

DS #: 4420

APN: 125-06-001-001

PROJECT: KYLE CANYON MASTER DRAINAGE STUDY
(AKA. SKYE CANYON MASTER DRAINAGE)

SUBMITTAL: 7TH

SCANNED BY/DATE:

CHECKED BY/DATE:



CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: December 30, 2014
TO: Land Development Services Department of Public Works			FROM: Oh Sang Kwon, P.E. Flood Control Section Department of Public Works
SUBJECT:		Drainage Study for:	COPIES TO:
		Skye Canyon Master Drainage Study – Update #1 to Kyle Canyon Master Drainage Study	Slater Hanifan Group
Cross Streets:	Fort Apache Road & Moccasin Road		KAG Development South, LLC
File Number:	F:\Depot\DSMemos\DS4420G.doc		Bart Anderson, P.E., DevCo
Parcel Number:	125-06-001-001		CCRFC
Zoning Action:			CCPW
FEMA Flood Zone	YES	NO X	NDOT; NV Energy
Proposed Storm Drain	YES X	NO	PB America, Inc.

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Transaction #
1 st Submittal	6/22/2010	7/13/2010	Not Approved	\$1,000.00	147216: \$1000
2 nd Submittal	9/17/2010	10/4/2010	Not Approved	\$400.00	153788: \$400
3 rd Submittal	10/15/2011	11/14/2011	Not Approved	\$400.00	153788: \$400
4 th Submittal	2/13/2012	3/1/2012	Conditional Approval	\$400.00	274196: \$400
CCRFC	5/23/2012	5/24/2012	Concurrence Recv'd	N/C	N/C
5 th Submittal NDOT Comments	9/10/2012	9/19/2012	Conditional Approval	N/C	N/C
6 th Submittal	12/4/2014	12/30/2014	See Comments Below	\$400.00	378889: \$400
			TOTAL FEES (LDDRS):	\$2,600.00	----

REMARKS:

6th Submittal: Update #1 to revise Detention Basins Layout and Phase 2 Land Plan Changes

5th Submittal: Responses to NDOT Comments

Update to original Kyle Canyon Master Drainage Study (DS4091). Site layout has been changed.

The Master Drainage Study for the subject project has been reviewed and:

	is approved subject to conformance to all City standards and the following conditions:
	must be resubmitted or supplemented including the following:
X	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
X	is conditionally approved subject to Clark County Department of Public Works concurrence.
X	is conditionally approved subject to Nevada Department of Transportation concurrence.
X	is conditionally approved subject to BLM concurrence/approval.

1. This *Master Study Update* revises the Detention Basins configuration from three-cell to two-cell and proposes to eliminate the MOSR regional facility alignment. Previous concurrence from the *Clark County Regional Flood Control District* (CCRFC) is no longer valid. Obtain concurrence again from the CCRFC for the revised conceptual master layout.

The following comments are repeated until they are complete:

1. Please note that the traffic study must be approved prior to final approval of the Master Drainage Study. If the street layout does not match the Master Drainage study, an update to the Master Drainage Study must be submitted to address the changes.
2. The Kyle Canyon Master Drainage Study is proposing to revise the hydrology and facilities identified in the *Clark County Regional Flood Control District's (CCRFCD) 2008 Las Vegas Valley Flood Control Master Plan Update*. A Master Plan Amendment (MPA) must be submitted to the City of Las Vegas for approval. The City of Las Vegas will coordinate the MPA submittal to CCRFCD for approval. The Master Developer will be responsible for preparing all submittals needed for CCRFCD along with any and all presentations. The MPU must be approved by CCRFCD prior to the final approval of the Master Drainage Study.
3. Per a meeting held in August 18, 2011 between the developer and the *City of Las Vegas*, it was agreed that NV Energy's approval of any proposed drainage facilities within their access easements (such as the proposed detention basins) must be obtained prior to the final approval of the Master Drainage Study. Please provide documentation for such approval or acknowledgment.
4. Please note that any future technical drainage study submittals that differ from the Master Drainage Study (ie. Changes in pods, infrastructure, flows etc.) will require an update to the Master Drainage Study and this update must be approved by the *City of Las Vegas Flood Control Section* prior to final approval of technical drainage study.
5. The proposed detention basins will require coordination with the State of Nevada, Division of Water Resources Dam Safety and will require the State's approval prior to permitting.
6. Please obtain necessary 404 permits from Army Corps of Engineers and provide a copy of the permit to Flood Control prior to issuance of the grading permit. The contact information for Army Corps of Engineers is listed below:

Patricia L. McQueary
Chief, USACE S. George Regulatory Office
US Army Corps of Engineers
321 North Mall Drive
Suite L-101
St. George, UT 84790

(435) 986-3979 (Office)
(435) 986-3981 (FAX)
Patricia.L.McQueary@usace.army.mil

7. Please note that the proposed 100-year flood protection facilities identified on Exhibit F must be constructed by the Master Developer as a part of the master planned infrastructure. Technical drainage studies are required for each phase of the master planned infrastructure improvements. The technical drainage studies for the infrastructure improvements may be submitted with conditional approval of this Master Drainage Study. However, final approval for the Master Drainage Study must be obtained prior to conditional approval of the infrastructure drainage studies.
8. Technical drainage studies are required for each of the POD's. The technical drainage studies for the POD's may not be submitted until the conditional approval of the pertinent infrastructure drainage study is obtained. Final approval for the infrastructure drainage study must be obtained prior to conditional approval of the impacted POD drainage studies.
9. Building permits for the homes within the individual POD's will not be issued until construction of the street and flood control infrastructure around the POD is substantially complete or interim protection is provided per the approved technical drainage study.

10. The site is adjacent to Clark County jurisdictional boundaries. The engineer must coordinate the Master Drainage Study with *Clark County Public Works Department* (CCPW) and incorporate any concerns for boundary conditions. CCPW concurrence is required prior to final acceptance of the Master Drainage Study.
11. The project proposed to construct facilities and/or increase flows within *Nevada Department of Transportation* (NDOT) right-of-way. Therefore, NDOT concurrence is required prior to final approval of the Master Drainage Study.
12. The project proposed to discharge flows onto and proposed facilities within U.S. Bureau of Land Management (BLM) property. Therefore, BLM concurrence is required prior to final approval of the Master Drainage Study.
13. The proposed berm/levee along Moccasin Road will require approval from *Federal Emergency Management Agency* (FEMA) in the future. The proposed berm/levee must be designed to meet the minimum requirements set by FEMA and CCRFCD by a future technical drainage study.
14. The design of debris basins at all major culvert entrances to limit the amount of sediment and debris entering the storm drain facilities will be required in a future infrastructure study.
15. Please note that all detention basins must be designed per CCRFCD criteria including a low flow facility around the detention basin. Also, include new water quality feature per Storm Water Management Plan.
16. Please note that all proposed interim facilities must be maintained by the master developer.
17. Provide a legal description of the proposed detention basins prior to recordation of the parent final map.
18. Coordinate the proposed drainage facilities with *Sheep Mountain Parkway* project. Please contact Greg McDermott, P.E., at 702-229-2143 to coordinate the proposed drainage facilities.

NOTE: Any future changes to the proposed design (or design assumptions) as outlined in the approved master drainage study and attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Amendment and accepted by the *City of Las Vegas Flood Control Section*. Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the *City of Las Vegas* reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the Nevada Division of Environmental Protection a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see <http://ndep.nv.gov/bwpc/storm01.htm> or call (775) 687-9429.

END OF REMARKS

osk

T/R/S: T19S/R60E/6 & 7
AREA G-6, 7, & F-12

 *** FAX TX REPORT ***

TRANSMISSION OK

JOB NO. 0172
 DESTINATION ADDRESS 7022845399
 PSWD/SUBADDRESS
 DESTINATION ID
 ST. TIME 12/30 16:56
 USAGE T 00' 56
 PGS. 3
 RESULT OK

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: December 30, 2014
TO: Land Development Services Department of Public Works			FROM: Oh Sang Kwon, P.E. Flood Control Section Department of Public Works
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X	is conditionally approved subject to Clark County Department of Public Works concurrence.

REGIONAL FLOOD CONTROL DISTRICT



Gale Wm. Fraser, II, P.E.
General Manager/Chief
Engineer

January 22, 2015

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Mr. Oh Sang Kwon, P.E.
City of Las Vegas
333 North Rancho Drive
Las Vegas, NV 89106

**DISTRICT COMMENT(S): UPDATE #1 TO SKYE CANYON MASTER
DRAINAGE STUDY (FORMERLY KYLE
CANYON)
(DS4420G) (RFCD No. 15-9442)**

Dear Mr. Kwon:

Clark County Regional Flood Control District (District) reviewed Technical Drainage Study dated December 4, 2014 for above-mentioned project as submitted by SLATER HANIFAN GROUP. In addition, District is in receipt of the Conditional Letter of Acceptance from City of Las Vegas dated December 30, 2014.

District has the following comment(s):

1. It is noted that City of Las Vegas will submit a Master Plan Amendment (MPA) to address impacts to the Districts' Master Plan Update (MPU). The proposed detention basins and associated facilities will not be eligible for District maintenance funding until an MPA is approved by the District's Board of Directors and adopted by City of Las Vegas.
2. The exhibits show the DB#1 outfall (Facility P74W) terminating west of the future Sheep Mountain Parkway alignment. The outfall facility must show connectivity to a regional facility. Address accordingly.
3. Discuss the status of Sheep Mountain Parkway. The arroyo east of DB#1 crosses the future Sheep Mountain Parkway alignment. Discuss and identify future District facility crossings that will be required when future roadways are constructed.
4. HEC-1 models: Provide outfall discharge calculation corresponding to elevations 38 feet thru 44 feet for DB#1. Verify and provide outfall discharge calculation for DB#2. Revise accordingly.
5. The HMR 49 worksheets for the PMF analyses are incomplete. The PMP distribution must be determined for the PC cards for the HEC-1 models. Revise models and update exhibits and calculations accordingly.
6. Provide basin depth calculation for DB#2. Provide conceptual spillway length calculations for both basins.



Mr. Oh Sang Kwon, P.E.

January 22, 2015

Page 2

7. Exhibits H and I: Label and provide values for all diversions and diverted flows (e.g. SHEPAB, DSHEPB). Clarify why a diversion is created at the south arroyo and Sheep Mountain Parkway location when the existing flow in the arroyo is toward the east.
8. For ease of future reference and a comprehensive Master Drainage Study, provide updated Standard Form 4 which includes all subbasins and Exhibits F and G reflecting the revisions to subbasins north of Skye Canyon Park Boulevard.

District's review of this project was limited to issues of Regional Flood Control Significance as defined in *Uniform Regulations for the Control of Drainage*.

The consultant must be advised to submit any revisions to the Technical Drainage Study and Improvement Plans to City of Las Vegas for review/re-approval. District review of any such revisions will commence upon City of Las Vegas's acceptance.

Please be aware that as additional information becomes available and/or restudies of Flood Insurance Studies are performed, information submitted by SLATER HANIFAN GROUP may be superseded. Compliance with regulatory elements and design standards specified in *Uniform Regulations for the Control of Drainage* does not imply a guarantee that properties will be free from flooding or flood damage. The District, its officials, or employees assume no liability for information, data, or conclusions presented by consulting engineers. We, therefore, make no warranties, either expressed or implied, in conducting this review.

GALE WM. FRASER, II, P.E.
General Manager/Chief Engineer

BY: Abigail Mayrena
Abigail Mayrena, P.E., CFM
Senior Engineer

AM:eab

c: Steve Jones, P.E., Slater Hanifan Group

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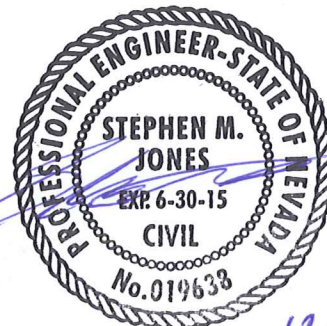
MASTER DRAINAGE STUDY UPDATE #1

**Skye Canyon
(formerly Kyle Canyon)**
City of Las Vegas, Nevada

Job No.: OLY1401.004
Date: December 2014

Prepared By:
Slater Hanifan Group, Inc.
5740 S. Arville Street, Suite 216
Las Vegas, Nevada 89118
Phone: 702-284-5300 • Fax: 702-284-5399

Prepared For:
Ninety-Five Management, LLC
11411 Southern Highlands Parkway, Suite 300
Las Vegas, NV 89141
Phone: 702-220-6565 • Fax: 702-220-6566



12/4/2014

Steve Jones, P.E.
NV Professional Engineer No. 19638

Assisted by: Erick Mata, EI

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL
DRAINAGE STUDY INFORMATION FORM

Name of Development: Skye Canyon Master Drainage Study – Update #1 Date: December 2014
Location of Development: a) Descriptive (Cross Streets): North/South: Puli Road
East/West: Grand Teton Drive
b) Section: 12 Township: 19 South Range: 59 East
Section: 6, 7 Township: 19 South Range: 60 East
c) APN: 125-06-101-001; 125-06-401-001; 125-06-501-001; 125-06-701-001; 125-07-101-005;
125-07-201-001, 002, 003; 125-07-301-001, 002; 125-07-401-001, 002; 125-07-501-005;
125-07-602-001, 003, 004, 005; 126-12-000-001; 125-07-310-001, 002; 125-07-410-001
KAG Development South, LLC; Section 12, LLC; MF Land, LLC; G Land, LLC; Northland, LLC; Eastland,
Name of Owner/Developer: LLC; East of 95, LLC
Telephone No.: 702-220-6565 Fax No.: 702-220-6566 E-mail Address: mbolduc@olympiacompanies.com
Address: 11411 Southern Highlands Parkway, Suite 300; Las Vegas, NV 89141

Contact Person – Name: Steve Jones, P.E. Telephone No.: 702-284-5300
*E-mail Address: sjones@shg-inc.com Fax No.: 702-284-5399
Firm: Slater Hanifan Group
Address: 5740 S. Arville Street, Suite 216; Las Vegas, NV 89118

Type of Land Development/Land Disturbance Process:

☐ Rezoning	☐ Subdivision Map	☐ Clearing and grading Only
☐ Parcel Map	☐ Planned Unit Development	☒ Other (Please specify below)
☐ Large Parcel Map	☐ Building Permit	☐ Master Drainage Study

1. Total Owned Land Area: At Site: 1,662 +/- Acres Being Developed/Disturbed: All
2. Is a portion or all of the subject property located in a FEMA Flood Hazard Area? ☐ Yes** ☒ No
3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☒ Yes** ☐ No
4. Proposed type of development (Residential, Commercial, Etc.): Residential, Commercial, Schools, Parks, Roadways, Gaming, etc.
5. Approximate upstream land area which drains to the subject site: 6.1 sq. miles +/-
6. Has the site drainage been evaluated in the past? ☒ Yes** ☐ No If yes, please identify documentation: Master Drainage Study for Kyle Canyon (SHG, DS4420)
Master Drainage Study for Kyle Canyon (GCW, DS4091)
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site:
Intersections of Moccasin, Log Cabin, O'Hare, Iron Mountain, Brent and Horse along Fort Apache Road,
Future Sheep Mountain Parkway alignment north of Moccasin,
U.S. Highway 95 right-of-way
8. Briefly describe your proposed schedule for the subject project: N/A



Submit this form as part of the required drainage study to the local entity which has jurisdiction over The subject property. This form may provide sufficient information to serve as the Conceptual Drainage Study.

*Newly Required Field

**Review and concurrence of the Clark County Regional Flood Control District is required

Revision	Date

Local Entity File No. _____

REFERENCE: SHG Job No. OLY1401.004

STANDARD FORM 1

Updated 05/01/2008

OLY1401.004

December 4, 2014

Oh Sang Kwon, P.E.
Flood Control Project Manager
City of Las Vegas Department of Public Works
333 N. Rancho Drive
Las Vegas, Nevada 89106

**Subject: Update to the Master Drainage Study for Skye Canyon (formerly Kyle Canyon)
(DS4420)**

Dear Mr. Kwon:

This *Update to the Master Drainage Study for Skye Canyon* (formerly known as Kyle Canyon) is intended to present a re-configured detention basin concept at the west boundary of the property and also present land plan variations in the future Phase 2 area of the property. Overall exhibits representing the entire property and the areas of modification presented in this Update have been included in Appendix A for reference. The previous Master Drainage Study approval letter and pertinent reference material required to demonstrate the impacts of the changes presented in this Update have been included in Appendix D.

Overview of Detention Basin Change:

The previously approved Master Drainage Study had planned for a total of three (3) detention basins, and this Update has modified the flood protection to only require two (2) detention basins. Note that Detention Basin 1 (DS4698) has been technically designed and is currently under review by the City of Las Vegas (CLV). A large reason why 3 detention basins had been previously planned is because it was anticipated that the storage volume provided by Detention Basin 1 (DB1) would not be adequate and it would require utilization of the storage provided by Detention Basin 2 (DB2). However, the technical design of DB1 has been re-configured to increase its storage capacity and remove the necessity of utilizing DB2.

After removing the connectivity between DB2 and DB1, Detention Basin 3 (DB3) has been re-configured to altogether remove the requirement for DB2 storage. The storage volume in DB3 has increased to accommodate the drainage area that had formerly been planned to impact DB2. For the purposes of moving forward with planning the property, DB3 has now been re-named to DB2 in this Update Study to reflect the modification to 2 detention basins.

Revised Detention Basin Inflow Hydrology:

Due to the re-configuration of the detention basins, the boundaries of the inflow watersheds have also been modified. Therefore, the hydrology to each detention basin has been re-analyzed in this Update to determine the inflow rates to the detention basins. Refer to Appendix B for the modified hydrologic models illustrating the changes to the watersheds.

A proposed and ultimate condition hydrologic model has been prepared to determine the inflow rates. The proposed condition hydrologic model has been prepared utilizing existing offsite drainage area. Although the offsite watershed is largely located within the Red Rock Conservation Area which is anticipated to remain undeveloped in the future, the ultimate condition hydrologic model has been prepared utilizing the CCRFCD MPU hydrology as a guideline; Subbasin OFF11 accommodates future development near the intersection of Grand Teton Drive and Puli Road, and Subbasins OFF8 thru OFF10 accommodate future re-routing of drainage area to Kyle Canyon Road (SR-157). The following table summarizes the proposed and ultimate condition inflows to each detention basin.

Table 1: Summary of Detention Basin Inflow Rates				
Detention Basin No.	Proposed Condition		Ultimate Condition	
	Area (mi²)	100-Yr Flow (cfs)	Area (mi²)	100-Yr Flow (cfs)
DB1	0.88	731	0.88	794
DB2	1.01	696	0.56	647

Review of the above table shows that the ultimate condition flow rate to DB1 is larger than the ultimate condition because of accounting for 17.9 acres (OFF1) of future development; therefore, it is considered acceptable. The above table also shows that although the ultimate condition drainage area to DB2 is approximately half the size of the proposed condition drainage area, the inflow rate is similar. The representation of similar ultimate condition flow rate is because the time to peak for Subbasin OFF10 truncates the proposed condition flow rate at DB2 significantly due to its long travel length shown on Standard Form 4; therefore, the flow rates are considered acceptable.

As a result of Table 1, DB1 has utilized the ultimate condition flow rate to determine its parameters and DB2 has utilized the proposed condition flow rate for outlining its concept.

Detention Basin Parameters:

The detention basins are considered permanent features that function to offset the peak 100-year flow rates, provide sediment deposition and protect the onsite development from offsite flow. The recommended detention basins accommodate the following criteria in a similar manner to the Master Drainage Study, and the accompanying computations have been included in Appendix B. Note that computations associated with DB1 have been excerpted from DS4698 since it has been technically designed. The computations for DB2 remain accurate to conceptual detail to be further analyzed by future technical design.

- The conceptual storage volumes include storage for the 100-year storm event inflow plus 1-ft minimum of freeboard above the 100-year water surface elevation to the spillway crest.
- The conceptual storage volume includes the required volume for debris to deposit at the bottom of the basin. Sediment transport volumes have been determined by use of the Modified Universal Soil Loss Equation (MUSLE) outlined in the CCRFCD Manual Section 1301.7.4, Equation 1307.
- It is anticipated the detention basins will be required to receive NDWR Dam Safety approval. Therefore, the detention basins have also been planned to provide a spillway that can pass the PMF flow. The PMF flow has been determined by estimating the

Probable Maximum Precipitation (PMP), whose methodology has been outlined in the NOAA publication *Hydrometeorological Report No. 49 – Probable Maximum Precipitation Estimates, Colorado River and Great Basin Drainages*.

Note the detention basins are proposed sub-grade; therefore, the inflow results in no backwater impacts onto offsite property. The following are the characteristics of the conceptual detention basins in order to satisfy criteria discussed above.

1. Detention Basin 1

- Inflow: 794 cfs @ Concentration Point DB1
- Outflow: 71 cfs @ HEC-1 Routing Card RDB1
- Outfall Orifice: 30-inch Opening
- Estimated Basin Depth: 21-ft measured from bottom of basin (Elev. = 3023-ft) to top of basin (Elev. = 3044-ft)
- Total Storage Volume (debris+100-yr): 70.9 acre-ft
- Debris Volume: 5.9 acre-ft
- 100-year Storage Volume: 65 acre-ft
- 100-year Water Surface Elevation: 3036.0-ft
- PMF Flow: 4,912 cfs

2. Detention Basin 2

- Inflow: 695 cfs @ Concentration Point DB2
- Outflow: 75 cfs @ HEC-1 Routing Card RDB2
- Estimated Basin Depth: 25-ft measured from bottom of basin (Elev. = 2989-ft) to top of basin (Elev. = 3014-ft)
- Outfall Orifice: 27-inch Opening
- Total Storage Volume (debris+100-yr): 77.6 acre-ft
- Debris Volume: 5.6 acre-ft
- 100-year Storage Volume: 72 acre-ft
- 100-year Water Surface Elevation: 3008.5-ft
- PMF Flow: 4,653 cfs

This Update shows that the re-configured 2 detention basins function independently from each other. Additionally, the flow impacts to the downstream property are similar or do not exceed what had been previously approved in the Master Drainage Study further detailed below.

Note that each detention basin improvement now includes the utilization of an inflow channel for routing flows to the storage area. The Master Drainage Study had anticipated a storm drain to route offsite flows to DB1; however, due to sedimentation impacts, the facility has been updated to an open collector channel. The Master Drainage Study had also anticipated that the configuration of 3 detention basins would not require any collector facility north of DB1; however, the removal of the former DB2 from the plan has initiated the necessity of a collector channel. Normal depth computations establishing conceptual design parameters for the collector channels have been included in Appendix C.

Master Drainage Study Conformance – Detention Basin Change:

The outflow from each detention basin toward downstream property has been compared to the previously approved Master Drainage Study below in Table 2 to show conformance. Note that the Master Drainage Study outflow summarized below from Detention Basin 1 excludes the

diversion to Detention Basin 2, because it no longer occurs in the current design and does not result in impacts to downstream developable property.

Table 2: Summary of Detention Basin Outflow Rates			
Approved Master Drainage Study		Update	
Detention Basin No.	100-Yr Flow (cfs)	Detention Basin No.	100-Yr Flow (cfs)
DB1	68	DB1	71
DB2	49	N/A	N/A
DB3	75	DB2	75

After reducing the number of detention basins planned from 3 to 2, it is anticipated that offsite flow will be entirely cut-off thru the natural jurisdictional wash/arroyo previously identified as Facility P77W in the approved Master Drainage Study, which is considered an improvement in drainage impact toward downstream property.

Overview of Phase 2 Land Plan Change:

The owner/developer is in the process of adjusting the land plan to reflect its interests in the property. Therefore, this Update proposes modifications in the area that is intended to be future Phase 2 development after construction of DB1. It is acknowledged that other changes to the land plan are forecasted on the remainder of the property; however, these changes will be accommodated by other future Updates to the Master Drainage Study. It is the objective of this Update to revise the major drainage infrastructure as necessary for the Phase 2 modified land plan, and to show that at the downstream boundaries of the Phase 2 area that flow rates are in accordance with the approved Master Drainage Study so that future phases are not adversely encumbered.

The land plan changes in Phase 2 incorporate re-alignments of roadways, introduction of less density and the removal of the high school from the area that is anticipated to be re-located to a different location on the property. The area considered as Phase 2 has been annotated on the updated land plan included in Appendix A.

Revised Phase 2 Land Plan Hydrology:

The revised hydrologic analysis to reflect new land planning is limited only to the boundary of the developer's Phase 2 area. Additionally, the Phase 1 area has been updated accordingly to match its approved hydrologic patterns referenced from the Phase 1 Infrastructure improvements (DS4661). The subbasins that encompass the Phase 2 portion of the property has been designated with a "PH2" in its name, followed by the identifier of its land use based on the previous approved list included in Appendix C. The Phase 1 subbasins have been referenced and labeled with "PH1" and the basin number from the referenced drainage study. The updated land plan showing the Phase 1 and Phase 2 boundaries that are considered the scope of this Update has been included in Appendix A.

The methodology of delineation of the Phase 2 subbasins is in conformance with the previous approved methodology. The designated pods were kept in delineation unless a watershed boundary was necessary to direct flows to different downstream concentration points. Pro-

rating of the subbasins was performed to determine where street flow criteria are violated and extension of storm drain infrastructure is required.

For reference purposes, a match-line has been added to the drainage map Exhibits F and G to show where the limit of Phase 2 analysis terminates. North of Skye Canyon Park Blvd., the previous Master Drainage Study basins and routing regulate conceptual design. West of Sheep Mountain Parkway, the DB1 hydrology is deferred to when establishing the overall drainage patterns. The downstream discharge locations have not changed with this Update. It is not the objective of this Update to modify the land plan associated with future phases beyond Phase 2; therefore, maintaining the hydrologic work map to modification area only is considered acceptable.

Updated Phase 2 Master Plan Flow Rates:

For comprehensive purposes, the proposed condition and local ultimate condition HEC-1 analyses for the entire property have been updated to show the entire impacts of the Phase 2 land plan change. Note that only the SDN3 ultimate condition HEC-1 model has been updated because the SDN5 model was only applicable to determine the total flows pertinent to the East property downstream of Phase 2. Additionally, the revised detention basin hydrology detailed in this letter has also been included in the HEC-1 models.

The updated HEC-1 models have been included in Appendix C. The updated flow rates generated by the modified basins are included on the drainage maps, Exhibits F and G. A summary of conformance to the previous approved flow rates at the boundary of Phase 2 modification has been provided below in Table 3.

Table 3: Comparison of Phase 2 Flow Rates @ Downstream Concentration Points				
Concentration Point	Previously Approved		Update	
	Proposed Condition Q ₁₀₀ (cfs)	Ultimate Condition Q ₁₀₀ (cfs)	Proposed Condition Q ₁₀₀ (cfs)	Ultimate Condition Q ₁₀₀ (cfs)
RA-HU	477 ¹	477 ¹	482	482
CP26	777	777	791	791
HU-HO	367 ¹	367 ¹	338	332
1 – Updated flow rate established in Phase 1 Infrastructure (DS4661).				

Note that after approval of the Master Drainage Study, the developer has processed technical drainage studies for Phase 1 improvements. As a part of establishing conformance with downstream allowable discharge at CP26, the *Phase 1 Infrastructure* conceptually re-routed subbasins PH2ML4, PH2PK2 and SHAUM1 to the Hualapai alignment. This Update has maintained the routing of these basins to Hualapai, and the flow rates reported in Table 3 reflect accordingly.

Concentration Point HU-IR is considered the location where the flow rate changes resulting from the Phase 2 land plan modification and the detention basin re-configuration converges in routing. Therefore, Table 4 below has been provided for completeness as a comparative summary to show this Update is in conformance with the previous approved Master Drainage Study for the entire property.

Table 4: Comparison of Modified Converged Flow Rates @ HU-IR				
Concentration Point	Previously Approved		Update	
	Proposed Condition Q ₁₀₀ (cfs)	Ultimate Condition Q ₁₀₀ (cfs)	Proposed Condition Q ₁₀₀ (cfs)	Ultimate Condition Q ₁₀₀ (cfs)
HU-IR	1126	1101	1116	1092

Updated Phase 2 Interim Condition:

It is the developer's plan to construct Phase 2 improvements after completion of Detention Basin 1 (DS4698) currently under review, and prior to completion of the planned Hualapai cut-off facility that routes flows to the Mocassin alignment and the BLM property to the northeast of the overall Skye Canyon property. Therefore, an interim condition will occur where Phase 2 runoff discharges from the existing 8-ft by 5-ft RCB in Skye Village Drive at Skye Canyon Park Blvd. into an existing wash that conveys flows toward US-95. Table 5 below summarizes the flow rate after full build-out of Phase 2 that impacts the existing wash is less than the existing condition because DB1 is complete and functioning. As a result, it is considered acceptable to install Phase 2 in the identified sequencing of major infrastructure detailed above.

Table 5: Comparison of Phase 2 Interim Flow Rates			
Proposed Condition		Existing Condition	
Concentration Point	Q ₁₀₀ (cfs)	Concentration Point	Q ₁₀₀ (cfs)
HU-HO	338	HU-HO	364

Updated Phase 2 Drainage Infrastructure:

As a result of new roadway alignments and land plan modifications, drainage infrastructure improvements have also been re-aligned. Exhibit H and I have been updated to show the conceptual infrastructure proposed by this Update within Phase 2 and reflecting the new detention basin configuration.

The expectation of street conveyance of flows in the Phase 2 infrastructure roadways is as follows:

- The flow conveyed in the north-south streets is anticipated to be minimal and storm drain has been planned to be extended to the major low points in the existing topography. The north-south streets are conceptually planned with 0.5% longitudinal slope which results in large flow depths adjacent to potential site entry roads into each pod. In order to minimize humping of site entries with the steep west-east slopes in the terrain, and remove the potential conveyance of offsite flows thru individual subdivisions, major drainage infrastructure is required.
- The flow conveyed in the west-east streets has been conceptually limited to not exceed top of curb. The steepness of the terrain will likely result in excessive velocities over landscape elements if the flow depths exceed top of curb. Street flow capacity of the west-east streets in Phase 2 has been included in Appendix C.

The major modification to the routing is associated with the infrastructure required to convey the PH2ML4, PH2PK2 and SHAUM1 flow. This Update proposes to discharge the flows north in Shaumber into the Sheep Mountain Parkway right-of-way for conveyance to HU-HO via the natural arroyo north of PH2L8.

As demonstrated in Table 3, the flow rates produced at HU-HO remain in conformance with the previously approved flow rates. As a result, this Update does not propose any changes to the facility sizes north of Skye Canyon Park Blvd. Exhibits H and I have only been modified with regards to flow rates north of Phase 2.

CCRFCD Coordination:

It is acknowledged that the formerly planned 3 detention basins were intended as CCRFCD regional facilities in the Master Drainage Study. This Update does not change the intent to have the re-configured 2 detention basins adopted as CCRFCD regional facilities. Additionally, the removal of the middle detention basin (CCRFCD Facility MOSR-0060) from the plan has also removed the necessity of the entire MOSR regional facility alignment because it is no longer a regional detention outfall conveyance. Exhibit J has been re-produced with the modifications to CCRFCD regional facilities anticipated for the Skye Canyon project detailed in this Update.

The previous Master Plan Amendment produced for the approved Master Drainage Study had shown the plan for 3 detention basins; however, was not formally adopted by the CLV City Council. Therefore, the Amendment will be required to be updated to show the updated detention basin plan detailed in this letter.

Conclusions:

This Update proposes distinct changes to the following drainage plan for the Skye Canyon property, and detail of its impacts to the overall Skye Canyon master drainage plan are detailed below:

1. The detention basin configuration has been revised to 2 basins instead of the formerly planned 3 basins. A connector pipe between the modified two basins is no longer required to achieve necessary storage volumes. The peak outflow rate from the newly configured basins is in conformance with the previous plan; however, the detention basins no longer discharge into the natural arroyo north of subbasin WML7 as previously planned. As a result, the MOSR regional facility alignment is no longer necessary.

It is the objective of the developer to maintain regional facility status for the newly configured detention basins, and the Amendment to the CCRFCD MPU will require updating to reflect the two basins and removal of the MOSR alignment proposed by this Update.

2. The Phase 2 area's land plan has been modified from previously approved, and the hydrologic analysis for the property has been updated accordingly. The revised hydrologic analysis is limited only to reflecting the approved *Phase 1 Infrastructure* (DS4661) improvements and the Phase 2 area annotated on the exhibit included in Appendix A. The updated hydrologic analysis shows conformance to previous

approved flow rates at the pertinent downstream discharge locations from Phase 2; therefore, no revision to the conceptual plan beyond Phase 2 is necessary with this Update. Conceptual drainage infrastructure sizes and alignments have been updated for the new land plan, including accommodating the routing of subbasins PH2ML4, PH2PK2 and SHAUM1 to the natural arroyo and concentration point HU-HO.

This Update shows that the development of Phase 2 requires that Detention Basin 1 be in place and functioning for flood protection. However, Phase 2 can be completely improved as shown in this Update with the current receiving Phase 1 Infrastructure at the intersection with Hualapai and Horse. It is proposed to outfall Phase 2 flows into the existing wash via the existing 8-ft by 5-ft RCB and the runoff conveyed toward US-95, because the proposed condition flow rate after development of Phase 2 is less than the existing condition flow rate as demonstrated by Table 5. Therefore, no adverse impacts occur downstream as a result of developing Phase 2 prior to the extension of the Hualapai cut-off facility identified in the previous approved Master Drainage Study.

If you have any questions or require additional information, please do not hesitate to contact us at 284-5300.

Respectfully Submitted,

SLATER HANIFAN GROUP

Steve Jones, P.E.
Project Manager – Flood Control Division

cc: Jerry Slater, P.E. – SHG
Rhonda Miller – SHG
Mark Failla, P.E., CFM - SHG



APPENDIX CONTENTS

Appendix A: Overall Exhibits

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- Previous Approved Land Plan
- Proposed Updated Land Plan

Appendix B: Detention Basin Re-Configuration

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- Exhibit D – Detention Ultimate Condition Drainage Map
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- Soils & Curve Number information
- Precipitation Information
- Standard Form 4 Computations
- Proposed Condition HEC-1 Analysis
- Ultimate Condition HEC-1 Analysis
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Appendix C: Modified Phase 2 Land Plan

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- Exhibit H – Overall Proposed Condition Flood Control Facilities Map
- Exhibit I – Overall Ultimate Condition Flood Control Facilities Map
- Exhibit J – CCRFCD Regional Facilities Map
- Soils & Curve Number Information
- Precipitation Information
- Standard Form 4 Computations
- Existing Condition HEC-1 Analysis
- Proposed Condition HEC-1 Analysis
- Ultimate Condition HEC-1 Analysis
- Phase 2 West-East Street Capacities
- Conceptual Facility Sizing

Appendix D: Approved Master Drainage Study Reference Material

- Approval Letters
- Pertinent Exhibits

Appendix E: Approved Phase 1 Infrastructure Reference Material

- Approval Letters
- HEC-1 Analysis
- Pertinent Exhibits

APPENDIX A

Overall Exhibits

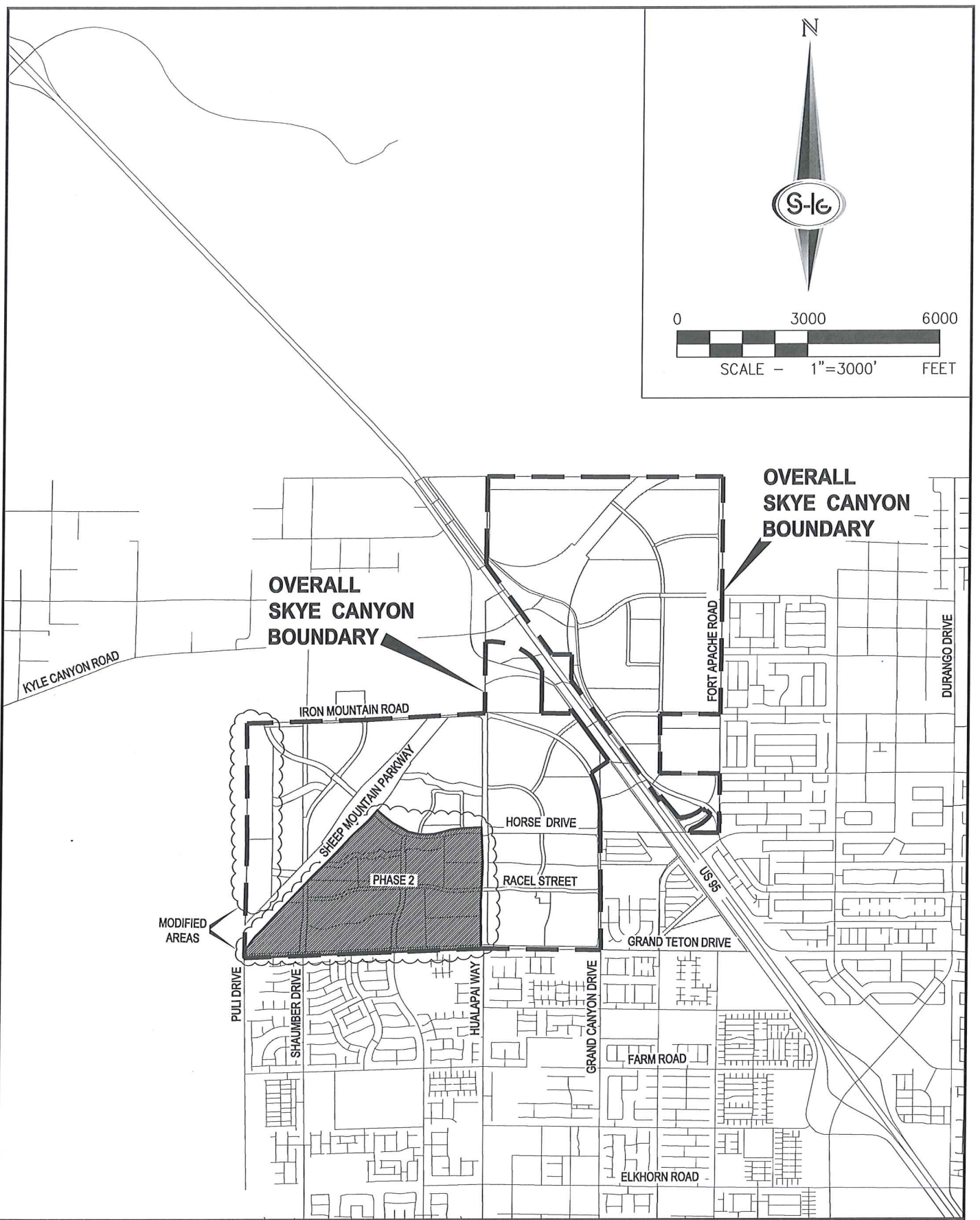
Exhibit A – Location Map

Exhibit B – 2013 CCRFCD MPU Facilities Map

Previous Approved Land Plan

Proposed Updated Land Plan

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NINETY-FIVE MANAGEMENT, LLC.
SKYE CANYON MASTER DRAINAGE STUDY UPDATE
LOCATION MAP

DATE: NOVEMBER 2014
DRAFTER: ETM
DESIGNER: ETM
CHECKED: SMJ

PROJECT NO.
OLY1401.004
EXHIBIT A
SHEET 1 OF 1

APPENDIX B

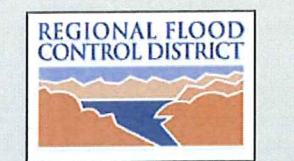
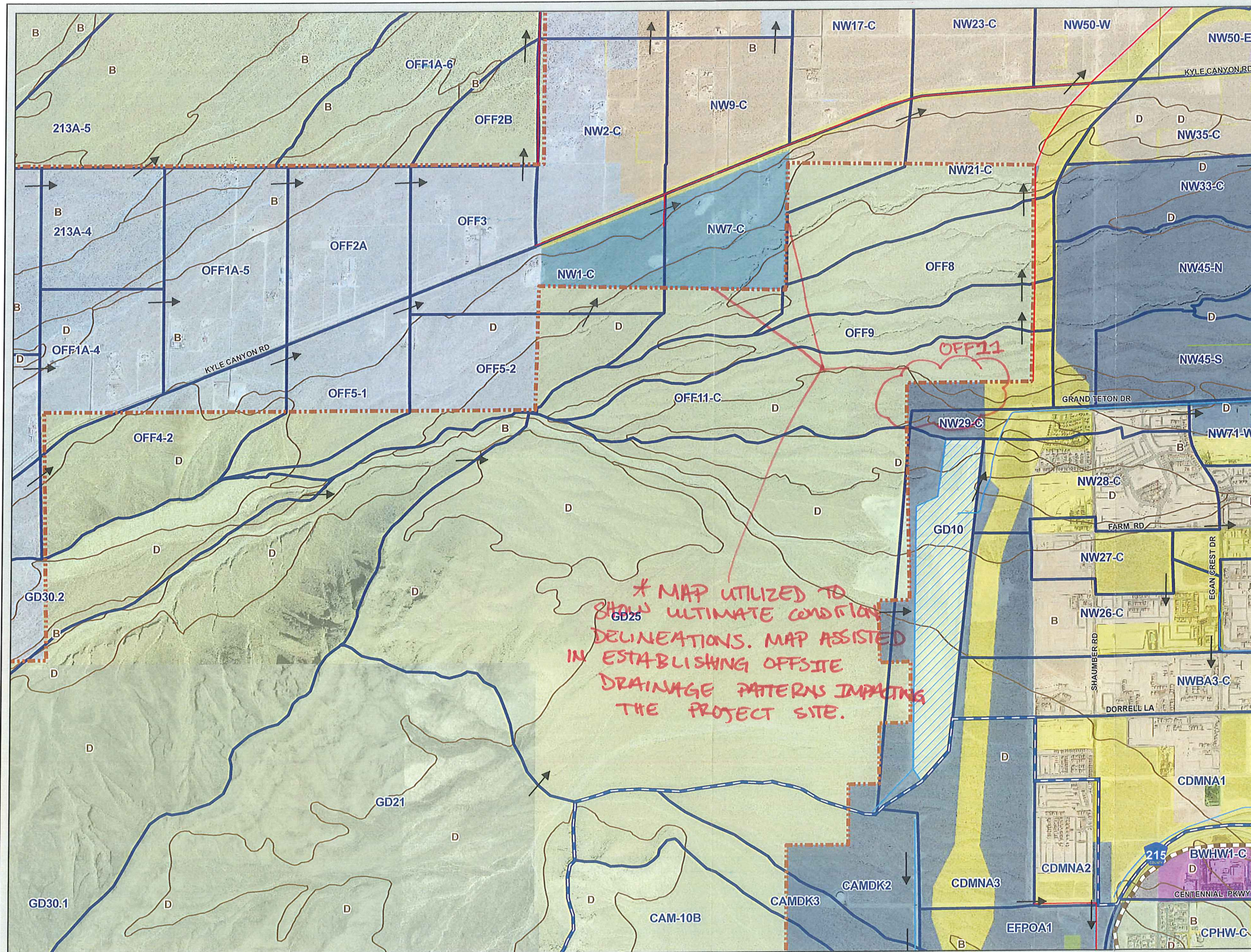
Detention Basin Re-Configuration

Exhibits

Exhibit C – Detention Proposed Condition Drainage Map

Exhibit D – Detention Ultimate Condition Drainage Map

Referenced MPU Hydrologic Maps



2008
LAS VEGAS VALLEY
FLOOD CONTROL
MASTER PLAN UPDATE
FIGURE H-12
HYDROLOGIC SUMMARY

- LEGEND**
- Ultimate Development Boundary
 - Watershed Boundary
 - Subbasin Boundary
 - Drought Ordinance Boundary
 - Flow Arrows
 - Flood Control Facilities
 - Existing Facilities
 - Category A Proposed Facilities
 - Category B Proposed Facilities
 - Category A Remove & Replace/Parallel Facilities
 - Category B Remove & Replace/Parallel Facilities
 - Type Hydrologic Soil Groups
 - A Low Runoff Potential
 - B Moderately Low Runoff Potential
 - C Moderately High Runoff Potential
 - D High Runoff Potential/Rock Outcrops
 - Typical Land Use
 - 1 Undeveloped Land, Open Desert
 - 2 Parks, Golf Courses
 - 3 Rural
 - 4 / 14* Low Density Residential
 - 5 / 15* Medium Density Residential
 - 6 / 16* High Density Residential
 - 7 / 17* Public Facility, Residential
 - 8 / 18* Very High Density Residential
 - 9 / 19* Commercial, Retail, Casino, High Rise Condominiums
 - 10 / 20* Light Industrial
 - 11 / 21* Heavy Industrial
 - 12 / 22* Schools
 - 13 Lakes



Soils & Curve Number Information

Soil & Curve Number Computation

Project Name: SKYE CANYON - MASTER DRAINAGE UPDATE
Date: 12/2/2014
File Name: OLY1401.004 MDS UP DB CNs.xlsx
By: ETM

Data:

Reference:

Soil Type & Description	A	B	C	D
155 Cave gravelly fine sandy loam, 4 to 15 percent slopes	5%	5%	0%	90%
191 Dalian very cobbly fine sandy loam, 2 to 8 percent slopes	5%	85%	0%	10%
400 Tencee very gravelly fine sandy loam, 2 to 8 percent slopes	0%	10%	0%	90%

Exhibit
SCS Soil Data

Land Use	A	B	C	D
Desert Shrub (poor)	63	77	85	88
Newly Graded	77	86	91	94

PROPOSED CONDITION

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF1	400	51.0%	Desert Shrub (poor)	0%	10%	0%	90%	63	77	85	88	140.07	44.33
	155	44.2%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	121.46	38.13
	191	4.8%	Desert Shrub (poor)	5%	85%	0%	10%	63	77	85	88	13.07	3.68
TOTAL PERCENT		100.0%						TOTAL AREA				274.60	86.14

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF2	155	75.1%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	20.12	64.74
	191	24.9%	Desert Shrub (poor)	5%	85%	0%	10%	63	77	85	88	6.67	19.27
TOTAL PERCENT		100.0%						TOTAL AREA				26.79	84.01

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF3	155	100.0%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	16.58	86.20
TOTAL PERCENT		100.0%						TOTAL AREA				16.58	86.20

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF4	155	100.0%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	37.19	86.20
TOTAL PERCENT		100.0%						TOTAL AREA				37.19	86.20

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF5	155	63.9%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	105.09	55.10
	400	36.1%	Desert Shrub (poor)	0%	10%	0%	90%	63	77	85	88	59.32	31.35
TOTAL PERCENT		100.0%						TOTAL AREA				164.41	86.45

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF6	155	100.0%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	25.54	86.20
TOTAL PERCENT		100.0%						TOTAL AREA				25.54	86.20

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF7	155	100.0%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	4.33	86.20
TOTAL PERCENT		100.0%						TOTAL AREA				4.33	86.20

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF8	155	90.9%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	124.60	78.38
	400	9.1%	Desert Shrub (poor)	0%	10%	0%	90%	63	77	85	88	12.43	7.88
TOTAL PERCENT		100.0%						TOTAL AREA				137.03	86.26

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF9	155	100.0%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	74.49	86.20
TOTAL PERCENT		100.0%						TOTAL AREA				74.49	86.20

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF10	400	63.3%	Desert Shrub (poor)	0%	10%	0%	90%	63	77	85	88	264.40	55.03
	155	36.7%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	153.11	31.61
	191	0.0%	Desert Shrub (poor)	5%	85%	0%	10%	63	77	85	88	0.01	0.00
TOTAL PERCENT		100.0%						TOTAL AREA				417.52	86.64

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
ON1	155	100.0%	Newly Graded	5%	5%	0%	90%	77	86	91	94	16.72	92.75
TOTAL PERCENT		100.0%						TOTAL AREA				16.72	92.75

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
ON2	400	16.8%	Newly Graded	0%	10%	0%	90%	77	86	91	94	2.59	15.63
	155	83.2%	Newly Graded	5%	5%	0%	90%	77	86	91	94	12.85	77.19
TOTAL PERCENT		100.0%						TOTAL AREA				15.44	92.83

ULTIMATE CONDITION

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF1	400	51.0%	Desert Shrub (poor)	0%	10%	0%	90%	63	77	85	88	129.73	44.29
	155	47.4%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	120.71	40.88
	191	1.6%	Desert Shrub (poor)	5%	85%	0%	10%	63	77	85	88	4.11	1.25
TOTAL PERCENT		100.0%						TOTAL AREA				254.55	86.41

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF2	155	86.2%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	19.60	74.30
	191	13.8%	Desert Shrub (poor)	5%	85%	0%	10%	63	77	85	88	3.14	10.69
TOTAL PERCENT		100.0%						TOTAL AREA				22.74	84.98

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF8	400	0.8%	Desert Shrub (poor)	0%	10%	0%	90%	63	77	85	88	0.83	0.68
	155	99.2%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	105.63	85.53
TOTAL PERCENT		100.0%						TOTAL AREA				106.46	86.21

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF10	400	47.3%	Desert Shrub (poor)	0%	10%	0%	90%	63	77	85	88	74.61	41.14
	155	52.7%	Desert Shrub (poor)	5%	5%	0%	90%	63	77	85	88	83.00	45.39
TOTAL PERCENT		100.0%						TOTAL AREA				157.61	86.53

BASIN ID	SOIL TYPE	SUBAREA PERCENT	LAND USE	HYDROLOGIC SOIL GROUP				LAND USE CN				SUBAREA ACRES	CALCULATED CN
				A	B	C	D	A	B	C	D		
OFF11			Curve Number referenced from the CCRFCD MPU										
TOTAL PERCENT		0.0%						TOTAL AREA				17.98	96.00

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Table 4-2 Land Use Categories

Land Use Index Number	Description - Typical Land Uses	Impervious (%)	Open Landscaped Good Condition (%)	Open Desert Shrub Poor Condition <u>Natural Desert Landscaping</u> (%)
Drought Ordinance Not Applied				
1	Undeveloped Land, Open Desert	0	0	100
2	Parks, Golf Courses	5	85	10
3	Rural, 0.5-1 units per acre (uses 1 unit/acre)	20	20	60
4	Low-Density Residential, 1-2 units per acre (uses 2 units/acre)	25	40	35
5	Medium-Density Residential, 2-4 units per acre (uses 3 units/acre)	29	71	0
6	High-Density Residential, 4-8 units per acre (uses 6 units/acre)	62	38	0
7	Public Facility and Residential, 8- 12 units/acre	72	28	0
8	Very High-Density Residential, 12 units/acre or more	85	15	0
9	Commercial, Retail, Casino, High Rise Condominiums	90	10	0
10	Light Industrial	70	15	15
11	Heavy Industrial	85	8	7
12	Schools	50	50	0
13	Lakes	0	0	0
Drought Ordinance Applied				
14	Low-Density Residential, 1-2 units per acre (uses 2 units/acre)	25	20	55
15	Medium-Density Residential, 2-4 units per acre (uses 3 units/acre)	29	35	36
16	High-Density Residential, 4-8 units per acre (uses 6 units/acre)	62	19	19
17	Public Facility and Residential, 8- 12 units/acre	72	14	14
18	Very High-Density Residential, 12 units/acre or more	85	0	15
19	Commercial, Retail, Casino, High Rise Condominiums	90	0	10
20	Light Industrial	70	0	30
21	Heavy Industrial	85	0	15
22	Schools	50	30	20

The land use data used with the 2008 MPU is shown on the H-Maps of Volume 2. Figure 4-1 shows the geographic comparison between the 2008 and 2002 MPU land use coverages in terms of percent imperviousness. The increase or decrease in impervious area represents an increase or decrease in the runoff potential for a given area.

BASIN OFF-11 REPRESENTS BY SOILS 191240D

Table 4-3. Curve Number Matrix

COMPONENTS		LAND USE CLASSIFICATION INDEX NUMBER																						
MAP #	OPEN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
	DESERT	100	10	60	35	0	0	0	0	0	15	7	0	0	55	36	19	14	15	10	30	15	20	
% ----		0	85	20	40	71	38	28	15	10	15	8	30	0	20	35	19	14	0	0	0	0	30	
% ----		0	5	20	25	29	62	72	85	80	70	85	50	0	25	35	62	72	85	90	70	65	50	
		SOIL TYPE COMPOSITE CN FOR LAND USE TYPE																						
CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	
105	71	51	98	71.0	55.0	72.0	70.0	65.0	80.0	85.0	91.0	93.0	87.0	92.0	75.0	30.0	74.0	72.0	84.0	88.0	94.0	95.0	90.0	79.0
106	51	98	65.0	47.0	67.0	64.0	58.0	77.0	82.0	90.0	92.0	85.0	91.0	71.0	30.0	69.0	67.0	81.0	86.0	93.0	95.0	88.0	93.0	75.0
107	65	42	98	66.0	48.0	68.0	65.0	59.0	77.0	83.0	90.0	93.0	85.0	91.0	70.0	30.0	69.0	67.0	81.0	86.0	93.0	95.0	88.0	93.0
108	66	43	98	66.0	48.0	68.0	65.0	59.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	69.0	67.0	81.0	86.0	93.0	95.0	88.0	93.0
109	66	43	98	66.0	48.0	68.0	65.0	59.0	77.0	83.0	90.0	93.0	85.0	91.0	70.0	30.0	69.0	67.0	81.0	86.0	93.0	95.0	88.0	93.0
110	66	43	98	66.0	47.0	67.0	64.0	58.0	77.0	82.0	90.0	92.0	85.0	91.0	69.0	30.0	68.0	65.0	81.0	85.0	93.0	95.0	88.0	93.0
111	65	42	98	64.0	45.0	66.0	63.0	57.0	76.0	82.0	89.0	92.0	84.0	91.0	70.0	30.0	68.0	66.0	81.0	85.0	93.0	95.0	88.0	93.0
112	64	41	98	64.0	46.0	66.0	63.0	58.0	76.0	82.0	89.0	92.0	84.0	91.0	70.0	30.0	68.0	66.0	81.0	85.0	93.0	95.0	88.0	93.0
113	64	41	98	64.0	46.0	66.0	63.0	58.0	76.0	82.0	89.0	92.0	84.0	91.0	71.0	30.0	70.0	68.0	82.0	86.0	93.0	95.0	88.0	93.0
114	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
115	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
116	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
117	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
118	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
119	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
120	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
121	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
122	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
123	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
124	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
125	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
126	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
127	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
128	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
129	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
130	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
131	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
132	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
133	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
134	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
135	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
136	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
137	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
138	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
139	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
140	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
141	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
142	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
143	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
144	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
145	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
146	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
147	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
148	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
149	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
150	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
151	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
152	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
153	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
154	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
155	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0	92.0	85.0
156	66	44	98	66.0	49.0	68.0	65.0	60.0	77.0	83.0	90.0	93.0	85.0	91.0	71.0	30.0	80.0	79.0	87.0	88.0	90.0	96.0</		

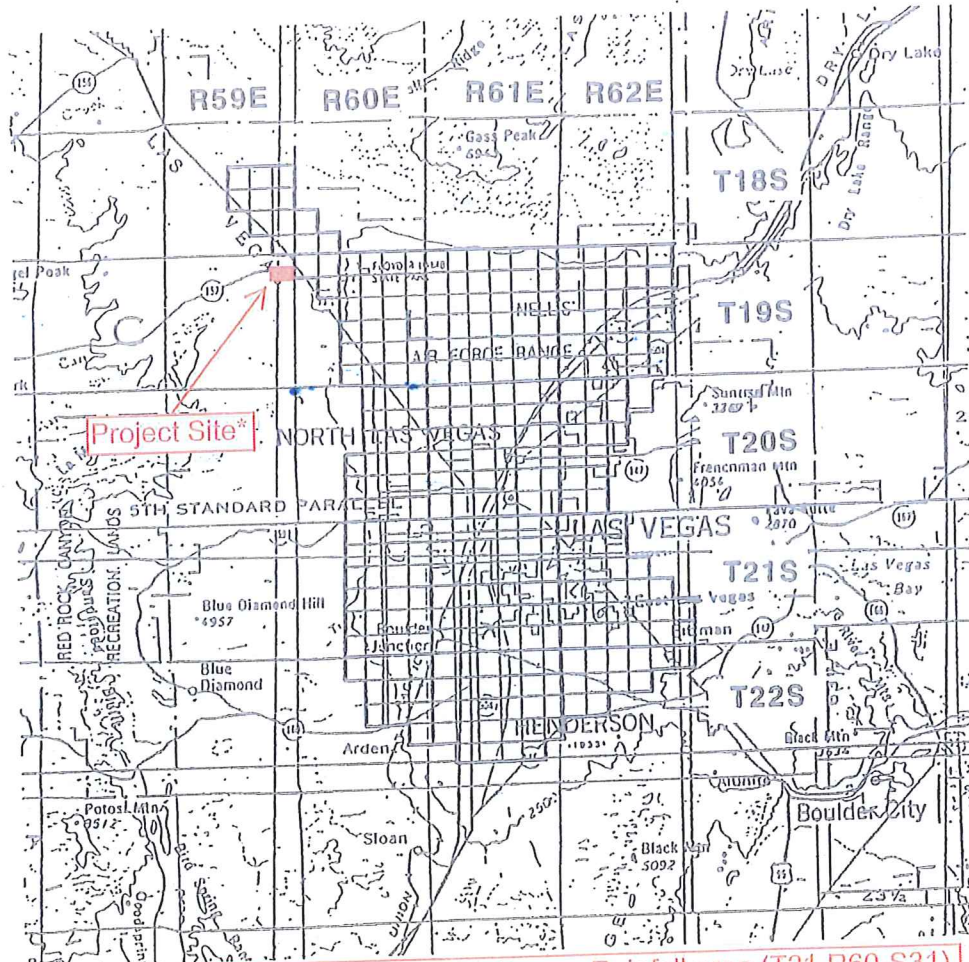
Table 4-3. Curve Number Matrix (Continued)

COMPONENTS		LAND USE CLASSIFICATION INDEX NUMBER																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
MAP #	OPEN % IMP DESERT GOOD	100	10	60	35	0	0	0	0	0	15	7	0	0	55	36	19	14	15	10	30	15	20
% ---->		0	85	20	40	71	38	28	15	10	15	8	50	0	20	35	19	14	0	0	0	0	30
SOIL TYPE COMPOSITE CN FOR LAND USE TYPE		0	5	20	25	29	62	72	85	90	70	85	50	0	25	28	62	72	85	90	70	85	50
CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN	CN
341	85	85.0	76.0	85.0	84.0	81.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
360	87	87.0	83.0	88.0	88.0	87.0	92.0	94.0	96.0	96.0	94.0	96.0	90.0	30.0	85.0	84.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
380	82	84.0	75.0	85.0	83.0	80.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
360	84	84.0	75.0	85.0	83.0	80.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
390	85	85.0	76.0	85.0	84.0	81.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
390	85	85.0	76.0	85.0	84.0	81.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
400	87	87.0	80.0	87.0	86.0	84.0	90.0	92.0	95.0	96.0	93.0	94.0	80.0	30.0	88.0	87.0	87.0	90.0	95.0	96.0	92.0	95.0	83.0
400	87	87.0	80.0	87.0	86.0	84.0	90.0	92.0	95.0	96.0	93.0	94.0	80.0	30.0	88.0	87.0	87.0	90.0	95.0	96.0	92.0	95.0	83.0
415	78	78.0	65.0	79.0	77.0	72.0	82.0	88.0	91.0	94.0	95.0	92.0	95.0	85.0	30.0	84.0	83.0	90.0	92.0	96.0	96.0	93.0	95.0
415	78	78.0	65.0	79.0	77.0	72.0	82.0	88.0	91.0	94.0	95.0	92.0	95.0	85.0	30.0	84.0	83.0	90.0	92.0	96.0	96.0	93.0	95.0
417	82	82.0	74.0	83.0	82.0	80.0	84.0	88.0	93.0	94.0	90.0	94.0	80.0	30.0	80.0	78.0	87.0	90.0	95.0	96.0	92.0	95.0	83.0
418	82	82.0	74.0	83.0	82.0	80.0	84.0	88.0	93.0	94.0	90.0	94.0	80.0	30.0	80.0	78.0	87.0	90.0	95.0	96.0	92.0	95.0	83.0
418	82	82.0	74.0	83.0	82.0	80.0	84.0	88.0	93.0	94.0	90.0	94.0	80.0	30.0	80.0	78.0	87.0	90.0	95.0	96.0	92.0	95.0	83.0
419	77	77.0	64.0	78.0	76.0	72.0	84.0	86.0	92.0	94.0	89.0	93.0	79.0	30.0	79.0	77.0	87.0	90.0	95.0	96.0	91.0	95.0	82.0
430	77	77.0	64.0	78.0	76.0	72.0	84.0	86.0	92.0	94.0	89.0	93.0	79.0	30.0	79.0	77.0	87.0	90.0	95.0	96.0	91.0	95.0	82.0
430	77	77.0	64.0	78.0	76.0	72.0	84.0	86.0	92.0	94.0	89.0	93.0	79.0	30.0	79.0	77.0	87.0	90.0	95.0	96.0	91.0	95.0	82.0
440	76	76.0	64.0	77.0	75.0	71.0	84.0	87.0	92.0	94.0	89.0	93.0	79.0	30.0	89.0	88.0	93.0	94.0	97.0	97.0	95.0	97.0	91.0
440	76	76.0	64.0	77.0	75.0	71.0	84.0	87.0	92.0	94.0	89.0	93.0	79.0	30.0	89.0	88.0	93.0	94.0	97.0	97.0	95.0	97.0	91.0
450	88	88.0	82.0	88.0	87.0	85.0	91.0	93.0	95.0	96.0	93.0	95.0	88.0	30.0	83.0	82.0	89.0	92.0	96.0	96.0	93.0	96.0	86.0
450	88	88.0	82.0	88.0	87.0	85.0	91.0	93.0	95.0	96.0	93.0	95.0	88.0	30.0	83.0	82.0	89.0	92.0	96.0	96.0	93.0	96.0	86.0
481	86	86.0	79.0	87.0	85.0	83.0	90.0	92.0	95.0	96.0	93.0	95.0	88.0	30.0	83.0	82.0	89.0	92.0	96.0	96.0	93.0	96.0	86.0
481	86	86.0	79.0	87.0	85.0	83.0	90.0	92.0	95.0	96.0	93.0	95.0	88.0	30.0	83.0	82.0	89.0	92.0	96.0	96.0	93.0	96.0	86.0
484	87	87.0	81.0	88.0	87.0	85.0	91.0	93.0	95.0	96.0	93.0	95.0	88.0	30.0	83.0	82.0	89.0	92.0	96.0	96.0	93.0	96.0	86.0
484	87	87.0	81.0	88.0	87.0	85.0	91.0	93.0	95.0	96.0	93.0	95.0	88.0	30.0	83.0	82.0	89.0	92.0	96.0	96.0	93.0	96.0	86.0
500	82	82.0	72.0	83.0	81.0	77.0	87.0	90.0	94.0	95.0	91.0	94.0	80.0	30.0	79.0	77.0	87.0	90.0	95.0	96.0	91.0	95.0	82.0
500	82	82.0	72.0	83.0	81.0	77.0	87.0	90.0	94.0	95.0	91.0	94.0	80.0	30.0	79.0	77.0	87.0	90.0	95.0	96.0	91.0	95.0	82.0
501	77	77.0	64.0	78.0	76.0	72.0	84.0	88.0	93.0	94.0	90.0	94.0	80.0	30.0	83.0	81.0	89.0	91.0	95.0	96.0	93.0	96.0	86.0
501	77	77.0	64.0	78.0	76.0	72.0	84.0	88.0	93.0	94.0	90.0	94.0	80.0	30.0	83.0	81.0	89.0	91.0	95.0	96.0	93.0	96.0	86.0
502	81	81.0	71.0	82.0	80.0	77.0	87.0	90.0	94.0	95.0	91.0	95.0	84.0	30.0	89.0	89.0	93.0	94.0	97.0	97.0	95.0	97.0	91.0
502	81	81.0	71.0	82.0	80.0	77.0	87.0	90.0	94.0	95.0	91.0	95.0	84.0	30.0	89.0	89.0	93.0	94.0	97.0	97.0	95.0	97.0	91.0
505	82	82.0	73.0	83.0	81.0	78.0	87.0	90.0	94.0	96.0	94.0	96.0	90.0	30.0	80.0	78.0	87.0	90.0	95.0	96.0	92.0	95.0	83.0
505	82	82.0	73.0	83.0	81.0	78.0	87.0	90.0	94.0	96.0	94.0	96.0	90.0	30.0	80.0	78.0	87.0	90.0	95.0	96.0	92.0	95.0	83.0
510	88	88.0	83.0	89.0	88.0	87.0	92.0	94.0	96.0	96.0	94.0	96.0	90.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
510	88	88.0	83.0	89.0	88.0	87.0	92.0	94.0	96.0	96.0	94.0	96.0	90.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
540	77	77.0	65.0	78.0	76.0	72.0	84.0	88.0	93.0	94.0	90.0	94.0	80.0	30.0	79.0	78.0	87.0	90.0	95.0	96.0	92.0	95.0	83.0
542	77	77.0	65.0	78.0	76.0	72.0	84.0	88.0	93.0	94.0	90.0	94.0	80.0	30.0	79.0	78.0	87.0	90.0	95.0	96.0	92.0	95.0	83.0
542	77	77.0	65.0	78.0	76.0	72.0	84.0	88.0	93.0	94.0	90.0	94.0	80.0	30.0	79.0	78.0	87.0	90.0	95.0	96.0	92.0	95.0	83.0
545	81	81.0	71.0	82.0	80.0	77.0	87.0	90.0	94.0	95.0	91.0	95.0	84.0	30.0	83.0	81.0	89.0	91.0	95.0	96.0	93.0	96.0	86.0
545	81	81.0	71.0	82.0	80.0	77.0	87.0	90.0	94.0	95.0	91.0	95.0	84.0	30.0	83.0	81.0	89.0	91.0	95.0	96.0	93.0	96.0	86.0
600	85	85.0	76.0	85.0	84.0	81.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
600	85	85.0	76.0	85.0	84.0	81.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
605	85	85.0	76.0	85.0	84.0	81.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
605	85	85.0	76.0	85.0	84.0	81.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
610	85	85.0	76.0	85.0	84.0	81.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
615	85	85.0	76.0	85.0	84.0	81.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
630	88	88.0	82.0	88.0	87.0	85.0	91.0	93.0	95.0	96.0	93.0	95.0	88.0	30.0	89.0	88.0	93.0	94.0	97.0	97.0	95.0	97.0	91.0
630	88	88.0	82.0	88.0	87.0	85.0	91.0	93.0	95.0	96.0	93.0	95.0	88.0	30.0	89.0	88.0	93.0	94.0	97.0	97.0	95.0	97.0	91.0
635	90	90.0	90.0	92.0	92.0	92.0	92.0	95.0	96.0	97.0	97.0	96.0	97.0	30.0	92.0	92.0	95.0	96.0	97.0	97.0	96.0	97.0	91.0
640	90	90.0	90.0	92.0	92.0	92.0	92.0	95.0	96.0	97.0	97.0	96.0	97.0	30.0	92.0	92.0	95.0	96.0	97.0	97.0	96.0	97.0	91.0
645	85	85.0	76.0	85.0	84.0	81.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
645	85	85.0	76.0	85.0	84.0	81.0	89.0	91.0	94.0	96.0	92.0	95.0	86.0	30.0	86.0	85.0	91.0	93.0	96.0	97.0	94.0	96.0	88.0
999	63	63.0	41.0	52.0	45.0	36.0	33.0	33.0	31.0	31.0	31.0	36.0	93.0	30.0	8								

Precipitation Information

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

MCCARRAN AIRPORT RAINFALL AREA



*Project site not located within the McCarran Rainfall area (T21-R60-S31)

TOWNSHIP	RANGE	SECTIONS	TOWNSHIP	RANGE	SECTIONS
18 South	59 East	13-15,22-26,36	20 South	62 East	4-9,16-20,29-32
18 South	60 East	30-32	21 South	60 East	1-4,9-16,21-28,33-36
19 South	60 East	1-6,8-16,21-28,33-36	21 South	61 East	ALL SECTIONS
19 South	61 East	ALL SECTIONS	21 South	62 East	4-9,15-23, 25-36
19 South	62 East	2-11,14-23,27-34	22 South	60 East	1-4,10-15,24
20 South	60 East	1-3,10-15,21-28,33-36	22 South	61 East	1-24,26-29
20 South	61 East	ALL SECTIONS	22 South	62 East	1-10,17-18

Notes:

1. Refer to Table 505 and Figure 516 Depth-Duration- Frequency values in the McCarran Airport Rainfall Area.
2. Refer to Table 506 and Figure 517 for Time-Intensity-Frequency values on the McCarran Airport Rainfall Area.

Revision	Date

WRC
ENGINEERING

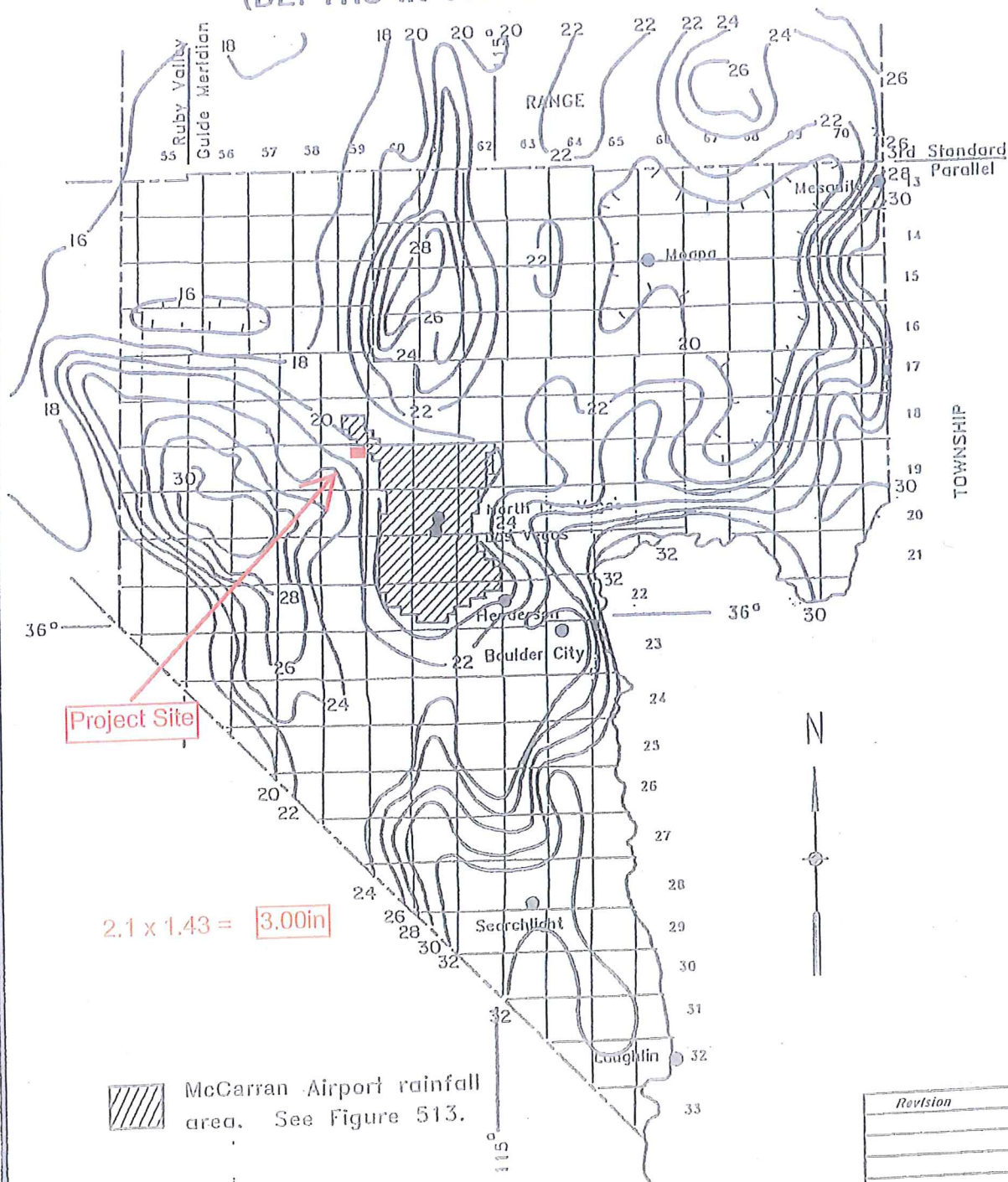
REFERENCE:

USACE, Los Angeles District, 1988

FIGURE 513

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

RAINFALL DEPTH-DURATION-FREQUENCY 100-YEAR, 6-HOUR (DEPTHS IN TENTHS OF INCHES)



HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

PRECIPITATION ADJUSTMENT RATIOS

<u>Recurrence Interval</u>	<u>Ratio to NOAA Atlas 2</u>
2-year	1.00
5-year	1.16
10-year	1.24
25-year	1.33
50-year	1.39
100-year	1.43

- NOTE: 1. Multiply the values obtained from the NOAA Atlas 2 by the above ratios to obtain the adjusted precipitation values.
2. NOAA Atlas 2 values for use with TR-55 shall not be adjusted by the above ratios.
3. Tables 505 and 506 require no adjustments.

<i>Revision</i>	<i>Date</i>

WRC
ENGINEERING

REFERENCE:
USACE, Los Angeles District, 1988

TABLE 501

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

SIX-HOUR STORM DISTRIBUTIONS

Percent of Total Storm Depth				Percent of Total Storm Depth			
Storm Time (In Minutes)	SDN3	SDN4	SDN5	Storm Time (In Minutes)	SDN3	SDN4	SDN5
0	0.0	0.0	0.0	185	32.2	37.6	43.0
5	2.0	2.0	2.0	190	35.2	41.5	47.7
10	5.7	5.8	5.9	195	40.9	46.2	51.4
15	7.0	7.5	8.0	200	49.9	53.0	56.1
20	8.7	9.9	11.0	205	59.0	61.0	63.0
25	10.8	12.6	14.4	210	71.0	71.0	71.0
30	12.4	13.7	15.0	215	74.4	73.2	72.0
35	13.0	14.5	16.0	220	78.1	75.6	73.1
40	13.0	14.9	16.8	225	81.2	78.2	75.2
45	13.0	15.1	17.1	230	81.9	79.9	77.9
50	13.0	15.5	18.0	235	83.5	81.3	79.0
55	13.0	15.6	18.2	240	85.1	82.3	79.5
60	13.0	15.9	18.7	245	85.6	83.0	80.4
65	13.3	16.2	19.0	250	86.0	83.5	81.0
70	14.0	16.9	19.7	255	86.8	84.4	82.0
75	14.2	17.2	20.2	260	87.6	85.1	82.6
80	14.8	17.9	21.0	265	88.8	86.4	84.0
85	15.8	18.9	22.0	270	91.0	88.5	85.9
90	17.2	20.1	23.0	275	92.6	90.8	88.9
95	18.1	21.1	24.1	280	93.7	92.4	91.0
100	19.0	22.0	25.0	285	95.0	94.4	93.8
105	19.7	22.8	25.9	290	97.0	96.8	96.6
110	19.9	23.2	26.5	295	97.6	97.3	97.0
115	20.0	24.0	28.0	300	98.2	97.8	97.4
120	20.1	24.6	29.0	305	98.5	98.2	97.9
125	20.4	25.2	30.0	310	98.7	98.4	98.1
130	21.4	26.0	30.5	315	98.9	98.6	98.3
135	22.9	26.9	30.9	320	99.0	98.8	98.5
140	24.1	27.6	31.0	325	99.3	99.1	98.9
145	24.9	28.3	31.7	330	99.3	99.2	99.0
150	25.1	28.6	32.1	335	99.4	99.3	99.2
155	25.6	29.2	32.7	340	99.5	99.4	99.3
160	27.0	30.2	33.3	345	99.8	99.7	99.6
165	27.8	31.2	34.6	350	99.8	99.8	99.7
170	28.1	32.1	36.1	355	99.9	99.9	99.9
175	28.3	33.2	38.1	360	100.0	100.0	100.0
180	29.5	35.2	40.8				

- Notes
1. For drainage areas less than 8 square miles in size, use SDN 3.
 2. For drainage areas greater than or equal to 8 square miles and less than 12 square miles in size, use SDN 4.
 3. For drainage areas greater than or equal to 12 square miles, use SDN 5.
 4. A graphical representation of these values is presented on Figure 5'15.

Revision	Date

REFERENCE:

TABLE 503

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

SIX HOUR DEPTH-AREA REDUCTION FACTORS

<u>Drainage Area (Square Miles)</u>	<u>Six-Hour Depth-Area Reduction Factor</u>
0.0	1.00
0.5	0.98
1.0	0.97
2.0	0.93
4.0	0.91
6.0	0.90
8.0	0.88
10.0	0.86
20.0	0.79
30.0	0.74
50.0	0.68
100.0	0.60
150.0	0.55
200.0	0.51
300.0	0.46
400.0	0.42
500.0	0.39

- NOTES: 1. A graphical representation of these factors is presented in Figure 514.
2. Consult with the local entity and/or the CCRFCD for guidance in using the Depth-Area Reduction Factors for drainage areas greater than 200 square miles.

<i>Revision</i>	<i>Date</i>

Standard Form 4 Computations

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

TIME OF CONCENTRATION

Project Name: SKYE CANYON - MASTER DRAINAGE STUDY UPDATE
Description: Detention Basin Hydrologic Data
File Name: Projects.xlsx
By: ETM
Date: 11/25/2014

SUB-BASIN DATA					INITIAL / OVERLAND TIME (Ti)			TRAVEL TIME (Tt)					Tc		Tc Check		Tag		
DESIG:	DEV./EX. (D or E)	CN	K	AREA Ac	AREA Mi^2	INITIAL		Ti Min	TRAVEL LENGTH Feet	SLOPE %	V1		V2		Tt Min	Tc Calc.	Tc Check	Tag	
						LENGTH Feet	SLOPE %				VELOCITY FPS	VELOCITY FPS							
			[1]		[2]			[3]				[4]		[5]	[6]	[7]	[8]	[9]	[10]

PROPOSED CONDITION

OFF1	E	86.1	0.747	274.6	0.4291	262	7.60	5.23	11804	3.59	2.80	5.57	36.79	42.01			0.420
OFF2	E	84.0	0.719	26.8	0.0419	171	4.10	5.61	2754	3.85	2.90	5.77	9.38	14.99			0.150
OFF3	E	86.2	0.748	16.6	0.0259	151	13.90	3.24	2647	4.95	3.29	6.54	8.00	11.24			0.112
OFF4	E	86.2	0.748	37.2	0.0581	156	13.50	3.32	3522	4.91	3.28	6.52	10.27	13.59			0.136
OFF5	E	86.5	0.751	164.4	0.2569	199	10.50	4.05	12337	3.70	2.85	5.65	37.82	41.87			0.419
OFF6	E	86.2	0.748	25.5	0.0399	142	4.94	4.43	2341	4.44	3.12	6.19	7.63	12.05			0.121
OFF7	E	86.2	0.748	4.3	0.0068	209	3.82	5.87	932	4.50	3.14	6.24	3.81	9.68			0.100
OFF8	E	86.3	0.749	137.0	0.2141	257	12.44	4.37	8522	3.93	2.93	5.83	25.78	30.15			0.302
OFF9	E	86.2	0.748	74.5	0.1164	182	9.35	4.06	5406	4.25	3.05	6.06	16.22	20.28			0.203
OFF10	E	86.6	0.754	417.5	0.6524	205	17.08	3.47	19084	3.66	2.83	5.62	58.01	61.48			0.615
ON1	D	92.8	0.834	16.7	0.0261	124	36.00	1.61	2233	1.83	2.73	4.14	10.03	11.64	2357	23.094	0.116
ON2	D	92.8	0.835	15.4	0.0241	150	32.00	1.83	1896	3.21	3.62	5.48	6.55	8.38	2045.3	21.363	0.084

ULTIMATE CONDITION (BASINS THAT VARY FROM PROPOSED CONDITION)

OFF1	E	86.4	0.751	260.7	0.4073	262	7.60	5.17	9751	3.64	2.82	5.61	30.44	35.61			0.356
OFF2	E	85.0	0.732	22.7	0.0355	171	4.10	5.42	2754	3.85	2.90	5.77	9.38	14.80			0.148
OFF8	E	86.2	0.748	106.5	0.1663	257	12.44	4.39	6259	3.85	2.90	5.77	19.51	23.89			0.239
OFF10	E	86.5	0.752	157.6	0.2463	205	17.08	3.48	6369	3.34	2.70	5.37	21.29	24.77			0.248
OFF11	D	96.0	0.877	18.0	0.0281	100	1.00	4.01	2600	4.00	4.04	6.12	7.78	11.79	2700	25.000	0.118

[1] K = 0.0132 (CN) - 0.39
[2] A = Area/640
[3] Ti = (1.8 (1.1-K) L^{0.5})/S^{0.33}
[4] For Existing Conditions: V1 = 14.8 * (S/100)^{0.5}
For Developed Conditions: V1 = 20.2 * (S/100)^{0.5}
[5] For Existing Conditions: V2 = 29.4 * (S/100)^{0.5}
For Developed Conditions: V2 = 30.6 * (S/100)^{0.5}
[6] Tt = L/(60*V)
[7] Tc = Ti + Tt
[8] Total L = Initial L + Travel L
[9] Tc = (L/180) + 10
[10] Tag = (0.6*Tc)/60
[11] Min Tag = 0.05
Note: For Travel Time Calcs: V1 applies to first 500 feet and V2 applies to remaining distance.

REFERENCE:
STANDARD FORM 4

Proposed Condition HEC-1 Analysis

```

1*****
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
* RUN DATE 15OCT14 TIME 08:41:54
*
*****

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PRO1.OUT

```

*****
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
*****

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X X XXXXXX XXXXX X
X X X X X XX
X X X X X X
XXXXXX XXXX X XXXX
X X X X X X
X X X X X X
X X XXXXXX XXXXX XXX

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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

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
*DIAGRAM
ID SLATER HANIFAN GROUP
ID NINETY-FIVE MANAGEMENT, LLC.
ID SKYE CANYON
ID MASTER DRAINAGE STUDY UPDATE
ID PROPOSED DRAINAGE CONDITION
ID RETURN PERIOD ----- 100-YEAR
ID DISTRIBUTION ----- 6-HOUR SDN3
ID PROJECT NO. ----- OLY1401.004
ID FILENAME ----- PRO1.H1
ID DATE ----- 10/15/14
ID MODELED BY ----- ETM
ID
ID SIX HOUR DEPTH-AREA REDUCTION FACTORS
ID DRAINAGE AREA (MI^2) RATIO
ID 0.0-0.49 1.00
ID 0.5-0.99 0.98
ID 1.0-1.99 0.97
ID
IT 5 0 0 500
IO 5 0 0
IN 5 0 0
JR PREC 1.00 0.98 0.97
*
24 KK OFF1
25 KM EXISTING OFFSITE DRAINAGE BASIN
26 KM DISCHARGES INTO DETENTION BASIN "DB1"
27 KO 3
28 PB 3.00
29 PC 0 0.020 0.057 0.070 0.087 0.108 0.124 0.130 0.130 0.130
30 PC 0.130 0.130 0.130 0.133 0.140 0.142 0.148 0.158 0.172 0.181
31 PC 0.190 0.197 0.199 0.200 0.201 0.204 0.214 0.229 0.241 0.249
32 PC 0.251 0.256 0.270 0.278 0.281 0.283 0.295 0.322 0.352 0.409
33 PC 0.499 0.590 0.710 0.744 0.781 0.812 0.819 0.835 0.851 0.856
34 PC 0.860 0.868 0.876 0.888 0.910 0.926 0.937 0.950 0.970 0.976
35 PC 0.982 0.985 0.987 0.989 0.990 0.993 0.993 0.994 0.995 0.998
36 PC 0.998 0.999 1
37 BA .4291
38 LS 0 86.1
39 UD 0.420
*
40 KK OFF2
41 KM EXISTING OFFSITE DRAINAGE BASIN
42 KM DISCHARGES INTO DETENTION BASIN "DB1"
43 KO 3
44 BA .0419
45 LS 0 84.0
46 UD 0.150
*

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1 HEC-1 INPUT PAGE 2

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
47 KK OFF3
48 KM EXISTING OFFSITE DRAINAGE BASIN
49 KM DISCHARGES INTO DETENTION BASIN "DB1"
50 KO 3
51 BA .0259
52 LS 0 86.2
53 UD 0.112
*
54 KK CP1
55 KM COMBINE OFF1, OFF2, AND OFF3
56 HC 3
*
57 KK OFF4
58 KM EXISTING OFFSITE DRAINAGE BASIN
59 KM DISCHARGES INTO DETENTION BASIN "DB1"
60 KO 3
61 BA .0581
62 LS 0 86.2
63 UD 0.136
*
64 KK OFF5
65 KM EXISTING OFFSITE DRAINAGE BASIN
66 KM DISCHARGES INTO DETENTION BASIN "DB1"
67 KO 3
68 BA .2569
69 LS 0 86.5
70 UD 0.419
*
71 KK OFF6
72 KM EXISTING OFFSITE DRAINAGE BASIN
73 KM DISCHARGES INTO DETENTION BASIN "DB1"
74 KO 3
75 BA .0399
76 LS 0 86.2
77 UD 0.121
*
78 KK ON1

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PROJ.OUT

79 KM PROPOSED ONSITE DRAINAGE BASIN
 80 BA .0261
 81 LS 0 92.8
 82 UD 0.116
 *

83 KK DB1
 84 KM COMBINE CP1, OFF4, OFF5, OFF6 AND ON1
 85 HC 5
 *

1

HEC-1 INPUT

PAGE 3

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

86 KK RDB1
 87 KM OUTLET = 30" ORIFICE @ INVERT ELEVATION = 3025.5-FT
 88 KO 1
 89 RS 1 VOL -1
 90 SV 0 7.78 13.43 19.26 58.03 96.21 132.22
 91 SE 25.5 27 28 29 35 40 44
 92 SQ 0 25.59 36.20 44.33 76.78 335.94 1413.68 2946.76 4825.05
 93 SE 25.5 29 30 31 37 38 40 42 44
 *

94 KK OFF7
 95 KM EXISTING OFFSITE DRAINAGE BASIN
 96 KM DISCHARGES INTO DETENTION BASIN "DB2"
 97 KO 3
 98 BA .0068
 99 LS 0 86.2
 100 UD 0.100
 *

101 KK OFF8
 102 KM EXISTING OFFSITE DRAINAGE BASIN
 103 KM DISCHARGES INTO DETENTION BASIN "DB2"
 104 KO 3
 105 BA .2141
 106 LS 0 86.3
 107 UD 0.302
 *

108 KK CP2
 109 KM COMBINE OFF7, AND OFF8
 110 HC 2
 *

111 KK OFF9
 112 KM EXISTING OFFSITE DRAINAGE BASIN
 113 KM DISCHARGES INTO DETENTION BASIN "DB2"
 114 KO 3
 115 BA .1164
 116 LS 0 86.2
 117 UD 0.203
 *

118 KK OFF10
 119 KM EXISTING OFFSITE DRAINAGE BASIN
 120 KM DISCHARGES INTO DETENTION BASIN "DB2"
 121 KO 3
 122 BA .6524
 123 LS 0 86.6
 124 UD 0.615
 *

1

HEC-1 INPUT

PAGE 4

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

125 KK ON2
 126 KM PROPOSED ONSITE DRAINAGE BASIN
 127 BA .0241
 128 LS 0 92.8
 129 UD 0.084
 *

130 KK DB2
 131 KM COMBINE CP2, OFF9, OFF10 AND ON2
 132 HC 4
 *

133 KK RDB2
 134 KM OUTLET = 27" ORIFICE @ INVERT ELEVATION = 2993-FT
 135 KO 1
 136 RS 1 VOL -1
 137 SV 0 3.27 6.87 10.63 27.34 46.77 75.03
 138 SE 2993 2994 2995 2996 3000 3004 3009
 139 SQ 0 17.95 27.43 34.38 40.15 45.18 57.71 67.97 76.88
 140 SE 2993 2996 2997 2998 2999 3000 3003 3006 3009
 *

141 ZZ

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT

LINE (V) ROUTING (---->) DIVERSION OR PUMP FLOW
 NO. (.) CONNECTOR (<----) RETURN OF DIVERTED OR PUMPED FLOW

24 OFF1
 .
 .
 40 OFF2
 .
 .
 47 OFF3
 .
 .
 54 CP1.....
 .
 .
 57 OFF4
 .
 .
 64 OFF5
 .
 .
 71 OFF6
 .
 .
 78 ON1
 .
 .
 83 DB1.....
 V
 V
 86 RDB1
 .
 .
 94 OFF7
 .
 .
 101 OFF8
 .
 .
 108 CP2.....
 .
 .

PRO1.OUT

111 . . . OFF9
118 . . . OFF10
125 . . . ON2
130 . DB2 . . .
133 . V
RDB2

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* JUN 1998 *
* VERSION 4.1 *
* RUN DATE 15OCT14 TIME 08:41:54 *

* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET *
* DAVIS, CALIFORNIA 95616 *
* (916) 756-1104 *

SLATER HANIFAN GROUP
NINETY-FIVE MANAGEMENT, LLC.
SKYE CANYON
MASTER DRAINAGE STUDY UPDATE
PROPOSED DRAINAGE CONDITION

RETURN PERIOD ----- 100-YEAR
DISTRIBUTION ----- 6-HOUR SDN3
PROJECT NO. ----- 0LY1401.004
FILENAME ----- PRO1.H1
DATE ----- 10/15/14
MODELED BY ----- ETM

SIX HOUR DEPTH-AREA REDUCTION FACTORS
DRAINAGE AREA (MI^2) RATIO
0.0-0.49 1.00
0.5-0.99 0.98
1.0-1.99 0.97

21 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 0 STARTING DATE
ITIME 0000 STARTING TIME
NQ 500 NUMBER OF HYDROGRAPH ORDINATES
NDDATE 2 0 ENDING DATE
NDTIME 1735 ENDING TIME
ICENT 19 CENTURY MARK
COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 41.58 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
JP MULTI-PLAN OPTION
NPLAN 1 NUMBER OF PLANS
JR MULTI-RATIO OPTION
RATIOS OF PRECIPITATION
1.00 .98 .97

*** **

* OFF1 *

27 KO OUTPUT CONTROL VARIABLES
IPRNT 3 PRINT CONTROL
IPLOT 0 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE
22 IN TIME DATA FOR INPUT TIME SERIES
JXMIN 5 TIME INTERVAL IN MINUTES
JXDATE 1 0 STARTING DATE
JXTIME 0 STARTING TIME
SUBBASIN RUNOFF DATA
37 BA SUBBASIN CHARACTERISTICS
TAREA .43 SUBBASIN AREA
PRECIPITATION DATA
28 PB STORM 3.00 BASIN TOTAL PRECIPITATION
29 PI INCREMENTAL PRECIPITATION PATTERN
.02 .04 .01 .02 .02 .02 .01 .00 .00 .00
.00 .00 .00 .01 .00 .01 .01 .01 .01 .01
.01 .00 .00 .00 .00 .01 .02 .01 .01 .00
.01 .01 .01 .00 .00 .01 .03 .03 .06 .09
.09 .12 .03 .04 .03 .01 .02 .02 .00 .00
.01 .01 .01 .02 .02 .01 .01 .02 .01 .01
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00
.00 .00
38 LS SCS LOSS RATE
STRTL .32 INITIAL ABSTRACTION
CRVNB 86.10 CURVE NUMBER
RTIMP .00 PERCENT IMPERVIOUS AREA
39 UD SCS DIMENSIONLESS UNITGRAPH
TLAG .42 LAG

UNIT HYDROGRAPH
27 END-OF-PERIOD ORDINATES
39. 118. 246. 379. 444. 445. 397. 330. 240. 174.
129. 98. 73. 55. 41. 30. 22. 17. 12. 9.
Page 3

	7.	5.	4.	3.	2.	1.	PROJ. OUT
TOTAL RAINFALL =	3.00	TOTAL LOSS =	1.33	TOTAL EXCESS =	1.67		
PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW	24-HR	72-HR	41.58-HR
+ (CFS)	(HR)	(CFS)					
+ 387.	3.83	(INCHES)	77.	19.	11.	11.	
		(AC-FT)	1.668	1.670	1.670	1.670	
			38.	38.	38.	38.	
		CUMULATIVE AREA =	.43	SQ MI			
***	***	***	***	***	***	***	
HYDROGRAPH AT STATION OFF1 FOR PLAN 1, RATIO = 1.00							
TOTAL RAINFALL =	3.00	TOTAL LOSS =	1.33	TOTAL EXCESS =	1.67		
PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW	24-HR	72-HR	41.58-HR
+ (CFS)	(HR)	(CFS)					
+ 387.	3.83	(INCHES)	77.	19.	11.	11.	
		(AC-FT)	1.668	1.670	1.670	1.670	
			38.	38.	38.	38.	
		CUMULATIVE AREA =	.43	SQ MI			
***	***	***	***	***	***	***	
HYDROGRAPH AT STATION OFF1 FOR PLAN 1, RATIO = .98							
TOTAL RAINFALL =	2.94	TOTAL LOSS =	1.32	TOTAL EXCESS =	1.62		
PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW	24-HR	72-HR	41.58-HR
+ (CFS)	(HR)	(CFS)					
+ 376.	3.83	(INCHES)	75.	19.	11.	11.	
		(AC-FT)	1.617	1.619	1.619	1.619	
			37.	37.	37.	37.	
		CUMULATIVE AREA =	.43	SQ MI			
***	***	***	***	***	***	***	
HYDROGRAPH AT STATION OFF1 FOR PLAN 1, RATIO = .97							
TOTAL RAINFALL =	2.91	TOTAL LOSS =	1.32	TOTAL EXCESS =	1.59		
PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW	24-HR	72-HR	41.58-HR
+ (CFS)	(HR)	(CFS)					
+ 370.	3.83	(INCHES)	73.	18.	11.	11.	
		(AC-FT)	1.591	1.593	1.593	1.593	
			36.	36.	36.	36.	
		CUMULATIVE AREA =	.43	SQ MI			

40 KK	*****						
	* OFF2 *						

43 KO	OUTPUT CONTROL VARIABLES						
	IPRNT 3 PRINT CONTROL						
	IPLOT 0 PLOT CONTROL						
	QSCAL 0. HYDROGRAPH PLOT SCALE						
	SUBBASIN RUNOFF DATA						
44 BA	SUBBASIN CHARACTERISTICS						
	TAREA .04 SUBBASIN AREA						
	PRECIPITATION DATA						
28 PB	STORM 3.00 BASIN TOTAL PRECIPITATION						
29 PI	INCREMENTAL PRECIPITATION PATTERN						
	.02 .04 .01 .02 .02 .02 .01 .00 .00 .00						
	.00 .00 .00 .01 .00 .01 .01 .01 .01 .01						
	.01 .00 .00 .00 .00 .01 .02 .01 .01 .01						
	.01 .01 .01 .00 .00 .01 .03 .03 .06 .09						
	.09 .12 .03 .04 .03 .01 .02 .02 .00 .00						
	.01 .01 .01 .02 .01 .01 .01 .02 .01 .01						
	.00 .00 .00 .00 .00 .00 .00 .00 .00 .00						
45 LS	SCS LOSS RATE						
	STRTL .38 INITIAL ABSTRACTION						
	CRVNR 84.00 CURVE NUMBER						
	RTIMP .00 PERCENT IMPERVIOUS AREA						
46 UD	SCS DIMENSIONLESS UNITGRAPH						
	TLAG .15 LAG						

UNIT HYDROGRAPH							
39.	103.	91.	46.	11	23.	11.	6.
0.				END-OF-PERIOD			
				ORDINATES			
				6.	3.	1.	1.
TOTAL RAINFALL =	3.00	TOTAL LOSS =	1.48	TOTAL EXCESS =	1.52		
PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW	24-HR	72-HR	41.58-HR
+ (CFS)	(HR)	(CFS)					
+ 54.	3.58	(INCHES)	7.	2.	1.	1.	
		(AC-FT)	1.516	1.516	1.516	1.516	
			3.	3.	3.	3.	
		CUMULATIVE AREA =	.04	SQ MI			
***	***	***	***	***	***	***	
HYDROGRAPH AT STATION OFF2 FOR PLAN 1, RATIO = 1.00							

TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.48, TOTAL EXCESS = 1.52 PRO1.OUT
 PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW
 + (CFS) (HR) 24-HR 72-HR 41.58-HR
 + 54. 3.58 (CFS) 7. 2. 1. 1.
 (INCHES) 1.516 1.516 1.516 1.516
 (AC-FT) 3. 3. 3. 3.
 CUMULATIVE AREA = .04 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION OFF2
 FOR PLAN 1, RATIO = .98

TOTAL RAINFALL = 2.94, TOTAL LOSS = 1.47, TOTAL EXCESS = 1.47
 PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW
 + (CFS) (HR) 24-HR 72-HR 41.58-HR
 + 53. 3.58 (CFS) 7. 2. 1. 1.
 (INCHES) 1.467 1.467 1.467 1.467
 (AC-FT) 3. 3. 3. 3.
 CUMULATIVE AREA = .04 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION OFF2
 FOR PLAN 1, RATIO = .97

TOTAL RAINFALL = 2.91, TOTAL LOSS = 1.47, TOTAL EXCESS = 1.44
 PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW
 + (CFS) (HR) 24-HR 72-HR 41.58-HR
 + 52. 3.58 (CFS) 7. 2. 1. 1.
 (INCHES) 1.443 1.443 1.443 1.443
 (AC-FT) 3. 3. 3. 3.
 CUMULATIVE AREA = .04 SQ MI

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 47 KK * OFF3 *
 *

50 KO OUTPUT CONTROL VARIABLES
 IPRNT 3 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

SUBBASIN RUNOFF DATA

51 BA SUBBASIN CHARACTERISTICS
 TAREA .03 SUBBASIN AREA

PRECIPITATION DATA

28 PB STORM 3.00 BASIN TOTAL PRECIPITATION

29 PI INCREMENTAL PRECIPITATION PATTERN
 .02 .04 .01 .02 .02 .02 .01 .00 .00 .00
 .00 .00 .00 .01 .00 .01 .01 .01 .01 .01
 .01 .01 .01 .00 .00 .01 .02 .03 .03 .06
 .09 .12 .03 .04 .03 .01 .02 .02 .00 .00
 .01 .01 .01 .02 .02 .01 .01 .02 .01 .01
 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
 .00 .00

52 LS SCS LOSS RATE
 STRTL .32 INITIAL ABSTRACTION
 CRVNR 86.20 CURVE NUMBER
 RTIMP .00 PERCENT IMPERVIOUS AREA

53 UD SCS DIMENSIONLESS UNITGRAPH
 TLAG .11 LAG

UNIT HYDROGRAPH
 9 END-OF-PERIOD ORDINATES
 7. 3. 1. 1. 0.

45. 81. 44. 18.
 TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.32, TOTAL EXCESS = 1.68
 PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW
 + (CFS) (HR) 24-HR 72-HR 41.58-HR
 + 38. 3.58 (CFS) 5. 1. 1. 1.
 (INCHES) 1.678 1.678 1.678 1.678
 (AC-FT) 2. 2. 2. 2.
 CUMULATIVE AREA = .03 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION OFF3
 FOR PLAN 1, RATIO = 1.00

TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.32, TOTAL EXCESS = 1.68
 PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW
 + (CFS) (HR) 24-HR 72-HR 41.58-HR
 + 38. 3.58 (CFS) 5. 1. 1. 1.
 (INCHES) 1.678 1.678 1.678 1.678
 (AC-FT) 2. 2. 2. 2.
 CUMULATIVE AREA = .03 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION OFF3
 FOR PLAN 1, RATIO = .98

TOTAL RAINFALL = 2.94, TOTAL LOSS = 1.31, TOTAL EXCESS = 1.63
 PEAK FLOW TIME MAXIMUM AVERAGE FLOW

			6-HR	24-HR	72-HR	PRO1.0UT 41.58-HR
+	(CFS)	(HR)				
+	37.	3.58	(CFS) (INCHES) (AC-FT)	5. 1.626 2.	1. 1.626 2.	1. 1.626 2.
			CUMULATIVE AREA =	.03 SQ MI		

			HYDROGRAPH AT STATION FOR PLAN 1, RATIO =	OFF3 .97		
	TOTAL RAINFALL =	2.91,	TOTAL LOSS =	1.31,	TOTAL EXCESS =	1.60
PEAK FLOW	TIME		6-HR	24-HR	72-HR	41.58-HR
+	(CFS)	(HR)				
+	36.	3.58	(CFS) (INCHES) (AC-FT)	4. 1.600 2.	1. 1.600 2.	1. 1.600 2.
			CUMULATIVE AREA =	.03 SQ MI		

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*****
*
57 KK * OFF4 *
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60 KO OUTPUT CONTROL VARIABLES
      IPRNT 3 PRINT CONTROL
      IPLOT 0 PLOT CONTROL
      QSCAL 0. HYDROGRAPH PLOT SCALE

SUBBASIN RUNOFF DATA

61 BA SUBBASIN CHARACTERISTICS
      TAREA .06 SUBBASIN AREA

PRECIPITATION DATA

28 PB STORM 3.00 BASIN TOTAL PRECIPITATION

29 PI INCREMENTAL PRECIPITATION PATTERN
      .02 .04 .01 .02 .02 .02 .01 .00 .00 .00
      .00 .00 .00 .01 .00 .01 .01 .01 .01 .01
      .01 .00 .00 .00 .00 .01 .02 .01 .01 .00
      .01 .01 .01 .00 .00 .01 .03 .03 .06 .09
      .09 .12 .03 .04 .03 .01 .02 .02 .00 .00
      .01 .01 .01 .02 .02 .01 .01 .01 .01 .01
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00

62 LS SCS LOSS RATE
      STRTL .32 INITIAL ABSTRACTION
      CRVNR 86.20 CURVE NUMBER
      RTIMP .00 PERCENT IMPERVIOUS AREA

63 UD SCS DIMENSIONLESS UNITGRAPH
      TLAG .14 LAG
  
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					UNIT HYDROGRAPH 10 END-OF-PERIOD ORDINATES			
	67.	158.	123.	55.	26.	12.	6.	
	TOTAL RAINFALL =	3.00,	TOTAL LOSS =	1.32,	TOTAL EXCESS =	1.68		
PEAK FLOW	TIME		6-HR	24-HR	72-HR	41.58-HR		
+	(CFS)	(HR)						
+	84.	3.58	(CFS) (INCHES) (AC-FT)	10. 1.677 5.	3. 1.678 5.	2. 1.678 5.	2. 1.678 5.	
			CUMULATIVE AREA =	.06 SQ MI				

			HYDROGRAPH AT STATION FOR PLAN 1, RATIO =	OFF4 1.00				
	TOTAL RAINFALL =	3.00,	TOTAL LOSS =	1.32,	TOTAL EXCESS =	1.68		
PEAK FLOW	TIME		6-HR	24-HR	72-HR	41.58-HR		
+	(CFS)	(HR)						
+	84.	3.58	(CFS) (INCHES) (AC-FT)	10. 1.677 5.	3. 1.678 5.	2. 1.678 5.	2. 1.678 5.	
			CUMULATIVE AREA =	.06 SQ MI				

			HYDROGRAPH AT STATION FOR PLAN 1, RATIO =	OFF4 .98				
	TOTAL RAINFALL =	2.94,	TOTAL LOSS =	1.31,	TOTAL EXCESS =	1.63		
PEAK FLOW	TIME		6-HR	24-HR	72-HR	41.58-HR		
+	(CFS)	(HR)						
+	82.	3.58	(CFS) (INCHES) (AC-FT)	10. 1.626 5.	3. 1.626 5.	1. 1.626 5.	1. 1.626 5.	
			CUMULATIVE AREA =	.06 SQ MI				

			HYDROGRAPH AT STATION FOR PLAN 1, RATIO =	OFF4 .97				
	TOTAL RAINFALL =	2.91,	TOTAL LOSS =	1.31,	TOTAL EXCESS =	1.60		
PEAK FLOW	TIME		6-HR	24-HR	72-HR	41.58-HR		
+	(CFS)	(HR)						
+			(CFS)					

+ 81. 3.58 PRO1.OUT
 (INCHES) 10. 3. 1. 1.
 (AC-FT) 1.600 1.600 1.600 1.600
 5. 5. 5. 5.
 CUMULATIVE AREA = .06 SQ MI

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 *
 64 KK OFF5
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67 KO OUTPUT CONTROL VARIABLES
 IPRNT 3 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

SUBBASIN RUNOFF DATA

68 BA SUBBASIN CHARACTERISTICS
 TAREA .26 SUBBASIN AREA

PRECIPITATION DATA

28 PB STORM 3.00 BASIN TOTAL PRECIPITATION

29 PI INCREMENTAL PRECIPITATION PATTERN
 .02 .04 .01 .02 .02 .02 .01 .00 .00 .00
 .00 .00 .00 .01 .00 .01 .01 .01 .01 .01
 .01 .00 .00 .00 .00 .01 .02 .01 .01 .00
 .01 .01 .01 .00 .00 .01 .03 .03 .06 .09
 .09 .12 .03 .04 .03 .01 .02 .02 .00 .00
 .01 .01 .01 .02 .02 .01 .01 .02 .01 .01
 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00

69 LS SCS LOSS RATE
 STRTL .31 INITIAL ABSTRACTION
 CRVNR 86.50 CURVE NUMBER
 RTIMP .00 PERCENT IMPERVIOUS AREA

70 UD SCS DIMENSIONLESS UNITGRAPH
 TLAG .42 LAG

UNIT HYDROGRAPH
 27 END-OF-PERIOD ORDINATES
 23. 71. 148. 228. 267. 267. 238. 197. 143. 104.
 77. 59. 43. 32. 24. 18. 13. 10. 7. 6.
 4. 3. 2. 2. 1. 1. 0.

TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.30, TOTAL EXCESS = 1.70

PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW 41.58-HR
 + (CFS) (HR) (CFS) 24-HR 72-HR
 + 236. 3.83 (CFS) 47. 12. 7. 7.
 (INCHES) 1.698 1.700 1.700 1.700
 (AC-FT) 23. 23. 23. 23.
 CUMULATIVE AREA = .26 SQ MI

*** **

HYDROGRAPH AT STATION OFF5
 FOR PLAN 1, RATIO = 1.00

TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.30, TOTAL EXCESS = 1.70

PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW 41.58-HR
 + (CFS) (HR) (CFS) 24-HR 72-HR
 + 236. 3.83 (CFS) 47. 12. 7. 7.
 (INCHES) 1.698 1.700 1.700 1.700
 (AC-FT) 23. 23. 23. 23.
 CUMULATIVE AREA = .26 SQ MI

*** **

HYDROGRAPH AT STATION OFF5
 FOR PLAN 1, RATIO = .98

TOTAL RAINFALL = 2.94, TOTAL LOSS = 1.29, TOTAL EXCESS = 1.65

PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW 41.58-HR
 + (CFS) (HR) (CFS) 24-HR 72-HR
 + 229. 3.83 (CFS) 45. 11. 7. 7.
 (INCHES) 1.646 1.649 1.649 1.649
 (AC-FT) 23. 23. 23. 23.
 CUMULATIVE AREA = .26 SQ MI

*** **

HYDROGRAPH AT STATION OFF5
 FOR PLAN 1, RATIO = .97

TOTAL RAINFALL = 2.91, TOTAL LOSS = 1.29, TOTAL EXCESS = 1.62

PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW 41.58-HR
 + (CFS) (HR) (CFS) 24-HR 72-HR
 + 226. 3.83 (CFS) 45. 11. 6. 6.
 (INCHES) 1.621 1.623 1.623 1.623
 (AC-FT) 22. 22. 22. 22.
 CUMULATIVE AREA = .26 SQ MI

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 71 KK OFF6
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74 KO OUTPUT CONTROL VARIABLES


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                                3 PRINT CONTROL
                                0 PLOT CONTROL
                                0. HYDROGRAPH PLOT SCALE
                                PRO1.OUT

SUBBASIN RUNOFF DATA
75 BA SUBBASIN CHARACTERISTICS
      TAREA .04 SUBBASIN AREA

PRECIPITATION DATA
28 PB STORM 3.00 BASIN TOTAL PRECIPITATION
29 PI INCREMENTAL PRECIPITATION PATTERN
      .02 .04 .01 .02 .02 .02 .01 .00 .00 .00
      .00 .00 .00 .01 .00 .01 .01 .01 .01 .01
      .01 .00 .00 .00 .00 .01 .02 .01 .01 .00
      .01 .01 .01 .00 .00 .01 .03 .03 .06 .09
      .09 .12 .03 .04 .03 .01 .02 .02 .00 .00
      .01 .01 .01 .02 .02 .01 .01 .02 .01 .01
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00

76 LS SCS LOSS RATE
      STRTL .32 INITIAL ABSTRACTION
      CRVNB 86.20 CURVE NUMBER
      RTIMP .00 PERCENT IMPERVIOUS AREA

77 UD SCS DIMENSIONLESS UNITGRAPH
      TLAG .12 LAG

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                                ***
                                UNIT HYDROGRAPH
                                9 END-OF-PERIOD ORDINATES
                                14. 6. 3. 1. 0.
                                59. 119. 76. 31.
TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.32, TOTAL EXCESS = 1.68
PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW 41.58-HR
+ (CFS) (HR) (CFS) 24-HR 72-HR
+ 59. 3.58 (CFS) 7. 2. 1. 1.
      (INCHES) 1.678 1.678 1.678 1.678
      (AC-FT) 4. 4. 4. 4.
CUMULATIVE AREA = .04 SQ MI

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                                ***
                                HYDROGRAPH AT STATION OFF6
                                FOR PLAN 1, RATIO = 1.00
TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.32, TOTAL EXCESS = 1.68
PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW 41.58-HR
+ (CFS) (HR) (CFS) 24-HR 72-HR
+ 59. 3.58 (CFS) 7. 2. 1. 1.
      (INCHES) 1.678 1.678 1.678 1.678
      (AC-FT) 4. 4. 4. 4.
CUMULATIVE AREA = .04 SQ MI

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                                ***
                                HYDROGRAPH AT STATION OFF6
                                FOR PLAN 1, RATIO = .98
TOTAL RAINFALL = 2.94, TOTAL LOSS = 1.31, TOTAL EXCESS = 1.63
PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW 41.58-HR
+ (CFS) (HR) (CFS) 24-HR 72-HR
+ 57. 3.58 (CFS) 7. 2. 1. 1.
      (INCHES) 1.626 1.626 1.626 1.626
      (AC-FT) 3. 3. 3. 3.
CUMULATIVE AREA = .04 SQ MI

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                                ***
                                HYDROGRAPH AT STATION OFF6
                                FOR PLAN 1, RATIO = .97
TOTAL RAINFALL = 2.91, TOTAL LOSS = 1.31, TOTAL EXCESS = 1.60
PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW 41.58-HR
+ (CFS) (HR) (CFS) 24-HR 72-HR
+ 56. 3.58 (CFS) 7. 2. 1. 1.
      (INCHES) 1.600 1.600 1.600 1.600
      (AC-FT) 3. 3. 3. 3.
CUMULATIVE AREA = .04 SQ MI

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86 KK * RDB1 *
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88 KO OUTPUT CONTROL VARIABLES
      IPRNT 1 PRINT CONTROL
      IPLOT 0 PLOT CONTROL
      QSCAL 0. HYDROGRAPH PLOT SCALE

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HYDROGRAPH ROUTING DATA
89 RS STORAGE ROUTING
      NSTPS 1 NUMBER OF SUBREACHES
      ITYP VOL TYPE OF INITIAL CONDITION
      RSVRIC -1.00 INITIAL CONDITION
      X .00 WORKING R AND D COEFFICIENT

```

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90 SV STORAGE .0 7.8 13.4 19.3 58.0 96.2 132.2
91 SE ELEVATION 25.50 27.00 28.00 29.00 35.00 40.00 44.00
92 SQ DISCHARGE 0. 26. 36. 44. 77. 336. 1414. 2947. 4825.
93 SE ELEVATION 25.50 29.00 30.00 31.00 37.00 38.00 40.00 42.00 44.00

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PRO1.OUT

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	7.78	13.43	19.26	25.72	32.18	58.03	73.30	80.94	96.21
OUTFLOW	.00	10.97	18.28	25.59	36.20	44.33	65.96	76.78	335.94	1413.68
ELEVATION	25.50	27.00	28.00	29.00	30.00	31.00	35.00	37.00	38.00	40.00
STORAGE	114.21	132.22								
OUTFLOW	2946.76	4825.05								
ELEVATION	42.00	44.00								

HYDROGRAPH AT STATION RDB1
PLAN 1, RATIO = 1.00

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	0000	1	0.	.0	25.5	1	1355	168	41.	29.5	30.6	2	0350	335	9.	6.0	26.7			
1	0005	2	0.	.0	25.5	1	1400	169	41.	29.2	30.5	2	0355	336	8.	6.0	26.7			
1	0010	3	0.	.0	25.5	1	1405	170	40.	28.9	30.5	2	0400	337	8.	5.9	26.6			
1	0015	4	0.	.0	25.5	1	1410	171	40.	28.6	30.5	2	0405	338	8.	5.9	26.6			
1	0020	5	0.	.0	25.5	1	1415	172	40.	28.4	30.4	2	0410	339	8.	5.8	26.6			
1	0025	6	0.	.0	25.5	1	1420	173	39.	28.1	30.4	2	0415	340	8.	5.8	26.6			
1	0030	7	0.	.0	25.5	1	1425	174	39.	27.8	30.3	2	0420	341	8.	5.7	26.6			
1	0035	8	0.	.0	25.5	1	1430	175	39.	27.6	30.3	2	0425	342	8.	5.7	26.6			
1	0040	9	0.	.1	25.5	1	1435	176	38.	27.3	30.2	2	0430	343	8.	5.6	26.6			
1	0045	10	0.	.1	25.5	1	1440	177	38.	27.0	30.2	2	0435	344	8.	5.5	26.6			
1	0050	11	0.	.1	25.5	1	1445	178	38.	26.8	30.2	2	0440	345	8.	5.5	26.6			
1	0055	12	0.	.1	25.5	1	1450	179	37.	26.5	30.1	2	0445	346	8.	5.4	26.5			
1	0100	13	0.	.2	25.5	1	1455	180	37.	26.3	30.1	2	0450	347	8.	5.4	26.5			
1	0105	14	0.	.2	25.5	1	1500	181	37.	26.0	30.0	2	0455	348	8.	5.3	26.5			
1	0110	15	0.	.2	25.5	1	1505	182	36.	25.8	30.0	2	0500	349	7.	5.3	26.5			
1	0115	16	0.	.2	25.5	1	1510	183	36.	25.5	30.0	2	0505	350	7.	5.2	26.5			
1	0120	17	0.	.2	25.5	1	1515	184	35.	25.3	29.9	2	0510	351	7.	5.2	26.5			
1	0125	18	0.	.3	25.6	1	1520	185	35.	25.0	29.9	2	0515	352	7.	5.1	26.5			
1	0130	19	0.	.3	25.6	1	1525	186	35.	24.8	29.9	2	0520	353	7.	5.1	26.5			
1	0135	20	1.	.4	25.6	1	1530	187	34.	24.5	29.8	2	0525	354	7.	5.0	26.5			
1	0140	21	1.	.6	25.6	1	1535	188	34.	24.3	29.8	2	0530	355	7.	5.0	26.5			
1	0145	22	1.	.7	25.6	1	1540	189	34.	24.1	29.7	2	0535	356	7.	4.9	26.5			
1	0150	23	1.	.9	25.7	1	1545	190	33.	23.8	29.7	2	0540	357	7.	4.9	26.4			
1	0155	24	2.	1.1	25.7	1	1550	191	33.	23.6	29.7	2	0545	358	7.	4.8	26.4			
1	0200	25	2.	1.2	25.7	1	1555	192	32.	23.4	29.6	2	0550	359	7.	4.8	26.4			
1	0205	26	2.	1.4	25.8	1	1600	193	32.	23.2	29.6	2	0555	360	7.	4.7	26.4			
1	0210	27	2.	1.6	25.8	1	1605	194	32.	23.0	29.6	2	0600	361	7.	4.7	26.4			
1	0215	28	2.	1.7	25.8	1	1610	195	31.	22.7	29.5	2	0605	362	7.	4.7	26.4			
1	0220	29	3.	1.9	25.9	1	1615	196	31.	22.5	29.5	2	0610	363	6.	4.6	26.4			
1	0225	30	3.	2.1	25.9	1	1620	197	31.	22.3	29.5	2	0615	364	6.	4.6	26.4			
1	0230	31	3.	2.3	26.0	1	1625	198	30.	22.1	29.4	2	0620	365	6.	4.5	26.4			
1	0235	32	4.	2.8	26.0	1	1630	199	30.	21.9	29.4	2	0625	366	6.	4.5	26.4			
1	0240	33	4.	3.1	26.1	1	1635	200	30.	21.7	29.4	2	0630	367	6.	4.4	26.4			
1	0245	34	5.	3.4	26.2	1	1640	201	29.	21.5	29.3	2	0635	368	6.	4.4	26.3			
1	0250	35	5.	3.8	26.2	1	1645	202	29.	21.3	29.3	2	0640	369	6.	4.3	26.3			
1	0255	36	6.	4.1	26.3	1	1650	203	29.	21.1	29.3	2	0645	370	6.	4.3	26.3			
1	0300	37	6.	4.5	26.4	1	1655	204	28.	20.9	29.3	2	0650	371	6.	4.3	26.3			
1	0305	38	7.	4.8	26.4	1	1700	205	28.	20.7	29.2	2	0655	372	6.	4.2	26.3			
1	0310	39	8.	5.3	26.5	1	1705	206	28.	20.5	29.2	2	0700	373	6.	4.2	26.3			
1	0315	40	9.	6.1	26.7	1	1710	207	27.	20.3	29.2	2	0705	374	6.	4.1	26.3			
1	0320	41	10.	7.3	26.9	1	1715	208	27.	20.1	29.1	2	0710	375	6.	4.1	26.3			
1	0325	42	13.	9.3	27.3	1	1720	209	27.	19.9	29.1	2	0715	376	6.	4.1	26.3			
1	0330	43	17.	12.2	27.8	1	1725	210	26.	19.8	29.1	2	0720	377	6.	4.0	26.3			
1	0335	44	22.	16.2	28.5	1	1730	211	26.	19.6	29.1	2	0725	378	6.	4.0	26.3			
1	0340	45	28.	20.7	29.2	1	1735	212	26.	19.4	29.0	2	0730	379	6.	3.9	26.3			
1	0345	46	36.	25.6	30.0	1	1740	213	26.	19.2	29.0	2	0735	380	6.	3.9	26.3			
1	0350	47	42.	30.5	30.7	1	1745	214	25.	19.1	29.0	2	0740	381	5.	3.9	26.2			
1	0355	48	47.	35.2	31.5	1	1750	215	25.	18.9	28.9	2	0745	382	5.	3.8	26.2			
1	0400	49	50.	39.4	32.1	1	1755	216	25.	18.7	28.9	2	0750	383	5.	3.8	26.2			
1	0405	50	54.	43.2	32.7	1	1800	217	25.	18.5	28.9	2	0755	384	5.	3.8	26.2			
1	0410	51	56.	46.3	33.2	1	1805	218	24.	18.4	28.8	2	0800	385	5.	3.7	26.2			
1	0415	52	58.	48.8	33.6	1	1810	219	24.	18.2	28.8	2	0805	386	5.	3.7	26.2			
1	0420	53	60.	50.9	33.9	1	1815	220	24.	18.0	28.8	2	0810	387	5.	3.7	26.2			
1	0425	54	61.	52.6	34.2	1	1820	221	24.	17.9	28.8	2	0815	388	5.	3.6	26.2			
1	0430	55	63.	54.0	34.4	1	1825	222	24.	17.7	28.7	2	0820	389	5.	3.6	26.2			
1	0435	56	64.	55.4	34.6	1	1830	223	23.	17.5	28.7	2	0825	390	5.	3.5	26.2			
1	0440	57	65.	56.6	34.8	1	1835	224	23.	17.4	28.7	2	0830	391	5.	3.5	26.2			
1	0445	58	66.	57.9	35.1	1	1840	225	23.	17.2	28.7	2	0835	392	5.	3.5	26.2			
1	0450	59	67.	59.1	35.1	1	1845	226	23.	17.1	28.6	2	0840	393	5.	3.4	26.2			
1	0455	60	68.	60.3	35.3	1	1850	227	23.	16.9	28.6	2	0845	394	5.	3.4	26.2			
1	0500	61	68.	61.5	35.4	1	1855	228	22.	16.8	28.6	2	0850	395	5.	3.4	26.2			
1	0505	62	69.	62.5	35.6	1	1900	229	22.	16.6	28.5	2	0855	396	5.	3.3	26.1			
1	0510	63	70.	63.5	35.7	1	1905	230	22.	16.4	28.5	2	0900	397	5.	3.3	26.1			
1	0515	64	70.	64.2	35.8	1	1910	231	22.	16.3	28.5	2	0905	398	5.	3.3	26.1			
1	0520	65	71.	64.8	35.9	1	1915	232	22.	16.1	28.5	2	0910	399	5.	3.3	26.1			
1	0525	66	71.	65.2	35.9	1	1920	233	21.	16.0	28.4	2	0915	400	5.	3.2	26.1			
1	0530	67	71.	65.4	36.0	1	1925	234	21.	15.8	28.4	2	0920	401	4.	3.2	26.1			
1	0535	68	71.	65.6	36.0	1	1930	235	21.	15.7	28.4	2	0925	402	4.	3.2	26.1			
1	0540	69	71.	65.8	36.0	1	1935	236	21.	15.6	28.4	2	0930	403	4.	3.1	26.1			
1	0545	70	71.	65.5	36.0	1	1940	237	21.	15.4	28.3	2	0935	404	4.	3.1	26.1			
1	0550	71	71.	65.3	36.0	1	1945	238	21.	15.3	28.3	2	0940	405	4.	3.1	26.1			
1	0555	72	71.	65.1	35.9	1	1950	239	20.	15.1	28.3	2	0945	406	4.	3.0	26.1			
1	0600	73	71.	64.9	35.9	1	1955	240	20.	15.0	28.3	2	0950	407	4.	3.0	26.1			
1	0605	74	71.	64.6	35.9	1	2000	241	20.	14.9	28.2	2	0955	408	4.	3.0	26.1			
1	0610	75	70.	64.3	35.8	1	2005	242	20.	14.7	28.2	2	1000	409	4.	2.9	26.1			
1	0615	76	70.	64.0	35.8	1	2010	243	20.	14.6	28.2	2	1005	410	4.	2.9	26.1			
1	0620	77	70.	63.6	35.7	1	2015	244	20.	14.4	28.2	2	1010	411	4.	2.9	26.1			
1	0625	78	70.	63.3	35.7	1	2020	245	19.	14.3	28.2	2	1015	412	4.	2.9	26.1			
1	0630	79	69.	62.9	35.6	1	2025	246	19											

															PROL.OUT									
1	0945	118	56.	46.2	33.2	*	1	2340	285	14.	9.8	27.4	*	2	1335	452	3.	1.9	25.9					
1	0950	119	56.	45.8	33.1	*	1	2345	286	13.	9.7	27.3	*	2	1340	453	3.	1.9	25.9					
1	0955	120	55.	45.4	33.1	*	1	2350	287	13.	9.6	27.3	*	2	1345	454	3.	1.9	25.9					
1	1000	121	55.	45.1	33.0	*	1	2355	288	13.	9.5	27.3	*	2	1350	455	3.	1.9	25.9					
1	1005	122	55.	44.7	32.9	*	2	0000	289	13.	9.4	27.3	*	2	1355	456	3.	1.9	25.9					
1	1010	123	54.	44.3	32.9	*	2	0005	290	13.	9.4	27.3	*	2	1400	457	3.	1.9	25.9					
1	1015	124	54.	43.9	32.8	*	2	0010	291	13.	9.3	27.3	*	2	1405	458	3.	1.8	25.9					
1	1020	125	54.	43.6	32.8	*	2	0015	292	13.	9.2	27.2	*	2	1410	459	3.	1.8	25.8					
1	1025	126	54.	43.2	32.7	*	2	0020	293	13.	9.1	27.2	*	2	1415	460	3.	1.8	25.8					
1	1030	127	53.	42.8	32.6	*	2	0025	294	13.	9.0	27.2	*	2	1420	461	3.	1.8	25.8					
1	1035	128	53.	42.5	32.6	*	2	0030	295	12.	8.9	27.2	*	2	1425	462	2.	1.8	25.8					
1	1040	129	53.	42.1	32.5	*	2	0035	296	12.	8.8	27.2	*	2	1430	463	2.	1.7	25.8					
1	1045	130	52.	41.7	32.5	*	2	0040	297	12.	8.7	27.2	*	2	1435	464	2.	1.7	25.8					
1	1050	131	52.	41.4	32.4	*	2	0045	298	12.	8.7	27.2	*	2	1440	465	2.	1.7	25.8					
1	1055	132	52.	41.0	32.4	*	2	0050	299	12.	8.6	27.1	*	2	1445	466	2.	1.7	25.8					
1	1100	133	51.	40.7	32.3	*	2	0055	300	12.	8.5	27.1	*	2	1450	467	2.	1.7	25.8					
1	1105	134	51.	40.3	32.3	*	2	0100	301	12.	8.4	27.1	*	2	1455	468	2.	1.7	25.8					
1	1110	135	51.	40.0	32.2	*	2	0105	302	12.	8.3	27.1	*	2	1500	469	2.	1.6	25.8					
1	1115	136	51.	39.6	32.1	*	2	0110	303	12.	8.3	27.1	*	2	1505	470	2.	1.6	25.8					
1	1120	137	50.	39.3	32.1	*	2	0115	304	11.	8.2	27.1	*	2	1510	471	2.	1.6	25.8					
1	1125	138	50.	38.9	32.0	*	2	0120	305	11.	8.1	27.1	*	2	1515	472	2.	1.6	25.8					
1	1130	139	50.	38.6	32.0	*	2	0125	306	11.	8.0	27.0	*	2	1520	473	2.	1.6	25.8					
1	1135	140	49.	38.2	31.9	*	2	0130	307	11.	7.9	27.0	*	2	1525	474	2.	1.6	25.8					
1	1140	141	49.	37.9	31.9	*	2	0135	308	11.	7.9	27.0	*	2	1530	475	2.	1.6	25.8					
1	1145	142	49.	37.6	31.8	*	2	0140	309	11.	7.8	27.0	*	2	1535	476	2.	1.5	25.8					
1	1150	143	49.	37.2	31.8	*	2	0145	310	11.	7.7	27.0	*	2	1540	477	2.	1.5	25.8					
1	1155	144	48.	36.9	31.7	*	2	0150	311	11.	7.6	27.0	*	2	1545	478	2.	1.5	25.8					
1	1200	145	48.	36.6	31.7	*	2	0155	312	11.	7.6	27.0	*	2	1550	479	2.	1.5	25.8					
1	1205	146	48.	36.2	31.6	*	2	0200	313	11.	7.5	26.9	*	2	1555	480	2.	1.5	25.8					
1	1210	147	47.	35.9	31.6	*	2	0205	314	10.	7.4	26.9	*	2	1600	481	2.	1.5	25.8					
1	1215	148	47.	35.6	31.5	*	2	0210	315	10.	7.3	26.9	*	2	1605	482	2.	1.5	25.8					
1	1220	149	47.	35.2	31.5	*	2	0215	316	10.	7.3	26.9	*	2	1610	483	2.	1.4	25.8					
1	1225	150	47.	34.9	31.4	*	2	0220	317	10.	7.2	26.9	*	2	1615	484	2.	1.4	25.8					
1	1230	151	46.	34.6	31.4	*	2	0225	318	10.	7.1	26.9	*	2	1620	485	2.	1.4	25.8					
1	1235	152	46.	34.3	31.3	*	2	0230	319	10.	7.1	26.9	*	2	1625	486	2.	1.4	25.8					
1	1240	153	46.	34.0	31.3	*	2	0235	320	10.	7.0	26.8	*	2	1630	487	2.	1.4	25.8					
1	1245	154	46.	33.7	31.2	*	2	0240	321	10.	6.9	26.8	*	2	1635	488	2.	1.4	25.8					
1	1250	155	45.	33.3	31.2	*	2	0245	322	10.	6.9	26.8	*	2	1640	489	2.	1.4	25.8					
1	1255	156	45.	33.0	31.1	*	2	0250	323	10.	6.8	26.8	*	2	1645	490	2.	1.3	25.8					
1	1300	157	45.	32.7	31.1	*	2	0255	324	9.	6.7	26.8	*	2	1650	491	2.	1.3	25.8					
1	1305	158	45.	32.4	31.0	*	2	0300	325	9.	6.7	26.8	*	2	1655	492	2.	1.3	25.8					
1	1310	159	44.	32.1	31.0	*	2	0305	326	9.	6.6	26.8	*	2	1700	493	2.	1.3	25.8					
1	1315	160	44.	31.8	30.9	*	2	0310	327	9.	6.5	26.8	*	2	1705	494	2.	1.3	25.7					
1	1320	161	43.	31.5	30.9	*	2	0315	328	9.	6.5	26.7	*	2	1710	495	2.	1.3	25.7					
1	1325	162	43.	31.2	30.8	*	2	0320	329	9.	6.4	26.7	*	2	1715	496	2.	1.3	25.7					
1	1330	163	43.	30.9	30.8	*	2	0325	330	9.	6.4	26.7	*	2	1720	497	2.	1.3	25.7					
1	1335	164	42.	30.6	30.8	*	2	0330	331	9.	6.3	26.7	*	2	1725	498	2.	1.2	25.7					
1	1340	165	42.	30.3	30.7	*	2	0335	332	9.	6.2	26.7	*	2	1730	499	2.	1.2	25.7					
1	1345	166	42.	30.0	30.7	*	2	0340	333	9.	6.2	26.7	*	2	1735	500	2.	1.2	25.7					
1	1350	167	41.	29.8	30.6	*	2	0345	334	9.	6.1	26.7	*	2										

PEAK FLOW		TIME		MAXIMUM AVERAGE FLOW			
(CFS)	(HR)	(CFS)	(AC-FT)	6-HR	24-HR	72-HR	41.58-HR
71.	5.58	64.1	32.	36.	1.540	23.	23.
		1.681		72.	1.663	78.	1.663
PEAK STORAGE		TIME		MAXIMUM AVERAGE STORAGE			
(AC-FT)	(HR)	(AC-FT)	(AC-FT)	6-HR	24-HR	72-HR	41.58-HR
66.	5.58	56.		29.	18.	18.	
PEAK STAGE		TIME		MAXIMUM AVERAGE STAGE			
(FEET)	(HR)	(FEET)	(FEET)	6-HR	24-HR	72-HR	41.58-HR
35.99	5.58	34.68		30.46	28.59	28.59	
CUMULATIVE AREA =				.88 SQ MI			

HYDROGRAPH AT STATION RDB1
PLAN 1, RATIO = .98

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	0000	1	0.	0.	25.5	1	1355	168	39.	28.3	30.4	*	2	0350	335	8.	5.8	26.6				
1	0005	2	0.	0.	25.5	1	1400	169	39.	28.0	30.3	*	2	0355	336	8.	5.7	26.6				
1	0010	3	0.	0.	25.5	1	1405	170	39.	27.8	30.3	*	2	0400	337	8.	5.7	26.6				
1	0015	4	0.	0.	25.5	1	1410	171	38.	27.5	30.3	*	2	0405	338	8.	5.6	26.6				
1	0020	5	0.	0.	25.5	1	1415	172	38.	27.2	30.2	*	2	0410	339	8.	5.6	26.6				
1	0025	6	0.	0.	25.5	1	1420	173	38.	27.0	30.2	*	2	0415	340	8.	5.5	26.6				
1	0030	7	0.	0.	25.5	1	1425	174	37.	26.7	30.2	*	2	0420	341	8.	5.5	26.6				
1	0035	8	0.	0.	25.5	1	1430	175	37.	26.4	30.1	*	2	0425	342	8.	5.4	26.5				
1	0040	9	0.	0.	25.5	1	1435	176	37.	26.2	30.1	*	2	0430	343	8.	5.4	26.5				
1	0045	10	0.	0.	25.5	1	1440	177	36.	25.9	30.0	*	2	0435	344	7.	5.3	26.5				
1	0050	11	0.	0.	25.5	1	1445	178	36.	25.7	30.0	*	2	0440	345	7.	5.3	26.5				
1	0055	12	0.	0.	25.5	1	1450	179	35.	25.4	30.0	*	2	0445	346	7.	5.2	26.5				
1	0100	13	0.	0.	25.5	1	1455	180	35.	25.2	29.9	*	2	0450	347	7.	5.2	26.5				
1	0105	14	0.	0.	25.5	1	1500	181	35.	25.0	29.9	*	2	0455	348	7.	5.1	26.5				
1	0110	15	0.	0.	25.5	1	1505	182	35.	24.7	29.8	*	2	0500	349	7.	5.1	26.5				
1	0115	16	0.	0.	25.5	1	1510	183	34.	24.5	29.8	*	2	0505	350	7.	5.0	26.5				
1	0120	17	0.	0.	25.5	1	1515	184	34.	24.2	29.8	*	2	0510	351	7.	5.0	26.5				
1	0125	18	0.	0.	25.5	1	1520	185	33.	24.0	29.7	*	2	0515	352	7.	4.9	26.4				
1	0130	19	0.	0.	25.6	1	1525	186	33.	23.8	29.7	*	2	0520	353	7.	4.9	26.4				
1	0135	20	1.	0.	25.6	1	1530	187	33.	23.6	29.7	*	2	0525	354	7.	4.8	26.4				
1	0140	21	1.	0.	25.6	1	1535	188	32.	23.3	29.6	*	2	0530	355	7.	4.8	26.4				
1	0145	22	1.	0.	25.6	1	1540	189	32.	23.1	29.6	*	2	0535	356	7.	4.7	26.4				
1	0150	23	1.	0.	25.7	1	1545	190	32.	22.9	29.6	*	2	0540	357	7.	4.7	26.4				
1	0155	24	1.	1.0	25.7	1	1550	191	31.	22.7	29.5	*	2	0545	358	7.	4.6	26.4				
1	0200	25	2.	1.1	25.7	1	1555	192	31.	22.5	29.5	*	2	0550	359	6.	4.6	26.4				
1	0205	26	2.	1.3	25.7	1	1600	193	31.	22.3	29.5	*	2	0555	360	6.	4.5	26.4				
1	0210	27	4.	2.1	25.8	1	1605	194	30.	22.0	29.4	*	2	0600	361	6.	4.5	26.4				
1	0215	28	2.	1.6	25.8	1	1610	195	30.	21.8	29.4	*	2	0605	362	6.	4.5	26.4				
1	0220	29	3.	1.8	25.8	1	1615	196	29.	21.6	29.4	*	2	0610	363	6.	4.4	26.4				
1	0225	30	3.	2.0	25.9	1	1620	197	29.	21.4	29.3	*	2	0615	364	6.	4.4	26.3				
1	0230	31	3.	2.3	25.9	1	1625	198	29.	21.2	29.3	*	2	0620	365	6.	4.3	26.3				
1	0235	32	4.	2.6	26.0	1	1630	199	29.	21.0	29.3	*	2	0625	366	6.	4.3	26.3				
1	0240	33	4.	2.8	26.1	1	1635	200	28.	20.8	29.2	*	2	0630	367	6.	4.3	26.3				
1	0245	34	5.	3.2	26.1	1	1640	201	28.	20.6	29.2	*	2	0635	368	6.	4.2	26.3				
1	0250	35	5.	3.5	26.2	1	1645	202	28.	20.5	29.2	*	2	0640	369	6.	4.2	26.3				
1	0255	36	5.	3.9	26.2	1	1650	203	27.	20.3	29.2	*	2	0645	370	6.	4.1	26.3				
1	0300	37	6.	4.2	26.3	1	1655	204	27.	20.1	29.1	*	2	0650	371	6.	4.1	26.3				
1	0305	38	6.	4.6	26.4	1	1700	205	27.	19.9	29.1	*	2	0655	372	6.	4.1	26.3				
1	0310	39	7.	5.1	26.4	1	1705	206	27.	19.7	29.0	*	2	0700	373	6.	4.0	26.3				
1	0315	40	8.	5.5	26.6	1	1710	207	26.	19.5	29.0	*	2	0705	374	6.	4.0	26.3				
1	0320	41	10.	6.9	26.8	1	1715	208	26.	19.4	29.0	*	2	0710	375	6.	3.9	26.3				
1	0325	42	12.	8.8	27.2	1	1720	209	25.	19.2	29.0	*	2	0715	376	5.	3.9	26.3				
1	0330	43	16.	11.7	27.7	1	1725	210	25.	19.0	29.0	*	2	0720	377	5.	3.9	26.2				
1	0335	44	21.	15.5	28.4	1	1730	211	25.	18.8	28.9	*	2	0725	378	5.	3.8	26.2				
1	0340	45	27.	20.0	29.1	1	1735	212	25.	18.7	28.9	*	2	0730	379	5.	3.7	26.2				
1	0345	46	34.	29.4	29.8	1	1740	213	24.	18.5	28.9	*	2	0735	380	5.	3.7	26.2				
1	0350	47	41.	29.4	30.6	1	1745	214	24.	18.3	28.8	*	2	0740	381	5.	3.7	26.2				
1	0355	48	46.	34.0	31.3	1	1750	215	24.	18.2	28.8	*	2	0745	382	5.	3.7	26.2				
1	0400	49	49.	38.1	31.9	1	1755	216	24.	18.0	28.8	*	2	0750	383	5.	3.6	26.2				
1	0405	50	52.	41.7	32.5	1	1800	217	24.	17.8	28.8	*	2	0755	384	5.	3.6	26.2				
1	0410	51	55.	44.8	33.0	1	1805	218	24.	17.7	28.7	*	2	0800	385	5.	3.6	26.2				
1	0415	52	57.	47.2	33.5	1	1810	219	23.	17.5	28.7	*	2	0805	386	5.	3.5	26.2				
1	0420	53	59.	49.2	33.6	1	1815	220	23.	17.3	28.7	*	2	0810	387	5.	3.5	26.2				
1	0425	54	60.	50.9	33.9	1	1820	221	23.	17.2	28.6	*	2	0815	388	5.	3.5	26.2				

1	0430	55	61.	52.3	34.1	*	1	1825	222	23.	17.0	28.6	*	2	0820	389	5.	3.4	26.2
1	0435	56	62.	53.6	34.3	*	1	1830	223	23.	16.9	28.6	*	2	0825	390	5.	3.4	26.2
1	0440	57	63.	54.8	34.5	*	1	1835	224	22.	16.7	28.6	*	2	0830	391	5.	3.4	26.1
1	0445	58	64.	56.0	34.7	*	1	1840	225	22.	16.6	28.5	*	2	0835	392	5.	3.3	26.1
1	0450	59	65.	57.2	34.9	*	1	1845	226	22.	16.4	28.5	*	2	0840	393	5.	3.3	26.1
1	0455	60	66.	58.5	35.1	*	1	1850	227	22.	16.3	28.5	*	2	0845	394	5.	3.3	26.1
1	0500	61	67.	59.5	35.2	*	1	1855	228	22.	16.1	28.5	*	2	0850	395	5.	3.2	26.1
1	0505	62	68.	60.6	35.3	*	1	1900	229	21.	16.0	28.4	*	2	0855	396	5.	3.2	26.1
1	0510	63	68.	61.4	35.4	*	1	1905	230	21.	15.8	28.4	*	2	0900	397	4.	3.2	26.1
1	0515	64	69.	62.2	35.5	*	1	1910	231	21.	15.7	28.4	*	2	0905	398	4.	3.1	26.1
1	0520	65	69.	62.7	35.6	*	1	1915	232	21.	15.5	28.4	*	2	0910	399	4.	3.1	26.1
1	0525	66	70.	63.1	35.7	*	1	1920	233	21.	15.2	28.3	*	2	0915	400	4.	3.1	26.1
1	0530	67	70.	63.4	35.7	*	1	1925	234	21.	15.2	28.3	*	2	0920	401	4.	3.1	26.1
1	0535	68	70.	63.5	35.7	*	1	1930	235	20.	15.1	28.3	*	2	0925	402	4.	3.0	26.1
1	0540	69	70.	63.5	35.7	*	1	1935	236	20.	15.0	28.3	*	2	0930	403	4.	3.0	26.1
1	0545	70	70.	63.4	35.7	*	1	1940	237	20.	14.8	28.2	*	2	0935	404	4.	3.0	26.1
1	0550	71	70.	63.3	35.7	*	1	1945	238	20.	14.7	28.2	*	2	0940	405	4.	2.9	26.1
1	0555	72	70.	63.1	35.7	*	1	1950	239	20.	14.5	28.2	*	2	0945	406	4.	2.9	26.1
1	0600	73	69.	62.8	35.6	*	1	1955	240	20.	14.4	28.2	*	2	0950	407	4.	2.9	26.1
1	0605	74	69.	62.6	35.6	*	1	2000	241	19.	14.3	28.1	*	2	0955	408	4.	2.9	26.1
1	0610	75	69.	62.3	35.6	*	1	2005	242	19.	14.1	28.1	*	2	1000	409	4.	2.8	26.0
1	0615	76	69.	62.0	35.5	*	1	2010	243	19.	14.0	28.1	*	2	1005	410	4.	2.8	26.0
1	0620	77	68.	61.6	35.5	*	1	2015	244	19.	13.9	28.1	*	2	1010	411	4.	2.8	26.0
1	0625	78	68.	61.2	35.4	*	1	2020	245	19.	13.7	28.1	*	2	1015	412	4.	2.7	26.0
1	0630	79	68.	60.8	35.4	*	1	2025	246	19.	13.6	28.0	*	2	1020	413	4.	2.7	26.0
1	0635	80	68.	60.4	35.3	*	1	2030	247	18.	13.5	28.0	*	2	1025	414	4.	2.7	26.0
1	0640	81	67.	60.0	35.3	*	1	2035	248	18.	13.4	28.0	*	2	1030	415	4.	2.7	26.0
1	0645	82	67.	59.6	35.2	*	1	2040	249	18.	13.2	28.0	*	2	1035	416	4.	2.6	26.0
1	0650	83	67.	59.1	35.1	*	1	2045	250	18.	13.1	27.9	*	2	1040	417	4.	2.6	26.0
1	0655	84	66.	58.7	35.1	*	1	2050	251	18.	13.0	27.9	*	2	1045	418	4.	2.6	26.0
1	0700	85	66.	58.2	35.0	*	1	2055	252	18.	12.9	27.9	*	2	1050	419	4.	2.6	26.0
1	0705	86	66.	57.8	35.0	*	1	2100	253	17.	12.8	27.9	*	2	1055	420	4.	2.5	26.0
1	0710	87	65.	57.4	34.9	*	1	2105	254	17.	12.6	27.9	*	2	1100	421	4.	2.5	26.0
1	0715	88	65.	57.1	34.8	*	1	2110	255	17.	12.5	27.8	*	2	1105	422	4.	2.5	26.0
1	0720	89	65.	56.5	34.8	*	1	2115	256	17.	12.4	27.8	*	2	1110	423	3.	2.5	26.0
1	0725	90	64.	56.0	34.7	*	1	2120	257	17.	12.3	27.8	*	2	1115	424	3.	2.4	26.0
1	0730	91	64.	55.6	34.6	*	1	2125	258	17.	12.2	27.8	*	2	1120	425	3.	2.4	26.0
1	0735	92	64.	55.1	34.6	*	1	2130	259	16.	12.1	27.8	*	2	1125	426	3.	2.4	26.0
1	0740	93	63.	54.7	34.5	*	1	2135	260	16.	11.9	27.7	*	2	1130	427	3.	2.4	26.0
1	0745	94	63.	54.3	34.4	*	1	2140	261	16.	11.8	27.7	*	2	1135	428	3.	2.4	26.0
1	0750	95	62.	53.8	34.4	*	1	2145	262	16.	11.7	27.7	*	2	1140	429	3.	2.3	25.9
1	0755	96	62.	53.4	34.3	*	1	2150	263	16.	11.6	27.7	*	2	1145	430	3.	2.3	25.9
1	0800	97	62.	53.0	34.2	*	1	2155	264	16.	11.5	27.7	*	2	1150	431	3.	2.3	25.9
1	0805	98	61.	52.6	34.2	*	1	2200	265	16.	11.4	27.6	*	2	1155	432	3.	2.3	25.9
1	0810	99	61.	52.1	34.1	*	1	2205	266	15.	11.3	27.6	*	2	1200	433	3.	2.3	25.9
1	0815	100	61.	51.7	34.0	*	1	2210	267	15.	11.2	27.6	*	2	1205	434	3.	2.2	25.9
1	0820	101	60.	51.3	34.0	*	1	2215	268	15.	11.1	27.6	*	2	1210	435	3.	2.2	25.9
1	0825	102	60.	50.9	33.9	*	1	2220	269	15.	11.0	27.6	*	2	1215	436	3.	2.2	25.9
1	0830	103	60.	50.5	33.8	*	1	2225	270	15.	10.9	27.5	*	2	1220	437	3.	2.2	25.9
1	0835	104	59.	50.1	33.8	*	1	2230	271	15.	10.8	27.5	*	2	1225	438	3.	2.1	25.9
1	0840	105	59.	49.7	33.7	*	1	2235	272	15.	10.7	27.5	*	2	1230	439	3.	2.1	25.9
1	0845	106	59.	49.3	33.6	*	1	2240	273	15.	10.6	27.5	*	2	1235	440	3.	2.1	25.9
1	0850	107	58.	48.9	33.6	*	1	2245	274	14.	10.5	27.5	*	2	1240	441	3.	2.1	25.9
1	0855	108	58.	48.5	33.5	*	1	2250	275	14.	10.4	27.5	*	2	1245	442	3.	2.1	25.9
1	0900	109	58.	48.1	33.5	*	1	2255	276	14.	10.3	27.4	*	2	1250	443	3.	2.0	25.9
1	0905	110	57.	47.7	33.4	*	1	2300	277	14.	10.2	27.4	*	2	1255	444	3.	2.0	25.9
1	0910	111	57.	47.3	33.3	*	1	2305	278	14.	10.1	27.4	*	2	1300	445	3.	2.0	25.9
1	0915	112	57.	46.9	33.3	*	1	2310	279	14.	10.0	27.4	*	2	1305	446	3.	2.0	25.9
1	0920	113	56.	46.5	33.2	*	1	2315	280	14.	9.9	27.4	*	2	1310	447	3.	2.0	25.9
1	0925	114	56.	46.1	33.2	*	1	2320	281	14.	9.8	27.4	*	2	1315	448	3.	1.9	25.9
1	0930	115	56.	45.7	33.1	*	1	2325	282	13.	9.7	27.3	*	2	1320	449	3.	1.9	25.9
1	0935	116	55.	45.3	33.0	*	1	2330	283	13.	9.6	27.3	*	2	1325	450	3.	1.9	25.9
1	0940	117	55.	45.0	33.0	*	1	2335	284	13.	9.5	27.3	*	2	1330	451	3.	1.9	25.9
1	0945	118	55.	44.6	32.9	*	1	2340	285	13.	9.4	27.3	*	2	1335	452	3.	1.9	25.9
1	0950	119	54.	44.2	32.9	*	1	2345	286	13.	9.3	27.3	*	2	1340	453	3.	1.8	25.9
1	0955	120	54.	43.8	32.8	*	1	2350	287	13.	9.2	27.3	*	2	1345	454	3.	1.8	25.9
1	1000	121	54.	43.5	32.7	*	1	2355	288	13.	9.1	27.2	*	2	1350	455	3.	1.8	25.8
1	1005	122	53.	43.1	32.7	*	1	0000	289	13.	9.1	27.2	*	2	1355	456	3.	1.8	25.8
1	1010	123	53.	42.7	32.6	*	2	0005	290	13.	9.0	27.2	*	2	1400	457	3.	1.8	25.8
1	1015	124	53.	42.4	32.6	*	2	0010	291	12.	8.9	27.2	*	2	1405	458	2.	1.8	25.8
1	1020	125	53.	42.0	32.5	*	2	0015	292	12.	8.8	27.2	*	2	1410	459	2.	1.7	25.8
1	1025	126	52.	41.6	32.5	*	2	0020	293	12.	8.7	27.2	*	2	1415	460	2.	1.7	25.8
1	1030	127	52.	41.3	32.4	*	2	0025	294	12.	8.6	27.2	*	2	1420	461	2.	1.7	25.8
1	1035	128	52.	40.9	32.4	*	2	0030	295	12.	8.6	27.1	*	2	1425	462	2.	1.7	25.8
1	1040	129	51.	40.6	32.3	*	2	0035	296	12.	8.5	27.1	*	2	1430	463	2.	1.7	25.8
1	1045	130	51.	40.2	32.2	*	2	0040	297	12.	8.4	27.1	*	2	1435	464	2.	1.7	25.8
1	1050	131	51.	39.9	32.2	*	2	0045	298	12.	8.3	27.1	*	2	1440	465	2.	1.6	25.8
1	1055	132	50.	39.5	32.1	*	2	0050	299	12.	8.2	27.1	*	2	1445	466	2.	1.6	25.8
1	1100	133	50.	39.2	32.1	*	2	0055	300	11.	8.2	27.1	*	2	1450	467	2.	1.6	25.8
1	1105	134	50.	38.8	32.0	*	2	0100	301	11.	8.1	27.							

A decorative horizontal border at the bottom of the page, composed of a continuous row of small, stylized square motifs.

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Page 13

(INCHES) 1.678 1.678 1.678 PRO1.OUT
(AC-FT) 1. 1. 1. 1.678
CUMULATIVE AREA = .01 SQ MI

HYDROGRAPH AT STATION OFF7
FOR PLAN 1, RATIO = .98

TOTAL RAINFALL = 2.94, TOTAL LOSS = 1.31, TOTAL EXCESS = 1.63

PEAK FLOW	TIME	6-HR	24-HR	72-HR	41.58-HR
+	(CFS)				
+	10.	3.50			
	(CFS)	1.	0.	0.	0.
	(INCHES)	1.626	1.626	1.626	1.626
	(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .01 SQ MI

HYDROGRAPH AT STATION OFF7
FOR PLAN 1, RATIO = .97

TOTAL RAINFALL = 2.91, TOTAL LOSS = 1.31, TOTAL EXCESS = 1.60

PEAK FLOW	TIME	6-HR	24-HR	72-HR	41.58-HR
+	(CFS)				
+	10.	3.50			
	(CFS)	1.	0.	0.	0.
	(INCHES)	1.600	1.600	1.600	1.600
	(AC-FT)	1.	1.	1.	1.

CUMULATIVE AREA = .01 SQ MI

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101 KK * OFF8 *
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104 KO OUTPUT CONTROL VARIABLES
IPRNT 3 PRINT CONTROL
IPLOT 0 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE

SUBBASIN RUNOFF DATA
105 BA SUBBASIN CHARACTERISTICS
TAREA .21 SUBBASIN AREA

PRECIPITATION DATA
28 PB STORM 3.00 BASIN TOTAL PRECIPITATION
29 PI INCREMENTAL PRECIPITATION PATTERN
.02 .04 .01 .02 .02 .02 .01 .00 .00 .00
.00 .00 .00 .01 .00 .01 .01 .01 .01 .01
.01 .00 .00 .00 .00 .01 .02 .01 .01 .00
.01 .01 .01 .00 .00 .01 .03 .03 .06 .09
.09 .12 .03 .04 .03 .01 .02 .02 .00 .00
.01 .01 .01 .02 .02 .01 .02 .01 .01 .01
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00

106 LS SCS LOSS RATE
STRTL .32 INITIAL ABSTRACTION
CRVNB 86.30 CURVE NUMBER
RTIMP .00 PERCENT IMPERVIOUS AREA

107 UD SCS DIMENSIONLESS UNITGRAPH
TLAG .30 LAG

UNIT HYDROGRAPH
20 END-OF-PERIOD ORDINATES
42. 135. 257. 301. 278. 219. 140. 94. 64. 43.
29. 20. 13. 9. 6. 4. 3. 2. 1. 0.

TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.31, TOTAL EXCESS = 1.69

PEAK FLOW	TIME	6-HR	24-HR	72-HR	41.58-HR
+	(CFS)				
+	230.	3.75			
	(CFS)	39.	10.	6.	6.
	(INCHES)	1.684	1.685	1.685	1.685
	(AC-FT)	19.	19.	19.	19.

CUMULATIVE AREA = .21 SQ MI

HYDROGRAPH AT STATION OFF8
FOR PLAN 1, RATIO = 1.00

TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.31, TOTAL EXCESS = 1.69

PEAK FLOW	TIME	6-HR	24-HR	72-HR	41.58-HR
+	(CFS)				
+	230.	3.75			
	(CFS)	39.	10.	6.	6.
	(INCHES)	1.684	1.685	1.685	1.685
	(AC-FT)	19.	19.	19.	19.

CUMULATIVE AREA = .21 SQ MI

HYDROGRAPH AT STATION OFF8
FOR PLAN 1, RATIO = .98

TOTAL RAINFALL = 2.94, TOTAL LOSS = 1.31, TOTAL EXCESS = 1.63

PEAK FLOW	TIME	6-HR	24-HR	72-HR	41.58-HR
+	(CFS)				
+	223.	3.75			
	(CFS)	38.	9.	5.	5.
	(INCHES)	1.633	1.634	1.634	1.634
	(AC-FT)	19.	19.	19.	19.

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PRO1.OUT

CUMULATIVE AREA = .21 SQ MI

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***          ***          ***          ***          ***
HYDROGRAPH AT STATION OFF8
FOR PLAN 1, RATIO = .97
TOTAL RAINFALL = 2.91, TOTAL LOSS = 1.30, TOTAL EXCESS = 1.61
PEAK FLOW      TIME      6-HR      MAXIMUM AVERAGE FLOW
+ (CFS)        (HR)      (CFS)      24-HR      72-HR      41.58-HR
+ 220.         3.75      (CFS)      24-HR      72-HR      41.58-HR
              (INCHES)  1.607    1.608    1.608    1.608
              (AC-FT)   18.      18.      18.      18.
CUMULATIVE AREA = .21 SQ MI

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*****
*
111 KK      * OFF9 *
*
*****

114 KO      OUTPUT CONTROL VARIABLES
            IPRNT      3 PRINT CONTROL
            IPLOT      0 PLOT CONTROL
            QSCAL      0. HYDROGRAPH PLOT SCALE

SUBBASIN RUNOFF DATA

115 BA      SUBBASIN CHARACTERISTICS
            TAREA      .12 SUBBASIN AREA

PRECIPITATION DATA

28 PB      STORM      3.00 BASIN TOTAL PRECIPITATION

29 PI      INCREMENTAL PRECIPITATION PATTERN
            .02      .04      .01      .02      .02      .02      .01      .00      .00      .00
            .00      .00      .00      .01      .00      .01      .01      .01      .01      .01
            .01      .00      .00      .00      .00      .01      .02      .01      .01      .00
            .01      .01      .01      .00      .00      .01      .03      .03      .06      .09
            .09      .12      .03      .04      .03      .01      .02      .02      .00      .00
            .01      .01      .01      .02      .02      .01      .01      .02      .01      .01
            .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
            .00      .00

116 LS      SCS LOSS RATE
            STRTL      .32 INITIAL ABSTRACTION
            CRVNR      86.20 CURVE NUMBER
            RTIMP      .00 PERCENT IMPERVIOUS AREA

117 UD      SCS DIMENSIONLESS UNITGRAPH
            TLAG      .20 LAG

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UNIT HYDROGRAPH
14 END-OF-PERIOD ORDINATES
55. 182. 230. 187. 106. 61. 35. 20. 12. 7.
4. 2. 1. 1.

TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.32, TOTAL EXCESS = 1.68
PEAK FLOW      TIME      6-HR      MAXIMUM AVERAGE FLOW
+ (CFS)        (HR)      (CFS)      24-HR      72-HR      41.58-HR
+ 144.         3.58      (CFS)      24-HR      72-HR      41.58-HR
              (INCHES)  1.677    1.678    1.678    1.678
              (AC-FT)   10.      10.      10.      10.
CUMULATIVE AREA = .12 SQ MI

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***          ***          ***          ***          ***
HYDROGRAPH AT STATION OFF9
FOR PLAN 1, RATIO = 1.00
TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.32, TOTAL EXCESS = 1.68
PEAK FLOW      TIME      6-HR      MAXIMUM AVERAGE FLOW
+ (CFS)        (HR)      (CFS)      24-HR      72-HR      41.58-HR
+ 144.         3.58      (CFS)      24-HR      72-HR      41.58-HR
              (INCHES)  1.677    1.678    1.678    1.678
              (AC-FT)   10.      10.      10.      10.
CUMULATIVE AREA = .12 SQ MI

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***          ***          ***          ***          ***
HYDROGRAPH AT STATION OFF9
FOR PLAN 1, RATIO = .98
TOTAL RAINFALL = 2.94, TOTAL LOSS = 1.31, TOTAL EXCESS = 1.63
PEAK FLOW      TIME      6-HR      MAXIMUM AVERAGE FLOW
+ (CFS)        (HR)      (CFS)      24-HR      72-HR      41.58-HR
+ 140.         3.58      (CFS)      24-HR      72-HR      41.58-HR
              (INCHES)  1.626    1.626    1.626    1.626
              (AC-FT)   10.      10.      10.      10.
CUMULATIVE AREA = .12 SQ MI

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***          ***          ***          ***          ***
HYDROGRAPH AT STATION OFF9
FOR PLAN 1, RATIO = .97
TOTAL RAINFALL = 2.91, TOTAL LOSS = 1.31, TOTAL EXCESS = 1.60
PEAK FLOW      TIME      6-HR      MAXIMUM AVERAGE FLOW
+ (CFS)        (HR)      (CFS)      24-HR      72-HR      41.58-HR
+ 138.         3.58      (CFS)      24-HR      72-HR      41.58-HR
              (INCHES)  1.600    1.600    1.600    1.600
              (AC-FT)   10.      10.      10.      10.
CUMULATIVE AREA = .12 SQ MI

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*****
*
118 KK      OFF10
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121 KO      OUTPUT CONTROL VARIABLES
            IPRNT      3  PRINT CONTROL
            IPLOT      0  PLOT CONTROL
            QSCAL      0  HYDROGRAPH PLOT SCALE

SUBBASIN RUNOFF DATA

122 BA      SUBBASIN CHARACTERISTICS
            TAREA      .65  SUBBASIN AREA

PRECIPITATION DATA

28 PB      STORM      3.00  BASIN TOTAL PRECIPITATION

29 PI      INCREMENTAL PRECIPITATION PATTERN
            .02      .04      .01      .02      .02      .02      .01      .00      .00      .00
            .00      .00      .00      .01      .00      .01      .01      .01      .01      .01
            .01      .00      .00      .00      .00      .01      .02      .01      .01      .00
            .01      .01      .01      .00      .00      .01      .03      .03      .06      .09
            .09      .12      .03      .04      .03      .01      .02      .02      .00      .00
            .01      .01      .01      .02      .02      .01      .01      .02      .01      .01
            .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
            .00      .00

123 LS      SCS LOSS RATE
            STRTL      .31  INITIAL ABSTRACTION
            CRVNR      86.60  CURVE NUMBER
            RTIMP      .00  PERCENT IMPERVIOUS AREA

124 UD      SCS DIMENSIONLESS UNITGRAPH
            TLAG      .62  LAG

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UNIT HYDROGRAPH
39 END-OF-PERIOD ORDINATES
23. 71. 138. 233. 343. 426. 472. 479. 463. 423.
376. 313. 245. 195. 158. 129. 107. 87. 70. 57.
47. 38. 31. 25. 20. 17. 13. 11. 9. 7.
6. 5. 4. 3. 3. 2. 1. 1. 0.

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```

TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.29, TOTAL EXCESS = 1.71

PEAK FLOW      TIME      6-HR      MAXIMUM AVERAGE FLOW
+ (CFS) (HR)      (CFS)      24-HR      72-HR      41.58-HR
+ 481. 4.08      (CFS)      120.      30.      17.      17.
      (INCHES) 1.703      1.708      1.708      1.708
      (AC-FT) 59.      59.      59.      59.

CUMULATIVE AREA = .65 SQ MI

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HYDROGRAPH AT STATION OFF10
FOR PLAN 1, RATIO = 1.00

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TOTAL RAINFALL = 3.00, TOTAL LOSS = 1.29, TOTAL EXCESS = 1.71

PEAK FLOW      TIME      6-HR      MAXIMUM AVERAGE FLOW
+ (CFS) (HR)      (CFS)      24-HR      72-HR      41.58-HR
+ 481. 4.08      (CFS)      120.      30.      17.      17.
      (INCHES) 1.703      1.708      1.708      1.708
      (AC-FT) 59.      59.      59.      59.

CUMULATIVE AREA = .65 SQ MI

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HYDROGRAPH AT STATION OFF10
FOR PLAN 1, RATIO = .98

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TOTAL RAINFALL = 2.94, TOTAL LOSS = 1.28, TOTAL EXCESS = 1.66

PEAK FLOW      TIME      6-HR      MAXIMUM AVERAGE FLOW
+ (CFS) (HR)      (CFS)      24-HR      72-HR      41.58-HR
+ 467. 4.08      (CFS)      116.      29.      17.      17.
      (INCHES) 1.652      1.656      1.656      1.656
      (AC-FT) 57.      58.      58.      58.

CUMULATIVE AREA = .65 SQ MI

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HYDROGRAPH AT STATION OFF10
FOR PLAN 1, RATIO = .97

