE        1.47   1144.98    751.13     10.62      5.00   1142.56    750.00      10.63

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .9092E+03 EXCESS= .0000E+00 OUTFLOW= .9084E+03 BASIN STORAGE= .6035E+00
PERCENT ERROR=    .0

                10B  MANE        2.19      3.04    718.73      8.07      5.00      2.96    720.00       8.07

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .8658E+00 OUTFLOW= .8604E+00 BASIN STORAGE= .5207E-02
PERCENT ERROR=    .0

               10BR  MANE         .17      3.01    720.25      9.27      5.00      3.00    720.00       9.27
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 CONTINUITY SUMMARY (AC-FT) - INFLOW= .9885E+00 EXCESS= .0000E+00 OUTFLOW= .9884E+00 BASIN STORAGE= .1054E-03
PERCENT ERROR=     .0

                 1B  MANE          .82       2.28    724.67       7.95       5.00       2.27    725.00        7.95

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .9472E+00 OUTFLOW= .9331E+00 BASIN STORAGE= .1209E-01
PERCENT ERROR=     .2

                 20  MANE         2.27       5.62    724.52       8.01       5.00       5.59    725.00        8.02

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .2388E+01 OUTFLOW= .2349E+01 BASIN STORAGE= .3534E-01
PERCENT ERROR=     .2

                20R  MANE          .79       5.75    725.50       9.21       5.00       5.74    725.00        9.21

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2703E+01 EXCESS= .0000E+00 OUTFLOW= .2701E+01 BASIN STORAGE= .1347E-02
PERCENT ERROR=     .0

                  2  MANE          .32       3.01    722.80       7.84       5.00       2.94    725.00        7.84

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .1409E+01 OUTFLOW= .1380E+01 BASIN STORAGE= .1340E-01
PERCENT ERROR=    1.1

                 30  MANE          .51       5.11    723.60       7.98       5.00       4.95    725.00        7.99

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .2029E+01 OUTFLOW= .2001E+01 BASIN STORAGE= .2367E-01
PERCENT ERROR=     .2

                30R  MANE         1.67       5.05    724.18       9.18       5.00       5.05    725.00        9.18

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2303E+01 EXCESS= .0000E+00 OUTFLOW= .2301E+01 BASIN STORAGE= .2466E-02
PERCENT ERROR=     .0

                 3A  MANE         1.12       2.62    719.48       7.90       5.00       2.60    720.00        7.90

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .8066E+00 OUTFLOW= .8007E+00 BASIN STORAGE= .3446E-02
PERCENT ERROR=     .3

                 3B  MANE          .39       2.59    725.22       7.68       5.00       2.59    725.00        7.69

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .1257E+01 OUTFLOW= .1230E+01 BASIN STORAGE= .2532E-01
PERCENT ERROR=     .1

                 3R  MANE         2.14      23.27    722.94       9.10       5.00      23.06    725.00        9.11

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1099E+02 EXCESS= .0000E+00 OUTFLOW= .1098E+02 BASIN STORAGE= .1545E-01
PERCENT ERROR=     .0

                 80  MANE         5.00     269.66    750.00       8.49       5.00     269.66    750.00        8.49
```

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .1956E+03 OUTFLOW= .1854E+03 BASIN STORAGE= .9760E+01
PERCENT ERROR= .2

CP2R	MANE	1.57	1438.49	751.85	10.41	5.00	1434.70	750.00	10.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1131E+04 EXCESS= .0000E+00 OUTFLOW= .1130E+04 BASIN STORAGE= .7917E+00
PERCENT ERROR= .0

40	MANE	.81	1.62	725.23	7.94	5.00	1.62	725.00	7.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .6889E+00 OUTFLOW= .6776E+00 BASIN STORAGE= .1056E-01
PERCENT ERROR= .1

40R	MANE	.32	1.66	725.11	9.14	5.00	1.66	725.00	9.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7799E+00 EXCESS= .0000E+00 OUTFLOW= .7797E+00 BASIN STORAGE= .1571E-03
PERCENT ERROR= .0

4	MANE	1.14	1.54	719.38	7.87	5.00	1.47	720.00	7.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .4216E+00 OUTFLOW= .4198E+00 BASIN STORAGE= .9114E-03
PERCENT ERROR= .2

4R	MANE	2.53	2.99	722.38	9.09	5.00	2.84	725.00	9.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1264E+01 EXCESS= .0000E+00 OUTFLOW= .1262E+01 BASIN STORAGE= .2093E-02
PERCENT ERROR= .0

50	MANE	3.20	59.70	727.45	8.24	5.00	59.45	730.00	8.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .3252E+02 OUTFLOW= .3159E+02 BASIN STORAGE= .7563E+00
PERCENT ERROR= .5

50R	MANE	.66	61.72	730.14	9.44	5.00	61.71	730.00	9.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3623E+02 EXCESS= .0000E+00 OUTFLOW= .3621E+02 BASIN STORAGE= .1457E-01
PERCENT ERROR= .0

5	MANE	.60	17.90	720.00	7.79	5.00	17.90	720.00	7.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .5253E+01 OUTFLOW= .5196E+01 BASIN STORAGE= .1601E-01
PERCENT ERROR= .8

5R	MANE	.81	72.95	725.42	9.37	5.00	72.90	725.00	9.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4221E+02 EXCESS= .0000E+00 OUTFLOW= .4219E+02 BASIN STORAGE= .2025E-01
PERCENT ERROR= .0

60	MANE	5.00	312.30	745.00	9.07	5.00	312.30	745.00	9.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .1996E+03 OUTFLOW= .1920E+03 BASIN STORAGE= .6777E+01
PERCENT ERROR= .4

60R	MANE	.51	325.03	745.32	10.26	5.00	325.03	745.00	10.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2173E+03 EXCESS= .0000E+00 OUTFLOW= .2172E+03 BASIN STORAGE= .6850E-01
PERCENT ERROR= .0

6A	MANE	1.29	10.17	720.06	8.09	5.00	10.15	720.00	8.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .3049E+01 OUTFLOW= .3020E+01 BASIN STORAGE= .1372E-01
PERCENT ERROR= .5

6AR	MANE	.79	328.99	745.21	10.24	5.00	328.96	745.00	10.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2208E+03 EXCESS= .0000E+00 OUTFLOW= .2207E+03 BASIN STORAGE= .1090E+00
PERCENT ERROR= .0

6B	MANE	.58	8.50	720.19	7.73	5.00	8.43	720.00	7.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .2624E+01 OUTFLOW= .2597E+01 BASIN STORAGE= .1014E-01
PERCENT ERROR= .6

6BR	MANE	.79	332.34	745.61	10.22	5.00	332.32	745.00	10.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2237E+03 EXCESS= .0000E+00 OUTFLOW= .2235E+03 BASIN STORAGE= .1095E+00
PERCENT ERROR= .0

6C	MANE	1.75	10.01	720.54	7.99	5.00	9.83	720.00	7.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .3358E+01 OUTFLOW= .3323E+01 BASIN STORAGE= .2711E-01
PERCENT ERROR= .2

6CR	MANE	.94	406.94	730.56	10.05	5.00	406.43	730.00	10.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2708E+03 EXCESS= .0000E+00 OUTFLOW= .2707E+03 BASIN STORAGE= .1611E+00
PERCENT ERROR= .0

70	MANE	2.81	66.66	724.10	8.35	5.00	65.65	725.00	8.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .2755E+02 OUTFLOW= .2712E+02 BASIN STORAGE= .3500E+00
PERCENT ERROR= .3

70R	MANE	1.26	67.06	725.60	9.54	5.00	66.63	725.00	9.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3103E+02 EXCESS= .0000E+00 OUTFLOW= .3100E+02 BASIN STORAGE= .2527E-01
PERCENT ERROR= .0

7A	MANE	.91	9.43	739.07	7.48	5.00	9.43	740.00	7.47

```
 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .5860E+01 OUTFLOW= .5661E+01 BASIN STORAGE= .1322E+00
PERCENT ERROR=   1.1

                7AR  MANE         2.02      9.88    732.75      8.65      5.00      9.88    740.00        8.66

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .6564E+01 EXCESS= .0000E+00 OUTFLOW= .6557E+01 BASIN STORAGE= .7618E-02
PERCENT ERROR=    .0

                 7B  MANE          .66      6.63    731.34      7.50      5.00      6.62    730.00        7.50

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .3962E+01 OUTFLOW= .3839E+01 BASIN STORAGE= .6110E-01
PERCENT ERROR=   1.6

                7BR  MANE          .76     82.59    725.80      9.29      5.00     81.69    725.00        9.29

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .4201E+02 EXCESS= .0000E+00 OUTFLOW= .4199E+02 BASIN STORAGE= .2048E-01
PERCENT ERROR=    .0

                 90  MANE         4.02    238.34    728.17      8.72      5.00    237.24    725.00        8.73

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .1262E+03 OUTFLOW= .1228E+03 BASIN STORAGE= .3068E+01
PERCENT ERROR=    .2

               CP3R  MANE         5.00   2123.46    740.00     10.20      5.00   2123.46    740.00       10.20

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1585E+04 EXCESS= .0000E+00 OUTFLOW= .1573E+04 BASIN STORAGE= .1210E+02
PERCENT ERROR=   -.1

                100  MANE         5.00   1911.13    730.00      8.14      5.00   1911.13    730.00        8.14

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .0000E+00 EXCESS= .1010E+04 OUTFLOW= .9696E+03 BASIN STORAGE= .1268E+02
PERCENT ERROR=   2.7


 *** NORMAL END OF HEC-1 ***
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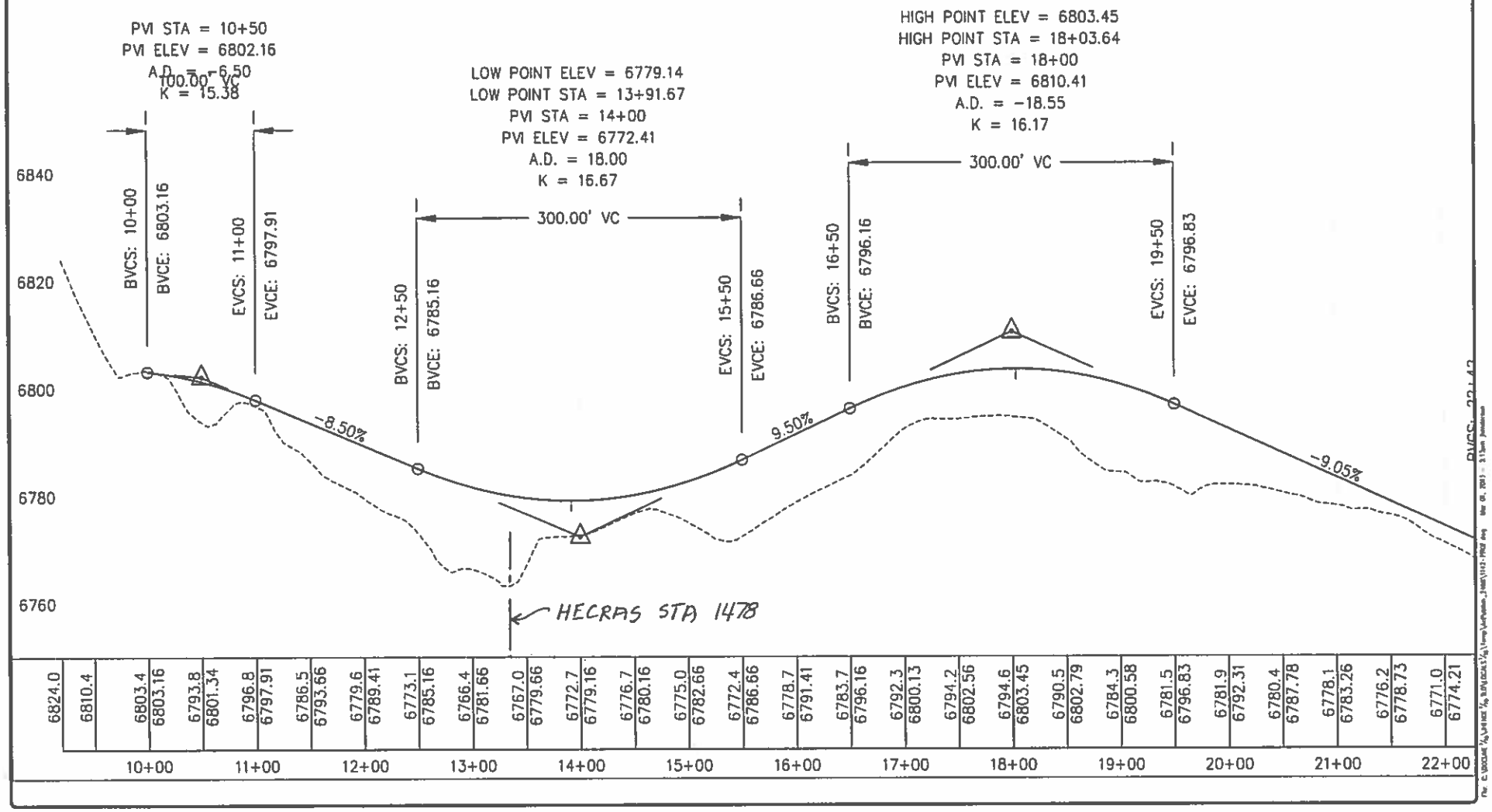
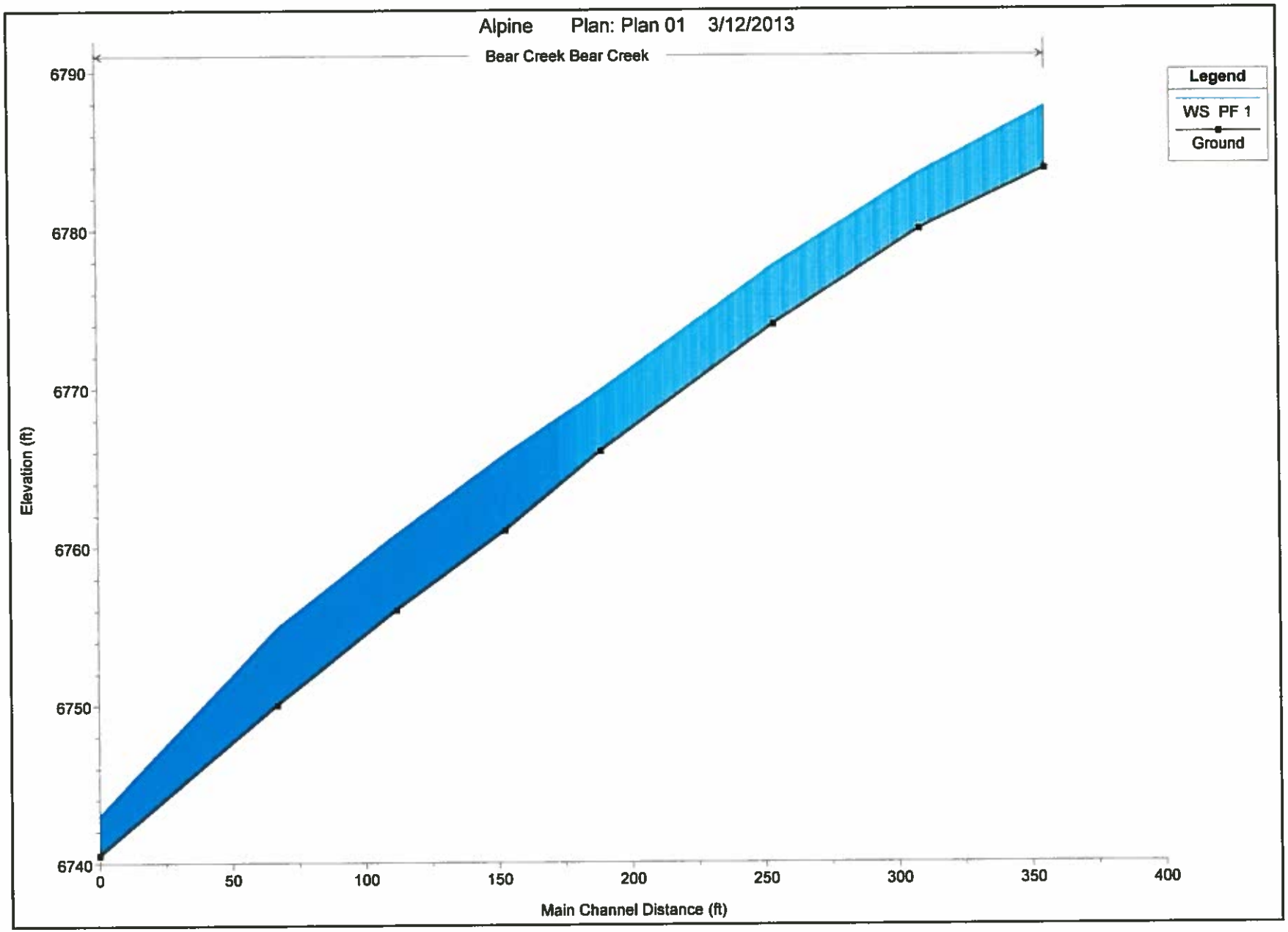
APPENDIX SB