```

TOTAL RAINFALL = 2.91, TOTAL LOSS = 1.28, TOTAL EXCESS = 1.63

PEAK FLOW      TIME      6-HR      MAXIMUM AVERAGE FLOW
+ (CFS) (HR)      (CFS)      24-HR      72-HR      41.58-HR
+ 460. 4.08      (CFS)      114.      29.      17.      17.
      (INCHES) 1.626      1.630      1.630      1.630
      (AC-FT) 57.      57.      57.      57.

CUMULATIVE AREA = .65 SQ MI

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*****
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133 KK      RDB2
*
*****

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135 KO      OUTPUT CONTROL VARIABLES
            IPRNT      1  PRINT CONTROL
            IPLOT      0  PLOT CONTROL
            QSCAL      0  HYDROGRAPH PLOT SCALE

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HYDROGRAPH ROUTING DATA										PROJ.OUT										
136 RS	STORAGE ROUTING	1	NUMBER OF SUBREACHES																	
	NSTPS	1	TYPE OF INITIAL CONDITION																	
	ITYP	1	INITIAL CONDITION																	
	RSVRIC	-1.00	WORKING R AND D COEFFICIENT																	
	X	.00																		
137 SV	STORAGE	.0	3.3	6.9	10.6	27.3	46.8	75.0												
138 SE	ELEVATION	2993.00	2994.00	2995.00	2996.00	3000.00	3004.00	3009.00												
139 SQ	DISCHARGE	0.	18.	27.	34.	40.	45.	58.	68.	77.										
140 SE	ELEVATION	2993.00	2996.00	2997.00	2998.00	2999.00	3000.00	3003.00	3006.00	3009.00										

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA																				
STORAGE	.00	3.27	6.87	10.63	14.81	18.99	23.16	27.34	41.91	46.77										
OUTFLOW	.00	5.98	11.97	17.95	27.43	34.38	40.15	45.18	57.71	61.13										
ELEVATION	2993.00	2994.00	2995.00	2996.00	2997.00	2998.00	2999.00	3000.00	3003.00	3004.00										
STORAGE	58.07	75.03																		
OUTFLOW	67.97	76.88																		
ELEVATION	3006.00	3009.00																		
WARNING --- ROUTED OUTFLOW (77.) IS GREATER THAN MAXIMUM OUTFLOW (77.) IN STORAGE-OUTFLOW TABLE																				
WARNING --- ROUTED OUTFLOW (77.) IS GREATER THAN MAXIMUM OUTFLOW (77.) IN STORAGE-OUTFLOW TABLE																				
WARNING --- ROUTED OUTFLOW (77.) IS GREATER THAN MAXIMUM OUTFLOW (77.) IN STORAGE-OUTFLOW TABLE																				
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WARNING --- ROUTED OUTFLOW (77.) IS GREATER THAN MAXIMUM OUTFLOW (77.) IN STORAGE-OUTFLOW TABLE																				
WARNING --- ROUTED OUTFLOW (77.) IS GREATER THAN MAXIMUM OUTFLOW (77.) IN STORAGE-OUTFLOW TABLE																				

HYDROGRAPH AT STATION RDB2										PLAN 1, RATIO = 1.00										

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	0000	1	0.	.0	2993.0	* 1	1355	168	52.	35.3	3001.6	* 2	0350	335	9.	4.8	2994.4			
1	0005	2	0.	.0	2993.0	* 1	1400	169	52.	34.9	3001.5	* 2	0355	336	9.	4.8	2994.4			
1	0010	3	0.	.0	2993.0	* 1	1405	170	51.	34.6	3001.5	* 2	0400	337	8.	4.7	2994.4			
1	0015	4	0.	.0	2993.0	* 1	1410	171	51.	34.2	3001.4	* 2	0405	338	8.	4.7	2994.4			
1	0020	5	0.	.0	2993.0	* 1	1415	172	51.	33.9	3001.3	* 2	0410	339	8.	4.6	2994.4			
1	0025	6	0.	.0	2993.0	* 1	1420	173	51.	33.5	3001.3	* 2	0415	340	8.	4.6	2994.4			
1	0030	7	0.	.0	2993.0	* 1	1425	174	50.	33.2	3001.2	* 2	0420	341	8.	4.5	2994.3			
1	0035	8	0.	.1	2993.0	* 1	1430	175	50.	32.9	3001.1	* 2	0425	342	8.	4.5	2994.3			
1	0040	9	0.	.1	2993.0	* 1	1435	176	50.	32.5	3001.1	* 2	0430	343	8.	4.4	2994.3			
1	0045	10	0.	.1	2993.0	* 1	1440	177	49.	32.2	3001.0	* 2	0435	344	8.	4.3	2994.3			
1	0050	11	0.	.1	2993.0	* 1	1445	178	49.	31.8	3000.9	* 2	0440	345	8.	4.3	2994.3			
1	0055	12	0.	.1	2993.0	* 1	1450	179	49.	31.5	3000.9	* 2	0445	346	8.	4.2	2994.3			
1	0100	13	0.	.1	2993.0	* 1	1455	180	48.	31.2	3000.8	* 2	0450	347	8.	4.2	2994.3			
1	0105	14	0.	.2	2993.0	* 1	1500	181	48.	30.8	3000.7	* 2	0455	348	7.	4.1	2994.2			
1	0110	15	0.	.2	2993.1	* 1	1505	182	48.	30.5	3000.6	* 2	0500	349	7.	4.1	2994.2			
1	0115	16	0.	.2	2993.1	* 1	1510	183	48.	30.2	3000.6	* 2	0505	350	7.	4.0	2994.2			
1	0120	17	0.	.2	2993.1	* 1	1515	184	47.	29.8	3000.5	* 2	0510	351	7.	4.0	2994.2			
1	0125	18	1.	.3	2993.1	* 1	1520	185	47.	29.5	3000.4	* 2	0515	352	7.	3.9	2994.2			
1	0130	19	1.	.3	2993.1	* 1	1525	186	47.	29.2	3000.4	* 2	0520	353	7.	3.9	2994.2			
1	0135	20	1.	.4	2993.1	* 1	1530	187	46.	28.9	3000.3	* 2	0525	354	7.	3.8	2994.2			
1	0140	21	1.	.5	2993.2	* 1	1535	188	46.	28.5	3000.2	* 2	0530	355	7.	3.8	2994.1			
1	0145	22	1.	.7	2993.2	* 1	1540	189	46.	28.2	3000.2	* 2	0535	356	7.	3.7	2994.1			
1	0150	23	2.	.9	2993.3	* 1	1545	190	46.	27.9	3000.1	* 2	0540	357	7.	3.7	2994.1			
1	0155	24	2.	1.0	2993.3	* 1	1550	191	45.	27.6	3000.1	* 2	0545	358	7.	3.7	2994.1			
1	0200	25	2.	1.2	2993.4	* 1	1555	192	45.	27.3	3000.0	* 2	0550	359	7.	3.6	2994.1			
1	0205	26	3.	1.4	2993.4	* 1	1600	193	45.	27.0	2999.9	* 2	0555	360	6.	3.6	2994.1			
1	0210	27	3.	1.5	2993.5	* 1	1605	194	44.	26.7	2999.8	* 2	0600	361	6.	3.5	2994.1			
1	0215	28	3.	1.7	2993.5	* 1	1610	195	44.	26.4	2999.8	* 2	0605	362	6.	3.5	2994.1			
1	0220	29	4.	1.9	2993.6	* 1	1615	196	44.	26.1	2999.7	* 2	0610	363	6.	3.4	2994.0			
1	0225	30	4.	2.2	2993.7	* 1	1620	197	43.	25.8	2999.6	* 2	0615	364	6.	3.4	2994.0			
1	0230	31	5.	2.5	2993.8	* 1	1625	198	43.	25.5	2999.6	* 2	0620	365	6.	3.3	2994.0			
1	0235	32	5.	2.8	2993.9	* 1	1630	199	43.	25.2	2999.5	* 2	0625	366	6.	3.3	2994.0			
1	0240	33	6.	3.1	2994.0	* 1	1635	200	42.	24.9	2999.4	* 2	0630	367	6.	3.3	2994.0			
1	0245	34	6.	3.4	2994.0	* 1	1640	201	42.	24.6	2999.3	* 2	0635	368	6.	3.2	2994.0			
1	0250	35	7.	3.8	2994.1	* 1	1645	202	42.	24.3	2999.3	* 2	0640	369	6.	3.2	2994.0			
1	0255	36	7.	4.2	2994.1	* 1	1650	203	41.	24.0	2999.2	* 2	0645	370	6.	3.1	2994.0			
1	0300	37	8.	4.5	2994.4	* 1	1655	204	41.	23.7	2999.1	* 2	0650	371	6.	3.1	2993.9			
1	0305	38	9.	4.9	2994.5	* 1	1700	205	41.	23.5	2999.1	* 2	0655	372	6.	3.1	2993.9			
1	0310	39	10.	5.4	2994.6	* 1	1705	206	40.	23.2	2999.0	* 2	0700	373	6.	3.0	2993.9			
1	0315	40	11.	6.1	2994.8	* 1	1710	207	40.	22.9	2998.9	* 2	0705	374	5.	3.0	2993.9			
1	0320	41	12.	7.2	2995.1	* 1	1715	208	39.	22.6	2998.9	* 2	0710	375	5.	2.9	2993.9			
1	0325	42	15.	8.8	2995.3	* 1	1720	209	39.	22.4	2998.8	* 2	0715	376	5.	2.9	2993.9			
1	0330	43	19.	11.2	2996.1	* 1	1725	210	39.	22.1	2998.7	* 2	0720	377	5.	2.9	2993.9			
1	0335	44	27.	14.6	2996.9	* 1	1730	211	38.	21.8	2998.7	* 2	0725	378	5.	2.8	2993.8			
1	0340	45	34.	18.6	2997.9	* 1	1735	212	38.	21.6	2998.6	* 2	0730	379	5.	2.8	2993.9			
1	0345	46	40.	23.1	2999.0	* 1	1740	213	38.	21.3	2998.6	* 2	0735	380	5.	2.8	2993.8			
1	0350	47	46.	27.7	3000.1	* 1	1745	214	37.	21.1	2998.5	* 2	0740	381	5.	2.7	2993.8			
1	0355	48	50.	32.4	3001.0	* 1	1750	215	37.	20.8	2998.4	* 2	0745	382	5.	2.7	2993.8			
1	0400	49	53.	36.9	3002.0	* 1	1755	216	37.	20.5	2998.4	* 2	0750	383	5.	2.6	2993.8			
1	0405	50	57.	41.2	3002.9	* 1	1800	217	36.	20.2	2998.3	* 2	0755	384	5.	2.6	2993.8			
1	0410	51	60.	45.1	3003.7	* 1	1805	218	36.	20.0	2998.3	* 2	0800	385	5.	2.6	2993.8			
1	0415	52	62.	48.7	3004.3	* 1	1810	219	36.	19.8	2998.2	* 2	0805	386	5.	2.6	2993.8			
1	0420	53	64.	51.8	3004.9	* 1	1815	220	35.	19.6	2998.1	* 2	0810	387	5.	2.5	2993.8			
1	0425	54	66.	54.6	3005.4	* 1	1820	221	35.	19.3	2998.1	* 2	0815	388	5.	2.5	2993.8			
1	0430	55	69.	57.1	3005.8	* 1	1825	222	35.	19.1	2998.0	* 2	0820	389	5.	2.5	2993.8			
1	0435	56	69.	59.1	3006.2	* 1	1830	223	34.	18.8	2998.0	* 2	0825	390	4.	2.4	2993.7			
1	0440	57	70.	61.1	3006.5	* 1	1835	224	34.	18.6	2997.9	* 2	0830	391	4.	2.4	2993.7			
1	0445	58	71.	63.0	3006.9	* 1	1840	225	33.	18.4	2997.9	* 2	0835	392	4.	2.4	2993.7			
1	0450	59	71.	64.7	3007.2	* 1	1845	226	33.	18.1	2997.8	* 2	0840	393	4.	2.3	2993.7			
1	0455	60	72.	66.4	3007.5	* 1	1850	227	33.	17.9	2997.7	* 2	0845	394	4.	2.3	2993.7			
1	0500	61	73.	68.0	3007.7	* 1	1855	228	32.	17.7	2997.7	* 2	0850	395	4.	2.3	2993.7			
1	0505	62	7																	

1	0700	85	75.	71.8	3008.4	*	1	2055	252	23.	13.1	2996.6	*	2	1050	419	3.	1.7	2993.5
1	0705	86	75.	71.3	3008.3	*	1	2100	253	23.	12.9	2996.5	*	2	1055	420	3.	1.7	2993.5
1	0710	87	75.	70.8	3008.3	*	1	2105	254	23.	12.8	2996.5	*	2	1100	421	3.	1.7	2993.5
1	0715	88	74.	70.3	3008.2	*	1	2110	255	22.	12.6	2996.5	*	2	1105	422	3.	1.6	2993.5
1	0720	89	74.	69.8	3008.1	*	1	2115	256	22.	12.4	2996.4	*	2	1110	423	3.	1.6	2993.5
1	0725	90	74.	69.3	3008.0	*	1	2120	257	22.	12.3	2996.4	*	2	1115	424	3.	1.6	2993.5
1	0730	91	74.	68.8	3007.9	*	1	2125	258	21.	12.1	2996.4	*	2	1120	425	3.	1.6	2993.5
1	0735	92	73.	68.3	3007.8	*	1	2130	259	21.	12.0	2996.3	*	2	1125	426	3.	1.6	2993.5
1	0740	93	73.	67.8	3007.7	*	1	2135	260	21.	11.9	2996.3	*	2	1130	427	3.	1.5	2993.5
1	0745	94	73.	67.3	3007.6	*	1	2140	261	20.	11.7	2996.3	*	2	1135	428	3.	1.5	2993.5
1	0750	95	73.	66.9	3007.6	*	1	2145	262	20.	11.6	2996.2	*	2	1140	429	3.	1.5	2993.5
1	0755	96	72.	66.4	3007.5	*	1	2150	263	20.	11.4	2996.2	*	2	1145	430	3.	1.5	2993.5
1	0800	97	72.	65.9	3007.4	*	1	2155	264	19.	11.3	2996.2	*	2	1150	431	3.	1.5	2993.4
1	0805	98	72.	65.4	3007.3	*	1	2200	265	19.	11.2	2996.1	*	2	1155	432	3.	1.4	2993.4
1	0810	99	72.	64.9	3007.2	*	1	2205	266	19.	11.0	2996.1	*	2	1200	433	3.	1.4	2993.4
1	0815	100	71.	64.4	3007.1	*	1	2210	267	19.	10.9	2996.1	*	2	1205	434	3.	1.4	2993.4
1	0820	101	71.	63.9	3007.0	*	1	2215	268	18.	10.8	2996.0	*	2	1210	435	3.	1.4	2993.4
1	0825	102	71.	63.4	3006.9	*	1	2220	269	18.	10.7	2996.0	*	2	1215	436	3.	1.4	2993.4
1	0830	103	71.	62.9	3006.9	*	1	2225	270	18.	10.5	2996.0	*	2	1220	437	2.	1.3	2993.4
1	0835	104	70.	62.4	3006.8	*	1	2230	271	18.	10.4	2995.9	*	2	1225	438	2.	1.3	2993.4
1	0840	105	70.	62.0	3006.7	*	1	2235	272	17.	10.3	2995.9	*	2	1230	439	2.	1.3	2993.4
1	0845	106	70.	61.5	3006.6	*	1	2240	273	17.	10.2	2995.9	*	2	1235	440	2.	1.3	2993.4
1	0850	107	70.	61.0	3006.5	*	1	2245	274	17.	10.1	2995.8	*	2	1240	441	2.	1.3	2993.4
1	0855	108	69.	60.5	3006.4	*	1	2250	275	17.	9.9	2995.8	*	2	1245	442	2.	1.3	2993.4
1	0900	109	69.	60.0	3006.3	*	1	2255	276	17.	9.8	2995.8	*	2	1250	443	2.	1.3	2993.4
1	0905	110	69.	59.6	3006.3	*	1	2300	277	16.	9.7	2995.8	*	2	1255	444	2.	1.2	2993.4
1	0910	111	68.	59.1	3006.2	*	1	2305	278	16.	9.6	2995.7	*	2	1300	445	2.	1.2	2993.4
1	0915	112	68.	58.6	3006.1	*	1	2310	279	16.	9.5	2995.7	*	2	1305	446	2.	1.2	2993.4
1	0920	113	68.	58.2	3006.0	*	1	2315	280	16.	9.4	2995.7	*	2	1310	447	2.	1.2	2993.4
1	0925	114	68.	57.7	3005.9	*	1	2320	281	16.	9.3	2995.6	*	2	1315	448	2.	1.2	2993.4
1	0930	115	67.	57.2	3005.8	*	1	2325	282	16.	9.2	2995.6	*	2	1320	449	2.	1.2	2993.4
1	0935	116	67.	56.8	3005.8	*	1	2330	283	15.	9.0	2995.6	*	2	1325	450	2.	1.1	2993.4
1	0940	117	67.	56.3	3005.7	*	1	2335	284	15.	8.9	2995.6	*	2	1330	451	2.	1.1	2993.3
1	0945	118	67.	55.8	3005.6	*	1	2340	285	15.	8.8	2995.5	*	2	1335	452	2.	1.1	2993.3
1	0950	119	66.	55.4	3005.5	*	1	2345	286	15.	8.7	2995.5	*	2	1340	453	2.	1.1	2993.3
1	0955	120	66.	54.9	3005.4	*	1	2350	287	15.	8.6	2995.5	*	2	1345	454	2.	1.1	2993.3
1	1000	121	66.	54.5	3005.4	*	1	2355	288	15.	8.5	2995.4	*	2	1350	455	2.	1.1	2993.3
1	1005	122	66.	54.0	3005.3	*	2	0000	289	14.	8.4	2995.4	*	2	1355	456	2.	1.1	2993.3
1	1010	123	65.	53.6	3005.2	*	2	0005	290	14.	8.3	2995.4	*	2	1400	457	2.	1.0	2993.3
1	1015	124	65.	53.1	3005.1	*	2	0010	291	14.	8.2	2995.4	*	2	1405	458	2.	1.0	2993.3
1	1020	125	65.	52.7	3005.0	*	2	0015	292	14.	8.1	2995.3	*	2	1410	459	2.	1.0	2993.3
1	1025	126	64.	52.2	3005.0	*	2	0020	293	14.	8.0	2995.3	*	2	1415	460	2.	1.0	2993.3
1	1030	127	64.	51.8	3004.9	*	2	0025	294	14.	7.9	2995.3	*	2	1420	461	2.	1.0	2993.3
1	1035	128	64.	51.3	3004.8	*	2	0030	295	14.	7.8	2995.3	*	2	1425	462	2.	1.0	2993.3
1	1040	129	64.	50.9	3004.7	*	2	0035	296	13.	7.8	2995.2	*	2	1430	463	2.	1.0	2993.3
1	1045	130	63.	50.5	3004.7	*	2	0040	297	13.	7.7	2995.2	*	2	1435	464	2.	1.0	2993.3
1	1050	131	63.	50.0	3004.6	*	2	0045	298	13.	7.6	2995.2	*	2	1440	465	2.	.9	2993.3
1	1055	132	63.	49.6	3004.5	*	2	0050	299	13.	7.5	2995.2	*	2	1445	466	2.	.9	2993.3
1	1100	133	63.	49.2	3004.4	*	2	0055	300	13.	7.4	2995.1	*	2	1450	467	2.	.9	2993.3
1	1105	134	62.	48.7	3004.3	*	2	0100	301	13.	7.3	2995.1	*	2	1455	468	2.	.9	2993.3
1	1110	135	62.	48.3	3004.3	*	2	0105	302	13.	7.2	2995.1	*	2	1500	469	2.	.9	2993.3
1	1115	136	62.	47.9	3004.2	*	2	0110	303	12.	7.1	2995.1	*	2	1505	470	2.	.9	2993.3
1	1120	137	62.	47.5	3004.1	*	2	0115	304	12.	7.1	2995.0	*	2	1510	471	2.	.9	2993.3
1	1125	138	61.	47.0	3004.0	*	2	0120	305	12.	7.0	2995.0	*	2	1515	472	2.	.9	2993.3
1	1130	139	61.	46.6	3004.0	*	2	0125	306	12.	6.9	2995.0	*	2	1520	473	2.	.9	2993.3
1	1135	140	61.	46.2	3003.9	*	2	0130	307	12.	6.8	2995.0	*	2	1525	474	2.	.8	2993.3
1	1140	141	60.	45.8	3003.8	*	2	0135	308	12.	6.7	2995.0	*	2	1530	475	2.	.8	2993.3
1	1145	142	60.	45.4	3003.7	*	2	0140	309	12.	6.6	2994.9	*	2	1535	476	2.	.8	2993.3
1	1150	143	60.	45.0	3003.6	*	2	0145	310	11.	6.6	2994.9	*	2	1540	477	1.	.8	2993.2
1	1155	144	60.	44.5	3003.5	*	2	0150	311	11.	6.5	2994.9	*	2	1545	478	1.	.8	2993.2
1	1200	145	59.	44.1	3003.5	*	2	0155	312	11.	6.4	2994.9	*	2	1550	479	1.	.8	2993.2
1	1205	146	59.	43.7	3003.4	*	2	0200	313	11.	6.3	2994.9	*	2	1555	480	1.	.8	2993.2
1	1210	147	59.	43.3	3003.3	*	2	0205	314	11.	6.3	2994.8	*	2	1600	481	1.	.8	2993.2
1	1215	148	58.	42.9	3003.2	*	2	0210	315	11.	6.2	2994.8	*	2	1605	482	1.	.8	2993.2
1	1220	149	58.	42.5	3003.1	*	2	0215	316	11.	6.1	2994.8	*	2	1610	483	1.	.8	2993.2
1	1225	150	58.	42.1	3003.0	*	2	0220	317	11.	6.0	2994.8	*	2	1615	484	1.	.7	2993.2
1	1230	151	58.	41.7	3003.0	*	2	0225	318	10.	6.0	2994.7	*	2	1620	485	1.	.7	2993.2
1	1235	152	57.	41.3	3002.9	*	2	0230	319	10.	5.9	2994.7	*	2	1625	486	1.	.7	2993.2
1	1240	153	57.	40.9	3002.8	*	2	0235	320	10.	5.8	2994.7	*	2	1630	487	1.	.7	2993.2
1	1245	154	57.	40.5	3002.7	*	2	0240	321	10.	5.7	2994.7	*	2	1635	488	1.	.7	2993.2
1	1250	155	56.	40.1	3002.6	*	2	0245	322	10.	5.7	2994.7	*	2	1640	489	1.	.7	2993.2
1	1255	156	56.	39.8	3002.6	*	2	0250	323	10.	5.6	2994.7	*	2	1645	490	1.	.7	2993.2
1	1300	157	56.	39.4	3002.5	*	2	0255	324	10.	5.5	2994.6	*	2	1650	491	1.	.7	2993.2
1	1305	158	55.	39.0	3002.4	*	2	0300	325	10.	5.5	2994.6	*	2	1655	492	1.	.7	2993.2
1	1310	159	55.	38.6	3002.3	*	2	0305	326	10.	5.4	2994.6	*	2	1700	493	1.	.7	2993.2
1	1315	160	55.	38.2	3002.2	*	2	0310	327	9.	5.3	2994.6	*	2	1705	494	1.	.7	2993.2
1	1320	161	54.	37.9	3002.2	*	2	0315	328	9.	5.3	2994.6	*	2	1710	495	1.	.6	2993.2
1	132																		

1	0145	22	1.	.6	2993.2	*	1	1540	189	44.	PROL.OUT	26.8	2999.9	*	2	0535	356	6.	3.5	2994.1
1	0150	23	1.	.8	2993.2	*	1	1545	190	44.		26.5	2999.8	*	2	0540	357	6.	3.5	2994.1
1	0155	24	2.	.9	2993.3	*	1	1550	191	44.		26.2	2999.7	*	2	0545	358	6.	3.4	2994.0
1	0200	25	2.	1.1	2993.4	*	1	1555	192	43.		25.9	2999.6	*	2	0550	359	6.	3.4	2994.0
1	0205	26	2.	1.3	2993.4	*	1	1600	193	43.		25.6	2999.6	*	2	0555	360	6.	3.4	2994.0
1	0210	27	3.	1.4	2993.4	*	1	1605	194	43.		25.3	2999.5	*	2	0600	361	6.	3.3	2994.0
1	0215	28	3.	1.6	2993.5	*	1	1610	195	42.		25.0	2999.4	*	2	0605	362	6.	3.3	2994.0
1	0220	29	3.	1.8	2993.6	*	1	1615	196	42.		24.7	2999.4	*	2	0610	363	6.	3.2	2994.0
1	0225	30	4.	2.1	2993.6	*	1	1620	197	42.		24.4	2999.3	*	2	0615	364	6.	3.2	2994.0
1	0230	31	4.	2.3	2993.7	*	1	1625	198	41.		24.1	2999.2	*	2	0620	365	6.	3.2	2994.0
1	0235	32	5.	2.6	2993.8	*	1	1630	199	41.		23.8	2999.2	*	2	0625	366	6.	3.1	2994.0
1	0240	33	5.	2.9	2993.9	*	1	1635	200	41.		23.6	2999.1	*	2	0630	367	6.	3.1	2993.9
1	0245	34	6.	3.2	2994.0	*	1	1640	201	40.		23.3	2999.0	*	2	0635	368	6.	3.0	2993.9
1	0250	35	6.	3.6	2994.1	*	1	1645	202	40.		23.0	2999.0	*	2	0640	369	5.	3.0	2993.9
1	0255	36	7.	3.9	2994.2	*	1	1650	203	40.		22.7	2998.9	*	2	0645	370	5.	3.0	2993.9
1	0300	37	8.	4.3	2994.3	*	1	1655	204	39.		22.5	2998.8	*	2	0650	371	5.	2.9	2993.9
1	0305	38	8.	4.7	2994.4	*	1	1700	205	39.		22.2	2998.8	*	2	0655	372	5.	2.9	2993.9
1	0310	39	9.	5.1	2994.5	*	1	1705	206	38.		21.9	2998.7	*	2	0700	373	5.	2.9	2993.9
1	0315	40	10.	5.8	2994.7	*	1	1710	207	38.		21.7	2998.6	*	2	0705	374	5.	2.8	2993.9
1	0320	41	12.	6.8	2995.0	*	1	1715	208	38.		21.4	2998.6	*	2	0710	375	5.	2.8	2993.9
1	0325	42	14.	8.4	2995.4	*	1	1720	209	37.		21.2	2998.5	*	2	0715	376	5.	2.7	2993.8
1	0330	43	18.	10.8	2996.0	*	1	1725	210	37.		20.9	2998.5	*	2	0720	377	5.	2.7	2993.8
1	0335	44	26.	14.0	2996.8	*	1	1730	211	37.		20.6	2998.4	*	2	0725	378	5.	2.7	2993.8
1	0340	45	33.	17.9	2997.7	*	1	1735	212	36.		20.4	2998.3	*	2	0730	379	5.	2.6	2993.8
1	0345	46	39.	22.2	2998.8	*	1	1740	213	36.		20.1	2998.3	*	2	0735	380	5.	2.6	2993.8
1	0350	47	44.	26.7	2999.9	*	1	1745	214	36.		19.9	2998.2	*	2	0740	381	5.	2.6	2993.8
1	0355	48	49.	31.3	3000.7	*	1	1750	215	35.		19.6	2998.2	*	2	0745	382	5.	2.6	2993.8
1	0400	49	52.	35.6	3001.7	*	1	1755	216	35.		19.4	2998.1	*	2	0750	383	5.	2.5	2993.8
1	0405	50	56.	39.8	3002.6	*	1	1800	217	35.		19.2	2998.0	*	2	0755	384	5.	2.5	2993.8
1	0410	51	59.	43.6	3003.4	*	1	1805	218	34.		18.9	2998.0	*	2	0800	385	4.	2.5	2993.7
1	0415	52	61.	47.1	3004.1	*	1	1810	219	34.		18.7	2997.9	*	2	0805	386	4.	2.4	2993.7
1	0420	53	63.	50.1	3004.6	*	1	1815	220	33.		18.4	2997.9	*	2	0810	387	4.	2.4	2993.7
1	0425	54	65.	52.8	3005.1	*	1	1820	221	33.		18.2	2997.8	*	2	0815	388	4.	2.4	2993.7
1	0430	55	66.	55.1	3005.5	*	1	1825	222	33.		18.0	2997.8	*	2	0820	389	4.	2.3	2993.7
1	0435	56	67.	57.2	3005.8	*	1	1830	223	32.		17.8	2997.7	*	2	0825	390	4.	2.3	2993.7
1	0440	57	69.	59.1	3006.2	*	1	1835	224	32.		17.5	2997.7	*	2	0830	391	4.	2.3	2993.7
1	0445	58	69.	60.9	3006.5	*	1	1840	225	32.		17.3	2997.6	*	2	0835	392	4.	2.2	2993.7
1	0450	59	70.	62.6	3006.8	*	1	1845	226	32.		17.1	2997.6	*	2	0840	393	4.	2.2	2993.7
1	0455	60	71.	64.2	3007.1	*	1	1850	227	31.		16.9	2997.5	*	2	0845	394	4.	2.2	2993.7
1	0500	61	72.	65.8	3007.4	*	1	1855	228	31.		16.7	2997.4	*	2	0850	395	4.	2.2	2993.7
1	0505	62	73.	67.2	3007.6	*	1	1900	229	30.		16.5	2997.4	*	2	0855	396	4.	2.1	2993.7
1	0510	63	73.	68.5	3007.8	*	1	1905	230	30.		16.3	2997.4	*	2	0900	397	4.	2.1	2993.6
1	0515	64	74.	69.6	3008.0	*	1	1910	231	30.		16.1	2997.3	*	2	0905	398	4.	2.1	2993.6
1	0520	65	75.	70.6	3008.2	*	1	1915	232	29.		15.9	2997.3	*	2	0910	399	4.	2.1	2993.6
1	0525	66	75.	71.4	3008.4	*	1	1920	233	29.		15.7	2997.2	*	2	0915	400	4.	2.0	2993.6
1	0530	67	75.	72.0	3008.5	*	1	1925	234	29.		15.5	2997.2	*	2	0920	401	4.	2.0	2993.6
1	0535	68	76.	72.5	3008.6	*	1	1930	235	28.		15.3	2997.1	*	2	0925	402	4.	2.0	2993.6
1	0540	69	76.	72.9	3008.6	*	1	1935	236	28.		15.1	2997.1	*	2	0930	403	4.	2.0	2993.6
1	0545	70	76.	73.3	3008.7	*	1	1940	237	27.		14.9	2997.0	*	2	0935	404	3.	1.9	2993.6
1	0550	71	76.	73.2	3008.7	*	1	1945	238	27.		14.7	2997.0	*	2	0940	405	3.	1.9	2993.6
1	0555	72	76.	73.3	3008.7	*	1	1950	239	27.		14.5	2996.9	*	2	0945	406	3.	1.9	2993.6
1	0600	73	76.	73.2	3008.7	*	1	1955	240	26.		14.3	2996.9	*	2	0950	407	3.	1.9	2993.6
1	0605	74	76.	73.1	3008.7	*	1	2000	241	26.		14.1	2996.8	*	2	0955	408	3.	1.8	2993.6
1	0610	75	76.	73.0	3008.6	*	1	2005	242	26.		14.0	2996.8	*	2	1000	409	3.	1.8	2993.6
1	0615	76	76.	72.8	3008.6	*	1	2010	243	25.		13.8	2996.8	*	2	1005	410	3.	1.8	2993.5
1	0620	77	76.	72.5	3008.6	*	1	2015	244	25.		13.6	2996.7	*	2	1010	411	3.	1.8	2993.5
1	0625	78	75.	72.2	3008.5	*	1	2020	245	24.		13.5	2996.7	*	2	1015	412	3.	1.7	2993.5
1	0630	79	75.	71.9	3008.4	*	1	2025	246	24.		13.3	2996.6	*	2	1020	413	3.	1.7	2993.5
1	0635	80	75.	71.5	3008.4	*	1	2030	247	24.		13.1	2996.6	*	2	1025	414	3.	1.7	2993.5
1	0640	81	75.	71.1	3008.4	*	1	2035	248	24.		13.0	2996.6	*	2	1030	415	3.	1.7	2993.5
1	0645	82	75.	70.7	3008.2	*	1	2040	249	23.		12.8	2996.5	*	2	1035	416	3.	1.7	2993.5
1	0650	83	74.	70.3	3008.2	*	1	2045	250	23.		12.6	2996.5	*	2	1040	417	3.	1.6	2993.5
1	0655	84	74.	69.8	3008.1	*	1	2050	251	22.		12.5	2996.4	*	2	1045	418	3.	1.6	2993.5
1	0700	85	74.	69.4	3008.0	*	1	2055	252	22.		12.3	2996.4	*	2	1050	419	3.	1.6	2993.5
1	0705	86	74.	68.9	3007.9	*	1	2100	253	22.		12.2	2996.4	*	2	1055	420	3.	1.6	2993.5
1	0710	87	73.	68.8	3007.8	*	1	2105	254	22.		12.0	2996.3	*	2	1100	421	3.	1.6	2993.5
1	0715	88	73.	67.9	3007.7	*	1	2110	255	21.		11.9	2996.3	*	2	1105	422	3.	1.5	2993.5
1	0720	89	73.	67.5	3007.7	*	1	2115	256	21.		11.8	2996.3	*	2	1110	423	3.	1.5	2993.5
1	0725	90	73.	67.0	3007.6	*	1	2120	257	20.		11.6	2996.2	*	2	1115	424	3.	1.5	2993.5
1	0730	91	72.	66.5	3007.5	*	1	2125	258	20.		11.5	2996.2	*	2	1120	425	3.	1.5	2993.5
1	0735	92	72.	66.0	3007.4	*	1	2130	259	20.		11.3	2996.2	*	2	1125	426	3.	1.5	2993.4
1	0740	93	72.	65.5	3007.3	*	1	2135	260	19.		11.2	2996.1	*	2	1130	427	3.	1.4	2993.4
1	0745	94	72.	65.0	3007.2	*	1	2140	261	19.		11.1	2996.1	*	2	1135	428	3.	1.4	2993.4
1	0750	95	71.	64.5	3007.1	*	1	2145	262	19.		11.0	2996.1	*	2	1140	429	3.	1.4	2993.4
1	0755	96	71.	64.1	3007.1	*	1	2150	263	18.		10.8	2996.0	*	2	1145	430	3.	1.4	2993.4
1	0800	97	71.	63.6	3007.0	*	1	2155	264	18.		10.7</								

1	1310	159	53.	36.9	3002.0	*	2	0305	326	9.	5.1	2994.5	*	2	1700	493	1.	.6	2993.2
1	1315	160	53.	36.5	3001.9	*	2	0310	327	9.	5.1	2994.5	*	2	1705	494	1.	.6	2993.2
1	1320	161	53.	36.1	3001.8	*	2	0315	328	9.	5.0	2994.5	*	2	1710	495	1.	.6	2993.2
1	1325	162	52.	35.8	3001.7	*	2	0320	329	9.	4.9	2994.5	*	2	1715	496	1.	.6	2993.2
1	1330	163	52.	35.4	3001.7	*	2	0325	330	9.	4.9	2994.4	*	2	1720	497	1.	.6	2993.2
1	1335	164	52.	35.1	3001.6	*	2	0330	331	9.	4.8	2994.4	*	2	1725	498	1.	.6	2993.2
1	1340	165	52.	34.7	3001.5	*	2	0335	332	8.	4.8	2994.4	*	2	1730	499	1.	.6	2993.2
1	1345	166	51.	34.4	3001.4	*	2	0340	333	8.	4.7	2994.4	*	2	1735	500	1.	.6	2993.2
1	1350	167	51.	34.0	3001.4	*	2	0345	334	8.	4.6	2994.4	*	2					

PEAK FLOW	TIME	6-HR	24-HR	72-HR	41.58-HR
+	(CFS)				
+	76.	5.92			
	(CFS)				
	(INCHES)				
	(AC-FT)				
PEAK STORAGE	TIME	6-HR	24-HR	72-HR	41.58-HR
+	(AC-FT)				
+	73.	5.92			
PEAK STAGE	TIME	6-HR	24-HR	72-HR	41.58-HR
+	(FEET)				
+	3008.69	5.92			
CUMULATIVE AREA =					

HYDROGRAPH AT STATION RDB2
PLAN 1, RATIO = .97

* * *						* * *						* * *								
DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	0000	1	0.	0.	2993.0	*	1	1355	168	50.	32.8	3001.1	*	2	0350	335	8.	4.4	2994.3	
1	0005	2	0.	0.	2993.0	*	1	1400	169	50.	32.5	3001.1	*	2	0355	336	8.	4.4	2994.3	
1	0010	3	0.	0.	2993.0	*	1	1405	170	49.	32.2	3001.0	*	2	0400	337	8.	4.3	2994.3	
1	0015	4	0.	0.	2993.0	*	1	1410	171	49.	31.8	3000.9	*	2	0405	338	8.	4.3	2994.3	
1	0020	5	0.	0.	2993.0	*	1	1415	172	49.	31.5	3000.9	*	2	0410	339	8.	4.3	2994.3	
1	0025	6	0.	0.	2993.0	*	1	1420	173	48.	31.1	3000.8	*	2	0415	340	8.	4.2	2994.3	
1	0030	7	0.	0.	2993.0	*	1	1425	174	48.	30.8	3000.7	*	2	0420	341	7.	4.1	2994.2	
1	0035	8	0.	0.	2993.0	*	1	1430	175	48.	30.5	3000.6	*	2	0425	342	7.	4.1	2994.2	
1	0040	9	0.	0.	2993.0	*	1	1435	176	48.	30.2	3000.6	*	2	0430	343	7.	4.0	2994.2	
1	0045	10	0.	0.	2993.0	*	1	1440	177	47.	29.8	3000.5	*	2	0435	344	7.	4.0	2994.2	
1	0050	11	0.	0.	2993.0	*	1	1445	178	47.	29.5	3000.4	*	2	0440	345	7.	3.9	2994.2	
1	0055	12	0.	0.	2993.0	*	1	1450	179	47.	29.2	3000.4	*	2	0445	346	7.	3.9	2994.2	
1	0100	13	0.	0.	2993.0	*	1	1455	180	46.	28.9	3000.3	*	2	0450	347	7.	3.8	2994.2	
1	0105	14	0.	0.	2993.0	*	1	1500	181	46.	28.5	3000.2	*	2	0455	348	7.	3.8	2994.1	
1	0110	15	0.	0.	2993.0	*	1	1505	182	46.	28.2	3000.2	*	2	0500	349	7.	3.7	2994.1	
1	0115	16	0.	0.	2993.0	*	1	1510	183	46.	27.9	3000.1	*	2	0505	350	7.	3.7	2994.1	
1	0120	17	0.	0.	2993.1	*	1	1515	184	45.	27.6	3000.1	*	2	0510	351	7.	3.6	2994.1	
1	0125	18	0.	0.	2993.1	*	1	1520	185	45.	27.3	3000.0	*	2	0515	352	7.	3.6	2994.1	
1	0130	19	1.	0.	2993.1	*	1	1525	186	45.	27.0	2999.9	*	2	0520	353	6.	3.6	2994.1	
1	0135	20	1.	0.	2993.1	*	1	1530	187	44.	26.7	2999.8	*	2	0525	354	6.	3.5	2994.1	
1	0140	21	1.	0.	2993.1	*	1	1535	188	44.	26.4	2999.8	*	2	0530	355	6.	3.5	2994.1	
1	0145	22	1.	0.	2993.2	*	1	1540	189	44.	26.1	2999.7	*	2	0535	356	6.	3.4	2994.0	
1	0150	23	1.	0.	2993.2	*	1	1545	190	43.	25.8	2999.6	*	2	0540	357	6.	3.4	2994.0	
1	0155	24	2.	0.	2993.3	*	1	1550	191	43.	25.5	2999.6	*	2	0545	358	6.	3.3	2994.0	
1	0200	25	2.	0.	2993.3	*	1	1555	192	43.	25.2	2999.5	*	2	0550	359	6.	3.3	2994.0	
1	0205	26	2.	0.	2993.4	*	1	1600	193	42.	24.9	2999.4	*	2	0555	360	6.	3.3	2994.0	
1	0210	27	2.	0.	2993.4	*	1	1605	194	42.	24.6	2999.3	*	2	0600	361	6.	3.2	2994.0	
1	0215	28	3.	0.	2993.5	*	1	1610	195	42.	24.3	2999.3	*	2	0605	362	6.	3.2	2994.0	
1	0220	29	3.	0.	2993.5	*	1	1615	196	41.	24.0	2999.2	*	2	0610	363	6.	3.1	2994.0	
1	0225	30	4.	0.	2993.6	*	1	1620	197	41.	23.7	2999.1	*	2	0615	364	6.	3.1	2993.9	
1	0230	31	4.	0.	2993.7	*	1	1625	198	40.	23.5	2999.1	*	2	0620	365	6.	3.1	2993.9	
1	0235	32	5.	0.	2993.8	*	1	1630	199	40.	23.2	2999.0	*	2	0625	366	6.	3.0	2993.9	
1	0240	33	5.	0.	2993.9	*	1	1635	200	40.	22.9	2998.9	*	2	0630	367	5.	3.0	2993.9	
1	0245	34	6.	0.	2994.0	*	1	1640	201	39.	22.6	2998.9	*	2	0635	368	5.	2.9	2993.9	
1	0250	35	6.	0.	2994.1	*	1	1645	202	39.	22.4	2998.8	*	2	0640	369	5.	2.9	2993.9	
1	0255	36	7.	0.	2994.1	*	1	1650	203	39.	22.1	2998.7	*	2	0645	370	5.	2.9	2993.9	
1	0300	37	7.	0.	2994.2	*	1	1655	204	38.	21.8	2998.7	*	2	0650	371	5.	2.8	2993.9	
1	0305	38	8.	0.	2994.4	*	1	1700	205	38.	21.6	2998.6	*	2	0655	372	5.	2.8	2993.9	
1	0310	39	9.	0.	2994.5	*	1	1705	206	38.	21.3	2998.6	*	2	0700	373	5.	2.8	2993.8	
1	0315	40	10.	0.	2994.7	*	1	1710	207	37.	21.0	2998.5	*	2	0705	374	5.	2.7	2993.8	
1	0320	41	12.	0.	2994.9	*	1	1715	208	37.	20.8	2998.4	*	2	0710	375	5.	2.7	2993.8	
1	0325	42	14.	0.	2995.3	*	1	1720	209	37.	20.5	2998.4	*	2	0715	376	5.	2.7	2993.8	
1	0330	43	18.	0.	2996.0	*	1	1725	210	36.	20.3	2998.3	*	2	0720	377	5.	2.6	2993.8	
1	0335	44	25.	0.	2996.7	*	1	1730	211	36.	20.0	2998.3	*	2	0725	378	5.	2.6	2993.8	
1	0340	45	32.	0.	2997.7	*	1	1735	212	35.	19.8	2998.2	*	2	0730	379	5.	2.6	2993.8	
1	0345	46	38.	0.	2998.7	*	1	1740	213	35.	19.5	2998.1	*	2	0735	380	5.	2.5	2993.8	
1	0350	47	44.	0.	2999.7	*	1	1745	214	35.	19.3	2998.1	*	2	0740	381	5.	2.5	2993.8	
1	0355	48	48.	0.	3000.7	*	1	1750	215	34.	19.1	2998.0	*	2	0745	382	5.	2.5	2993.8	
1	0400	49	52.	0.	3001.6	*	1	1755	216	34.	18.8	2998.0	*	2	0750	383	4.	2.4	2993.7	
1	0405	50	55.	0.	3002.4	*	1	1800	217	34.	18.6	2997.9	*	2	0755	384	4.	2.4	2993.7	
1	0410	51	58.	0.	3003.2	*	1	1805	218	33.	18.4	2997.9	*	2	0800	385	4.	2.4	2993.7	
1	0415	52	61.	0.	3003.9	*	1	1810	219	33.	18.1	2997.8	*	2	0805	386	4.	2.3	2993.7	
1	0420	53	63.	0.	3004.4	*	1	1815	220	33.	17.9	2997.7	*	2	0810	387	4.	2.3	2993.7	
1	0425	54	64.	0.	3004.9	*	1	1820	221	32.	17.7	2997.7	*	2	0815	388	4.	2.3	2993.7	
1	0430	55	66.	0.	3005.3	*	1	1825	222	32.	17.5	2997.6	*	2	0820	389	4.	2.3	2993.7	
1	0435	56	67.	0.	3005.7	*	1	1830	223	31.	17.3	2997.6	*	2	0825	390	4.	2.2	2993.7	
1	0440	57	68.	0.	3006.0	*	1	1835	224	31.	17.0	2997.5	*	2	0830	391	4.	2.2	2993.7	
1	0445	58	69.	0.	3006.3	*	1	1840	225	31.	16.8	2997.5	*	2	0835	392	4.	2.2	2993.7	
1	0450	59	70.	0.	3006.6	*	1	1845	226	30.	16.6	2997.4	*	2	0840	393	4.	2.2	2993.7	
1	0455	60	71.	0.	3006.9	*	1	1850	227	30.	16.4	2997.4	*	2	0845	394	4.	2.1	2993.6	
1	0500	61	71.	0.	3007.2	*	1	1855	228	30.	16.2	2997.3	*	2	0850	395	4.	2.1	2993.6	
1	0505	62	72.	0.	3007.4	*	1	1900	229	29.	16.0	2997.3	*	2	0855	396	4.	2.1	2993.6	
1	0510	63	73.	0.	3007.6	*	1	1905	230	29.	15.8	2997.2	*	2	0900	397	4.	2.0	2993.6	
1	0515	64	73.	0.	3007.8	*	1	1910	231	29.	15.6	2997.2	*	2	0905	398	4.	2.0	2993.6	
1	0520	65	74.	0.	3008.0	*	1	1915	232	28.	15.4	2997.1	*	2	0910	399	4.	2.0	2993.6	
1	0525	66	74.	0.	3008.3	*	1	1920	233	28.	15.2	2997.1	*	2	0915	400	4.	2.0	2993.6	
1	0530	67	75.	0.	3008.3	*	1	1925	234	28.	15.0	2997.0	*	2	0920	401	4.	1.9	2993.6	
1	0535	68	75.	0.	3008.3	*	1	1930	235	27.	14.8	2997.0	*	2	0925	402	4.	1.9	2993.6	
1	0540	69	75.	0.	3008.4	*	1	1935	236	27.	14.6	2997.0	*	2	0930	403	4.	1.9	2993.6	
1	0545	70	75.	0.	3008.4	*	1	1940	237	27.	14.4	2996.9	*	2	0935	404	3.	1.9	2993.6	
1	0550	71	75.	0.	3008.5	*	1	1945	238	26.	14.3	2996.9	*	2	0940	405	3.	1.8	2993.6	
1	0555	72	75.	0.	3008.5	*	1	1950	239	26.	14.1	2996.8	*	2	0945	406	3.	1.8	2993.6	
1	0600	73	75.	0.	3008.5	*	1	1955	240	25.	13.9	2996.8	*	2	0950	407	3.	1.8	2993.6	
1	0605	74	75.	0.	3008.5	*	1	2000	241	25.	13.7	2996.7	*	2	0955	408	3.	1.8	2993.5	
1	0610	75	75.	0.	3008.4	*	1	2005	242	25.	13.6	2996.7	*	2	1000	409	3.	1.8	2993.5	
1	0615	76	75.	0.	3008.4	*	1	2010	243	24.	13.4	2996.6	*	2	1005	410	3.	1.7	2993.5	
1	0620	77	75.	0.	3008.3	*	1	2015	244	24.	13.2	2								

1	0755	96	71.	62.9	3006.9	*	1	2150	263	18.	10.5	2996.0	*	2	1145	430	2.	1.3	2993.4
1	0800	97	70.	62.4	3006.8	*	1	2155	264	18.	10.4	2995.9	*	2	1150	431	2.	1.3	2993.4
1	0805	98	70.	61.9	3006.7	*	1	2200	265	17.	10.3	2995.9	*	2	1155	432	2.	1.3	2993.4
1	0810	99	70.	61.5	3006.6	*	1	2205	266	17.	10.2	2995.9	*	2	1200	433	2.	1.3	2993.4
1	0815	100	69.	61.0	3006.5	*	1	2210	267	17.	10.1	2995.8	*	2	1205	434	2.	1.3	2993.4
1	0820	101	69.	60.5	3006.4	*	1	2215	268	17.	9.9	2995.8	*	2	1210	435	2.	1.3	2993.4
1	0825	102	69.	60.0	3006.3	*	1	2220	269	17.	9.8	2995.8	*	2	1215	436	2.	1.3	2993.4
1	0830	103	69.	59.6	3006.3	*	1	2225	270	16.	9.7	2995.8	*	2	1220	437	2.	1.2	2993.4
1	0835	104	68.	59.1	3006.2	*	1	2230	271	16.	9.6	2995.7	*	2	1225	438	2.	1.2	2993.4
1	0840	105	68.	58.6	3006.1	*	1	2235	272	16.	9.5	2995.7	*	2	1230	439	2.	1.2	2993.4
1	0845	106	68.	58.1	3006.0	*	1	2240	273	16.	9.4	2995.7	*	2	1235	440	2.	1.2	2993.4
1	0850	107	68.	57.7	3005.9	*	1	2245	274	16.	9.3	2995.6	*	2	1240	441	2.	1.2	2993.4
1	0855	108	67.	57.2	3005.8	*	1	2250	275	16.	9.2	2995.6	*	2	1245	442	2.	1.2	2993.4
1	0900	109	67.	56.7	3005.8	*	1	2255	276	15.	9.0	2995.6	*	2	1250	443	2.	1.1	2993.4
1	0905	110	67.	56.3	3005.7	*	1	2300	277	15.	8.9	2995.6	*	2	1255	444	2.	1.1	2993.3
1	0910	111	67.	55.8	3005.6	*	1	2305	278	15.	8.8	2995.5	*	2	1300	445	2.	1.1	2993.3
1	0915	112	66.	55.4	3005.5	*	1	2310	279	15.	8.7	2995.5	*	2	1305	446	2.	1.1	2993.3
1	0920	113	66.	54.9	3005.4	*	1	2315	280	15.	8.6	2995.5	*	2	1310	447	2.	1.1	2993.3
1	0925	114	66.	54.5	3005.4	*	1	2320	281	15.	8.5	2995.4	*	2	1315	448	2.	1.1	2993.3
1	0930	115	66.	54.0	3005.3	*	1	2325	282	14.	8.4	2995.4	*	2	1320	449	2.	1.1	2993.3
1	0935	116	65.	53.6	3005.2	*	1	2330	283	14.	8.3	2995.4	*	2	1325	450	2.	1.0	2993.3
1	0940	117	65.	53.1	3005.1	*	1	2335	284	14.	8.2	2995.4	*	2	1330	451	2.	1.0	2993.3
1	0945	118	65.	52.7	3005.0	*	1	2340	285	14.	8.1	2995.3	*	2	1335	452	2.	1.0	2993.3
1	0950	119	64.	52.2	3005.0	*	1	2345	286	14.	8.0	2995.3	*	2	1340	453	2.	1.0	2993.3
1	0955	120	64.	51.8	3004.9	*	1	2350	287	14.	7.9	2995.3	*	2	1345	454	2.	1.0	2993.3
1	1000	121	64.	51.3	3004.8	*	1	2355	288	14.	7.9	2995.3	*	2	1350	455	2.	1.0	2993.3
1	1005	122	64.	50.9	3004.7	*	2	0000	289	13.	7.8	2995.2	*	2	1355	456	2.	1.0	2993.3
1	1010	123	63.	50.5	3004.7	*	2	0005	290	13.	7.7	2995.2	*	2	1400	457	2.	1.0	2993.3
1	1015	124	63.	50.0	3004.6	*	2	0010	291	13.	7.6	2995.2	*	2	1405	458	2.	.9	2993.3
1	1020	125	63.	49.6	3004.5	*	2	0015	292	13.	7.5	2995.2	*	2	1410	459	2.	.9	2993.3
1	1025	126	63.	49.2	3004.4	*	2	0020	293	13.	7.4	2995.1	*	2	1415	460	2.	.9	2993.3
1	1030	127	62.	48.7	3004.3	*	2	0025	294	13.	7.3	2995.1	*	2	1420	461	2.	.9	2993.3
1	1035	128	62.	48.3	3004.3	*	2	0030	295	13.	7.2	2995.1	*	2	1425	462	2.	.9	2993.3
1	1040	129	62.	47.9	3004.2	*	2	0035	296	12.	7.1	2995.1	*	2	1430	463	2.	.9	2993.3
1	1045	130	62.	47.4	3004.1	*	2	0040	297	12.	7.1	2995.0	*	2	1435	464	2.	.9	2993.3
1	1050	131	61.	47.0	3004.0	*	2	0045	298	12.	7.0	2995.0	*	2	1440	465	2.	.9	2993.3
1	1055	132	61.	46.6	3004.0	*	2	0050	299	12.	6.9	2995.0	*	2	1445	466	2.	.9	2993.3
1	1100	133	61.	46.2	3003.9	*	2	0055	300	12.	6.8	2995.0	*	2	1450	467	2.	.8	2993.3
1	1105	134	60.	45.8	3003.8	*	2	0100	301	12.	6.7	2995.0	*	2	1455	468	2.	.8	2993.3
1	1110	135	60.	45.3	3003.7	*	2	0105	302	12.	6.6	2994.9	*	2	1500	469	2.	.8	2993.3
1	1115	136	60.	44.9	3003.6	*	2	0110	303	11.	6.6	2994.9	*	2	1505	470	1.	.8	2993.2
1	1120	137	60.	44.5	3003.5	*	2	0115	304	11.	6.5	2994.9	*	2	1510	471	1.	.8	2993.2
1	1125	138	59.	44.1	3003.5	*	2	0120	305	11.	6.4	2994.9	*	2	1515	472	1.	.8	2993.2
1	1130	139	59.	43.7	3003.4	*	2	0125	306	11.	6.3	2994.8	*	2	1520	473	1.	.8	2993.2
1	1135	140	59.	43.3	3003.3	*	2	0130	307	11.	6.3	2994.8	*	2	1525	474	1.	.8	2993.2
1	1140	141	58.	42.9	3003.2	*	2	0135	308	11.	6.2	2994.8	*	2	1530	475	1.	.8	2993.2
1	1145	142	58.	42.5	3003.1	*	2	0140	309	11.	6.1	2994.8	*	2	1535	476	1.	.8	2993.2
1	1150	143	58.	42.1	3003.0	*	2	0145	310	11.	6.0	2994.8	*	2	1540	477	1.	.7	2993.2
1	1155	144	58.	41.7	3003.0	*	2	0150	311	10.	6.0	2994.7	*	2	1545	478	1.	.7	2993.2
1	1200	145	57.	41.3	3002.9	*	2	0155	312	10.	5.9	2994.7	*	2	1550	479	1.	.7	2993.2
1	1205	146	57.	40.9	3002.8	*	2	0200	313	10.	5.8	2994.7	*	2	1555	480	1.	.7	2993.2
1	1210	147	57.	40.5	3002.7	*	2	0205	314	10.	5.7	2994.7	*	2	1600	481	1.	.7	2993.2
1	1215	148	56.	40.1	3002.6	*	2	0210	315	10.	5.7	2994.7	*	2	1605	482	1.	.7	2993.2
1	1220	149	56.	39.8	3002.6	*	2	0215	316	10.	5.6	2994.6	*	2	1610	483	1.	.7	2993.2
1	1225	150	56.	39.4	3002.5	*	2	0220	317	10.	5.5	2994.6	*	2	1615	484	1.	.7	2993.2
1	1230	151	55.	39.0	3002.4	*	2	0225	318	10.	5.5	2994.6	*	2	1620	485	1.	.7	2993.2
1	1235	152	55.	38.6	3002.3	*	2	0230	319	10.	5.4	2994.6	*	2	1625	486	1.	.7	2993.2
1	1240	153	55.	38.2	3002.2	*	2	0235	320	9.	5.3	2994.6	*	2	1630	487	1.	.7	2993.2
1	1245	154	54.	37.9	3002.2	*	2	0240	321	9.	5.2	2994.6	*	2	1635	488	1.	.6	2993.2
1	1250	155	54.	37.5	3002.1	*	2	0245	322	9.	5.2	2994.5	*	2	1640	489	1.	.6	2993.2
1	1255	156	54.	37.1	3002.0	*	2	0250	323	9.	5.2	2994.5	*	2	1645	490	1.	.6	2993.2
1	1300	157	53.	36.7	3001.9	*	2	0255	324	9.	5.1	2994.5	*	2	1650	491	1.	.6	2993.2
1	1305	158	53.	36.4	3001.9	*	2	0300	325	9.	5.0	2994.5	*	2	1655	492	1.	.6	2993.2
1	1310	159	53.	36.0	3001.8	*	2	0305	326	9.	5.0	2994.5	*	2	1700	493	1.	.6	2993.2
1	1315	160	52.	35.7	3001.7	*	2	0310	327	9.	4.9	2994.5	*	2	1705	494	1.	.6	2993.2
1	1320	161	52.	35.3	3001.6	*	2	0315	328	9.	4.8	2994.4	*	2	1710	495	1.	.6	2993.2
1	1325	162	52.	34.9	3001.6	*	2	0320	329	9.	4.8	2994.4	*	2	1715	496	1.	.6	2993.2
1	1330	163	51.	34.6	3001.5	*	2	0325	330	8.	4.7	2994.4	*	2	1720	497	1.	.6	2993.2
1	1335	164	51.	34.2	3001.4	*	2	0330	331	8.	4.7	2994.4	*	2	1725	498	1.	.6	2993.2
1	1340	165	51.	33.9	3001.3	*	2	0335	332	8.	4.6	2994.4	*	2	1730	499	1.	.6	2993.2
1	1345	166	51.	33.5	3001.3	*	2	0340	333	8.	4.6	2994.4	*	2	1735	500	1.	.6	2993.2
1	1350	167	50.	33.2	3001.2	*	2	0345	334	8.	4.5	2994.3	*	2					

PEAK FLOW	TIME	6-HR	MAXIMUM AVERAGE FLOW	41.58-HR
(CFS)	(HR)		24-HR	72-HR
+	75.	5.92	70.	26.
			(INCHES)	1.624
			(AC-FT)	88.
PEAK STORAGE	TIME	6-HR	MAXIMUM AVERAGE STORAGE	41.58-HR
(AC-FT)	(HR)		24-HR	72-HR
+	72.	5.92	62.	19.
PEAK STAGE	TIME	6-HR	MAXIMUM AVERAGE STAGE	41.58-HR
(FEET)	(HR)		24-HR	72-HR
+	3008.48	5.92	3006.77	2997.50
CUMULATIVE AREA = 1.01 SQ MI				

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION
-----------	---------	------	------	---------------------------------

+ 5 COMBINED AT	DB1	.88	1	FLOW TIME	754. 3.75	731. 3.75	720. 3.75
+ ROUTED TO	RDB1	.88	1	FLOW TIME	71. 5.58	70. 5.58	69. 5.58
			** 1	PEAK STAGES STAGE TIME	IN FEET 35.99 5.58	** 35.72 5.58	35.58 5.58
+ HYDROGRAPH AT	OFF7	.01	1	FLOW TIME	10. 3.50	10. 3.50	10. 3.50
+ HYDROGRAPH AT	OFF8	.21	1	FLOW TIME	230. 3.75	223. 3.75	220. 3.75
+ 2 COMBINED AT	CP2	.22	1	FLOW TIME	235. 3.75	228. 3.75	225. 3.75
+ HYDROGRAPH AT	OFF9	.12	1	FLOW TIME	144. 3.58	140. 3.58	138. 3.58
+ HYDROGRAPH AT	OFF10	.65	1	FLOW TIME	481. 4.08	467. 4.08	460. 4.08
+ HYDROGRAPH AT	ON2	.02	1	FLOW TIME	49. 3.50	48. 3.50	47. 3.50
+ 4 COMBINED AT	DB2	1.01	1	FLOW TIME	729. 3.83	707. 3.83	696. 3.83
+ ROUTED TO	RDB2	1.01	1	FLOW TIME	77. 5.92	76. 5.92	75. 5.92
			** 1	PEAK STAGES STAGE TIME	IN FEET 3009.12 5.92	** 3008.69 5.92	3008.48 5.92

Page 22

Ultimate Condition HEC-1 Analysis

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
*
* RUN DATE 15OCT14 TIME 10:51:54
*
*****

```

ULT1.OUT

```

*****
*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
*****

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      X  X  XXXXXXX  XXXXX  X
      X  X  X  X  X  X  XX
      X  X  X  X  X  X  X
      XXXXXXX  XXXX  X  XXXXX  X
      X  X  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), HECIGS, HEC1DB, AND HEC1KW.

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

```

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

*DIAGRAM
1 ID SLATER HANIFAN GROUP
2 ID NINETY-FIVE MANAGEMENT, LLC.
3 ID SKYE CANYON
4 ID MASTER DRAINAGE STUDY UPDATE
5 ID ULTIMATE DRAINAGE CONDITION
6 ID
7 ID RETURN PERIOD ----- 100-YEAR
8 ID DISTRIBUTION ----- 6-HOUR SDN3
9 ID PROJECT NO. ----- OLY1401.004
10 ID FILENAME ----- PRO1.H1
11 ID DATE ----- 10/15/14
12 ID MODELED BY ----- ETM
13 ID
14 ID SIX HOUR DEPTH-AREA REDUCTION FACTORS
15 ID DRAINAGE AREA (MIA^2) RATIO
16 ID 0.0-0.49 1.00
17 ID 0.5-0.99 0.98
18 ID 1.0-1.99 0.97
19 ID
20 IT 5 0 0 500
21 IO 5 0 0
22 IN 5 0 0
23 JR PREC 1.00 0.98 0.97
*

24 KK OFF1
25 KM EXISTING OFFSITE DRAINAGE BASIN
26 KM DISCHARGES INTO DETENTION BASIN "DB1"
27 PB 3.00
28 PC 0 0.020 0.057 0.070 0.087 0.108 0.124 0.130 0.130 0.130
29 PC 0.130 0.130 0.130 0.133 0.140 0.142 0.148 0.158 0.172 0.181
30 PC 0.190 0.197 0.199 0.200 0.201 0.204 0.214 0.229 0.241 0.249
31 PC 0.251 0.256 0.270 0.278 0.281 0.283 0.295 0.322 0.352 0.409
32 PC 0.499 0.590 0.710 0.744 0.781 0.812 0.819 0.835 0.851 0.856
33 PC 0.860 0.868 0.876 0.888 0.910 0.926 0.937 0.950 0.970 0.976
34 PC 0.982 0.985 0.987 0.989 0.990 0.993 0.993 0.994 0.995 0.998
35 PC 0.998 0.999 1
36 BA .4073
37 LS 0 86.4
38 UD 0.356
*

39 KK OFF11
40 KM DEVELOPED OFFSITE DRAINAGE BASIN
41 KM DISCHARGES INTO DETENTION BASIN "DB2"
42 BA .0281
43 LS 0 96.0
44 UD 0.118
*

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1 HEC-1 INPUT PAGE 2

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

45 KK OFF2
46 KM EXISTING OFFSITE DRAINAGE BASIN
47 KM DISCHARGES INTO DETENTION BASIN "DB1"
48 BA .0355
49 LS 0 85.0
50 UD 0.148
*

51 KK OFF3
52 KM EXISTING OFFSITE DRAINAGE BASIN
53 KM DISCHARGES INTO DETENTION BASIN "DB1"
54 BA .0259
55 LS 0 86.2
56 UD 0.112
*

57 KK CP1
58 KM COMBINE OFF1, OFF11, OFF2, AND OFF3
59 HC 4
*

60 KK OFF4
61 KM EXISTING OFFSITE DRAINAGE BASIN
62 KM DISCHARGES INTO DETENTION BASIN "DB1"
63 BA .0581
64 LS 0 86.2
65 UD 0.136
*

66 KK OFF5
67 KM EXISTING OFFSITE DRAINAGE BASIN
68 KM DISCHARGES INTO DETENTION BASIN "DB1"
69 BA .2569
70 LS 0 86.5
71 UD 0.419
*

72 KK OFF6
73 KM EXISTING OFFSITE DRAINAGE BASIN
74 KM DISCHARGES INTO DETENTION BASIN "DB1"
75 BA .0399
76 LS 0 86.2
77 UD 0.121
*

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78 KK ON1
79 KM PROPOSED ONSITE DRAINAGE BASIN
80 BA .0261
81 LS 0 92.8
82 UD 0.116
*

1

HEC-1 INPUT

PAGE 3

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

83 KK DB1
84 KM COMBINE CP1, OFF4, OFF5, OFF6 AND ON1
85 HC 5
*

86 KK RDB1
87 KM OUTLET = 30" ORIFICE @ INVERT ELEVATION = 3025.5-FT
88 KO 1
89 RS 1 VOL -1
90 SV 0 7.78 13.43 19.26 58.03 96.21 132.22
91 SE 25.5 27 28 29 35 40 44
92 SQ 0 25.59 36.20 44.33 76.78 335.94 1413.68 2946.76 4825.05
93 SE 25.5 29 30 31 37 38 40 42 44
*

94 KK OFF7
95 KM EXISTING OFFSITE DRAINAGE BASIN
96 KM DISCHARGES INTO DETENTION BASIN "DB2"
97 BA .0068
98 LS 0 86.2
99 UD 0.100
*

100 KK OFF8
101 KM EXISTING OFFSITE DRAINAGE BASIN
102 KM DISCHARGES INTO DETENTION BASIN "DB2"
103 BA .1663
104 LS 0 86.2
105 UD 0.239
*

106 KK CP2
107 KM COMBINE OFF7, AND OFF8
108 HC 2
*

109 KK OFF9
110 KM EXISTING OFFSITE DRAINAGE BASIN
111 KM DISCHARGES INTO DETENTION BASIN "DB2"
112 BA .1164
113 LS 0 86.2
114 UD 0.203
*

115 KK OFF10
116 KM EXISTING OFFSITE DRAINAGE BASIN
117 KM DISCHARGES INTO DETENTION BASIN "DB2"
118 BA .2463
119 LS 0 86.5
120 UD 0.248
*

1

HEC-1 INPUT

PAGE 4

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

121 KK ON2
122 KM PROPOSED ONSITE DRAINAGE BASIN
123 BA .0241
124 LS 0 92.8
125 UD 0.084
*

126 KK DB2
127 KM COMBINE CP2, OFF9, OFF10 AND ON2
128 HC 4
*

129 KK RDB2
130 KM OUTLET = 27" ORIFICE @ INVERT ELEVATION = 2993-FT
131 KO 1
132 RS 1 VOL -1
133 SV 0 3.27 6.87 10.63 27.34 46.77 75.03
134 SE 2993 2994 2995 2996 3000 3004 3009
135 SQ 0 17.95 27.43 34.38 40.15 45.18 57.71 67.97 76.88
136 SE 2993 2996 2997 2998 2999 3000 3003 3006 3009
*

137 ZZ

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT
LINE (V) ROUTING (---->) DIVERSION OR PUMP FLOW
NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW

```

24 OFF1
.
.
39 OFF11
.
.
45 OFF2
.
.
51 OFF3
.
.
57 CP1.....
.
.
60 OFF4
.
.
66 OFF5
.
.
72 OFF6
.
.
78 ON1
.
.
83 DB1.....
V
86 RDB1
.
.
94 OFF7
.
.
100 OFF8
.
.
106 CP2.....

```


109	.	.	OFF9	
115	.	.		OFF10
121	.	.		ON2
126	.	DB2	-----	
129	.	RDB2		

```

*****
*
*   FLOOD HYDROGRAPH PACKAGE   (HEC-1)
*       JUN 1998
*       VERSION 4.1
*
*   RUN DATE   15OCT14   TIME   10:51:54
*
*****

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U.S. ARMY CORPS OF ENGINEERS
HYDROLOGIC ENGINEERING CENTER
609 SECOND STREET
DAVIS, CALIFORNIA 95616
(916) 756-1104

```

RETURN PERIOD ----- 100-YEAR
DISTRIBUTION ----- 6-HOUR SDN3
PROJECT NO. ----- OLY1401.004
FILENAME ----- PRO1.H1
DATE ----- 10/15/14
MODELED BY ----- ETM

```

SIX HOUR DRAINAGE AREA (MI ²)	DEPTH-AREA REDUCTION FACTORS RATIO
0.0-0.49	1.00
0.5-0.99	0.98
1.0-1.99	0.97

```

21 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      0 STARTING DATE
           ITIME      0000   STARTING TIME
           NQ         500    NUMBER OF HYDROGRAPH ORDINATES
           NDDATE      2      0 ENDING DATE
           NDDTIME     1735   ENDING TIME
           ICENT       19     CENTURY MARK

           COMPUTATION INTERVAL .08 HOURS
           TOTAL TIME BASE      41.58 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

JP          MULTI-PLAN OPTION
           NPLAN      1      NUMBER OF PLANS

JR          MULTI-RATIO OPTION
           RATIOS OF PRECIPITATION
           1.00      .98      .97

```

[illegible]

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      ☆☆☆☆☆☆☆☆☆☆☆
    ☆
86 KK      ☆      RDB1    ☆
    ☆
      ☆☆☆☆☆☆☆☆☆☆☆

```

```

88 KO      OUTPUT CONTROL VARIABLES
            IPRNT      1  PRINT CONTROL
            IPLOT      0  PLOT CONTROL
            QSCAL      0.  HYDROGRAPH PLOT SCALE

```

HYDROGRAPH ROUTING DATA

89 RS	STORAGE ROUTING		
	NSTPS	1	NUMBER OF SUBREACHES
	ITYP	VOL	TYPE OF INITIAL CONDITION
	RSVRIC	-1.00	INITIAL CONDITION
	X	.00	WORKING R AND D COEFFICIENT

[illegible]

☆☆☆

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	7.78	13.43	19.26	25.72	32.18	58.03	73.30	80.94	96.21
OUTFLOW	.00	10.97	18.28	25.59	36.20	44.33	65.96	76.78	335.94	1413.68
ELEVATION	25.50	27.00	28.00	29.00	30.00	31.00	35.00	37.00	38.00	40.00
STORAGE	114.21	132.22								
OUTFLOW	2946.76	4825.05								
ELEVATION	42.00	44.00								

[illegible]

HYDROGRAPH AT STATION RDB1
PLAN 1, RATIO = 1.00

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE

1	0000	1	0.	.0	25.5	*	1	1355	168	42.	30.2	30.7	*	2	0350	335	9.	6.2	26.7
1	0005	2	0.	.0	25.5	*	1	1400	169	42.	30.0	30.7	*	2	0355	336	9.	6.1	26.7
1	0010	3	0.	.0	25.5	*	1	1405	170	41.	29.7	30.6	*	2	0400	337	9.	6.1	26.7
1	0015	4	0.	.0	25.5	*	1	1410	171	41.	29.4	30.6	*	2	0405	338	9.	6.0	26.7
1	0020	5	0.	.0	25.5	*	1	1415	172	40.	29.1	30.5	*	2	0410	339	8.	6.0	26.7
1	0025	6	0.	.1	25.5	*	1	1420	173	40.	28.8	30.5	*	2	0415	340	8.	5.9	26.6
1	0030	7	0.	.1	25.5	*	1	1425	174	40.	28.6	30.4	*	2	0420	341	8.	5.9	26.6
1	0035	8	0.	.2	25.5	*	1	1430	175	39.	28.3	30.4	*	2	0425	342	8.	5.8	26.6
1	0040	9	0.	.2	25.5	*	1	1435	176	39.	28.0	30.4	*	2	0430	343	8.	5.7	26.6
1	0045	10	0.	.3	25.6	*	1	1440	177	39.	27.7	30.3	*	2	0435	344	8.	5.7	26.6
1	0050	11	0.	.3	25.6	*	1	1445	178	38.	27.5	30.3	*	2	0440	345	8.	5.6	26.6
1	0055	12	0.	.3	25.6	*	1	1450	179	38.	27.2	30.2	*	2	0445	346	8.	5.6	26.6
1	0100	13	0.	.3	25.6	*	1	1455	180	38.	27.0	30.2	*	2	0450	347	8.	5.5	26.6
1	0105	14	1.	.4	25.6	*	1	1500	181	37.	26.7	30.2	*	2	0455	348	8.	5.5	26.6
1	0110	15	1.	.4	25.6	*	1	1505	182	37.	26.4	30.1	*	2	0500	349	8.	5.4	26.5
1	0115	16	1.	.4	25.6	*	1	1510	183	37.	26.2	30.1	*	2	0505	350	8.	5.4	26.5
1	0120	17	1.	.5	25.6	*	1	1515	184	36.	25.9	30.0	*	2	0510	351	7.	5.3	26.5
1	0125	18	1.	.5	25.6	*	1	1520	185	36.	25.7	30.0	*	2	0515	352	7.	5.3	26.5
1	0130	19	1.	.6	25.6	*	1	1525	186	36.	25.4	30.0	*	2	0520	353	7.	5.2	26.5
1	0135	20	1.	.7	25.6	*	1	1530	187	35.	25.2	29.9	*	2	0525	354	7.	5.2	26.5
1	0140	21	1.	.9	25.7	*	1	1535	188	35.	24.9	29.9	*	2	0530	355	7.	5.1	26.5
1	0145	22	2.	1.1	25.7	*	1	1540	189	35.	24.7	29.8	*	2	0535	356	7.	5.1	26.5
1	0150	23	2.	1.3	25.8	*	1	1545	190	34.	24.5	29.8	*	2	0540	357	7.	5.0	26.5
1	0155	24	2.	1.5	25.8	*	1	1550	191	34.	24.2	29.8	*	2	0545	358	7.	5.0	26.5
1	0200	25	2.	1.7	25.8	*	1	1555	192	33.	24.0	29.7	*	2	0550	359	7.	4.9	26.4
1	0205	26	3.	1.9	25.9	*	1	1600	193	33.	23.8	29.7	*	2	0555	360	7.	4.9	26.4
1	0210	27	3.	2.0	25.9	*	1	1605	194	33.	23.5	29.7	*	2	0600	361	7.	4.8	26.4
1	0215	28	3.	2.1	25.9	*	1	1610	195	32.	23.3	29.6	*	2	0605	362	7.	4.8	26.4
1	0220	29	3.	2.2	26.0	*	1	1615	196	32.	23.1	29.6	*	2	0610	363	7.	4.7	26.4
1	0225	30	4.	2.3	26.0	*	1	1620	197	32.	22.9	29.6	*	2	0615	364	7.	4.7	26.4
1	0230	31	4.	3.1	26.1	*	1	1625	198	31.	22.7	29.5	*	2	0620	365	7.	4.6	26.4
1	0235	32	5.	3.4	26.2	*	1	1630	199	31.	22.5	29.5	*	2	0625	366	6.	4.6	26.4
1	0240	33	5.	3.8	26.2	*	1	1635	200	30.	22.2	29.5	*	2	0630	367	6.	4.6	26.4
1	0245	34	6.	4.1	26.3	*	1	1640	201	30.	22.0	29.4	*	2	0635	368	6.	4.5	26.4
1	0250	35	6.	4.5	26.4	*	1	1645	202	30.	21.8	29.4	*	2	0640	369	6.	4.5	26.4
1	0255	36	7.	4.9	26.4	*	1	1650	203	29.	21.6	29.4	*	2	0645	370	6.	4.4	26.4
1	0300	37	7.	5.2	26.5	*	1	1655	204	29.	21.4	29.3	*	2	0650	371	6.	4.4	26.3
1	0305	38	8.	5.6	26.6	*	1	1700	205	29.	21.2	29.3	*	2	0655	372	6.	4.3	26.3
1	0310	39	10.	6.2	26.7	*	1	1705	206	28.	21.0	29.3	*	2	0700	373	6.	4.3	26.3
1	0315	40	10.	7.1	26.9	*	1	1710	207	28.	20.8	29.2	*	2	0705	374	6.	4.3	26.3
1	0320	41	12.	8.5	27.1	*	1	1715	208	28.	20.6	29.2	*	2	0710	375	6.	4.2	26.3
1	0325	42	15.	10.8	27.5	*	1	1720	209	28.	20.4	29.2	*	2	0715	376	6.	4.2	26.3
1	0330	43	19.	14.3	28.2	*	1	1725	210	27.	20.3	29.2	*	2	0720	377	6.	4.1	26.3
1	0335	44	25.	18.9	28.9	*	1	1730	211	27.	20.1	29.1	*	2	0725	378	6.	4.1	26.3
1	0340	45	34.	24.5	29.3	*	1	1735	212	27.	19.9	29.1	*	2	0730	379	6.	4.1	26.3
1	0345	46	41.	29.5	30.6	*	1	1740	213	26.	19.7	29.1	*	2	0735	380	6.	4.0	26.3
1	0350	47	46.	34.7	31.4	*	1	1745	214	26.	19.5	29.0	*	2	0740	381	6.	4.0	26.3
1	0355	48	50.	39.4	32.1	*	1	1750	215	26.	19.3	29.0	*	2	0745	382	6.	3.9	26.3
1	0400	49	54.	43.6	32.8	*	1	1755	216	25.	19.2	29.0	*	2	0750	383	5.	3.9	26.3
1	0405	50	57.	47.1	33.3	*	1	1800	217	25.	19.0	28.9	*	2	0755	384	5.	3.8	26.2
1	0410	51	59.	49.9	33.7	*	1	1805	218	25.	18.8	28.9	*	2	0800	385	5.	3.8	26.2
1	0415	52	61.	52.2	34.1	*	1	1810	219	25.	18.7	28.9	*	2	0805	386	5.	3.8	26.2
1	0420	53	63.	54.0	34.4	*	1	1815	220	25.	18.5	28.9	*	2	0810	387	5.	3.7	26.2
1	0425	54	64.	55.4	34.6	*	1	1820	221	24.	18.3	28.8	*	2	0815	388	5.	3.7	26.2
1	0430	55	65.	56.7	34.8	*	1	1825	222	24.	18.1	28.8	*	2	0820	389	5.	3.7	26.2
1	0435	56	66.	57.9	35.0	*	1	1830	223	24.	18.0	28.8	*	2	0825	390	5.	3.6	26.2
1	0440	57	67.	59.1	35.1	*	1	1835	224	24.	17.8	28.8	*	2	0830	391	5.	3.6	26.2
1	0445	58	68.	60.3	35.3	*	1	1840	225	24.	17.7	28.7	*	2	0835	392	5.	3.6	26.2
1	0450	59	68.	61.5	35.4	*	1	1845	226	23.	17.5	28.7	*	2	0840	393	5.	3.5	26.2
1	0455	60	69.	62.7	35.6	*	1	1850	227	23.	17.3	28.7	*	2	0845	394	5.	3.5	26.2
1	0500	61	70.	63.9	35.7	*	1	1855	228	23.	17.2	28.6	*	2	0850	395	5.	3.5	26.2
1	0505	62	71.	64.9	35.9	*	1	1900	229	23.	17.0	28.6	*	2	0855	396	5.	3.4	26.2
1	0510	63	71.	65.8	36.0	*	1	1905	230	23.	16.9	28.6	*	2	0900	397	5.	3.4	26.2
1	0515	64	72.	66.4	36.1	*	1	1910	231	22.	16.7	28.6	*	2	0905	398	5.	3.4	26.1
1	0520	65	72.	66.9	36.2	*	1	1915	232	22.	16.5	28.5	*	2	0910	399	5.	3.3	26.1
1	0525	66	72.	67.2	36.2	*	1	1920	233	22.	16.4	28.5	*	2	0915	400	5.	3.3	26.1
1	0530	67	73.	67.3	36.2	*	1	1925	234	22.	16.2	28.5	*	2	0920	401	5.	3.3	26.1
1	0535	68	73.	67.4	36.2	*	1	1930	235	22.	16.1	28.5	*	2	0925	402	5.	3.2	26.1
1	0540	69	73.	67.3	36.2	*	1	1935	236	21.	15.9	28.4	*	2	0930	403	5.	3.2	26.1
1	0545	70	72.	67.1	36.2	*	1	1940	237	21.	15.8	28.4	*	2	0935	404	4.	3.2	26.1
1	0550	71	72.	66.9	36.2	*	1	1945	238	21.	15.7	28.4	*	2	0940	405	4.	3.1	26.1
1	0555	72	72.	66.7	36.1	*	1	1950	239	21.	15.5	28.4	*	2	0945	406	4.	3.1	26.1
1	0600	73	72.	66.5	36.1	*	1	1955	240	21.	15.4	28.3	*	2	0950	407	4.	3.1	26.1
1	0605	74	72.	66.1	36.1	*	1	2000	241	21.	15.2	28.3	*	2	0955	408	4.	3.1	26.1
1	0610	75	71.	65.8	36.0	*	1	2005	242	20.	15.1	28.3	*	2	1000	409	4.	3.0	26.1
1	0615	76	71.	65.4	36.0	*	1	2010	243	20.	14.9	28.3	*	2	1005	410	4.	3.0	26.1
1	0620	77	71.	65.0	35.9	*	1	2015	244	20.	14.8	28.2	*	2	1010	411	4.	3.0	26.1
1	0625	78	71.	64.6	35.9	*	1	2020	245	20.	14.7	28.2	*	2	1015	412	4.	2.9	26.1
1	0630	79	70.	64.3	35.9	*	1	2025	246	20.	14.5	28.2	*	2	1020	413	4.	2.9	26.1
1	0635	80	70.	63.8	35.8	*	1	2030	247	19.	14.4	28.2	*	2	1025	414	4.	2.9	26.1
1	0640	81	70.	63.3	35.7	*	1	2035	248	19.	14.3	28.1	*	2	1030	415	4.	2.9	26.1
1	0																		

ULT1-OUT																			
1	1125	138	51.	39.8	32.2	*	2	0120	305	12.	8.3	27.1	*	2	1515	472	2.	1.6	25.8
1	1130	139	50.	39.5	32.1	*	2	0125	306	12.	8.2	27.1	*	2	1520	473	2.	1.6	25.8
1	1135	140	50.	39.2	32.1	*	2	0130	307	11.	8.1	27.1	*	2	1525	474	2.	1.6	25.8
1	1140	141	50.	38.8	32.0	*	2	0135	308	11.	8.1	27.1	*	2	1530	475	2.	1.6	25.8
1	1145	142	50.	38.5	32.0	*	2	0140	309	11.	8.0	27.0	*	2	1535	476	2.	1.6	25.8
1	1150	143	49.	38.1	31.9	*	2	0145	310	11.	7.9	27.0	*	2	1540	477	2.	1.6	25.8
1	1155	144	49.	37.8	31.9	*	2	0150	311	11.	7.8	27.0	*	2	1545	478	2.	1.5	25.8
1	1200	145	49.	37.5	31.8	*	2	0155	312	11.	7.8	27.0	*	2	1550	479	2.	1.5	25.8
1	1205	146	48.	37.1	31.8	*	2	0200	313	11.	7.7	27.0	*	2	1555	480	2.	1.5	25.8
1	1210	147	48.	36.8	31.7	*	2	0205	314	11.	7.6	27.0	*	2	1600	481	2.	1.5	25.8
1	1215	148	48.	36.5	31.7	*	2	0210	315	11.	7.5	27.0	*	2	1605	482	2.	1.5	25.8
1	1220	149	48.	36.1	31.6	*	2	0215	316	11.	7.5	26.9	*	2	1610	483	2.	1.5	25.8
1	1225	150	47.	35.8	31.6	*	2	0220	317	10.	7.4	26.9	*	2	1615	484	2.	1.5	25.8
1	1230	151	47.	35.5	31.5	*	2	0225	318	10.	7.3	26.9	*	2	1620	485	2.	1.4	25.8
1	1235	152	47.	35.1	31.5	*	2	0230	319	10.	7.2	26.9	*	2	1625	486	2.	1.4	25.8
1	1240	153	47.	34.8	31.4	*	2	0235	320	10.	7.2	26.9	*	2	1630	487	2.	1.4	25.8
1	1245	154	46.	34.5	31.4	*	2	0240	321	10.	7.1	26.9	*	2	1635	488	2.	1.4	25.8
1	1250	155	46.	34.2	31.3	*	2	0245	322	10.	7.0	26.9	*	2	1640	489	2.	1.4	25.8
1	1255	156	46.	33.9	31.3	*	2	0250	323	10.	7.0	26.8	*	2	1645	490	2.	1.4	25.8
1	1300	157	45.	33.6	31.2	*	2	0255	324	10.	6.9	26.8	*	2	1650	491	2.	1.4	25.8
1	1305	158	45.	33.2	31.2	*	2	0300	325	10.	6.8	26.8	*	2	1655	492	2.	1.4	25.8
1	1310	159	45.	32.9	31.1	*	2	0305	326	10.	6.8	26.8	*	2	1700	493	2.	1.3	25.8
1	1315	160	45.	32.6	31.1	*	2	0310	327	9.	6.7	26.8	*	2	1705	494	2.	1.3	25.8
1	1320	161	44.	32.3	31.0	*	2	0315	328	9.	6.6	26.8	*	2	1710	495	2.	1.3	25.8
1	1325	162	44.	32.0	31.0	*	2	0320	329	9.	6.6	26.8	*	2	1715	496	2.	1.3	25.8
1	1330	163	44.	31.7	30.9	*	2	0325	330	9.	6.5	26.8	*	2	1720	497	2.	1.3	25.7
1	1335	164	43.	31.4	30.9	*	2	0330	331	9.	6.5	26.7	*	2	1725	498	2.	1.3	25.7
1	1340	165	43.	31.1	30.8	*	2	0335	332	9.	6.4	26.7	*	2	1730	499	2.	1.3	25.7
1	1345	166	43.	30.8	30.8	*	2	0340	333	9.	6.3	26.7	*	2	1735	500	2.	1.3	25.7
1	1350	167	42.	30.5	30.7	*	2	0345	334	9.	6.3	26.7	*	2					

PEAK FLOW	TIME	6-HR	MAXIMUM AVERAGE FLOW	72-HR	41.58-HR
+	(CFS)	(HR)	(CFS)		
+	73.	5.58	65.	37.	23.
			(INCHES)	1.576	1.706
			(AC-FT)	74.	80.
PEAK STORAGE	TIME	6-HR	MAXIMUM AVERAGE STORAGE	72-HR	41.58-HR
+	(AC-FT)	(HR)			
+	67.	5.58	58.	30.	19.
PEAK STAGE	TIME	6-HR	MAXIMUM AVERAGE STAGE	72-HR	41.58-HR
+	(FEET)	(HR)			
+	36.22	5.58	34.91	30.59	28.68

CUMULATIVE AREA = .88 SQ MI

HYDROGRAPH AT STATION RDB1 PLAN 1, RATIO = .98

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	25.5	*	1		1355	168	40.	29.0	30.5	*	2		0350	335	8.	6.0	26.6
1		0005	2	0.	.0	25.5	*	1		1400	169	40.	28.8	30.5	*	2		0355	336	8.	5.9	26.6
1		0010	3	0.	.0	25.5	*	1		1405	170	40.	28.5	30.4	*	2		0400	337	8.	5.8	26.6
1		0015	4	0.	.0	25.5	*	1		1410	171	39.	28.2	30.4	*	2		0405	338	8.	5.8	26.6
1		0020	5	0.	.0	25.5	*	1		1415	172	39.	27.9	30.3	*	2		0410	339	8.	5.7	26.6
1		0025	6	0.	.1	25.5	*	1		1420	173	39.	27.7	30.3	*	2		0415	340	8.	5.7	26.6
1		0030	7	0.	.1	25.5	*	1		1425	174	38.	27.4	30.2	*	2		0420	341	8.	5.6	26.6
1		0035	8	0.	.2	25.5	*	1		1430	175	38.	27.1	30.2	*	2		0425	342	8.	5.6	26.6
1		0040	9	0.	.2	25.5	*	1		1435	176	38.	26.9	30.2	*	2		0430	343	8.	5.5	26.6
1		0045	10	0.	.3	25.6	*	1		1440	177	37.	26.6	30.1	*	2		0435	344	8.	5.5	26.6
1		0050	11	0.	.3	25.6	*	1		1445	178	37.	26.4	30.1	*	2		0440	345	8.	5.4	26.5
1		0055	12	0.	.3	25.6	*	1		1450	179	37.	26.1	30.1	*	2		0445	346	8.	5.4	26.5
1		0100	13	0.	.3	25.6	*	1		1455	180	36.	25.9	30.0	*	2		0450	347	7.	5.3	26.5
1		0105	14	0.	.3	25.6	*	1		1500	181	36.	25.6	30.0	*	2		0455	348	7.	5.3	26.5
1		0110	15	0.	.3	25.6	*	1		1505	182	36.	25.4	29.9	*	2		0500	349	7.	5.2	26.5
1		0115	16	1.	.4	25.6	*	1		1510	183	35.	25.1	29.9	*	2		0505	350	7.	5.2	26.5
1		0120	17	1.	.4	25.6	*	1		1515	184	35.	24.9	29.9	*	2		0510	351	7.	5.1	26.5
1		0125	18	1.	.5	25.6	*	1		1520	185	34.	24.6	29.8	*	2		0515	352	7.	5.1	26.5
1		0130	19	1.	.5	25.6	*	1		1525	186	34.	24.4	29.8	*	2		0520	353	7.	5.0	26.5
1		0135	20	1.	.7	25.6	*	1		1530	187	34.	24.2	29.8	*	2		0525	354	7.	5.0	26.5
1		0140	21	1.	.8	25.7	*	1		1535	188	33.	23.9	29.7	*	2		0530	355	7.	4.9	26.4
1		0145	22	1.	1.0	25.7	*	1		1540	189	33.	23.7	29.7	*	2		0535	356	7.	4.9	26.4
1		0150	23	2.	1.2	25.7	*	1		1545	190	33.	23.5	29.7	*	2		0540	357	7.	4.8	26.4
1		0155	24	2.	1.4	25.8	*	1		1550	191	32.	23.3	29.6	*	2		0545	358	7.	4.8	26.4
1		0200	25	2.	1.6	25.8	*	1		1555	192	32.	23.0	29.6	*	2		0550	359	7.	4.7	26.4
1		0205	26	2.	1.8	25.8	*	1		1600	193	31.	22.8	29.6	*	2		0555	360	7.	4.7	26.4
1		0210	27	3.	1.9	25.9	*	1		1605	194	31.	22.6	29.5	*	2		0600	361	7.	4.6	26.4
1		0215	28	3.	2.1	25.9	*	1		1610	195	31.	22.4	29.5	*	2		0605	362	6.	4.6	26.4
1		0220	29	3.	2.3	25.9	*	1		1615	196	30.	22.2	29.5	*	2		0610	363	6.	4.5	26.4
1		0225	30	4.	2.6	26.0	*	1		1620	197	30.	22.0	29.4	*	2		0615	364	6.	4.5	26.4
1		0230	31	4.	2.9	26.1	*	1		1625	198	30.	21.8	29.4	*	2		0620	365	6.	4.5	26.4
1		0235	32	5.	3.2	26.1	*	1		1630	199	29.	21.6	29.4	*	2		0625	366	6.	4.4	26.4
1		0240	33	5.	3.5	26.2	*	1		1635	200	29.	21.4	29.3	*	2		0630	367	6.	4.4	26.3
1		0245	34	6.	3.9	26.3	*	1		1640	201	29.	21.2	29.3	*	2		0635	368	6.	4.3	26.3
1		0250	35	6.	4.3	26.3	*	1		1645	202	28.	21.0	29.3	*	2		0640	369	6.	4.3	26.3
1		0255	36	7.	4.6	26.4	*	1		1650	203	28.	20.8	29.2	*	2		0645	370	6.	4.2	26.3
1		0300	37	7.	5.0	26.5	*	1		1655	204	28.	20.6	29.2	*	2		0650	371	6.	4.2	26.3
1		0305	38	8.	5.4	26.5	*	1		1700	205	27.	20.4	29.2	*	2		0655	372	6.	4.2	26.3
1		0310	39	8.	5.9	26.6	*	1		1705	206	27.	20.2	29.1	*	2		0700	373	6.	4.1	26.3
1		0315	40	10.	6.7	26.8	*	1		1710	207	27.	20.0	29.1	*	2		0705	374	6.	4.1	26.3
1		0320	41	11.	8.1	27.1	*	1		1715	208	27.	19.8	29.1	*	2		0710	375	6.	4.0	26.3
1		0325	42	14.	10.4	27.5	*	1		1720	209	26.	19.7	29.1	*	2		0715	376	6.	4.0	26.3
1		0330	43	19.	13.7	28.1	*	1		1725	210	26.	19.5	29.0	*	2		0720	377	6.	4.0	26.3
1		0335	44	24.	18.2	28.8	*	1		1730	211	26.	19.3	29.0	*	2		0725	378	6.	3.9	26.3
1		0340	45	32.	23.3	29.6	*	1		1735	212	25.	19.1	29.0	*	2		0730	379	5.	3.9	26.2
1		0345	46	40.	28.5	30.4	*	1		1740	213	25.	19.0	28.9	*	2		0735	380	5.	3.8	26.2
1		0350	47	45.	33.5	31.2	*	1		1745	214	25.	18.8	28.9	*	2		0740	381	5.	3.8	26.2
1		0355	48	49.	38.1	31.9	*	1		1750	215	25.	18.6	28.9	*	2		0745	382	5.	3.8	26.2
1		0400	49	53.	42.1	32.5	*	1		1755	216	25.	18.4	28.9	*	2		0750	383	5.	3.7	26.2
1		0405	50	56.	45.6	33.1	*	1		1800	217	24.	18.3	28.8	*	2		0755	384	5.	3.7	26.2
1		0410	51	58.	48.3	33.5	*	1		1805	218	24.	18.1	28.8	*	2		0800	385	5.	3.7	26.2
1		0415	52	60.	50.5	33.8	*	1		1810	219	24.	17.9	28.8	*	2		0805	386	5.	3.6	26.2
1		0420	53	61.	52.3	34.1	*	1		1815	220	24.	17.8	28.7	*	2		0810	387	5.	3.6	26.2
1		0425	54	62.	53.3	34.3	*	1		1820	221	23.	17.6	28.7	*	2		0815	388	5.	3.5	26.2
1		0430	55	63.	54.9	34.5	*	1		1825	222	23.	17.5	28.7	*	2		0820	389	5.	3.5	26.2
1		0435	56	64.	56.1	34.7	*	1		1830	223	23.	17.3	28.7	*	2		0825	390	5.	3.5	26.2
1		0440	57	65.	57.2	34.9	*	1		1835	224	23.	17.1	28.6	*	2		0830	391	5.	3.5	26.2
1		0445	58	66.	58.4	35.0	*	1		1840	225	23.	17.0	28.6	*	2		0835	392	5.	3.4	26.2
1		0450	59	67.	59.5	35.2	*	1		1845	226	23.	16.8	28.6	*	2		0840	393	5.	3.4	26.2
1		0455	60	68.	60.0	35.3	*	1		1850	227	22.	16.7	28.6	*	2		0845	394	5.	3.4	26.1
1		0500	61	69.	61.9	35.5	*	1		1855	228	22.	16.5	28.5	*	2		0850	395	5.	3.3	26.1
1		0505	62	69.	62.9	35.6	*	1		1900	229	22.	16.4	28.5	*	2		0855	396	5.	3.3	26.1
1		0510	63	70.	63.7	35.7	*	1		1905	230	22.	16.2	28.5	*	2		0900	397	5.	3.3	26.1
1		0515	64	70.	64.4	35.8	*	1		1910	231	22.	16.1	28.5	*	2		0905	398	5.	3.2	26.1
1		0520	65	71.	64.8	35.9	*	1		1915	232	21.	15.9	28.4	*	2		0910	399	5.	3.2	26.1
1		0525	66	71.	65.0	35.9	*	1		1920	233	21.	15.8	28.4	*	2		0915	400	5.	3.2	26.1
1		0530	67	71.	65.3	35.9	*	1		1925	234	21.	15.6	28.4	*	2		0920	401	4.	3.1	26.1
1		0535	68	71.	65.3	35.9	*	1		1930	235	21.	15.5	28.4	*	2		0925	402	4.	3.1	26.1
1		0540	69	71.	65.2	35.9	*	1		1935	236	21.	15.3	28.3	*	2		0930	403	4.	3.1	26.1
1		0545	70	71.	65.0	35.9	*	1		1940	237	20.	15.2	28.3	*	2		0935	404	4.	3.0	26.1
1		0550	71	71.	64.8	35.9	*	1		1945	238	20.	15.1	28.3	*	2		0940	405	4.	3.0	26.1
1		0555	72	71.	64.6	35.9	*	1		1950	239	20.	14.9	28.3	*	2		0945	406	4.	3.0	26.1
1		0600	73	70.	64.4	35.8	*	1		1955	240	20.	14.8	28.2	*	2		0950	407	4.	3.0	26.1
1		0605	74	70.	64.0	35.8	*	1		2000	241	20.	14.6	28.2	*	2		0955	408	4.	2.9	26.1

1	0610	75	70.	63.7	35.7	*	1	2005	242	20.	14.5	28.2	*	2	1000	409	4.	2.9	26.1
1	0615	76	70.	63.4	35.7	*	1	2010	243	19.	14.4	28.2	*	2	1005	410	4.	2.9	26.1
1	0620	77	69.	63.0	35.7	*	1	2015	244	19.	14.2	28.1	*	2	1010	411	4.	2.8	26.0
1	0625	78	69.	62.6	35.6	*	1	2020	245	19.	14.1	28.1	*	2	1015	412	4.	2.8	26.0
1	0630	79	69.	62.2	35.5	*	1	2025	246	19.	14.0	28.1	*	2	1020	413	4.	2.8	26.0
1	0635	80	69.	61.7	35.5	*	1	2030	247	19.	13.8	28.1	*	2	1025	414	4.	2.8	26.0
1	0640	81	68.	61.3	35.4	*	1	2035	248	19.	13.7	28.0	*	2	1030	415	4.	2.7	26.0
1	0645	82	68.	60.9	35.4	*	1	2040	249	18.	13.6	28.0	*	2	1035	416	4.	2.7	26.0
1	0650	83	68.	60.4	35.3	*	1	2045	250	18.	13.5	28.0	*	2	1040	417	4.	2.7	26.0
1	0655	84	67.	60.0	35.3	*	1	2050	251	18.	13.3	28.0	*	2	1045	418	4.	2.7	26.0
1	0700	85	67.	59.5	35.2	*	1	2055	252	18.	13.2	28.0	*	2	1050	419	4.	2.6	26.0
1	0705	86	67.	59.0	35.1	*	1	2100	253	18.	13.1	27.9	*	2	1055	420	4.	2.6	26.0
1	0710	87	66.	58.6	35.1	*	1	2105	254	18.	13.0	27.9	*	2	1100	421	4.	2.6	26.0
1	0715	88	66.	58.1	35.0	*	1	2110	255	18.	12.8	27.9	*	2	1105	422	4.	2.6	26.0
1	0720	89	66.	57.7	34.9	*	1	2115	256	17.	12.7	27.9	*	2	1110	423	4.	2.5	26.0
1	0725	90	65.	57.2	34.9	*	1	2120	257	17.	12.6	27.9	*	2	1115	424	4.	2.5	26.0
1	0730	91	65.	56.8	34.8	*	1	2125	258	17.	12.5	27.8	*	2	1120	425	4.	2.5	26.0
1	0735	92	65.	56.3	34.7	*	1	2130	259	17.	12.4	27.8	*	2	1125	426	3.	2.5	26.0
1	0740	93	64.	55.9	34.7	*	1	2135	260	17.	12.2	27.8	*	2	1130	427	3.	2.4	26.0
1	0745	94	64.	55.5	34.6	*	1	2140	261	17.	12.1	27.8	*	2	1135	428	3.	2.4	26.0
1	0750	95	63.	55.0	34.5	*	1	2145	262	16.	12.0	27.8	*	2	1140	429	3.	2.4	26.0
1	0755	96	63.	54.6	34.5	*	1	2150	263	16.	11.9	27.7	*	2	1145	430	3.	2.4	26.0
1	0800	97	63.	54.2	34.4	*	1	2155	264	16.	11.8	27.7	*	2	1150	431	3.	2.3	26.0
1	0805	98	62.	53.7	34.3	*	1	2200	265	16.	11.7	27.7	*	2	1155	432	3.	2.3	25.9
1	0810	99	62.	53.3	34.3	*	1	2205	266	16.	11.6	27.7	*	2	1200	433	3.	2.3	25.9
1	0815	100	62.	52.9	34.2	*	1	2210	267	16.	11.5	27.7	*	2	1205	434	3.	2.3	25.9
1	0820	101	61.	52.4	34.1	*	1	2215	268	16.	11.4	27.6	*	2	1210	435	3.	2.2	25.9
1	0825	102	61.	52.0	34.1	*	1	2220	269	15.	11.3	27.6	*	2	1215	436	3.	2.2	25.9
1	0830	103	61.	51.6	34.0	*	1	2225	270	15.	11.1	27.6	*	2	1220	437	3.	2.2	25.9
1	0835	104	60.	51.2	33.9	*	1	2230	271	15.	11.0	27.6	*	2	1225	438	3.	2.2	25.9
1	0840	105	60.	50.8	33.9	*	1	2235	272	15.	10.9	27.6	*	2	1230	439	3.	2.2	25.9
1	0845	106	60.	50.4	33.8	*	1	2240	273	15.	10.8	27.5	*	2	1235	440	3.	2.1	25.9
1	0850	107	59.	50.0	33.8	*	1	2245	274	15.	10.7	27.5	*	2	1240	441	3.	2.1	25.9
1	0855	108	59.	49.5	33.7	*	1	2250	275	15.	10.6	27.5	*	2	1245	442	3.	2.1	25.9
1	0900	109	59.	49.1	33.6	*	1	2255	276	15.	10.5	27.5	*	2	1250	443	3.	2.1	25.9
1	0905	110	58.	48.7	33.6	*	1	2300	277	14.	10.4	27.5	*	2	1255	444	3.	2.1	25.9
1	0910	111	58.	48.3	33.5	*	1	2305	278	14.	10.3	27.5	*	2	1300	445	3.	2.0	25.9
1	0915	112	58.	47.9	33.4	*	1	2310	279	14.	10.2	27.4	*	2	1305	446	3.	2.0	25.9
1	0920	113	57.	47.6	33.4	*	1	2315	280	14.	10.1	27.4	*	2	1310	447	3.	2.0	25.9
1	0925	114	57.	47.2	33.3	*	1	2320	281	14.	10.0	27.4	*	2	1315	448	3.	2.0	25.9
1	0930	115	57.	46.8	33.3	*	1	2325	282	14.	9.9	27.4	*	2	1320	449	3.	2.0	25.9
1	0935	116	56.	46.4	33.2	*	1	2330	283	14.	9.9	27.4	*	2	1325	450	3.	2.0	25.9
1	0940	117	56.	46.0	33.1	*	1	2335	284	14.	9.8	27.3	*	2	1330	451	3.	1.9	25.9
1	0945	118	56.	45.6	33.1	*	1	2340	285	13.	9.7	27.3	*	2	1335	452	3.	1.9	25.9
1	0950	119	55.	45.2	33.0	*	1	2345	286	13.	9.6	27.3	*	2	1340	453	3.	1.9	25.9
1	0955	120	55.	44.8	33.0	*	1	2350	287	13.	9.5	27.3	*	2	1345	454	3.	1.9	25.9
1	1000	121	55.	44.5	32.9	*	1	2355	288	13.	9.4	27.3	*	2	1350	455	3.	1.9	25.9
1	1005	122	54.	44.1	32.8	*	2	0000	289	13.	9.3	27.3	*	2	1355	456	3.	1.8	25.9
1	1010	123	54.	43.7	32.7	*	2	0005	290	13.	9.2	27.2	*	2	1400	457	3.	1.8	25.8
1	1015	124	54.	43.4	32.7	*	2	0010	291	13.	9.1	27.2	*	2	1405	458	3.	1.8	25.8
1	1020	125	53.	43.0	32.7	*	2	0015	292	13.	9.0	27.2	*	2	1410	459	3.	1.8	25.8
1	1025	126	53.	42.6	32.6	*	2	0020	293	12.	9.0	27.2	*	2	1415	460	2.	1.8	25.8
1	1030	127	53.	42.3	32.6	*	2	0025	294	12.	8.9	27.2	*	2	1420	461	2.	1.8	25.8
1	1035	128	52.	41.9	32.5	*	2	0030	295	12.	8.8	27.2	*	2	1425	462	2.	1.7	25.8
1	1040	129	52.	41.6	32.5	*	2	0035	296	12.	8.7	27.2	*	2	1430	463	2.	1.7	25.8
1	1045	130	52.	41.2	32.4	*	2	0040	297	12.	8.6	27.1	*	2	1435	464	2.	1.7	25.8
1	1050	131	52.	40.8	32.3	*	2	0045	298	12.	8.5	27.1	*	2	1440	465	2.	1.7	25.8
1	1055	132	51.	40.5	32.3	*	2	0050	299	12.	8.4	27.1	*	2	1445	466	2.	1.7	25.8
1	1100	133	51.	40.1	32.2	*	2	0055	300	12.	8.4	27.1	*	2	1450	467	2.	1.7	25.8
1	1105	134	51.	39.8	32.2	*	2	0100	301	12.	8.3	27.1	*	2	1455	468	2.	1.6	25.8
1	1110	135	50.	39.4	32.1	*	2	0105	302	12.	8.2	27.1	*	2	1500	469	2.	1.6	25.8
1	1115	136	50.	39.1	32.1	*	2	0110	303	11.	8.1	27.1	*	2	1505	470	2.	1.6	25.8
1	1120	137	50.	38.7	32.0	*	2	0115	304	11.	8.1	27.0	*	2	1510	471	2.	1.6	25.8
1	1125	138	50.	38.4	32.0	*	2	0120	305	11.	8.0	27.0	*	2	1515	472	2.	1.6	25.8
1	1130	139	49.	38.0	31.9	*	2	0125	306	11.	7.9	27.0	*	2	1520	473	2.	1.6	25.8
1	1135	140	49.	37.7	31.9	*	2	0130	307	11.	7.8	27.0	*	2	1525	474	2.	1.5	25.8
1	1140	141	49.	37.4	31.8	*	2	0135	308	11.	7.7	27.0	*	2	1530	475	2.	1.5	25.8
1	1145	142	48.	37.0	31.8	*	2	0140	309	11.	7.7	27.0	*	2	1535	476	2.	1.5	25.8
1	1150	143	48.	36.7	31.7	*	2	0145	310	11.	7.6	27.0	*	2	1540	477	2.	1.5	25.8
1	1155	144	48.	36.4	31.6	*	2	0150	311	11.	7.5	27.0	*	2	1545	478	2.	1.5	25.8
1	1200	145	48.	36.0	31.6	*	2	0155	312	11.	7.4	26.9	*	2	1550	479	2.	1.5	25.8
1	1205	146	47.	35.7	31.5	*	2	0200	313	10.	7.4	26.9	*	2	1555	480	2.	1.5	25.8
1	1210	147	47.	35.4	31.5	*	2	0205	314	10.	7.3	26.9	*	2	1600	481	2.	1.4	25.8
1	1215	148	47.	35.1	31.4	*	2	0210	315	10.	7.2	26.9	*	2	1605	482	2.	1.4	25.8
1	1220	149	46.	34.7	31.4	*	2	0215	316	10.	7.2	26.9	*	2	1610	483	2.	1.4	25.8
1	1225	150	46.	34.4	31.3	*	2	0220	317	10.	7.1	26.9	*	2	1615	484	2.	1.4	25.8
1	1230	151	46.	34.1	31.3	*	2	0225	318	10.	7.0	26.9	*	2	1620	485	2.	1.4	25.8
1	1235	152	46.	33.8	31.2	*	2	0230	319	10.	7.0	26.8	*	2	1625	486	2.	1.4	25.8
1	1240	153	45.	33.5	31.2	*	2	0235	320	10.	6.9	26.8	*	2	1630	487	2.	1.4	25.8
1	1245	154	45.	33.2	31.2	*	2	0240	321	10.	6.8								

1	0055	12	0.	.3	25.6	*	1	1450	179	36.	25.6	30.0	*	2	0445	346	7.	5.2	26.5
1	0100	13	0.	.3	25.6	*	1	1455	180	36.	25.3	29.9	*	2	0450	347	7.	5.2	26.5
1	0105	14	0.	.3	25.6	*	1	1500	181	37.	25.3	29.9	*	2	0455	348	7.	5.1	26.5
1	0110	15	0.	.3	25.6	*	1	1505	182	35.	24.8	29.9	*	2	0500	349	7.	5.1	26.5
1	0115	16	1.	.4	25.6	*	1	1510	183	34.	24.6	29.8	*	2	0505	350	7.	5.0	26.5
1	0120	17	1.	.4	25.6	*	1	1515	184	34.	24.4	29.8	*	2	0510	351	7.	5.0	26.5
1	0125	18	1.	.4	25.6	*	1	1520	185	34.	24.1	29.8	*	2	0515	352	7.	4.9	26.5
1	0130	19	1.	.5	25.6	*	1	1525	186	33.	23.9	29.7	*	2	0520	353	7.	4.9	26.4
1	0135	20	1.	.6	25.6	*	1	1530	187	33.	23.7	29.7	*	2	0525	354	7.	4.9	26.4
1	0140	21	1.	.8	25.7	*	1	1535	188	32.	23.5	29.6	*	2	0530	355	7.	4.8	26.4
1	0145	22	1.	1.0	25.7	*	1	1540	189	32.	23.2	29.6	*	2	0535	356	7.	4.8	26.4
1	0150	23	2.	1.2	25.7	*	1	1545	190	32.	23.0	29.6	*	2	0540	357	7.	4.7	26.4
1	0155	24	2.	1.4	25.8	*	1	1550	191	31.	22.8	29.5	*	2	0545	358	7.	4.7	26.4
1	0200	25	2.	1.6	25.8	*	1	1555	192	31.	22.6	29.5	*	2	0550	359	7.	4.6	26.4
1	0205	26	2.	1.7	25.8	*	1	1600	193	31.	22.4	29.5	*	2	0555	360	6.	4.6	26.4
1	0210	27	3.	1.8	25.9	*	1	1605	194	30.	22.2	29.4	*	2	0600	361	6.	4.5	26.4
1	0215	28	3.	2.0	25.9	*	1	1610	195	30.	22.0	29.4	*	2	0605	362	6.	4.5	26.4
1	0220	29	3.	2.2	25.9	*	1	1615	196	30.	21.7	29.4	*	2	0610	363	6.	4.4	26.4
1	0225	30	4.	2.5	26.0	*	1	1620	197	29.	21.5	29.4	*	2	0615	364	6.	4.4	26.3
1	0230	31	4.	2.8	26.0	*	1	1625	198	29.	21.3	29.3	*	2	0620	365	6.	4.4	26.3
1	0235	32	4.	3.1	26.1	*	1	1630	199	29.	21.1	29.3	*	2	0625	366	6.	4.3	26.3
1	0240	33	5.	3.4	26.2	*	1	1635	200	28.	20.9	29.3	*	2	0630	367	6.	4.3	26.3
1	0245	34	5.	3.8	26.2	*	1	1640	201	28.	20.8	29.2	*	2	0635	368	6.	4.2	26.3
1	0250	35	6.	4.2	26.3	*	1	1645	202	28.	20.6	29.2	*	2	0640	369	6.	4.2	26.3
1	0255	36	6.	4.5	26.4	*	1	1650	203	28.	20.4	29.2	*	2	0645	370	6.	4.2	26.3
1	0300	37	7.	4.8	26.4	*	1	1655	204	27.	20.2	29.1	*	2	0650	371	6.	4.1	26.3
1	0305	38	7.	5.2	26.5	*	1	1700	205	27.	20.0	29.1	*	2	0655	372	6.	4.1	26.3
1	0310	39	8.	5.7	26.6	*	1	1705	206	27.	19.8	29.1	*	2	0700	373	6.	4.0	26.3
1	0315	40	9.	6.6	26.6	*	1	1710	207	26.	19.6	29.1	*	2	0705	374	6.	4.0	26.3
1	0320	41	11.	7.9	27.0	*	1	1715	208	26.	19.5	29.0	*	2	0710	375	6.	4.0	26.3
1	0325	42	14.	10.1	27.4	*	1	1720	209	26.	19.3	29.0	*	2	0715	376	6.	3.9	26.3
1	0330	43	18.	13.5	28.0	*	1	1725	210	25.	19.1	29.0	*	2	0720	377	5.	3.9	26.2
1	0335	44	24.	17.9	28.8	*	1	1730	211	25.	18.9	28.9	*	2	0725	378	5.	3.8	26.2
1	0340	45	31.	22.8	29.6	*	1	1735	212	25.	18.8	28.9	*	2	0730	379	5.	3.8	26.2
1	0345	46	39.	27.9	30.3	*	1	1740	213	25.	18.6	28.9	*	2	0735	380	5.	3.8	26.2
1	0350	47	45.	32.9	31.1	*	1	1745	214	25.	18.4	28.9	*	2	0740	381	5.	3.7	26.2
1	0355	48	49.	37.5	31.8	*	1	1750	215	24.	18.2	28.8	*	2	0745	382	5.	3.7	26.2
1	0400	49	52.	41.4	32.4	*	1	1755	216	24.	18.1	28.8	*	2	0750	383	5.	3.7	26.2
1	0405	50	55.	44.8	33.0	*	1	1800	217	24.	17.9	28.8	*	2	0755	384	5.	3.6	26.2
1	0410	51	57.	47.5	33.4	*	1	1805	218	24.	17.7	28.7	*	2	0800	385	5.	3.6	26.2
1	0415	52	59.	49.7	33.7	*	1	1810	219	23.	17.6	28.7	*	2	0805	386	5.	3.6	26.2
1	0420	53	60.	51.4	34.0	*	1	1815	220	23.	17.4	28.7	*	2	0810	387	5.	3.6	26.2
1	0425	54	62.	52.8	34.2	*	1	1820	221	23.	17.3	28.7	*	2	0815	388	5.	3.5	26.2
1	0430	55	63.	54.0	34.4	*	1	1825	222	23.	17.1	28.6	*	2	0820	389	5.	3.5	26.2
1	0435	56	64.	55.1	34.6	*	1	1830	223	23.	17.0	28.6	*	2	0825	390	5.	3.4	26.2
1	0440	57	65.	56.3	34.7	*	1	1835	224	22.	16.8	28.6	*	2	0830	391	5.	3.4	26.2
1	0445	58	65.	57.4	34.9	*	1	1840	225	22.	16.6	28.6	*	2	0835	392	5.	3.4	26.2
1	0450	59	66.	58.7	35.1	*	1	1845	226	22.	16.5	28.5	*	2	0840	393	5.	3.3	26.1
1	0455	60	67.	59.8	35.2	*	1	1850	227	22.	16.3	28.5	*	2	0845	394	5.	3.3	26.1
1	0500	61	68.	60.9	35.4	*	1	1855	228	22.	16.2	28.5	*	2	0850	395	5.	3.3	26.1
1	0505	62	69.	61.9	35.5	*	1	1900	229	22.	16.0	28.4	*	2	0855	396	5.	3.2	26.1
1	0510	63	69.	62.7	35.6	*	1	1905	230	21.	15.9	28.4	*	2	0900	397	5.	3.2	26.1
1	0515	64	70.	63.3	35.7	*	1	1910	231	21.	15.7	28.4	*	2	0905	398	4.	3.2	26.1
1	0520	65	70.	63.8	35.8	*	1	1915	232	21.	15.6	28.4	*	2	0910	399	4.	3.1	26.1
1	0525	66	70.	64.1	35.8	*	1	1920	233	21.	15.5	28.3	*	2	0915	400	4.	3.1	26.1
1	0530	67	70.	64.2	35.8	*	1	1925	234	21.	15.3	28.3	*	2	0920	401	4.	3.1	26.1
1	0535	68	70.	64.2	35.8	*	1	1930	235	20.	15.2	28.3	*	2	0925	402	4.	3.0	26.1
1	0540	69	70.	64.1	35.8	*	1	1935	236	20.	15.0	28.3	*	2	0930	403	4.	3.0	26.1
1	0545	70	70.	63.9	35.8	*	1	1940	237	20.	14.9	28.3	*	2	0935	404	4.	3.0	26.1
1	0550	71	70.	63.8	35.8	*	1	1945	238	20.	14.8	28.2	*	2	0940	405	4.	3.0	26.1
1	0555	72	70.	63.6	35.7	*	1	1950	239	20.	14.6	28.2	*	2	0945	406	4.	2.9	26.1
1	0600	73	70.	63.3	35.7	*	1	1955	240	20.	14.5	28.2	*	2	0950	407	4.	2.9	26.1
1	0605	74	69.	63.0	35.7	*	1	2000	241	19.	14.3	28.2	*	2	0955	408	4.	2.9	26.1
1	0610	75	69.	62.7	35.6	*	1	2005	242	19.	14.2	28.1	*	2	1000	409	4.	2.8	26.0
1	0615	76	69.	62.3	35.6	*	1	2010	243	19.	14.1	28.1	*	2	1005	410	4.	2.8	26.0
1	0620	77	69.	62.0	35.5	*	1	2015	244	19.	13.9	28.1	*	2	1010	411	4.	2.8	26.0
1	0625	78	68.	61.6	35.5	*	1	2020	245	19.	13.8	28.1	*	2	1015	412	4.	2.8	26.0
1	0630	79	68.	61.2	35.4	*	1	2025	246	19.	13.7	28.0	*	2	1020	413	4.	2.7	26.0
1	0635	80	68.	60.7	35.4	*	1	2030	247	18.	13.6	28.0	*	2	1025	414	4.	2.7	26.0
1	0640	81	68.	60.3	35.3	*	1	2035	248	18.	13.4	28.0	*	2	1030	415	4.	2.7	26.0
1	0645	82	67.	59.9	35.2	*	1	2040	249	18.	13.3	28.0	*	2	1035	416	4.	2.7	26.0
1	0650	83	67.	59.4	35.2	*	1	2045	250	18.	13.2	28.0	*	2	1040	417	4.	2.6	26.0
1	0655	84	67.	59.0	35.1	*	1	2050	251	18.	13.1	27.9	*	2	1045	418	4.	2.6	26.0
1	0700	85	66.	58.5	35.1	*	1	2055	252	18.	12.9	27.9	*	2	1050	419	4.	2.6	26.0
1	0705	86	66.	58.1	35.0	*	1	2100	253	17.	12.8	27.9	*	2	1055	420	4.	2.6	26.0
1	0710	87	64.	57.2	34.9	*	1	2105	254	17.	12.7	27.8	*	2	1100	421	4.	2.5	26.0
1	0715	88	65.	57.2	34.9	*	1	2110	255	17.	12.6	27.8	*	2	1105	422	4.	2.5	26.0
1	0720	89	65.	56.7	34.8	*	1	2115	256	17.	12.5	27.8	*	2	1110	423	4.	2.5	26.0
1	0725	90	64.	56.3	34.7	*	1	2120	257	17.	12.3	27.8	*	2	1115	424	3.	2.5	26.0
1	0730	91	64.	55.8	34.7	*	1	2125	258	17.	12.2	27.8	*	2	1120	425	3.	2.4	26.0
1	0735	92	64.	55.4	34.6	*	1	2130	259	17.	12.1	27.8	*	2	1				

ULT1.OUT														
1	1220	149	46.	34.1	31.3	*	2	0215	316	10.	7.0	26.9	*	2
1	1225	150	46.	33.7	31.2	*	2	0220	317	10.	6.9	26.8	*	2
1	1230	151	45.	33.4	31.2	*	2	0225	318	10.	6.9	26.8	*	2
1	1235	152	45.	33.1	31.1	*	2	0230	319	10.	6.8	26.8	*	2
1	1240	153	45.	32.8	31.1	*	2	0235	320	10.	6.7	26.8	*	2
1	1245	154	45.	32.5	31.0	*	2	0240	321	9.	6.7	26.8	*	2
1	1250	155	44.	32.2	31.0	*	2	0245	322	9.	6.6	26.8	*	2
1	1255	156	44.	31.9	31.0	*	2	0250	323	9.	6.6	26.8	*	2
1	1300	157	44.	31.6	30.9	*	2	0255	324	9.	6.5	26.8	*	2
1	1305	158	43.	31.3	30.9	*	2	0300	325	9.	6.4	26.7	*	2
1	1310	159	43.	31.0	30.8	*	2	0305	326	9.	6.4	26.7	*	2
1	1315	160	42.	30.7	30.8	*	2	0310	327	9.	6.3	26.7	*	2
1	1320	161	42.	30.4	30.7	*	2	0315	328	9.	6.2	26.7	*	2
1	1325	162	42.	30.1	30.7	*	2	0320	329	9.	6.2	26.7	*	2
1	1330	163	41.	29.8	30.6	*	2	0325	330	9.	6.1	26.7	*	2
1	1335	164	41.	29.6	30.6	*	2	0330	331	9.	6.1	26.7	*	2
1	1340	165	41.	29.3	30.5	*	2	0335	332	8.	6.0	26.7	*	2
1	1345	166	40.	29.0	30.5	*	2	0340	333	8.	5.9	26.6	*	2
1	1350	167	40.	28.7	30.5	*	2	0345	334	8.	5.9	26.6	*	2

PEAK FLOW	TIME	6-HR	24-HR	72-HR	41.58-HR
+	(CFS)	(HR)	(CFS)	(CFS)	(CFS)
+	70.	5.58	63.	36.	22.
			1.670	1.508	1.629
			31.	71.	76.
PEAK STORAGE	TIME	6-HR	24-HR	72-HR	41.58-HR
+	(AC-FT)	(HR)	(AC-FT)	(AC-FT)	(AC-FT)
+	64.	5.58	55.	28.	18.
PEAK STAGE	TIME	6-HR	24-HR	72-HR	41.58-HR
+	(FEET)	(HR)	(FEET)	(FEET)	(FEET)
+	35.81	5.58	34.50	30.35	28.52
CUMULATIVE AREA =		.88 SQ MI			

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129 KK

*
* RDB2
*

131 KO
OUTPUT CONTROL VARIABLES
IPRNT 1 PRINT CONTROL
IPLST 0 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE

HYDROGRAPH ROUTING DATA
132 RS
STORAGE ROUTING
NSTEP 1 NUMBER OF SUBREACHES
ITYP VOL TYPE OF INITIAL CONDITION
RSVRIC -1.00 INITIAL CONDITION
X .00 WORKING R AND D COEFFICIENT

133 SV	STORAGE	.0	3.3	6.9	10.6	27.3	46.8	75.0
134 SE	ELEVATION	2993.00	2994.00	2995.00	2996.00	3000.00	3004.00	3009.00
135 SQ	DISCHARGE	0.	18.	27.	34.	40.	45.	58.
136 SE	ELEVATION	2993.00	2996.00	2997.00	2998.00	2999.00	3000.00	3003.00
						3006.00	3009.00	

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA									
STORAGE	.00	3.27	6.87	10.63	14.81	18.99	23.16	27.34	41.91
OUTFLOW	.00	5.98	11.97	17.95	27.43	34.38	40.15	45.18	57.71
ELEVATION	2993.00	2994.00	2995.00	2996.00	2997.00	2998.00	2999.00	3000.00	3003.00
STORAGE	58.07	75.03							61.13
OUTFLOW	67.97	76.88							
ELEVATION	3006.00	3009.00							

HYDROGRAPH AT STATION RDB2
PLAN 1, RATIO = 1.00

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	0000	1	0.	.0	2993.0	* 1	1355	168	24.	13.2	2996.6	* 2	0350	335	3.	1.7	2993.5			
1	0005	2	0.	.0	2993.0	* 1	1400	169	23.	13.1	2996.6	* 2	0355	336	3.	1.7	2993.5			
1	0010	3	0.	.0	2993.0	* 1	1405	170	23.	12.9	2996.5	* 2	0400	337	3.	1.7	2993.5			
1	0015	4	0.	.0	2993.0	* 1	1410	171	23.	12.8	2996.5	* 2	0405	338	3.	1.7	2993.5			
1	0020	5	0.	.0	2993.0	* 1	1415	172	22.	12.6	2996.5	* 2	0410	339	3.	1.6	2993.5			
1	0025	6	0.	.0	2993.0	* 1	1420	173	22.	12.4	2996.4	* 2	0415	340	3.	1.6	2993.5			
1	0030	7	0.	.0	2993.0	* 1	1425	174	22.	12.3	2996.4	* 2	0420	341	3.	1.6	2993.5			
1	0035	8	0.	.1	2993.0	* 1	1430	175	21.	12.1	2996.4	* 2	0425	342	3.	1.6	2993.5			
1	0040	9	0.	.1	2993.0	* 1	1435	176	21.	12.0	2996.3	* 2	0430	343	3.	1.6	2993.5			
1	0045	10	0.	.1	2993.0	* 1	1440	177	21.	11.9	2996.3	* 2	0435	344	3.	1.5	2993.5			
1	0050	11	0.	.1	2993.0	* 1	1445	178	20.	11.7	2996.3	* 2	0440	345	3.	1.5	2993.5			
1	0055	12	0.	.1	2993.0	* 1	1450	179	20.	11.6	2996.2	* 2	0445	346	3.	1.5	2993.5			
1	0100	13	0.	.1	2993.0	* 1	1455	180	20.	11.4	2996.2	* 2	0450	347	3.	1.5	2993.5			
1	0105	14	0.	.1	2993.0	* 1	1500	181	19.	11.3	2996.2	* 2	0455	348	3.	1.5	2993.4			
1	0110	15	0.	.2	2993.0	* 1	1505	182	19.	11.2	2996.1	* 2	0500	349	3.	1.4	2993.4			
1	0115	16	0.	.2	2993.1	* 1	1510	183	19.	11.0	2996.1	* 2	0505	350	3.	1.4	2993.4			
1	0120	17	0.	.2	2993.1	* 1	1515	184	19.	10.9	2996.1	* 2	0510	351	3.	1.4	2993.4			
1	0125	18	0.	.2	2993.1	* 1	1520	185	18.	10.8	2996.0	* 2	0515	352	3.	1.4	2993.4			
1	0130	19	1.	.3	2993.1	* 1	1525	186	18.	10.7	2996.0	* 2	0520	353	3.	1.4	2993.4			
1	0135	20	1.	.4	2993.1	* 1	1530	187	18.	10.5	2996.0	* 2	0525	354	2.	1.3	2993.4			
1	0140	21	1.	.5	2993.2	* 1	1535	188	18.	10.4	2995.9	* 2	0530	355	2.	1.3	2993.4			
1	0145	22	1.	.7	2993.2	* 1	1540	189	17.	10.3	2995.9	* 2	0535	356	2.	1.3	2993.4			
1	0150	23	2.	.8	2993.3	* 1	1545	190	17.	10.2	2995.9	* 2	0540	357	2.	1.3	2993.4			
1	0155	24	2.	1.0	2993.3	* 1	1550	191	17.	10.1	2995.8	* 2	0545	358	2.	1.3	2993.4			
1	0200	25	2.	1.1	2993.3	* 1	1555	192	17.	9.9	2995.8	* 2	0550	359	2.	1.3	2993.4			
1	0205	26	2.	1.2	2993.4	* 1	1600	193	17.	9.8	2995.8	* 2	0555	360	2.	1.3	2993.4			
1	0210	27	2.	1.3	2993.4	* 1	1605	194	16.	9.7	2995.8	* 2	0600	361	2.	1.2	2993.4			
1	0215	28	2.	1.4	2993.4	* 1	1610	195	16.	9.6	2995.7	* 2	0605	362	2.	1.2	2993.4			
1	0220	29	3.	1.5	2993.5	* 1	1615	196	16.	9.5	2995.7	* 2	0610	363	2.	1.2	2993.4			
1	0225	30	3.	1.7	2993.5	* 1	1620	197	16.	9.4	2995.7	* 2	0615	364	2.	1.2	2993.4			
1	0230	31	4.	2.0	2993.6	* 1	1625	198	16.	9.3	2995.6	* 2	0620	365	2.	1.2	2993.4			
1	0235	32	4.	2.2	2993.7	* 1	1630	199	16.	9.2	2995.6	* 2	0625	366	2.	1.2	2993.4			
1	0240	33	4.	2.4	2993.7	* 1	1635	200	15.	9.1	2995.6	* 2	0630	367	2.	1.1	2993.4			
1	0245	34	5.	2.7	2993.8	* 1	1640	201	15.	8.9	2995.6	* 2	0635	368	2.	1.1	2993.3			
1	0250	35	5.	2.9	2993.9	* 1	1645	202	15.	8.8	2995.5	* 2	0640	369	2.	1.1	2993.3			
1	0255	36	6.	3.2	2994.0	* 1	1650	203	15.	8.7	2995.5	* 2	0645	370	2.	1.1	2993.3			
1	0300	37	6.	3.4	2994.0	* 1	1655	204	15.	8.6	2995.5	* 2	0650	371	2.	1.1	2993.3			
1	0305	38	7.	3.6	2994.1	* 1	1700	205	15.	8.5	2995.4	* 2	0655	372	2.	1.1	2993.3			
1	0310	39	7.	4.0	2994.2	* 1	1705	206	14.	8.4	2995.4	* 2	0700	373	2.	1.1	2993.3			
1	0315	40	8.	4.6	2994.4	* 1	1710	207	14.	8.3	2995.4	* 2	0705	374	2.	1.0	2993.3			
1	0320	41	10.	5.7	2994.7	* 1	1715	208	14.	8.2	2995.4	* 2	0710	375	2.	1.0	2993.3			

1	0325	42	13.	7.6	2995.2	*	1	1720	209	14.	8.1	2995.3	*	2	0715	376	2.	1.0	2993.3
1	0330	43	18.	10.4	2995.9	*	1	1725	210	14.	8.0	2995.3	*	2	0720	377	2.	1.0	2993.3
1	0335	44	26.	14.3	2996.9	*	1	1730	211	14.	7.9	2995.3	*	2	0725	378	2.	1.0	2993.3
1	0340	45	34.	18.6	2997.9	*	1	1735	212	14.	7.9	2995.3	*	2	0730	379	2.	1.0	2993.3
1	0345	46	40.	22.7	2998.9	*	1	1740	213	13.	7.8	2995.2	*	2	0735	380	2.	1.0	2993.3
1	0350	47	44.	26.3	2999.7	*	1	1745	214	13.	7.7	2995.2	*	2	0740	381	2.	1.0	2993.3
1	0355	48	47.	29.1	3000.4	*	1	1750	215	13.	7.6	2995.2	*	2	0745	382	2.	1.0	2993.3
1	0400	49	48.	31.2	3000.8	*	1	1755	216	13.	7.5	2995.2	*	2	0750	383	2.	1.0	2993.3
1	0405	50	50.	32.8	3001.1	*	1	1800	217	13.	7.4	2995.1	*	2	0755	384	2.	1.0	2993.3
1	0410	51	51.	34.0	3001.4	*	1	1805	218	13.	7.3	2995.1	*	2	0800	385	2.	1.0	2993.3
1	0415	52	52.	34.8	3001.5	*	1	1810	219	13.	7.2	2995.1	*	2	0805	386	2.	1.0	2993.3
1	0420	53	52.	35.4	3001.6	*	1	1815	220	12.	7.1	2995.1	*	2	0810	387	2.	1.0	2993.3
1	0425	54	53.	35.8	3001.7	*	1	1820	221	12.	7.1	2995.0	*	2	0815	388	2.	1.0	2993.3
1	0430	55	53.	36.2	3001.8	*	1	1825	222	12.	7.0	2995.0	*	2	0820	389	2.	1.0	2993.3
1	0435	56	53.	36.7	3001.9	*	1	1830	223	12.	6.9	2995.0	*	2	0825	390	2.	1.0	2993.3
1	0440	57	54.	37.3	3002.0	*	1	1835	224	12.	6.8	2995.0	*	2	0830	391	2.	1.0	2993.3
1	0445	58	54.	37.9	3002.2	*	1	1840	225	12.	6.7	2995.0	*	2	0835	392	2.	1.0	2993.3
1	0450	59	55.	38.6	3002.3	*	1	1845	226	12.	6.6	2994.9	*	2	0840	393	2.	1.0	2993.3
1	0455	60	55.	39.3	3002.5	*	1	1850	227	11.	6.6	2994.9	*	2	0845	394	1.	1.0	2993.2
1	0500	61	56.	40.0	3002.6	*	1	1855	228	11.	6.5	2994.9	*	2	0850	395	1.	1.0	2993.2
1	0505	62	57.	40.5	3002.7	*	1	1900	229	11.	6.4	2994.9	*	2	0855	396	1.	1.0	2993.2
1	0510	63	57.	40.9	3002.8	*	1	1905	230	11.	6.3	2994.9	*	2	0900	397	1.	1.0	2993.2
1	0515	64	57.	41.1	3002.8	*	1	1910	231	11.	6.3	2994.8	*	2	0905	398	1.	1.0	2993.2
1	0520	65	57.	41.1	3002.8	*	1	1915	232	11.	6.2	2994.8	*	2	0910	399	1.	1.0	2993.2
1	0525	66	57.	41.1	3002.8	*	1	1920	233	11.	6.1	2994.8	*	2	0915	400	1.	1.0	2993.2
1	0530	67	57.	40.9	3002.8	*	1	1925	234	11.	6.0	2994.8	*	2	0920	401	1.	1.0	2993.2
1	0535	68	57.	40.8	3002.8	*	1	1930	235	10.	6.0	2994.7	*	2	0925	402	1.	1.0	2993.2
1	0540	69	57.	40.5	3002.7	*	1	1935	236	10.	5.9	2994.7	*	2	0930	403	1.	1.0	2993.2
1	0545	70	57.	40.3	3002.7	*	1	1940	237	10.	5.9	2994.7	*	2	0935	404	1.	1.0	2993.2
1	0550	71	56.	40.0	3002.6	*	1	1945	238	10.	5.8	2994.7	*	2	0940	405	1.	1.0	2993.2
1	0555	72	56.	39.7	3002.6	*	1	1950	239	10.	5.7	2994.7	*	2	0945	406	1.	1.0	2993.2
1	0600	73	56.	39.4	3002.5	*	1	1955	240	10.	5.6	2994.7	*	2	0950	407	1.	1.0	2993.2
1	0605	74	55.	39.2	3002.4	*	1	2000	241	10.	5.5	2994.6	*	2	0955	408	1.	1.0	2993.2
1	0610	75	55.	38.9	3002.4	*	1	2005	242	10.	5.5	2994.6	*	2	1000	409	1.	1.0	2993.2
1	0615	76	55.	38.5	3002.3	*	1	2010	243	10.	5.4	2994.6	*	2	1005	410	1.	1.0	2993.2
1	0620	77	55.	38.2	3002.2	*	1	2015	244	9.	5.3	2994.6	*	2	1010	411	1.	1.0	2993.2
1	0625	78	54.	37.8	3002.2	*	1	2020	245	9.	5.3	2994.6	*	2	1015	412	1.	1.0	2993.2
1	0630	79	54.	37.5	3002.1	*	1	2025	246	9.	5.2	2994.5	*	2	1020	413	1.	1.0	2993.2
1	0635	80	54.	37.1	3002.0	*	1	2030	247	9.	5.2	2994.5	*	2	1025	414	1.	1.0	2993.2
1	0640	81	53.	36.8	3001.9	*	1	2035	248	9.	5.1	2994.5	*	2	1030	415	1.	1.0	2993.2
1	0645	82	53.	36.4	3001.9	*	1	2040	249	9.	5.0	2994.5	*	2	1035	416	1.	1.0	2993.2
1	0650	83	53.	36.0	3001.8	*	1	2045	250	9.	5.0	2994.5	*	2	1040	417	1.	1.0	2993.2
1	0655	84	52.	35.7	3001.7	*	1	2050	251	9.	4.9	2994.5	*	2	1045	418	1.	1.0	2993.2
1	0700	85	52.	35.3	3001.6	*	1	2055	252	9.	4.8	2994.4	*	2	1050	419	1.	1.0	2993.2
1	0705	86	52.	35.0	3001.6	*	1	2100	253	9.	4.8	2994.4	*	2	1055	420	1.	1.0	2993.2
1	0710	87	51.	34.4	3001.5	*	1	2105	254	8.	4.7	2994.4	*	2	1100	421	1.	1.0	2993.2
1	0715	88	51.	34.2	3001.4	*	1	2110	255	8.	4.7	2994.4	*	2	1105	422	1.	1.0	2993.2
1	0720	89	51.	33.9	3001.3	*	1	2115	256	8.	4.6	2994.4	*	2	1110	423	1.	1.0	2993.2
1	0725	90	51.	33.5	3001.3	*	1	2120	257	8.	4.6	2994.4	*	2	1115	424	1.	1.0	2993.2
1	0730	91	50.	33.2	3001.2	*	1	2125	258	8.	4.5	2994.3	*	2	1120	425	1.	1.0	2993.2
1	0735	92	50.	32.9	3001.1	*	1	2130	259	8.	4.5	2994.3	*	2	1125	426	1.	1.0	2993.2
1	0740	93	50.	32.6	3001.1	*	1	2135	260	8.	4.4	2994.3	*	2	1130	427	1.	1.0	2993.2
1	0745	94	49.	32.2	3001.0	*	1	2140	261	8.	4.3	2994.3	*	2	1135	428	1.	1.0	2993.2
1	0750	95	49.	31.8	3000.9	*	1	2145	262	8.	4.3	2994.3	*	2	1140	429	1.	1.0	2993.2
1	0755	96	49.	31.5	3000.9	*	1	2150	263	8.	4.2	2994.3	*	2	1145	430	1.	1.0	2993.2
1	0800	97	48.	31.2	3000.8	*	1	2155	264	8.	4.2	2994.3	*	2	1150	431	1.	1.0	2993.2
1	0805	98	48.	30.8	3000.7	*	1	2200	265	7.	4.1	2994.2	*	2	1155	432	1.	1.0	2993.2
1	0810	99	48.	30.5	3000.6	*	1	2205	266	7.	4.1	2994.2	*	2	1200	433	1.	1.0	2993.2
1	0815	100	48.	30.2	3000.6	*	1	2210	267	7.	4.0	2994.2	*	2	1205	434	1.	1.0	2993.2
1	0820	101	47.	29.8	3000.5	*	1	2215	268	7.	4.0	2994.2	*	2	1210	435	1.	1.0	2993.2
1	0825	102	47.	29.5	3000.4	*	1	2220	269	7.	3.9	2994.2	*	2	1215	436	1.	1.0	2993.2
1	0830	103	47.	29.2	3000.4	*	1	2225	270	7.	3.9	2994.2	*	2	1220	437	1.	1.0	2993.2
1	0835	104	46.	28.9	3000.3	*	1	2230	271	7.	3.8	2994.2	*	2	1225	438	1.	1.0	2993.2
1	0840	105	46.	28.6	3000.2	*	1	2235	272	7.	3.8	2994.1	*	2	1230	439	1.	1.0	2993.2
1	0845	106	46.	28.2	3000.2	*	1	2240	273	7.	3.7	2994.1	*	2	1235	440	1.	1.0	2993.2
1	0850	107	46.	27.9	3000.1	*	1	2245	274	7.	3.7	2994.1	*	2	1240	441	1.	1.0	2993.2
1	0855	108	45.	27.6	3000.1	*	1	2250	275	7.	3.7	2994.1	*	2	1245	442	1.	1.0	2993.2
1	0900	109	45.	27.3	3000.0	*	1	2255	276	7.	3.6	2994.1	*	2	1250	443	1.	1.0	2993.2
1	0905	110	45.	27.0	2999.9	*	1	2300	277	6.	3.6	2994.1	*	2	1255	444	1.	1.0	2993.2
1	0910	111	44.	26.7	2999.8	*	1	2305	278	6.	3.5	2994.1	*	2	1300	445	1.	1.0	2993.2
1	0915	112	44.	26.4	2999.8	*	1	2310	279	6.	3.5	2994.1	*	2	1305	446	1.	1.0	2993.2
1	0920	113	44.	26.1	2999.7	*	1	2315	280	6.	3.4	2994.0	*	2	1310	447	1.	1.0	2993.2
1	0925	114	43.	25.8	2999.6	*	1	2320	281	6.	3.4	2994.0	*	2	1315	448	1.	1.0	2993.2
1	0930	115	43.	25.5	2999.6	*	1	2325	282	6.	3.3	2994.0	*	2	1320	449	1.	1.0	2993.2
1	0935	116	43.	25.2	2999.5	*	1	2330	283	6.	3.3	2994.0	*	2	1325	450	1.	1.0	2993.2
1	0940	117	42.	24.9	2999.4	*	1	2335	284	6.	3.3	2994.0	*	2	1330	451	1.	1.0	2993.2
1	0945	118	42.	24.6	2999.3	*	1	2340	285	6.	3.2	2994.0	*	2	1335	452	1.	1.0	2993.2
1	0950	119	42.	24.3	2999.3	*													

PEAK STORAGE TIME
 + (AC-FT) (HR)
 41. 5.33
 34. 15. 9. 9.
 PEAK STAGE TIME
 + (FEET) (HR)
 3002.84 5.33
 3001.33 2996.95 2995.38 2995.38
 CUMULATIVE AREA = .56 SQ MI

ULT1.OUT

HYDROGRAPH AT STATION RDB2
 PLAN 1, RATIO = .98

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	0000	1	0.	0.	2993.0	*	1	1355	168	23.	12.7	2996.5	*	2	0350	335	3.	1.6	2993.5			
1	0005	2	0.	0.	2993.0	*	1	1400	169	22.	12.5	2996.5	*	2	0355	336	3.	1.6	2993.5			
1	0010	3	0.	0.	2993.0	*	1	1405	170	22.	12.4	2996.4	*	2	0400	337	3.	1.6	2993.5			
1	0015	4	0.	0.	2993.0	*	1	1410	171	22.	12.2	2996.4	*	2	0405	338	3.	1.6	2993.5			
1	0020	5	0.	0.	2993.0	*	1	1415	172	21.	12.1	2996.3	*	2	0410	339	3.	1.6	2993.5			
1	0025	6	0.	0.	2993.0	*	1	1420	173	21.	11.9	2996.3	*	2	0415	340	3.	1.5	2993.5			
1	0030	7	0.	0.	2993.0	*	1	1425	174	21.	11.8	2996.3	*	2	0420	341	3.	1.5	2993.5			
1	0035	8	0.	.1	2993.0	*	1	1430	175	20.	11.7	2996.2	*	2	0425	342	3.	1.5	2993.5			
1	0040	9	0.	.1	2993.0	*	1	1435	176	20.	11.5	2996.2	*	2	0430	343	3.	1.5	2993.5			
1	0045	10	0.	.1	2993.0	*	1	1440	177	20.	11.4	2996.2	*	2	0435	344	3.	1.5	2993.4			
1	0050	11	0.	.1	2993.0	*	1	1445	178	19.	11.3	2996.1	*	2	0440	345	3.	1.4	2993.4			
1	0055	12	0.	.1	2993.0	*	1	1450	179	19.	11.1	2996.1	*	2	0445	346	3.	1.4	2993.4			
1	0100	13	0.	.1	2993.0	*	1	1455	180	19.	11.0	2996.1	*	2	0450	347	3.	1.4	2993.4			
1	0105	14	0.	.1	2993.0	*	1	1500	181	18.	10.9	2996.1	*	2	0455	348	3.	1.4	2993.4			
1	0110	15	0.	.1	2993.0	*	1	1505	182	18.	10.7	2996.0	*	2	0500	349	3.	1.4	2993.4			
1	0115	16	0.	.2	2993.0	*	1	1510	183	18.	10.6	2996.0	*	2	0505	350	2.	1.4	2993.4			
1	0120	17	0.	.2	2993.1	*	1	1515	184	18.	10.5	2996.0	*	2	0510	351	2.	1.3	2993.4			
1	0125	18	0.	.2	2993.1	*	1	1520	185	18.	10.4	2995.9	*	2	0515	352	2.	1.3	2993.4			
1	0130	19	0.	.3	2993.1	*	1	1525	186	17.	10.2	2995.9	*	2	0520	353	2.	1.3	2993.4			
1	0135	20	1.	.4	2993.1	*	1	1530	187	17.	10.1	2995.9	*	2	0525	354	2.	1.3	2993.4			
1	0140	21	1.	.5	2993.1	*	1	1535	188	17.	10.0	2995.8	*	2	0530	355	2.	1.3	2993.4			
1	0145	22	1.	.6	2993.2	*	1	1540	189	17.	9.9	2995.8	*	2	0535	356	2.	1.3	2993.4			
1	0150	23	1.	.8	2993.2	*	1	1545	190	17.	9.8	2995.8	*	2	0540	357	2.	1.2	2993.4			
1	0155	24	2.	.9	2993.3	*	1	1550	191	16.	9.7	2995.7	*	2	0545	358	2.	1.2	2993.4			
1	0200	25	2.	1.0	2993.3	*	1	1555	192	16.	9.6	2995.7	*	2	0550	359	2.	1.2	2993.4			
1	0205	26	2.	1.1	2993.3	*	1	1600	193	16.	9.4	2995.7	*	2	0555	360	2.	1.2	2993.4			
1	0210	27	2.	1.2	2993.4	*	1	1605	194	16.	9.3	2995.7	*	2	0600	361	2.	1.2	2993.4			
1	0215	28	2.	1.3	2993.4	*	1	1610	195	16.	9.2	2995.6	*	2	0605	362	2.	1.2	2993.4			
1	0220	29	3.	1.4	2993.4	*	1	1615	196	16.	9.1	2995.6	*	2	0610	363	2.	1.2	2993.4			
1	0225	30	3.	1.6	2993.5	*	1	1620	197	15.	9.0	2995.6	*	2	0615	364	2.	1.1	2993.3			
1	0230	31	3.	1.9	2993.6	*	1	1625	198	15.	8.9	2995.5	*	2	0620	365	2.	1.1	2993.3			
1	0235	32	4.	2.1	2993.6	*	1	1630	199	15.	8.8	2995.5	*	2	0625	366	2.	1.1	2993.3			
1	0240	33	4.	2.3	2993.7	*	1	1635	200	15.	8.7	2995.5	*	2	0630	367	2.	1.1	2993.3			
1	0245	34	5.	2.5	2993.8	*	1	1640	201	15.	8.6	2995.5	*	2	0635	368	2.	1.1	2993.3			
1	0250	35	5.	2.8	2993.8	*	1	1645	202	15.	8.5	2995.4	*	2	0640	369	2.	1.1	2993.3			
1	0255	36	5.	3.0	2993.9	*	1	1650	203	14.	8.4	2995.4	*	2	0645	370	2.	1.1	2993.3			
1	0300	37	6.	3.2	2994.0	*	1	1655	204	14.	8.3	2995.4	*	2	0650	371	2.	1.0	2993.3			
1	0305	38	6.	3.4	2994.0	*	1	1700	205	14.	8.2	2995.4	*	2	0655	372	2.	1.0	2993.3			
1	0310	39	7.	3.8	2994.1	*	1	1705	206	14.	8.1	2995.3	*	2	0700	373	2.	1.0	2993.3			
1	0315	40	8.	4.4	2994.3	*	1	1710	207	14.	8.0	2995.3	*	2	0705	374	2.	1.0	2993.3			
1	0320	41	10.	5.4	2994.6	*	1	1715	208	14.	7.9	2995.3	*	2	0710	375	2.	1.0	2993.3			
1	0325	42	13.	7.2	2995.1	*	1	1720	209	13.	7.8	2995.3	*	2	0715	376	2.	1.0	2993.3			
1	0330	43	17.	10.0	2995.8	*	1	1725	210	13.	7.7	2995.2	*	2	0720	377	2.	1.0	2993.3			
1	0335	44	25.	13.7	2996.7	*	1	1730	211	13.	7.6	2995.2	*	2	0725	378	2.	1.0	2993.3			
1	0340	45	33.	17.9	2997.7	*	1	1735	212	13.	7.5	2995.2	*	2	0730	379	2.	.9	2993.3			
1	0345	46	38.	21.9	2998.7	*	1	1740	213	13.	7.5	2995.2	*	2	0735	380	2.	.9	2993.3			
1	0350	47	43.	25.4	2999.5	*	1	1745	214	13.	7.4	2995.1	*	2	0740	381	2.	.9	2993.3			
1	0355	48	46.	28.1	3000.2	*	1	1750	215	13.	7.3	2995.1	*	2	0745	382	2.	.9	2993.3			
1	0400	49	48.	30.2	3000.6	*	1	1755	216	12.	7.2	2995.1	*	2	0750	383	2.	.9	2993.3			
1	0405	50	49.	31.7	3000.9	*	1	1800	217	12.	7.1	2995.1	*	2	0755	384	2.	.9	2993.3			
1	0410	51	50.	32.9	3001.1	*	1	1805	218	12.	7.0	2995.0	*	2	0800	385	2.	.9	2993.3			
1	0415	52	51.	33.7	3001.3	*	1	1810	219	12.	6.9	2995.0	*	2	0805	386	2.	.9	2993.3			
1	0420	53	51.	34.2	3001.4	*	1	1815	220	12.	6.9	2995.0	*	2	0810	387	2.	.9	2993.3			
1	0425	54	51.	34.6	3001.5	*	1	1820	221	12.	6.8	2995.0	*	2	0815	388	2.	.8	2993.3			
1	0430	55	52.	35.0	3001.6	*	1	1825	222	12.	6.7	2995.0	*	2	0820	389	2.	.8	2993.3			
1	0435	56	52.	35.5	3001.7	*	1	1830	223	12.	6.6	2994.9	*	2	0825	390	2.	.8	2993.3			
1	0440	57	53.	36.1	3001.8	*	1	1835	224	11.	6.5	2994.9	*	2	0830	391	1.	.8	2993.2			
1	0445	58	53.	36.7	3001.9	*	1	1840	225	11.	6.5	2994.9	*	2	0835	392	1.	.8	2993.2			
1	0450	59	54.	37.4	3002.1	*	1	1845	226	11.	6.4	2994.9	*	2	0840	393	1.	.8	2993.2			
1	0455	60	54.	38.1	3002.2	*	1	1850	227	11.	6.3	2994.8	*	2	0845	394	1.	.8	2993.2			
1	0500	61	55.	38.7	3002.3	*	1	1855	228	11.	6.2	2994.8	*	2	0850	395	1.	.8	2993.2			
1	0505	62	55.	39.2	3002.5	*	1	1900	229	11.	6.2	2994.8	*	2	0855	396	1.	.8	2993.2			
1	0510	63	56.	39.6	3002.5	*	1	1905	230	11.	6.1	2994.8	*	2	0900	397	1.	.8	2993.2			
1	0515	64	56.	39.8	3002.6	*	1	1910	231	11.	6.0	2994.8	*	2	0905	3						

1	0420	53	51.	33.6	3001.3	*	1	1815	220	12.	6.7	2995.0	*	2	0810	387	2.	.8	2993.3
1	0425	54	51.	34.0	3001.4	*	1	1820	221	12.	6.6	2994.9	*	2	0815	388	2.	.8	2993.3
1	0430	55	51.	34.4	3001.5	*	1	1825	222	11.	6.6	2994.9	*	2	0820	389	1.	.8	2993.2
1	0435	56	52.	34.9	3001.6	*	1	1830	223	11.	6.5	2994.9	*	2	0825	390	1.	.8	2993.2
1	0440	57	52.	35.5	3001.7	*	1	1835	224	11.	6.4	2994.9	*	2	0830	391	1.	.8	2993.2
1	0445	58	53.	36.1	3001.8	*	1	1840	225	11.	6.3	2994.8	*	2	0835	392	1.	.8	2993.2
1	0450	59	53.	36.8	3001.9	*	1	1845	226	11.	6.2	2994.8	*	2	0840	393	1.	.8	2993.2
1	0455	60	54.	37.5	3002.1	*	1	1850	227	11.	6.2	2994.8	*	2	0845	394	1.	.8	2993.2
1	0500	61	54.	38.1	3002.2	*	1	1855	228	11.	6.1	2994.8	*	2	0850	395	1.	.8	2993.2
1	0505	62	55.	38.6	3002.3	*	1	1900	229	11.	6.0	2994.8	*	2	0855	396	1.	.7	2993.2
1	0510	63	55.	39.0	3002.4	*	1	1905	230	10.	5.9	2994.7	*	2	0900	397	1.	.7	2993.2
1	0515	64	55.	39.1	3002.4	*	1	1910	231	10.	5.9	2994.7	*	2	0905	398	1.	.7	2993.2
1	0520	65	55.	39.2	3002.4	*	1	1915	232	10.	5.8	2994.7	*	2	0910	399	1.	.7	2993.2
1	0525	66	55.	39.1	3002.4	*	1	1920	233	10.	5.7	2994.7	*	2	0915	400	1.	.7	2993.2
1	0530	67	55.	39.0	3002.4	*	1	1925	234	10.	5.7	2994.7	*	2	0920	401	1.	.7	2993.2
1	0535	68	55.	38.8	3002.4	*	1	1930	235	10.	5.6	2994.6	*	2	0925	402	1.	.7	2993.2
1	0540	69	55.	38.6	3002.3	*	1	1935	236	10.	5.5	2994.6	*	2	0930	403	1.	.7	2993.2
1	0545	70	55.	38.3	3002.3	*	1	1940	237	10.	5.5	2994.6	*	2	0935	404	1.	.7	2993.2
1	0550	71	54.	38.1	3002.2	*	1	1945	238	10.	5.4	2994.6	*	2	0940	405	1.	.7	2993.2
1	0555	72	54.	37.8	3002.2	*	1	1950	239	9.	5.3	2994.6	*	2	0945	406	1.	.7	2993.2
1	0600	73	54.	37.5	3002.1	*	1	1955	240	9.	5.3	2994.6	*	2	0950	407	1.	.6	2993.2
1	0605	74	54.	37.2	3002.0	*	1	2000	241	9.	5.2	2994.5	*	2	0955	408	1.	.6	2993.2
1	0610	75	53.	36.9	3002.0	*	1	2005	242	9.	5.1	2994.5	*	2	1000	409	1.	.6	2993.2
1	0615	76	53.	36.6	3001.9	*	1	2010	243	9.	5.1	2994.5	*	2	1005	410	1.	.6	2993.2
1	0620	77	53.	36.3	3001.8	*	1	2015	244	9.	5.0	2994.5	*	2	1010	411	1.	.6	2993.2
1	0625	78	53.	36.0	3001.8	*	1	2020	245	9.	5.0	2994.5	*	2	1015	412	1.	.6	2993.2
1	0630	79	52.	35.6	3001.7	*	1	2025	246	9.	4.9	2994.5	*	2	1020	413	1.	.6	2993.2
1	0635	80	52.	35.3	3001.6	*	1	2030	247	9.	4.8	2994.4	*	2	1025	414	1.	.6	2993.2
1	0640	81	52.	34.9	3001.6	*	1	2035	248	9.	4.8	2994.4	*	2	1030	415	1.	.6	2993.2
1	0645	82	51.	34.6	3001.5	*	1	2040	249	8.	4.7	2994.4	*	2	1035	416	1.	.6	2993.2
1	0650	83	51.	34.2	3001.4	*	1	2045	250	8.	4.7	2994.4	*	2	1040	417	1.	.6	2993.2
1	0655	84	51.	33.9	3001.3	*	1	2050	251	8.	4.6	2994.4	*	2	1045	418	1.	.6	2993.2
1	0700	85	50.	33.5	3001.2	*	1	2055	252	8.	4.5	2994.4	*	2	1050	419	1.	.6	2993.2
1	0705	86	50.	33.2	3001.2	*	1	2100	253	8.	4.5	2994.3	*	2	1055	420	1.	.6	2993.2
1	0710	87	50.	32.8	3001.1	*	1	2105	254	8.	4.4	2994.3	*	2	1100	421	1.	.5	2993.2
1	0715	88	50.	32.5	3001.1	*	1	2110	255	8.	4.4	2994.3	*	2	1105	422	1.	.5	2993.2
1	0720	89	49.	32.1	3001.0	*	1	2115	256	8.	4.3	2994.3	*	2	1110	423	1.	.5	2993.2
1	0725	90	49.	31.8	3000.9	*	1	2120	257	8.	4.3	2994.3	*	2	1115	424	1.	.5	2993.2
1	0730	91	49.	31.5	3000.8	*	1	2125	258	7.	4.2	2994.3	*	2	1120	425	1.	.5	2993.2
1	0735	92	48.	31.1	3000.8	*	1	2130	259	7.	4.2	2994.3	*	2	1125	426	1.	.5	2993.2
1	0740	93	48.	30.8	3000.7	*	1	2135	260	7.	4.1	2994.2	*	2	1130	427	1.	.5	2993.2
1	0745	94	48.	30.5	3000.6	*	1	2140	261	7.	4.1	2994.2	*	2	1135	428	1.	.5	2993.2
1	0750	95	48.	30.1	3000.6	*	1	2145	262	7.	4.0	2994.2	*	2	1140	429	1.	.5	2993.2
1	0755	96	47.	29.8	3000.5	*	1	2150	263	7.	4.0	2994.2	*	2	1145	430	1.	.5	2993.2
1	0800	97	47.	29.5	3000.4	*	1	2155	264	7.	3.9	2994.2	*	2	1150	431	1.	.5	2993.1
1	0805	98	47.	29.2	3000.4	*	1	2200	265	7.	3.9	2994.2	*	2	1155	432	1.	.5	2993.1
1	0810	99	46.	28.8	3000.3	*	1	2205	266	7.	3.8	2994.2	*	2	1200	433	1.	.5	2993.1
1	0815	100	46.	28.5	3000.2	*	1	2210	267	7.	3.8	2994.1	*	2	1205	434	1.	.5	2993.1
1	0820	101	46.	28.2	3000.2	*	1	2215	268	7.	3.7	2994.1	*	2	1210	435	1.	.5	2993.1
1	0825	102	46.	27.9	3000.1	*	1	2220	269	7.	3.7	2994.1	*	2	1215	436	1.	.5	2993.1
1	0830	103	45.	27.6	3000.0	*	1	2225	270	7.	3.6	2994.1	*	2	1220	437	1.	.4	2993.1
1	0835	104	45.	27.3	3000.0	*	1	2230	271	7.	3.6	2994.1	*	2	1225	438	1.	.4	2993.1
1	0840	105	45.	27.0	2999.9	*	1	2235	272	6.	3.6	2994.1	*	2	1230	439	1.	.4	2993.1
1	0845	106	44.	26.6	2999.8	*	1	2240	273	6.	3.5	2994.1	*	2	1235	440	1.	.4	2993.1
1	0850	107	44.	26.3	2999.8	*	1	2245	274	6.	3.5	2994.1	*	2	1240	441	1.	.4	2993.1
1	0855	108	44.	26.0	2999.7	*	1	2250	275	6.	3.4	2994.0	*	2	1245	442	1.	.4	2993.1
1	0900	109	43.	25.7	2999.6	*	1	2255	276	6.	3.4	2994.0	*	2	1250	443	1.	.4	2993.1
1	0905	110	43.	25.4	2999.5	*	1	2300	277	6.	3.3	2994.0	*	2	1255	444	1.	.4	2993.1
1	0910	111	43.	25.2	2999.5	*	1	2305	278	6.	3.3	2994.0	*	2	1300	445	1.	.4	2993.1
1	0915	112	42.	24.9	2999.4	*	1	2310	279	6.	3.3	2994.0	*	2	1305	446	1.	.4	2993.1
1	0920	113	42.	24.6	2999.3	*	1	2315	280	6.	3.2	2994.0	*	2	1310	447	1.	.4	2993.1
1	0925	114	41.	24.3	2999.3	*	1	2320	281	6.	3.2	2994.0	*	2	1315	448	1.	.4	2993.1
1	0930	115	41.	24.0	2999.2	*	1	2325	282	6.	3.1	2994.0	*	2	1320	449	1.	.4	2993.1
1	0935	116	41.	23.7	2999.1	*	1	2330	283	6.	3.1	2993.9	*	2	1325	450	1.	.4	2993.1
1	0940	117	40.	23.4	2999.1	*	1	2335	284	6.	3.1	2993.9	*	2	1330	451	1.	.4	2993.1
1	0945	118	40.	23.2	2999.0	*	1	2340	285	6.	3.0	2993.9	*	2	1335	452	1.	.4	2993.1
1	0950	119	40.	22.9	2998.9	*	1	2345	286	5.	3.0	2993.9	*	2	1340	453	1.	.4	2993.1
1	0955	120	39.	22.6	2998.9	*	1	2350	287	5.	2.9	2993.9	*	2	1345	454	1.	.4	2993.1
1	1000	121	39.	22.3	2998.8	*	1	2355	288	5.	2.9	2993.9	*	2	1350	455	1.	.4	2993.1
1	1005	122	39.	22.1	2998.7	*	2	0000	289	5.	2.9	2993.9	*	2	1355	456	1.	.4	2993.1
1	1010	123	38.	21.8	2998.7	*	2	0005	290	5.	2.8	2993.9	*	2	1400	457	1.	.3	2993.1
1	1015	124	38.	21.5	2998.6	*	2	0010	291	5.	2.8	2993.9	*	2	1405	458	1.	.3	2993.1
1	1020	125	38.	21.3	2998.6	*	2	0015	292	5.	2.8	2993.8	*	2	1410	459	1.	.3	2993.1
1	1025	126	37.	21.0	2998.5	*	2	0020	293	5.	2.7	2993.8	*	2	1415	460	1.	.3	2993.1
1	1030	127	37.	20.8	2998.4	*	2	0025	294	5.	2.7	2993.8	*	2	1420	461	1.	.3	2993.1
1	1035	128	37.	20.5	2998.4	*	2	0030	295	5.	2.7	2993.8	*	2	1425	462	1.	.3	2993.1
1	1040	129	36.	20.3	2998.3	*	2	0035	296	5.	2.6	2993.8	*	2	1430	463	1.	.3	2993.1
1	1045	130	36.	20.2	2998.2	*	2	0040	297	5.	2.6	2993.8	*	2	1435	464	1.	.3	2993.1
1	1050	131	35.	19.8	2998.2	*	2												

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PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
 FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
 TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION		
				RATIO 1 1.00	RATIO 2 .98	RATIO 3 .97
HYDROGRAPH AT +	OFF1	.41	1 FLOW TIME	403. 3.75	391. 3.75	385. 3.75
HYDROGRAPH AT +	OFF11	.03	1 FLOW TIME	55. 3.50	54. 3.50	53. 3.50
HYDROGRAPH AT +	OFF2	.04	1 FLOW TIME	48. 3.58	47. 3.58	46. 3.58
HYDROGRAPH AT +	OFF3	.03	1 FLOW TIME	38. 3.58	37. 3.58	36. 3.58
4 COMBINED AT +	CP1	.50	1 FLOW TIME	485. 3.75	471. 3.75	464. 3.75
HYDROGRAPH AT +	OFF4	.06	1 FLOW TIME	84. 3.58	82. 3.58	81. 3.58
HYDROGRAPH AT +	OFF5	.26	1 FLOW TIME	236. 3.83	229. 3.83	226. 3.83
HYDROGRAPH AT +	OFF6	.04	1 FLOW TIME	59. 3.58	57. 3.58	56. 3.58
HYDROGRAPH AT +	ON1	.03	1 FLOW TIME	47. 3.58	46. 3.58	46. 3.58
5 COMBINED AT +	DB1	.88	1 FLOW TIME	817. 3.75	794. 3.75	782. 3.75
ROUTED TO +	RDB1	.88	1 FLOW TIME	73. 5.58	71. 5.58	70. 5.58
				** PEAK STAGES IN FEET **		
				1 STAGE TIME	36.22 5.58	35.95 5.58
HYDROGRAPH AT +	OFF7	.01	1 FLOW TIME	10. 3.50	10. 3.50	10. 3.50
HYDROGRAPH AT +	OFF8	.17	1 FLOW TIME	198. 3.67	192. 3.67	189. 3.67
2 COMBINED AT +	CP2	.17	1 FLOW TIME	204. 3.67	198. 3.67	195. 3.67
HYDROGRAPH AT +	OFF9	.12	1 FLOW TIME	144. 3.58	140. 3.58	138. 3.58
HYDROGRAPH AT +	OFF10	.25	1 FLOW TIME	292. 3.67	283. 3.67	279. 3.67
HYDROGRAPH AT +	ON2	.02	1 FLOW TIME	49. 3.50	48. 3.50	47. 3.50
4 COMBINED AT +	DB2	.56	1 FLOW TIME	666. 3.67	647. 3.67	637. 3.67
ROUTED TO +	RDB2	.56	1 FLOW TIME	57. 5.33	56. 5.33	55. 5.33
				** PEAK STAGES IN FEET **		
				1 STAGE TIME	3002.84 5.33	3002.57 5.33
						3002.44 5.33

*** NORMAL END OF HEC-1 ***

Detention Basin 1 Computations

Outlet Orifice Calculation

30-inch Orifice Discharge Curve Rating Table for Circular Orifice

Project Description	
Worksheet	Outfall
Type	Circular Orifice
Solve For	Discharge

Input Data	
Centroid Elevation	3,026.75 ft
Tailwater Elevation	3,028.00 ft
Discharge Coefficient	0.65
Diameter	30.0 in

Attribute	Minimum	Maximum	Increment
Headwater Elevation (ft)	3,026.00	3,044.00	1.00

Headwater Elevation (ft)	Discharge (cfs)	Velocity (ft/s)
3,026.00	N/A	N/A
3,027.00	N/A	N/A
3,028.00	N/A	N/A
3,029.00	25.59	5.21
3,030.00	36.20	7.37
3,031.00	44.33	9.03
3,032.00	51.19	10.43
3,033.00	57.23	11.66
3,034.00	62.69	12.77
3,035.00	67.72	13.80
3,036.00	72.39	14.75
3,037.00	76.78	15.64
3,038.00	80.94	16.49
3,039.00	84.89	17.29
3,040.00	88.66	18.06
3,041.00	92.28	18.80
3,042.00	95.77	19.51
3,043.00	99.13	20.19
3,044.00	102.38	20.86

36-inch RCP Outflow Pipe Worksheet for Circular Channel

Project Description	
Worksheet	Outflow Pipe
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data	
Mannings Coefficient	0.013
Channel Slope	2.00 %
Discharge	71.00 cfs

Results	
Depth	2.70 ft
Diameter	32.4 in
Flow Area	5.7 ft ²
Wetted Perimeter	11.00 ft
Top Width	0.00 ft
Critical Depth	2.57 ft
Percent Full	100.0 %
Critical Slope	1.74 %
Velocity	12.43 ft/s
Velocity Head	2.40 ft
Specific Energy	5.10 ft
Froude Number	0.00
Maximum Discharge	76.38 cfs
Discharge Full	71.00 cfs
Slope Full	2.00 %
Flow Type	N/A

Notes: Outflow Pipe is large enough to not result in backwater impacts to orifice plate outlet from DB1.

Inflow Debris Volume

TABLE 14.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Clay	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
								K	T	
	In	Pct	In/hr	In/in	pH	Mmhos/cm				
140----- Casaga	0-1 1-21 21-41 41-60	20-30 27-35 27-35 8-18	0.2-0.6 0.06-0.2 0.2-0.6 2.0-6.0	0.08-0.10 0.19-0.21 0.08-0.11 0.06-0.10	>8.4 >8.4 >8.4 7.4-9.0	8-16 4-8 4-8 8-16	Moderate----- Moderate----- Moderate----- Low-----	0.10 0.32 0.17 0.10	5	7
150----- Cave	0-6 6-60	10-20 ----	0.6-2.0 -----	0.06-0.10 -----	7.4-8.4 -----	<2 -----	Low----- -----	0.10 -----	1	5
151----- Cave	0-5 5-11 11-60	3-8 10-20 -----	6.0-20 0.6-2.0 -----	0.09-0.11 0.07-0.12 -----	7.9-8.4 7.9-8.4 -----	2-4 2-4 -----	Low----- Low----- -----	0.17 0.24 -----	1	2
152----- Cave	0-12 12-36 36-60	10-20 ----- 2-5	0.6-2.0 ----- 2.0-6.0	0.07-0.12 ----- 0.04-0.06	7.9-8.4 ----- 7.9-8.4	2-4 ----- <4	Low----- ----- Low-----	0.20 ----- 0.10	1	4L
155----- Cave	0-15 15-60	10-20 -----	0.6-2.0 -----	0.07-0.12 -----	7.9-8.4 -----	2-4 -----	Low----- -----	0.20 -----	1	4L
160----- Destazo	0-11 11-40 40-60	8-18 20-35 15-20	2.0-6.0 0.2-0.6 2.0-6.0	0.10-0.12 0.05-0.10 0.09-0.11	7.9-8.4 7.9-8.4 7.9-8.4	<4 <4 <4	Low----- Low----- Low-----	0.17 0.10 0.17	5	8
181#: Caliza	0-2 2-14 14-60	4-10 3-8 2-8	2.0-6.0 2.0-6.0 6.0-20	0.05-0.08 0.05-0.09 0.03-0.07	7.9-8.4 7.9-8.4 7.9-8.4	<2 <2 <2	Low----- Low----- Low-----	0.05 0.10 0.05	5	6
Pittman	0-2 2-23 23-32 32-50 50-60	5-15 2-12 ----- ----- 0-5	6.0-20 6.0-20 ----- ----- 6.0-20	0.04-0.08 0.04-0.08 ----- ----- 0.03-0.06	7.4-8.4 7.9-8.4 ----- ----- 7.4-8.4	<2 <2 ----- ----- <8	Low----- Low----- ----- ----- Low-----	0.10 0.17 ----- ----- 0.05	2	8
182#: Caliza	0-2 2-14 14-60	4-10 3-8 2-8	2.0-6.0 2.0-6.0 6.0-20	0.05-0.08 0.05-0.09 0.03-0.07	7.9-8.4 7.9-8.4 7.9-8.4	<2 <2 <2	Low----- Low----- Low-----	0.05 0.10 0.05	5	6
Pittman	0-2 2-23 23-32 32-50 50-60	5-15 2-12 ----- ----- 0-5	6.0-20 6.0-20 ----- ----- 6.0-20	0.04-0.06 0.04-0.08 ----- ----- 0.03-0.06	7.4-8.4 7.9-8.4 ----- ----- 7.4-8.4	<2 <2 ----- ----- <8	Low----- Low----- ----- ----- Low-----	0.10 0.17 ----- ----- 0.05	2	8
Arizo	0-8 8-60	2-8 0-5	6.0-20 >20	0.04-0.06 0.04-0.06	7.4-9.0 7.4-9.0	<2 <2	Low----- Low-----	0.15 0.10	5	4
183----- Caliza	0-3 3-60	2-6 2-8	6.0-20 2.0-6.0	0.04-0.07 0.03-0.07	7.9-8.4 7.9-8.4	<2 <2	Low----- Low-----	0.05 0.05	5	5
184----- Caliza	0-3 3-16 16-60	5-10 5-10 3-8	2.0-6.0 2.0-6.0 6.0-20	0.05-0.07 0.05-0.08 0.03-0.06	7.9-8.4 7.9-8.4 7.9-8.4	<2 <2 <2	Low----- Low----- Low-----	0.10 0.05 0.10	5	5
187----- Caliza	0-2 2-14 14-60	4-10 3-8 2-8	2.0-6.0 2.0-6.0 6.0-20	0.05-0.08 0.05-0.09 0.03-0.07	7.9-8.4 7.9-8.4 7.9-8.4	<2 <2 <2	Low----- Low----- Low-----	0.05 0.10 0.05	5	6
190----- Dalian	0-4 4-61	5-10 3-12	2.0-6.0 2.0-6.0	0.05-0.09 0.05-0.09	7.9-8.4 7.9-8.4	<2 <2	Low----- Low-----	0.15 0.15	5	5
191----- Dalian	0-5 5-60	5-10 3-12	2.0-6.0 2.0-6.0	0.05-0.09 0.05-0.09	7.9-8.4 7.9-8.4	<2 <2	Low----- Low-----	0.15 0.15	5	8
192#: Dalian	0-5 5-60	5-10 3-12	2.0-6.0 2.0-6.0	0.05-0.09 0.05-0.09	7.9-8.4 7.9-8.4	<2 <2	Low----- Low-----	0.15 0.15	5	5

See footnote at end of table.

TABLE 14.---PHYSICAL AND CHEMICAL PROPERTIES OF SOILS---Continued

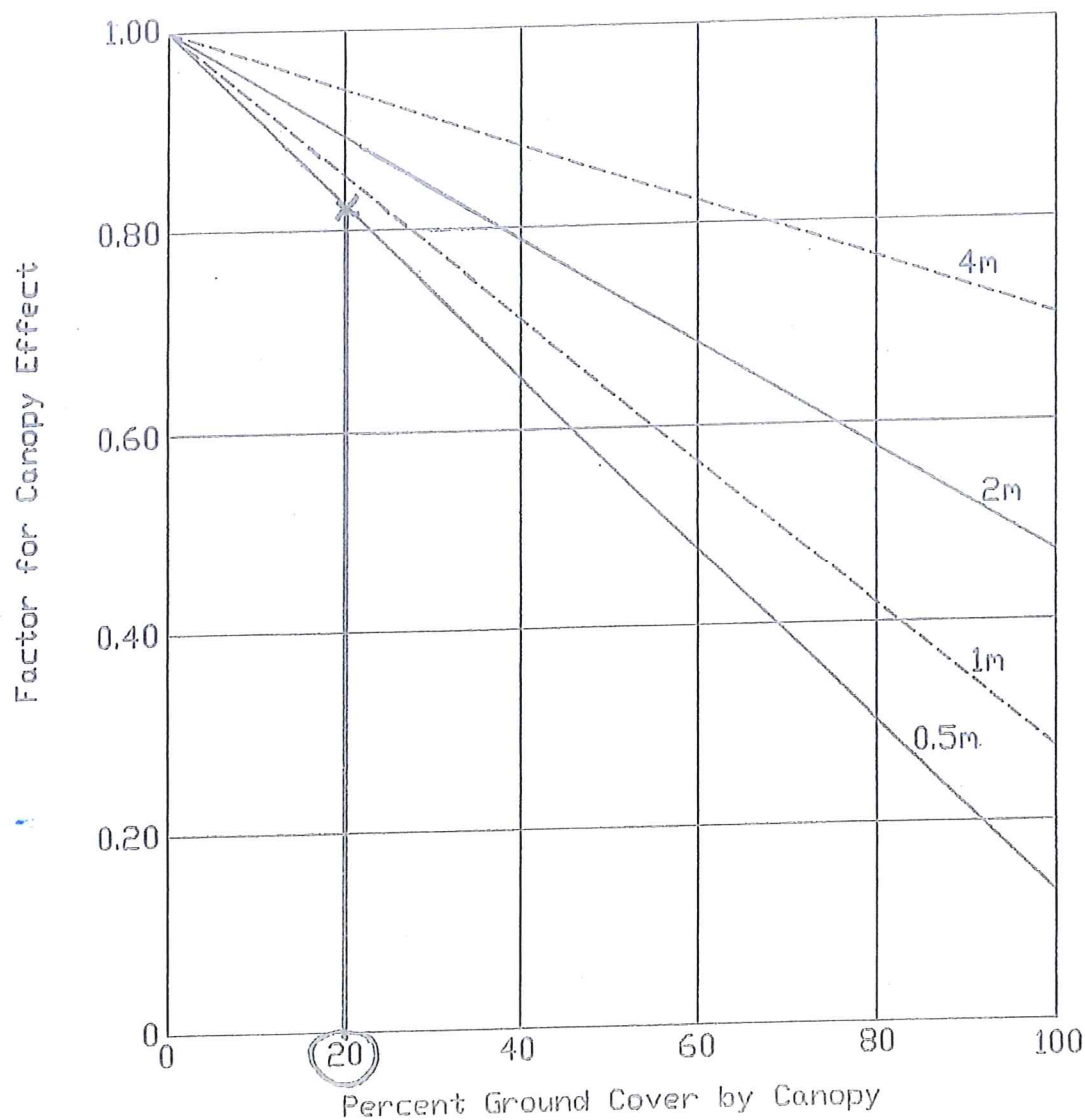
Soil name and map symbol	Depth	Clay	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
								K	T	
	In	Pct	In/hr	In/in	pH	mmhos/cm				
400----- Tencee	0-5 5-15 15-60	10-20 10-20 -----	2.0-6.0 0.6-2.0 -----	0.05-0.07 0.05-0.08 -----	7.9-8.4 7.9-8.4 -----	<2 <2 -----	Low----- Low----- -----	0.15 0.15 -----	1	8
415----- Aztec	0-2 2-30 30-60	6-12 3-15 -----	2.0-6.0 0.2-0.6 -----	0.06-0.08 0.06-0.08 -----	7.4-9.0 7.4-9.0 -----	<2 4-8 -----	Low----- Low----- -----	0.10 0.15 -----	5	6
417#: Aztec	0-4 4-30 30-60	6-12 3-15 -----	2.0-6.0 0.2-0.6 -----	0.06-0.08 0.06-0.08 -----	7.4-9.0 7.4-9.0 -----	<2 4-8 -----	Low----- Low----- -----	0.10 0.15 -----	5	6
Rock outcrop.										
418#: Aztec	0-4 4-30 30-60	3-12 3-15 -----	2.0-20 0.2-0.6 -----	0.06-0.10 0.06-0.08 -----	7.4-9.0 7.4-9.0 -----	<2 4-8 -----	Low----- Low----- -----	0.17 0.15 -----	5	3
Nickel-----	0-9 9-23 23-45 45	4-12 6-15 2-10 -----	2.0-6.0 0.2-0.6 2.0-6.0 -----	0.06-0.10 0.04-0.07 0.04-0.08 -----	7.9-9.0 7.9-9.0 7.9-9.0 -----	<2 <2 <2 -----	Low----- Low----- Low----- -----	0.15 0.05 0.05 -----	5	4
Knob Hill-----	0-7 7-23 23-37 37-60	3-8 3-10 3-10 3-8	6.0-20 2.0-6.0 2.0-6.0 6.0-20	0.06-0.08 0.06-0.08 0.06-0.08 0.05-0.07	7.9-8.4 7.9-8.4 7.9-9.0 7.9-9.0	<2 <2 <4 <4	Low----- Low----- Low----- Low-----	0.17 0.17 0.17 0.17	5	2
419#: Aztec	0-4 4-60	3-12 3-15	2.0-20 0.2-0.6	0.06-0.10 0.06-0.08	7.4-9.0 7.4-9.0	<2 4-8	Low----- Low-----	0.17 0.15	5	3
Bracken-----	0-1 1-60	4-10 -----	2.0-6.0 -----	0.06-0.11 -----	7.4-8.4 -----	<2 -----	Low----- -----	0.10 -----	4	6
430----- Knob Hill	0-7 7-23 23-37 37-60	3-8 3-10 3-10 3-8	6.0-20 2.0-6.0 2.0-6.0 6.0-20	0.06-0.08 0.06-0.08 0.06-0.08 0.05-0.07	7.9-8.4 7.9-8.4 7.9-9.0 7.9-9.0	<2 <2 <4 <4	Low----- Low----- Low----- Low-----	0.17 0.17 0.17 0.17	5	2
440----- Nickel	0-9 9-23 23-45 45	4-12 6-15 2-10 -----	2.0-6.0 0.2-0.6 2.0-6.0 -----	0.04-0.08 0.04-0.07 0.04-0.08 -----	7.9-9.0 7.9-9.0 7.9-9.0 -----	<2 <2 <2 -----	Low----- Low----- Low----- -----	0.10 0.05 0.05 -----	5	5
450----- Cave Variant	0-2 2-11 11-29 29-40 40-60	7-15 7-18 ----- 12-30 5-10	2.0-6.0 2.0-6.0 ----- 0.6-2.0 2.0-6.0	0.06-0.09 0.04-0.08 ----- 0.10-0.14 0.05-0.09	7.9-8.4 7.9-8.4 ----- 7.9-8.4 7.4-7.8	<2 <2 ----- 8-16 8-16	Low----- Low----- ----- Moderate----- Low-----	0.17 0.17 ----- 0.24 0.15	1	5
481----- Hobog	0-4 4-13 13	1-5 12-25 -----	6.0-20 0.6-2.0 -----	0.08-0.10 0.04-0.06 -----	7.4-8.4 7.4-9.0 -----	<2 <2 -----	Low----- Low----- -----	0.17 0.20 -----	1	2
484----- Hobog	0-9 9-15 15	9-21 9-21 -----	0.6-2.0 0.6-2.0 -----	0.04-0.06 0.04-0.06 -----	7.4-9.0 7.4-9.0 -----	<2 <2 -----	Low----- Low----- -----	0.10 0.17 -----	1	8
500#: Canutio	0-4 4-43 43	5-12 5-10 -----	2.0-6.0 2.0-6.0 -----	0.05-0.08 0.04-0.08 -----	7.4-8.4 7.4-8.4 -----	<2 <2 -----	Low----- Low----- -----	0.10 0.10 -----	3	8
Alcala-----	0-3 3-11 11-60	5-12 6-10 -----	0.6-2.0 0.6-2.0 -----	0.04-0.09 0.04-0.09 -----	7.4-8.4 7.4-8.4 -----	<2 <2 -----	Low----- Low----- -----	0.17 0.17 -----	1	5

See footnote at end of table.

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

INFLUENCE OF VEGETAL CANOPY (C_i)

$$C_i = 0.82$$



ESTIMATED 20% GROUND COVER @ 0.5m HIGH CANOPY
 PER TABLE 602 4 OF 4 DESERT SHRUB - POOR CONDITION
 (< 30% GROUND COVER)

Revison	Date

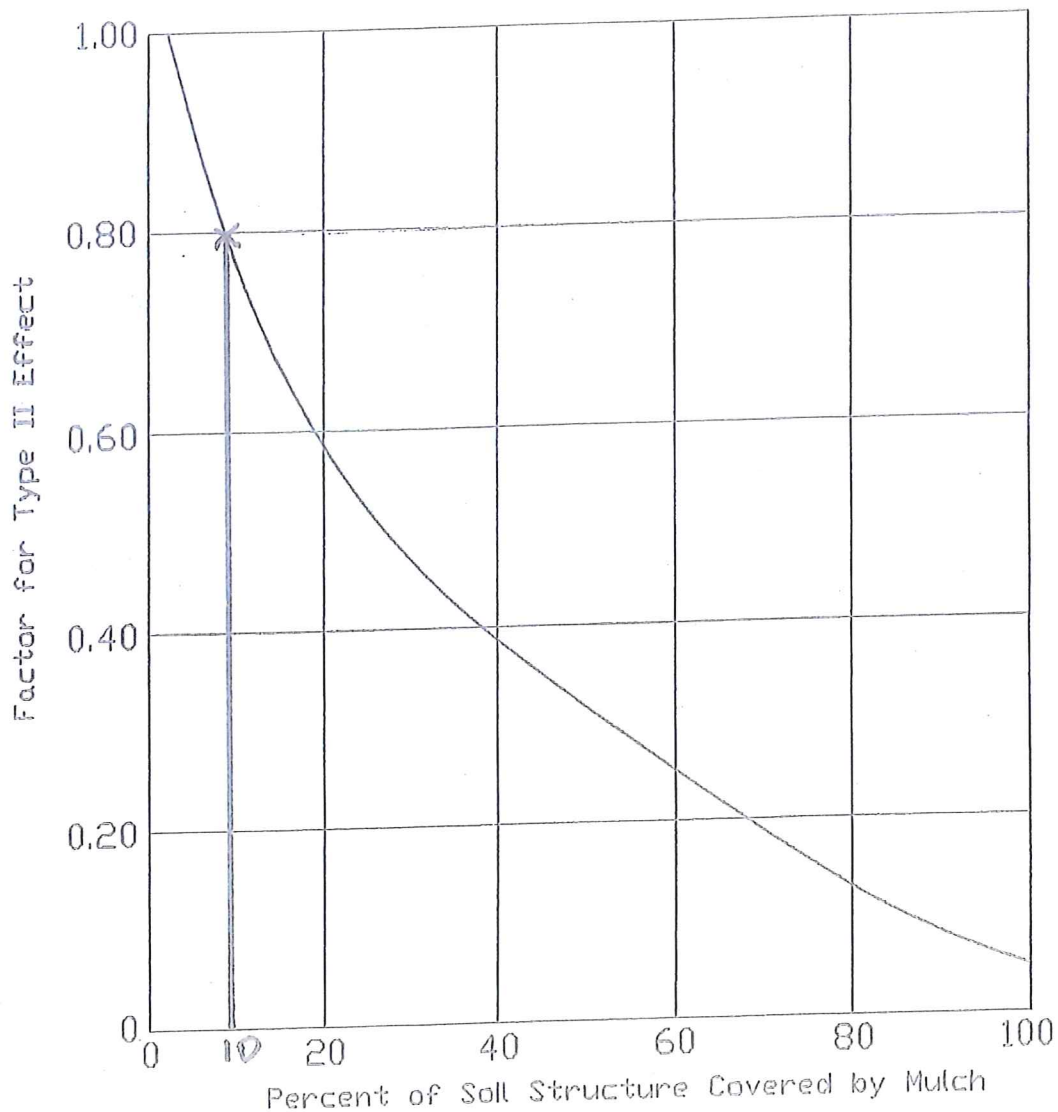
REFERENCE: A Soil-Erodibility Nomograph
 for Farmland and Construction Sites, 1971

FIGURE 1303b

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

EFFECT OF PLANT RESIDUES OR CLOSE-GROWING STEMS AT THE SOIL SURFACE (C_{11})

$$C_{11} = 0.80$$



ESTIMATED 10% MULCH

Revision	Date

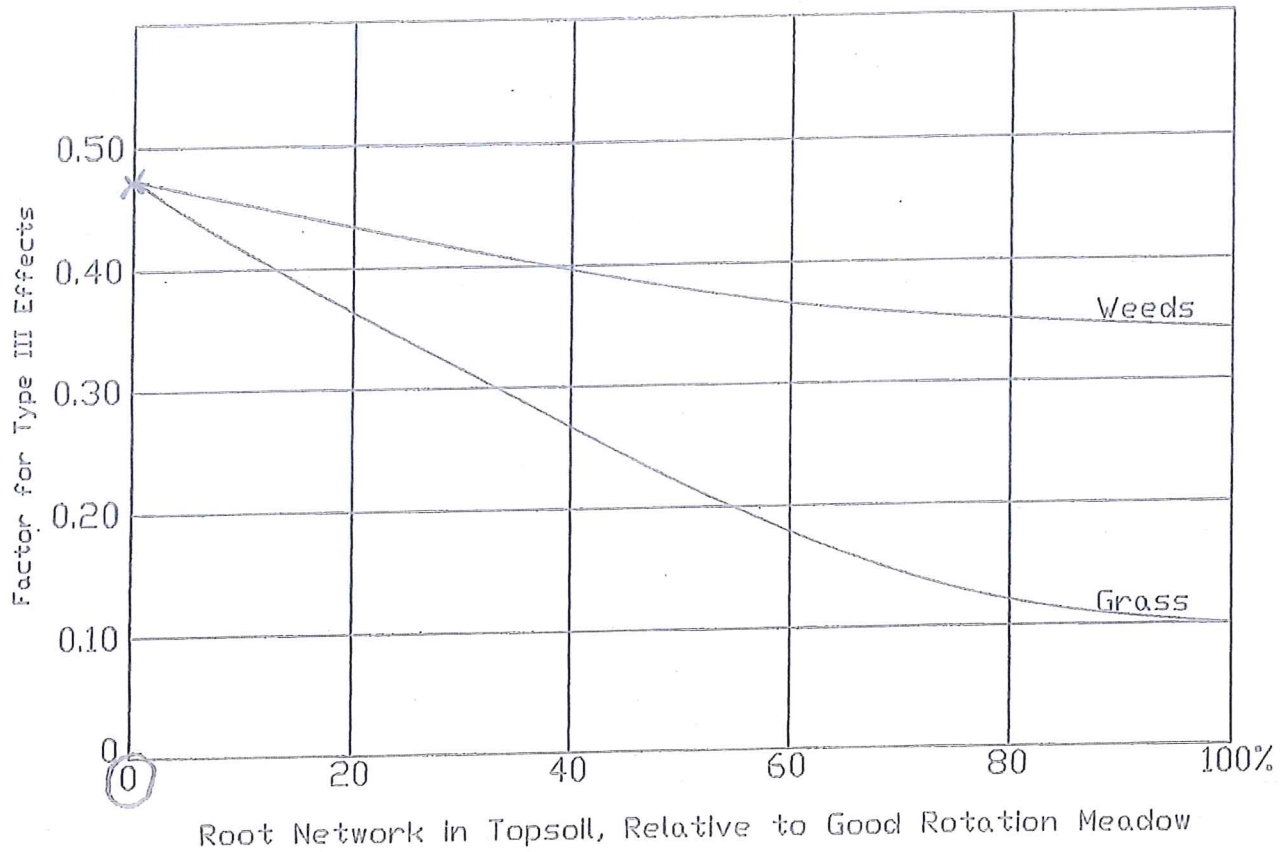
REFERENCE: Estimating the Cover and
Management Factor for Undisturbed Areas, 1972

FIGURE 1303c

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

TYPE III EFFECTS ON UNDISTURBED LAND AREAS (C_m)

$$C_m = 0.48$$



0% ROOTS IN TOP SOIL, NO TREES

Revision	Date

REFERENCE: Estimating the Cover and Management Factor for Undisturbed Areas, 1972

FIGURE 1303d



CONSULTING ENGINEERS & PLANNERS

Modified Universal Soil Loss Equation

BY: SMJ
DATE: 8/7/2014

$$Y_s = 95(VQ_p)^{0.56} K(LS) CP$$

Eqn. 1307

Basin/Concentration Point =

OFF1

Runoff Volume (V) =

38

ac-ft

Peak Flow (Q_p) =

387

cfs

Soil Erodibility Factor (K) =

0.172

Topographic Factor (LS) =

3.96

ft

Runoff Length (X_r) =

11804

ft

Runoff Slope (S₀) =

0.0359

ft/ft

$$LS = (X_r)^{0.5} (0.0076 \div 0.53 S_0 \div 7.6 S_0^2)$$

Eqn. 1303

(From Standard Form 4)

(From Standard Form 4)

Cropping Management Factor (C) =

0.31

$$C = C_I C_{II} C_{III}$$

Eqn. 1304

Canopy Cover (C_I) =

0.82

Fig. 1303b

Mulch/Vegetation on Soil Surface (C_{II}) =

0.80

Fig. 1303c

Tillage and Land Use (C_{III}) =

0.48

Fig. 1303d

Conservation Practice Factor (P) =

1.0

Sediment Yield (Y_s) =

4393.63902 tons

Sediment Volume =

2.20 ac-ft

Soil Erodibility Factor Calculations

BY: SMJ
DATE: 8/7/2014

Basin/Concentration Point = OFF1

Soil Type 1 Breakdown = 44.2% %
Soil Type 2 Breakdown = 4.8% %
Soil Type 3 Breakdown = 51.0% %

Soil Type 1 Erosion Factor (K_w) = 0.20
Soil Type 2 Erosion Factor (K_w) = 0.15
Soil Type 3 Erosion Factor (K_w) = 0.15

Soil Type 155 (From Soils Exhibit)
Soil Type 191 (From Soils Exhibit)
Soil Type 400 (From Soils Exhibit)

Soil Type 155 (From Soil Properties)
Soil Type 191 (From Soil Properties)
Soil Type 400 (From Soil Properties)

Composite Soil Erodibility Factor (K) = 0.172

BY: SMJ
DATE: 8/7/2014

$$Y_s = 95(VQ_p)^{0.55} K(LS)CP$$

Eqn. 1307

Basin/Concentration Point =

OFF2

Runoff Volume (V) =

3 ac-ft

(From HEC-1)

Peak Flow (Qp) =

54 cfs

(From HEC-1)

Soil Erodibility Factor (K) =

0.188

(See Composite K Calcs)

Topographic Factor (LS) =

2.06

$$LS = (X_r)^{0.5} (0.0076 \div 0.53S_0 \div 7.6S_0^2)$$

Eqn. 1303

Runoff Length (Xr) =

2754 ft

(From Standard Form 4)

Runoff Slope (S0) =

0.0385 ft/ft

(From Standard Form 4)

Cropping Management Factor (C) =

0.31

$$C = C_I C_{II} C_{III}$$

Eqn. 1304

Canopy Cover (CI) =

0.82

Fig. 1303b

Mulch/Vegetation on Soil Surface (CII) =

0.80

Fig. 1303c

Tillage and Land Use (CIII) =

0.48

Fig. 1303d

Conservation Practice Factor (P) =

1.0

Sediment Yield (Ys) =

199.690835 tons

Sediment Volume =

0.10 ac-ft

Soil Erodibility Factor Calculations

BY: SMJ
DATE: 8/7/2014

Basin/Concentration Point = OFF2

Soil Type 1 Breakdown = 75.1% %
Soil Type 2 Breakdown = 24.9% %

Soil Type 1 Erosion Factor (K_w) = 0.20
Soil Type 2 Erosion Factor (K_w) = 0.15

Soil Type 155 (From Soils Exhibit)
Soil Type 191 (From Soils Exhibit)

Soil Type 155 (From Soil Properties)
Soil Type 191 (From Soil Properties)

Composite Soil Erodibility Factor (K) = 0.188



CONSULTING ENGINEERS & PLANNERS

Modified Universal Soil Loss Equation

BY: SMJ
DATE: 8/7/2014

$$Y_s = 95(VQ_p)^{0.56} K(LS) CP$$

Eqn. 1307

Basin/Concentration Point =

OFF3

Runoff Volume (V) =

2

ac-ft

Peak Flow (Q_p) =

38

cfs

Soil Erodibility Factor (K) =

0.200

(From HEC-1)

Topographic Factor (LS) =

2.70

ft

Runoff Length (X_r) =

2647

ft

Runoff Slope (S₀) =

0.0495

ft/ft

$$LS = (X_r)^{0.5} (0.0076 \div 0.53 S_0 \div 7.6 S_0^2)$$

Eqn. 1303

(From Standard Form 4)

(From Standard Form 4)

Cropping Management Factor (C) =

0.31

$$C = C_I C_{II} C_{III}$$

Eqn. 1304

Canopy Cover (C_I) =

0.82

Fig. 1303b

Mulch/Vegetation on Soil Surface (C_{II}) =

0.80

Fig. 1303c

Tillage and Land Use (C_{III}) =

0.48

Fig. 1303d

Conservation Practice Factor (P) =

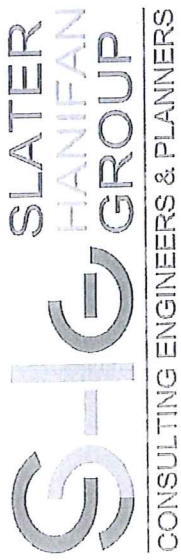
1.0

Sediment Yield (Y_s) =

182.529844 tons

Sediment Volume =

0.09 ac-ft



Soil Erodibility Factor Calculations

BY: SMJ
DATE: 8/7/2014

Basin/Concentration Point = OFF3

Soil Type 1 Breakdown = 100.0% %

Soil Type 1 Erosion Factor (K_w) = 0.20

Soil Type 155 (From Soils Exhibit)

Soil Type 155 (From Soil Properties)

Composite Soil Erodibility Factor (K) = 0.200



CONSULTING ENGINEERS & PLANNERS

Modified Universal Soil Loss Equation

BY: SMJ
DATE: 8/7/2014

$$Y_s = 95(VQ_p)^{0.56} K(LS)CP$$

OFF4

Basin/Concentration Point =

Runoff Volume (V) = 5 ac-ft

Peak Flow (Q_p) = 84 cfs

Soil Erodibility Factor (K) = 0.200

Topographic Factor (LS) =

Runoff Length (X_r) = 3.08 ft

Runoff Slope (S₀) = 3522 ft/ft

Cropping Management Factor (C) =

Canopy Cover (C_i) = 0.31

Mulch/Vegetation on Soil Surface (C_{ii}) =

Tillage and Land Use (C_{iii}) = 0.82

Conservation Practice Factor (P) = 0.80

0.48

1.0

Sediment Yield (Y_s) = 543.072749 tons

Sediment Volume = 0.27 ac-ft

Eqn. 1307

(From HEC-1)

(From HEC-1)

(See Composite K Calcs)

Eqn. 1303

(From Standard Form 4)

(From Standard Form 4)

Eqn. 1304

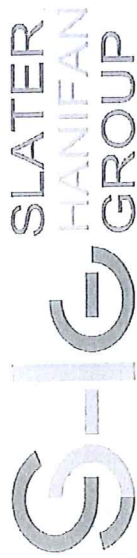
Fig. 1303b

Fig. 1303c

Fig. 1303d

$$LS = (X_r)^{0.5} (0.0076 \div 0.53 S_0 \div 7.6 S_0^2)$$

$$C = C_i C_{ii} C_{iii}$$



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Soil Erodibility Factor Calculations

BY: SMJ
DATE: 8/7/2014

Basin/Concentration Point = OFF4

Soil Type 1 Breakdown = 100.0% %

Soil Type 1 Erosion Factor (K_w) = 0.20

Soil Type 155 (From Soils Exhibit)

Soil Type 155 (From Soil Properties)

Composite Soil Erodibility Factor (K) = 0.200



CONSULTING ENGINEERS & PLANNERS

Modified Universal Soil Loss Equation

BY: SMJ
DATE: 8/7/2014

$$Y_s = 95(VQ_p)^{0.56} K(LS)CP$$

Eqn. 1307

Basin/Concentration Point =

OFF5

Runoff Volume (V) =

23 ac-ft

(From HEC-1)

Peak Flow (Q_P) =

236 cfs

(From HEC-1)

Soil Erodibility Factor (K) =

0.182

(See Composite K Calcs)

Topographic Factor (LS) =

4.18

$$LS = (X_r)^{0.5} (0.0076 \div 0.53S_0 \div 7.6S_0^2)$$

Eqn. 1303

Runoff Length (X_r) =

12337 ft

(From Standard Form 4)

Runoff Slope (S₀) =

0.037 ft/ft

(From Standard Form 4)

Cropping Management Factor (C) =

0.31

Eqn. 1304

Canopy Cover (C_i) =

0.82

Fig. 1303b

Mulch/Vegetation on Soil Surface (C_{ii}) =

0.80

Fig. 1303c

Tillage and Land Use (C_{iii}) =

0.48

Fig. 1303d

Conservation Practice Factor (P) =

1.0

Sediment Yield (Y_s) =

2806.58353 tons

Sediment Volume =

1.40 ac-ft

Soil Erodibility Factor Calculations

BY: SMJ
DATE: 8/7/2014

Basin/Concentration Point = OFF5

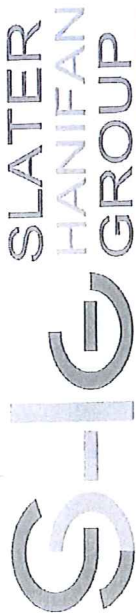
Soil Type 1 Breakdown = 63.9% %
Soil Type 2 Breakdown = 36.1% %

Soil Type 1 Erosion Factor (K_w) = 0.20
Soil Type 2 Erosion Factor (K_w) = 0.15

Soil Type 155 (From Soils Exhibit)
Soil Type 400 (From Soils Exhibit)

Soil Type 155 (From Soil Properties)
Soil Type 400 (From Soil Properties)

Composite Soil Erodibility Factor (K) = 0.182



CONSULTING ENGINEERS & PLANNERS

Modified Universal Soil Loss Equation

BY: SMJ
DATE: 8/7/2014

$$Y_s = 95(VQ_p)^{0.56} K(LS) CP$$

Eqn. 1307

Basin/Concentration Point =

OFF6

Runoff Volume (V) =

4 ac-ft

(From HEC-1)

Peak Flow (Q_p) =

59 cfs

(From HEC-1)

Soil Erodibility Factor (K) =

0.200

(See Composite K Calcs)

Topographic Factor (LS) =

$$LS = (X_p)^{0.5} (0.0076 \div 0.53 S_0 \div 7.6 S_0^2)$$

Eqn. 1303

Runoff Length (X_p) =

2341 ft

(From Standard Form 4)

Runoff Slope (S₀) =

0.0444 ft/ft

(From Standard Form 4)

Cropping Management Factor (C) =

0.31

Eqn. 1304

Canopy Cover (C_i) =

0.82

Fig. 1303b

Mulch/Vegetation on Soil Surface (C_{ii}) =

0.80

Fig. 1303c

Tillage and Land Use (C_{iii}) =

0.48

Fig. 1303d

Conservation Practice Factor (P) =

1.0

$$C = C_i C_{ii} C_{iii}$$

Sediment Yield (Y_s) =

284.620427 tons

Sediment Volume =

0.14 ac-ft



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Soil Erodibility Factor Calculations

BY: SMJ
DATE: 8/7/2014

Basin/Concentration Point = OFF6

Soil Type 1 Breakdown = 100.0% %

Soil Type 1 Erosion Factor (K_w) = 0.20

Soil Type 155 (From Soils Exhibit)

Soil Type 155 (From Soil Properties)

Composite Soil Erodibility Factor (K) = 0.200

PMP Calculations

HYDROMETEOROLOGICAL REPORT NO. 49

Probable Maximum Precipitation Estimates,
Colorado River and Great Basin Drainages

REPRINTED 1984

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U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF ARMY
CORPS OF ENGINEERS

Silver Spring, Md.

Table 6.3A.--Local-storm PMP computation, Colorado River, Great Basin and California drainages. For drainage average depth PMP. Go to table 6.3B if areal variation is required.

Drainage INFLOW TO DBI Area 0.9 mi.² (km²)
 Latitude 36°N Longitude 115°W Minimum Elevation 3020 ft (m)

Steps correspond to those in sec. 6.3A.

1. Average 1-hr 1-mi.² (2.6-km²) PMP for drainage [fig. 4.5]. 10.6 in. (mm)
2. a. Reduction for elevation. [No adjustment for elevations up to 5,000 feet (1,524 m); 5% decrease per 1,000 feet (305 m) above 5,000 feet (1,524 m)]. 100 %
 b. Multiply step 1 by step 2a. 10.6 in. (mm)
3. Average 6/1-hr ratio for drainage [fig. 4.7]. 1.33
4. Durational variation for 6/1-hr ratio of step 3 [table 4.4].

Duration (hr)									
1/4	1/2	3/4	1	2	3	4	5	6	
<u>69.3</u>	<u>87.2</u>	<u>94.9</u>	<u>100</u>	<u>115.2</u>	<u>122.5</u>	<u>127.1</u>	<u>130.7</u>	<u>133</u>	%
5. 1-mi.² (2.6-km²) PMP for indicated durations [step 2b X step 4].

<u>7.3</u>	<u>9.2</u>	<u>10.0</u>	<u>10.6</u>	<u>12.2</u>	<u>13.0</u>	<u>13.5</u>	<u>13.9</u>	<u>14.1</u>	in. (mm)
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6. Areal reduction [fig. 4.9].

<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	%
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7. Areal reduced PMP [steps 5 X 6].

<u>7.3</u>	<u>9.2</u>	<u>10.0</u>	<u>10.6</u>	<u>12.2</u>	<u>13.0</u>	<u>13.5</u>	<u>13.9</u>	<u>14.1</u>	in. (mm)
------------	------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	----------
8. Incremental PMP [successive subtraction in step 7].

_____	_____	_____	_____	_____	_____	_____	_____	_____	in. (mm)
} 15-min. increments									
9. Time sequence of incremental PMP according to:

Hourly increments [table 4.7].	_____	_____	_____	_____	_____	_____	_____	_____	in. (mm)
Four largest 15-min. increments [table 4.8].	_____	_____	_____	_____	_____	_____	_____	_____	in. (mm)

USE IN
 PMF REC-1
 AS PAGE 18. VAW

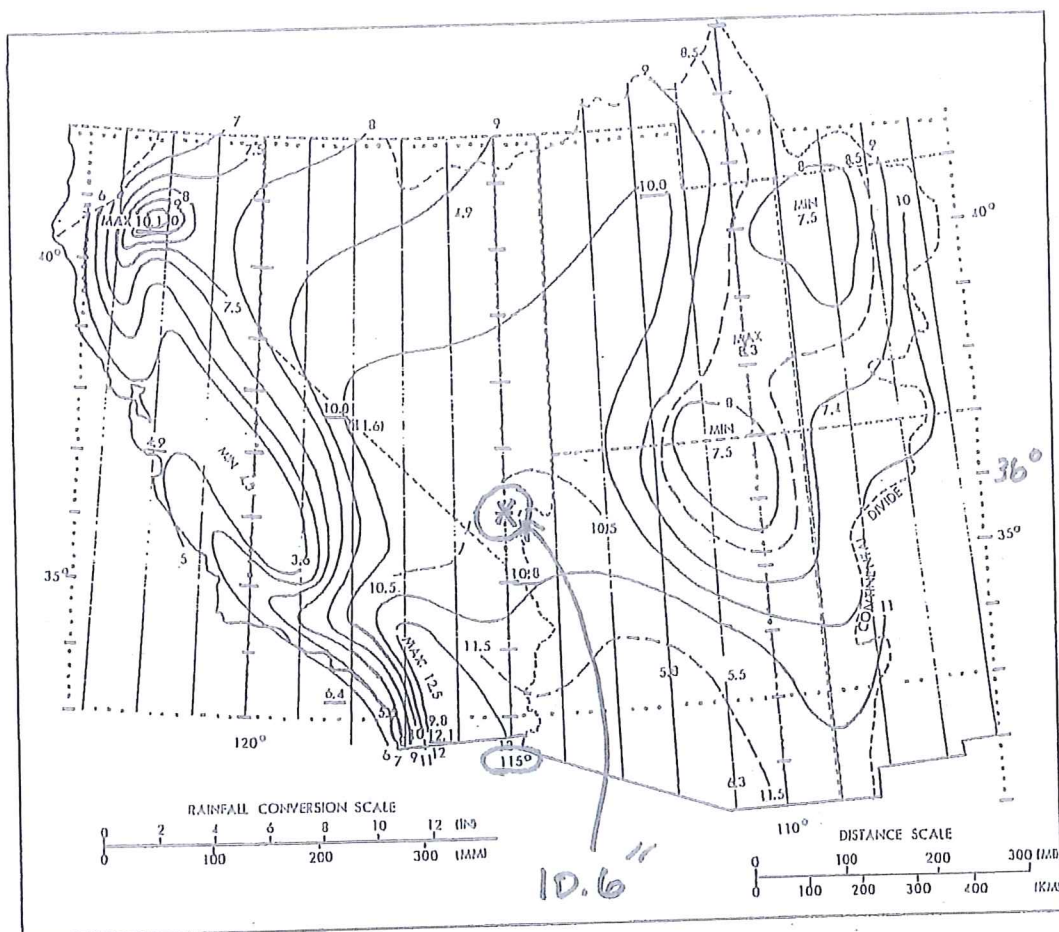


Figure 4.5--Local-storm PMP for 1 mi² (2.6 km²) 1 hr. Directly applicable for locations between sea level and 5000 ft (1524 m). Elevation adjustment must be applied for locations above 5000 ft.

events. In contrast to figure 4.4, figure 4.5 maintains a maximum between these two locations. There is no known meteorological basis for a different solution. The analysis suggests that in the northern portion of the region maximum PMP occurs between the Sierra Nevada on the west and the Wasatch range on the east.

A discrete maximum (> 10 inches, 254 mm) occurs at the north end of the Sacramento Valley in northern California because the northward-flowing moist air is increasingly channeled and forced upslope. Support for this PMP center comes from the Newton, Kennett, and Red Bluff storms (fig. 4.1). Although the analysis in this region appears to be an extension of the broad maximum through the center of the Southwestern Region, it does not indicate the direction of moist inflow. The pattern has evolved primarily as a result of attempts to tie plotted maxima into a reasonable picture while considering inflow directions, terrain effects, and moisture potential.

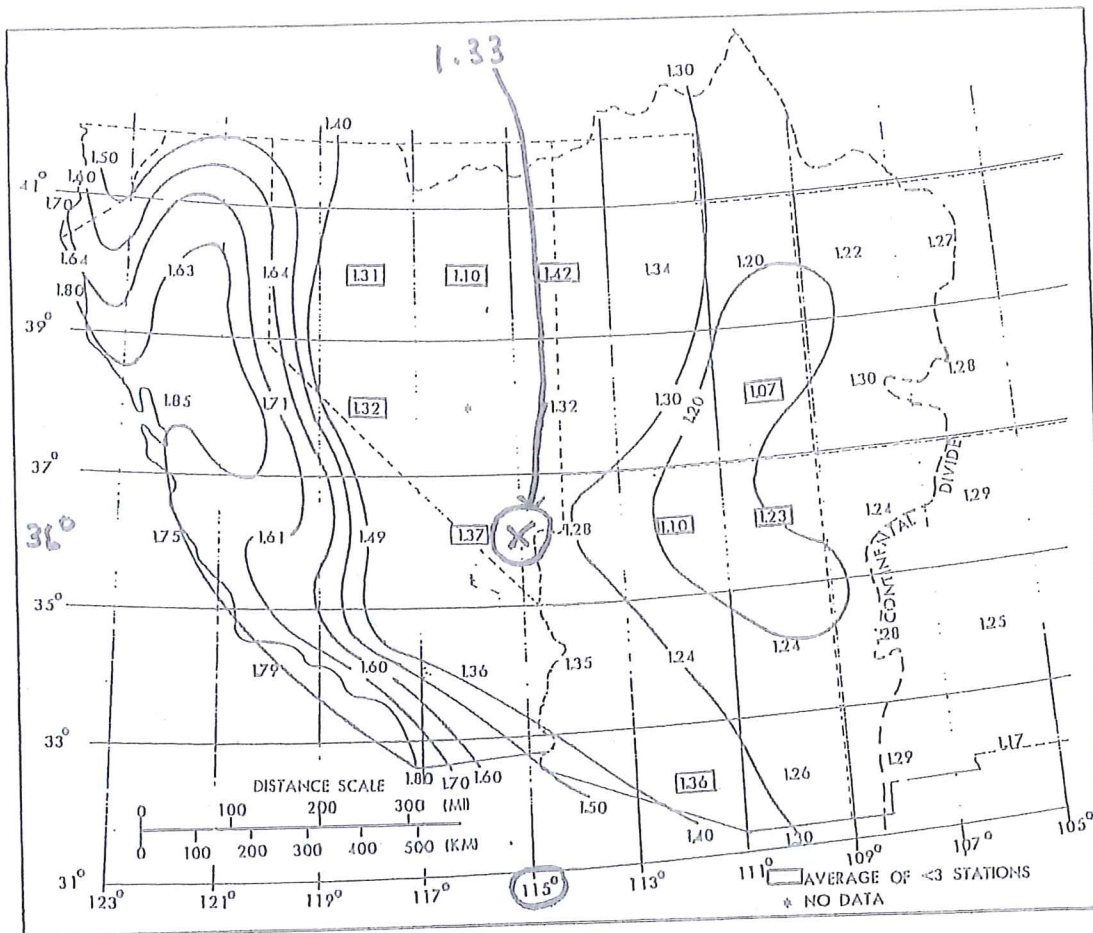


Figure 4.7.--Analysis of 6/1-hr ratios of averaged maximum station data (plotted at midpoints of a 2° latitude-longitude grid).

establish the basic depth-duration curve, then structure a variable set of depth-duration curves to cover the range of 6/1-hr ratios that are needed.

Three sets of data were considered for obtaining a base relation (see table 4.3 for depth-duration data).

a. An average of depth-duration relations from each of 17 greatest 3-hr rains from summer storms (1940-49) in Utah (U. S. Weather Bureau 1951b) and in unpublished tabulations for Nevada and Arizona (1940-63). The 3-hr amounts ranged from 1 to 3 inches (25 to 76 mm) in these events.

b. An average depth-duration relation from 14 of the most extreme short-duration storms listed in Storm Rainfall (U. S. Army, Corps of Engineers 1945-). These storms come from Eastern and Central States and have 3-hr amounts of 5 to 22 inches (127 to 559 mm).

ratios than storms with high 3/1-hr ratios. The geographical distribution of 15-min to 1-hr ratios also were inversely correlated with magnitudes of the 6/1-hr ratios of figure 4.7. For example, Los Angeles and San Diego (high 6/1-hr ratios) have low 15-min to 1-hr ratios (approximately 0.60) whereas the 15-min to 1-hr ratios in Arizona and Utah (low 6/1-hr ratios) were generally higher (approximately 0.75).

Depth-duration relations for durations less than 1 hour were then smoothed to provide a family of curves consistent with the relations determined for 1 to 6 hours, as shown in figure 4.3. Adjustment was necessary to some of the curves to provide smoother relations through the common point at 1 hour.

We believe we were justified in reducing the number of the curves shown in figure 4.3 for durations less than 1 hour, letting one curve apply to a range of 6/1-hr ratios. The corresponding curves have been indicated by letter designators, A-D, on figure 4.3. As an example, for any 6-hr amount between 115% and 135% of 1-hr, 1-mi² (2.6-km²) PMP, the associated values for durations less than 1 hour are obtained from the curve designated as "B".

Table 4.4 lists durational variations in percent of 1-hr PMP for selected 6/1-hr rain ratios. These values were interpolated from figure 4.3.

To determine 6-hr PMP for a basin, use figure 4.3 (or table 4.4) and the geographical distribution of 6/1-hr ratios given in figure 4.7.

Table 4.4.--Durational variation of 1-mi² (2.6-km²) local-storm PMP in percent of 1-hr PMP (see figure 4.3)

6/1-hr ratio	Duration (hr)								
	1/4	1/2	3/4	1	2	3	4	5	6
1.1	86	93	97	100	107	109	110	110	110
1.2	74	89	95	100	110	115	118	119	120
1.3	74	89	95	100	114	121	125	128	130
1.4	63	83	93	100	118	126	132	137	140
1.5	63	83	93	100	121	132	140	145	150
1.6	43	70	87	100	124	138	147	154	160
1.8	43	70	87	100	130	149	161	171	180
2.0	43	70	87	100	137	161	175	188	200

4.5 Depth-Area Relation

We have thus far developed local-storm PMP for an area of 1 mi² (2.6 km²). To apply PMP to a basin, we need to determine how 1-mi² (2.6-km²) PMP should decrease with increasing area. We have adopted depth-area relations based on rainfalls in the Southwest and from consideration of a model thunderstorm.

	1/4	1/2	3/4	1	2	3	4	5	6
@ 1.33	69.3	87.2	94.4	100	115.2	122.5	127.1	130.7	133

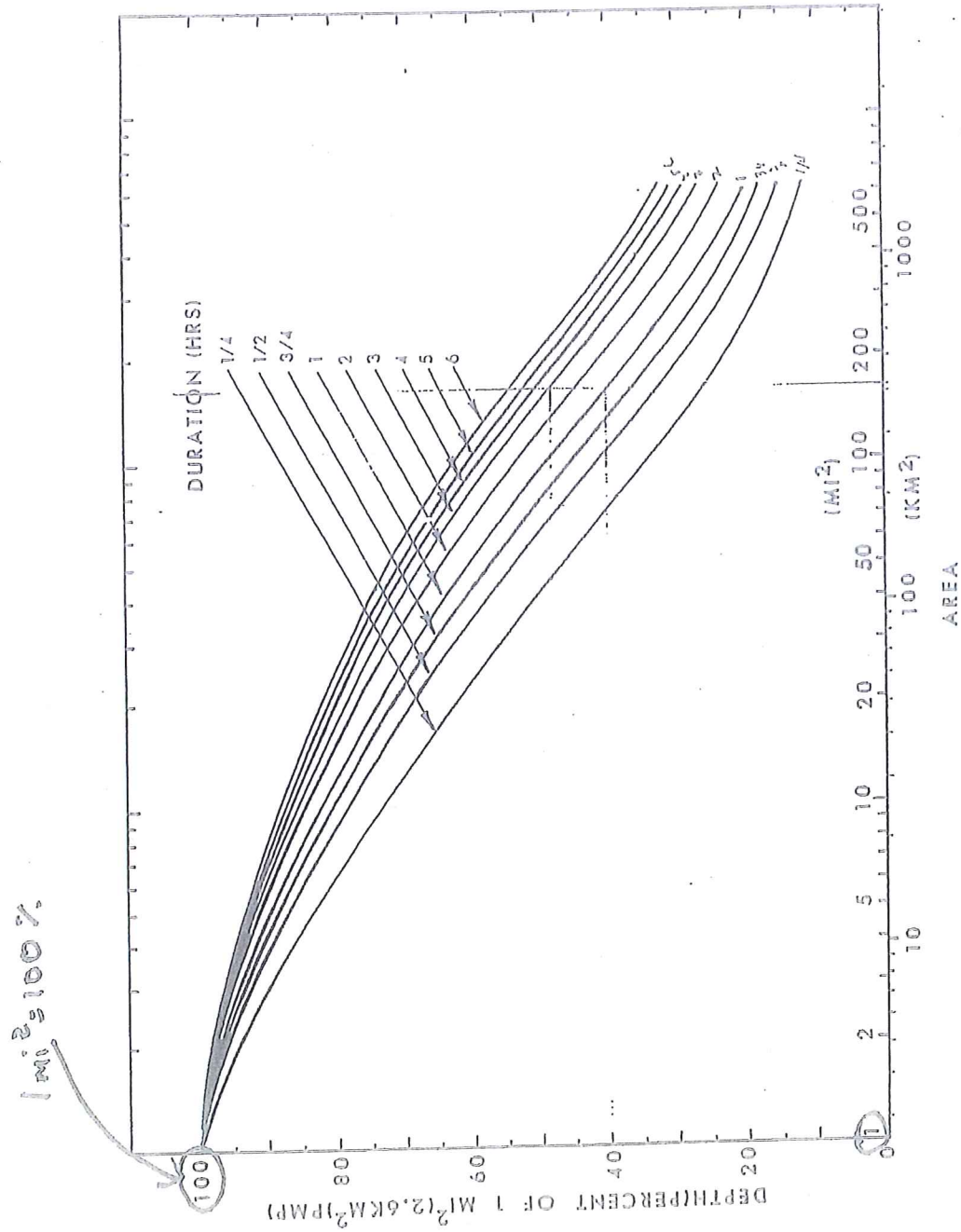
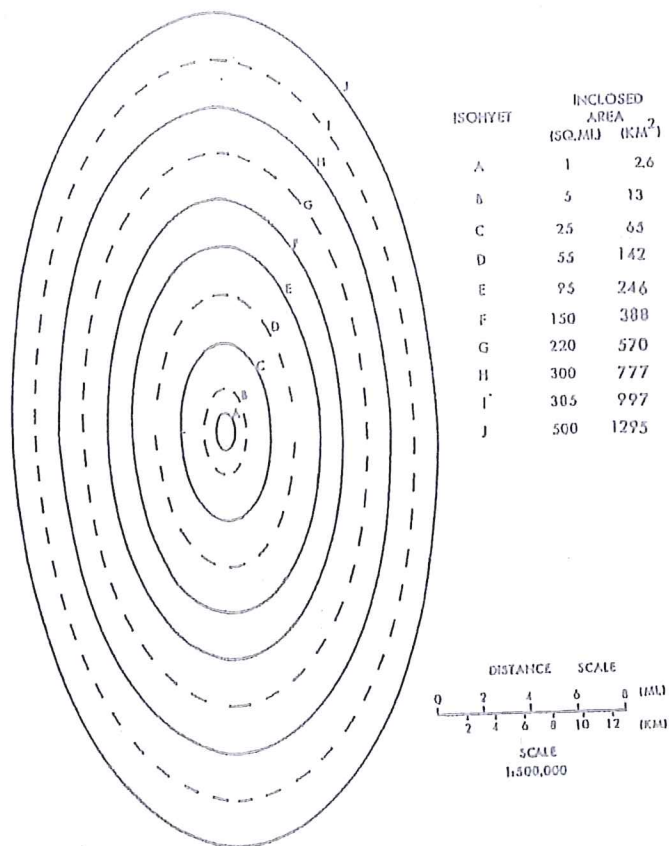


Figure 4.9: ---Adopted depth-area relations for local-storm PMP.

Figure 4.10.--Idealized
local-storm isohyetal
pattern.



storm period. The sequence of hourly incremental PMP for the Southwest 6-hr thunderstorm in accord with this study is presented in column 2 of table 4.7. A small variation from this sequence is given in Engineering Manual 1110-2-1411 (U. S. Army, Corps of Engineers 1965). The latter, listed in column 3 of table 4.7, places greater incremental amounts somewhat more toward the end of the 6-hr storm period. In application, the choice of either of these distributions is left to the user since one may prove to be more critical in a specific case than the other.

Table 4.7.--Time sequence for hourly incremental PMP in 6-hr storm

Increment	HMR No. 5 ¹	EM1110-2-1411 ²
	Sequence Position	
Largest hourly amount	Third	Fourth
2nd largest	Fourth	Third
3rd largest	Second	Fifth
4th largest	Fifth	Second
5th largest	First	Last
Least	Last	First

¹U. S. Weather Bureau 1947.

²U. S. Corps of Engineers 1952.

PMF Flow HEC-1 Analysis

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1*****
A
A FLOOD HYDROGRAPH PACKAGE (HEC-1)
A JUN 1998
A VERSION 4.1
A RUN DATE 29AUG14 TIME 12:16:29
A
*****

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FMF.OUT

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*****
A
A U.S. ARMY CORPS OF ENGINEERS
A HYDROLOGIC ENGINEERING CENTER
A 609 SECOND STREET
A DAVIS, CALIFORNIA 95616
A (916) 756-1104
A
*****

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X X XXXXXXX XXXXX X
X X X X X XX
X X X X X X
XXXXXX XXXX X XXXXX X
X X X X X X
X X X X X X
X X XXXXXXX XXXXX XXX

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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KV.
 THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
 THE DEFINITION OF -AVSK- 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

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
*DIAGRAM
1 ID SLATER HANIFAN GROUP
2 ID NINETY-FIVE MANAGEMENT, LLC.
3 ID SKYE CANYON - DETENTION BASINS
4 ID TECHNICAL DRAINAGE STUDY
5 ID PMF DRAINAGE CONDITION
6 ID
7 ID RETURN PERIOD ----- 100-YEAR
8 ID DISTRIBUTION ----- 6-HOUR SDN3
9 ID PROJECT NO. ----- OLY1401.004
10 ID FILENAME ----- PMF.H1
11 ID DATE ----- 08/22/14
12 ID MODELED BY ----- WTH
13 ID
14 ID SIX HOUR DEPTH-AREA REDUCTION FACTORS
15 ID DRAINAGE AREA (MI^2) RATIO
16 ID 0.0-0.49 1.00
17 ID 0.5-0.99 0.98
18 ID
19 ID IT 5 0 0 500
20 ID IO 5 0 0
21 ID IN 5 0 0
22 ID PREC 1.00 0.98
23 KK OFF1
24 KM EXISTING OFFSITE DRAINAGE BASIN
25 KM DISCHARGES INTO DETENTION BASIN "DB1"
26 PB 14.1
27 PC 0 0.020 0.057 0.070 0.087 0.108 0.124 0.130 0.130 0.130
28 PC 0.130 0.130 0.130 0.133 0.140 0.142 0.148 0.158 0.172 0.181
29 PC 0.190 0.197 0.199 0.200 0.201 0.204 0.214 0.229 0.241 0.249
30 PC 0.251 0.256 0.270 0.278 0.281 0.283 0.295 0.322 0.352 0.409
31 PC 0.499 0.590 0.710 0.744 0.781 0.812 0.819 0.835 0.851 0.856
32 PC 0.860 0.868 0.876 0.888 0.910 0.926 0.937 0.950 0.970 0.976
33 PC 0.982 0.985 0.987 0.989 0.990 0.993 0.993 0.994 0.995 0.998
34 PC 0.998 0.999 1 0.989 0.990 0.993 0.993 0.994 0.995 0.998
35 BA .4073
36 LS 0 86.4
37 UD 0.356
38 KK OFF7
39 KM FUTURE DEVELOPED OFFSITE DRAINAGE BASIN
40 KM DISCHARGES INTO DETENTION BASIN "DB1"
41 BA .0281
42 LS 0 96.0
43 UD 0.118

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1 HEC-1 INPUT PAGE 2

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
44 KK CP2
45 KM COMBINE OFF1, OFF7
46 KC 2
47 KK OFF2
48 KM EXISTING OFFSITE DRAINAGE BASIN
49 KM DISCHARGES INTO DETENTION BASIN "DB1"
50 BA .0355
51 LS 0 85.0
52 UD 0.148
53 KK OFF3
54 KM EXISTING OFFSITE DRAINAGE BASIN
55 KM DISCHARGES INTO DETENTION BASIN "DB1"
56 BA .0259
57 LS 0 86.2
58 UD 0.112
59 KK CP1
60 KM COMBINE CP2, OFF2, AND OFF3
61 KC 3
62 KK OFF4
63 KM EXISTING OFFSITE DRAINAGE BASIN
64 KM DISCHARGES INTO DETENTION BASIN "DB1"
65 BA .0581
66 LS 0 86.2
67 UD 0.136
68 KK OFF5
69 KM EXISTING OFFSITE DRAINAGE BASIN
70 KM DISCHARGES INTO DETENTION BASIN "DB1"
71 BA .2569
72 LS 0 86.5
73 UD 0.419
74 KK OFF6
75 KM EXISTING OFFSITE DRAINAGE BASIN
76 KM DISCHARGES INTO DETENTION BASIN "DB1"

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77 BA .0399
78 LS 0 86.2
79 UD 0.121

HEC-1 INPUT

PAGE 3

1

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

80 KK ON1
81 KM PROPOSED ONSITE DRAINAGE BASIN
82 DA .0261
83 LS 0 92.8
84 UD 0.116

85 KK DB1
86 KM COMBINE CP1, OFF4, OFF5, OFF6 AND ON1
87 KO 1
88 HC 5

89 KK RDB1
90 KM OUTLET = 30" ORIFICE @ INVERT ELEVATION = 3025.5-FT
91 KO 1
92 RS 1 VOL -1
93 SV 0 7.78 13.43 19.26 58.03 96.21 132.22
94 SE 25.5 27 28 29 35 40 44
95 SQ 0 25.59 36.20 44.33 76.78 341.94 1444.86 3013.84 4936.17
96 SE 25.5 29 30 31 37 38 40 42 44

97 ZZ

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW
NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW

23 OFF1
.
38 OFF7
.
44 CP2.....
.
47 OFF2
.
53 OFF3
.
59 CP1.....
.
62 OFF4
.
68 OFF5
.
74 OFF6
.
80 ON1
.
85 DB1.....
V
89 RDB1

(*** RUNOFF ALSO COMPUTED AT THIS LOCATION

* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* JUN 1998 *
* VERSION 4.1 *
* RUN DATE 29AUG14 TIME 12:16:29 *

* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET *
* DAVIS, CALIFORNIA 95616 *
* (916) 756-1104 *

SLATER HANIFAN GROUP
NINETY-FIVE MANAGEMENT, LLC.
SEVE CANYON - DETENTION BASINS
TECHNICAL DRAINAGE STUDY
PHF DRAINAGE CONDITION

RETURN PERIOD ----- 100-YEAR
DISTRIBUTION ----- 6-HOUR SDN3
PROJECT NO. ----- OLY1401.004
FILENAME ----- PHF.H1
DATE ----- 08/22/14
MODELED BY ----- WTH

SIX HOUR DEPTH-AREA REDUCTION FACTORS
DRAINAGE AREA (MIA2) RATIO
0.0-0.49 1.00
0.5-0.99 0.98

20 IO

OUTPUT CONTROL VARIABLES

IPRINT 5 PRINT CONTROL
IPLLOT 0 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE

IT

HYDROGRAPH TIME DATA

NRUN 5 MINUTES IN COMPUTATION INTERVAL
IDATE 1 0 STARTING DATE
ITIME 0000 STARTING TIME
NQ 500 NUMBER OF HYDROGRAPH ORDINATES
RDATE 2 0 ENDING DATE
RDTIME 1735 ENDING TIME
ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 41.53 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

JP

MULTI-PLAN OPTION

NPLAN 1 NUMBER OF PLANS

JR

MULTI-RATIO OPTION
RATIOS OF PRECIPITATION
1.00 .98

PMF.OUT

85 KK DB1
*****87 KO OUTPUT CONTROL VARIABLES
IPRINT 1 PRINT CONTROL
IPLOT 0 PLOT CONTROL
QSCAL 0. HYDROGRAPH PLOT SCALE88 HC HYDROGRAPH COMBINATION
ICOMP 5 NUMBER OF HYDROGRAPHS TO COMBINE

HYDROGRAPH AT STATION DB1
SUM OF 5 HYDROGRAPHS
PLAN 1, RATIO = 1.00

DA	MON	HR	MIN	ORD	FLOW	DA	MON	HR	MIN	ORD	FLOW	DA	MON	HR	MIN	ORD	FLOW	DA	MON	HR	MIN	ORD	FLOW	DA	MON	HR	MIN	ORD	FLOW
1	0000	1	0.	1	1025	126	0.	1	2050	251	0.	2	0715	376	0.														
1	0005	2	4.	1	1030	127	0.	1	2055	252	0.	2	0720	377	0.														
1	0010	3	67.	1	1035	128	0.	1	2100	253	0.	2	0725	378	0.														
1	0015	4	172.	1	1040	129	0.	1	2105	254	0.	2	0730	379	0.														
1	0020	5	264.	1	1045	130	0.	1	2110	255	0.	2	0735	380	0.														
1	0025	6	394.	1	1050	131	0.	1	2115	256	0.	2	0740	381	0.														
1	0030	7	542.	1	1055	132	0.	1	2120	257	0.	2	0745	382	0.														
1	0035	8	624.	1	1100	133	0.	1	2125	258	0.	2	0750	383	0.														
1	0040	9	624.	1	1105	134	0.	1	2130	259	0.	2	0755	384	0.														
1	0045	10	565.	1	1110	135	0.	1	2135	260	0.	2	0800	385	0.														
1	0050	11	488.	1	1115	136	0.	1	2140	261	0.	2	0805	386	0.														
1	0055	12	400.	1	1120	137	0.	1	2145	262	0.	2	0810	387	0.														
1	0100	13	308.	1	1125	138	0.	1	2150	263	0.	2	0815	388	0.														
1	0105	14	239.	1	1130	139	0.	1	2155	264	0.	2	0820	389	0.														
1	0110	15	220.	1	1135	140	0.	1	2200	265	0.	2	0825	390	0.														
1	0115	16	221.	1	1140	141	0.	1	2205	266	0.	2	0830	391	0.														
1	0120	17	227.	1	1145	142	0.	1	2210	267	0.	2	0835	392	0.														
1	0125	18	276.	1	1150	143	0.	1	2215	268	0.	2	0840	393	0.														
1	0130	19	371.	1	1155	144	0.	1	2220	269	0.	2	0845	394	0.														
1	0135	20	467.	1	1200	145	0.	1	2225	270	0.	2	0850	395	0.														
1	0140	21	533.	1	1205	146	0.	1	2230	271	0.	2	0855	396	0.														
1	0145	22	579.	1	1210	147	0.	1	2235	272	0.	2	0900	397	0.														
1	0150	23	583.	1	1215	148	0.	1	2240	273	0.	2	0905	398	0.														
1	0155	24	539.	1	1220	149	0.	1	2245	274	0.	2	0910	399	0.														
1	0200	25	473.	1	1225	150	0.	1	2250	275	0.	2	0915	400	0.														
1	0205	26	410.	1	1230	151	0.	1	2255	276	0.	2	0920	401	0.														
1	0210	27	391.	1	1235	152	0.	1	2300	277	0.	2	0925	402	0.														
1	0215	28	450.	1	1240	153	0.	1	2305	278	0.	2	0930	403	0.														
1	0220	29	540.	1	1245	154	0.	1	2310	279	0.	2	0935	404	0.														
1	0225	30	607.	1	1250	155	0.	1	2315	280	0.	2	0940	405	0.														
1	0230	31	623.	1	1300	157	0.	1	2320	281	0.	2	0945	406	0.														
1	0235	32	608.	1	1305	158	0.	1	2325	282	0.	2	0950	407	0.														
1	0240	33	637.	1	1310	159	0.	1	2330	283	0.	2	0955	408	0.														
1	0245	34	682.	1	1315	160	0.	1	2335	284	0.	2	1000	409	0.														
1	0250	35	664.	1	1320	161	0.	1	2340	285	0.	2	1005	410	0.														
1	0255	36	604.	1	1325	162	0.	1	2345	286	0.	2	1010	411	0.														
1	0300	37	589.	1	1330	163	0.	1	2350	287	0.	2	1015	412	0.														
1	0305	38	713.	1	1335	164	0.	1	2355	288	0.	2	1020	413	0.														
1	0310	39	956.	1	1340	165	0.	1	0000	289	0.	2	1025	414	0.														
1	0315	40	1362.	1	1345	166	0.	1	0005	290	0.	2	1030	415	0.														
1	0320	41	2114.	1	1350	167	0.	1	0010	291	0.	2	1035	416	0.														
1	0325	42	3110.	1	1355	168	0.	1	0015	292	0.	2	1040	417	0.														
1	0330	43	4258.	1	1400	169	0.	1	0020	293	0.	2	1045	418	0.														
1	0335	44	5096.	1	1405	170	0.	1	0025	294	0.	2	1050	419	0.														
1	0340	45	5296.	1	1410	171	0.	1	0030	295	0.	2	1055	420	0.														
1	0345	46	5265.	1	1415	172	0.	1	0035	296	0.	2	1100	421	0.														
1	0350	47	4944.	1	1420	173	0.	1	0040	297	0.	2	1105	422	0.														
1	0355	48	4362.	1	1425	174	0.	1	0045	298	0.	2	1110	423	0.														
1	0400	49	3771.	1	1430	175	0.	1	0050	299	0.	2	1115	424	0.														
1	0405	50	3160.	1	1435	176	0.	1	0055	300	0.	2	1120	425	0.														
1	0410	51	2566.	1	1440	177	0.	1	0100	301	0.	2	1125	426	0.														
1	0415	52	2087.	1	1445	178	0.	1	0105	302	0.	2	1130	427	0.														
1	0420	53	1731.	1	1450	179	0.	1	0110	303	0.	2	1135	428	0.														
1	0425	54	1485.	1	1455	180	0.	1	0115	304	0.	2	1140	429	0.														
1	0430	55	1381.	1	1500	181	0.	1	0120	305	0.	2	1145	430	0.														
1	0435	56	1372.	1	1505	182	0.	1	0125	306	0.	2	1150	431	0.														
1	0440	57	1350.	1	1510	183	0.	1	0130	307	0.	2	1155	432	0.														
1	0445	58	1325.	1	1515	184	0.	1	0135	308	0.	2	1200	433	0.														
1	0450	59	1357.	1	1520	185	0.	1	0140	309	0.	2	1205	434	0.														
1	0455	60	1363.	1	1525	186	0.	1	0145	310	0.	2	1210	435	0.														
1	0500	61	1272.	1	1530	187	0.	1	0150	311	0.	2	1215	436	0.														
1	0505	62	1145.	1	1535	188	0.	1	0155	312	0.	2	1220	437	0.														
1	0510	63	997.	1	1540	189	0.	1	0200	313	0.	2	1225	438	0.														
1	0515	64	844.	1	1545	190	0.	1	0205	314	0.	2	1230	439	0.														
1	0520	65	696.	1	1550	191	0.	1	0210	315	0.	2	1235	440	0.														
1	0525	66	566.	1	1555	192	0.	1	0215	316	0.	2	1240	441	0.														
1	0530	67	459.	1																									

1	0830	103	0.	1	1855	228	0.	2	PMF,OUT	353	0.	2	1545	478	0.
1	0835	104	0.	1	1900	229	0.	2	0520	354	0.	2	1550	479	0.
1	0840	105	0.	1	1905	230	0.	2	0525	355	0.	2	1555	480	0.
1	0845	106	0.	1	1910	231	0.	2	0530	356	0.	2	1600	481	0.
1	0850	107	0.	1	1915	232	0.	2	0535	357	0.	2	1605	482	0.
1	0855	108	0.	1	1920	233	0.	2	0540	358	0.	2	1610	483	0.
1	0900	109	0.	1	1925	234	0.	2	0545	359	0.	2	1615	484	0.
1	0905	110	0.	1	1930	235	0.	2	0550	360	0.	2	1620	485	0.
1	0910	111	0.	1	1935	236	0.	2	0555	361	0.	2	1625	486	0.
1	0915	112	0.	1	1940	237	0.	2	0600	362	0.	2	1630	487	0.
1	0920	113	0.	1	1945	238	0.	2	0605	363	0.	2	1635	488	0.
1	0925	114	0.	1	1950	239	0.	2	0610	364	0.	2	1640	489	0.
1	0930	115	0.	1	1955	240	0.	2	0615	365	0.	2	1645	490	0.
1	0935	116	0.	1	2000	241	0.	2	0620	366	0.	2	1650	491	0.
1	0940	117	0.	1	2005	242	0.	2	0625	367	0.	2	1655	492	0.
1	0945	118	0.	1	2010	243	0.	2	0630	368	0.	2	1700	493	0.
1	0950	119	0.	1	2015	244	0.	2	0635	369	0.	2	1705	494	0.
1	0955	120	0.	1	2020	245	0.	2	0640	370	0.	2	1710	495	0.
1	1000	121	0.	1	2025	246	0.	2	0645	371	0.	2	1715	496	0.
1	1005	122	0.	1	2030	247	0.	2	0650	372	0.	2	1720	497	0.
1	1010	123	0.	1	2035	248	0.	2	0655	373	0.	2	1725	498	0.
1	1015	124	0.	1	2040	249	0.	2	0700	374	0.	2	1730	499	0.
1	1020	125	0.	1	2045	250	0.	2	0705	375	0.	2	1735	500	0.

PEAK FLOW	TIME	6-HR	MAXIMUM AVERAGE FLOW	72-HR	41.58-HR
(CFS)	(HR)		24-HR		
5296.	3.67	(CFS)	1167.	293.	169.
		(INCHES)	12.363	12.429	12.429
		(AC-FT)	579.	582.	582.
CUMULATIVE AREA =			.88	SQ MI	

HYDROGRAPH AT STATION DB1
SUM OF 5 HYDROGRAPHS
PLAN 1, RATIO = .98

DA	MON	HR:MM	ORD	FLOW	DA	MON	HR:MM	ORD	FLOW	DA	MON	HR:MM	ORD	FLOW	DA	MON	HR:MM	ORD	FLOW
1	0000	1	0.	1	1025	126	0.	1	2050	251	0.	2	0715	376	0.	0715	376	0.	0.
1	0005	2	3.	1	1030	127	0.	1	2055	252	0.	2	0720	377	0.	0720	377	0.	0.
1	0010	3	64.	1	1035	128	0.	1	2100	253	0.	2	0725	378	0.	0725	378	0.	0.
1	0015	4	165.	1	1040	129	0.	1	2105	254	0.	2	0730	379	0.	0730	379	0.	0.
1	0020	5	253.	1	1045	130	0.	1	2110	255	0.	2	0735	380	0.	0735	380	0.	0.
1	0025	6	379.	1	1050	131	0.	1	2115	256	0.	2	0740	381	0.	0740	381	0.	0.
1	0030	7	522.	1	1055	132	0.	1	2120	257	0.	2	0745	382	0.	0745	382	0.	0.
1	0035	8	606.	1	1100	133	0.	1	2125	258	0.	2	0750	383	0.	0750	383	0.	0.
1	0040	9	602.	1	1105	134	0.	1	2130	259	0.	2	0755	384	0.	0755	384	0.	0.
1	0045	10	546.	1	1110	135	0.	1	2135	260	0.	2	0800	385	0.	0800	385	0.	0.
1	0050	11	472.	1	1115	136	0.	1	2140	261	0.	2	0805	386	0.	0805	386	0.	0.
1	0055	12	387.	1	1120	137	0.	1	2145	262	0.	2	0810	387	0.	0810	387	0.	0.
1	0100	13	298.	1	1125	138	0.	1	2150	263	0.	2	0815	388	0.	0815	388	0.	0.
1	0105	14	231.	1	1130	139	0.	1	2155	264	0.	2	0820	389	0.	0820	389	0.	0.
1	0110	15	213.	1	1135	140	0.	1	2200	265	0.	2	0825	390	0.	0825	390	0.	0.
1	0115	16	215.	1	1140	141	0.	1	2205	266	0.	2	0830	391	0.	0830	391	0.	0.
1	0120	17	221.	1	1145	142	0.	1	2210	267	0.	2	0835	392	0.	0835	392	0.	0.
1	0125	18	268.	1	1150	143	0.	1	2215	268	0.	2	0840	393	0.	0840	393	0.	0.
1	0130	19	361.	1	1155	144	0.	1	2220	269	0.	2	0845	394	0.	0845	394	0.	0.
1	0135	20	455.	1	1200	145	0.	1	2225	270	0.	2	0850	395	0.	0850	395	0.	0.
1	0140	21	519.	1	1205	146	0.	1	2230	271	0.	2	0855	396	0.	0855	396	0.	0.
1	0145	22	564.	1	1210	147	0.	1	2235	272	0.	2	0900	397	0.	0900	397	0.	0.
1	0150	23	568.	1	1215	148	0.	1	2240	273	0.	2	0905	398	0.	0905	398	0.	0.
1	0155	24	525.	1	1220	149	0.	1	2245	274	0.	2	0910	399	0.	0910	399	0.	0.
1	0200	25	461.	1	1225	150	0.	1	2250	275	0.	2	0915	400	0.	0915	400	0.	0.
1	0205	26	400.	1	1230	151	0.	1	2255	276	0.	2	0920	401	0.	0920	401	0.	0.
1	0210	27	383.	1	1235	152	0.	1	2300	277	0.	2	0925	402	0.	0925	402	0.	0.
1	0215	28	439.	1	1240	153	0.	1	2305	278	0.	2	0930	403	0.	0930	403	0.	0.
1	0220	29	527.	1	1245	154	0.	1	2310	279	0.	2	0935	404	0.	0935	404	0.	0.
1	0225	30	593.	1	1250	155	0.	1	2315	280	0.	2	0940	405	0.	0940	405	0.	0.
1	0230	31	608.	1	1255	156	0.	1	2320	281	0.	2	0945	406	0.	0945	406	0.	0.
1	0235	32	593.	1	1300	157	0.	1	2325	282	0.	2	0950	407	0.	0950	407	0.	0.
1	0240	33	622.	1	1305	158	0.	1	2330	283	0.	2	0955	408	0.	0955	408	0.	0.
1	0245	34	666.	1	1310	159	0.	1	2335	284	0.	2	1000	409	0.	1000	409	0.	0.
1	0250	35	648.	1	1315	160	0.	1	2340	285	0.	2	1005	410	0.	1005	410	0.	0.
1	0255	36	590.	1	1320	161	0.	1	2345	286	0.	2	1010	411	0.	1010	411	0.	0.
1	0300	37	576.	1	1325	162	0.	1	2350	287	0.	2	1015	412	0.	1015	412	0.	0.
1	0305	38	697.	1	1330	163	0.	1	2355	288	0.	2	1020	413	0.	1020	413	0.	0.
1	0310	39	934.	1	1335	164	0.	2	0000	289	0.	2	1025	414	0.	1025	414	0.	0.
1	0315	40	1332.	1	1340	165	0.	2	0005	290	0.	2	1030	415	0.	1030	415	0.	0.
1	0320	41	2067.	1	1345	166	0.	2	0010	291	0.	2	1035	416	0.	1035	416	0.	0.
1	0325	42	3042.	1	1350	167	0.	2	0015	292	0.	2	1040	417	0.	1040	417	0.	0.
1	0330	43	4167.	1	1355	168	0.	2	0020	293	0.	2	1045	418	0.	1045	418	0.	0.
1	0335	44	4987.	1	1400	169	0.	2	0025	294	0.	2	1050	419	0.	1050	419	0.	0.
1	0340	45	5184.	1	1405	170	0.	2	0030	295	0.	2	1055	420	0.	1055	420	0.	0.
1	0345	46	5153.	1	1410	171	0.	2	0035	296	0.	2	1100	421	0.	1100	421	0.	0.
1	0350	47	4840.	1	1415	172	0.	2	0040	297	0.	2	1105	422	0.	1105	422	0.	0.
1	0355	48	4271.	1	1420	173	0.	2	0045	298	0.	2	1110	423	0.	1110	423	0.	0.
1	0400	49	3692.	1	1425	174	0.	2	0050	299	0.	2	1115	424	0.	1115	424	0.	0.
1	0405	50	3094.	1	1430	175	0.	2	0055	300	0.	2	1120	425	0.	1120	425	0.	0.
1	0410	51	2512.	1	1435	176	0.	2	0100	301	0.	2	1125	426	0.	1125	426	0.	0.
1	0415	52	2044.	1	1440	177	0.	2	0105	302	0.	2	1130	427	0.	1130	427	0.	0.
1	0420	53	1695.	1	1445	178	0.	2	0110	303	0.	2	1135	428	0.	1135	428	0.	0.
1	0425	54	1454.	1	1450	179	0.	2	0115	304	0.	2	1140	429	0.	1140	429	0.	0.
1	0430	55	1352.	1	1455	180	0.	2	0120	305	0.	2	1145	430	0.	1145	430	0.	0.
1	0435	56	1343.	1	1500	181	0.	2	0125	306	0.	2	1150	431	0.	1150	431	0.	0.
1	0440	57	1322.	1	1505	182	0.	2	0130	307	0.	2	1155	432	0.	1155	432	0.	0.
1	0445	58	1298.	1	1510	183	0.	2	0135	308	0.	2	1200	433	0.	1200	433	0.	0.
1	0450	59	1329.	1	1515	184	0.	2	0140	309	0.	2	1205	434	0.	1205	434	0.	0.
1	0455	60	1335.	1	1520	185	0.	2	0145	310	0.	2	1210	435	0.	1210	435	0.	0.
1	0500	61	1246.	1	1525	186	0.	2	0150	311	0.	2	1215	436	0.	1215	436	0.	0.
1	0505	62	1122.	1	1530	187	0.	2	0155	312	0.	2	1220	437	0.	1220	437	0.	0.
1	0510	63	976.	1	1535	188	0.	2	0200	313	0.	2	1225	438	0.	1225	438	0.	0.
1	0515	64	827.	1	1540	189	0.	2	0205	314	0.	2	1230	439	0.	1230	439	0.	0.
1	0520	65	682.	1	1545	190	0.	2	0210	315	0.	2	1235	440	0.	1235	440	0.	0.
1	0525	66	554.	1	1550	191	0.	2	0215	316	0.	2	1240	441	0.	1240	441	0.	0.
1	0530	67	450.	1	1555	192	0.	2	0220	317	0.	2	1245	442	0.	1245	442	0.	0.
1	0535	68	357.	1	1600	193	0.	2	0225	318	0.	2	1250	443	0.	1250	443	0.	0.
1	0540	69	287.	1	1605	194	0.	2	0230	319	0.	2	1255	444	0.	1255	444	0.	0.
1	0545	70	247.	1	1610	195	0.	2	0235	320	0.	2	1300	445	0.	1300	445	0.	0.
1	0550	71	216.	1	1615	196	0.	2	0240	321	0.	2	1305	446	0.	1305	446	0.	0.
1	0555	72	182.	1	1620	197	0.	2	0245	322	0.	2	1310	447	0.	1310	447	0.	0.
1	0600	73	159.	1	1625	198	0.	2	0250	323	0.	2	1315	448	0.	1315	448	0.	0.
1	0605	74	138.	1	1630	199	0.	2	0255	324	0.	2	1320	449	0.	1320	449	0.	0.
1	0610	75	113.	1	1635	200	0.	2	0300	325	0.	2	1325	450	0.	1325	450	0.	0.
1	0615	76	91.	1	1640	201	0.	2	0305	326	0.	2	1330	451	0.	1330	451	0.	0.
1	0620	77	70.	1	1645	202	0.	2	0310	327	0.	2	1335	452	0.	1335	452	0.	0.
1	0625	78	53.	1	1650	203	0.	2	0315	328	0.	2	1340	453	0.	1340	453	0.	0.
1	0630	79	39.	1	1655	204	0.	2	0320	329	0.	2	1345	454	0.	1345	454	0.	0.
1	0635	80	28.	1	1700	205	0.	2	0325	330	0.	2	1350	455	0.	1350	455	0.	0.
1	0640	81	20.	1	1705	206	0.	2	0330	331	0.	2	1355	456	0.	1355	456	0.	0.
1	0645	82	14.	1	1710	207	0.	2	0335	332	0.	2							

										PMF OUT									
1	0730	91	1.	1	1755	215	0.	2	0420	341	0.	2	1445	466	0.				
1	0735	92	0.	1	1800	217	0.	2	0425	342	0.	2	1450	467	0.				
1	0740	93	0.	1	1805	218	0.	2	0430	343	0.	2	1455	468	0.				
1	0745	94	0.	1	1810	219	0.	2	0435	344	0.	2	1500	469	0.				
1	0750	95	0.	1	1815	220	0.	2	0440	345	0.	2	1505	470	0.				
1	0755	96	0.	1	1820	221	0.	2	0445	346	0.	2	1510	471	0.				
1	0800	97	0.	1	1825	222	0.	2	0450	347	0.	2	1515	472	0.				
1	0805	98	0.	1	1830	223	0.	2	0455	348	0.	2	1520	473	0.				
1	0810	99	0.	1	1835	224	0.	2	0500	349	0.	2	1525	474	0.				
1	0815	100	0.	1	1840	225	0.	2	0505	350	0.	2	1530	475	0.				
1	0820	101	0.	1	1845	226	0.	2	0510	351	0.	2	1535	476	0.				
1	0825	102	0.	1	1850	227	0.	2	0515	352	0.	2	1540	477	0.				
1	0830	103	0.	1	1855	228	0.	2	0520	353	0.	2	1545	478	0.				
1	0835	104	0.	1	1900	229	0.	2	0525	354	0.	2	1550	479	0.				
1	0840	105	0.	1	1905	230	0.	2	0530	355	0.	2	1555	480	0.				
1	0845	106	0.	1	1910	231	0.	2	0535	356	0.	2	1600	481	0.				
1	0850	107	0.	1	1915	232	0.	2	0540	357	0.	2	1605	482	0.				
1	0855	108	0.	1	1920	233	0.	2	0545	358	0.	2	1610	483	0.				
1	0900	109	0.	1	1925	234	0.	2	0550	359	0.	2	1615	484	0.				
1	0905	110	0.	1	1930	235	0.	2	0555	360	0.	2	1620	485	0.				
1	0910	111	0.	1	1935	236	0.	2	0600	361	0.	2	1625	486	0.				
1	0915	112	0.	1	1940	237	0.	2	0605	362	0.	2	1630	487	0.				
1	0920	113	0.	1	1945	238	0.	2	0610	363	0.	2	1635	488	0.				
1	0925	114	0.	1	1950	239	0.	2	0615	364	0.	2	1640	489	0.				
1	0930	115	0.	1	1955	240	0.	2	0620	365	0.	2	1645	490	0.				
1	0935	116	0.	1	2000	241	0.	2	0625	366	0.	2	1650	491	0.				
1	0940	117	0.	1	2005	242	0.	2	0630	367	0.	2	1655	492	0.				
1	0945	118	0.	1	2010	243	0.	2	0635	368	0.	2	1700	493	0.				
1	0950	119	0.	1	2015	244	0.	2	0640	369	0.	2	1705	494	0.				
1	0955	120	0.	1	2020	245	0.	2	0645	370	0.	2	1710	495	0.				
1	1000	121	0.	1	2025	246	0.	2	0650	371	0.	2	1715	496	0.				
1	1005	122	0.	1	2030	247	0.	2	0655	372	0.	2	1720	497	0.				
1	1010	123	0.	1	2035	248	0.	2	0700	373	0.	2	1725	498	0.				
1	1015	124	0.	1	2040	249	0.	2	0705	374	0.	2	1730	499	0.				
1	1020	125	0.	1	2045	250	0.	2	0710	375	0.	2	1735	500	0.				

PEAK FLOW TIME 6-HR MAXIMUM AVERAGE FLOW 41.58-HR
 (CFS) (HR) (CFS) 24-HR 72-HR
 + 5184. 3.67 1141. 287. 166.
 (INCHES) 12.085 12.150 12.150
 (AC-FT) 566. 569. 569.
 CUMULATIVE AREA = .88 SQ MI

89 KK RDB1

91 KO OUTPUT CONTROL VARIABLES
 IPRINT 1 PRINT CONTROL
 IPLOT 0 PLOT CONTROL
 QSCAL 0 HYDROGRAPH PLOT SCALE

HYDROGRAPH ROUTING DATA

	STORAGE ROUTING	1		NUMBER OF SUBREACHES		VOL		TYPE OF INITIAL CONDITION	
		STPP	RSVRIC	INITIAL CONDITION	WORKING R AND D COEFFICIENT				
92 RS									
93 SV	STORAGE	.0	7.8	13.4	19.3	58.0	96.2	132.2	
94 SE	ELEVATION	25.50	27.00	28.00	29.00	35.00	40.00	44.00	
95 SQ	DISCHARGE	0.	26.	36.	44.	77.	342.	1445.	3014.
96 SE	ELEVATION	25.50	29.00	30.00	31.00	37.00	38.00	40.00	42.00

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	7.78	13.43	19.26	25.72	32.18	58.03	73.30	80.94	96.21
OUTFLOW	.00	10.97	18.28	25.59	36.20	44.33	65.96	76.78	341.94	1444.86
ELEVATION	25.50	27.00	28.00	29.00	30.00	31.00	35.00	37.00	38.00	40.00
STORAGE	114.21	132.22								
OUTFLOW	3013.84	4936.17								
ELEVATION	42.00	44.00								

WARNING --- ROUTED OUTFLOW (5020.) IS GREATER THAN MAXIMUM OUTFLOW (4936.) IN STORAGE-OUTFLOW TABLE

HYDROGRAPH AT STATION RDB1
PLAN 1, RATIO = 1.00

DA	MON	HR	MIN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HR	MIN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HR	MIN	ORD	OUTFLOW	STORAGE	STAGE
1	0000	1	0.	0	25.5	1	1355	168	48.	36.8	31.7	2	0350	335	11.	7.6	27.0						
1	0005	2	0.	0	25.5	1	1400	169	48.	36.5	31.7	2	0355	336	11.	7.5	27.0						
1	0010	3	0.	0	25.5	1	1405	170	48.	36.1	31.6	2	0400	337	11.	7.5	26.9						
1	0015	4	2.	1.1	25.7	1	1410	171	47.	35.8	31.6	2	0405	338	10.	7.4	26.9						
1	0020	5	4.	2.6	26.0	1	1415	172	47.	35.5	31.5	2	0410	339	10.	7.3	26.9						
1	0025	6	7.	4.8	26.4	1	1420	173	47.	35.2	31.5	2	0415	340	10.	7.3	26.9						
1	0030	7	11.	7.9	27.0	1	1425	174	47.	34.9	31.4	2	0420	341	10.	7.1	26.9						
1	0035	8	16.	11.9	27.7	1	1430	175	46.	34.5	31.4	2	0425	342	10.	7.0	26.8						
1	0040	9	22.	16.1	28.5	1	1435	176	46.	34.2	31.3	2	0430	343	10.	6.9	26.8						
1	0045	10	27.	20.0	29.1	1	1440	177	46.	33.9	31.3	2	0435	344	10.	6.8	26.8						
1	0050	11	32.	23.4	29.6	1	1445	178	45.	33.6	31.2	2	0440	345	10.	6.7	26.8						
1	0055	12	37.	26.2	30.1	1	1450	179	45.	33.3	31.2	2	0445	346	10.	6.6	26.8						
1	0100	13	40.	28.4	30.4	1	1455	180	45.	33.0	31.1	2	0450	347	9.	6.5	26.7						
1	0105	14	42.	30.0	30.7	1	1500	181	44.	32.7	31.1	2	0455	348	9.	6.4	26.7						
1	0110	15	43.	31.3	30.9	1	1505	182	44.	32.3	31.0	2	0500	349	9.	6.3	26.7						
1	0115	16	45.	32.5	31.1	1	1510	183	44.	32.0	31.0	2	0505	350	9.	6.2	26.7						
1	0120	17	46.	33.8	31.2	1	1515	184	44.	31.7	30.9	2	0510	351	9.	6.1	26.7						
1	0125	18	47.	35.2	31.5	1	1520	185	43.	31.4	30.9	2	0515	352	9.	6.0	26.7						
1	0130	19	48.	37.1	31.8	1	1525	186	43.	31.1	30.8	2	0520	353	9.	5.9	26.6						
1	0135	20	51.	39.6	32.1	1	1530	187	42.	30.8	30.7	2	0525	354	9.	5.8	26.6						
1	0140	21	53.	42.7	32.6	1	1535	188	42.	30.6	30.7	2	0530	355	9.	5.7	26.6						
1	0145	22	56.	46.2	33.2	1	1540	189	42.	30.3	30.7	2	0535	356	9.	5.6	26.6						
1	0150	23	59.	49.8	33.7	1	1545	190	42.	30.0	30.7	2	0540	357	9.	5.5	26.6						
1	0155	24	62.	53.2	34.3	1	1550	191	41.	29.7	30.6	2	0545	358	9.	5.4	26.6						
1	0200	25	64.	56.3	34.7	1	1555	192	41.	29.4	30.6	2	0550	359	9.	5.3	26.6						
1	0205	26	67.	59.9	35.1	1	1600	193	40.	29.1	30.5	2	0555	360	8.	5.2	26.6						
1	0210	27	68.	61.2	35.4	1	1605	194	40.	28.8	30.5	2	0600	361	8.	5.1	26.6						
1	0215	28	70.	63.6	35.7	1	1610	195	40.	28.6	30.4	2	0605	362	8.	5.0	26.6						
1	0220	29	72.	66.5	36.1	1	1615	196	39.	28.3	30.4	2	0610	363	8.	4.9	26.6						
1	0225	30	74.	70.0	36.6	1	1620	197	39.	28.0	30.4	2	0615	364	8.	4.8	26.6						
1	0230	31	88.	72.6	37.0	1	1625	198	39.	27.8	30.3	2	0620	365	8.	4.7	26.6						
1	0235	32	201.	76.9	37.5	1	1630	199	38.	27.5	30.3	2	0625	366	8.	4.6	26.6						
1	0240	33	291.	79.5	37.8	1	1635	200	38.	27.2	30.2												

				PHF.OUT															
1	0245	34	394.	81.7	38.1	*	1	1640	201	38.	27.0	30.2	*	2	0635	368	8.	5.5	26.6
1	0250	35	505.	83.2	38.3	*	1	1645	202	37.	26.7	30.2	*	2	0640	369	8.	5.5	26.6
1	0255	36	536.	83.9	38.4	*	1	1650	203	37.	26.5	30.1	*	2	0645	370	8.	5.4	26.5
1	0300	37	573.	84.1	38.4	*	1	1655	204	37.	26.2	30.1	*	2	0650	371	8.	5.4	26.5
1	0305	38	604.	84.6	38.5	*	1	1700	205	36.	25.9	30.0	*	2	0655	372	7.	5.3	26.5
1	0310	39	696.	85.8	38.6	*	1	1705	206	36.	25.7	30.0	*	2	0700	373	7.	5.3	26.5
1	0315	40	680.	88.4	39.0	*	1	1710	207	36.	25.5	30.0	*	2	0705	374	7.	5.2	26.5
1	0320	41	1222.	93.1	39.6	*	1	1715	208	35.	25.2	29.9	*	2	0710	375	7.	5.1	26.5
1	0325	42	1828.	100.6	40.5	*	1	1720	209	35.	24.7	29.8	*	2	0715	376	7.	5.1	26.5
1	0330	43	2685.	110.4	41.6	*	1	1725	210	35.	24.5	29.8	*	2	0720	377	7.	5.1	26.5
1	0335	44	3702.	120.7	42.7	*	1	1730	211	34.	24.3	29.8	*	2	0725	378	7.	5.0	26.5
1	0340	45	4505.	128.2	43.6	*	1	1735	212	34.	24.0	29.7	*	2	0730	379	7.	4.9	26.4
1	0345	46	4922.	132.1	44.0	*	1	1740	213	33.	23.6	29.7	*	2	0735	380	7.	4.9	26.4
1	0350	47	5020.	133.0	44.1	*	1	1745	214	33.	23.3	29.6	*	2	0740	381	7.	4.8	26.4
1	0355	48	4823.	131.2	43.9	*	1	1750	215	33.	23.1	29.6	*	2	0745	382	7.	4.7	26.4
1	0400	49	4416.	127.4	43.5	*	1	1755	216	32.	22.9	29.6	*	2	0750	383	7.	4.7	26.4
1	0405	50	3905.	122.6	42.9	*	1	1800	217	32.	22.7	29.5	*	2	0755	384	7.	4.7	26.4
1	0410	51	3345.	117.3	42.3	*	1	1805	218	32.	22.5	29.5	*	2	0800	385	7.	4.6	26.4
1	0415	52	2828.	112.1	41.8	*	1	1810	219	31.	22.3	29.5	*	2	0805	386	6.	4.6	26.4
1	0420	53	2404.	107.2	41.2	*	1	1815	220	31.	22.1	29.4	*	2	0810	387	6.	4.6	26.4
1	0425	54	2036.	103.0	40.8	*	1	1820	221	31.	22.1	29.4	*	2	0815	388	6.	4.5	26.4
1	0430	55	1758.	99.8	40.4	*	1	1825	222	30.	21.8	29.4	*	2	0820	389	6.	4.5	26.4
1	0435	56	1582.	97.8	40.2	*	1	1830	223	30.	21.6	29.4	*	2	0825	390	6.	4.4	26.4
1	0440	57	1480.	96.6	40.0	*	1	1835	224	30.	21.4	29.3	*	2	0830	391	6.	4.4	26.4
1	0445	58	1418.	95.8	40.0	*	1	1840	225	29.	21.2	29.3	*	2	0835	392	6.	4.3	26.3
1	0450	59	1387.	95.0	39.9	*	1	1845	226	29.	21.0	29.3	*	2	0840	393	6.	4.3	26.3
1	0455	60	1377.	95.3	39.9	*	1	1850	227	29.	20.8	29.2	*	2	0845	394	6.	4.3	26.3
1	0500	61	1353.	94.9	39.8	*	1	1855	228	28.	20.7	29.2	*	2	0850	395	6.	4.2	26.3
1	0505	62	1296.	94.1	39.7	*	1	1900	229	28.	20.5	29.2	*	2	0855	396	6.	4.2	26.3
1	0510	63	1206.	92.2	39.4	*	1	1905	230	28.	20.3	29.2	*	2	0900	397	6.	4.1	26.3
1	0515	64	1092.	91.3	39.4	*	1	1910	231	27.	20.1	29.1	*	2	0905	398	6.	4.1	26.3
1	0520	65	964.	89.6	39.1	*	1	1915	232	27.	20.1	29.1	*	2	0910	399	6.	4.1	26.3
1	0525	66	831.	87.7	38.9	*	1	1920	233	26.	19.9	29.1	*	2	0915	400	6.	4.0	26.3
1	0530	67	704.	86.0	38.7	*	1	1925	234	26.	19.7	29.0	*	2	0920	401	6.	4.0	26.3
1	0535	68	588.	84.1	38.4	*	1	1930	235	26.	19.5	29.0	*	2	0925	402	6.	3.9	26.3
1	0540	69	485.	82.0	38.3	*	1	1935	236	26.	19.4	29.0	*	2	0930	403	6.	3.9	26.3
1	0545	70	400.	81.7	38.1	*	1	1940	237	25.	19.2	29.0	*	2	0935	404	5.	3.9	26.3
1	0550	71	338.	80.8	38.0	*	1	1945	238	25.	18.8	28.9	*	2	0940	405	5.	3.8	26.2
1	0555	72	309.	80.0	37.9	*	1	1950	239	25.	18.7	28.9	*	2	0945	406	5.	3.8	26.2
1	0600	73	280.	79.2	37.8	*	1	1955	240	25.	18.5	28.9	*	2	0950	407	5.	3.8	26.2
1	0605	74	253.	78.4	37.7	*	1	2000	241	25.	18.3	28.8	*	2	0955	408	5.	3.7	26.2
1	0610	75	226.	77.6	37.6	*	1	2005	242	24.	18.2	28.8	*	2	1000	409	5.	3.7	26.2
1	0615	76	200.	76.9	37.5	*	1	2010	243	24.	18.2	28.8	*	2	1005	410	5.	3.6	26.2
1	0620	77	175.	76.1	37.4	*	1	2015	244	24.	18.0	28.8	*	2	1010	411	5.	3.6	26.2
1	0625	78	151.	75.4	37.3	*	1	2020	245	24.	17.8	28.8	*	2	1015	412	5.	3.6	26.2
1	0630	79	129.	74.8	37.2	*	1	2025	246	24.	17.7	28.7	*	2	1020	413	5.	3.5	26.2
1	0635	80	109.	74.2	37.1	*	1	2030	247	23.	17.5	28.7	*	2	1025	414	5.	3.5	26.2
1	0640	81	91.	73.7	37.1	*	1	2035	248	23.	17.3	28.7	*	2	1030	415	5.	3.5	26.2
1	0645	82	77.	73.2	37.0	*	1	2040	249	23.	17.2	28.6	*	2	1035	416	5.	3.5	26.2
1	0650	83	72.	72.8	36.9	*	1	2045	250	23.	17.0	28.6	*	2	1040	417	5.	3.4	26.2
1	0655	84	76.	72.3	36.9	*	1	2050	251	23.	16.9	28.6	*	2	1045	418	5.	3.4	26.1
1	0700	85	76.	71.9	36.8	*	1	2055	252	22.	16.7	28.5	*	2	1050	419	5.	3.3	26.1
1	0705	86	75.	71.4	36.7	*	1	2100	253	22.	16.6	28.5	*	2	1055	420	5.	3.3	26.1
1	0710	87	75.	70.9	36.7	*	1	2105	254	22.	16.4	28.5	*	2	1100	421	5.	3.3	26.1
1	0715	88	74.	70.4	36.6	*	1	2110	255	22.	16.3	28.5	*	2	1105	422	5.	3.2	26.1
1	0720	89	74.	69.9	36.6	*	1	2115	256	22.	16.2	28.5	*	2	1110	423	5.	3.2	26.1
1	0725	90	74.	69.4	36.5	*	1	2120	257	21.	16.0	28.4	*	2	1115	424	4.	3.2	26.1
1	0730	91	74.	68.9	36.4	*	1	2125	258	21.	15.8	28.4	*	2	1120	425	4.	3.1	26.1
1	0735	92	73.	68.4	36.4	*	1	2130	259	21.	15.7	28.4	*	2	1125	426	4.	3.1	26.1
1	0740	93	73.	67.9	36.3	*	1	2135	260	21.	15.5	28.3	*	2	1130	427	4.	3.1	26.1
1	0745	94	73.	67.4	36.2	*	1	2140	261	21.	15.4	28.3	*	2	1135	428	4.	3.1	26.1
1	0750	95	72.	66.9	36.2	*	1	2145	262	21.	15.2	28.3	*	2	1140	429	4.	3.1	26.1
1	0755	96	72.	66.4	36.1	*	1	2150	263	20.	15.1	28.3	*	2	1145	430	4.	3.0	26.1
1	0800	97	71.	65.9	36.0	*	1	2155	264	20.	15.0	28.3	*	2	1150	431	4.	3.0	26.1
1	0805	98	71.	65.4	36.0	*	1	2200	265	20.	14.8	28.2	*	2	1155	432	4.	2.9	26.1
1	0810	99	71.	64.9	35.9	*	1	2205	266	20.	14.7	28.2	*	2	1200	433	4.	2.9	26.1
1	0815	100	70.	64.4	35.8	*	1	2210	267	20.	14.5	28.2	*	2	1205	434	4.	2.9	26.1
1	0820	101	70.	63.9	35.7	*	1	2215	268	20.	14.4	28.2	*	2	1210	435	4.	2.9	26.1
1	0825	102	70.	63.4	35.7	*	1	2220	269	19.	14.3	28.1	*	2	1215	436	4.	2.8	26.0
1	0830	103	69.	63.0	35.6	*	1	2225	270	19.	14.1	28.1	*	2	1220	437	4.	2.8	26.0
1	0835	104	69.	62.5	35.6	*	1	2230	271	19.	14.0	28.1	*	2	1225	438	4.	2.8	26.0
1	0840	105	69.	62.0	35.5	*	1	2235	272	19.	13.9	28.1	*	2	1230	439	4.	2.8	26.0
1	0845	106	68.	61.5	35.5	*	1	2240	273	19.	13.8	28.1	*	2	1235	440	4.	2.7	26.0
1	0850	107	68.	61.0	35.4	*	1	2245	274	19.	13.6	28.0	*	2	1240	441	4.	2.7	26.0
1	0855	108	68.	60.6	35.3	*	1	2250	275	18.	13.5	28.0	*	2	1245	442	4.	2.7	26.0
1	0900	109	67.	60.1	35.3	*	1	2255	276	18.	13.4	28.0	*	2	1250	443	4.	2.7	26.0
1	0905	110	67.	59.7	35.2	*	1	2300	277	18.	13.2	28.0	*	2	1255	444	4.	2.6	26.0
1	0910	111	67.	59.2	35.2	*	1	2305	278	18.	13.1	27.9	*	2	1300	445	4.	2.6	26.0
1	0915	112	66.	58.8															

PEAK FLOW	TIME		6-HR	MAXIMUM AVERAGE FLOW	72-HR	41.58-HR
+	(CFS)	(HR)				
+	5020.	3.83		288.	169.	169.
			1030.	12,188	12,397	12,397
		(INCHES)	511.	571.	580.	580.
		(AC-FT)				
PEAK STORAGE	TIME		6-HR	MAXIMUM AVERAGE STORAGE	72-HR	41.58-HR
+	(AC-FT)	(HR)				
+	133.	3.83		45.	28.	28.
			86.			
PEAK STAGE	TIME		6-HR	MAXIMUM AVERAGE STAGE	72-HR	41.58-HR
+	(FEET)	(HR)				
+	44.09	3.83		32.85	30.13	30.13
			38.63			

CUMULATIVE AREA = .83 SQ MI

HYDROGRAPH AT STATION ROBI
PLAN 1, RATIO = .98

DA	MON	HR	MIN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HR	MIN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HR	MIN	ORD	OUTFLOW	STORAGE	STAGE
1	0000	1	0.	0.	25.5	0	1	1355	168	48.	36.8	31.7	2	0350	335	11.	7.6	27.0					
1	0005	2	0.	0.	25.5	0	1	1400	169	48.	36.4	31.7	2	0355	336	11.	7.5	27.0					
1	0010	3	0.	0.	25.5	0	1	1405	170	48.	36.1	31.6	2	0400	337	11.	7.5	26.9					
1	0015	4	1.	1.	25.7	0	1	1410	171	47.	35.8	31.6	2	0405	338	10.	7.4	26.9					
1	0020	5	3.	2.4	26.0	0	1	1415	172	47.	35.5	31.5	2	0410	339	10.	7.3	26.9					
1	0025	6	6.	4.6	26.4	0	1	1420	173	47.	35.1	31.5	2	0415	340	10.	7.3	26.9					
1	0030	7	11.	7.6	27.0	0	1	1425	174	47.	34.8	31.4	2	0420	341	10.	7.2	26.9					
1	0035	8	16.	11.4	27.6	0	1	1430	175	46.	34.5	31.4	2	0425	342	10.	7.1	26.9					
1	0040	9	21.	15.5	28.3	0	1	1435	176	46.	34.2	31.3	2	0430	343	10.	7.0	26.9					
1	0045	10	26.	19.3	29.0	0	1	1440	177	46.	33.9	31.3	2	0435	344	10.	7.0	26.8					
1	0050	11	31.	22.6	29.5	0	1	1445	178	45.	33.6	31.2	2	0440	345	10.	6.9	26.8					
1	0055	12	35.	25.3	29.9	0	1	1450	179	45.	33.2	31.1	2	0445	346	10.	6.8	26.8					
1	0100	13	38.	27.4	30.3	0	1	1455	180	45.	32.9	31.1	2	0450	347	10.	6.8	26.8					
1	0105	14	40.	28.9	30.7	0	1	1500	181	45.	32.6	31.1	2	0455	348	9.	6.7	26.8					
1	0110	15	42.	30.2	30.7	0	1	1505	182	44.	32.3	31.0	2	0500	349	9.	6.6	26.8					
1	0115	16	43.	31.4	30.9	0	1	1510	183	44.	32.0	31.0	2	0505	350	9.	6.6	26.8					
1	0120	17	45.	32.6	31.1	0	1	1515	184	44.	31.7	30.9	2	0510	351	9.	6.5	26.8					
1	0125	18	46.	33.9	31.3	0	1	1520	185	43.	31.4	30.9	2	0515	352	9.	6.5	26.7					
1	0130	19	47.	35.0	31.6	0	1	1525	186	43.	31.1	30.8	2	0520	353	9.	6.4	26.7					
1	0135	20	49.	36.3	31.9	0	1	1530	187	43.	30.8	30.8	2	0525	354	9.	6.3	26.7					
1	0140	21	52.	41.3	32.4	0	1	1535	188	42.	30.5	30.7	2	0530	355	9.	6.3	26.7					
1	0145	22	55.	44.6	32.9	0	1	1540	189	42.	30.2	30.7	2	0535	356	9.	6.2	26.7					
1	0150	23	58.	48.1	33.5	0	1	1545	190	42.	29.9	30.6	2	0540	357	9.	6.1	26.7					
1	0155	24	60.	51.5	34.0	0	1	1550	191	41.	29.7	30.6	2	0545	358	9.	6.1	26.7					
1	0200	25	63.	54.5	34.4	0	1	1555	192	41.	29.4	30.5	2	0550	359	9.	6.0	26.7					
1	0205	26	65.	57.0	34.8	0	1	1600	193	40.	29.1	30.5	2	0555	360	8.	6.0	26.6					
1	0210	27	67.	59.2	35.2	0	1	1605	194	40.	28.8	30.4	2	0600	361	8.	5.9	26.6					
1	0215	28	68.	61.6	35.5	0	1	1610	195	40.	28.5	30.4	2	0605	362	8.	5.9	26.6					
1	0220	29	71.	64.2	35.8	0	1	1615	196	39.	28.3	30.4	2	0610	363	8.	5.8	26.6					
1	0225	30	73.	67.8	36.3	0	1	1620	197	39.	28.0	30.4	2	0615	364	8.	5.7	26.6					
1	0230	31	75.	71.4	36.8	0	1	1625	198	39.	27.7	30.3	2	0620	365	8.	5.7	26.6					
1	0235	32	131.	74.9	37.2	0	1	1630	199	38.	27.5	30.3	2	0625	366	8.	5.6	26.6					
1	0240	33	233.	77.8	37.6	0	1	1635	200	38.	27.2	30.2	2	0630	367	8.	5.6	26.6					
1	0245	34	321.	80.3	37.9	0	1	1640	201	38.	26.9	30.2	2	0635	368	8.	5.5	26.6					
1	0250	35	436.	82.8	38.2	0	1	1645	202	37.	26.7	30.1	2	0640	369	8.	5.5	26.6					
1	0255	36	509.	83.3	38.3	0	1	1650	203	37.	26.4	30.1	2	0645	370	8.	5.4	26.5					
1	0300	37	538.	83.7	38.4	0	1	1655	204	37.	26.2	30.1	2	0650	371	8.	5.4	26.5					
1	0305	38	577.	84.2	38.4	0	1	1700	205	36.	25.9	30.0	2	0655	372	7.	5.3	26.5					
1	0310	39	672.	85.5	38.6	0	1	1705	206	36.	25.7	30.0	2	0700	373	7.	5.2	26.5					
1	0315	40	856.	88.1	38.9	0	1	1710	207	36.	25.4	30.0	2	0705	374	7.	5.2	26.5					
1	0320	41	1192.	92.7	39.5	0	1	1715	208	35.	25.2	29.9	2	0710	375	7.	5.1	26.5					
1	0325	42	1781.	100.1	40.4	0	1	1720	209	35.	24.9	29.9	2	0715	376	7.	5.1	26.5					
1	0330	43	2623.	109.7	41.5	0	1	1725	210	35.	24.7	29.8	2	0720	377	7.	5.0	26.5					
1	0335	44	3609.	119.8	42.6	0	1	1730	211	34.	24.5	29.8	2	0725	378	7.	5.0	26.5					
1	0340	45	4403.	127.2	43.4	0	1	1735	212	34.	24.2	29.7	2	0730	379	7.	4.9	26.4					
1	0345	46	4815.	131.1	43.9	0	1	1740	213	33.	24.0	29.7	2	0735	380	7.	4.9	26.4					
1	0350	47	4912.	132.0	44.0	0	1	1745	214	33.	23.8	29.7	2	0740	381	7.	4.8	26.4					
1	0355	48	4720.	130.2	43.8	0	1	1750	215	33.	23.5	29.7	2	0745	382	7.	4.8	26.4					
1	0400	49	4323.	126.5	43.4	0	1	1755	216	32.	23.3	29.6	2	0750	383	7.	4.8	26.4					
1	0405	50	3823.	121.8	42.8	0	1	1800	217	32.	23.1	29.6	2	0755	384	7.	4.7	26.4					
1	0410	51	3275.	116.7	42.3	0	1	1805	218	32.	22.9	29.6	2	0800	385	7.	4.7	26.4					
1	0415	52	2778.	111.1	41.7	0	1	1810	219	31.	22.7	29.5	2	0805	386	7.	4.6	26.4					
1	0420	53	2359.	106.7	41.2	0	1	1815	220	31.	22.5	29.5	2	0810	387	6.	4.6	26.4					
1	0425	54	1997.	102.5	40.7	0	1	1820	221	30.	22.2	29.5	2	0815	388	6.	4.6	26.4					
1	0430	55	1723.	99.4	40.4	0	1	1825	222	30.	22.0	29.4	2	0820	389	6.	4.5	26.4					
1	0435	56	1550.	97.4	40.1	0	1	1830	223	30.	21.8	29.4	2	0825	390	6.	4.5	26.4					
1	0440	57	1450.	96.3	40.0	0	1	1835	224	29.	21.6	29.4	2	0830	391	6.	4.4	26.4					
1	0445	58	1393.	95.5	39.9	0	1	1840	225	29.	21.4	29.3	2	0835	392	6.	4.4	26.4					
1	0450	59	1361.	95.1	39.8	0	1	1845	226	29.	21.2	29.3	2	0840	393	6.	4.3	26.3					
1	0455	60	1350.	94.9	39.8	0	1	1850	227	28.	21.0	29.3	2	0845	394	6.	4.3	26.3					
1	0500	61	1326.	94.6	39.8	0	1	1855	228	28.	20.8	29.2	2	0850	395	6.	4.3	26.3					
1	0505	62	1170.	93.8	39.7	0	1	1900	229	28.	20.6	29.2	2	0855	396	6.	4.2	26.3					
1	0510	63	1182.	92.6	39.5	0	1	1905	230	28.	20.4	29.2	2	0900	397	6.	4.2	26.3					
1	0515	64	1070.	91.0	39.3	0	1	1910	231	27.	20.2	29.1	2	0905	398	6.	4.1	26.3					
1	0520	65	944.	89.3	39.1	0	1	1915	232	27.	20.1	29.1	2	0910	399	6.	4.1	26.3					
1	0525	66	814.	87.3	38.9	0	1	1920	233	27.	19.9	29.1	2	0915	400	6.	4.1	26.3					
1	0530	67	690.	85.3	38.6	0	1	1925	23														

										PHF, OUT									
1	0855	108	68.	60.6	35.3	*	1	2250	275	18.	13.5	28.0	*	2	1245	442	4.	2.7	26.0
1	0900	109	67.	60.1	35.3	*	1	2255	276	18.	13.4	28.0	*	2	1250	443	4.	2.7	26.0
1	0905	110	67.	59.6	35.2	*	1	2300	277	18.	13.2	28.0	*	2	1255	444	4.	2.6	26.0
1	0910	111	67.	59.2	35.1	*	1	2305	278	18.	13.1	27.9	*	2	1300	445	4.	2.6	26.0
1	0915	112	66.	58.7	35.1	*	1	2310	279	18.	13.0	27.9	*	2	1305	446	4.	2.6	26.0
1	0920	113	66.	58.2	35.0	*	1	2315	280	18.	12.9	27.9	*	2	1310	447	4.	2.6	26.0
1	0925	114	66.	57.8	35.0	*	1	2320	281	17.	12.7	27.9	*	2	1315	448	4.	2.5	26.0
1	0930	115	65.	57.3	34.9	*	1	2325	282	17.	12.6	27.8	*	2	1320	449	4.	2.5	26.0
1	0935	116	65.	56.9	34.8	*	1	2330	283	17.	12.5	27.8	*	2	1325	450	4.	2.5	26.0
1	0940	117	65.	56.5	34.8	*	1	2335	284	17.	12.4	27.8	*	2	1330	451	3.	2.5	26.0
1	0945	118	64.	56.0	34.7	*	1	2340	285	17.	12.3	27.8	*	2	1335	452	3.	2.4	26.0
1	0950	119	64.	55.6	34.6	*	1	2345	286	17.	12.2	27.8	*	2	1340	453	3.	2.4	26.0
1	0955	120	64.	55.1	34.6	*	1	2350	287	16.	12.0	27.8	*	2	1345	454	3.	2.4	26.0
1	1000	121	63.	54.7	34.5	*	1	2355	288	16.	11.9	27.7	*	2	1350	455	3.	2.4	26.0
1	1005	122	63.	54.3	34.4	*	2	0000	289	16.	11.8	27.7	*	2	1355	456	3.	2.3	25.9
1	1010	123	62.	53.8	34.3	*	2	0005	290	16.	11.7	27.7	*	2	1400	457	3.	2.3	25.9
1	1015	124	62.	53.4	34.3	*	2	0010	291	16.	11.6	27.7	*	2	1405	458	3.	2.3	25.9
1	1020	125	62.	53.0	34.2	*	2	0015	292	16.	11.5	27.6	*	2	1410	459	3.	2.3	25.9
1	1025	126	61.	52.5	34.2	*	2	0020	293	16.	11.4	27.6	*	2	1415	460	3.	2.2	25.9
1	1030	127	61.	52.1	34.1	*	2	0025	294	15.	11.3	27.6	*	2	1420	461	3.	2.2	25.9
1	1035	128	61.	51.7	34.0	*	2	0030	295	15.	11.2	27.6	*	2	1425	462	3.	2.2	25.9
1	1040	129	60.	51.3	34.0	*	2	0035	296	15.	11.1	27.6	*	2	1430	463	3.	2.2	25.9
1	1045	130	60.	50.9	33.9	*	2	0040	297	15.	11.0	27.5	*	2	1435	464	3.	2.2	25.9
1	1050	131	60.	50.5	33.8	*	2	0045	298	15.	10.9	27.5	*	2	1440	465	3.	2.1	25.9
1	1055	132	59.	50.1	33.8	*	2	0050	299	15.	10.8	27.5	*	2	1445	466	3.	2.1	25.9
1	1100	133	59.	49.6	33.7	*	2	0055	300	15.	10.7	27.5	*	2	1450	467	3.	2.1	25.9
1	1105	134	59.	49.2	33.6	*	2	0100	301	15.	10.6	27.5	*	2	1455	468	3.	2.1	25.9
1	1110	135	58.	48.8	33.6	*	2	0105	302	14.	10.5	27.5	*	2	1500	469	3.	2.1	25.9
1	1115	136	58.	48.4	33.5	*	2	0110	303	14.	10.4	27.5	*	2	1505	470	3.	2.1	25.9
1	1120	137	58.	48.0	33.5	*	2	0115	304	14.	10.3	27.4	*	2	1510	471	3.	2.0	25.9
1	1125	138	57.	47.6	33.4	*	2	0120	305	14.	10.2	27.4	*	2	1515	472	3.	2.0	25.9
1	1130	139	57.	47.3	33.3	*	2	0125	306	14.	10.1	27.4	*	2	1520	473	3.	2.0	25.9
1	1135	140	57.	46.9	33.3	*	2	0130	307	14.	10.0	27.4	*	2	1525	474	3.	2.0	25.9
1	1140	141	56.	46.5	33.2	*	2	0135	308	14.	9.9	27.4	*	2	1530	475	3.	2.0	25.9
1	1145	142	56.	46.1	33.2	*	2	0140	309	14.	9.8	27.4	*	2	1535	476	3.	1.9	25.9
1	1150	143	56.	45.7	33.1	*	2	0145	310	13.	9.7	27.3	*	2	1540	477	3.	1.9	25.9
1	1155	144	55.	45.3	33.0	*	2	0150	311	13.	9.6	27.3	*	2	1545	478	3.	1.9	25.9
1	1200	145	55.	44.9	33.0	*	2	0155	312	13.	9.5	27.3	*	2	1550	479	3.	1.9	25.9
1	1205	146	55.	44.6	32.9	*	2	0200	313	13.	9.4	27.3	*	2	1555	480	3.	1.9	25.9
1	1210	147	54.	44.2	32.9	*	2	0205	314	13.	9.3	27.3	*	2	1600	481	3.	1.8	25.9
1	1215	148	54.	43.8	32.8	*	2	0210	315	13.	9.2	27.3	*	2	1605	482	3.	1.8	25.9
1	1220	149	54.	43.4	32.7	*	2	0215	316	13.	9.1	27.2	*	2	1610	483	3.	1.8	25.8
1	1225	150	53.	43.1	32.7	*	2	0220	317	13.	9.0	27.2	*	2	1615	484	3.	1.8	25.8
1	1230	151	53.	42.7	32.6	*	2	0225	318	13.	8.9	27.2	*	2	1620	485	3.	1.8	25.8
1	1235	152	53.	42.3	32.6	*	2	0230	319	12.	8.8	27.2	*	2	1625	486	2.	1.7	25.8
1	1240	153	53.	42.0	32.5	*	2	0235	320	12.	8.7	27.2	*	2	1630	487	2.	1.7	25.8
1	1245	154	52.	41.6	32.5	*	2	0240	321	12.	8.6	27.2	*	2	1635	488	2.	1.7	25.8
1	1250	155	52.	41.3	32.4	*	2	0245	322	12.	8.5	27.1	*	2	1640	489	2.	1.7	25.8
1	1255	156	52.	40.9	32.3	*	2	0250	323	12.	8.4	27.1	*	2	1645	490	2.	1.7	25.8
1	1300	157	51.	40.5	32.3	*	2	0255	324	12.	8.3	27.1	*	2	1650	491	2.	1.7	25.8
1	1305	158	51.	40.2	32.2	*	2	0300	325	12.	8.2	27.1	*	2	1655	492	2.	1.6	25.8
1	1310	159	51.	39.8	32.2	*	2	0305	326	12.	8.1	27.1	*	2	1700	493	2.	1.6	25.8
1	1315	160	50.	39.5	32.1	*	2	0310	327	12.	8.0	27.1	*	2	1705	494	2.	1.6	25.8
1	1320	161	50.	39.1	32.1	*	2	0315	328	11.	8.1	27.1	*	2	1710	495	2.	1.6	25.8
1	1325	162	50.	38.8	32.0	*	2	0320	329	11.	8.1	27.1	*	2	1715	496	2.	1.6	25.8
1	1330	163	50.	38.5	32.0	*	2	0325	330	11.	8.0	27.0	*	2	1720	497	2.	1.6	25.8
1	1335	164	49.	38.1	31.9	*	2	0330	331	11.	7.9	27.0	*	2	1725	498	2.	1.5	25.8
1	1340	165	49.	37.8	31.9	*	2	0335	332	11.	7.8	27.0	*	2	1730	499	2.	1.5	25.8
1	1345	166	49.	37.4	31.8	*	2	0340	333	11.	7.7	27.0	*	2	1735	500	2.	1.5	25.8
1	1350	167	48.	37.1	31.8	*	2	0345	334	11.	7.7	27.0	*	2					

PEAK FLOW		TIME		6-HR		MAXIMUM AVERAGE FLOW		41.58-HR	
+ (CFS)		(HR)		(CFS)		24-HR		72-HR	
+ 4912.		3.83		(INCHES)		1004.		165.	
				(AC-FT)		10,635		12,118	
						498.		567.	
PEAK STORAGE		TIME		6-HR		MAXIMUM AVERAGE STORAGE		41.58-HR	
+ (AC-FT)		(HR)				24-HR		72-HR	
+ 132.		3.83				86.		28.	
PEAK STAGE		TIME		6-HR		MAXIMUM AVERAGE STAGE		41.58-HR	
+ (FEET)		(HR)				24-HR		72-HR	
+ 43.98		3.83				38.57		30.11	
CUMULATIVE AREA =						.88 SQ MI			

1
PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION	
				RATIO 1 1.00	RATIO 2 .98
HYDROGRAPH AT +	OFF1	.41	1 FLOW TIME	2662. 3.75	2605. 3.75
HYDROGRAPH AT +	OFF7	.03	1 FLOW TIME	271. 3.50	266. 3.50
2 COMBINED AT +	CP2	.44	1 FLOW TIME	2804. 3.75	2745. 3.75
HYDROGRAPH AT +	OFF2	.04	1 FLOW TIME	323. 3.58	316. 3.58
HYDROGRAPH AT +	OFF3	.03	1 FLOW TIME	247. 3.50	241. 3.50
3 COMBINED AT +	CP1	.50	1 FLOW TIME	3128. 3.75	3062. 3.75
HYDROGRAPH AT +	OFF4	.06	1 FLOW TIME	538. 3.58	526. 3.58
HYDROGRAPH AT +	OFF5	.26	1 FLOW TIME	1549. 3.83	1516. 3.83
HYDROGRAPH AT +	OFF6	.04	1 FLOW TIME	370. 3.58	363. 3.58
HYDROGRAPH AT +	ON1	.03	1 FLOW TIME	252. 3.50	246. 3.50
5 COMBINED AT +	DB1	.88	1 FLOW TIME	5296. 3.67	5184. 3.67

PMF.OUT

ROUTED TO	RDB1	.88	1	FLOW	5020.	4912.
+				TIME	3.83	3.83
				** PEAK STAGES IN FEET **		
			1	STAGE	44.09	43.98
				TIME	3.83	3.83

*** NORMAL END OF HEC-1 ***

Detention Basin 2 Computations

Outlet Orifice Calculation

27-inch Orifice Discharge Curve Rating Table for Circular Orifice

Project Description	
Worksheet	Outfall
Type	Circular Orifice
Solve For	Discharge

Input Data	
Centroid Elevation	2,994.13 ft
Tailwater Elevation	2,995.25 ft
Discharge Coefficient	0.65
Diameter	27.0 in

Attribute	Minimum	Maximum	Increment
Headwater Elevation (ft)	2,993.00	3,009.00	1.00

Headwater Elevation (ft)	Discharge (cfs)	Velocity (ft/s)
2,993.00	N/A	N/A
2,994.00	N/A	N/A
2,995.00	N/A	N/A
2,996.00	17.95	4.52
2,997.00	27.43	6.90
2,998.00	34.38	8.65
2,999.00	40.15	10.10
3,000.00	45.18	11.36
3,001.00	49.71	12.50
3,002.00	53.86	13.55
3,003.00	57.71	14.52
3,004.00	61.33	15.42
3,005.00	64.73	16.28
3,006.00	67.97	17.10
3,007.00	71.06	17.87
3,008.00	74.03	18.62
3,009.00	76.88	19.33

Inflow Debris Volume

TABLE 14.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Clay	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
								K	T	
	In	Pct	In/hr	In/in	pH	Mmhos/cm				
140----- Casaga	0-1	20-30	0.2-0.6	0.08-0.10	>8.4	8-16	Moderate-----	0.10	5	7
	1-21	27-35	0.06-0.2	0.19-0.21	>8.4	4-8	Moderate-----	0.32		
	21-41	27-35	0.2-0.6	0.08-0.11	>8.4	4-8	Moderate-----	0.17		
	41-60	8-18	2.0-6.0	0.06-0.10	7.4-9.0	8-16	Low-----	0.10		
150----- Cave	0-6	10-20	0.6-2.0	0.06-0.10	7.4-8.4	<2	Low-----	0.10	1	5
	6-60	---	---	---	---	---	---	---		
151----- Cave	0-5	3-8	6.0-20	0.09-0.11	7.9-8.4	2-4	Low-----	0.17	1	2
	5-11	10-20	0.6-2.0	0.07-0.12	7.9-8.4	2-4	Low-----	0.24		
	11-60	---	---	---	---	---	---	---		
152----- Cave	0-12	10-20	0.6-2.0	0.07-0.12	7.9-8.4	2-4	Low-----	0.20	1	4L
	12-36	---	---	---	---	---	---	---		
	36-60	2-5	2.0-6.0	0.04-0.06	7.9-8.4	<4	Low-----	0.10		
155----- Cave	0-15	10-20	0.6-2.0	0.07-0.12	7.9-8.4	2-4	Low-----	0.20	1	4L
	15-60	---	---	---	---	---	---	---		
160----- Destazo	0-11	8-18	2.0-6.0	0.10-0.12	7.9-8.4	<4	Low-----	0.17	5	8
	11-40	20-35	0.2-0.6	0.05-0.10	7.9-8.4	<4	Low-----	0.10		
	40-60	15-20	2.0-6.0	0.09-0.11	7.9-8.4	<4	Low-----	0.17		
181*: Caliza-----	0-2	4-10	2.0-6.0	0.05-0.08	7.9-8.4	<2	Low-----	0.05	5	6
	2-14	3-8	2.0-6.0	0.05-0.09	7.9-8.4	<2	Low-----	0.10		
	14-60	2-8	6.0-20	0.03-0.07	7.9-8.4	<2	Low-----	0.05		
Pittman-----	0-2	5-15	6.0-20	0.04-0.08	7.4-8.4	<2	Low-----	0.10	2	8
	2-23	2-12	6.0-20	0.04-0.08	7.9-8.4	<2	Low-----	0.17		
	23-32	---	---	---	---	---	---	---		
	32-50	---	---	---	---	---	---	---		
	50-60	0-5	6.0-20	0.03-0.06	7.4-8.4	<8	Low-----	0.05		
182*: Caliza-----	0-2	4-10	2.0-6.0	0.05-0.08	7.9-8.4	<2	Low-----	0.05	5	6
	2-14	3-8	2.0-6.0	0.05-0.09	7.9-8.4	<2	Low-----	0.10		
	14-60	2-8	6.0-20	0.03-0.07	7.9-8.4	<2	Low-----	0.05		
Pittman-----	0-2	5-15	6.0-20	0.04-0.06	7.4-8.4	<2	Low-----	0.10	2	8
	2-23	2-12	6.0-20	0.04-0.08	7.9-8.4	<2	Low-----	0.17		
	23-32	---	---	---	---	---	---	---		
	32-50	---	---	---	---	---	---	---		
	50-60	0-5	6.0-20	0.03-0.06	7.4-8.4	<8	Low-----	0.05		
Arizo-----	0-8	2-8	6.0-20	0.04-0.06	7.4-9.0	<2	Low-----	0.15	5	4
	8-60	0-5	>20	0.04-0.06	7.4-9.0	<2	Low-----	0.10		
183----- Caliza	0-3	2-6	6.0-20	0.04-0.07	7.9-8.4	<2	Low-----	0.05	5	5
	3-60	2-8	2.0-6.0	0.03-0.07	7.9-8.4	<2	Low-----	0.05		
184----- Caliza	0-3	5-10	2.0-6.0	0.05-0.07	7.9-8.4	<2	Low-----	0.10	5	5
	3-16	5-10	2.0-6.0	0.05-0.08	7.9-8.4	<2	Low-----	0.05		
	16-60	3-8	6.0-20	0.03-0.06	7.9-8.4	<2	Low-----	0.10		
187----- Caliza	0-2	4-10	2.0-6.0	0.05-0.08	7.9-8.4	<2	Low-----	0.05	5	6
	2-14	3-8	2.0-6.0	0.05-0.09	7.9-8.4	<2	Low-----	0.10		
	14-60	2-8	6.0-20	0.03-0.07	7.9-8.4	<2	Low-----	0.05		
190----- Dalian	0-4	5-10	2.0-6.0	0.05-0.09	7.9-8.4	<2	Low-----	0.15	5	5
	4-61	3-12	2.0-6.0	0.05-0.09	7.9-8.4	<2	Low-----	0.15		
191----- Dalian	0-5	5-10	2.0-6.0	0.05-0.09	7.9-8.4	<2	Low-----	0.15	5	8
	5-60	3-12	2.0-6.0	0.05-0.09	7.9-8.4	<2	Low-----	0.15		
192*: Dalian-----	0-5	5-10	2.0-6.0	0.05-0.09	7.9-8.4	<2	Low-----	0.15	5	5
	5-60	3-12	2.0-6.0	0.05-0.09	7.9-8.4	<2	Low-----	0.15		

See footnote at end of table.

TABLE 14.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

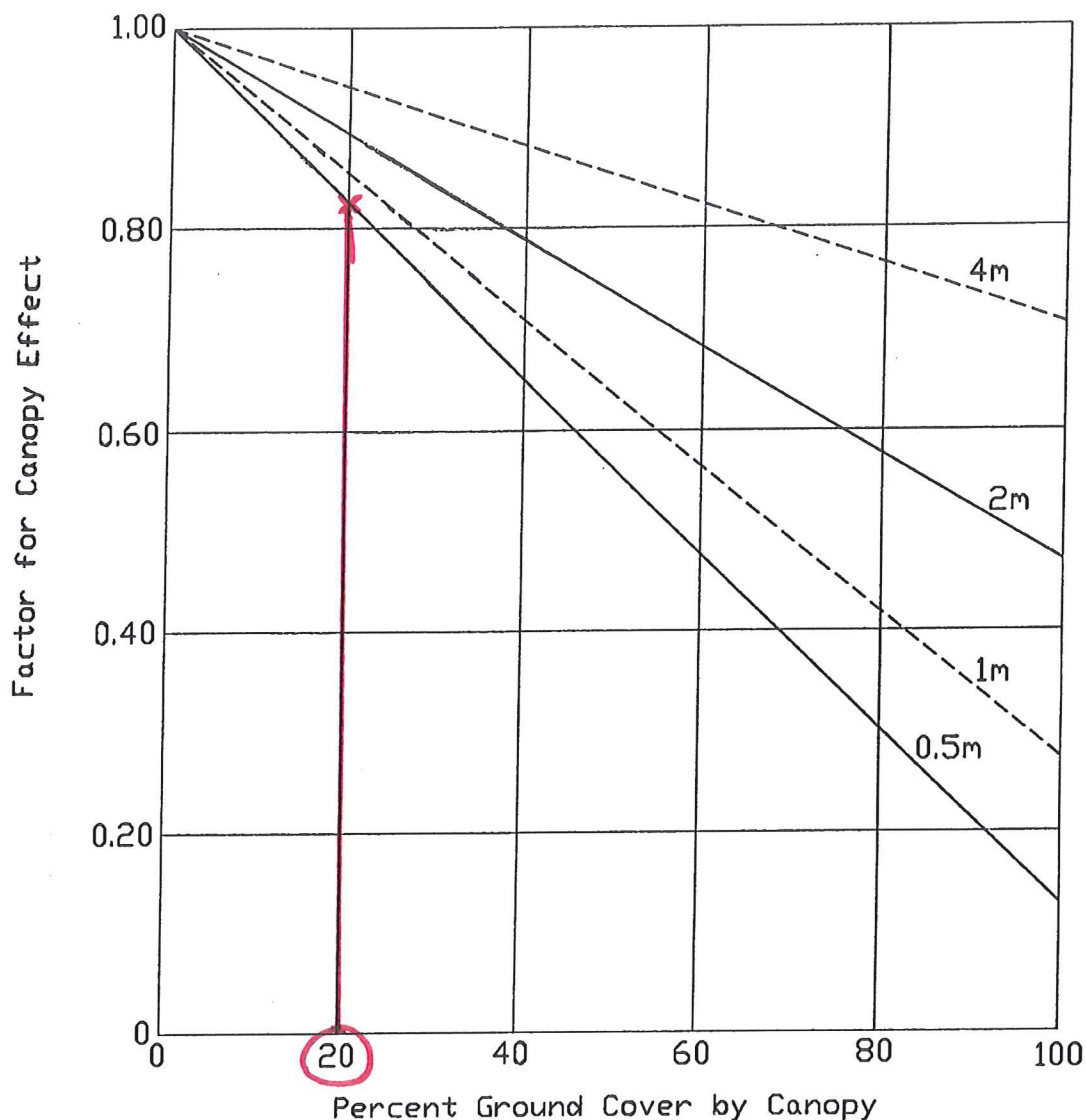
Soil name and map symbol	Depth	Clay	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group
								K	T	
	In	Pct	In/hr	In/in	pH	Mmhos/cm				
400----- Tencee	0-5 5-15 15-60	10-20 10-20 ---	2.0-6.0 0.6-2.0 ---	0.05-0.07 0.05-0.08 ---	7.9-8.4 7.9-8.4 ---	<2 <2 ---	Low----- Low----- ---	0.15 0.15 ---	1	8
415----- Aztec	0-2 2-30 30-60	6-12 3-15 ---	2.0-6.0 0.2-0.6 ---	0.06-0.08 0.06-0.08 ---	7.4-9.0 7.4-9.0 ---	<2 4-8 ---	Low----- Low----- ---	0.10 0.15 ---	5	6
417*: Aztec	0-4 4-30 30-60	6-12 3-15 ---	2.0-6.0 0.2-0.6 ---	0.06-0.08 0.06-0.08 ---	7.4-9.0 7.4-9.0 ---	<2 4-8 ---	Low----- Low----- ---	0.10 0.15 ---	5	6
Rock outcrop.										
418*: Aztec	0-4 4-30 30-60	3-12 3-15 ---	2.0-20 0.2-0.6 ---	0.06-0.10 0.06-0.08 ---	7.4-9.0 7.4-9.0 ---	<2 4-8 ---	Low----- Low----- ---	0.17 0.15 ---	5	3
Nickel-----	0-9 9-23 23-45 45	4-12 6-15 2-10 ---	2.0-6.0 0.2-0.6 2.0-6.0 ---	0.06-0.10 0.04-0.07 0.04-0.08 ---	7.9-9.0 7.9-9.0 7.9-9.0 ---	<2 <2 <2 ---	Low----- Low----- Low----- ---	0.15 0.05 0.05 ---	5	4
Knob Hill-----	0-7 7-23 23-37 37-60	3-8 3-10 3-10 3-8	6.0-20 2.0-6.0 2.0-6.0 6.0-20	0.06-0.08 0.06-0.08 0.06-0.08 0.05-0.07	7.9-8.4 7.9-8.4 7.9-9.0 7.9-9.0	<2 <2 <4 <4	Low----- Low----- Low----- Low-----	0.17 0.17 0.17 0.17	5	2
419*: Aztec	0-4 4-60	3-12 3-15	2.0-20 0.2-0.6	0.06-0.10 0.06-0.08	7.4-9.0 7.4-9.0	<2 4-8	Low----- Low-----	0.17 0.15	5	3
Bracken-----	0-1 1-60	4-10 ---	2.0-6.0 ---	0.06-0.11 ---	7.4-8.4 ---	<2 ---	Low----- ---	0.10 ---	4	6
430----- Knob Hill	0-7 7-23 23-37 37-60	3-8 3-10 3-10 3-8	6.0-20 2.0-6.0 2.0-6.0 6.0-20	0.06-0.08 0.06-0.08 0.06-0.08 0.05-0.07	7.9-8.4 7.9-8.4 7.9-9.0 7.9-9.0	<2 <2 <4 <4	Low----- Low----- Low----- Low-----	0.17 0.17 0.17 0.17	5	2
440----- Nickel	0-9 9-23 23-45 45	4-12 6-15 2-10 ---	2.0-6.0 0.2-0.6 2.0-6.0 ---	0.04-0.08 0.04-0.07 0.04-0.08 ---	7.9-9.0 7.9-9.0 7.9-9.0 ---	<2 <2 <2 ---	Low----- Low----- Low----- ---	0.10 0.05 0.05 ---	5	5
450----- Cave Variant	0-2 2-11 11-29 29-40 40-60	7-15 7-18 --- 12-30 5-10	2.0-6.0 2.0-6.0 --- 0.6-2.0 2.0-6.0	0.06-0.09 0.04-0.08 --- 0.10-0.14 0.05-0.09	7.9-8.4 7.9-8.4 --- 7.9-8.4 7.4-7.8	<2 <2 --- 8-16 8-16	Low----- Low----- --- Moderate----- Low-----	0.17 0.17 --- 0.24 0.15	1	5
481----- Hobog	0-4 4-13 13	1-5 12-25 ---	6.0-20 0.6-2.0 ---	0.08-0.10 0.04-0.06 ---	7.4-8.4 7.4-9.0 ---	<2 <2 ---	Low----- Low----- ---	0.17 0.20 ---	1	2
484----- Hobog	0-9 9-15 15	9-21 9-21 ---	0.6-2.0 0.6-2.0 ---	0.04-0.06 0.04-0.06 ---	7.4-9.0 7.4-9.0 ---	<2 <2 ---	Low----- Low----- ---	0.10 0.17 ---	1	8
500*: Canutio-----	0-4 4-43 43	5-12 5-10 ---	2.0-6.0 2.0-6.0 ---	0.05-0.08 0.04-0.08 ---	7.4-8.4 7.4-8.4 ---	<2 <2 ---	Low----- Low----- ---	0.10 0.10 ---	3	8
Akela-----	0-3 3-11 11-60	5-12 6-10 ---	0.6-2.0 0.6-2.0 ---	0.04-0.09 0.04-0.09 ---	7.4-8.4 7.4-8.4 ---	<2 <2 ---	Low----- Low----- ---	0.17 0.17 ---	1	5

See footnote at end of table.

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

INFLUENCE OF VEGETAL CANOPY (C_1)

$$C_1 = 0.82$$



ESTIMATED 20% GROUND COVER @ 0.5m HIGH CANOPY
 PER TABLE 602 4 OF 4 DESERT SHRUB - POOR
 CONDITION (< 30% GROUND COVER)

Revision	Date

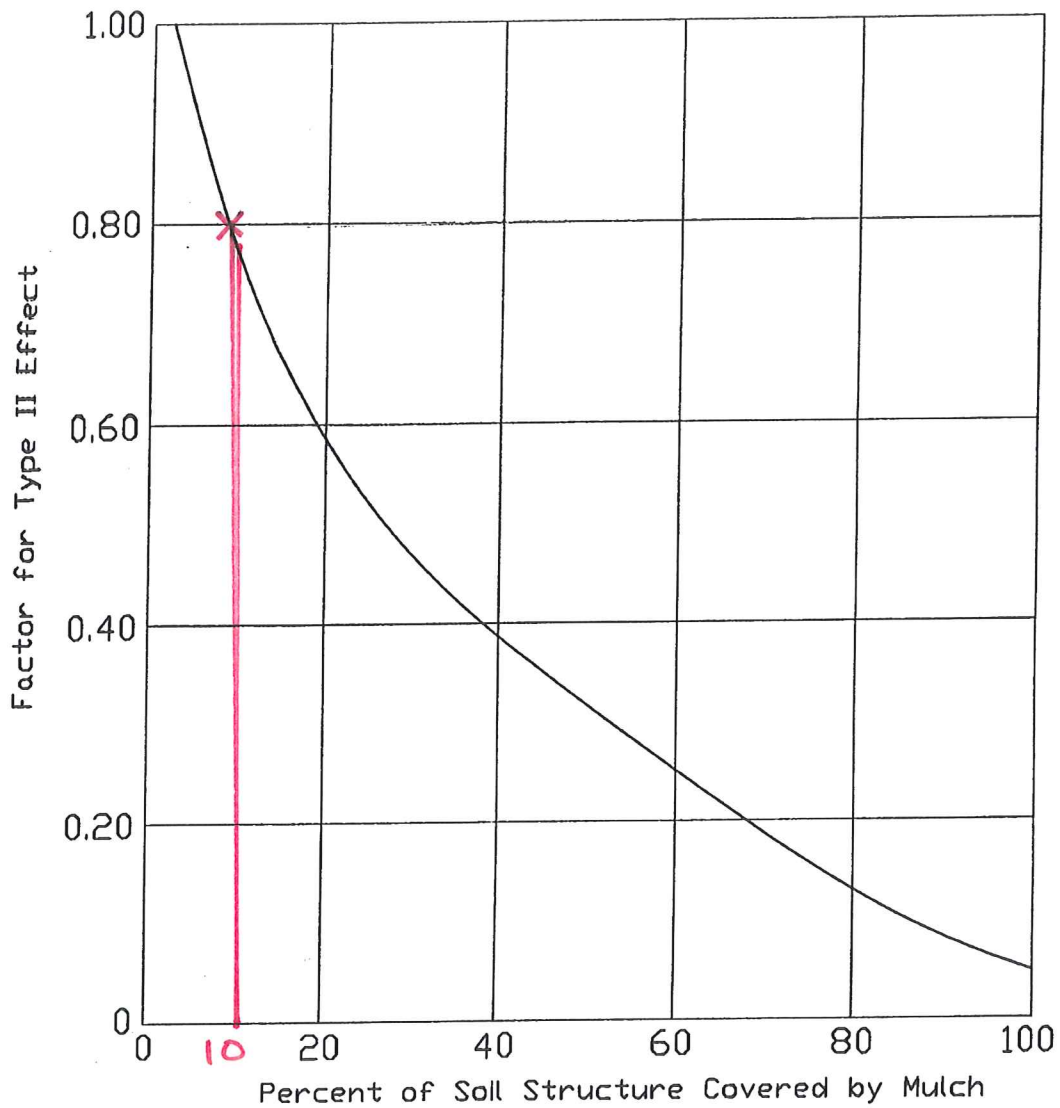
REFERENCE: A Soil-Erodibility Nomograph
 for Farmland and Construction Sites, 1971

FIGURE 1303b

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

EFFECT OF PLANT RESIDUES OR CLOSE-GROWING STEMS AT THE SOIL SURFACE (C₁₁)

$$C_{11} = 0.80$$



ESTIMATED 10% MULCH

Revision	Date

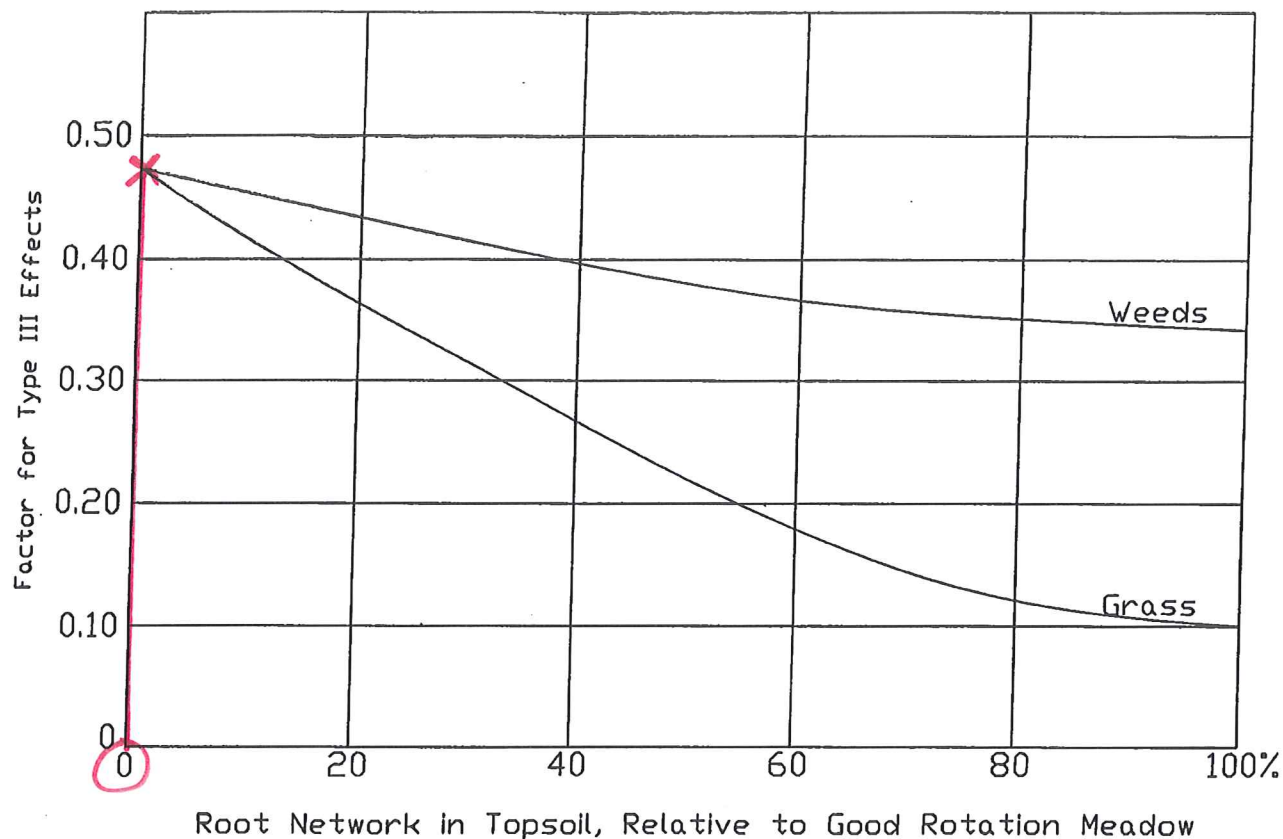
REFERENCE: Estimating the Cover and Management Factor for Undisturbed Areas, 1972

FIGURE 1303c

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

TYPE III EFFECTS ON UNDISTURBED LAND AREAS (C_{III})

$$C_{III} = 0.48$$



0% ROOTS IN TOP SOIL, NO TREES

Revision	Date

REFERENCE: Estimating the Cover and Management Factor for Undisturbed Areas, 1972

FIGURE 1303d

Modified Universal Soil Loss Equation

BY: ETM
DATE: 10/15/2014

$$Y_s = 95(VQ_p)^{0.56} K(LS)CP$$

Eqn. 1307

Basin/Concentration Point =

OFF7

Runoff Volume (V) =

1 ac-ft

(From HEC-1)

Peak Flow (Q_p) =

10 cfs

(From HEC-1)

Soil Erodibility Factor (K) =

0.20

(See Composite K Calcs)

Topographic Factor (LS) =

1.43

$$LS = (X_r)^{0.5} (0.0076 + 0.53S_0 + 7.6S_0^2)$$

Eqn. 1303

Runoff Length (X_r) =

932 ft

(From Standard Form 4)

Runoff Slope (S₀) =

0.045 ft/ft

(From Standard Form 4)

Cropping Management Factor (C) =

0.31

$$C = C_I C_{II} C_{III}$$

Eqn. 1304

Canopy Cover (C_I) =

0.82

Fig. 1303b

Mulch/Vegetation on Soil Surface (C_{II}) =

0.80

Fig. 1303c

Tillage and Land Use (C_{III}) =

0.48

Fig. 1303d

Conservation Practice Factor (P) =

1.0

Sediment Yield (Y_s) =

31.0615784 tons

Sediment Volume =

0.02 ac-ft (based on assumed soil weight of 93 pcf)



Soil Erodibility Factor Calculations

BY: ETM
DATE: 10/15/2014

Basin/Concentration Point = OFF7

Soil Type 1 Breakdown = 100% %

Soil Type 1 Erosion Factor (K_w) = 0.20

Soil Type 155 (From Soils Exhibit)

Soil Type 155 (From Soil Properties)

Composite Soil Erodibility Factor (K) = 0.200

Modified Universal Soil Loss Equation

BY: ETM
DATE: 10/15/2014

Basin/Concentration Point =	<u>OFF8</u>	$Y_s = 95(VQ_P)^{0.56} K(LS)CP$	Eqn. 1307
Runoff Volume (V) =	<u>19</u> ac-ft		(From HEC-1)
Peak Flow (Q _P) =	<u>230</u> cfs		(From HEC-1)
Soil Erodibility Factor (K) =	<u>0.195</u>		(See Composite K Calcs)
Topographic Factor (LS) =	<u>3.71</u>	$LS = (X_r)^{0.5} (0.0076 + 0.53S_0 + 7.6S_0^2)$	Eqn. 1303
Runoff Length (X _r) =	<u>8522</u> ft		(From Standard Form 4)
Runoff Slope (S ₀) =	<u>0.0393</u> ft/ft		(From Standard Form 4)
Cropping Management Factor (C) =	<u>0.31</u>	$C = C_I C_{II} C_{III}$	Eqn. 1304
Canopy Cover (C _I) =	<u>0.82</u>		Fig. 1303b
Mulch/Vegetation on Soil Surface (C _{II}) =	<u>0.80</u>		Fig. 1303c
Tillage and Land Use (C _{III}) =	<u>0.48</u>		Fig. 1303d
Conservation Practice Factor (P) =	<u>1.0</u>		

Sediment Yield (Y_s) = 2364.36434 **tons**

Sediment Volume = 1.18 **ac-ft** (based on assumed soil weight of 93 pcf)

Soil Erodibility Factor Calculations

BY: ETM
DATE: 10/15/2014

Basin/Concentration Point = OFF8

Soil Type 1 Breakdown = 90.9% %
Soil Type 2 Breakdown = 9.1% %

Soil Type 1 Erosion Factor (K_w) = 0.20
Soil Type 2 Erosion Factor (K_w) = 0.15

Soil Type 155 (From Soils Exhibit)
Soil Type 400 (From Soils Exhibit)

Soil Type 155 (From Soil Properties)
Soil Type 400 (From Soil Properties)

Composite Soil Erodibility Factor (K) = 0.195

Modified Universal Soil Loss Equation

BY: ETM
DATE: 10/15/2014

Basin/Concentration Point =	<u>OFF9</u>	$Y_s = 95(VQ_P)^{0.56} K(LS)CP$	Eqn. 1307
Runoff Volume (V) =	<u>10</u> ac-ft		(From HEC-1)
Peak Flow (Q _P) =	<u>144</u> cfs		(From HEC-1)
Soil Erodibility Factor (K) =	<u>0.20</u>		(See Composite K Calcs)
Topographic Factor (LS) =	<u>3.22</u>	$LS = (X_r)^{0.5} (0.0076 + 0.53S_0 + 7.6S_0^2)$	Eqn. 1303
Runoff Length (X _r) =	<u>5406</u> ft		(From Standard Form 4)
Runoff Slope (S ₀) =	<u>0.0425</u> ft/ft		(From Standard Form 4)
Cropping Management Factor (C) =	<u>0.31</u>	$C = C_I C_{II} C_{III}$	Eqn. 1304
Canopy Cover (C _I) =	<u>0.82</u>		Fig. 1303b
Mulch/Vegetation on Soil Surface (C _{II}) =	<u>0.80</u>		Fig. 1303c
Tillage and Land Use (C _{III}) =	<u>0.48</u>		Fig. 1303d
Conservation Practice Factor (P) =	<u>1.0</u>		

Sediment Yield (Y_s) = 1132.437 **tons**

Sediment Volume = 0.57 **ac-ft** (based on assumed soil weight of 93 pcf)

Soil Erodibility Factor Calculations

BY: ETM
DATE: 10/15/2014

Basin/Concentration Point = OFF9

Soil Type 1 Breakdown = 100% %

Soil Type 1 Erosion Factor (K_w) = 0.20

Soil Type 155 (From Soils Exhibit)

Soil Type 155 (From Soil Properties)

Composite Soil Erodibility Factor (K) = 0.200

Modified Universal Soil Loss Equation

BY: ETM
DATE: 10/15/2014

$$Y_s = 95(VQ_P)^{0.56} K(LS)CP$$

Eqn. 1307

Basin/Concentration Point =

OFF10

Runoff Volume (V) =

57 ac-ft

(From HEC-1)

Peak Flow (Q_P) =

467 cfs

(From HEC-1)

Soil Erodibility Factor (K) =

0.168

(See Composite K Calcs)

Topographic Factor (LS) =

5.14

$$LS = (X_r)^{0.5} (0.0076 + 0.53S_0 + 7.6S_0^2)$$

Eqn. 1303

Runoff Length (X_r) =

19084 ft

(From Standard Form 4)

Runoff Slope (S₀) =

0.0366 ft/ft

(From Standard Form 4)

Cropping Management Factor (C) =

0.31

$$C = C_I C_{II} C_{III}$$

Eqn. 1304

Canopy Cover (C_I) =

0.82

Fig. 1303b

Mulch/Vegetation on Soil Surface (C_{II}) =

0.80

Fig. 1303c

Tillage and Land Use (C_{III}) =

0.48

Fig. 1303d

Conservation Practice Factor (P) =

1.0

Sediment Yield (Y_s) =

7760.92928 tons

Sediment Volume =

3.88 ac-ft

(based on assumed soil weight of 93 pcf)

Soil Erodibility Factor Calculations

BY: ETM
DATE: 10/15/2014

Basin/Concentration Point = OFF10

Soil Type 1 Breakdown = 36.7% %
Soil Type 2 Breakdown = 63.3% %

Soil Type 1 Erosion Factor (K_w) = 0.20
Soil Type 2 Erosion Factor (K_w) = 0.15

Soil Type 155
Soil Type 400

(From Soils Exhibit)
(From Soils Exhibit)

Soil Type 155
Soil Type 400

(From Soil Properties)
(From Soil Properties)

Composite Soil Erodibility Factor (K) = 0.168

Debris Volume Summary		
Tributary	Debris Volume (ac-ft)	Cumulative Volume (ac-ft)
OFF7	0.02	0.02
OFF8	1.18	1.20
OFF9	0.57	1.76
OFF10	3.88	5.64

PMP Calculations

HYDROMETEOROLOGICAL REPORT NO. 49

**Probable Maximum Precipitation Estimates,
Colorado River and Great Basin Drainages**

REPRINTED 1984

PROPERTY OF:
NOAA, NATIONAL WEATHER SERVICE

**U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF ARMY
CORPS OF ENGINEERS**

Silver Spring, Md.

Table 6.3A.--Local-storm PMP computation, Colorado River, Great Basin and California drainages. For drainage average depth PMP. Go to table 6.3B if areal variation is required.

Drainage INFLOW TO DBZ Area 1.01 mi² (km²)
 Latitude 36°N Longitude 115°W Minimum Elevation 2990 ft (m)

Steps correspond to those in sec. 6.3A.

1. Average 1-hr 1-mi² (2.6-km²) PMP for 10.6 in. (mm)
 drainage [fig. 4.5].
2. a. Reduction for elevation. [No adjustment
 for elevations up to 5,000 feet (1,524 m):
 5% decrease per 1,000 feet (305 m) above
 5,000 feet (1,524 m)]. 100 %
 b. Multiply step 1 by step 2a. 10.6 in. (mm)
3. Average 6/1-hr ratio for drainage [fig. 4.7]. 1.33
4. Durational variation
 for 6/1-hr ratio of
 step 3 [table 4.4].

	Duration (hr)										
	1/4	1/2	3/4	1	2	3	4	5	6		
70.7 87.2 94.4 100 115.2 122.5 127.1 130.7 133										%	

5. 1-mi² (2.6-km²) PMP for
 indicated durations
 [step 2b X step 4].

	7.5	9.2	10.0	10.6	12.2	13.0	13.5	13.9	14.1	
in. (mm)										

6. Areal reduction
 [fig. 4.9].

	100	100	100	100	100	100	100	100	100	
%										

7. Areal reduced PMP
 [steps 5 X 6].

	7.5	9.2	10.0	10.6	12.2	13.0	13.5	13.9	14.1	
in. (mm)										

8. Incremental PMP
 [successive subtraction
 in step 7].

in. (mm)											

} 15-min. increments

9. Time sequence of incre-
 mental PMP according to:

Hourly increments
 [table 4.7].

in. (mm)											

Four largest 15-min.
 increments [table 4.8].

in. (mm)											

USE IN PMP HEC-1
 AS PRECIP VALUE

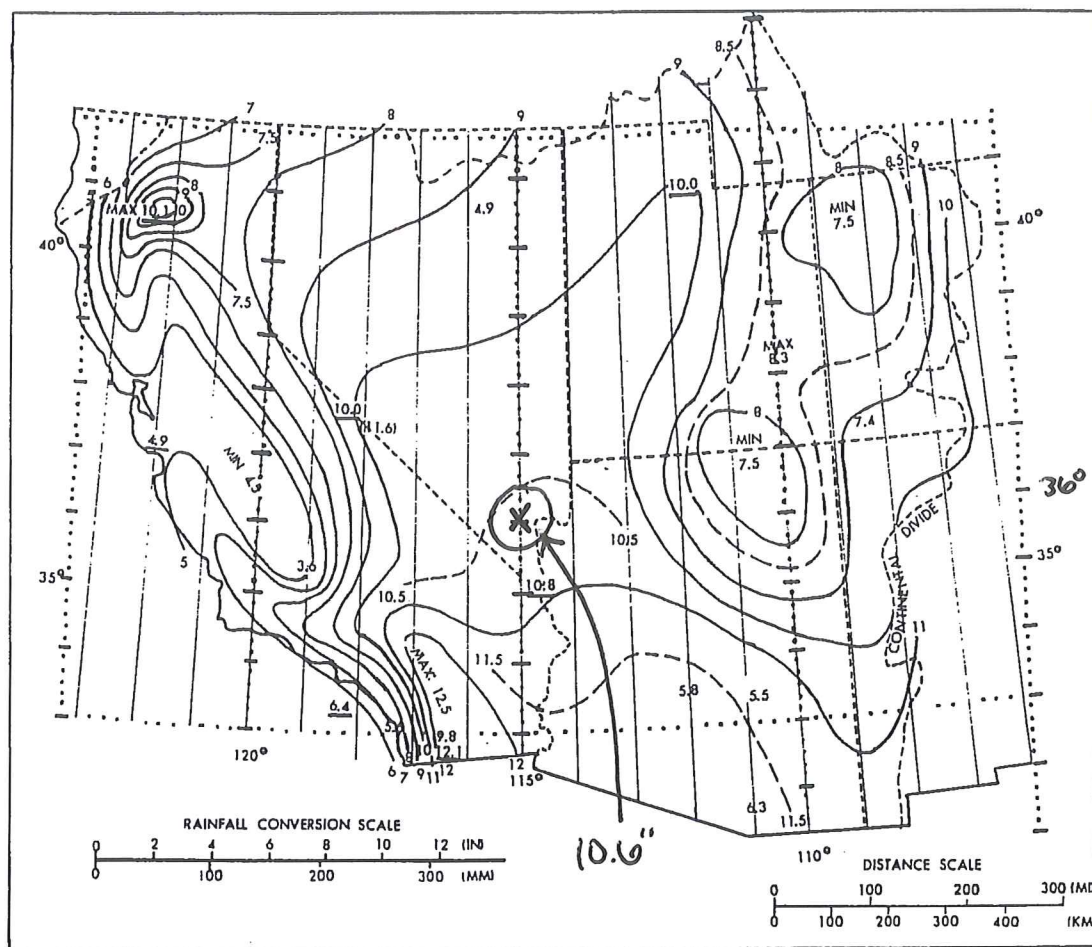


Figure 4.5--Local-storm PMP for 1 mi² (2.6 km²) 1 hr. Directly applicable for locations between sea level and 5000 ft (1524 m). Elevation adjustment must be applied for locations above 5000 ft.

events. In contrast to figure 4.4, figure 4.5 maintains a maximum between these two locations. There is no known meteorological basis for a different solution. The analysis suggests that in the northern portion of the region maximum PMP occurs between the Sierra Nevada on the west and the Wasatch range on the east.

A discrete maximum (> 10 inches, 254 mm) occurs at the north end of the Sacramento Valley in northern California because the northward-flowing moist air is increasingly channeled and forced upslope. Support for this PMP center comes from the Newton, Kennett, and Red Bluff storms (fig. 4.1). Although the analysis in this region appears to be an extension of the broad maximum through the center of the Southwestern Region, it does not indicate the direction of moist inflow. The pattern has evolved primarily as a result of attempts to tie plotted maxima into a reasonable picture while considering inflow directions, terrain effects, and moisture potential.

ratios than storms with high 3/1-hr ratios. The geographical distribution of 15-min to 1-hr ratios also were inversely correlated with magnitudes of the 6/1-hr ratios of figure 4.7. For example, Los Angeles and San Diego (high 6/1-hr ratios) have low 15-min to 1-hr ratios (approximately 0.60) whereas the 15-min to 1-hr ratios in Arizona and Utah (low 6/1-hr ratios) were generally higher (approximately 0.75).

Depth-duration relations for durations less than 1 hour were then smoothed to provide a family of curves consistent with the relations determined for 1 to 6 hours, as shown in figure 4.3. Adjustment was necessary to some of the curves to provide smoother relations through the common point at 1 hour.

We believe we were justified in reducing the number of the curves shown in figure 4.3 for durations less than 1 hour, letting one curve apply to a range of 6/1-hr ratios. The corresponding curves have been indicated by letter designators, A-D, on figure 4.3. As an example, for any 6-hr amount between 115% and 135% of 1-hr, 1-mi² (2.6-km²) PMP, the associated values for durations less than 1 hour are obtained from the curve designated as "B".

Table 4.4 lists durational variations in percent of 1-hr PMP for selected 6/1-hr rain ratios. These values were interpolated from figure 4.3.

To determine 6-hr PMP for a basin, use figure 4.3 (or table 4.4) and the geographical distribution of 6/1-hr ratios given in figure 4.7.

Table 4.4.--Durational variation of 1-mi² (2.6-km²) local-storm PMP in percent of 1-hr PMP (see figure 4.3)

6/1-hr ratio	Duration (hr)								
	1/4	1/2	3/4	1	2	3	4	5	6
1.1	86	93	97	100	107	109	110	110	110
1.2	74	89	95	100	110	115	118	119	120
1.3	74	89	95	100	114	121	125	128	130
1.4	63	83	93	100	118	126	132	137	140
1.5	63	83	93	100	121	132	140	145	150
1.6	43	70	87	100	124	138	147	154	160
1.8	43	70	87	100	130	149	161	171	180
2.0	43	70	87	100	137	161	175	188	200

4.5 Depth-Area Relation

We have thus far developed local-storm PMP for an area of 1 mi² (2.6 km²). To apply PMP to a basin, we need to determine how 1-mi² (2.6-km²) PMP should decrease with increasing area. We have adopted depth-area relations based on rainfalls in the Southwest and from consideration of a model thunderstorm.

1/4	1/2	3/4	1	2	3	4	5	6
70.7	87.2	94.4	100	115.2	122.5	127.1	130.7	133

@1.33

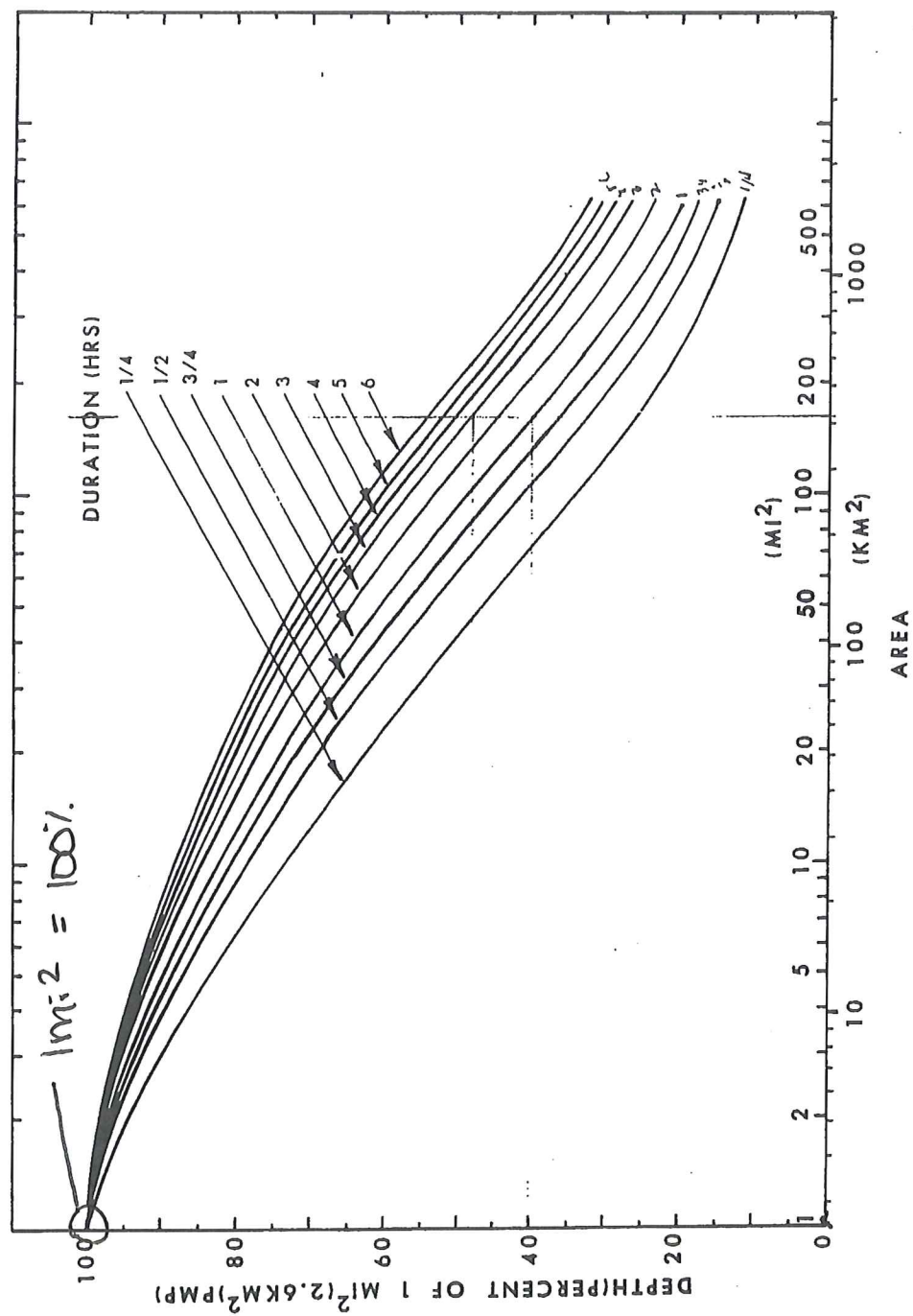
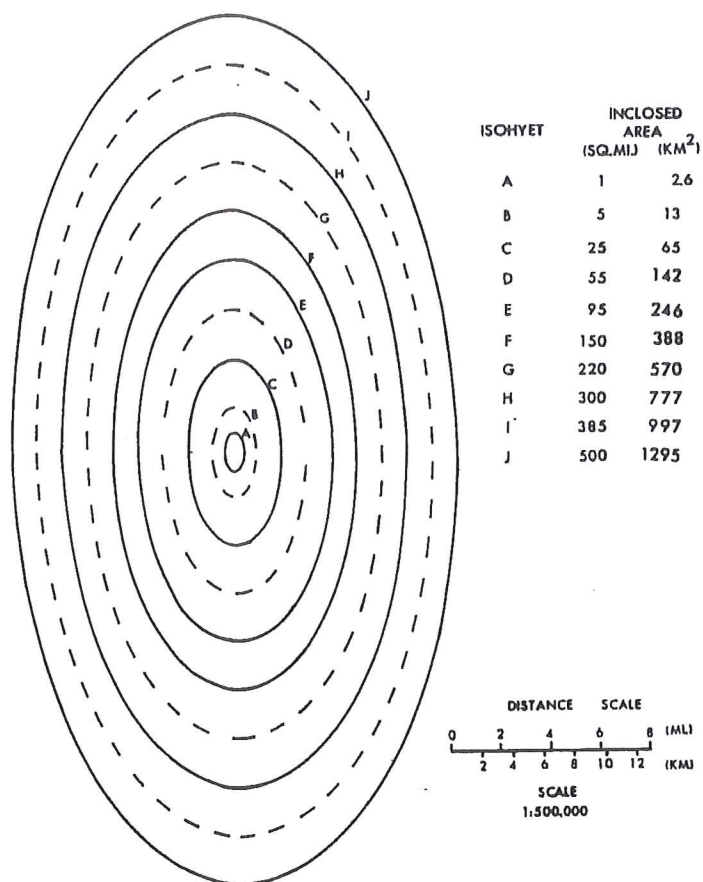


Figure 4.9. --Adopted depth-area relations for local-storm PMP.

Figure 4.10.--Idealized
local-storm isohyetal
pattern.



storm period. The sequence of hourly incremental PMP for the Southwest 6-hr thunderstorm in accord with this study is presented in column 2 of table 4.7. A small variation from this sequence is given in Engineering Manual 1110-2-1411 (U. S. Army, Corps of Engineers 1965). The latter, listed in column 3 of table 4.7, places greater incremental amounts somewhat more toward the end of the 6-hr storm period. In application, the choice of either of these distributions is left to the user since one may prove to be more critical in a specific case than the other.

Table 4.7.--Time sequence for hourly incremental PMP in 6-hr storm

Increment	HMR No. 5 ¹	EM1110-2-1411 ²
	Sequence Position	
Largest hourly amount	Third	Fourth
2nd largest	Fourth	Third
3rd largest	Second	Fifth
4th largest	Fifth	Second
5th largest	First	Last
least	Last	First

¹U. S. Weather Bureau 1947.

²U. S. Corps of Engineers 1952.

PMF Flow HEC-1 Analysis