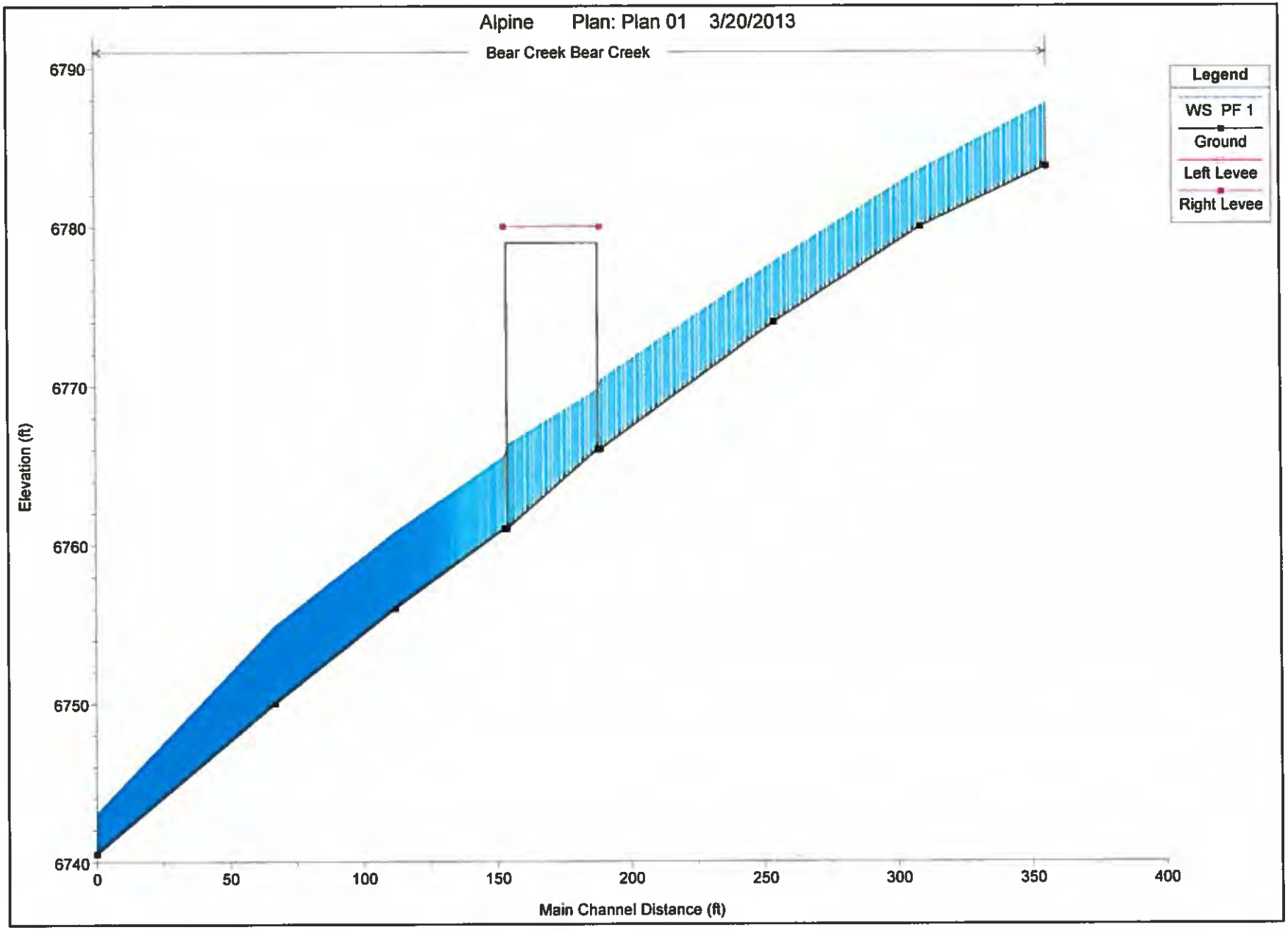
ROAD ALIGNMENT "A"
(STA. 10+00 TO 22+00)

SCALE:
H: 1"= 40'
V: 1"= 8'





Profile
PREPROJECT



Profile
POST PROJECT

Alpine HECRAS Alpnobr.prj

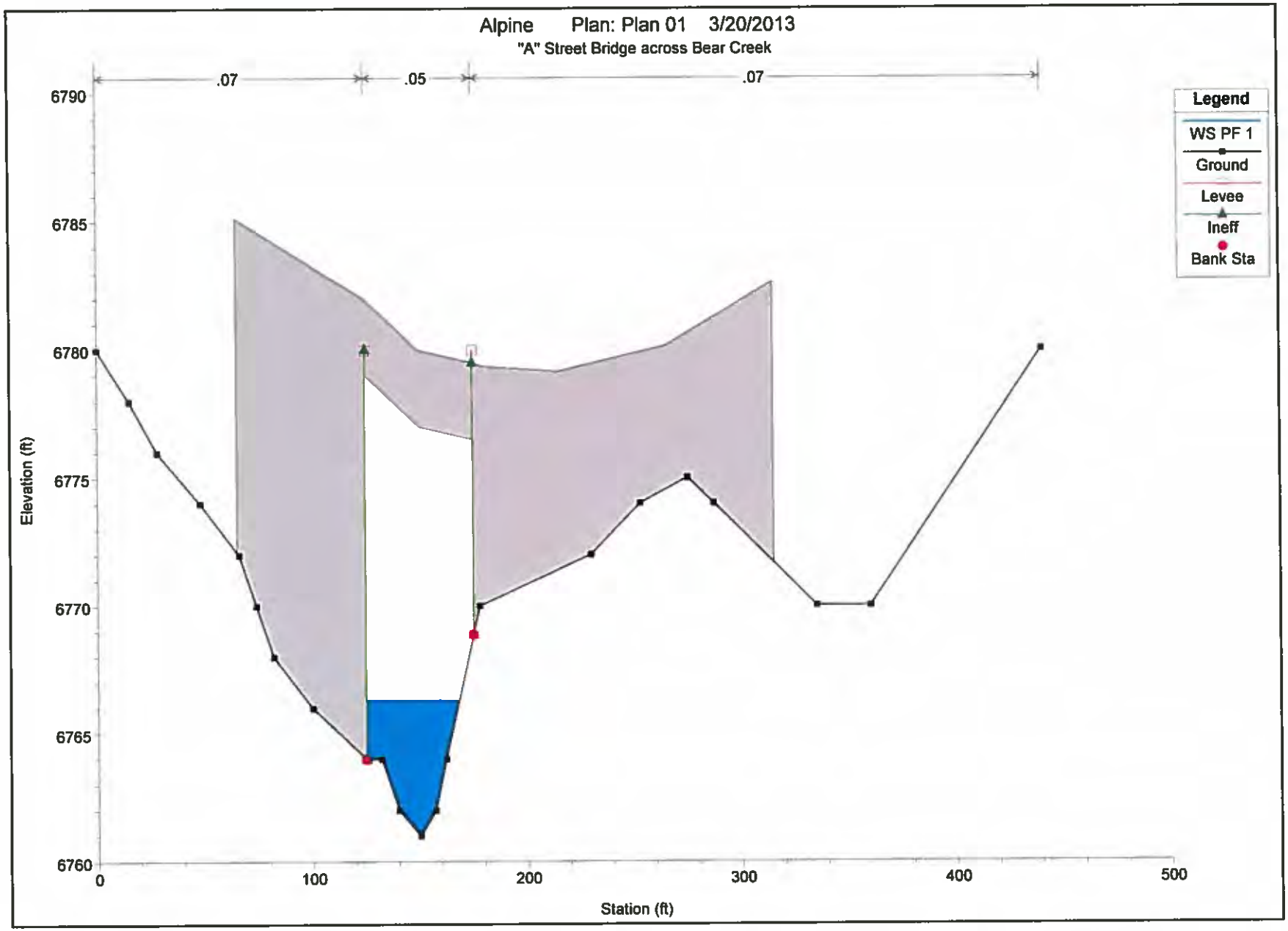
HEC-RAS Plan: Plan 01 River: Bear Creek Reach: Bear Creek Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Bear Creek	1303	PF 1	1141.00	6740.50	6743.04	6742.13	6743.50	0.015011	6.18	214.38	84.82	0.72
Bear Creek	1374	PF 1	1141.00	6750.00	6754.88	6754.88	6756.47	0.020646	10.46	124.43	47.05	0.94
Bear Creek	1419	PF 1	1141.00	6756.00	6760.79	6760.79	6762.35	0.024369	10.07	116.17	42.66	0.97
Bear Creek	1460	PF 1	1141.00	6761.00	6765.83	6765.83	6767.15	0.018905	9.57	141.44	64.10	0.88
Bear Creek	1496	PF 1	1141.00	6766.00	6769.91	6769.91	6771.06	0.029065	8.60	132.66	58.38	1.01
Bear Creek	1586	PF 1	1141.00	6774.00	6777.79	6777.79	6779.12	0.027867	9.26	123.24	47.05	1.01
Bear Creek	1661	PF 1	1141.00	6780.00	6783.59	6783.59	6784.95	0.027988	9.35	122.06	45.78	1.01
Bear Creek	1716	PF 1	1141.00	6783.80	6787.76	6787.76	6789.29	0.027579	9.92	115.07	37.99	1.00

Alpine HECRAS Alpbr.prj 50' bridge span

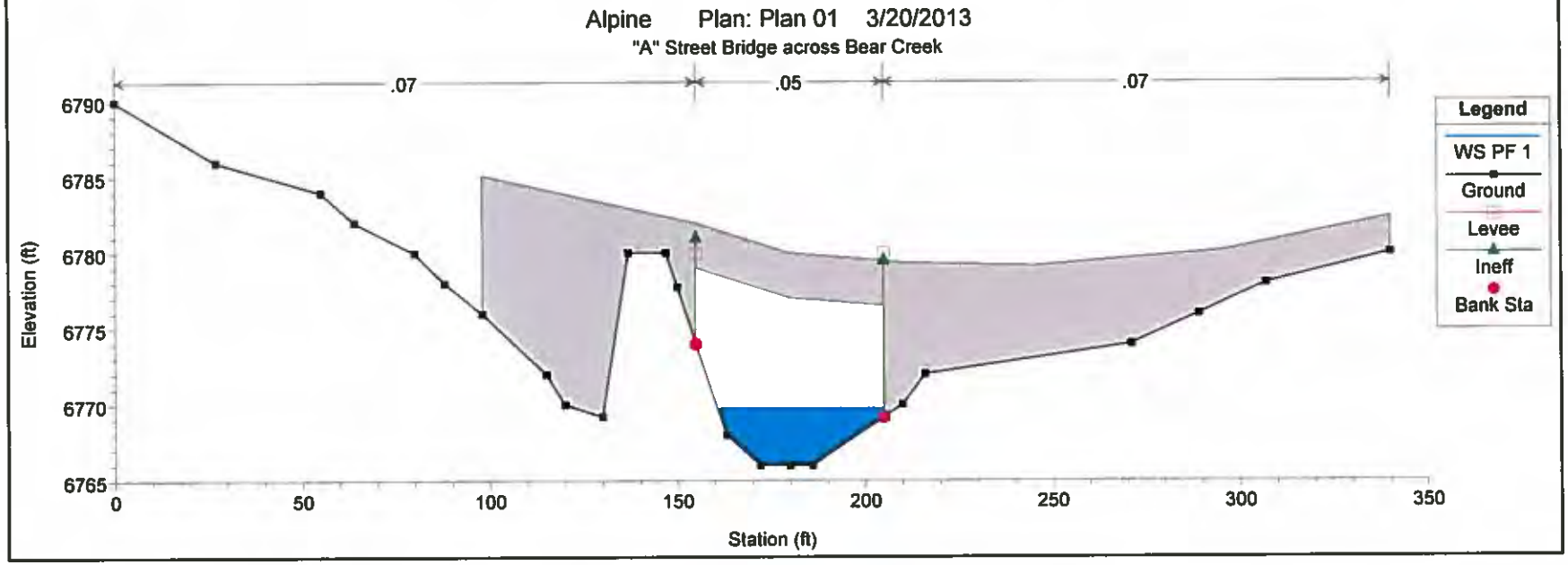
HEC-RAS Plan: Plan 01 River: Bear Creek Reach: Bear Creek Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Bear Creek	1303	PF 1	1141.00	6740.50	6743.04	6742.13	6743.50	0.015011	6.18	214.38	64.82	0.72
Bear Creek	1374	PF 1	1141.00	6750.00	6754.88	6754.88	6756.47	0.020646	10.46	124.43	47.05	0.94
Bear Creek	1419	PF 1	1141.00	6756.00	6760.79	6760.79	6762.35	0.024369	10.07	116.17	42.66	0.97
Bear Creek	1460	PF 1	1141.00	6761.00	6765.60	6765.60	6767.05	0.028343	9.67	117.98	41.26	1.01
Bear Creek	1478		Bridge									
Bear Creek	1496	PF 1	1141.00	6766.00	6770.39	6769.80	6771.30	0.014521	7.66	149.04	45.18	0.74
Bear Creek	1586	PF 1	1141.00	6774.00	6777.79	6777.79	6779.12	0.027781	9.25	123.38	47.07	1.01
Bear Creek	1661	PF 1	1141.00	6780.00	6783.59	6783.59	6784.95	0.027988	9.35	122.06	45.78	1.01
Bear Creek	1716	PF 1	1141.00	6783.80	6787.76	6787.76	6789.29	0.027579	9.92	115.07	37.99	1.00