```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 17OCT14 TIME 07:48:01
*
*****

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PMF-DB2.OUT

```

*****
*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
*****

```

```

X   X XXXXXX XXXXX X
X   X X   X   X   XX
X   X X   X   X   X
XXXXXX XXXX X   XXXXX X
X   X X   X   X   X
X   X X   X   X   X
X   X XXXXXX 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

```

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

*DIAGRAM
ID SLATER HANIFAN GROUP
ID NINETY-FIVE MANAGEMENT, LLC.
ID SKYE CANYON
ID MASTER DRAINAGE STUDY UPDATE
ID PMF DRAINAGE CONDITION - DETENTION BASIN 2
ID
ID RETURN PERIOD ----- 100-YEAR
ID DISTRIBUTION ----- 6-HOUR SDN3
ID PROJECT NO. ----- OLY1401.004
ID FILENAME ----- PMF-DB2.H1
ID DATE ----- 10/15/14
ID MODELED BY ----- ETM
ID
ID SIX HOUR DEPTH-AREA REDUCTION FACTORS
ID DRAINAGE AREA (MIA2) RATIO
ID 0.0-0.49 1.00
ID 0.5-0.99 0.98
ID 1.0-1.99 0.97
ID
ID IT 5 0 0 500
ID IO 5 0 0
ID IN 5 0 0
ID JR PREC 1.00 0.98 0.97
*

24 KK OFF7
25 KM EXISTING OFFSITE DRAINAGE BASIN
26 KM DISCHARGES INTO DETENTION BASIN "DB2"
27 PC 0 0.020 0.057 0.070 0.087 0.108 0.124 0.130 0.130 0.130
28 PC 0.130 0.130 0.130 0.133 0.140 0.142 0.148 0.158 0.172 0.181
29 PC 0.190 0.197 0.199 0.200 0.201 0.204 0.214 0.229 0.241 0.249
30 PC 0.251 0.256 0.270 0.278 0.281 0.283 0.295 0.322 0.352 0.409
31 PC 0.499 0.590 0.710 0.744 0.781 0.812 0.819 0.835 0.851 0.856
32 PC 0.860 0.868 0.876 0.888 0.910 0.926 0.937 0.950 0.970 0.976
33 PC 0.982 0.985 0.987 0.989 0.990 0.993 0.993 0.994 0.995 0.998
34 PC 0.998 0.999 1
35 PB 14.1
36 BA .0068
37 LS 0 86.2
38 UD 0.100
*

39 KK OFF8
40 KM EXISTING OFFSITE DRAINAGE BASIN
41 KM DISCHARGES INTO DETENTION BASIN "DB2"
42 BA .2141
43 LS 0 86.3
44 UD 0.302
*

```

1 HEC-1 INPUT PAGE 2

```

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

45 KK CP2
46 KM COMBINE OFF7, AND OFF8
47 HC 2
*

48 KK OFF9
49 KM EXISTING OFFSITE DRAINAGE BASIN
50 KM DISCHARGES INTO DETENTION BASIN "DB2"
51 BA .1164
52 LS 0 86.2
53 UD 0.203
*

```

PMF-DB2.OUT

54	KK	OFF10	
55	KM	EXISTING OFFSITE DRAINAGE BASIN	
56	KM	DISCHARGES INTO DETENTION BASIN "DB2"	
57	BA	.6524	
58	LS	0	86.6
59	UD	0.615	
	*		
60	KK	ON2	
61	KM	PROPOSED ONSITE DRAINAGE BASIN	
62	BA	.0241	
63	LS	0	92.8
64	UD	0.084	
	*		
65	KK	DB2	
66	KM	COMBINE CP2, OFF9, OFF10 AND ON2	
67	HC	4	
	*		
68	ZZ		

1 SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

```

24 OFF7
.
.
39 OFF8
.
45 CP2.....
.
48 OFF9
.
54 OFF10
.
60 ON2
.
65 DB2.....

```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

1*****

* FLOOD HYDROGRAPH PACKAGE (HEC-1) *

* JUN 1998 *

* VERSION 4.1 *

* RUN DATE 17OCT14 TIME 07:48:01 *

* *****

* U.S. ARMY CORPS OF ENGINEERS *

* HYDROLOGIC ENGINEERING CENTER *

* 609 SECOND STREET *

* DAVIS, CALIFORNIA 95616 *

* (916) 756-1104 *

* *****

SLATER HANIFAN GROUP
NINETY-FIVE MANAGEMENT, LLC.
SKYE CANYON
MASTER DRAINAGE STUDY UPDATE
PMF DRAINAGE CONDITION - DETENTION BASIN 2

RETURN PERIOD ----- 100-YEAR
DISTRIBUTION ----- 6-HOUR SDN3
PROJECT NO. ----- OLY1401.004
FILENAME ----- PMF-DB2.H1
DATE ----- 10/15/14
MODELED BY ----- ETM

SIX HOUR DEPTH-AREA REDUCTION FACTORS

DRAINAGE AREA (MI^2)	RATIO
0.0-0.49	1.00
0.5-0.99	0.98
1.0-1.99	0.97

21 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	STARTING DATE
ITIME	0000	STARTING TIME
NQ	500	NUMBER OF HYDROGRAPH ORDINATES
NDDATE	2	ENDING DATE
NDTIME	1735	ENDING TIME
ICENT	19	CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 41.58 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

JP MULTI-PLAN OPTION
 NPLAN 1 NUMBER OF PLANSJR MULTI-RATIO OPTION
 RATIOS OF PRECIPITATION
 1.00 .98 .97

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION		
					RATIO 1 1.00	RATIO 2 .98	RATIO 3 .97
HYDROGRAPH AT +	OFF7	.01	1	FLOW TIME	67. 3.50	66. 3.50	65. 3.50
HYDROGRAPH AT +	OFF8	.21	1	FLOW TIME	1493. 3.75	1461. 3.75	1446. 3.75
2 COMBINED AT +	CP2	.22	1	FLOW TIME	1533. 3.67	1500. 3.67	1484. 3.67
HYDROGRAPH AT +	OFF9	.12	1	FLOW TIME	959. 3.58	939. 3.58	929. 3.58
HYDROGRAPH AT +	OFF10	.65	1	FLOW TIME	3150. 4.00	3083. 4.00	3050. 4.00
HYDROGRAPH AT +	ON2	.02	1	FLOW TIME	257. 3.50	252. 3.50	249. 3.50
4 COMBINED AT +	DB2	1.01	1	FLOW TIME	4807. 3.83	4704. 3.83	4653. 3.83

*** NORMAL END OF HEC-1 ***

APPENDIX C

Modified Phase 2 Land Plan

Exhibits

-
- Exhibit E – Phase 2 Existing Condition Drainage Map
 - Exhibit F – Phase 2 Proposed Condition Drainage Map
 - Exhibit G – Phase 2 Ultimate Condition Drainage Map
 - Exhibit H – Overall Proposed Condition Flood Control Facilities Map
 - Exhibit I – Overall Ultimate Condition Flood Control Facilities Map
 - Exhibit J – CCRFCD Regional Facilities Map

Soils & Curve Number Information

Proposed & Local Ultimate Condition Land Use

Land Use Index Number	Land Use Type	Land Use Curve Number	Additional Notes
1	Streets & Roadway	Impervious Areas	
2	Flood Control/Utility	Newly Graded Areas	
3	Open Space	Natural Desert Landscaping	
4	Power Easements	Desert Shrub - Poor Condition	
5	Arroyos	Desert Shrub - Poor Condition	
6	Parks	Open Space - Fair Condition	
7	Schools	50% Impervious Areas 50% Open Space - Fair Condition	
8	Residential "Low"	8,000 Square Foot Lots	5.49 units/acre 8,000 sq ft lots
9	Residential "Medium Low"	Commercial*	8.49 units/acre 5,130 sq ft lots
10	Residential "Medium Low-Attached"	Commercial*	12.49 units/acre 3,500 sq ft lots
11	Blended Use Zone	Commercial	
12	General Commercial	Commercial	
13	Gaming	Commercial	
14	Sheep Mtn Pkwy	Desert Shrub - Poor Condition	Undeveloped
15	Offsite	Desert Shrub - Poor Condition	Undeveloped

* Lots are less than 6,000 square feet; therefore a commercial curve number is used.

Soil & Curve Number Computation

Project Name: Sky Canyon Master Drainage Study Update
Date: 12/2/2014
File Name: OLY1401.004 MDS UP Land Use CNs.xlsx
By: ETM

Data:

Project is located in the following soil types:
155 Cave gravelly fine sandy loam
191 Dalian very cobbly fine sandy loam
400 Tencee very gravelly fine sandy loam

Soil Group:
D
B
D

Reference:

Exhibit D
SCS Soil Data

Hydrologic Soil Group	5-Desert Shrub (Poor Condition)	8-Residential (8,000 sq ft lot)	9-Commercial (<6,000 sq ft lot)	6-Open Space (Fair Condition)	1-Roadway
A	63	73	89	49	98
B	77	82	92	69	98
C	85	88	94	79	98
D	88	90	95	84	98

Basin	Soil Type	% Area	Land Use Index Number	CN	Composite CN
Existing Condition					
OFF1	155	100%	5	88.0	88.0
OFF2	155	78%	5	88.0	88.0
	400	22%	5	88.0	
OFF3	155	100%	5	88.0	88.0
OFF4	155	100%	5	88.0	88.0
OFF5	155	100%	5	88.0	88.0
Proposed Condition					
PH2ML1	155	62%	9	95.0	95.0
	400	38%	9	95.0	
PH2ML2	155	83%	9	95.0	94.9
	191	2%	9	92.0	
	400	15%	9	95.0	
PH2ML3	155	22%	9	95.0	92.7
	191	78%	9	92.0	
PH2ML4	155	37%	9	95.0	93.1
	191	63%	9	92.0	
PH2L1	155	100%	8	90.0	90.0
PH2L2	155	100%	8	90.0	90.0
PH2L3	155	100%	8	90.0	90.0
PH2L4	155	100%	8	90.0	90.0
PH2L5	155	100%	8	90.0	90.0
PH2L6	155	95%	8	90.0	89.6
	191	5%	8	82.0	
PH2L7	155	100.0%	8	90.0	90.0
PH2L8	155	100.0%	8	90.0	90.0
PH2L9	155	100.0%	8	90.0	90.0
WPRK1	155	100.0%	6	84.0	84.0
WPRK2A	155	100.0%	6	84.0	84.0
PH2PK	155	100.0%	6	84.0	84.0
PH2PK1	155	100.0%	6	84.0	84.0
PH2PK2	155	100.0%	6	84.0	84.0
AROY2	155	100.0%	5	88.0	88.0
Roadway Infrastructure					
EGAN1	155	83.0%	1	98.0	98.0
	191	17.0%	1	98.0	
EGAN2	155	100.0%	1	98.0	98.0
GRAND2	400	100.0%	1	98.0	98.0
HORSE2	155	100.0%	1	98.0	98.0
HUAL1	155	58.0%	1	98.0	98.0
	400	42.0%	1	98.0	
HUAL2A	155	100.0%	1	98.0	98.0
RACEL1A	155	100.0%	1	98.0	98.0
RACEL1B	155	100.0%	1	98.0	98.0
SHAUM1	155	69.0%	1	98.0	98.0
	191	31.0%	1	98.0	

Precipitation Information

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

SIX-HOUR STORM DISTRIBUTIONS

Percent of Total Storm Depth				Percent of Total Storm Depth			
Storm Time (In Minutes)	SDN3	SDN4	SDN5	Storm Time (In Minutes)	SDN3	SDN4	SDN5
0	0.0	0.0	0.0	185	32.2	37.6	43.0
5	2.0	2.0	2.0	190	35.2	41.5	47.7
10	5.7	5.8	5.9	195	40.9	46.2	51.4
15	7.0	7.5	8.0	200	49.9	53.0	56.1
20	8.7	9.9	11.0	205	59.0	61.0	63.0
25	10.8	12.6	14.4	210	71.0	71.0	71.0
30	12.4	13.7	15.0	215	74.4	73.2	72.0
35	13.0	14.5	16.0	220	78.1	75.6	73.1
40	13.0	14.9	16.8	225	81.2	78.2	75.2
45	13.0	15.1	17.1	230	81.9	79.9	77.9
50	13.0	15.5	18.0	235	83.5	81.3	79.0
55	13.0	15.6	18.2	240	85.1	82.3	79.5
60	13.0	15.9	18.7	245	85.6	83.0	80.4
65	13.3	16.2	19.0	250	86.0	83.5	81.0
70	14.0	16.9	19.7	255	86.8	84.4	82.0
75	14.2	17.2	20.2	260	87.6	85.1	82.6
80	14.8	17.9	21.0	265	88.8	86.4	84.0
85	15.8	18.9	22.0	270	91.0	88.5	85.9
90	17.2	20.1	23.0	275	92.6	90.8	88.9
95	18.1	21.1	24.1	280	93.7	92.4	91.0
100	19.0	22.0	25.0	285	95.0	94.4	93.8
105	19.7	22.8	25.9	290	97.0	96.8	96.6
110	19.9	23.2	26.5	295	97.6	97.3	97.0
115	20.0	24.0	28.0	300	98.2	97.8	97.4
120	20.1	24.6	29.0	305	98.5	98.2	97.9
125	20.4	25.2	30.0	310	98.7	98.4	98.1
130	21.4	26.0	30.5	315	98.9	98.6	98.3
135	22.9	26.9	30.9	320	99.0	98.8	98.5
140	24.1	27.6	31.0	325	99.3	99.1	98.9
145	24.9	28.3	31.7	330	99.3	99.2	99.0
150	25.1	28.6	32.1	335	99.4	99.3	99.2
155	25.6	29.2	32.7	340	99.5	99.4	99.3
160	27.0	30.2	33.3	345	99.8	99.7	99.6
165	27.8	31.2	34.6	350	99.8	99.8	99.7
170	28.1	32.1	36.1	355	99.9	99.9	99.9
175	28.3	33.2	38.1	360	100.0	100.0	100.0
180	29.5	35.2	40.8				

- Notes: 1. For drainage areas less than 8 square miles in size, use SDN 3.
 2. For drainage areas greater than or equal to 8 square miles and less than 12 square miles in size, use SDN 4.
 3. For drainage areas greater than or equal to 12 square miles, use SDN 5.
 4. A graphical representation of these values is presented on Figure 515.

Revision	Date

REFERENCE:

TABLE 503

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

SIX HOUR DEPTH-AREA REDUCTION FACTORS

<u>Drainage Area (Square Miles)</u>	<u>Six-Hour Depth-Area Reduction Factor</u>
0.0	1.00
0.5	0.98
1.0	0.97
2.0	0.93
4.0	0.91
6.0	0.90
8.0	0.88
10.0	0.86
20.0	0.79
30.0	0.74
50.0	0.68
100.0	0.60
150.0	0.55
200.0	0.51
300.0	0.46
400.0	0.42
500.0	0.39

- NOTES: 1. A graphical representation of these factors is presented in Figure 514.
2. Consult with the local entity and/or the CCRFCD for guidance in using the Depth-Area Reduction Factors for drainage areas greater than 200 square miles.

<i>Revision</i>	<i>Date</i>

Data:

Reference

Project is located in: Township: 19 S. Range: 60 E. Section: 7

APN Map

Figure 513*

Rainfall Depth-Duration-Frequency 10-Year, 6-Hour: 1.3 inches

Figure 503*

Rainfall Depth-Duration-Frequency 100-Year, 6-Hour: 2.05 inches

Figure 506*

Precipitation Adjustment Ratios:

10-Year: 1.24

Table 501*

100-Year: 1.43

Table 501*

Six Hour Depth Area Reduction Factors (DARF):

Area (gross acres): 10.0 = 0.0156 square miles

Table 502*

DARF = 1.00

Calculations:

$P_{10} = 1.61$ 10-Year Precipitation (in)

$P_{100} = 2.93$ 100-Year Precipitation (in)

$P_{10}/P_{100} = 0.55$ HEC-1 Multiple Ratio Value

Equations:

$$P = (\text{Rainfall}) * (\text{Precipitation Adjustment Ratio}) * (\text{Depth Area Reduction Factor})$$

Comments:

Kyle Canyon West Basins, East of Hualapai and South of Iron Mountain
Kyle Canyon East Basins, South of Iron Mountain

* Equations taken from the Clark County Regional Flood Control District - Hydrologic Criteria and Drainage Design Manual

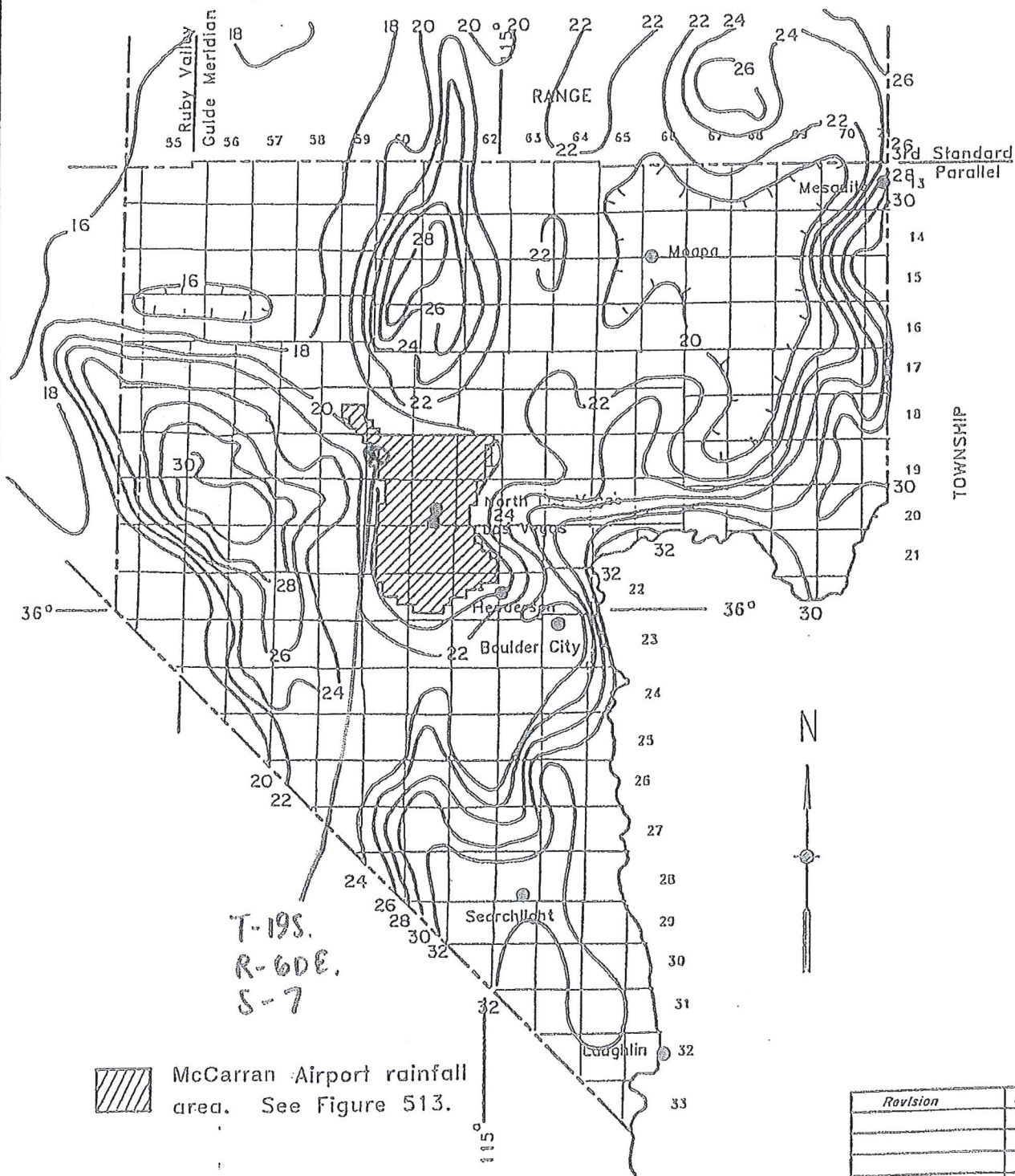
RAINFALL DEPTH-DURATION-FREQUENCY
10-YEAR, 6-HOUR
(DEPTHS IN TENTHS OF INCHES).



Revision	Date

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

RAINFALL DEPTH-DURATION-FREQUENCY 100-YEAR, 6-HOUR (DEPTHS IN TENTHS OF INCHES)



HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

PRECIPITATION ADJUSTMENT RATIOS

<u>Recurrence Interval</u>	<u>Ratio to NOAA Atlas 2</u>
2-year	1.00
5-year	1.16
10-year	1.24
25-year	1.33
50-year	1.39
100-year	1.43

- NOTE: 1. Multiply the values obtained from the NOAA Atlas 2 by the above ratios to obtain the adjusted precipitation values.
2. NOAA Atlas 2 values for use with TR-55 shall not be adjusted by the above ratios.
3. Tables 505 and 506 require no adjustments.

<i>Revision</i>	<i>Date</i>

WRC
ENGINEERING

REFERENCE:
USACE, Los Angeles District, 1988

TABLE 501

Data:			Reference
Project is located in:	Township: 19 S.	Range: 59 E.	Section: 12
			APN Map
			Figure 513*
Rainfall Depth-Duration-Frequency 10-Year, 6-Hour:		1.35 inches	Figure 503*
Rainfall Depth-Duration-Frequency 100-Year, 6-Hour:		2.1 inches	Figure 506*
Precipitation Adjustment Ratios:			Table 501*
10-Year:	1.24		Table 501*
100-Year:	1.43		
Six Hour Depth Area Reduction Factors (DARF):			
Area (gross acres):	10.0 =	0.0156	square miles
DARF	=	1.00	Table 502*

Calculations:

$P_{10} =$	1.67	10-Year Precipitation (in)
$P_{100} =$	3.00	100-Year Precipitation (in)
$P_{10}/P_{100} =$	0.56	HEC-1 Multiple Ratio Value

Equations:

$$P = (\text{Rainfall}) * (\text{Precipitation Adjustment Ratio}) * (\text{Depth Area Reduction Factor})$$

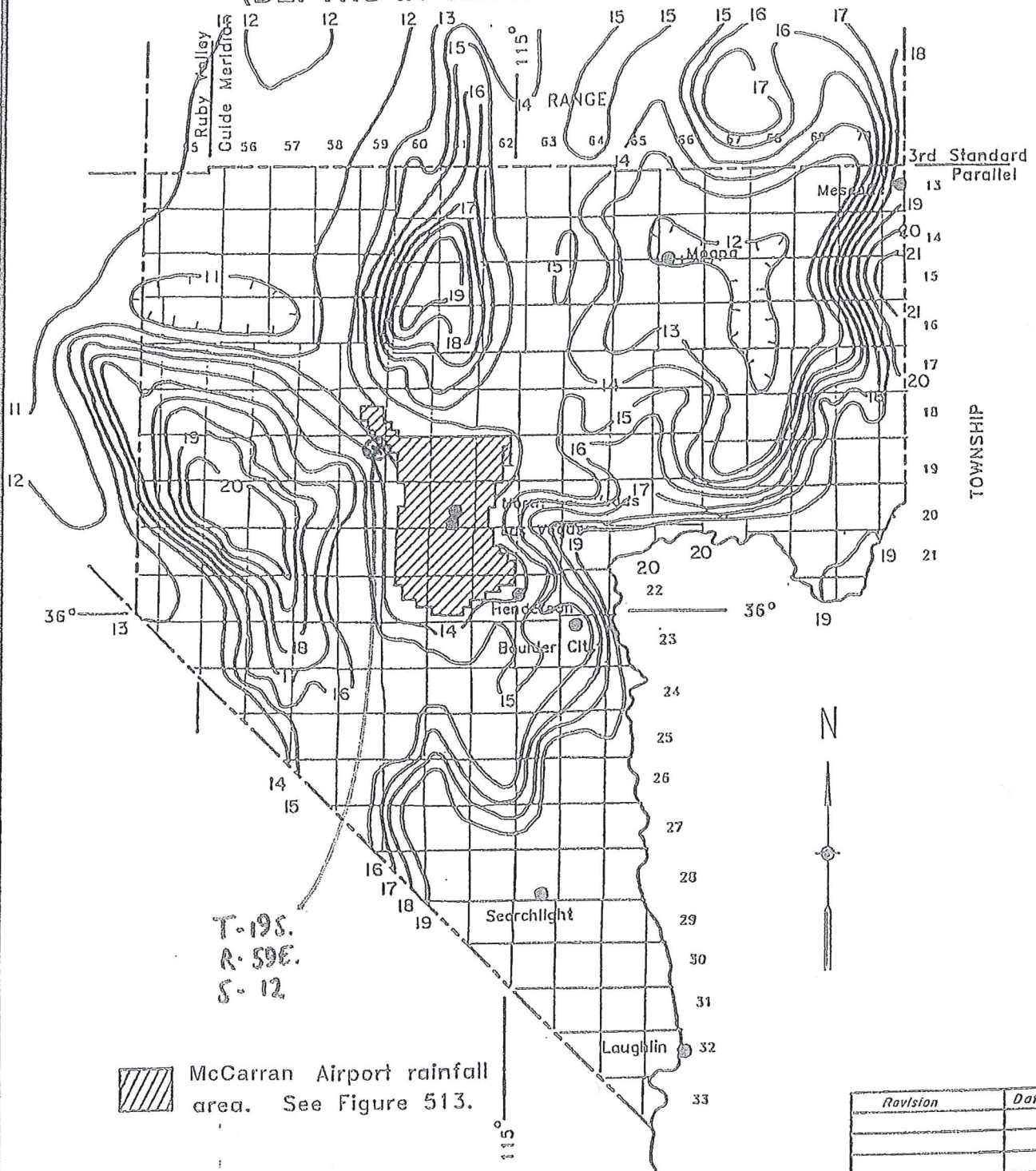
Comments:

Kyle Canyon West Basins, West of Hualapai

* Equations taken from the Clark County Regional Flood Control District - Hydrologic Criteria and Drainage Design Manual

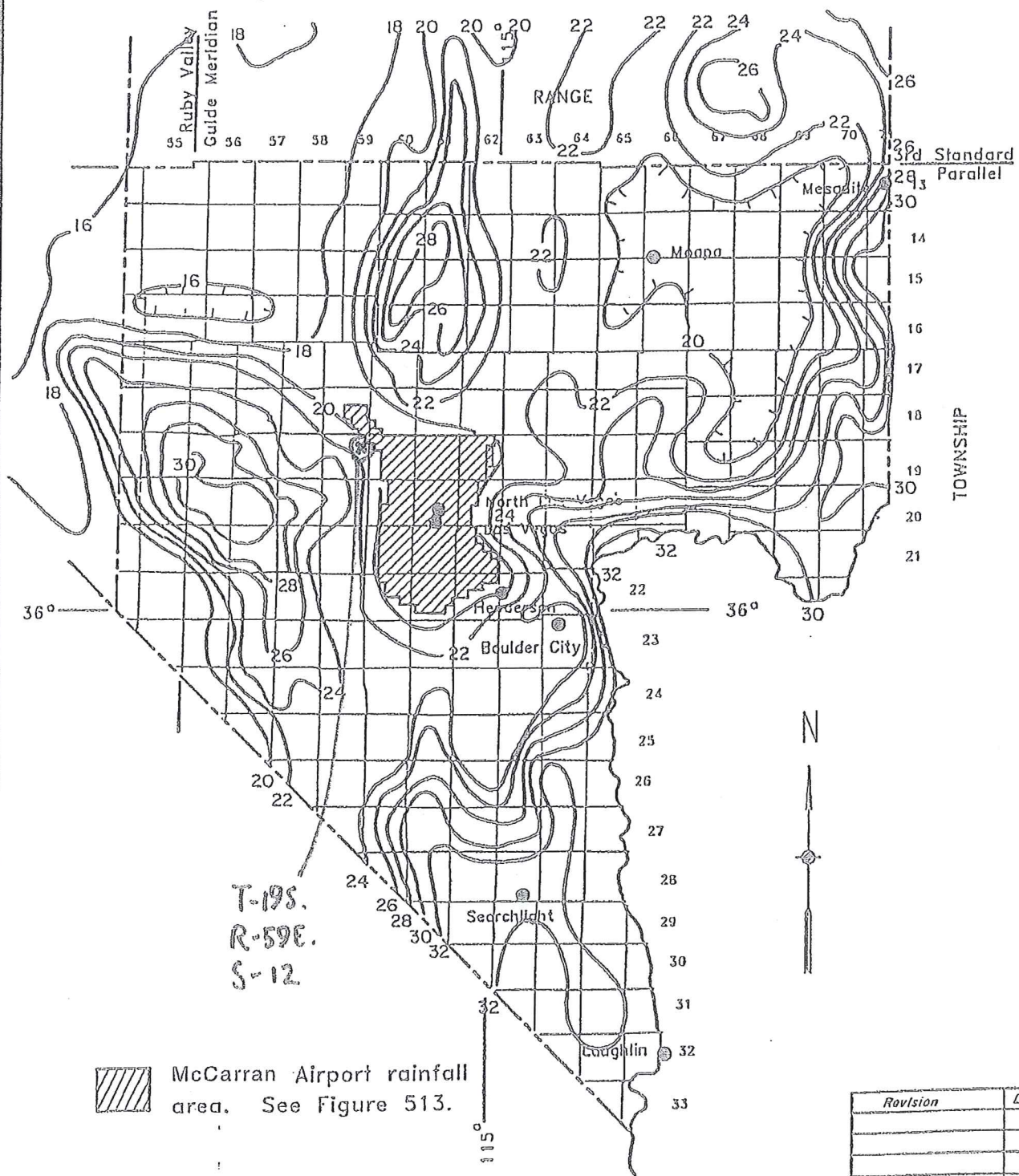
HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

RAINFALL DEPTH-DURATION-FREQUENCY 10-YEAR, 6-HOUR (DEPTHS IN TENTHS OF INCHES)



HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

RAINFALL DEPTH-DURATION-FREQUENCY 100-YEAR, 6-HOUR (DEPTHS IN TENTHS OF INCHES)



HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

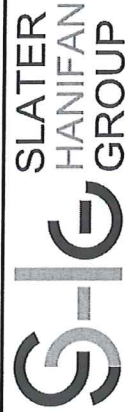
PRECIPITATION ADJUSTMENT RATIOS

<u>Recurrence Interval</u>	<u>Ratio to NOAA Atlas 2</u>
2-year	1.00
5-year	1.16
10-year	1.24
25-year	1.33
50-year	1.39
100-year	1.43

- NOTE: 1. Multiply the values obtained from the NOAA Atlas 2 by the above ratios to obtain the adjusted precipitation values.
2. NOAA Atlas 2 values for use with TR-55 shall not be adjusted by the above ratios.
3. Tables 505 and 506 require no adjustments.

<i>Revision</i>	<i>Date</i>

Standard Form 4 Computations



HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

Company:	SHG, Inc
By:	ETM
Date:	12/01/14

Project Name:	Skye Canyon Master Drainage Study Update
Description:	Phase 2 Modified Land Plan
File Name:	OLY1401.004 MDS UP Land Use SF4.xls

SUB-BASIN DATA						INITIAL / OVERLAND TIME (Ti)			TRAVEL TIME (Tt)					Tc		Tc Check		Flag
DESIG:	DEV/EX. (D or E)	CN	K	AREA Ac	AREA M ²	INITIAL LENGTH Feet	SLOPE %	Ti Min	TRAVEL LENGTH Feet	SLOPE %	VELOCITY FPS	V1 VELOCITY FPS	V2 VELOCITY FPS	Tt Min	Tc Calc.	Total Length Feet	Tc Check Hours	Flag
			[1]		[2]			[3]			[4]	[5]	[6]	[7]	[8]	[9]	[10]	
EXISTING CONDITION																		
OFF1	E	88.0	0.772	14.4	0.0224	300	4.3	6.28	3050	4.2	3.03	6.02	6.02	9.80	16.09			0.161
OFF2	E	88.0	0.772	277.6	0.4338	500	8.6	6.45	17175	3.8	2.89	5.75	5.75	51.25	57.70			0.577
OFF3	E	88.0	0.772	0.8	0.0012	77	7.8	2.62	430	4.7	3.19	6.34	6.34	2.25	4.86			0.100
OFF4	E	88.0	0.772	1.6	0.0026	90	21.1	2.03	475	2.9	2.54	5.05	5.05	3.12	5.14			0.100
OFF5	E	88.0	0.772	1.8	0.0028	90	7.8	2.83	660	3.8	2.88	5.72	5.72	3.36	6.19			0.100
PROPOSED CONDITION																		
PH2ML1	D	95.0	0.8640	18.8	0.0294	100	1.0	4.25	1575	2.9	3.45	5.23	5.23	5.84	10.09	1675	19.306	0.101
PH2ML2	D	94.9	0.8627	18.1	0.0283	100	1.0	4.27	1055	2.2	2.98	4.52	4.52	4.84	9.11	1155	16.417	0.091
PH2ML3	D	92.7	0.8336	28.7	0.0448	100	1.0	4.79	2315	3.7	3.87	5.86	5.86	7.31	12.11	2415	23.417	0.110
PH2ML4	D	93.1	0.8389	22.7	0.0354	100	1.0	4.70	1800	3.2	3.59	5.44	5.44	6.30	11.00	1900	20.556	0.121
PH2L1	D	90.0	0.7980	17.4	0.0272	100	1.0	5.44	1715	2.3	3.04	4.61	4.61	7.13	12.57	1815	20.083	0.126
PH2L2	D	90.0	0.7980	11.5	0.0180	100	1.0	5.44	1320	3.1	3.56	5.39	5.39	4.88	10.32	1420	17.889	0.103
PH2L3	D	90.0	0.7980	16.6	0.0260	100	1.0	5.44	1615	2.2	3.02	4.57	4.57	6.83	12.27	1715	19.528	0.123
PH2L4	D	90.0	0.7980	11.9	0.0186	100	1.0	5.44	1160	3.3	3.65	5.53	5.53	4.27	9.71	1260	17.000	0.097
PH2L5	D	90.0	0.7980	2.7	0.0043	100	1.0	5.44	990	4.4	4.26	6.45	6.45	3.22	8.66	1090	16.056	0.087
PH2L6	D	89.6	0.7927	30.0	0.0468	100	1.0	5.53	2180	3.3	3.69	5.59	5.59	7.26	12.80	2280	22.667	0.128
PH2L7	D	90.0	0.7980	8.3	0.0130	100	1.0	5.44	1225	3.6	3.83	5.80	5.80	4.26	9.70	1325	17.361	0.097
PH2L8	D	90.0	0.7980	8.1	0.0126	100	1.0	5.44	1280	3.0	3.52	5.34	5.34	4.80	10.24	1380	17.667	0.102
PH2L9	D	90.0	0.7980	18.6	0.0291	100	1.0	5.44	1270	4.6	4.31	6.53	6.53	3.90	9.33	1370	17.611	0.093
WPRK1	D	84.0	0.7188	7.3	0.0115	50	1.0	4.85	385	3.4	3.72	5.64	5.64	1.72	6.57	435	12.417	0.066
WPRK2A	D	84.0	0.7188	3.8	0.0059	50	1.0	4.85	740	4.5	4.29	6.49	6.49	2.56	7.41	790	14.389	0.074
PH2PK2	D	84.0	0.7188	1.6	0.0025	50	1.0	4.85	340	4.7	4.38	6.63	6.63	1.29	6.15	390	12.167	0.061
PH2PK1	D	84.0	0.7188	5.5	0.0086	50	1.0	4.85	920	3.3	3.65	5.52	5.52	3.55	8.40	970	15.389	0.084
PH2PK	D	84.0	0.7188	13.1	0.0205	50	1.0	4.85	1175	2.4	3.12	4.72	4.72	5.06	9.91	1225	16.806	0.099
WPRK3	D	84.0	0.7188	1.6	0.0025	50	1.0	4.85	340	4.7	4.38	6.63	6.63	1.29	6.15	390	12.167	0.061
AROY2	E	88.0	0.7716	5.2	0.0081	50	50.0	1.13	1870	3.6	2.82	5.60	5.60	7.03	8.17			0.100
ROADWAY INFRASTRUCTURE																		
EGAN1	D	98.0	0.9036	3.7	0.0058	32	2.0	1.59	1360	1.0	2.02	3.06	3.06	8.81	10.40	1392	17.733	0.104
EGAN2	D	98.0	0.9036	2.8	0.0044	32	2.0	1.59	790	1.0	2.02	3.06	3.06	5.70	7.29	822	14.567	0.073
HORSE2	D	98.0	0.9036	7.1	0.0110	45	2.0	1.88	2590	3.4	3.72	5.64	5.64	8.41	10.29	2635	24.639	0.103
HUAL1	D	98.0	0.9036	4.5	0.0070	45	2.0	1.88	1180	0.5	1.43	2.16	2.16	11.07	12.95	1225	16.806	0.130
HUAL2A	D	98.0	0.9036	4.0	0.0063	45	2.0	1.88	1170	0.5	1.43	2.16	2.16	11.00	12.88	1215	16.750	0.129
GRAND2	D	98.0	0.9036	2.1	0.0033	32	2.0	1.59	1435	0.5	1.43	2.16	2.16	13.04	14.62	1467	18.150	0.146
RACL1A	D	98.0	0.9036	3.8	0.0059	20	2.0	1.25	2135	3.3	3.67	5.56	5.56	7.17	8.43	2155	21.972	0.084
RACL1B	D	98.0	0.9036	3.3	0.0051	20	2.0	1.25	1840	3.9	3.99	6.04	6.04	5.78	7.04	1860	20.333	0.070
SHAUM1	D	98.0	0.9036	4.2	0.0066	32	2.0	1.59	1550	0.5	1.43	2.16	2.16	13.92	15.51	1582	18.789	0.155
[1]	K = 0.0132 (CN) - 0.39						[5]	For Existing Conditions: V2 = 29.4 * (S/100) ^{0.5}						[9]	Tc = (L/180) + 10			
[2]	A = Area/640							For Developed Conditions: V2 = 30.6 * (S/100) ^{0.5}						[10]	Tag = (0.6*Tc)/60			
[3]	Ti = (1.8 (1.1-K) L ^{0.5} /S) ^{0.33}						[6]	Tt = L/(60*V)						[11]	Min Tag = 0.05			
[4]	For Existing Conditions: V1 = 14.8 * (S/100) ^{0.5}						[7]	Tc = Ti + Tt						Note: For Travel Time Calcs: V1 applies to first 500 feet and V2 applies to remaining distance.				
	For Developed Conditions: V1 = 20.2 * (S/100) ^{0.5}						[8]	Total L = Initial L + Travel L						STANDARD FORM 4				

Existing Condition HEC-1 Analysis

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
*
* RUN DATE 01DEC14 TIME 13:09:55
*
*****

```

Existing.OUT

```

*****
*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
*****

```

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X X XXXXXX XXXXX X
X X X X X XX
X X X X X X
XXXXXX XXXX X XXXXX X
X X X X X X
X X X X X X
X X XXXXXX XXXXX XXX

```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HECIGS, 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

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
*DIAGRAM
1 ID SLATER HANIFAN GROUP
2 ID OLYMPIA COMPANIES
3 ID SKYE CANYON - MASTER DRAINAGE STUDY UPDATE
4 ID PHASE 2 EXISTING CONDITION TO HU-HO
5 ID
6 ID RETURN PERIOD ----- 100-YEAR & 10-YEAR
7 ID DISTRIBUTION ----- 6-HOUR SDN3
8 ID PROJECT NO. ----- OLY1401.004
9 ID FILENAME ----- Existing.H1
10 ID DATE ----- 12/1/2014
11 ID MODELED BY ----- SMJ
12 ID
13 ID PRECIPITATION STORM EVENT RATIOS
14 ID STORM EVENT RATIO
15 ID 100-YR 1.00
16 ID 10-YR 0.56
17 ID
18 IT 5 0 0 300
19 IO 5 0 0
20 IN 5 0 0
21 JR PREC 1.00 0.56
*
22 KK OFF1
23 PB 3.00
24 PC 0 0.020 0.057 0.070 0.087 0.108 0.124 0.130 0.130 0.130
25 PC 0.130 0.130 0.130 0.133 0.140 0.142 0.148 0.158 0.172 0.181
26 PC 0.190 0.197 0.199 0.200 0.201 0.204 0.214 0.229 0.241 0.249
27 PC 0.251 0.256 0.270 0.278 0.281 0.283 0.295 0.322 0.352 0.409
28 PC 0.499 0.590 0.710 0.744 0.781 0.812 0.819 0.835 0.851 0.856
29 PC 0.860 0.868 0.876 0.888 0.910 0.926 0.937 0.950 0.970 0.976
30 PC 0.982 0.985 0.987 0.989 0.990 0.993 0.993 0.994 0.995 0.998
31 PC 0.998 0.999 1
32 BA 0.0224
33 LS 0 88.0
34 UD 0.161
*
35 KK OFF2
36 BA .4338
37 LS 0 88.0
38 UD 0.577
*
39 KK OFF4
40 BA .0026
41 LS 0 88.0
42 UD 0.100
*

```

1 HEC-1 INPUT PAGE 2

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
43 KK CP1
44 KM COMBINES OFF1, OFF2, OFF4
45 HC 3
*
46 KK OFF3
47 BA .0012
48 LS 0 88.0
49 UD 0.100
*
50 KK OFF5
51 BA .0028
52 LS 0 88.0
53 UD 0.100
*
54 KK HU-HO
55 KM COMBINES CP1, OFF3, OFF5
56 HC 3
57 ZZ

```

1 SCHEMATIC DIAGRAM OF STREAM NETWORK

```

INPUT LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW
NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW
22 OFF1
.
.
35 . OFF2
.
.
39 . OFF4
.
.
43 CP1.....
.
.
46 . OFF3
.
.

```

50 . . . OFF5

54 HU-HO.....

(*** RUNOFF ALSO COMPUTED AT THIS LOCATION

* FLOOD HYDROGRAPH PACKAGE (HEC-1) *

* JUN 1998 *

* VERSION 4.1 *

* RUN DATE 01DEC14 TIME 13:09:55 *

Existing.OUT

* U.S. ARMY CORPS OF ENGINEERS *

* HYDROLOGIC ENGINEERING CENTER *

* 609 SECOND STREET *

* DAVIS, CALIFORNIA 95616 *

* (916) 756-1104 *

SLATER HANIFAN GROUP

OLYMPIA COMPANIES

SKYE CANYON - MASTER DRAINAGE STUDY UPDATE

PHASE 2 EXISTING CONDITION TO HU-HO

RETURN PERIOD ----- 100-YEAR & 10-YEAR

DISTRIBUTION ----- 6-HOUR SDN3

PROJECT NO. ----- OLY1401.004

FILENAME ----- Existing.H1

DATE ----- 12/1/2014

MODELED BY ----- SMJ

PRECIPITATION STORM EVENT RATIOS

STORM EVENT	RATIO
100-YR	1.00
10-YR	0.56

19 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	STARTING DATE
ITIME	0000	STARTING TIME
NQ	300	NUMBER OF HYDROGRAPH ORDINATES
NDDATE	2	ENDING DATE
NDTIME	0055	ENDING TIME
ICENT	19	CENTURY MARK

COMPUTATION INTERVAL .08 HOURS

TOTAL TIME BASE 24.92 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

JP MULTI-PLAN OPTION

NPLAN 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION

RATIOS OF PRECIPITATION

1.00 .56

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS

FLows IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES

TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION	
				RATIO 1 1.00	RATIO 2 .56
HYDROGRAPH AT	OFF1	.02	1 FLOW	33.	13.
+			TIME	3.58	3.58
HYDROGRAPH AT	OFF2	.43	1 FLOW	352.	141.
+			TIME	4.00	4.08
HYDROGRAPH AT	OFF4	.00	1 FLOW	4.	2.
+			TIME	3.50	3.50
3 COMBINED AT	CP1	.46	1 FLOW	362.	145.
+			TIME	4.00	4.00
HYDROGRAPH AT	OFF3	.00	1 FLOW	2.	1.
+			TIME	3.50	3.50
HYDROGRAPH AT	OFF5	.00	1 FLOW	5.	2.
+			TIME	3.50	3.50
3 COMBINED AT	HU-HO	.46	1 FLOW	364.	146.
+			TIME	4.00	4.00

*** NORMAL END OF HEC-1 ***

Proposed Condition HEC-1 Analysis

```

*****
1 FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
* RUN DATE 27NOV14 TIME 08:33:18
*****

```

Proposed.OUT

```

*****
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*****

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X X XXXXXX XXXXX X
X X X X X XX
X X X X XXXXX
XXXXXX XXXX X XXXXX
X X X X X
X X X X X
X X XXXXXX 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 -AMSK- 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