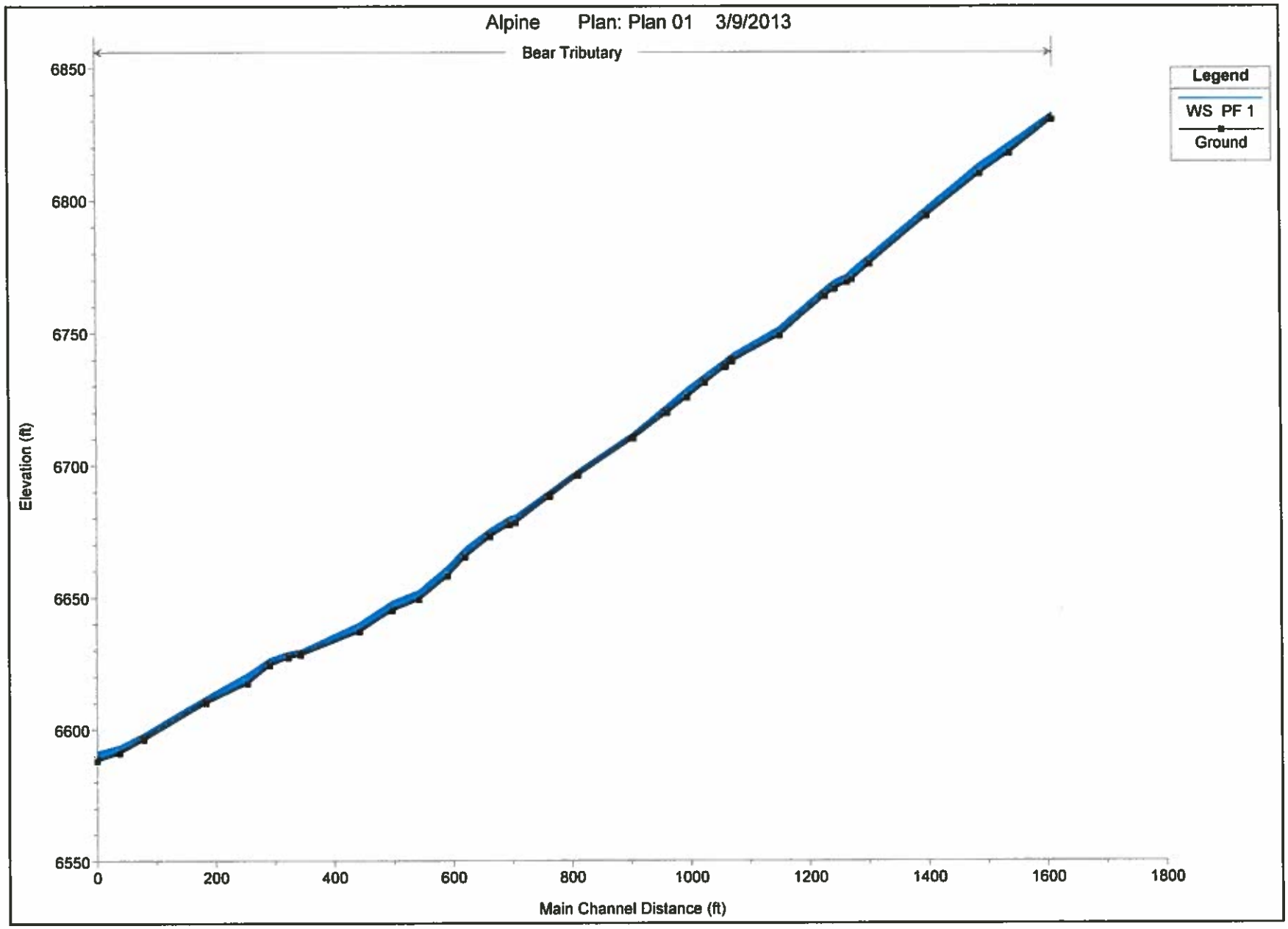
Downstream inside

No Data for Plot

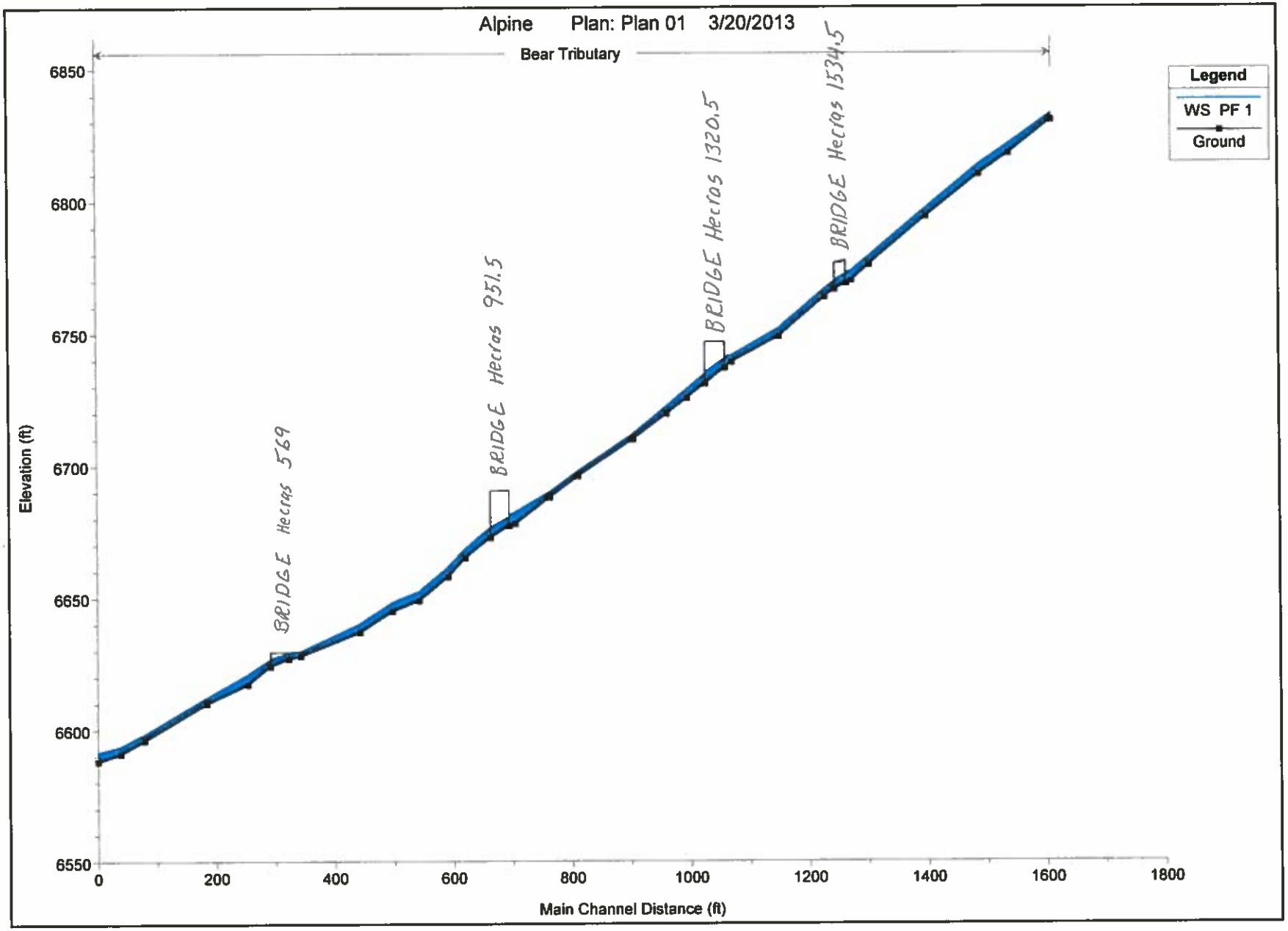


Upstream inside

APPENDIX SC



Profile
Pre Project



Profile
Post Project

Alpine atrnobr.prj

HEC-RAS Plan: Plan 01 River: Bear Reach: Tributary Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Tributary	265	PF 1	407.00	6588.00	6591.73	6591.73	6592.51	0.018486	7.73	70.48	47.09	0.82
Tributary	305	PF 1	407.00	6591.00	6594.00	6594.00	6594.91	0.024216	8.47	84.66	42.11	0.94
Tributary	350	PF 1	407.00	6596.00	6598.61	6598.61	6599.56	0.029014	8.33	56.24	31.95	1.00
Tributary	450	PF 1	407.00	6610.00	6612.56	6612.56	6613.32	0.031387	7.04	58.85	41.72	0.99
Tributary	520	PF 1	407.00	6617.40	6621.31	6621.31	6622.39	0.022937	10.44	61.98	29.53	0.97
Tributary	553	PF 1	407.00	6624.20	6626.97	6626.97	6627.75	0.025919	7.22	61.89	44.97	0.93
Tributary	585	PF 1	407.00	6627.00	6629.37	6629.37	6629.94	0.023298	6.86	84.49	82.08	0.88
Tributary	610	PF 1	370.00	6628.00	6630.03	6630.03	6630.52	0.024996	5.98	76.31	80.10	0.88
Tributary	710	PF 1	370.00	6637.00	6640.47	6640.47	6641.52	0.022136	9.04	54.38	29.35	0.92
Tributary	765	PF 1	370.00	6645.00	6648.53	6648.53	6649.51	0.021505	9.01	57.48	31.50	0.91
Tributary	810	PF 1	370.00	6649.00	6652.67	6652.67	6653.80	0.021918	9.36	51.84	25.12	0.93
Tributary	860	PF 1	370.00	6658.00	6661.78	6661.78	6662.92	0.023788	8.83	47.81	23.90	0.93
Tributary	890	PF 1	370.00	6665.10	6668.71	6668.71	6669.84	0.019391	8.79	62.24	39.46	0.87
Tributary	935	PF 1	370.00	6672.70	6675.71	6675.71	6676.58	0.023304	7.97	57.59	37.50	0.91
Tributary	968	PF 1	332.00	6677.30	6680.32	6680.32	6681.24	0.022793	8.59	52.37	31.06	0.93
Tributary	978	PF 1	332.00	6678.00	6680.93	6680.93	6681.84	0.028419	7.69	45.00	27.27	0.97
Tributary	1038	PF 1	332.00	6688.00	6690.22	6690.22	6690.80	0.033398	6.16	55.18	52.40	0.98
Tributary	1086	PF 1	332.00	6696.00	6698.01	6698.01	6698.53	0.037675	5.79	57.39	57.15	1.02
Tributary	1179	PF 1	332.00	6710.00	6712.13	6712.13	6712.71	0.036080	6.11	54.39	49.34	1.01
Tributary	1236	PF 1	332.00	6719.60	6722.69	6722.69	6723.61	0.023419	9.19	53.89	30.87	0.95
Tributary	1271	PF 1	332.00	6725.50	6729.02	6729.02	6730.00	0.022906	9.81	53.51	28.47	0.96
Tributary	1303	PF 1	332.00	6731.00	6734.10	6734.10	6735.14	0.023922	8.63	46.17	24.74	0.94
Tributary	1338	PF 1	332.00	6737.00	6739.87	6739.87	6740.78	0.024126	8.14	49.42	29.93	0.93
Tributary	1348	PF 1	332.00	6739.20	6741.87	6741.87	6742.80	0.025227	8.12	48.18	28.71	0.95
Tributary	1428	PF 1	332.00	6748.90	6752.18	6752.18	6753.24	0.023410	8.78	46.32	24.52	0.94
Tributary	1508	PF 1	332.00	6763.70	6766.84	6766.84	6767.74	0.024936	9.69	55.12	31.26	0.99
Tributary	1524	PF 1	332.00	6766.50	6769.78	6769.78	6770.67	0.022305	8.11	51.10	31.75	0.90
Tributary	1545	PF 1	332.00	6769.00	6772.05	6772.05	6772.99	0.023290	8.40	49.78	29.23	0.93
Tributary	1555	PF 1	329.00	6770.00	6773.83	6773.83	6774.89	0.023011	8.68	45.58	24.68	0.91
Tributary	1585	PF 1	329.00	6776.00	6779.29	6779.29	6780.29	0.026002	8.17	43.58	24.33	0.95
Tributary	1681	PF 1	329.00	6794.00	6797.37	6797.37	6798.44	0.026266	8.40	41.97	21.84	0.96
Tributary	1771	PF 1	325.00	6810.00	6813.97	6813.97	6815.08	0.023202	8.89	44.00	22.58	0.91
Tributary	1821	PF 1	325.00	6817.80	6821.66	6821.66	6822.91	0.024487	9.19	39.55	18.19	0.93
Tributary	1893	PF 1	325.00	6830.50	6833.14	6833.14	6834.04	0.028753	7.66	44.18	26.43	0.98

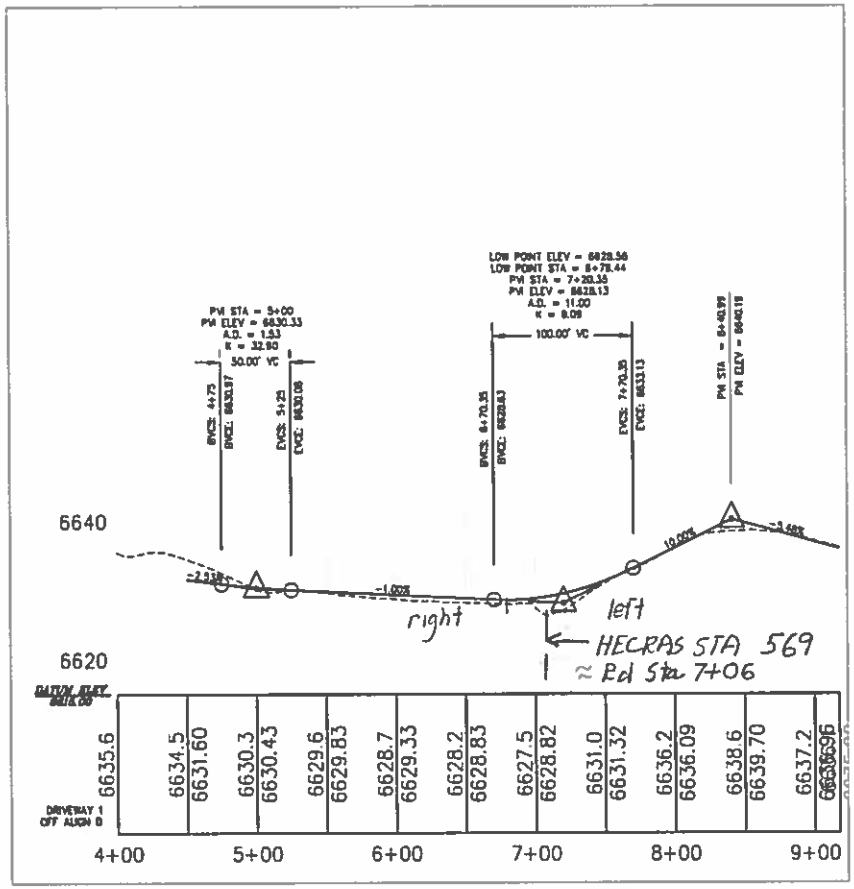
atrbrx.prj w/40' long Bridge @ 569 & raise road to 6630.5

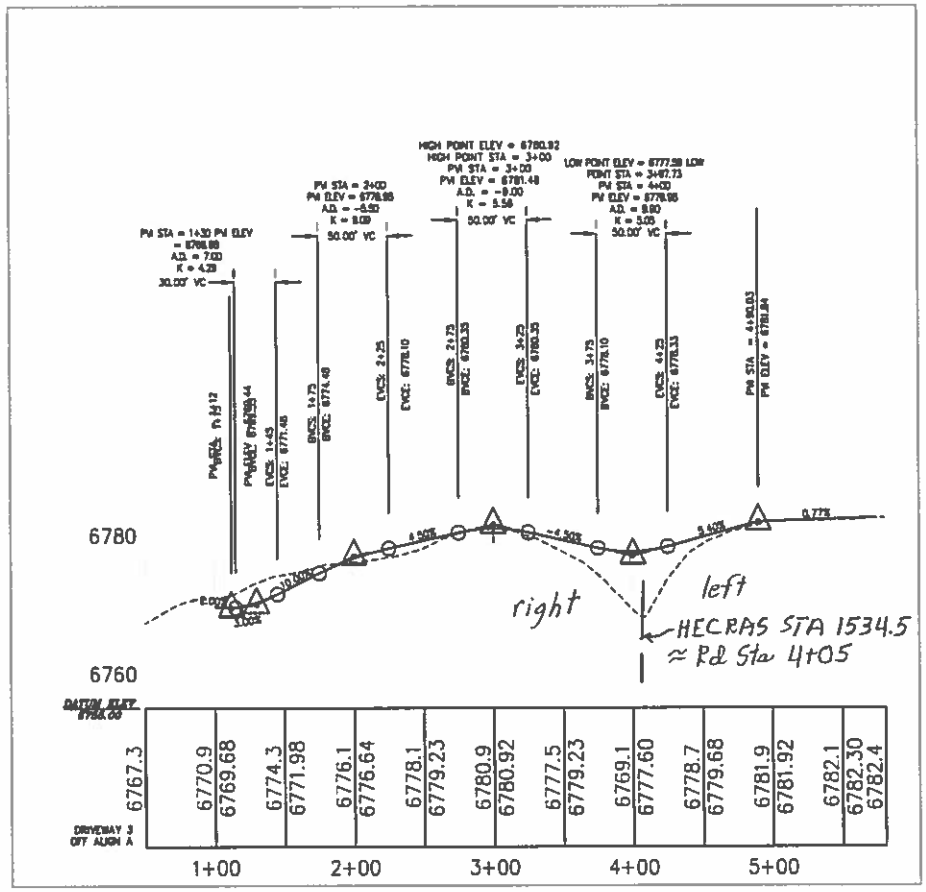
HEC-RAS Plan: Plan 01 River: Bear Reach: Tributary Profile: PF 1

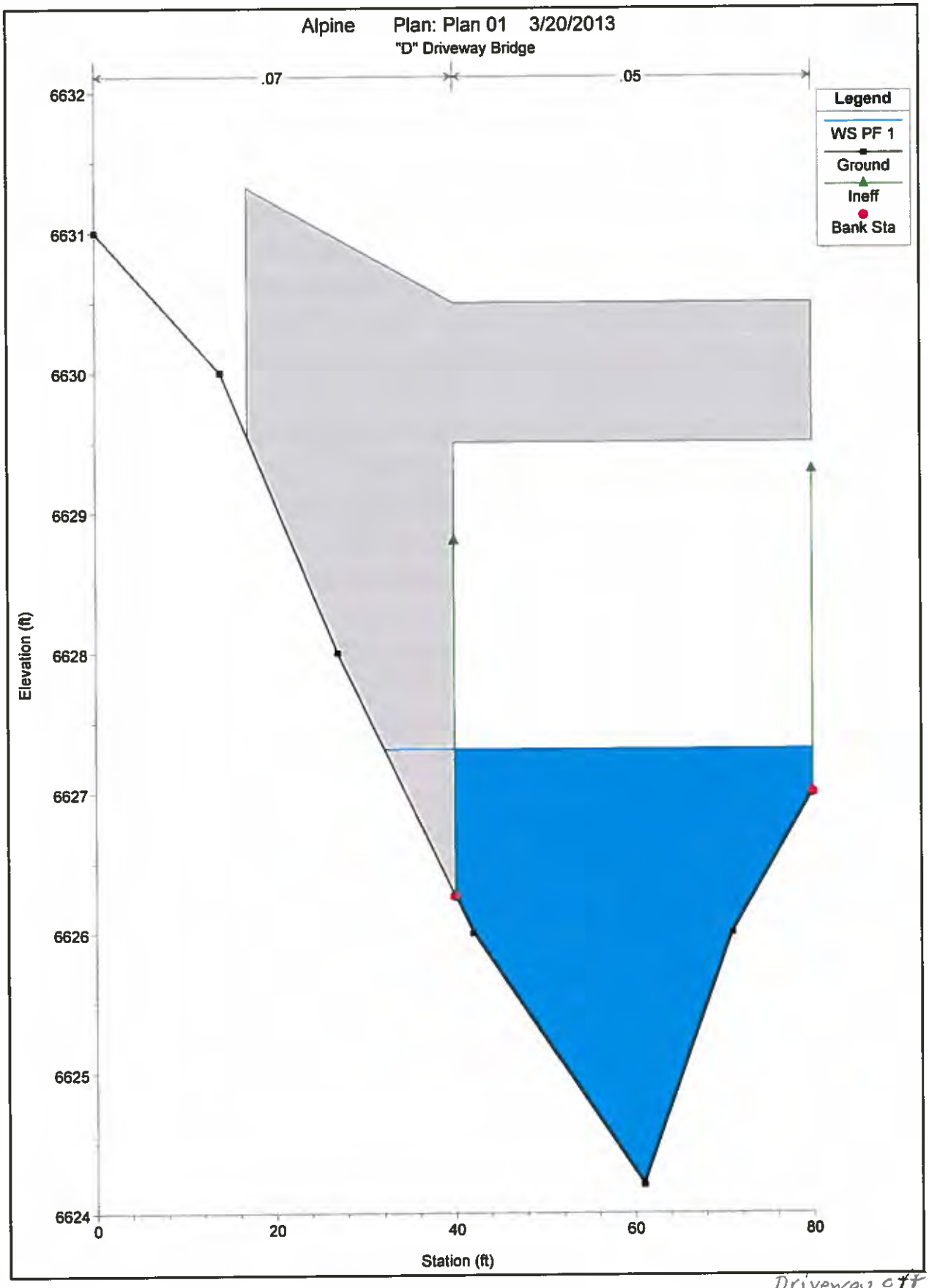
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Tributary	265	PF 1	407.00	6588.00	6591.73	6591.73	6592.51	0.018486	7.73	70.48	47.09	0.82
Tributary	305	PF 1	407.00	6591.00	6594.00	6594.00	6594.91	0.024216	8.47	84.66	42.11	0.94
Tributary	350	PF 1	407.00	6596.00	6598.61	6598.61	6599.58	0.029014	8.33	56.24	31.95	1.00
Tributary	450	PF 1	407.00	6610.00	6612.56	6612.56	6613.32	0.031387	7.04	58.85	41.72	0.99
Tributary	520	PF 1	407.00	6617.40	6621.31	6621.31	6622.39	0.022937	10.44	61.98	29.53	0.97
Tributary	553	PF 1	407.00	6624.20	6626.93	6626.93	6627.68	0.032591	6.95	58.54	44.34	1.00
Tributary	569		Bridge									
Tributary	585	PF 1	407.00	6627.00	6629.66	6629.33	6630.15	0.015921	5.58	72.95	94.66	0.73
Tributary	610	PF 1	370.00	6628.00	6630.09		6630.52	0.020850	5.62	81.55	80.33	0.81
Tributary	710	PF 1	370.00	6637.00	6640.47	6640.47	6641.52	0.022136	9.04	54.38	29.35	0.92
Tributary	765	PF 1	370.00	6645.00	6648.53	6648.53	6649.51	0.021505	9.01	57.48	31.50	0.91
Tributary	810	PF 1	370.00	6649.00	6652.67	6652.67	6653.80	0.021918	9.36	51.84	25.12	0.93
Tributary	860	PF 1	370.00	6658.00	6661.78	6661.78	6662.92	0.023788	8.83	47.81	23.90	0.93
Tributary	890	PF 1	370.00	6665.10	6668.71	6668.71	6669.64	0.019391	8.79	62.24	39.46	0.87
Tributary	935	PF 1	370.00	6672.70	6676.64	6676.64	6678.35	0.023923	10.52	35.16	50.52	0.99
Tributary	951.5		Bridge									
Tributary	968	PF 1	332.00	6677.30	6681.59	6680.66	6682.68	0.012713	8.36	39.72	43.13	0.74
Tributary	978	PF 1	332.00	6678.00	6682.60		6682.82	0.003167	3.88	102.52	50.53	0.36
Tributary	1038	PF 1	332.00	6688.00	6690.22	6690.22	6690.80	0.033398	6.16	55.18	52.40	0.98
Tributary	1086	PF 1	332.00	6696.00	6698.01	6698.01	6698.53	0.037675	5.79	57.39	57.15	1.02
Tributary	1179	PF 1	332.00	6710.00	6712.13	6712.13	6712.71	0.036080	6.11	54.39	49.34	1.01
Tributary	1236	PF 1	332.00	6719.60	6722.69	6722.69	6723.61	0.023419	9.19	53.89	30.87	0.95
Tributary	1271	PF 1	332.00	6725.50	6729.02	6729.02	6730.00	0.022906	9.81	53.51	28.47	0.96
Tributary	1303	PF 1	332.00	6731.00	6734.68	6734.68	6736.28	0.024308	10.13	32.77	27.98	0.99
Tributary	1320.5		Bridge									
Tributary	1338	PF 1	332.00	6737.00	6741.30	6740.65	6742.41	0.013304	8.46	39.25	40.49	0.75
Tributary	1348	PF 1	332.00	6739.20	6741.87	6741.87	6742.80	0.025227	8.12	48.18	28.71	0.95
Tributary	1428	PF 1	332.00	6748.90	6752.18	6752.18	6753.24	0.023410	8.78	46.32	24.52	0.94
Tributary	1508	PF 1	332.00	6763.70	6766.84	6766.84	6767.74	0.024936	9.69	55.12	31.26	0.99
Tributary	1524	PF 1	332.00	6766.50	6769.78	6769.78	6770.67	0.022305	8.11	51.10	31.75	0.90
Tributary	1534.5		Bridge									
Tributary	1545	PF 1	332.00	6769.00	6773.33	6772.65	6774.43	0.013135	8.43	39.39	39.33	0.75
Tributary	1555	PF 1	329.00	6770.00	6773.83	6773.83	6774.89	0.023011	8.68	45.58	24.68	0.91
Tributary	1585	PF 1	329.00	6776.00	6779.29	6779.29	6780.29	0.026002	8.17	43.58	24.33	0.95
Tributary	1681	PF 1	329.00	6794.00	6797.37	6797.37	6798.44	0.026266	8.40	41.97	21.84	0.96
Tributary	1771	PF 1	325.00	6810.00	6813.97	6813.97	6815.08	0.023202	8.89	44.00	22.58	0.91
Tributary	1821	PF 1	325.00	6817.80	6821.66	6821.66	6822.91	0.024487	9.19	39.55	18.19	0.93
Tributary	1893	PF 1	325.00	6830.50	6833.14	6833.14	6834.04	0.028753	7.66	44.18	26.43	0.98