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

```

*DIAGRAM
ID SLATER HANIFAN GROUP
ID OLYMPIA COMPANIES
ID SKYE CANYON - MASTER DRAINAGE STUDY UPDATE
ID OVERALL PROPERTY PROPOSED DRAINAGE CONDITION
ID
ID RETURN PERIOD ----- 100 & 10-YEAR
ID DISTRIBUTION ----- 6-HOUR SDN3
ID PROJECT NO. ----- OLY1401.004
ID FILENAME ----- Proposed.H1
ID DATE ----- 11/5/2014
ID MODELED BY ----- SMJ/ETM
ID
ID SIX HOUR DEPTH-AREA REDUCTION FACTORS
ID DRAINAGE AREA (MIA^2) DARF
ID 0.0-0.49 1.00
ID 0.5-0.99 0.98
ID 1.0-1.99 0.97
ID 2.0-3.99 0.93
ID 4.0-5.99 0.91
ID 6.0-7.99 0.90
ID 25-YR 0.70
ID 10-YR 0.57
ID
IT 5 0 0 300
IO 5 0 0
IN 5 0 0
JR PREC 1.00 0.98 0.97 0.93 0.91 0.90 0.70 0.57
*
28 KK OFF1
29 KM EXISTING OFFSITE DRAINAGE BASIN
30 KM DISCHARGES INTO DETENTION BASIN "DB1"
31 PB 3.00
32 PC 0 0.020 0.057 0.070 0.087 0.108 0.124 0.130 0.130 0.130
33 PC 0.130 0.130 0.130 0.133 0.140 0.142 0.148 0.158 0.172 0.181
34 PC 0.190 0.197 0.199 0.200 0.201 0.204 0.214 0.229 0.241 0.249
35 PC 0.251 0.256 0.270 0.278 0.281 0.283 0.295 0.322 0.352 0.409
36 PC 0.499 0.590 0.710 0.744 0.781 0.812 0.819 0.835 0.851 0.856
37 PC 0.860 0.868 0.876 0.888 0.910 0.926 0.937 0.950 0.970 0.976
38 PC 0.982 0.985 0.987 0.989 0.990 0.993 0.993 0.994 0.995 0.998
39 PC 0.998 0.999 1
40 BA .4291
41 LS 0 86.1
42 UD 0.420
*
43 KK OFF2
44 KM EXISTING OFFSITE DRAINAGE BASIN
45 KM DISCHARGES INTO DETENTION BASIN "DB1"
46 BA .0419
47 LS 0 84.0
48 UD 0.150
*

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1 HEC-1 INPUT PAGE 2

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

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49 KK OFF3
50 KM EXISTING OFFSITE DRAINAGE BASIN
51 KM DISCHARGES INTO DETENTION BASIN "DB1"
52 LS .0259
53 LS 0 86.2
54 UD 0.112
*
55 KK CP1
56 KM COMBINE OFF1, OFF2, AND OFF3
57 HC 3
*
58 KK OFF4
59 KM EXISTING OFFSITE DRAINAGE BASIN
60 KM DISCHARGES INTO DETENTION BASIN "DB1"
61 BA .0581
62 LS 0 86.2
63 UD 0.136
*
64 KK OFF5
65 KM EXISTING OFFSITE DRAINAGE BASIN
66 KM DISCHARGES INTO DETENTION BASIN "DB1"
67 BA .2569
68 LS 0 86.5
69 UD 0.419
*
70 KK OFF6
71 KM EXISTING OFFSITE DRAINAGE BASIN
72 KM DISCHARGES INTO DETENTION BASIN "DB1"
73 BA .0399
74 LS 0 86.2
75 UD 0.121
*
76 KK ON1
77 KM PROPOSED ONSITE DRAINAGE BASIN
78 BA .0261

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79 LS 0 92.8 Proposed.OUT
80 UD 0.116
81 KK DB1
82 KM COMBINE CP1, OFF4, OFF5, OFF6 AND ON1
83 HC 5

1 HEC-1 INPUT PAGE 3

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

84 KK RDB1
85 KM OUTLET = 30" ORIFICE @ INVERT ELEVATION = 3025.5-FT
86 RS 1 VOL
87 SV 0 7.78 13.43 19.26 58.03 96.21 132.22
88 SE 25.5 27 28 29 35 40 44
89 SQ 0 25.59 36.20 44.33 76.78 335.94 1413.68 2946.76 4825.05
90 SE 25.5 29 30 31 37 38 40 42 44

91 KK AROY1
92 KM DOWNSTREAM OF SOUTHERN MAINTAINED ARROYO OUTFALL DISCHARGE
93 BA .0028
94 PB 3.00
95 LS 0 88.0
96 UD .100

97 KK WPRK5
98 BA .0037
99 PB 3.00
100 LS 0 84.0
101 UD .066

102 KK SHEEP1
103 KM UNDEVELOPED FUTURE SHEEP MOUNTAIN PARKWAY
104 BA .1011
105 PB 3.00
106 LS 0 87.9
107 UD .168

108 KK SHEPAB
109 KM DIVERT DISCHARGE INTO IRON MOUNTAIN DISCHARGE
110 DT DSHEPC
111 DI 0 148
112 DQ 0 33

113 KK DSHEPA
114 KM DIVERT DISCHARGE INTO NORTHERN MAINTAINED ARROYO
115 DT DSHEPB
116 DI 0 115
117 DQ 0 70

118 KK AROY2
119 KM DOWNSTREAM OF SOUTHERN MAINTAINED ARROYO DISCHARGE
120 BA .0081
121 PB 3.00
122 LS 0 88.0
123 UD .100

1 HEC-1 INPUT PAGE 4

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

124 KK DUMMY
125 HC 5

126 KK PH2L4
127 BA .0186
128 PB 3.00
129 LS 0 90.0
130 UD .097

131 KK PH2L8
132 BA .0126
133 PB 3.00
134 LS 0 90.0
135 UD .102

136 KK PH2L9
137 BA .0291
138 PB 3.00
139 LS 0 90.0
140 UD .093

141 KK EGAN2
142 BA .0044
143 PB 3.00
144 LS 0 98.0
145 UD .073

146 KK DUMMY
147 HC 5

148 KK WPRK2A
149 BA .0059
150 PB 3.00
151 LS 0 84.0
152 UD .074

153 KK PH2PK1
154 BA .0086
155 PB 3.00
156 LS 0 84.0
157 UD .084

1 HEC-1 INPUT PAGE 5

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

158 KK PH2PK
159 BA .0205
160 PB 3.00
161 LS 0 84.0
162 UD .099

163 KK HORSE2
164 BA .0110
165 PB 3.00
166 LS 0 98.0
167 UD .103

Proposed.OUT

```

*
168 KK DUMMY
169 HC 5
*
170 KK PH2PK2
171 BA .0025
172 PB 3.00
173 LS 0 84.0
174 UD .061
*
175 KK PH2ML4
176 BA .0354
177 PB 3.00
178 LS 0 93.1
179 UD .110
*
180 KK SHAUM1
181 BA .0066
182 PB 3.00
183 LS 0 98.0
184 UD .155
*
185 KK HU-HO
186 KM TOTAL FLOW AT INTERSECTION OF HUALAPAI AND HORSE
187 KM ROUTED NORTH IN HUALAPAI
188 HC 4
*
189 KK WML5
190 BA .0370
191 PB 3.00
192 LS 0 95.0
193 UD .096
*
```

1

HEC-1 INPUT

PAGE 6

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

```

194 KK WSCHL2
195 BA .0171
196 PB 3.00
197 LS 0 91.0
198 UD .079
*
199 KK WPRK1
200 BA .0115
201 PB 3.00
202 LS 0 84.0
203 UD .066
*
204 KK STRT5
205 BA .0065
206 PB 3.00
207 LS 0 98.0
208 UD .081
*
209 KK DUMMY
210 HC 5
*
211 KK DSHEPB
212 KM UNDEVELOPED SHEEP MOUNTAIN PARKWAY DISCHARGE INTO NORTHERN MAINTAINED ARROYO
213 DR DSHEPB
*
214 KK AROY5
215 BA .0122
216 PB 3.00
217 LS 0 88.0
218 UD .100
*
219 KK WMLA1
220 BA .0697
221 PB 3.00
222 LS 0 95.0
223 UD .129
*
224 KK HUAL2B
225 BA .0124
226 PB 3.00
227 LS 0 98.0
228 UD .250
*
```

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HEC-1 INPUT

PAGE 7

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

```

229 KK DUMMY
230 HC 5
*
231 KK AROY4
232 KM DOWNSTREAM OF NORTHERN MAINTAINED ARROYO OUTFALL DISCHARGE
233 BA .0080
234 PB 3.00
235 LS 0 88.0
236 UD .100
*
237 KK WML7
238 BA .0380
239 PB 3.00
240 LS 0 95.0
241 UD .097
*
242 KK WPRK4
243 BA .0048
244 PB 3.00
245 LS 0 84.0
246 UD .083
*
247 KK SHAUM2
248 BA .0080
249 PB 3.00
250 LS 0 98.0
251 UD .110
*
252 KK DUMMY
253 HC 4
*
254 KK WL7
```

Proposed.OUT

255 BA .0207
 256 PB 3.00
 257 LS 0 90.0
 258 UD .101
 *

259 KK WNVE2
 260 BA .0018
 261 PB 3.00
 262 LS 0 88.0
 263 UD .131
 *

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HEC-1 INPUT

PAGE 8

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

264 KK WL6
 265 BA .0060
 266 PB 3.00
 267 LS 0 90.0
 268 UD .078
 *

269 KK HORS1A
 270 BA .0086
 271 PB 3.00
 272 LS 0 98.0
 273 UD .095
 *

274 KK SH-HO
 275 KM TOTAL FLOW AT INTERSECTION OF SHAUMBER AND HORSE
 276 KM ROUTED NORTH IN SHAUMBER
 277 HC 5
 *

278 KK OFF7
 279 KM EXISTING OFFSITE DRAINAGE BASIN
 280 KM DISCHARGES INTO DETENTION BASIN "DB2"
 281 BA .0068
 282 LS 0 86.2
 283 UD 0.100
 *

284 KK OFF8
 285 KM EXISTING OFFSITE DRAINAGE BASIN
 286 KM DISCHARGES INTO DETENTION BASIN "DB2"
 287 BA .2141
 288 LS 0 86.3
 289 UD 0.302
 *

290 KK CP2
 291 KM COMBINE OFF7, AND OFF8
 292 HC 2
 *

293 KK OFF9
 294 KM EXISTING OFFSITE DRAINAGE BASIN
 295 KM DISCHARGES INTO DETENTION BASIN "DB2"
 296 BA .1164
 297 LS 0 86.2
 298 UD 0.203
 *

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HEC-1 INPUT

PAGE 9

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

299 KK OFF10
 300 KM EXISTING OFFSITE DRAINAGE BASIN
 301 KM DISCHARGES INTO DETENTION BASIN "DB2"
 302 BA .6524
 303 LS 0 86.6
 304 UD 0.615
 *

305 KK ON2
 306 KM PROPOSED ONSITE DRAINAGE BASIN
 307 BA .0241
 308 LS 0 92.8
 309 UD 0.084
 *

310 KK DB2
 311 KM COMBINE CP2, OFF9, OFF10 AND ON2
 312 HC 4
 *

313 KK RDB2 = 27" ORIFICE @ INVERT ELEVATION = 2993-FT
 314 KM OUTLET = 27" ORIFICE @ INVERT ELEVATION = 2993-FT
 315 RS 1 VOL -1
 316 SV 0 3.27 6.87 10.63 27.34 46.77 75.03
 317 SE 2993 2994 2995 2996 3000 3004 3009
 318 SQ 0 17.95 27.43 34.38 40.15 45.18 57.71 67.97 76.88
 319 SE 2993 2996 2997 2998 2999 3000 3003 3006 3009
 *

320 KK WL8
 321 BA .0133
 322 PB 3.00
 323 LS 0 90.0
 324 UD .085
 *

325 KK WNVE3
 326 BA .0028
 327 PB 3.00
 328 LS 0 88.0
 329 UD .159
 *

330 KK WL5
 331 BA .0402
 332 PB 3.00
 333 LS 0 90.0
 334 UD .107
 *

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HEC-1 INPUT

PAGE 10

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

335 KK IRON1A
 336 BA .0055
 337 PB 3.00
 338 LS 0 98.0
 339 UD .087
 *

340 KK DUMMY
 341 HC 5
 *

342 KK SHAUM3
 343 BA .0048

Proposed.OUT

344	PB	3.00	
345	LS	0	98.0
346	UD	.064	
	*		
347	KK	IR-SH	
348	KM	TOTAL FLOW AT INTERSECTION OF IRON MOUNTAIN AND SHAUMBER	
349	KM	ROUTED EAST IN IRON MOUNTAIN	
350	HC	3	
	*		
351	KK	WML6	
352	BA	.0284	
353	PB	3.00	
354	LS	0	95.0
355	UD	.085	
	*		
356	KK	HORS1B	
357	BA	.0032	
358	PB	3.00	
359	LS	0	98.0
360	UD	.050	
	*		
361	KK	WL4	
362	BA	.0492	
363	PB	3.00	
364	LS	0	90.0
365	UD	.133	
	*		
366	KK	DUMMY	
367	HC	4	
	*		

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HEC-1 INPUT

PAGE 11

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

368	KK	DSHEPC	
369	KM	UNDEVELOPED SHEEP MOUNTAIN PARKWAY DISCHARGE INTO IRON MOUNTAIN ROAD	
370	DR	DSHEPC	
	*		
371	KK	IRON1B	
372	BA	.0044	
373	PB	3.00	
374	LS	0	98.0
375	UD	.101	
	*		
376	KK	HU-IR	
377	KM	TOTAL FLOW AT INTERSECTION OF HUALAPAI AND IRON MOUNTAIN	
378	KM	ROUTED NORTH IN REGIONAL FACILITY ALIGNMENT	
379	HC	4	
	*		
380	KK	OFFG	
381	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY	
382	BA	.0397	
383	PB	2.79	
384	LS	0	86.5
385	UD	0.186	
	*		
386	KK	WPT40	
387	KM	COMBINE HU-IR, OFFG	
388	HC	2	
	*		
389	KK	OFF10	
390	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY	
391	BA	.6710	
392	PB	3.39	
393	LS	0	86.2
394	UD	0.573	
	*		
395	KK	ROFF10	
396	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY	
397	KM	STEPS K X-FACTOR	
398	RM	7 0.583 0.15	
	*		
399	KK	OFFFA	
400	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY	
401	BA	.9938	
402	PB	3.19	
403	LS	0	83.8
404	UD	0.441	
	*		

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HEC-1 INPUT

PAGE 12

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

405	KK	ROFFFA	
406	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY	
407	KM	STEPS K X-FACTOR	
408	RM	3 0.238 0.15	
	*		
409	KK	OFFFB	
410	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY	
411	BA	.5974	
412	PB	2.89	
413	LS	0	84.1
414	UD	0.490	
	*		
415	KK	COFFF1	
416	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY	
417	KM	COMBINE OFF10, OFFFA, OFFFB	
418	HC	3	
	*		
419	KK	WPRK6	
420	KM	IRON MOUNTAIN PARK	
421	BA	.0157	
422	PB	2.79	
423	LS	0	84.0
424	UD	0.084	
	*		
425	KK	COFFF2	
426	KM	COMBINE WPT40, COFFF1	
427	HC	3	
	*		
428	KK	OFFE	
429	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY	
430	BA	.0382	
431	PB	2.78	
432	LS	0	77.4
433	UD	0.232	
	*		

Proposed.OUT

434 KK OFFV
 435 BA .0055
 436 PB 2.77
 437 LS 0 77.0
 438 UD 0.156
 *

439 KK CKC5
 440 KM COMBINE COFFF2, OFFE, OFFV
 441 HC 3
 *

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HEC-1 INPUT

PAGE 13

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

442 KK DCKC5
 443 KM DIVERT ALL FLOWS ACROSS US-95
 444 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 445 DT DCKC7
 446 DI 0 100 500 1000 5000
 447 DQ 0 100 500 1000 5000
 *

448 KK OFF17B
 449 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 450 KM ADDED FROM HORSE INTERCHANGE MODEL
 451 BA .0080
 452 PB 2.773
 453 LS 0 92.1
 454 UD 0.069
 *

455 KK OFF17A
 456 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 457 KM ADDED FROM HORSE INTERCHANGE MODEL
 458 BA .0305
 459 PB 2.773
 460 LS 0 92.1
 461 UD 0.104
 *

462 KK COFF17
 463 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 464 KM ADDED FROM HORSE INTERCHANGE MODEL
 465 KM COMBINE OFF17A, OFF17B
 466 KM CULVERT AT BASIN OFF24B
 467 HC 2
 *

468 KK DCOF17
 469 KM FACILITY E-14
 470 KM FLOW SPLIT AT VTN CULVERT 8
 471 KM FLOW SPLITS TO BETWEEN FRONTAGE AND SB ROADS OF US-95
 472 KM ALL FLOW DIVERTED - DEVELOPMENT EXISTS ADJACENT TO FRONTAGE ROAD
 473 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 474 DT DVCUL8
 475 DI 0 5000
 476 DQ 0 5000
 *

477 KK ON1
 478 KM START CENTENNIAL POINT HEC-1 DATA
 479 BA .0042
 480 PB 2.86
 481 LS 0 91.2
 482 UD 0.085
 *

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HEC-1 INPUT

PAGE 14

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

483 KK ON4A
 484 BA .0045
 485 LS 0 91.2
 486 UD 0.077
 *

487 KK C1
 488 KM COMBINE ON1 AND ON4A
 489 HC 2
 *

490 KK D1
 491 KM DIVERT FLOW INTO BASIN ON6
 492 DT DIV1
 493 DI 0 16
 494 DQ 0 13
 *

495 KK ON5
 496 BA .0052
 497 LS 0 91.2
 498 UD 0.080
 *

499 KK C2
 500 KM COMBINE C1 AND ON5
 501 HC 2
 *

502 KK D1A
 503 KM DIVERT FLOW FOR LATER USE IN HEC-1 RUN
 504 DT DIV1A
 505 DI 0 50
 506 DQ 0 50
 *

507 KK ON4B
 508 BA .0031
 509 LS 0 91.2
 510 UD 0.085
 *

511 KK RET1
 512 KM RETRIEVE FLOW FROM D1
 513 DR DIV1
 *

514 KK ON6
 515 BA .0039
 516 LS 0 91.2
 517 UD 0.074
 *

1

HEC-1 INPUT

PAGE 15

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

518 KK C3
 519 KM COMBINE RET1 AND ON6
 520 HC 2
 *

521 KK D1B

Proposed.OUT

522	KM	DIVERT FLOW FOR LATER USE IN HEC-1 RUN	
523	DT	DIV1B	
524	DI	0	50
525	DQ	0	50
	*		
526	KK	ON2	
527	BA	.0050	
528	LS	0	91.2
529	UD	0.080	
	*		
530	KK	ON3	
531	BA	.0063	
532	LS	0	91.5
533	UD	0.079	
	*		
534	KK	ON9	
535	BA	.0045	
536	LS	0	91.4
537	UD	0.096	
	*		
538	KK	C4	
539	KM	COMBINE ON2, ON3 AND ON9	
540	HC	3	
	*		
541	KK	D2	
542	KM	DIVERT FLOW INTO BASIN ON8	
543	DT	DIV2	
544	DI	0	29
545	DQ	0	24
	*		
546	KK	ON10	
547	BA	.0025	
548	LS	0	91.5
549	UD	0.071	
	*		
550	KK	C5	
551	KM	COMBINE C4 AND ON10	
552	HC	2	
	*		

1

HEC-1 INPUT

PAGE 16

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

553	KK	D3	
554	KM	DIVERT FLOW INTO BASIN ON7	
555	DT	DIV3	
556	DI	0	10
557	DQ	0	8
	*		
558	KK	ON11	
559	BA	.0025	
560	LS	0	91.5
561	UD	0.067	
	*		
562	KK	C6	
563	KM	COMBINE C5 AND ON11	
564	HC	2	
	*		
565	KK	D1C	
566	KM	DIVERT FLOW FOR LATER USE IN HEC-1 RUN	
567	DT	DIV1C	
568	DI	0	50
569	DQ	0	50
	*		
570	KK	CD1C	
571	KM	COMBINE D1A, ON4B, D1B AND D1C	
572	KM	PICK UP AT OFF23	
573	HC	4	
	*		
574	KK	RCD1C	
575	KM	ROUTE CD1C TO BASIN OFF23	
576	RK	2640 0.0346 0.02	TRAP 100 2
	*		
577	KK	DRCD1C	
578	KM	DIVERT FLOW TO BASIN OFF23	
579	DT	DOFF23	
580	DI	0	50 100
581	DQ	0	50 100
	*		
582	KK	ON8	
583	BA	.0042	
584	LS	0	83.5
585	UD	0.074	
	*		

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HEC-1 INPUT

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

586	KK	RET2	
587	KM	RETRIEVE FLOW FROM D2	
588	DR	DIV2	
	*		
589	KK	C7	
590	KM	COMBINE ON11 AND RET2	
591	HC	2	
	*		
592	KK	RET3	
593	KM	RETRIEVE FLOW FROM D3	
594	DR	DIV3	
	*		
595	KK	ON7	
596	BA	.0073	
597	LS	0	91.3
598	UD	0.077	
	*		
599	KK	C8	
600	KM	COMBINE C7, RET3 AND ON7	
601	HC	3	
	*		
602	KK	RET1A	
603	KM	RETRIEVE FLOW FROM D1A IN TEE PEE	
604	DR	DIV1A	
	*		
605	KK	RET1B	
606	KM	RETRIEVE FLOW FROM D1B IN TEE PEE	

607 DR DIV18 Proposed.OUT
 *
 608 KK RET1C
 609 KM RETRIEVE FLOW FROM DIC IN TEE PEE
 610 DR DIV1C
 *
 611 KK C9
 612 KM COMBINE C8, RET1A, RET1B, RET1C IN TEE PEE
 613 KM END CENTENNIAL POINT HEC-1 DATA
 614 HC 3
 *
 615 KK ON2D
 616 KM START GRAND CANYON APARTMENTS HEC-1 DATA
 617 BA .0105
 618 PB 2.90
 619 LS 0 95
 620 UD 0.094
 *

1

HEC-1 INPUT

PAGE 18

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

621 KK ON5D
 622 BA .0038
 623 LS 0 95
 624 UD 0.067
 *
 625 KK CP1
 626 KM COMBINE ON2D AND ON5D
 627 HC 2
 *
 628 KK ON3D
 629 BA .0036
 630 LS 0 95
 631 UD 0.084
 *
 632 KK CP2
 633 KM COMBINE CP1 AND ON3D
 634 HC 2
 *
 635 KK ON1D
 636 BA .0075
 637 LS 0 95
 638 UD 0.079
 *
 639 KK ON4D
 640 BA .0041
 641 LS 0 95
 642 UD 0.096
 *
 643 KK CP3
 644 KM COMBINE ON1D AND ON4D
 645 HC 2
 *
 646 KK CP4
 647 KM COMBINE CP2 AND CP3
 648 KM END GRAND CANYON APARTMENTS HEC-1 DATA
 649 HC 2
 *
 650 KK CENGCA
 651 KM COMBINE DRCD1C, C9, CP4
 652 KM CD1C IS DIVERSION OF FLOW ON TEE PEE FROM CENTENNIAL POINT
 653 KM CP4 AND C9 ARE ENDING OF THE APARTMENT COMPLEX AND DEVELOPMENT
 654 HC 4
 *

1

HEC-1 INPUT

PAGE 19

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

655 KK PH2ML3
 656 BA .0448
 657 PB 3.00
 658 LS 0 92.7
 659 UD .121
 *
 660 KK PH2L6
 661 BA .0468
 662 PB 3.00
 663 LS 0 89.6
 664 UD .128
 *
 665 KK EGAN1
 666 BA .0058
 667 PB 3.00
 668 LS 0 98.0
 669 UD .104
 *
 670 KK DUMMY
 671 HC 3
 *
 672 KK PH2L5
 673 BA .0043
 674 PB 3.00
 675 LS 0 90.0
 676 UD .087
 *
 677 KK PH2L7
 678 BA .0130
 679 PB 3.00
 680 LS 0 90.0
 681 UD .097
 *
 682 KK RAC1A
 683 BA .0059
 684 PB 3.00
 685 LS 0 98.0
 686 UD .084
 *
 687 KK RA-EG
 688 KM TOTAL FLOW AT INTERSECTION OF RACEL AND EGAN CREST
 689 KM ROUTED EAST IN RACEL
 690 HC 4
 *

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HEC-1 INPUT

PAGE 20

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

Proposed.OUT

691	KK	PH2ML1	
692	BA	.0294	
693	PB	3.00	
694	LS	0	95.0
695	UD	.101	
	*		
696	KK	PH2ML2	
697	BA	.0283	
698	PB	3.00	
699	LS	0	94.9
700	UD	.091	
	*		
701	KK	PH2L1	
702	BA	.0272	
703	PB	3.00	
704	LS	0	90.0
705	UD	.126	
	*		
706	KK	PH2L2	
707	BA	.0180	
708	PB	3.00	
709	LS	0	90.0
710	UD	.103	
	*		
711	KK	DUMMY	
712	HC	5	
	*		
713	KK	PH2L3	
714	BA	.0260	
715	PB	3.00	
716	LS	0	90.0
717	UD	.123	
	*		
718	KK	HUAL1	
719	BA	.0070	
720	PB	3.00	
721	LS	0	98.0
722	UD	.130	
	*		
723	KK	RACL1B	
724	BA	.0051	
725	PB	3.00	
726	LS	0	98.0
727	UD	.070	
	*		

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HEC-1 INPUT

PAGE 21

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

728	KK	HUAL2A	
729	BA	.0063	
730	PB	3.00	
731	LS	0	98.0
732	UD	.129	
	*		
733	KK	RA-HU	
734	KM	TOTAL FLOW AT INTERSECTION OF RACEL AND HUALAPAI	
735	KM	ROUTED EAST IN RACEL	
736	HC	5	
	*		
737	KK	PH1-3	
738	KM	ONSITE BASIN NORTH OF RACEL AND WEST OF CONQUISTADOR	
739	PB	2.93	
740	BA	.0232	
741	LS	0	91.2
742	UD	0.116	
	*		
743	KK	CONQ	
744	KM	STREET BASIN FOR CONQUISTADOR ST	
745	PB	2.93	
746	BA	.0035	
747	LS	0	92.5
748	UD	0.133	
	*		
749	KK	DUMMY	
750	KM	COMBINES RA-HU, PH1-3 AND CONQ	
751	HC	3	
	*		
752	KK	PH1-5	
753	KM	SOUTHWEST QUAD ONSITE BASIN	
754	PB	2.93	
755	BA	.0583	
756	LS	0	94.6
757	UD	0.139	
	*		
758	KK	PH1PRK	
759	KM	ONSITE BASIN FOR COMMUNITY PARK	
760	PB	2.93	
761	BA	.0028	
762	LS	0	81.5
763	UD	0.082	
	*		

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HEC-1 INPUT

PAGE 22

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

764	KK	RACL1C	
765	BA	.0071	
766	PB	2.93	
767	LS	0	92.5
768	UD	.097	
	*		
769	KK	DUMMY	
770	KM	COMBINES CP0, PH1-5, PH1PRK AND RACL1C	
771	HC	4	
	*		
772	KK	PH1-4	
773	KM	ONSITE BASIN NORTH OF RACEL AND EAST OF CONQUISTADOR ST	
774	PB	2.93	
775	BA	.0252	
776	LS	0	94.6
777	UD	0.105	
	*		
778	KK	PH1-6	
779	KM	SOUTHEAST QUAD ONSITE BASIN	
780	PB	2.93	
781	BA	.0505	
782	LS	0	94.6

Proposed.OUT

783 UD 0.128
*

784 KK GCD
785 BA .0053
786 PB 2.93
787 LS 0 93.8
788 UD .137
*

789 KK CP26
790 KM KYLE CANYON DEVELOPMENT TOTAL DISCHARGE AT GRAND CANYON AND OSTINATO
791 KM ROUTED THRU CENTENNIAL POINT TOWARD US-95
792 HC 4
*

793 KK CCP4
794 KM COMBINE DRC01C, C9, CP4, CP26
795 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
796 HC 2
*

797 KK OFF218
798 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
799 KM BASIN IS DEVELOPED, CHECK FOR REFERENCE MATERIAL
800 BA .0414
801 PB 2.775
802 LS 0 95
803 UD 0.110
*

1

HEC-1 INPUT

PAGE 23

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

804 KK COF218
805 KM COMBINE OFF218 WITH FLOW FROM CENTENNIAL POINT AND GRAND CANYON APTS
806 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
807 HC 2
*

808 KK DOF218
809 KM FACILITY E-15
810 KM FLOW SPLIT AT VTN CULVERT 9
811 KM FLOW SPLITS TO BETWEEN FRONTAGE AND SB ROADS OF US-95
812 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
813 DT DVCUL9
814 DI 0 5000
815 DQ 0 5000
*

816 KK ROFF23
817 KM RETRIEVE FLOW FROM DIVOFF23
818 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
819 DR DOFF23
*

820 KK OFF23
821 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
822 BA .0091
823 PB 2.787
824 LS 0 95
825 UD 0.109
*

826 KK COFF23
827 KM COMBINE OFF23,DOF218, DOFF23, DCOFF17
828 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
829 HC 4
*

830 KK DCOF23
831 KM FACILITY E-16
832 KM FLOW SPLIT AT VTN CULVERT 10
833 KM DIVERSION TO BETWEEN FRONTAGE AND SB ROADS OF US-95
834 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
835 DT DCUL10
836 DI 0 300 600 748 1080 1398 1614
837 DQ 0 299 599 700 799 859 891
*

838 KK GT1
839 BA .0243
840 PB 3.00
841 LS 0 98.0
842 UD .256
*

1

HEC-1 INPUT

PAGE 24

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

843 KK OFFU
844 KM ADD INTERIM FLOW SPLIT FROM GRAND TETON STORM DRAIN TOWARD VTN CULVERT 11
845 BF 203
846 BA .0398
847 PB 2.93
848 LS 0 83.6
849 UD 0.196
*

850 KK CP26WT
851 KM COMBINE DCUL10, GT1, OFFU, INTERIM FLOW SPLIT FROM GRAND TETON STORM DRAIN
852 HC 3
*

853 KK DC26WT
854 KM FACILITY E-17
855 KM FLOW SPLIT AT VTN CULVERT 11
856 KM DCUL11 = EAST THRU CULVERT
857 KM DC26WT = SOUTH IN DITCH WEST OF FRONTAGE ROAD
858 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
859 DT DCUL11
860 DI 0 100 700 900 1056
861 DQ 0 99 699 899 1000
*

862 KK 95-5
863 KM REVISED FROM GCW MASTER DRAINAGE STUDY, MINUS OFFV
864 BF 0
865 BA .0303
866 PB 2.77
867 LS 0 89.1
868 UD 0.082
*

869 KK DHD018
870 KM FACILITY E-9
871 KM FLOW SPLIT AT VTN CULVERT 1
872 KM FLOW SPLITS TO BETWEEN NB AND SB ROADS OF US-95
873 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
874 DT DCHD18
875 DI 0 133 187 250
876 DQ 0 120 135 150
*

877 KK OFF8

878 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY Proposed.OUT
 879 BA .0133
 880 PB 2.77
 881 LS 0 89.1
 882 UD 0.111
 *

1

HEC-1 INPUT

PAGE 25

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

883 KK OFFY
 884 BA .0125
 885 PB 2.77
 886 LS 0 77.0
 887 UD 0.217
 *

888 KK WGED1B
 889 BA .0367
 890 PB 2.77
 891 LS 0 92.8
 892 UD .110
 *

893 KK CHD02B
 894 KM COMBINE RDHD1B, OFF8, OFFY, WGED1B
 895 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 896 HC 4
 *

897 KK DHD02B
 898 KM FACILITY E-10
 899 KM FLOW SPLIT AT VTN CULVERT 2
 900 KM FLOW SPLITS TO BETWEEN NB AND SB ROADS OF US-95
 901 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 902 DT DCHD2B
 903 DI 0 100 138
 904 DQ 0 99 135
 *

905 KK WGED1A
 906 BA .0167
 907 PB 2.93
 908 LS 0 94.6
 909 UD .096
 *

910 KK STRT3
 911 BA .0016
 912 PB 2.93
 913 LS 0 98.0
 914 UD .050
 *

915 KK WPT49
 916 KM TOTAL KYLE CANYON DEVELOPMENT DISCHARGE TOWARD VTN CULVERT 4
 917 HC 2
 *

1

HEC-1 INPUT

PAGE 26

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

918 KK 95-6
 919 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 920 BA .0104
 921 PB 2.77
 922 LS 0 89.9
 923 UD 0.095
 *

924 KK OFFW
 925 BA .0120
 926 PB 2.77
 927 LS 0 77.1
 928 UD .184
 *

929 KK CHD04B
 930 KM COMBINE RDHD2B, WPT49, 95-6, OFFW
 931 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 932 HC 4
 *

933 KK DHD04B
 934 KM FACILITY E-11
 935 KM FLOW SPLIT AT VTN CULVERT 4
 936 KM FLOW SPLITS TO BETWEEN NB AND SB ROADS OF US-95
 937 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 938 DT DCHD4B
 939 DI 0 611 811 1102 1379 1647
 940 DQ 0 611 733 855 977 1099
 *

941 KK WBU3
 942 BA .0661
 943 PB 2.93
 944 LS 0 95.0
 945 UD .127
 *

946 KK STRT2
 947 BA .0035
 948 PB 2.93
 949 LS 0 98.0
 950 UD .078
 *

951 KK GRAND3
 952 BA .0100
 953 PB 2.93
 954 LS 0 98.0
 955 UD .124
 *

1

HEC-1 INPUT

PAGE 27

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

956 KK WBU2B
 957 BA .0214
 958 PB 2.93
 959 LS 0 95.0
 960 UD .092
 *

961 KK WGC1
 962 BA .0187
 963 PB 2.93
 964 LS 0 95.0
 965 UD .070
 *

966 KK WPT48
 967 KM TOTAL KYLE CANYON DEVELOPMENT DISCHARGE TOWARD VTN CULVERT 5
 968 HC 5

Proposed.OUT

969 KK 95-7A
 970 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 971 BA .0069
 972 PB 2.77
 973 LS 0 92.6
 974 UD 0.075
 *
 975 KK CHD05B
 976 KM COMBINE RDHD4B, WPT48, 95-7A
 977 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 978 KM DISCHARGE DIRECTLY INTO EXISTING US-95 INTERIM MPU FACILITY
 979 HC 3
 *
 980 KK WBU1
 981 BA .0358
 982 PB 2.93
 983 LS 0 95.0
 984 UD .102
 *
 985 KK STRT1
 986 BA .0048
 987 PB 2.93
 988 LS 0 98.0
 989 UD .090
 *
 990 KK WBU2A
 991 BA .0505
 992 PB 2.93
 993 LS 0 95.0
 994 UD .114
 *

1

HEC-1 INPUT

PAGE 28

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
 995 KK DUMMY
 996 HC 3
 *
 997 KK PH1-1
 998 KM NORTHWEST QUAD ONSITE BASIN
 999 PB 2.93
 1000 BA .0278
 1001 LS 0 91.2
 1002 UD 0.114
 *
 1003 KK PH1-2
 1004 KM NORTHEAST QUAD ONSITE BASIN
 1005 PB 2.93
 1006 BA .0301
 1007 LS 0 88.8
 1008 UD 0.152
 *
 1009 KK GRAND2
 1010 BA .0033
 1011 PB 2.93
 1012 LS 0 98.0
 1013 UD .146
 *
 1014 KK HORSE3
 1015 BA .0117
 1016 PB 2.93
 1017 LS 0 98.0
 1018 UD .098
 *
 1019 KK WPT46
 1020 KM TOTAL KYLE CANYON DEVELOPMENT DISCHARGE TOWARD VTN CULVERT 6
 1021 HC 5
 *
 1022 KK 95-8A
 1023 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1024 BA .0052
 1025 PB 2.77
 1026 LS 0 92.6
 1027 UD 0.064
 *
 1028 KK OFF14
 1029 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1030 BA .0128
 1031 PB 2.77
 1032 LS 0 86.9
 1033 UD 0.090
 *

1

HEC-1 INPUT

PAGE 29

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
 1034 KK CHD06B
 1035 KM COMBINE WPT46, 95-8A, OFF14
 1036 KM REVISED FROM GCW MASTER DRAINAGE STUDY
 1037 KM TO ACCOUNT FOR DIRECT CONNECTION FROM CHD05B TO US-95 INTERIM MPU FACILITY
 1038 HC 3
 *
 1039 KK RCHD6B
 1040 KM FLOW SPLIT INTO US-95 MPU FACILITY
 1041 KM 33% FLOW INTO 8'X6' MPU FACILITY
 1042 DT DCMPU6
 1043 DI 0 425
 1044 DQ 0 142
 *
 1045 KK DHD06B
 1046 KM FACILITY E-13
 1047 KM FLOW SPLIT AT VTN CULVERT 6
 1048 KM FLOW SPLITS TO BETWEEN NB AND SB ROADS OF US-95
 1049 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1050 DT DCHD6B
 1051 DI 0 580 881 1846 2671 3498 4331
 1052 DQ 0 580 725 869 1014 1159 1304
 *
 1053 KK 95-9A
 1054 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1055 BA .0110
 1056 PB 2.77
 1057 LS 0 92.6
 1058 UD 0.098
 *
 1059 KK CHD07B
 1060 KM COMBINE RDHD6B, 95-9A
 1061 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY

1062 HC 2 Proposed.OUT
 *
 1063 KK OFF15
 1064 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1065 BA .0348
 1066 PB 2.77
 1067 LS 0 86.9
 1068 UD 0.126
 *
 1069 KK CHD7B2
 1070 KM COMBINE CHD05B, CHD07B, OFF15
 1071 KM COMBINE FLOWS IN MPU FACILITY
 1072 KM REVISED FROM GCW MASTER DRAINAGE STUDY
 1073 KM TO ACCOUNT FOR DIRECT CONNECTION FROM CHD05B TO US-95 INTERIM MPU FACILITY
 1074 HC 3

1 HEC-1 INPUT PAGE 30

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

1075 KK CRET8
 1076 KM RETRIEVE FLOW FROM DVCUL8
 1077 KM FLOW BETWEEN FRONTAGE AND US-95, NOT IN FACILITY
 1078 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1079 DR DVCUL8
 *
 1080 KK DCRET8
 1081 KM FACILITY E-14A
 1082 KM FLOW SPLIT AT VTN CULVERT 8
 1083 KM DIVERSION TO BETWEEN NB AND SB ROADS OF US-95
 1084 KM BECAUSE PROPOSED MPU FACILITY REDUCES FLOW AT CULVERT 8,
 1085 KM SIDE WEIR RAISED TO MATCH EXISTING DIVERSION AS MUCH AS POSSIBLE
 1086 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1087 DT DIV8A
 1088 DI 0 117 240 431 556 618 1137
 1089 DQ 0 117 159 179 207 219 329
 *

1090 KK RET9
 1091 KM RETRIEVE FLOW FROM DVCUL9
 1092 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1093 DR DVCUL9
 *

1094 KK CRET9
 1095 KM COMBINE RET9 AND RET8
 1096 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1097 HC 2
 *

1098 KK DCCUL9
 1099 KM FACILITY E-15A
 1100 KM FLOW SPLIT AT VTN CULVERT 9
 1101 KM DIVERSION TO EAST SIDE OF US-95
 1102 KM BECAUSE PROPOSED MPU FACILITY REDUCES FLOW AT CULVERT 9,
 1103 KM SIDE WEIR RAISED TO MATCH EXISTING DIVERSION
 1104 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1105 DT DIV9A
 1106 DI 0 165 377 791 920 1065 2170
 1107 DQ 0 165 203 241 250 260 437
 *

1108 KK RET10
 1109 KM RETRIEVE FLOW FROM DCUL10
 1110 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1111 DR DCUL10
 *

1 HEC-1 INPUT PAGE 31

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

1112 KK CRET10
 1113 KM COMBINE RET10 AND RDCUL9
 1114 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1115 HC 2
 *

1116 KK DCUL10A
 1117 KM FACILITY E-16A
 1118 KM FLOW SPLIT AT VTN CULVERT 10
 1119 KM DIVERSION TO EAST SIDE OF US-95
 1120 KM BECAUSE PROPOSED MPU FACILITY REDUCES FLOW AT CULVERT 10,
 1121 KM SIDE WEIR RAISED TO MATCH EXISTING DIVERSION
 1122 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1123 DT DIV10A
 1124 DI 0 146 312 675 1424 2223
 1125 DQ 0 146 291 360 437 583
 *

1126 KK RET11
 1127 KM RETRIEVE FLOW FROM DCUL11
 1128 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1129 DR DCUL11
 *

1130 KK RET6
 1131 KM RETRIEVE FLOW THAT SPLITS INTO MPU FACILITY AT VTN CULVERT 6
 1132 DR DCMPU6
 *

1133 KK DIV11A
 1134 KM COMBINE RET11, RDCUL10, CHD7B2, RET6
 1135 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1136 HC 4
 *

1137 KK DUMMY
 1138 KM CLEAR HEC-1 STACK
 1139 HC 2
 *

1140 KK RETD1B
 1141 KM RETRIEVE FLOW FROM VTN CULVERT 1
 1142 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1143 DR DCHD1B
 *

1144 KK DHD1C
 1145 KM FACILITY E-9A
 1146 KM FLOW SPLIT AT VTN CULVERT 1
 1147 KM DIVERSION TO EAST SIDE OF US-95
 1148 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1149 DT DCHD1C
 1150 DI 0 10 50
 1151 DQ 0 10 50
 *

1 HEC-1 INPUT PAGE 32

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

1152 KK RETD2B

Proposed.OUT

1153 KM RETRIEVE FLOW FROM VTN CULVERT 2
 1154 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1155 DR DCHD2B
 *

1156 KK CHD02C
 1157 KM COMBINE DCHD2B, RDHD1C
 1158 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1159 HC 2
 *

1160 KK DHD2C
 1161 KM FACILITY E-10A
 1162 KM FLOW SPLIT AT VTN CULVERT 2
 1163 KM DIVERSION TO EAST SIDE OF US-95
 1164 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1165 DT DCHD2C
 1166 DI 0 100 200 250 400 500 600 700 800 900
 1167 DI 1000
 1168 DQ 0 65 100 122 201 258 323 384 447 514
 1169 DQ 581
 *

1170 KK RETD4B
 1171 KM RETRIEVE FLOW FROM VTN CULVERT 4
 1172 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1173 DR DCHD4B
 *

1174 KK CHD04C
 1175 KM COMBINE DCHD4B, RDHD2C
 1176 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1177 HC 2
 *

1178 KK DHD4C
 1179 KM FACILITY E-11A
 1180 KM FLOW SPLIT AT VTN CULVERT 4
 1181 KM DIVERSION TO EAST SIDE OF US-95
 1182 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1183 DT DCHD4C
 1184 DI 0 200 400 600 800 1000 1200 1400 1600 1800
 1185 DI 2000
 1186 DQ 0 181 212 262 336 416 503 609 719 823
 1187 DQ 933
 *

1188 KK DHD5C
 1189 KM FACILITY E-12A
 1190 KM FLOW SPLIT AT VTN CULVERT 5
 1191 KM DIVERSION TO EAST SIDE OF US-95
 1192 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1193 DT DCHD5C

1

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PAGE 33

LINE	ID	1	2	3	4	5	6	7	8	9	10
1194	DI	0	150	300	450	600	750	800	1050	1200	1350
1195	DI	1500									
1196	DQ	0	132	171	193	208	232	245	321	380	444
1197	DQ	513									

1198 KK RETD6B
 1199 KM RETRIEVE FLOW FROM VTN CULVERT 6
 1200 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1201 DR DCHD6B
 *

1202 KK CHD06C
 1203 KM COMBINE DCHD6B, RDHD5C
 1204 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1205 HC 2
 *

1206 KK DHD6C
 1207 KM FACILITY E-13A
 1208 KM FLOW SPLIT AT VTN CULVERT 6
 1209 KM DIVERSION TO EAST SIDE OF US-95
 1210 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1211 DT DCHD6C
 1212 DI 0 200 400 600 800 1000 1200 1400 1600 1680
 1213 DI 2000
 1214 DQ 0 199.9 399.9 560 647 713 786 860 948 988
 1215 DQ 1142
 *

1216 KK DUMMY
 1217 KM EMPTY HEC-1 STACK
 1218 HC 2
 *

1219 KK RETC5C
 1220 KM RETRIEVE FLOW FROM VTN CULVERT 5
 1221 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1222 DR DCHD5C
 *

1223 KK 95-7B
 1224 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1225 BA .0081
 1226 PB 2.77
 1227 LS 0 92.6
 1228 UD 0.087
 *

1229 KK C95-7B
 1230 KM COMBINE DCHD5C, 95-7B
 1231 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1232 HC 2
 *

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HEC-1 INPUT

PAGE 34

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

1233 KK RETC6C
 1234 KM RETRIEVE FLOW FROM VTN CULVERT 6
 1235 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1236 DR DCHD6C
 *

1237 KK 95-8B
 1238 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1239 BA .0031
 1240 PB 2.77
 1241 LS 0 92.6
 1242 UD 0.052
 *

1243 KK C95-8B
 1244 KM COMBINE DSHD5C, DCHD6C, 95-8B
 1245 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1246 HC 2
 *

1247 KK SKY2

				Proposed.OUT	
	1248	BA	.0074		
	1249	PB	2.93		
	1250	LS	0	98.0	
	1251	UD	.099		
		*			
	1252	KK	EMLA1A		
	1253	BA	.0135		
	1254	PB	2.93		
	1255	LS	0	95.0	
	1256	UD	.100		
		*			
	1257	KK	TP1		
	1258	BA	.0009		
	1259	PB	2.93		
	1260	LS	0	98.0	
	1261	UD	.082		
		*			
	1262	KK	BR-TP		
	1263	KM	TOTAL FLOW AT INTERSECTION OF BRENT AND TEE PEE		
	1264	KM	FLOW ROUTED EAST IN BRENT		
	1265	HC	5		
		*			
	1266	KK	ES2		
	1267	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY		
	1268	BA	.0491		
	1269	PB	2.77		
	1270	LS	0	94.7	
	1271	UD	0.149		
		*			
1			HEC-1 INPUT		PAGE 35
	LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10			
	1272	KK	BRENT1		
	1273	BA	.0018		
	1274	PB	2.93		
	1275	LS	0	98.0	
	1276	UD	.062		
		*			
	1277	KK	EGC3		
	1278	BA	.0215		
	1279	PB	2.93		
	1280	LS	0	95.0	
	1281	UD	.091		
		*			
	1282	KK	HORSE5		
	1283	BA	.0048		
	1284	PB	2.93		
	1285	LS	0	98.0	
	1286	UD	.063		
		*			
	1287	KK	CP44		
	1288	KM	TOTAL KYLE CANYON DEVELOPMENT DISCHARGE AT INTERSECTION OF BRENT LANE AND FOR		
	1289	KM	PROPOSED FLOW SPLIT INTO EXISTING STORM DRAIN SOUTH		
	1290	HC	5		
		*			
	1291	KK	SOUTH		
	1292	KM	FLOW SPLIT AT BRENT/FT. APACHE		
	1293	KM	DIVERT STORM DRAIN DESIGN FLOW 65 CFS SOUTH IN FORT APACHE		
	1294	DT	BRENT		
	1295	DI	0 212 425		
	1296	DQ	0 160 373		
		*			
	1297	KK	SKY1		
	1298	BA	.0074		
	1299	PB	2.93		
	1300	LS	0	98.1	
	1301	UD	.084		
		*			
	1302	KK	HORSE4		
	1303	BA	.0035		
	1304	PB	2.93		
	1305	LS	0	98.0	
	1306	UD	.050		
		*			
1			HEC-1 INPUT		PAGE 36
	LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10			
	1307	KK	EGC1		
	1308	BA	.0076		
	1309	PB	2.93		
	1310	LS	0	95.0	
	1311	UD	.070		
		*			
	1312	KK	EGC2		
	1313	BA	.0121		
	1314	PB	2.93		
	1315	LS	0	95.0	
	1316	UD	.095		
		*			
	1317	KK	DUMMY		
	1318	HC	5		
		*			
	1319	KK	95-9B		
	1320	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY		
	1321	BA	.0133		
	1322	PB	2.77		
	1323	LS	0	92.6	
	1324	UD	0.139		
		*			
	1325	KK	CP45		
	1326	KM	TOTAL KYLE CANYON DISCHARGE AT INTERSECTION OF FORT APACHE AND HORSE		
	1327	KM	PROPOSED FLOW SPLIT AT INTERSECTION		
	1328	HC	2		
		*			
	1329	KK	HORSE		
	1330	KM	FLOW SPLIT AT HORSE/RACEL		
	1331	KM	DIVERT NWNS 101 CFS SOUTH IN FORT APACHE/RACEL		
	1332	DT	RACEL		
	1333	DI	0 101 1000		
	1334	DQ	0 101 101		
		*			
	1335	KK	RETC4C		
	1336	KM	RETRIEVE FLOW FROM VTN CULVERT 4		
	1337	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY		
	1338	DR	DCHD4C		
		*			

1

1339

KK

SKY3

1340

BA

.0068

1341

PB

2.77

98.0

1342

LS

0

1343

UD

.146

*

Proposed.OUT

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1

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PAGE 37

LINE

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

1344

KK

OFFH

1345

KM

REFERENCED FROM GCW MASTER DRAINAGE STUDY

1346

BA

.0074

1347

PB

2.77

89.5

1348

LS

0

1349

UD

0.082

*

1350

KK

SK-IR

1351

KM

COMBINE DCHD4C, SKY3, OFFH

1352

HC

3

*

1353

KK

EML1A

1354

BA

.0293

1355

PB

2.77

92.0

1356

LS

0

1357

UD

.124

*

1358

KK

IRON2

1359

BA

.0041

1360

PB

2.93

98.0

1361

LS

0

1362

UD

.063

*

1363

KK

EML1B

1364

BA

.0221

1365

PB

2.93

94.6

1366

LS

0

1367

UD

.104

*

1368

KK

TP2

1369

BA

.0009

1370

PB

2.93

98.0

1371

LS

0

1372

UD

.079

*

1373

KK

IR-TP

1374

KM

COMBINE SK-IR, EML1A, IRON2, EML1B, TP2

1375

HC

5

*

1376

KK

ES1

1377

KM

REFERENCED FROM GCW MASTER DRAINAGE STUDY

1378

BA

.0173

1379

PB

2.77

92.7

1380

LS

0

1381

UD

0.109

*

HEC-1 INPUT

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1

HEC-1 INPUT

PAGE 38

LINE

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

1382

KK

IRON3

1383

BA

.0021

1384

PB

2.93

98.0

1385

LS

0

1386

UD

.062

*

1387

KK

IR-FT

1388

KM

COMBINE IR-TP, ES1, IRON3

1389

HC

3

*

1390

KK

FTNOR

1391

KM

FLOW SPLIT AT IRON MOUNTAIN/FORT APACHE

1392

KM

DIVERT FLOW EAST IN IRON MOUNTAIN ROAD

1393

KM

DIVERT MAX. SD FLOW + MAX. STREET FLOW (118/98 CFS) LESS THAN MWNS 235/98 CFS

1394

DT

IREAST

1395

DI

0

115

242

1396

DQ

0

98

118

*

1397

KK

FTNOR

1398

DT

FTNOR

1399

DI

0

1000

1400

DQ

0

1000

*

1401

KK

DUMMY

1402

HC

4

*

1403

KK

RETC1C

1404

KM

RETRIEVE FLOW FROM VTN CULVERT 1

1405

KM

REFERENCED FROM GCW MASTER DRAINAGE STUDY

1406

DR

DCHD1C

*

1407

KK

RETC2C

1408

KM

RETRIEVE FLOW FROM VTN CULVERT 2

1409

KM

REFERENCED FROM GCW MASTER DRAINAGE STUDY

1410

DR

DCHD2C

*

1411

KK

OFF9

1412

KM

REFERENCED FROM GCW MASTER DRAINAGE STUDY

1413

BA

.0424

1414

PB

2.77

89.1

1415

LS

0

1416

UD

0.194

*

HEC-1 INPUT

PAGE 39

1

HEC-1 INPUT

PAGE 39

LINE

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

1417

KK

COFF9

1418

KM

COMBINE OFF9, DCHD1C, DCHD2C

1419

HC

3

*

1420

KK

OFF5

1421

BA

.0109

1422

PB

2.77

77.0

1423

LS

0

1424

UD

0.172

*

1425

KK

SKY4

Page 16

1426 BA .0095
 1427 PB 2.77
 1428 LS 0 98.0
 1429 UD .183
 *

1430 KK LC-SK
 1431 KM TOTAL FLOW AT INTERSECTION OF LOG CABIN AND SKY
 1432 KM FLOW ROUTED EAST IN LOG CABIN
 1433 HC 3
 *

1434 KK EML18
 1435 BA .0749
 1436 PB 2.77
 1437 LS 0 92.0
 1438 UD .129
 *

1439 KK ESCHL1
 1440 BA .0249
 1441 PB 2.77
 1442 LS 0 83.5
 1443 UD .126
 *

1444 KK EPRK1
 1445 BA .0123
 1446 PB 2.77
 1447 LS 0 69.0
 1448 UD .122
 *

1449 KK STRT6
 1450 BA .0055
 1451 PB 2.77
 1452 LS 0 98.0
 1453 UD .141
 *

1

HEC-1 INPUT

PAGE 40

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

1454 KK EML2A
 1455 BA .0665
 1456 PB 2.77
 1457 LS 0 92.0
 1458 UD .138
 *

1459 KK DUMMY
 1460 HC 5
 *

1461 KK TP3
 1462 BA .0068
 1463 PB 2.77
 1464 LS 0 98.0
 1465 UD .231
 *

1466 KK TP4A
 1467 BA .0029
 1468 PB 2.77
 1469 LS 0 98.0
 1470 UD .115
 *

1471 KK LOG1
 1472 BA .0073
 1473 PB 2.77
 1474 LS 0 98.0
 1475 UD .088
 *

1476 KK LC-TP
 1477 KM TOTAL FLOW AT INTERSECTION OF LOG CABIN AND TEE PEE
 1478 KM FLOW ROUTED EAST IN LOG CABIN
 1479 HC 5
 *

1480 KK EL1
 1481 BA .1161
 1482 PB 2.77
 1483 LS 0 82.0
 1484 UD .184
 *

1485 KK LOG2
 1486 BA .0042
 1487 PB 2.77
 1488 LS 0 98.0
 1489 UD .065
 *

1

HEC-1 INPUT

PAGE 41

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

1490 KK FORT1
 1491 BA .0091
 1492 PB 2.77
 1493 LS 0 98.0
 1494 UD .238
 *

1495 KK FTNOR
 1496 DR FTNOR
 *

1497 KK FT-LC
 1498 KM TOTAL FLOW AT INTERSECTION OF FORT APACHE AND LOG CABIN
 1499 KM FLOW ROUTED NORTH IN FORT APACHE
 1500 HC 5
 *

1501 KK RFTLC
 1502 KM DIVERT FLOW SPLIT INTO O'HARE ROAD
 1503 DT OHARE
 1504 DI 0 276 697
 1505 DQ 0 0 47
 *

1506 KK R2FTLC
 1507 KM DIVERT FLOW SPLIT INTO LOG CABIN WAY
 1508 DT LOGCAB
 1509 DI 0 276 650
 1510 DQ 0 73 187
 *

1511 KK EML2B
 1512 BA .0412
 1513 PB 2.77
 1514 LS 0 92.0
 1515 UD .120
 *

Proposed.OUT

1516 KK TP4B
 1517 BA .0036
 1518 PB 2.77
 1519 LS 0 98.0
 1520 UD .085
 *

1521 KK EML3
 1522 BA .0575
 1523 PB 2.77
 1524 LS 0 92.0
 1525 UD .153
 *

1

HEC-1 INPUT

PAGE 42

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

1526 KK STR17
 1527 BA .0039
 1528 PB 2.77
 1529 LS 0 98.0
 1530 UD .071
 *

1531 KK DUMMY
 1532 HC 5
 *

1533 KK EML4
 1534 BA .0718
 1535 PB 2.77
 1536 LS 0 92.0
 1537 UD .153
 *

1538 KK ENVE2
 1539 BA .0144
 1540 PB 2.77
 1541 LS 0 77.0
 1542 UD .157
 *

1543 KK FORT2
 1544 BA .0090
 1545 PB 2.77
 1546 LS 0 98.0
 1547 UD .253
 *

1548 KK FT-MO
 1549 KM TOTAL KYLE CANYON DEVELOPMENT DISCHARGE IN FORT APACHE @ MOCCASIN
 1550 KM FLOW ROUTED EAST ADJACENT TO MOCCASIN
 1551 HC 4
 *

1552 KK OFFC
 1553 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1554 BA .1333
 1555 PB 2.79
 1556 LS 0 77.4
 1557 UD 0.313
 *

1558 KK 95-3
 1559 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1560 BA .0095
 1561 PB 2.77
 1562 LS 0 89.1
 1563 UD 0.095
 *

1

HEC-1 INPUT

PAGE 43

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

1564 KK OFFB
 1565 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1566 BA .1337
 1567 PB 2.81
 1568 LS 0 77.4
 1569 UD 0.392
 *

1570 KK 95-2
 1571 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1572 BA .0044
 1573 PB 2.77
 1574 LS 0 89.1
 1575 UD 0.090
 *

1576 KK DUMMY
 1577 HC 4
 *

1578 KK OFFA
 1579 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1580 BA .0203
 1581 PB 2.77
 1582 LS 0 77.4
 1583 UD 0.149
 *

1584 KK 95-1
 1585 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1586 BA .0042
 1587 PB 2.77
 1588 LS 0 89.1
 1589 UD 0.069
 *

1590 KK CP27B
 1591 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1592 KM COMBINE OFFC, 95-3, OFFB, 95-2, OFFA, 95-1
 1593 HC 3
 *

1594 KK OFFZ
 1595 BA .0521
 1596 PB 2.77
 1597 LS 0 77.0
 1598 UD 0.223
 *

1

HEC-1 INPUT

PAGE 44

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

1599 KK COFFZ
 1600 KM COMBINE CP27B, OFFZ
 1601 HC 2
 *

1602 KK OFFDA
 1603 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY

Proposed.OUT

1604	BA	.6430	
1605	PB	3.09	
1606	LS	0	77.4
1607	UD	0.530	
	*		
1608	KK	ROFFDA	
1609	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY	
1610	KM	STEPS	K X-FACTOR
1611	RM	5	0.400 0.15
	*		
1612	KK	OFFDB	
1613	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY	
1614	BA	.4948	
1615	PB	2.84	
1616	LS	0	77.4
1617	UD	0.522	
	*		
1618	KK	CP27A	
1619	KM	COMBINE OFFDA, OFFDB	
1620	HC	2	
	*		
1621	KK	DCKC7	
1622	KM	RETRIEVE FLOW THAT CROSSES US-95 IN CCRFCD FACILITY	
1623	DR	DCKC7	
	*		
1624	KK	OFFX	
1625	BA	.0177	
1626	PB	2.77	
1627	LS	0	77.0
1628	UD	0.187	
	*		
1629	KK	OFFT	
1630	BA	.0173	
1631	PB	2.77	
1632	LS	0	77.0
1633	UD	0.203	
	*		

1 HEC-1 INPUT PAGE 45

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

1634	KK	EPT16	
1635	KM	TOTAL OFFSITE & KC WEST FLOW CONVEYED THRU EAST-SHEEP MOUNTAIN PKWY	
1636	KM	COMBINE CP27A, DCKC7, OFFX, OFFT	
1637	HC	4	
	*		
1638	KK	SHEEP2	
1639	BA	.0627	
1640	PB	2.77	
1641	LS	0	77.0
1642	UD	.218	
	*		
1643	KK	SHEEP3	
1644	BA	.0137	
1645	PB	2.77	
1646	LS	0	77.0
1647	UD	.198	
	*		
1648	KK	EMLA2	
1649	BA	.1368	
1650	PB	2.77	
1651	LS	0	92.0
1652	UD	.225	
	*		
1653	KK	DUMMY	
1654	HC	4	
	*		
1655	KK	ENVE1	
1656	BA	.0341	
1657	PB	2.77	
1658	LS	0	77.0
1659	UD	.210	
	*		
1660	KK	HUAL3	
1661	BA	.0037	
1662	PB	2.77	
1663	LS	0	98.0
1664	UD	.177	
	*		
1665	KK	SH-MO	
1666	KM	TOTAL KYLE CANYON DEVELOPMENT DISCHARGE IN SHEEP MOUNTAIN PKWY @ MOCCASIN	
1667	HC	4	
	*		

1 HEC-1 INPUT PAGE 46

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

1668	KK	CP43	
1669	KM	TOTAL KYLE CANYON DEVELOPMENT DISCHARGE IN MOCCASIN REGIONAL ALIGNMENT	
1670	HC	2	
	*		
1671	ZZ		

1 SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT LINE	(V) ROUTING	(--->) DIVERSION OR PUMP FLOW
NO.	(.) CONNECTOR	(<---) RETURN OF DIVERTED OR PUMPED FLOW
28	OFF1	
	.	
43	OFF2	
	.	
49	OFF3	
	.	
55	CP1	
	.	
58	OFF4	
	.	
64	OFF5	
	.	
70	OFF6	
	.	
76	ON1	
	.	

```

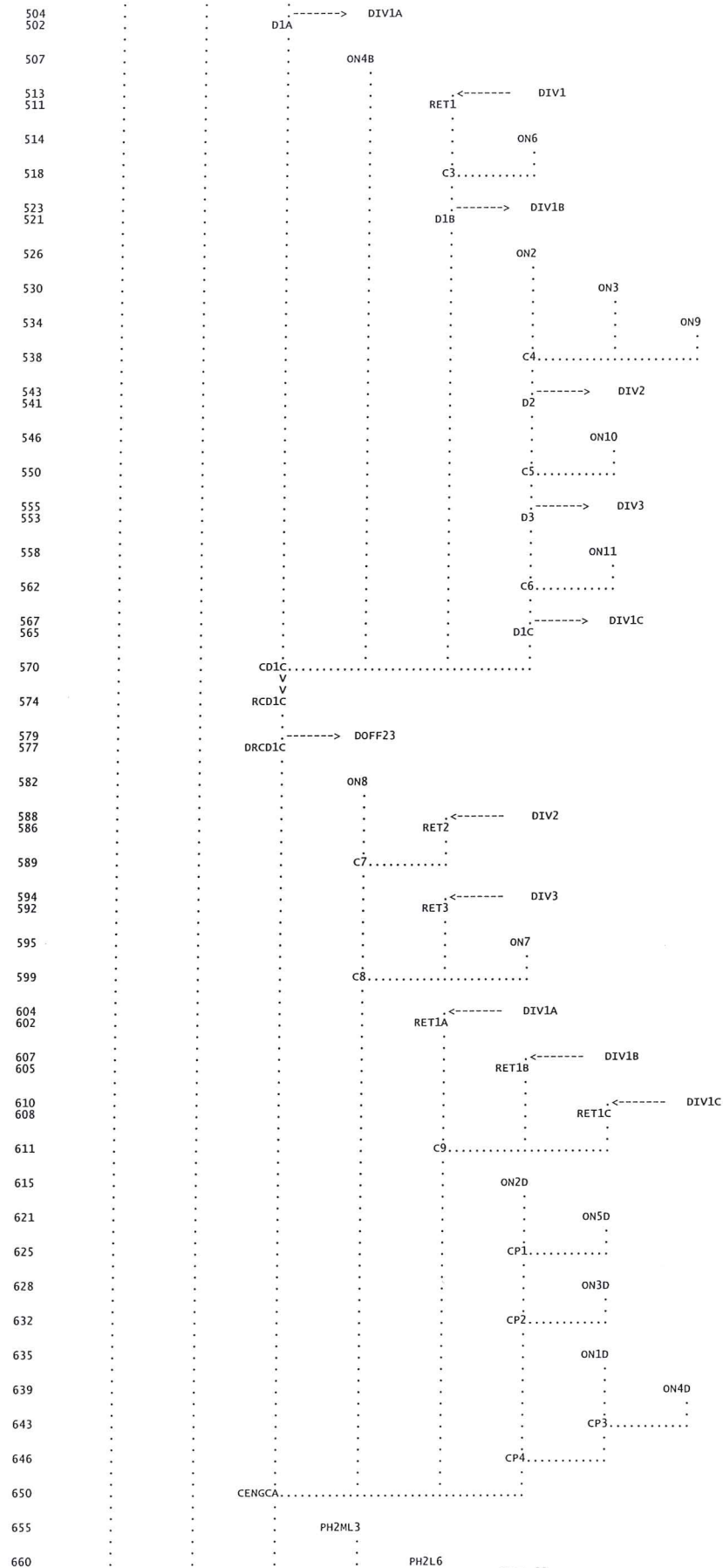
81      DB1.
      V
84      RDB1
      .
91      .      AROY1
      .
97      .      .      WPRK5
      .
102     .      .      .      SHEEP1
      .
110     .      .      .      .      -----> DSHEPC
108     .      .      .      SHEPAB
      .
115     .      .      .      .      -----> DSHEPB
113     .      .      .      DSHEPA
      .
118     .      .      .      .      AROY2
      .
124     DUMMY
      .
126     .      PH2L4
      .
131     .      .      PH2L8
      .
136     .      .      .      PH2L9
      .
141     .      .      .      .      EGAN2
      .
146     DUMMY
      .
148     .      WPRK2A
      .
153     .      .      PH2PK1
      .
158     .      .      .      PH2PK
      .
163     .      .      .      .      HORSE2
      .
168     DUMMY
      .
170     .      PH2PK2
      .
175     .      .      PH2ML4
      .
180     .      .      .      SHAUM1
      .
185     HU-HO
      .
189     .      WML5
      .
194     .      .      WSCHL2
      .
199     .      .      .      WPRK1
      .
204     .      .      .      .      STRT5
      .
209     DUMMY
      .
213     .      .      .      .      <----- DSHEPB
211     .      DSHEPB
      .
214     .      .      .      AROY5
      .
219     .      .      .      WMLA1
      .
224     .      .      .      .      HUAL2B
      .
229     DUMMY
      .
231     .      AROY4
      .
237     .      .      WML7
      .
242     .      .      .      WPRK4
      .
247     .      .      .      .      SHAUM2
      .
252     DUMMY
      .
254     .      .      WL7
      .
259     .      .      .      WNVE2
      .
264     .      .      .      .      WL6
      .
269     .      .      .      .      .      HORS1A
      .
274     SH-HO
      .
278     .      .      OFF7
      .
284     .      .      .      OFF8

```

```

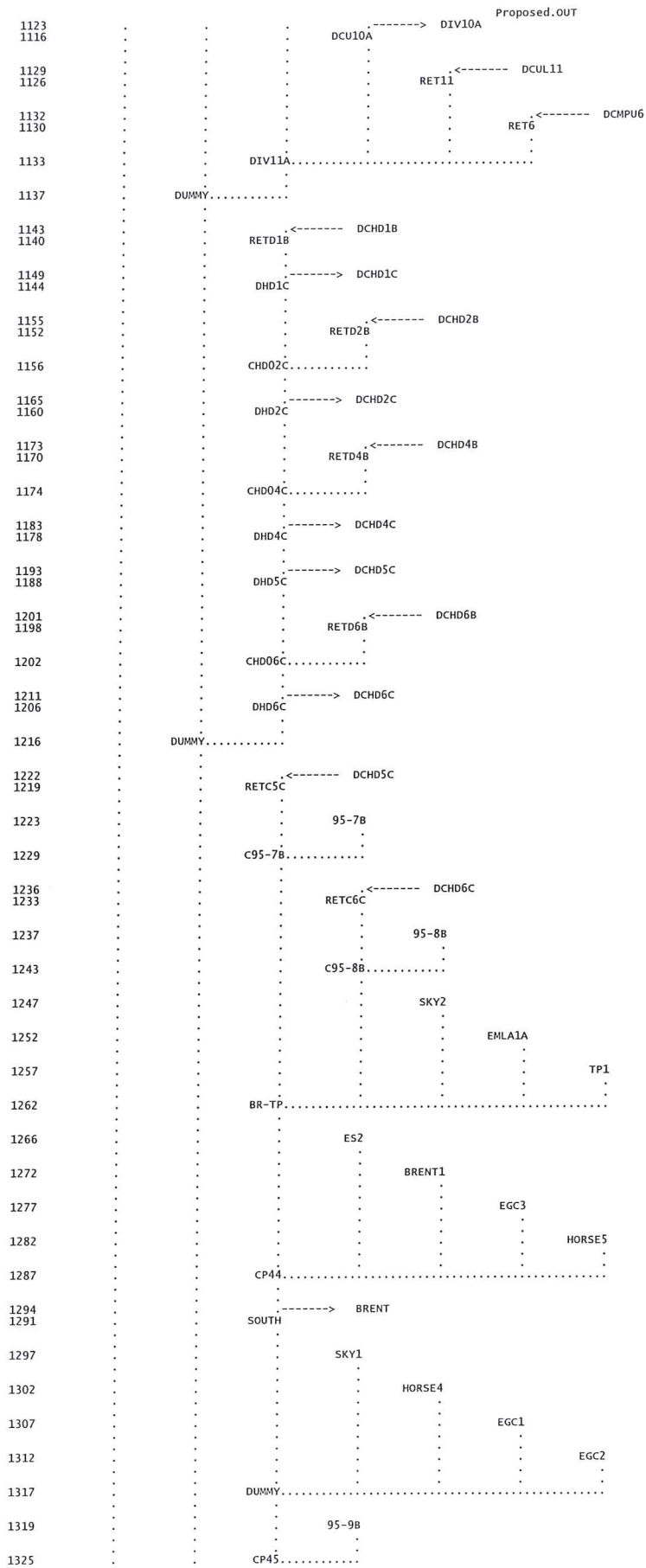
290      CP2.....
293      OFF9
299      OFF10
305      ON2
310      DB2.....
313      V
      RDB2
320      WL8
325      WNVE3
330      WL5
335      IRON1A
340      DUMMY.....
342      SHAUM3
347      IR-SH.....
351      WML6
356      HORS1B
361      WL4
366      DUMMY.....
370      DSHEPC <----- DSHEPC
368      DSHEPC
371      IRON1B
376      HU-IR.....
380      OFFG
386      WPT40.....
389      OFF10
      V
395      ROFF10
399      OFFFA
      V
405      ROFFFA
409      OFFFB
415      COFF1.....
419      WPRK6
425      COFF2.....
428      OFFE
434      OFFV
439      CKC5.....
445      DCKC5 -----> DCKC7
442      DCKC5
448      OFF17B
455      OFF17A
462      COFF17.....
474      DCOF17 -----> DVCUL8
468      DCOF17
477      ON1
483      ON4A
487      C1.....
492      D1 -----> DIV1
490      D1
495      ON5
499      C2.....

```

				Proposed.OUT
665				EGAN1
670		DUMMY		
672			PH2L5	
677				PH2L7
682				RACL1A
687		RA-EG		
691			PH2ML1	
696				PH2ML2
701				PH2L1
706				PH2L2
711		DUMMY		
713			PH2L3	
718				HUAL1
723				RACL1B
728				HUAL2A
733		RA-HU		
737			PH1-3	
743				CONQ
749		DUMMY		
752			PH1-5	
758				PH1PRK
764				RACL1C
769		DUMMY		
772			PH1-4	
778				PH1-6
784				GCD
789		CP26		
793		CCP4		
797			OFF21B	
804		COF21B		
813				DVCUL9
808		DOF21B		
819			ROFF23	DOFF23
816				
820				OFF23
826		COFF23		
835				DCUL10
830		DCOF23		
838			GT1	
843				OFFU
850		CP26WT		
859				DCUL11
853		DC26WT		
862			95-5	
874				DCHD1B
869		DHD01B		
877			OFF8	
883				OFFY
888				WGEDI1B

		Proposed.OUT
893	CHD02B.....	
902	DHD02B----->	DCHD2B
897		
905		WGED1A
910		STRT3
915		WPT49.....
918		95-6
924		OFFW
929	CHD04B.....	
938	DHD04B----->	DCHD4B
933		
941		WBU3
946		STRT2
951		GRAND3
956		WBU2B
961		WGC1
966		WPT48.....
969		95-7A
975	CHD05B.....	
980		WBU1
985		STRT1
990		WBU2A
995		DUMMY.....
997		PH1-1
1003		PH1-2
1009		GRAND2
1014		HORSE3
1019		WPT46.....
1022		95-8A
1028		OFF14
1034	CHD06B.....	
1042	RCHD6B----->	DCMPU6
1039		
1050	DHD06B----->	DCHD6B
1045		
1053		95-9A
1059	CHD07B.....	
1063		OFF15
1069	CHD7B2.....	
1079	CRET8<-----	DVCUL8
1075		
1087	DCRET8----->	DIV8A
1080		
1093		RET9<-----
1090		DVCUL9
1094	CRET9.....	
1105	DCCUL9----->	DIV9A
1098		
1111		RET10<-----
1108		DCUL10
1112	CRET10.....	




```

1526          . . . . . Proposed.OUT
1531          . . . . . STRT7
1533          . . . . .
1538          . . . . . DUMMY
1533          . . . . . EML4
1538          . . . . . ENVE2
1543          . . . . . FORT2
1548          . . . . . FT-MO
1552          . . . . . OFFC
1558          . . . . . 95-3
1564          . . . . . OFFB
1570          . . . . . 95-2
1576          . . . . . DUMMY
1578          . . . . . OFFA
1584          . . . . . 95-1
1590          . . . . . CP27B
1594          . . . . . OFFZ
1599          . . . . . COFFZ
1602          . . . . . OFFDA
1608          . . . . . ROFFDA
1612          . . . . . OFFDB
1618          . . . . . CP27A
1623          . . . . . DCKC7
1621          . . . . . DCKC7
1624          . . . . . OFFX
1629          . . . . . OFFT
1634          . . . . . EPT16
1638          . . . . . SHEEP2
1643          . . . . . SHEEP3
1648          . . . . . EMLA2
1653          . . . . . DUMMY
1655          . . . . . ENVE1
1660          . . . . . HUAL3
1665          . . . . . SH-MO
1668          . . . . . CP43

```

```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* JUN 1998 *
* VERSION 4.1 *
* RUN DATE 27NOV14 TIME 08:33:18 *
*****

```

```

*****
* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET *
* DAVIS, CALIFORNIA 95616 *
* (916) 756-1104 *
*****

```

SLATER HANIFAN GROUP
OLYMPIA COMPANIES
SKYE CANYON - MASTER DRAINAGE STUDY UPDATE
OVERALL PROPERTY PROPOSED DRAINAGE CONDITION

RETURN PERIOD ----- 100 & 10-YEAR
DISTRIBUTION ----- 6-HOUR SDN3
PROJECT NO. ----- OLY1401.004
FILENAME ----- Proposed.h1
DATE ----- 11/5/2014
MODELED BY ----- SMJ/ETM

SIX HOUR DEPTH-AREA REDUCTION FACTORS	
DRAINAGE AREA (MI^2)	DARF
0.0-0.49	1.00
0.5-0.99	0.98
1.0-1.99	0.97
2.0-3.99	0.93
4.0-5.99	0.91
6.0-7.99	0.90
25-YR	0.70
10-YR	0.57

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

Proposed.OUT

IT HYDROGRAPH TIME DATA MINUTES IN COMPUTATION INTERVAL
 NMIN 5 STARTING DATE
 IDATE 1 STARTING TIME
 ITIME 0000 NUMBER OF HYDROGRAPH ORDINATES
 NQ 300 ENDING DATE
 NDDATE 2 ENDING TIME
 NDTIME 0055 CENTURY MARK
 ICENT 19
 COMPUTATION INTERVAL .08 HOURS
 TOTAL TIME BASE 24.92 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

JP MULTI-PLAN OPTION
 NPLAN 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION
 RATIOS OF PRECIPITATION
 1.00 .98 .97 .93 .91 .90 .70 .57

WARNING --- ROUTED OUTFLOW (77.) IS GREATER THAN MAXIMUM OUTFLOW (77.) IN STORAGE-OUTFLOW TABLE
 WARNING --- ROUTED OUTFLOW (77.) IS GREATER THAN MAXIMUM OUTFLOW (77.) IN STORAGE-OUTFLOW TABLE
 WARNING --- ROUTED OUTFLOW (77.) IS GREATER THAN MAXIMUM OUTFLOW (77.) IN STORAGE-OUTFLOW TABLE
 WARNING --- ROUTED OUTFLOW (77.) IS GREATER THAN MAXIMUM OUTFLOW (77.) IN STORAGE-OUTFLOW TABLE
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 WARNING --- ROUTED OUTFLOW (77.) IS GREATER THAN MAXIMUM OUTFLOW (77.) IN STORAGE-OUTFLOW TABLE
 WARNING --- ROUTED OUTFLOW (77.) IS GREATER THAN MAXIMUM OUTFLOW (77.) IN STORAGE-OUTFLOW TABLE
 1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
 FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
 TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION							
				RATIO 1 1.00	RATIO 2 .98	RATIO 3 .97	RATIO 4 .93	RATIO 5 .91	RATIO 6 .90	RATIO 7 .70	RATIO 8 .57
HYDROGRAPH AT +	OFF1	.43	1 FLOW TIME	387. 3.83	376. 3.83	370. 3.83	347. 3.83	335. 3.83	330. 3.83	218. 3.83	150. 3.92
HYDROGRAPH AT +	OFF2	.04	1 FLOW TIME	54. 3.58	53. 3.58	52. 3.58	48. 3.58	47. 3.58	46. 3.58	30. 3.58	20. 3.58
HYDROGRAPH AT +	OFF3	.03	1 FLOW TIME	38. 3.58	37. 3.58	36. 3.58	34. 3.58	33. 3.58	33. 3.58	22. 3.58	15. 3.58
3 COMBINED AT +	CP1	.50	1 FLOW TIME	430. 3.83	417. 3.83	411. 3.83	386. 3.83	373. 3.83	367. 3.83	243. 3.83	167. 3.83
HYDROGRAPH AT +	OFF4	.06	1 FLOW TIME	84. 3.58	82. 3.58	81. 3.58	76. 3.58	73. 3.58	72. 3.58	48. 3.58	34. 3.58
HYDROGRAPH AT +	OFF5	.26	1 FLOW TIME	236. 3.83	229. 3.83	226. 3.83	212. 3.83	205. 3.83	201. 3.83	134. 3.83	93. 3.92
HYDROGRAPH AT +	OFF6	.04	1 FLOW TIME	59. 3.58	57. 3.58	56. 3.58	53. 3.58	51. 3.58	50. 3.58	34. 3.58	24. 3.58
HYDROGRAPH AT +	ON1	.03	1 FLOW TIME	47. 3.58	46. 3.58	46. 3.58	43. 3.58	42. 3.58	42. 3.58	31. 3.58	23. 3.58
5 COMBINED AT +	DB1	.88	1 FLOW TIME	754. 3.75	731. 3.75	720. 3.75	675. 3.75	653. 3.75	642. 3.75	427. 3.83	296. 3.83
ROUTED TO +	RDB1	.88	1 FLOW TIME	71. 5.58	70. 5.58	69. 5.58	66. 5.58	65. 5.58	64. 5.58	48. 5.58	35. 5.58
			** PEAK STAGES IN FEET **								
			1 STAGE TIME	35.99 5.58	35.72 5.58	35.58 5.58	35.05 5.58	34.74 5.58	34.59 5.58	31.60 5.58	29.88 5.58
HYDROGRAPH AT +	AROY1	.00	1 FLOW TIME	5. 3.50	4. 3.50	4. 3.50	4. 3.50	4. 3.50	4. 3.50	3. 3.50	2. 3.50
HYDROGRAPH AT +	WPRK5	.00	1 FLOW TIME	6. 3.50	6. 3.50	6. 3.50	5. 3.50	5. 3.50	5. 3.50	3. 3.50	2. 3.50
HYDROGRAPH AT +	SHEEP1	.10	1 FLOW TIME	148. 3.58	144. 3.58	141. 3.58	133. 3.58	129. 3.58	127. 3.58	87. 3.58	61. 3.58
DIVERSION TO +	DSHEPC	.10	1 FLOW TIME	33. 3.58	32. 3.58	32. 3.58	30. 3.58	29. 3.58	28. 3.58	19. 3.58	14. 3.58
HYDROGRAPH AT +	SHEPAB	.10	1 FLOW TIME	115. 3.58	112. 3.58	110. 3.58	104. 3.58	100. 3.58	99. 3.58	67. 3.58	48. 3.58
DIVERSION TO +	DSHEPB	.10	1 FLOW TIME	70. 3.58	68. 3.58	67. 3.58	63. 3.58	61. 3.58	60. 3.58	41. 3.58	29. 3.58
HYDROGRAPH AT +	DSHEPA	.10	1 FLOW TIME	45. 3.58	44. 3.58	43. 3.58	41. 3.58	39. 3.58	39. 3.58	26. 3.58	19. 3.58
HYDROGRAPH AT +	AROY2	.01	1 FLOW TIME	13. 3.50	13. 3.50	13. 3.50	12. 3.50	12. 3.50	11. 3.50	8. 3.50	6. 3.50
5 COMBINED AT +	DUMMY	.99	1 FLOW	88.	85.	84.	78.	76.	75.	53.	37.

				TIME	3.58	3.58	Proposed	OUT	3.58	3.58	3.58	3.58	4.92	4.92
HYDROGRAPH AT														
+	PH2L4	.02	1	FLOW	33.	32.	32.	30.	29.	29.	20.	15.		
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	PH2L8	.01	1	FLOW	22.	21.	21.	20.	19.	19.	13.	10.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	PH2L9	.03	1	FLOW	52.	51.	50.	48.	46.	46.	32.	23.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	EGAN2	.00	1	FLOW	10.	10.	10.	10.	9.	9.	7.	6.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
5 COMBINED AT	DUMMY	1.06	1	FLOW	196.	191.	188.	177.	172.	169.	116.	83.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58		
HYDROGRAPH AT	WPRK2A	.01	1	FLOW	9.	9.	9.	8.	8.	8.	5.	3.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	PH2PK1	.01	1	FLOW	13.	12.	12.	11.	11.	11.	7.	5.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	PH2PK	.02	1	FLOW	29.	28.	27.	25.	25.	24.	15.	10.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58		
HYDROGRAPH AT	HORSE2	.01	1	FLOW	23.	23.	23.	22.	21.	21.	16.	13.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
5 COMBINED AT	DUMMY	1.10	1	FLOW	270.	263.	259.	244.	236.	233.	159.	114.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	PH2PK2	.00	1	FLOW	4.	4.	4.	4.	4.	3.	2.	2.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	PH2ML4	.04	1	FLOW	66.	64.	64.	61.	59.	58.	42.	32.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	SHAUM1	.01	1	FLOW	13.	13.	13.	12.	12.	12.	9.	7.		
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58		
4 COMBINED AT	HU-HO	1.15	1	FLOW	352.	343.	338.	319.	310.	305.	212.	154.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	WML5	.04	1	FLOW	76.	75.	74.	70.	69.	68.	51.	40.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	WSCHL2	.02	1	FLOW	33.	33.	32.	31.	30.	29.	21.	16.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	WPRK1	.01	1	FLOW	18.	18.	18.	17.	16.	16.	10.	7.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	STRT5	.01	1	FLOW	15.	15.	14.	14.	13.	13.	10.	8.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
5 COMBINED AT	DUMMY	1.22	1	FLOW	495.	482.	476.	450.	437.	431.	304.	224.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	DSHEPB	.00	1	FLOW	70.	68.	67.	63.	61.	60.	41.	29.		
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58		
HYDROGRAPH AT	AROY5	.01	1	FLOW	20.	19.	19.	18.	17.	17.	12.	8.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	WMLA1	.07	1	FLOW	133.	130.	129.	123.	120.	119.	89.	69.		
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58		
HYDROGRAPH AT	HUAL2B	.01	1	FLOW	21.	20.	20.	19.	19.	19.	14.	11.		
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67		
5 COMBINED AT	DUMMY	1.32	1	FLOW	718.	700.	691.	654.	636.	627.	445.	331.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	AROY4	.01	1	FLOW	13.	13.	13.	12.	11.	11.	8.	5.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	WML7	.04	1	FLOW	78.	76.	76.	72.	70.	69.	52.	40.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	WPRK4	.00	1	FLOW	7.	7.	7.	6.	6.	6.	4.	3.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	SHAUM2	.01	1	FLOW	17.	16.	16.	15.	15.	15.	12.	9.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
4 COMBINED AT	DUMMY	.06	1	FLOW	115.	112.	111.	106.	103.	102.	75.	58.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	WL7	.02	1	FLOW	36.	35.	35.	33.	32.	31.	22.	16.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	WVVE2	.00	1	FLOW	3.	3.	3.	3.	2.	2.	2.	1.		
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58		
HYDROGRAPH AT	WL6	.01	1	FLOW	11.	11.	11.	10.	10.	10.	7.	5.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
HYDROGRAPH AT	HORS1A	.01	1	FLOW	19.	18.	18.	17.	17.	17.	13.	10.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		
5 COMBINED AT	SH-HO	.10	1	FLOW	184.	180.	177.	169.	164.	162.	119.	91.		
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50		

Proposed.OUT

HYDROGRAPH AT +	OFF7	.01	1	FLOW TIME	10. 3.50	10. 3.50	10. 3.50	9. 3.50	9. 3.50	9. 3.50	6. 3.50	4. 3.50
HYDROGRAPH AT +	OFF8	.21	1	FLOW TIME	230. 3.75	223. 3.75	220. 3.75	206. 3.75	200. 3.75	196. 3.75	131. 3.75	90. 3.75
2 COMBINED AT +	CP2	.22	1	FLOW TIME	235. 3.75	228. 3.75	225. 3.75	211. 3.75	204. 3.75	201. 3.75	134. 3.75	93. 3.75
HYDROGRAPH AT +	OFF9	.12	1	FLOW TIME	144. 3.58	140. 3.58	138. 3.58	129. 3.67	125. 3.67	123. 3.67	82. 3.67	57. 3.67
HYDROGRAPH AT +	OFF10	.65	1	FLOW TIME	481. 4.08	467. 4.08	460. 4.08	432. 4.08	418. 4.08	411. 4.08	274. 4.08	190. 4.08
HYDROGRAPH AT +	ON2	.02	1	FLOW TIME	49. 3.50	48. 3.50	47. 3.50	45. 3.50	44. 3.50	43. 3.50	31. 3.50	24. 3.50
4 COMBINED AT +	DB2	1.01	1	FLOW TIME	729. 3.83	707. 3.83	696. 3.83	653. 3.83	632. 3.83	621. 3.83	413. 3.83	284. 3.83
ROUTED TO +	RDB2	1.01	1	FLOW TIME	77. 5.92	76. 5.92	75. 5.92	73. 5.92	72. 5.92	71. 5.92	57. 5.83	46. 5.75
				** PEAK STAGES IN FEET **	3009.12	3008.69	3008.48	3007.62	3007.20	3006.99	3002.81	3000.10
				1 STAGE TIME	5.92	5.92	5.92	5.92	5.92	5.92	5.83	5.75
HYDROGRAPH AT +	WL8	.01	1	FLOW TIME	25. 3.50	24. 3.50	24. 3.50	22. 3.50	22. 3.50	21. 3.50	15. 3.50	11. 3.50
HYDROGRAPH AT +	WNVE3	.00	1	FLOW TIME	4. 3.58	4. 3.58	4. 3.58	4. 3.58	4. 3.58	4. 3.58	2. 3.58	2. 3.58
HYDROGRAPH AT +	WL5	.04	1	FLOW TIME	69. 3.50	67. 3.50	66. 3.50	62. 3.50	61. 3.50	60. 3.50	42. 3.50	30. 3.58
HYDROGRAPH AT +	IRON1A	.01	1	FLOW TIME	12. 3.50	12. 3.50	12. 3.50	11. 3.50	11. 3.50	11. 3.50	9. 3.50	7. 3.50
5 COMBINED AT +	DUMMY	1.08	1	FLOW TIME	129. 3.58	125. 3.58	123. 3.58	116. 3.50	112. 3.50	110. 3.50	76. 3.50	54. 3.50
HYDROGRAPH AT +	SHAUM3	.00	1	FLOW TIME	12. 3.50	11. 3.50	11. 3.50	11. 3.50	11. 3.50	10. 3.50	8. 3.50	6. 3.50
3 COMBINED AT +	IR-SH	1.18	1	FLOW TIME	324. 3.50	316. 3.50	311. 3.50	295. 3.50	287. 3.50	283. 3.50	202. 3.50	151. 3.50
HYDROGRAPH AT +	WML6	.03	1	FLOW TIME	61. 3.50	59. 3.50	59. 3.50	56. 3.50	55. 3.50	54. 3.50	40. 3.50	32. 3.50
HYDROGRAPH AT +	HORS1B	.00	1	FLOW TIME	8. 3.50	8. 3.50	8. 3.50	7. 3.50	7. 3.50	7. 3.50	6. 3.50	5. 3.50
HYDROGRAPH AT +	WL4	.05	1	FLOW TIME	82. 3.58	80. 3.58	79. 3.58	74. 3.58	72. 3.58	71. 3.58	50. 3.58	37. 3.58
4 COMBINED AT +	DUMMY	1.26	1	FLOW TIME	469. 3.50	457. 3.50	451. 3.50	428. 3.50	416. 3.50	410. 3.50	294. 3.50	221. 3.50
HYDROGRAPH AT +	DSHEPC	.00	1	FLOW TIME	33. 3.58	32. 3.58	32. 3.58	30. 3.58	29. 3.58	28. 3.58	19. 3.58	14. 3.58
HYDROGRAPH AT +	IRON1B	.00	1	FLOW TIME	9. 3.50	9. 3.50	9. 3.50	9. 3.50	9. 3.50	8. 3.50	7. 3.50	5. 3.50
4 COMBINED AT +	HU-IR	2.58	1	FLOW TIME	1225. 3.50	1193. 3.50	1178. 3.50	1116. 3.50	1085. 3.50	1069. 3.50	762. 3.50	568. 3.50
HYDROGRAPH AT +	OFFG	.04	1	FLOW TIME	47. 3.58	46. 3.58	45. 3.58	42. 3.58	41. 3.58	40. 3.58	26. 3.58	18. 3.58
2 COMBINED AT +	WPT40	2.62	1	FLOW TIME	1263. 3.50	1230. 3.50	1214. 3.50	1149. 3.50	1117. 3.50	1101. 3.50	783. 3.50	581. 3.50
HYDROGRAPH AT +	OFF10	.67	1	FLOW TIME	608. 4.00	591. 4.00	582. 4.00	547. 4.00	530. 4.00	521. 4.00	352. 4.00	248. 4.08
ROUTED TO +	ROFF10	.67	1	FLOW TIME	548. 4.58	532. 4.58	524. 4.58	493. 4.58	477. 4.58	469. 4.58	318. 4.67	224. 4.67
HYDROGRAPH AT +	OFFFA	.99	1	FLOW TIME	870. 3.92	843. 3.92	830. 3.92	776. 3.92	750. 3.92	736. 3.92	479. 3.92	322. 3.92
ROUTED TO +	ROFFFA	.99	1	FLOW TIME	819. 4.17	793. 4.17	781. 4.17	730. 4.17	705. 4.17	693. 4.17	450. 4.17	303. 4.17
HYDROGRAPH AT +	OFFFB	.60	1	FLOW TIME	428. 3.92	414. 3.92	407. 3.92	379. 3.92	366. 3.92	359. 3.92	229. 4.00	152. 4.00
3 COMBINED AT +	COFFF1	2.26	1	FLOW TIME	1469. 4.17	1423. 4.17	1400. 4.17	1310. 4.17	1265. 4.17	1242. 4.17	809. 4.25	549. 4.25
HYDROGRAPH AT +	WPRK6	.02	1	FLOW TIME	21. 3.50	20. 3.50	20. 3.50	18. 3.50	18. 3.50	17. 3.50	11. 3.50	7. 3.50
3 COMBINED AT +	COFFF2	4.89	1	FLOW TIME	1768. 4.08	1715. 4.08	1688. 4.08	1583. 4.08	1531. 4.08	1505. 4.08	992. 4.08	697. 3.58
HYDROGRAPH AT +	OFFE	.04	1	FLOW TIME	26. 3.67	25. 3.67	25. 3.67	22. 3.67	21. 3.67	21. 3.67	11. 3.67	6. 3.75

Proposed.OUT												
HYDROGRAPH AT	OFFV	.01	1	FLOW TIME	4.3.58	4.3.58	4.3.58	4.3.58	4.3.58	3.3.58	2.3.58	1.3.67
3 COMBINED AT	CKC5	4.94	1	FLOW TIME	1780.4.08	1726.4.08	1700.4.08	1594.4.08	1541.4.08	1515.4.08	998.4.08	703.3.58
DIVERSION TO	DCKC7	4.94	1	FLOW TIME	1780.4.08	1726.4.08	1700.4.08	1594.4.08	1541.4.08	1515.4.08	998.4.08	703.3.58
HYDROGRAPH AT	DCKC5	4.94	1	FLOW TIME	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00
HYDROGRAPH AT	OFF17B	.01	1	FLOW TIME	15.3.50	15.3.50	15.3.50	14.3.50	14.3.50	13.3.50	10.3.50	7.3.50
HYDROGRAPH AT	OFF17A	.03	1	FLOW TIME	51.3.50	50.3.50	49.3.50	47.3.50	45.3.50	45.3.50	32.3.50	24.3.50
2 COMBINED AT	COFF17	.04	1	FLOW TIME	66.3.50	65.3.50	64.3.50	61.3.50	59.3.50	58.3.50	42.3.50	31.3.50
DIVERSION TO	DVCUL8	.04	1	FLOW TIME	66.3.50	65.3.50	64.3.50	61.3.50	59.3.50	58.3.50	42.3.50	31.3.50
HYDROGRAPH AT	DCOF17	.04	1	FLOW TIME	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00
HYDROGRAPH AT	ON1	.00	1	FLOW TIME	8.3.50	7.3.50	7.3.50	7.3.50	7.3.50	7.3.50	5.3.50	4.3.50
HYDROGRAPH AT	ON4A	.00	1	FLOW TIME	8.3.50	8.3.50	8.3.50	8.3.50	7.3.50	7.3.50	5.3.50	4.3.50
2 COMBINED AT	C1	.01	1	FLOW TIME	16.3.50	16.3.50	15.3.50	15.3.50	14.3.50	14.3.50	10.3.50	7.3.50
DIVERSION TO	DIV1	.01	1	FLOW TIME	13.3.50	13.3.50	13.3.50	12.3.50	12.3.50	11.3.50	8.3.50	6.3.50
HYDROGRAPH AT	D1	.01	1	FLOW TIME	3.3.50	3.3.50	3.3.50	3.3.50	3.3.50	3.3.50	2.3.50	1.3.50
HYDROGRAPH AT	ON5	.01	1	FLOW TIME	10.3.50	9.3.50	9.3.50	9.3.50	9.3.50	8.3.50	6.3.50	4.3.50
2 COMBINED AT	C2	.01	1	FLOW TIME	13.3.50	12.3.50	12.3.50	12.3.50	11.3.50	11.3.50	8.3.50	6.3.50
DIVERSION TO	DIV1A	.01	1	FLOW TIME	13.3.50	12.3.50	12.3.50	12.3.50	11.3.50	11.3.50	8.3.50	6.3.50
HYDROGRAPH AT	D1A	.01	1	FLOW TIME	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00
HYDROGRAPH AT	ON4B	.00	1	FLOW TIME	6.3.50	5.3.50	5.3.50	5.3.50	5.3.50	5.3.50	3.3.50	3.3.50
HYDROGRAPH AT	RET1	.00	1	FLOW TIME	13.3.50	13.3.50	13.3.50	12.3.50	12.3.50	11.3.50	8.3.50	6.3.50
HYDROGRAPH AT	ON6	.00	1	FLOW TIME	7.3.50	7.3.50	7.3.50	7.3.50	7.3.50	6.3.50	5.3.50	3.3.50
2 COMBINED AT	C3	.00	1	FLOW TIME	20.3.50	20.3.50	20.3.50	19.3.50	18.3.50	18.3.50	13.3.50	9.3.50
DIVERSION TO	DIV1B	.00	1	FLOW TIME	20.3.50	20.3.50	20.3.50	19.3.50	18.3.50	18.3.50	13.3.50	9.3.50
HYDROGRAPH AT	D1B	.00	1	FLOW TIME	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00	0.0.00
HYDROGRAPH AT	ON2	.00	1	FLOW TIME	9.3.50	9.3.50	9.3.50	8.3.50	8.3.50	8.3.50	6.3.50	4.3.50
HYDROGRAPH AT	ON3	.01	1	FLOW TIME	12.3.50	12.3.50	11.3.50	11.3.50	10.3.50	10.3.50	7.3.50	6.3.50
HYDROGRAPH AT	ON9	.00	1	FLOW TIME	8.3.50	8.3.50	8.3.50	7.3.50	7.3.50	7.3.50	5.3.50	4.3.50
3 COMBINED AT	C4	.02	1	FLOW TIME	29.3.50	28.3.50	28.3.50	26.3.50	26.3.50	25.3.50	18.3.50	13.3.50
DIVERSION TO	DIV2	.02	1	FLOW TIME	24.3.50	23.3.50	23.3.50	22.3.50	21.3.50	21.3.50	15.3.50	11.3.50
HYDROGRAPH AT	D2	.02	1	FLOW TIME	5.3.50	5.3.50	5.3.50	5.3.50	4.3.50	4.3.50	3.3.50	2.3.50
HYDROGRAPH AT	ON10	.00	1	FLOW TIME	5.3.50	5.3.50	5.3.50	4.3.50	4.3.50	4.3.50	3.3.50	2.3.50
2 COMBINED AT	C5	.02	1	FLOW TIME	10.3.50	10.3.50	9.3.50	9.3.50	9.3.50	9.3.50	6.3.50	5.3.50
DIVERSION TO	DIV3	.02	1	FLOW TIME	8.3.50	8.3.50	8.3.50	7.3.50	7.3.50	7.3.50	5.3.50	4.3.50
HYDROGRAPH AT	D3	.02	1	FLOW TIME	2.3.50	2.3.50	2.3.50	2.3.50	2.3.50	2.3.50	1.3.50	1.3.50
HYDROGRAPH AT												

+	ON11	.00	1	FLOW TIME	Proposed.OUT								
					5.	5.	5.	4.	4.	4.	3.	2.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	2 COMBINED AT C6	.02	1	FLOW TIME	7.	7.	7.	6.	6.	6.	4.	3.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	DIVERSION TO DIV1C	.02	1	FLOW TIME	7.	7.	7.	6.	6.	6.	4.	3.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT D1C	.02	1	FLOW TIME	0.	0.	0.	0.	0.	0.	0.	0.	
					.00	.00	.00	.00	.00	.00	.00	.00	
+	4 COMBINED AT CD1C	.04	1	FLOW TIME	6.	5.	5.	5.	5.	5.	3.	3.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	ROUTED TO RCD1C	.04	1	FLOW TIME	5.	5.	5.	5.	5.	4.	3.	2.	
					3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.83	
+	DIVERSION TO DOFF23	.04	1	FLOW TIME	5.	5.	5.	5.	5.	4.	3.	2.	
					3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.83	
+	HYDROGRAPH AT DRCD1C	.04	1	FLOW TIME	0.	0.	0.	0.	0.	0.	0.	0.	
					.00	.00	.00	.00	.00	.00	.00	.00	
+	HYDROGRAPH AT ON8	.00	1	FLOW TIME	6.	6.	6.	5.	5.	5.	3.	2.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT RET2	.00	1	FLOW TIME	24.	23.	23.	22.	21.	21.	15.	11.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	2 COMBINED AT C7	.00	1	FLOW TIME	30.	29.	29.	27.	26.	26.	18.	13.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT RET3	.00	1	FLOW TIME	8.	8.	8.	7.	7.	7.	5.	4.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT ON7	.01	1	FLOW TIME	14.	13.	13.	12.	12.	12.	9.	6.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	3 COMBINED AT C8	.01	1	FLOW TIME	51.	50.	49.	47.	45.	45.	32.	23.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT RET1A	.00	1	FLOW TIME	13.	12.	12.	12.	11.	11.	8.	6.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT RET1B	.00	1	FLOW TIME	20.	20.	20.	19.	18.	18.	13.	9.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT RET1C	.00	1	FLOW TIME	7.	7.	7.	6.	6.	6.	4.	3.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	3 COMBINED AT C9	.00	1	FLOW TIME	40.	39.	38.	36.	35.	35.	25.	18.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT ON2D	.01	1	FLOW TIME	21.	21.	20.	19.	19.	19.	14.	11.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT ON5D	.00	1	FLOW TIME	8.	8.	8.	8.	7.	7.	6.	4.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	2 COMBINED AT CP1	.01	1	FLOW TIME	29.	29.	28.	27.	26.	26.	19.	15.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT ON3D	.00	1	FLOW TIME	7.	7.	7.	7.	7.	7.	5.	4.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	2 COMBINED AT CP2	.02	1	FLOW TIME	37.	36.	36.	34.	33.	33.	24.	19.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT ON1D	.01	1	FLOW TIME	16.	15.	15.	15.	14.	14.	10.	8.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT ON4D	.00	1	FLOW TIME	8.	8.	8.	8.	7.	7.	5.	4.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	2 COMBINED AT CP3	.01	1	FLOW TIME	24.	23.	23.	22.	21.	21.	16.	12.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	2 COMBINED AT CP4	.03	1	FLOW TIME	61.	59.	59.	56.	55.	54.	40.	31.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	4 COMBINED AT CENGCA	.08	1	FLOW TIME	152.	148.	146.	139.	135.	134.	97.	73.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT PH2ML3	.04	1	FLOW TIME	81.	79.	78.	74.	72.	71.	52.	40.	
					3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	
+	HYDROGRAPH AT PH2L6	.05	1	FLOW TIME	77.	75.	74.	70.	68.	67.	47.	34.	
					3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	
+	HYDROGRAPH AT EGAN1	.01	1	FLOW TIME	12.	12.	12.	11.	11.	11.	9.	7.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	3 COMBINED AT DUMMY	.10	1	FLOW TIME	170.	165.	163.	155.	151.	149.	107.	81.	
					3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	
+	HYDROGRAPH AT PH2L5	.00	1	FLOW TIME	8.	8.	8.	7.	7.	7.	5.	4.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT PH2L7	.01	1	FLOW TIME	23.	22.	22.	21.	20.	20.	14.	10.	
					3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
+	HYDROGRAPH AT RACL1A	.01	1	FLOW	13.	13.	13.	12.	12.	12.	9.	7.	

			TIME		3.50	3.50	Proposed. 3.50	OUT 3.50	3.50	3.50	3.50	3.50
4 COMBINED AT	RA-EG	.12	1	FLOW TIME	209.3.50	204.3.50	201.3.50	191.3.58	186.3.58	183.3.58	132.3.58	100.3.58
HYDROGRAPH AT	PH2ML1	.03	1	FLOW TIME	60.3.50	58.3.50	58.3.50	55.3.50	54.3.50	53.3.50	40.3.50	31.3.50
HYDROGRAPH AT	PH2ML2	.03	1	FLOW TIME	59.3.50	58.3.50	57.3.50	55.3.50	53.3.50	53.3.50	39.3.50	31.3.50
HYDROGRAPH AT	PH2L1	.03	1	FLOW TIME	45.3.58	44.3.58	44.3.58	41.3.58	40.3.58	40.3.58	28.3.58	21.3.58
HYDROGRAPH AT	PH2L2	.02	1	FLOW TIME	31.3.50	30.3.50	30.3.50	28.3.50	28.3.50	27.3.50	19.3.50	14.3.50
5 COMBINED AT	DUMMY	.22	1	FLOW TIME	402.3.50	392.3.50	387.3.50	367.3.50	358.3.50	353.3.50	255.3.50	192.3.50
HYDROGRAPH AT	PH2L3	.03	1	FLOW TIME	43.3.58	42.3.58	42.3.58	40.3.58	38.3.58	38.3.58	27.3.58	20.3.58
HYDROGRAPH AT	HUAL1	.01	1	FLOW TIME	14.3.58	14.3.58	14.3.58	13.3.58	13.3.58	13.3.58	10.3.58	8.3.58
HYDROGRAPH AT	RACL1B	.01	1	FLOW TIME	12.3.50	12.3.50	12.3.50	11.3.50	11.3.50	11.3.50	8.3.50	7.3.50
HYDROGRAPH AT	HUAL2A	.01	1	FLOW TIME	13.3.58	12.3.58	12.3.58	12.3.58	12.3.58	11.3.58	9.3.58	7.3.58
5 COMBINED AT	RA-HU	.27	1	FLOW TIME	482.3.50	470.3.50	464.3.50	441.3.50	429.3.50	423.3.50	306.3.50	231.3.50
HYDROGRAPH AT	PH1-3	.02	1	FLOW TIME	39.3.58	38.3.58	38.3.58	36.3.58	35.3.58	34.3.58	25.3.58	18.3.58
HYDROGRAPH AT	CONQ	.00	1	FLOW TIME	6.3.58	6.3.58	6.3.58	6.3.58	5.3.58	5.3.58	4.3.58	3.3.58
3 COMBINED AT	DUMMY	.29	1	FLOW TIME	526.3.50	513.3.50	507.3.50	481.3.50	468.3.50	462.3.50	334.3.50	251.3.50
HYDROGRAPH AT	PH1-5	.06	1	FLOW TIME	107.3.58	104.3.58	103.3.58	98.3.58	96.3.58	95.3.58	71.3.58	55.3.58
HYDROGRAPH AT	PH1PRK	.00	1	FLOW TIME	4.3.50	3.3.50	3.3.50	3.3.50	3.3.50	3.3.50	2.3.50	1.3.50
HYDROGRAPH AT	RACL1C	.01	1	FLOW TIME	13.3.50	13.3.50	13.3.50	12.3.50	12.3.50	12.3.50	8.3.50	6.3.50
4 COMBINED AT	DUMMY	.36	1	FLOW TIME	643.3.50	627.3.50	620.3.50	588.3.50	573.3.50	565.3.50	410.3.58	312.3.58
HYDROGRAPH AT	PH1-4	.03	1	FLOW TIME	49.3.50	47.3.50	47.3.50	45.3.50	44.3.50	43.3.50	32.3.50	25.3.50
HYDROGRAPH AT	PH1-6	.05	1	FLOW TIME	93.3.58	91.3.58	90.3.58	86.3.58	84.3.58	83.3.58	62.3.58	48.3.58
HYDROGRAPH AT	GCD	.01	1	FLOW TIME	10.3.58	9.3.58	9.3.58	9.3.58	9.3.58	8.3.58	6.3.58	5.3.58
4 COMBINED AT	CP26	.44	1	FLOW TIME	791.3.50	772.3.50	762.3.50	724.3.50	705.3.50	696.3.50	508.3.58	388.3.58
2 COMBINED AT	CCP4	.53	1	FLOW TIME	943.3.50	920.3.50	909.3.50	863.3.50	841.3.50	829.3.50	603.3.50	457.3.50
HYDROGRAPH AT	OFF21B	.04	1	FLOW TIME	75.3.50	73.3.50	72.3.50	69.3.50	67.3.50	66.3.50	49.3.50	38.3.50
2 COMBINED AT	COF21B	.57	1	FLOW TIME	1017.3.50	993.3.50	981.3.50	932.3.50	907.3.50	895.3.50	652.3.50	495.3.50
DIVERSION TO	DVCUL9	.57	1	FLOW TIME	1017.3.50	993.3.50	981.3.50	932.3.50	907.3.50	895.3.50	652.3.50	495.3.50
HYDROGRAPH AT	DOF21B	.57	1	FLOW TIME	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HYDROGRAPH AT	ROFF23	.00	1	FLOW TIME	5.3.67	5.3.67	5.3.67	5.3.75	5.3.75	4.3.75	3.3.75	2.3.83
HYDROGRAPH AT	OFF23	.01	1	FLOW TIME	17.3.50	16.3.50	16.3.50	15.3.50	15.3.50	15.3.50	11.3.50	8.3.50
4 COMBINED AT	COFF23	.62	1	FLOW TIME	19.3.58	18.3.58	18.3.58	17.3.58	17.3.58	16.3.58	11.3.58	9.3.50
DIVERSION TO	DCUL10	.62	1	FLOW TIME	19.3.58	18.3.58	18.3.58	17.3.58	17.3.58	16.3.58	11.3.58	8.3.50
HYDROGRAPH AT	DCOF23	.62	1	FLOW TIME	0.3.58	0.3.58	0.3.58	0.3.58	0.3.58	0.3.58	0.3.50	0.3.50
HYDROGRAPH AT	GT1	.02	1	FLOW TIME	40.3.67	39.3.67	39.3.67	37.3.67	36.3.67	36.3.67	28.3.67	22.3.67
HYDROGRAPH AT	OFFU	.04	1	FLOW TIME	246.3.58	245.3.58	244.3.58	241.3.58	240.3.58	239.3.58	226.3.67	218.3.67

Proposed.OUT

3 COMBINED AT	CP26WT	.68	1	FLOW	286.	284.	283.	278.	276.	275.	254.	241.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO	DCUL11	.68	1	FLOW	285.	283.	282.	277.	275.	274.	253.	240.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	DC26WT	.68	1	FLOW	1.	1.	1.	1.	1.	1.	1.	1.
+				TIME	.00	.00	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT	95-5	.03	1	FLOW	50.	48.	48.	45.	43.	43.	29.	21.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
DIVERSION TO	DCHD18	.03	1	FLOW	45.	43.	43.	40.	39.	39.	27.	19.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	DHD018	.03	1	FLOW	5.	5.	5.	4.	4.	4.	3.	2.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	OFF8	.01	1	FLOW	19.	19.	19.	18.	17.	17.	12.	8.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	OFFY	.01	1	FLOW	9.	8.	8.	7.	7.	7.	4.	2.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT	WGED1B	.04	1	FLOW	62.	60.	59.	56.	55.	54.	39.	29.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58
4 COMBINED AT	CHD02B	.09	1	FLOW	92.	89.	88.	83.	81.	80.	56.	41.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
DIVERSION TO	DCHD2B	.09	1	FLOW	91.	88.	87.	82.	80.	79.	55.	41.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	DHD02B	.09	1	FLOW	1.	1.	1.	1.	1.	1.	1.	0.
+				TIME	3.50	3.50	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	WGED1A	.02	1	FLOW	33.	32.	32.	31.	30.	29.	22.	17.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	STRT3	.00	1	FLOW	4.	4.	4.	4.	4.	4.	3.	2.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT	WPT49	.02	1	FLOW	37.	36.	36.	34.	33.	33.	25.	19.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	95-6	.01	1	FLOW	17.	16.	16.	15.	15.	14.	10.	7.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	OFFW	.01	1	FLOW	9.	8.	8.	7.	7.	7.	4.	2.
+				TIME	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67
4 COMBINED AT	CHD04B	.13	1	FLOW	61.	60.	59.	56.	54.	53.	38.	28.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
DIVERSION TO	DCHD4B	.13	1	FLOW	61.	60.	59.	56.	54.	53.	38.	28.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	DHD04B	.13	1	FLOW	0.	0.	0.	0.	0.	0.	0.	0.
+				TIME	.00	.00	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT	WBU3	.07	1	FLOW	123.	120.	119.	114.	111.	110.	82.	64.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	STRT2	.00	1	FLOW	8.	8.	8.	7.	7.	7.	5.	4.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	GRAND3	.01	1	FLOW	20.	19.	19.	18.	18.	18.	14.	11.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	WBU2B	.02	1	FLOW	44.	43.	42.	40.	39.	39.	29.	23.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	WGC1	.02	1	FLOW	41.	40.	40.	38.	37.	36.	27.	21.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
5 COMBINED AT	WPT48	.12	1	FLOW	231.	226.	224.	213.	208.	206.	154.	120.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	95-7A	.01	1	FLOW	13.	13.	13.	12.	12.	11.	8.	6.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT	CHD05B	.26	1	FLOW	244.	239.	236.	225.	220.	217.	162.	126.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	WBU1	.04	1	FLOW	70.	69.	68.	65.	63.	63.	47.	36.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	STRT1	.00	1	FLOW	10.	10.	10.	10.	9.	9.	7.	6.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	WBU2A	.05	1	FLOW	95.	93.	92.	88.	86.	85.	63.	49.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT	DUMMY	.09	1	FLOW	176.	172.	170.	162.	158.	156.	117.	91.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH1-1	.03	1	FLOW	47.	46.	45.	43.	42.	41.	29.	22.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	PH1-2	.03	1	FLOW	45.	44.	44.	41.	40.	39.	27.	19.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58

Proposed.OUT											
HYDROGRAPH AT	GRAND2	.00	1	FLOW	6.	6.	6.	6.	6.	6.	4.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	HORSE3	.01	1	FLOW	25.	24.	24.	23.	22.	22.	17.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
5 COMBINED AT	WPT46	.16	1	FLOW	293.	287.	283.	269.	262.	259.	190.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	95-8A	.01	1	FLOW	10.	10.	10.	9.	9.	9.	7.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	OFF14	.01	1	FLOW	19.	18.	18.	17.	16.	16.	11.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT	CHD06B	.18	1	FLOW	322.	315.	311.	295.	288.	284.	207.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
DIVERSION TO	DCMPU6	.18	1	FLOW	108.	105.	104.	99.	96.	95.	69.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	RCHD6B	.18	1	FLOW	215.	209.	207.	197.	192.	189.	138.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
DIVERSION TO	DCHD6B	.18	1	FLOW	215.	209.	207.	197.	192.	189.	138.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	DHD06B	.18	1	FLOW	0.	0.	0.	0.	0.	0.	0.
+				TIME	.00	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT	95-9A	.01	1	FLOW	19.	19.	18.	18.	17.	17.	12.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT	CHD07B	.19	1	FLOW	19.	19.	18.	18.	17.	17.	12.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	OFF15	.03	1	FLOW	47.	45.	45.	42.	41.	40.	27.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT	CHD7B2	.49	1	FLOW	307.	300.	296.	282.	274.	271.	199.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	CRET8	.00	1	FLOW	66.	65.	64.	61.	59.	58.	42.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
DIVERSION TO	DIV8A	.00	1	FLOW	66.	65.	64.	61.	59.	58.	42.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	DCRET8	.00	1	FLOW	0.	0.	0.	0.	0.	0.	0.
+				TIME	.00	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT	RET9	.00	1	FLOW	1017.	993.	981.	932.	907.	895.	652.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT	CRET9	.00	1	FLOW	1017.	993.	981.	932.	907.	895.	652.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
DIVERSION TO	DIV9A	.00	1	FLOW	257.	255.	254.	251.	249.	248.	228.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	DCCUL9	.00	1	FLOW	760.	738.	726.	681.	658.	647.	424.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	RET10	.00	1	FLOW	19.	18.	18.	17.	17.	16.	11.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	CRET10	.00	1	FLOW	778.	755.	744.	697.	674.	663.	435.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
DIVERSION TO	DIV10A	.00	1	FLOW	371.	368.	367.	362.	360.	358.	314.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	DCU10A	.00	1	FLOW	408.	387.	376.	335.	314.	305.	120.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	RET11	.00	1	FLOW	285.	283.	282.	277.	275.	274.	253.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	RET6	.00	1	FLOW	108.	105.	104.	99.	96.	95.	69.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
4 COMBINED AT	DIV11A	.49	1	FLOW	1088.	1056.	1040.	975.	943.	928.	628.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58
2 COMBINED AT	DUMMY	1.17	1	FLOW	1089.	1057.	1041.	976.	944.	929.	629.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58
HYDROGRAPH AT	RETD1B	.00	1	FLOW	45.	43.	43.	40.	39.	39.	27.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
DIVERSION TO	DCHD1C	.00	1	FLOW	45.	43.	43.	40.	39.	39.	27.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	DHD1C	.00	1	FLOW	0.	0.	0.	0.	0.	0.	0.
+				TIME	.00	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT	RETD2B	.00	1	FLOW	91.	88.	87.	82.	80.	79.	55.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	CHD02C	.00	1	FLOW	91.	88.	87.	82.	80.	79.	55.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58
DIVERSION TO											

+	DCHD2C	.00	1	FLOW TIME	59. 3.58	57. 3.58	Proposed. 57. 3.58	53. 3.58	52. 3.58	51. 3.58	36. 3.58	26. 3.58
HYDROGRAPH AT	DHD2C	.00	1	FLOW TIME	32. 3.58	31. 3.58	30. 3.58	29. 3.58	28. 3.58	28. 3.58	19. 3.58	14. 3.58
HYDROGRAPH AT	RET4B	.00	1	FLOW TIME	61. 3.50	60. 3.50	59. 3.50	56. 3.50	54. 3.50	53. 3.50	38. 3.50	28. 3.50
2 COMBINED AT	CHD04C	.00	1	FLOW TIME	93. 3.50	90. 3.50	89. 3.50	84. 3.50	82. 3.50	81. 3.50	57. 3.50	42. 3.50
DIVERSION TO	DCHD4C	.00	1	FLOW TIME	84. 3.50	82. 3.50	81. 3.50	76. 3.50	74. 3.50	73. 3.50	51. 3.50	38. 3.50
HYDROGRAPH AT	DHD4C	.00	1	FLOW TIME	9. 3.50	9. 3.50	8. 3.50	8. 3.50	8. 3.50	8. 3.50	5. 3.50	4. 3.50
DIVERSION TO	DCHD5C	.00	1	FLOW TIME	8. 3.50	8. 3.50	7. 3.50	7. 3.50	7. 3.50	7. 3.50	5. 3.50	3. 3.50
HYDROGRAPH AT	DHD5C	.00	1	FLOW TIME	1. 3.50	1. 3.50	1. 3.50	1. 3.50	1. 3.50	1. 3.50	1. 3.50	0. 3.50
HYDROGRAPH AT	RET6B	.00	1	FLOW TIME	215. 3.50	209. 3.50	207. 3.50	197. 3.50	192. 3.50	189. 3.50	138. 3.50	105. 3.50
2 COMBINED AT	CHD06C	.00	1	FLOW TIME	216. 3.50	211. 3.50	208. 3.50	198. 3.50	193. 3.50	190. 3.50	139. 3.50	106. 3.50
DIVERSION TO	DCHD6C	.00	1	FLOW TIME	216. 3.50	210. 3.50	208. 3.50	198. 3.50	192. 3.50	190. 3.50	139. 3.50	106. 3.50
HYDROGRAPH AT	DHD6C	.00	1	FLOW TIME	0. 3.50	0. 3.50	0. 3.50	0. 3.50	0. 3.50	0. 3.50	0. 3.50	0. 3.50
2 COMBINED AT	DUMMY	1.17	1	FLOW TIME	1089. 3.50	1057. 3.50	1041. 3.50	976. 3.50	944. 3.50	929. 3.50	629. 3.50	454. 3.58
HYDROGRAPH AT	RETC5C	.00	1	FLOW TIME	8. 3.50	8. 3.50	7. 3.50	7. 3.50	7. 3.50	7. 3.50	5. 3.50	3. 3.50
HYDROGRAPH AT	95-7B	.01	1	FLOW TIME	15. 3.50	14. 3.50	14. 3.50	13. 3.50	13. 3.50	13. 3.50	9. 3.50	7. 3.50
2 COMBINED AT	C95-7B	.01	1	FLOW TIME	22. 3.50	22. 3.50	22. 3.50	20. 3.50	20. 3.50	20. 3.50	14. 3.50	11. 3.50
HYDROGRAPH AT	RETC6C	.00	1	FLOW TIME	216. 3.50	210. 3.50	208. 3.50	198. 3.50	192. 3.50	190. 3.50	139. 3.50	106. 3.50
HYDROGRAPH AT	95-8B	.00	1	FLOW TIME	6. 3.50	6. 3.50	6. 3.50	6. 3.50	6. 3.50	6. 3.50	4. 3.50	3. 3.50
2 COMBINED AT	C95-8B	.00	1	FLOW TIME	222. 3.50	217. 3.50	214. 3.50	203. 3.50	198. 3.50	195. 3.50	143. 3.50	109. 3.50
HYDROGRAPH AT	SKY2	.01	1	FLOW TIME	16. 3.50	15. 3.50	15. 3.50	14. 3.50	14. 3.50	14. 3.50	11. 3.50	9. 3.50
HYDROGRAPH AT	EMLA1A	.01	1	FLOW TIME	27. 3.50	26. 3.50	26. 3.50	25. 3.50	24. 3.50	24. 3.50	18. 3.50	14. 3.50
HYDROGRAPH AT	TP1	.00	1	FLOW TIME	2. 3.50	2. 3.50	2. 3.50	2. 3.50	2. 3.50	2. 3.50	1. 3.50	1. 3.50
5 COMBINED AT	BR-TP	.03	1	FLOW TIME	289. 3.50	282. 3.50	278. 3.50	265. 3.50	258. 3.50	255. 3.50	187. 3.50	143. 3.50
HYDROGRAPH AT	ES2	.05	1	FLOW TIME	84. 3.58	82. 3.58	81. 3.58	77. 3.58	75. 3.58	74. 3.58	55. 3.58	43. 3.58
HYDROGRAPH AT	BRENT1	.00	1	FLOW TIME	4. 3.50	4. 3.50	4. 3.50	4. 3.50	4. 3.50	4. 3.50	3. 3.50	2. 3.50
HYDROGRAPH AT	EGC3	.02	1	FLOW TIME	44. 3.50	43. 3.50	42. 3.50	40. 3.50	39. 3.50	39. 3.50	29. 3.50	23. 3.50
HYDROGRAPH AT	HORSE5	.00	1	FLOW TIME	11. 3.50	11. 3.50	11. 3.50	11. 3.50	10. 3.50	10. 3.50	8. 3.50	6. 3.50
5 COMBINED AT	CP44	.11	1	FLOW TIME	425. 3.50	415. 3.50	410. 3.50	390. 3.50	380. 3.50	375. 3.50	276. 3.50	212. 3.50
DIVERSION TO	BRENT	.11	1	FLOW TIME	373. 3.50	363. 3.50	358. 3.50	338. 3.50	328. 3.50	323. 3.50	224. 3.50	160. 3.50
HYDROGRAPH AT	SOUTH	.11	1	FLOW TIME	52. 3.33	52. 3.33	52. 3.33	52. 3.33	52. 3.42	52. 3.42	52. 3.42	52. 3.50
HYDROGRAPH AT	SKY1	.01	1	FLOW TIME	16. 3.50	16. 3.50	16. 3.50	15. 3.50	15. 3.50	15. 3.50	11. 3.50	9. 3.50
HYDROGRAPH AT	HORSE4	.00	1	FLOW TIME	9. 3.50	8. 3.50	8. 3.50	8. 3.50	8. 3.50	8. 3.50	6. 3.50	5. 3.50
HYDROGRAPH AT	EGC1	.01	1	FLOW TIME	17. 3.50	16. 3.50	16. 3.50	15. 3.50	15. 3.50	15. 3.50	11. 3.50	9. 3.50
HYDROGRAPH AT	EGC2	.01	1	FLOW TIME	24. 3.50	24. 3.50	24. 3.50	22. 3.50	22. 3.50	22. 3.50	16. 3.50	13. 3.50
5 COMBINED AT	DUMMY	.14	1	FLOW	118. 3.50	117. 3.50	116. 3.50	113. 3.50	112. 3.50	111. 3.50	97. 3.50	87. 3.50

				TIME	3.50	3.50	Proposed. 3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	95-9B	.01	1	FLOW	22.	21.	21.	20.	19.	19.	14.	10.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	CP45	.15	1	FLOW	138.	136.	135.	131.	129.	128.	109.	97.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
DIVERSION TO	RACEL	.15	1	FLOW	101.	101.	101.	101.	101.	101.	101.	97.
+				TIME	3.33	3.33	3.33	3.42	3.42	3.42	3.50	3.50
HYDROGRAPH AT	HORSE	.15	1	FLOW	37.	35.	34.	30.	28.	27.	8.	0.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	.00
HYDROGRAPH AT	RETC4C	.00	1	FLOW	84.	82.	81.	76.	74.	73.	51.	38.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	SKY3	.01	1	FLOW	12.	12.	12.	12.	11.	11.	9.	7.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	OFFH	.01	1	FLOW	12.	12.	12.	11.	11.	11.	7.	5.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT	SK-IR	.01	1	FLOW	108.	105.	104.	98.	95.	94.	67.	50.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	EML1A	.03	1	FLOW	47.	46.	45.	43.	42.	41.	30.	22.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	IRON2	.00	1	FLOW	10.	9.	9.	9.	9.	9.	7.	5.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	EMLA1B	.02	1	FLOW	43.	42.	41.	39.	38.	38.	28.	22.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	TP2	.00	1	FLOW	2.	2.	2.	2.	2.	2.	1.	1.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
5 COMBINED AT	IR-TP	.07	1	FLOW	208.	203.	200.	190.	185.	182.	131.	99.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	ES1	.02	1	FLOW	29.	28.	28.	27.	26.	25.	18.	14.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	IRON3	.00	1	FLOW	5.	5.	5.	5.	5.	4.	3.	3.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT	IR-FT	.09	1	FLOW	242.	236.	233.	221.	215.	212.	153.	115.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
DIVERSION TO	IREAST	.09	1	FLOW	118.	117.	117.	115.	114.	113.	104.	98.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	FTNOR	.09	1	FLOW	124.	119.	116.	106.	101.	99.	49.	17.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
DIVERSION TO	FTNOR	.09	1	FLOW	124.	119.	116.	106.	101.	99.	49.	17.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	FTNOR	.09	1	FLOW	0.	0.	0.	0.	0.	0.	0.	0.
+				TIME	.00	.00	.00	.00	.00	.00	.00	.00
4 COMBINED AT	DUMMY	6.35	1	FLOW	1126.	1092.	1075.	1006.	972.	956.	637.	454.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58
HYDROGRAPH AT	RETC1C	.00	1	FLOW	45.	43.	43.	40.	39.	39.	27.	19.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	RETC2C	.00	1	FLOW	59.	57.	57.	53.	52.	51.	36.	26.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	OFF9	.04	1	FLOW	54.	53.	52.	49.	47.	47.	32.	23.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT	COFF9	.04	1	FLOW	150.	146.	144.	136.	132.	130.	90.	65.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	OFF5	.01	1	FLOW	8.	8.	8.	7.	7.	6.	3.	2.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67
HYDROGRAPH AT	SKY4	.01	1	FLOW	16.	16.	16.	15.	15.	15.	11.	9.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT	LC-SK	.06	1	FLOW	175.	170.	168.	158.	154.	151.	105.	76.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	EML1B	.07	1	FLOW	120.	117.	116.	110.	107.	106.	76.	57.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	ESCHL1	.02	1	FLOW	29.	28.	27.	26.	25.	24.	15.	10.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	EPRK1	.01	1	FLOW	6.	6.	6.	5.	5.	4.	2.	1.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.75
HYDROGRAPH AT	STR6	.01	1	FLOW	10.	10.	10.	9.	9.	9.	7.	6.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	EML2A	.07	1	FLOW	106.	103.	102.	97.	94.	93.	67.	50.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
5 COMBINED AT	DUMMY	.18	1	FLOW	272.	264.	261.	247.	240.	236.	167.	123.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58

Proposed.OUT												
HYDROGRAPH AT	TP3	.01	1	FLOW TIME	11.3.67	10.3.67	10.3.67	10.3.67	10.3.67	10.3.67	7.3.67	6.3.67
HYDROGRAPH AT	TP4A	.00	1	FLOW TIME	5.3.50	5.3.50	5.3.50	5.3.50	5.3.50	5.3.50	4.3.50	3.3.50
HYDROGRAPH AT	LOG1	.01	1	FLOW TIME	15.3.50	15.3.50	15.3.50	14.3.50	14.3.50	13.3.50	10.3.50	8.3.50
5 COMBINED AT	LC-TP	.26	1	FLOW TIME	475.3.58	462.3.58	456.3.58	432.3.58	419.3.58	413.3.58	291.3.58	215.3.58
HYDROGRAPH AT	EL1	.12	1	FLOW TIME	110.3.58	106.3.58	104.3.58	96.3.58	93.3.58	91.3.58	55.3.67	35.3.67
HYDROGRAPH AT	LOG2	.00	1	FLOW TIME	9.3.50	9.3.50	9.3.50	9.3.50	8.3.50	8.3.50	6.3.50	5.3.50
HYDROGRAPH AT	FORT1	.01	1	FLOW TIME	14.3.67	14.3.67	14.3.67	13.3.67	13.3.67	13.3.67	10.3.67	8.3.67
HYDROGRAPH AT	FTNOR	.00	1	FLOW TIME	124.3.50	119.3.50	116.3.50	106.3.50	101.3.50	99.3.50	49.3.50	17.3.50
5 COMBINED AT	FT-LC	.39	1	FLOW TIME	718.3.58	697.3.58	686.3.58	643.3.58	622.3.58	612.3.58	403.3.58	276.3.58
DIVERSION TO	OHARE	.39	1	FLOW TIME	49.3.58	47.3.58	46.3.58	41.3.58	39.3.58	37.3.58	14.3.58	0.00
HYDROGRAPH AT	RFTLC	.39	1	FLOW TIME	669.3.58	650.3.58	640.3.58	602.3.58	584.3.58	574.3.58	389.3.58	276.3.58
DIVERSION TO	LOGCAB	.39	1	FLOW TIME	193.3.58	187.3.58	184.3.58	172.3.58	167.3.58	164.3.58	107.3.58	73.3.58
HYDROGRAPH AT	R2FTLC	.39	1	FLOW TIME	476.3.58	463.3.58	456.3.58	430.3.58	417.3.58	410.3.58	282.3.58	203.3.58
HYDROGRAPH AT	EML2B	.04	1	FLOW TIME	66.3.58	65.3.58	64.3.58	61.3.58	59.3.58	58.3.58	42.3.58	31.3.58
HYDROGRAPH AT	TP4B	.00	1	FLOW TIME	7.3.50	7.3.50	7.3.50	7.3.50	7.3.50	7.3.50	5.3.50	4.3.50
HYDROGRAPH AT	EML3	.06	1	FLOW TIME	90.3.58	88.3.58	87.3.58	82.3.58	80.3.58	79.3.58	56.3.58	42.3.58
HYDROGRAPH AT	STRT7	.00	1	FLOW TIME	8.3.50	8.3.50	8.3.50	8.3.50	8.3.50	8.3.50	6.3.50	5.3.50
5 COMBINED AT	DUMMY	.50	1	FLOW TIME	645.3.58	627.3.58	619.3.58	584.3.58	567.3.58	558.3.58	388.3.58	283.3.58
HYDROGRAPH AT	EML4	.07	1	FLOW TIME	112.3.58	109.3.58	108.3.58	102.3.58	100.3.58	98.3.58	70.3.58	52.3.58
HYDROGRAPH AT	ENVE2	.01	1	FLOW TIME	11.3.58	11.3.58	11.3.58	10.3.58	9.3.58	9.3.58	5.3.58	3.3.67
HYDROGRAPH AT	FORT2	.01	1	FLOW TIME	14.3.67	13.3.67	13.3.67	13.3.67	12.3.67	12.3.67	9.3.67	8.3.67
4 COMBINED AT	FT-MO	.59	1	FLOW TIME	781.3.58	760.3.58	750.3.58	708.3.58	687.3.58	677.3.58	472.3.58	345.3.58
HYDROGRAPH AT	OFFC	.13	1	FLOW TIME	80.3.75	77.3.75	75.3.75	69.3.75	66.3.75	64.3.75	36.3.83	20.3.83
HYDROGRAPH AT	95-3	.01	1	FLOW TIME	15.3.50	14.3.50	14.3.50	13.3.50	13.3.50	13.3.50	9.3.50	6.3.50
HYDROGRAPH AT	OFFB	.13	1	FLOW TIME	73.3.83	70.3.83	68.3.83	63.3.83	60.3.83	58.3.83	32.3.92	18.3.92
HYDROGRAPH AT	95-2	.00	1	FLOW TIME	7.3.50	7.3.50	7.3.50	6.3.50	6.3.50	6.3.50	4.3.50	3.3.50
4 COMBINED AT	DUMMY	.28	1	FLOW TIME	158.3.75	152.3.75	149.3.75	137.3.83	131.3.83	128.3.83	72.3.83	40.3.83
HYDROGRAPH AT	OFFA	.02	1	FLOW TIME	17.3.58	16.3.58	16.3.58	14.3.58	14.3.58	13.3.58	7.3.58	4.3.58
HYDROGRAPH AT	95-1	.00	1	FLOW TIME	7.3.50	7.3.50	7.3.50	7.3.50	6.3.50	6.3.50	4.3.50	3.3.50
3 COMBINED AT	CP27B	.31	1	FLOW TIME	173.3.75	166.3.75	163.3.75	149.3.75	142.3.75	139.3.75	77.3.75	44.3.83
HYDROGRAPH AT	OFFZ	.05	1	FLOW TIME	35.3.67	34.3.67	33.3.67	30.3.67	29.3.67	28.3.67	15.3.67	8.3.75
2 COMBINED AT	COFFZ	.36	1	FLOW TIME	206.3.75	198.3.75	194.3.75	178.3.75	170.3.75	166.3.75	92.3.75	52.3.83
HYDROGRAPH AT	OFFDA	.64	1	FLOW TIME	357.4.00	343.4.00	337.4.00	310.4.00	296.4.00	290.4.00	166.4.00	97.4.08
ROUTED TO	ROFFDA	.64	1	FLOW TIME	330.4.42	317.4.42	311.4.42	286.4.42	274.4.42	268.4.42	153.4.42	90.4.50

Proposed.OUT												
HYDROGRAPH AT	OFFDB	.49	1	FLOW	235.	226.	221.	202.	193.	189.	104.	59.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.08
2 COMBINED AT	CP27A	1.14	1	FLOW	492.	473.	463.	426.	408.	398.	227.	131.
+				TIME	4.25	4.25	4.25	4.33	4.33	4.33	4.33	4.42
HYDROGRAPH AT	DCKC7	.00	1	FLOW	1780.	1726.	1700.	1594.	1541.	1515.	998.	703.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	3.58
HYDROGRAPH AT	OFFX	.02	1	FLOW	13.	12.	12.	11.	10.	10.	6.	3.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	OFFT	.02	1	FLOW	12.	12.	11.	10.	10.	10.	5.	3.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
4 COMBINED AT	EPT16	1.17	1	FLOW	2233.	2161.	2125.	1983.	1912.	1877.	1198.	798.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.17	4.50
HYDROGRAPH AT	SHEEP2	.06	1	FLOW	43.	41.	40.	37.	35.	34.	19.	10.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT	SHEEP3	.01	1	FLOW	10.	9.	9.	8.	8.	8.	4.	2.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	EMLA2	.14	1	FLOW	184.	180.	177.	168.	163.	161.	115.	86.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
4 COMBINED AT	DUMMY	1.39	1	FLOW	2315.	2241.	2204.	2058.	1985.	1949.	1246.	824.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT	ENVE1	.03	1	FLOW	24.	23.	22.	20.	19.	19.	10.	6.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
HYDROGRAPH AT	HUAL3	.00	1	FLOW	6.	6.	6.	6.	6.	6.	4.	4.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT	SH-MO	1.78	1	FLOW	2455.	2376.	2337.	2180.	2103.	2064.	1314.	866.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
2 COMBINED AT	CP43	2.38	1	FLOW	3059.	2966.	2920.	2736.	2644.	2599.	1724.	1205.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)									
ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION PEAK	INTERVAL TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RCD1C	MANE	1.00 5.00	5.67	221.08	.16	5.00	5.16	220.00	.16
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3238E+00 EXCESS= .0000E+00 OUTFLOW= .3523E+00 BASIN STORAGE= .1286E-03 PERCENT ERROR= -8.8									
FOR PLAN = 1 RCD1C	MANE	.98 5.00	5.11	219.85	.15	5.00	5.11	220.00	.15
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3150E+00 EXCESS= .0000E+00 OUTFLOW= .3298E+00 BASIN STORAGE= .1227E-03 PERCENT ERROR= -4.7									
FOR PLAN = 1 RCD1C	MANE	.97 5.00	5.16	220.26	.15	5.00	5.04	220.00	.15
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3106E+00 EXCESS= .0000E+00 OUTFLOW= .3258E+00 BASIN STORAGE= .1231E-03 PERCENT ERROR= -4.9									
FOR PLAN = 1 RCD1C	MANE	.93 5.00	4.93	223.66	.14	5.00	4.64	225.00	.14
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2932E+00 EXCESS= .0000E+00 OUTFLOW= .3030E+00 BASIN STORAGE= .1264E-03 PERCENT ERROR= -3.4									
FOR PLAN = 1 RCD1C	MANE	.91 5.00	4.66	225.48	.13	5.00	4.59	225.00	.13
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2845E+00 EXCESS= .0000E+00 OUTFLOW= .2939E+00 BASIN STORAGE= .1102E-03 PERCENT ERROR= -3.4									
FOR PLAN = 1 RCD1C	MANE	.90 5.00	4.29	226.36	.13	5.00	4.22	225.00	.13
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2801E+00 EXCESS= .0000E+00 OUTFLOW= .2856E+00 BASIN STORAGE= .1289E-03 PERCENT ERROR= -2.0									
FOR PLAN = 1 RCD1C	MANE	.70 4.95	3.43	226.03	.09	5.00	3.07	225.00	.09
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1951E+00 EXCESS= .0000E+00 OUTFLOW= .2013E+00 BASIN STORAGE= .1055E-03 PERCENT ERROR= -3.2									
FOR PLAN = 1 RCD1C	MANE	.57 5.00	2.44	230.11	.07	5.00	2.42	230.00	.07
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1422E+00 EXCESS= .0000E+00 OUTFLOW= .1470E+00 BASIN STORAGE= .1296E-03 PERCENT ERROR= -3.5									

*** NORMAL END OF HEC-1 ***

Ultimate Condition HEC-1 Analysis

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1*****
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
* RUN DATE 27NOV14 TIME 08:33:26
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*****
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
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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

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

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1 *DIAGRAM
2 ID SLATER HANIFAN GROUP
3 ID OLYMPIA COMPANIES
4 ID SKYE CANYON - MASTER DRAINAGE STUDY UPDATE
5 ID OVERALL PROPERTY ULTIMATE DRAINAGE CONDITION
6 ID
7 ID RETURN PERIOD ----- 100 & 10-YEAR
8 ID DISTRIBUTION ----- 6-HOUR SDN3
9 ID PROJECT NO. ----- OLY1401.004
10 ID FILENAME ----- Ultimate3.H1
11 ID DATE ----- 11/07/14
12 ID MODELED BY ----- SMJ/ETM
13 ID
14 ID SIX HOUR DEPTH-AREA REDUCTION FACTORS
15 ID DRAINAGE AREA (MIA^2) DARF
16 ID 0.0-0.49 1.00
17 ID 0.5-0.99 0.98
18 ID 1.0-1.99 0.97
19 ID 2.0-3.99 0.93
20 ID 4.0-5.99 0.91
21 ID 6.0-7.99 0.90
22 ID 25-YR 0.70
23 ID 10-YR 0.57
24 ID
25 ID 5 0 0 300
26 ID 5 0 0
27 ID 5 0 0
28 PREC 1.00 0.98 0.97 0.93 0.91 0.90 0.70 0.57
29
30 KK 95-5
31 KM REVISED FROM GCW MASTER DRAINAGE STUDY, MINUS OFFV
32 BA .0303
33 PB 2.77
34 PC 0 0.020 0.057 0.070 0.087 0.108 0.124 0.130 0.130 0.130
35 PC 0.130 0.130 0.130 0.133 0.140 0.142 0.148 0.158 0.172 0.181
36 PC 0.190 0.197 0.199 0.200 0.201 0.204 0.214 0.229 0.241 0.249
37 PC 0.251 0.256 0.270 0.278 0.281 0.283 0.295 0.322 0.352 0.409
38 PC 0.499 0.590 0.710 0.744 0.781 0.812 0.819 0.835 0.851 0.856
39 PC 0.860 0.868 0.876 0.888 0.910 0.926 0.937 0.950 0.970 0.976
40 PC 0.982 0.985 0.987 0.989 0.990 0.993 0.993 0.994 0.995 0.998
41 PC 0.998 0.999 1.000
42 LS 0 92.2
43 UD 0.074
44
45 KK DHD01B
46 KM FACILITY E-9
47 KM FLOW SPLIT AT VTN CULVERT 1
48 KM FLOW SPLITS TO BETWEEN NB AND SB ROADS OF US-95
49 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
50 DT DCHD1B
51 DI 0 133 187 250
52 DQ 0 120 135 150
53
54
55

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HEC-1 INPUT

PAGE 2

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

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50 KK OFF8
51 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
52 BA .0133
53 PB 2.77
54 LS 0 92.2
55 UD 0.103
56
57 KK OFFY
58 BA .0125
59 PB 2.77
60 LS 0 95.0
61 UD 0.113
62
63 KK CHD02B
64 KM COMBINE RDHD1B, OFF8, OFFY
65 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
66 HC 3
67
68 KK DHD02B
69 KM FACILITY E-10
70 KM FLOW SPLIT AT VTN CULVERT 2
71 KM FLOW SPLITS TO BETWEEN NB AND SB ROADS OF US-95
72 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
73 DT DCHD2B
74 DI 0 100 138
75 DQ 0 99 135
76
77
78 KK WGED1A
79 BA .0167
80 PB 2.93
81 LS 0 94.6
82 UD .096
83
84 KK WGED1B

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79 BA .0367
80 PB 2.77
81 LS 0 92.8
82 UD .110
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83 KK STRT3
84 BA .0016
85 PB 2.93
86 LS 0 98.0
87 UD .050
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HEC-1 INPUT

PAGE 3

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

88 KK WPT49
89 KM TOTAL KYLE CANYON DEVELOPMENT DISCHARGE TOWARD VTN CULVERT 4
90 HC 3
*

91 KK OFFW
92 BA .0122
93 PB 2.77
94 LS 0 92.0
95 UD .089
*

96 KK CHD04B
97 KM COMBINE RDHD2B, WPT49, OFFW
98 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
99 HC 3
*

100 KK WBU3
101 BA .0661
102 PB 2.93
103 LS 0 95.0
104 UD .127
*

105 KK STRT2
106 BA .0035
107 PB 2.93
108 LS 0 98.0
109 UD .078
*

110 KK GRAND3
111 BA .0100
112 PB 2.93
113 LS 0 98.0
114 UD .124
*

115 KK WBU2B
116 BA .0214
117 PB 2.93
118 LS 0 95.0
119 UD .092
*

120 KK WGC1
121 BA .0187
122 PB 2.93
123 LS 0 95.0
124 UD .070
*

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HEC-1 INPUT

PAGE 4

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

125 KK WPT48
126 KM TOTAL KYLE CANYON DEVELOPMENT DISCHARGE TOWARD VTN CULVERT 5
127 HC 5
*

128 KK CHD05B
129 KM COMBINE CHD04B, WPT48
130 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
131 KM DISCHARGE DIRECTLY INTO EXISTING US-95 INTERIM MPU FACILITY
132 HC 2
*

133 KK WBU1
134 BA .0358
135 PB 2.93
136 LS 0 95.0
137 UD .102
*

138 KK STRT1
139 BA .0048
140 PB 2.93
141 LS 0 98.0
142 UD .090
*

143 KK WBU2A
144 BA .0505
145 PB 2.93
146 LS 0 95.0
147 UD .114
*

148 KK DUMMY
149 HC 3
*

150 KK PH1-1
151 KM NORTHWEST QUAD ONSITE BASIN
152 PB 2.93
153 BA .0278
154 LS 0 91.2
155 UD 0.114
*

156 KK PH1-2
157 KM NORTHEAST QUAD ONSITE BASIN
158 PB 2.93
159 BA .0301
160 LS 0 88.8
161 UD 0.152
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HEC-1 INPUT

PAGE 5

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

162 KK GRAND2
163 BA .0033
164 PB 2.93
165 LS 0 98.0
166 UD .146
*

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167      KK  HORSE3
168      BA  .0117
169      PB  2.93
170      LS  0      98.0
171      UD  .098
      *

172      KK  WPT46
173      KM  TOTAL KYLE CANYON DEVELOPMENT DISCHARGE TOWARD VTN CULVERT 6
174      HC  5
      *

175      KK  OFF14
176      KM  REFERENCED FROM GCW MASTER DRAINAGE STUDY
177      BA  .0128
178      PB  2.77
179      LS  0      94.7
180      UD  0.074
      *

181      KK  CHD06B
182      KM  COMBINE CHD05B, WPT46, OFF14
183      KM  REVISED FROM GCW MASTER DRAINAGE STUDY
184      KM  TO ACCOUNT FOR DIRECT CONNECTION FROM CHD05B TO US-95 INTERIM MPU FACILITY
185      HC  3
      *

186      KK  95-9A
187      KM  REFERENCED FROM GCW MASTER DRAINAGE STUDY
188      BA  .0110
189      PB  2.77
190      LS  0      94.7
191      UD  0.095
      *

192      KK  CHD07B
193      KM  COMBINE CHD06B, 95-9A
194      KM  REFERENCED FROM GCW MASTER DRAINAGE STUDY
195      HC  2
      *

196      KK  OFF15
197      KM  REFERENCED FROM GCW MASTER DRAINAGE STUDY
198      BA  .0348
199      PB  2.77
200      LS  0      94.7
201      UD  0.108
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HEC-1 INPUT

PAGE 6

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

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202      KK  CHD7B2
203      KM  COMBINE CHD07B, OFF15
204      KM  COMBINE FLOWS IN MPU FACILITY
205      KM  REVISED FROM GCW MASTER DRAINAGE STUDY
206      HC  2
      *

207      KK  OFF17B
208      KM  REFERENCED FROM GCW MASTER DRAINAGE STUDY
209      KM  ADDED FROM HORSE INTERCHANGE MODEL
210      BA  .0080
211      PB  2.773
212      LS  0      92.1
213      UD  0.069
      *

214      KK  OFF17A
215      KM  REFERENCED FROM GCW MASTER DRAINAGE STUDY
216      KM  ADDED FROM HORSE INTERCHANGE MODEL
217      BA  .0305
218      PB  2.773
219      LS  0      92.1
220      UD  0.104
      *

221      KK  COFF17
222      KM  REFERENCED FROM GCW MASTER DRAINAGE STUDY
223      KM  ADDED FROM HORSE INTERCHANGE MODEL
224      KM  COMBINE OFF17A, OFF17B
225      KM  CULVERT AT BASIN OFF24B
226      HC  2
      *

227      KK  ON1
228      KM  START CENTENNIAL POINT HEC-1 DATA
229      BA  .0042
230      PB  2.86
231      LS  0      91.2
232      UD  0.085
      *

233      KK  ON4A
234      BA  .0045
235      LS  0      91.2
236      UD  0.077
      *

237      KK  C1
238      KM  COMBINE ON1 AND ON4A
239      HC  2
      *