DRIVEWAY 1 OFF ROAD ALIGNMENT "D"
DRIVEWAY 3 OFF ROAD ALIGNMENT "A"

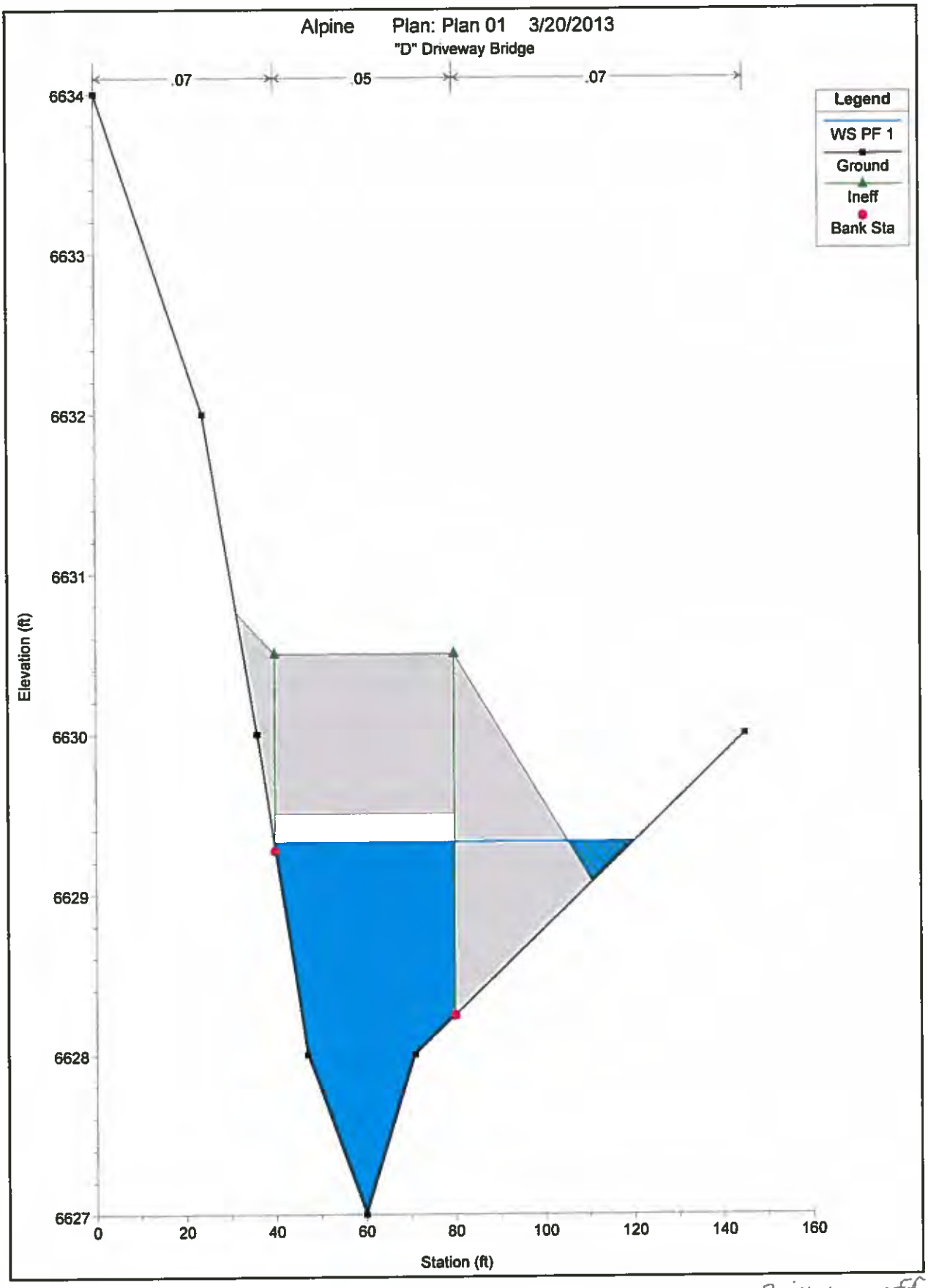
SCALE:
H: 1"= 40'
V: 1"= 8'







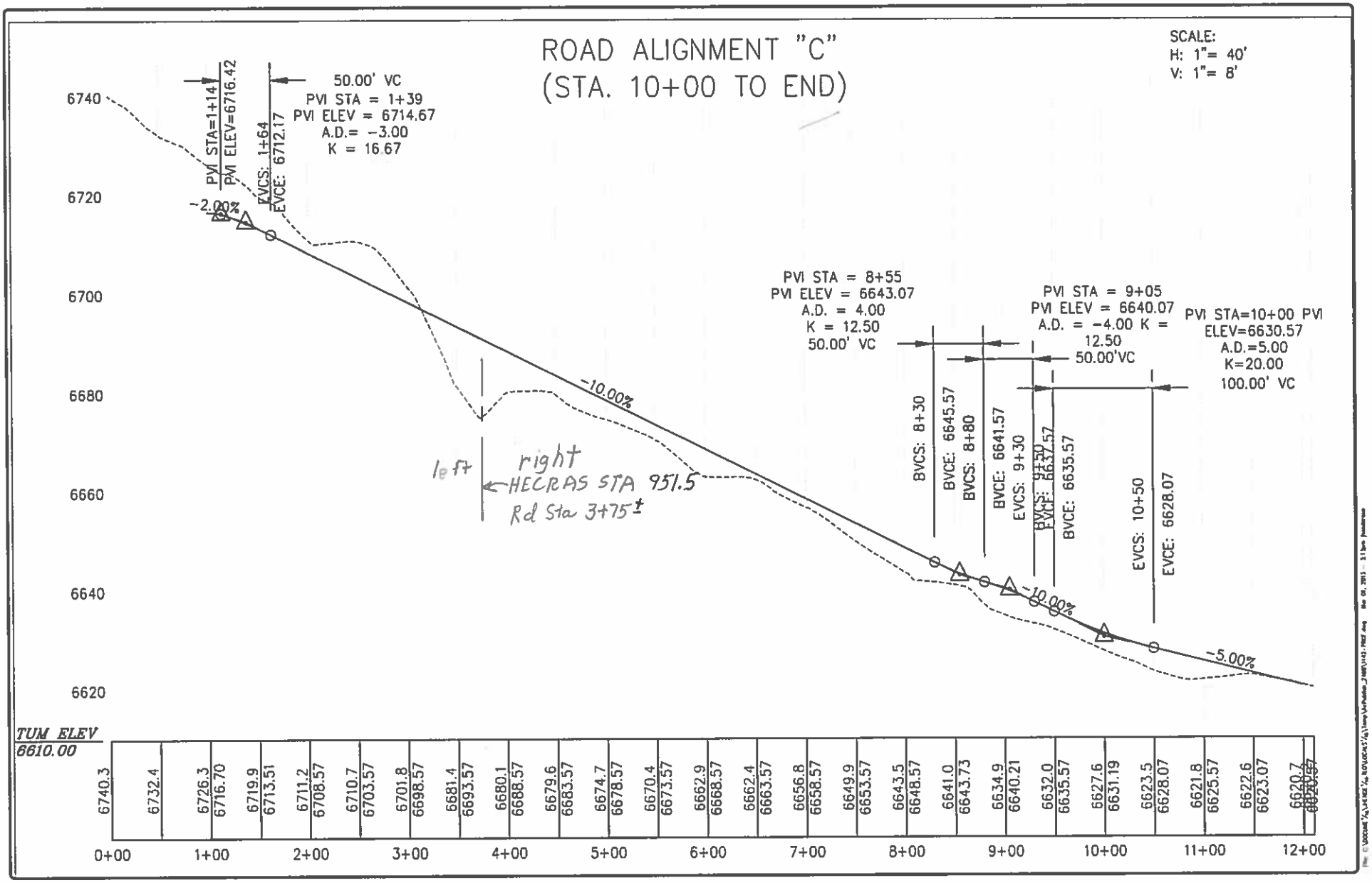
Driveway off Rd "D"
BRIDGE @ 569
Downstream inside

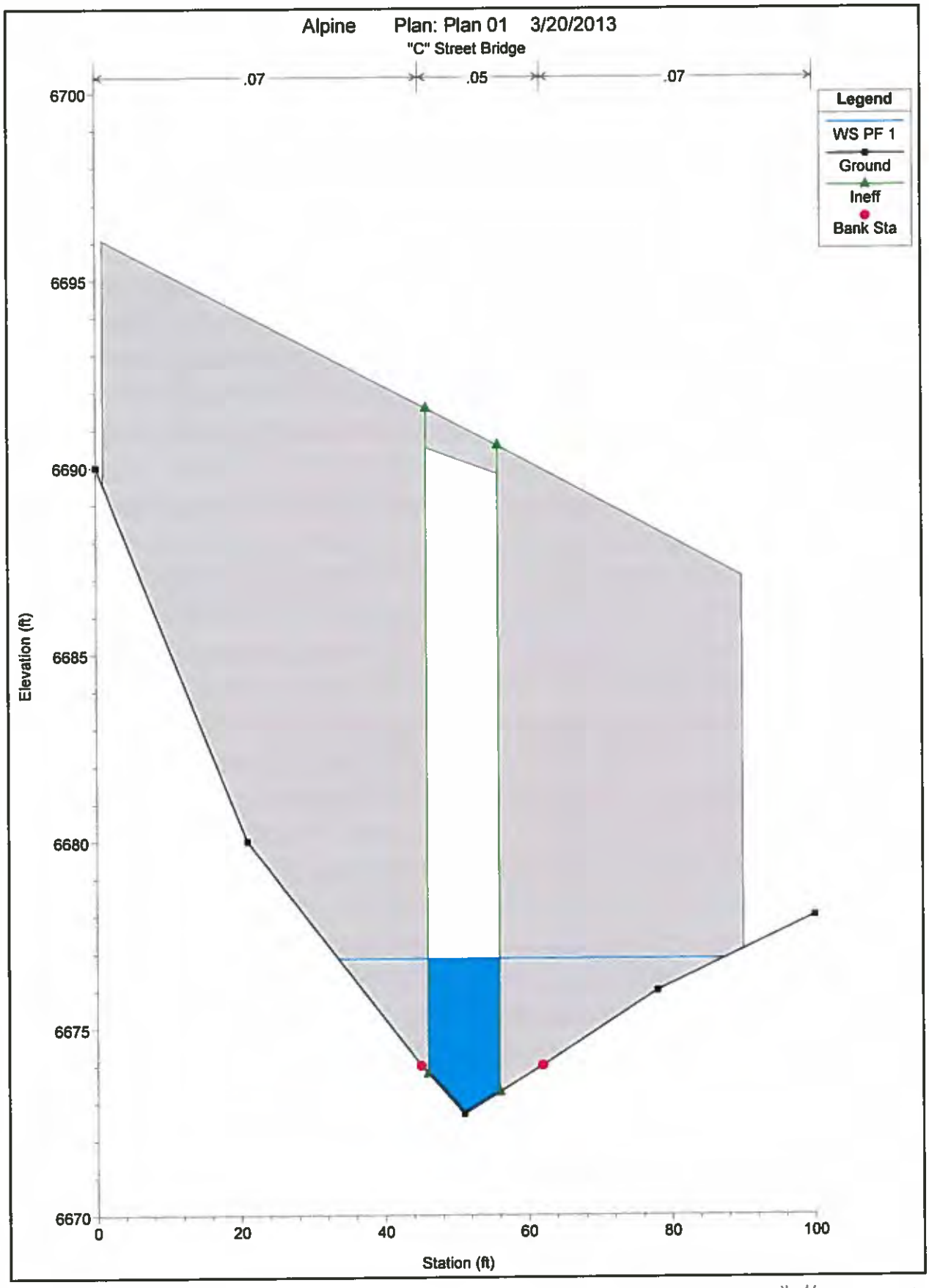


Driveway off Rd "D"
Bridge @ 569
Upstream inside

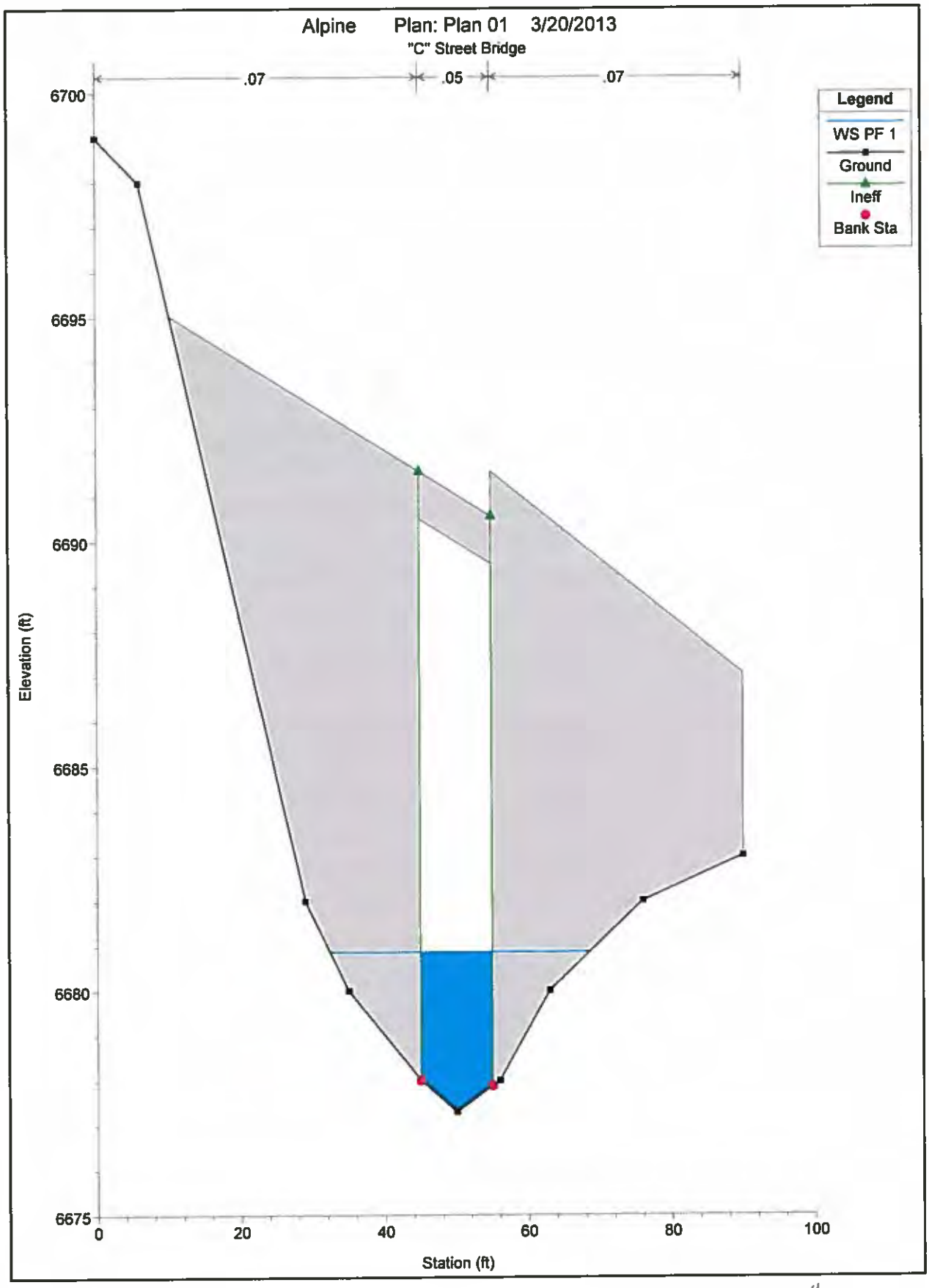
ROAD ALIGNMENT "C"
(STA. 10+00 TO END)