```

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HEC-1 INPUT

PAGE 7

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

```

240      KK  D1
241      KM  DIVERT FLOW INTO BASIN ON6
242      DT  DIV1
243      DI  0      16
244      DQ  0      13
      *

245      KK  ON5
246      BA  .0052
247      LS  0      91.2
248      UD  0.080
      *

249      KK  C2
250      KM  COMBINE C1 AND ON5
251      HC  2
      *

252      KK  D1A
253      KM  DIVERT FLOW FOR LATER USE IN HEC-1 RUN
254      DT  DIV1A
255      DI  0      50
256      DQ  0      50
      *

257      KK  ON4B
258      BA  .0031

```

259 LS 0 91.2
260 UD 0.085
*

261 KK RET1
262 KM RETRIEVE FLOW FROM D1
263 DR DIV1
*

264 KK ON6
265 BA .0039
266 LS 0 91.2
267 UD 0.074
*

268 KK C3
269 KM COMBINE RET1 AND ON6
270 HC 2
*

271 KK D1B
272 KM DIVERT FLOW FOR LATER USE IN HEC-1 RUN
273 DT DIV1B
274 DI 0 50
275 DQ 0 50
*

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HEC-1 INPUT

PAGE 8

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

276 KK ON2
277 BA .0050
278 LS 0 91.2
279 UD 0.080
*

280 KK ON3
281 BA .0063
282 LS 0 91.5
283 UD 0.079
*

284 KK ON9
285 BA .0045
286 LS 0 91.4
287 UD 0.096
*

288 KK C4
289 KM COMBINE ON2, ON3 AND ON9
290 HC 3
*

291 KK D2
292 KM DIVERT FLOW INTO BASIN ON8
293 DT DIV2
294 DI 0 29
295 DQ 0 24
*

296 KK ON10
297 BA .0025
298 LS 0 91.5
299 UD 0.071
*

300 KK C5
301 KM COMBINE C4 AND ON10
302 HC 2
*

303 KK D3
304 KM DIVERT FLOW INTO BASIN ON7
305 DT DIV3
306 DI 0 10
307 DQ 0 8
*

308 KK ON11
309 BA .0025
310 LS 0 91.5
311 UD 0.067
*

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HEC-1 INPUT

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

312 KK C6
313 KM COMBINE C5 AND ON11
314 HC 2
*

315 KK D1C
316 KM DIVERT FLOW FOR LATER USE IN HEC-1 RUN
317 DT DIV1C
318 DI 0 50
319 DQ 0 50
*

320 KK CD1C
321 KM COMBINE D1A, ON4B, D1B AND D1C
322 KM PICK UP AT OFF23
323 HC 4
*

324 KK RCD1C
325 KM ROUTE CD1C TO BASIN OFF23
326 RK 2640 0.0346 0.02 TRAP 100 2
*

327 KK DRCD1C
328 KM DIVERT FLOW TO BASIN OFF23
329 DT DOFF23
330 DI 0 50 100
331 DQ 0 50 100
*

332 KK ON8
333 BA .0042
334 LS 0 83.5
335 UD 0.074
*

336 KK RET2
337 KM RETRIEVE FLOW FROM D2
338 DR DIV2
*

339 KK C7
340 KM COMBINE ON11 AND RET2
341 HC 2
*

342 KK RET3
343 KM RETRIEVE FLOW FROM D3

1 344 DR DIV3 HEC-1 INPUT PAGE 10

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

```

345 KK ON7
346 BA .0073
347 LS 0 91.3
348 UD 0.077
*

349 KK C8
350 KM COMBINE C7, RET3 AND ON7
351 HC 3
*

352 KK RET1A
353 KM RETRIEVE FLOW FROM DIA IN TEE PEE
354 DR DIV1A
*

355 KK RET1B
356 KM RETRIEVE FLOW FROM D1B IN TEE PEE
357 DR DIV1B
*

358 KK RET1C
359 KM RETRIEVE FLOW FROM D1C IN TEE PEE
360 DR DIV1C
*

361 KK C9
362 KM COMBINE C8, RET1A, RET1B, RET1C IN TEE PEE
363 KM END CENTENNIAL POINT HEC-1 DATA
364 HC 3
*

365 KK ON2D
366 KM START GRAND CANYON APARTMENTS HEC-1 DATA
367 BA .0105
368 PB 2.90
369 LS 0 95
370 UD 0.094
*

371 KK ON5D
372 BA .0038
373 LS 0 95
374 UD 0.067
*

375 KK CP1
376 KM COMBINE ON2D AND ON5D
377 HC 2
*
```

1 HEC-1 INPUT PAGE 11

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

```

378 KK ON3D
379 BA .0036
380 LS 0 95
381 UD 0.084
*

382 KK CP2
383 KM COMBINE CP1 AND ON3D
384 HC 2
*

385 KK ON1D
386 BA .0075
387 LS 0 95
388 UD 0.079
*

389 KK ON4D
390 BA .0041
391 LS 0 95
392 UD 0.096
*

393 KK CP3
394 KM COMBINE ON1D AND ON4D
395 HC 2
*

396 KK CP4
397 KM COMBINE CP2 AND CP3
398 KM END GRAND CANYON APARTMENTS HEC-1 DATA
399 HC 2
*

400 KK CENGCA
401 KM COMBINE DRC01C, C9, CP4
402 KM CD1C IS DIVERSION OF FLOW ON TEE PEE FROM CENTENNIAL POINT
403 KM CP4 AND C9 ARE ENDING OF THE APARTMENT COMPLEX AND DEVELOPMENT
404 HC 4
*

405 KK PH2ML3
406 BA .0448
407 PB 3.00
408 LS 0 92.7
409 UD .121
*

410 KK PH2L6
411 BA .0468
412 PB 3.00
413 LS 0 89.6
414 UD .128
*
```

1 HEC-1 INPUT PAGE 12

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

```

415 KK EGAN1
416 BA .0058
417 PB 3.00
418 LS 0 98.0
419 UD .104
*

420 KK DUMMY
421 HC 3
*

422 KK PH2L5
423 BA .0043
424 PB 3.00
425 LS 0 90.0
426 UD .087
*
```



```

*
427 KK PH2L7
428 BA .0130
429 PB 3.00
430 LS 0
431 UD .097 90.0
*
432 KK RACL1A
433 BA .0059
434 PB 3.00
435 LS 0
436 UD .084 98.0
*
437 KK RA-EG
438 KM TOTAL FLOW AT INTERSECTION OF RACEL AND EGAN CREST
439 KM ROUTED EAST IN RACEL
440 HC 4
*
441 KK PH2ML1
442 BA .0294
443 PB 3.00
444 LS 0
445 UD .101 95.0
*
446 KK PH2ML2
447 BA .0283
448 PB 3.00
449 LS 0
450 UD .091 94.9
*

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```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
451 KK PH2L1
452 BA .0272
453 PB 3.00
454 LS 0
455 UD .126 90.0
*
456 KK PH2L2
457 BA .0180
458 PB 3.00
459 LS 0
460 UD .103 90.0
*
461 KK DUMMY
462 HC 5
*
463 KK PH2L3
464 BA .0260
465 PB 3.00
466 LS 0
467 UD .123 90.0
*
468 KK HUAL1
469 BA .0070
470 PB 3.00
471 LS 0
472 UD .130 98.0
*
473 KK RACL1B
474 BA .0051
475 PB 3.00
476 LS 0
477 UD .070 98.0
*
478 KK HUAL2A
479 BA .0063
480 PB 3.00
481 LS 0
482 UD .129 98.0
*
483 KK RA-HU
484 KM TOTAL FLOW AT INTERSECTION OF RACEL AND HUALAPAI
485 KM ROUTED EAST IN RACEL
486 HC 5
*

```

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HEC-1 INPUT

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```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
487 KK PH1-3
488 KM ONSITE BASIN NORTH OF RACEL AND WEST OF CONQUISTADOR
489 PB 2.93
490 BA .0232
491 LS 0
492 UD 0.116 91.2
*
493 KK CONQ
494 KM STREET BASIN FOR CONQUISTADOR ST
495 PB 2.93
496 BA .0035
497 LS 0
498 UD 0.133 92.5
*
499 KK DUMMY
500 KM COMBINES RA-HU, PH1-3 AND CONQ
501 HC 3
*
502 KK PH1-5
503 KM SOUTHWEST QUAD ONSITE BASIN
504 PB 2.93
505 BA .0583
506 LS 0
507 UD 0.139 94.6
*
508 KK PH1PRK
509 KM ONSITE BASIN FOR COMMUNITY PARK
510 PB 2.93
511 BA .0028
512 LS 0
513 UD 0.082 81.5
*
514 KK RACL1C
515 BA .0071
516 PB 2.93
517 LS 0 92.5

```

518 UD .097

519 KK DUMMY
 520 KM COMBINES CP0, PH1-5, PH1PRK AND RACLIC
 521 HC 4

1

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

522 KK PH1-4
 523 KM ONSITE BASIN NORTH OF RACEL AND EAST OF CONQUISTADOR ST
 524 PB 2.93
 525 BA .0252
 526 LS 0 94.6
 527 UD 0.105

528 KK PH1-6
 529 KM SOUTHEAST QUAD ONSITE BASIN
 530 PB 2.93
 531 BA .0505
 532 LS 0 94.6
 533 UD 0.128

534 KK GCD
 535 BA .0053
 536 PB 2.93
 537 LS 0 93.8
 538 UD .137

539 KK CP26
 540 KM KYLE CANYON DEVELOPMENT TOTAL DISCHARGE AT GRAND CANYON AND OSTINATO
 541 KM ROUTED THRU CENTENNIAL POINT TOWARD US-95
 542 HC 4

543 KK CCP4
 544 KM COMBINE DRCDIC, C9, CP4, CP26
 545 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 546 HC 2

547 KK OFF218
 548 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 549 KM BASIN IS DEVELOPED, CHECK FOR REFERENCE MATERIAL
 550 BA .0414
 551 PB 2.775
 552 LS 0 95
 553 UD 0.110

554 KK COFF218
 555 KM COMBINE OFF218 WITH FLOW FROM CENTENNIAL POINT AND GRAND CANYON APTS
 556 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 557 HC 2

1

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

558 KK ROFF23
 559 KM RETRIEVE FLOW FROM DIVOFF23
 560 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 561 DR DOFF23

562 KK OFF23
 563 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 564 BA .0091
 565 PB 2.787
 566 LS 0 95
 567 UD 0.109

568 KK COFF23
 569 KM COMBINE OFF23, DOFF23
 570 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 571 HC 2

572 KK NW29-C
 573 KM REFERENCED FROM 2008 MPU
 574 BA 0.132
 575 PB 3.00
 576 LS 0 92.4
 577 UD 0.214

578 KK RNW29C
 579 KM ROUTE NW29-C TO CNW71-W
 580 KM FACILITY = CENTENNIAL PARKWAY CHANNEL WEST/GRAND TETON BRANCH
 581 KM FACILITY ID-MILE = CNGT 0118
 582 KM LINING = ARCH CON
 583 KM REFERENCED FROM 2008 MPU
 584 RD 2100 0.037 0.015 0 TRAP 6 0

585 KK NW71-W
 586 KM REFERENCED FROM 2008 MPU
 587 BA 0.104
 588 PB 2.92
 589 LS 0 92.5
 590 UD 0.206

591 KK CNW71W
 592 KM COMBINE RNW29C AND NW71-W
 593 KM CENTENNIAL PKWY CHANNEL WEST/GRAND TETON BRANCH @ HUALAPAI
 594 KM REFERENCED FROM 2008 MPU
 595 HC 2

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

596 KK RCNW71-W
 597 KM ROUTE CNW71-W TO CNW71-E
 598 KM FACILITY = CENTENNIAL PARKWAY CHANNEL WEST/GRAND TETON BRANCH
 599 KM FACILITY ID-MILE = CNGT 0000,0043
 600 KM LINING = RCB
 601 KM REFERENCED FROM 2008 MPU
 602 RD 6270 0.030 0.015 0 TRAP 6 0

603 KK NW71-E
 604 KM REFERENCED FROM 2008 MPU
 605 BA 0.238
 606 PB 2.85
 607 LS 0 88.3
 608 UD 0.293

```

*
609 KK CNW71E
610 KM COMBINE NW71-E AND RCNW71-W
611 KM CENTENNIAL PKWY CHANNEL WEST/GRAND TETON BRANCH @ US 95
612 KM REFERENCED FROM 2008 MPU
613 HC 2
*

614 KK GT1
615 BA .0243
616 PB 3.00
617 LS 0 98.0
618 UD .256
*

619 KK OFFU
620 BA .0398
621 PB 2.93
622 LS 0 94.8
623 UD 0.118
*

624 KK CP26WT
625 KM COMBINE CNW71-E, GT1, OFFU
626 HC 3
*

627 KK 95STH
628 KM FLOW CONVEYED SOUTH IN US-95 AT GRAND TETON
629 KM FLOW CONVEYED IN FACILITY ID = CN95 0167
630 KM COMBINE CP26WT, COFF23, COF218, COFF17, CHD7B2
631 HC 5
*
```

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1

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

```

632 KK OFF1
633 KM EXISTING OFFSITE DRAINAGE BASIN
634 KM DISCHARGES INTO DETENTION BASIN "DB1"
635 BA .4073
636 LS 0 86.4
637 UD 0.356
*

638 KK OFF11
639 KM DEVELOPED OFFSITE DRAINAGE BASIN
640 KM DISCHARGES INTO DETENTION BASIN "DB2"
641 BA .0281
642 LS 0 96.0
643 UD 0.118
*

644 KK OFF2
645 KM EXISTING OFFSITE DRAINAGE BASIN
646 KM DISCHARGES INTO DETENTION BASIN "DB1"
647 BA .0355
648 LS 0 85.0
649 UD 0.148
*

650 KK OFF3
651 KM EXISTING OFFSITE DRAINAGE BASIN
652 KM DISCHARGES INTO DETENTION BASIN "DB1"
653 BA .0259
654 LS 0 86.2
655 UD 0.112
*

656 KK CP1
657 KM COMBINE OFF1, OFF11, OFF2, AND OFF3
658 HC 4
*

659 KK OFF4
660 KM EXISTING OFFSITE DRAINAGE BASIN
661 KM DISCHARGES INTO DETENTION BASIN "DB1"
662 BA .0581
663 LS 0 86.2
664 UD 0.136
*

665 KK OFF5
666 KM EXISTING OFFSITE DRAINAGE BASIN
667 KM DISCHARGES INTO DETENTION BASIN "DB1"
668 BA .2569
669 LS 0 86.5
670 UD 0.419
*
```

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1

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

```

671 KK OFF6
672 KM EXISTING OFFSITE DRAINAGE BASIN
673 KM DISCHARGES INTO DETENTION BASIN "DB1"
674 BA .0399
675 LS 0 86.2
676 UD 0.121
*

677 KK ON1
678 KM PROPOSED ONSITE DRAINAGE BASIN
679 BA .0261
680 LS 0 92.8
681 UD 0.116
*

682 KK DB1
683 KM COMBINE CP1, OFF4, OFF5, OFF6 AND ON1
684 HC 5
*

685 KK RDB1
686 KM OUTLET = 30" ORIFICE @ INVERT ELEVATION = 3025.5-FT
687 SV 1 VOL -1
688 SV 0 7.78 13.43 19.26 58.03 96.21 132.22
689 SE 25.5 27 28 29 35 40 44
690 SQ 0 25.59 36.20 44.33 76.78 335.94 1413.68 2946.76 4825.05
691 SE 25.5 29 30 31 37 38 40 42 44
*

692 KK AROY1
693 KM DOWNSTREAM OF SOUTHERN MAINTAINED ARROYO OUTFALL DISCHARGE
694 BA .0028
695 PB 3.00
696 LS 0 88.0
697 UD .100
*

698 KK WPRK5
699 BA .0037
700 PB 3.00
701 LS 0 84.0
*
```

702 UD .066
 *
 703 KK SHEEP1
 704 KM FUTURE DEVELOPED SHEEP MOUNTAIN PARKWAY
 705 BA .1008
 706 PB 3.00
 707 LS 0 93.8
 708 UD 0.287
 *

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HEC-1 INPUT

PAGE 20

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

709 KK SHEPAB
 710 KM DIVERT DISCHARGE INTO IRON MOUNTAIN DISCHARGE
 711 DT DSHEPC
 712 DI 0 148
 713 DQ 0 33
 *
 714 KK DSHEPA
 715 KM DIVERT DISCHARGE INTO NORTHERN MAINTAINED ARROYO
 716 DT DSHEPB
 717 DI 0 115
 718 DQ 0 70
 *
 719 KK AROY2
 720 KM DOWNSTREAM OF SOUTHERN MAINTAINED ARROYO DISCHARGE
 721 BA .0081
 722 PB 3.00
 723 LS 0 88.0
 724 UD .100
 *
 725 KK DUMMY
 726 HC 5
 *
 727 KK PH2L4
 728 BA .0186
 729 PB 3.00
 730 LS 0 90.0
 731 UD .097
 *
 732 KK PH2L8
 733 BA .0126
 734 PB 3.00
 735 LS 0 90.0
 736 UD .102
 *
 737 KK PH2L9
 738 BA .0291
 739 PB 3.00
 740 LS 0 90.0
 741 UD .093
 *
 742 KK EGAN2
 743 BA .0044
 744 PB 3.00
 745 LS 0 98.0
 746 UD .073
 *

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HEC-1 INPUT

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

747 KK DUMMY
 748 HC 5
 *
 749 KK WPRK2A
 750 BA .0059
 751 PB 3.00
 752 LS 0 84.0
 753 UD .074
 *
 754 KK PH2PK1
 755 BA .0086
 756 PB 3.00
 757 LS 0 84.0
 758 UD .084
 *
 759 KK PH2PK
 760 BA .0205
 761 PB 3.00
 762 LS 0 84.0
 763 UD .099
 *
 764 KK HORSE2
 765 BA .0110
 766 PB 3.00
 767 LS 0 98.0
 768 UD .103
 *
 769 KK DUMMY
 770 HC 5
 *
 771 KK PH2PK2
 772 BA .0025
 773 PB 3.00
 774 LS 0 84.0
 775 UD .061
 *
 776 KK PH2ML4
 777 BA .0354
 778 PB 3.00
 779 LS 0 93.1
 780 UD .110
 *

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

781 KK SHAUM1
 782 BA .0066
 783 PB 3.00
 784 LS 0 98.0
 785 UD .155
 *
 786 KK HU-HO
 787 KM TOTAL FLOW AT INTERSECTION OF HUALAPAI AND HORSE
 788 KM ROUTED NORTH IN HUALAPAI

789	HC	4	
	*		
790	KK	WML5	
791	BA	.0370	
792	PB	3.00	
793	LS	0	95.0
794	UD	.096	
	*		
795	KK	WSCHL2	
796	BA	.0171	
797	PB	3.00	
798	LS	0	91.0
799	UD	.079	
	*		
800	KK	WPRK1	
801	BA	.0115	
802	PB	3.00	
803	LS	0	84.0
804	UD	.066	
	*		
805	KK	STRT5	
806	BA	.0065	
807	PB	3.00	
808	LS	0	98.0
809	UD	.081	
	*		
810	KK	DUMMY	
811	HC	5	
	*		
812	KK	DSHEPB	
813	KM	UNDEVELOPED SHEEP MOUNTAIN PARKWAY DISCHARGE INTO NORTHERN MAINTAINED ARROYO	
814	DR	DSHEPB	
	*		

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HEC-1 INPUT

PAGE 23

LINE	ID	1	2	3	4	5	6	7	8	9	10
815	KK	AROY5									
816	BA	.0122									
817	PB	3.00									
818	LS	0									88.0
819	UD	.100									
	*										
820	KK	WMLA1									
821	BA	.0697									
822	PB	3.00									
823	LS	0									95.0
824	UD	.129									
	*										
825	KK	HUAL2B									
826	BA	.0124									
827	PB	3.00									
828	LS	0									98.0
829	UD	.250									
	*										
830	KK	DUMMY									
831	HC	5									
	*										
832	KK	AROY4									
833	KM	DOWNSTREAM OF NORTHERN MAINTAINED ARROYO OUTFALL DISCHARGE									
834	BA	.0080									
835	PB	3.00									
836	LS	0									88.0
837	UD	.100									
	*										
838	KK	WML7									
839	BA	.0380									
840	PB	3.00									
841	LS	0									95.0
842	UD	.097									
	*										
843	KK	WPRK4									
844	BA	.0048									
845	PB	3.00									
846	LS	0									84.0
847	UD	.083									
	*										
848	KK	SHAUM2									
849	BA	.0080									
850	PB	3.00									
851	LS	0									98.0
852	UD	.110									
	*										

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HEC-1 INPUT

PAGE 24

LINE	ID	1	2	3	4	5	6	7	8	9	10
853	KK	DUMMY									
854	HC	4									
	*										
855	KK	WL7									
856	BA	.0207									
857	PB	3.00									
858	LS	0									90.0
859	UD	.101									
	*										
860	KK	WNVE2									
861	BA	.0018									
862	PB	3.00									
863	LS	0									88.0
864	UD	.131									
	*										
865	KK	WL6									
866	BA	.0060									
867	PB	3.00									
868	LS	0									90.0
869	UD	.078									
	*										
870	KK	HORS1A									
871	BA	.0086									
872	PB	3.00									
873	LS	0									98.0
874	UD	.095									
	*										
875	KK	SH-HO									
876	KM	TOTAL FLOW AT INTERSECTION OF SHAUMBER AND HORSE									
877	KM	ROUTED NORTH IN SHAUMBER									

878 HC 5

879 KK OFF7
880 KM EXISTING OFFSITE DRAINAGE BASIN
881 KM DISCHARGES INTO DETENTION BASIN "DB2"
882 BA .0068
883 LS 0 86.2
884 UD 0.100

885 KK OFF8
886 KM EXISTING OFFSITE DRAINAGE BASIN
887 KM DISCHARGES INTO DETENTION BASIN "DB2"
888 BA .1663
889 LS 0 86.2
890 UD 0.239

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HEC-1 INPUT

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

891 KK CP2
892 KM COMBINE OFF7, AND OFF8
893 HC 2

894 KK OFF9
895 KM EXISTING OFFSITE DRAINAGE BASIN
896 KM DISCHARGES INTO DETENTION BASIN "DB2"
897 BA .1164
898 LS 0 86.2
899 UD 0.203

900 KK OFF10
901 KM EXISTING OFFSITE DRAINAGE BASIN
902 KM DISCHARGES INTO DETENTION BASIN "DB2"
903 BA .2463
904 LS 0 86.5
905 UD 0.248

906 KK ON2
907 KM PROPOSED ONSITE DRAINAGE BASIN
908 BA .0241
909 LS 0 92.8
910 UD 0.084

911 KK DB2
912 KM COMBINE CP2, OFF9, OFF10 AND ON2
913 HC 4

914 KK RDB2
915 KM OUTLET = 27" ORIFICE @ INVERT ELEVATION = 2993-FT
916 RS 1 VOL -1
917 SV 0 3.27 6.87 10.63 27.34 46.77 75.03
918 SE 2993 2994 2995 2996 3000 3004 3009
919 SQ 0 17.95 27.43 34.38 40.15 45.18 57.71 67.97 76.88
920 SE 2993 2996 2997 2998 2999 3000 3003 3006 3009

921 KK WL8
922 BA .0133
923 PB 3.00
924 LS 0 90.0
925 UD .085

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

926 KK WNV3
927 BA .0028
928 PB 3.00
929 LS 0 88.0
930 UD .159

931 KK WL5
932 BA .0402
933 PB 3.00
934 LS 0 90.0
935 UD .107

936 KK IRON1A
937 BA .0055
938 PB 3.00
939 LS 0 98.0
940 UD .087

941 KK DUMMY
942 HC 5

943 KK SHAUM3
944 BA .0048
945 PB 3.00
946 LS 0 98.0
947 UD .064

948 KK IR-SH
949 KM TOTAL FLOW AT INTERSECTION OF IRON MOUNTAIN AND SHAUMBER
950 KM ROUTED EAST IN IRON MOUNTAIN
951 HC 3

952 KK WML6
953 BA .0284
954 PB 3.00
955 LS 0 95.0
956 UD .085

957 KK HORS18
958 BA .0032
959 PB 3.00
960 LS 0 98.0
961 UD .050

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

962 KK WL4
963 BA .0492
964 PB 3.00
965 LS 0 90.0
966 UD .133

```

*
967 KK DUMMY
968 HC 3
*
969 KK SM-IR
970 KM UNDEVELOPED SHEEP MOUNTAIN PARKWAY DISCHARGE INTO IRON MOUNTAIN ROAD
971 DR DSHEPC
*
972 KK IRON1B
973 BA .0044
974 PB 3.00
975 LS 0 98.0
976 UD .101
*
977 KK HU-IR
978 KM TOTAL FLOW AT INTERSECTION OF HUALAPAI AND IRON MOUNTAIN
979 KM ROUTED NORTH IN REGIONAL FACILITY ALIGNMENT
980 HC 5
*
981 KK OFF4-1
982 KM REFERENCED FROM 2008 MPU
983 BA 0.301
984 PB 3.40
985 LS 0 86.8
986 UD 0.295
*
987 KK ROFF41
988 KM ROUTE OFF4-1 TO COFF4-2
989 KM KYLE CANYON ROAD
990 KM REFERENCED FROM 2008 MPU
991 RD 5800 0.0414 0.016 0 TRAP 0 50
*
992 KK OFF4-2
993 KM REFERENCED FROM 2008 MPU
994 BA 0.420
995 PB 3.34
996 LS 0 85.2
997 UD 0.140
*

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

```

998 KK COFF42
999 KM COMBINE ROFF4-1 AND OFF4-2
1000 KM REFERENCED FROM 2008 MPU
1001 HC 2
*
1002 KK RCOFF4-2
1003 KM ROUTE COFF4-2 TO COFF5-1
1004 KM KYLE CANYON ROAD
1005 KM REFERENCED FROM 2008 MPU
1006 RD 2800 0.0392 0.016 0 TRAP 0 50
*
1007 KK OFF5-1
1008 KM REFERENCED FROM 2008 MPU
1009 BA 0.296
1010 PB 3.26
1011 LS 0 84.1
1012 UD 0.222
*
1013 KK COFF51
1014 KM COMBINE RCOFF4-2 AND OFF5-1
1015 KM REFERENCED FROM 2008 MPU
1016 HC 2
*
1017 KK RCOFF5-1
1018 KM ROUTE COFF5-1 TO 2CNW1-C
1019 KM FACILITY = MOCCASIN AND KYLE CANYON ROAD
1020 KM FACILITY ID-MILE = MOKC 0380
1021 KM LINING = RCP
1022 KM REFERENCED FROM 2008 MPU
1023 RD 5800 0.0373 0.013 0 CIRC 7.5 0
*
1024 KK OFF5-2
1025 KM REFERENCED FROM 2008 MPU
1026 BA 0.395
1027 PB 3.20
1028 LS 0 86.9
1029 UD 0.317
*
1030 KK ROFF52
1031 KM ROUTE OFF5-2 TO CNW1-C
1032 KM FACILITY =KYLE CANYON ROAD AND UNKNOWN
1033 KM FACILITY ID-MILE = KCUN 0000
1034 KM LINING = RCP
1035 KM REFERENCED FROM 2008 MPU
1036 RD 2300 0.022 0.013 0 CIRC 7 0
*

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

```

1037 KK NW1-C
1038 KM REFERENCED FROM 2008 MPU
1039 BA 0.293
1040 PB 3.12
1041 LS 0 84.3
1042 UD 0.263
*
1043 KK CNW1-C
1044 KM COMBINE ROFF5-2 AND NW1-C
1045 KM REFERENCED FROM 2008 MPU
1046 HC 2
*
1047 KK 2CNW1C
1048 KM COMBINE RCOFF5-1 AND CNW1-C
1049 KM REFERENCED FROM 2008 MPU
1050 HC 2
*
1051 KK R2CNW1-C
1052 KM ROUTE 2CNW1-C TO CNW-7
1053 KM FACILITY =MOCCASIN AND KYLE CANYON ROAD
1054 KM FACILITY ID-MILE = MOKC 0325
1055 KM LINING = RCB
1056 KM REFERENCED FROM 2008 MPU
1057 RD 5700 0.0365 0.015 0 TRAP 9 0
*

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1058 KK NW7-C
1059 KM REFERENCED FROM 2008 MPU
1060 BA 0.488
1061 PB 3.03
1062 LS 0 87.2
1063 UD 0.364
*

1064 KK CNW-7
1065 KM COMBINE NW7-C AND R2CNW1-C
1066 KM REFERENCED FROM 2008 MPU
1067 HC 2
*

1068 KK RCNW7C
1069 KM ROUTE CNW7-C TO CNW21-C
1070 KM FACILITY =MOCCASIN AND KYLE CANYON ROAD
1071 KM FACILITY ID-MILE = MOKC
1072 KM LINING = RCB
1073 KM REVISED FROM 2008 MPU
1074 RD 2660 0.0338 0.015 0 TRAP 20 0
*

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

1075 KK NW21-C
1076 KM PROPOSED ULTIMATE CONDITION MPA BASIN
1077 BA .1552
1078 PB 3.00
1079 LS 0 92.0
1080 UD 0.199
*

1081 KK CNW21C
1082 KM COMBINE NW21-C AND CNW-7
1083 HC 2
*

1084 KK RCNW21-C
1085 KM ROUTE CNW21-C TO CNW35-C
1086 KM FACILITY =MOCCASIN AND KYLE CANYON ROAD
1087 KM FACILITY ID-MILE = MOKC
1088 KM LINING = RCB
1089 KM REVISED FROM 2008 MPU
1090 RD 5450 0.0339 0.015 0 TRAP 20 0
*

1091 KK NW35-C
1092 KM PROPOSED ULTIMATE CONDITION MPA BASIN
1093 BA .3447
1094 PB 2.93
1095 LS 0 90.5
1096 UD 0.291
*

1097 KK CNW35C
1098 KM COMBINE NW35-C AND CNW21-C
1099 HC 2
*

1100 KK CKC5
1101 KM COMBINE HU-IR, CNW35C
1102 HC 2
*

1103 KK NW50-C
1104 KM PROPOSED ULTIMATE CONDITION MPA BASIN
1105 BA .1677
1106 PB 2.92
1107 LS 0 87.8
1108 UD 0.179
*

1109 KK CKC6
1110 KM COMBINE CKC5, NW50-C
1111 HC 2
*

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

1112 KK OFF1A-1
1113 KM REFERENCED FROM 2008 MPU
1114 BA 1.144
1115 PB 3.40
1116 LS 0 77.0
1117 UD 0.546
*

1118 KK ROFF1A-1
1119 KM ROUTE OFF1A-1 TO COFF1A-2
1120 KM GRAND TETON
1121 KM REFERENCED FROM 2008 MPU
1122 RD 2600 0.0392 0.016 0 TRAP 0 50
*

1123 KK OFF1A-2
1124 KM REFERENCED FROM 2008 MPU
1125 BA 0.387
1126 PB 3.36
1127 LS 0 84.1
1128 UD 0.268
*

1129 KK COFF1A-2
1130 KM COMBINE ROFF1A-1 AND OFF1A-2
1131 KM GRAND TETON AND SCOTTIE
1132 KM REFERENCED FROM 2008 MPU
1133 HC 2
*

1134 KK RCFF1A-2
1135 KM ROUTE COFF1A-2 TO OFF1A-3
1136 KM SCOTTIE AND RACEL
1137 KM REFERENCED FROM 2008 MPU
1138 RD 3600 0.0333 0.016 0 TRAP 0 50
*

1139 KK OFF1A-3
1140 KM REFERENCED FROM 2008 MPU
1141 BA 0.303
1142 PB 3.34
1143 LS 0 83.0
1144 UD 0.319
*

1145 KK COFF1A-3
1146 KM COMBINE RCFF1A-2 AND OFF1A-3
1147 KM RACEL AND HURTADO
1148 KM REFERENCED FROM 2008 MPU
1149 HC 2
*

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Ultimate3.OUT

LINE	ID	1	2	3	4	5	6	7	8	9	10
1150	KK	RCFF1A-3									
1151	KM	ROUTE COFF1A-3 TO COFF1A-4									
1152	KM	HURTADO AND HORSE									
1153	KM	REFERENCED FROM 2008 MPU									
1154	RD	3900 0.0308 0.016	0	TRAP	0	50					
	*										
1155	KK	OFF1A-4									
1156	KM	REFERENCED FROM 2008 MPU									
1157	BA	0.274									
1158	PB	3.29									
1159	LS	0 79.8									
1160	UD	0.295									
	*										
1161	KK	COFF1A-4									
1162	KM	COMBINE RCFF1A-3 AND OFF1A-4									
1163	KM	HORSE AND REYMORE									
1164	KM	REFERENCED FROM 2008 MPU									
1165	HC	2									
	*										
1166	KK	RCFF1A-4									
1167	KM	ROUTE COFF1A-4 TO COFF1A-5									
1168	KM	HORSE AND UNKNOWN STREET									
1169	KM	REFERENCED FROM 2008 MPU									
1170	RD	5100 0.0255 0.016	0	TRAP	0	50					
	*										
1171	KK	OFF1A-5									
1172	KM	REFERENCED FROM 2008 MPU									
1173	BA	0.418									
1174	PB	3.21									
1175	LS	0 78.9									
1176	UD	0.354									
	*										
1177	KK	COFF1A-5									
1178	KM	COMBINE RCFF1A-4 AND OFF1A-5									
1179	KM	REFERENCED FROM 2008 MPU									
1180	HC	2									
	*										
1181	KK	ROFF1A-5									
1182	KM	ROUTE COFF1A-5 TO COFF2A									
1183	KM	IRON MOUNTAIN									
1184	KM	REFERENCED FROM 2008 MPU									
1185	RD	2600 0.0288 0.016	0	TRAP	0	50					
	*										

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LINE	ID	1	2	3	4	5	6	7	8	9	10
1186	KK	OFF2A									
1187	KM	REFERENCED FROM 2008 MPU									
1188	BA	0.318									
1189	PB	3.16									
1190	LS	0 79.0									
1191	UD	0.303									
	*										
1192	KK	COFF2A									
1193	KM	COMBINE RCFF1A-5 AND OFF2A									
1194	KM	REFERENCED FROM 2008 MPU									
1195	HC	2									
	*										
1196	KK	RCOFF2A									
1197	KM	ROUTE COFF2A AND COFF3									
1198	KM	IRON MOUNTAIN									
1199	KM	REFERENCED FROM 2008 MPU									
1200	RD	2600 0.0333 0.016	0	TRAP	0	50					
	*										
1201	KK	OFF3									
1202	KM	REFERENCED FROM 2008 MPU									
1203	BA	0.222									
1204	PB	3.11									
1205	LS	0 79.0									
1206	UD	0.272									
	*										
1207	KK	COFF3									
1208	KM	COMBINE RCOFF2A AND OFF3									
1209	KM	REFERENCED FROM 2008 MPU									
1210	HC	2									
	*										
1211	KK	RCOFF3									
1212	KM	ROUTE COFF3 AND COFF2B									
1213	KM	FACILITY = MOCCASIN AND SHEEP MOUNTAIN									
1214	KM	FACILITY ID-MILE = MOSH 0053									
1215	KM	LINING = CONCRETE									
1216	KM	REFERENCED FROM 2008 MPU									
1217	RD	2640 0.0139 0.015	0	TRAP	12	0					
	*										
1218	KK	OFF2B									
1219	KM	REFERENCED FROM 2008 MPU									
1220	BA	0.160									
1221	PB	3.06									
1222	LS	0 77.0									
1223	UD	0.216									
	*										

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LINE	ID	1	2	3	4	5	6	7	8	9	10
1224	KK	COFF2B									
1225	KM	COMBINE RCOFF3 AND OFF2B									
1226	KM	REFERENCED FROM 2008 MPU									
1227	HC	2									
	*										
1228	KK	RCOFF2B									
1229	KM	ROUTE COFF2B TO COFF1A-6									
1230	KM	FACILITY = MOCCASIN AND SHEEP MOUNTAIN									
1231	KM	FACILITY ID-MILE = MOSH 0000									
1232	KM	LINING = CONCRETE									
1233	KM	REFERENCED FROM 2008 MPU									
1234	RD	2640 0.0271 0.015	0	TRAP	12	0					
	*										
1235	KK	OFF1A-6									
1236	KM	REFERENCED FROM 2008 MPU									
1237	BA	0.473									
1238	PB	3.05									
1239	LS	0 77.0									
1240	UD	0.355									
	*										
1241	KK	COFF1A-6									

1242 KM COMBINE RCOFF2B AND OFF1A-6
 1243 KM REFERENCED FROM 2008 MPU
 1244 HC 2
 *

1245 KK RCOFF1A-6
 1246 KM ROUTE COFF1A-6 TO 2CNW5-C
 1247 KM FACILITY = LAS VEGAS WASH - MOCCASIN
 1248 KM FACILITY ID-MILE = LVMO 0494
 1249 KM LINING = CONCRETE
 1250 KM REFERENCED FROM 2008 MPU
 1251 RD 2800 0.0288 0.015 0 TRAP 16 0
 *

1252 KK NW2-C
 1253 KM REFERENCED FROM 2008 MPU
 1254 BA 0.395
 1255 PB 3.04
 1256 LS 0 82.1
 1257 UD 0.351
 *

1258 KK RNW2-C
 1259 KM ROUTE NW2-C TO CNW5-C
 1260 KM RANTOOL
 1261 KM REFERENCED FROM 2008 MPU
 1262 RD 2600 0.025 0.016 0 TRAP 0 50
 *

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

1263 KK NW5-C
 1264 KM REFERENCED FROM 2008 MPU
 1265 BA 0.274
 1266 PB 2.96
 1267 LS 0 79.7
 1268 UD 0.419
 *

1269 KK CNW5-C
 1270 KM COMBINE RNW2-C AND NW5-C
 1271 KM REFERENCED FROM 2008 MPU
 1272 HC 2
 *

1273 KK 2CNW5-C
 1274 KM COMBINE RCOFF1A-6 AND CNW5-C
 1275 KM REFERENCED FROM 2008 MPU
 1276 HC 2
 *

1277 KK RCNW5-C
 1278 KM ROUTE 2CNW5-C TO 2CNW11-C
 1279 KM FACILITY = LAS VEGAS WASH - MOCCASIN
 1280 KM FACILITY ID-MILE = LVMO 0445
 1281 KM LINING = CONCRETE
 1282 KM REFERENCED FROM 2008 MPU
 1283 RD 2600 0.0288 0.015 0 TRAP 16 0
 *

1284 KK NW9-C
 1285 KM REFERENCED FROM 2008 MPU
 1286 BA 0.272
 1287 PB 2.99
 1288 LS 0 87.1
 1289 UD 0.295
 *

1290 KK RNW9-C
 1291 KM ROUTE NW9-C TO CNW11-C
 1292 KM WITCH MOUNTAIN
 1293 KM REFERENCED FROM 2008 MPU
 1294 RD 2600 0.0192 0.016 0 TRAP 0 50
 *

1295 KK NW11-C
 1296 KM REFERENCED FROM 2008 MPU
 1297 BA 0.270
 1298 PB 2.93
 1299 LS 0 80.6
 1300 UD 0.275
 *

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

1301 KK CNW11-C
 1302 KM COMBINE RNW9-C AND NW11-C
 1303 KM WITCH MOUNTAIN AND MOCCASIN
 1304 KM REFERENCED FROM 2008 MPU
 1305 HC 2
 *

1306 KK 2CNW11-C
 1307 KM COMBINE RCNW5-C AND CNW11-C
 1308 KM WITCH MOUNTAIN AND MOCCASIN
 1309 KM REFERENCED FROM 2008 MPU
 1310 HC 2
 *

1311 KK RCNW11-C
 1312 KM ROUTE 2CNW11-C TO CNW17-C
 1313 KM FACILITY = LAS VEGAS WASH - MOCCASIN
 1314 KM FACILITY ID-MILE = LVMO 0396
 1315 KM LINING = CONCRETE
 1316 KM REFERENCED FROM 2008 MPU
 1317 RD 2600 0.0327 0.015 0 TRAP 16 0
 *

1318 KK NW17-C
 1319 KM REFERENCED FROM 2008 MPU
 1320 BA 0.429
 1321 PB 2.89
 1322 LS 0 86.4
 1323 UD 0.357
 *

1324 KK CNW17-C
 1325 KM COMBINE RCNW11-C AND NW17-C
 1326 KM RUFUS AND MOCCASIN
 1327 KM REFERENCED FROM 2008 MPU
 1328 HC 2
 *

1329 KK RCNW17-C
 1330 KM ROUTE CNW17-C TO CNW23-C
 1331 KM FACILITY = LAS VEGAS WASH AND MOCCASIN
 1332 KM FACILITY ID-MILE = LVMO 0346
 1333 KM LINING = CONCRETE
 1334 KM REFERENCED FROM 2008 MPU
 1335 RD 2600 0.0287 0.015 0 TRAP 16 0
 *

1336 KK NW23-C

1337 KM REFERENCED FROM 2008 MPU
 1338 BA 0.376
 1339 PB 2.84
 1340 LS 0 87.1
 1341 UD 0.330
 *

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

1342 KK CNW23-C
 1343 KM COMBINE RCNW17-C AND NW23-C
 1344 KM MAINWAL AND MOCCASIN
 1345 KM REFERENCED FROM 2008 MPU
 1346 HC 2
 *

1347 KK RCNW23-C
 1348 KM ROUTE CNW23-C TO 2C2138-5
 1349 KM FACILITY = LAS VEGAS WASH AND MOCCASIN
 1350 KM FACILITY ID-MILE = LVMO 0280
 1351 KM LTNING = CONCRETE
 1352 KM REFERENCED FROM 2008 MPU
 1353 RD 3500 0.0286 0.015 0 TRAP 16 0
 *

1354 KK NW51-C
 1355 KM PROPOSED ULTIMATE CONDITION MPA BASIN
 1356 BA .4950
 1357 PB 2.93
 1358 LS 0 87.1
 1359 UD 0.342
 *

1360 KK CNW51-C
 1361 KM COMBINE NW51-C AND CNW23-C
 1362 HC 2
 *

1363 KK 202
 1364 KM REFERENCED FROM 2008 MPU
 1365 BA 5.550
 1366 PB 4.19
 1367 LS 0 80.0
 1368 UD 0.438
 *

1369 KK R202
 1370 KM ROUTE 202 TO C203
 1371 KM NATURAL WASH
 1372 KM TRAVEL LENGTH = 13,500
 1373 KM SLOPE = 5.3%
 1374 KM N = 0.040
 1375 KM HYDRAULIC RADIUS = 1.5
 1376 KM VELOCITY = 18.0
 1377 KM REFERENCED FROM 2008 MPU
 1378 RM 3 0.209 0.15
 *

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

1379 KK 203
 1380 KM REFERENCED FROM 2008 MPU
 1381 BA 6.405
 1382 PB 4.20
 1383 LS 0 80.0
 1384 UD 0.561
 *

1385 KK 204
 1386 KM REFERENCED FROM 2008 MPU
 1387 BA 2.712
 1388 PB 4.04
 1389 LS 0 80.0
 1390 UD 0.521
 *

1391 KK C203
 1392 KM COMBINE R202, 203 AND 204
 1393 KM REFERENCED FROM 2008 MPU
 1394 HC 3
 *

1395 KK RC203
 1396 KM ROUTE C203 TO C209-A
 1397 KM NATURAL WASH
 1398 KM TRAVEL LENGTH = 26,500
 1399 KM SLOPE = 5.4%
 1400 KM N = 0.040
 1401 KM HYDRAULIC RADIUS = 1.5
 1402 KM VELOCITY = 18.1
 1403 KM REFERENCED FROM 2008 MPU
 1404 RM 5 0.406 0.15
 *

1405 KK 209-A
 1406 KM REFERENCED FROM 2008 MPU
 1407 BA 5.196
 1408 PB 4.00
 1409 LS 0 69.0
 1410 UD 0.900
 *

1411 KK C209-A
 1412 KM COMBINE RC203 AND 209-A
 1413 KM REFERENCED FROM 2008 MPU
 1414 HC 2
 *

1415 KK 210-C
 1416 KM REFERENCED FROM 2008 MPU
 1417 BA 12.044
 1418 PB 3.84
 1419 LS 0 77.0
 1420 UD 0.960
 *

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

1421 KK C210-C
 1422 KM COMBINE C209-A AND 210-C
 1423 KM REFERENCED FROM 2008 MPU
 1424 HC 2
 *

1425 KK RC210-C
 1426 KM ROUTE C210-C TO C210-A
 1427 KM NATURAL WASH
 1428 KM TRAVEL LENGTH = 5,000
 1429 KM SLOPE = 4.4%
 1430 KM N = 0.040
 1431 KM HYDRAULIC RADIUS = 1.5

1432 KM VELOCITY = 16.4
 1433 KM REFERENCED FROM 2008 MPU
 1434 RM 1 0.085 0.15
 *

1435 KK 210-A
 1436 KM REFERENCED FROM 2008 MPU
 1437 BA 2.523
 1438 PB 3.58
 1439 LS 0 77.0
 1440 UD 0.541
 *

1441 KK C210-A
 1442 KM COMBINE RC210-C AND 210-A
 1443 KM REFERENCED FROM 2008 MPU
 1444 HC 2
 *

1445 KK RC210-A
 1446 KM ROUTE C210-A TO C209-B
 1447 KM NATURAL WASH
 1448 KM TRAVEL LENGTH = 8,000
 1449 KM SLOPE = 3.8%
 1450 KM N = 0.040
 1451 KM HYDRAULIC RADIUS = 1.5
 1452 KM VELOCITY = 15.2
 1453 KM REFERENCED FROM 2008 MPU
 1454 RM 2 0.146 0.15
 *

1455 KK 209-B
 1456 KM REFERENCED FROM 2008 MPU
 1457 BA 1.622
 1458 PB 3.53
 1459 LS 0 69.0
 1460 UD 0.619
 *

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

1461 KK C209-B
 1462 KM COMBINE RC210-A AND 209-B
 1463 KM REFERENCED FROM 2008 MPU
 1464 HC 2
 *

1465 KK RC209-B
 1466 KM ROUTE C209-B TO C213A-1
 1467 KM NATURAL WASH
 1468 KM TRAVEL LENGTH = 20,500
 1469 KM SLOPE = 4.1%
 1470 KM N = 0.040
 1471 KM HYDRAULIC RADIUS = 1.5
 1472 KM VELOCITY = 15.8
 1473 KM REFERENCED FROM 2008 MPU
 1474 RM 4 0.36 0.15
 *

1475 KK 213A-1
 1476 KM REFERENCED FROM 2008 MPU
 1477 BA 2.970
 1478 PB 3.39
 1479 LS 0 77.0
 1480 UD 0.852
 *

1481 KK C213A-1
 1482 KM COMBINE RC209-B AND 213A-1
 1483 KM REFERENCED FROM 2008 MPU
 1484 HC 2
 *

1485 KK RC213A-1
 1486 KM ROUTE C213A-1 TO C213A-2
 1487 KM IRON MOUNTAIN
 1488 KM REFERENCED FROM 2008 MPU
 1489 RD 4600 0.0326 0.016 0 TRAP 0 50
 *

1490 KK 213A-2
 1491 KM REFERENCED FROM 2008 MPU
 1492 BA 0.500
 1493 PB 3.28
 1494 LS 0 78.9
 1495 UD 0.345
 *

1496 KK C213A-2
 1497 KM ROUTE RC213A-1 AND 213A-2
 1498 KM IRON MOUNTAIN AND SCOTTIE
 1499 KM REFERENCED FROM 2008 MPU
 1500 HC 2
 *

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

1501 KK RC213A-2
 1502 KM ROUTE C213A-2 TO C213A-3
 1503 KM IRON MOUNTAIN
 1504 KM REFERENCED FROM 2008 MPU
 1505 RD 2600 0.0269 0.016 0 TRAP 0 50
 *

1506 KK 213A-3
 1507 KM REFERENCED FROM 2008 MPU
 1508 BA 0.371
 1509 PB 3.26
 1510 LS 0 79.0
 1511 UD 0.319
 *

1512 KK C213A-3
 1513 KM COMBINE RC213A-2 TO 213A-3
 1514 KM IRON MOUNTAIN AND HURTADO
 1515 KM REFERENCED FROM 2008 MPU
 1516 HC 2
 *

1517 KK RC213A-3
 1518 KM ROUTE C213A-3 TO C213A-4
 1519 KM IRON MOUNTAIN
 1520 KM REFERENCED FROM 2008 MPU
 1521 RD 2600 0.0346 0.016 0 TRAP 0 50
 *

1522 KK 213A-4
 1523 KM REFERENCED FROM 2008 MPU
 1524 BA 0.251
 1525 PB 3.21
 1526 LS 0 78.6
 1527 UD 0.281
 *

1528 KK C213A-4
 1529 KM COMBINE RC213A-3 AND 213A-4
 1530 KM IRON MOUNTAIN AND REYMORE
 1531 KM REFERENCED FROM 2008 MPU
 1532 HC 2
 *

1533 KK RC213A-4
 1534 KM ROUTE C213A-4 TO C213A-5
 1535 KM NATURAL WASH
 1536 KM TRAVEL LENGTH = 13,000
 1537 KM SLOPE = 3.5%
 1538 KM N = 0.040
 1539 KM HYDRAULIC RADIUS = 1.5
 1540 KM VELOCITY = 14.6
 1541 KM REFERENCED FROM 2008 MPU
 1542 RM 3 0.247 0.15
 *

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PAGE 42

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

1543 KK 213A-5
 1544 KM REFERENCED FROM 2008 MPU
 1545 BA 2.058
 1546 PB 3.06
 1547 LS 0 77.0
 1548 UD 0.703
 *

1549 KK C213A-5
 1550 KM COMBINE RC213A-4 AND 213A-5
 1551 KM REFERENCED FROM 2008 MPU
 1552 HC 2
 *

1553 KK RC213A-5
 1554 KM ROUTE C213A-5 TO C213A-10
 1555 KM REFERENCED FROM 2008 MPU
 1556 RD 2600 0.0288 0.016 0 TRAP 0 50
 *

1557 KK 213A-10
 1558 KM REFERENCED FROM 2008 MPU
 1559 BA 0.252
 1560 PB 2.91
 1561 LS 0 94.7
 1562 UD 0.256
 *

1563 KK C213A-10
 1564 KM COMBINE RC213A-5 AND 213A-10
 1565 KM REFERENCED FROM 2008 MPU
 1566 HC 2
 *

1567 KK RC13A-10
 1568 KM ROUTE C213A-10 TO C213A-11
 1569 KM REFERENCED FROM 2008 MPU
 1570 RD 2600 0.0288 0.016 0 TRAP 0 50
 *

1571 KK 213A-11
 1572 KM REFERENCED FROM 2008 MPU
 1573 BA 0.256
 1574 PB 2.83
 1575 LS 0 95.0
 1576 UD 0.250
 *

1577 KK C213A-11
 1578 KM COMBINE RC13A-10 AND 213A-11
 1579 KM REFERENCED FROM 2008 MPU
 1580 HC 2
 *

1

HEC-1 INPUT

PAGE 43

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

1581 KK RC13A-11
 1582 KM ROUTE C213A-11 TO C213B-6
 1583 KM REFERENCED FROM 2008 MPU
 1584 RD 2600 0.0231 0.016 0 TRAP 0 50
 *

1585 KK 213B-6
 1586 KM REFERENCED FROM 2008 MPU
 1587 BA 0.244
 1588 PB 2.78
 1589 LS 0 95.0
 1590 UD 0.255
 *

1591 KK C213B-6
 1592 KM COMBINE RC13A-11 TO 213B-6
 1593 KM REFERENCED FROM 2008 MPU
 1594 HC 2
 *

1595 KK RC213B-6
 1596 KM ROUTE C213B-6 TO 2C213A-9
 1597 KM REFERENCED FROM 2008 MPU
 1598 RD 1100 0.0318 0.016 0 TRAP 0 50
 *

1599 KK 2C213A-9
 1600 KM COMBINE RC213B-6 AND C213A-9
 1601 KM REFERENCED FROM 2008 MPU
 1602 HC 2
 *

1603 KK RC213A-9
 1604 KM ROUTE C213A-9 TO C213B-7
 1605 KM FACILITY = RANCHO/ MOCCASIN
 1606 KM FACILITY ID-MILE = MORC 0070
 1607 KM LINING = CONCRETE
 1608 KM REFERENCED FROM 2008 MPU
 1609 RD 3700 0.0080 0.015 0 TRAP 34 0
 *

1610 KK 213B-7
 1611 KM REFERENCED FROM 2008 MPU
 1612 BA 0.249
 1613 PB 2.77
 1614 LS 0 94.5
 1615 UD 0.320
 *

1

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PAGE 44

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

1616 KK C213B-7
 1617 KM COMBINE RC213A-9 AND 213B-7

1618 KM REFERENCED FROM 2008 MPU
 1619 HC 2
 *

1620 KK 213B-1
 1621 KM REFERENCED FROM 2008 MPU
 1622 BA 0.261
 1623 PB 2.92
 1624 LS 0 94.7
 1625 UD 0.251
 *

1626 KK RC213B-1
 1627 KM ROUTE 213B-1 TO C213B-2
 1628 KM REFERENCED FROM 2008 MPU
 1629 RD 2600 0.0288 0.016 0 TRAP 0 50
 *

1630 KK 213B-2
 1631 KM REFERENCED FROM 2008 MPU
 1632 BA 0.262
 1633 PB 2.87
 1634 LS 0 95.0
 1635 UD 0.248
 *

1636 KK C213B-2
 1637 KM COMBINE R213B-1 AND 213B-2
 1638 KM REFERENCED FROM 2008 MPU
 1639 HC 2
 *

1640 KK RC213B-2
 1641 KM ROUTE C213B-2 TO C213B-3
 1642 KM REFERENCED FROM 2008 MPU
 1643 RD 2600 0.0269 0.016 0 TRAP 0 50
 *

1644 KK 213B-3
 1645 KM REFERENCED FROM 2008 MPU
 1646 BA 0.253
 1647 PB 2.82
 1648 LS 0 94.9
 1649 UD 0.245
 *

1650 KK C213B-3
 1651 KM ROUTE RC213B-2 AND 213B-3
 1652 KM REFERENCED FROM 2008 MPU
 1653 HC 2
 *

1

HEC-1 INPUT

PAGE 45

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

1654 KK RC213B-3
 1655 KM ROUTE C213B-3 TO C213B-4
 1656 KM REFERENCED FROM 2008 MPU
 1657 RD 2600 0.0269 0.016 0 TRAP 0 50
 *

1658 KK 213B-4
 1659 KM REFERENCED FROM 2008 MPU
 1660 BA 0.255
 1661 PB 2.78
 1662 LS 0 95.0
 1663 UD 0.259
 *

1664 KK C213B-4
 1665 KM COMBINE RC213B-3 AND 213B-4
 1666 KM REFERENCED FROM 2008 MPU
 1667 HC 2
 *

1668 KK RC213B-4
 1669 KM ROUTE C213B-4 TO 2C213B-7
 1670 KM REFERENCED FROM 2008 MPU
 1671 RD 1100 0.0318 0.0273 0 TRAP 0 50
 *

1672 KK 2C213B-7
 1673 KM COMBINE C213B-7 AND RC213B-4
 1674 KM REFERENCED FROM 2008 MPU
 1675 HC 2
 *

1676 KK RC213B-7
 1677 KM ROUTE C213B-7 TO C213B-5
 1678 KM FACILITY = RANCHO/ MOCCASIN
 1679 KM FACILITY ID-MILE = MORC 0000
 1680 KM LINING = CONCRETE
 1681 KM REFERENCED FROM 2008 MPU
 1682 RD 3700 0.0100 0.015 0 TRAP 34 0
 *

1683 KK 213B-5
 1684 KM REFERENCED FROM 2008 MPU
 1685 BA 0.240
 1686 PB 2.77
 1687 LS 0 94.3
 1688 UD 0.294
 *

1

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PAGE 46

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

1689 KK C213B5
 1690 KM COMBINE RC213B-7 AND 213B-5
 1691 KM REFERENCED FROM 2008 MPU
 1692 HC 2
 *

1693 KK OFFT
 1694 BA .0173
 1695 PB 2.77
 1696 LS 0 90.0
 1697 UD 0.111
 *

1698 KK SHEEP2
 1699 BA .0627
 1700 PB 2.77
 1701 LS 0 86.6
 1702 UD .176
 *

1703 KK SHEEP3
 1704 BA .0137
 1705 PB 2.77
 1706 LS 0 86.6
 1707 UD .152
 *

1708 KK EMLA2

1709 BA .1368
 1710 PB 2.77
 1711 LS 0 92.0
 1712 UD .225
 *

1713 KK DUMMY
 1714 HC 5
 *

1715 KK ENVE1
 1716 BA .0341
 1717 PB 2.77
 1718 LS 0 77.0
 1719 UD .210
 *

1720 KK OFFZ
 1721 BA .0523
 1722 PB 2.77
 1723 LS 0 87.0
 1724 UD 0.138
 *

1

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PAGE 47

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

1725 KK HUAL3
 1726 BA .0037
 1727 PB 2.77
 1728 LS 0 98.0
 1729 UD .177
 *

1730 KK SH-MO
 1731 KM TOTAL KYLE CANYON DEVELOPMENT DISCHARGE IN SHEEP MOUNTAIN PKWY @ MOCCASIN
 1732 HC 5
 *

1733 KK SKY3
 1734 BA .0068
 1735 PB 2.77
 1736 LS 0 98.0
 1737 UD .146
 *

1738 KK 95-6
 1739 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1740 BA .0104
 1741 PB 2.77
 1742 LS 0 92.8
 1743 UD 0.091
 *

1744 KK OFFH
 1745 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1746 BA .0074
 1747 PB 2.77
 1748 LS 0 92.5
 1749 UD 0.076
 *

1750 KK SK-IR
 1751 KM COMBINE SKY3, 95-6, OFFH
 1752 HC 3
 *

1753 KK EML1A
 1754 BA .0293
 1755 PB 2.77
 1756 LS 0 92.0
 1757 UD .124
 *

1758 KK IRON2
 1759 BA .0041
 1760 PB 2.93
 1761 LS 0 98.0
 1762 UD .063
 *

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PAGE 48

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

1763 KK EMLA1B
 1764 BA .0221
 1765 PB 2.93
 1766 LS 0 94.6
 1767 UD .104
 *

1768 KK TP2
 1769 BA .0009
 1770 PB 2.93
 1771 LS 0 98.0
 1772 UD .079
 *

1773 KK IR-TP
 1774 KM COMBINE SK-IR, EML1A, IRON2, EMLA1B, TP2
 1775 HC 5
 *

1776 KK ES1
 1777 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1778 BA .0173
 1779 PB 2.77
 1780 LS 0 92.7
 1781 UD 0.109
 *

1782 KK IRON3
 1783 BA .0021
 1784 PB 2.93
 1785 LS 0 98.0
 1786 UD .062
 *

1787 KK IR-FT
 1788 KM COMBINE IR-TP, ES1, IRON3
 1789 HC 3
 *

1790 KK FTNOR
 1791 KM FLOW SPLIT AT IRON MOUNTAIN/FORT APACHE
 1792 KM DIVERT FLOW EAST IN IRON MOUNTAIN ROAD
 1793 KM DIVERT MAX. SD FLOW + MAX. STREET FLOW (118/98 CFS) LESS THAN NWNs 235/98 CFS
 1794 DT IREAST
 1795 DI 0 98 178
 1796 DQ 0 98 118
 *

1797 KK RETD1B
 1798 KM RETRIEVE FLOW FROM VTN CULVERT 1
 1799 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY

1800 DR DCHD1B
 *
 HEC-1 INPUT
 PAGE 49

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

1801 KK RETD2B
 1802 KM RETRIEVE FLOW FROM VTN CULVERT 2
 1803 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1804 DR DCHD2B
 *

1805 KK OFF9
 1806 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1807 BA .0424
 1808 PB 2.77
 1809 LS 0 92.2
 1810 UD 0.186
 *

1811 KK COFF9
 1812 KM COMBINE OFF9, DCHD1C, DCHD2C
 1813 HC 3
 *

1814 KK OFF5
 1815 BA .0109
 1816 PB 2.77
 1817 LS 0 90.0
 1818 UD 0.082
 *

1819 KK SKY4
 1820 BA .0095
 1821 PB 2.77
 1822 LS 0 98.0
 1823 UD .183
 *

1824 KK LC-SK
 1825 KM TOTAL FLOW AT INTERSECTION OF LOG CABIN AND SKY
 1826 KM FLOW ROUTED EAST IN LOG CABIN
 1827 HC 3
 *

1828 KK EML1B
 1829 BA .0749
 1830 PB 2.77
 1831 LS 0 92.0
 1832 UD .129
 *

1833 KK ESCHL1
 1834 BA .0249
 1835 PB 2.77
 1836 LS 0 83.5
 1837 UD .126
 *

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

1838 KK EPRK1
 1839 BA .0123
 1840 PB 2.77
 1841 LS 0 69.0
 1842 UD .122
 *

1843 KK STRT6
 1844 BA .0055
 1845 PB 2.77
 1846 LS 0 98.0
 1847 UD .141
 *

1848 KK EML2A
 1849 BA .0665
 1850 PB 2.77
 1851 LS 0 92.0
 1852 UD .138
 *

1853 KK DUMMY
 1854 HC 5
 *

1855 KK TP3
 1856 BA .0068
 1857 PB 2.77
 1858 LS 0 98.0
 1859 UD .231
 *

1860 KK TP4A
 1861 BA .0029
 1862 PB 2.77
 1863 LS 0 98.0
 1864 UD .115
 *

1865 KK LOG1
 1866 BA .0073
 1867 PB 2.77
 1868 LS 0 98.0
 1869 UD .088
 *

1870 KK LC-TP
 1871 KM TOTAL FLOW AT INTERSECTION OF LOG CABIN AND TEE PEE
 1872 KM FLOW ROUTED EAST IN LOG CABIN
 1873 HC 5
 *

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

1874 KK EL1
 1875 BA .1161
 1876 PB 2.77
 1877 LS 0 82.0
 1878 UD .184
 *

1879 KK LOG2
 1880 BA .0042
 1881 PB 2.77
 1882 LS 0 98.0
 1883 UD .065
 *

1884 KK FORT1
 1885 BA .0091
 1886 PB 2.77

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1887	LS	0	98.0
1888	UD	.238	
	*		
1889	KK	FT-LC	
1890	KM	TOTAL FLOW AT INTERSECTION OF FORT APACHE AND LOG CABIN	
1891	KM	FLOW ROUTED NORTH IN FORT APACHE	
1892	HC	5	
	*		
1893	KK	RFTLC	
1894	KM	DIVERT FLOW SPLIT INTO O'HARE ROAD	
1895	DT	O'HARE	
1896	DI	0	271 642
1897	DQ	0	0 47
	*		
1898	KK	R2FTLC	
1899	KM	DIVERT FLOW SPLIT INTO LOG CABIN WAY	
1900	DT	LOGCAB	
1901	DI	0	271 595
1902	DQ	0	73 187
	*		
1903	KK	EML2B	
1904	BA	.0412	
1905	PB	2.77	
1906	LS	0	92.0
1907	UD	.120	
	*		
1908	KK	TP4B	
1909	BA	.0036	
1910	PB	2.77	
1911	LS	0	98.0
1912	UD	.085	
	*		

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LINE	ID	1	2	3	4	5	6	7	8	9	10
1913	KK	EML3									
1914	BA	.0575									
1915	PB	2.77									
1916	LS	0	92.0								
1917	UD	.153									
	*										
1918	KK	STR7									
1919	BA	.0039									
1920	PB	2.77									
1921	LS	0	98.0								
1922	UD	.071									
	*										
1923	KK	DUMMY									
1924	HC	5									
	*										
1925	KK	EML4									
1926	BA	.0718									
1927	PB	2.77									
1928	LS	0	92.0								
1929	UD	.153									
	*										
1930	KK	ENVE2									
1931	BA	.0144									
1932	PB	2.77									
1933	LS	0	77.0								
1934	UD	.157									
	*										
1935	KK	FORT2									
1936	BA	.0090									
1937	PB	2.77									
1938	LS	0	98.0								
1939	UD	.253									
	*										
1940	KK	FT-MO									
1941	KM	TOTAL KYLE CANYON DEVELOPMENT DISCHARGE IN FORT APACHE @ MOCCASIN									
1942	KM	FLOW ROUTED EAST ADJACENT TO MOCCASIN									
1943	HC	4									
	*										
1944	KK	CP43									
1945	KM	TOTAL KYLE CANYON DEVELOPMENT DISCHARGE IN MOCCASIN REGIONAL ALIGNMENT									
1946	HC	2									
	*										

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LINE	ID	1	2	3	4	5	6	7	8	9	10
1947	KK	95-7A									
1948	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY									
1949	BA	.0069									
1950	PB	2.77									
1951	LS	0	94.7								
1952	UD	0.073									
	*										
1953	KK	95-7B									
1954	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY									
1955	BA	.0081									
1956	PB	2.77									
1957	LS	0	94.7								
1958	UD	0.084									
	*										
1959	KK	95-8A									
1960	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY									
1961	BA	.0052									
1962	PB	2.77									
1963	LS	0	94.7								
1964	UD	0.061									
	*										
1965	KK	95-8B									
1966	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY									
1967	BA	.0031									
1968	PB	2.77									
1969	LS	0	94.7								
1970	UD	0.050									
	*										
1971	KK	C95-8B									
1972	KM	COMBINE 95-7A, 95-7B, 95-8A, 95-8B									
1973	HC	4									
	*										
1974	KK	SKY2									
1975	BA	.0074									
1976	PB	2.93									
1977	LS	0	98.0								

1978 UD .099
 *
 1979 KK EMLA1A
 1980 BA .0135
 1981 PB 2.93
 1982 LS 0 95.0
 1983 UD .100
 *

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

1984 KK TP1
 1985 BA .0009
 1986 PB 2.93
 1987 LS 0 98.0
 1988 UD .082
 *

1989 KK BR-TP
 1990 KM TOTAL FLOW AT INTERSECTION OF BRENT AND TEE PEE
 1991 KM FLOW ROUTED EAST IN BRENT
 1992 HC 4
 *

1993 KK ES2
 1994 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 1995 BA .0491
 1996 PB 2.77
 1997 LS 0 94.7
 1998 UD 0.149
 *

1999 KK BRENT1
 2000 BA .0018
 2001 PB 2.93
 2002 LS 0 98.0
 2003 UD .062
 *

2004 KK EGC3
 2005 BA .0215
 2006 PB 2.93
 2007 LS 0 95.0
 2008 UD .091
 *

2009 KK HORSE5
 2010 BA .0048
 2011 PB 2.93
 2012 LS 0 98.0
 2013 UD .063
 *

2014 KK CP44
 2015 KM TOTAL KYLE CANYON DEVELOPMENT DISCHARGE AT INTERSECTION OF BRENT LANE AND FOR
 2016 KM PROPOSED FLOW SPLIT INTO EXISTING STORM DRAIN SOUTH
 2017 HC 5
 *

2018 KK SOUTH
 2019 KM FLOW SPLIT AT BRENT/FT. APACHE
 2020 KM DIVERT STORM DRAIN DESIGN FLOW 65 CFS SOUTH IN FORT APACHE
 2021 DT BRENT
 2022 DI 0 118 228
 2023 DQ 0 68 178
 *

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

2024 KK SKY1
 2025 BA .0074
 2026 PB 2.93
 2027 LS 0 98.1
 2028 UD .084
 *

2029 KK HORSE4
 2030 BA .0035
 2031 PB 2.93
 2032 LS 0 98.0
 2033 UD .050
 *

2034 KK EGC1
 2035 BA .0076
 2036 PB 2.93
 2037 LS 0 95.0
 2038 UD .070
 *

2039 KK EGC2
 2040 BA .0121
 2041 PB 2.93
 2042 LS 0 95.0
 2043 UD .095
 *

2044 KK DUMMY
 2045 HC 5
 *

2046 KK 95-9B
 2047 KM REFERENCED FROM GCW MASTER DRAINAGE STUDY
 2048 BA .0133
 2049 PB 2.77
 2050 LS 0 94.7
 2051 UD 0.136
 *

2052 KK CP45
 2053 KM TOTAL KYLE CANYON DISCHARGE AT INTERSECTION OF FORT APACHE AND HORSE
 2054 KM PROPOSED FLOW SPLIT AT INTERSECTION
 2055 HC 2
 *

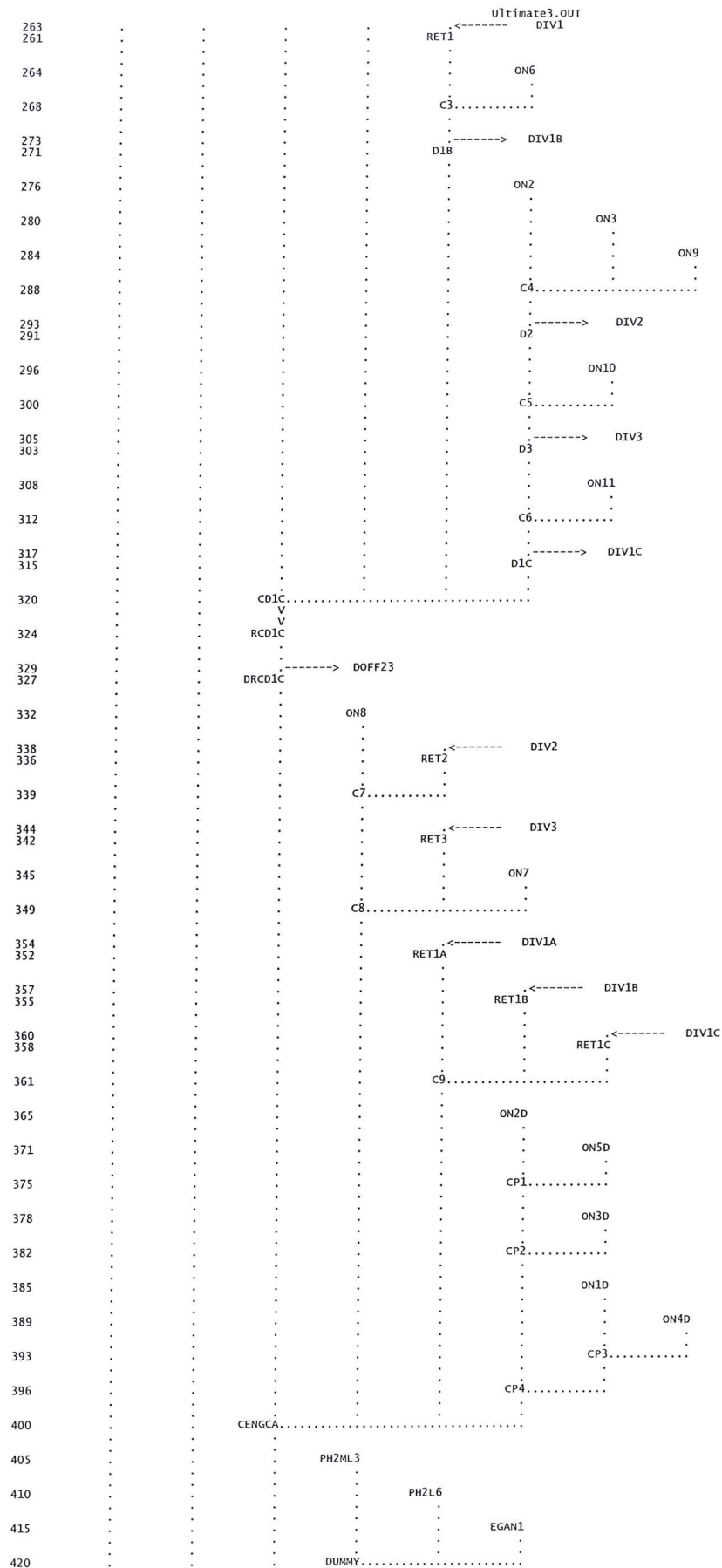
2056 KK HORSE
 2057 KM FLOW SPLIT AT HORSE/RACEL
 2058 KM DIVERT NNWS 101 CFS SOUTH IN FORT APACHE/RACEL
 2059 DT RACEL
 2060 DI 0 101 1000
 2061 DQ 0 101 101
 *

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT
 LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW
 NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW
 28 95-5

Line	Text	Line	Text
47			
48	DHD01B		DCHD1B
50			OFF8
56			OFFY
61	CHD02B		
70			
71	DHD02B		DCHD2B
73			WGED1A
78			WGED1B
83			STRT3
88			WPT49
91			OFFW
96	CHD04B		
100			WBU3
105			STRT2
110			GRAND3
115			WBU2B
120			WGC1
125			WPT48
128	CHD05B		
133			WBU1
138			STRT1
143			WBU2A
148			DUMMY
150			PH1-1
156			PH1-2
162			GRAND2
167			HORSE3
172			WPT46
175			OFF14
181	CHD06B		
186			95-9A
192	CHD07B		
196			OFF15
202	CHD7B2		
207			OFF17B
214			OFF17A
221			COFF17
227			ON1
233			ON4A
237			C1
242			D1
240			DIV1
245			ON5
249			C2
254			D1A
252			DIV1A
257			ON4B



422	.	.	.	.	PH2L5	Ultimate3.OUT	
427	.	.	.	.	.	PH2L7	
432	.	.	.	.	.	.	RACL1A
437	.	.	.	RA-EG	.....	.	
441	.	.	.	.	PH2ML1	.	
446	.	.	.	.	.	PH2ML2	
451	.	.	.	.	.	.	PH2L1
456	.	.	.	.	.	.	PH2L2
461	.	.	.	DUMMY	.....	.	
463	.	.	.	.	PH2L3	.	
468	.	.	.	.	.	HUAL1	
473	.	.	.	.	.	.	RACL1B
478	.	.	.	.	.	.	HUAL2A
483	.	.	.	RA-HU	.....	.	
487	.	.	.	.	PH1-3	.	
493	.	.	.	.	.	CONQ	
499	.	.	.	DUMMY	.....	.	
502	.	.	.	.	PH1-5	.	
508	.	.	.	.	.	PH1PRK	
514	.	.	.	.	.	.	RACL1C
519	.	.	.	DUMMY	.....	.	
522	.	.	.	.	PH1-4	.	
528	.	.	.	.	.	PH1-6	
534	.	.	.	.	.	.	GCD
539	.	.	.	CP26	.....	.	
543	.	.	.	CCP4	.....	.	
547	.	.	.	.	OFF21B	.	
554	.	.	.	COF21B	.....	.	
561	.	.	.	.	ROFF23	----- DOFF23	
558	.	.	.	.	.	.	
562	.	.	.	.	.	OFF23	
568	.	.	.	COFF23	.....	.	
572	.	.	.	.	NW29-C	.	
578	.	.	.	.	V	.	
585	.	.	.	.	RNW29C	.	
591	.	.	.	.	.	NW71-W	
596	.	.	.	.	CNW71W	.....	
603	.	.	.	.	V	.	
609	.	.	.	.	RCNW71	.	
614	.	.	.	.	.	NW71-E	
619	.	.	.	.	.	.	OFFU
624	.	.	.	.	CP26WT		
627	95STH		.	.	.	.	
632	.	OFF1	.	.	.	.	
638	.	.	OFF11	.	.	.	
644	.	.	.	OFF2	.	.	
650	.	.	.	.	OFF3	.	

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656      CP1.....
659      .      OFF4
665      .      .      OFF5
671      .      .      .      OFF6
677      .      .      .      .      ON1
682      DB1.....
685      V
        RDB1
692      .      AROY1
698      .      .      WPRK5
703      .      .      .      SHEEP1
711      .      .      .      .      DSHEPC
709      .      .      .      SHEPAB
716      .      .      .      .      DSHEPB
714      .      .      .      DSHEPA
719      .      .      .      .      AROY2
725      DUMMY.....
727      .      PH2L4
732      .      .      PH2L8
737      .      .      .      PH2L9
742      .      .      .      .      EGAN2
747      DUMMY.....
749      .      WPRK2A
754      .      .      PH2PK1
759      .      .      .      PH2PK
764      .      .      .      .      HORSE2
769      DUMMY.....
771      .      PH2PK2
776      .      .      PH2ML4
781      .      .      .      SHAUM1
786      HU-HO.....
790      .      WML5
795      .      .      WSCHL2
800      .      .      .      WPRK1
805      .      .      .      .      STRT5
810      DUMMY.....
814      .      .      .      .      DSHEPB
812      .      .      .      .      .      DSHEPB
815      .      .      .      .      AROY5
820      .      .      .      .      .      WMLA1
825      .      .      .      .      .      .      HUAL2B
830      DUMMY.....
832      .      AROY4
838      .      .      WML7
843      .      .      .      WPRK4
848      .      .      .      .      SHAUM2
853      DUMMY.....
855      .      .      .      .      WL7

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860	.	.	.	WNVE2	Ultimate3.OUT
865	.	.	.	WL6	
870	.	.	.		HORS1A
875	.	SH-HO	.	.	.
879	.	.	OFF7	.	.
885	.	.	.	OFF8	.
891	.	.	CP2	.	.
894	.	.	.	OFF9	.
900	.	.	.	OFF10	.
906	.	.	.	.	ON2
911	.	.	DB2	.	.
914	.	.	V	.	.
	.	.	RDB2	.	.
921	.	.	.	WL8	.
926	.	.	.	WNVE3	.
931	.	.	.	.	WL5
936	.	.	.	.	IRON1A
941	.	DUMMY	.	.	.
943	.	.	SHAUM3	.	.
948	.	IR-SH	.	.	.
952	.	.	WML6	.	.
957	.	.	.	HORS1B	.
962	.	.	.	.	WL4
967	.	DUMMY	.	.	.
971	.	.	.	SM-IR	DSHEPC
969	.	.	.	.	.
972	.	.	.	IRON1B	.
977	.	HU-IR	.	.	.
981	.	OFF4-1	.	.	.
	.	V	.	.	.
987	.	ROFF41	.	.	.
992	.	.	OFF4-2	.	.
998	.	COFF42	.	.	.
	.	V	.	.	.
1002	.	RCOFF4	.	.	.
1007	.	.	OFF5-1	.	.
1013	.	COFF51	.	.	.
	.	V	.	.	.
1017	.	RCOFF5	.	.	.
1024	.	.	OFF5-2	.	.
	.	V	.	.	.
1030	.	ROFF52	.	.	.
1037	.	.	.	NW1-C	.
1043	.	CNW1-C	.	.	.
1047	.	2CNW1C	.	.	.
	.	V	.	.	.
1051	.	R2CNW1	.	.	.
1058	.	.	NW7-C	.	.
1064	.	CNW-7	.	.	.
	.	V	.	.	.
1068	.	RCNW7C	.	.	.
1075	.	.	NW21-C	.	.
1081	.	CNW21C	.	.	.
	.	V	.	.	.
1084	.	RCNW21	.	.	.

1091			NW35-C
1097		CNW35C	
1100	CKC5		
1103		NW50-C	
1109	CKC6		
1112		OFF1A-	
		V	
1118		ROFF1A	
1123			OFF1A-
1129		COFF1A	
		V	
1134		RCFF1A	
1139			OFF1A-
1145		COFF1A	
		V	
1150		RCFF1A	
1155			OFF1A-
1161		COFF1A	
		V	
1166		RCFF1A	
1171			OFF1A-
1177		COFF1A	
		V	
1181		ROFF1A	
1186			OFF2A
1192		COFF2A	
		V	
1196		RCOFF2	
1201			OFF3
1207		COFF3	
		V	
1211		RCOFF3	
1218			OFF2B
1224		COFF2B	
		V	
1228		RCOFF2	
1235			OFF1A-
1241		COFF1A	
		V	
1245		RCFF1A	
1252			NW2-C
		V	
1258			RNW2-C
1263			NW5-C
1269		CNW5-C	
1273		2CNW5-	
		V	
1277		RCNW5-	
1284			NW9-C
		V	
1290			RNW9-C
1295			NW11-C
1301		CNW11	
1306		2CNW11	
		V	
1311		RCNW11	
1318			NW17-C
1324		CNW17-	
		V	

1329	.	.	RCNW17	.	.
1336	.	.	.	NW23-C	.
1342	.	.	CNW23-	.	.
1347	.	.	V	.	.
1354	.	.	RCNW23	.	.
1360	.	.	.	NW51-C	.
1363	.	.	.	.	202
1369	.	.	.	V	.
1379	.	.	.	R202	.
1385	.	.	.	.	203
1391	.	.	.	.	.
1395	.	.	.	.	204
1405	.	.	.	.	.
1411	.	.	.	.	.
1415	.	.	.	.	.
1421	.	.	.	.	.
1425	.	.	.	.	.
1435	.	.	.	.	.
1441	.	.	.	.	.
1445	.	.	.	.	.
1455	.	.	.	.	.
1461	.	.	.	.	.
1465	.	.	.	.	.
1475	.	.	.	.	.
1481	.	.	.	.	.
1485	.	.	.	.	.
1490	.	.	.	.	.
1496	.	.	.	.	.
1501	.	.	.	.	.
1506	.	.	.	.	.
1512	.	.	.	.	.
1517	.	.	.	.	.
1522	.	.	.	.	.
1528	.	.	.	.	.
1533	.	.	.	.	.
1543	.	.	.	.	.
1549	.	.	.	.	.
1553	.	.	.	.	.
1557	.	.	.	.	.
1563	.	.	.	.	.
1567	.	.	.	.	.
1571	.	.	.	.	.
1577	.	.	.	.	.
1581	.	.	.	.	.
1585	.	.	.	.	.
1591	.	.	.	.	.

ultimate3.OUT

[illegible]

				Ultimate3.OUT		
1811		COFF9				
1814			OFF5			
1819				SKY4		
1824		LC-SK				
1828			EML1B			
1833				ESCHL1		
1838				EPRK1		
1843					STRT6	
1848						EML2A
1853			DUMMY			
1855				TP3		
1860					TP4A	
1865						LOG1
1870		LC-TP				
1874			EL1			
1879				LOG2		
1884					FORT1	
1889		FT-LC				
1895		RFTLC		OHARE		
1893						
1900		R2FTLC		LOGCAB		
1898						
1903			EML2B			
1908				TP4B		
1913					EML3	
1918						STRT7
1923		DUMMY				
1925			EML4			
1930				ENVE2		
1935					FORT2	
1940		FT-MO				
1944	CP43					
1947		95-7A				
1953			95-7B			
1959				95-8A		
1965					95-8B	
1971		C95-8B				
1974			SKY2			
1979				EMLA1A		
1984					TP1	
1989		BR-TP				
1993			ES2			
1999				BRENT1		
2004					EGC3	
2009						HORSE5
2014		CP44				
2021				BRENT		

Ultimate3.OUT												
HYDROGRAPH AT +	DHD02B	.06	1	FLOW TIME	1. 3.50	0. 3.50	0. 3.50	0. 3.50	0. 3.50	0. 3.50	0. 3.50	0. 3.50
HYDROGRAPH AT +	WGED1A	.02	1	FLOW TIME	33. 3.50	32. 3.50	32. 3.50	31. 3.50	30. 3.50	29. 3.50	22. 3.50	17. 3.50
HYDROGRAPH AT +	WGED1B	.04	1	FLOW TIME	62. 3.50	60. 3.50	59. 3.50	56. 3.50	55. 3.50	54. 3.50	39. 3.50	29. 3.58
HYDROGRAPH AT +	STRT3	.00	1	FLOW TIME	4. 3.50	4. 3.50	4. 3.50	4. 3.50	4. 3.50	4. 3.50	3. 3.50	2. 3.50
3 COMBINED AT +	WPT49	.05	1	FLOW TIME	99. 3.50	96. 3.50	95. 3.50	91. 3.50	88. 3.50	87. 3.50	64. 3.50	48. 3.50
HYDROGRAPH AT +	OFFW	.01	1	FLOW TIME	22. 3.50	21. 3.50	21. 3.50	20. 3.50	19. 3.50	19. 3.50	14. 3.50	10. 3.50
3 COMBINED AT +	CHD04B	.12	1	FLOW TIME	121. 3.50	118. 3.50	116. 3.50	111. 3.50	108. 3.50	106. 3.50	77. 3.50	59. 3.50
HYDROGRAPH AT +	WBU3	.07	1	FLOW TIME	123. 3.58	120. 3.58	119. 3.58	114. 3.58	111. 3.58	110. 3.58	82. 3.58	64. 3.58
HYDROGRAPH AT +	STRT2	.00	1	FLOW TIME	8. 3.50	8. 3.50	8. 3.50	7. 3.50	7. 3.50	7. 3.50	5. 3.50	4. 3.50
HYDROGRAPH AT +	GRAND3	.01	1	FLOW TIME	20. 3.58	19. 3.58	19. 3.58	18. 3.58	18. 3.58	18. 3.58	14. 3.58	11. 3.58
HYDROGRAPH AT +	WBU2B	.02	1	FLOW TIME	44. 3.50	43. 3.50	42. 3.50	40. 3.50	39. 3.50	39. 3.50	29. 3.50	23. 3.50
HYDROGRAPH AT +	WGC1	.02	1	FLOW TIME	41. 3.50	40. 3.50	40. 3.50	38. 3.50	37. 3.50	36. 3.50	27. 3.50	21. 3.50
5 COMBINED AT +	WPT48	.12	1	FLOW TIME	231. 3.50	226. 3.50	224. 3.50	213. 3.50	208. 3.50	206. 3.50	154. 3.50	120. 3.50
2 COMBINED AT +	CHD05B	.24	1	FLOW TIME	352. 3.50	344. 3.50	340. 3.50	324. 3.50	316. 3.50	312. 3.50	231. 3.50	179. 3.50
HYDROGRAPH AT +	WBU1	.04	1	FLOW TIME	70. 3.50	69. 3.50	68. 3.50	65. 3.50	63. 3.50	63. 3.50	47. 3.50	36. 3.50
HYDROGRAPH AT +	STRT1	.00	1	FLOW TIME	10. 3.50	10. 3.50	10. 3.50	10. 3.50	9. 3.50	9. 3.50	7. 3.50	6. 3.50
HYDROGRAPH AT +	WBU2A	.05	1	FLOW TIME	95. 3.50	93. 3.50	92. 3.50	88. 3.50	86. 3.50	85. 3.50	63. 3.50	49. 3.50
3 COMBINED AT +	DUMMY	.09	1	FLOW TIME	176. 3.50	172. 3.50	170. 3.50	162. 3.50	158. 3.50	156. 3.50	117. 3.50	91. 3.50
HYDROGRAPH AT +	PH1-1	.03	1	FLOW TIME	47. 3.58	46. 3.58	45. 3.58	43. 3.58	42. 3.58	41. 3.58	29. 3.58	22. 3.58
HYDROGRAPH AT +	PH1-2	.03	1	FLOW TIME	45. 3.58	44. 3.58	44. 3.58	41. 3.58	40. 3.58	39. 3.58	27. 3.58	19. 3.58
HYDROGRAPH AT +	GRAND2	.00	1	FLOW TIME	6. 3.58	6. 3.58	6. 3.58	6. 3.58	6. 3.58	6. 3.58	4. 3.58	4. 3.58
HYDROGRAPH AT +	HORSE3	.01	1	FLOW TIME	25. 3.50	24. 3.50	24. 3.50	23. 3.50	22. 3.50	22. 3.50	17. 3.50	14. 3.50
5 COMBINED AT +	WPT46	.16	1	FLOW TIME	293. 3.50	287. 3.50	283. 3.50	269. 3.50	262. 3.50	259. 3.50	190. 3.50	146. 3.50
HYDROGRAPH AT +	OFF14	.01	1	FLOW TIME	26. 3.50	25. 3.50	25. 3.50	24. 3.50	23. 3.50	23. 3.50	17. 3.50	13. 3.50
3 COMBINED AT +	CHD06B	.42	1	FLOW TIME	671. 3.50	656. 3.50	648. 3.50	617. 3.50	602. 3.50	594. 3.50	439. 3.50	338. 3.50
HYDROGRAPH AT +	95-9A	.01	1	FLOW TIME	21. 3.50	20. 3.50	20. 3.50	19. 3.50	19. 3.50	18. 3.50	14. 3.50	10. 3.50
2 COMBINED AT +	CHD07B	.43	1	FLOW TIME	692. 3.50	676. 3.50	668. 3.50	636. 3.50	620. 3.50	612. 3.50	452. 3.50	348. 3.50
HYDROGRAPH AT +	OFF15	.03	1	FLOW TIME	62. 3.50	61. 3.50	60. 3.50	57. 3.50	56. 3.50	55. 3.50	41. 3.50	32. 3.50
2 COMBINED AT +	CHD7B2	.47	1	FLOW TIME	754. 3.50	737. 3.50	728. 3.50	694. 3.50	676. 3.50	667. 3.50	493. 3.50	380. 3.50
HYDROGRAPH AT +	OFF17B	.01	1	FLOW TIME	15. 3.50	15. 3.50	15. 3.50	14. 3.50	14. 3.50	13. 3.50	10. 3.50	7. 3.50
HYDROGRAPH AT +	OFF17A	.03	1	FLOW TIME	51. 3.50	50. 3.50	49. 3.50	47. 3.50	45. 3.50	45. 3.50	32. 3.50	24. 3.50
2 COMBINED AT +	COFF17	.04	1	FLOW TIME	66. 3.50	65. 3.50	64. 3.50	61. 3.50	59. 3.50	58. 3.50	42. 3.50	31. 3.50
HYDROGRAPH AT +	ON1	.00	1	FLOW TIME	8. 3.50	7. 3.50	7. 3.50	7. 3.50	7. 3.50	7. 3.50	5. 3.50	4. 3.50
HYDROGRAPH AT +	ON4A	.00	1	FLOW TIME	8. 3.50	8. 3.50	8. 3.50	8. 3.50	7. 3.50	7. 3.50	5. 3.50	4. 3.50
2 COMBINED AT												

+	C1	.01	1	FLOW TIME	16. 3.50	16. 3.50	Ultimate3.OUT 15. 3.50	15. 3.50	14. 3.50	14. 3.50	10. 3.50	7. 3.50
DIVERSION TO +	DIV1	.01	1	FLOW TIME	13. 3.50	13. 3.50	13. 3.50	12. 3.50	12. 3.50	11. 3.50	8. 3.50	6. 3.50
HYDROGRAPH AT +	D1	.01	1	FLOW TIME	3. 3.50	3. 3.50	3. 3.50	3. 3.50	3. 3.50	3. 3.50	2. 3.50	1. 3.50
HYDROGRAPH AT +	ON5	.01	1	FLOW TIME	10. 3.50	9. 3.50	9. 3.50	9. 3.50	9. 3.50	8. 3.50	6. 3.50	4. 3.50
2 COMBINED AT +	C2	.01	1	FLOW TIME	13. 3.50	12. 3.50	12. 3.50	12. 3.50	11. 3.50	11. 3.50	8. 3.50	6. 3.50
DIVERSION TO +	DIV1A	.01	1	FLOW TIME	13. 3.50	12. 3.50	12. 3.50	12. 3.50	11. 3.50	11. 3.50	8. 3.50	6. 3.50
HYDROGRAPH AT +	D1A	.01	1	FLOW TIME	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00
HYDROGRAPH AT +	ON4B	.00	1	FLOW TIME	6. 3.50	5. 3.50	5. 3.50	5. 3.50	5. 3.50	5. 3.50	3. 3.50	3. 3.50
HYDROGRAPH AT +	RET1	.00	1	FLOW TIME	13. 3.50	13. 3.50	13. 3.50	12. 3.50	12. 3.50	11. 3.50	8. 3.50	6. 3.50
HYDROGRAPH AT +	ON6	.00	1	FLOW TIME	7. 3.50	7. 3.50	7. 3.50	7. 3.50	7. 3.50	6. 3.50	5. 3.50	3. 3.50
2 COMBINED AT +	C3	.00	1	FLOW TIME	20. 3.50	20. 3.50	20. 3.50	19. 3.50	18. 3.50	18. 3.50	13. 3.50	9. 3.50
DIVERSION TO +	DIV1B	.00	1	FLOW TIME	20. 3.50	20. 3.50	20. 3.50	19. 3.50	18. 3.50	18. 3.50	13. 3.50	9. 3.50
HYDROGRAPH AT +	D1B	.00	1	FLOW TIME	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00
HYDROGRAPH AT +	ON2	.00	1	FLOW TIME	9. 3.50	9. 3.50	9. 3.50	8. 3.50	8. 3.50	8. 3.50	6. 3.50	4. 3.50
HYDROGRAPH AT +	ON3	.01	1	FLOW TIME	12. 3.50	12. 3.50	11. 3.50	11. 3.50	10. 3.50	10. 3.50	7. 3.50	6. 3.50
HYDROGRAPH AT +	ON9	.00	1	FLOW TIME	8. 3.50	8. 3.50	8. 3.50	7. 3.50	7. 3.50	7. 3.50	5. 3.50	4. 3.50
3 COMBINED AT +	C4	.02	1	FLOW TIME	29. 3.50	28. 3.50	28. 3.50	26. 3.50	26. 3.50	25. 3.50	18. 3.50	13. 3.50
DIVERSION TO +	DIV2	.02	1	FLOW TIME	24. 3.50	23. 3.50	23. 3.50	22. 3.50	21. 3.50	21. 3.50	15. 3.50	11. 3.50
HYDROGRAPH AT +	D2	.02	1	FLOW TIME	5. 3.50	5. 3.50	5. 3.50	5. 3.50	4. 3.50	4. 3.50	3. 3.50	2. 3.50
HYDROGRAPH AT +	ON10	.00	1	FLOW TIME	5. 3.50	5. 3.50	5. 3.50	4. 3.50	4. 3.50	4. 3.50	3. 3.50	2. 3.50
2 COMBINED AT +	C5	.02	1	FLOW TIME	10. 3.50	10. 3.50	9. 3.50	9. 3.50	9. 3.50	9. 3.50	6. 3.50	5. 3.50
DIVERSION TO +	DIV3	.02	1	FLOW TIME	8. 3.50	8. 3.50	8. 3.50	7. 3.50	7. 3.50	7. 3.50	5. 3.50	4. 3.50
HYDROGRAPH AT +	D3	.02	1	FLOW TIME	2. 3.50	2. 3.50	2. 3.50	2. 3.50	2. 3.50	2. 3.50	1. 3.50	1. 3.50
HYDROGRAPH AT +	ON11	.00	1	FLOW TIME	5. 3.50	5. 3.50	5. 3.50	4. 3.50	4. 3.50	4. 3.50	3. 3.50	2. 3.50
2 COMBINED AT +	C6	.02	1	FLOW TIME	7. 3.50	7. 3.50	7. 3.50	6. 3.50	6. 3.50	6. 3.50	4. 3.50	3. 3.50
DIVERSION TO +	DIV1C	.02	1	FLOW TIME	7. 3.50	7. 3.50	7. 3.50	6. 3.50	6. 3.50	6. 3.50	4. 3.50	3. 3.50
HYDROGRAPH AT +	D1C	.02	1	FLOW TIME	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00
4 COMBINED AT +	CD1C	.04	1	FLOW TIME	6. 3.50	5. 3.50	5. 3.50	5. 3.50	5. 3.50	5. 3.50	3. 3.50	3. 3.50
ROUTED TO +	RCD1C	.04	1	FLOW TIME	5. 3.67	5. 3.67	5. 3.67	5. 3.75	5. 3.75	4. 3.75	3. 3.75	2. 3.83
DIVERSION TO +	DOFF23	.04	1	FLOW TIME	5. 3.67	5. 3.67	5. 3.67	5. 3.75	5. 3.75	4. 3.75	3. 3.75	2. 3.83
HYDROGRAPH AT +	DRCD1C	.04	1	FLOW TIME	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00	0. .00
HYDROGRAPH AT +	ON8	.00	1	FLOW TIME	6. 3.50	6. 3.50	6. 3.50	5. 3.50	5. 3.50	5. 3.50	3. 3.50	2. 3.50
HYDROGRAPH AT +	RET2	.00	1	FLOW TIME	24. 3.50	23. 3.50	23. 3.50	22. 3.50	21. 3.50	21. 3.50	15. 3.50	11. 3.50
2 COMBINED AT +	C7	.00	1	FLOW TIME	30. 3.50	29. 3.50	29. 3.50	27. 3.50	26. 3.50	26. 3.50	18. 3.50	13. 3.50
HYDROGRAPH AT +	RET3	.00	1	FLOW	8.	8.	8.	7.	7.	7.	5.	4.

				TIME	3.50	3.50	Ultimate3.0UT 3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	ON7	.01	1	FLOW	14.	13.	13.	12.	12.	12.	9.	6.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT	C8	.01	1	FLOW	51.	50.	49.	47.	45.	45.	32.	23.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	RET1A	.00	1	FLOW	13.	12.	12.	12.	11.	11.	8.	6.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	RET1B	.00	1	FLOW	20.	20.	20.	19.	18.	18.	13.	9.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	RET1C	.00	1	FLOW	7.	7.	7.	6.	6.	6.	4.	3.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT	C9	.00	1	FLOW	40.	39.	38.	36.	35.	35.	25.	18.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	ON2D	.01	1	FLOW	21.	21.	20.	19.	19.	19.	14.	11.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	ON5D	.00	1	FLOW	8.	8.	8.	8.	7.	7.	6.	4.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT	CP1	.01	1	FLOW	29.	29.	28.	27.	26.	26.	19.	15.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	ON3D	.00	1	FLOW	7.	7.	7.	7.	7.	7.	5.	4.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT	CP2	.02	1	FLOW	37.	36.	36.	34.	33.	33.	24.	19.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	ON1D	.01	1	FLOW	16.	15.	15.	15.	14.	14.	10.	8.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	ON4D	.00	1	FLOW	8.	8.	8.	8.	7.	7.	5.	4.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT	CP3	.01	1	FLOW	24.	23.	23.	22.	21.	21.	16.	12.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT	CP4	.03	1	FLOW	61.	59.	59.	56.	55.	54.	40.	31.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
4 COMBINED AT	CENGCA	.08	1	FLOW	152.	148.	146.	139.	135.	134.	97.	73.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH2ML3	.04	1	FLOW	81.	79.	78.	74.	72.	71.	52.	40.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	PH2L6	.05	1	FLOW	77.	75.	74.	70.	68.	67.	47.	34.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	EGAN1	.01	1	FLOW	12.	12.	12.	11.	11.	11.	9.	7.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT	DUMMY	.10	1	FLOW	170.	165.	163.	155.	151.	149.	107.	81.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	PH2L5	.00	1	FLOW	8.	8.	8.	7.	7.	7.	5.	4.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH2L7	.01	1	FLOW	23.	22.	22.	21.	20.	20.	14.	10.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	RACL1A	.01	1	FLOW	13.	13.	13.	12.	12.	12.	9.	7.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
4 COMBINED AT	RA-EG	.12	1	FLOW	209.	204.	201.	191.	186.	183.	132.	100.
+				TIME	3.50	3.50	3.50	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	PH2ML1	.03	1	FLOW	60.	58.	58.	55.	54.	53.	40.	31.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH2ML2	.03	1	FLOW	59.	58.	57.	55.	53.	53.	39.	31.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH2L1	.03	1	FLOW	45.	44.	44.	41.	40.	40.	28.	21.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	PH2L2	.02	1	FLOW	31.	30.	30.	28.	28.	27.	19.	14.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
5 COMBINED AT	DUMMY	.22	1	FLOW	402.	392.	387.	367.	358.	353.	255.	192.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH2L3	.03	1	FLOW	43.	42.	42.	40.	38.	38.	27.	20.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	HUAL1	.01	1	FLOW	14.	14.	14.	13.	13.	13.	10.	8.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	RACL1B	.01	1	FLOW	12.	12.	12.	11.	11.	11.	8.	7.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	HUAL2A	.01	1	FLOW	13.	12.	12.	12.	12.	11.	9.	7.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
5 COMBINED AT	RA-HU	.27	1	FLOW	482.	470.	464.	441.	429.	423.	306.	231.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

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HYDROGRAPH AT +	PH1-3	.02	1	FLOW TIME	39. 3.58	38. 3.58	38. 3.58	36. 3.58	35. 3.58	34. 3.58	25. 3.58	18. 3.58
HYDROGRAPH AT +	CONQ	.00	1	FLOW TIME	6. 3.58	6. 3.58	6. 3.58	6. 3.58	5. 3.58	5. 3.58	4. 3.58	3. 3.58
3 COMBINED AT +	DUMMY	.29	1	FLOW TIME	526. 3.50	513. 3.50	507. 3.50	481. 3.50	468. 3.50	462. 3.50	334. 3.50	251. 3.50
HYDROGRAPH AT +	PH1-5	.06	1	FLOW TIME	107. 3.58	104. 3.58	103. 3.58	98. 3.58	96. 3.58	95. 3.58	71. 3.58	55. 3.58
HYDROGRAPH AT +	PH1PRK	.00	1	FLOW TIME	4. 3.50	3. 3.50	3. 3.50	3. 3.50	3. 3.50	3. 3.50	2. 3.50	1. 3.50
HYDROGRAPH AT +	RACL1C	.01	1	FLOW TIME	13. 3.50	13. 3.50	13. 3.50	12. 3.50	12. 3.50	12. 3.50	8. 3.50	6. 3.50
4 COMBINED AT +	DUMMY	.36	1	FLOW TIME	643. 3.50	627. 3.50	620. 3.50	588. 3.50	573. 3.50	565. 3.50	410. 3.58	312. 3.58
HYDROGRAPH AT +	PH1-4	.03	1	FLOW TIME	49. 3.50	47. 3.50	47. 3.50	45. 3.50	44. 3.50	43. 3.50	32. 3.50	25. 3.50
HYDROGRAPH AT +	PH1-6	.05	1	FLOW TIME	93. 3.58	91. 3.58	90. 3.58	86. 3.58	84. 3.58	83. 3.58	62. 3.58	48. 3.58
HYDROGRAPH AT +	GCD	.01	1	FLOW TIME	10. 3.58	9. 3.58	9. 3.58	9. 3.58	9. 3.58	8. 3.58	6. 3.58	5. 3.58
4 COMBINED AT +	CP26	.44	1	FLOW TIME	791. 3.50	772. 3.50	762. 3.50	724. 3.50	705. 3.50	696. 3.50	508. 3.58	388. 3.58
2 COMBINED AT +	CCP4	.53	1	FLOW TIME	943. 3.50	920. 3.50	909. 3.50	863. 3.50	841. 3.50	829. 3.50	603. 3.50	457. 3.50
HYDROGRAPH AT +	OFF21B	.04	1	FLOW TIME	75. 3.50	73. 3.50	72. 3.50	69. 3.50	67. 3.50	66. 3.50	49. 3.50	38. 3.50
2 COMBINED AT +	COF21B	.57	1	FLOW TIME	1017. 3.50	993. 3.50	981. 3.50	932. 3.50	907. 3.50	895. 3.50	652. 3.50	495. 3.50
HYDROGRAPH AT +	ROFF23	.00	1	FLOW TIME	5. 3.67	5. 3.67	5. 3.67	5. 3.75	5. 3.75	4. 3.75	3. 3.75	2. 3.83
HYDROGRAPH AT +	OFF23	.01	1	FLOW TIME	17. 3.50	16. 3.50	16. 3.50	15. 3.50	15. 3.50	15. 3.50	11. 3.50	8. 3.50
2 COMBINED AT +	COFF23	.01	1	FLOW TIME	19. 3.58	18. 3.58	18. 3.58	17. 3.58	17. 3.58	16. 3.58	11. 3.58	9. 3.50
HYDROGRAPH AT +	NW29-C	.13	1	FLOW TIME	200. 3.67	195. 3.67	193. 3.67	183. 3.67	178. 3.67	176. 3.67	128. 3.67	96. 3.67
ROUTED TO +	RNW29C	.13	1	FLOW TIME	200. 3.67	195. 3.67	193. 3.67	184. 3.67	179. 3.67	176. 3.67	127. 3.67	96. 3.67
HYDROGRAPH AT +	NW71-W	.10	1	FLOW TIME	156. 3.58	153. 3.58	151. 3.58	143. 3.58	139. 3.58	137. 3.58	99. 3.58	74. 3.67
2 COMBINED AT +	CNW71W	.24	1	FLOW TIME	354. 3.67	345. 3.67	341. 3.67	324. 3.67	316. 3.67	312. 3.67	225. 3.67	170. 3.67
ROUTED TO +	RCNW71	.24	1	FLOW TIME	354. 3.67	344. 3.67	341. 3.67	322. 3.67	315. 3.67	310. 3.67	222. 3.67	165. 3.67
HYDROGRAPH AT +	NW71-E	.24	1	FLOW TIME	259. 3.75	252. 3.75	249. 3.75	234. 3.75	227. 3.75	223. 3.75	152. 3.75	108. 3.75
2 COMBINED AT +	CNW71E	.47	1	FLOW TIME	610. 3.67	593. 3.67	585. 3.67	552. 3.67	537. 3.67	529. 3.67	370. 3.67	272. 3.75
HYDROGRAPH AT +	GT1	.02	1	FLOW TIME	40. 3.67	39. 3.67	39. 3.67	37. 3.67	36. 3.67	36. 3.67	28. 3.67	22. 3.67
HYDROGRAPH AT +	OFFU	.04	1	FLOW TIME	74. 3.58	72. 3.58	71. 3.58	68. 3.58	66. 3.58	66. 3.58	49. 3.58	38. 3.58
3 COMBINED AT +	CP26WT	.54	1	FLOW TIME	704. 3.67	685. 3.67	676. 3.67	639. 3.67	622. 3.67	613. 3.67	433. 3.67	319. 3.67
5 COMBINED AT +	95STH	1.62	1	FLOW TIME	2420. 3.58	2360. 3.58	2333. 3.58	2215. 3.58	2159. 3.58	2127. 3.58	1546. 3.58	1171. 3.58
HYDROGRAPH AT +	OFF1	.41	1	FLOW TIME	389. 3.75	377. 3.75	371. 3.75	348. 3.83	337. 3.83	331. 3.83	221. 3.83	153. 3.83
HYDROGRAPH AT +	OFF11	.03	1	FLOW TIME	54. 3.50	52. 3.50	52. 3.50	50. 3.50	48. 3.50	48. 3.50	36. 3.58	29. 3.58
HYDROGRAPH AT +	OFF2	.04	1	FLOW TIME	46. 3.58	45. 3.58	44. 3.58	42. 3.58	40. 3.58	39. 3.58	26. 3.58	17. 3.58
HYDROGRAPH AT +	OFF3	.03	1	FLOW TIME	37. 3.58	36. 3.58	35. 3.58	33. 3.58	32. 3.58	31. 3.58	21. 3.58	15. 3.58
4 COMBINED AT +	CP1	.50	1	FLOW TIME	468. 3.75	455. 3.75	448. 3.75	420. 3.75	407. 3.75	400. 3.75	267. 3.75	185. 3.75
HYDROGRAPH AT +	OFF4	.06	1	FLOW TIME	81. 3.58	79. 3.58	78. 3.58	73. 3.58	71. 3.58	69. 3.58	46. 3.58	32. 3.58

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HYDROGRAPH AT	OFF5	.26	1	FLOW	228.	221.	218.	204.	197.	194.	128.	89.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92
HYDROGRAPH AT	OFF6	.04	1	FLOW	57.	55.	54.	51.	49.	48.	32.	23.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	ON1	.03	1	FLOW	46.	45.	44.	42.	41.	41.	30.	23.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
5 COMBINED AT	DB1	.88	1	FLOW	790.	767.	755.	709.	686.	675.	451.	313.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO	RDB1	.88	1	FLOW	71.	69.	69.	66.	64.	63.	47.	35.
+				TIME	5.58	5.58	5.58	5.58	5.58	5.58	5.50	5.50
** PEAK STAGES IN FEET **												
1				STAGE	35.90	35.64	35.50	34.98	34.67	34.52	31.58	29.89
				TIME	5.58	5.58	5.58	5.58	5.58	5.58	5.50	5.50
HYDROGRAPH AT	AROY1	.00	1	FLOW	5.	4.	4.	4.	4.	4.	3.	2.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	WPRK5	.00	1	FLOW	6.	6.	6.	5.	5.	5.	3.	2.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	SHEEP1	.10	1	FLOW	143.	140.	138.	131.	128.	126.	93.	71.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO	DSHEPC	.10	1	FLOW	32.	31.	31.	29.	29.	28.	21.	16.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	SHEPAB	.10	1	FLOW	111.	109.	107.	102.	100.	98.	72.	55.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO	DSHEPB	.10	1	FLOW	68.	66.	65.	62.	61.	60.	44.	34.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	DSHEPA	.10	1	FLOW	44.	43.	42.	40.	39.	38.	28.	22.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	AROY2	.01	1	FLOW	13.	13.	13.	12.	12.	11.	8.	6.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
5 COMBINED AT	DUMMY	.99	1	FLOW	94.	91.	90.	84.	82.	80.	54.	40.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT	PH2L4	.02	1	FLOW	33.	32.	32.	30.	29.	29.	20.	15.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH2L8	.01	1	FLOW	22.	21.	21.	20.	19.	19.	13.	10.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH2L9	.03	1	FLOW	52.	51.	50.	48.	46.	46.	32.	23.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	EGAN2	.00	1	FLOW	10.	10.	10.	10.	9.	9.	7.	6.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
5 COMBINED AT	DUMMY	1.06	1	FLOW	189.	184.	182.	172.	167.	164.	115.	84.
+				TIME	3.50	3.50	3.50	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	WPRK2A	.01	1	FLOW	9.	9.	9.	8.	8.	8.	5.	3.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH2PK1	.01	1	FLOW	13.	12.	12.	11.	11.	11.	7.	5.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH2PK	.02	1	FLOW	29.	28.	27.	25.	25.	24.	15.	10.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58
HYDROGRAPH AT	HORSE2	.01	1	FLOW	23.	23.	23.	22.	21.	21.	16.	13.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
5 COMBINED AT	DUMMY	1.10	1	FLOW	263.	256.	252.	238.	231.	227.	157.	114.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH2PK2	.00	1	FLOW	4.	4.	4.	4.	4.	3.	2.	2.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	PH2ML4	.04	1	FLOW	66.	64.	64.	61.	59.	58.	42.	32.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	SHAUM1	.01	1	FLOW	13.	13.	13.	12.	12.	12.	9.	7.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT	HU-HO	1.15	1	FLOW	345.	336.	332.	313.	304.	300.	210.	154.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	WML5	.04	1	FLOW	76.	75.	74.	70.	69.	68.	51.	40.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	WSCHL2	.02	1	FLOW	33.	33.	32.	31.	30.	29.	21.	16.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	WPRK1	.01	1	FLOW	18.	18.	18.	17.	16.	16.	10.	7.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	STRT5	.01	1	FLOW	15.	15.	14.	14.	13.	13.	10.	8.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
5 COMBINED AT	DUMMY	1.22	1	FLOW	488.	476.	470.	445.	432.	426.	302.	224.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												

+	DSHEPB	.00	1	FLOW TIME	Ultimate3.OUT							
					68. 3.67	66. 3.67	65. 3.67	62. 3.67	61. 3.67	60. 3.67	44. 3.67	34. 3.67
+	HYDROGRAPH AT											
+	AROY5	.01	1	FLOW TIME	20. 3.50	19. 3.50	19. 3.50	18. 3.50	17. 3.50	17. 3.50	12. 3.50	8. 3.50
+	HYDROGRAPH AT											
+	WMLA1	.07	1	FLOW TIME	133. 3.58	130. 3.58	129. 3.58	123. 3.58	120. 3.58	119. 3.58	89. 3.58	69. 3.58
+	HYDROGRAPH AT											
+	HUAL2B	.01	1	FLOW TIME	21. 3.67	20. 3.67	20. 3.67	19. 3.67	19. 3.67	19. 3.67	14. 3.67	11. 3.67
+	5 COMBINED AT											
+	DUMMY	1.31	1	FLOW TIME	698. 3.50	681. 3.50	672. 3.50	637. 3.50	620. 3.50	611. 3.50	439. 3.50	332. 3.58
+	HYDROGRAPH AT											
+	AROY4	.01	1	FLOW TIME	13. 3.50	13. 3.50	13. 3.50	12. 3.50	11. 3.50	11. 3.50	8. 3.50	5. 3.50
+	HYDROGRAPH AT											
+	WML7	.04	1	FLOW TIME	78. 3.50	76. 3.50	76. 3.50	72. 3.50	70. 3.50	69. 3.50	52. 3.50	40. 3.50
+	HYDROGRAPH AT											
+	WPRK4	.00	1	FLOW TIME	7. 3.50	7. 3.50	7. 3.50	6. 3.50	6. 3.50	6. 3.50	4. 3.50	3. 3.50
+	HYDROGRAPH AT											
+	SHAUM2	.01	1	FLOW TIME	17. 3.50	16. 3.50	16. 3.50	15. 3.50	15. 3.50	15. 3.50	12. 3.50	9. 3.50
+	4 COMBINED AT											
+	DUMMY	.06	1	FLOW TIME	115. 3.50	112. 3.50	111. 3.50	106. 3.50	103. 3.50	102. 3.50	75. 3.50	58. 3.50
+	HYDROGRAPH AT											
+	WL7	.02	1	FLOW TIME	36. 3.50	35. 3.50	35. 3.50	33. 3.50	32. 3.50	31. 3.50	22. 3.50	16. 3.50
+	HYDROGRAPH AT											
+	WNVE2	.00	1	FLOW TIME	3. 3.58	3. 3.58	3. 3.58	3. 3.58	2. 3.58	2. 3.58	2. 3.58	1. 3.58
+	HYDROGRAPH AT											
+	WL6	.01	1	FLOW TIME	11. 3.50	11. 3.50	11. 3.50	10. 3.50	10. 3.50	10. 3.50	7. 3.50	5. 3.50
+	HYDROGRAPH AT											
+	HORS1A	.01	1	FLOW TIME	19. 3.50	18. 3.50	18. 3.50	17. 3.50	17. 3.50	17. 3.50	13. 3.50	10. 3.50
+	5 COMBINED AT											
+	SH-HO	.10	1	FLOW TIME	184. 3.50	180. 3.50	177. 3.50	169. 3.50	164. 3.50	162. 3.50	119. 3.50	91. 3.50
+	HYDROGRAPH AT											
+	OFF7	.01	1	FLOW TIME	10. 3.50	10. 3.50	10. 3.50	9. 3.50	9. 3.50	9. 3.50	6. 3.50	4. 3.50
+	HYDROGRAPH AT											
+	OFF8	.17	1	FLOW TIME	198. 3.67	192. 3.67	189. 3.67	177. 3.67	171. 3.67	169. 3.67	112. 3.67	77. 3.67
+	2 COMBINED AT											
+	CP2	.17	1	FLOW TIME	204. 3.67	198. 3.67	195. 3.67	183. 3.67	177. 3.67	174. 3.67	116. 3.67	80. 3.67
+	HYDROGRAPH AT											
+	OFF9	.12	1	FLOW TIME	144. 3.58	140. 3.58	138. 3.58	129. 3.67	125. 3.67	123. 3.67	82. 3.67	57. 3.67
+	HYDROGRAPH AT											
+	OFF10	.25	1	FLOW TIME	292. 3.67	283. 3.67	279. 3.67	262. 3.67	253. 3.67	249. 3.67	166. 3.67	115. 3.67
+	HYDROGRAPH AT											
+	ON2	.02	1	FLOW TIME	49. 3.50	48. 3.50	47. 3.50	45. 3.50	44. 3.50	43. 3.50	31. 3.50	24. 3.50
+	4 COMBINED AT											
+	DB2	.56	1	FLOW TIME	666. 3.67	647. 3.67	637. 3.67	599. 3.67	579. 3.67	570. 3.67	382. 3.67	265. 3.67
+	ROUTED TO											
+	RDB2	.56	1	FLOW TIME	57. 5.33	56. 5.33	55. 5.33	53. 5.33	52. 5.33	51. 5.33	39. 5.33	29. 5.33
				** PEAK STAGES IN FEET **								
			1	STAGE TIME	3002.84 5.33	3002.57 5.33	3002.44 5.33	3001.90 5.33	3001.64 5.33	3001.51 5.33	2998.87 5.33	2997.22 5.33
+	HYDROGRAPH AT											
+	WL8	.01	1	FLOW TIME	25. 3.50	24. 3.50	24. 3.50	22. 3.50	22. 3.50	21. 3.50	15. 3.50	11. 3.50
+	HYDROGRAPH AT											
+	WNVE3	.00	1	FLOW TIME	4. 3.58	4. 3.58	4. 3.58	4. 3.58	4. 3.58	4. 3.58	2. 3.58	2. 3.58
+	HYDROGRAPH AT											
+	WL5	.04	1	FLOW TIME	69. 3.50	67. 3.50	66. 3.50	62. 3.50	61. 3.50	60. 3.50	42. 3.50	30. 3.58
+	HYDROGRAPH AT											
+	IRON1A	.01	1	FLOW TIME	12. 3.50	12. 3.50	12. 3.50	11. 3.50	11. 3.50	11. 3.50	9. 3.50	7. 3.50
+	5 COMBINED AT											
+	DUMMY	.62	1	FLOW TIME	128. 3.58	125. 3.58	123. 3.58	115. 3.58	112. 3.58	110. 3.58	76. 3.58	55. 3.58
+	HYDROGRAPH AT											
+	SHAUM3	.00	1	FLOW TIME	12. 3.50	11. 3.50	11. 3.50	11. 3.50	11. 3.50	10. 3.50	8. 3.50	6. 3.50
+	3 COMBINED AT											
+	IR-SH	.72	1	FLOW TIME	322. 3.50	314. 3.50	310. 3.50	294. 3.50	286. 3.50	282. 3.50	203. 3.50	152. 3.50
+	HYDROGRAPH AT											
+	WML6	.03	1	FLOW TIME	61. 3.50	59. 3.50	59. 3.50	56. 3.50	55. 3.50	54. 3.50	40. 3.50	32. 3.50
+	HYDROGRAPH AT											
+	HORS1B	.00	1	FLOW TIME	8. 3.50	8. 3.50	8. 3.50	7. 3.50	7. 3.50	7. 3.50	6. 3.50	5. 3.50
+	HYDROGRAPH AT											
+	WL4	.05	1	FLOW TIME	82. 3.58	80. 3.58	79. 3.58	74. 3.58	72. 3.58	71. 3.58	50. 3.58	37. 3.58
+	3 COMBINED AT											
+	DUMMY	.08	1	FLOW	145.	141.	140.	133.	129.	127.	92.	69.