SCALE:
H: 1"= 40'
V: 1"= 8'





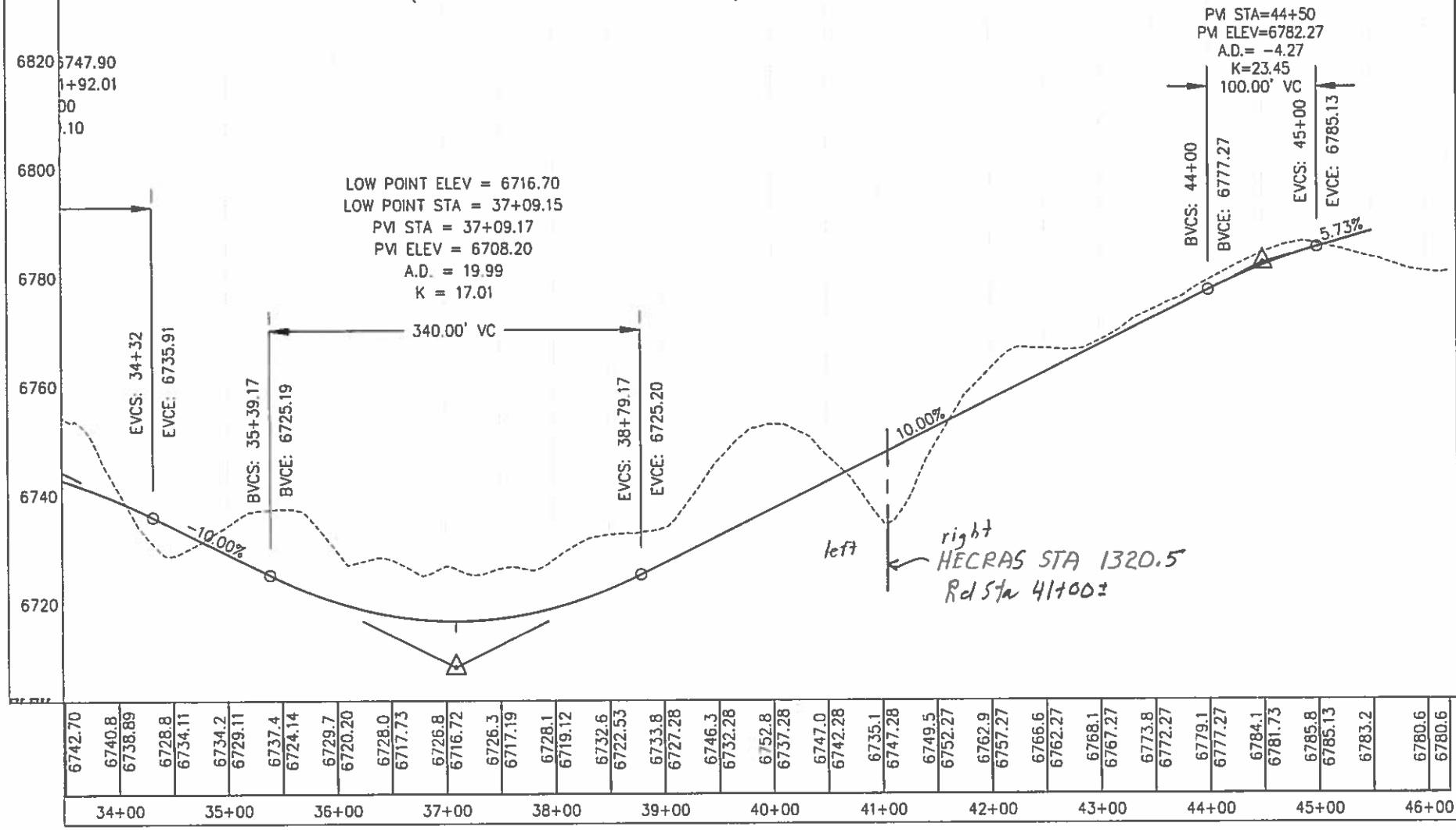
"C" Str. Bridge
@ 951.5
downstream inside

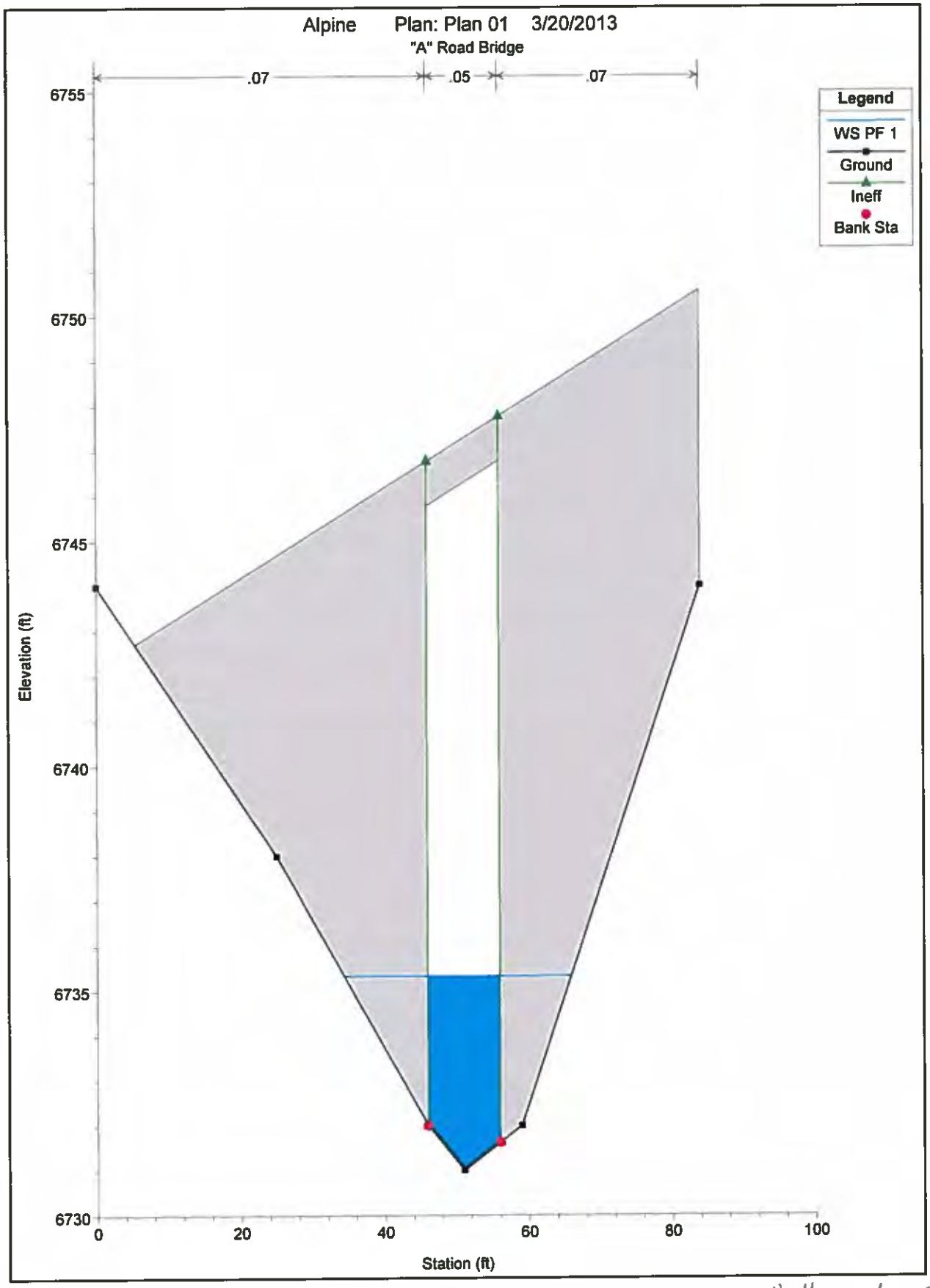


"C" Str. Bridge
@ 951.5
upstream inside

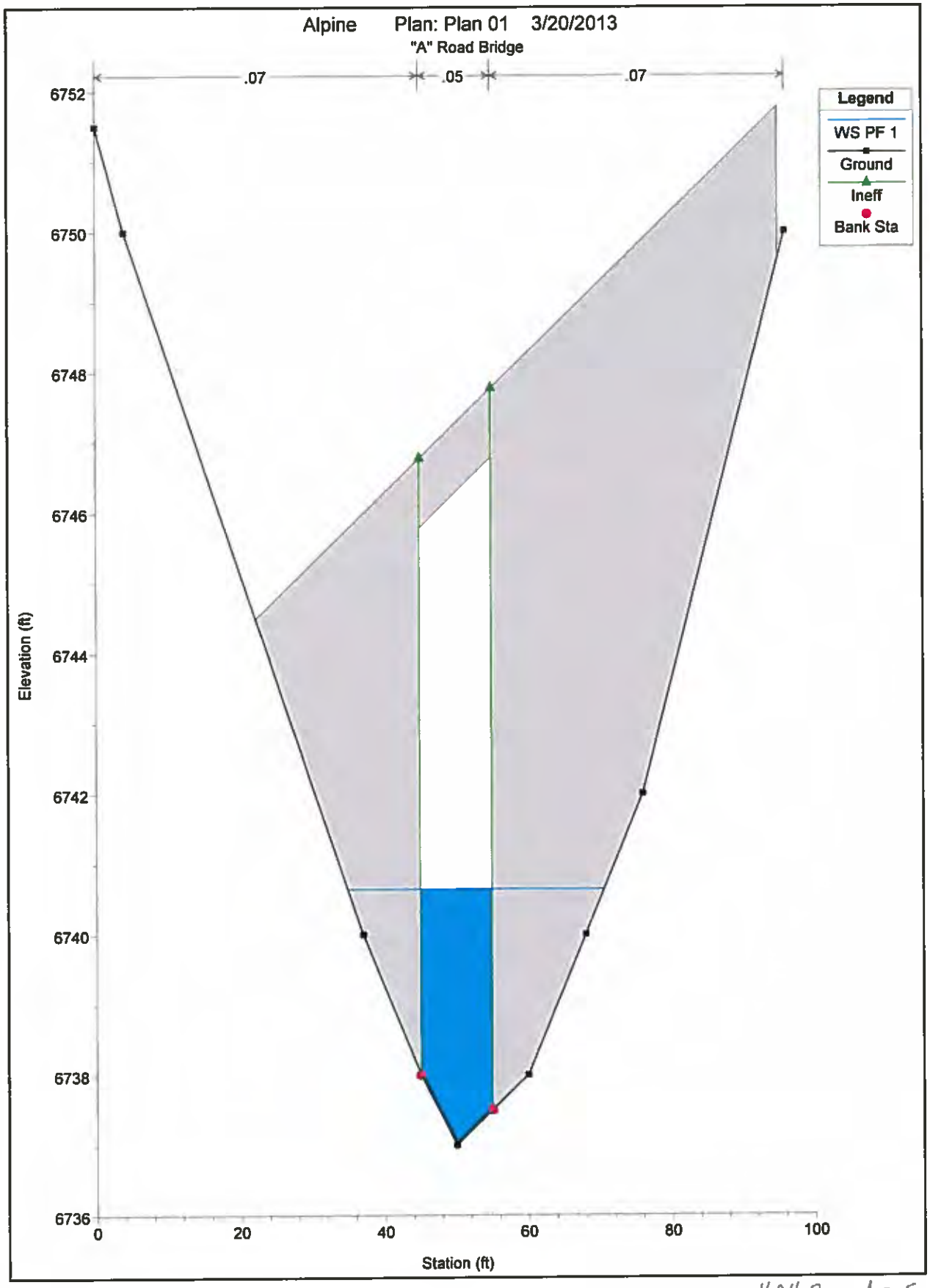
ROAD ALIGNMENT "A"
(STA. 34+00 TO END)

SCALE:
H: 1"= 40'
V: 1"= 8'

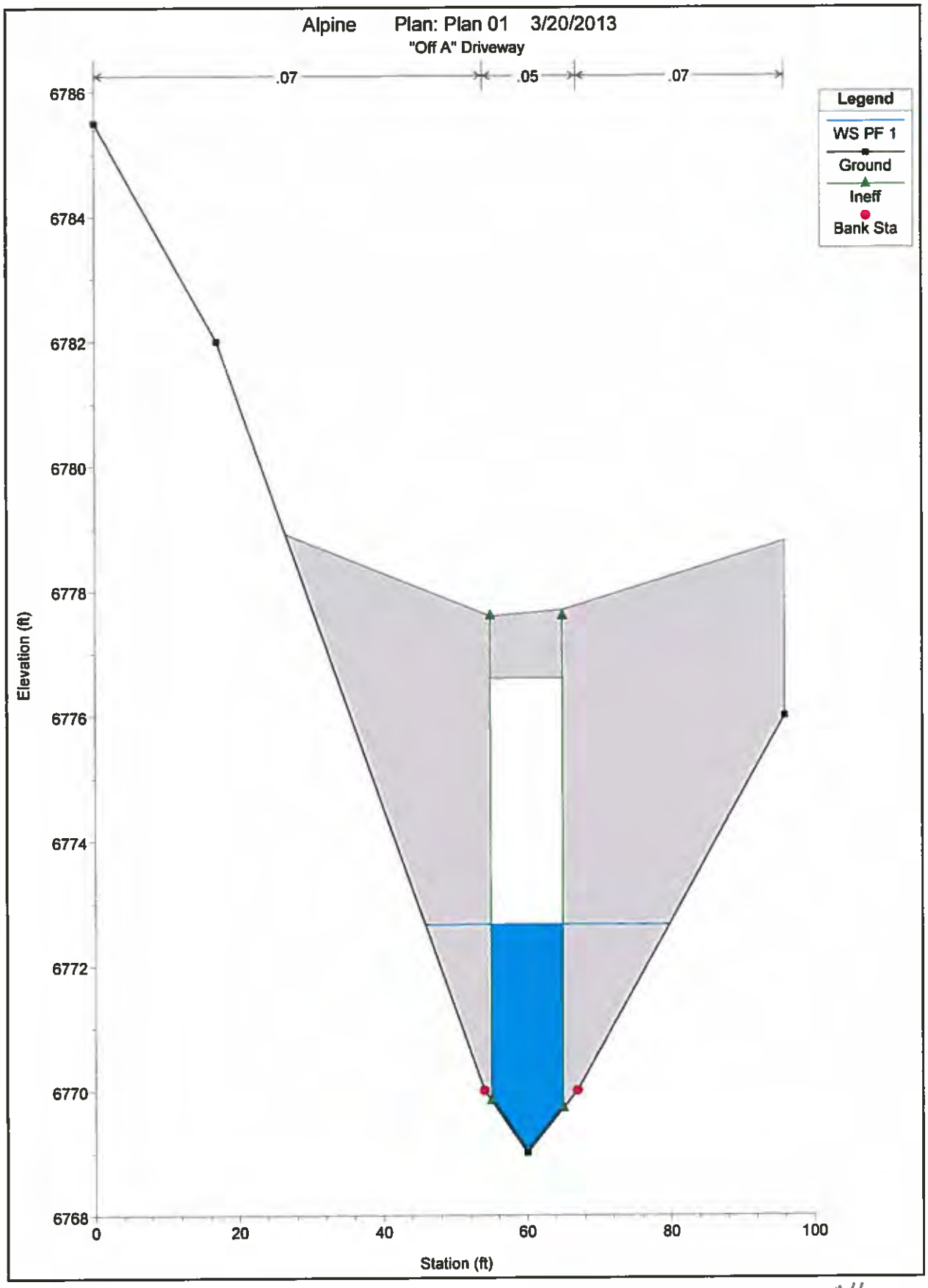




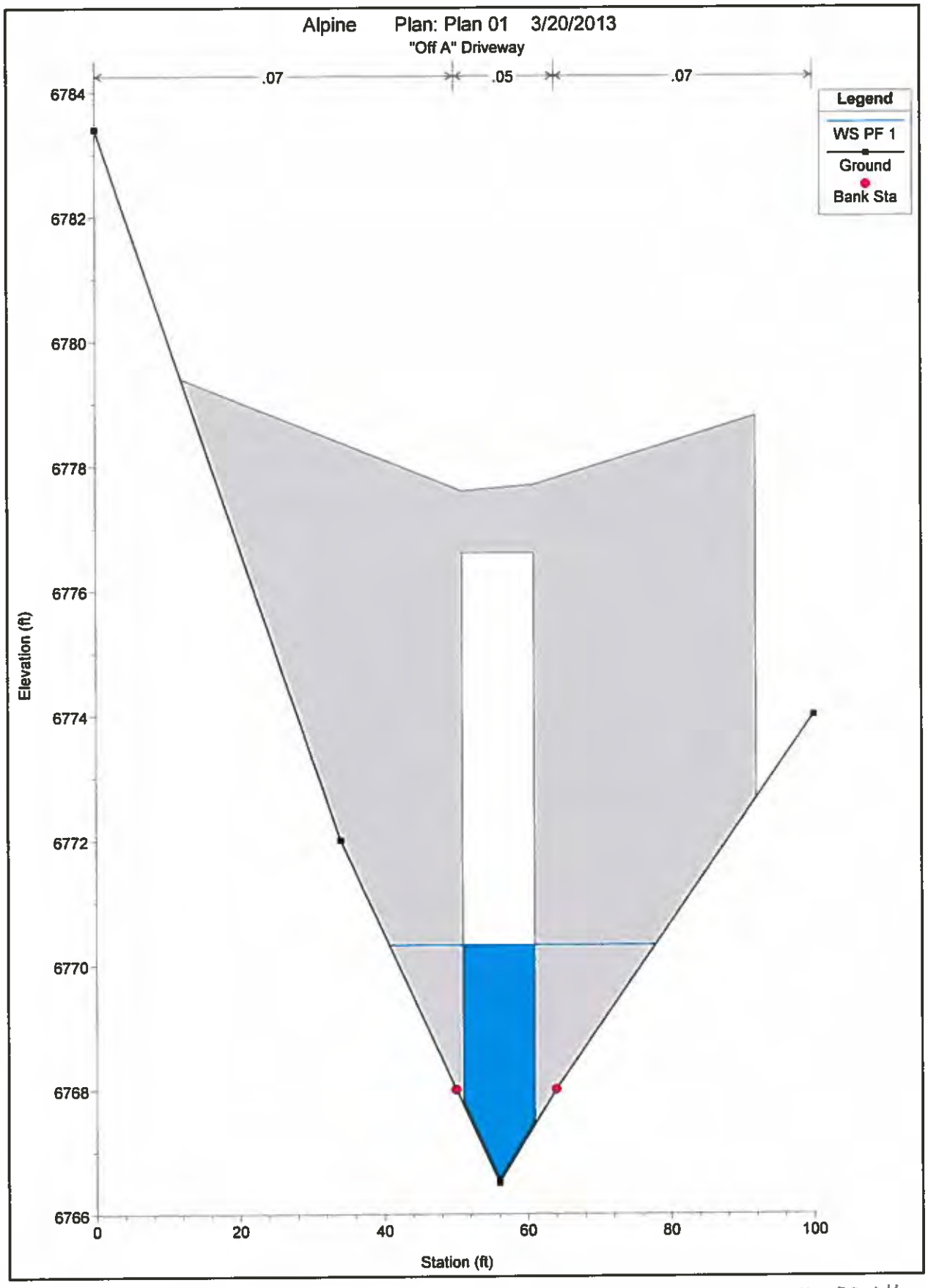
"A" Road @ END
@ 1320.5
downstream inside



"A" Road @ End
@1320.5
upstream inside



"Off A" Driveway
@ 1534.5
upstream inside



"Off A" Driveway
@ 1534.5
downstream inside

APPENDIX SD

TABLE Appendix SD **2-year summer**
Alpine Sierra Subdivision
Offsite flows, pre and post conditions at nine common project discharge locations from site
March 22, 2013

Common ID	HEC 1 2-year summer runoff											
	PREPROJECT						POSTPROJECT					
					Resulting @Common Pt.						Resulting @Common Pt.	
	H1 Sta	area total acres	flow total cfs	% to site	area acres	2-yr flow summer, cfs	H1 Sta	area total acres	flow total cfs	% to site	area acres	2-yr flow summer, cfs
A	1	0.60	0	100.00%	0.60	0.0	1	0.60	0	100.00%	0.60	0.0
B	10	1020.00	109	95.70%	976.14	104.3	10	1020.00	109	96.00%	979.20	104.6
C	2C	20.00	4	23.00%	4.60	0.9	1AC	5.00	1	100.00%	5.00	1.0
0	2C	20.00	4	6.20%	1.24	0.2	1BC	2.70	1	100.00%	2.70	1.0
D	10	1020.00	109	4.30%	43.86	4.7	10	1020.00	109	4.00%	40.80	4.4
				total @ D	45.10	4.9				total @ D	43.50	5.4
E	2C	20.00	4	34.50%	6.90	1.4	2C	5.60	2	100.00%	5.60	2.0
F	2C	20.00	4	36.30%	7.26	1.5	3C	6.10	2	100.00%	6.10	2.0
G	6C2	322.40	47	100.00%	322.40	47.0	6CC	321.20	47	100.00%	321.20	47.0
H	7	15.60	4	50.00%	7.80	2.0	7A	9.10	2	100.00%	9.10	2.0
	70R	39.00	13	100.00%	39.00	13.0	70R	39.00	13	100.00%	39.00	13.0
I&J	7	15.60	4	50.00%	7.80	2.0	7B	6.10	2	100.00%	6.10	2.0
				total @I&J	46.80	15.0				total @I&J	45.10	15.0
Grand total					1417.60	177.00					1415.40	179.00

TABLE Appendix SD **2-year winter**
Alpine Sierra Subdivision
Offsite flows, pre and post conditions at nine common project discharge locations from site
March 22, 2013

Common ID	HEC 1 2-year winter runoff											
	PREPROJECT						POSTPROJECT					
					Resulting @Common Pt.						Resulting @Common Pt.	
	H1 Sta	area total acres	flow total cfs	% to site	area acres	2-yr flow winter, cfs	H1 Sta	area total acres	flow total cfs	% to site	area acres	2-yr flow winter, cfs
A	1	0.60	0	100.00%	0.60	0.0	1	0.60	0	100.00%	0.60	0.0
B	10	1020.00	411	95.70%	976.14	393.3	10	1020.00	411	96.00%	979.20	394.6
C	2C	20.00	10	23.00%	4.60	2.3	1AC	5.00	2	100.00%	5.00	2.0
0	2C	20.00	10	6.20%	1.24	0.6	1BC	2.70	2	100.00%	2.70	2.0
D	10	1020.00	411	4.30%	43.86	17.7	10	1020.00	411	4.00%	40.80	16.4
				total @ D	45.10	18.3				total @ D	43.50	18.4
E	2C	20.00	10	34.50%	6.90	3.5	2C	5.60	3	100.00%	5.60	3.0
F	2C	20.00	10	36.30%	7.26	3.6	3C	6.10	4	100.00%	6.10	4.0
G	6C2	322.40	150	100.00%	322.40	150.0	6CC	321.20	150	100.00%	321.20	150.0
H	7	15.60	7	50.00%	7.80	3.5	7A	9.10	4	100.00%	9.10	4.0
	70R	39.00	25	100.00%	39.00	25.0	70R	39.00	25	100.00%	39.00	25.0
I&J	7	15.60	7	50.00%	7.80	3.5	7B	6.10	3	100.00%	6.10	3.0
				total @I&J	46.80	28.5				total @I&J	45.10	28.0
Grand total					**1417.60**	**603.00**					**1415.40**	**604.00**

TABLE Appendix SD **10-year summer**
Alpine Sierra Subdivision
Offsite flows, pre and post conditions at nine common project discharge locations from site
March 22, 2013

Common ID	HEC 1 10-year summer runoff											
	PREPROJECT						POSTPROJECT					
					Resulting @Common Pt.						Resulting @Common Pt.	
	H1 Sta	area total acres	flow total cfs	% to site	area acres	10-yr flow summer, cfs	H1 Sta	area total acres	flow total cfs	% to site	area acres	10-yr flow summer, cfs
A	1	0.60	1	100.00%	0.60	1.0	1	0.60	1	100.00%	0.60	1.0
B	10	1020.00	424	95.70%	976.14	405.8	10	1020.00	423	96.00%	979.20	406.1
C	2C	20.00	11	23.00%	4.60	2.5	1AC	5.00	2	100.00%	5.00	2.0
0	2C	20.00	11	6.20%	1.24	0.7	1BC	2.70	3	100.00%	2.70	3.0
D	10	1020.00	424	4.30%	43.86	18.2	10	1020.00	423	4.00%	40.80	16.9
				total @ D	45.10	18.9				total @ D	43.50	19.9
E	2C	20.00	11	34.50%	6.90	3.8	2C	5.60	4	100.00%	5.60	4.0
F	2C	20.00	11	36.30%	7.26	4.0	3C	6.10	5	100.00%	6.10	5.0
G	6C2	322.40	168	100.00%	322.40	168.0	6CC	321.20	168	100.00%	321.20	168.0
H	7	15.60	9	50.00%	7.80	4.5	7A	9.10	5	100.00%	9.10	5.0
	70R	39.00	32	100.00%	39.00	32.0	70R	39.00	31	100.00%	39.00	31.0
I&J	7	15.60	9	50.00%	7.80	4.5	7B	6.10	3	100.00%	6.10	3.0
				total @I&J	46.80	36.5				total @I&J	45.10	34.0
Grand total					**1417.60**	**645.00**					**1415.40**	**645.00**

TABLE Appendix SD **10-year winter**
Alpine Sierra Subdivision
Offsite flows, pre and post conditions at nine common project discharge locations from site
March 22, 2013

Common ID	HEC 1 10-year winter runoff											
	PREPROJECT						POSTPROJECT					
					Resulting @Common Pt.						Resulting @Common Pt.	
	H1 Sta	area total acres	flow total cfs	% to site	area acres	10-yr flow winter, cfs	H1 Sta	area total acres	flow total cfs	% to site	area acres	10-yr flow winter, cfs
A	1	0.60	1	100.00%	0.60	1.0	1	0.60	1	100.00%	0.60	1.0
B	10	1020.00	704	95.70%	976.14	673.7	10	1020.00	704	96.00%	979.20	675.8
C	2C	20.00	16	23.00%	4.60	3.7	1AC	5.00	4	100.00%	5.00	4.0
0	2C	20.00	16	6.20%	1.24	1.0	1BC	2.70	3	100.00%	2.70	3.0
D	10	1020.00	704	4.30%	43.86	30.3	10	1020.00	704	4.00%	40.80	28.2
				total @ D	45.10	31.3				total @ D	43.50	31.2
E	2C	20.00	16	34.50%	6.90	5.5	2C	5.60	6	100.00%	5.60	6.0
F	2C	20.00	16	36.30%	7.26	5.8	3C	6.10	6	100.00%	6.10	6.0
G	6C2	322.40	256	100.00%	322.40	256.0	6CC	321.20	255	100.00%	321.20	255.0
H	7	15.60	13	50.00%	7.80	6.5	7A	9.10	6	100.00%	9.10	6.0
I&J	70R	39.00	43	100.00%	39.00	43.0	70R	39.00	43	100.00%	39.00	43.0
	7	15.60	13	50.00%	7.80	6.5	7B	6.10	4	100.00%	6.10	4.0
				total @I&J	46.80	49.5				total @I&J	45.10	47.0
Grand total					**1417.60**	**1033.00**					**1415.40**	**1032.00**