				TIME	3.50	3.50	Ultimate3.0UT 3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	SM-IR	.00	1	FLOW	32.	31.	31.	29.	29.	28.	21.	16.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	IRON1B	.00	1	FLOW	9.	9.	9.	9.	9.	8.	7.	5.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
5 COMBINED AT	HU-IR	2.12	1	FLOW	1196.	1167.	1152.	1092.	1063.	1048.	753.	566.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	OFF4-1	.30	1	FLOW	397.	386.	380.	358.	347.	342.	234.	167.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO	ROFF41	.30	1	FLOW	402.	390.	385.	362.	351.	346.	235.	166.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.92
HYDROGRAPH AT	OFF4-2	.42	1	FLOW	682.	662.	652.	613.	594.	584.	393.	274.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	COFF42	.72	1	FLOW	871.	844.	830.	777.	751.	737.	480.	325.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
ROUTED TO	RCOFF4	.72	1	FLOW	866.	841.	824.	772.	749.	734.	476.	326.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	OFF5-1	.30	1	FLOW	375.	364.	358.	335.	324.	319.	209.	143.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT	COFF51	1.02	1	FLOW	1241.	1205.	1182.	1108.	1074.	1052.	685.	469.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO	RCOFF5	1.02	1	FLOW	1206.	1167.	1151.	1078.	1043.	1025.	682.	464.
+				TIME	3.67	3.67	3.67	3.75	3.67	3.75	3.75	3.75
HYDROGRAPH AT	OFF5-2	.40	1	FLOW	467.	454.	447.	421.	408.	401.	272.	191.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO	ROFF52	.40	1	FLOW	462.	449.	441.	415.	402.	396.	267.	187.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT	NW1-C	.29	1	FLOW	327.	317.	312.	291.	281.	276.	179.	121.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
2 COMBINED AT	CNW1-C	.69	1	FLOW	780.	757.	746.	700.	677.	666.	445.	308.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT	2CNW1C	1.70	1	FLOW	1985.	1914.	1895.	1778.	1716.	1691.	1126.	772.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO	R2CNW1	1.70	1	FLOW	1975.	1904.	1886.	1766.	1706.	1676.	1109.	755.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT	NW7-C	.49	1	FLOW	500.	486.	479.	450.	436.	429.	290.	204.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT	CNW-7	2.19	1	FLOW	2473.	2388.	2363.	2213.	2140.	2103.	1394.	955.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83
ROUTED TO	RCNW7C	2.19	1	FLOW	2451.	2369.	2342.	2191.	2118.	2081.	1373.	954.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83
HYDROGRAPH AT	NW21-C	.16	1	FLOW	242.	236.	233.	221.	215.	212.	152.	114.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	CNW21C	2.35	1	FLOW	2649.	2562.	2533.	2373.	2295.	2255.	1500.	1030.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83
ROUTED TO	RCNW21	2.35	1	FLOW	2605.	2517.	2486.	2323.	2251.	2209.	1483.	1030.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83
HYDROGRAPH AT	NW35-C	.34	1	FLOW	423.	413.	407.	385.	374.	369.	260.	191.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT	CNW35C	2.69	1	FLOW	3028.	2929.	2893.	2709.	2626.	2578.	1721.	1206.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83
2 COMBINED AT	CKC5	4.82	1	FLOW	3783.	3666.	3621.	3400.	3299.	3242.	2192.	1535.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT	NW50-C	.17	1	FLOW	228.	222.	218.	205.	199.	196.	132.	93.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	CKC6	4.98	1	FLOW	3958.	3836.	3788.	3558.	3452.	3393.	2297.	1610.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT	OFF1A-	1.14	1	FLOW	731.	704.	691.	637.	611.	598.	352.	213.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.08
ROUTED TO	ROFF1A	1.14	1	FLOW	726.	700.	687.	635.	609.	596.	352.	211.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.17
HYDROGRAPH AT	OFF1A-	.39	1	FLOW	475.	460.	453.	424.	410.	403.	264.	181.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
2 COMBINED AT	COFF1A	1.53	1	FLOW	1007.	971.	954.	883.	848.	830.	501.	309.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO	RCFF1A	1.53	1	FLOW	1002.	963.	946.	876.	845.	824.	502.	310.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT	OFF1A-	.30	1	FLOW	328.	318.	312.	292.	282.	277.	179.	120.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75

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2 COMBINED AT	COFF1A	1.83	1	FLOW	1276.	1225.	1204.	1118.	1075.	1051.	648.	407.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO	RCFF1A	1.83	1	FLOW	1259.	1219.	1192.	1107.	1065.	1048.	648.	408.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT	OFF1A-	.27	1	FLOW	261.	252.	248.	230.	222.	217.	134.	84.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT	COFF1A	2.11	1	FLOW	1464.	1415.	1387.	1287.	1236.	1216.	749.	469.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	4.00
ROUTED TO	RCFF1A	2.11	1	FLOW	1466.	1418.	1390.	1289.	1238.	1219.	750.	475.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.08
HYDROGRAPH AT	OFF1A-	.42	1	FLOW	334.	322.	317.	293.	282.	276.	166.	102.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT	COFF1A	2.53	1	FLOW	1740.	1682.	1650.	1531.	1470.	1447.	891.	552.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.08
ROUTED TO	ROFF1A	2.53	1	FLOW	1739.	1680.	1641.	1524.	1463.	1439.	878.	550.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.08
HYDROGRAPH AT	OFF2A	.32	1	FLOW	269.	260.	255.	236.	226.	222.	132.	81.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT	COFF2A	2.84	1	FLOW	1923.	1858.	1817.	1687.	1620.	1593.	963.	602.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.08
ROUTED TO	RCOFF2	2.84	1	FLOW	1913.	1847.	1801.	1667.	1606.	1568.	963.	598.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08	4.17
HYDROGRAPH AT	OFF3	.22	1	FLOW	190.	183.	180.	166.	160.	156.	94.	57.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT	COFF3	3.07	1	FLOW	2030.	1960.	1912.	1770.	1705.	1664.	1013.	625.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.17
ROUTED TO	RCOFF3	3.07	1	FLOW	2016.	1945.	1898.	1754.	1689.	1650.	1006.	622.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08	4.17
HYDROGRAPH AT	OFF2B	.16	1	FLOW	133.	128.	126.	116.	111.	108.	62.	35.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT	COFF2B	3.23	1	FLOW	2079.	2005.	1958.	1810.	1743.	1698.	1032.	636.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.17
ROUTED TO	RCOFF2	3.23	1	FLOW	2066.	1992.	1945.	1796.	1728.	1692.	1024.	632.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.08	4.08	4.17
HYDROGRAPH AT	OFF1A-	.47	1	FLOW	313.	301.	295.	271.	259.	254.	144.	82.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT	COFF1A	3.70	1	FLOW	2327.	2243.	2192.	2024.	1946.	1896.	1132.	689.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.17
ROUTED TO	RCFF1A	3.70	1	FLOW	2314.	2229.	2179.	2009.	1929.	1880.	1123.	684.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.17
HYDROGRAPH AT	NW2-C	.40	1	FLOW	334.	323.	317.	296.	285.	279.	176.	114.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO	RNW2-C	.40	1	FLOW	333.	318.	315.	291.	283.	274.	175.	112.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.92	3.92
HYDROGRAPH AT	NW5-C	.27	1	FLOW	180.	173.	170.	157.	151.	148.	88.	54.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT	CNW5-C	.67	1	FLOW	512.	490.	484.	447.	433.	421.	263.	165.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.92	3.92	3.92
2 COMBINED AT	2CNW5-	4.37	1	FLOW	2783.	2681.	2623.	2422.	2330.	2272.	1343.	810.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.17
ROUTED TO	RCNW5-	4.37	1	FLOW	2776.	2670.	2614.	2411.	2317.	2258.	1337.	807.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.17
HYDROGRAPH AT	NW9-C	.27	1	FLOW	302.	294.	289.	272.	263.	259.	175.	122.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO	RNW9-C	.27	1	FLOW	302.	294.	290.	273.	264.	260.	176.	123.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT	NW11-C	.27	1	FLOW	223.	216.	212.	196.	189.	185.	112.	70.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT	CNW11-	.54	1	FLOW	522.	506.	497.	464.	448.	439.	281.	190.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83
2 COMBINED AT	2CNW11	4.91	1	FLOW	3149.	3032.	2971.	2746.	2641.	2577.	1514.	910.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.08
ROUTED TO	RCNW11	4.91	1	FLOW	3145.	3028.	2967.	2741.	2635.	2571.	1512.	909.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.17
HYDROGRAPH AT	NW17-C	.43	1	FLOW	400.	388.	382.	359.	347.	341.	227.	156.
+				TIME	3.75	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT	CNW17-	5.34	1	FLOW	3471.	3340.	3275.	3030.	2914.	2846.	1672.	1010.
+				TIME	3.92	4.00	4.00	4.00	4.00	4.00	4.00	4.08

Ultimate3.OUT												
ROUTED TO	RCNW17	5.34	1	FLOW TIME	3466.4.00	3339.4.00	3273.4.00	3028.4.00	2910.4.00	2841.4.00	1668.4.08	1004.4.17
HYDROGRAPH AT	NW23-C	.38	1	FLOW TIME	370.3.75	359.3.75	354.3.75	332.3.75	321.3.75	316.3.75	210.3.75	145.3.75
2 COMBINED AT	CNW23-	5.71	1	FLOW TIME	3763.3.92	3620.3.92	3551.3.92	3271.3.92	3144.4.00	3072.4.00	1814.4.00	1096.4.08
ROUTED TO	RCNW23	5.71	1	FLOW TIME	3737.4.00	3601.4.00	3531.4.00	3269.4.00	3141.4.00	3069.4.00	1800.4.08	1089.4.08
HYDROGRAPH AT	NW51-C	.50	1	FLOW TIME	500.3.75	485.3.75	478.3.75	449.3.75	434.3.75	427.3.75	285.3.75	198.3.83
2 COMBINED AT	CNW51-	6.21	1	FLOW TIME	4172.3.92	4019.3.92	3943.3.92	3637.3.92	3485.3.92	3408.3.92	2021.4.00	1221.4.08
HYDROGRAPH AT	202	5.55	1	FLOW TIME	6455.3.92	6256.3.92	6157.3.92	5763.3.92	5567.3.92	5469.3.92	3567.3.92	2410.3.92
ROUTED TO	R202	5.55	1	FLOW TIME	6180.4.08	5988.4.08	5892.4.08	5510.4.08	5320.4.08	5226.4.08	3388.4.08	2284.4.17
HYDROGRAPH AT	203	6.41	1	FLOW TIME	6508.4.00	6305.4.00	6204.4.00	5802.4.00	5602.4.00	5503.4.00	3568.4.00	2408.4.08
HYDROGRAPH AT	204	2.71	1	FLOW TIME	2705.4.00	2620.4.00	2578.4.00	2410.4.00	2326.4.00	2285.4.00	1476.4.00	988.4.00
3 COMBINED AT	C203	14.67	1	FLOW TIME	15193.4.08	14724.4.08	14490.4.08	13559.4.08	13096.4.08	12865.4.08	8375.4.08	5649.4.08
ROUTED TO	RC203	14.67	1	FLOW TIME	14023.4.50	13590.4.50	13374.4.50	12513.4.50	12085.4.50	11872.4.50	7724.4.50	5207.4.50
HYDROGRAPH AT	209-A	5.20	1	FLOW TIME	2197.4.42	2104.4.42	2057.4.42	1875.4.42	1785.4.42	1740.4.42	933.4.50	508.4.58
2 COMBINED AT	C209-A	19.86	1	FLOW TIME	16209.4.50	15684.4.50	15422.4.50	14382.4.50	13866.4.50	13609.4.50	8657.4.50	5711.4.50
HYDROGRAPH AT	210-C	12.04	1	FLOW TIME	6558.4.50	6330.4.50	6217.4.50	5767.4.50	5544.4.50	5433.4.50	3315.4.50	2082.4.58
2 COMBINED AT	C210-C	31.91	1	FLOW TIME	22767.4.50	22014.4.50	21639.4.50	20149.4.50	19410.4.50	19042.4.50	11972.4.50	7793.4.50
ROUTED TO	RC210-	31.91	1	FLOW TIME	22508.4.58	21763.4.58	21392.4.58	19917.4.58	19186.4.58	18822.4.58	11827.4.58	7694.4.58
HYDROGRAPH AT	210-A	2.52	1	FLOW TIME	1783.4.00	1719.4.00	1687.4.00	1561.4.00	1498.4.00	1467.4.00	875.4.00	539.4.08
2 COMBINED AT	C210-A	34.43	1	FLOW TIME	23430.4.50	22644.4.50	22253.4.50	20708.4.58	19948.4.58	19570.4.58	12300.4.58	8003.4.58
ROUTED TO	RC210-	34.43	1	FLOW TIME	23113.4.67	22340.4.67	21955.4.67	20425.4.67	19667.4.67	19289.4.67	12085.4.75	7873.4.75
HYDROGRAPH AT	209-B	1.62	1	FLOW TIME	671.4.17	640.4.17	625.4.17	566.4.17	537.4.17	522.4.17	261.4.17	130.4.25
2 COMBINED AT	C209-B	36.05	1	FLOW TIME	23523.4.67	22734.4.67	22340.4.67	20778.4.67	20003.4.67	19618.4.67	12258.4.75	7970.4.75
ROUTED TO	RC209-	36.05	1	FLOW TIME	22532.5.08	21781.5.08	21407.5.08	19919.5.08	19182.5.08	18815.5.08	11773.5.08	7625.5.08
HYDROGRAPH AT	213A-1	2.97	1	FLOW TIME	1405.4.33	1353.4.33	1327.4.33	1224.4.33	1174.4.33	1148.4.33	675.4.42	407.4.42
2 COMBINED AT	C213A-	39.02	1	FLOW TIME	23452.5.08	22669.5.08	22280.5.08	20732.5.08	19965.5.08	19583.5.08	12254.5.08	7936.5.08
ROUTED TO	RC213A	39.02	1	FLOW TIME	23498.5.08	22706.5.08	22259.5.08	20708.5.08	19946.5.08	19553.5.08	12195.5.08	7925.5.17
HYDROGRAPH AT	213A-2	.50	1	FLOW TIME	419.3.83	405.3.83	397.3.83	369.3.83	354.3.83	347.3.83	211.3.83	131.3.83
2 COMBINED AT	C213A-	39.52	1	FLOW TIME	23620.5.08	22824.5.08	22376.5.08	20818.5.08	20052.5.08	19657.5.08	12266.5.08	7970.5.17
ROUTED TO	RC213A	39.52	1	FLOW TIME	23540.5.08	22748.5.08	22300.5.08	20737.5.08	19964.5.08	19573.5.08	12247.5.17	7942.5.17
HYDROGRAPH AT	213A-3	.37	1	FLOW TIME	324.3.75	312.3.75	307.3.75	284.3.75	273.3.75	267.3.75	160.3.75	100.3.83
2 COMBINED AT	C213A-	39.89	1	FLOW TIME	23628.5.08	22834.5.08	22384.5.08	20816.5.08	20041.5.08	19648.5.08	12292.5.17	7973.5.17
ROUTED TO	RC213A	39.89	1	FLOW TIME	23532.5.08	22734.5.17	22293.5.17	20750.5.17	19995.5.17	19598.5.17	12266.5.17	7934.5.25
HYDROGRAPH AT	213A-4	.25	1	FLOW TIME	221.3.75	213.3.75	209.3.75	193.3.75	186.3.75	182.3.75	109.3.75	67.3.75
2 COMBINED AT	C213A-	40.14	1	FLOW TIME	23588.5.08	22785.5.08	22338.5.17	20793.5.17	20036.5.17	19638.5.17	12294.5.17	7952.5.17

+		RC213A	40.14	1	FLOW TIME	23064. 5.33	22287. 5.42	ultimate3.0UT 21859. 5.42	20348. 5.42	19606. 5.42	19218. 5.42	12019. 5.42	7782. 5.50
+	HYDROGRAPH AT	213A-5	2.06	1	FLOW TIME	914. 4.17	878. 4.17	860. 4.17	790. 4.17	755. 4.17	738. 4.17	419. 4.25	242. 4.25
+	2 COMBINED AT	C213A-	42.20	1	FLOW TIME	23505. 5.33	22705. 5.33	22261. 5.33	20716. 5.42	19961. 5.42	19566. 5.42	12241. 5.42	7918. 5.50
+	ROUTED TO	RC213A	42.20	1	FLOW TIME	23477. 5.42	22687. 5.42	22250. 5.42	20705. 5.42	19944. 5.42	19551. 5.42	12196. 5.42	7914. 5.50
+	HYDROGRAPH AT	213A-1	.25	1	FLOW TIME	376. 3.67	367. 3.67	363. 3.67	346. 3.67	338. 3.67	333. 3.67	247. 3.67	191. 3.67
+	2 COMBINED AT	C213A-	42.45	1	FLOW TIME	23500. 5.42	22710. 5.42	22273. 5.42	20726. 5.42	19966. 5.42	19572. 5.42	12212. 5.42	7924. 5.50
+	ROUTED TO	RC13A-	42.45	1	FLOW TIME	23472. 5.42	22679. 5.42	22240. 5.42	20687. 5.42	19923. 5.42	19530. 5.42	12181. 5.50	7904. 5.50
+	HYDROGRAPH AT	213A-1	.26	1	FLOW TIME	376. 3.67	368. 3.67	364. 3.67	347. 3.67	338. 3.67	334. 3.67	248. 3.67	193. 3.67
+	2 COMBINED AT	C213A-	42.71	1	FLOW TIME	23494. 5.42	22701. 5.42	22262. 5.42	20708. 5.42	19943. 5.42	19550. 5.42	12193. 5.50	7913. 5.50
+	ROUTED TO	RC13A-	42.71	1	FLOW TIME	23426. 5.42	22634. 5.42	22194. 5.42	20631. 5.42	19864. 5.42	19473. 5.42	12180. 5.50	7881. 5.58
+	HYDROGRAPH AT	213B-6	.24	1	FLOW TIME	349. 3.67	341. 3.67	337. 3.67	321. 3.67	313. 3.67	309. 3.67	230. 3.67	178. 3.67
+	2 COMBINED AT	C213B-	42.95	1	FLOW TIME	23447. 5.42	22656. 5.42	22215. 5.42	20651. 5.42	19883. 5.42	19493. 5.42	12191. 5.50	7888. 5.58
+	ROUTED TO	RC213B	42.95	1	FLOW TIME	23410. 5.42	22620. 5.42	22177. 5.42	20613. 5.42	19844. 5.42	19454. 5.42	12176. 5.50	7887. 5.58
+	2 COMBINED AT	2C213A	49.16	1	FLOW TIME	24570. 5.42	23749. 5.42	23291. 5.42	21665. 5.42	20866. 5.42	20460. 5.42	12803. 5.50	8315. 5.50
+	ROUTED TO	RC213A	49.16	1	FLOW TIME	24529. 5.42	23711. 5.42	23248. 5.42	21619. 5.42	20820. 5.42	20413. 5.42	12788. 5.50	8297. 5.58
+	HYDROGRAPH AT	213B-7	.25	1	FLOW TIME	315. 3.75	308. 3.75	304. 3.75	290. 3.75	282. 3.75	279. 3.75	206. 3.75	158. 3.75
+	2 COMBINED AT	C213B-	49.41	1	FLOW TIME	24558. 5.42	23739. 5.42	23277. 5.42	21647. 5.42	20846. 5.42	20439. 5.42	12804. 5.50	8307. 5.58
+	HYDROGRAPH AT	213B-1	.26	1	FLOW TIME	394. 3.67	385. 3.67	380. 3.67	363. 3.67	354. 3.67	349. 3.67	259. 3.67	201. 3.67
+	ROUTED TO	RC213B	.26	1	FLOW TIME	381. 3.75	374. 3.75	374. 3.75	351. 3.75	347. 3.75	344. 3.75	253. 3.75	195. 3.75
+	HYDROGRAPH AT	213B-2	.26	1	FLOW TIME	392. 3.67	384. 3.67	379. 3.67	362. 3.67	353. 3.67	348. 3.67	259. 3.67	201. 3.67
+	2 COMBINED AT	C213B-	.52	1	FLOW TIME	763. 3.67	750. 3.67	742. 3.67	702. 3.67	689. 3.67	678. 3.67	502. 3.67	384. 3.67
+	ROUTED TO	RC213B	.52	1	FLOW TIME	752. 3.75	738. 3.75	734. 3.75	691. 3.75	685. 3.75	675. 3.75	494. 3.75	386. 3.75
+	HYDROGRAPH AT	213B-3	.25	1	FLOW TIME	372. 3.67	364. 3.67	359. 3.67	343. 3.67	334. 3.67	330. 3.67	245. 3.67	190. 3.67
+	2 COMBINED AT	C213B-	.78	1	FLOW TIME	1093. 3.75	1071. 3.75	1064. 3.75	1006. 3.75	992. 3.75	978. 3.75	720. 3.75	562. 3.75
+	ROUTED TO	RC213B	.78	1	FLOW TIME	1085. 3.75	1067. 3.75	1054. 3.75	1000. 3.75	979. 3.75	961. 3.75	708. 3.75	544. 3.75
+	HYDROGRAPH AT	213B-4	.25	1	FLOW TIME	363. 3.67	354. 3.67	350. 3.67	334. 3.67	326. 3.67	321. 3.67	239. 3.67	185. 3.67
+	2 COMBINED AT	C213B-	1.03	1	FLOW TIME	1425. 3.75	1400. 3.75	1384. 3.75	1314. 3.75	1286. 3.75	1264. 3.75	934. 3.75	720. 3.75
+	ROUTED TO	RC213B	1.03	1	FLOW TIME	1399. 3.75	1375. 3.75	1357. 3.75	1289. 3.75	1257. 3.75	1239. 3.75	909. 3.83	705. 3.83
+	2 COMBINED AT	2C213B	50.44	1	FLOW TIME	24726. 5.42	23904. 5.42	23440. 5.42	21803. 5.42	21000. 5.42	20591. 5.42	12900. 5.50	8373. 5.50
+	ROUTED TO	RC213B	50.44	1	FLOW TIME	24686. 5.42	23861. 5.42	23397. 5.42	21758. 5.42	20956. 5.42	20544. 5.42	12883. 5.50	8370. 5.58
+	HYDROGRAPH AT	213B-5	.24	1	FLOW TIME	311. 3.67	303. 3.67	300. 3.67	285. 3.67	278. 3.67	274. 3.67	202. 3.75	155. 3.75
+	2 COMBINED AT	C213B5	50.68	1	FLOW TIME	24711. 5.42	23886. 5.42	23421. 5.42	21782. 5.42	20979. 5.42	20566. 5.42	12896. 5.50	8378. 5.58
+	HYDROGRAPH AT	OFFT	.02	1	FLOW TIME	26. 3.50	25. 3.50	25. 3.50	24. 3.50	23. 3.58	23. 3.58	16. 3.58	12. 3.58
+	HYDROGRAPH AT	SHEEP2	.06	1	FLOW TIME	76. 3.58	73. 3.58	72. 3.58	68. 3.58	65. 3.58	64. 3.58	42. 3.58	29. 3.58
+	HYDROGRAPH AT	SHEEP3	.01	1	FLOW	17.	17.	17.	16.	15.	15.	10.	7.

				TIME	3.58	3.58	Ultimate3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	EMLA2	.14	1	FLOW TIME	184.3.67	180.3.67	177.3.67	168.3.67	163.3.67	161.3.67	115.3.67	86.3.67
5 COMBINED AT	DUMMY	50.91	1	FLOW TIME	24725.5.42	23899.5.42	23435.5.42	21795.5.42	20992.5.42	20579.5.42	12904.5.50	8383.5.58
HYDROGRAPH AT	ENVE1	.03	1	FLOW TIME	24.3.67	23.3.67	22.3.67	20.3.67	19.3.67	19.3.67	10.3.67	6.3.75
HYDROGRAPH AT	OFFZ	.05	1	FLOW TIME	69.3.58	67.3.58	66.3.58	62.3.58	60.3.58	59.3.58	40.3.58	28.3.58
HYDROGRAPH AT	HUAL3	.00	1	FLOW TIME	6.3.58	6.3.58	6.3.58	6.3.58	6.3.58	6.3.58	4.3.58	4.3.58
5 COMBINED AT	SH-MO	55.99	1	FLOW TIME	25330.5.42	24492.5.42	24021.5.42	22354.5.42	21538.5.42	21119.5.42	13254.5.50	8623.5.50
HYDROGRAPH AT	SKY3	.01	1	FLOW TIME	12.3.58	12.3.58	12.3.58	12.3.58	11.3.58	11.3.58	9.3.58	7.3.58
HYDROGRAPH AT	95-6	.01	1	FLOW TIME	19.3.50	18.3.50	18.3.50	17.3.50	17.3.50	16.3.50	12.3.50	9.3.50
HYDROGRAPH AT	OFFH	.01	1	FLOW TIME	14.3.50	14.3.50	13.3.50	13.3.50	12.3.50	12.3.50	9.3.50	7.3.50
3 COMBINED AT	SK-IR	.02	1	FLOW TIME	44.3.50	43.3.50	43.3.50	41.3.50	40.3.50	39.3.50	29.3.50	22.3.50
HYDROGRAPH AT	EML1A	.03	1	FLOW TIME	47.3.58	46.3.58	45.3.58	43.3.58	42.3.58	41.3.58	30.3.58	22.3.58
HYDROGRAPH AT	IRON2	.00	1	FLOW TIME	10.3.50	9.3.50	9.3.50	9.3.50	9.3.50	9.3.50	7.3.50	5.3.50
HYDROGRAPH AT	EMLA1B	.02	1	FLOW TIME	43.3.50	42.3.50	41.3.50	39.3.50	38.3.50	38.3.50	28.3.50	22.3.50
HYDROGRAPH AT	TP2	.00	1	FLOW TIME	2.3.50	2.3.50	2.3.50	2.3.50	2.3.50	2.3.50	1.3.50	1.3.50
5 COMBINED AT	IR-TP	.08	1	FLOW TIME	144.3.50	141.3.50	139.3.50	132.3.50	129.3.50	127.3.50	93.3.50	71.3.50
HYDROGRAPH AT	ES1	.02	1	FLOW TIME	29.3.50	28.3.50	28.3.50	27.3.50	26.3.50	25.3.50	18.3.50	14.3.50
HYDROGRAPH AT	IRON3	.00	1	FLOW TIME	5.3.50	5.3.50	5.3.50	5.3.50	5.3.50	4.3.50	3.3.50	3.3.50
3 COMBINED AT	IR-FT	.10	1	FLOW TIME	178.3.50	174.3.50	172.3.50	163.3.50	159.3.50	157.3.50	115.3.50	88.3.50
DIVERSION TO	IREAST	.10	1	FLOW TIME	118.3.50	117.3.50	116.3.50	114.3.50	113.3.50	113.3.50	102.3.50	88.3.50
HYDROGRAPH AT	FTNOR	.10	1	FLOW TIME	60.3.50	57.3.50	55.3.50	49.3.50	46.3.50	44.3.50	13.3.50	0.00
HYDROGRAPH AT	RETD1B	.00	1	FLOW TIME	51.3.50	50.3.50	49.3.50	47.3.50	46.3.50	45.3.50	32.3.50	24.3.50
HYDROGRAPH AT	RETD2B	.00	1	FLOW TIME	50.3.50	49.3.50	48.3.50	46.3.50	44.3.50	44.3.50	32.3.50	24.3.50
HYDROGRAPH AT	OFF9	.04	1	FLOW TIME	62.3.58	61.3.58	60.3.58	57.3.58	55.3.58	55.3.58	39.3.58	29.3.58
3 COMBINED AT	COFF9	.04	1	FLOW TIME	153.3.50	150.3.50	148.3.50	140.3.50	136.3.50	134.3.50	96.3.50	72.3.50
HYDROGRAPH AT	OFF5	.01	1	FLOW TIME	18.3.50	18.3.50	18.3.50	17.3.50	16.3.50	16.3.50	11.3.50	8.3.50
HYDROGRAPH AT	SKY4	.01	1	FLOW TIME	16.3.58	16.3.58	16.3.58	15.3.58	15.3.58	15.3.58	11.3.58	9.3.58
3 COMBINED AT	LC-SK	.06	1	FLOW TIME	186.3.50	181.3.50	179.3.50	170.3.50	165.3.50	163.3.50	117.3.50	88.3.50
HYDROGRAPH AT	EML1B	.07	1	FLOW TIME	120.3.58	117.3.58	116.3.58	110.3.58	107.3.58	106.3.58	76.3.58	57.3.58
HYDROGRAPH AT	ESCHL1	.02	1	FLOW TIME	29.3.58	28.3.58	27.3.58	26.3.58	25.3.58	24.3.58	15.3.58	10.3.58
HYDROGRAPH AT	EPRK1	.01	1	FLOW TIME	6.3.58	6.3.58	6.3.58	5.3.58	5.3.58	4.3.58	2.3.58	1.3.75
HYDROGRAPH AT	STRT6	.01	1	FLOW TIME	10.3.58	10.3.58	10.3.58	9.3.58	9.3.58	9.3.58	7.3.58	6.3.58
HYDROGRAPH AT	EML2A	.07	1	FLOW TIME	106.3.58	103.3.58	102.3.58	97.3.58	94.3.58	93.3.58	67.3.58	50.3.58
5 COMBINED AT	DUMMY	.18	1	FLOW TIME	272.3.58	264.3.58	261.3.58	247.3.58	240.3.58	236.3.58	167.3.58	123.3.58
HYDROGRAPH AT	TP3	.01	1	FLOW TIME	11.3.67	10.3.67	10.3.67	10.3.67	10.3.67	10.3.67	7.3.67	6.3.67

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HYDROGRAPH AT +	TP4A	.00	1	FLOW TIME	5. 3.50	5. 3.50	5. 3.50	5. 3.50	5. 3.50	5. 3.50	4. 3.50	3. 3.50
HYDROGRAPH AT +	LOG1	.01	1	FLOW TIME	15. 3.50	15. 3.50	15. 3.50	14. 3.50	14. 3.50	13. 3.50	10. 3.50	8. 3.50
5 COMBINED AT +	LC-TP	.26	1	FLOW TIME	480. 3.58	468. 3.58	462. 3.58	438. 3.58	426. 3.58	420. 3.58	302. 3.58	226. 3.58
HYDROGRAPH AT +	EL1	.12	1	FLOW TIME	110. 3.58	106. 3.58	104. 3.58	96. 3.58	93. 3.58	91. 3.58	55. 3.67	35. 3.67
HYDROGRAPH AT +	LOG2	.00	1	FLOW TIME	9. 3.50	9. 3.50	9. 3.50	9. 3.50	8. 3.50	8. 3.50	6. 3.50	5. 3.50
HYDROGRAPH AT +	FORT1	.01	1	FLOW TIME	14. 3.67	14. 3.67	14. 3.67	13. 3.67	13. 3.67	13. 3.67	10. 3.67	8. 3.67
5 COMBINED AT +	FT-LC	.49	1	FLOW TIME	661. 3.58	642. 3.58	633. 3.58	594. 3.58	575. 3.58	566. 3.58	378. 3.58	271. 3.58
DIVERSION TO +	OHARE	.49	1	FLOW TIME	49. 3.58	47. 3.58	46. 3.58	41. 3.58	39. 3.58	37. 3.58	14. 3.58	0. .00
HYDROGRAPH AT +	RFTLC	.49	1	FLOW TIME	612. 3.58	595. 3.58	587. 3.58	553. 3.58	537. 3.58	528. 3.58	364. 3.58	271. 3.58
DIVERSION TO +	LOGCAB	.49	1	FLOW TIME	193. 3.58	187. 3.58	184. 3.58	172. 3.58	166. 3.58	164. 3.58	106. 3.58	73. 3.58
HYDROGRAPH AT +	R2FTLC	.49	1	FLOW TIME	419. 3.58	408. 3.58	403. 3.58	381. 3.58	370. 3.58	365. 3.58	258. 3.58	198. 3.58
HYDROGRAPH AT +	EML2B	.04	1	FLOW TIME	66. 3.58	65. 3.58	64. 3.58	61. 3.58	59. 3.58	58. 3.58	42. 3.58	31. 3.58
HYDROGRAPH AT +	TP4B	.00	1	FLOW TIME	7. 3.50	7. 3.50	7. 3.50	7. 3.50	7. 3.50	7. 3.50	5. 3.50	4. 3.50
HYDROGRAPH AT +	EML3	.06	1	FLOW TIME	90. 3.58	88. 3.58	87. 3.58	82. 3.58	80. 3.58	79. 3.58	56. 3.58	42. 3.58
HYDROGRAPH AT +	STR7	.00	1	FLOW TIME	8. 3.50	8. 3.50	8. 3.50	8. 3.50	8. 3.50	8. 3.50	6. 3.50	5. 3.50
5 COMBINED AT +	DUMMY	.60	1	FLOW TIME	588. 3.58	573. 3.58	565. 3.58	535. 3.58	520. 3.58	513. 3.58	365. 3.58	278. 3.58
HYDROGRAPH AT +	EML4	.07	1	FLOW TIME	112. 3.58	109. 3.58	108. 3.58	102. 3.58	100. 3.58	98. 3.58	70. 3.58	52. 3.58
HYDROGRAPH AT +	ENVE2	.01	1	FLOW TIME	11. 3.58	11. 3.58	11. 3.58	10. 3.58	9. 3.58	9. 3.58	5. 3.58	3. 3.67
HYDROGRAPH AT +	FORT2	.01	1	FLOW TIME	14. 3.67	13. 3.67	13. 3.67	13. 3.67	12. 3.67	12. 3.67	9. 3.67	8. 3.67
4 COMBINED AT +	FT-MO	.70	1	FLOW TIME	724. 3.58	705. 3.58	696. 3.58	659. 3.58	641. 3.58	632. 3.58	449. 3.58	340. 3.58
2 COMBINED AT +	CP43	56.68	1	FLOW TIME	25354. 5.42	24515. 5.42	24044. 5.42	22376. 5.42	21560. 5.42	21140. 5.42	13268. 5.50	8633. 5.50
HYDROGRAPH AT +	95-7A	.01	1	FLOW TIME	14. 3.50	14. 3.50	13. 3.50	13. 3.50	13. 3.50	12. 3.50	9. 3.50	7. 3.50
HYDROGRAPH AT +	95-7B	.01	1	FLOW TIME	16. 3.50	15. 3.50	15. 3.50	15. 3.50	14. 3.50	14. 3.50	10. 3.50	8. 3.50
HYDROGRAPH AT +	95-8A	.01	1	FLOW TIME	11. 3.50	11. 3.50	11. 3.50	10. 3.50	10. 3.50	10. 3.50	7. 3.50	6. 3.50
HYDROGRAPH AT +	95-8B	.00	1	FLOW TIME	7. 3.50	7. 3.50	7. 3.50	6. 3.50	6. 3.50	6. 3.50	4. 3.50	3. 3.50
4 COMBINED AT +	C95-8B	.02	1	FLOW TIME	47. 3.50	46. 3.50	46. 3.50	44. 3.50	43. 3.50	42. 3.50	31. 3.50	24. 3.50
HYDROGRAPH AT +	SKY2	.01	1	FLOW TIME	16. 3.50	15. 3.50	15. 3.50	14. 3.50	14. 3.50	14. 3.50	11. 3.50	9. 3.50
HYDROGRAPH AT +	EMLA1A	.01	1	FLOW TIME	27. 3.50	26. 3.50	26. 3.50	25. 3.50	24. 3.50	24. 3.50	18. 3.50	14. 3.50
HYDROGRAPH AT +	TP1	.00	1	FLOW TIME	2. 3.50	2. 3.50	2. 3.50	2. 3.50	2. 3.50	2. 3.50	1. 3.50	1. 3.50
4 COMBINED AT +	BR-TP	.05	1	FLOW TIME	92. 3.50	90. 3.50	89. 3.50	85. 3.50	83. 3.50	82. 3.50	61. 3.50	48. 3.50
HYDROGRAPH AT +	ES2	.05	1	FLOW TIME	84. 3.58	82. 3.58	81. 3.58	77. 3.58	75. 3.58	74. 3.58	55. 3.58	43. 3.58
HYDROGRAPH AT +	BRENT1	.00	1	FLOW TIME	4. 3.50	4. 3.50	4. 3.50	4. 3.50	4. 3.50	4. 3.50	3. 3.50	2. 3.50
HYDROGRAPH AT +	EGC3	.02	1	FLOW TIME	44. 3.50	43. 3.50	42. 3.50	40. 3.50	39. 3.50	39. 3.50	29. 3.50	23. 3.50
HYDROGRAPH AT +	HORSE5	.00	1	FLOW TIME	11. 3.50	11. 3.50	11. 3.50	11. 3.50	10. 3.50	10. 3.50	8. 3.50	6. 3.50

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5 COMBINED AT	CP44	.12	1	FLOW TIME	228. 3.50	223. 3.50	220. 3.50	210. 3.50	205. 3.50	202. 3.50	151. 3.50	118. 3.50
DIVERSION TO	BRENT	.12	1	FLOW TIME	178. 3.50	173. 3.50	170. 3.50	160. 3.50	155. 3.50	152. 3.50	101. 3.50	68. 3.50
HYDROGRAPH AT	SOUTH	.12	1	FLOW TIME	50. 3.33	50. 3.33	50. 3.33	50. 3.33	50. 3.42	50. 3.42	50. 3.50	50. 3.50
HYDROGRAPH AT	SKY1	.01	1	FLOW TIME	16. 3.50	16. 3.50	16. 3.50	15. 3.50	15. 3.50	15. 3.50	11. 3.50	9. 3.50
HYDROGRAPH AT	HORSE4	.00	1	FLOW TIME	9. 3.50	8. 3.50	8. 3.50	8. 3.50	8. 3.50	8. 3.50	6. 3.50	5. 3.50
HYDROGRAPH AT	EGC1	.01	1	FLOW TIME	17. 3.50	16. 3.50	16. 3.50	15. 3.50	15. 3.50	15. 3.50	11. 3.50	9. 3.50
HYDROGRAPH AT	EGC2	.01	1	FLOW TIME	24. 3.50	24. 3.50	24. 3.50	22. 3.50	22. 3.50	22. 3.50	16. 3.50	13. 3.50
5 COMBINED AT	DUMMY	.15	1	FLOW TIME	116. 3.50	115. 3.50	114. 3.50	111. 3.50	110. 3.50	109. 3.50	95. 3.50	85. 3.50
HYDROGRAPH AT	95-9B	.01	1	FLOW TIME	23. 3.58	22. 3.58	22. 3.58	21. 3.58	21. 3.58	20. 3.58	15. 3.58	12. 3.58
2 COMBINED AT	CP45	.17	1	FLOW TIME	138. 3.50	136. 3.50	135. 3.50	131. 3.50	129. 3.50	128. 3.50	109. 3.50	96. 3.50
DIVERSION TO	RACEL	.17	1	FLOW TIME	101. 3.33	101. 3.33	101. 3.42	101. 3.42	101. 3.42	101. 3.42	101. 3.50	96. 3.50
HYDROGRAPH AT	HORSE	.17	1	FLOW TIME	37. 3.50	35. 3.50	34. 3.50	30. 3.50	28. 3.50	27. 3.50	8. 3.50	0. .00

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

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION INTERVAL	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1	RATIO=	1.00							
RCD1C	MANE	5.00	5.67	221.08	.16	5.00	5.16	220.00	.16
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3238E+00 EXCESS= .0000E+00 OUTFLOW= .3523E+00 BASIN STORAGE= .1286E-03 PERCENT ERROR= -8.8									
FOR PLAN = 1	RATIO=	.98							
RCD1C	MANE	5.00	5.11	219.85	.15	5.00	5.11	220.00	.15
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3150E+00 EXCESS= .0000E+00 OUTFLOW= .3298E+00 BASIN STORAGE= .1227E-03 PERCENT ERROR= -4.7									
FOR PLAN = 1	RATIO=	.97							
RCD1C	MANE	5.00	5.16	220.26	.15	5.00	5.04	220.00	.15
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3106E+00 EXCESS= .0000E+00 OUTFLOW= .3258E+00 BASIN STORAGE= .1231E-03 PERCENT ERROR= -4.9									
FOR PLAN = 1	RATIO=	.93							
RCD1C	MANE	5.00	4.93	223.66	.14	5.00	4.64	225.00	.14
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2932E+00 EXCESS= .0000E+00 OUTFLOW= .3030E+00 BASIN STORAGE= .1264E-03 PERCENT ERROR= -3.4									
FOR PLAN = 1	RATIO=	.91							
RCD1C	MANE	5.00	4.66	225.48	.13	5.00	4.59	225.00	.13
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2845E+00 EXCESS= .0000E+00 OUTFLOW= .2939E+00 BASIN STORAGE= .1102E-03 PERCENT ERROR= -3.4									
FOR PLAN = 1	RATIO=	.90							
RCD1C	MANE	5.00	4.29	226.36	.13	5.00	4.22	225.00	.13
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2801E+00 EXCESS= .0000E+00 OUTFLOW= .2856E+00 BASIN STORAGE= .1289E-03 PERCENT ERROR= -2.0									
FOR PLAN = 1	RATIO=	.70							
RCD1C	MANE	4.95	3.43	226.03	.09	5.00	3.07	225.00	.09
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1951E+00 EXCESS= .0000E+00 OUTFLOW= .2013E+00 BASIN STORAGE= .1055E-03 PERCENT ERROR= -3.2									
FOR PLAN = 1	RATIO=	.57							
RCD1C	MANE	5.00	2.44	230.11	.07	5.00	2.42	230.00	.07
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1422E+00 EXCESS= .0000E+00 OUTFLOW= .1470E+00 BASIN STORAGE= .1296E-03 PERCENT ERROR= -3.5									
FOR PLAN = 1	RATIO=	.00							
RNW29C	MANE	1.16	200.70	216.99	2.20	5.00	199.82	220.00	2.20
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1547E+02 EXCESS= .0000E+00 OUTFLOW= .1547E+02 BASIN STORAGE= .1101E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RNW29C	MANE	1.17	195.60	216.78	2.14	5.00	195.08	220.00	2.14
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1507E+02 EXCESS= .0000E+00 OUTFLOW= .1507E+02 BASIN STORAGE= .1164E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RNW29C	MANE	1.18	193.06	216.68	2.11	5.00	192.77	220.00	2.12
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1487E+02 EXCESS= .0000E+00 OUTFLOW= .1487E+02 BASIN STORAGE= .1183E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RNW29C	MANE	1.20	183.62	219.98	2.00	5.00	183.59	220.00	2.00

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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1408E+02 EXCESS= .0000E+00 OUTFLOW= .1408E+02 BASIN STORAGE= .1103E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
 RNW29C MANE 1.21 178.86 219.91 1.94 5.00 178.72 220.00 1.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1368E+02 EXCESS= .0000E+00 OUTFLOW= .1368E+02 BASIN STORAGE= .1120E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
 RNW29C MANE 1.22 176.46 219.89 1.91 5.00 176.30 220.00 1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1348E+02 EXCESS= .0000E+00 OUTFLOW= .1348E+02 BASIN STORAGE= .1152E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
 RNW29C MANE 1.39 127.40 220.84 1.36 5.00 126.98 220.00 1.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9562E+01 EXCESS= .0000E+00 OUTFLOW= .9563E+01 BASIN STORAGE= .1193E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
 RNW29C MANE 1.55 95.94 220.65 1.01 5.00 95.76 220.00 1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7101E+01 EXCESS= .0000E+00 OUTFLOW= .7101E+01 BASIN STORAGE= .1210E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
 RCNW71 MANE 2.94 355.46 220.39 2.17 5.00 354.10 220.00 2.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2731E+02 EXCESS= .0000E+00 OUTFLOW= .2733E+02 BASIN STORAGE= .3491E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 RCNW71 MANE 2.97 345.10 219.57 2.11 5.00 344.48 220.00 2.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2660E+02 EXCESS= .0000E+00 OUTFLOW= .2662E+02 BASIN STORAGE= .4070E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 RCNW71 MANE 2.98 342.49 220.64 2.09 5.00 340.66 220.00 2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2625E+02 EXCESS= .0000E+00 OUTFLOW= .2627E+02 BASIN STORAGE= .4628E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 RCNW71 MANE 3.04 322.83 222.04 1.98 5.00 322.13 220.00 1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2485E+02 EXCESS= .0000E+00 OUTFLOW= .2486E+02 BASIN STORAGE= .3489E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 RCNW71 MANE 3.07 316.43 221.36 1.92 5.00 314.51 220.00 1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2415E+02 EXCESS= .0000E+00 OUTFLOW= .2416E+02 BASIN STORAGE= .3970E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 RCNW71 MANE 3.09 310.02 219.48 1.89 5.00 309.77 220.00 1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2379E+02 EXCESS= .0000E+00 OUTFLOW= .2381E+02 BASIN STORAGE= .4236E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 RCNW71 MANE 3.52 224.69 221.80 1.34 5.00 222.14 220.00 1.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1687E+02 EXCESS= .0000E+00 OUTFLOW= .1688E+02 BASIN STORAGE= .4211E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 RCNW71 MANE 3.94 167.37 220.66 .99 5.00 164.87 220.00 .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1251E+02 EXCESS= .0000E+00 OUTFLOW= .1252E+02 BASIN STORAGE= .4172E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 ROFF41 MANE 5.00 401.70 230.00 2.08 5.00 401.70 230.00 2.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3333E+02 EXCESS= .0000E+00 OUTFLOW= .3335E+02 BASIN STORAGE= .1750E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 ROFF41 MANE 5.00 390.47 230.00 2.02 5.00 390.47 230.00 2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3236E+02 EXCESS= .0000E+00 OUTFLOW= .3237E+02 BASIN STORAGE= .2744E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 ROFF41 MANE 5.00 384.86 230.00 1.99 5.00 384.86 230.00 1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3187E+02 EXCESS= .0000E+00 OUTFLOW= .3189E+02 BASIN STORAGE= .2723E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 ROFF41 MANE 5.00 362.42 230.00 1.87 5.00 362.42 230.00 1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2994E+02 EXCESS= .0000E+00 OUTFLOW= .2996E+02 BASIN STORAGE= .2637E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 ROFF41 MANE 5.00 351.22 230.00 1.81 5.00 351.22 230.00 1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2899E+02 EXCESS= .0000E+00 OUTFLOW= .2900E+02 BASIN STORAGE= .2593E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 ROFF41 MANE 5.00 345.62 230.00 1.78 5.00 345.62 230.00 1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2851E+02 EXCESS= .0000E+00 OUTFLOW= .2853E+02 BASIN STORAGE= .2571E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 ROFF41 MANE 5.00 235.01 230.00 1.20 5.00 235.01 230.00 1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1923E+02 EXCESS= .0000E+00 OUTFLOW= .1925E+02 BASIN STORAGE= .2167E-02 PERCENT ERROR= -.1

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FOR PLAN = 1	RATIO=	.00							
ROFF41	MANE	5.00	166.38	235.00	.85	5.00	166.38	235.00	.85
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1358E+02 EXCESS= .0000E+00 OUTFLOW= .1360E+02 BASIN STORAGE= .1829E-02 PERCENT ERROR= -.1									
FOR PLAN = 1	RATIO=	.00							
ROFF4	MANE	3.24	865.73	220.01	1.97	5.00	865.68	220.00	1.97
CONTINUITY SUMMARY (AC-FT) - INFLOW= .7577E+02 EXCESS= .0000E+00 OUTFLOW= .7578E+02 BASIN STORAGE= .1079E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF4	MANE	3.26	842.05	221.73	1.91	5.00	840.86	220.00	1.91
CONTINUITY SUMMARY (AC-FT) - INFLOW= .7352E+02 EXCESS= .0000E+00 OUTFLOW= .7352E+02 BASIN STORAGE= .9388E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF4	MANE	3.27	825.35	219.35	1.88	5.00	824.16	220.00	1.88
CONTINUITY SUMMARY (AC-FT) - INFLOW= .7236E+02 EXCESS= .0000E+00 OUTFLOW= .7237E+02 BASIN STORAGE= .1105E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF4	MANE	3.33	772.80	219.69	1.77	5.00	772.08	220.00	1.77
CONTINUITY SUMMARY (AC-FT) - INFLOW= .6788E+02 EXCESS= .0000E+00 OUTFLOW= .6788E+02 BASIN STORAGE= .9246E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF4	MANE	3.36	752.34	221.60	1.71	5.00	749.29	220.00	1.71
CONTINUITY SUMMARY (AC-FT) - INFLOW= .6567E+02 EXCESS= .0000E+00 OUTFLOW= .6567E+02 BASIN STORAGE= .1193E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF4	MANE	3.37	734.27	219.22	1.68	5.00	733.69	220.00	1.68
CONTINUITY SUMMARY (AC-FT) - INFLOW= .6454E+02 EXCESS= .0000E+00 OUTFLOW= .6455E+02 BASIN STORAGE= .9505E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF4	MANE	3.76	482.18	221.57	1.12	5.00	476.02	220.00	1.12
CONTINUITY SUMMARY (AC-FT) - INFLOW= .4305E+02 EXCESS= .0000E+00 OUTFLOW= .4306E+02 BASIN STORAGE= .1196E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF4	MANE	4.14	330.33	223.45	.78	5.00	326.15	220.00	.78
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3008E+02 EXCESS= .0000E+00 OUTFLOW= .3009E+02 BASIN STORAGE= .1165E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF5	MANE	2.25	1228.06	222.36	1.90	5.00	1205.92	220.00	1.90
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1033E+03 EXCESS= .0000E+00 OUTFLOW= .1033E+03 BASIN STORAGE= .3651E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF5	MANE	2.26	1185.89	223.68	1.85	5.00	1167.37	220.00	1.85
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1001E+03 EXCESS= .0000E+00 OUTFLOW= .1001E+03 BASIN STORAGE= .4261E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF5	MANE	2.27	1169.63	222.25	1.82	5.00	1150.99	220.00	1.82
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9855E+02 EXCESS= .0000E+00 OUTFLOW= .9855E+02 BASIN STORAGE= .4446E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF5	MANE	2.30	1095.29	222.88	1.70	5.00	1077.77	225.00	1.70
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9234E+02 EXCESS= .0000E+00 OUTFLOW= .9234E+02 BASIN STORAGE= .4656E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF5	MANE	2.31	1055.93	224.27	1.65	5.00	1042.62	220.00	1.65
CONTINUITY SUMMARY (AC-FT) - INFLOW= .8931E+02 EXCESS= .0000E+00 OUTFLOW= .8932E+02 BASIN STORAGE= .4131E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF5	MANE	2.32	1040.15	222.85	1.62	5.00	1024.57	225.00	1.62
CONTINUITY SUMMARY (AC-FT) - INFLOW= .8773E+02 EXCESS= .0000E+00 OUTFLOW= .8773E+02 BASIN STORAGE= .4439E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF5	MANE	2.53	681.78	225.10	1.07	5.00	681.59	225.00	1.07
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5812E+02 EXCESS= .0000E+00 OUTFLOW= .5812E+02 BASIN STORAGE= .3873E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF5	MANE	2.73	465.13	223.77	.74	5.00	463.68	225.00	.74
CONTINUITY SUMMARY (AC-FT) - INFLOW= .4036E+02 EXCESS= .0000E+00 OUTFLOW= .4036E+02 BASIN STORAGE= .3573E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF52	MANE	1.35	464.06	226.77	1.91	5.00	461.60	225.00	1.91
CONTINUITY SUMMARY (AC-FT) - INFLOW= .4017E+02 EXCESS= .0000E+00 OUTFLOW= .4017E+02 BASIN STORAGE= .1739E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF52	MANE	1.36	451.14	226.72	1.85	5.00	448.50	225.00	1.85
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3898E+02 EXCESS= .0000E+00 OUTFLOW= .3898E+02 BASIN STORAGE= .2037E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
ROFF52	MANE	1.36	445.36	226.03	1.82	5.00	441.49	225.00	1.82

Ultimate3.OUT

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3839E+02 EXCESS= .0000E+00 OUTFLOW= .3839E+02 BASIN STORAGE= .2024E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF52 MANE 1.38 419.07 226.04 1.71 5.00 415.13 225.00 1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3603E+02 EXCESS= .0000E+00 OUTFLOW= .3603E+02 BASIN STORAGE= .1941E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF52 MANE 1.39 406.06 226.09 1.65 5.00 402.05 225.00 1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3486E+02 EXCESS= .0000E+00 OUTFLOW= .3486E+02 BASIN STORAGE= .1879E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF52 MANE 1.39 398.62 226.83 1.63 5.00 395.81 225.00 1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3428E+02 EXCESS= .0000E+00 OUTFLOW= .3428E+02 BASIN STORAGE= .1844E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF52 MANE 1.50 270.32 227.13 1.09 5.00 267.08 225.00 1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2297E+02 EXCESS= .0000E+00 OUTFLOW= .2297E+02 BASIN STORAGE= .1880E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF52 MANE 1.61 190.57 227.49 .76 5.00 187.21 225.00 .77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1611E+02 EXCESS= .0000E+00 OUTFLOW= .1611E+02 BASIN STORAGE= .2012E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
R2CNW1 MANE 1.49 1981.82 225.82 1.86 5.00 1974.68 225.00 1.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1690E+03 EXCESS= .0000E+00 OUTFLOW= .1691E+03 BASIN STORAGE= .3892E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
R2CNW1 MANE 1.51 1912.07 223.11 1.80 5.00 1904.02 225.00 1.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1639E+03 EXCESS= .0000E+00 OUTFLOW= .1639E+03 BASIN STORAGE= .3878E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
R2CNW1 MANE 1.51 1888.16 225.53 1.77 5.00 1886.09 225.00 1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1613E+03 EXCESS= .0000E+00 OUTFLOW= .1613E+03 BASIN STORAGE= .3547E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
R2CNW1 MANE 1.55 1769.31 226.69 1.66 5.00 1765.56 225.00 1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1511E+03 EXCESS= .0000E+00 OUTFLOW= .1512E+03 BASIN STORAGE= .3480E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
R2CNW1 MANE 1.57 1707.90 223.62 1.61 5.00 1706.46 225.00 1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1462E+03 EXCESS= .0000E+00 OUTFLOW= .1462E+03 BASIN STORAGE= .3701E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
R2CNW1 MANE 1.58 1687.56 226.52 1.58 5.00 1676.39 225.00 1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1436E+03 EXCESS= .0000E+00 OUTFLOW= .1436E+03 BASIN STORAGE= .4003E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
R2CNW1 MANE 1.86 1120.27 227.36 1.05 5.00 1108.60 225.00 1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9509E+02 EXCESS= .0000E+00 OUTFLOW= .9509E+02 BASIN STORAGE= .3506E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
R2CNW1 MANE 2.17 766.32 227.62 .72 5.00 755.28 225.00 .72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6589E+02 EXCESS= .0000E+00 OUTFLOW= .6590E+02 BASIN STORAGE= .3445E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW7C MANE .89 2462.18 226.26 1.84 5.00 2451.36 225.00 1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2155E+03 EXCESS= .0000E+00 OUTFLOW= .2155E+03 BASIN STORAGE= .2461E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW7C MANE .91 2383.87 225.83 1.79 5.00 2368.76 225.00 1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2089E+03 EXCESS= .0000E+00 OUTFLOW= .2089E+03 BASIN STORAGE= .2472E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW7C MANE .91 2359.23 225.87 1.76 5.00 2342.07 225.00 1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2057E+03 EXCESS= .0000E+00 OUTFLOW= .2057E+03 BASIN STORAGE= .2299E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW7C MANE .93 2206.43 226.24 1.65 5.00 2191.30 225.00 1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1928E+03 EXCESS= .0000E+00 OUTFLOW= .1928E+03 BASIN STORAGE= .2334E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW7C MANE .95 2130.60 225.53 1.59 5.00 2118.47 225.00 1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1864E+03 EXCESS= .0000E+00 OUTFLOW= .1864E+03 BASIN STORAGE= .2256E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW7C MANE .95 2098.20 226.16 1.57 5.00 2080.99 225.00 1.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1831E+03 EXCESS= .0000E+00 OUTFLOW= .1831E+03 BASIN STORAGE= .2490E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCNW7C	MANE	1.12	1392.22	226.06	1.04	Ultimate3.OUT 5.00	1373.42	225.00	1.04
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1214E+03 EXCESS= .0000E+00 OUTFLOW= .1214E+03 BASIN STORAGE= .2317E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCNW7C	MANE	1.31	957.73	227.73	.72	5.00	954.41	230.00	.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8430E+02 EXCESS= .0000E+00 OUTFLOW= .8430E+02 BASIN STORAGE= .2502E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCNW21	MANE	1.78	2629.57	226.17	1.87	5.00	2604.73	225.00	1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2336E+03 EXCESS= .0000E+00 OUTFLOW= .2336E+03 BASIN STORAGE= .4681E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCNW21	MANE	1.80	2550.70	227.42	1.81	5.00	2516.67	225.00	1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2265E+03 EXCESS= .0000E+00 OUTFLOW= .2265E+03 BASIN STORAGE= .4816E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCNW21	MANE	1.81	2525.46	226.65	1.78	5.00	2485.75	225.00	1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2231E+03 EXCESS= .0000E+00 OUTFLOW= .2231E+03 BASIN STORAGE= .5740E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCNW21	MANE	1.86	2368.81	227.07	1.67	5.00	2323.41	225.00	1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2092E+03 EXCESS= .0000E+00 OUTFLOW= .2092E+03 BASIN STORAGE= .4579E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCNW21	MANE	1.89	2276.25	226.34	1.62	5.00	2251.38	225.00	1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2024E+03 EXCESS= .0000E+00 OUTFLOW= .2024E+03 BASIN STORAGE= .4940E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCNW21	MANE	1.90	2242.47	227.93	1.59	5.00	2209.02	225.00	1.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1988E+03 EXCESS= .0000E+00 OUTFLOW= .1988E+03 BASIN STORAGE= .5501E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCNW21	MANE	2.24	1497.78	228.05	1.06	5.00	1483.14	230.00	1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1325E+03 EXCESS= .0000E+00 OUTFLOW= .1325E+03 BASIN STORAGE= .4606E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCNW21	MANE	2.60	1030.60	228.67	.74	5.00	1030.01	230.00	.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9245E+02 EXCESS= .0000E+00 OUTFLOW= .9247E+02 BASIN STORAGE= .4743E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
ROFF1A	MANE	3.14	726.65	244.77	1.36	5.00	726.17	245.00	1.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8277E+02 EXCESS= .0000E+00 OUTFLOW= .8278E+02 BASIN STORAGE= .1118E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
ROFF1A	MANE	3.17	702.02	243.92	1.31	5.00	700.26	245.00	1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7974E+02 EXCESS= .0000E+00 OUTFLOW= .7975E+02 BASIN STORAGE= .8961E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
ROFF1A	MANE	3.18	686.97	241.92	1.28	5.00	686.64	245.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7824E+02 EXCESS= .0000E+00 OUTFLOW= .7824E+02 BASIN STORAGE= .9853E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
ROFF1A	MANE	3.25	637.22	243.58	1.18	5.00	635.17	245.00	1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7229E+02 EXCESS= .0000E+00 OUTFLOW= .7229E+02 BASIN STORAGE= .8390E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
ROFF1A	MANE	3.28	610.61	242.88	1.14	5.00	608.60	245.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6935E+02 EXCESS= .0000E+00 OUTFLOW= .6935E+02 BASIN STORAGE= .9038E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
ROFF1A	MANE	3.30	596.89	244.20	1.11	5.00	595.86	245.00	1.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6789E+02 EXCESS= .0000E+00 OUTFLOW= .6790E+02 BASIN STORAGE= .9733E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
ROFF1A	MANE	3.77	351.62	244.92	.67	5.00	351.60	245.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4065E+02 EXCESS= .0000E+00 OUTFLOW= .4066E+02 BASIN STORAGE= .8282E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
ROFF1A	MANE	3.25	212.34	247.00	.42	5.00	210.92	250.00	.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2534E+02 EXCESS= .0000E+00 OUTFLOW= .2534E+02 BASIN STORAGE= .8581E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.26	1007.35	238.77	1.47	5.00	1001.61	240.00	1.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1204E+03 EXCESS= .0000E+00 OUTFLOW= .1204E+03 BASIN STORAGE= .1595E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.30	966.42	236.69	1.42	5.00	963.42	240.00	1.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1163E+03 EXCESS= .0000E+00 OUTFLOW= .1163E+03 BASIN STORAGE= .1437E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.32	951.08	237.74	1.40	5.00	945.51	240.00	1.40
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1142E+03 EXCESS= .0000E+00 OUTFLOW= .1142E+03 BASIN STORAGE= .1784E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.41	880.80	237.96	1.30	5.00	875.86	240.00	1.30
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1059E+03 EXCESS= .0000E+00 OUTFLOW= .1059E+03 BASIN STORAGE= .1464E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.45	845.25	240.35	1.25	5.00	844.98	240.00	1.25
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1017E+03 EXCESS= .0000E+00 OUTFLOW= .1018E+03 BASIN STORAGE= .1320E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.47	826.55	237.15	1.22	5.00	823.91	240.00	1.22
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9975E+02 EXCESS= .0000E+00 OUTFLOW= .9976E+02 BASIN STORAGE= .1604E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	5.00	501.79	240.00	.75	5.00	501.79	240.00	.75
CONTINUITY SUMMARY (AC-FT) - INFLOW= .6147E+02 EXCESS= .0000E+00 OUTFLOW= .6149E+02 BASIN STORAGE= .1638E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	5.00	310.21	240.00	.48	5.00	310.21	240.00	.48
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3957E+02 EXCESS= .0000E+00 OUTFLOW= .3958E+02 BASIN STORAGE= .1416E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.48	1270.78	237.63	1.52	5.00	1258.74	240.00	1.52
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1483E+03 EXCESS= .0000E+00 OUTFLOW= .1484E+03 BASIN STORAGE= .1902E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.53	1218.63	240.05	1.46	5.00	1218.62	240.00	1.47
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1432E+03 EXCESS= .0000E+00 OUTFLOW= .1433E+03 BASIN STORAGE= .1662E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.55	1200.06	236.53	1.44	5.00	1191.69	240.00	1.44
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1407E+03 EXCESS= .0000E+00 OUTFLOW= .1407E+03 BASIN STORAGE= .1360E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.63	1112.81	236.34	1.34	5.00	1107.05	240.00	1.34
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1307E+03 EXCESS= .0000E+00 OUTFLOW= .1307E+03 BASIN STORAGE= .1912E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.68	1071.98	238.64	1.28	5.00	1065.32	240.00	1.28
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1256E+03 EXCESS= .0000E+00 OUTFLOW= .1257E+03 BASIN STORAGE= .1826E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	4.71	1047.94	239.99	1.26	5.00	1047.86	240.00	1.26
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1233E+03 EXCESS= .0000E+00 OUTFLOW= .1233E+03 BASIN STORAGE= .1366E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	5.00	648.35	240.00	.78	5.00	648.35	240.00	.78
CONTINUITY SUMMARY (AC-FT) - INFLOW= .7660E+02 EXCESS= .0000E+00 OUTFLOW= .7662E+02 BASIN STORAGE= .1312E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	5.00	407.90	240.00	.51	5.00	407.90	240.00	.51
CONTINUITY SUMMARY (AC-FT) - INFLOW= .4976E+02 EXCESS= .0000E+00 OUTFLOW= .4978E+02 BASIN STORAGE= .1720E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	5.00	1466.07	240.00	1.51	5.00	1466.07	240.00	1.51
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1696E+03 EXCESS= .0000E+00 OUTFLOW= .1697E+03 BASIN STORAGE= .2235E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	5.00	1417.95	240.00	1.46	5.00	1417.95	240.00	1.46
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1639E+03 EXCESS= .0000E+00 OUTFLOW= .1639E+03 BASIN STORAGE= .2230E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	5.00	1390.04	240.00	1.43	5.00	1390.04	240.00	1.43
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1608E+03 EXCESS= .0000E+00 OUTFLOW= .1609E+03 BASIN STORAGE= .2284E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	5.00	1289.48	240.00	1.33	5.00	1289.48	240.00	1.33
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1495E+03 EXCESS= .0000E+00 OUTFLOW= .1495E+03 BASIN STORAGE= .2721E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	5.00	1238.01	240.00	1.28	5.00	1238.01	240.00	1.28
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1436E+03 EXCESS= .0000E+00 OUTFLOW= .1437E+03 BASIN STORAGE= .2757E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	5.00	1218.88	240.00	1.26	5.00	1218.88	240.00	1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1411E+03 EXCESS= .0000E+00 OUTFLOW= .1412E+03 BASIN STORAGE= .1841E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCFF1A MANE 5.00 749.72 240.00 .78 5.00 749.72 240.00 .78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8752E+02 EXCESS= .0000E+00 OUTFLOW= .8756E+02 BASIN STORAGE= .2568E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCFF1A MANE 5.00 475.16 245.00 .51 5.00 475.16 245.00 .51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5680E+02 EXCESS= .0000E+00 OUTFLOW= .5683E+02 BASIN STORAGE= .2137E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
ROFF1A MANE 2.84 1747.85 241.10 1.48 5.00 1738.74 240.00 1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1995E+03 EXCESS= .0000E+00 OUTFLOW= .1995E+03 BASIN STORAGE= .1164E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF1A MANE 2.86 1682.14 240.27 1.43 5.00 1679.55 240.00 1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1927E+03 EXCESS= .0000E+00 OUTFLOW= .1927E+03 BASIN STORAGE= .9298E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF1A MANE 2.87 1653.80 241.45 1.40 5.00 1641.06 240.00 1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1891E+03 EXCESS= .0000E+00 OUTFLOW= .1891E+03 BASIN STORAGE= .9542E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF1A MANE 2.93 1525.26 240.14 1.30 5.00 1523.84 240.00 1.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1756E+03 EXCESS= .0000E+00 OUTFLOW= .1757E+03 BASIN STORAGE= .1140E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF1A MANE 2.96 1468.42 242.58 1.25 5.00 1462.93 240.00 1.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1688E+03 EXCESS= .0000E+00 OUTFLOW= .1688E+03 BASIN STORAGE= .1154E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF1A MANE 2.97 1444.58 240.59 1.23 5.00 1438.99 240.00 1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1657E+03 EXCESS= .0000E+00 OUTFLOW= .1658E+03 BASIN STORAGE= .9582E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF1A MANE 3.35 882.22 241.43 .76 5.00 878.20 245.00 .76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1025E+03 EXCESS= .0000E+00 OUTFLOW= .1025E+03 BASIN STORAGE= .9777E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
ROFF1A MANE 3.78 552.31 245.62 .49 5.00 549.84 245.00 .49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6625E+02 EXCESS= .0000E+00 OUTFLOW= .6626E+02 BASIN STORAGE= .9268E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCOFF2 MANE 2.62 1923.25 241.00 1.46 5.00 1913.33 240.00 1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2216E+03 EXCESS= .0000E+00 OUTFLOW= .2216E+03 BASIN STORAGE= .8924E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCOFF2 MANE 2.64 1855.03 240.45 1.41 5.00 1847.08 240.00 1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2141E+03 EXCESS= .0000E+00 OUTFLOW= .2141E+03 BASIN STORAGE= .9242E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCOFF2 MANE 2.66 1809.23 241.82 1.38 5.00 1801.45 240.00 1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2100E+03 EXCESS= .0000E+00 OUTFLOW= .2100E+03 BASIN STORAGE= .8809E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCOFF2 MANE 2.71 1681.51 240.91 1.29 5.00 1666.50 240.00 1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1951E+03 EXCESS= .0000E+00 OUTFLOW= .1951E+03 BASIN STORAGE= .1021E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCOFF2 MANE 2.73 1616.25 240.63 1.24 5.00 1606.04 240.00 1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1874E+03 EXCESS= .0000E+00 OUTFLOW= .1874E+03 BASIN STORAGE= .9506E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCOFF2 MANE 2.75 1585.35 241.64 1.21 5.00 1568.03 245.00 1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1840E+03 EXCESS= .0000E+00 OUTFLOW= .1840E+03 BASIN STORAGE= .1075E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCOFF2 MANE 3.11 964.41 246.01 .75 5.00 963.22 245.00 .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1135E+03 EXCESS= .0000E+00 OUTFLOW= .1135E+03 BASIN STORAGE= .8593E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCOFF2 MANE 3.50 602.93 248.65 .48 5.00 597.93 250.00 .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7322E+02 EXCESS= .0000E+00 OUTFLOW= .7323E+02 BASIN STORAGE= .1048E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCOFF3 MANE 1.02 2026.40 241.24 1.45 5.00 2016.06 240.00 1.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2365E+03 EXCESS= .0000E+00 OUTFLOW= .2365E+03 BASIN STORAGE= .2383E-02 PERCENT ERROR= .0

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FOR PLAN = 1	RATIO=	.00							
RCOFF3	MANE	1.04	1955.59	241.54	1.40	5.00	1944.56	240.00	1.40
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2286E+03 EXCESS= .0000E+00 OUTFLOW= .2286E+03 BASIN STORAGE= .2379E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF3	MANE	1.05	1907.78	240.79	1.37	5.00	1898.39	240.00	1.37
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2242E+03 EXCESS= .0000E+00 OUTFLOW= .2242E+03 BASIN STORAGE= .2627E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF3	MANE	1.08	1766.43	241.89	1.27	5.00	1754.22	240.00	1.27
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2082E+03 EXCESS= .0000E+00 OUTFLOW= .2082E+03 BASIN STORAGE= .2603E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF3	MANE	1.10	1704.28	241.11	1.22	5.00	1689.48	240.00	1.22
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2000E+03 EXCESS= .0000E+00 OUTFLOW= .2000E+03 BASIN STORAGE= .2490E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF3	MANE	1.11	1663.28	241.29	1.20	5.00	1649.88	245.00	1.20
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1963E+03 EXCESS= .0000E+00 OUTFLOW= .1963E+03 BASIN STORAGE= .2629E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF3	MANE	1.35	1010.25	245.63	.74	5.00	1005.78	245.00	.74
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1210E+03 EXCESS= .0000E+00 OUTFLOW= .1210E+03 BASIN STORAGE= .2489E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF3	MANE	1.64	622.44	250.58	.48	5.00	622.24	250.00	.48
CONTINUITY SUMMARY (AC-FT) - INFLOW= .7790E+02 EXCESS= .0000E+00 OUTFLOW= .7791E+02 BASIN STORAGE= .2625E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF2	MANE	.83	2075.73	241.15	1.43	5.00	2066.35	240.00	1.43
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2461E+03 EXCESS= .0000E+00 OUTFLOW= .2461E+03 BASIN STORAGE= .1962E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF2	MANE	.84	2002.83	241.29	1.38	5.00	1991.64	240.00	1.38
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2378E+03 EXCESS= .0000E+00 OUTFLOW= .2378E+03 BASIN STORAGE= .1961E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF2	MANE	.85	1956.45	241.06	1.36	5.00	1945.48	240.00	1.36
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2332E+03 EXCESS= .0000E+00 OUTFLOW= .2332E+03 BASIN STORAGE= .2102E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF2	MANE	.88	1809.49	240.90	1.26	5.00	1796.25	240.00	1.26
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2165E+03 EXCESS= .0000E+00 OUTFLOW= .2165E+03 BASIN STORAGE= .1961E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF2	MANE	.89	1742.49	241.00	1.21	5.00	1727.65	240.00	1.21
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2080E+03 EXCESS= .0000E+00 OUTFLOW= .2080E+03 BASIN STORAGE= .2172E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF2	MANE	.90	1699.18	241.70	1.19	5.00	1692.04	245.00	1.19
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2041E+03 EXCESS= .0000E+00 OUTFLOW= .2041E+03 BASIN STORAGE= .2090E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF2	MANE	1.10	1028.22	246.77	.73	5.00	1023.84	245.00	.73
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1255E+03 EXCESS= .0000E+00 OUTFLOW= .1255E+03 BASIN STORAGE= .2126E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCOFF2	MANE	1.33	633.63	250.27	.47	5.00	632.35	250.00	.47
CONTINUITY SUMMARY (AC-FT) - INFLOW= .8063E+02 EXCESS= .0000E+00 OUTFLOW= .8063E+02 BASIN STORAGE= .2197E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	.93	2322.69	240.67	1.39	5.00	2313.98	240.00	1.39
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2741E+03 EXCESS= .0000E+00 OUTFLOW= .2741E+03 BASIN STORAGE= .2535E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	.94	2236.73	241.42	1.34	5.00	2228.89	240.00	1.34
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2648E+03 EXCESS= .0000E+00 OUTFLOW= .2648E+03 BASIN STORAGE= .2376E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	.95	2189.09	240.81	1.32	5.00	2178.67	240.00	1.32
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2596E+03 EXCESS= .0000E+00 OUTFLOW= .2596E+03 BASIN STORAGE= .2559E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	.98	2020.58	240.78	1.22	5.00	2008.60	240.00	1.22
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2408E+03 EXCESS= .0000E+00 OUTFLOW= .2408E+03 BASIN STORAGE= .2389E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCFF1A	MANE	.99	1941.94	241.61	1.17	5.00	1929.08	240.00	1.17

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CONTINUITY SUMMARY (AC-FT) - INFLOW= .2313E+03 EXCESS= .0000E+00 OUTFLOW= .2313E+03 BASIN STORAGE= .2500E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCFF1A MANE 1.00 1896.22 241.10 1.15 5.00 1879.70 240.00 1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2268E+03 EXCESS= .0000E+00 OUTFLOW= .2268E+03 BASIN STORAGE= .2486E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCFF1A MANE 1.23 1127.73 245.75 .70 5.00 1122.77 245.00 .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1387E+03 EXCESS= .0000E+00 OUTFLOW= .1387E+03 BASIN STORAGE= .2382E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCFF1A MANE 1.51 688.42 251.49 .45 5.00 684.04 250.00 .45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8862E+02 EXCESS= .0000E+00 OUTFLOW= .8863E+02 BASIN STORAGE= .2398E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RNW2-C MANE 4.52 334.88 230.47 1.42 5.00 332.55 230.00 1.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2987E+02 EXCESS= .0000E+00 OUTFLOW= .2987E+02 BASIN STORAGE= .1417E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RNW2-C MANE 4.56 322.08 232.41 1.37 5.00 317.74 230.00 1.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2882E+02 EXCESS= .0000E+00 OUTFLOW= .2882E+02 BASIN STORAGE= .9642E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RNW2-C MANE 4.58 315.84 233.41 1.35 5.00 314.74 230.00 1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2835E+02 EXCESS= .0000E+00 OUTFLOW= .2835E+02 BASIN STORAGE= .1253E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RNW2-C MANE 4.66 294.45 232.94 1.25 5.00 290.67 230.00 1.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2631E+02 EXCESS= .0000E+00 OUTFLOW= .2631E+02 BASIN STORAGE= .1309E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RNW2-C MANE 4.70 285.05 230.42 1.21 5.00 282.99 230.00 1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2540E+02 EXCESS= .0000E+00 OUTFLOW= .2540E+02 BASIN STORAGE= .1320E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RNW2-C MANE 4.72 279.02 231.52 1.18 5.00 273.86 230.00 1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2485E+02 EXCESS= .0000E+00 OUTFLOW= .2486E+02 BASIN STORAGE= .1064E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RNW2-C MANE 5.00 175.14 235.00 .74 5.00 175.14 235.00 .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1557E+02 EXCESS= .0000E+00 OUTFLOW= .1558E+02 BASIN STORAGE= .1056E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RNW2-C MANE 4.00 111.88 236.00 .48 5.00 111.72 235.00 .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1019E+02 EXCESS= .0000E+00 OUTFLOW= .1019E+02 BASIN STORAGE= .1168E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW5- MANE .80 2779.60 240.82 1.38 5.00 2775.91 240.00 1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3217E+03 EXCESS= .0000E+00 OUTFLOW= .3217E+03 BASIN STORAGE= .2113E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW5- MANE .81 2674.96 240.41 1.33 5.00 2670.41 240.00 1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3106E+03 EXCESS= .0000E+00 OUTFLOW= .3106E+03 BASIN STORAGE= .2164E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW5- MANE .82 2619.14 240.88 1.31 5.00 2614.39 240.00 1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3047E+03 EXCESS= .0000E+00 OUTFLOW= .3047E+03 BASIN STORAGE= .2160E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW5- MANE .85 2417.85 241.05 1.21 5.00 2410.96 240.00 1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2825E+03 EXCESS= .0000E+00 OUTFLOW= .2825E+03 BASIN STORAGE= .2135E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW5- MANE .86 2324.62 240.53 1.17 5.00 2316.66 240.00 1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2716E+03 EXCESS= .0000E+00 OUTFLOW= .2716E+03 BASIN STORAGE= .2117E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW5- MANE .87 2267.01 241.25 1.14 5.00 2257.97 240.00 1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2662E+03 EXCESS= .0000E+00 OUTFLOW= .2662E+03 BASIN STORAGE= .2130E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW5- MANE 1.07 1340.05 246.27 .70 5.00 1337.06 245.00 .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1630E+03 EXCESS= .0000E+00 OUTFLOW= .1630E+03 BASIN STORAGE= .2342E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCNW5- MANE 1.31 808.49 250.41 .45 5.00 807.05 250.00 .45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1043E+03 EXCESS= .0000E+00 OUTFLOW= .1043E+03 BASIN STORAGE= .2418E-02 PERCENT ERROR= .0

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FOR PLAN = 1	RATIO=	.00							
RNW9-C	MANE	5.00	302.38	230.00	1.74	5.00	302.38	230.00	1.74
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2521E+02 EXCESS= .0000E+00 OUTFLOW= .2522E+02 BASIN STORAGE= .1582E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RNW9-C	MANE	5.00	293.84	230.00	1.69	5.00	293.84	230.00	1.69
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2446E+02 EXCESS= .0000E+00 OUTFLOW= .2447E+02 BASIN STORAGE= .1556E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RNW9-C	MANE	5.00	289.57	230.00	1.66	5.00	289.57	230.00	1.66
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2408E+02 EXCESS= .0000E+00 OUTFLOW= .2409E+02 BASIN STORAGE= .1543E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RNW9-C	MANE	5.00	272.54	230.00	1.56	5.00	272.54	230.00	1.56
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2258E+02 EXCESS= .0000E+00 OUTFLOW= .2259E+02 BASIN STORAGE= .1490E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RNW9-C	MANE	5.00	264.04	230.00	1.51	5.00	264.04	230.00	1.51
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2184E+02 EXCESS= .0000E+00 OUTFLOW= .2184E+02 BASIN STORAGE= .1463E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RNW9-C	MANE	5.00	259.79	230.00	1.48	5.00	259.79	230.00	1.48
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2147E+02 EXCESS= .0000E+00 OUTFLOW= .2147E+02 BASIN STORAGE= .1449E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RNW9-C	MANE	5.00	175.97	230.00	.99	5.00	175.97	230.00	.99
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1429E+02 EXCESS= .0000E+00 OUTFLOW= .1429E+02 BASIN STORAGE= .1120E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RNW9-C	MANE	5.00	123.30	230.00	.69	5.00	123.30	230.00	.69
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9955E+01 EXCESS= .0000E+00 OUTFLOW= .9959E+01 BASIN STORAGE= .1492E-02 PERCENT ERROR= -.1									
FOR PLAN = 1	RATIO=	.00							
RCNW11	MANE	.73	3145.61	239.73	1.39	5.00	3145.29	240.00	1.39
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3648E+03 EXCESS= .0000E+00 OUTFLOW= .3648E+03 BASIN STORAGE= .2230E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCNW11	MANE	.74	3028.58	240.38	1.35	5.00	3028.15	240.00	1.35
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3523E+03 EXCESS= .0000E+00 OUTFLOW= .3523E+03 BASIN STORAGE= .2237E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCNW11	MANE	.75	2967.80	240.10	1.32	5.00	2967.42	240.00	1.32
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3458E+03 EXCESS= .0000E+00 OUTFLOW= .3458E+03 BASIN STORAGE= .2132E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCNW11	MANE	.77	2742.09	240.81	1.23	5.00	2741.38	240.00	1.23
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3209E+03 EXCESS= .0000E+00 OUTFLOW= .3209E+03 BASIN STORAGE= .2184E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCNW11	MANE	.79	2637.51	240.66	1.18	5.00	2634.58	240.00	1.18
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3085E+03 EXCESS= .0000E+00 OUTFLOW= .3085E+03 BASIN STORAGE= .2108E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCNW11	MANE	.79	2573.70	240.65	1.16	5.00	2570.50	240.00	1.16
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3025E+03 EXCESS= .0000E+00 OUTFLOW= .3025E+03 BASIN STORAGE= .2215E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCNW11	MANE	.98	1512.22	245.61	.71	5.00	1511.87	245.00	.71
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1863E+03 EXCESS= .0000E+00 OUTFLOW= .1863E+03 BASIN STORAGE= .2233E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCNW11	MANE	1.20	911.11	246.90	.46	5.00	909.14	250.00	.46
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1199E+03 EXCESS= .0000E+00 OUTFLOW= .1199E+03 BASIN STORAGE= .2078E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCNW17	MANE	.73	3472.96	236.10	1.41	5.00	3465.70	240.00	1.41
CONTINUITY SUMMARY (AC-FT) - INFLOW= .4016E+03 EXCESS= .0000E+00 OUTFLOW= .4016E+03 BASIN STORAGE= .2317E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCNW17	MANE	.74	3339.80	239.75	1.36	5.00	3338.63	240.00	1.36
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3879E+03 EXCESS= .0000E+00 OUTFLOW= .3879E+03 BASIN STORAGE= .2274E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCNW17	MANE	.75	3275.79	236.40	1.34	5.00	3273.45	240.00	1.34
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3808E+03 EXCESS= .0000E+00 OUTFLOW= .3808E+03 BASIN STORAGE= .2272E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RCNW17	MANE	.77	3028.15	239.98	1.24	5.00	3028.09	240.00	1.24

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CONTINUITY SUMMARY (AC-FT) - INFLOW= .3537E+03 EXCESS= .0000E+00 OUTFLOW= .3537E+03 BASIN STORAGE= .2313E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW17	MANE	.79	2910.14	240.61	1.19	5.00	2909.88	240.00	1.20		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3402E+03 EXCESS= .0000E+00 OUTFLOW= .3402E+03 BASIN STORAGE= .2223E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW17	MANE	.79	2841.72	240.53	1.17	5.00	2841.01	240.00	1.17		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3336E+03 EXCESS= .0000E+00 OUTFLOW= .3336E+03 BASIN STORAGE= .2272E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW17	MANE	.98	1672.50	241.60	.73	5.00	1667.68	245.00	.73		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2068E+03 EXCESS= .0000E+00 OUTFLOW= .2068E+03 BASIN STORAGE= .2394E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW17	MANE	1.20	1009.80	246.26	.47	5.00	1003.83	250.00	.47		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1340E+03 EXCESS= .0000E+00 OUTFLOW= .1340E+03 BASIN STORAGE= .2472E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW23	MANE	.96	3762.38	236.30	1.42	5.00	3736.55	240.00	1.42		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .4340E+03 EXCESS= .0000E+00 OUTFLOW= .4340E+03 BASIN STORAGE= .2966E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW23	MANE	.97	3621.34	236.08	1.38	5.00	3600.73	240.00	1.38		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .4194E+03 EXCESS= .0000E+00 OUTFLOW= .4194E+03 BASIN STORAGE= .3292E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW23	MANE	.98	3551.70	235.95	1.35	5.00	3531.26	240.00	1.35		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .4117E+03 EXCESS= .0000E+00 OUTFLOW= .4117E+03 BASIN STORAGE= .3038E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW23	MANE	1.01	3274.40	236.76	1.26	5.00	3268.57	240.00	1.26		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3827E+03 EXCESS= .0000E+00 OUTFLOW= .3827E+03 BASIN STORAGE= .3271E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW23	MANE	1.03	3142.33	239.50	1.21	5.00	3140.91	240.00	1.21		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3682E+03 EXCESS= .0000E+00 OUTFLOW= .3682E+03 BASIN STORAGE= .2994E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW23	MANE	1.04	3069.75	239.68	1.18	5.00	3068.78	240.00	1.19		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3611E+03 EXCESS= .0000E+00 OUTFLOW= .3611E+03 BASIN STORAGE= .3026E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW23	MANE	1.28	1812.47	242.07	.74	5.00	1800.25	245.00	.74		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2249E+03 EXCESS= .0000E+00 OUTFLOW= .2249E+03 BASIN STORAGE= .2932E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RCNW23	MANE	1.57	1093.70	245.98	.48	5.00	1088.96	245.00	.48		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1466E+03 EXCESS= .0000E+00 OUTFLOW= .1466E+03 BASIN STORAGE= .3346E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RC213A	MANE	2.50	23498.96	305.01	1.75	5.00	23498.43	305.00	1.75		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3639E+04 EXCESS= .0000E+00 OUTFLOW= .3639E+04 BASIN STORAGE= .1975E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RC213A	MANE	2.52	22709.79	305.09	1.69	5.00	22705.68	305.00	1.69		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3514E+04 EXCESS= .0000E+00 OUTFLOW= .3514E+04 BASIN STORAGE= .1722E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RC213A	MANE	2.53	22260.09	303.88	1.66	5.00	22259.10	305.00	1.66		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3451E+04 EXCESS= .0000E+00 OUTFLOW= .3451E+04 BASIN STORAGE= .1626E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RC213A	MANE	2.58	20712.76	304.24	1.54	5.00	20708.34	305.00	1.54		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3205E+04 EXCESS= .0000E+00 OUTFLOW= .3205E+04 BASIN STORAGE= .1592E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RC213A	MANE	2.60	19951.13	304.52	1.48	5.00	19945.90	305.00	1.48		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3083E+04 EXCESS= .0000E+00 OUTFLOW= .3083E+04 BASIN STORAGE= .1735E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RC213A	MANE	2.62	19581.13	306.00	1.45	5.00	19553.11	305.00	1.45		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3023E+04 EXCESS= .0000E+00 OUTFLOW= .3023E+04 BASIN STORAGE= .1604E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											
RC213A	MANE	2.94	12223.62	305.82	.90	5.00	12195.37	305.00	.90		
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1879E+04 EXCESS= .0000E+00 OUTFLOW= .1879E+04 BASIN STORAGE= .1831E-02 PERCENT ERROR= .0											
FOR PLAN = 1 RATIO= .00											

RC213A	MANE	3.28	7937.77	308.12	.59	Ultimate3.0UT 5.00 7925.33	310.00	.59
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1222E+04 EXCESS= .0000E+00 OUTFLOW= .1222E+04 BASIN STORAGE= .1772E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.52	23603.49	306.23	1.74	5.00	23540.46	305.00 1.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3676E+04 EXCESS= .0000E+00 OUTFLOW= .3676E+04 BASIN STORAGE= .9370E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.53	22788.35	305.81	1.68	5.00	22748.28	305.00 1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3551E+04 EXCESS= .0000E+00 OUTFLOW= .3551E+04 BASIN STORAGE= .9372E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.54	22338.35	305.79	1.65	5.00	22299.61	305.00 1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3486E+04 EXCESS= .0000E+00 OUTFLOW= .3486E+04 BASIN STORAGE= .1117E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.56	20809.33	306.66	1.54	5.00	20737.02	305.00 1.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3237E+04 EXCESS= .0000E+00 OUTFLOW= .3237E+04 BASIN STORAGE= .1001E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.58	20041.79	306.39	1.48	5.00	19964.37	305.00 1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3115E+04 EXCESS= .0000E+00 OUTFLOW= .3115E+04 BASIN STORAGE= .9195E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.59	19645.11	306.33	1.45	5.00	19573.11	305.00 1.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3053E+04 EXCESS= .0000E+00 OUTFLOW= .3053E+04 BASIN STORAGE= .1127E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.79	12271.75	307.16	.90	5.00	12247.12	310.00 .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1898E+04 EXCESS= .0000E+00 OUTFLOW= .1898E+04 BASIN STORAGE= .9310E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.99	7958.11	312.29	.59	5.00	7941.93	310.00 .59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1234E+04 EXCESS= .0000E+00 OUTFLOW= .1234E+04 BASIN STORAGE= .1155E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.38	23612.79	306.20	1.74	5.00	23532.01	305.00 1.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3704E+04 EXCESS= .0000E+00 OUTFLOW= .3704E+04 BASIN STORAGE= .8615E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.39	22813.65	307.44	1.68	5.00	22734.15	310.00 1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3578E+04 EXCESS= .0000E+00 OUTFLOW= .3578E+04 BASIN STORAGE= .1006E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.40	22367.10	306.18	1.65	5.00	22293.13	310.00 1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3512E+04 EXCESS= .0000E+00 OUTFLOW= .3512E+04 BASIN STORAGE= .8683E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.42	20805.79	307.52	1.53	5.00	20750.07	310.00 1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3261E+04 EXCESS= .0000E+00 OUTFLOW= .3261E+04 BASIN STORAGE= .1040E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.44	20037.29	307.58	1.47	5.00	19995.20	310.00 1.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3138E+04 EXCESS= .0000E+00 OUTFLOW= .3138E+04 BASIN STORAGE= .8461E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.44	19643.38	307.66	1.45	5.00	19597.95	310.00 1.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3076E+04 EXCESS= .0000E+00 OUTFLOW= .3076E+04 BASIN STORAGE= .9898E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.62	12278.84	311.83	.90	5.00	12266.45	310.00 .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1911E+04 EXCESS= .0000E+00 OUTFLOW= .1911E+04 BASIN STORAGE= .8691E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.81	7964.64	313.08	.58	5.00	7934.32	315.00 .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1242E+04 EXCESS= .0000E+00 OUTFLOW= .1242E+04 BASIN STORAGE= .9359E-03 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.48	23507.08	322.53	1.71	5.00	23476.93	325.00 1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3844E+04 EXCESS= .0000E+00 OUTFLOW= .3844E+04 BASIN STORAGE= .1049E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.49	22708.73	322.34	1.65	5.00	22686.89	325.00 1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3712E+04 EXCESS= .0000E+00 OUTFLOW= .3712E+04 BASIN STORAGE= .1010E-02 PERCENT ERROR= .0

FOR PLAN = 1	RATIO=	.00						
RC213A	MANE	1.50	22267.34	322.44	1.62	5.00	22250.27	325.00 1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3644E+04 EXCESS= .0000E+00 OUTFLOW= .3644E+04 BASIN STORAGE= .9119E-03 PERCENT ERROR= .0

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FOR PLAN = 1	RATIO=	.00							
RC213A	MANE	1.53	20709.48	323.71	1.50	5.00	20704.71	325.00	1.50
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3383E+04 EXCESS= .0000E+00 OUTFLOW= .3383E+04 BASIN STORAGE= .9346E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213A	MANE	1.54	19946.40	323.65	1.45	5.00	19944.49	325.00	1.45
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3254E+04 EXCESS= .0000E+00 OUTFLOW= .3254E+04 BASIN STORAGE= .1034E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213A	MANE	1.55	19552.94	323.72	1.42	5.00	19551.09	325.00	1.42
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3190E+04 EXCESS= .0000E+00 OUTFLOW= .3190E+04 BASIN STORAGE= .9489E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213A	MANE	1.74	12227.48	327.42	.88	5.00	12195.80	325.00	.88
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1978E+04 EXCESS= .0000E+00 OUTFLOW= .1978E+04 BASIN STORAGE= .9191E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213A	MANE	1.94	7924.22	328.20	.57	5.00	7914.08	330.00	.57
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1283E+04 EXCESS= .0000E+00 OUTFLOW= .1283E+04 BASIN STORAGE= .9120E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.48	23479.75	325.50	1.71	5.00	23471.62	325.00	1.71
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3875E+04 EXCESS= .0000E+00 OUTFLOW= .3875E+04 BASIN STORAGE= .9421E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.49	22683.61	325.31	1.65	5.00	22679.18	325.00	1.65
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3743E+04 EXCESS= .0000E+00 OUTFLOW= .3743E+04 BASIN STORAGE= .9124E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.50	22246.64	325.40	1.62	5.00	22240.11	325.00	1.62
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3675E+04 EXCESS= .0000E+00 OUTFLOW= .3675E+04 BASIN STORAGE= .1052E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.53	20705.82	326.73	1.51	5.00	20687.46	325.00	1.51
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3412E+04 EXCESS= .0000E+00 OUTFLOW= .3412E+04 BASIN STORAGE= .1073E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.54	19948.74	326.71	1.45	5.00	19922.66	325.00	1.45
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3282E+04 EXCESS= .0000E+00 OUTFLOW= .3283E+04 BASIN STORAGE= .9321E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.55	19552.25	326.79	1.42	5.00	19530.24	325.00	1.42
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3218E+04 EXCESS= .0000E+00 OUTFLOW= .3218E+04 BASIN STORAGE= .1082E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.74	12210.76	327.61	.88	5.00	12180.95	330.00	.88
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1998E+04 EXCESS= .0000E+00 OUTFLOW= .1998E+04 BASIN STORAGE= .9520E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.94	7917.02	332.02	.57	5.00	7903.79	330.00	.57
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1298E+04 EXCESS= .0000E+00 OUTFLOW= .1298E+04 BASIN STORAGE= .1043E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.61	23475.10	326.27	1.72	5.00	23425.66	325.00	1.72
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3907E+04 EXCESS= .0000E+00 OUTFLOW= .3907E+04 BASIN STORAGE= .1176E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.62	22664.00	325.84	1.66	5.00	22634.44	325.00	1.66
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3774E+04 EXCESS= .0000E+00 OUTFLOW= .3774E+04 BASIN STORAGE= .1214E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.63	22223.94	327.43	1.63	5.00	22193.65	325.00	1.63
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3705E+04 EXCESS= .0000E+00 OUTFLOW= .3705E+04 BASIN STORAGE= .1160E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.66	20700.71	326.77	1.51	5.00	20631.43	325.00	1.51
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3440E+04 EXCESS= .0000E+00 OUTFLOW= .3440E+04 BASIN STORAGE= .1047E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.67	19932.44	326.52	1.45	5.00	19863.85	325.00	1.45
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3311E+04 EXCESS= .0000E+00 OUTFLOW= .3311E+04 BASIN STORAGE= .9887E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.68	19536.82	326.46	1.42	5.00	19473.35	325.00	1.42
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3245E+04 EXCESS= .0000E+00 OUTFLOW= .3245E+04 BASIN STORAGE= .1238E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC13A-	MANE	1.89	12180.61	329.49	.89	5.00	12179.89	330.00	.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2018E+04 EXCESS= .0000E+00 OUTFLOW= .2018E+04 BASIN STORAGE= .1089E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213A- MANE 2.11 7908.30 333.34 .58 5.00 7881.10 335.00 .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1313E+04 EXCESS= .0000E+00 OUTFLOW= .1313E+04 BASIN STORAGE= .1036E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .60 23440.04 325.87 1.72 5.00 23410.42 325.00 1.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3936E+04 EXCESS= .0000E+00 OUTFLOW= .3936E+04 BASIN STORAGE= .4097E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .61 22651.67 325.64 1.66 5.00 22620.33 325.00 1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3802E+04 EXCESS= .0000E+00 OUTFLOW= .3802E+04 BASIN STORAGE= .3946E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .61 22208.25 326.02 1.63 5.00 22177.28 325.00 1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3733E+04 EXCESS= .0000E+00 OUTFLOW= .3733E+04 BASIN STORAGE= .3962E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .62 20648.76 325.80 1.51 5.00 20612.80 325.00 1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3467E+04 EXCESS= .0000E+00 OUTFLOW= .3467E+04 BASIN STORAGE= .3740E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .63 19881.67 325.75 1.46 5.00 19844.13 325.00 1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3336E+04 EXCESS= .0000E+00 OUTFLOW= .3336E+04 BASIN STORAGE= .4111E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .63 19492.00 326.11 1.43 5.00 19453.76 325.00 1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3271E+04 EXCESS= .0000E+00 OUTFLOW= .3271E+04 BASIN STORAGE= .3652E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .71 12184.34 330.46 .89 5.00 12176.28 330.00 .89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2037E+04 EXCESS= .0000E+00 OUTFLOW= .2037E+04 BASIN STORAGE= .4105E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .79 7887.30 335.18 .58 5.00 7887.30 335.00 .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1327E+04 EXCESS= .0000E+00 OUTFLOW= .1327E+04 BASIN STORAGE= .4043E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213A MANE .95 24544.12 325.40 1.68 5.00 24528.79 325.00 1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4415E+04 EXCESS= .0000E+00 OUTFLOW= .4415E+04 BASIN STORAGE= .6280E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213A MANE .96 23735.09 326.02 1.63 5.00 23710.57 325.00 1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4265E+04 EXCESS= .0000E+00 OUTFLOW= .4265E+04 BASIN STORAGE= .5991E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213A MANE .97 23271.34 325.67 1.60 5.00 23248.28 325.00 1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4188E+04 EXCESS= .0000E+00 OUTFLOW= .4188E+04 BASIN STORAGE= .5976E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213A MANE .99 21649.86 326.28 1.48 5.00 21619.38 325.00 1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3890E+04 EXCESS= .0000E+00 OUTFLOW= .3890E+04 BASIN STORAGE= .6464E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213A MANE 1.01 20855.08 326.18 1.43 5.00 20819.61 325.00 1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3744E+04 EXCESS= .0000E+00 OUTFLOW= .3744E+04 BASIN STORAGE= .6274E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213A MANE 1.02 20441.48 326.71 1.40 5.00 20412.95 325.00 1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3670E+04 EXCESS= .0000E+00 OUTFLOW= .3670E+04 BASIN STORAGE= .6753E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213A MANE 1.23 12791.35 330.25 .87 5.00 12787.79 330.00 .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2287E+04 EXCESS= .0000E+00 OUTFLOW= .2287E+04 BASIN STORAGE= .6852E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213A MANE 1.46 8312.09 332.66 .57 5.00 8297.11 335.00 .57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1491E+04 EXCESS= .0000E+00 OUTFLOW= .1491E+04 BASIN STORAGE= .5926E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 4.11 385.25 222.05 2.34 5.00 381.14 225.00 2.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3258E+02 EXCESS= .0000E+00 OUTFLOW= .3259E+02 BASIN STORAGE= .1063E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 4.14 382.94 223.33 2.29 5.00 374.39 225.00 2.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3181E+02 EXCESS= .0000E+00 OUTFLOW= .3182E+02 BASIN STORAGE= .1273E-02 PERCENT ERROR= .0

Ultimate3.OUT

FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	4.15	379.44	223.98	2.26	5.00	373.57	225.00	2.26
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3142E+02 EXCESS= .0000E+00 OUTFLOW= .3143E+02 BASIN STORAGE= .1082E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	4.20	356.05	222.49	2.14	5.00	350.53	225.00	2.14
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2981E+02 EXCESS= .0000E+00 OUTFLOW= .2982E+02 BASIN STORAGE= .9519E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	4.22	352.57	223.89	2.09	5.00	346.80	225.00	2.09
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2906E+02 EXCESS= .0000E+00 OUTFLOW= .2906E+02 BASIN STORAGE= .1083E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	4.24	346.67	224.60	2.06	5.00	344.45	225.00	2.06
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2866E+02 EXCESS= .0000E+00 OUTFLOW= .2867E+02 BASIN STORAGE= .9433E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	4.57	257.00	223.69	1.50	5.00	253.21	225.00	1.50
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2086E+02 EXCESS= .0000E+00 OUTFLOW= .2087E+02 BASIN STORAGE= .1050E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	4.75	197.08	223.25	1.14	5.00	194.91	225.00	1.14
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1587E+02 EXCESS= .0000E+00 OUTFLOW= .1588E+02 BASIN STORAGE= .1051E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.58	753.14	225.30	2.33	5.00	752.13	225.00	2.33
CONTINUITY SUMMARY (AC-FT) - INFLOW= .6503E+02 EXCESS= .0000E+00 OUTFLOW= .6504E+02 BASIN STORAGE= .9567E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.59	740.18	222.64	2.28	5.00	737.64	225.00	2.28
CONTINUITY SUMMARY (AC-FT) - INFLOW= .6349E+02 EXCESS= .0000E+00 OUTFLOW= .6350E+02 BASIN STORAGE= .1138E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.60	738.48	223.24	2.25	5.00	734.25	225.00	2.25
CONTINUITY SUMMARY (AC-FT) - INFLOW= .6272E+02 EXCESS= .0000E+00 OUTFLOW= .6273E+02 BASIN STORAGE= .1001E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.65	693.68	222.71	2.13	5.00	691.24	225.00	2.14
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5954E+02 EXCESS= .0000E+00 OUTFLOW= .5955E+02 BASIN STORAGE= .1109E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.67	689.46	223.74	2.08	5.00	685.19	225.00	2.08
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5802E+02 EXCESS= .0000E+00 OUTFLOW= .5803E+02 BASIN STORAGE= .1322E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.68	676.70	224.62	2.05	5.00	675.26	225.00	2.05
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5724E+02 EXCESS= .0000E+00 OUTFLOW= .5725E+02 BASIN STORAGE= .1081E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.97	496.71	226.32	1.50	5.00	493.71	225.00	1.50
CONTINUITY SUMMARY (AC-FT) - INFLOW= .4170E+02 EXCESS= .0000E+00 OUTFLOW= .4171E+02 BASIN STORAGE= .1051E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	4.24	386.42	224.95	1.14	5.00	386.33	225.00	1.14
CONTINUITY SUMMARY (AC-FT) - INFLOW= .3178E+02 EXCESS= .0000E+00 OUTFLOW= .3179E+02 BASIN STORAGE= .1324E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.27	1089.77	225.52	2.31	5.00	1084.61	225.00	2.31
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9557E+02 EXCESS= .0000E+00 OUTFLOW= .9558E+02 BASIN STORAGE= .1138E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.29	1074.62	226.68	2.26	5.00	1066.75	225.00	2.26
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9333E+02 EXCESS= .0000E+00 OUTFLOW= .9334E+02 BASIN STORAGE= .1260E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.29	1063.56	227.06	2.23	5.00	1054.21	225.00	2.23
CONTINUITY SUMMARY (AC-FT) - INFLOW= .9216E+02 EXCESS= .0000E+00 OUTFLOW= .9217E+02 BASIN STORAGE= .1144E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.34	1008.02	226.94	2.12	5.00	1000.18	225.00	2.11
CONTINUITY SUMMARY (AC-FT) - INFLOW= .8752E+02 EXCESS= .0000E+00 OUTFLOW= .8753E+02 BASIN STORAGE= .1152E-02 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.35	988.22	227.72	2.06	5.00	979.23	225.00	2.06
CONTINUITY SUMMARY (AC-FT) - INFLOW= .8528E+02 EXCESS= .0000E+00 OUTFLOW= .8529E+02 BASIN STORAGE= .9758E-03 PERCENT ERROR= .0									
FOR PLAN = 1	RATIO=	.00							
RC213B	MANE	3.36	970.00	228.52	2.03	5.00	961.45	225.00	2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8410E+02 EXCESS= .0000E+00 OUTFLOW= .8412E+02 BASIN STORAGE= .1221E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 3.63 717.51 228.59 1.48 5.00 708.28 225.00 1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6126E+02 EXCESS= .0000E+00 OUTFLOW= .6127E+02 BASIN STORAGE= .1118E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 3.86 558.27 227.72 1.13 5.00 544.04 225.00 1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4672E+02 EXCESS= .0000E+00 OUTFLOW= .4673E+02 BASIN STORAGE= .1309E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 1.81 1421.15 226.80 2.29 5.00 1398.85 225.00 2.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1260E+03 EXCESS= .0000E+00 OUTFLOW= .1260E+03 BASIN STORAGE= .6918E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 1.82 1382.88 227.82 2.24 5.00 1375.00 225.00 2.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1230E+03 EXCESS= .0000E+00 OUTFLOW= .1230E+03 BASIN STORAGE= .6535E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 1.83 1376.51 226.66 2.21 5.00 1357.26 225.00 2.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1215E+03 EXCESS= .0000E+00 OUTFLOW= .1215E+03 BASIN STORAGE= .6996E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 1.85 1301.06 227.74 2.10 5.00 1289.02 225.00 2.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1154E+03 EXCESS= .0000E+00 OUTFLOW= .1154E+03 BASIN STORAGE= .6618E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 1.86 1279.85 227.14 2.04 5.00 1256.97 225.00 2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1124E+03 EXCESS= .0000E+00 OUTFLOW= .1124E+03 BASIN STORAGE= .6352E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 1.87 1251.52 228.10 2.02 5.00 1238.58 225.00 2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1108E+03 EXCESS= .0000E+00 OUTFLOW= .1108E+03 BASIN STORAGE= .5988E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 2.02 929.47 227.88 1.47 5.00 908.81 230.00 1.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8076E+02 EXCESS= .0000E+00 OUTFLOW= .8076E+02 BASIN STORAGE= .5836E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 2.15 716.48 228.17 1.12 5.00 704.50 230.00 1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6158E+02 EXCESS= .0000E+00 OUTFLOW= .6158E+02 BASIN STORAGE= .6663E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .88 24708.90 325.62 1.70 5.00 24685.60 325.00 1.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4571E+04 EXCESS= .0000E+00 OUTFLOW= .4571E+04 BASIN STORAGE= .6444E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .89 23885.10 325.58 1.64 5.00 23860.85 325.00 1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4417E+04 EXCESS= .0000E+00 OUTFLOW= .4417E+04 BASIN STORAGE= .6254E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .90 23420.90 326.34 1.61 5.00 23396.90 325.00 1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4338E+04 EXCESS= .0000E+00 OUTFLOW= .4338E+04 BASIN STORAGE= .5613E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .93 21789.49 325.72 1.50 5.00 21758.04 325.00 1.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4032E+04 EXCESS= .0000E+00 OUTFLOW= .4032E+04 BASIN STORAGE= .5613E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .94 20994.76 325.94 1.44 5.00 20956.08 325.00 1.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3882E+04 EXCESS= .0000E+00 OUTFLOW= .3882E+04 BASIN STORAGE= .5588E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE .95 20579.12 326.61 1.42 5.00 20543.79 325.00 1.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3807E+04 EXCESS= .0000E+00 OUTFLOW= .3807E+04 BASIN STORAGE= .6507E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RC213B MANE 1.14 12889.52 330.83 .89 5.00 12882.68 330.00 .89

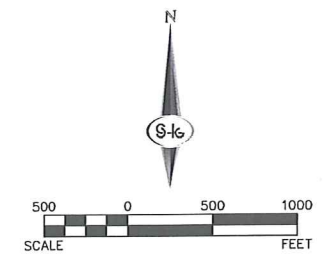
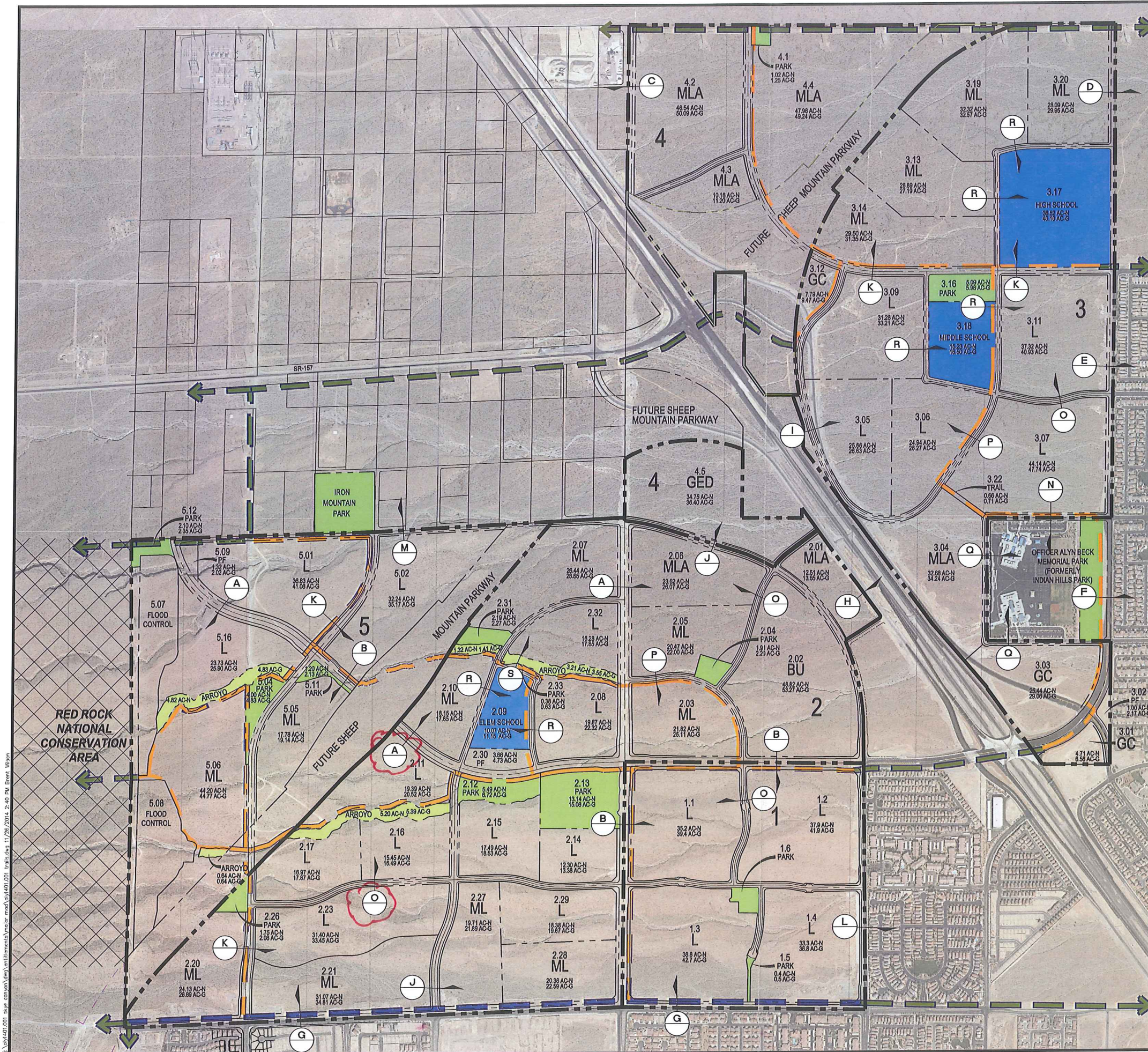
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FOR PLAN = 1 RATIO= .00
RC213B MANE 1.36 8374.14 332.04 .58 5.00 8369.76 335.00 .58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1567E+04 EXCESS= .0000E+00 OUTFLOW= .1567E+04 BASIN STORAGE= .5896E-02 PERCENT ERROR= .0

*** NORMAL END OF HEC-1 ***

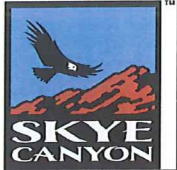
West-East Street Flow Capacities



LEGEND

- PROJECT BOUNDARY
- - - EASEMENT LINE (ESMT)
- EXISTING TRANSMISSION POLE
- ARROYOS
- PARKS
- SCHOOLS
- PROPOSED TRAILS
- PROPOSED EQUESTRIAN TRAIL
- PROPOSED TRAILS BY OTHERS

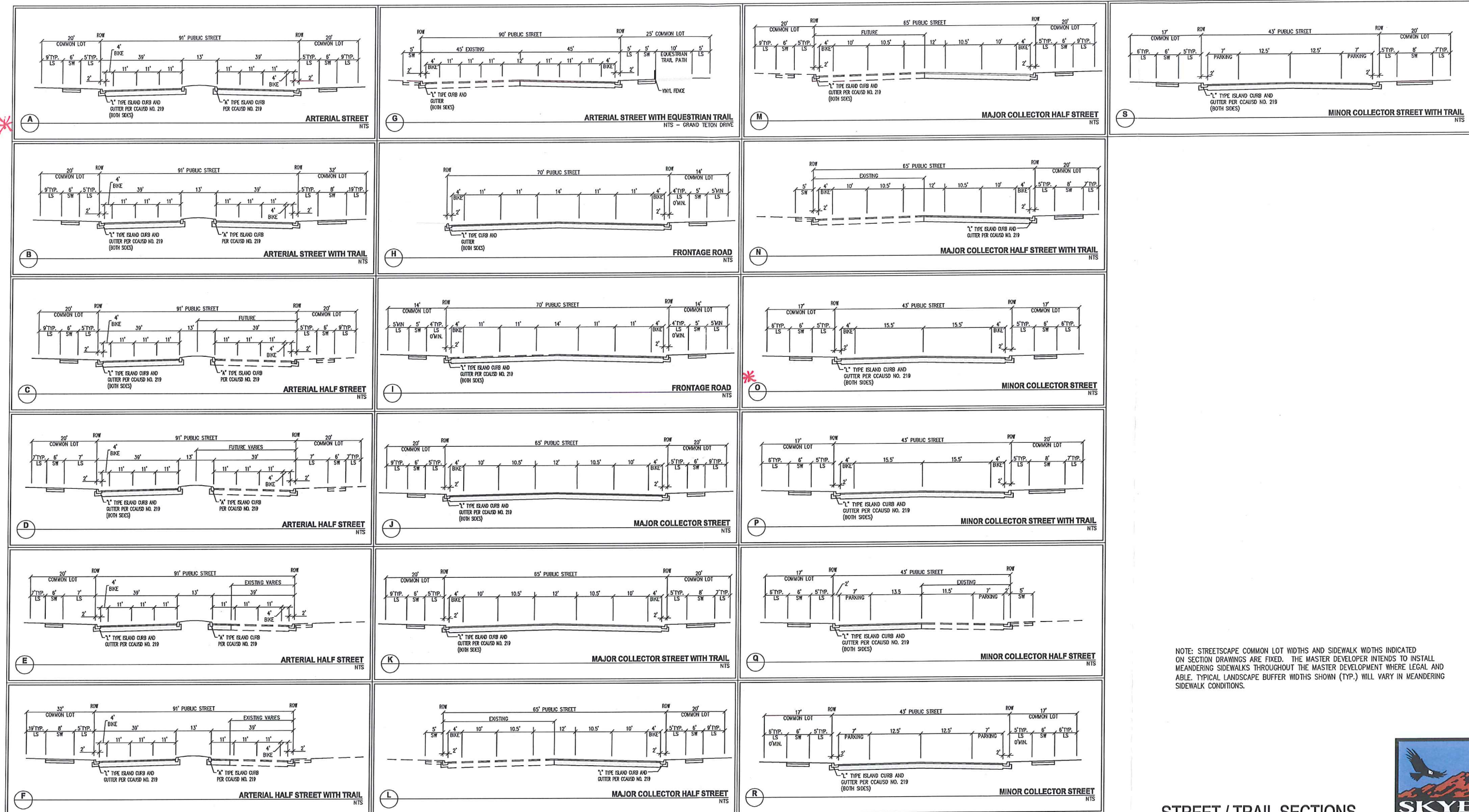
NOTE: TRAIL ALIGNMENTS ARE SHOWN GRAPHICALLY AND MAY NOT REPRESENT ACTUAL FINAL LOCATIONS OF TRAILS.



TRAIL AND PARK EXHIBIT

SLATER HANIFAN GROUP
 CONSULTING ENGINEERS & PLANNERS
 5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89119
 PHONE (702) 284-5300 FAX (702) 284-5399





STREET / TRAIL SECTIONS

TRAIL AND PARK EXHIBIT

S-I-G SLATER
HANIFAN
GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399



Section A Street Capacity Worksheet for Irregular Channel

Project Description	
Worksheet	Skye Canyon Park - 91-ft ROW (Section A)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	3.40 %
Water Surface Elevation	0.50 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.015
Elevation Range	0.00 to 1.41
Discharge	39.34 cfs
Flow Area	6.8 ft ²
Wetted Perimeter	38.06 ft
Top Width	37.00 ft
Actual Depth	0.50 ft
Critical Elevation	0.65 ft
Critical Slope	0.52 %
Velocity	5.82 ft/s
Velocity Head	0.53 ft
Specific Energy	1.03 ft
Froude Number	2.40
Flow Type	Supercritical

Calculation Messages:
Flow is divided.

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00.0	0+02.0	0.013
0+02.0	0+39.0	0.016
0+39.0	0+52.0	0.013
0+52.0	0+89.0	0.016
0+89.0	0+91.0	0.013

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00.0	0.50
0+00.5	0.48
0+00.5	0.00
0+02.0	0.13
0+02.0	0.17
0+39.0	0.91
0+39.5	1.41

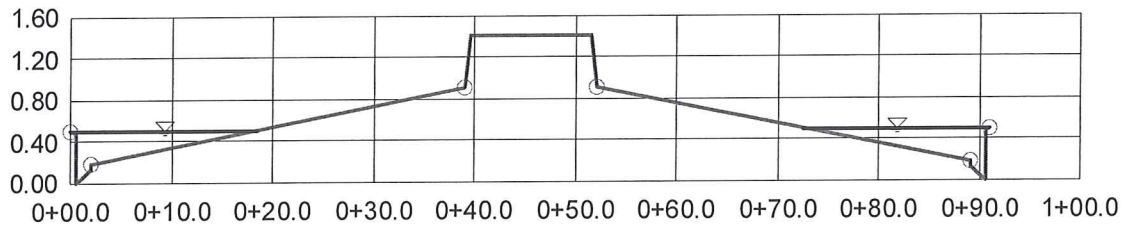
Section A Street Capacity Worksheet for Irregular Channel

Natural Channel Points	
Station (ft)	Elevation (ft)
0+51.5	1.41
0+52.0	0.91
0+89.0	0.17
0+89.0	0.13
0+90.5	0.00
0+90.5	0.48
0+91.0	0.50

Section A Street Capacity Cross Section for Irregular Channel

Project Description	
Worksheet	Skye Canyon Park - 91-ft ROW (Section A)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Section Data	
Mannings Coefficient	0.015
Channel Slope	3.40 %
Water Surface Elevation	0.50 ft
Elevation Range	0.00 to 1.41
Discharge	39.34 cfs



V:10.0
H:1
NTS

Section O Street Capacity Worksheet for Irregular Channel

Project Description	
Worksheet	Eagle Canyon - 43-ft ROW (Section O)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data	
Channel Slope	3.60 %
Water Surface Elevation	0.50 ft

Options	
Current Roughness Method	Improved Lotter's Method
Open Channel Weighting Method	Improved Lotter's Method
Closed Channel Weighting Method	Horton's Method

Results	
Mannings Coefficient	0.015
Elevation Range	0.00 to 0.56
Discharge	40.49 cfs
Flow Area	6.8 ft ²
Wetted Perimeter	38.06 ft
Top Width	37.00 ft
Actual Depth	0.50 ft
Critical Elevation	0.65 ft
Critical Slope	0.50 %
Velocity	5.99 ft/s
Velocity Head	0.56 ft
Specific Energy	1.06 ft
Froude Number	2.47
Flow Type	Supercritical

Calculation Messages:
Flow is divided.

Roughness Segments		
Start Station	End Station	Mannings Coefficient
0+00.0	0+02.0	0.013
0+02.0	0+41.0	0.016
0+41.0	0+43.0	0.013

Natural Channel Points	
Station (ft)	Elevation (ft)
0+00.0	0.50
0+00.5	0.48
0+00.5	0.00
0+02.0	0.13
0+02.0	0.17
0+21.5	0.56
0+41.0	0.17
0+41.0	0.13
0+42.5	0.00

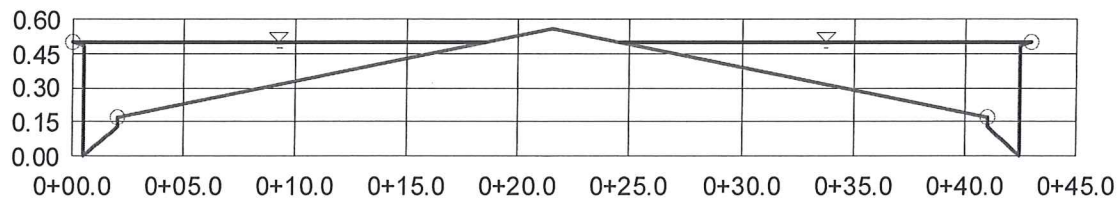
Section O Street Capacity Worksheet for Irregular Channel

Natural Channel Points	
Station (ft)	Elevation (ft)
0+42.5	0.48
0+43.0	0.50

Section O Street Capacity Cross Section for Irregular Channel

Project Description	
Worksheet	Eagle Canyon - 43-ft ROW (Section O)
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Section Data	
Mannings Coefficient	0.015
Channel Slope	3.60 %
Water Surface Elevation	0.50 ft
Elevation Range	0.00 to 0.56
Discharge	40.49 cfs



V:10.0
H:1
NTS

Conceptual Facility Sizing

All Report

Label	Worksheet Type	Discharge (cfs)	Depth (ft)	Channel Slope (%)	Mannings Coefficient	Diameter (in)	Velocity (ft/s)	Flow Type	Headwater Elevation (ft)
P23W	Circular	52.00	3.11	0.50	0.013	37.3	6.84	N/A	
P24W	Circular	73.00	3.53	0.50	0.013	42.4	7.44	N/A	
P25W	Circular	120.00	4.26	0.50	0.013	51.1	8.43	N/A	
P26W	Circular	152.00	4.65	0.50	0.013	55.8	8.94	N/A	
P27W	Circular	209.00	3.75	3.00	0.013	45.0	18.95	N/A	
P28W	Circular	268.00	4.11	3.00	0.013	49.4	20.17	N/A	
P29W	Circular	311.00	4.35	3.00	0.013	52.2	20.93	N/A	
P30W	Circular	342.00	4.51	3.00	0.013	54.1	21.44	N/A	
P35AW	Trapezoidal	128.00	0.66	3.20	0.037		5.24	Supercritical	
P36W	Circular	49.00	3.04	0.50	0.013	36.5	6.74	N/A	
P38W	Circular	339.00	4.49	3.00	0.013	53.9	21.39	N/A	
P39W	Circular	338.00	4.49	3.00	0.013	53.8	21.37	N/A	
P41W	Rectangular	338.00	3.95	0.50	0.013		12.21	Supercritical	
P67W	Trapezoidal	471.00	2.43	0.50	0.015		10.03	Supercritical	
P68W	Trapezoidal	235.00	2.71	0.50	0.037		4.31	Subcritical	
P79W	Circular	47.00	3.00	0.50	0.013	36.0	6.67	N/A	
P80W	Circular	66.00	3.40	0.50	0.013	40.8	7.26	N/A	
P81W	Circular	83.00	3.71	0.50	0.013	44.5	7.68	N/A	

Project Summary Report

Project Description

Worksheet	P23W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data

Mannings Coefficient	0.013
Channel Slope	0.50 %
Discharge	52.00 cfs

Results

Depth	3.11 ft
Diameter	37.3 in
Flow Area	7.6 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	2.33 ft
Percent Full	100.0 %
Critical Slope	0.61 %
Velocity	6.84 ft/s
Velocity Head	0.73 ft
Specific Energy	3.84 ft
Froude Number	0.00
Maximum Discharge	55.94 cfs
Discharge Full	52.00 cfs
Slope Full	0.50 %
Flow Type	N/A

Project Summary Report

Project Description

Worksheet	P24W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data

Mannings Coefficient	0.013
Channel Slope	0.50 %
Discharge	73.00 cfs

Results

Depth	3.53 ft
Diameter	42.4 in
Flow Area	9.8 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	2.67 ft
Percent Full	100.0 %
Critical Slope	0.59 %
Velocity	7.44 ft/s
Velocity Head	0.86 ft
Specific Energy	4.39 ft
Froude Number	0.00
Maximum Discharge	78.53 cfs
Discharge Full	73.00 cfs
Slope Full	0.50 %
Flow Type	N/A

Project Summary Report

Project Description

Worksheet	P25W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data

Mannings Coefficient	0.013
Channel Slope	0.50 %
Discharge	120.00 cfs

Results

Depth	4.26 ft
Diameter	51.1 in
Flow Area	14.2 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	3.27 ft
Percent Full	100.0 %
Critical Slope	0.57 %
Velocity	8.43 ft/s
Velocity Head	1.10 ft
Specific Energy	5.36 ft
Froude Number	0.00
Maximum Discharge	129.08 cfs
Discharge Full	120.00 cfs
Slope Full	0.50 %
Flow Type	N/A

Project Summary Report

Project Description	
Worksheet	P26W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data	
Mannings Coefficient	0.013
Channel Slope	0.50 %
Discharge	152.00 cfs

Results	
Depth	4.65 ft
Diameter	55.8 in
Flow Area	17.0 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	3.59 ft
Percent Full	100.0 %
Critical Slope	0.56 %
Velocity	8.94 ft/s
Velocity Head	1.24 ft
Specific Energy	5.89 ft
Froude Number	0.00
Maximum Discharge	163.51 cfs
Discharge Full	152.00 cfs
Slope Full	0.50 %
Flow Type	N/A

Project Summary Report

Project Description	
Worksheet	P27W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data	
Mannings Coefficient	0.013
Channel Slope	3.00 %
Discharge	209.00 cfs

Results	
Depth	3.75 ft
Diameter	45.0 in
Flow Area	11.0 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	3.68 ft
Percent Full	100.0 %
Critical Slope	2.70 %
Velocity	18.95 ft/s
Velocity Head	5.58 ft
Specific Energy	9.33 ft
Froude Number	0.00
Maximum Discharge	224.82 cfs
Discharge Full	209.00 cfs
Slope Full	3.00 %
Flow Type	N/A

Project Summary Report

Project Description

Worksheet	P28W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data

Mannings Coefficient	0.013
Channel Slope	3.00 %
Discharge	268.00 cfs

Results

Depth	4.11 ft
Diameter	49.4 in
Flow Area	13.3 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	4.05 ft
Percent Full	100.0 %
Critical Slope	2.71 %
Velocity	20.17 ft/s
Velocity Head	6.32 ft
Specific Energy	10.44 ft
Froude Number	0.00
Maximum Discharge	288.29 cfs
Discharge Full	268.00 cfs
Slope Full	3.00 %
Flow Type	N/A

Project Summary Report

Project Description

Worksheet	P29W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data

Mannings Coefficient	0.013
Channel Slope	3.00 %
Discharge	311.00 cfs

Results

Depth	4.35 ft
Diameter	52.2 in
Flow Area	14.9 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	4.28 ft
Percent Full	100.0 %
Critical Slope	2.71 %
Velocity	20.93 ft/s
Velocity Head	6.81 ft
Specific Energy	11.16 ft
Froude Number	0.00
Maximum Discharge	334.54 cfs
Discharge Full	311.00 cfs
Slope Full	3.00 %
Flow Type	N/A

Project Summary Report

Project Description

Worksheet	P30W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data

Mannings Coefficient	0.013
Channel Slope	3.00 %
Discharge	342.00 cfs

Results

Depth	4.51 ft
Diameter	54.1 in
Flow Area	16.0 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	4.44 ft
Percent Full	100.0 %
Critical Slope	2.72 %
Velocity	21.44 ft/s
Velocity Head	7.14 ft
Specific Energy	11.65 ft
Froude Number	0.00
Maximum Discharge	367.89 cfs
Discharge Full	342.00 cfs
Slope Full	3.00 %
Flow Type	N/A

Project Summary Report

Project Description	
Worksheet	P35AW
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data	
Mannings Coefficient	0.037
Channel Slope	3.20 %
Left Side Slope	3.00 H : V
Right Side Slope	3.00 H : V
Bottom Width	35.00 ft
Discharge	128.00 cfs

Results	
Depth	0.66 ft
Flow Area	24.4 ft ²
Wetted Perimeter	39.18 ft
Top Width	38.96 ft
Critical Depth	0.73 ft
Critical Slope	2.28 %
Velocity	5.24 ft/s
Velocity Head	0.43 ft
Specific Energy	1.09 ft
Froude Number	1.17
Flow Type	Supercritical

Project Summary Report

Project Description

Worksheet	P36W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data

Mannings Coefficient	0.013
Channel Slope	0.50 %
Discharge	49.00 cfs

Results

Depth	3.04 ft
Diameter	36.5 in
Flow Area	7.3 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	2.27 ft
Percent Full	100.0 %
Critical Slope	0.61 %
Velocity	6.74 ft/s
Velocity Head	0.71 ft
Specific Energy	3.75 ft
Froude Number	0.00
Maximum Discharge	52.71 cfs
Discharge Full	49.00 cfs
Slope Full	0.50 %
Flow Type	N/A

Project Summary Report

Project Description

Worksheet	P38W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data

Mannings Coefficient	0.013
Channel Slope	3.00 %
Discharge	339.00 cfs

Results

Depth	4.49 ft
Diameter	53.9 in
Flow Area	15.8 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	4.42 ft
Percent Full	100.0 %
Critical Slope	2.72 %
Velocity	21.39 ft/s
Velocity Head	7.11 ft
Specific Energy	11.60 ft
Froude Number	0.00
Maximum Discharge	364.66 cfs
Discharge Full	339.00 cfs
Slope Full	3.00 %
Flow Type	N/A

Project Summary Report

Project Description	
Worksheet	P39W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data	
Mannings Coefficient	0.013
Channel Slope	3.00 %
Discharge	338.00 cfs

Results	
Depth	4.49 ft
Diameter	53.8 in
Flow Area	15.8 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	4.42 ft
Percent Full	100.0 %
Critical Slope	2.72 %
Velocity	21.37 ft/s
Velocity Head	7.10 ft
Specific Energy	11.59 ft
Froude Number	0.00
Maximum Discharge	363.59 cfs
Discharge Full	338.00 cfs
Slope Full	3.00 %
Flow Type	N/A

Project Summary Report

Project Description

Worksheet	P41W
Flow Element	Rectangular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data

Mannings Coefficient	0.013
Channel Slope	0.50 %
Bottom Width	7.00 ft
Discharge	338.00 cfs

Results

Depth	3.95 ft
Flow Area	27.7 ft ²
Wetted Perimeter	14.91 ft
Top Width	7.00 ft
Critical Depth	4.17 ft
Critical Slope	0.44 %
Velocity	12.21 ft/s
Velocity Head	2.32 ft
Specific Energy	6.27 ft
Froude Number	1.08
Flow Type	Supercritical

Project Summary Report

Project Description	
Worksheet	P67W
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data	
Mannings Coefficient	0.015
Channel Slope	0.50 %
Left Side Slope	3.00 H : V
Right Side Slope	3.00 H : V
Bottom Width	12.00 ft
Discharge	471.00 cfs

Results	
Depth	2.43 ft
Flow Area	46.9 ft²
Wetted Perimeter	27.39 ft
Top Width	26.60 ft
Critical Depth	2.85 ft
Critical Slope	0.27 %
Velocity	10.03 ft/s
Velocity Head	1.56 ft
Specific Energy	4.00 ft
Froude Number	1.33
Flow Type	Supercritical

Project Summary Report

Project Description

Worksheet	P68W
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data

Mannings Coefficient	0.037
Channel Slope	0.50 %
Left Side Slope	3.00 H : V
Right Side Slope	3.00 H : V
Bottom Width	12.00 ft
Discharge	235.00 cfs

Results

Depth	2.71 ft
Flow Area	54.5 ft ²
Wetted Perimeter	29.13 ft
Top Width	28.25 ft
Critical Depth	1.93 ft
Critical Slope	1.82 %
Velocity	4.31 ft/s
Velocity Head	0.29 ft
Specific Energy	3.00 ft
Froude Number	0.55
Flow Type	Subcritical

Project Summary Report

Project Description

Worksheet	P79W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data

Mannings Coefficient	0.013
Channel Slope	0.50 %
Discharge	47.00 cfs

Results

Depth	3.00 ft
Diameter	36.0 in
Flow Area	7.1 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	2.23 ft
Percent Full	100.0 %
Critical Slope	0.61 %
Velocity	6.67 ft/s
Velocity Head	0.69 ft
Specific Energy	3.69 ft
Froude Number	0.00
Maximum Discharge	50.56 cfs
Discharge Full	47.00 cfs
Slope Full	0.50 %
Flow Type	N/A

Project Summary Report

Project Description	
Worksheet	P80W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data	
Mannings Coefficient	0.013
Channel Slope	0.50 %
Discharge	66.00 cfs

Results	
Depth	3.40 ft
Diameter	40.8 in
Flow Area	9.1 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	2.56 ft
Percent Full	100.0 %
Critical Slope	0.59 %
Velocity	7.26 ft/s
Velocity Head	0.82 ft
Specific Energy	4.22 ft
Froude Number	0.00
Maximum Discharge	71.00 cfs
Discharge Full	66.00 cfs
Slope Full	0.50 %
Flow Type	N/A

Project Summary Report

Project Description	
Worksheet	P81W
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Full Flow Diameter

Input Data	
Mannings Coefficient	0.013
Channel Slope	0.50 %
Discharge	83.00 cfs

Results	
Depth	3.71 ft
Diameter	44.5 in
Flow Area	10.8 ft ²
Wetted Perimeter	0.00 ft
Top Width	0.00 ft
Critical Depth	2.81 ft
Percent Full	100.0 %
Critical Slope	0.59 %
Velocity	7.68 ft/s
Velocity Head	0.92 ft
Specific Energy	4.63 ft
Froude Number	0.00
Maximum Discharge	89.28 cfs
Discharge Full	83.00 cfs
Slope Full	0.50 %
Flow Type	N/A

APPENDIX D

Approved Master Drainage Study Reference Material

Approval Letters

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: September 19, 2012
TO: Land Development Services Department of Public Works		FROM: Oh Sang Kwon, P.E. Flood Control Section Department of Public Works
SUBJECT:	Drainage Study for:	COPIES TO:
Kyle Canyon Master Drainage Study		Slater Hanifan Group
Cross Streets:	Fort Apache Road & Moccasin Road	Wachovia Bank / Carwin Advisors
File Number:	F:\Depot\DSMemos\DS4420F.doc	Bart Anderson, P.E., DevCo
Parcel Number:	125-06-001-001	Randy Fultz
Zoning Action:		CCPW, CCRFCD
FEMA Flood Zone	YES NO X	NDOT; NV Energy
Proposed Storm Drain	YES X NO	PB America, Inc.

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Transaction #
1 st Submittal	6/22/2010	7/13/2010	Not Approved	\$1,000.00	147216: \$1000
2 nd Submittal	9/17/2010	10/4/2010	Not Approved	\$400.00	153788: \$400
3 rd Submittal	10/15/2011	11/14/2011	Not Approved	\$400.00	153788: \$400
4 th Submittal	2/13/2012	3/1/2012	Conditional Approval	\$400.00	274196: \$400
CCRFCD	5/23/2012	5/24/2012	Concurrence Recv'd	N/C	N/C
5 th Submittal NDOT Comments	9/10/2012	9/19/2012	See Comments Below	N/C	N/C
TOTAL FEES (LDDRS):				\$2,200.00	****

REMARKS:**5th Submittal: Responses to NDOT Comments**

Update to original Kyle Canyon Master Drainage Study (DS4091). Site layout has been changed.

The Master Drainage Study for the subject project has been reviewed and:

	is approved subject to conformance to all City standards and the following conditions:
	must be resubmitted or supplemented including the following:
	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
X	is conditionally approved subject to Clark County Department of Public Works concurrence.
X	is conditionally approved subject to Nevada Department of Transportation concurrence.
X	is conditionally approved subject to BLM concurrence/approval.

The following comments are repeated until they are complete:

- Please note that the traffic study must be approved prior to final approval of the Master Drainage Study. If the street layout does not match the Master Drainage study, an update to the Master Drainage Study must be submitted to address the changes.

2. The Kyle Canyon Master Drainage Study is proposing to revise the hydrology and facilities identified in the *Clark County Regional Flood Control District's (CCRFCD) 2008 Las Vegas Valley Flood Control Master Plan Update*. A Master Plan Amendment (MPA) must be submitted to the City of Las Vegas for approval. The City of Las Vegas will coordinate the MPA submittal to CCRFCD for approval. The Master Developer will be responsible for preparing all submittals needed for CCRFCD along with any and all presentations. The MPU must be approved by CCRFCD prior to the final approval of the Master Drainage Study.
3. Per a meeting held in August 18, 2011 between the developer and the *City of Las Vegas*, it was agreed that NV Energy's approval of any proposed drainage facilities within their access easements (such as the proposed detention basins) must be obtained prior to the final approval of the Master Drainage Study. Please provide documentation for such approval or acknowledgment.
4. Please note that any future technical drainage study submittals that differ from the Master Drainage Study (ie. Changes in pods, infrastructure, flows etc.) will require an update to the Master Drainage Study and this update must be approved by the *City of Las Vegas Flood Control Section* prior to final approval of technical drainage study.
5. The proposed detention basins will require coordination with the State of Nevada, Division of Water Resources Dam Safety and will require the State's approval prior to permitting.
6. Please obtain necessary 404 permits from Army Corps of Engineers and provide a copy of the permit to Flood Control prior to issuance of the grading permit. The contact information for Army Corps of Engineers is listed below:

Patricia L. McQueary
Chief, USACE S. George Regulatory Office
US Army Corps of Engineers
321 North Mall Drive
Suite L-101
St. George, UT 84790

(435) 986-3979 (Office)
(435) 986-3981 (FAX)
Patricia.L.McQueary@usace.army.mil

7. Please note that the proposed 100-year flood protection facilities identified on Exhibit F must be constructed by the Master Developer as a part of the master planned infrastructure. Technical drainage studies are required for each phase of the master planned infrastructure improvements. The technical drainage studies for the infrastructure improvements may be submitted with conditional approval of this Master Drainage Study. However, final approval for the Master Drainage Study must be obtained prior to conditional approval of the infrastructure drainage studies.
8. Technical drainage studies are required for each of the POD's. The technical drainage studies for the POD's may not be submitted until the conditional approval of the pertinent infrastructure drainage study is obtained. Final approval for the infrastructure drainage study must be obtained prior to conditional approval of the impacted POD drainage studies.
9. Building permits for the homes within the individual POD's will not be issued until construction of the street and flood control infrastructure around the POD is substantially complete or interim protection is provided per the approved technical drainage study.
10. The site is adjacent to Clark County jurisdictional boundaries. The engineer must coordinate the Master Drainage Study with *Clark County Public Works Department (CCPW)* and incorporate any concerns for boundary conditions. CCPW concurrence is required prior to final acceptance of the Master Drainage Study.

11. The project proposed to construct facilities and/or increase flows within *Nevada Department of Transportation* (NDOT) right-of-way. Therefore, NDOT concurrence is required prior to final approval of the Master Drainage Study.
12. The project proposed to discharge flows onto and proposed facilities within U.S. Bureau of Land Management (BLM) property. Therefore, BLM concurrence is required prior to final approval of the Master Drainage Study.
13. The proposed berm/levee along Moccasin Road will require approval from *Federal Emergency Management Agency* (FEMA) in the future. The proposed berm/levee must be designed to meet the minimum requirements set by FEMA and CCRFCD by a future technical drainage study.
14. The design of debris basins at all major culvert entrances to limit the amount of sediment and debris entering the storm drain facilities will be required in a future infrastructure study.
15. Please note that all detention basins must be designed per CCRFCD criteria including a low flow facility around the detention basin. Also, include new water quality feature per Storm Water Management Plan.
16. Please note that all proposed interim facilities must be maintained by the master developer.
17. Provide a legal description of the proposed detention basins prior to recordation of the parent final map.
18. Coordinate the proposed drainage facilities with *Sheep Mountain Parkway* project. Please contact Greg McDermott, P.E., at 702-229-2143 to coordinate the proposed drainage facilities.

NOTE: Any future changes to the proposed design (or design assumptions) as outlined in the approved master drainage study and attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Amendment and accepted by the *City of Las Vegas Flood Control Section*. Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the *City of Las Vegas* reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the Nevada Division of Environmental Protection a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see <http://ndep.nv.gov/bwpc/storm01.htm> or call (775) 687-9429.

In an effort to increase administrative efficiency, the City of Las Vegas Public Works Department requires all soil reports, drainage studies and traffic impact analysis submittals to be accompanied by an electronic copy of the submittal. Electronic documents must be submitted with one original hard copy of the study. Electronic documents should be on a universal computer-readable digital output replicating your submittal to be used for archival or display purposes. This may be more than one file if necessary. An Indexed Portable Document Format (PDF) or Print Ready CAD file formats with a minimum of 300dpi are the desired formats, but provided it is a high quality digitized replication of the submittal, other formats may be acceptable. If figures are in color, they must be scanned in color and saved as a separate file. The new submittal requirement is effective on **July 1, 2011**. If there are any questions regarding these new requirements, please contact Oh Sang Kwon in the Flood Section at (702) 229-2177 or Rick Schroder in Traffic Engineering at (702) 229-6327.

END OF REMARKS

osk

T/R/S: T19S/R60E/6 & 7
AREA G-6, 7, & F-12



BRIAN SANDOVAL, Governor

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

P.O. BOX 170
LAS VEGAS, NV 89125
November 2, 2012

SUSAN MARTINOVICH, PE., Director

Slater Hanifan Group
Stephen M. Jones, P.E.
5740 S. Arville St. #216
Las Vegas, NV 89118

Dear Mr. Jones:

Reference is made to your request for comments on the Master Drainage Study for Kyle Canyon prepared by Slater Hanifan Group, prepared for Carwin Advisors dated June 25, 2012. The Technical Drainage Study has been approved without comment by the NDOT review committee.

If you have any questions, please feel free to call me at 671-6610,

Cordially,

A handwritten signature in black ink, appearing to read "Rudy Lucero".

Rudye Lucero
Permit Coordinator



Department of Public Works

500 S Grand Central Pky • Box 554000 • Las Vegas NV 89155-4000
(702) 455-6000 • Fax (702) 455-6040

Denis Cederburg, P.E., Director • E-Mail: dlc@ClarkCountyNV.gov

Concurrence Letter

Date: July 19, 2012
Firm: SHG
Engineer: Steve Jones, P.E.
Address: 5740 S. Arville Street, Suite 216, Las Vegas, NV 89118
Phone: (702) 284-5300
Fax: (702) 284-5399
E-mail: sjones@shg-inc.com

Subject: Conceptual Drainage Study for Kyle Canyon Conceptual Master Study
Location: NWC of Grand Teton Drive and Grand Canyon Drive
APN: 126-12-000-001; et al.
Sec, Township, Range: S12, S06, S07, T19S, R59E, R60E
Flood Zone & Panel: Zone X, 1750, 1745, 1735, Dated November 16, 2011
Application Tracking #: 12-25985



Submittals	Date Received	Date Returned	Reviewer	Miscellaneous
Concurrence	07/02/2012	07/19/2012	WG	
Addendum #1	07/02/2012	07/19/2012	WG	
Addendum #2	07/02/2012	07/19/2012	WG	
Addendum #3	07/02/2012	07/19/2012	WG	
Supplement	07/02/2012	07/19/2012	WG	

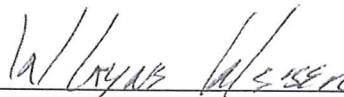
The above-referenced project is located within the **City of Las Vegas** adjacent to Clark County unincorporated areas. The drainage study was submitted to the County for concurrence on July 2, 2012. In addition, the County has received the City of Las Vegas acceptance letter dated May 24, 2012 for the Conceptual Drainage Study.

The County concurs with the acceptance of this Drainage Study by the City of Las Vegas. Please note that the County's review of this development is limited to drainage issues significant to Clark County unincorporated areas.

Additional Conditions:

1. This Conceptual Drainage Study establishes existing hydrologic conditions impacting the site by defining onsite and offsite flows.
2. This approval does not allow any construction activity including grading, placement of fill or excavation of any kind.
3. An approved Technical Drainage Study is required prior to any construction activity. In addition the Technical Drainage Study must address any required drainage easements, establish FF elevations and provide hydraulic calculations for all required drainage facilities.
4. Future Technical Drainage Studies for the detention basin and drainage facilities will need to analyze possible upstream flow split from erosion and scour of alluvial fan. Note, possible upsizing of the detention basin and drainage facilities may be needed if additional flow from alluvial fan is shown.

The County's review is solely based on the information submitted by the Engineer of Record. The County's review is strictly limited to compliance with minimum County Codes and Standards. The Engineer of Record is responsible for researching and addressing situations that may require designs above and beyond the minimum codes for issues of public safety and impacts to upstream, downstream and adjacent properties. The County assumes no liability for information data, designs or conclusions of the Engineer of Record.

By 
W. Layne Weber, P.E., CFM
Principal Engineer
Clark County Public Works
Development Review

cc: Carwin Advisors
Andrew Trelease, P.E., RFCD
Albert Sung, P.E., City of Las Vegas

Pertinent Exhibits

APPENDIX E

Approved Phase 1 Infrastructure Reference Material

Approval Letters

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: September 15, 2014
TO: Land Development Services Department of Building & Safety			FROM: Albert Sung, P.E. <i>oalc</i> Flood Control Project Engineer Department of Public Works
SUBJECT: Drainage Study for: Skye Canyon – Phase 1 Infrastructure			COPIES TO: Slater Hanifan Group
Cross Streets:	NEC of Grand Teton Blvd. & Hualapai Way		K A G Development South, LLC / Ninety-Five Management, LLC
File Number:	F:\Depot\DSMemos\DS4661C.doc		Bart Anderson, P.E., DevCo
Parcel Number:	125-07-301-001 & 125-07-301-002; 125-07-401-001 & 125-07-401-002		CCRFCD
Zoning Action:	TMP-53058		
FEMA Flood Zone	YES	NO	X
Proposed Storm Drain	YES	X	NO

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1 st Submittal	3/19/2014	4/17/2014	Not Approved	\$400.00	351277: \$400
2 nd Submittal	5/14/2014	6/12/2014	Conditionally Approved	\$400.00	356797: \$400
Supplemental	8/25/2014	9/15/2014	See Comments Below	----	----
TOTAL FEES (LDDRS):				\$800.00	----

REMARKS:

The Drainage Study for the subject project has been reviewed and:

X	is approved subject to conformance to all City standards and the following conditions:
	must be resubmitted or supplemented including the following:
	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
	is conditionally approved subject to Clark County Public Works Department concurrence.

1. The *Kyle Canyon Master Drainage Study* is proposing to revise the hydrology and facilities identified in the *Clark County Regional Flood Control District's (CCRFCD) 2008 Las Vegas Valley Flood Control Master Plan Update*. A *Master Plan Amendment (MPA)* must be submitted to the *City of Las Vegas* for approval. The *City of Las Vegas* will coordinate the MPA submittal to CCRFCD for approval. The Master Developer will be responsible for preparing all submittals needed for CCRFCD along with any and all presentations. The MPU must be approved by the *City of Las Vegas City Council* prior to the final approval of the *Master Drainage Study*.
2. For all culvert entrances or exits located outside of the Public Right-of-Way or dedicated "Public Drainage Easement to be Privately Maintained" must be recorded by separate document prior to the final acceptance of the improvement plans unless they are to be recorded by parcel or final map. Also, show the easement on the grading plan.

3. In an overview perspective for the proposed *Phase 1 Infrastructures*, *Racel Street* with its regional storm drain act as the sole perpetuation pathway for offsite flows during a major storm event in the interim condition (reference Sheets GR-01 & GR-02).

In a worst case scenario that the upstream culvert entrance is completely clogged, ie, the 100-year flow will be conveyed on the *Racel Street* surface. Provide a hydraulic calculation for the worst case 100-year water surface in *Racel Street*. The finish floor elevation of future houses in the PODs adjacent to *Racel* shall be above the corresponding water surface or flood wall for protection to that effect. This shall serve as a guideline in the future technical drainage studies for the PODs.