TABLE Appendix SD **100-year summer**
Alpine Sierra Subdivision
Offsite flows, pre and post conditions at nine common project discharge locations from site
March 22, 2013

Common ID	HEC 1 100-year summer runoff											
	PREPROJECT						POSTPROJECT					
					Resulting @Common Pt.						Resulting @Common Pt.	
	H1 Sta	area total acres	flow total cfs	% to site	area acres	100-yr flow summer, cfs	H1 Sta	area total acres	flow total cfs	% to site	area acres	100-yr flow summer, cfs
A	1	0.60	1	100.00%	0.60	1.0	1	0.60	1	100.00%	0.60	1.0
B	10	1020.00	868	95.70%	976.14	830.7	10	1020.00	867	96.00%	979.20	832.3
C	2C	20.00	21	23.00%	4.60	4.8	1AC	5.00	4	100.00%	5.00	4.0
0	2C	20.00	21	6.20%	1.24	1.3	1BC	2.70	5	100.00%	2.70	5.0
D	10	1020.00	868	4.30%	43.86	37.3	10	1020.00	867	4.00%	40.80	34.7
				total @ D	45.10	38.6				total @ D	43.50	39.7
E	2C	20.00	21	34.50%	6.90	7.2	2C	5.60	8	100.00%	5.60	8.0
F	2C	20.00	21	36.30%	7.26	7.6	3C	6.10	8	100.00%	6.10	8.0
G	6C2	322.40	320	100.00%	322.40	320.0	6CC	321.20	319	100.00%	321.20	319.0
H	7	15.60	17	50.00%	7.80	8.5	7A	9.10	8	100.00%	9.10	8.0
	70R	39.00	57	100.00%	39.00	57.0	70R	39.00	57	100.00%	39.00	57.0
I&J	7	15.60	17	50.00%	7.80	8.5	7B	6.10	6	100.00%	6.10	6.0
				total @I&J	46.80	65.5				total @I&J	45.10	63.0
Grand total					1417.60	**1284.00**					**1415.40**	**1283.00**

TABLE Appendix SD **100-year winter**
Alpine Sierra Subdivision
Offsite flows, pre and post conditions at nine common project discharge locations from site
March 22, 2013

Common ID	HEC 1 100-year winter runoff											
	PREPROJECT						POSTPROJECT					
					Resulting @Common Pt.						Resulting @Common Pt.	
	H1 Sta	area total acres	flow total cfs	% to site	area acres	100-yr flow winter, cfs	H1 Sta	area total acres	flow total cfs	% to site	area acres	100-yr flow winter, cfs
A	1	0.60	1	100.00%	0.60	1.0	1	0.60	1	100.00%	0.60	1.0
B	10	1020.00	1140	95.70%	976.14	1091.0	10	1020.00	1141	96.00%	979.20	1095.4
C	2C	20.00	26	23.00%	4.60	6.0	1AC	5.00	6	100.00%	5.00	6.0
D	2C	20.00	26	6.20%	1.24	1.6	1BC	2.70	5	100.00%	2.70	5.0
	10	1020.00	1140	4.30%	43.86	49.0	10	1020.00	1141	4.00%	40.80	45.6
				total @ D	45.10	50.6				total @ D	43.50	50.6
E	2C	20.00	26	34.50%	6.90	9.0	2C	5.60	9	100.00%	5.60	9.0
F	2C	20.00	26	36.30%	7.26	9.4	3C	6.10	10	100.00%	6.10	10.0
G	6C2	322.40	407	100.00%	322.40	407.0	6CC	321.20	407	100.00%	321.20	407.0
H	7	15.60	20	50.00%	7.80	10.0	7A	9.10	10	100.00%	9.10	10.0
I&J	70R	39.00	67	100.00%	39.00	67.0	70R	39.00	67	100.00%	39.00	67.0
	7	15.60	20	50.00%	7.80	10.0	7B	6.10	7	100.00%	6.10	7.0
				total @I&J	46.80	77.0				total @I&J	45.10	74.0
Grand total					**1417.60**	**1661.00**					**1415.40**	**1663.00**

TABLE S3 **100-year event, winter, summer**
Alpine Sierra Subdivision
Pre and post flows at nine common project discharge locations from site,summary
March 22, 2013

Common ID	PRE PROJECT		POST PROJECT		**Post minus Pre Project**		Pre Project	Post Project	**Post minus Pre Project**	
	area acres	100-yr flow winter, cfs	area acres	100-yr flow winter, cfs	100-year, winter cfs	% pre	100-yr flow summer, cfs	100-yr flow summer, cfs	100-year, summer cfs	% pre
A	0.60	1.0	0.60	1.0	0.00	0.00%	1.0	1.0	0.00	0.00%
B	976.14	1091.0	979.20	1095.4	4.38	0.40%	830.7	832.3	1.64	0.20%
C	4.60	6.0	5.00	6.0	0.02	0.33%	4.8	4.0	-0.83	-17.18%
D	45.10	50.6	43.50	50.6	0.01	0.02%	38.6	39.7	1.05	2.73%
E	6.90	9.0	5.60	9.0	0.03	0.33%	7.2	8.0	0.76	10.42%
F	7.26	9.4	6.10	10.0	0.56	5.95%	7.6	8.0	0.38	4.95%
G	322.40	407.0	321.20	407.0	0.00	0.00%	320.0	319.0	-1.00	-0.31%
H	7.80	10.0	9.10	10.0	0.00	0.00%	8.5	8.0	-0.50	-5.88%
I&J	46.80	77.0	45.10	74.0	-3.00	-3.90%	65.5	63.0	-2.50	-3.82%
Grand total	**1417.60**	**1661.0**	**1415.40**	**1663.0**	**2.00**	0.12%	**1284.0**	**1283.0**	**-1.00**	-0.08%

APPENDIX SE

20' Bridge span

HEC-RAS Plan: Plan 01 River: Bear Creek Reach: Bear Creek Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Bear Creek	1303	PF 1	1141.00	6740.50	6743.04	6742.13	6743.50	0.015011	6.18	214.38	84.82	0.72
Bear Creek	1374	PF 1	1141.00	6750.00	6754.88	6754.88	6756.47	0.020646	10.46	124.43	47.05	0.94
Bear Creek	1419	PF 1	1141.00	6756.00	6760.79	6760.79	6762.35	0.024369	10.07	116.17	42.66	0.97
Bear Creek	1460	PF 1	1141.00	6761.00	6766.35	6766.35	6768.65	0.033375	12.19	93.63	20.00	0.99
Bear Creek	1478		Bridge									
Bear Creek	1496	PF 1	1141.00	6766.00	6771.71	6770.77	6773.31	0.020386	10.15	112.46	20.00	0.75
Bear Creek	1586	PF 1	1141.00	6774.00	6777.80	6777.80	6779.12	0.027696	9.24	123.51	47.09	1.01
Bear Creek	1661	PF 1	1141.00	6780.00	6783.59	6783.59	6784.95	0.027988	9.35	122.06	45.78	1.01
Bear Creek	1716	PF 1	1141.00	6783.80	6787.76	6787.76	6789.29	0.027579	9.92	115.07	37.99	1.00

Alpine Alpbr2.prj 30' Bridge span

HEC-RAS Plan: Plan 01 River: Bear Creek Reach: Bear Creek Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Bear Creek	1303	PF 1	1141.00	6740.50	6743.04	6742.13	6743.50	0.015011	6.18	214.38	84.82	0.72
Bear Creek	1374	PF 1	1141.00	6750.00	6754.88	6754.88	6756.47	0.020646	10.46	124.43	47.05	0.94
Bear Creek	1419	PF 1	1141.00	6756.00	6760.79	6760.79	6762.35	0.024369	10.07	116.17	42.66	0.97
Bear Creek	1460	PF 1	1141.00	6761.00	6765.83	6765.83	6767.58	0.027652	10.62	107.49	30.00	0.99
Bear Creek	1478		Bridge									
Bear Creek	1496	PF 1	1141.00	6766.00	6770.72	6769.98	6771.93	0.016393	8.82	129.40	30.00	0.75
Bear Creek	1586	PF 1	1141.00	6774.00	6777.80	6777.80	6779.12	0.027696	9.24	123.51	47.09	1.01
Bear Creek	1661	PF 1	1141.00	6780.00	6783.59	6783.59	6784.95	0.027988	9.35	122.06	45.78	1.01
Bear Creek	1716	PF 1	1141.00	6783.80	6787.76	6787.76	6789.29	0.027579	9.92	115.07	37.99	1.00

Alpbr2X1prj 30' span no levees

HEC-RAS Plan: Plan 01 River: Bear Creek Reach: Bear Creek Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Bear Creek	1303	PF 1	1141.00	6740.50	6743.04	6742.13	6743.50	0.015011	6.18	214.38	84.82	0.72
Bear Creek	1374	PF 1	1141.00	6750.00	6754.88	6754.88	6756.47	0.020646	10.46	124.43	47.05	0.94
Bear Creek	1419	PF 1	1141.00	6756.00	6760.79	6760.79	6762.35	0.024369	10.07	116.17	42.66	0.97
Bear Creek	1460	PF 1	1141.00	6761.00	6765.83	6765.83	6767.58	0.024170	10.62	107.49	64.70	0.99
Bear Creek	1478		Bridge									
Bear Creek	1496	PF 1	1141.00	6766.00	6770.72	6769.98	6771.93	0.012747	8.83	129.26	65.54	0.75
Bear Creek	1586	PF 1	1141.00	6774.00	6777.80	6777.80	6779.12	0.027696	9.24	123.51	47.09	1.01
Bear Creek	1661	PF 1	1141.00	6780.00	6783.59	6783.59	6784.95	0.027988	9.35	122.06	45.78	1.01
Bear Creek	1716	PF 1	1141.00	6783.80	6787.76	6787.76	6789.29	0.027579	9.92	115.07	37.99	1.00

Alpine Alpbr 3.prj 70' bridge

HEC-RAS Plan: Plan 01 River: Bear Creek Reach: Bear Creek Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Bear Creek	1303	PF 1	1141.00	6740.50	6743.04	6742.13	6743.50	0.015011	6.18	214.38	84.82	0.72
Bear Creek	1374	PF 1	1141.00	6750.00	6754.88	6754.88	6756.47	0.020646	10.46	124.43	47.05	0.94
Bear Creek	1419	PF 1	1141.00	6756.00	6760.79	6760.79	6762.35	0.024369	10.07	116.17	42.66	0.97
Bear Creek	1460	PF 1	1141.00	6761.00	6765.57	6765.57	6766.79	0.027525	8.89	128.34	51.17	0.99
Bear Creek	1478		Bridge									
Bear Creek	1496	PF 1	1141.00	6766.00	6770.48	6769.85	6771.29	0.013885	7.23	157.80	51.73	0.73
Bear Creek	1586	PF 1	1141.00	6774.00	6777.80	6777.80	6779.12	0.027611	9.23	123.65	47.12	1.00
Bear Creek	1661	PF 1	1141.00	6780.00	6783.59	6783.59	6784.95	0.027988	9.35	122.06	45.78	1.01
Bear Creek	1716	PF 1	1141.00	6783.80	6787.76	6787.76	6789.29	0.027579	9.92	115.07	37.99	1.00

Alpbr 4 100' bridge span

HEC-RAS Plan: Plan 01 River: Bear Creek Reach: Bear Creek Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Bear Creek	1303	PF 1	1141.00	6740.50	6743.04	6742.13	6743.50	0.015011	6.18	214.38	84.82	0.72
Bear Creek	1374	PF 1	1141.00	6750.00	6754.88	6754.88	6756.47	0.020646	10.46	124.43	47.05	0.94
Bear Creek	1419	PF 1	1141.00	6756.00	6760.79	6760.79	6762.35	0.024369	10.07	116.17	42.66	0.97
Bear Creek	1460	PF 1	1141.00	6761.00	6765.64	6765.64	6766.72	0.028137	8.35	136.62	61.88	0.99
Bear Creek	1478		Bridge									
Bear Creek	1496	PF 1	1141.00	6766.00	6770.47	6769.84	6771.28	0.014804	7.22	157.94	52.52	0.73
Bear Creek	1586	PF 1	1141.00	6774.00	6777.79	6777.79	6779.12	0.027753	9.24	123.42	47.08	1.01
Bear Creek	1661	PF 1	1141.00	6780.00	6783.59	6783.59	6784.95	0.027988	9.35	122.06	45.78	1.01
Bear Creek	1716	PF 1	1141.00	6783.80	6787.76	6787.76	6789.29	0.027579	9.92	115.07	37.99	1.00

APPENDIX I-2

Alternative B Drainage Memo

TLA
ENGINEERING & PLANNING

January 5, 2015

Mr. Alex Fisch
Senior Planner
Placer County Planning Services
3091 County Center Drive
Auburn, CA 95603

Subject: Alpine Sierra Subdivision PSUB20130004 – Preliminary Drainage Report

Dear Alex,

I was asked to provide an opinion on the adequacy of the original Preliminary Drainage Report if applied to the Option B Alternative.

The Preliminary Drainage Report (revision dated March 2013) prepared for the proposed Alpine Sierra Subdivision makes findings on a scale sufficiently large, and the comparative projects will have sufficiently similar impervious area that the drainage effects of the Alpine Sierra Option B alternative are adequately reflected by the findings of that same Preliminary Drainage Report – revision dated March 2013.

If you have any questions please do not hesitate to contact me by phone at the number below or by email at plongtin@tla-inc.com.

Sincerely,

Patrick Longtin, P.E.

REGISTERED PROFESSIONAL ENGINEER
PATRICK JOHN LONGTIN
No. C52516
Exp. 12-31-16
CIVIL
STATE OF CALIFORNIA
1-5-15

1504 EUREKA ROAD SUITE 110 ROSEVILLE, CA 95661 916.786.0685 Fax 916.786.0529 www.tla-inc.com