4. Provide a detail grading around the culvert entrance at *Racel Street Storm Drain* and make sure freeboard requirements are satisfied.
5. All drainage facilities proposed in this *Phase 1 Infrastructure Study* are considered interim facilities and must be maintained by the master developer until the facilities are formally accepted by the *City of Las Vegas*.
6. Structural plans for the storm drain improvements must be submitted for review. Provide a soil report, structural calculations and specifications, wet stamped structural sets and a grading plan to the *City of Las Vegas Building Department* for processing (call *Building Department* to confirm their submittal requirements). The engineer must provide a copy of *Building Department* approval of the structures to *Flood Control* prior to final acceptance of the technical drainage study.
7. The project proposes to build a temporary drainage facility on the west side of *Hualapai Way*. Prior to final plan approval the developer must complete a ***Maintenance and Liability Agreement*** for the interim drainage improvements (off-site berms or channels) and post a minimum maintenance bond of \$50,000 or 50-percent of the construction cost for the improvements, whichever is greater. The engineer must submit an estimate of the quantities for constructing the facility and an exhibit that adequately shows the location and limits of the drainage facility to *Flood Control* for approval. Once the drainage study is conditionally approved, the engineer/developer should contact the *City's Land Development Section* (229-6371) to begin the agreement process.

In order for the maintenance bond to be released in the future, a drainage update / letter will be required to justify that the offsite berms / channels are no longer necessary and can be removed.

8. **Sheet SD-09:** Review and revise an appeared low point "61.95TC" in *Grand Canyon Drive* at the intersection with *Grand Teton Drive*.
9. Technical drainage studies are required for each of the POD's. The technical drainage studies for the POD's may not be conditional approved until the final approval of the pertinent infrastructure drainage study is obtained.
10. Building permits for the homes within the individual POD's will not be issued until construction of the street and flood control infrastructure around the POD is substantially complete or interim protection is provided per the approved technical drainage study.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see <http://ndep.nv.gov/bwpc/storm01.htm> or call (775) 687-9429.

END OF REMARKS
ays

T/R/S: T19S/R60E/07
AREA G-07

HEC-1 Analysis

DEV-100.OUT

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* FLOOD HYDROGRAPH PACKAGE (HEC-1)
*   JUN 1998
*   VERSION 4.1
*
* RUN DATE 13MAR14 TIME 11:35:06
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*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
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X   X XXXXXXX XXXXX   X
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XXXXXX XXXX X   XXXXX X
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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 -AMSK- 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
*DIAGRAM
1 ID      SLATER HANIFAN GROUP
2 ID      OLYMPIA COMPANIES
3 ID      SKYE CANYON - PHASE 1 INFRASTRUCTURE
4 ID      DEVELOPED CONDITION (100-YR STORM)
5 ID
6 ID      RETURN PERIOD ----- 100-YEAR
7 ID      DISTRIBUTION ----- 6-HOUR SDN3
8 ID      PROJECT NO. ----- OLY1401.001
9 ID      FILENAME ----- DEV-100.H1
10 ID     DATE ----- 03/10/14
11 ID     MODELED BY ----- AJH/SMJ
12 ID
13 ID     SIX HOUR DEPTH-AREA REDUCTION FACTORS
14 ID     DRAINAGE AREA (MI^2)   DARF
15 ID     0.0-0.49               1.00
16 ID     0.5-0.99               0.98
17 ID     1.0-1.99               0.97
18 ID
19 IT      5      0      0      300
20 IO      5      0      0
21 IN      5      0      0
22 JR      PREC 1.00 0.98 0.97
*
23 KK      HUAL
24 KM      OFFSITE STREET BASIN FOR HUALAPAI WAY
25 PB      2.93
26 PC      0      0.020 0.057 0.070 0.087 0.108 0.124 0.130 0.130 0.130
27 PC      0.130 0.130 0.130 0.133 0.140 0.142 0.148 0.158 0.172 0.181
28 PC      0.190 0.197 0.199 0.200 0.201 0.204 0.214 0.229 0.241 0.249
29 PC      0.251 0.256 0.270 0.278 0.281 0.283 0.295 0.322 0.352 0.409
30 PC      0.499 0.590 0.710 0.744 0.781 0.812 0.819 0.835 0.851 0.856
31 PC      0.860 0.868 0.876 0.888 0.910 0.926 0.937 0.950 0.970 0.976
32 PC      0.982 0.985 0.987 0.989 0.990 0.993 0.993 0.994 0.995 0.998
33 PC      0.998 0.999 1
34 BA      .0144
35 LS      0      93.2
36 UD      0.136
*
37 KK      OFF20
38 KM      REFERENCED FROM GCW MASTER DRAINAGE STUDY
39 BA      .0656
40 PB      3.01
41 LS      0      86.2
42 UD      0.190
*
43 KK      ROFF20
44 KM      ROUTE OFF20 TO PT2
45 RD      6020 0.034 0.035 0 TRAP 15 1
*

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1 HEC-1 INPUT PAGE 2

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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
46 KK      OFF2-E
47 KM      LOCAL OFFSITE BASIN
48 BA      .1355
49 PB      3.00
50 LS      0      86.2
51 UD      0.243
*
52 KK      PT2
53 KM      COMBINES OFF20 AND OFF2-E

```

* BASINS REFERENCED

DEV-100.OUT

54	HC	2							
	*								
55	KK	OFF21							
56	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY							
57	BA	.5280							
58	PB	3.10							
59	LS	0	85.7						
60	UD	0.446							
	*								
61	KK	ROFF21							
62	KM	ROUTE OFF21 TO PT3							
63	RD	5655 0.037 0.035	0	TRAP	0	100			
	*								
64	KK	OFF3-E							
65	KM	LOCAL OFFSITE BASIN							
66	BA	.1581							
67	PB	3.00							
68	LS	0	82.8						
69	UD	0.302							
	*								
70	KK	PT3							
71	KM	COMBINES OFF21 AND OFF3-E							
72	HC	2							
	*								
73	KK	CP0							
74	HC	2							
	*								
75	KK	OFF1-E							
76	KM	LOCAL OFFSITE BASIN							
77	PB	3.00							
78	BA	.0917							
79	LS	0	86.2						
80	UD	0.202							
	*								

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HEC-1 INPUT

PAGE 3

LINE	ID	1	2	3	4	5	6	7	8	9	10
81	KK	RA-HU									
82	KM	COMBINES OFF20, OFF21, OFF1-E, OFF2-E, OFF3-E, HUAL									
83	HC	3									
	*										
84	KK	RRA-HU									
85	KM	ROUTE RA-HU TO CP26									
86	RK	2700 0.040 0.013	0	CIRC	6						
	*										
87	* KK	ON3-D									
88	KM	ONSITE BASIN NORTH OF RACEL AND WEST OF CONQUISTADOR									
89	PB	2.93									
90	BA	.0232									
91	LS	0	91.2								
92	UD	0.116									
	*										
93	KK	CP1A									
94	KM	COMBINES RA-HU, ON3-D									
95	HC	2									
	*										
96	* KK	ON5-D									
97	KM	SOUTHWEST QUAD ONSITE BASIN									
98	PB	2.93									
99	BA	.0583									
100	LS	0	94.6								
101	UD	0.139									
	*										
102	* KK	PARK									
103	KM	ONSITE BASIN FOR COMMUNITY PARK									
104	PB	2.93									
105	BA	.0028									
106	LS	0	81.5								
107	UD	0.082									
	*										
108	KK	CP1B									
109	KM	COMBINES ON5-D, PARK									
110	HC	2									
	*										
111	* KK	RAC									
112	KM	STREET BASIN FOR RACEL ST									
113	PB	2.93									
114	BA	.0071									
115	LS	0	92.5								
116	UD	0.097									
	*										

1

HEC-1 INPUT

PAGE 4

LINE	ID	1	2	3	4	5	6	7	8	9	10
117	* KK	CONQ									
118	KM	STREET BASIN FOR CONQUISTADOR ST									
119	PB	2.93									
120	BA	.0035									
121	LS	0	92.5								

* BASINS REFERENCED

DEV-100.OUT

122	UD	0.133	
	*		
123	KK	CP1	
124	KM	COMBINES RA-HU, ON3-D, ON5-D, RAC, CONQ AND PARK	
125	HC	4	
	*		
126	* KK	ON4-D	
127	KM	ONSITE BASIN NORTH OF RACEL AND EAST OF CONQUISTADOR ST	
128	PB	2.93	
129	BA	.0252	
130	LS	0	94.6
131	UD	0.105	
	*		
132	* KK	ON6-D	
133	KM	SOUTHEAST QUAD ONSITE BASIN	
134	PB	2.93	
135	BA	.0505	
136	LS	0	94.6
137	UD	0.128	
	*		
138	* KK	GCD	
139	KM	OFFSITE (HALF) STREET BASIN FOR GRAD CANYON DR	
140	PB	2.93	
141	BA	.0053	
142	LS	0	93.8
143	UD	0.137	
	*		
144	KK	CP26	
145	KM	COMBINES CP1, ON4-D, ON6-D AND GCD	
146	HC	4	
	*		
147	* KK	ON1-D	
148	KM	NORTHWEST QUAD ONSITE BASIN	
149	PB	2.93	
150	BA	.0278	
151	LS	0	91.2
152	UD	0.114	
	*		

HEC-1 INPUT

PAGE 5

LINE	ID	1	2	3	4	5	6	7	8	9	10
153	* KK	ON2-D									
154	KM	NORTHEAST QUAD ONSITE BASIN									
155	PB	2.93									
156	BA	.0301									
157	LS	0									88.8
158	UD	0.152									
	*										
159	KK	HOR									
160	KM	OFFSITE STREET BASIN FOR HORSE DR									
161	PB	2.93									
162	BA	.0163									
163	LS	0									93.3
164	UD	0.108									
	*										
165	KK	CP2									
166	KM	COMBINES ON1-D, ON2-D AND HOR									
167	HC	3									
	*										
168	KK	OFF18									
169	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY									
170	BA	.5491									
171	PB	3.05									
172	LS	0									86.3
173	UD	0.445									
	*										
174	KK	ROFF18									
175	KM	ROUTE OFF18 THRU EX-W5									
176	RM	2 0.171 0.15									
	*										
177	KK	EX-W5									
178	KM	REFERENCED FROM GCW MASTER DRAINAGE STUDY									
179	BA	.4460									
180	PB	2.86									
181	LS	0									86.3
182	UD	.308									
	*										
183	KK	CP12									
184	KM	COMBINES OFF18 AND EX-W5									
185	HC	2									
	*										
186	KK	CP3									
187	KM	COMBINES CP2 AND CP12									
188	HC	2									
	*										

HEC-1 INPUT

PAGE 6

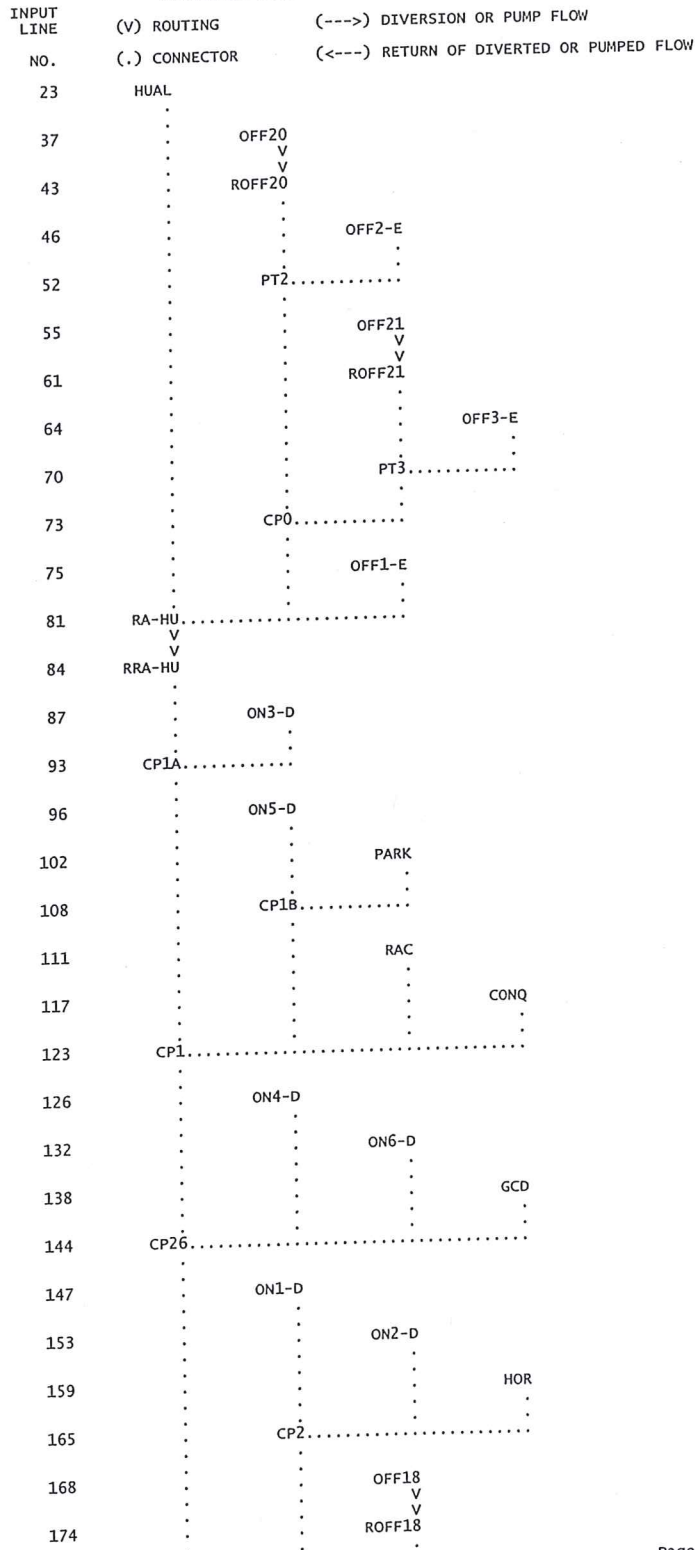
LINE	ID	1	2	3	4	5	6	7	8	9	10
189	KK	GTD									

DEV-100.OUT

190	KM	OFFSITE (HALF) STREET BASIN FOR GRAD TETON DR
191	PB	2.93
192	BA	.0073
193	LS	0 93.9
194	UD	0.105
	*	
195	ZZ	

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SCHEMATIC DIAGRAM OF STREAM NETWORK



DEV-100.OUT

177 . . . EX-W5
183 . . . CP12.....
186 . . . CP3.....
189 . . . GTD

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

1*****
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* JUN 1998 *
* VERSION 4.1 *
* RUN DATE 13MAR14 TIME 11:35:06 *

* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
* 609 SECOND STREET *
* DAVIS, CALIFORNIA 95616 *
* (916) 756-1104 *

SLATER HANIFAN GROUP
OLYMPIA COMPANIES
SKYE CANYON - PHASE 1 INFRASTRUCTURE
DEVELOPED CONDITION (100-YR STORM)

RETURN PERIOD ----- 100-YEAR
DISTRIBUTION ----- 6-HOUR SDN3
PROJECT NO. ----- OLY1401.001
FILENAME ----- DEV-100.H1
DATE ----- 03/10/14
MODELED BY ----- AJH/SMJ

SIX HOUR DEPTH-AREA REDUCTION FACTORS
DRAINAGE AREA (MI^2) DARF
0.0-0.49 1.00
0.5-0.99 0.98
1.0-1.99 0.97

20 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 0 STARTING DATE
ITIME 0000 STARTING TIME
NQ 300 NUMBER OF HYDROGRAPH ORDINATES
NDDATE 2 0 ENDING DATE
NDTIME 0055 ENDING TIME
ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.92 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

JP MULTI-PLAN OPTION
NPLAN 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION
RATIOS OF PRECIPITATION
1.00 .98 .97

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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DEV-100.OUT

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
 FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
 TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION		
					RATIO 1 1.00	RATIO 2 .98	RATIO 3 .97
HYDROGRAPH AT +	HUAL	.01	1	FLOW TIME	26. 3.58	25. 3.58	25. 3.58
HYDROGRAPH AT +	OFF20	.07	1	FLOW TIME	85. 3.58	82. 3.58	81. 3.58
ROUTED TO +	ROFF20	.07	1	FLOW TIME	85. 3.83	83. 3.83	82. 3.83
HYDROGRAPH AT +	OFF2-E	.14	1	FLOW TIME	160. 3.67	155. 3.67	153. 3.67
2 COMBINED AT +	PT2	.20	1	FLOW TIME	232. 3.75	225. 3.75	222. 3.75
HYDROGRAPH AT +	OFF21	.53	1	FLOW TIME	475. 3.92	461. 3.92	454. 3.92
ROUTED TO +	ROFF21	.53	1	FLOW TIME	477. 4.08	462. 4.08	455. 4.08
HYDROGRAPH AT +	OFF3-E	.16	1	FLOW TIME	146. 3.75	142. 3.75	139. 3.75
2 COMBINED AT +	PT3	.69	1	FLOW TIME	557. 4.08	540. 4.08	531. 4.08
2 COMBINED AT +	CP0	.89	1	FLOW TIME	676. 4.00	655. 4.00	644. 4.00
HYDROGRAPH AT +	OFF1-E	.09	1	FLOW TIME	114. 3.58	111. 3.58	109. 3.58
3 COMBINED AT +	RA-HU	.99	1	FLOW TIME	727. 4.00	704. 4.00	693. 4.00
ROUTED TO +	RRA-HU	.99	1	FLOW TIME	726. 4.00	703. 4.00	692. 4.00
HYDROGRAPH AT +	ON3-D	.02	1	FLOW TIME	39. 3.58	38. 3.58	38. 3.58
2 COMBINED AT +	CP1A	1.02	1	FLOW TIME	734. 4.00	711. 4.00	700. 4.00
HYDROGRAPH AT +	ON5-D	.06	1	FLOW TIME	107. 3.58	104. 3.58	103. 3.58
HYDROGRAPH AT +	PARK	.00	1	FLOW TIME	4. 3.50	3. 3.50	3. 3.50
2 COMBINED AT +	CP1B	.06	1	FLOW TIME	110. 3.58	107. 3.58	106. 3.58

DEV-100.OUT

HYDROGRAPH AT	RAC	.01	1	FLOW TIME	13. 3.50	13. 3.50	13. 3.50	←
HYDROGRAPH AT	CONQ	.00	1	FLOW TIME	6. 3.58	6. 3.58	6. 3.58	←
4 COMBINED AT	CP1	1.09	1	FLOW TIME	763. 4.00	740. 4.00	728. 4.00	
HYDROGRAPH AT	ON4-D	.03	1	FLOW TIME	49. 3.50	47. 3.50	47. 3.50	←
HYDROGRAPH AT	ON6-D	.05	1	FLOW TIME	93. 3.58	91. 3.58	90. 3.58	←
HYDROGRAPH AT	GCD	.01	1	FLOW TIME	10. 3.58	9. 3.58	9. 3.58	←
4 COMBINED AT	CP26	1.17	1	FLOW TIME	799. 3.92	773. 3.92	760. 3.92	
HYDROGRAPH AT	ON1-D	.03	1	FLOW TIME	47. 3.58	46. 3.58	45. 3.58	←
HYDROGRAPH AT	ON2-D	.03	1	FLOW TIME	45. 3.58	44. 3.58	44. 3.58	←
HYDROGRAPH AT	HOR	.02	1	FLOW TIME	30. 3.50	29. 3.50	29. 3.50	
3 COMBINED AT	CP2	.07	1	FLOW TIME	121. 3.58	118. 3.58	116. 3.58	
HYDROGRAPH AT	OFF18	.55	1	FLOW TIME	495. 3.92	480. 3.92	473. 3.92	
ROUTED TO	ROFF18	.55	1	FLOW TIME	473. 4.08	459. 4.08	452. 4.08	
HYDROGRAPH AT	EX-W5	.45	1	FLOW TIME	443. 3.75	429. 3.75	423. 3.75	
2 COMBINED AT	CP12	1.00	1	FLOW TIME	792. 3.92	768. 3.92	756. 3.92	
2 COMBINED AT	CP3	1.07	1	FLOW TIME	833. 3.83	808. 3.83	795. 3.83	
HYDROGRAPH AT	GTD	.01	1	FLOW TIME	14. 3.50	13. 3.50	13. 3.50	

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

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	INTERPOLATED TO COMPUTATION INTERVAL PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1	RATIO=	.00							
ROFF20	MANE	5.00	85.42	230.00	1.69	5.00	85.42	230.00	1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5899E+01 EXCESS= .0000E+00 OUTFLOW= .5917E+01 BASIN STORAGE= .6045E-02 PERCENT ERROR= -.4

FOR PLAN = 1	RATIO=	.00							
ROFF20	MANE	5.00	83.10	230.00	1.64	5.00	83.10	230.00	1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5719E+01 EXCESS= .0000E+00 OUTFLOW= .5736E+01 BASIN STORAGE= .5980E-02 PERCENT ERROR= -.4

FOR PLAN = 1	RATIO=	.00							
ROFF20	MANE	5.00	81.93	230.00	1.61	5.00	81.93	230.00	1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5628E+01 EXCESS= .0000E+00 OUTFLOW= .5646E+01 BASIN STORAGE= .5764E-02 PERCENT ERROR= -.4

FOR PLAN = 1	RATIO=	.00							
ROFF21	MANE	5.00	476.60	245.00	1.73	5.00	476.60	245.00	1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4859E+02 EXCESS= .0000E+00 OUTFLOW= .4862E+02 BASIN STORAGE= .5083E-02 PERCENT ERROR= -.1

DEV-100.OUT
 FOR PLAN = 1 RATIO= .00
 ROFFZ1 MANE 5.00 461.93 245.00 1.67 5.00 461.93 245.00 1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4709E+02 EXCESS= .0000E+00 OUTFLOW= .4713E+02 BASIN STORAGE= .5011E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
 ROFFZ1 MANE 5.00 454.60 245.00 1.65 5.00 454.60 245.00 1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4635E+02 EXCESS= .0000E+00 OUTFLOW= .4638E+02 BASIN STORAGE= .4975E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= 1.00
 RRA-HU MANE .43 726.67 240.46 1.67 5.00 726.02 240.00 1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8864E+02 EXCESS= .0000E+00 OUTFLOW= .8864E+02 BASIN STORAGE= .1383E-10 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .98
 RRA-HU MANE .45 703.76 240.73 1.62 5.00 703.06 240.00 1.62

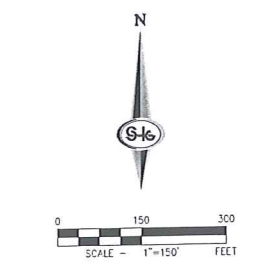
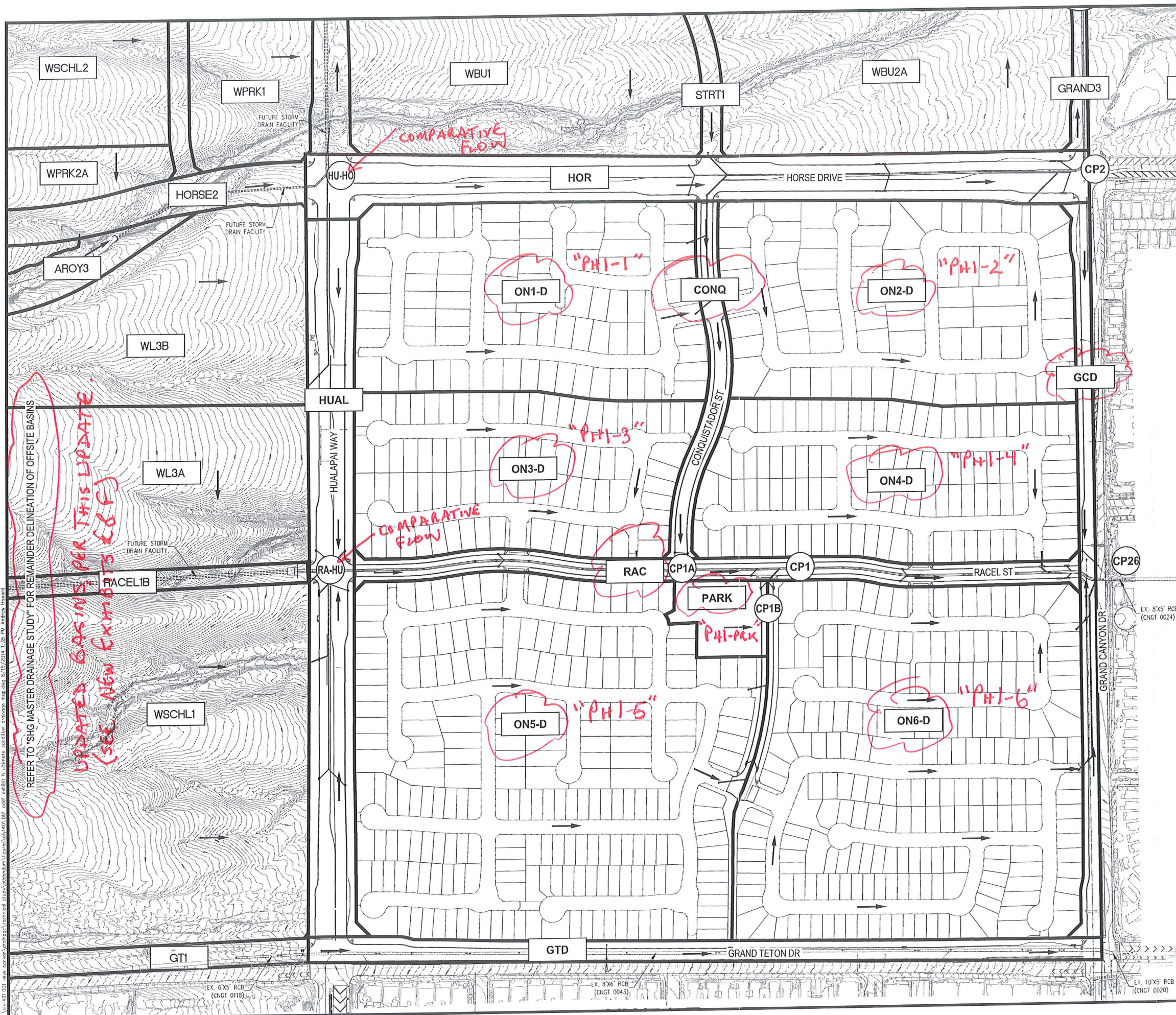
CONTINUITY SUMMARY (AC-FT) - INFLOW= .8590E+02 EXCESS= .0000E+00 OUTFLOW= .8589E+02 BASIN STORAGE= .1354E-10 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .97
 RRA-HU MANE .41 692.62 240.66 1.60 5.00 691.63 240.00 1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8453E+02 EXCESS= .0000E+00 OUTFLOW= .8453E+02 BASIN STORAGE= .1380E-10 PERCENT ERROR= .0

*** NORMAL END OF HEC-1 ***

Pertinent Exhibits



LEGEND	
	BASIN BOUNDARY
	BASIN ID
	FLOW DIRECTION
	CONCENTRATION POINT

Basin Flow Rate Summary (Ultimate Condition)				
Basin/Concentration Point ID	Area (ac)	Q ₁₀₀ (cfs)	Q ₁₀ (cfs)	
ON1-D	17.8	47	21	
ON2-D	19.3	45	18	
ON3-D	14.8	39	17	
ON4-D	16.1	49	24	
ON5-D	37.3	107	52	
ON6-D	32.3	93	46	
CONQ	2.2	6	3	
RAC	4.6	13	6	
PARK	1.8	4	1	
HOR	10.4	30	14	
GCD	3.4	10	5	
GTD	4.7	14	7	
HUAL	9.2	26	11	
*WBU1	22.9	70	35	
*STR1	3.1	10	6	

Concentration Points Summary (Ultimate Condition)			
Basin/Concentration Point ID	Area (sq-mi)	Q ₁₀₀ (cfs)	Q ₁₀ (cfs)
RA-HU (Refer to SHG Master Drainage Study for contributing basins)	0.26	477	228
HU-HO (Refer to SHG Master Drainage Study for contributing basins)	1.12	367	172
CP1 (CP1A + CP1B + RAC + CONQ)	0.35	629	303
CP2 (ON1-D + ON2-D + HOR + WBU1 + STR1)	0.11	197	90
CP1A (RA-HU + ON3-D)	0.28	501	241
CP1B (ON5-D + PARK)	0.06	110	53
CP26 (CP1 + ON4-D + ON6-D + GCD)	0.43	777	376

NOTE: SHG MASTER DRAINAGE STUDY WATERSHEDS CONTRIBUTING TO CONCENTRATION POINTS RA-HU HAVE BEEN MODIFIED BY THIS STUDY. REFER TO "SKYE CANYON HYDROLOGY EVALUATION" HEC-1 MODEL FOR FURTHER DETAIL.

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DATE: MAY 2014

DRAFTER: A.J.H.

DESIGNER: A.J.H.

CHECKED: SMJ

PROJECT NO. OLY1401.001

NINETY-FIVE MANAGEMENT, LLC.

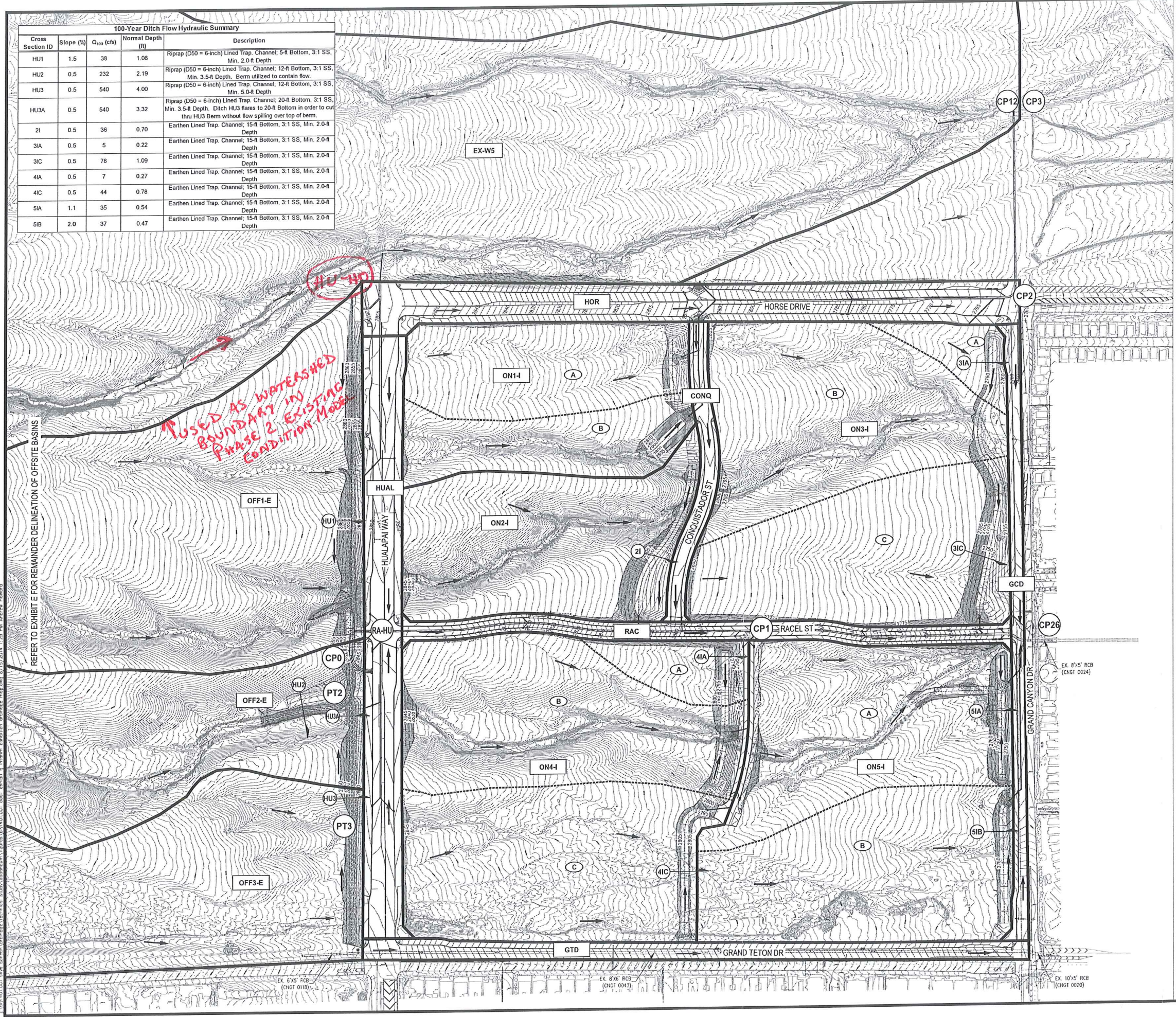
SKYE CANYON - PHASE 1 INFRASTRUCTURE

ULTIMATE CONDITION DRAINAGE MAP

EXHIBIT H

SHEET 1 OF 1

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100-Year Ditch Flow Hydraulic Summary				
Cross Section ID	Slope (%)	Q ₁₀₀ (cfs)	Normal Depth (ft)	Description
HU1	1.5	38	1.08	Riprap (D50 = 6-inch) Lined Trap, Channel; 5-ft Bottom, 3:1 SS, Min. 2.0-ft Depth
HU2	0.5	232	2.19	Riprap (D50 = 6-inch) Lined Trap, Channel; 12-ft Bottom, 3:1 SS, Min. 3.5-ft Depth. Berm utilized to contain flow.
HU3	0.5	540	4.00	Riprap (D50 = 6-inch) Lined Trap, Channel; 12-ft Bottom, 3:1 SS, Min. 5.0-ft Depth
HU3A	0.5	540	3.32	Riprap (D50 = 6-inch) Lined Trap, Channel; 20-ft Bottom, 3:1 SS, Min. 3.5-ft Depth. Ditch HU3 flares to 20-ft Bottom in order to cut thru HU3 Berm without flow spilling over top of berm.
2I	0.5	36	0.70	Earthen Lined Trap, Channel; 15-ft Bottom, 3:1 SS, Min. 2.0-ft Depth
3IA	0.5	5	0.22	Earthen Lined Trap, Channel; 15-ft Bottom, 3:1 SS, Min. 2.0-ft Depth
3IC	0.5	78	1.09	Earthen Lined Trap, Channel; 15-ft Bottom, 3:1 SS, Min. 2.0-ft Depth
4IA	0.5	7	0.27	Earthen Lined Trap, Channel; 15-ft Bottom, 3:1 SS, Min. 2.0-ft Depth
4IC	0.5	44	0.78	Earthen Lined Trap, Channel; 15-ft Bottom, 3:1 SS, Min. 2.0-ft Depth
5IA	1.1	35	0.54	Earthen Lined Trap, Channel; 15-ft Bottom, 3:1 SS, Min. 2.0-ft Depth
5IB	2.0	37	0.47	Earthen Lined Trap, Channel; 15-ft Bottom, 3:1 SS, Min. 2.0-ft Depth

0180360

SCALE - 1"=180' FEET

N

SK

LEGEND

BASIN BOUNDARY

ID

BASIN ID

PRO-RATED SUBBASIN BOUNDARY

ID

PRO-RATED SUBBASIN ID

FLOW DIRECTION

ID

CONCENTRATION POINT

ID

FLOWMASTER SECTION

Basin Flow Rate Summary (Interim Condition)				
Basin/Concentration Point ID	Area (ac)	Q ₁₀₀ (cfs)	Q ₁₀ (cfs)	
ON1-I	16.8	38	14	
ON2-I	15.8	36	13	
ON3-I	35.4	78	29	
ON4-I	39.1	90	33	
ON5-I	32.3	72	27	
CONQ	2.2	6	3	
RAC	4.6	13	6	
HOR	10.4	30	14	
GCD	3.4	10	5	
GTD	4.7	14	7	
HUAL	9.2	26	11	
OFF1-E	60.3	114	43	
OFF2-E	86.8	160	60	
OFF3-E	101.2	146	48	
*OFF18	351.4	480	182	
*OFF20	42.0	85	33	
*OFF21	337.9	462	179	
*EX-W5	285.4	443	165	

Concentration Points Summary (Interim Condition)				
Basin/Concentration Point ID	Area (sq-mi)	Q ₁₀₀ (cfs)	Q ₁₀ (cfs)	
PT2 (OFF20 + OFF2-E)	0.20	232	83	
PT3 (OFF21 + OFF3-E)	0.69	540	202	
RA-HU (CP0 + OFF1-E)	0.99	704	255	
CP0 (PT2 + PT3)	0.89	655	241	
CP1 (RA-HU + ON2-I + ON4-I + RAC + CONQ)	1.09	721	257	
CP2 (ON1-I + HOR)	0.04	68	28	
CP3 (CP12 + CP2)	1.04	771	288	
CP12 (OFF18 + EX-W5)	1.00	756	281	
CP26 (CP1 + ON3-I + ON5-I + GCD)	1.20	757	270	

Prorated Flow Summary (Interim Condition)			
Basin	Q ₁₀₀ (cfs)	Area (acres)	Unit Flow (cfs/acre)
ON1-I	38	16.8	2.3
Subbasin	Q ₁₀₀ (cfs)	Area (acres)	Unit Flow (cfs/acre)
ON1-1A	22	9.8	2.3
ON1-1B	16	7.0	2.3
TOTAL	38	16.8	
Basin	Q ₁₀₀ (cfs)	Area (acres)	Unit Flow (cfs/acre)
ON3-I	78	35.4	2.2
Subbasin	Q ₁₀₀ (cfs)	Area (acres)	Unit Flow (cfs/acre)
ON3-1A	5	2.2	2.2
ON3-1B	38	17.1	2.2
ON3-1C	35	16.1	2.2
TOTAL	78	35.4	
Basin	Q ₁₀₀ (cfs)	Area (acres)	Unit Flow (cfs/acre)
ON4-I	90	39.1	2.3
Subbasin	Q ₁₀₀ (cfs)	Area (acres)	Unit Flow (cfs/acre)
ON4-1A	7	3.0	2.3
ON4-1B	39	17.1	2.3
ON4-1C	44	19.1	2.3
TOTAL	90	39.1	
Basin	Q ₁₀₀ (cfs)	Area (acres)	Unit Flow (cfs/acre)
ON5-I	72	32.3	2.2
Subbasin	Q ₁₀₀ (cfs)	Area (acres)	Unit Flow (cfs/acre)
ON5-1A	36	16.3	2.2
ON5-1B	36	16.0	2.2
TOTAL	72	32.3	

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DATE: MAY 2014

DRAFTER: AJH

DESIGNER: AJH

CHECKED: SMJ

PROJECT NO. OLY1401.001

EXHIBIT G

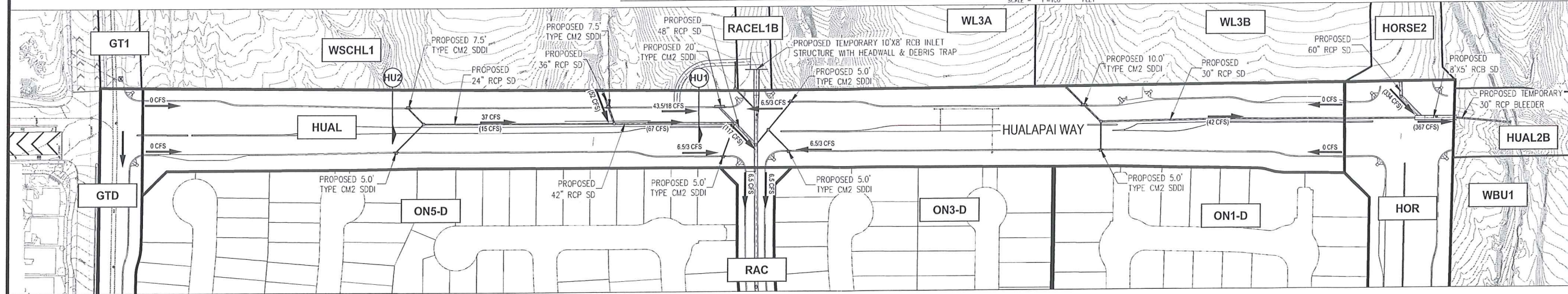
SHEET 1 OF 1

NINETY-FIVE MANAGEMENT, LLC.

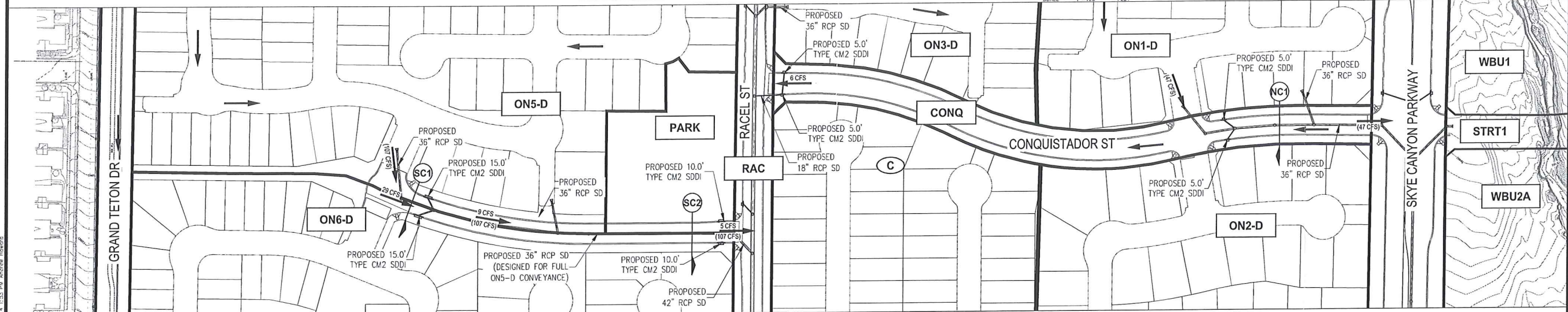
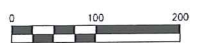
SKYE CANYON - PHASE 1 INFRASTRUCTURE

INTERIM CONDITION DRAINAGE MAP

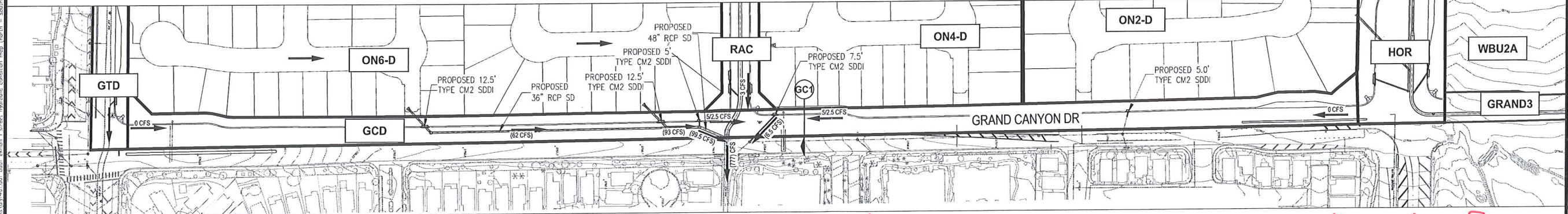
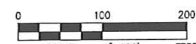
HUALAPAI WAY HYDRAULIC CONDITION



CONQUISTADOR STREET HYDRAULIC CONDITION



GRAND CANYON DRIVE HYDRAULIC CONDITION



* UTILIZED FOR IDENTIFICATION OF PHASE I FLOOD CONTROL FACILITIES SHOWN ON UPDATED MASTER STUDY FACILITIES.
* FLOWS SHOWN ON UPDATED MASTER STUDY FACILITIES EXCEPTED DIRECTLY FROM THIS PHASE I DESIGN.

10-Year & 100-Year Street Flow Summary Hualapai Way						
Cross Section	Slope (%)	Q ₁₀ (cfs)	Depth (ft)	Velocity (fps)	DxV	Dry Lane (ft)
HU1 (100-YR)	0.57	43.5	0.83	3.6	2.9	N/A
HU1 (10-YR)	0.57	18	0.63	2.9	1.8	14.0
HU2 (100-YR)	0.57	52	0.88	3.7	3.3	N/A
HU2 (10-YR)	0.57	24	0.69	3.1	2.1	11.0

* MODELED AS HALF STREET

100-Year Street Flow Summary Conquistador Street					
Cross Section	Slope (%)	Q ₁₀₀ (cfs)	Depth (ft)	Velocity (fps)	DxV
NC1	0.61	6	0.36	2.1	0.8
SC1	1.59	29	0.51	4.1	2.1
SC2	1.59	13	0.40	3.6	1.4

10-Year & 100-Year Street Flow Summary Grand Canyon Drive						
Cross Section	Slope (%)	Q ₁₀ (cfs)	Depth (ft)	Velocity (fps)	DxV	Dry Lane (ft)
GC1 (100-YR)	0.50	10	0.54	2.4	1.3	N/A
GC1 (10-YR)	0.50	5	0.44	2.1	0.9	19.5

* MODELED AS HALF STREET

- LEGEND
- BASIN BOUNDARY
 - BASIN ID
 - FLOW DIRECTION
 - FLOWMASTER SECTION
 - XX CFS 100-YR STREET FLOW
 - (XX CFS) 100-YR STORM DRAIN FLOW



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NO.	DESCRIPTION	DATE	BY	APP.

NINETY-FIVE MANAGEMENT, LLC.

SKYE CANYON - PHASE 1 INFRASTRUCTURE
STREET HYDRAULIC CONDITION MAP
(NORTH/SOUTH STREETS)

DATE: MAY 2014

DRAFTER: AJH

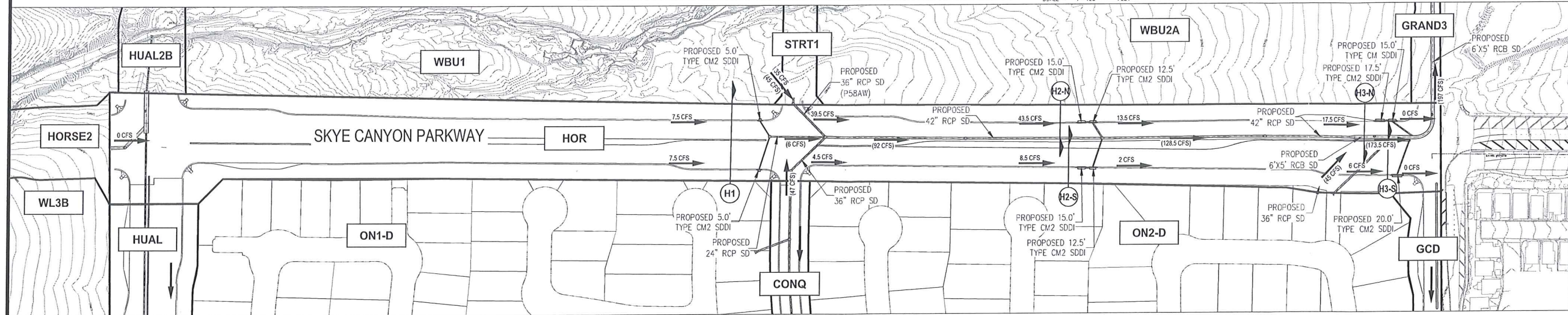
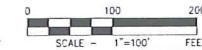
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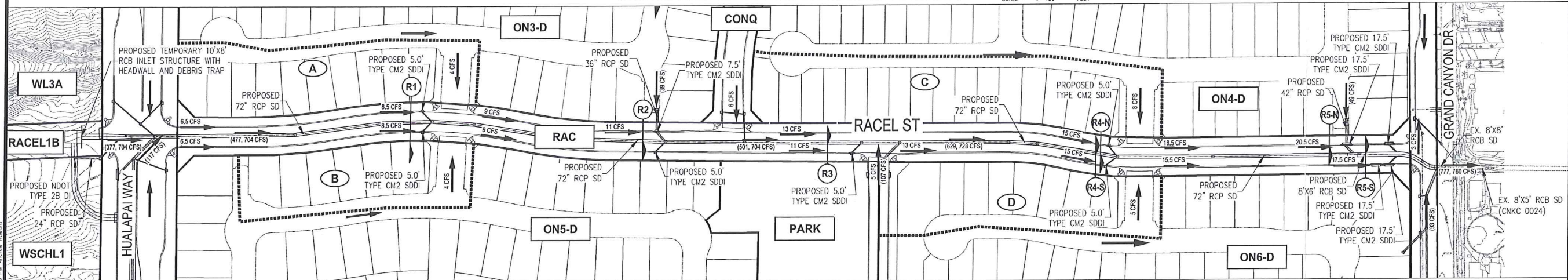
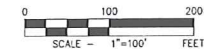
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EXHIBIT I
SHEET 2 OF 2

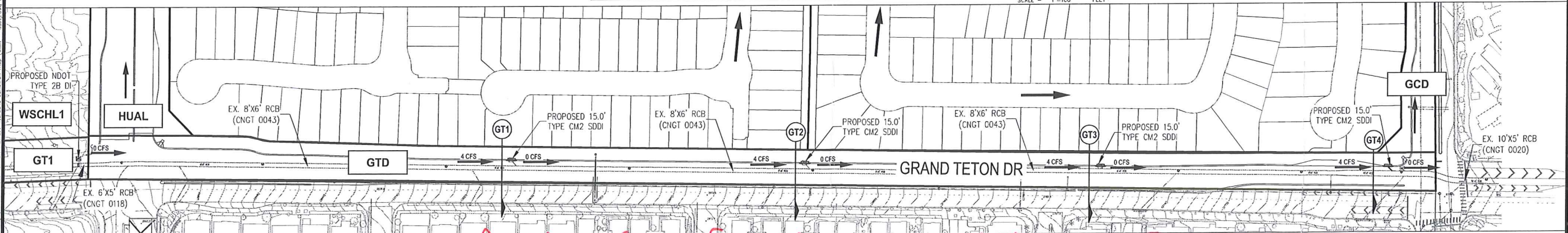
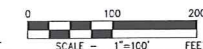
SKYE CANYON PARKWAY HYDRAULIC CONDITION



RACEL STREET HYDRAULIC CONDITION



GRAND TETON DRIVE HYDRAULIC CONDITION



* UTILIZED FOR IDENTIFICATION OF PHASE I FLOOD CONTROL FACILITIES SHOWN ON UPDATED MASTER STUDY FACILITIES.
 * FLOWS SHOWN ON UPDATED MASTER STUDY FACILITIES EXCEPTED DIRECTLY FROM THIS PHASE I DESIGN.

Cross Section	Slope (%)	Q ₁₀₀ (cfs)	Depth (ft)	Velocity (fps)	DxV
H1	3.56	15	0.37	5.2	1.9
*H2-N	4.75	43.5	0.60	8.0	4.8
*H2-S	4.75	8.5	0.37	6.0	2.2
*H3-N	2.26	17.5	0.51	4.9	2.5
*H3-S	2.26	6	0.37	4.1	1.5

Cross Section	Slope (%)	Q ₁₀₀ (cfs)	Depth (ft)	Velocity (fps)	DxV
R1	4.90	17	0.36	6.1	2.2
*R2	4.90	11	0.39	6.3	2.5
*R3	1.53	11	0.47	3.9	1.8
*R4-N	4.90	15	0.43	6.6	2.9
*R4-S	4.90	15	0.43	6.6	2.9
*R5-N	4.90	20.5	0.47	7.0	3.3
*R5-S	4.90	17.5	0.45	6.8	3.1

Cross Section	Slope (%)	Q ₁₀₀ (cfs)	Depth (ft)	Velocity (fps)	DxV
*GT1	3.60	4	0.33	4.0	1.3
*GT2	3.60	4	0.33	4.0	1.3
*GT3	3.60	4	0.33	4.0	1.3
*GT4	2.30	4	0.35	3.4	1.2

	BASIN BOUNDARY
	BASIN ID
	SUBBASIN BOUNDARY
	SUBBASIN ID
	FLOW DIRECTION
	FLOWMASTER SECTION
XX CFS	100-YR STREET FLOW
(XX CFS)	100-YR STORM DRAIN FLOW*

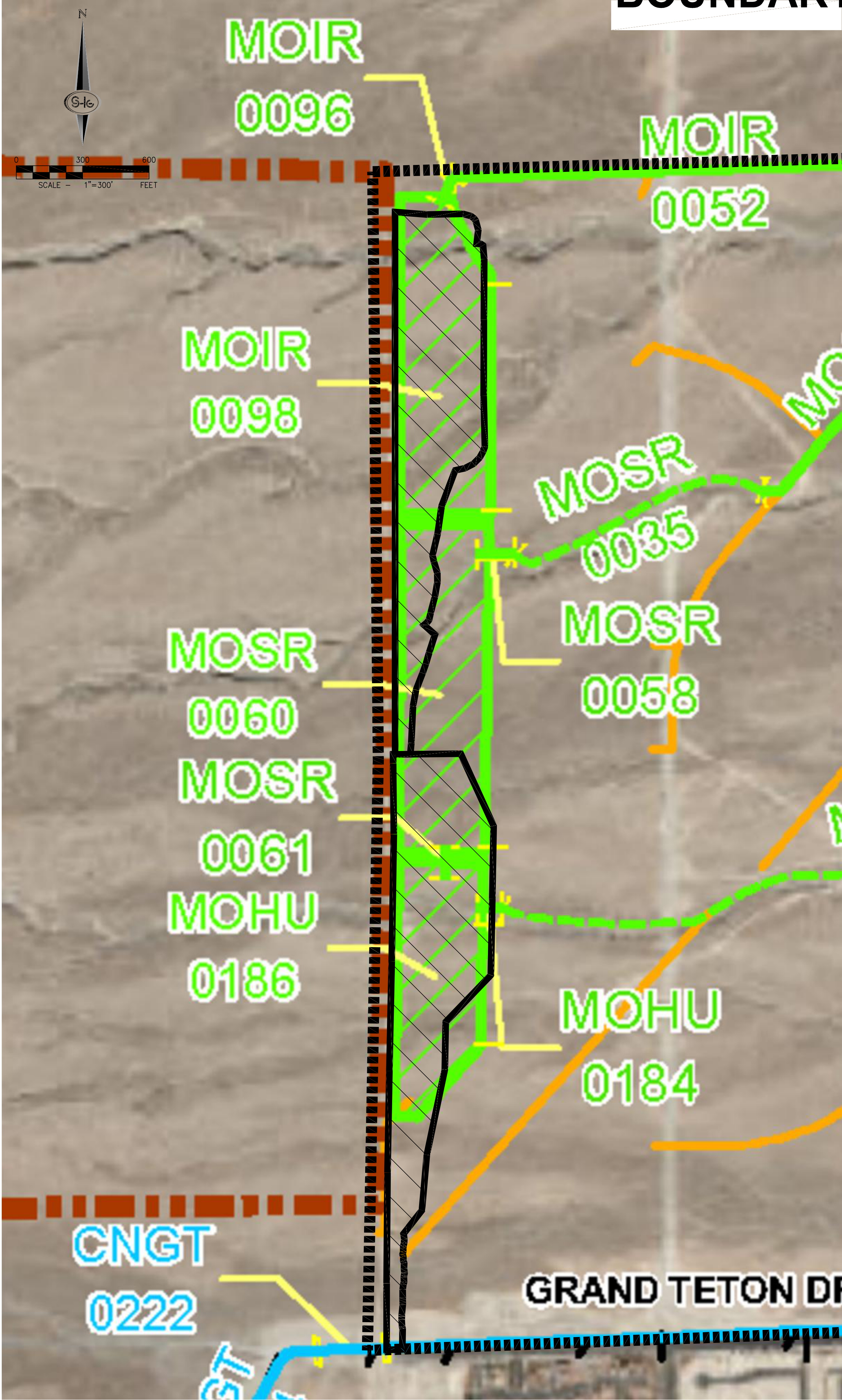
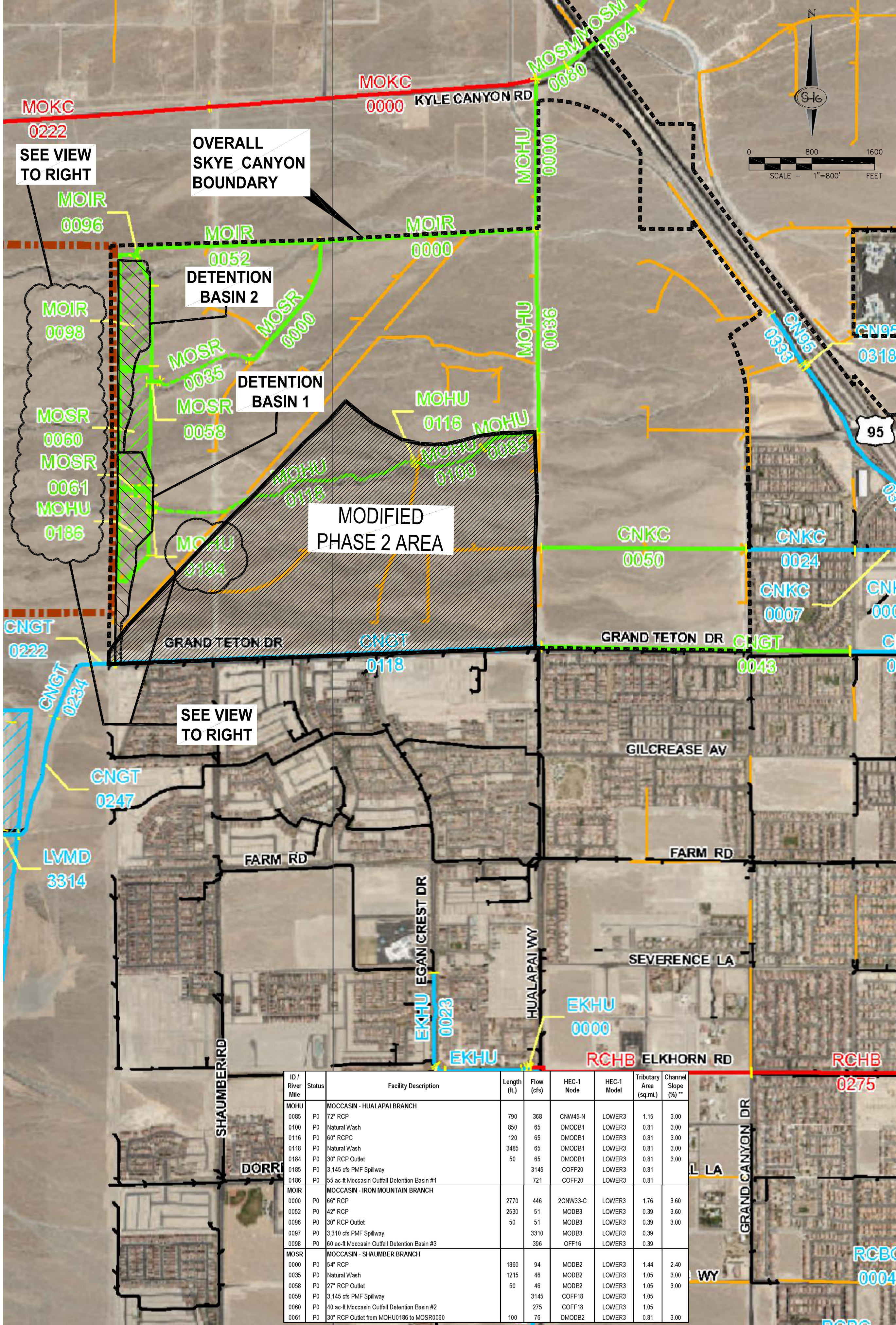


*RACEL STORM DRAIN FLOW DENOTED AS: (ULTIMATE CONDITION, INTERIM CONDITION CFS)

2013 MPU FACILITIES MAP

PROPOSED DETENTION BASIN COMPARISON

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REGIONAL FLOOD CONTROL DISTRICT

2013 LAS VEGAS VALLEY FLOOD CONTROL MASTER PLAN UPDATE

FIGURE F- 12 FLOOD CONTROL FACILITIES

LEGEND

- Ultimate Development Boundary
- Existing Facilities
- Category A Proposed Facilities
- Category B Proposed Facilities
- Local Existing Facilities
- Local Proposed Facilities

Stormdrain

Lined Channel

Unlined Channel

Levee/Dike

Natural Wash/Floodway

ID-Mile Separator

Remove & Replace/Parallel Facilities

Category A Channel

Category B Channel

Stormdrain

LEGEND

- OLD PROPOSED BASIN BOUNDARY
- NEW PROPOSED BASIN BOUNDARY
- OVERLAPPING AREA

NO.	DESCRIPTION	DATE	BY	APP.	DATE

NINETY-FIVE MANAGEMENT, LLC.

SKYE CANYON MASTER DRAINAGE STUDY UPDATE

CCRCD 2013 MPU FACILITIES MAP

DATE: DECEMBER 2014

DRAFTER: ETM

DESIGNER: ETM

CHECKED: SMJ

PROJECT NO. OLY1401.004

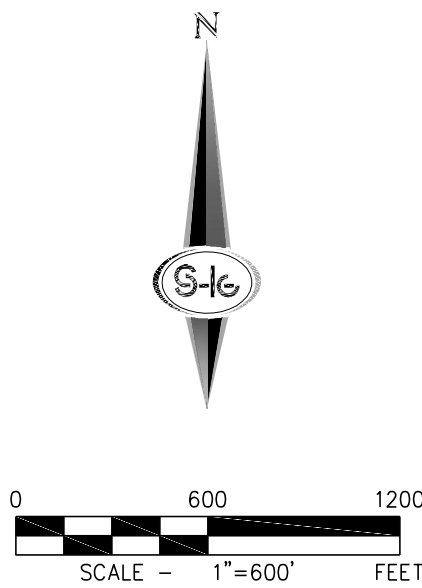
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100-Year Basin Flow Rate Summary (Proposed Condition)		
Basin ID	Area (ac)	Q ₁₀₀ (cfs)
OFF1	274.6	387
OFF2	26.8	54
OFF3	16.6	38
OFF4	37.2	84
OFF5	164.4	236
OFF6	25.5	59
OFF7	4.3	10
OFF8	137.0	230
OFF9	74.5	144
OFF10	417.5	467
ON1	16.7	47
ON2	15.4	49

Concentration Points Summary (Proposed Condition)		
Basin/Concentration Point ID	Area (sq-mi)	Q ₁₀₀ (cfs)
CP1 (OFF1 + OFF2 + OFF3)	0.50	417
CP2 (OFF7 + OFF8)	0.22	235
DB1 (CP1 + OFF4 + OFF5 + OFF6 + ON1)	0.88	731
DB2 (CP2 + OFF9 + OFF10 + ON2)	1.01	696
RDB1 (Detention Basin Outflow)	0.88	70
RDB2 (Detention Basin Outflow)	1.01	75

LEGEND	
	BASIN BOUNDARY
	BASIN ID
	FLOW DIRECTION
	CONCENTRATION POINT
	EXISTING FACILITY
	OVERALL SKYE CANYON BOUNDARY



NINETY-FIVE MANAGEMENT, LLC.

SKYE CANYON MASTER DRAINAGE STUDY UPDATE

DETENTION PROPOSED CONDITION DRAINAGE MAP

DATE: DECEMBER 2014

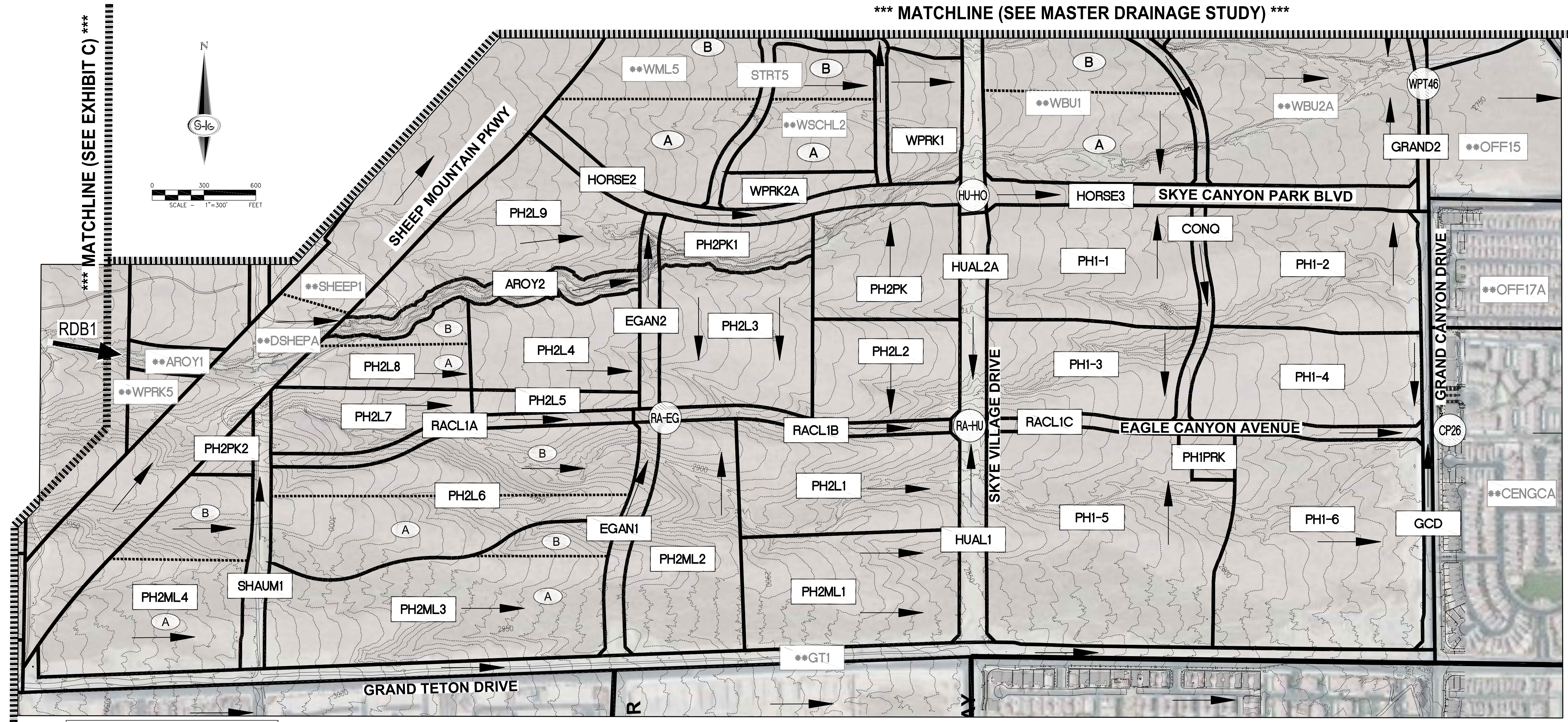
DRAFTER: ETM

DESIGNER: ETM

CHECKED: SMJ

PROJECT NO.
OLY1401.004

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NOTE: PHASE 1 BASINS (PH1-1, PH1-2, PH1-3, PH1-4, PH1-5, PH1-6, CONQ, RAC1C, PH1PRK AND GCD) HAVE BEEN REFERENCED FROM THE APPROVED SKYE CANYON PHASE 1 INFRASTRUCTURE STUDY

Ultimate Condition Basin Flow Rate Summary				
Basin/Concentration Point ID	Area (ac)	Q ₁₀₀ (cfs)	Q ₁₀ (cfs)	
Modified Phase 2 Basins				
AROY2	5.2	13	6	
EGAN1	3.7	12	7	
EGAN2	2.8	10	6	
*GRAND2	2.1	6	4	
HORSE2	7.1	23	13	
HUAL1	4.5	14	8	
HUAL2A	4.0	13	7	
PH2L1	17.4	45	21	
PH2L2	11.5	31	14	
PH2L3	16.6	43	20	
PH2L4	11.9	33	15	
PH2L5	2.7	9	4	
PH2L6	30.0	77	34	
PH2L7	8.3	23	10	
PH2L8	8.1	22	10	
PH2L9	18.6	52	23	
PH2ML1	18.8	60	31	
PH2ML2	18.1	59	31	
PH2ML3	28.7	81	40	
PH2ML4	22.7	66	32	
PH2PK1	13.1	29	10	
PH2PK2	5.5	13	5	
RAC1A	3.2	4	2	
RAC1B	3.8	13	7	
RAC1C	3.3	12	7	
SHAUM1	4.2	13	7	
*WPRK1	7.3	18	7	
*WPRK2A	3.8	9	3	
Referenced Phase 1 Basins				
CONQ	2.2	6	3	
GCD	3.4	10	5	
PH1-1	17.8	47	21	
PH1-2	19.3	45	18	
PH1-3	14.8	39	17	
PH1-4	16.1	49	24	
PH1-5	37.3	107	52	
PH1-6	32.3	93	46	
PH1PRK	1.8	4	1	
RAC1C	4.6	13	6	

* Modified basin outside the Phase 2 Area

Ultimate Condition Concentration Point Flow Rate Summary				
Basin/Concentration Point ID	Area (sqmi)	Q ₁₀₀ (cfs)	Q ₁₀ (cfs)	
RA-EG				
PH2ML3 + PH2L6 + EGAN1 + PH2L5 + PH2L7 + RAC1A	0.12	209	100	
RA-HU				
RA-EG + PH2ML1 + PH2ML2 + PH2L1 + PH2L2 + PH2L3 + HUAL1 + RAC1B + HUAL2A	0.27	482	231	
HU-HO				
RDB1 + AROY1 + WPRK5 + DSHEPA + AROY2 + PH2L4 + PH2L8 + PH2L9 + EGAN2 + WPRK2A + PH2PK1 + PH2PK + HORSE2 + PH2PK2 + PH2ML4 + SHAUM1	1.15	332	154	
CP26				
RA-HU + PH1-3 + CONQ + PH1-5 + PH1PRK + RAC1C + PH1-4 + PH1-6 + GCD	0.44	791	388	
WPT46				
WBU1 + STRT1 + WBU2A + PH1-1 + PH1-2 + GRAND2 + HORSE3	0.16	293	146	

LEGEND

BASIN BOUNDARY

PRO-RATED SUBBASIN BOUNDARY

ID

BASIN ID

**ID

BASIN NOT MODIFIED

ID

PRO-RATED SUBBASIN ID

FLOW DIRECTION

Phase 2 Prorated Flow Summary			
Basin	Q ₁₀₀ (cfs)	Area (acres)	Unit Flow (cfs/acre)
PH2ML3	81	28.7	2.8
PH2ML4	66	22.7	2.9
PH2L6	77	30.0	2.6
PH2L8	22	8.1	2.7
Subbasin	Q ₁₀₀ (cfs)	Area (acres)	Unit Flow (cfs/acre)
PH2ML3-A	73	25.8	2.8
PH2ML3-B	8	2.9	2.8
TOTAL	81	28.7	2.8
PH2ML4-A	47	16.0	2.9
PH2ML4-B	19	6.7	2.9
TOTAL	66	22.7	2.9
PH2L6-A	39	15.0	2.6
PH2L6-B	39	15.0	2.6
TOTAL	77	30.0	2.6
PH2L8-A	16	5.9	2.7
PH2L8-B	6	2.2	2.7
TOTAL	22	8.1	2.7

SLATER
HANIFAN
GROUP

CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

DATE: DECEMBER 2014

DRAFTER: ETM

DESIGNER: ETM

CHECKED: SMJ

PROJECT NO.
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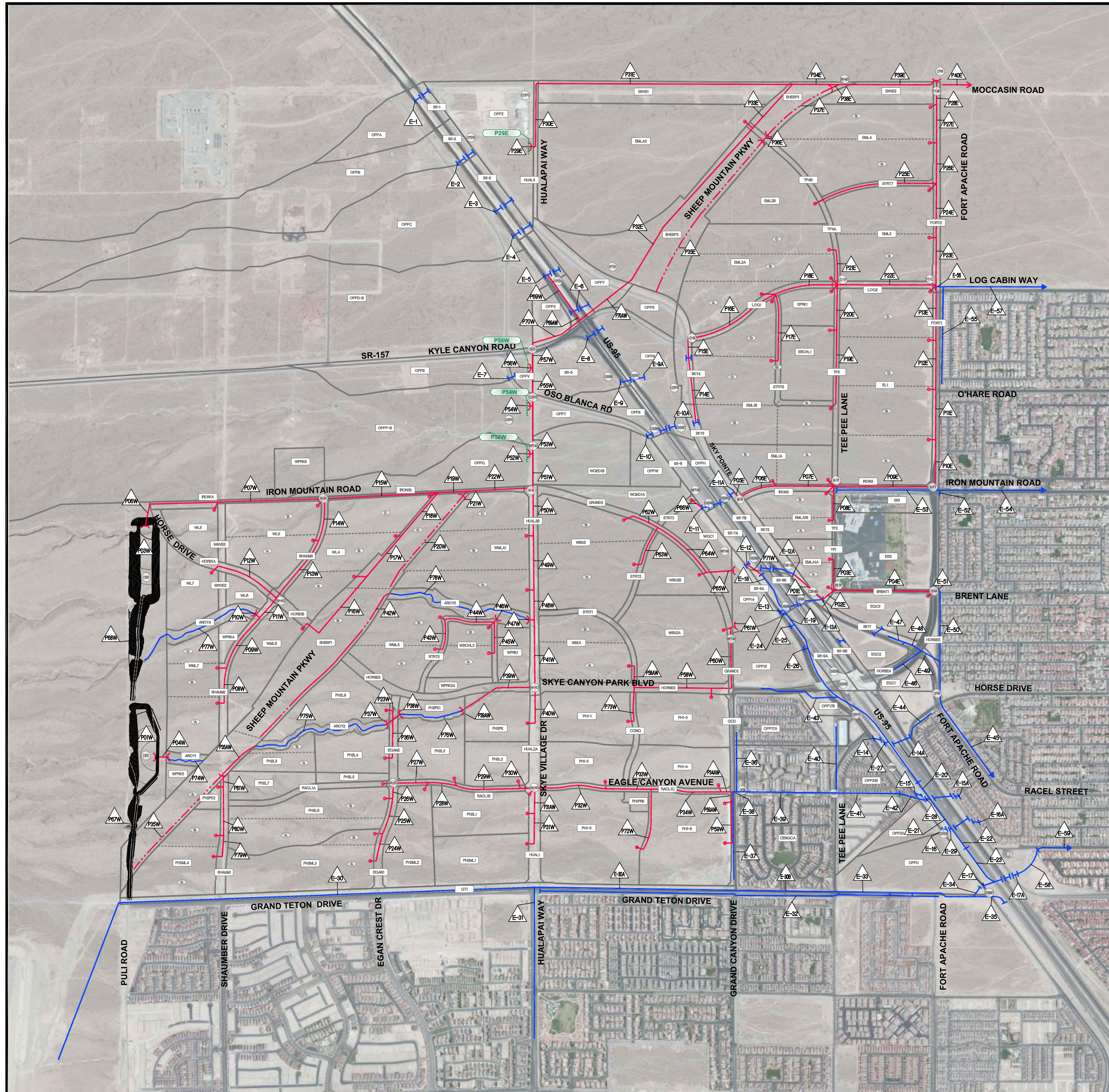
NINETY-FIVE MANAGEMENT, LLC.

SKYE CANYON MASTER DRAINAGE STUDY UPDATE

PHASE 2 ULTIMATE CONDITION DRAINAGE MAP

EXHIBIT G

SHEET 1 OF 1

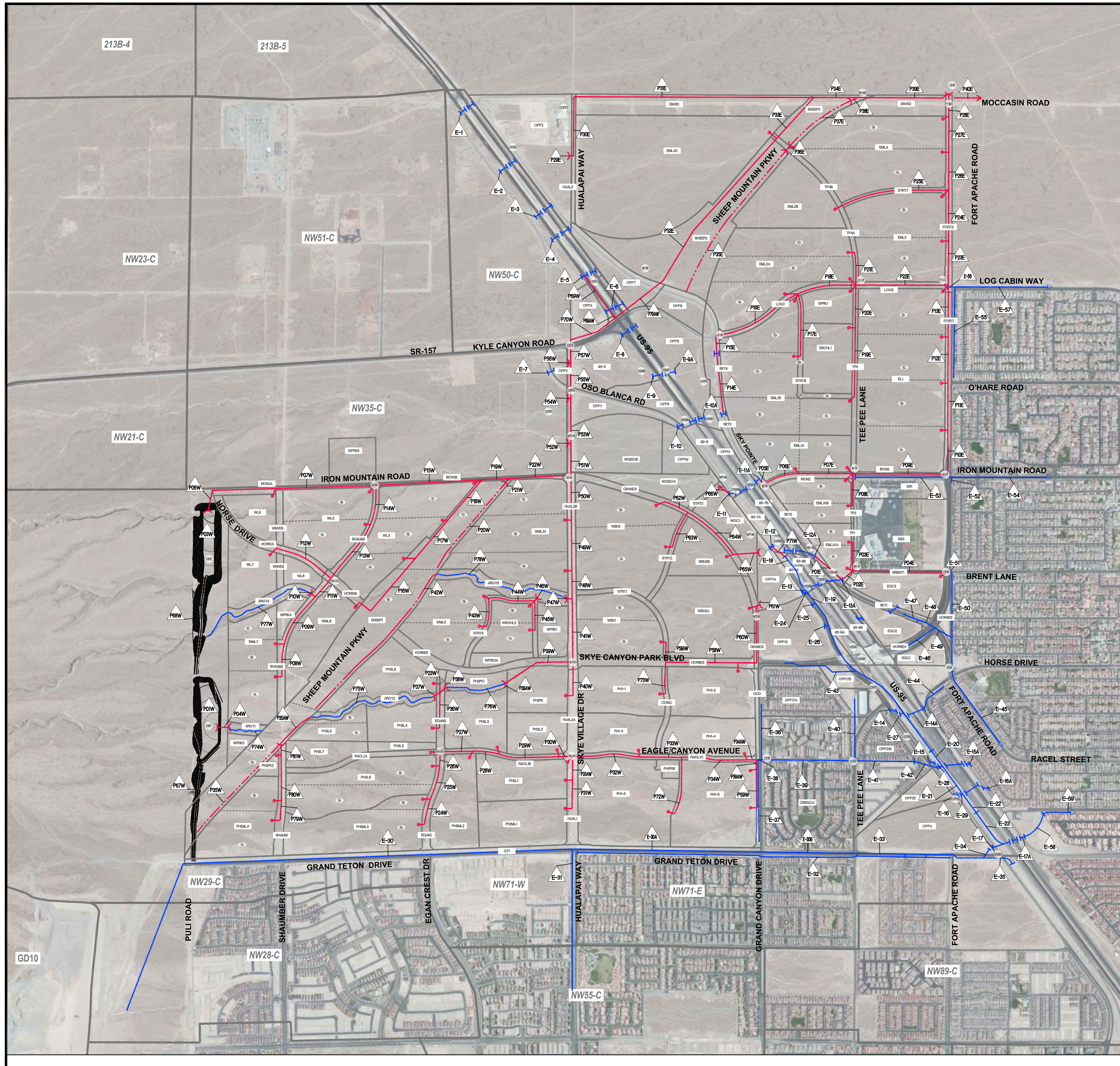


Summary of Offsite Cross Sections Kyle Canyon West							
Cross Section ID	Source of Approaching Flow	Flow Rate (cfs)	Design Q ₁₀₀ (cfs)	Water Surface Elevation (ft)	Flow Depth (ft)	Culvert Size	Headwater Height (ft)
P22W	OFFFC	47	47	2833.31	0.49	36-inch RCP	4.2
P54W	COFFFT	1310	1310	2833.39	1.86	(2) 10-4 x 8-4 RCBs	8.0
P56W	OFFFC + OFFV	30	30	2830.13	0.87	30-inch RCP	3.3
P70W	80% OFFFC	461	461	3058.31	1.59	6-8 x 6-4 RCB	9.0
1 - Depth of Hole includes 1-ft of freeboard above headwater and 1-ft provided for debris trap at culvert inlet.							
Summary of Offsite Cross Sections Kyle Canyon East							
Cross Section ID	Source of Approaching Flow	Flow Rate (cfs)	Design Q ₁₀₀ (cfs)	Water Surface Elevation (ft)	Flow Depth (ft)	Culvert Size	Headwater Height (ft)
P20E	COFFZ	206	206	2812.02	1.02	66-inch RCP	6.9
1 - Depth of Hole includes 1-ft of freeboard above headwater and 1-ft provided for debris trap at culvert inlet.							

Summary of Proposed Facilities Kyle Canyon West - Proposed Condition				Flow Breakdown ¹	
Facility ID	Q ₁₀₀ (cfs)	Design Slope (%)	Length (ft)	Description	
P01W	731	N/A	N/A	Office Site: 30-inch (into P70W) Total Storage Volume: 70.9 acre-ft 100-year Water Surface Elevation: 2838.0-ft RMF Flow: 4,902 cfs Low Flow Conveyance at Bottom	D01/R001
P02V	N/A	N/A	N/A	Office Site: 27-inch (into P00W) Total Storage Volume: 77.6 acre-ft 100-year Water Surface Elevation: 2838.0-ft RMF Flow: 4,902 cfs Low Flow Conveyance at Bottom	N/A
P03W	695	N/A	N/A	Office Site: 27-inch (into P00W) Total Storage Volume: 77.6 acre-ft 100-year Water Surface Elevation: 2838.0-ft RMF Flow: 4,902 cfs Low Flow Conveyance at Bottom	D02/R002
P04W	70	2.0	223	30-inch RCP	R001
P04W	N/A	N/A	N/A	Outlet from Detention removed by this Update	N/A
P05W	N/A	N/A	N/A	Outlet from Detention removed by this Update	N/A
P06W	75	3.6	1195	30-inch RCP	R002
P07W	100	3.6	1419	42-inch RCP	R002 + WLS
P08W	38	1.7	485	36-inch RCP	WML7-A
P09W	60	1.7	810	36-inch RCP	WML7-A + WML7-B
P10W	28	N/A	50	42-inch RCP Inlet	AROY2 + WML7C
P11W	88	1.7	545	48-inch RCP	WML7 + AROY2 + WPRK4
P12W	38	2.5	895	30-inch RCP	WLT
P13W	184	3.5	890	48-inch RCP	SHHO
P14W	218	3.5	561	54-inch RCP	SHHO + WLSA
P15W	311	3.5	1568	60-inch RCP	IR-SH
P16W	49	3.2	1183	36-inch RCP	WML6 + HORIS1B
P17W	91	3.2	707	42-inch RCP	WML6 + HORIS1B + WLSA
P18W	117	3.2	754	42-inch RCP	WML6 + HORIS1B + WLSA + WLS4
P19W	482	3.6	138	5-4 wide by 5-4 high RCB	IR-SH + WML6 + HORIS1B + WLS4
P20W	33	3.2	1551	Interim Channel, Earthen, 20' BW, 3:1 SS, d=2.5'	SHEEP1-C
P21W	33	N/A	60	30-inch RCP Inlet	SHEEP1-C
P22W	495	3.4	877	6-4 wide by 5-4 high RCB	IR-SH + WML6 + HORIS1B + WLS4 + SHEEP1-C
P23W	52	0.5	125	42-inch RCP	SHEEP1-C
P24W	73	0.5	372	42-inch RCP	PH0M3-A
P25W	120	0.5	490	48-inch RCP	PH0M3-A + PH0M3-B
P26W	158	0.5	202	60-inch RCP	PH0M3 + PH0M4
P27W	209	3.0	460	60-inch RCP	RAEG
P28W	288	3.0	381	60-inch RCP	RAEG + PH0M2
P29W	311	3.0	885	60-inch RCP	RAEG + PH0M2 + PH0M3
P30W	342	3.0	132	60-inch RCP	RAEG + PH0M2 + PH0M3 + PH0M4
P31W	15	N/A	N/A	24-inch RCP (Phase 1)	PH0M1
P32W	47	N/A	N/A	42-inch RCP (Phase 1)	PH0M1 + PH0M2
P33W	501	N/A	N/A	72-inch RCP (Phase 1)	RA-HU + PH13
P34W	628	N/A	N/A	72-inch RCP (Phase 1)	RA-HU + PH13 + PH15 + PH16 + PH17 + PH18 + PH19 + PH20 + PH21 + PH22 + PH23 + PH24 + PH25 + PH26 + PH27 + PH28 + PH29 + PH30 + PH31 + PH32 + PH33 + PH34 + PH35 + PH36 + PH37 + PH38 + PH39 + PH40 + PH41 + PH42 + PH43 + PH44 + PH45 + PH46 + PH47 + PH48 + PH49 + PH50 + PH51 + PH52 + PH53 + PH54 + PH55 + PH56 + PH57 + PH58 + PH59 + PH60 + PH61 + PH62 + PH63 + PH64 + PH65 + PH66 + PH67 + PH68 + PH69 + PH70 + PH71 + PH72 + PH73 + PH74 + PH75 + PH76 + PH77 + PH78 + PH79 + PH80 + PH81 + PH82 + PH83 + PH84 + PH85 + PH86 + PH87 + PH88 + PH89 + PH90 + PH91 + PH92 + PH93 + PH94 + PH95 + PH96 + PH97 + PH98 + PH99 + PH100
P35W	678	N/A	N/A	8-4 wide by 5-4 high RCB (Phase 1)	RA-HU + PH13 + PH15 + PH16 + PH17 + PH18 + PH19 + PH20 + PH21 + PH22 + PH23 + PH24 + PH25 + PH26 + PH27 + PH28 + PH29 + PH30 + PH31 + PH32 + PH33 + PH34 + PH35 + PH36 + PH37 + PH38 + PH39 + PH40 + PH41 + PH42 + PH43 + PH44 + PH45 + PH46 + PH47 + PH48 + PH49 + PH50 + PH51 + PH52 + PH53 + PH54 + PH55 + PH56 + PH57 + PH58 + PH59 + PH60 + PH61 + PH62 + PH63 + PH64 + PH65 + PH66 + PH67 + PH68 + PH69 + PH70 + PH71 + PH72 + PH73 + PH74 + PH75 + PH76 + PH77 + PH78 + PH79 + PH80 + PH81 + PH82 + PH83 + PH84 + PH85 + PH86 + PH87 + PH88 + PH89 + PH90 + PH91 + PH92 + PH93 + PH94 + PH95 + PH96 + PH97 + PH98 + PH99 + PH100
P36W	45	3.2	1740	Interim Channel, Earthen, 35' BW, 3:1 SS, d=2.5'	SHEEP1-A
P37W	128	3.2	585	Interim Channel, Earthen, 35' BW, 3:1 SS, d=2.5', 8' Riprap	SHEEP1-A + PH0M4 + PH0M5 + PH0M6 + PH0M7 + PH0M8 + PH0M9 + PH0M10 + PH0M11 + PH0M12 + PH0M13 + PH0M14 + PH0M15 + PH0M16 + PH0M17 + PH0M18 + PH0M19 + PH0M20 + PH0M21 + PH0M22 + PH0M23 + PH0M24 + PH0M25 + PH0M26 + PH0M27 + PH0M28 + PH0M29 + PH0M30 + PH0M31 + PH0M32 + PH0M33 + PH0M34 + PH0M35 + PH0M36 + PH0M37 + PH0M38 + PH0M39 + PH0M40 + PH0M41 + PH0M42 + PH0M43 + PH0M44 + PH0M45 + PH0M46 + PH0M47 + PH0M48 + PH0M49 + PH0M50 + PH0M51 + PH0M52 + PH0M53 + PH0M54 + PH0M55 + PH0M56 + PH0M57 + PH0M58 + PH0M59 + PH0M60 + PH0M61 + PH0M62 + PH0M63 + PH0M64 + PH0M65 + PH0M66 + PH0M67 + PH0M68 + PH0M69 + PH0M70 + PH0M71 + PH0M72 + PH0M73 + PH0M74 + PH0M75 + PH0M76 + PH0M77 + PH0M78 + PH0M79 + PH0M80 + PH0M81 + PH0M82 + PH0M83 + PH0M84 + PH0M85 + PH0M86 + PH0M87 + PH0M88 + PH0M89 + PH0M90 + PH0M91 + PH0M92 + PH0M93 + PH0M94 + PH0M95 + PH0M96 + PH0M97 + PH0M98 + PH0M99 + PH100
P38W	49	0.5	505	36-inch RCP	PH0M13 + PH0M14
P39W	228	N/A	63	66-inch RCP Inlet	PH0M13 + PH0M14
P40W	339	3.0	64	60-inch RCP	PH0M13 + PH0M14
P41W	338	N/A	N/A	72-inch RCP	PH0M13 + PH0M14
P42W	338	3.0	996	72-inch RCP (Phase 1)	PH0M13 + PH0M14
P43W	42	N/A	N/A	30-inch RCP (Phase 1)	PH0M13 + PH0M14
P44W	338	0.5	895	7-4 wide by 5-4 high RCB	PH0M13 + PH0M14
P45W	70	3.2	2594	Interim Channel, Earthen, 35' BW, 3:1 SS, d=2.5'	SHEEP1-B
P46W	33	0.5	399	36-inch RCP	WML5-A
P47W	78	4.5	384	36-inch RCP	WML5-A
P48W	21	0.5	414	36-inch RCP	WML5-A
P49W	124	0.5	35	60-inch RCP Inlet	WML5-A
P50W	214	N/A	78	66-inch RCP Inlet	WML5-A
P51W	552	0.5	397	10-4 wide by 5-4 high RCB	WML5-A
P52W	573	0.5	719	10-4 wide by 5-4 high RCB	WML5-A
P53W	651	0.5	637	10-4 wide by 5-4 high RCB	WML5-A
P54W	1116	0.5	373	10-4 wide by 5-4 high RCB	WML5-A
P55W	47	N/A	70	36-inch RCP	WML5-A
P56W	1160	0.5	755	10-4 wide by 5-4 high RCB	WML5-A
P57W	1310	N/A	70	(2) 10-4 wide by 5-4 high RCBs	WML5-A
P58W	1028	0.5	481	30-inch RCP Inlet	WML5-A
P59W	35	N/A	70	14-4 wide by 5-4 high RCB	WML5-A
P60W	1678	0.5	327	14-4 wide by 5-4 high RCB	WML5-A
P61W	45	0.5	825	36-inch RCP	WML5-A
P62W	92	N/A	N/A	42-inch RCP (Phase 1)	WML5-A
P63W	62	N/A	N/A	36-inch RCP (Phase 1)	WML5-A
P64W	93	N/A	N/A	48-inch RCP (Phase 1)	WML5-A
P65W	187	N/A	N/A	6-4 wide by 5-4 high RCB (Phase 1)	WML5-A
P66W	293	0.5	61	72-inch RCP	WML5-A
P67W	45	2.4	148	48-inch RCP	WML5-A
P68W	78	1.6	538	42-inch RCP	WML5-A
P69W	123	2.5	886	42-inch RCP	WML5-A
P70W	231	0.5	368	72-inch RCP	WML5-A
P71W	37	3.0	173	42-inch RCP	WML5-A
P72W	417	0.5	1360	Collector Channel, 12' BW, 3:1 SS, d = 5.0'	WML5-A
P73W	235	0.5	1200	Collector Channel, 12' BW, 3:1 SS, d = 5.0'	WML5-A
P74W	232	1.2	582	60-inch RCP	WML5-A
P75W	478	1.2	148	6-4 wide by 5-4 high RCB	WML5-A
P76W	1678	3.0	707	14-4 wide by 5-4 high RCB, Crossing of US-95	WML5-A
P77W	1814	3.0	879	14-4 wide by 5-4 high RCB, Crossing of US-95	WML5-A
P78W	244	1.6	238	5-4 wide by 5-4 high RCB	WML5-A
P79W	110	N/A	N/A	36-inch RCP (Phase 1)	WML5-A
P80W	47	N/A	N/A	36-inch RCP (Phase 1)	WML5-A
P81W	79	N/A	520	Existing Anyway	WML5-A
P82W	228	N/A	2352	Existing Anyway	WML5-A
P83W	338	N/A	846	Existing Anyway	WML5-A
P84W	214	N/A	1970	Existing Anyway	WML5-A
P85W	47	0.5	278	36-inch RCP	WML5-A
P86W	65	0.5	645	42-inch RCP	WML5-A
P87W	83	0.5	147	48-inch RCP	WML5-A

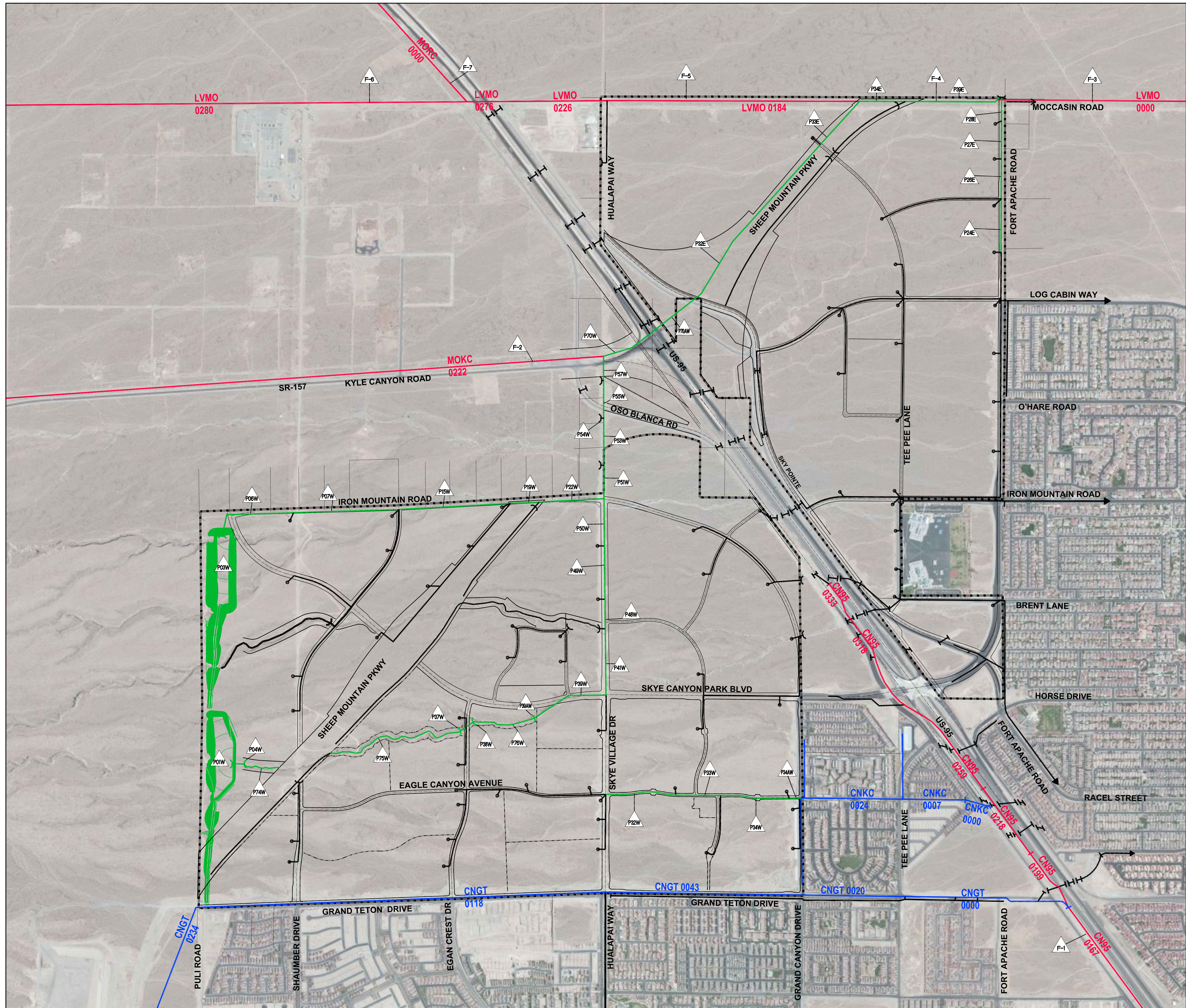
Summary of Proposed Facilities Kyle Canyon East - Proposed Condition				Flow Breakdown ¹	
Facility ID	Q ₁₀₀ (cfs)	Design Slope (%)	Length (ft)	Description	
P01E	22	1.8	577	36-inch RCP	C05-7B
P02E	260	1.8	188	60-inch RCP	C05-7B + C05-8B + SKY2
P03E	15	0.5	411	60-inch RCP w/ Interim Bubbler at Brent/Ft. Apache Intersection to release Surface Flow that exceeds Storm Drain Capacity	EMLA1A-B
P04E	289	3.2	1410	Apache Intersection to release Surface Flow that exceeds Storm Drain Capacity	BR-TP
P05E	84	0.5	107	48-inch RCP	DCHDC
P06E	108	2.9	530	48-inch RCP	SK-R
P07E	139	2.9	759	48-inch RCP	SK-R + EMLA1A-B
P08E	17	0.5	454	30-inch RCP	EMLA1A-B
P09E	177	3.1	1351	48-inch RCP	IR-TP + 31' STRENGTHENING CAPACITY EXISTING SD
P10E	124	0.5	692	60-inch RCP	FINOR
P11E	152	0.5	697	60-inch RCP	FINOR + ELT-A
P12E	140	0.5	652	60-inch RCP	FINOR + ELT-A + ELT-B + FORTI-A - CHARE
P13E	167	0.5	734	66-inch RCP	FINOR + ELT-A + ELT-B + FORTI-A - CHARE
P14E	39	0.5	696	48-inch RCP	DCHDC
P15E	150	0.5	262	60-inch RCP	COFFZ
P16E	175	3.0	1324	60-inch RCP	LC-SK
P17E	40	0.5	890	42-inch RCP	EMLA1B-C
P18E	277	3.0	838	60-inch RCP	LC-SK + EML1B-C + EML1B-D + EML2A-A
P19E	53	0.5	972	42-inch RCP	EMLA1A + EML1B-B
P20E	82	0.5	603	54-inch RCP	EMLA1A + EML1B-B + EML2A-C
P21E	32	1.6	464	30-inch RCP	EMLA1A
P22E	475	3.0	1311	66-inch RCP	LC-TP
P23E	463	0.5	697	7-4 wide by 5-4 high RCB	R2FLC
P24E	507	0.5	721	8-4 wide by 6-4 high RCB	R2FLC + EMLA1A
P25E	73	2.6	1658	36-inch RCP	EMLA1B + TRAB
P26E	641	0.5	537	9-4 wide by 6-4 high RCB	R2FLC + FORTI-A + EML3 + EML4 + TRAB + STR7
P27E	703	0.5	513	10-4 wide by 6-4 high RCB	EMLA1A
P28E	760	0.5	490	10-4 wide by 6-4 high RCB	IR-TAB
P29E	206	N/A	60	60-inch RCP Inlet	COFFZ
P30E	206	0.5	637	66-inch RCP	COFFZ
P31E	212	2.9	3402	66-inch RCP	COFFZ + HUAL3
P32E	1914	2.4	2586	14-4 wide by 8-4 high RCB	EPIT6
P33E	2088	2.4	783	14-4 wide by 8-4 high RCB	EPIT6 + EMLA2
P34E	1201	2.9	619	14-4 wide by 8-4 high RCB	SHARP
P35E	43	2.4	2455	Interim Channel, Earthen, 20' BW, 3:1 SS, d=2.5'	SHEEP2
P36E	43	2.4	110	30-inch RCP Inlet	SHEEP2
P37E	53	2.4	1065	Interim Channel, Earthen, 20' BW, 3:1 SS, d=2.5'	SHEEP2 + SHEEP3
P38E	77	N/A	110	42-inch RCP Inlet	SHEEP2 + SHEEP3 + ENVE1
P39E	2101	2.6	1296	14-4 wide by 8-4 high RCB	SH-MD
P40E	2656	N/A	7200	Interim Lenee, 4 to 5-4 high, 3:1 SS, 12-4 wide with drivable access along top, extends in Moccasin alignment from Fort Apache to Upper Las Vegas Wash Channel & Lenee	CP43

Summary of Existing US-95 Culverts - Proposed Condition					
Facility ID	Q _{EXIST} (cfs)	Q _{DESIGN} (cfs)	Q _{BASE} (cfs) ¹	HEC-1 Node	Description
E-1	22*	N/A	24	OFFA + 95-1	6-ft by 3-ft RCB
E-2	81*	N/A	80	OFFB + 95-2	6-ft by 3-ft RCB
E-3	44*	N/A	47.5	0.5(OFFC + 95-3)	6-ft by 3-ft RCB
E-4	44*	N/A	47.5	0.5(OFFC + 95-3)	42-inch CMP
E-5	225*	N/A	232	0.5(CP27A)	42-inch CMP
E-6	225*	N/A	244	0.5(CP27A) + OFFX	6-ft by 3-ft RCB
E-7	19**	44**	26	OFFE	(2) 6-ft by 3-ft RCB
E-8	N/A*	N/A	N/A	N/A	(3) 36-inch CMP
E-9	30**	54**	45	DCHD1B	6-ft by 3-ft RCB
E-9A	30**	54**	45	DCHD1C	6-ft by 3-ft RCB
E-10	360**	75**	91	DCHD2B	(2) 6-ft by 3-ft RCB
E-10A	347**	100**	59	DCHD2C	(2) 6-ft by 3-ft RCB
E-11	1098**	1141**	61	DCHD4C	(2) 10-ft by 4-ft RCB
E-11A	853**	872**	84	DCHD4C	(3) 42-inch CMP
E-12	494**	330*	244	CHD05B	6-ft by 3-ft RCB
E-12A	346**	153**	8	DCHD6C	6-ft by 3-ft RCB
E-13	948**	403**	215	DCHD6B	(2) 10-ft by 4-ft RCB
E-13A	788**	403**	216	DCHD6C	(2) 10-ft by 4-ft RCB
E-14	525**	66**	66	DVUL8A	6-ft by 4-ft RCB
E-14A	287**	66**	66	DVUL8A	(2) 42-inch CMP
E-15	770**	1009**	265	DVUL9A	(2) 42-inch CMP
E-16	250**	256**	25	DVUL9A	(2) 42-inch CMP
E-16	15**	18**	19	DCUL10	(2) 10-ft by 4-ft RCB
E-16A	360**	369*	368	DVUL10A	10-ft by 4-ft RCB
E-17	585**	643**	285	DCUL11	10-ft by 10-ft RCB
E-17A	1160**	1093*	1034	DVUL11	10-ft by 10-ft



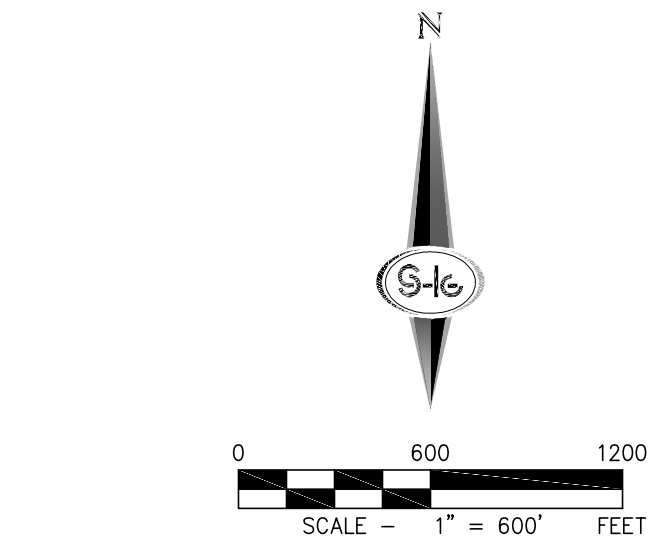
Summary of Proposed Facilities						
Facility ID	Proposed Q ₁₀₀ (cfs)	Ultimate Q ₁₀₀ (cfs)	Design Slope (%)	Length (ft)	Description	Flow Breakdown ¹
P01W	731	794	N/A	N/A	Office Size: 30,000 (60 P70W) Total Storage Volume: 70.9 acre-ft Debris Volume: 5.9 acre-ft 100-year Water Surface Elevation: 3036.0 ft PMP Flow: 4,017 cfs Low Flow Conveyance at Bottom	D61RDB1
P02W	N/A	N/A	N/A	N/A	Detention Basin with Flow Upgrade Office Size: 27,000 (60 P60W) Total Storage Volume: 77.9 acre-ft Debris Volume: 5.9 acre-ft 100-year Water Surface Elevation: 3036.0 ft PMP Flow: 4,017 cfs Low Flow Conveyance at Bottom	N/A
P03W	665	647	N/A	N/A	Detention Basin with Flow Upgrade Office Size: 27,000 (60 P60W) Total Storage Volume: 77.9 acre-ft Debris Volume: 5.9 acre-ft 100-year Water Surface Elevation: 3036.0 ft PMP Flow: 4,017 cfs Low Flow Conveyance at Bottom	D62RDB2
P04W	70	71	2.0	223	36-inch RCP	R61B1
P05W	128	N/A	N/A	N/A	Culvert from Detention removed to be replaced	N/A
P06W	N/A	N/A	N/A	N/A	Culvert from Detention removed to be replaced	N/A
P07W	100	61	3.6	1419	36-inch RCP	R62B + W61B
P08W	38	38	1.7	490	36-inch RCP	WMLA + WMLA
P09W	60	60	1.7	810	36-inch RCP	WMLA + WMLA + WMLA
P10W	28	28	N/A	66	42-inch RCP Intert	AROY + AROY + WMLA
P11W	66	66	1.7	345	36-inch RCP	WMLA + WMLA + WMLA
P12W	36	36	2.5	666	36-inch RCP	WMLA
P13W	184	184	3.5	690	36-inch RCP	SHHO + WMLA
P14W	218	194	3.5	561	36-inch RCP	SHHO + WMLA
P15W	281	214	3.6	1009	36-inch RCP	R61B1
P16W	63	66	3.2	1163	36-inch RCP	WMLA + WMLA
P17W	61	61	3.2	701	42-inch RCP	WMLA + WMLA
P18W	117	117	3.2	754	42-inch RCP	WMLA + WMLA + WMLA
P19W	475	478	3.6	398	54 wide by 5.4 high RCB	R61B1 + WMLA + WMLA
P20W	33	33	N/A	153	Interim Channel, Earthen, 30' BW, 3:1 SS, d=2.5'	SHEEP-1
P21W	33	33	N/A	153	Interim Channel, Earthen, 30' BW, 3:1 SS, d=2.5'	SHEEP-1
P22W	465	467	3.6	877	64 wide by 5.4 high RCB	R61B1 + WMLA + WMLA + WMLA
P23W	52	52	0.5	125	42-inch RCP	PHO1.3 + PHO1.3
P24W	13	13	0.5	372	42-inch RCP	PHO1.3 + PHO1.3
P25W	100	100	0.5	460	42-inch RCP	PHO1.3 + PHO1.3
P26W	158	158	0.5	202	42-inch RCP	PHO1.3 + PHO1.3
P27W	309	309	3.0	460	42-inch RCP	PHO1.3 + PHO1.3
P28W	266	266	3.0	381	42-inch RCP	PHO1.3 + PHO1.3
P29W	311	311	3.0	850	42-inch RCP	PHO1.3 + PHO1.3
P30W	342	342	3.0	192	42-inch RCP	PHO1.3 + PHO1.3
P31W	311	311	3.0	850	42-inch RCP (Phase 1)	PHO1.3 + PHO1.3
P32W	67	67	N/A	N/A	42-inch RCP (Phase 1)	PHO1.3 + PHO1.3
P33W	482	482	N/A	N/A	72-inch RCP (Phase 1)	PHO1.3 + PHO1.3
P34W	501	501	N/A	N/A	72-inch RCP (Phase 1)	PHO1.3 + PHO1.3
P35W	639	639	N/A	N/A	72-inch RCP (Phase 1)	PHO1.3 + PHO1.3
P36W	678	678	N/A	N/A	84 wide by 8.4 high RCB (Phase 1)	PHO1.3 + PHO1.3
P37W	45	45	3.2	1140	Interim Channel, Earthen, 30' BW, 3:1 SS, d=2.5'	SHEEP-1
P38W	128	128	3.2	555	Interim Channel, Earthen, 30' BW, 3:1 SS, d=2.5'	SHEEP-1
P39W	49	49	0.5	536	36-inch RCP	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P40W	228	228	N/A	63	66-inch RCP Intert	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P41W	339	339	3.0	64	60-inch RCP	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P42W	338	338	N/A	60	72-inch RCP Intert	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P43W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P44W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P45W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P46W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P47W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P48W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P49W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P50W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P51W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P52W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P53W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P54W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P55W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P56W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P57W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P58W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P59W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P60W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P61W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P62W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P63W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P64W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P65W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P66W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P67W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P68W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P69W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P70W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P71W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P72W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P73W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P74W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P75W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P76W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P77W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P78W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P79W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P80W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P81W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P82W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P83W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P84W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P85W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P86W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P87W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P88W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P89W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P90W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P91W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P92W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P93W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P94W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P95W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P96W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P97W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P98W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P99W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3
P100W	338	338	3.0	66	72-inch RCP (Phase 1)	SHOPEA + AROY + PHO1.3 + R61B1 + AROY + WMLA + PHO1.3

Summary of Existing US-95 Culverts - Ultimate Condition							
Facility ID	Q ₁₀₀ 1 (cfs)	Q ₁₀₀ 2 (cfs)	Proposed Q ₁₀₀ (cfs)	Ultimate Q ₁₀₀ (cfs)	HEC-1 Node ⁴	Description	Comments
E-1	22'	N/A	24	N/A	N/A	6-ft by 3-ft RCB	N/A
E-2	81'	N/A	80	N/A	N/A	6-ft by 3-ft RCB	N/A
E-3	44'	N/A	47.5	N/A	N/A	6-ft by 3-ft RCB	N/A
E-4	44'	N/A	47.5	N/A	N/A	42-inch CMP	N/A
E-5	225'	N/A	232	N/A	N/A	42-inch CMP	N/A
E-6	225'	N/A	244	N/A	N/A	6-ft by 3-ft RCB	N/A
E-7	19'	44'	26	N/A	N/A	(2) 6-ft by 3-ft RCB	VTN Culvert 1
E-8	N/A	N/A	N/A	N/A	N/A	(3) 36-inch CMP	N/A
E-9 ¹	30'	54'	45	51	DCHD1B	6-ft by 3-ft RCB	VTN Culvert 1
E-10 ¹	360'	75'	91	50	DCHD2B	(2) 6-ft by 3-ft RCB	VTN Culvert 1
E-10A ¹	347'	100'	59	50	DCHD2B	(2) 6-ft by 3-ft RCB	VTN Culvert 2
E-11 ¹	1098'	1141'	61	N/A	N/A	(2) 10-ft by 4-ft RCB	VTN Culvert 4
E-11A ¹	653'	872'	84	33	95-6 + OFFH	(3) 42-inch CMP	VTN Culvert 4
E-12 ¹	454'	30'	244	231	WP148	6-ft by 3-ft RCB	VTN Culvert 4
E-12A ¹	346'	150'	8	30	95-7A + 95-6B	6-ft by 3-ft RCB	VTN Culvert 5
E-13 ¹	948'	403'	215	331	CHD06B	(2) 10-ft by 4-ft RCB	VTN Culvert 6
E-13A ¹	788'	403'	216	18	95-8A + 95-8B	(2) 10-ft by 4-ft RCB	VTN Culvert 6
E-14 ¹	525'	66'	66	N/A	N/A	6-ft by 3-ft RCB	VTN Culvert 8
E-14A ¹	257'	66'	66	N/A	N/A	6-ft by 4-ft RCB	VTN Culvert 8
E-15 ¹	770'	108'	966	N/A	N/A	(2) 42-inch CMP	VTN Culvert 9
E-15A ¹	250'	256'	255	N/A	N/A	(2) 42-inch CMP	VTN Culvert 9
E-16 ¹	15'	16'	19	N/A	N/A	(2) 10-ft by 4-ft RCB	VTN Culvert 10
E-16A ¹	350'	369'	368	N/A	N/A	10-ft by 4-ft RCB	VTN Culvert 10
E-17 ¹	655'	643'	285	N/A	N/A	10-ft by 10-ft RCB	VTN Culvert 11
E-17A ¹	1160'	1033'	1034	N/A	N/A	10-ft by 10-ft RCB	VTN Culvert 11
1-16: VTN Culvert SE flow. 1-17: VTN Culvert SE flow, or GOW Culvert SE flow. 1-18: GOW and VTN proposed condition flows are compared and the higher is shown. 4- Contributing HEC-1 flow is obtained from Local Ultimate condition hydrologic analysis. 1- Referenced from GOW Update No. 2 to Kyle Canyon Main Drainage Study. 2- Referenced from VTN Horse Drive / US-95 Interchange Study.							
Summary of US-95 MPU Facility - Ultimate Condition							
Facility ID	Description				Comments		
E-18	5-ft by 5-ft RCB				Existing CORFCD MPU Facility ID = CN85 0533, Q ₁₀₀ = 327 cfs @ Regional Ultimate Condition Basin NW62-S		
E-19	10-ft by 6-ft RCB				Existing CORFCD MPU Facility ID = CN85 0199, Q ₁₀₀ = 1,522 cfs @ Regional Ultimate Condition Concentration Point (955TH - CNW71-E). Shares Headwall with Facility E-13.		
E-20	15-ft by 9-ft RCB						
E-21	15-ft by 9-ft RCB						
E-22	15-ft by 9-ft RCB						
E-23	15-ft by 9-ft RCB						
E-24	8-ft by 6-ft RCB				Future CORFCD MPU Facility ID = CN85 0167, Q ₁₀₀ = 2,132 cfs @ Regional Ultimate Condition Concentration Point (955TH - CNW71-E).		
E-25	36-inch RCP						
E-26	36-inch RCP						
E-27	6-ft by 3-ft RCB						
E-28	12-ft by 4-ft RCB						
E-29	10-ft by 4-ft RCB				(2) 10-ft by 6-ft RCBs		
F-1							
Note that the US-95 is planned as a hydrologic cut-off for all flow generated by Kyle Canyon west of the highway.							
Summary of Existing Perimeter Facilities							
Facility ID	Q ₁₀₀ (cfs)	Description	Comments	Referenced Improvement Plans			
E-30	494	6-ft by 5-ft RCB	CORFCD MPU Facility CNGT 0118	2008 CORFCD MPU			
E-30A	594	8-ft by 6-ft high RCB	CORFCD MPU Facility CNGT 0043	Grand Teton Storm Drain - Huslap to Tee Pee			
E-30B	707	10-ft wide by 5-ft high RCB	CORFCD MPU Facility CNGT 0020	Grand Teton Storm Drain - Huslap to Tee Pee			
E-31	231	6-ft by 4-ft RCA		Huslap Improvements			
E-32	N/A	18-inch RCP		Grand Teton Village / Grand View Apartments			
E-33	761	10-ft by 5-ft RCB	Parallel 18-inch RCP on south half of road to be abandoned and flow is collected by 10-ft by 5-ft RCB	Grand Teton Drive Storm Drain			
E-35	761	10-ft by 5-ft RCB	Outlets in US-95 Channel	Grand Teton Drive Storm Drain			
E-36	N/A	24-inch RCP	Flow from Grand Canyon Drive	Grand Canyon Apartments / Grand Canyon Terraces			
E-37	802	Riprap Trapezoidal Channel	West Half of Grand Canyon Drive	Box Culvert for Centennial Point and Grand Canyon Apartments			
E-38	802	8-ft by 8-ft RCB	Concrete Headwall	Box Culvert for Centennial Point and Grand Canyon Apartments			
E-39	851	8-ft by 5-ft RCB	CORFCD MPU Facility CNKC 0024	Box Culvert for Centennial Point and Grand Canyon Apartments			
E-40	N/A	18-inch RCP		2008 CORFCD MPU			
E-41	999	10-ft by 4-ft RCB	CORFCD MPU Facility CNKC 0007	2008 CORFCD MPU			
E-42	999	12-ft by 4-ft RCB	CORFCD MPU Facility CNKC 0000	2008 CORFCD MPU			
E-43	91	24-inch RCP	Collects roadway flow via drop inlets	Horse Drive / US-95 Interchange			
E-44	234	68-inch by 43-inch HERP	Discharges as surface flow into Horse Drive	Spring Mountain Twilight			
E-45	101	48-inch HDPE	Collects roadway flow via drop inlets	Spring Mountain Ranch Unit 80			
E-46	13'	24-inch RCP	Collects roadway flow via drop inlets	Horse Drive / US-95 Interchange			
E-47	2'	24-inch RCP	Collects roadway flow via drop inlets	Horse Drive / US-95 Interchange			
E-48	16'	48-inch RCP	Stubbed to collect flow between US-95 and Sky Points Drive	Horse Drive / US-95 Interchange			
E-49	29'	38-inch by 60-inch HERP		Horse Drive / US-95 Interchange			
E-50	101	54-inch RCP	18/24-inch RCP Stubs for west half of road	Spring Mountain Ranch Fort Apache Road			
E-51	N/A	19-inch by 30-inch HERP	Flow from school	James Billrby Elementary School			
E-52	N/A	18-inch RCP	Drop inlets in Ft. Apache south of Iron Min.	James Billrby Elementary School			
E-53	60	30-inch HDPE	18-inch HDPE Stubs for north half of road	James Billrby Elementary School			
E-54	98	36-inch RCP		Iron Mountain Estates West Units 1 and 2			
E-55	31	24-inch RCP	18-inch RCP Stubs for west half of road	Spring Mountain Ranch Unit 60 Phase 1			
E-56	N/A	18-inch RCP	Stubbed and Capped	Spring Mountain Ranch Unit 60 Phase 1			
E-57	73	36-inch RCP	18-inch RCP Stubs for north half of road	Spring Mountain Ranch Unit 60 Phase 1			
E-58	1160'	Trapezoidal Channel	Outlet for Facility E-17	Site Visit			
E-59	1160'	RCA Culvert	Outlet for Facility E-17	Site Visit			
1-25: year flow 2- Referenced from VTN Horse Drive / US-95 Interchange Study.							



Summary of Regional Facilities Kyle Canyon West				
Facility ID	Q ₁₀₀ (cfs)	Design Slope (%)	Length (ft)	Description
P01W	794	N/A	N/A	Office Size: 30-inch (into P74W) Total Storage Volume: 70.9 acre-ft Debris Volume: 5.9 acre-ft 100-year Storage Volume: 65 acre-ft 100-year Water Surface Elevation: 3308.0-ft PMF Flow: 4,912 cfs Low Flow Conveyance at Bottom
P03W	695	N/A	N/A	Office Size: 27-inch (into P08W) Total Storage Volume: 77.6 acre-ft Debris Volume: 5.6 acre-ft 100-year Storage Volume: 72 acre-ft 100-year Water Surface Elevation: 3308.5-ft PMF Flow: 4,653 cfs Low Flow Conveyance at Bottom
P04W	71	2	223	36-inch RCP
P05W	75	3.6	1195	30-inch RCP
P07W	100	3.6	1419	42-inch RCP
P19W	314	3.6	1538	60-inch RCP
P19W	478	3.6	366	5-ft wide by 5-ft high RCB
P22W	497	3.6	877	6-ft wide by 5-ft high RCB
P32W	482	N/A	N/A	72-inch RCP (Phase 1)
P33W	501	N/A	N/A	72-inch RCP (Phase 1)
P34W	629	N/A	N/A	72-inch RCP (Phase 1)
P34AW	678	N/A	N/A	8-ft wide by 6-ft high RCB
P37W	228	N/A	63	66-inch RCP Inlet
P38W	339	N/A	64	60-inch RCP
P36AW	338	N/A	60	72-inch RCP Inlet
P39W	338	3.0	996	60-inch RCP
P41W	338	0.5	895	7-ft wide by 5-ft high RCB
P49W	552	0.5	397	10-ft wide by 5-ft high RCB
P49W	573	0.5	719	10-ft wide by 5-ft high RCB
P52W	651	0.5	637	10-ft wide by 6-ft high RCB
P51W	1116	0.5	373	10-ft wide by 8-ft high RCB
P53W	1160	0.5	758	10-ft wide by 8-ft high RCB
P54W	1310	N/A	70	(2) 10-ft wide by 8-ft high RCBs
P55W	1620	0.5	461	14-ft wide by 8-ft high RCB
P57W	1578	0.5	327	14-ft wide by 8-ft high RCB
P70W	3324	3.0	707	14-ft wide by 8-ft high RCB, Crossing of US-95, Designed for Larger Ultimate Condition Flow
P70AW	3477	3.0	879	14-ft wide by 8-ft high RCB, Crossing of US-95, Designed for Larger Ultimate Condition Flow
P74W	80	N/A	520	Existing Arroyo
P75W	228	N/A	2352	Existing Arroyo
P76W	330	N/A	846	Existing Arroyo
F-2	2709	N/A	N/A	Future Offsite Regional Facility (By Others)

Summary of Regional Facilities Kyle Canyon East				
Facility ID	Q ₁₀₀ (cfs)	Design Slope (%)	Length (ft)	Description
P24E	517	0.5	721	8-ft wide by 6-ft high RCB
P20E	641	0.5	537	9-ft wide by 6-ft high RCB
P27E	703	0.5	513	10-ft wide by 6-ft high RCB
P28E	760	0.5	400	10-ft wide by 6-ft high RCB
P32E	3503	2.4	2588	14-ft wide by 8-ft high RCB
P33E	3087	2.4	783	14-ft wide by 8-ft high RCB, Designed to convey larger Ultimate Condition Flow
P34E	3787	2.9	619	14-ft wide by 8-ft high RCB, to be replaced by Facility F-4
P39E	3880	2.6	1298	14-ft wide by 8-ft high RCB, to be replaced by Facility F-4
F-3	10872	N/A	N/A	Future Offsite Regional Facility (By Others)
F-4	10869	N/A	N/A	Future Onsite Regional Facility (By Others), Replaces Facilities P34E & P39E
F-5	10298	N/A	N/A	Future Onsite Regional Facility (By Others), Replaces Facility P31E
F-6	N/A	N/A	N/A	Future Offsite Regional Facility (By Others)
F-7	N/A	N/A	N/A	Future Offsite Regional Facility (By Others)



LEGEND	
	PROJECT BOUNDARY
	EXISTING CCRFCD FACILITY
	PROPOSED CATEGORY 'A' CCRFCD FACILITY
	PROPOSED CATEGORY 'B' CCRFCD FACILITY
	LOCAL/PRIVATE FACILITY
	2008 CCRFCD MPU ID TAG
	FACILITY SUMMARY ID

NOTES:

- ALL FACILITIES IDENTIFIED AS CATEGORY 'B' ARE TO BE CONSTRUCTED BY THE KYLE CANYON MASTER PLAN.
- STORM DRAIN CROSSING AT U.S. HIGHWAY 95 IS TO BE CONSTRUCTED BY KYLE CANYON MASTER PLAN, AND IS PLANNED TO BE THE PERMANENT FACILITY IN THE REGIONAL ALIGNMENT.
- ADDITIONAL CCRFCD MPU FACILITIES IDENTIFIED ON THE EXHIBIT AS CATEGORY 'B' HAVE NOT BEEN IDENTIFIED WITH 2008 MPU ID TAGS SINCE THEY ARE CONSIDERED ADDED MPU FACILITIES TO BE INCORPORATED IN A FUTURE MPA.
- FLOW COLLECTED BY THE CN95 MPU REGIONAL FACILITY IS CONVEYED SOUTH WITH NO FLOW SPLIT TO THE EAST.
- PER 2008 MPU, FUTURE CCRFCD FACILITIES IN THE KYLE CANYON ROAD AND MOCCASIN ROAD ALIGNMENTS ARE TO TIE INTO PROPOSED FACILITIES IN SHEEP MOUNTAIN PARKWAY & MOCCASIN.

EXHIBIT J

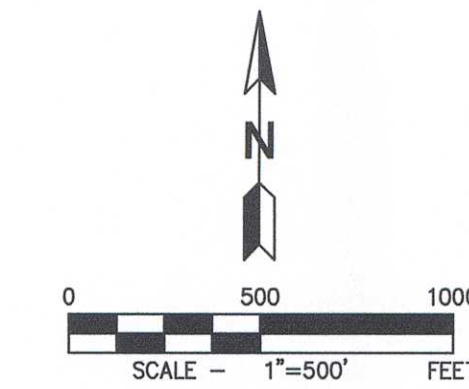
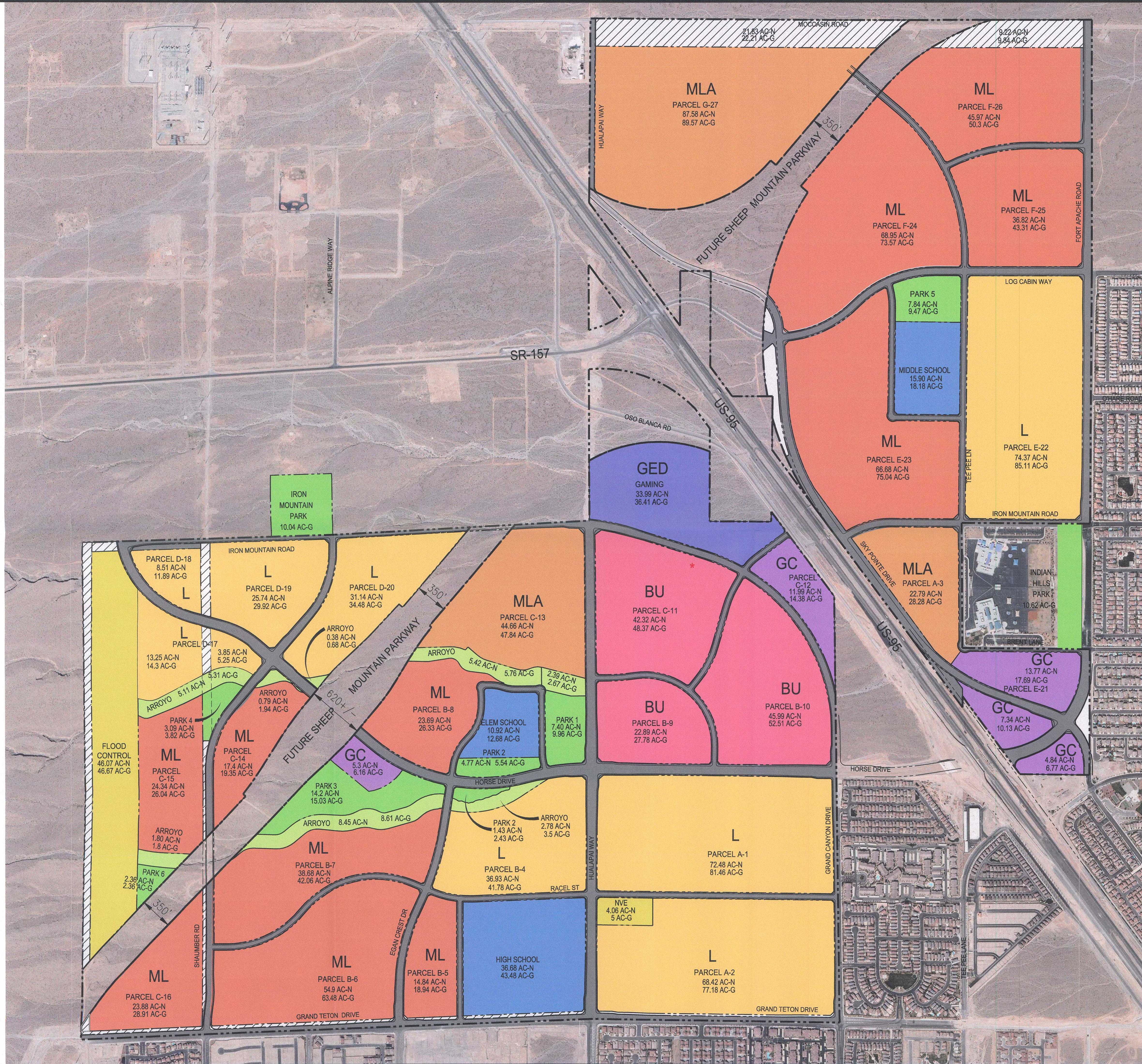
SKYE CANYON MASTER DRAINAGE STUDY UPDATE
CCRFCD REGIONAL FACILITIES MAP

OLY1401.004

SLATER HANIFAN GROUP
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5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399



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LEGEND

- PROJECT BOUNDARY
- EASEMENT LINE (ESMT)
- EXISTING TRANSMISSION POLE
- PROPOSED STREET
- FLOOD CONTROL / UTILITY
- OPEN SPACE
- POWER EASEMENTS
- ARROYOS
- PARKS
- SCHOOLS
- L RESIDENTIAL "LOW"
- ML RESIDENTIAL "MEDIUM LOW"
- MLA RESIDENTIAL "MEDIUM LOW-ATTACHED"
- BU BLENDED USE ZONE
- GC GENERAL COMMERCIAL
- GED GAMING
- * 2.5 ACRES RESERVED FOR RTC TRANSIT CENTER
- AC-N NET ACRES
- AC-G GROSS ACRES

LAND USE	NET ACREAGE	GROSS ACREAGE	MAX DENSITY	AVERAGE DENSITY
RESIDENTIAL "LOW"	334.69	381.37	15.00	5.49
RESIDENTIAL "MEDIUM LOW"	415.63	467.20	15.00	8.49
RESIDENTIAL "MEDIUM LOW-ATTACHED"	155.03	165.70	25.00	12.49
BLENDED USE	111.20	128.66	50.00	15.00
GENERAL COMMERCIAL	43.24	55.21		
GAMING	33.99	36.41		
SUBTOTAL	1093.78	1234.55		
SHEEP MOUNTAIN PARKWAY	164.74	164.74		
FLOOD CONTROL	46.07	46.67		
PARKS	41.09	48.59		
ARROYOS	27.12	30.39		
OPEN SPACE	4.17	7.57		
SCHOOLS	63.50	74.34		
HUALAPAI SUBSTATION	4.06	5.00		
POWER EASEMENTS	51.07	44.92		
ROADS AND STREETScape	166.22	5.05		
SUBTOTAL	568.04	427.27		
TOTAL	1661.82	1661.82		

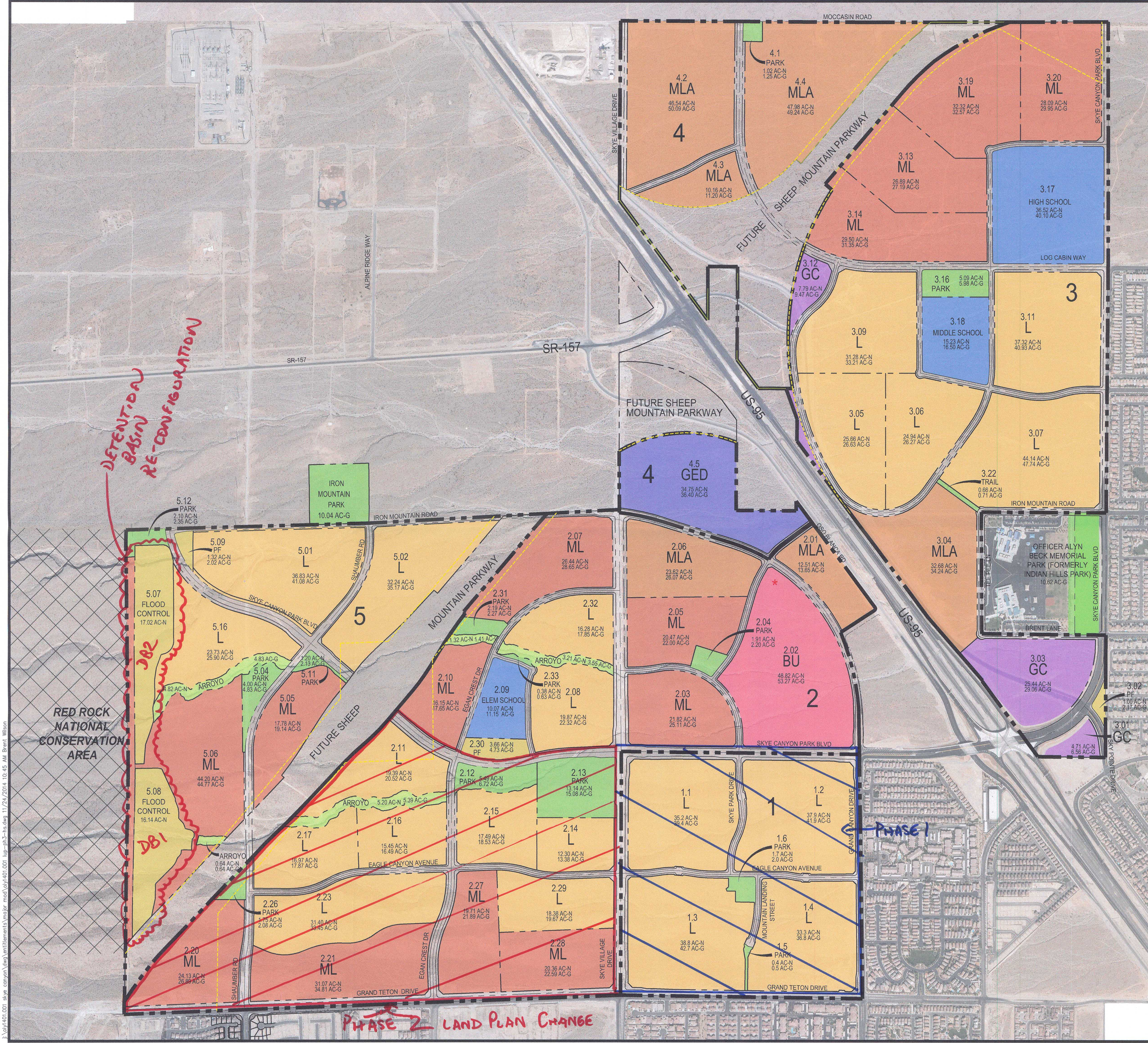
MAX RESIDENTIAL UNITS 9,000

MASTER LAND USE PLAN

KYLE CANYON

S-I-G **SLATER HANIFAN GROUP**
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PHONE (702) 284-5300 FAX (702) 284-5399

CARWIN
ADVISORS



LEGEND

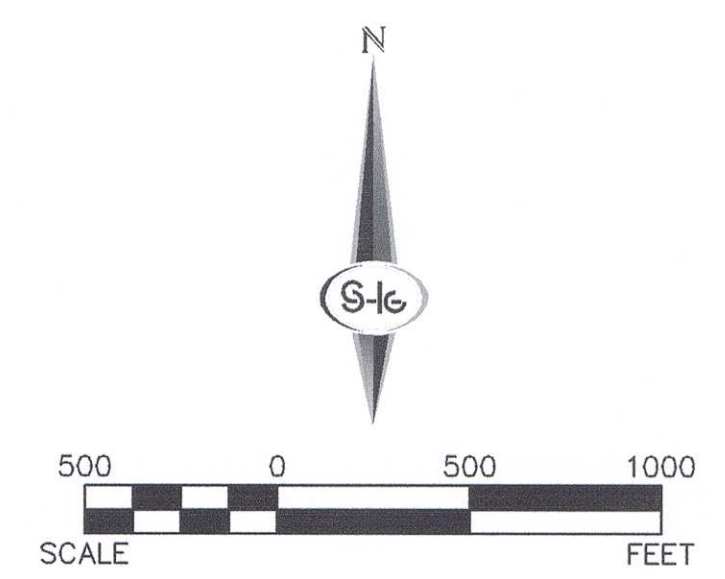
- PROJECT BOUNDARY
- EASEMENT LINE (ESMT)
- EXISTING NORTHERN BELTWAY R.O.W.
- EXISTING TRANSMISSION POLE
- PROPOSED STREET
- FLOOD CONTROL & PUBLIC FACILITY
- ARROYO
- PARK & TRAIL
- SCHOOL
- L RESIDENTIAL "LOW"
- ML RESIDENTIAL "MEDIUM-LOW"
- MLA RESIDENTIAL "MEDIUM-LOW ATTACHED"
- BU BLENDED USE
- GC GENERAL COMMERCIAL
- GED GAMING

* 2.5 ACRES RESERVED FOR RTC TRANSIT CENTER

AC-N-N NET-NET ACRES
AC-N NET ACRES
AC-G GROSS ACRES

ACREAGE TABULATIONS

NET	GROSS
	X
39.14	42.08
15.19	15.82
41.03	48.78
61.82	67.75
568.99	618.06
358.83	384.56
173.49	184.49
48.82	53.27
37.95	45.1
34.75	36.4



SKYE CANYON

REVISED LAND USE PLAN

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PHONE (702) 284-5300 FAX (702) 284-5399

Olympia Companies
LLC

DATE: 11-24-14

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SLATER
HANIFAN
GROUP

CONSULTING ENGINEERS & PLANNERS

5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
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NO.

DESCRIPTION

DATE

BY

APP.

DATE

NINETY-FIVE MANAGEMENT, LLC.

SKYE CANYON MASTER DRAINAGE STUDY UPDATE

DETENTION BASIN PROPOSED SOILS EXHIBIT

DATE: NOVEMBER 2014

DRAFTER: ETM

DESIGNER: ETM

CHECKED: SMJ

PROJECT NO.
OLY1401.004

EXHIBIT

SHEET 1 OF 2

